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CH2M HILL Mound, Inc.
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SMO-485/06
August 16, 2006

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Mr. Don Pfister, Director
Miamisburg Closure Project
U. S. Department of Energy
175 Tri-County Parkway
Springdale, OH 45246

ATTENTION: Paul Lucas

SUBJECT: **Contract No. DE-AC24-03OH20152:** Deliverable #36 Building Data Package; Section C.2.1.2 Facility Transfer; T Building Data Quality Report, Final

Dear Mr. Pfister:

Attached is the following Final document for your records:

- T Building Data Quality Report, Final

If you or members of your staff have any questions regarding the document, or if additional support is needed, please contact Dave Rakel at 937-865-4203.

Sincerely,

Michael D. Ebben
Site Manager

ME/jg

Enclosures
cc: T. Fischer, USEPA, (1) w/attachments
B. Nickel, OEPA, (1) w/attachments
S. Helmer, ODH, (1) w/attachments
J. Crombie, ODH, (1) w/attachments
M. Wojciechowski, Tetra Tech, (1) w/attachs
G. Gorsuch, DOE/MCP, (1) w/attachments
G. Desai, DOE/HQ, (1) w/attachments
C. Kline, CH2M Hill, (1) w/attachments
ER Records, CH2M Hill, (1) w/attachments

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Miamisburg Closure Project

T Building Data Quality Report

Mound Plant
Miamisburg, OH

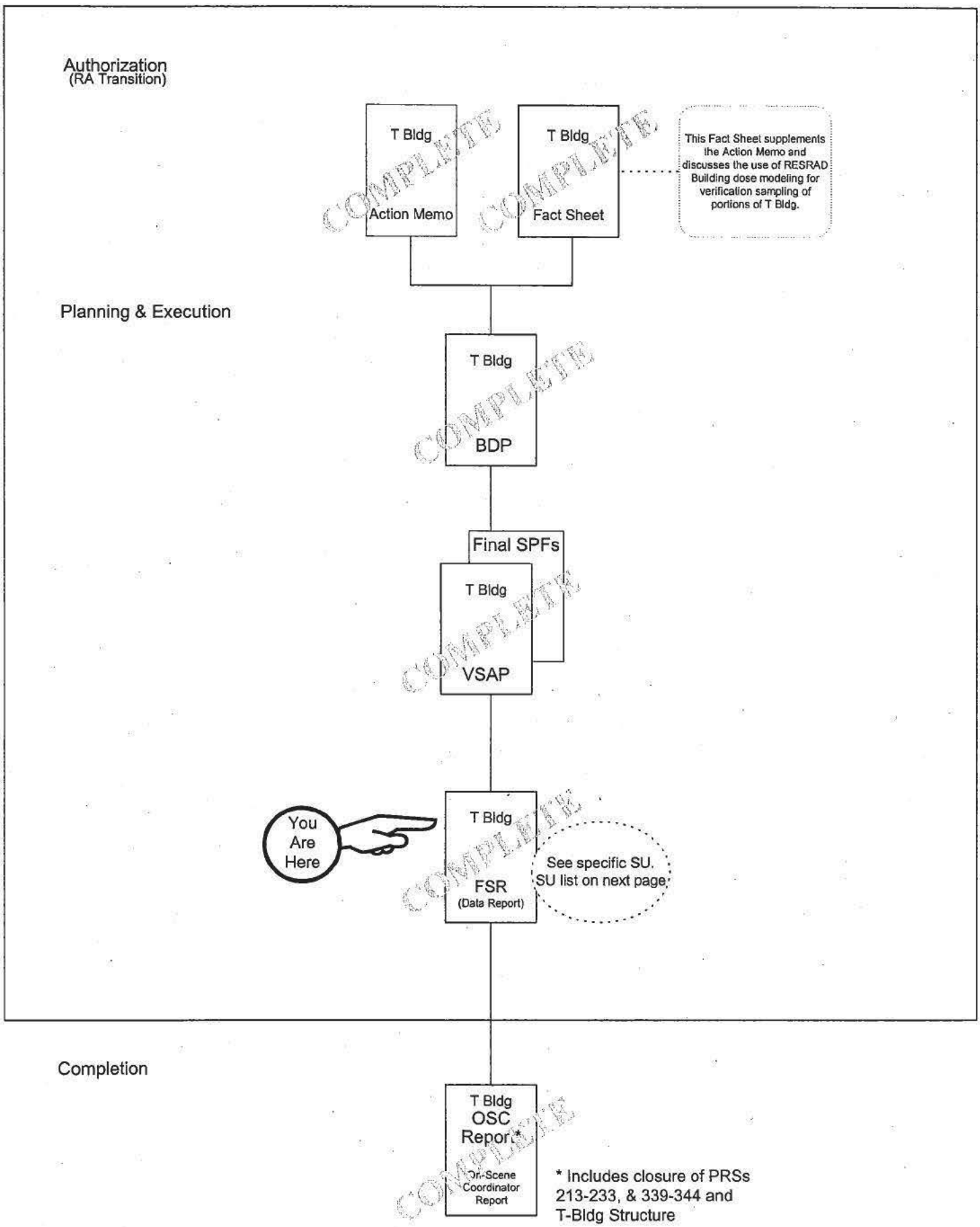
Final

July 2006

Department of Energy
Ohio Field Office

CH2M Hill Mound Inc

T Building & PRSs 213-233, & 339-344



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T Building, Final Status Report, Survey Unit List

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1C-03
1C-04
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1C-07
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ACRONYMS

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	Contaminant of Concern
D&D	Decontaminate and Decommission
DCGL	Derived Concentration Guideline
DOE	US Department of Energy
DPM	Disintegrations per Minute
FSS	Final Status Survey
GFP	Gas Flow Proportional (detector)
MMCIC	Miamisburg Mound Improvement Corporation
NFA	No Further Assessment
NORM	Naturally Occurring Radioactivity Material
NIST	National Institute of Standards and Technology
PRS	Potential Release Site
QC	Quality Control
R&D	Research and Development
RAR	Radiological Awareness Report
RCT	Radiological Control Technician
RPOC	Radiological Point of Contact
RSDS	Radiological Survey Data Sheet
SPF	Survey Plan Form
SU	Survey Unit
VSAP	Verification Sampling and Analysis Plan

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ABSTRACT

T Building is a heavily reinforced underground concrete structure located at the DOE Mound Plant. A CERCLA Removal Action was conducted at the building to remove radiological contamination that resulted from various missions and projects in the building. The removal action segmented the work into 178 survey units. The survey units were organized into 11 groups and a survey plan form was prepared for each grouping. A portion of the survey plan specified the quality control measures necessary to monitor data quality. This report compiles and evaluates the quality control data collected during the T Building Final Status Surveys.

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1 Historical Overview

T Building is a heavily reinforced underground concrete structure. Construction was completed in 1948. The two main floors are compartmentalized into three general areas (bays) by two 30-inch thick reinforced concrete firewalls. T Building contains more than 200 rooms and 20 corridors. The Core Team authorized the Removal Action via the T Building Action Memorandum (Reference 1) due to radiological contamination from various missions and projects in the building.

The building was constructed by excavating the side of a hill, assembling the basic reinforced concrete building shell, and then back filling the excavated area to essentially the original slope and grade. The interior dimensions of the basic building shell are 345 feet long by 150 feet wide. The roof is 15 feet thick reinforced concrete.

Associated building structures include two exhaust airshafts, which each historically were attached to a two-hundred-foot tall brick and mortar exhaust stack. The exhaust stacks have been demolished. The building has three towers along the north wall, one at each end and one at the center. The end towers contain stairways, passenger elevators, airshafts for intake ventilation air, and pedestrian entrances at grade level. The middle tower was used for providing intake ventilation air. The East Tower also provides space for various utility lines coming into the building. The East and West Towers also contain airshafts that are part of the intake air ventilation system. Large doors permit vehicles and personnel to enter the building at either end of the second floor. The vehicular tunnel extends the length of the south side of the building.

1.1 Past Uses

T-Building was originally built to process radioactive polonium and minor amounts of other radionuclides. From 1949 to 1973, polonium programs included a processing and separation program, fuels research and development program, neutron source program, and a variety of other research, development, and production programs with polonium.

T-Building underwent a significant decontamination in the early 1970s and a substantial modification during the early 1980s in order to accommodate tritium-processing operations. It also contained the Tritium Emissions Recovery Facility that processed tritiated gases to recover waste tritium for disposal. A variety of other activities have taken place in T Building such as nondestructive testing, environmental testing, gamma and mass spectroscopy, calorimetry, neutron activation analysis, and safeguards research and development (R&D). Building operations have included offices and administrative areas, laboratories, and material storage. Materials stored have included chemical products, office supplies, and waste disposal containers. The building also has a vault that was used to store secured nuclear materials.

In 2003, DOE determined that to eliminate the possibility of endangerment as the site transfers from DOE ownership removal of the contaminants in T Building was appropriate.

Planning and execution of the removal action were divided into four phases. The first phase was safe shutdown, characterization, and reduction in contamination or removal

of significantly contaminated rooms and facilities (including tritium-processing areas on both first and second floors) if release criteria could not be met. The second phase was safe shutdown and removal activities of minimally contaminated rooms and facilities, including building service areas and rooms on the first floor with little or no contamination. The third phase was safe shutdown and removal activities of the Radioactive Material Management Areas and Radiological Material Areas (predominately on the second floor) and included rooms where contamination was minimal. The last phase included general building support, final decontamination, hazard mitigation, and characterization and confirmation/ verification activities.

The building has undergone decontamination and decommissioning (D&D) process and is expected to be transferred to the Miamisburg Mound Community Improvement Corporation (MMCIC).

2 Project Overview

The objective of the T Building Verification Sampling and Analysis Plan (VSAP) (Reference 2) was to determine whether or not the residual radioactivity on the building surfaces associated with survey units in T Building meets the surface release criteria. This was accomplished by measuring the fixed and removable contamination on building surfaces and systems. Residual radioactivity levels were evaluated versus established surface release criteria stated in the Work Plan for Environmental Restoration of the DOE Mound Site, The Mound 2000 Approach (hereafter referred to as 'Mound 2000', Reference 3).

The T Building Final Status Survey project was subdivided into manageable pieces called survey units. A total of 175 survey units were developed to address each room and utility system in the building. Eleven survey plans (see Table 1) were developed to address the requirements of the various systems, areas, and potential hazard class. Each survey plan specified the quality control (QC) requirements for the survey units assigned to it. Each Final Status Survey Report includes a copy of the survey plan applicable to the survey units addressed in the report. The survey plans are also reproduced in Attachment 1.

Table 1. T Building Survey Plans

Survey Plan	Description
T-01	Class 1 floors and lower walls and Class 2 ceilings and upper walls in T Building
T-02	Class 2 floors and lower walls and Class 3 ceilings and upper walls in T Building
T-03	Class 3 areas in T Building
T-04	T Building crawlspaces
T-05	Class 1 sumps and associated piping in T Building
T-06	Class 2 sumps and associated piping in T Building
T-07	Utility systems in T Building
T-08	Ventilation exhaust systems in T Building
T-09	Inert gas delivery systems in T Building
T-10	Ventilation supply air systems in T Building
T-11	Volumetric sampling

Associated PRSs

Twenty-seven Potential Release Sites (PRSs) are associated with T Building as listed in Table 2 and include a solidification unit, a waste compactor, and twenty-five sumps/tanks. Each PRS was assigned to a survey unit except for PRS 213 and PRS 214 which had previously been removed and disposed of as radioactive waste. All of these PRSs were decontaminated or removed.

Table 2 - PRSs Associated with T Building

PRS	Description	PRS	Description
213	Solidification unit	227	Alpha waste water sump (Tank 229)
214	Solid radioactive waste compactor	228	Alpha waste water sump (Tank 230)
215	Cooling water sump (Tank 124) Room T-1	229	Alpha waste water sump (Tank 231)
216	Sanitary waste sump (Tank 125) Corridor 2	230	Alpha waste water sump (Tank 232)
217	Sanitary waste sump (Tank 126) Corridor 2	231	Alpha waste water sump (Tank 233)
218	Sanitary waste sump (Tank 127) Corridor 2	232	Alpha waste water sump (Tank 234)
219	Cooling water sump (Tank 128) Stair 3	233	Alpha waste water sump (Tank 235)
220	Steam condensate sump (Tank 129) T-78	339	Waste water sump (Tank 250)
221	Sanitary waste sump (Tank 130)	340	Waste water sump (Tank 251)
222	Sanitary waste sump (Tank 131)	341	Condensate sump (Tank 269) T-90
223	Cooling system condensate sump (Tank 132)	342	Hot side fire water tank (Tank 271) T-1
224	Sanitary waste sump (Tank 133)	343	Fire water sump (Tank 272)
225	Beta waste water sump (Tank 227) T-23	344	Fire water sump (Tank 273)
226	Floor drain sump (Tank 228) T-3		

Survey units were evaluated for fixed and removable radioactive contamination, and levels were compared to the release criteria established for free release to the public. Table 3 provides the radiological surface contamination cleanup objectives for T Building as defined in the Work Plan for Environmental Restoration (Reference 3). A 15 mrem/yr dose limit, excluding naturally occurring radioactive material (NORM) in building materials was used as the contamination clean-up objective where volumetric contamination was found.

Table 3 - Contamination Clean-Up Objectives (dpm/100cm^2)[1]

Radionuclides[2]	Removable[6]	Maximum[5,6]	Average[3,4]
Th-natural, Th-232, Sr-90, Ra-223, Ra-224, U-232, I-126, I-131, I-133	200	3,000	1,000
Transuranics, Ra-226, Ra-228, Th-230, Th-228, Pa-231, Ac-227, I-125, I-129	20	300	100
U-Natural, U235, U238 and associated decay products, alpha emitters	1,000	15,000	5,000
Beta-gamma emitters (nuclides with decay modes other than alpha emission or spontaneous[7] fission) except SR-90 and others listed above. Includes mixed fission products containing Sr-90.	1,000	15,000	5,000
Tritium organic compounds, surfaces contaminated by HT, HTO, tritiated particulates, and organically bound tritium.	10,000		N/A

1. As used in this table, dpm (disintegrations per minute) means the rate of emission by radioactive material as determined by counts per minute measured by an appropriate detector for background, efficiency, and geometric factors associated with the instrumentation.
2. Where surface contamination by both alpha- and beta-gamma-emitting radionuclides exist, the limits established for alpha- and beta-gamma-emitting radionuclides should apply independently.
3. Measurements of average contamination should not be averaged over an area of more than 1 m^2. For objects of less surface area, the area should be derived for each such object.
4. Dose Rate: The average and maximum dose rates associated with surface contamination resulting from beta-gamma emitters should not exceed 0.2 mrad/h and 1.0 mrad/h respectively at 1 cm.
5. The maximum contamination level applies to an area of not more than 100 cm^2.
6. The amount of removable material per 100 cm^2 of surface area should be determined by wiping the area of that size with dry filter or soft absorbent paper, applying moderate pressure, and measuring the amount of radioactive material on the wiping with the appropriate instrument of known efficiency. When removable 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. It is not necessary to use wiping techniques to measure removable contamination levels if direct scan surveys indicate that the total residual surface contamination levels are within the limits for removable contamination.
7. This category of radionuclides includes mixed fission products, including the Sr-90 which is present in them. It does not apply to Sr-90 which has been separated from the other fission products or mixtures where the Sr-90 has been enriched.

All contaminated sumps, trenches, and pipes were removed and disposed of, or decontaminated to levels listed in Table 3, or decontaminated until exposure to future building occupants from residual volumetric contamination meets the dose limit of 15 mrem/yr, excluding NORM in building materials where decontamination is impractical due to volumetric contamination and/or breaches in structural integrity.

Direct alpha and beta scans were performed on 1m^2 areas around each static measurement. This was accomplished by scanning surrounding surfaces adjacent to the static measurement location such as wall, ceiling, or outer surface of pipe. Where piping was suspended in air the length of the piping was scanned a distance to equal 1m^2. The ends of piping were uncapped and direct readings were taken at openings and on the external surfaces of the piping.

The utility systems were separate survey units; however as part of the room surveys, utility drops and utility systems were surveyed. The survey for utility drops consists of removing any utility drop covers to fully expose the interior of the utility line. This survey consists of direct measurements for alpha and beta and smears for removable alpha, beta, and tritium. The survey for utility systems in rooms, such as fire water systems, is performed by taking direct measurements for gross alpha and beta activity

and smears for removable alpha, beta, and tritium contamination on the exterior surfaces of the utility system.

The instruments used for radiological surveys were gas flow proportional counters. Alpha/beta fixed point measurements were made with the Ludlum 2350-1 data logger with a 43-68 hand probe. This instrument was also used for scanning walls and small areas. Large area scanning was performed using the Ludlum 2350-1 with a 43-37 floor probe and/or the SHONKA Surface Contamination Monitor (SCM). The scanning instruments were set to alarm at 75% of the applicable guideline values, $DCGL_{EMC}$, (elevated measurement comparison) for the most restrictive alpha emitter and the most difficult to detect beta emitter. Instrument calibrations and source check data were documented in accordance with Mound procedures.

The ends of piping were uncapped and smears taken at openings. Loose surface contamination was measured by smearing an area of 100 cm^2 at each data point. Smears were counted for gross alpha/beta activity. Removable tritium contamination was measured by liquid scintillation counting of the smears. Smear results were not combined with the statistical data but compared directly to the removable surface release criteria.

General area exposure rate measurements were performed in the survey units (SUs) using a Micro Rem meter to ensure that the average level of gamma radiation inside the building did not exceed the background level by more than 20 micro R/h.

The Final Status Survey Report documents the end state condition for each Survey Unit. Survey data for each unit was documented on Radiological Survey Data Sheets (RSDS) which were included the Final Status Survey Report for that unit.

2.1 Project Survey Unit Changes

Survey plan T-05 was to address Class 1 sumps in T-Building. Rather than decontaminate and survey the sumps, a decision was made that it would be more economical to simply remove the sumps and piping. Consequently, a quality survey was not required and was not performed for the T-05 survey plan.

3 Quality Control Requirements

The Survey Plans specify the necessary Quality Control (QC) measures for the survey units covered by the plan. The T Building Survey Plan Forms are included as Attachment 1. Measurements and data analysis were performed according to procedures in *MARSSIM Implementing Procedures, Field Quality Control for Building Contamination Surveys, MD-80046, Op. 402* (Reference 4).

Table 4. Survey Plan QC Requirements

QC Requirements
• Daily morning and evening source checks • Resurvey of 16 fixed locations from all area • Recount of 16 smears from all area • Replicate scan of 5% of area • Maintain chain of custody • Perform alpha and beta surveys before tritium. • Field duplicate for each 10 or fewer samples (T-11 only) • Replicate sample for each 20 samples of similar matrix (T-11 only)

Survey and Sample Quality

QC surveys are performed primarily as verification that the original survey results are valid. QC surveys include replicate surveys and sample recounts. Replicate surveys apply to scan and fixed point surveys. Sample recounts apply to loose surface and material sampling surveys.

Replicate Surveys

A replicate survey is a second set of measurements made in order to establish the variability of a survey. For each survey plan performed, sixteen measurements were taken for fixed point replicate surveys. The data set typically included the highest and lowest activity in the original range. The acceptance criteria for fixed point measurements were that the variance in the measurements of the original sample population is within a factor of two of the variance in the replicate samples. If that was not attained additional evaluation of the data was performed.

The variance in the data set is influenced by a number of factors including atmospheric background levels, survey technique, documentation, and the instrument used. Atmospheric radon and static electricity levels vary from day to day and influence the measurements. The fixed point measurements are conducted under controlled procedures; however, because humans operate the instruments variability is introduced. The degree of precision that the original measurement location is described induces variability. A replicate sample measured a few inches from the original may produce a varied result. There is also variability between the same instruments. Replicate samples are taken with the same make/model of instrument as the original, but not necessarily the same exact device. When the measurements are near background this also contributes to observable variability in the data set.

Replicate Scans (Rescans)

Replicate scan surveys were performed on randomly selected survey units scan surveys. Each of the plan areas T-01 through T-10 is to have 5% of the scanned

surface area replicated. Replicate scan survey results are compared to the original scan results. Agreement for scan surveys is based on the professional judgment. If the same conclusion for scan surveys is not reached further evaluation is required.

Sample Recounts (Smear Results)
Smear sample recounts measure the accuracy and precision of the counting process. The survey plans require that 16 smears be recounted to determine accuracy and precision. Agreement for sample recounts is based on professional judgment. If the same conclusion is not reached for each data set further evaluation is required.

Instrument Checks and Calibration
Radiological survey instrumentation was calibrated periodically using National Institute of Standards and Technology (NIST) traceable sources and controlled in accordance with ANSI–N323a, "Radiation Protection Instrumentation and Calibration". Before each survey, the instrument was checked to verify that its calibration period had not expired.

Survey instrumentation was source checked each day prior to use and again at the completion of survey activities for that day. A known source was placed in a source holder to ensure a reproducible geometry is achieved. Acceptance criterion is +/- 20% of the initial source response following calibration.

The results of the operational checks were documented as part of the daily work activities as required by MD-80036, Radiological Operations Procedures (Reference 6). Calibration due dates were recorded on the RSDS.

Custody of Samples
Samples (smears, scrapings, etc.) that require measurement or counting (i.e. not a field measurement) had controlled custody at all times. Samples sent for offsite analysis were controlled in accordance with Method Q-002 *Chain-of-custody Procedures* located in the *Mound Methods Compendium* (See 2.2.2). When samples were transferred to the on-site laboratory the on-site laboratory chain of custody procedures were followed.

The base unit for the performance of field surveys was the Ludlum 2350 or 2350-1. The 2350 or 2350-1 is a data-logging instrument that accepts a variety of detectors. Survey data (survey point, survey type, measurement value, etc.) are recorded in the instrument's memory. Upon completion of surveys the data in the instrument are downloaded to a computer. The data is then reviewed, verified, and analyzed. The 2350 or 2350-1 was pre-programmed to accept probes, control count times, and note survey points before it was issued to the technician performing the survey. The instrument remained under the control of the technician until collected data were downloaded or the instrument transferred to the designated individual for download.

Log sheets and other forms used to record field data remained under the control of the assigned RCT until placed in secure storage.

QC Survey Discrepancies
MD-80036 (Reference 6) requires that investigations are performed when discrepancies arise as a result of comparing QC survey data to original Final Status

Survey (FSS) data. The investigation is performed by or at the direction of the RPOC. A Radiological Awareness Report (RAR) may be initiated if the findings of the investigation indicate that the decision of the radiological status of the survey unit would have been adversely affected had the discrepancy gone undetected or at the discretion of the RPOC. The RPOC maintains a record of all QC survey discrepancies.

Determining Accuracy and Precision for Sample Recounts

To evaluate the accuracy for sample recounts, the resolution for each original sample count was determined by dividing the count activity by its corresponding 1 sigma uncertainty. Next, the agreement ratio was calculated by dividing the sample recount value by the original sample value. The results are deemed acceptable if the agreement ratio falls within the values given in the following table for the corresponding resolution. Otherwise additional evaluation was required.

Table 5. Accuracy Evaluation Criteria.

RESOLUTION	AGREEMENT RATIO
< 4	No Comparison
4 – 7	0.5 – 2.0
8 – 15	0.6 – 1.66
16 – 50	0.75 – 1.33
51 – 200	0.80 – 1.25
> 200	0.85 – 1.18

See Attachment A of MARSSIM Implementing Procedures, Field Quality Control for Building Contamination Surveys (Reference 4) for more details on this procedure.

To evaluate the precision for sample recounts, the mean value for each pair of counts was calculated. Next the percent deviation from the mean value was determined for each pair of counts using the following formula:

$$\textit{Percent Deviation} = (\text{Recount value} - \text{mean value})/\text{mean value} \times 100$$

An adequately low percent deviation indicates that the count and recount are in agreement. This is based on professional judgment on a case-by-case basis. A typical acceptable percent deviation is 20%. See Attachment A of MARSSIM Implementing Procedures, Field Quality Control for Building Contamination Surveys (Reference 4) for more details on this procedure.

3.1 Quality Control Results

3.1.1 QC Completeness

Table 6 summarizes the quality measurements that were performed for T Building.

Table 6. QC Completeness Matrix

Survey Plan	Fixed Replicates	Rescan	Sample Recount - Alpha	Sample Recount - Beta	Sample Recount - Tritium
T-01	X	X	X	X	X
T-02	X	X	X	X	X
T-03	X	X	X	X	X
T-04	X	X	X	X	X
T-05	NP	NP	NP	NP	NP
T-06	X	NP	X	X	X
T-07	X	X	X	X	X
T-08	X	X	X	X	X
T-09	X	X	X	X	X
T-10	X	X	X	X	X

NP – not performed, see sections 3.1.6 and 3.1.7
X - completed

3.1.2 QC Results for T-01

3.1.2.1 Replicate Surveys

Sixteen data points were selected for fixed replicate surveys from the sample group collected in the class 1 areas. The set included the highest alpha and beta measurements and the lowest alpha and beta measurements. The remaining 12 points were selected at random. Replicate measurements (RSDS MT-06-307) were taken at these locations and performed in the same manner as the original survey. Table 7 compares the QC sample results the initial sample results.

Table 7. T-01 Fixed Replicate Point Variance Analysis

QC Sample ID#	Initial Sample ID#	Initial Sample RSDS	alpha (dpm/100cm2)		beta (dpm/100cm2)	
			Initial	replicate	initial	replicate
T01QC01	1S100229S	05-1310	22	8	147	984
T01QC02	1C090110S	06-0089	656	859	25079	34521
T01QC03	2S130118S	05-239	0	23	1229	1324
T01QC04	2S130120S	05-239	0	8	968	1022
T01QC05	1C100101S	06-0180	38	43	1811	1714
T01QC06	1N02A0214S	05-903	4	27	953	1081
T01QC07	1N02C0102S	05-866	20	15	1780	1519
T01QC08	1N03A0115S	06-0053	23	15	1585	1334
T01QC09	1n080111S	05-1307	14	43	887	1509
T01QC10	2C040122S	05-254	4	27	1587	1626
T01QC11	2C040116S	05-007	15	15	921	1149
T01QC12	2C080201S	05-807	25	19	992	1003
T01QC13	2S02D0102S	06-0134	23	31	1412	1587
T01QC14	5N060216S	05-219	23	19	1113	1928
T01QC15	5N060115S	05-219	15	4	1587	1948
T01QC16	5N070201S	06-0195	19	8	1278	1431
Variance			25668	44097	35765988	68614494
Ratio				0.58		0.52
Agreement				YES		YES

3.1.2.2 Replicate Scans

Replicate Scans were conducted for Class 1 areas per the T-01 survey plan. On the first floor 174,871 sq. ft. of area were scanned. Replicate scans were performed on survey units 1S10, 1S12, 1C18, and 1N02B (RSDSs MT-06-0264, MT-05-0860, MT-06-0223, MT-06-0249, MT-05-0944). These units were randomly selected from a list

of all first floor survey units. The selected survey units cover 4,580 sq. ft. On the second floor survey units 2C07, 2N05A, 5N06 were rescanned (RSDSs MT-06-0235, MT-06-0258, MT-06-0251). These units comprise 5,626 sq. ft. while the total area surveyed on the second floor was 190,276 sq. ft.

No elevated alpha or beta readings were detected in any of the rescans. These results are in agreement with the original findings. It should be noted that in the case of survey unit 1S10 rooms 16b and 17 were selected for rescan. The original scan of rooms 16b and 17 noted five potentially elevated readings. Follow-up fixed point surveys of the suspected elevated areas did not detect levels above release criteria (RSDS MT-05-044).

3.1.2.3 Sample Recounts

Recounts were performed on smears samples taken at the sixteen QC measurement locations. The recounted samples were compared to the original measurements for accuracy and precision as shown below.

Table 8. Accuracy Determination For T-01 Sample Recounts

Alpha Sample run MT-06-307: 5/16/06 13:17 Recount run: 5/16/06 13:20						
QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	1σ	resolution	agreement ratio
1	1	0	0	0.00	1	--
2	2	0	0	0.00	1	--
3	3	0	0	0.00	1	--
4	4	0	0	0.00	1	--
5	5	0	0	0.00	1	--
6	6	0	0	0.00	1	--
7	7	0	0	0.00	1	--
8	8	0	0	0.00	1	--
9	9	0	0	0.00	1	--
10	10	1.61	0	1.14	1.41	--
11	11	0	0	0.00	1	--
12	12	0	0	0.00	1	--
13	13	0	0	0.00	1	--
14	14	0	0	0.00	1	--
15	15	0	0	0.00	1	--
16	16	0	0	0.00	1	--
Beta Sample run MT-06-307: 5/16/06 13:17 Recount run: 5/16/06 13:20						
QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	1σ	resolution	agreement ratio
1	1	0.38	0	0.27	1.41	--
2	2	1.52	0	1.07	1.41	--
3	3	0	0.3	0.21	1	0
4	4	0	0	0.00	1	--
5	5	0	0.25	0.18	1	0
6	6	0	0	0.00	1	--
7	7	0	0	0.00	1	--
8	8	3.04	1.85	0.84	3.61	1.6432432
9	9	0	0	0.00	1	--
10	10	2.62	3.92	0.92	2.85	0.6683673
11	11	4.23	0.45	2.67	1.58	9.4
12	12	1.58	0.45	0.80	1.98	3.5111111
13	13	2.78	0	1.97	1.41	--

14	14	0.32	0.32	0.00	--	1
15	15	2.74	1.5	0.88	3.12	1.8266667
16	16	0.4	0.4	0.00	--	1

Tritium
Sample run MT-06-307: 5/16/06 15:07
Recount run: 5/16/06 17:16

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	1σ	resolution	agreement ratio
1	1	0	0	0.00	1	--
2	2	0	0	0.00	1	--
3	3	0	0	0.00	1	--
4	4	0	0	0.00	1	--
5	5	0	0	0.00	1	--
6	6	0	0	0.00	1	--
7	7	0	0	0.00	1	--
8	8	1	0	0.71	1.41	--
9	9	5	20	10.61	0.47	0.25
10	10	0	0	0.00	1	--
11	11	0	0	0.00	1	--
12	12	0	0	0.00	1	--
13	13	0	5	3.54	1	0
14	14	0	2	1.41	1	0
15	15	0	0	0.00	1	--
16	16	0	0	0.00	1	--

Table 9. Precision Determination for T-01 Sample Recounts

Alpha
Sample run MT-06-307: 5/16/06 13:17
Recount run: 5/16/06 13:20

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	mean value for pair	% deviation
1	1	0	0	0.00	--
2	2	0	0	0.00	--
3	3	0	0	0.00	--
4	4	0	0	0.00	--
5	5	0	0	0.00	--
6	6	0	0	0.00	--
7	7	0	0	0.00	--
8	8	0	0	0.00	--
9	9	0	0	0.00	--
10	10	1.61	0	0.81	-100.00
11	11	0	0	0.00	--
12	12	0	0	0.00	--
13	13	0	0	0.00	--
14	14	0	0	0.00	--
15	15	0	0	0.00	--
16	16	0	0	0.00	--

Beta
Sample run MT-06-307: 5/16/06 13:17
Recount run: 5/16/06 13:20

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	mean value for pair	% deviation
1	1	0.38	0	0.19	-100.00
2	2	1.52	0	0.76	-100.00
3	3	0	0.3	0.15	100.00
4	4	0	0	0.00	--
5	5	0	0.25	0.13	100.00
6	6	0	0	0.00	--
7	7	0	0	0.00	--
8	8	3.04	1.85	2.45	-24.34
9	9	0	0	0.00	--
10	10	2.62	3.92	3.27	19.88

11	11	4.23	0.45	2.34	-80.77
12	12	1.58	0.45	1.02	-55.67
13	13	2.78	0	1.39	-100.00
14	14	0.32	0.32	0.32	0.00
15	15	2.74	1.5	2.12	-29.25
16	16	0.4	0.4	0.40	0.00
Tritium Sample run MT-06-307: 5/16/06 15:07 Recount run: 5/16/06 17:16					
QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	mean value for pair	% deviation
1	1	0	0	0.00	--
2	2	0	0	0.00	--
3	3	0	0	0.00	--
4	4	0	0	0.00	--
5	5	0	0	0.00	--
6	6	0	0	0.00	--
7	7	0	0	0.00	--
8	8	1	0	0.50	-100.00
9	9	5	20	12.50	60.00
10	10	0	0	0.00	--
11	11	0	0	0.00	--
12	12	0	0	0.00	--
13	13	0	5	2.50	100.00
14	14	0	2	1.00	100.00
15	15	0	0	0.00	--
16	16	0	0	0.00	--

3.1.2.4 Conclusions

Fixed replicate survey results met the statistical criteria for agreement because the variance of the original data set and the replicate data set were within a factor of 2. Therefore, the fixed measurement initial and replicate data are in agreement.

No elevated alpha or beta readings were observed during the rescan. These results are in agreement with the original scan findings reported in the final survey status report. No further investigation is required.

Sample (smear) recount results were assessed for both accuracy and precision. All of the alpha, beta, and tritium measurements are at or near background so the statistical evaluation of accuracy and precision of these results is not meaningful. The results are in qualitative agreement in that all of the measurements, original and recounted, are near background with no anomalies.

Based on the results of the quality control tests, there is no reason to suspect data quality problems in the original data collected for survey units assigned to survey plan T-01.

3.1.3 QC Results for T-02

3.1.3.1 Replicate Surveys

Sixteen data points were selected for fixed replicate surveys from the sample group collected in the class 2 areas. The set included the highest alpha and beta measurements and the lowest alpha and beta measurements. The remaining 12 points were selected at random. Replicate measurements (RSDS MT-06-0311) were

taken at these locations. Table 10 compares the replicate survey results to the originally measured values.

Table 10. T-02 Fixed Replicate Point Variance Analysis

QC Sample ID#	Initial Sample ID#	Initial Sample RSDS	Room #	alpha (dpm/100cm2)		beta (dpm/100cm2)	
				initial	replicate	initial	replicate
T02QC01	2S010106S	05-1344	East Tunnel	11	19	363	707
T02QC02	2N020111S	05-167	Rm 298	70	69	3522	3891
T02QC03	2S050112S	05-236	Rm 221	0	11	608	1142
T02QC04	1N060213S	05-652	Rm 90	94	15	879	1103
T02QC05	2N010208S	05-209	Rm 314	11	19	934	1055
T02QC06	5N010202S	05-914	Rm 151	4	23	1200	1491
T02QC07	2S010107S	05-1344	East Tunnel	34	8	943	1113
T02QC08	2S050120S	05-236	Rm 223	11	4	656	939
T02QC09	2S110207S	05-084	Rm 6E	26	4	614	1239
T02QC10	5N020110S	05-527	Rm 156	8	19	1376	958
T02QC11	2S030113S	06-0024	West Tunnel	8	15	729	755
T02QC12	2S030217S	06-0032	West Tunnel	15	11	1329	1578
T02QC13	2S110208S	05-084	Rm 6E	33	23	697	1355
T02QC14	2S110219S	05-339	Rm 6E	4	34	917	997
T02QC15	2N010210S	05-209	Rm 321	4	11	859	1132
T02QC16	2S030119S	06-0024	West Tunnel	34	19	1196	1800
Variance				680	237	512542	549707
Ratio					2.9		0.9
Agreement					NO		YES

With data sets containing measurements that are significantly greater than background, the variance of the initial data set should generally be within a factor of 2 of the variance of the replicate data set. With the data above, the majority of the measurements are indistinguishable from natural background, i.e. statistically insignificant. Given this situation, the two data sets agree reasonably well. In both sets of measurements, all values are below the release guidelines of 100 dpm/100 cm^2 alpha and 5,000 dpm/100 cm^2 beta.

3.1.3.2 Replicate Scans

Replicate scans were performed on survey units 2N01, 1S02, 5N02, and 2N02 (RSDSs MT-06-0260, MT-06-0262, MT-06-0265, MT-06-0268). These units were randomly selected from a list of all Class 2 survey units. These units comprise 5,154 sq. ft. while the total Class 2 area surveyed was 133,158 sq. ft.

No elevated alpha or beta readings were detected in any of the rescans or in the scans reported in the final survey status reports for these units.

3.1.3.3 Sample Recounts

Recounts were performed on smear samples taken at the sixteen QC measurement locations. The recounted samples were evaluated for accuracy and precision. The recounted samples were compared to the original measurements for accuracy and precision as shown in Tables 11 and 12 below.

Table 11. Accuracy Determination For T-02 Sample Recounts

Alpha
Sample run MT-06-307: 5/15/06 13:35
Recount run: 5/15/06 13:38

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	1σ	resolution	replicate (dpm/100cm2)
1	1	0.00	1.38	1.0	1.95
2	2	0.00	0.00	1.0	0.00
3	3	0.00	0.00	1.0	0.00
4	4	0.00	0.00	1.0	0.00
5	5	0.00	0.00	1.0	0.00
6	6	0.00	0.00	1.0	0.00
7	7	0.00	0.00	1.0	0.00
8	8	0.00	0.00	1.0	0.00
9	9	0.00	0.00	1.0	0.00
10	10	0.00	0.00	1.0	0.00
11	11	0.00	0.00	1.0	0.00
12	12	0.00	0.00	1.0	0.00
13	13	0.00	0.00	1.0	0.00
14	14	0.00	0.00	1.0	0.00
15	15	0.00	0.00	1.0	0.00
16	16	0.00	0.00	1.0	0.00

Beta
Sample run MT-06-307: 5/15/06 13:35
Recount run: 5/15/06 13:38

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	1σ	resolution	replicate (dpm/100cm2)
1	1	0.38	0.13	3.0	0.20
2	2	0.00	0.25	1.0	0.36
3	3	2.81	1.99	1.4	0.00
4	4	0.00	2.96	1.0	4.19
5	5	0.25	0.84	0.3	1.44
6	6	1.59	0.78	2.0	0.48
7	7	0.27	0.19	1.4	0.00
8	8	0.00	0.00	1.0	0.00
9	9	1.11	0.78	1.4	0.00
10	10	0.00	0.00	1.0	0.00
11	11	1.71	0.89	1.9	0.45
12	12	2.71	1.92	1.4	0.00
13	13	0.28	0.88	0.3	1.53
14	14	0.32	0.23	1.4	0.00
15	15	0.26	0.18	1.4	0.00
16	16	0.00	0.00	1.0	0.00

Tritium
Sample run MT-06-307: 5/15/06 15:37
Recount run: 5/15/06 17:48

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	1σ	resolution	replicate (dpm/100cm2)
1	1	0	0.00	1.0	0
2	2	0	0.00	1.0	0
3	3	2	1.41	1.4	0
4	4	0	2.12	1.0	3
5	5	3	2.12	1.4	0
6	6	0	0.00	1.0	0
7	7	0	0.00	1.0	0
8	8	0	0.00	1.0	0
9	9	0	0.71	1.0	1
10	10	0	0.00	1.0	0
11	11	0	0.00	1.0	0
12	12	0	0.00	1.0	0
13	13	0	0.00	1.0	0

14	14	0	0.00	1.0	0
15	15	0	0.00	1.0	0
16	16	0	0.00	1.0	0

Table 12. Precision Determination For T-02 Sample Recounts

Alpha
Sample run MT-06-307: 5/15/06 13:35
Recount run: 5/15/06 13:38

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	mean value for pair	% deviation
1	1	0.00	1.95	0.98	100.00
2	2	0.00	0.00	0.00	--
3	3	0.00	0.00	0.00	--
4	4	0.00	0.00	0.00	--
5	5	0.00	0.00	0.00	--
6	6	0.00	0.00	0.00	--
7	7	0.00	0.00	0.00	--
8	8	0.00	0.00	0.00	--
9	9	0.00	0.00	0.00	--
10	10	0.00	0.00	0.00	--
11	11	0.00	0.00	0.00	--
12	12	0.00	0.00	0.00	--
13	13	0.00	0.00	0.00	--
14	14	0.00	0.00	0.00	--
15	15	0.00	0.00	0.00	--
16	16	0.00	0.00	0.00	--

Beta
Sample run MT-06-307: 5/15/06 13:35
Recount run: 5/15/06 13:38

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	mean value for pair	% deviation
1	1	0.38	0.20	0.29	-31.03
2	2	0.00	0.36	0.18	100.00
3	3	2.81	0.00	1.41	-100.00
4	4	0.00	4.19	2.10	100.00
5	5	0.25	1.44	0.85	70.41
6	6	1.59	0.48	1.04	-53.62
7	7	0.27	0.00	0.14	-100.00
8	8	0.00	0.00	0.00	--
9	9	1.11	0.00	0.56	-100.00
10	10	0.00	0.00	0.00	--
11	11	1.71	0.45	1.08	-58.33
12	12	2.71	0.00	1.36	-100.00
13	13	0.28	1.53	0.91	69.06
14	14	0.32	0.00	0.16	-100.00
15	15	0.26	0.00	0.13	-100.00
16	16	0.00	0.00	0.00	--

Tritium
Sample run MT-06-307: 5/15/06 15:37
Recount run: 5/15/06 17:48

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	mean value for pair	% deviation
1	1	0	0	0.00	--
2	2	0	0	0.00	--
3	3	2	0	1.00	-100.00
4	4	0	3	1.50	100.00
5	5	3	0	1.50	-100.00
6	6	0	0	0.00	--
7	7	0	0	0.00	--
8	8	0	0	0.00	--
9	9	0	1	0.50	100.00
10	10	0	0	0.00	--

11	11	0	0	0.00	--
12	12	0	0	0.00	--
13	13	0	0	0.00	--
14	14	0	0	0.00	--
15	15	0	0	0.00	--
16	16	0	0	0.00	--

3.1.3.4 Conclusions

Fixed replicate survey data sets agree reasonably well considering that all measurements are near background. All values in both data sets are below release criteria. There are no anomalies that cause concern with the original data set.

No elevated alpha or beta readings were observed during the rescan. That result agrees with the original scan findings reported in the final survey status reports.

Sample (smear) recount results were assessed for both accuracy and precision. All of the alpha, beta, and tritium measurements are at or near background so the statistical evaluation of accuracy and precision of these results is not meaningful. The results are in qualitative agreement in that all of the measurements, original and recounted, are near background with no anomalies.

Based on the results of the quality control tests, there is no reason to suspect data quality problems in the original data collected for survey units assigned to survey plan T-02.

3.1.4 QC Results for T-03

3.1.4.1 Replicate Surveys

Sixteen data points were selected for fixed replicate surveys from the sample group collected in class 3 areas. The set included the highest alpha and beta measurements and the lowest alpha and beta measurements. The remaining 12 points were selected at random. Replicate measurements (RSDS MT-06-0525, MT-06-595) were taken at these locations. Table 13 compares the replicate survey results to the originally measured value.

Table 13. T-03 Fixed Replicate Point Variance Analysis

QC Sample ID#	Initial Sample ID#	Initial Sample RSDS	alpha (dpm/100cm2)		beta (dpm/100cm2)	
			initial	replicate	initial	replicate
T03QC01	2S190102J	05-604	12	8	569	704
T03QC02	5N030109J	05-928	127	79	4497	3948
T03QC03	1N050115S	05-102	0	19	632	833
T03QC04	5N05E04J	05-897	242	53	3011	3929
T03QC05	5N030118J	05-904	87	117	3545	4107
T03QC06	5N030107J	05-904	79	64	4074	3968
T03QC07	5N050119J	05-897	65	19	2303	2391
T03QC08	1N050117S	05-102	18	38	770	1329
T03QC09	5N030116J	05-904	8	102	2018	3958
T03QC10	5NO40105J	06-0079	42	147	2967	4038
T03QC11	5NO40104J	06-0079	50	53	3048	3611
T03QC12	0504R09J	05-902	88	72	2827	2123
T03QC13	2S190206J	05-635	24	30	1289	1538
T03QC14	5N030104J	05-904	74	91	2441	3304
T03QC15	0504S12J	05-902	134	102	3863	4067
T03QC16	2S180214J	05-820	95	45	2555	1687
Variance			3757	1547	1483037	1660337
Ratio				2.4		0.9
Agreement				NO		YES

With data sets containing measurements that are significantly greater than background, the statistical criteria for agreement is that the variance of the initial data set be within a factor of 2 of the variance of the replicate data set. Variance of the alpha data set is slightly higher than that.

3.1.4.2 Replicate Scans

A replicate scan (RSDS MT-06-0301) of survey unit 1N05 was conducted. 1N05 was selected because it was the only survey unit within the T-03 plan that was conducted inside the building. 5,092 sq. ft. were rescanned. No elevated alpha or beta readings were detected during the rescan or during the original scan.

3.1.4.3 Sample Recounts

Recounts were performed on smear samples taken at the sixteen QC measurement locations. The recounted samples were evaluated for accuracy and precision. The recounted samples were compared to the original measurements for accuracy and precision as shown below.

Table 14. Accuracy Determination For T-03 Sample Recounts

Alpha
Sample run MT-06-0525: 5/18/06 9:32
Recount run: 5/18/06 9:34

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	1σ	resolution	agreement ratio
1	1	0.00	0.00	0.00	1	--
2	2	0.00	0.00	0.00	1.0	--
3	3	0.00	0.00	0.00	1.0	--
4	4	0.00	1.90	1.34	1.0	0.00
5	5	0.00	1.58	1.12	1.0	0.00
6	6	0.00	0.00	0.00	1.0	--
7	7	1.91	0.00	1.35	1.4	--
8	8	0.00	0.00	0.00	1.0	--

9	9	0.00	0.00	0.00	1.0	--
10	10	0.00	0.00	0.00	1.0	--
11	11	0.00	0.00	0.00	1.0	--
12	12	0.00	0.00	0.00	1.0	--
13	13	0.00	0.00	0.00	1.0	--
14	14	0.00	0.00	0.00	--	--
15	15	0.00	0.00	0.00	1	--
16	16	0.00	0.00	0	1.0	--

Beta
Sample run MT-06-0525: 5/18/06 9:32
Recount run: 5/18/06 9:34

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	1σ	resolution	agreement ratio
1	1	0.00	1.68	1.19	1	0.00
2	2	0.00	0.00	0.00	1	--
3	3	0.00	0.00	0.00	1.0	--
4	4	0.00	0.00	0.00	1.0	--
5	5	0.00	0.00	0.00	1	--
6	6	1.59	1.59	0.00	--	1.00
7	7	2.70	0.00	1.91	1.4	--
8	8	4.24	3.04	0.85	--	1.39
9	9	0.00	2.36	1.67	1.0	0.00
10	10	0.00	2.78	1.97	1.0	0.00
11	11	1.71	4.23	1.78	1.0	0.40
12	12	0.00	0.00	0.00	1	--
13	13	1.53	0.28	0.88	--	5.46
14	14	1.51	0.32	0.84	1.8	4.72
15	15	0.00	0.00	0.00	1	--
16	16	0.40	0.00	0.28	--	--

Tritium
Sample run MT-06-0525: 5/18/06 10:16
Recount run: 5/17/06 14:09

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	1σ	resolution	agreement ratio
1	1	0	0	0.0	1.0	--
2	2	0	4	2.8	1.0	0.00
3	3	0	0	0.0	1.0	--
4	4	0	6	4.2	1.0	0.00
5	5	0	0	0.0	1.0	--
6	6	0	8	5.7	1.0	0.00
7	7	12	35	16.3	0.7	0.34
8	8	0	6	4.2	1.0	0.00
9	9	0	0	0.0	1.0	--
10	10	0	4	2.8	1.0	0.00
11	11	0	7	4.9	1.0	0.00
12	12	0	10	7.1	1.0	0.00
13	13	0	4	2.8	1.0	0.00
14	14	12	0	8.5	1.4	--
15	15	0	2	1.4	1.0	0.00
16	16	0	5	3.5	1.0	0.00

Table 15. Precision Determination For T-03 Sample Recounts

Alpha
Sample run MT-06-0525: 5/18/06 9:32
Recount run: 5/18/06 9:34

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	mean value for pair	% deviation
1	1	0.00	0.00	0.00	--
2	2	0.00	0.00	0.00	--
3	3	0.00	0.00	0.00	--
4	4	0.00	1.90	0.95	100.00
5	5	0.00	1.58	0.79	100.00

6	6	0.00	0.00	0.00	--
7	7	1.91	0.00	0.96	-100.00
8	8	0.00	0.00	0.00	--
9	9	0.00	0.00	0.00	--
10	10	0.00	0.00	0.00	--
11	11	0.00	0.00	0.00	--
12	12	0.00	0.00	0.00	--
13	13	0.00	0.00	0.00	--
14	14	0.00	0.00	0.00	--
15	15	0.00	0.00	0.00	--
16	16	0.00	0.00	0.00	--

Beta
Sample run MT-06-0525: 5/18/06 9:32
Recount run: 5/18/06 9:34

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	mean value for pair	% deviation
1	1	0.00	1.68	0.84	100.00
2	2	0.00	0.00	0.00	--
3	3	0.00	0.00	0.00	--
4	4	0.00	0.00	0.00	--
5	5	0.00	0.00	0.00	--
6	6	1.59	1.59	1.59	0.00
7	7	2.70	0.00	1.35	-100.00
8	8	4.24	3.04	3.64	-16.48
9	9	0.00	2.36	1.18	100.00
10	10	0.00	2.78	1.39	100.00
11	11	1.71	4.23	2.97	42.42
12	12	0.00	0.00	0.00	--
13	13	1.53	0.28	0.91	-69.06
14	14	1.51	0.32	0.92	-65.03
15	15	0.00	0.00	0.00	--
16	16	0.40	0.00	0.20	-100.00

Tritium
Sample run MT-06-0525: 5/18/06 10:16
Recount run: 5/17/06 14:09

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	mean value for pair	% deviation
1	1	0	0	0.00	--
2	2	0	4	2.00	100.00
3	3	0	0	0.00	--
4	4	0	6	3.00	100.00
5	5	0	0	0.00	--
6	6	0	8	4.00	100.00
7	7	12	35	23.50	48.94
8	8	0	6	3.00	100.00
9	9	0	0	0.00	--
10	10	0	4	2.00	100.00
11	11	0	7	3.50	100.00
12	12	0	10	5.00	100.00
13	13	0	4	2.00	100.00
14	14	12	0	6.00	-100.00
15	15	0	2	1.00	100.00
16	16	0	5	2.50	100.00

3.1.4.4 Conclusions

The variance test for fixed replicate survey data does not pass; therefore, the data were evaluated per MD80046, Operation 402. No discrepancies were found in the data collection or documentation. The data were determined to be usable.

No elevated alpha or beta readings were observed during the rescan. That result agrees with the original scan findings reported in the final survey status report.

Sample (smear) recount results were assessed for both accuracy and precision. All of the alpha, beta, and tritium measurements are at or near background so the statistical evaluation of accuracy and precision of these results is not meaningful. The results are in qualitative agreement in that all of the measurements, original and recounted, are near background with no anomalies.

Based on the results of the quality control tests, there is no reason to suspect data quality problems in the original data collected for survey units assigned to survey plan T-03.

3.1.5 QC Results for T-04

3.1.5.1 Replicate Surveys

Sixteen data points were selected for fixed replicate surveys from the sample group collected in the crawlspace areas. The set included the highest alpha and beta measurements and the lowest alpha and beta measurements. The remaining 12 points were selected at random. Replicate measurements (RSDS MT-06-0522) were taken at these locations. The original measurements are recorded in the Final Status Reports for the survey units 2CS0201, 2CS0301, 1CS0301, 2CS0101, 2CS0102, 2CS0303, 1CS0201, 2CS0302, and 2CS0202 (References 11, 12, 13). Table 16 compares the replicate survey results to the originally measured value.

Table 16. T-04 Fixed Replicate Point Variance Analysis

		Initial Sample	alpha (dpm/100cm2)		beta (dpm/100cm2)	
QC Sample ID#	Initial Sample ID#	RSDS	initial	replicate	initial	replicate
TO4QC01	2CS020112S	05-687	19	23	372	885
TO4QC02	1CS030108J	05-906	7	23	2775	1935
TO4QC03	2CS030119S	05-385	0	31	642	1619
TO4QC04	1CS030108S	05-906	85	57	1976	1121
TO4QC05	2CS0301-29J	05-385	3	54	1315	2153
TO4QC06	2CS0301-13S	05-385	19	31	620	1006
TO4QC07	2CS0301-06J	05-307	34	15	736	805
TO4QC08	2CS0101-26J	05-886	29	50	803	1619
TO4QC09	2CS010204J	05-668	13	42	1965	1650
TO4QC10	2CS0303-22J	05-611	5	31	1179	1157
TO4QC11	1CS020106J	05-728	53	27	1769	1227
TO4QC12	2CS010116J	05-886	18	34	935	1589
TO4QC13	2CS030206J	05-393	19	31	1353	1469
TO4QC14	2CS010201J	05-668	19	27	2260	1237
TO4QC15	2CS010105J	05-844	0	38	1408	1046
TO4QC16	2CS020212J	05-711	11	15	690	905
Variance			480	157	471514	155380
Ratio				3.1		3.0
Agreement				NO		NO

3.1.5.2 Replicate Scans

Replicate scans were conducted in the crawlspace in the area of the points selected for fixed replicate survey. A one meter radius around the point was re-scanned on the

floor and ceiling of the crawlspace at the survey locations. Also, any pipes or ductwork passing above the one meter area were re-scanned. No elevated alpha or beta readings were detected in either the replicate or original scans.

3.1.5.3 Sample Recounts

Recounts were performed on smears samples taken at the sixteen QC measurement locations. The recounted samples were compared to the original measurements for accuracy and precision as shown below.

Table 17. Accuracy Determination For T-04 Sample Recounts

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	1σ	resolution	agreement ratio
Alpha Sample run MT-06-0522: 5/17/06 14:10 Recount run: 5/17/06 14:13						
1	1	0.00	0.00	0.00	1	--
2	2	0.00	1.79	1.27	1.0	0.00
3	3	0.00	0.00	0.00	1.0	--
4	4	0.00	1.90	1.34	1.0	0.00
5	5	0.00	0.00	0.00	1.0	--
6	6	0.00	0.00	0.00	1.0	--
7	7	1.91	0.00	1.35	1.4	--
8	8	0.00	0.00	0.00	1.0	--
9	9	3.78	0.00	2.67	1.4	--
10	10	0.00	0.00	0.00	1.0	--
11	11	0.00	0.00	0.00	1.0	--
12	12	0.00	0.00	0.00	1.0	--
13	13	0.00	0.00	0.00	1.0	--
14	14	1.93	1.93	0.00	--	1.00
15	15	0.00	0.00	0.00	1	--
16	16	0.00	0.00	0	1.0	--
Beta Sample run MT-06-0522: 5/17/06 14:10 Recount run: 5/17/06 14:13						
QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	1σ	resolution	agreement ratio
1	1	0.38	0.00	0.27	1.4	--
2	2	1.52	0.20	0.93	1.6	7.60
3	3	0.30	0.00	0.21	1.4	--
4	4	0.58	2.83	1.59	0.4	0.20
5	5	1.44	0.25	0.84	1.7	5.76
6	6	0.48	0.00	0.34	1.4	--
7	7	1.37	0.00	0.97	1.4	--
8	8	0.00	0.00	0.00	--	--
9	9	3.31	0.00	2.34	1.4	--
10	10	0.48	0.00	0.34	1.4	--
11	11	2.97	1.71	0.89	3.3	1.74
12	12	1.58	0.45	0.80	2.0	3.51
13	13	0.28	0.28	0.00	--	1.00
14	14	0.17	0.00	0.12	1.4	--
15	15	1.50	0.26	0.88	1.7	5.77
16	16	0.40	0.40	0.00	--	1.00
Tritium Sample run MT-06-0522: 5/17/06 15:16 Recount run: 5/17/06 16:46						
QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	1σ	resolution	agreement ratio
1	1	10	5	3.5	2.8	2.00
2	2	4	8	2.8	1.4	0.50

3	3	0	5	3.5	1.0	0.00
4	4	2	4	1.4	1.4	0.50
5	5	0	2	1.4	1.0	0.00
6	6	0	2	1.4	1.0	0.00
7	7	0	0	0.0	1.0	--
8	8	0	5	3.5	1.0	0.00
9	9	0	0	0.0	1.0	--
10	10	0	4	2.8	1.0	0.00
11	11	0	6	4.2	1.0	0.00
12	12	7	2	3.5	2.0	3.50
13	13	3	5	1.4	2.1	0.60
14	14	0	9	6.4	1.0	0.00
15	15	5	6	0.7	7.1	0.83
16	16	5	6	0.7	7.1	0.83

Table 18. Precision Determination For T-04 Sample Recounts

Alpha
Sample run MT-06-0522: 5/17/06 14:10
Recount run: 5/17/06 14:13

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	mean value for pair	% deviation
1	1	0.00	0.00	0.00	--
2	2	0.00	1.79	0.90	100.00
3	3	0.00	0.00	0.00	--
4	4	0.00	1.90	0.95	100.00
5	5	0.00	0.00	0.00	--
6	6	0.00	0.00	0.00	--
7	7	1.91	0.00	0.96	-100.00
8	8	0.00	0.00	0.00	--
9	9	3.78	0.00	1.89	-100.00
10	10	0.00	0.00	0.00	--
11	11	0.00	0.00	0.00	--
12	12	0.00	0.00	0.00	--
13	13	0.00	0.00	0.00	--
14	14	1.93	1.93	1.93	0.00
15	15	0.00	0.00	0.00	--
16	16	0.00	0.00	0.00	--

Beta
Sample run MT-06-0522: 5/17/06 14:10
Recount run: 5/17/06 14:13

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	mean value for pair	% deviation
1	1	0.38	0.00	0.19	-100.00
2	2	1.52	0.20	0.86	-76.74
3	3	0.30	0.00	0.15	-100.00
4	4	0.58	2.83	1.71	65.98
5	5	1.44	0.25	0.85	-70.41
6	6	0.48	0.00	0.24	-100.00
7	7	1.37	0.00	0.69	-100.00
8	8	0.00	0.00	0.00	--
9	9	3.31	0.00	1.66	-100.00
10	10	0.48	0.00	0.24	-100.00
11	11	2.97	1.71	2.34	-26.92
12	12	1.58	0.45	1.02	-55.67
13	13	0.28	0.28	0.28	0.00
14	14	0.17	0.00	0.09	-100.00
15	15	1.50	0.26	0.88	-70.45
16	16	0.40	0.40	0.40	0.00

Tritium
Sample run MT-06-0522: 5/17/06 15:16
Recount run: 5/17/06 16:46

QC Sample	Initial Sample	initial	replicate	mean value for pair	%

ID#	ID#	(dpm/100cm2)	(dpm/100cm2)		deviation
1	1	10	5	7.50	-33.33
2	2	4	8	6.00	33.33
3	3	0	5	2.50	100.00
4	4	2	4	3.00	33.33
5	5	0	2	1.00	100.00
6	6	0	2	1.00	100.00
7	7	0	0	0.00	--
8	8	0	5	2.50	100.00
9	9	0	0	0.00	--
10	10	0	4	2.00	100.00
11	11	0	6	3.00	100.00
12	12	7	2	4.50	-55.56
13	13	3	5	4.00	25.00
14	14	0	9	4.50	100.00
15	15	5	6	5.50	9.09
16	16	5	6	5.50	9.09

3.1.5.4 Conclusions

Fixed replicate survey data sets agree reasonably well. All values in both data sets are below release criteria and are in qualitative agreement. The variance test for fixed replicate survey data does not pass; therefore, the data were evaluated per MD80046, Operation 402. No discrepancies were found in the data collection or documentation. The data were determined to be usable. There are no anomalies that cause concern with the original data set.

No elevated alpha or beta readings were observed during the rescan. That result agrees with the original scan findings reported in the final survey status report.

Sample (smear) recount results were assessed for both accuracy and precision. All of the alpha, beta, and tritium measurements are at or near background so the statistical evaluation of accuracy and precision of these results is not meaningful. The results are in qualitative agreement in that all of the measurements, original and recounted, are near background with no anomalies.

Based on the results of the quality control tests, there is no reason to suspect data quality problems in the original data collected for survey units assigned to survey plan T-04.

3.1.6 QC Results for T-05

Quality control surveys were not performed for the T-05 survey plan because the equipment was removed.

3.1.7 QC Results for T-06

3.1.7.1 Replicate Surveys

Sixteen data points were selected at random for fixed replicate surveys from the sample group collected at the class 2 sumps. The set included the highest alpha and beta measurements and the lowest alpha and beta measurements. The remaining 12 points were selected at random. Replicate measurements (RSDS MT-06-0435) were taken at these locations. The initial values are reported in the Final Status Report for survey units 1S01, SYSPRS215, SYSPRS342, and SYSPRS223 (References 14, 15,

and 16). Table 19 compares the replicate survey results to the originally measured value.

Table 19. T-06 Fixed Replicate Point Variance Analysis

QC Sample ID#	Initial Sample ID#	Initial Sample RSDS	alpha (dpm/100cm2)		beta (dpm/100cm2)	
			initial	replicate	initial	replicate
T06QC01	1S01A0113J	06-0008	11	15	302	600
T06QC02	34404	05-425	26	53	1834	1237
T06QC03	SYSPRS21502	06-0161	4	64	881	808
T06QC04	SYSPRS21505	06-0161	45	53	814	740
T06QC05	SYSPRS21510	06-0161	45	49	872	604
T06QC06	344028J	05-540	11	26	1200	1208
T06QC07	SYSPRS21507	06-0161	41	49	1015	691
T06QC08	SYPRS3420104J	05-1198	15	38	1397	1334
T06QC09	SYSPRS21513	06-0161	26	53	833	769
T06QC10	34401	05-425	30	34	1169	1149
T06QC11	34409	05-425	19	26	1321	1266
T06QC12	34418	05-425	19	26	1483	1344
T06QC13	1S01A0115J	06-0008	36	19	482	691
T06QC14	34424	05-425	23	30	1502	711
T06QC15	SYS2230103J	05-878	45	26	707	575
T06QC16	SYSPRS21516	06-0161	26	34	939	847
Variance			176	210	160829	83223
Ratio				0.84		1.9
Agreement				YES		YES

3.1.7.2 Replicate Scans

Replicate scans were not performed for the T-06 survey plan because the surface area of the sumps is sufficiently small that the fixed survey points provide adequate coverage of the area under investigation.

3.1.7.3 Sample Recounts

Recounts were performed on smears samples taken at the sixteen QC measurement locations. The recounted samples were compared to the original measurements for accuracy and precision as shown below.

Table 20. Accuracy Determination For T-06 Sample Recounts

Alpha Sample runs MT-06-0432: 5/16/06 13:01 (samples 1-7), MT-06-0435: 5/16/06 13:08 (samples 8-16) Recount runs: MT-06-0432: 5/16/06 13:03 (samples 1-7), MT-06-0435: 5/16/06 13:11 (samples 8-16)						
QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	1σ	resolution	agreement ratio
1	1	0.00	0.00	0.00	1	--
2	2	0.00	0.00	0.00	1.0	--
3	3	0.00	0.00	0.00	1.0	--
4	4	0.00	0.00	0.00	1.0	--
5	5	1.73	0.00	1.22	1.4	--
6	6	1.61	0.00	1.14	1.4	--
7	7	0.00	0.00	0.00	1.0	--
8	8	0.00	0.00	0.00	1.0	--
9	9	1.69	0.00	1.20	1.4	--
10	10	0.00	0.00	0.00	1.0	--
11	11	0.00	0.00	0.00	1.0	--
12	12	1.73	0.00	1.22	1.4	--
13	13	0.00	0.00	0.00	1.0	--
14	14	2.02	0.00	1.43	--	--
15	15	0.00	3.60	2.55	1	0.00

16	16	0.00	0.00	0	1.0	--

Beta
Sample runs MT-06-0432: 5/16/06 13:01 (samples 1-7), MT-06-0435: 5/16/06 13:08 (samples 8-16)
Recount runs: MT-06-0432: 5/16/06 13:03 (samples 1-7), MT-06-0435: 5/16/06 13:11 (samples 8-16)

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	1σ	resolution	agreement ratio
1	1	1.44	1.44	0.00	--	1.00
2	2	0.00	0.48	0.34	1	0.00
3	3	0.00	0.00	0.00	1.0	--
4	4	0.00	0.66	0.47	1.0	0.00
5	5	0.95	1.11	0.11	8.4	0.86
6	6	0.32	0.00	0.23	1.4	--
7	7	0.00	0.45	0.32	1	0.00
8	8	0.00	0.00	0.00	--	--
9	9	1.39	1.59	0.14	9.8	0.87
10	10	0.00	0.00	0.00	1.0	--
11	11	0.66	0.66	0.00	--	1.00
12	12	0.95	0.00	0.67	1.4	--
13	13	1.63	0.00	1.15	--	--
14	14	0.30	2.97	1.89	0.2	0.10
15	15	0.45	1.28	0.59	0.8	0.35
16	16	0.00	0.00	0.00	--	--

Tritium
Sample runs MT-06-0432: 5/16/06 13:56 (samples 1-7), MT-06-0435: 5/16/06 14:29 (samples 8-16)
Recount runs: MT-06-0432: 5/16/06 16:04, MT-06-0435: 5/16/06 16:37 (samples 8-16)

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	1σ	resolution	agreement ratio
1	1	147	43	73.5	2.0	3.42
2	2	29	15	9.9	2.9	1.93
3	3	26	19	4.9	5.3	1.37
4	4	36	2	24.0	1.5	18.00
5	5	0	0	0.0	1.0	--
6	6	107	22	60.1	1.8	4.86
7	7	153	29	87.7	1.7	5.28
8	8	4	3	0.7	5.7	1.33
9	9	7	0	4.9	1.4	--
10	10	0	0	0.0	1.0	--
11	11	0	0	0.0	1.0	--
12	12	0	0	0.0	1.0	--
13	13	12	0	8.5	1.4	--
14	14	0	0	0.0	1.0	--
15	15	6	0	4.2	1.4	--
16	16	4	0	2.8	1.4	--

Table 21. Precision Determination For T-04 Sample Recounts

Alpha
Sample runs MT-06-0432: 5/16/06 13:01 (samples 1-7), MT-06-0435: 5/16/06 13:08 (samples 8-16)
Recount runs: MT-06-0432: 5/16/06 13:03 (samples 1-7), MT-06-0435: 5/16/06 13:11 (samples 8-16)

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	mean value for pair	% deviation
1	1	0.00	0.00	0.00	--
2	2	0.00	0.00	0.00	--
3	3	0.00	0.00	0.00	--
4	4	0.00	0.00	0.00	--
5	5	1.73	0.00	0.87	-100.00
6	6	1.61	0.00	0.81	-100.00
7	7	0.00	0.00	0.00	--
8	8	0.00	0.00	0.00	--
9	9	1.69	0.00	0.85	-100.00
10	10	0.00	0.00	0.00	--
11	11	0.00	0.00	0.00	--
12	12	1.73	0.00	0.87	-100.00

13	13	0.00	0.00	0.00	--
14	14	2.02	0.00	1.01	-100.00
15	15	0.00	3.60	1.80	100.00
16	16	0.00	0.00	0.00	--
Beta Sample runs MT-06-0432: 5/16/06 13:01 (samples 1-7), MT-06-0435: 5/16/06 13:08 (samples 8-16) Recount runs: MT-06-0432: 5/16/06 13:03 (samples 1-7), MT-06-0435: 5/16/06 13:11 (samples 8-16)					
QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	mean value for pair	% deviation
1	1	1.44	1.44	1.44	0.00
2	2	0.00	0.48	0.24	100.00
3	3	0.00	0.00	0.00	--
4	4	0.00	0.66	0.33	100.00
5	5	0.95	1.11	1.03	7.77
6	6	0.32	0.00	0.16	-100.00
7	7	0.00	0.45	0.23	100.00
8	8	0.00	0.00	0.00	--
9	9	1.39	1.59	1.49	6.71
10	10	0.00	0.00	0.00	--
11	11	0.66	0.66	0.66	0.00
12	12	0.95	0.00	0.48	-100.00
13	13	1.63	0.00	0.82	-100.00
14	14	0.30	2.97	1.64	81.65
15	15	0.45	1.28	0.87	47.98
16	16	0.00	0.00	0.00	--
Tritium Sample runs MT-06-0432: 5/16/06 13:56 (samples 1-7), MT-06-0435: 5/16/06 14:29 (samples 8-16) Recount runs: MT-06-0432: 5/16/06 16:04, MT-06-0435: 5/16/06 16:37 (samples 8-16)					
QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	mean value for pair	% deviation
1	1	147	43	95.00	-54.74
2	2	29	15	22.00	-31.82
3	3	26	19	22.50	-15.56
4	4	36	2	19.00	-89.47
5	5	0	0	0.00	--
6	6	107	22	64.50	-65.89
7	7	153	29	91.00	-68.13
8	8	4	3	3.50	-14.29
9	9	7	0	3.50	-100.00
10	10	0	0	0.00	--
11	11	0	0	0.00	--
12	12	0	0	0.00	--
13	13	12	0	6.00	-100.00
14	14	0	0	0.00	--
15	15	6	0	3.00	-100.00
16	16	4	0	2.00	-100.00

3.1.7.4 Conclusions

Fixed replicate survey data meet the statistical requirement for agreement. There are no anomalies that cause concern with the original data set.

Sample (smear) recount results were assessed for both accuracy and precision. All of the alpha, beta, and tritium measurements are at or near background so the statistical evaluation of accuracy and precision of these results is not meaningful. The results are in qualitative agreement in that all of the measurements, original and recounted, are near background with no anomalies.

Based on the results of the quality control tests, there is no reason to suspect data quality problems in the original data collected for survey units assigned to survey plan T-06.

3.1.8 QC Results for T-07

3.1.8.1 Replicate Fixed Point Surveys

Sixteen data points were selected at random for fixed replicate surveys from the sample group collected for T-07 survey units. The set included the highest alpha and beta measurements and the lowest alpha and beta measurements. The remaining 12 points were selected at random. Replicate measurements (RSDS MT-06-0522) were taken at these locations. The initial results are reported in the Final Status Report for survey unit #s SYS-13, SYS-14, SYS-15, SYS-16, SYS-17, SYS-18, SYS-19, SYS-20 and SYS-21 (References 5, 9). The results of the initial and replicate surveys are presented in Table 22.

Table 22. T-07 Fixed Replicate Point Variance Analysis

QC Sample ID#	Initial Sample ID#	RSDS #	alpha (dpm/100cm2)		beta (dpm/100cm2)	
			initial	replicate	initial	replicate
T07 - QC-1	SYS2001J	05-553	65	8	215	1324
T07 - QC-2	SYS1815J	05-561	31	31	3168	3866
T07 - QC-3	SYS1619J	05-581	0	27	1294	1529
T07 - QC-4	SYS2101J	05-556	77	23	1474	1529
T07 - QC-5	SYS2005J	05-553	50	23	1241	1529
T07 - QC-6	SYS1317J	05-545	54	12	683	1120
T07 - QC-7	SYS2102J	05-556	54	35	1877	1558
T07 - QC-8	SYS160113J	05-1054	19	19	891	1091
T07 - QC-9	SYS160120J	05-1054	11	23	1217	1373
T07 - QC-10	SYS2011J	05-553	27	15	939	1022
T07 - QC-11	SYS2006J	05-553	31	8	613	993
T07 - QC-12	SYS1320J	05-545	31	19	807	1081
T07 - QC-13	SYS1810J	05-561	11	8	1806	1811
T07 - QC-14	SYS1301J	05-545	61	39	1241	1237
T07 - QC-15	SYS1618J	05-581	7	27	822	1402
T07 - QC-16	SYS1605J	05-581	22	15	595	1246
Variance			532	91	479261	457234
Ratio				5.8		1.0
Agreement				NO		YES

3.1.8.2 Replicate Scans

Replicate scans were performed (RSDS MT-06-0324) for the liquid utility piping systems as designated under survey plan. Scans were conducted within a 1 meter area around each of the 16 points selected for the fixed replicate survey. The 16 points included the locations of the maximum and minimum alpha and beta measurements from the original survey. The 16 rescans exceed the 5 required to meet the 5% requirement specified in the T-07 survey plan. No elevated alpha or beta readings were detected during the rescans. That result is consistent with the result presented in Final Status Reports (References 5, 9) which also did not detect elevated alpha or beta.

3.1.8.3 Sample Recounts

Recounts were performed on smears samples taken at the sixteen QC measurement locations. The recounted samples were compared to the original measurements for accuracy and precision as shown below.

Table 23. Accuracy Determination For T-07 Sample Recounts

Alpha
Sample run MT-06-0324: 5/15/06 14:47
Recount run: 5/15/06 14:50

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	1σ	resolution	agreement ratio
1	1	1.95	0.00	1.38	1.4	--
2	2	0.00	0.00	0.00	1.0	--
3	3	0.00	0.00	0.00	1.0	--
4	4	0.00	0.00	0.00	1.0	--
5	5	0.00	1.58	1.12	1.0	0.00
6	6	0.00	0.00	0.00	1.0	--
7	7	0.00	0.00	0.00	1.0	--
8	8	0.00	0.00	0.00	1.0	--
9	9	0.00	0.00	0.00	1.0	--
10	10	0.00	0.00	0.00	1.0	--
11	11	0.00	0.00	0.00	1.0	--
12	12	0.00	0.00	0.00	1.0	--
13	13	0.00	0.00	0.00	1.0	--
14	14	1.93	0.00	1.36	1.4	--
15	15	1.68	0.00	1.19	1.4	--
16	16	0.00	0.00	0	1.0	--

Beta
Sample run MT-06-0324: 5/15/06 14:47
Recount run: 5/15/06 14:50

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	1σ	resolution	agreement ratio
1	1	0.20	0.00	0.14	1.4	--
2	2	2.68	0.00	1.90	1.4	--
3	3	0.00	0.00	0.00	1.0	--
4	4	0.00	0.58	0.41	1.0	0.00
5	5	0.25	0.00	0.18	1.4	--
6	6	0.00	0.48	0.34	1.0	0.00
7	7	1.59	0.00	1.12	1.4	--
8	8	0.66	0.66	0.00	--	1.00
9	9	0.00	3.62	2.56	1.0	0.00
10	10	0.00	0.00	0.00	1.0	--
11	11	1.71	0.00	1.21	1.4	--
12	12	1.58	0.00	1.12	1.4	--
13	13	0.28	0.00	0.20	1.4	--
14	14	0.00	0.32	0.23	1.0	0.00
15	15	1.34	0.00	0.95	1.4	--
16	16	0.40	1.57	0.83	0.5	0.25

Tritium
Sample run MT-06-0324: 5/15/06 16.34
Recount run: 5/15/06 18:45

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	1σ	resolution	agreement ratio
1	1	0	0	0.0	1.0	--
2	2	0	0	0.0	1.0	--
3	3	46	36	7.1	6.5	1.28
4	4	0	0	0.0	1.0	--
5	5	0	0	0.0	1.0	--
6	6	0	0	0.0	1.0	--
7	7	33	41	5.7	5.8	0.80
8	8	124	105	13.4	9.2	1.18
9	9	5	0	3.5	1.4	--
10	10	0	2	1.4	1.0	0.00
11	11	0	0	0.0	1.0	--
12	12	1	0	0.7	1.4	--
13	13	2	0	1.4	1.4	--

14	14	43	41	1.4	30.4	1.05
15	15	43	53	7.1	6.1	0.81
16	16	0	0	0.0	1.0	--

Table 24. Precision Determination For T-07 Sample Recounts

Alpha
Sample run MT-06-0324: 5/15/06 14:47
Recount run: 5/15/06 14:50

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	mean value for pair	% deviation
1	1	1.95	0.00	0.98	-100.00
2	2	0.00	0.00	0.00	--
3	3	0.00	0.00	0.00	--
4	4	0.00	0.00	0.00	--
5	5	0.00	1.58	0.79	100.00
6	6	0.00	0.00	0.00	--
7	7	0.00	0.00	0.00	--
8	8	0.00	0.00	0.00	--
9	9	0.00	0.00	0.00	--
10	10	0.00	0.00	0.00	--
11	11	0.00	0.00	0.00	--
12	12	0.00	0.00	0.00	--
13	13	0.00	0.00	0.00	--
14	14	1.93	0.00	0.97	-100.00
15	15	1.68	0.00	0.84	-100.00
16	16	0.00	0.00	0.00	--

Beta
Sample run MT-06-0324: 5/15/06 14:47
Recount run: 5/15/06 14:50

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	mean value for pair	% deviation
1	1	0.20	0.00	0.10	-100.00
2	2	2.68	0.00	1.34	-100.00
3	3	0.00	0.00	0.00	--
4	4	0.00	0.58	0.29	100.00
5	5	0.25	0.00	0.13	-100.00
6	6	0.00	0.48	0.24	100.00
7	7	1.59	0.00	0.80	-100.00
8	8	0.66	0.66	0.66	0.00
9	9	0.00	3.62	1.81	100.00
10	10	0.00	0.00	0.00	--
11	11	1.71	0.00	0.86	-100.00
12	12	1.58	0.00	0.79	-100.00
13	13	0.28	0.00	0.14	-100.00
14	14	0.00	0.32	0.16	100.00
15	15	1.34	0.00	0.67	-100.00
16	16	0.40	1.57	0.99	59.39

Tritium
Sample run MT-06-0324: 5/15/06 16.34
Recount run: 5/15/06 18:45

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	mean value for pair	% deviation
1	1	0	0	0.00	--
2	2	0	0	0.00	--
3	3	46	36	41.00	-12
4	4	0	0	0.00	--
5	5	0	0	0.00	--
6	6	0	0	0.00	--
7	7	33	41	37.00	11
8	8	124	105	114.50	-8
9	9	5	0	2.50	-100
10	10	0	2	1.00	100

11	11	0	0	0.00	--
12	12	1	0	0.50	-100
13	13	2	0	1.00	-100
14	14	43	41	42.00	-2
15	15	43	53	48.00	10
16	16	0	0	0.00	--

3.1.8.4 Conclusions

The variance test for fixed replicate survey data does not pass; therefore, the data were evaluated per MD80046, Operation 402. No discrepancies were found in the data collection or documentation. The data were determined to be usable. The alpha data sets are in qualitative agreement. All values from both data sets are below the release guideline of 100 dpm/100 cm^2 alpha. The beta result sets demonstrate close agreement.

No elevated alpha or beta readings were observed during the rescan. These results are in agreement with the original scan findings reported in the final survey status report.

Sample (smear) recount results were assessed for both accuracy and precision. All of the alpha and beta measurements are at or near background so the statistical evaluation of accuracy and precision of these results is not meaningful. The results are in qualitative agreement in that all of the measurements, original and recounted, are near background with no anomalies. There were five above background data points in the tritium data set (measurements 3, 7, 8, 14 and 15). These results meet the VSAP requirement for accuracy listed in Table 5. They also have a percent deviation near 10% showing reasonably good precision.

Based on the results of the quality control tests, there is no reason to suspect data quality problems in the original data collected for survey units assigned to survey plan T-07.

3.1.9 QC Results for T-08

3.1.9.1 Replicate Surveys

Sixteen data points were selected at random for fixed replicate surveys from the sample group collected for exhaust ventilation survey units. The set included the highest alpha and beta measurements and the lowest alpha and beta measurements. The remaining 12 points were selected at random. Replicate measurements (RSDS MT-06-0545) were taken at these locations. The initial results are reported in the Final Status Report for survey unit #s SYS-05, SYS-05-01, SYS-05-02, SYS-06, SYS-06-01, SYS-06-02, and SYS-06-04 (References 17, 18). The results of the initial and replicate surveys are presented in Table 22.

Table 25. T-08 Fixed Replicate Point Variance Analysis

QC Sample ID#	Initial Sample ID#	RSDS #	alpha (dpm/100cm2)		beta (dpm/100cm2)	
			initial	replicate	initial	replicate
T08QC01	SYS050233S	06-0099	54	40	350	1468
T08QC03	SYS050202S	06-0099	0	83	831	906
T08QC05	SYS050124S	06-0042	15	36	962	828
T08QC06	SYS050231S	06-0439	23	24	655	837
T08QC07	SYS05E1204	05-0797	34	131	644	3202
T08QC08	SYS050223S	06-0439	34	36	645	788
T08QC10	SYS050133S	06-0042	38	40	893	926
T08QC11	SYS060129S	06-0408	8	19	772	760
T08QC12	SYS060407S	06-0276	123	36	831	1035
T08QC13	SYS060414S	06-0282	106	107	2103	1104
T08QC14	SYS060411S	06-0276	108	56	444	3360
T08QC15	E22	05-0793	(a)	91	(a)	3005
T08QC16	SYS060103S	06-0411	23	32	818	897
T08QC17	SYS06LOUVER(E1A)	05-0909	11	40	1731	1626
T08QC18	SYS06HOUSE(E11A)	05-0917	5	24	801	1813
T08QC19	SYS060217S	05-0825	29	40	718	1084
T08QC20	SYS060108S	06-0411	23	20	827	680
Variance			1496	1025	194319	682032
Ratio				1.5		0.28
Agreement				YES		NO

(a) The RSDS did not clearly identify the corresponding initial fixed survey location. This point was disregarded when determining the variance.

3.1.9.2 Replicate Scans

Replicate scans were performed (RSDS MT-06-0545) for the exhaust ventilation systems as designated under survey plan. Scans were conducted within a 1 meter area around each of the 16 points selected for the fixed replicate survey. The 16 points included the locations of the maximum and minimum alpha and beta measurements from the original survey.

Slightly elevated readings for alpha were observed during the rescan. The original scan findings also reported slightly elevated alpha results. Agreement was not ideal because one of the elevated replicate measurements was not reflected in the initial measurements and one of the elevated initial measurements was not reflected in the replicates. The exhaust ventilation system is active and fluctuation of contaminant readings is expected.

3.1.9.3 Sample Recounts

Recounts were performed on smears samples taken at the sixteen QC measurement locations. The recounted samples were compared to the original measurements for accuracy and precision as shown below.

Table 26. Accuracy Determination For T-08 Sample Recounts

Alpha Sample run MT-06-0525: 5/18/06 9:32 Recount run: 5/18/06 9:34					
QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	mean value for pair	% deviation
1	1	0.00	0.00	0.00	--
2	2	0.00	1.79	0.90	100.00
3	3	0.00	0.00	0.00	--
4	4	0.00	0.00	0.00	--

5	5	0.00	0.00	0.00	--
6	6	0.00	0.00	0.00	--
7	7	0.00	0.00	0.00	--
8	8	0.00	0.00	0.00	--
9	9	0.00	0.00	0.00	--
10	10	0.00	0.00	0.00	--
11	11	0.00	0.00	0.00	--
12	12	0.00	0.00	0.00	--
13	13	0.00	1.73	0.87	100.00
14	14	0.00	0.00	0.00	--
15	15	0.00	0.00	0.00	--
16	16	0.00	0.00	0.00	--

Beta
Sample run MT-06-0525: 5/18/06 9:32
Recount run: 5/18/06 9:34

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	mean value for pair	% deviation
1	1	1.68	2.98	2.33	27.90
2	2	2.68	3.68	3.18	15.72
3	3	0.30	0.30	0.30	0.00
4	4	0.00	0.58	0.29	100.00
5	5	0.25	0.25	0.25	0.00
6	6	1.59	1.59	1.59	0.00
7	7	1.59	0.27	0.93	-70.97
8	8	0.00	1.85	0.93	100.00
9	9	2.36	1.11	1.74	-36.02
10	10	3.92	0.00	1.96	-100.00
11	11	0.45	0.00	0.23	-100.00
12	12	0.45	0.00	0.23	-100.00
13	13	0.00	0.00	0.00	--
14	14	0.00	0.00	0.00	--
15	15	0.00	0.00	0.00	--
16	16	0.00	1.57	0.79	100.00

Tritium
Sample run MT-06-0525: 5/18/06 10:16
Recount run: 5/17/06 14:09

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	mean value for pair	% deviation
1	1	1	0	0.50	-100.00
2	2	0	0	0.00	--
3	3	0	0	0.00	--
4	4	0	0	0.00	--
5	5	0	0	0.00	--
6	6	0	0	0.00	--
7	7	0	0	0.00	--
8	8	1	0	0.50	-100.00
9	9	0	3	1.50	100.00
10	10	0	2	1.00	100.00
11	11	0	0	0.00	--

12	12	342	154	248.00	-37.90
13	13	0	1	0.50	100.00
14	14	18	0	9.00	-100.00
15	15	34	0	17.00	-100.00
16	16	0	0	0.00	--

Table 27. Precision Determination For T-08 Sample Recounts

Alpha
Sample run MT-06-0525: 5/18/06 9:32
Recount run: 5/18/06 9:34

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	mean value for pair	% deviation
1	1	0.00	0.00	0.00	--
2	2	0.00	0.00	0.00	--
3	3	0.00	0.00	0.00	--
4	4	0.00	0.00	0.00	--
5	5	0.00	0.00	0.00	--
6	6	0.00	0.00	0.00	--
7	7	0.00	0.00	0.00	--
8	8	0.00	0.00	0.00	--
9	9	0.00	0.00	0.00	--
10	10	0.00	0.00	0.00	--
11	11	0.00	0.00	0.00	--
12	12	1.73	0.00	0.87	-100.00
13	13	1.92	0.00	0.96	-100.00
14	14	0.00	0.00	0.00	--
15	15	1.71	1.71	1.71	0.00
16	16	1.95	0.00	0.98	-100.00

Beta
Sample run MT-06-0525: 5/18/06 9:32
Recount run: 5/18/06 9:34

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	mean value for pair	% deviation
1	1	1.68	0.38	1.03	-63.11
2	2	0.00	1.52	0.76	100.00
3	3	0.00	2.81	1.41	100.00
4	4	0.58	1.78	1.18	50.85
5	5	0.00	0.00	0.00	--
6	6	0.00	0.00	0.00	--
7	7	0.00	0.27	0.14	100.00
8	8	0.66	0.00	0.33	-100.00
9	9	2.78	0.48	1.63	-70.55
10	10	2.97	0.45	1.71	-73.68
11	11	0.00	1.58	0.79	100.00
12	12	0.00	0.00	0.00	--
13	13	18.01	9.84	13.93	-29.34
14	14	5.22	2.74	3.98	-31.16
15	15	1.43	0.00	0.72	-100.00
16	16	0.00	5.59	2.80	100.00

Tritium
Sample run MT-06-0525: 5/18/06 10:16
Recount run: 5/17/06 14:09

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	mean value for pair	% deviation
1	1	5	0	2.50	-100.00
2	2	347	1	174.00	-99.43
3	3	0	0	0.00	--
4	4	0	4	2.00	100.00
5	5	16	17	16.50	3.03
6	6	0	0	0.00	--

7	7	18	12	15.00	-20.00
8	8	30	13	21.50	-39.53
9	9	17	18	17.50	2.86
10	10	11	0	5.50	-100.00
11	11	2	0	1.00	-100.00
12	12	3	0	1.50	-100.00
13	13	4625	4925	4775.00	3.14
14	14	1022	883	952.50	-7.30
15	15	8	3	5.50	-45.45
16	16	19	1	10.00	-90.00

3.1.9.4 Conclusions

The variance test for fixed replicate survey data does not pass; therefore, the data were evaluated per MD80046, Operation 402. No discrepancies were found in the data collection or documentation. The data were determined to be usable. There are no anomalies that cause concern with the original data set.

Sample (smear) recount results were assessed for both accuracy and precision. All of the alpha, beta, and tritium measurements are at or near background so the statistical evaluation of accuracy and precision of these results is not meaningful. The results are in qualitative agreement in that all of the measurements, original and recounted, are near background with no anomalies. Two tritium results, samples 13 and 14, are noteworthy because the measurements are above background and deviate by less than 10%. This demonstrates that when levels are above background the measurement process produces consistent results.

Based on the results of the quality control tests, there is no reason to suspect data quality problems in the original data collected for survey units assigned to survey plan T-08.

3.1.10 QC Results for T-09

3.1.10.1 Replicate Fixed Point Surveys

Sixteen data points were selected at random from the group of fixed survey data points collected for the survey units associated with T-09. Replicate measurements (RSDS MT-06-0319) were taken at these locations in the same manner as the original survey. The original survey is documented in the Final Status Report for SYS-07, SYS-08, SYS-09, SYS-10, SYS-11 and SYS-12 (Reference 7). The results of the replicate survey are presented in Table 28.

Table 28. T-09 Fixed Replicate Point Variance Analysis

			alpha (dpm/100cm2)		Beta (dpm/100cm2)	
QC ID#	Initial Sample ID#	Room #	initial	replicate	initial	replicate
T09 - QC-1	SYS-12-3	47 overhead	19	7	1140	1115
T09 - QC-2	SYS-12-7	78	11	14	807	1049
T09 - QC-3	SYS-08-13	corridor 22	11	32	877	879
T09 - QC-4	SYS-09-17	15	19	18	1361	1049
T09 - QC-5	SYS-07-16	78A	24	40	907	888
T09 - QC-6	SYS-12-18	82 overhead	8	22	1171	822
T09 - QC-7	SYS-10-16	99	16	22	718	945
T09 - QC-8	SYS-07-6	259	26	4	899	746
T09 - QC-9	SYS-08-15	T5W	13	7	1028	954

T09 - QC-10	SYS-12-8	78	15	0	892	898
T09 - QC-11	SYS-09-18	15	21	14	1345	983
T09 - QC-12	SYS-08-9	corridor 7A	8	4	1058	765
T09 - QC-13	SYS-10-2	226	11	4	945	1030
T09 - QC-14	SYS-11-3	106	8	11	1202	841
T09 - QC-15	SYS-08-14	corridor 22	11	4	952	709
T09 - QC-16	SYS-11-16	106	19	4	1376	954
Variance			34	129	41553	13842
Ratio				0.27		3.00
Agreement				NO		NO

3.1.10.2 Replicate Scans

The T-09 Survey Plan requires that 5% of the scan measurements taken on the inert gas delivery systems be randomly selected for replicate scan. Replicate scans were conducted within a 1 meter area around each of the 16 points selected for the fixed replicate survey. The 16 rescan measurements exceed the 6 required to meet the 5% requirement specified in the T-09 survey plan and the 16 points include the locations of the maximum and minimum original alpha and beta measurements. No elevated alpha or beta readings were observed during the rescan. The results are in agreement with the original findings reported in the final survey status report (Reference 7).

3.1.10.3 Sample Recounts

Recounts were performed on smears samples taken at the sixteen QC measurement locations as presented in RSDS #MT-06-0319. The recounted samples were evaluated for accuracy and precision. The recounted samples were compared to the original measurements for accuracy and precision as shown below.

Table 29. Accuracy Determination For T-09 Sample Recounts

Alpha
Sample run MT-06-0319: 5/16/06 9:11
Recount run: 5/16/06 9:14

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	1σ	resolution	agreement ratio
1	1	0.00	0.00	0.00	1.0	--
2	2	0.00	0.00	0.00	1.0	--
3	3	0.00	0.00	0.00	1.0	--
4	4	0.00	0.00	0.00	1.0	--
5	5	0.00	0.00	0.00	1.0	--
6	6	0.00	0.00	0.00	1.0	--
7	7	0.00	0.00	0.00	1.0	--
8	8	0.00	0.00	0.00	1.0	--
9	9	0.00	0.00	0.00	1.0	--
10	10	0.00	0.00	0.00	1.0	--
11	11	0.00	0.00	0.00	1.0	--
12	12	0.00	0.00	0.00	1.0	--
13	13	0.00	0.00	0.00	1.0	--
14	14	0.00	0.00	0.00	1.0	--
15	15	0.00	0.00	0.00	1.0	--
16	16	0.00	0.00	0.00	1.0	--

Beta
Sample run MT-06-0319: 5/16/06 9:11
Recount run: 5/16/06 9:14

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	1σ	resolution	agreement ratio
1	1	0.00	0.38	0.27	1.0	0.00
2	2	0.00	0.36	0.25	1.0	0.00
3	3	1.55	0.00	1.10	1.4	--

4	4	0.00	0.58	0.41	1.0	0.00
5	5	0.00	0.00	0.00	1.0	--
6	6	2.71	0.00	1.92	1.4	--
7	7	4.24	0.00	3.00	1.4	--
8	8	0.00	0.66	0.47	1.0	0.00
9	9	0.00	1.11	0.78	1.0	0.00
10	10	0.48	2.78	1.63	0.3	0.17
11	11	1.71	0.00	1.21	1.4	--
12	12	0.00	1.58	1.12	1.0	0.00
13	13	0.00	0.00	0.00	1.0	--
14	14	0.32	0.00	0.23	1.4	--
15	15	0.00	0.00	0.00	1.0	--
16	16	0.00	3.91	2.76	1.0	0.00
Tritium Sample run MT-06-0319: 5/16/06 9:56 Recount run: 5/16/06 11:02						
QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	1σ	resolution	agreement ratio
1	1	0	0	0	1.0	--
2	2	0	0	0	1.0	--
3	3	0	0	0	1.0	--
4	4	0	0	0	1.0	--
5	5	0	0	0	1.0	--
6	6	0	0	0	1.0	--
7	7	126	148	16	8.1	0.85
8	8	0	0	0	1.0	--
9	9	766	861	67	11.4	0.89
10	10	0	0	0	1.0	--
11	11	0	0	0	1.0	--
12	12	7	1	4	1.6	7.00
13	13	0	0	0	1.0	--
14	14	0	0	0	1.0	--
15	15	0	0	0	1.0	--
16	16	0	0	0	1.0	--

Table 30. Precision Determination For T-09 Sample Recounts

Alpha Sample run MT-06-0319: 5/16/06 9:11 Recount run: 5/16/06 9:14					
QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	mean value for pair	% deviation
1	1	0.00	0.00	0.00	--
2	2	0.00	0.00	0.00	--
3	3	0.00	0.00	0.00	--
4	4	0.00	0.00	0.00	--
5	5	0.00	0.00	0.00	--
6	6	0.00	0.00	0.00	--
7	7	0.00	0.00	0.00	--
8	8	0.00	0.00	0.00	--
9	9	0.00	0.00	0.00	--
10	10	0.00	0.00	0.00	--
11	11	0.00	0.00	0.00	--
12	12	0.00	0.00	0.00	--
13	13	0.00	0.00	0.00	--
14	14	0.00	0.00	0.00	--
15	15	0.00	0.00	0.00	--
16	16	0.00	0.00	0.00	--
Beta Sample run MT-06-0319: 5/16/06 9:11 Recount run: 5/16/06 9:14					
QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	mean value for pair	% deviation

1	1	0.00	0.38	0.19	100.00
2	2	0.00	0.36	0.18	100.00
3	3	1.55	0.00	0.78	-100.00
4	4	0.00	0.58	0.29	100.00
5	5	0.00	0.00	0.00	--
6	6	2.71	0.00	1.36	-100.00
7	7	4.24	0.00	2.12	-100.00
8	8	0.00	0.66	0.33	100.00
9	9	0.00	1.11	0.56	100.00
10	10	0.48	2.78	1.63	70.55
11	11	1.71	0.00	0.86	-100.00
12	12	0.00	1.58	0.79	100.00
13	13	0.00	0.00	0.00	--
14	14	0.32	0.00	0.16	-100.00
15	15	0.00	0.00	0.00	--
16	16	0.00	3.91	1.96	100.00
Tritium Sample run MT-06-0319: 5/15/06 16.34 Recount run: 5/16/06 11:02					
QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	mean value for pair	% deviation
1	1	0	0	0.00	--
2	2	0	0	0.00	--
3	3	0	0	0.00	--
4	4	0	0	0.00	--
5	5	0	0	0.00	--
6	6	0	0	0.00	--
7	7	126	148	137.00	8.03
8	8	0	0	0.00	--
9	9	766	861	813.50	5.84
10	10	0	0	0.00	--
11	11	0	0	0.00	--
12	12	7	1	4.00	-75.00
13	13	0	0	0.00	--
14	14	0	0	0.00	--
15	15	0	0	0.00	--
16	16	0	0	0.00	--

3.1.10.4 Conclusions

The variance test for fixed replicate survey data does not pass; therefore, the data were evaluated per MD80046, Operation 402. No discrepancies were found in the data collection or documentation. The data were determined to be usable. All values are in qualitative agreement and are below the release guidelines of 100 dpm/100 cm^2 alpha and 5,000 dpm/100 cm^2 beta.

No elevated alpha or beta readings were observed during the rescan. These results are in agreement with the original scan findings reported in the final survey status report. No further investigation is required, and the data are usable.

Sample (smear) recount results were assessed for both accuracy and precision. All original and recounted alpha, beta, and tritium measurements (except for two tritium measurements) were at or near background. Consequently, accuracy and precision statistics were adversely affected.

All alpha original and recounted samples were counted at background (0). While the data sets have perfect agreement, comparison of data sets where there are no

detections cannot be used to quantitatively assess accuracy or precision. Inspection of the results shows agreement between the data sets indicating the counting equipment produced repeatable results. All of the beta measurements are also at or near background so the statistical evaluation of accuracy and precision of these results is not meaningful. The results are in qualitative agreement in that all of the measurements, original and recounted, are near background with no anomalies. There were two above background data points in the tritium data set (measurements 7 and 9). These results meet the requirement for accuracy – agreement ratio greater than 0.6 and less than 1.6. They also have a percent deviation less than 10% showing good precision.

Based on the results of the quality control tests, there is no reason to suspect data quality problems in the original data collected for survey units assigned to survey plan T-09.

3.1.11 QC Results for T-10

3.1.11.1 Replicate Surveys

Sixteen data points were selected at random from the group of fixed survey data points collected for the survey units associated with T-10. Replicate measurements (RSDS MT-06-0543) were taken at these locations in the same manner as the original survey. The original survey is documented in the Final Status Report for survey units 2S-06, 1S-12, SYS-03, SYS-04 and SYS-16 (Reference 10). The results of the replicate survey are presented in Table 31.

Table 31. T-10 Fixed Replicate Point Variance Analysis

QC Sample ID#	Initial Sample ID#	RSDS #	alpha (dpm/100cm2)		Beta (dpm/100cm2)	
			initial	replicate	initial	replicate
T010QC01	SYS04S1A3S	05-823	42	32	617	1902
T010QC02	SYS04S23AJ	05-799	178	32	2295	1212
T010QC03	SYS03S2210	05-805	15	16	998	808
T010QC04	SYS043101	05-800	208	52	1815	1163
T010QC05	SYS04S1A1S	05-823	30	71	925	2010
T010QC06	SYS03S1106	05-805	31	67	1108	1202
T010QC07	SYS03S2113	05-805	19	44	1088	729
T010QC08	SYS03S101J	05-836	36	40	1181	1232
T010QC09	SYS03S1201	05-805	23	24	879	808
T010QC10	SYS03S2114	05-805	31	24	839	975
T010QC11	SYS04S1A2S	05-823	76	28	1859	1596
T010QC12	SYS043104	05-800	47	24	1466	897
T010QC13	SYS03S101S	05-836	40	28	1521	1507
T010QC14	SYS03S1204	05-805	70	32	2086	1094
T010QC15	SYS03S2211	05-805	35	28	869	769
T010QC16	SYS043103	05-800	44	44	1824	3153
Variance			3074	243	259067	391319
Ratio				12.62804		0.6620344
Agreement				NO		YES

3.1.11.2 Replicate Scans

A replicate scan was performed at each of the 16 points randomly selected as fixed replicate survey samples. One square meter of area was re-scanned around each point (RSDS MT-06-0543). No elevated alpha or beta readings were detected. In the

original scans an elevated reading was observed around points SYS04S23AJ and SYS043101.

3.1.11.3 Sample Recounts

Table 32. Accuracy Determination For T-10 Sample Recounts

Alpha Sample run MT-06-0543: 6/5/06 10:08 Recount run: 5/30/06 10:10						
QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	1σ	resolution	agreement ratio
1	1	0.00	0.00	0.00	1	--
2	2	0.00	1.79	1.27	1.0	0.00
3	3	0.00	0.00	0.00	1.0	--
4	4	0.00	0.00	0.00	1.0	--
5	5	0.00	0.00	0.00	1.0	--
6	6	0.00	0.00	0.00	1.0	--
7	7	0.00	0.00	0.00	1.0	--
8	8	0.00	0.00	0.00	1.0	--
9	9	0.00	0.00	0.00	1.0	--
10	10	0.00	0.00	0.00	1.0	--
11	11	0.00	0.00	0.00	1.0	--
12	12	0.00	0.00	0.00	1.0	--
13	13	0.00	1.73	1.22	1.0	0.00
14	14	0.00	0.00	0.00	--	--
15	15	0.00	0.00	0.00	1	--
16	16	0.00	0.00	0	1.0	--
Beta Sample run MT-06-0543: 6/5/06 10:08 Recount run: 5/30/06 10:10						
QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	1σ	resolution	agreement ratio
1	1	1.68	2.98	0.92	1.8	0.56
2	2	2.68	3.68	0.71	3.8	0.73
3	3	0.30	0.30	0.00	--	1.00
4	4	0.00	0.58	0.41	1.0	0.00
5	5	0.25	0.25	0.00	--	1.00
6	6	1.59	1.59	0.00	--	1.00
7	7	1.59	0.27	0.93	1.7	5.89
8	8	0.00	1.85	1.31	--	0.00
9	9	2.36	1.11	0.88	2.7	2.13
10	10	3.92	0.00	2.77	1.4	--
11	11	0.45	0.00	0.32	1.4	--
12	12	0.45	0.00	0.32	1.4	--
13	13	0.00	0.00	0.00	--	--
14	14	0.00	0.00	0.00	1.0	--
15	15	0.00	0.00	0.00	1	--
16	16	0.00	1.57	1.11	--	0.00
Tritium Sample run MT-06-0543: 6/5/06 11:13 Recount run: 6/5/06 13:14						
QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	1σ	resolution	agreement ratio
1	1	1	0	0.7	1.4	--
2	2	0	0	0.0	1.0	--
3	3	0	0	0.0	1.0	--
4	4	0	0	0.0	1.0	--
5	5	0	0	0.0	1.0	--
6	6	0	0	0.0	1.0	--
7	7	0	0	0.0	1.0	--
8	8	1	0	0.7	1.4	--

9	9	0	3	2.1	1.0	0.00
10	10	0	2	1.4	1.0	0.00
11	11	0	0	0.0	1.0	--
12	12	342	154	132.9	2.6	2.22
13	13	0	1	0.7	1.0	0.00
14	14	18	0	12.7	1.4	--
15	15	34	0	24.0	1.4	--
16	16	0	0	0.0	1.0	--

Table 33. Precision Determination For T-10 Sample Recounts

Alpha
Sample run MT-06-0525: 5/18/06 9:32
Recount run: 5/18/06 9:34

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	mean value for pair	% deviation
1	1	0.00	0.00	0.00	--
2	2	0.00	1.79	0.90	100.00
3	3	0.00	0.00	0.00	--
4	4	0.00	0.00	0.00	--
5	5	0.00	0.00	0.00	--
6	6	0.00	0.00	0.00	--
7	7	0.00	0.00	0.00	--
8	8	0.00	0.00	0.00	--
9	9	0.00	0.00	0.00	--
10	10	0.00	0.00	0.00	--
11	11	0.00	0.00	0.00	--
12	12	0.00	0.00	0.00	--
13	13	0.00	1.73	0.87	100.00
14	14	0.00	0.00	0.00	--
15	15	0.00	0.00	0.00	--
16	16	0.00	0.00	0.00	--

Beta
Sample run MT-06-0525: 5/18/06 9:32
Recount run: 5/18/06 9:34

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	mean value for pair	% deviation
1	1	1.68	2.98	2.33	27.90
2	2	2.68	3.68	3.18	15.72
3	3	0.30	0.30	0.30	0.00
4	4	0.00	0.58	0.29	100.00
5	5	0.25	0.25	0.25	0.00
6	6	1.59	1.59	1.59	0.00
7	7	1.59	0.27	0.93	-70.97
8	8	0.00	1.85	0.93	100.00
9	9	2.36	1.11	1.74	-36.02
10	10	3.92	0.00	1.96	-100.00
11	11	0.45	0.00	0.23	-100.00
12	12	0.45	0.00	0.23	-100.00
13	13	0.00	0.00	0.00	--
14	14	0.00	0.00	0.00	--
15	15	0.00	0.00	0.00	--
16	16	0.00	1.57	0.79	100.00

Tritium
Sample run MT-06-0525: 5/18/06 10:16
Recount run: 5/17/06 14:09

QC Sample ID#	Initial Sample ID#	initial (dpm/100cm2)	replicate (dpm/100cm2)	mean value for pair	% deviation
1	1	1	0	0.50	-100.00
2	2	0	0	0.00	--
3	3	0	0	0.00	--
4	4	0	0	0.00	--
5	5	0	0	0.00	--

6	6	0	0	0.00	--
7	7	0	0	0.00	--
8	8	1	0	0.50	-100.00
9	9	0	3	1.50	100.00
10	10	0	2	1.00	100.00
11	11	0	0	0.00	--
12	12	342	154	248.00	-37.90
13	13	0	1	0.50	100.00
14	14	18	0	9.00	-100.00
15	15	34	0	17.00	-100.00
16	16	0	0	0.00	--

3.1.11.4 Conclusions

The variance test for fixed replicate survey data does not pass; therefore, the data were evaluated per MD80046, Operation 402. No discrepancies were found in the data collection or documentation. The data were determined to be usable.

No elevated alpha or beta readings were observed during the rescan. Fourteen of sixteen replicate results agree with the original scan findings reported in the final survey status report.

Sample (smear) recount results were assessed for both accuracy and precision. All of the alpha, beta, and tritium measurements are at or near background so the statistical evaluation of accuracy and precision of these results is not meaningful. It is noteworthy that sample 12 had an elevated count for tritium which is echoed in both data sets. The results are in qualitative agreement in that all of the measurements, original and recounted, are near background with no anomalies.

Based on the results of the quality control tests, there is no reason to suspect data quality problems in the original data collected for survey units assigned to survey plan T-10.

3.1.12 QC Results for T-11

3.1.12.1 Field Duplicate

A field sample from room T-48 was split and analyzed as samples 0600453 and 0600454. The detections are summarized below and the laboratory soil analysis reports are included in Attachment 3.

Table 34. Field Duplicate Detections for T-11.

Radionuclide	0600453 Activity (pCi/g)	0600453 MDA	0600454 Activity (pCi/g)	0600454 MDA
Co-60	22.15	0.22	80.48	0.69
Cs-137	0.37	0.26	.84	0.35

3.1.12.2 Replicate sample

A replicate sample, 0600460, was collected at the same location as samples shown in Table 34. The detections for sample 0600460 are presented in Table 35. The laboratory soil analysis reports are included in Attachment 3.

Table 35. Field Replicate Detections for T-11.

Radionuclide	0600460 Activity (pCi/g)	0600460 MDA
Co-60	104.1	0.32
Cs-137	1.97	0.22

3.1.12.3 Conclusions

The results between the duplicates (0600453 and 0600454) vary. The field duplicate samples appear to be non-homogeneous. The mean result of the duplicates varies from the replicate (0600460). The replicate sample is from different material than the field duplicates. Contamination is spotty and is not distributed uniformly through the concrete. Therefore, the QC results are inconclusive.

3.1.13 General Observations

3.1.13.1 Instrument Calibration

A review of all T Building RSDS records was conducted to establish whether some RSDSs recorded the wrong instrument calibration due dates or whether out of calibration instruments had been used. The calibration due date recorded on the RSDS was compared to the instrument calibration log book to establish the instrument calibration due date at the time of the survey.

A number of recording errors were discovered and corrected during the process. The corrected RSDS sheets are included as Attachment 4. No instances of use of an out of calibration instrument were discovered.

4 References

1. Action Memorandum T Building Removal Action, Final CH2M Hill Mound, June 2003.
2. T Building Verification Sampling and Analysis Plan, Final, October 2004.
3. Work Plan for Environmental Restoration of the DOE Mound Site, The Mound 2000 Approach, BWXT of Ohio, February 1999.
4. MARSSIM Implementing Procedures, Field Quality Control for Building Contamination Surveys, MD-80046, Op. 402.
5. Final Status Survey Report, T Building Survey Units #SYS-13, SYS-14, SYS-15, SYS-17, SYS-18, SYS-19, SYS-20, and SYS-21. Mound Closure Project, Final, March 2006
6. Radiological Operations Procedures, MD-80036, Issue 39, CH2M Hill Mound, November 2005
7. Final Status Survey Report, T Building Survey Units #SYS-07, SYS-08, SYS-09, SYS-10, SYS-11, and SYS-12. Mound Closure Project, Final, February 2006.
8. Multi-Agency Radiation Survey and Site Investigation Manual, (MARSSIM). NUREG 1575, Rev. 1, August 2000.
9. Final Status Survey Report, T Building Survey Unit #s SYS-13, SYS-14, SYS-15, SYS-17, SYS-18, SYS-19, SYS-20 and SYS-21, Mound Closure Project, Final, March 2006.
10. Final Status Survey Report, T Building Survey Unit #s 2S-06, 1S-12, SYS-03, SYS-04 and SYS-16, Mound Closure Project, Final, February 2006.
11. Final Status Survey Report, T Building Survey Unit #s 2CS-03-01 and 2CS-03-02, Mound Closure Project, Final, January 2006.
12. Final Status Survey Report, T Building Survey Unit #s 1CS-01-01, 1CS-03-01, 2CS-01-01, 2CS-03-03, Mound Closure Project, Final, March 2006.
13. Final Status Survey Report, T Building Survey Unit #s 1CS-02-01, 2CS-01-02, 2CS-02-01, and 2CS-02-02, Mound Closure Project, Final, January 2006.
14. Final Status Survey Report, T Building Survey Unit #s SYS-PRS-219, SYS-PRS-220, SYS-PRS-223, and SYS-PRS-341, Mound Closure Project, Final, February 2006.
15. Final Status Survey Report, T Building Survey Unit #s 1C-05, SYS-PRS-342, Mound Closure Project, Final, March 2006.
16. Final Status Survey Report, T Building Survey Unit #s 1S-01A, 1S-01B, 1S-01C, and SYS-PRS-215, Mound Closure Project, Final, January 2006.
17. Final Status Survey Report, T Building Survey Unit #s SYS-05, SYS-05-01, SYS-05-02, Mound Closure Project, Draft, May 2006.
18. Final Status Survey Report, T Building Survey Unit #s SYS-06, SYS-06-01, SYS-06-02, and SYS-06-04, Mound Closure Project, Draft, June 2006.

Attachment 1 – T Building Survey Plan Forms

Survey Plan Form for T-01
Survey Plan Form for T-02
Survey Plan Form for T-03
Survey Plan Form for T-04
Survey Plan Form for T-05
Survey Plan Form for T-06
Survey Plan Form for T-07
Survey Plan Form for T-08
Survey Plan Form for T-09
Survey Plan Form for T-10
Survey Plan Form for T-11

SURVEY PLAN FORM					
SP NUMBER	T-01			DATE OF REQUEST	
TYPE OF SP	☒ FSS ☐ CHARACTERIZATION ☐ REFERENCE ☐ OTHER:				
AREA/LOCATION	T Building				
PURPOSE	The purpose of this SPF is to perform a final status survey in Class 1 floors and lower walls and Class 2 ceilings and upper walls in T Building to support decisions on final disposition and free release of the building.				
SURVEY UNIT # 1	See Attachment 1			SURVEY UNIT # 4	
SURVEY UNIT # 2				SURVEY UNIT # 5	
SURVEY UNIT # 3				SURVEY UNIT # 6	
SURVEY TYPE					
SURFACE SCAN	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	Shonka PSPC	SCAN RATE & DETECTOR DISTANCE FROM SURFACE	Refer to SHONKA Surface Contamination Monitor (SCM) operating procedures.
		PROBE TYPE	2 ft, 4ft, or 6 ft		
SURFACE SCAN	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2350	SCAN RATE & DETECTOR DISTANCE FROM SURFACE	Scan surface at a rate of ½" per second at a distance of not more than ¼" from the surface
		PROBE TYPE	43-37 Floor Probe or 43-68 Hand Probe		
SURFACE SCAN	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2360	SCAN RATE & DETECTOR DISTANCE FROM SURFACE	Refer to MD-80036, Op 30030, Operation of Ludlum 2360 Scaler/ratemeter with Ludlum 43-89 alpha/beta scintillator
		PROBE TYPE	43-89 hand probe		
STATIC MEASUREMENT	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2350	COUNT TIME & DETECTOR DISTANCE FROM SURFACE	Perform 2 minute counts (α) and 1 minute count (β) at specified locations not more than ¼" from the surface for hand probe (30 seconds (α) and (β) counts if using floor probe).
		PROBE TYPE	43-68 Hand Probe (or 43-37 Floor)		
STATIC MEASUREMENT	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2360	COUNT TIME & DETECTOR DISTANCE FROM SURFACE	Refer to MD-80036, Op 30030, Operation of Ludlum 2360 Scaler/ratemeter with Ludlum 43-89 alpha/beta scintillator
		PROBE TYPE	43-89 hand probe		
GENERAL AREA EXPOSURE RATE MEASUREMENT	☐ BETA ☒ GAMMA ☐ ALPHA	INST. TYPE	Micro Rem meter	DETECTOR DISTANCE FROM SURFACE	Perform general area exposure rate measurements 1 meter (m) from the surface.
		PROBE TYPE			
COMMENTS AND GENERAL REQUIREMENTS	All surveys shall be performed and documented in accordance with Mound Radiological Control procedures. Perform scan surveys prior to fixed-point surveys. Ensure building surfaces are clean and free of loose debris, dirt, and obstructions prior to performing surveys. Rad Con shall document all discrepancies from the above sampling and surveying instructions on the RSDS. **Continued next page**				

Specific Sampling and Survey Instructions Continued

Safety Considerations

1. Obtain assistance from the responsible building custodian for access to upper walls, ceilings, roof, etc.
2. Exercise extreme caution when performing surveys from ladders, lifts, or scaffolds.
3. Follow appropriate site safety procedures when accessing areas requiring fall protection measures.
4. Ensure ventilation units are de-energized prior to attempting to collect a sample from them.
5. Obtain approval and assistance from the responsible building custodian to dismantle any equipment for sample collection.
6. Use L2360 if locations are not safely accessible using the L2350 (e.g. close tight spaces, on top roofs, etc).

Scanning using Ludlum 2350-1 with 43-37 (floor) and 43-68 (hand) probes

1. Verify that the rate meters are set to alarm at or below 225 dpm/100 cm^2 alpha and 11250 dpm/100 cm^2 beta. (The RPOC or Rad Engineer will provide cpm values for alarm set points).
2. Scan at a rate of ½ inch per sec at a distance of not more than ¼ " from the surface.
3. Perform a static measurement at every location where an indication of elevated activity is observed.
4. Record the locations and document the results of the area scanned on the RSDS.

Scanning using Ludlum 2360 with 43-89 probe

1. Scan in accordance with instrument procedures at a rate of ½ inch per sec at a distance of not more than ¼ " from the surface.
2. Perform a static measurement at every location where an indication of elevated activity is observed.
3. Record the locations and document the results of the area scanned on the RSDS.

Scanning using SHONKA Position Sensitive Proportional Counter (PSPC) with 2',4' and 6' probes

1. Scan in accordance with instrument procedures at a rate of 0.4 inch per sec for alpha and 4.0 inch per sec for beta, at a distance of not more than ¼ " from the surface.
2. Perform a static measurement at every location where an indication of elevated activity is observed.
3. Record the locations and document the results of the area scanned on the RSDS.

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Specific Sampling and Survey Instructions Continued

Scanning in Class 1 areas

1.Scan 100% of the floor and walls up to 2 meters

Scanning in Class 2 areas

1. Scan at least 25% of walls above 2 meters using a serpentine pattern with scan paths spaced three probe widths apart.
2. On ceilings and in crawlspaces, scan an area of approximately 1 m^2 around each static measurement location.

Static measurements

1. When using hand probes, the count time is 2 min for alpha measurements and 1 min for beta measurements. When using the floor probe, the count time for alpha and beta measurements is 30 sec.
2. Perform integrated counts at all pre-designated sample location and at any elevated locations identified by scanning.
3. Perform at least 10 measurements on beams, supports, or other horizontal structural surfaces in each survey unit where, in the judgment of the surveyor, a potential exists for residual contamination.
4. Record the location and document the results on the RSDS in accordance with Mound Rad Con procedures.
5. Document the gross activity for each location (no "<" or ">" values).

Data Point Location

1. Locate the data points in each survey unit.
2. Mark each data point with tape or other non-permanent marking.
3. Document locations on the appropriate RSDS.

General Area Exposure Rate Measurements

1. Perform general area exposure rate measurement using Micro Rem survey meter in each room in the survey unit at a distance of 1 meter (m) from the floor.
2. Record reading results (microRem/hr) including background on RSDS in accordance with Mound Rad Con procedures (no "<" or ">" values).

Loose Surface Contamination

1. Obtain a smear of 100cm^2 at each pre-designated static measurement location.
2. Count each smear for alpha, beta, and ^3H.
3. Record location and attach results on the RSDS in accordance with Mound Rad Con procedures (no "<" or ">" values).

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Specific Sampling and Survey Instructions Continued

Quality Control

1. Check Configuration Index (CI) for latest revision of procedures.
2. Daily source checks will be performed at the beginning and end of each day in accordance with Mound Rad Con procedures.
3. 16 fixed measurement data points will be selected for resurvey from the pool of Class 1 areas. Data points selected for resurvey should include the highest and lowest measurement from the data pool.
4. 16 smears will be randomly selected for recount from the pool of Class 1 areas.
5. 5% of the scan measurements taken in Class 1 areas will randomly be selected for replicate scan surveys.
6. Follow Rad Con procedures for Chain of Custody requirements.
7. Ensure alpha and beta smear results are obtained before performing ^{3}H analysis.
8. Record location and results on the RSDS in accordance with Mound Rad Con procedures.

APPROVAL SIGNATURES			
Project Engineer	Mary Seymour	DATE	7-30-05
Radiological Engineer		DATE	7/30/05
Manager		DATE	8/1/05
SP CLOSE-OUT SIGNATURES			
Project Engineer	Mary Seymour	DATE	6-26-06
Radiological Engineer		DATE	6-26-06
Manager		DATE	6-26-06
COMMENTS			

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ATTACHMENT 1: SPF T-01

Floors and walls < 2m

1C-01-1	2C-01-1
1C-02-1	2C-02-1
1C-03-1	2C-03-1
1C-04-1	2C-04-1
1C-05-1	2C-05-1
1C-06-1	2C-06-1
1C-07-1	2C-07-1
1C-08-1	2C-08-1
1C-09-1	2C-09-1
1C-10-1	2C-10-1
1C-11-1	2C-11-1
1C-12-1	2C-12-1
1C-13-1	2C-13-1
1C-14-1	2C-14-1
1C-15-1	2C-15-1
1C-16-1	2C-16-1
1C-17-1	2C-17-1
1C-18-1	2C-18-1
1N-01-1	2C-19-1
1N-04-1	2N-06-1
1N-07-1	2N-07-1
1N-08-1	2N-08-1
1S-05-1	2S-06-1
1S-06-1	2S-07-1
1S-07-1	2S-08-1
1S-09-1	2S-09-1
1S-10-1	2S-10-1
1S-11-1	2S-12-1
1S-12-1	2S-13-1
1C-19-1	2S-14-1
1C-20-1	2S-15-1

ATTACHMENT 1 continued: SPF T-01

Ceilings and walls > 2m

1C-01-2	2C-01-2
1C-02-2	2C-02-2
1C-03-2	2C-03-2
1C-04-2	2C-04-2
1C-05-2	2C-05-2
1C-06-2	2C-06-2
1C-07-2	2C-07-2
1C-08-2	2C-08-2
1C-09-2	2C-09-2
1C-10-2	2C-10-2
1C-11-2	2C-11-2
1C-12-2	2C-12-2
1C-13-2	2C-13-2
1C-14-2	2C-14-2
1C-15-2	2C-15-2
1C-16-2	2C-16-2
1C-17-2	2C-17-2
1C-18-2	2C-18-2
1N-01-2	2C-19-2
1N-04-2	2N-06-2
1N-07-2	2N-07-2
1N-08-2	2N-08-2
1S-05-2	2S-06-2
1S-06-2	2S-07-2
1S-07-2	2S-08-2
1S-09-2	2S-09-2
1S-10-2	2S-10-2
1S-11-2	2S-12-2
1S-12-2	2S-13-2
1C-19-2	2S-14-2
1C-20-2	2S-15-2

SURVEY PLAN FORM					
SP NUMBER	T-02			DATE OF REQUEST	
TYPE OF SP	☒ FSS ☐ CHARACTERIZATION ☐ REFERENCE ☐ OTHER:				
AREA/LOCATION	T Building				
PURPOSE	The purpose of this SPF is to perform a final status survey in Class 2 floors and lower walls and Class 3 ceilings and upper walls in T Building to support decisions on final disposition and free release of the building.				
SURVEY UNIT # 1	See Attachment 1			SURVEY UNIT # 4	
SURVEY UNIT # 2				SURVEY UNIT # 5	
SURVEY UNIT # 3				SURVEY UNIT # 6	

SURVEY TYPE					
SURFACE SCAN	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	Shonka PSPC	SCAN RATE & DETECTOR DISTANCE FROM SURFACE	Refer to SHONKA Surface Contamination Monitor (SCM) operating procedures.
		PROBE TYPE	2 ft, 4ft, or 6 ft		
SURFACE SCAN	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2350	SCAN RATE & DETECTOR DISTANCE FROM SURFACE	Scan surface at a rate of ½" per second at a distance of not more than ¼" from the surface
		PROBE TYPE	43-37 Floor Probe or 43-68 Hand Probe		
SURFACE SCAN	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2360	SCAN RATE & DETECTOR DISTANCE FROM SURFACE	Refer to MD-80036, Op 30030, Operation of Ludlum 2360 Scaler/ratemeter with Ludlum 43-89 alpha/beta scintillator
		PROBE TYPE	43-89 hand probe		
STATIC MEASUREMENT	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2350	COUNT TIME & DETECTOR DISTANCE FROM SURFACE	Perform 2 minute counts (α) and 1 minute count (β) at specified locations not more than ¼" from the surface for hand probe (30 seconds (α) and (β) counts if using floor probe).
		PROBE TYPE	43-68 Hand Probe (or 43-37 Floor)		
STATIC MEASUREMENT	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2360	COUNT TIME & DETECTOR DISTANCE FROM SURFACE	Refer to MD-80036, Op 30030, Operation of Ludlum 2360 Scaler/ratemeter with Ludlum 43-89 alpha/beta scintillator
		PROBE TYPE	43-89 hand probe		
GENERAL AREA EXPOSURE RATE MEASUREMENT	☐ BETA ☒ GAMMA ☐ ALPHA	INST. TYPE	Micro Rem meter	DETECTOR DISTANCE FROM SURFACE	Perform general area exposure rate measurements 1 meter (m) from the surface.
		PROBE TYPE			

COMMENTS AND GENERAL REQUIREMENTS

All surveys shall be performed and documented in accordance with Mound Radiological Control procedures.

Perform scan surveys prior to fixed-point surveys.

Ensure building surfaces are clean and free of loose debris, dirt, and obstructions prior to performing surveys.

Rad Con shall document all discrepancies from the above sampling and surveying instructions on the RSDS.

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Specific Sampling and Survey Instructions Continued

Safety Considerations

1. Obtain assistance from the responsible building custodian for access to upper walls, ceilings, roof, etc.
2. Exercise extreme caution when performing surveys from ladders, lifts, or scaffolds.
3. Follow appropriate site safety procedures when accessing areas requiring fall protection measures.
4. Ensure ventilation units are de-energized prior to attempting to collect a sample from them.
5. Obtain approval and assistance from the responsible building custodian to dismantle any equipment for sample collection.
6. Use L2360 if locations are not safely accessible using the L2350 (e.g. close tight spaces, on top roofs, etc).

Scanning using Ludlum 2350-1 with 43-37 (floor) and 43-68 (hand) probes

1. Verify that the rate meters are set to alarm at or below 225 dpm/100 cm^2 alpha and 11250 dpm/100 cm^2 beta. (The RPOC or Rad Engineer will provide cpm values for alarm set points).
2. Scan at a rate of ½ inch per sec at a distance of not more than ¼ " from the surface.
3. Perform a static measurement at every location where an indication of elevated activity is observed.
4. Record the locations and document the results of the area scanned on the RSDS.

Scanning using Ludlum 2360 with 43-89 probe

1. Scan in accordance with instrument procedures at a rate of ½ inch per sec at a distance of not more than ¼ " from the surface.
2. Perform a static measurement at every location where an indication of elevated activity is observed.
3. Record the locations and document the results of the area scanned on the RSDS.

Scanning using SHONKA Position Sensitive Proportional Counter (PSPC) with 2',4' and 6' probes

1. Scan in accordance with instrument procedures at a rate of 0.4 inch per sec for alpha and 4.0 inch per sec for beta, at a distance of not more than ¼ " from the surface.
2. Perform a static measurement at every location where an indication of elevated activity is observed.
3. Record the locations and document the results of the area scanned on the RSDS.

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Specific Sampling and Survey Instructions Continued

Scanning in Class 2 areas

1.Scan 100% of the floor and 50% of the walls up to 2 meters using a serpertine pattern with scan paths spaced one probe width apart.

Scanning in Class 3 areas

1. Scan at least 25% of walls above 2 meters using a serpentine pattern with scan paths spaced three probe widths apart.
2. On ceilings and in crawlspaces, scan an area of approximately 1 m^2 around each static measurement location.

Static measurements

1. When using hand probes, the count time is 2 min for alpha measurements and 1 min for beta measurements. When using the floor probe, the count time for alpha and beta measurements is 30 sec.
2. Perform integrated counts at all pre-designated sample location and at any elevated locations identified by scanning.
3. Perform at least 10 measurements on beams, supports, or other horizontal structural surfaces in each survey unit where, in the judgment of the surveyor, a potential exists for residual contamination.
4. Record the location and document the results on the RSDS in accordance with Mound Rad Con procedures.
5. Document the gross activity for each location (no "<" or ">" values).

Data Point Location

1. Locate the data points in each survey unit.
2. Mark each data point with tape or other non-permanent marking.
3. Document locations on the appropriate RSDS.

General Area Exposure Rate Measurements

1. Perform general area exposure rate measurement using Micro Rem survey meter in each room in the survey unit at a distance of 1 meter (m) from the floor.
2. Record reading results (microRem/hr) including background on RSDS in accordance with Mound Rad Con procedures (no "<" or ">" values).

Loose Surface Contamination

1. Obtain a smear of 100cm^2 at each pre-designated static measurement location.
2. Count each smear for alpha, beta, and ^3H.
3. Record location and attach results on the RSDS in accordance with Mound Rad Con procedures (no "<" or ">" values).

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SURVEY PLAN FORM					
SP NUMBER	T-03			DATE OF REQUEST	
TYPE OF SP	☒ FSS ☐ CHARACTERIZATION ☐ REFERENCE ☐ OTHER:				
AREA/LOCATION	T Building				
PURPOSE	The purpose of this SPF is to perform a final status survey in Class 3 areas in T Building to support decisions on final disposition and free release of the building.				
SURVEY UNIT # 1	See Attachment 1			SURVEY UNIT # 4	
SURVEY UNIT # 2				SURVEY UNIT # 5	
SURVEY UNIT # 3				SURVEY UNIT # 6	

SURVEY TYPE					
SURFACE SCAN	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	Shonka PSPC	SCAN RATE & DETECTOR DISTANCE FROM SURFACE	Refer to Shonka Surface Contamination Monitor (SCM) operating procedures.
		PROBE TYPE	2 ft, 4ft, or 6 ft		
SURFACE SCAN	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2350	SCAN RATE & DETECTOR DISTANCE FROM SURFACE	Scan surface at a rate of ½" per second at a distance of not more than ¼" from the surface
		PROBE TYPE	43-37 Floor Probe or 43-68 Hand Probe		
SURFACE SCAN	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2360	SCAN RATE & DETECTOR DISTANCE FROM SURFACE	Refer to MD-80036, Op 30030, Operation of Ludlum 2360 Scaler/ratemeter with Ludlum 43-89 alpha/beta scintillator
		PROBE TYPE	43-89 hand probe		
STATIC MEASUREMENT	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2350	COUNT TIME & DETECTOR DISTANCE FROM SURFACE	Perform 2 minute counts (α) and 1 minute count (β) at specified locations not more than ¼" from the surface for hand probe (30 seconds (α) and (β) counts if using floor probe).
		PROBE TYPE	43-68 Hand Probe (or 43-37 Floor)		
STATIC MEASUREMENT	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2360	COUNT TIME & DETECTOR DISTANCE FROM SURFACE	Refer to MD-80036, Op 30030, Operation of Ludlum 2360 Scaler/ratemeter with Ludlum 43-89 alpha/beta scintillator
		PROBE TYPE	43-89 hand probe		
GENERAL AREA EXPOSURE RATE MEASUREMENT	☐ BETA ☒ GAMMA ☐ ALPHA	INST. TYPE	Micro Rem meter	DETECTOR DISTANCE FROM SURFACE	Perform general area exposure rate measurements 1 meter (m) from the surface.
		PROBE TYPE			
COMMENTS AND GENERAL REQUIREMENTS	All surveys shall be performed and documented in accordance with Mound Radiological Control procedures. Perform scan surveys prior to fixed-point surveys. Ensure building surfaces are clean and free of loose debris, dirt, and obstructions prior to performing surveys. Rad Con shall document all discrepancies from the above sampling and surveying instructions on the RSDS. Continued next page				

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Specific Sampling and Survey Instructions Continued

Safety Considerations

1. Obtain assistance from the responsible building custodian for access to upper walls, ceilings, roof, etc.
2. Exercise extreme caution when performing surveys from ladders, lifts, or scaffolds.
3. Follow appropriate site safety procedures when accessing areas requiring fall protection measures.
4. Ensure ventilation units are de-energized prior to attempting to collect a sample from them.
5. Obtain approval and assistance from the responsible building custodian to dismantle any equipment for sample collection.
6. Use L2360 if locations are not safely accessible using the L2350 (e.g. close tight spaces, on top roofs, etc).

Scanning using Ludlum 2350-1 with 43-37 (floor) and 43-68 (hand) probes

1. Verify that the rate meters are set to alarm at or below 225 dpm/100 cm^2 alpha and 11250 dpm/100 cm^2 beta. (The RPOC or Rad Engineer will provide cpm values for alarm set points).
2. Scan at a rate of ½ inch per sec at a distance of not more than ¼ " from the surface.
3. Perform a static measurement at every location where an indication of elevated activity is observed.
4. Record the locations and document the results of the area scanned on the RSDS.

Scanning using Ludlum 2360 with 43-89 probe

1. Scan in accordance with instrument procedures at a rate of ½ inch per sec at a distance of not more than ¼ " from the surface.
2. Perform a static measurement at every location where an indication of elevated activity is observed.
3. Record the locations and document the results of the area scanned on the RSDS.

Scanning using Shonka Position Sensitive Proportional Counter (PSPC) with 2',4' and 6' probes

1. Scan in accordance with instrument procedures at a rate of 0.4 inch per sec for alpha and 4.0 inch per sec for beta, at a distance of not more than ¼ " from the surface.
2. Perform a static measurement at every location where an indication of elevated activity is observed.
3. Record the locations and document the results of the area scanned on the RSDS.

Continued next page

Specific Sampling and Survey Instructions Continued

Scanning in Class 3 areas

1. Scan 100% of the floor and at least 25% of the walls up to 2 meters using a serpentine pattern with scan paths spaced three probe widths apart.

2. On ceilings and above 2 meters on walls, scan an area of approximately 1 m^2 around each static measurement location.

Static measurements

1. When using hand probes, the count time is 2 min for alpha measurements and 1 min for beta measurements. When using the floor probe, the count time for alpha and beta measurements is 30 sec.

2. Perform integrated counts at all pre-designated sample location and at any elevated locations identified by scanning.

3. Perform at least 10 measurements on beams, supports, or other horizontal structural surfaces in each survey unit where, in the judgment of the surveyor, a potential exists for residual contamination.

4. Record the location and document the results on the RSDS in accordance with Mound Rad Con procedures.

5. Document the gross activity for each location (no "<" or ">" values).

Data Point Location

1. Locate the data points in each survey unit.

2. Mark each data point with tape or other non-permanent marking.

3. Document locations on the appropriate RSDS.

General Area Exposure Rate Measurements

1. Perform general area exposure rate measurement using Micro Rem survey meter in each room in the survey unit at a distance of 1 meter (m) from the floor.

2. Record reading results (microRem/hr) including background on RSDS in accordance with Mound Rad Con procedures (no "<" or ">" values).

Loose Surface Contamination

1. Obtain a smear of 100cm^2 at each pre-designated static measurement location.

2. Count each smear for alpha, beta, and ^3H.

3. Record location and attach results on the RSDS in accordance with Mound Rad Con procedures (no "<" or ">" values).

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Quality Control

1. Check Configuration Index (CI) for latest revision of procedures.
2. Daily source checks will be performed at the beginning and end of each day in accordance with Mound Rad Con procedures.
3. 16 fixed measurement data points will be selected for resurvey from the pool of Class 1 areas. Data points selected for resurvey should include the highest and lowest measurement from the data pool.
4. 16 smears will be randomly selected for recount from the pool of Class ~~1~~ areas. 3 pcs 1-24-06
5. 5% of the scan measurements taken in Class ~~1~~ areas will randomly be selected for replicate scan surveys. 3 pcs 1-24-06
6. Follow Rad Con procedures for Chain of Custody requirements.
7. Ensure alpha and beta smear results are obtained before performing ^{3}H analysis.
8. Record location and results on the RSDS in accordance with Mound Rad Con procedures.

APPROVAL SIGNATURES			
Project Engineer	Mary E Sizemore	DATE	7-30-05
Radiological Engineer		DATE	7/30/05
Manager	Bo Wu	DATE	8/1/05
SP CLOSE-OUT SIGNATURES			
Project Engineer	Mary E Sizemore	DATE	6-26-06
Radiological Engineer		DATE	6-26-06
Manager		DATE	6-26-06
COMMENTS			

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ATTACHMENT 1: SPF T-03

Floors and walls < 2m

1N-03-1
1N-05-1
2N-01-1
2S-13-1
2S-14-1
5N-01-1
5N-02-1
5N-03-1
5N-04-1
5N-05-1

Ceilings and walls > 2m

1N-03-2
1N-05-2
2N-01-2
2S-13-2
2S-14-2
5N-01-2
5N-02-2
5N-03-2
5N-04-2
5N-05-2

1-16/4

SURVEY PLAN FORM					
SP NUMBER	T-04			DATE OF REQUEST	
TYPE OF SP	☒ FSS ☐ CHARACTERIZATION ☐ REFERENCE ☐ OTHER:				
AREA/LOCATION	T Building				
PURPOSE	The purpose of this SPF is to perform a final status survey in Class 2 T Building crawlspaces to support decisions on final disposition and free release of the building.				
SURVEY UNIT # 1	See Attachment 1			SURVEY UNIT # 4	
SURVEY UNIT # 2				SURVEY UNIT # 5	
SURVEY UNIT # 3				SURVEY UNIT # 6	
SAMPLE TYPE					
☐ SCRAPING/SEDIMENT SAMPLE:					
☐ FLUID/LIQUID SAMPLE:					
SURVEY TYPE					
SURFACE SCAN	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2350	SCAN RATE & DETECTOR DISTANCE FROM SURFACE	Scan surface at a rate of ½" per second at a distance of not more than ¼" from the surface
		PROBE TYPE	43-68 hand probe		
SURFACE SCAN	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2360	SCAN RATE & DETECTOR DISTANCE FROM SURFACE	Refer to MD-80036, Op 30030, Operation of Ludlum 2360 Scaler/ratemeter with Ludlum 43-89 alpha/beta scintillator
		PROBE TYPE	43-89 hand probe		
STATIC MEASURE-MENT	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2350	COUNT TIME & DETECTOR DISTANCE FROM SURFACE	Perform 2 minute counts (α) and 1 minute count (β) at specified locations not more than ¼" from the surface.
		PROBE TYPE	43-68 hand probe		
STATIC MEASURE-MENT	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2360	COUNT TIME & DETECTOR DISTANCE FROM SURFACE	Refer to MD-80036, Op 30030, Operation of Ludlum 2360 Scaler/ratemeter with Ludlum 43-89 alpha/beta scintillator
		PROBE TYPE	43-89 hand probe		
GENERAL AREA MEASUREMENT	☐ BETA ☒ GAMMA ☐ ALPHA	INST. TYPE	Micro Rem meter	DETECTOR DISTANCE FROM SURFACE	Perform general area exposure rate measurements 1 meter (m) from the surface
		PROBE TYPE			
COMMENTS AND GENERAL REQUIRE-MENTS	All surveys shall be performed and documented in accordance with Mound Radiological Control procedures. Perform scan surveys prior to fixed-point surveys. Ensure building surfaces are clean and free of loose debris, dirt, and obstructions prior to performing survey. Rad Con shall document all discrepancies from the above sampling and surveying instructions on the RSDS. **Continued next page**				

1 - 17/49

SPECIFIC SAMPLING / SURVEY INSTRUCTIONS

Specific Sampling and Survey Instructions Continued

Safety Considerations

1. Obtain assistance from the responsible building custodian for access to upper walls, ceilings, roof, etc.
2. Exercise extreme caution when performing surveys from ladders, lifts, or scaffolds.
3. Follow appropriate site safety procedures when accessing areas requiring fall protection measures.
4. Ensure ventilation units are de-energized prior to attempting to collect a sample from them.
5. Obtain approval and assistance from the responsible building custodian to dismantle any equipment for sample collection.
6. Use L2360 if locations are not safely accessible using the L2350 (e.g. close tight spaces, on top roofs, etc).

Data Point

1. Locate the data points in each survey unit.
2. Mark each data point with tape or other non-permanent marking.
3. Document locations on the appropriate RSDS.

Static Measurements

1. When using hand probes, the count time is 2 min for alpha measurements and 1 min for beta measurements.
2. Perform integrated counts at 20 pre-designated sample locations in each survey unit and at any elevated locations identified by scanning.
3. Perform at least 30 biased location measurements in areas considered likely to accumulate contamination. Seek assistance choosing biased sample locations from the project engineer or rad engineer.
4. At each static measurement location, take an alpha and beta measurement.
5. Record the location and document the results on the RSDS in accordance with Mound Rad Con procedures.
6. Document the gross activity for each location (no "<" or ">" values).

General Area Exposure Rate Measurements

1. Perform general area exposure rate measurements using Micro Rem survey meter in each room in the survey unit at a distance of 1 meter (m) from the floor.
2. Record reading results (microRem) including background on the RSDS in accordance with Mound Rad Con procedures (no "<" or ">" values).

Continued next page

1 - 18/49

Specific Sampling and Survey Instructions Continued

Scanning using Ludlum 2350-1 with 43-68 (hand) probe

1. Verify that the rate meters are set to alarm at or below 225 dpm/100 cm^2 alpha and 11250 dpm/100 cm^2 beta. (The RPOC or Rad Engineer will provide cpm values for alarm set points).
2. Scan at a rate of ½ inch per sec at a distance of not more than ¼ " from the surface.
3. Perform a static measurement at every location where an indication of elevated activity is observed.
4. Record the locations and document the results of the area scanned on the RSDS.

Scanning using Ludlum 2360 with 43-89 probe

1. Scan in accordance with instrument procedures at a rate of ½ inch per sec at a distance of not more than ¼ " from the surface.
2. Perform a static measurement at every location where an indication of elevated activity is observed.
3. Record the locations and document the results of the area scanned on the RSDS.

Scanning in Class 2 Crawlspaces areas

1. Scan at least 10% of the crawlspace.
2. Scan an area of approximately 1 m^2 around each static measurement location.

Loose Surface Contamination

1. Obtain a smear of 100cm^2 at each pre-designated static measurement location.
2. Count each smear for alpha, beta, and ^3H.
3. Record location and results on the RSDS in accordance with Mound Rad Con procedures (no "<" or ">" values).

Quality Control

1. Check Configuration Index (CI) for latest revision of procedures.
2. Daily source checks will be performed at the beginning and end of each day in accordance with Mound Rad Con procedures.
3. 16 fixed measurement data points will be selected for resurvey from the pool of Class 2 areas. Data points selected for resurvey should include the highest and lowest measurement from the data pool.

Continued next page

1 - 19/49

Specific Sampling and Survey Instructions Continued

4. 16 smears will be randomly selected for recount from the pool of Class 2 areas.
5. 5% of the scan measurements taken in Class 2 areas will randomly be selected for replicate scan surveys.
6. Follow Rad Con procedures for Chain of Custody requirements.
7. Ensure alpha and beta smear results are obtained before performing ^{3}H analysis.
8. Record location and results on the RSDS in accordance with Mound Rad Con procedures.

APPROVAL SIGNATURES			
Project Engineer	Mary E. Sizemore	DATE	3-16-05
Radiological Engineer		DATE	3/16/05
Manager		DATE	3/16/05
SP CLOSE-OUT SIGNATURES			
Project Engineer	Mary E. Sizemore	DATE	6-26-06
Radiological Engineer		DATE	6-26-06
Manager		DATE	6-26-06
COMMENTS			

1-20/49

ATTACHMENT 1: SPF T-04

1CS-01-1	First Floor Crawlspace - South East
1CS-01-2	First Floor Crawlspace - South West
1CS-02-1	First Floor Crawlspace - Center East
1CS-02-2	First Floor Crawlspace - Center West
1CS-03-1	First Floor Crawlspace - North East
1CS-03-2	First Floor Crawlspace - North West
2CS-01-1	Second Floor Crawlspace - South East
2CS-01-2	Second Floor Crawlspace - South West
2CS-02-1	Second Floor Crawlspace - Center East
2CS-02-2	Second Floor Crawlspace - Center West
2CS-03-1	Second Floor Crawlspace - North East
2CS-03-2	Second Floor Crawlspace - North West

1-21/49

SURVEY PLAN FORM						
SP NUMBER	T-05			DATE OF REQUEST		
TYPE OF SP	☒ FSS ☐ CHARACTERIZATION ☐ REFERENCE ☐ OTHER:					
AREA/LOCATION	T Building					
PURPOSE	The purpose of this SPF is to perform a final status survey in Class 1 sumps and associated piping in T Building to support decisions on final disposition and free release of T Building					
SURVEY UNIT # 1	See Attachment 1	SURVEY UNIT # 4		SURVEY UNIT # 7		
SURVEY UNIT # 2		SURVEY UNIT # 5		SURVEY UNIT # 8		
SURVEY UNIT # 3		SURVEY UNIT # 6		SURVEY UNIT # 6		

SAMPLE TYPE
☐ SCRAPING/SEDIMENT SAMPLE:
☐ FLUID/LIQUID SAMPLE:
☐ OTHER:

SURVEY TYPE					
SURFACE SCAN	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2350	SCAN RATE & DETECTOR DISTANCE FROM SURFACE	Scan surface at a rate of ½" per second at a distance of not more than ¼" from the surface
		PROBE TYPE	43-68 Hand Probe		
SURFACE SCAN	☐ BETA ☒ GAMMA ☐ ALPHA	INST. TYPE	L-2360	SCAN RATE & DETECTOR DISTANCE FROM SURFACE	Refer to MD-80036, Op number 30040, Operation of Ludlum 2360 with Fidler probe.
		PROBE TYPE	Fidler Probe		
STATIC MEASUREMENT	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2350	COUNT TIME & DETECTOR DISTANCE FROM SURFACE	Perform 2 minute counts (α) and 1 minute count (β) at specified locations not more than ¼" from the surface.
		PROBE TYPE	43-68 Hand Probe		
GENERAL AREA EXPOSURE RATE MEASUREMENT	☐ BETA ☒ GAMMA ☐ ALPHA	INST. TYPE	Micro Rem meter	DETECTOR DISTANCE FROM SURFACE	Perform general area exposure rate measurements 1 meter (m) from the surface.
		PROBE TYPE			
COMMENTS AND GENERAL REQUIREMENTS	Class 1 sumps and associated piping are excavated and disposed of as radioactive waste. They are not to be surveyed and released. This SPF addresses surveys performed in excavated sump pits and empty pipe chases. All surveys shall be performed and documented in accordance with Mound Radiological Control procedures. Perform scan surveys prior to fixed-point surveys. Rad Con shall document all discrepancies from the above sampling and surveying instructions on the RSDS.				

Continued next page

1-22/49

Safety Considerations

1. Obtain assistance from the responsible building custodian for access to sumps.
2. Exercise extreme caution when performing surveys inside sump area.
3. Follow appropriate site safety procedures when accessing areas requiring fall protection measures.

Scanning using Ludlum 2350-1 with 43-68 hand probe

1. Verify that the rate meters are set to alarm at or below 225 dpm/100 cm^2 alpha and 11250 dpm/100 cm^2 beta. (The RPOC or Rad Engineer will provide cpm values for alarm set points).
2. Scan at a rate of ½ inch per sec at a distance of not more than ¼ " from the surface.
3. Perform a static measurement at every location where an indication of elevated activity is observed.
4. Record the locations and document the results of the area scanned on the RSDS.
5. Use L2360 with Fidler probe if surfaces are too uneven to use L2350.

Scanning in Class 1 areas

Scan 100% of the sump pit and empty drain chases.

Surface Scan Using a Ludlum 2360 with a Fidler probe

1. Scan the sump pit and empty drain chase surfaces at a rate of 2.5" per second.
2. Record the locations of the area scanned on the RSDS and document the results in accordance with Mound Rad Con procedures (no "<" or ">" values).

General Area Exposure Rate Measurements

1. Perform general area exposure rate measurement using a Micro Rem survey meter for each sump at a distance of 1m from the surface.
2. Record reading results (microRem/hr) on RSDS in accordance with Mound Rad Con procedures (no "<" or ">" values).

Data Point Location

1. Locate the data points in each survey unit.
2. Mark each data point with tape or other non-permanent marking.
3. Document locations on the appropriate RSDS.

Continued next page

1-23/49

Specific Sampling and Survey Instructions Continued

Static measurements

1. The count time for static measurements using the hand probe is 2 min for alpha and 1 min for beta.
2. Perform integrated counts at each sample location.
3. Record location, material type, and results on RSDS in accordance with Mound Rad Con procedures.
4. Document gross activity for each location (no "<" or ">" values).

Loose Surface Contamination

1. Obtain a smear of 100 cm^2 at each survey point identified above.
2. Count each smear for alpha, beta, and ^3H.
3. Record location and results on RSDS map in accordance with Mound Rad Con procedures.

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1-24/49

Specific Sampling and Survey Instructions Continued

QUALITY CONTROL

1. Check Configuration Index (CI) for latest revision of procedures.
2. Daily source checks will be performed at the beginning and end of each day in accordance with Mound Rad Con procedures.
3. 16 fixed measurement data points will be selected for resurvey from the Class 1 sumps. Data points selected for resurvey should include the highest and lowest measurement from the data pool
4. 16 smears will be randomly selected for recount from the Class 1 sumps.
5. 5% of the scan measurements taken in Class 1 sumps will randomly be selected for replicate scan surveys in accordance with MD-80046, Op 402.
6. Follow Rad Con procedures for Chain of Custody requirements.
7. Ensure alpha and beta smear results are obtained before performing ^{3}H analysis.
8. Record location, material, and results on RSDS in accordance with Mound Rad Con procedures.

APPROVAL SIGNATURES			
Project Engineer	Mary E Sizemore	DATE	6-1-05
Technical Reviewer		DATE	6/1/05
Manager	Bo	DATE	6/1/05
SP CLOSE-OUT SIGNATURES			
Project Engineer	Mary E Sizemore	DATE	6-26-06
Technical Reviewer	Rod Cobleigh	DATE	6-26-06
Manager		DATE	6-26-06
COMMENTS			

1 - 25/49

ATTACHMENT 1: SPF T-05
Class 1 sumps

Sump #	Survey Unit ID#	Identification
Sump 5	SYS-PRS 340	Waste Water Sump (Tank 251)
Sump 6	SYS-PRS 225	Beta Waste Water Sump (Tank 227)
Sump 7	SYS-PRS 227	Alpha Waste Water Sump (Tank 229)
Sump 8	SYS-PRS 228	Alpha Waste Water Sump (Tank 230)
Sump 9	SYS-PRS 339	Waste Water Sump (Tank 250)
Sump 10	SYS-PRS 229	Alpha Waste Water Sump (Tank 231)
Sump 11	SYS-PRS 230	Alpha Waste Water Sump (Tank 232)
Sump 13	SYS-PRS 233	Alpha Waste Water Sump (Tank 235)

1-26/49

SURVEY PLAN FORM						
SP NUMBER	T-06			DATE OF REQUEST		
TYPE OF SP	☒ FSS ☐ CHARACTERIZATION ☐ REFERENCE ☐ OTHER:					
AREA/LOCATION	T Building					
PURPOSE	The purpose of this SPF is to perform a final status survey in Class 2 sumps and associated piping in T Building to support decisions on final disposition and free release of T Building					
SURVEY UNIT # 1	See Attachment 1	SURVEY UNIT # 4		SURVEY UNIT # 7		
SURVEY UNIT # 2		SURVEY UNIT # 5		SURVEY UNIT # 8		
SURVEY UNIT # 3		SURVEY UNIT # 6		SURVEY UNIT # 6		

SAMPLE TYPE
☐ SCRAPING/SEDIMENT SAMPLE:
☐ FLUID/LIQUID SAMPLE:
☐ OTHER:

SURVEY TYPE					
SURFACE SCAN	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2350	SCAN RATE & DETECTOR DISTANCE FROM SURFACE	Scan surface at a rate of ½" per second at a distance of not more than ¼" from the surface
		PROBE TYPE	43-68 Hand Probe		
SURFACE SCAN	☐ BETA ☒ GAMMA ☐ ALPHA	INST. TYPE	L-2360	SCAN RATE & DETECTOR DISTANCE FROM SURFACE	Refer to MD-80036, Op number 30040, Operation of Ludlum 2360 with Fidler probe.
		PROBE TYPE	Fidler Probe		
STATIC MEASUREMENT	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2350	COUNT TIME & DETECTOR DISTANCE FROM SURFACE	Perform 2 minute counts (α) and 1 minute count (β) at specified locations not more than ¼" from the surface.
		PROBE TYPE	43-68 Hand Probe		
GENERAL AREA EXPOSURE RATE MEASUREMENT	☐ BETA ☒ GAMMA ☐ ALPHA	INST. TYPE	Micro Rem meter	DETECTOR DISTANCE FROM SURFACE	Perform general area exposure rate measurements 1 meter (m) from the surface.
		PROBE TYPE			
COMMENTS AND GENERAL REQUIREMENTS	All surveys shall be performed and documented in accordance with Mound Radiological Control procedures. Perform scan surveys prior to fixed-point surveys. Ensure building surfaces are clean and free of loose debris, dirt, and obstructions prior to performing surveys. Rad Con shall document all discrepancies from the above sampling and surveying instructions on the RSDS.				

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1-27/49

Specific Sampling and Survey Instructions Continued

Safety Considerations

1. Obtain assistance from the responsible building custodian for access to sumps.
2. Exercise extreme caution when performing surveys inside sump area. Follow appropriate site safety procedures when accessing areas requiring fall protection measures.

Scanning using Ludlum 2350-1 with 43-68 hand probe

1. Verify that the rate meters are set to alarm at or below 225 dpm/100 cm^2 alpha and 11250 dpm/100 cm^2 beta. (The RPOC or Rad Engineer will provide cpm values for alarm set points).
2. Scan at a rate of ½ inch per sec at a distance of not more than ¼ " from the surface.
3. Perform a static measurement at every location where an indication of elevated activity is observed.
4. Record the locations and document the results of the area scanned on the RSDS.
5. Record the locations and document the results of any integrated counts on the RSDS.
6. Document the gross activity for each location (no "<" or ">" values).

Scanning using Ludlum 2360 with 43-89 probe

1. Scan in accordance with instrument procedures at a rate of ½ inch per sec.
2. Perform a static measurement at every location where an indication of elevated activity is observed.
3. Record the locations and document the results of the area scanned on the RSDS.
4. Record the locations and document the results of any integrated counts on the RSDS.
5. Document the gross activity for each location (no "<" or ">" values).

Scanning

1. Scan 100% of all dry accessible surfaces with the L-2350-1 with 43-68 hand probe.
2. Record the locations of the area scanned on the RSDS.

Continued next page

1 - 28/49

Specific Sampling and Survey Instructions Continued

Surface Scan Using a Ludlum 2360 with a Fidler probe

1. If the sump has been physically removed, scan the sump pit and any accessible drain pipe locations at a rate of 2.5" per second.
2. Record the locations of the area scanned on the RSDS and document the results in accordance with Mound Rad Con procedures (no "<" or ">" values).

General Area Exposure Rate Measurements

1. Perform general area exposure rate measurement using Bicron Micro Rem survey meter for each sump at a distance of 1m from the surface.
2. Record reading results (microRem/hr) on RSDS in accordance with Mound Rad Con procedures (no "<" or ">" values).

Data Point Location

1. Locate the data points in each survey unit.
2. Mark each data point with tape or other non-permanent marking.
3. Document locations on the appropriate RSDS.

Static measurements

1. When using hand probes, the count time is 2 min for alpha measurements and 1 min for beta measurements. When using the floor probe, the count time for alpha and beta measurements is 30 sec.
2. Perform integrated counts at each sample location.
3. Record location, material type, and results on RSDS in accordance with Mound Rad Con procedures.
4. Document gross activity for each location (no "<" or ">" values).

Loose Surface Contamination

1. Obtain a smear of 100 cm^2 at each survey point identified above.
2. Count each smear for alpha, beta, and ^3H.
3. Record location and results on RSDS map in accordance with Mound Rad Con procedures.

Continued next page

1 - 29/49

Specific Sampling and Survey Instructions Continued

QUALITY CONTROL

1. Check Configuration Index (CI) for latest revision of procedures.
2. Daily source checks will be performed at the beginning and end of each day in accordance with Mound Rad Con procedures.
3. 16 fixed measurement data points will be selected for resurvey from the Class 2 sumps. Data points selected for resurvey should include the highest and lowest measurement from the data pool
4. 16 smears will be randomly selected for recount from the Class 2 sumps.
5. 5% of the scan measurements taken in Class 2 sumps will randomly be selected for replicate scan surveys in accordance with MD-80046, Op 402.
6. Follow Rad Con procedures for Chain of Custody requirements.
7. Ensure alpha and beta smear results are obtained before performing ^{3}H analysis.
8. Record location, material, and results on RSDS in accordance with Mound Rad Con procedures..

APPROVAL SIGNATURES			
Project Engineer	Mary Ziemore	DATE	9-26-05
Radiological Engineer		DATE	9/26/05
Manager		DATE	9/26/05
SP CLOSE-OUT SIGNATURES			
Project Engineer	Mary E. Ziemore	DATE	6-26-06
Radiological Engineer		DATE	6-26-06
Manager		DATE	6-26-06

COMMENTS

Visually inspect the sump to determine if an area of breached integrity exists. Contact Radiological Engineer or RPOC to determine if additional measurements or instrumentation is needed, if there is evidence of a breach in the integrity of the sump. A smear or additional sampling of the breached area may be required.

1 - 30/49

ATTACHMENT 1: SPF T-06
Class 2 sumps

Survey Unit ID#	Identification	Sump #
SYS-PRS 215	Cooling Water Sump #1 (Tank 124) Room T-1	1
SYS-PRS 219	Cooling Water Sump #15 (Tank 128) Stair 3	15
SYS-PRS 220	Steam Condensate Sump #16 (Tank 129) T-78	16
SYS-PRS 223	Storm Sump #20 (Tank 132), Room 90	20
SYS-PRS 226	Floor Drain Sump #3 (Tank 228), Corridor 9	3
SYS-PRS 232	Alpha Waste Water Sump #12 (Tank 234), Corridor 7	12
SYS-PRS 341	Condensate Sump #19 (Tank 269) T-90	19
SYS-PRS 342	Hot Side Fire Water Tank (Tank 271) T-1	N/A
SYS-PRS 343	Fire Water Sump (Tank 272), Room 20	N/A
SYS-PRS 344	Fire Water Sump (Tank 273), Room 37	N/A

1 - 31/49

SURVEY PLAN FORM						
SP NUMBER	T-07			DATE OF REQUEST		
TYPE OF SP	☒ FSS ☐ CHARACTERIZATION ☐ REFERENCE ☐ OTHER:					
AREA/LOCATION	T Building					
PURPOSE	The purpose of this SPF is to perform a final status survey on building utility systems in T Building to support decisions on final disposition and free release					
SURVEY UNIT # 1	See Attachment 1.			SURVEY UNIT # 4		
SURVEY UNIT # 2				SURVEY UNIT # 5		
SURVEY UNIT # 3				SURVEY UNIT # 6		
SAMPLE TYPE						
☐ SCRAPING/SEDIMENT SAMPLE:						
☐ FLUID/LIQUID SAMPLE:						
☐ OTHER:						
SURVEY TYPE						
SURFACE SCAN	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2350	SCAN RATE & DETECTOR DISTANCE FROM SURFACE	Scan surface at a rate of 1/2" per second at a distance of not more than ¼" from the surface	
		PROBE TYPE	43-68 Hand Probe			
SURFACE SCAN	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2360	SCAN RATE & DETECTOR DISTANCE FROM SURFACE	Refer to MD-80036, Op number 30030, Operation of Ludlum 2360 Scaler/ratemeter with Ludlum 43-89 alpha/beta scintillator, Sect. 6.3	
			43-89 hand probe			
STATIC MEASUREMENT	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2350	COUNT TIME & DETECTOR DISTANCE FROM SURFACE	Perform 2 minute counts (α) and 1 minute count (β) at specified locations not more than ¼" from the surface.	
		PROBE TYPE	43-68 Hand Probe			
STATIC MEASUREMENT	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2360	COUNT TIME & DETECTOR DISTANCE FROM SURFACE	Refer to MD-80036, Op number 30030, Operation of Ludlum 2360 Scaler/ratemeter with Ludlum 43-89 alpha/beta scintillator, Sect. 6.3	
		PROBE TYPE	43-89 hand probe			
GENERAL AREA EXPOSURE RATE MEASUREMENT	☐ BETA ☒ GAMMA ☐ ALPHA	INST. TYPE	Bicron Micro Rem meter	DETECTOR DISTANCE FROM SURFACE	Perform general area exposure rate measurements at specified locations 1 meter (m) from the surface.	
		PROBE TYPE				
COMMENTS AND GENERAL REQUIREMENTS	All surveys shall be performed and documented in accordance with Mound Radiological Control procedures. Perform scan surveys prior to fixed-point surveys. Ensure building surfaces are clean and free of loose debris, dirt, and obstructions prior to performing surveys. Rad Con shall document all discrepancies from the above sampling and surveying instructions on the Survey Plan Continuation Sheet.					

Continued next page

1 - 32/49

Specific Sampling and Survey Instructions Continued

Safety Considerations

1. Obtain assistance from the responsible building custodian for access to ventilation system.
2. Exercise extreme caution when performing surveys inside crawlspace area.
3. Follow appropriate site safety procedures when accessing areas requiring fall protection measures.
4. Use L2360 if locations are not safely accessible using the L2350 (e.g. tight places, on the roof, etc).

Data Point

1. Locate the data points in each survey unit. Collect a minimum of 20 fixed-point measurements at accessible locations.
2. Mark each data point with tape or other non-permanent marking.
3. Document locations on the appropriate RSDS.

Scanning using Ludlum 2350-1 with 43-37 (floor) and 43-68 (hand) probes

1. Verify that the rate meters are set to alarm at or below 225 dpm/100 cm^2 alpha and 11250 dpm/100 cm^2 beta. (The RPOC or Rad Engineer will provide cpm values for alarm set points.)
2. Scan at a rate of ½ inch per sec.
3. Perform a static measurement at every location where an indication of elevated activity is observed.
4. Record the location and document the results of the areas scanned on the RSDS.
5. Record the location and document the results of any integrated count on the RSDS.
6. Document the gross activity for each location (no "<" or ">" values).

Scanning using Ludlum 2360 with 43-89 probe

1. Scan in accordance with instrument procedures at a rate of ½ inch per sec.
2. Perform a static measurement at every location where an indication of elevated activity is observed.
3. Record the location and document the results of the areas scanned on the RSDS.
4. Record the location and document the results of any integrated count on the RSDS.
5. Document the gross activity for each location (no "<" or ">" values).

Loose Surface Contamination

1. Obtain a smear of 100cm^2 at each survey point identified above.
2. Count each smear for alpha, beta, and ^3H. ^3H analysis is not required for building external surfaces.
3. Record location and results on RSDS in accordance with Mound Rad Con procedures (no "<" or ">" values).

Continued next page

Specific Sampling and Survey Instructions Continued

General Area Exposure Rate Measurements

1. Perform general area exposure rate measurements using Bicron Micro Rem survey meter on one location for each system at a distance of 1m from the surface.
2. Record the location and document the resultsof the measurement the RSDS in accordance with Mound Rad Con procedures (no "<" or ">" values).

Quality Control

1. Check Configuration Index (CI) for latest revision of procedures.
2. Daily source checks will be performed at the beginning and end of each day in accordance with Mound Rad Con procedures.
3. 16 fixed measurement data points will be selected for resurvey from the pool of inert gas delivery systems. Data points selected for resurvey should include the highest and lowest measurement from the data pool.
4. 16 smears will be randomly selected for recount from the pool of inert gas delivery systems.
5. 5% of the scan measurements taken in inert gas delivery systems will randomly be selected for replicate scan surveys.
6. Follow Rad Con procedures for Chain of Custody requirements.
7. Ensure alpha and beta smear results are obtained before performing ^{3}H analysis.
8. Record location, and results on RSDS in accordance with Mound Rad Con procedures.

APPROVAL SIGNATURES			
Project Engineer	Mary E Arzeman	DATE	6-1-05
Radiological Engineer		DATE	6/1/05
Manager	Bo	DATE	6/1/05
SP CLOSE-OUT SIGNATURES			
Project Engineer	Mary E Arzeman	DATE	6-26-06
Radiological Engineer		DATE	6-26-06
Manager		DATE	6-26-06

COMMENTS

The outsides of the pipes will be surveyed and insides where accessible.

1-34/49

Attachment 1 SPF T-07

Building Utility Systems

SYS-13 Glycol System

SYS-14 Chilled Water System C

SYS-15 Chilled Water System H

SYS-16 TERF Water System

SYS-17 Potable Water System

SYS-18 Domestic Water System

SYS-19 Process Water System

SYS-20 Steam System

SYS-21 Condensate System

SURVEY PLAN FORM					
SP NUMBER	T-08			DATE OF REQUEST	
TYPE OF SP	☒ FSS ☐ CHARACTERIZATION ☐ REFERENCE ☐ OTHER:				
AREA/LOCATION	T Building				
PURPOSE	The purpose of this SPF is to perform a final status survey on the interior of exhaust systems in T Building to support decisions on final disposition and free release				
SURVEY UNIT # 1	SYS-03 East Head House			SURVEY UNIT # 4	SYS-06 West Exhaust Air System
SURVEY UNIT # 2	SYS-04 West Head House			SURVEY UNIT # 5	1N-03 Exhaust tunnels/air shafts
SURVEY UNIT # 3	SYS-05 East Exhaust Air System			SURVEY UNIT # 6	
SAMPLE TYPE					
☐ SCRAPING/SEDIMENT SAMPLE:					
☐ FLUID/LIQUID SAMPLE:					
SURVEY TYPE					
SURFACE SCAN	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2350	SCAN RATE & DETECTOR DISTANCE FROM SURFACE	Scan surface at a rate of ½" per second at a distance of not more than ¼" from the surface
		PROBE TYPE	43-68 hand probe		
SURFACE SCAN	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2360	SCAN RATE & DETECTOR DISTANCE FROM SURFACE	Refer to MD-80036, Op 30030, Operation of Ludlum 2360 Scaler/ratemeter with Ludlum 43-89 alpha/beta scintillator
		PROBE TYPE	43-89 hand probe		
STATIC MEASURE-MENT	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2350	COUNT TIME & DETECTOR DISTANCE FROM SURFACE	Perform 2 minute counts (α) and 1 minute count (β) at specified locations not more than ¼" from the surface.
		PROBE TYPE	43-68 hand probe		
STATIC MEASURE-MENT	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2360	COUNT TIME & DETECTOR DISTANCE FROM SURFACE	Refer to MD-80036, Op 30030, Operation of Ludlum 2360 Scaler/ratemeter with Ludlum 43-89 alpha/beta scintillator
		PROBE TYPE	43-89 hand probe		
COMMENTS AND GENERAL REQUIRE-MENTS	All surveys shall be performed and documented in accordance with Mound Radiological Control procedures. Rad Con shall document all discrepancies from the above sampling and surveying instructions on the RSDS. Continued next page				

1 - 36/49

SPECIFIC SAMPLING / SURVEY INSTRUCTIONS

Specific Sampling and Survey Instructions Continued

Safety Considerations

1. Obtain assistance from the responsible building custodian for access to upper walls, ceilings, roof, etc.
2. Exercise extreme caution when performing surveys from ladders, lifts, or scaffolds.
3. Follow appropriate site safety procedures when accessing areas requiring fall protection measures.
4. Ensure ventilation units are de-energized prior to attempting to collect a sample from them.
5. Obtain approval and assistance from the responsible building custodian to dismantle any equipment for sample collection.
6. Use L2360 if locations are not safely accessible using the L2350 (e.g. close tight spaces, on top roofs, etc).

Data Point

1. Locate the data points in each survey unit.
2. Mark each data point with tape or other non-permanent marking.
3. Document locations on the appropriate RSDS.

Static measurements

1. When using hand probes, the count time is 2 min for alpha measurements and 1 min for beta measurements.
2. Perform integrated counts at 20 pre-designated sample locations in each survey unit and at any elevated locations identified by scanning.
3. Perform at least 30 biased location measurements in areas considered likely to accumulate contamination, such as sharp bends inside ducting. Seek assistance choosing biased sample locations from the project engineer or rad engineer.
4. At each static measurement location, take a alpha and beta measurement, clean the surface and then repeat the alpha measurement on the cleaned surface.
5. Record the location and document the results on the RSDS in accordance with Mound Rad Con procedures.
6. Document the gross activity for each location (no "<" or ">" values).

Continued next page

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Specific Sampling and Survey Instructions Continued

Scanning using Ludlum 2350-1 with 43-68 (hand) probe

1. Verify that the rate meters are set to alarm at or below 225 dpm/100 cm^2 alpha and 11250 dpm/100 cm^2 beta. (The RPOC or Rad Engineer will provide cpm values for alarm set points).
2. Scan at a rate of ½ inch per sec at a distance of not more than ¼ " from the surface.
3. Perform a static measurement at every location where an indication of elevated activity is observed.
4. Record the locations and document the results of the area scanned on the RSDS.

Scanning using Ludlum 2360 with 43-89 probe

1. Scan in accordance with instrument procedures at a rate of ½ inch per sec at a distance of not more than ¼ " from the surface.
2. Perform a static measurement at every location where an indication of elevated activity is observed.
3. Record the locations and document the results of the area scanned on the RSDS.

Scanning the interior of building exhaust systems

1. Ensure building surfaces are clean and free of loose debris, dirt, and obstructions prior to performing survey.
2. Scan an area of approximately 1m^2 around each static measurement location.

Loose Surface Contamination

1. Obtain a smear of 100cm^2 at each pre-designated static measurement location.
2. Count each smear for alpha, beta, and ^3H.
3. Record location and results on the RSDS in accordance with Mound Rad Con procedures (no "<" or ">" values).

Quality Control

1. Check Configuration Index (CI) for latest revision of procedures.
2. Daily source checks will be performed at the beginning and end of each day in accordance with Mound Rad Con procedures.
3. 16 fixed measurement data points will be selected for resurvey from the pool of Class 2 areas. Data points selected for resurvey should include the highest and lowest measurement from the data pool.
4. 16 smears will be randomly selected for recount from the pool of Class 2 areas.
5. 5% of the scan measurements taken in Class 2 areas will randomly be selected for replicate scan surveys.

Continued next page

1-38/49

Specific Sampling and Survey Instructions Continued

6. Follow Rad Con procedures for Chain of Custody requirements.
7. Ensure alpha and beta smear results are obtained before performing ^{3}H analysis.
8. Record location and results on the RSDS in accordance with Mound Rad Con procedures.

APPROVAL SIGNATURES			
Project Engineer	Mary E Sizemore	DATE	3/16/05
Radiological Engineer		DATE	3/16/05
Manager		DATE	3/16/05
SP CLOSE-OUT SIGNATURES			
Project Engineer	Mary E Sizemore	DATE	6-26-06
Radiological Engineer		DATE	6-26-06
Manager		DATE	6-26-06
COMMENTS			

1-39/49

SURVEY PLAN FORM			
SP NUMBER	T-09	DATE OF REQUEST	
TYPE OF SP	☒ FSS ☐ CHARACTERIZATION ☐ REFERENCE ☐ OTHER:		
AREA/LOCATION	T Building		
PURPOSE	The purpose of this SPF is to perform a final status survey on the inert gas delivery systems in T Building to support decisions on final disposition and free release		
SURVEY UNIT # 1	SYS-07 Compressed Air System	SURVEY UNIT # 4	SYS-10 Nitrogen System
SURVEY UNIT # 2	SYS-08 Breathing Air System	SURVEY UNIT # 5	SYS-11 Helium System
SURVEY UNIT # 3	SYS-09 Argon System	SURVEY UNIT # 6	SYS-12 P-10 System

SAMPLE TYPE

☐ SCRAPING/SEDIMENT SAMPLE:

☐ FLUID/LIQUID SAMPLE:

☐ OTHER:

SURVEY TYPE

SURFACE SCAN	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2350	SCAN RATE & DETECTOR DISTANCE FROM SURFACE	Scan surface at a rate of 1/2" per second at a distance of not more than ¼" from the surface
		PROBE TYPE	43-68 Hand Probe		
SURFACE SCAN	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2360	SCAN RATE & DETECTOR DISTANCE FROM SURFACE	Refer to MD-80036, Op number 30030, Operation of Ludlum 2360 Scaler/ratemeter with Ludlum 43-89 alpha/beta scintillator, Sect. 6.3
			43-89 hand probe		
STATIC MEASUREMENT	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2350	COUNT TIME & DETECTOR DISTANCE FROM SURFACE	Perform 2 minute counts (α) and 1 minute count (β) at specified locations not more than ¼" from the surface.
		PROBE TYPE	43-68 Hand Probe		
STATIC MEASUREMENT	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2360	COUNT TIME & DETECTOR DISTANCE FROM SURFACE	Refer to MD-80036, Op number 30030, Operation of Ludlum 2360 Scaler/ratemeter with Ludlum 43-89 alpha/beta scintillator, Sect. 6.3
		PROBE TYPE	43-89 hand probe		
GENERAL AREA EXPOSURE RATE MEASUREMENT	☐ BETA ☒ GAMMA ☐ ALPHA	INST. TYPE	Bicron Micro Rem meter	DETECTOR DISTANCE FROM SURFACE	Perform general area exposure rate measurements at specified locations 1 meter (m) from the surface.
		PROBE TYPE			

COMMENTS AND GENERAL REQUIREMENTS

All surveys shall be performed and documented in accordance with Mound Radiological Control procedures.

Perform scan surveys prior to fixed-point surveys.

Ensure building surfaces are clean and free of loose debris, dirt, and obstructions prior to performing surveys.

Rad Con shall document all discrepancies from the above sampling and surveying instructions on the Survey Plan Continuation Sheet.

Continued next page

1-40/49

Specific Sampling and Survey Instructions Continued

Safety Considerations

1. Obtain assistance from the responsible building custodian for access to ventilation system.
2. Exercise extreme caution when performing surveys inside crawlspace area.
3. Follow appropriate site safety procedures when accessing areas requiring fall protection measures.
4. Use L2360 if locations are not safely accessible using the L2350 (e.g. tight places, on the roof, etc).

Data Point

1. Locate the data points in each survey unit. Collect a minimum of 20 fixed-point measurements at accessible locations.
2. Mark each data point with tape or other non-permanent marking.
3. Document locations on the appropriate RSDS.

Scanning using Ludlum 2350-1 with 43-37 (floor) and 43-68 (hand) probes

1. Verify that the rate meters are set to alarm at or below 225 dpm/100 cm^2 alpha and 11250 dpm/100 cm^2 beta. (The RPOC or Rad Engineer will provide cpm values for alarm set points.)
2. Scan at a rate of ½ inch per sec.
3. Perform a static measurement at every location where an indication of elevated activity is observed.
4. Record the location and document the results of the areas scanned on the RSDS.
5. Record the location and document the results of any integrated count on the RSDS.
6. Document the gross activity for each location (no "<" or ">" values).

Scanning using Ludlum 2360 with 43-89 probe

1. Scan in accordance with instrument procedures at a rate of ½ inch per sec.
2. Perform a static measurement at every location where an indication of elevated activity is observed.
3. Record the location and document the results of the areas scanned on the RSDS.
4. Record the location and document the results of any integrated count on the RSDS.
5. Document the gross activity for each location (no "<" or ">" values).

Loose Surface Contamination

1. Obtain a smear of 100cm^2 at each survey point identified above.
2. Count each smear for alpha, beta, and ^3H. ^3H analysis is not required for building external surfaces.
3. Record location and results on RSDS in accordance with Mound Rad Con procedures (no "<" or ">" values)..

Continued next page

1 - 41/49

Specific Sampling and Survey Instructions Continued

General Area Exposure Rate Measurements

1. Perform general area exposure rate measurements using Bicron Micro Rem survey meter on one location for each system at a distance of 1m from the surface.
2. Record the location and document the resultsof the measurement the RSDS in accordance with Mound Rad Con procedures (no "<" or ">" values).

Quality Control

1. Check Configuration Index (CI) for latest revision of procedures.
2. Daily source checks will be performed at the beginning and end of each day in accordance with Mound Rad Con procedures.
3. 16 fixed measurement data points will be selected for resurvey from the pool of inert gas delivery systems. Data points selected for resurvey should include the highest and lowest measurement from the data pool.
4. 16 smears will be randomly selected for recount from the pool of inert gas delivery systems.
5. 5% of the scan measurements taken in inert gas delivery systems will randomly be selected for replicate scan surveys.
6. Follow Rad Con procedures for Chain of Custody requirements.
7. Ensure alpha and beta smear results are obtained before performing ^{3}H analysis.
8. Record location, and results on RSDS in accordance with Mound Rad Con procedures.

APPROVAL SIGNATURES			
Project Engineer	Mary E. Sizemore	DATE	6-1-05
Radiological Engineer		DATE	6/1/05
Manager	BO	DATE	6/1/05
SP CLOSE-OUT SIGNATURES			
Project Engineer	Mary E. Sizemore	DATE	6-26-06
Radiological Engineer		DATE	6-26-06
Manager		DATE	6-26-06

COMMENTS

The outsides of the pipes will be surveyed and insides where accessible.

1-42/49

SURVEY PLAN FORM						
SP NUMBER	T-10			DATE OF REQUEST		
TYPE OF SP	☒ FSS ☐ CHARACTERIZATION ☐ REFERENCE ☐ OTHER:					
AREA/LOCATION	T Building					
PURPOSE	The purpose of this SPF is to perform a final status survey on the supply air systems in T Building to support decisions on final disposition and free release					
SURVEY UNIT # 1	SYS-07 East Supply Air System (e.g., ducts, vents, fans)			SURVEY UNIT # 4		
SURVEY UNIT # 2	SYS-08 West Supply Air System (e.g., ducts, vents, fans)			SURVEY UNIT # 5		
SURVEY UNIT # 3				SURVEY UNIT # 6		
SAMPLE TYPE						
☐ SCRAPING/SEDIMENT SAMPLE:						
☐ FLUID/LIQUID SAMPLE:						
SURVEY TYPE						
SURFACE SCAN	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2350	SCAN RATE & DETECTOR DISTANCE FROM SURFACE	Scan surface at a rate of ½" per second at a distance of not more than ¼" from the surface	
		PROBE TYPE	43-68 hand probe			
SURFACE SCAN	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2360	SCAN RATE & DETECTOR DISTANCE FROM SURFACE	Refer to MD-80036, Op 30030, Operation of Ludlum 2360 Scaler/ratemeter with Ludlum 43-89 alpha/beta scintillator	
		PROBE TYPE	43-89 hand probe			
STATIC MEASURE-MENT	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2350	COUNT TIME & DETECTOR DISTANCE FROM SURFACE	Perform 2 minute counts (α) and 1 minute count (β) at specified locations not more than ¼" from the surface.	
		PROBE TYPE	43-68 hand probe			
STATIC MEASURE-MENT	☒ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	L-2360	COUNT TIME & DETECTOR DISTANCE FROM SURFACE	Refer to MD-80036, Op 30030, Operation of Ludlum 2360 Scaler/ratemeter with Ludlum 43-89 alpha/beta scintillator	
		PROBE TYPE	43-89 hand probe			
COMMENTS AND GENERAL REQUIRE-MENTS	All surveys shall be performed and documented in accordance with Mound Radiological Control procedures. Rad Con shall document all discrepancies from the above sampling and surveying instructions on the RSDS. **Continued next page**					

1 - 43/49

SPECIFIC SAMPLING / SURVEY INSTRUCTIONS

Specific Sampling and Survey Instructions Continued

Safety Considerations

1. Obtain assistance from the responsible building custodian for access to upper walls, ceilings, roof, etc.
2. Exercise extreme caution when performing surveys from ladders, lifts, or scaffolds.
3. Follow appropriate site safety procedures when accessing areas requiring fall protection measures.
4. Ensure ventilation units are de-energized prior to attempting to collect a sample from them.
5. Obtain approval and assistance from the responsible building custodian to dismantle any equipment for sample collection.
6. Use L2360 if locations are not safely accessible using the L2350 (e.g. close tight spaces, on top roofs, etc).

Data Point

1. Locate the data points in each survey unit.
2. Mark each data point with tape or other non-permanent marking.
3. Document locations on the appropriate RSDS.

Static measurements

1. When using hand probes, the count time is 2 min for alpha measurements and 1 min for beta measurements.
2. Perform integrated counts at at any elevated locations identified by scanning.
3. Perform at least 20 biased location measurements in accessible locations. Seek assistance choosing biased sample locations from the project engineer or rad engineer.
4. At each static measurement location, take an alpha and beta measurement.
5. Record the location and document the results on the RSDS in accordance with Mound Rad Con procedures.
6. Document the gross activity for each location (no "<" or ">" values).

Continued next page

1 - 44/49

Specific Sampling and Survey Instructions Continued

Scanning using Ludlum 2350-1 with 43-68 (hand) probe

1. Verify that the rate meters are set to alarm at or below 225 dpm/100 cm^2 alpha and 11250 dpm/100 cm^2 beta. (The RPOC or Rad Engineer will provide cpm values for alarm set points).
2. Scan at a rate of ½ inch per sec at a distance of not more than ¼ " from the surface.
3. Perform a static measurement at every location where an indication of elevated activity is observed.
4. Record the locations and document the results of the area scanned on the RSDS.

Scanning using Ludlum 2360 with 43-89 probe

1. Scan in accordance with instrument procedures at a rate of ½ inch per sec at a distance of not more than ¼ " from the surface.
2. Perform a static measurement at every location where an indication of elevated activity is observed.
3. Record the locations and document the results of the area scanned on the RSDS.

Scanning the supply air systems

1. Ensure surfaces are clean and free of loose debris, dirt, and obstructions prior to performing survey.
2. Scan an area of approximately 1m^2 around each static measurement location.

Loose Surface Contamination

1. Obtain a smear of 100cm^2 at each static measurement location.
2. Count each smear for alpha, beta, and ^3H.
3. Record location and results on the RSDS in accordance with Mound Rad Con procedures (no "<" or ">" values).

Quality Control

1. Check Configuration Index (CI) for latest revision of procedures.
2. Daily source checks will be performed at the beginning and end of each day in accordance with Mound Rad Con procedures.
3. 16 fixed measurement data points will be selected for resurvey from the pool of Class 2 areas. Data points selected for resurvey should include the highest and lowest measurement from the data pool.
4. 16 smears will be randomly selected for recount from the pool of Class 2 areas.
5. 5% of the scan measurements taken in Class 2 areas will randomly be selected for replicate scan surveys.

Continued next page

Specific Sampling and Survey Instructions Continued

6. Follow Rad Con procedures for Chain of Custody requirements.
7. Ensure alpha and beta smear results are obtained before performing ^{3}H analysis.
8. Record location and results on the RSDS in accordance with Mound Rad Con procedures.

APPROVAL SIGNATURES			
Project Engineer	Mary E. Sizemore	DATE	6/1/05
Radiological Engineer		DATE	6/1/05
Manager		DATE	6/1/05
SP CLOSE-OUT SIGNATURES			
Project Engineer	Mary E. Sizemore	DATE	6-26-06
Radiological Engineer		DATE	6-26-06
Manager		DATE	6-26-06
COMMENTS			

1 - 46/49

SURVEY PLAN FORM

SPF NUMBER	T-11	DATE OF REQUEST	
TYPE OF SPF	☐ FSS x CHARACTERIZATION ☐ REFERENCE ☐ OTHER:		
AREA/LOCATION	T Building		
PURPOSE	The purpose of this SPF is to collect a concrete samples for characterization.		
SURVEY UNIT #	1C-15/16 (Rooms 61 and 63)	SURVEY UNIT#	
SURVEY UNIT #	2C-15 (Room 277)	SURVEY UNIT #	1C-11/12/21 (Rooms 57,58, and 59)
SURVEY UNIT #	1S-10 (Room 16)	SURVEY UNIT #	1C-08/09/10 (cap area Room 48)

SAMPLE TYPE

☐ SURFACE SOIL SAMPLE:

☐ SUB-SURFACE SOIL SAMPLE:

SEDIMENT SAMPLE:

☐ CORE SAMPLE:

☐ WATER SAMPLE:

☒ OTHER: Samples of concrete as specified on page 2 of this SPF

SURVEY TYPE

SURFACE SCAN	☐ BETA ☐ GAMMA ☐ ALPHA	INST. TYPE / PROBE TYPE		SCAN RATE & DETECTOR DISTANCE FROM SURFACE	
STATIC MEASURE-MENT	☐ BETA ☐ GAMMA ☐ ALPHA	INST. TYPE / PROBE TYPE		COUNT TIME & DETECTOR DISTANCE FROM SURFACE	
STATIC MEASURE-MENT	☐ BETA ☐ GAMMA ☐ ALPHA	INST. TYPE / PROBE TYPE		COUNT TIME & DETECTOR DISTANCE FROM SURFACE	
General Area Exposure Rate Measurement	☐ BETA X GAMMA ☐ ALPHA	INST. TYPE	Bicron Micro Rem meter	DETECTOR DISTANCE FROM SURFACE	Perform general area exposure rate measurements at specified locations at 1 meter (m) from the surface

COMMENTS

All surveys shall be performed and documented in accordance with Mound Radiological Control procedures.

Perform fixed-point measurements surveys prior to collecting concrete sample.

Collect same amount of sample at each location. Ensure clean sample equipment is used for each distinct sample area/room.

Rad Con shall document all discrepancies from the above sampling and surveying instructions on the RSDS.

1 - 47/49

SPECIFIC SAMPLING / SURVEY INSTRUCTIONS

Safety Considerations

1. Obtain assistance from the responsible building custodian for assistance in collecting bulk sample.
2. Exercise extreme caution when collecting bulk samples.
3. Follow appropriate site safety procedures when accessing areas with potential electrical hazards.

Concrete Sample: Obtain one (1) bulk sample at each static and judgmental measurement location identified on the floor. (Applies to rooms 16, 61, 63, 48, 57, 58, and 59)

1. Composite and homogenize the samples from the drilled locations at a depth of 6" (15 cm) into one sample container per room. Composite and homogenize the samples from the area to be capped in 48 into a separate sample container. Composite and homogenize the samples from the area to be capped in Room 59 into a separate sample container.
2. Seek guidance from Radiological Engineer/RPOC with regard to type of sample container, sample mass at each location and total mass needed for each area/room composite sample.
3. Ensure each sample is labeled with date, time, room #, survey unit #, and sample ID#.
4. Record sample location on Radiological Survey Data Sheet.
5. Ensure chain of custody is maintained for all samples.
6. Process sample for gamma spectroscopy analysis in accordance with laboratory procedures.
7. Repeat process at a depth of approximately 12" (30 cm) at each of the previous locations using a smaller drill bit. Thoroughly clean the holes prior to second drilling.

Concrete Sample: Obtain one (1) bulk sample at each static and judgmental measurement location on the floor. (Applies to Room 277)

1. Composite the samples from the drill samples collected at a depth of approximately 5" (13 cm) into one sample container. Adjust the drill depth so that the bit penetrates as deep as possible without going through the floor.
2. Seek guidance from Radiological Engineer/RPOC with regard to type of sample container, sample mass at each location and total mass needed for each area/room composite sample.
3. Ensure each sample is labeled with date, time, room #, survey unit #, and sample ID#.
4. Record sample location on Radiological Survey Data Sheet.
5. Ensure chain of custody is maintained for all samples.
6. Process sample for gamma spectroscopy analysis in accordance with laboratory procedures.

General Area Exposure Rate Measurements

1. Perform general area exposure rate measurements at specified locations at 1 meter (m) from the surface.

Quality Control (QC) Measurements

1. Field duplicate taken in every 10 or fewer field samples
2. Replicate sample taken every 20 samples of a similar matrix

Reference Sample (obtain one bulk sample from an area that has not been impacted)

1 - 48/49

T-11

APPROVAL SIGNATURES			
Project Engineer	Mary E. Sizemore	DATE	3-9-06
Radiological Engineer	Robert M. Coblentz	DATE	3-9-06
Project Manager	Ken [illegible]	DATE	3-9-06

SP CLOSE-OUT SIGNATURES			
Project Engineer	Mary E. Sizemore	DATE	6-26-06
Radiological Engineer	Ron Coblentz	DATE	6-26-06
Project Manager	[illegible]	DATE	6-26-06

COMMENTS

NOTE: Rad Con shall document all discrepancies from the above sampling and surveying instructions on the Radiological Survey Data Sheet.

Ensure that the mass of sample collected from each location is consistent. Composite all sample from a given room to form a single bulk room sample for each room. After sample has been homogenized sample size may be reduced if necessary as need for the gamma spec lab.

1 - 49/49

Attachment 2 – QC Survey Radiological Survey Data Sheets

RSDS	Date	Survey Plan	Content
MT-05-0860	9/21/05	T01	Room 100 SCM3 Survey
MT-05-0944	10/6/05	T01	Rms 16, 17, 17a SCM Survey
MT-06-0307	3/14/06	T01	Class 1 QC Survey
MT-06-0223	2/21/06	T01	QC Survey 1C18
MT-06-0235	2/23/06	T01	QC Survey 2C07
MT-06-0249	2/27/06	T01	QC scan of 1S10
MT-06-0251	2/28/06	T01	QC scan of 2N05A
MT-06-0258	3/1/06	T01	QC scan of 5N06
MT-06-0264	3/3/06	T01	QC scan of 1N02B
MT-06-0260	3/2/06	T02	QC scan of 1S02
MT-06-0262	3/2/06	T02	QC scan of 5N02
MT-06-0265	3/3/06	T02	QC scan of 2N02
MT-06-0268	3/6/06	T02	QC scan of 2N01
MT-06-0311	3/17/06	T02	QC samples for T02
MT-06-301	3/10/06	T03	QC scan of 1N05
MT-06-0525	5/18/06	T03	QC survey for T03
MT-06-0595	6/22/06	T03	QC survey for T03
MT-06-0522	5/15/06	T04	QC survey for T04
MT-06-0432	4/17/06	T06	QC survey on sump in Rm 2a and sump in Rm 37
MT-06-0435	4/18/06	T06	QC survey for 1S01A and SYSPRS215
MT-06-0324	3/17/06	T07	QC survey for T07
MT-06-0545	5/30/06	T08	QC survey for T08
MT-06-0319	3/17/06	T09	QC survey for T09
MT-06-0543	6/2/06	T10	QC survey for T10

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) T BLDG Room 100	SURVEY NO. MT-05-0860
PURPOSE: T BLDG. Room 100 SCM3 SURVEY IC18	RWP NO. N/A
	DATE: 9/21/05
	TIME: 1805

MAP/DRAWING

ALL AREAS SURVEYED BY SCM FOR ALPHA/BETA EXCEPT WHERE INACCESSIBLE

COPY

See ATTACHED MAP

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+n+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
SCM3	R80/C180	6/1/06

Completed by: (Signature) Wayne Jones Date: 9/21/05
Completed by: (Print Name) Wayne Jones
Counted by: (Signature) N/A HP# Date:
Counted by: (Print Name) N/A
Reviewed/Approved by: (Signature) Date: 9/19/05
Reviewed/Approved by: (Print Name) Jess Griffin 2-1/186

E-224/2nd

ML-0620 (2-98)

Survey No.
MT-05-0860

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

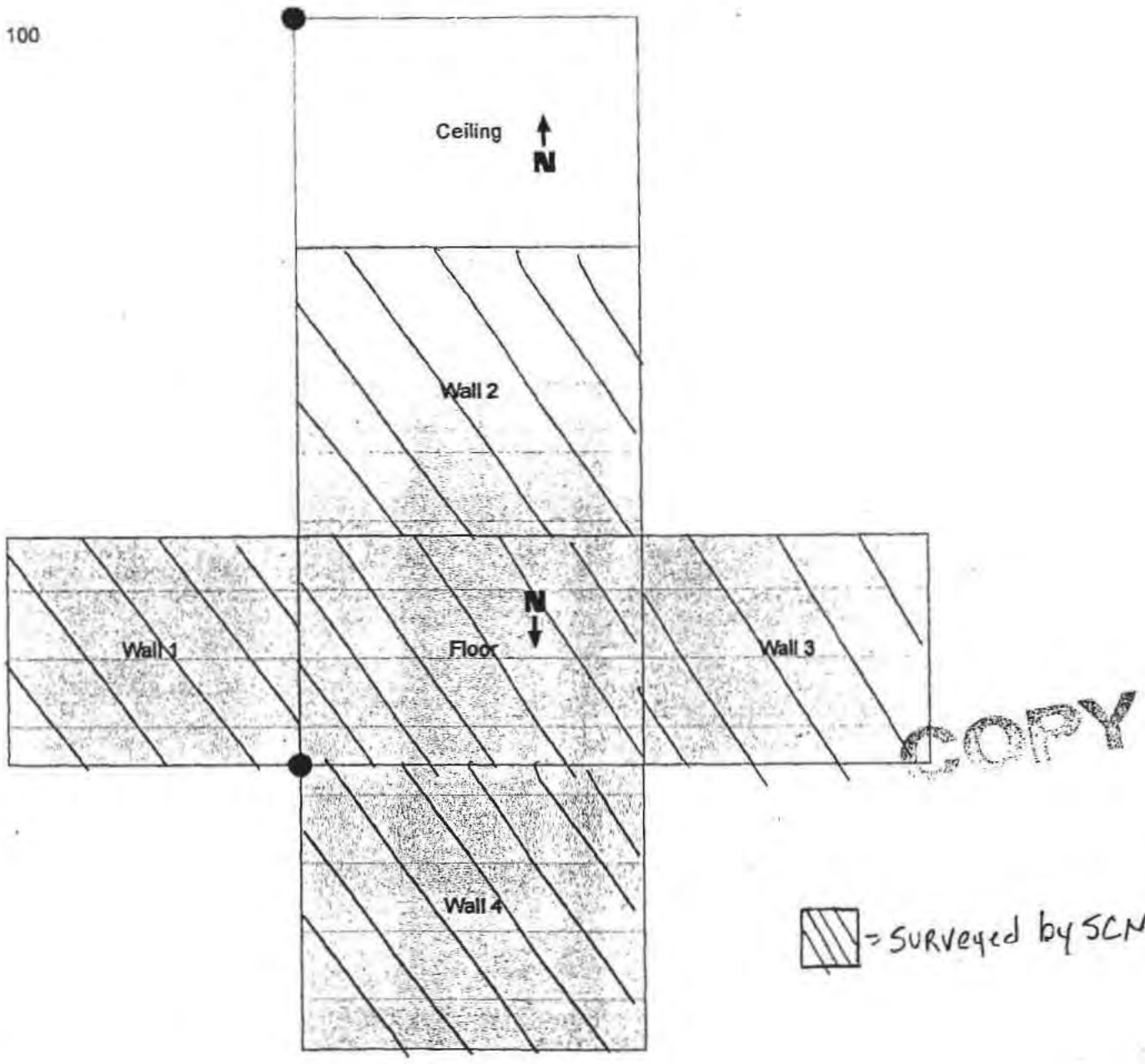
COMMENTS:

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If needed, mark N/A.

F225 2-2/186

MT-05-0860
Page 3 of 4

1C-18 **100% scan of floors and walls < 2 meters**
Class 1 **25% scan of walls > 2 meters**



= surveyed by SCM

ALL AREAS surveyed
FOR Alpha/Beta EXCEPT
where INACCESSIBLE

WJ- [redacted]
TR [redacted]

2-3/186

~~T-226/364~~

M-7-05-0860

Surface Contamination Monitor Survey Investigation Summary

Survey Unit	IC-18
SCM ID (Circle One)	SCM 53 (SCM 23)
Calibration Due Date	06-01-06

Room	Surface	Investigations	
Room 77	Floor	5	(for 5 spots)
"	Walls	3	(for 3 spots)
Room 100	Floor	13	(for 26 spots)
"	Walls	1	(for 1 spot)
Room 101	Floor	2	(for 2 spots)
"	Walls	1	(for 1 spot)
Room 102	Floor	1	(for 1 spot)
"	Walls	12	(for 15 spots)
"	Ceiling	1	(for 1 spot)
Room 103	Floor	0	
"	Walls	3	(for 3 spots)

COPY

Name: Sherry Doan

Signature: Sherry Doan

Date: 12-19-05

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 2 (10 12805a)

LOCATION: (BLDG./AREA/ROOM) T BLD 6 Rms 17, 17A & 16/16B	SURVEY NO. MT-05-0944
PURPOSE: T BLD 6 Rms 17, 17A & 16, 16B POTENIAL INVESTIGATION OF ELEVATED SCM READINGS by 2350 1510	RWP NO. N/A
	DATE: 10/6/05
	TIME: 0810

MAP/DRAWING

Follow-up RDS
Room T-16 1510D108X
Post Acid Etch MT-05-1071
Second Post ACID ETCH MT-05-1103

~~3 ELEVATED READINGS DETECTED~~ 12/8/05 gm

100% α/β scan on floors and walls up to 2 meters and 25% α/β scan on walls above 2 meters using SCM 23 on RM 16 7/31/05, 17A/17C 7/31/05 RM 17/16B 7/31/05

12 potentially elevated areas detected in Rm 16 (Directs) MT-05-1145, MT-05-1156 (smears)
3 potentially elevated areas detected in Room 16
5 potentially elevated areas detected in Room 17/16B
2 potentially elevated areas detected in Room 17A/17C

See MT-05-1071 and MT-05-1103 for follow-up surveys

INSTRUMENT	SERIAL #	CAL DUE DATE
SCM23	C180	6/1/06
SCM23	R180	6/1/06

COPY

LEGEND: # = mrem/hr (γ) whole body; # E = mrem/hr (β+η+γ) extremity on contact; (#) = mrem/hr neutron; [#] = air sample number; (#) = swipe number; (#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5895/5896	2/5/06

Completed by: (Signature) Wayne Jones [redacted] Date: 10/6/05
Completed by: (Print Name) TINA BOBROFF WAYNE JONES
Counted by: (Signature) See attached HP# N/A Date: N/A
Counted by: (Print Name)
Reviewed/Approved by: (Signature) [redacted] Date: 10-19-05
Reviewed/Approved by: (Print Name) Jerry Taylor

2-5/186

FM 133

LL-0620 (2-00)

Survey No.
MT-05-0944

Page 2 of 2

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	See attach			1S100101X ✓
2				1S100102X ✓
3				1S100103X ✓
4				1S100104X ✓
5				1S100105X
6				1S100106X ✓
7				1S100107X ✓
8				1S100108X ✓
9				1S100109X ✓
10	↓	↓	↓	1S100110X ✓

N/A

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comm

N/A

COPY

COMMENTS: N/A

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If needed, mark N/A.

ML-9620A (4-98)

2-6/186

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: Mar_025
Batch Ended: 10/6/05 8:50
Cal. Due Date: 11/17/05
Serial Number: 26966-3

Batch ID: MT-05-0944 TR [10] GWD

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	1.74	2.19		0.00	1.33	
A2	2	0.00	2.03		1.59	2.02	
A3	3	0.00	2.27		0.00	1.27	
A4	4	0.00	2.15		2.73	2.42	
B1	5	0.00	1.90		0.54	1.69	
B2	6	0.00	1.89		1.02	1.94	
B3	7	0.00	2.22		1.63	2.30	
B4	8	0.00	2.01		1.36	2.08	
C1	9	0.00	2.05		0.00	1.23	
C2	10	0.00	1.96		3.84	2.52	

WG WG

WG 10/7/05

Protocol# 3 - MARSSIM_Smear_3.lsa

MARSSIM Smear Data

COPY

Assay Definition-

Assay Description:
MARSSIM Smear Data

Assay Type: DPM (Single)
Report Name: Report1
Output Data Path: D:\MARSSIM_LSC
Raw Results Path: C:\Packard\Tricarb\Results\5801\MARSSIM_Smear_3\20051006_1006.results
Comma-Delimited File Name: D:\MARSSIM_LSC\~~MT-05-0941.002~~ MT-05-0944 GWO 10/6/05
Assay File Name: C:\Packard\TriCarb\Assays\MARSSIM_Smear_3.lsa

Count Conditions-

Nuclide: H-3 Mound
  Quench Indicator: tSIE/AEC
  External Std Terminator (sec): 0.5 2s%
  Pre-Count Delay (min): 0.00
Quench Set:
  Low Energy: H-3 Smear
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.5	18.6	1st Vial
B	2.0	18.6	1st Vial
C	40.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: Off
Colored Samples: Off Heterogeneity Monitor: Off
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time

B
C

Instrument Block Data
Machine=Tri-Carb 2900TR
Version=2.06
423022
MODEL=Tri-Carb 2900TR
VERSION=2.06
SERIAL=423022

Cycle 1 Results

DATE	TIME	S#	Count Time	CPMA	CPMB	CPMC	LUM	tSIE	DPM1	A:2S%	MESSAGES	P#
10/6/05	10:07:14 AM	-1	10.00	8	8	9	1	619.11	0	21.8	B	3
10/6/05	10:18:01 AM	0	2.00	280	264	0	1	525.86	552	8.6		3
10/6/05	10:20:42 AM	1	2.00	3	2	1	8	535.96	6	163.3		3
10/6/05	10:23:24 AM	2	2.00	0	0	2	18	466.11	0	0.0		3
10/6/05	10:26:06 AM	3	2.00	1	1	0	5	540.58	2	431.1		3
10/6/05	10:28:49 AM	4	2.00	0	0	0	13	467.48	0	0.0		3
10/6/05	10:31:31 AM	5	2.00	0	0	1	6	522.01	0	3239.6		3
10/6/05	10:34:12 AM	6	2.00	2	2	0	10	463.35	3	293.5		3
10/6/05	10:36:54 AM	7	2.00	0	0	2	8	471.99	0	0.0		3
10/6/05	10:39:36 AM	8	2.00	0	1	4	6	565.17	1	1262.3		3
10/6/05	10:42:18 AM	9	2.00	0	0	0	0	567.70	0	0.0		3
10/6/05	10:45:00 AM	10	2.00	0	0	3	0	577.92	0	0.0		3

MT-05-0944

Pg 6 of 10
12805

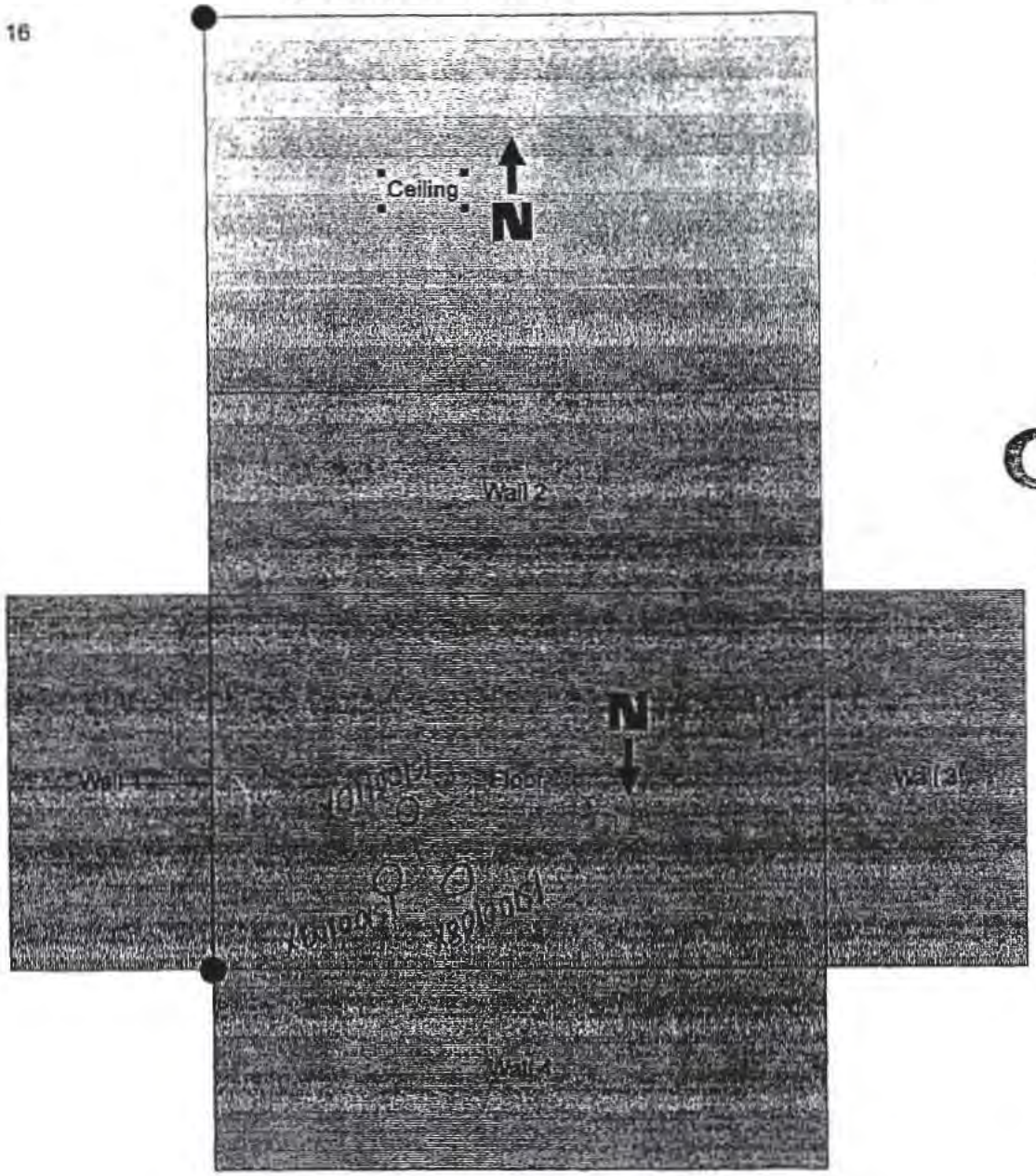
WG 10/7/05

1S-10 ~~100 % scan of floor and walls up to 2 meters~~

Class 1 ~~25% scan of walls above 2 meters~~

INVESTIGATION OF ELEVATED READINGS

16



2-10/186 FHA

MT-05-0944

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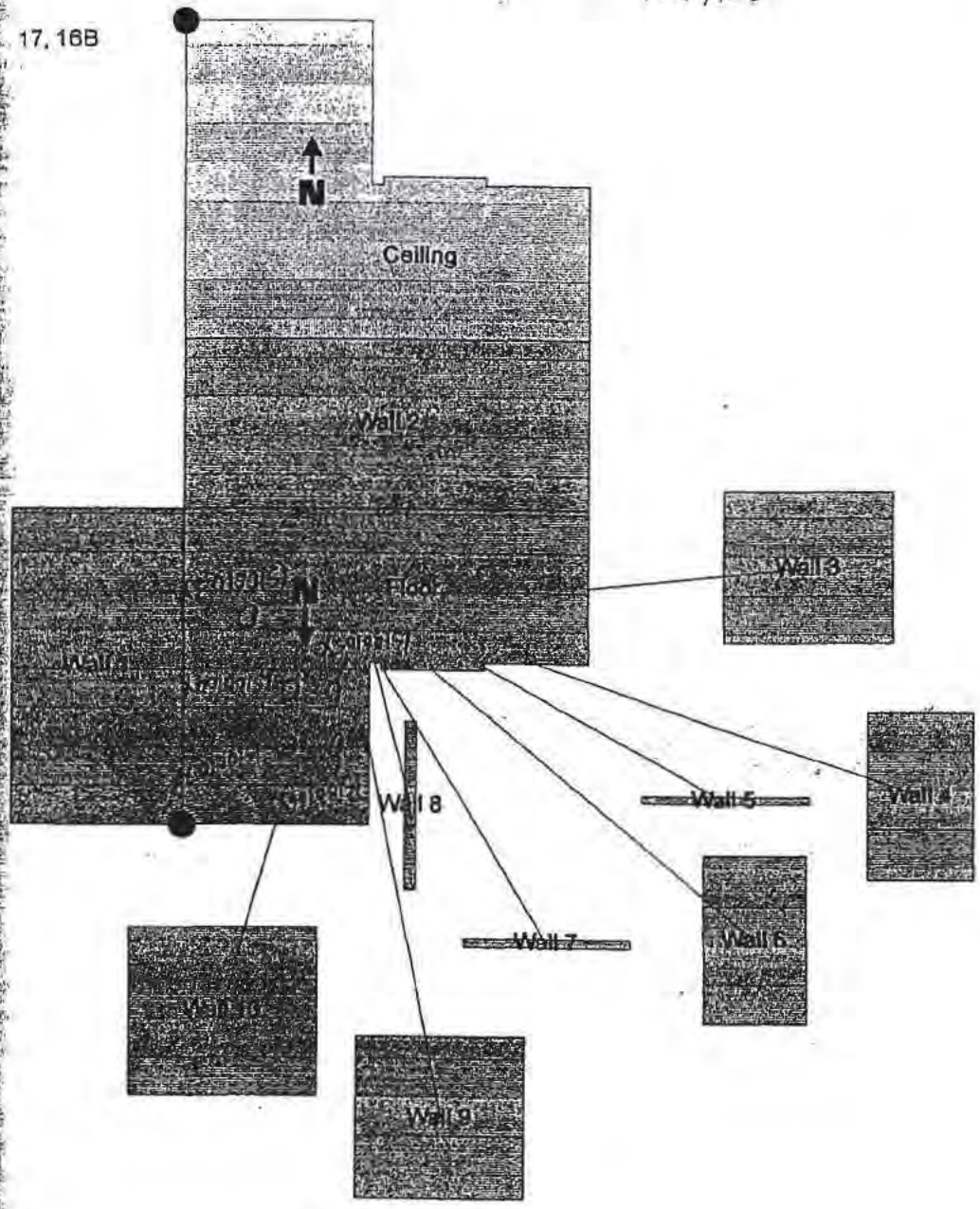
12805 9

INVESTIGATION OF ELEVATED READINGS

1S-10 ~~100 % scan of floor and walls up to 2 meters~~
Class 1 ~~25% scan of walls above 2 meters~~
10/7/05

17, 16B



2-11/186 F17/133

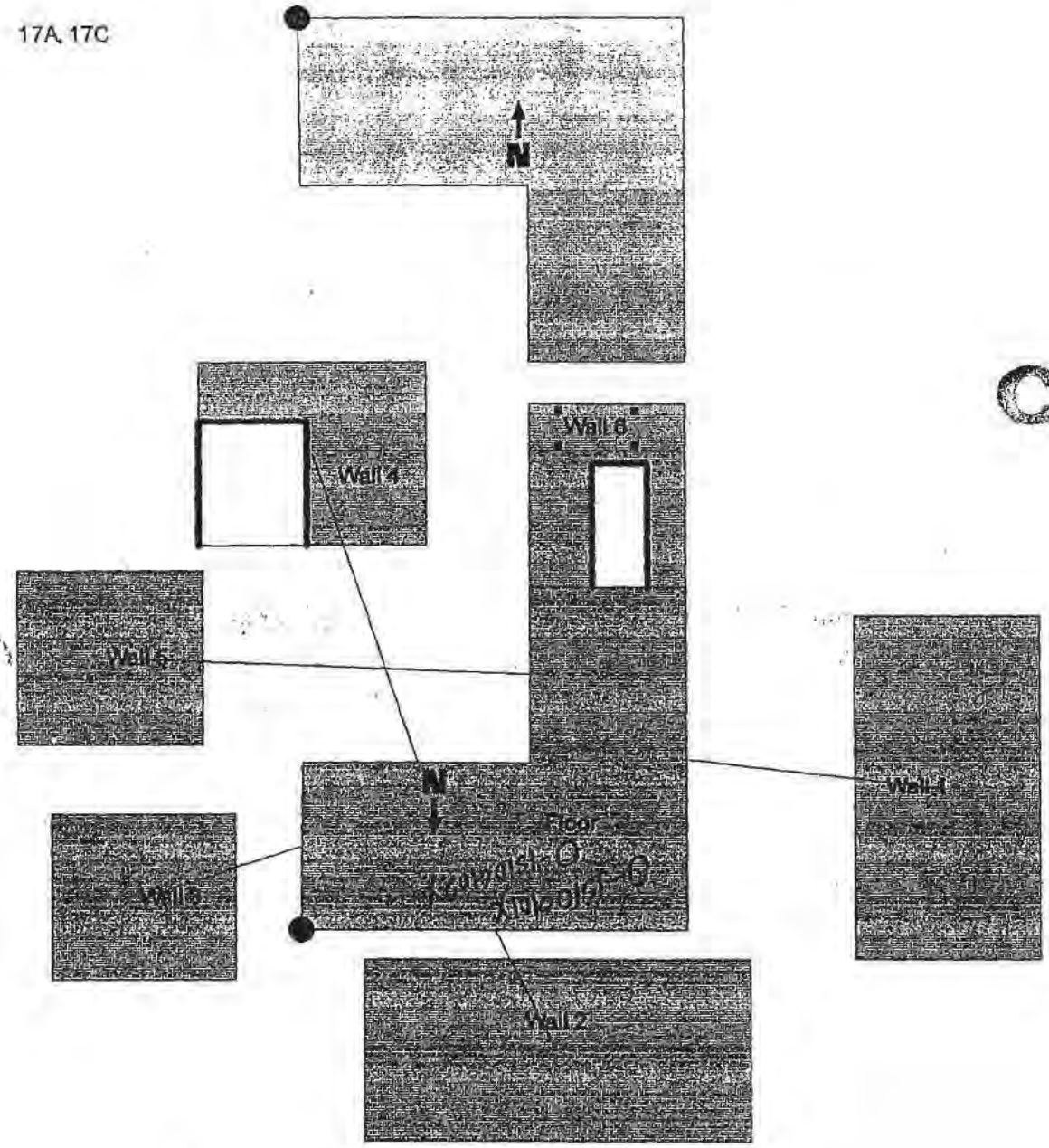
MTF 05-0944

INVESTIENTION OF ELEVATED READINGS

Pg 8.08 & 10
12

1S-10 ~~100 % scan of floor and walls up to 2 meters~~
Class 1 ~~25% scan of walls above 2 meters~~ 10/7/05 WF

17A, 17C



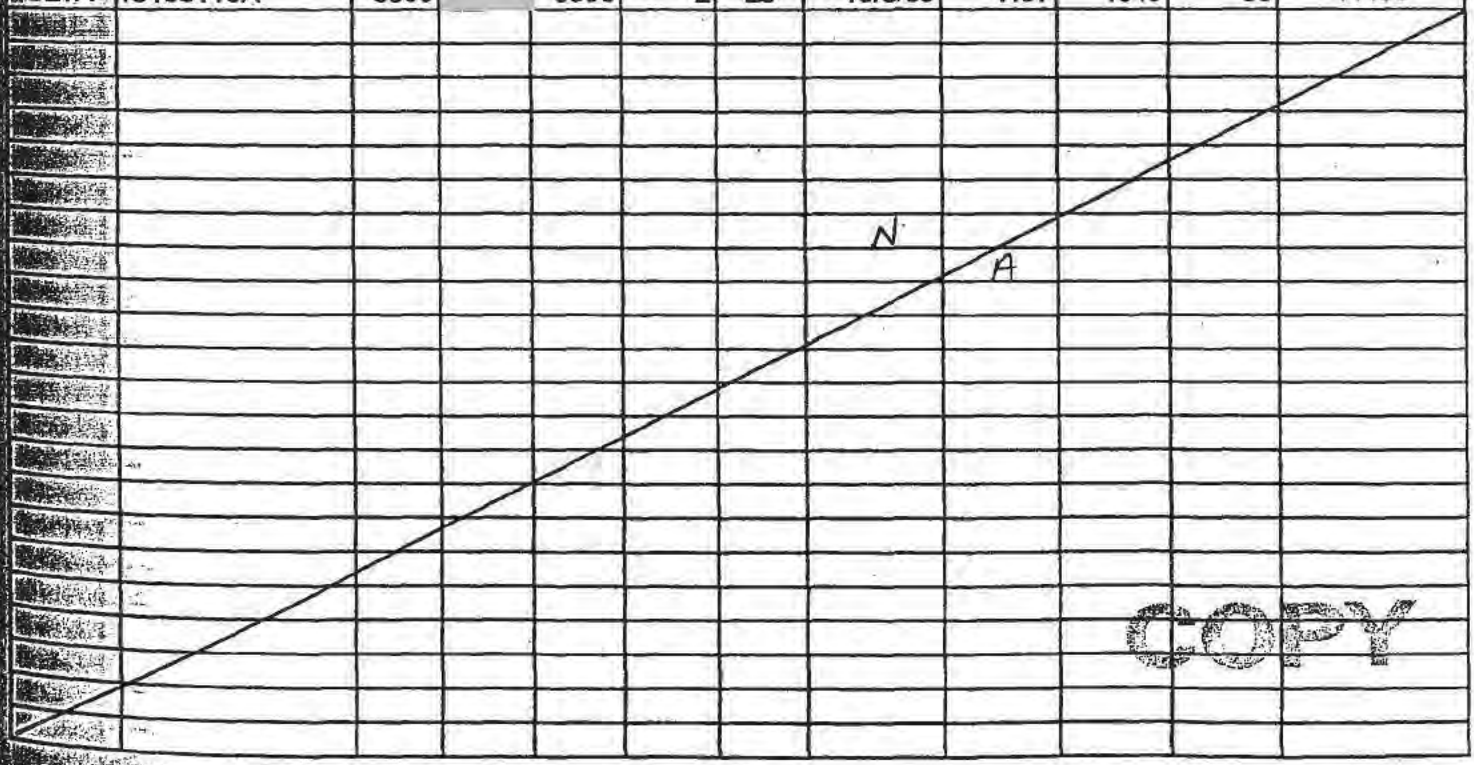
2-12/186

T-Building Investigaton of Elevated Readings Survey

RSDS# _MT-05-0944 *RCT:* [redacted] *RCT:* [redacted]

Alpha	43-68 BKG:	[illegible]	EFF:	0.2156 ✓	PROBE AREA:	129	cm²	Surface Eff:		0.5	Detector #: 1
Beta	43-68 BKG:	[illegible]	EFF:	0.17 ✓	PROBE AREA:	126	cm²	Surface Eff:		0.5	Detector #: 2
Alpha Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm²	Surface Eff:		0.5	Detector #: 3
Beta Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm²	Surface Eff:		0.5	Detector #: 4

TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	Item	DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	IS100101X	5895	[redacted]	5896	1	1	10/6/05	6:26	15	120	55
ALPHA	IS100102X	5895		5896	1	2	10/6/05	6:33	10	120	37
ALPHA	IS100103X	5895		5896	1	3	10/6/05	6:44	6	120	22
ALPHA	IS100104X	5895		5896	1	4	10/6/05	6:51	5	120	18
ALPHA	IS100105X	5895		5896	1	5	10/6/05	6:54	11	120	40
ALPHA	IS100106X	5895		5896	1	6	10/6/05	6:59	10	120	37
ALPHA	IS100107X	5895		5896	1	7	10/6/05	7:06	14	120	51
ALPHA	IS100108X	5895		5896	1	8	10/6/05	7:18	402	120	1473
ALPHA	IS100109X	5895		5896	1	9	10/6/05	7:27	14	120	51
ALPHA	IS100110X	5895		5896	1	10	10/6/05	7:36	13	120	48
BETA	IS100101X	5895		5896	2	11	10/6/05	6:27	120	60	1120
BETA	IS100102X	5895		5896	2	12	10/6/05	6:34	122	60	1139
BETA	IS100103X	5895		5896	2	13	10/6/05	6:45	167	60	1559
BETA	IS100104X	5895		5896	2	14	10/6/05	6:52	169	60	1578
BETA	IS100105X	5895		5896	2	15	10/6/05	6:55	139	60	1298
BETA	IS100106X	5895		5896	2	16	10/6/05	7:01	145	60	1354
BETA	IS100107X	5895		5896	2	17	10/6/05	7:07	148	60	1382
BETA	IS100108X	5895		5896	2	18	10/6/05	7:19	8018	60	74865
BETA	IS100109X	5895		5896	2	19	10/6/05	7:28	218	60	2035
BETA	IS100110X	5895		5896	2	20	10/6/05	7:37	1549	60	14463



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Surface Contamination Monitor Survey Investigation Summary

Survey Unit	1J-10
SCM ID (Circle One)	SCM 53 (SCM 23)
Calibration Due Date	06-01-06

Room	Surface	Investigations
Room 16	Floor	16 marked for Resrad (for 93 spots)
"	Walls	0
Room 16A	Floor	* 10 (for 13 spots)
"	WALLS	0
Room 17	Floor	5 (for 5 spots)
"	Walls	0
Room 17A	Floor	* 3 (for 4 spots)
"	Walls	0

* Some spots were marked together due to close proximity.

Name Sherry Cran

Signature Sherry Cran

Date 12-8-05

WP 5/18/06

RADIOLOGICAL SURVEY DATA SHEET

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LOCATION: (BLDG./AREA/ROOM) J-Bldg	SURVEY NO. MT-06-0307
PURPOSE: Class 1 QC's - 1S10, 1C09, 2S13, 1C10, 1N024, 1N02C, 1N03A, 1N08, 2C04, 2C08, 2S02D, 5N06, 5N07	RWP NO. N/A
	DATE: 3-14-06
	TIME: 1500

See Attached

MAP/DRAWING

COPY

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5854/5861	7-28-06
2350	5922/5926	5-18-06
	A	
	N	

Completed by: (Signature) B Nursick/BJ Roe		Date: 3-14-06
Completed by: (Print Name) B. Nursick / BJ Roe		
Counted by: (Signature) SEE ATTACHED SHEETS	HP#	Date:
Counted by: (Print Name) SEE ATTACHED SHEETS		
Reviewed/Approved by: (Signature) [redacted]		Date: 5-4-06
Reviewed/Approved by: (Print Name) J. Hollaway		2-15-06

ML-9620 (2-98)

WB 5/18/06

Survey No.
MT-06-0307

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	See	Attached		TOIQC-0001
2				TOIQC-0002
3				TOIQC-0005
4				TOIQC-0006
5				TOIQC-0007
6				TOIQC-0008
7				TOIQC-0009
8				TOIQC-0016
9				TOIQC-0014
10				TOIQC-0015
11				TOIQC-0012
12				TOIQC-0011
13				TOIQC-0010
14				TOIQC-0003
15				TOIQC-0004
16	↓	↓	↓	TOIQC-0013
			A	
		N		

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		A		
	N			

COMMENTS: N/A
↓

COPY

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620 (4-98)

2-16/186

MT-06-0307 pg 30 of 11

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: Mar_113
Batch Ended: 5/16/06 13:17
Cal. Due Date: 11/17/06
Serial Number: 26966-3

Batch ID: MT-06-0307 [16] QA SMEARS 1ST RUN, W. JONES 5-16-06 RLH

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	2.20		0.38	1.85	
A2	2	0.00	2.03		1.52	2.02	
A3	3	0.00	2.26		0.00	1.26	
A4	4	0.00	2.10		0.00	1.21	
B1	5	0.00	1.87		0.00	1.20	
B2	6	0.00	1.85		0.00	1.12	
B3	7	0.00	2.18		0.00	1.33	
B4	8	0.00	2.01		3.04	2.39	
C1	9	0.00	2.07		0.00	1.27	
C2	10	1.61	1.97		2.62	2.30	
C3	11	0.00	2.17		4.23	2.83	
C4	12	0.00	2.00		1.58	1.97	
D1	13	0.00	2.08		2.78	2.50	
D2	14	0.00	2.17		0.32	1.69	
D3	15	0.00	2.13		2.74	2.49	
D4	16	0.00	2.05		0.40	1.66	

WJ WJ

COPY

8-17-06

MT-06-0307 Pg 4 of 11

MARSSIM Smear Data

Assay Definition-

Assay Description:
MARSSIM Smear Data

Assay Type: DPM (Single)
Report Name: Report1
Output Data Path: D:\MARSSIM_LSC
Raw Results Path: C:\Packard\Tricarb\Results\5801\MARSSIM_Smear_4\20060516_1507.results
Comma-Delimited File Name: D:\MARSSIM_LSC\MT-06-0307_001
Assay File Name: C:\Packard\TriCarb\Assays\MARSSIM_Smear_4.1sa

Count Conditions-

Nuclide: H-3 Mound
  Quench Indicator: tSIE/AEC
  External Std Terminator (sec): 0.5 2s%
  Pre-Count Delay (min): 0.00
Quench Set:
  Low Energy: H-3 Smear
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.5	18.6	1st Vial
B	2.0	18.6	1st Vial
C	40.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: Off
Colored Samples: Off Heterogeneity Monitor: Off
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				

MARSSIM Smear Data

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B
C

Instrument Block Data
Machine=Tri-Carb 2900TR
Version=2.06
423022
MODEL=Tri-Carb 2900TR
VERSION=2.06
SERIAL=423022

Cycle 1 Results

DATE	TIME	S#	Count Time	CPMA	CPMB	CPMC	LUM	tSIE	DPM1	A:2S%	MESSAGES	P#
5/16/06	3:07:37 PM	-1	10.00	11	10	10	13	627.50	0	18.7	B	4
5/16/06	3:18:28 PM	0	2.00	130	126	4	1	543.89	253	13.0		4
5/16/06	3:21:10 PM	1	2.00	0	0	0	7	612.34	0	0.0		4
5/16/06	3:23:53 PM	2	2.00	0	0	0	6	633.42	0	0.0		4
5/16/06	3:26:37 PM	3	2.00	0	0	1	0	663.67	0	0.0		4
5/16/06	3:29:20 PM	4	2.00	0	0	0	0	655.46	0	0.0		4
5/16/06	3:32:03 PM	5	2.00	0	0	1	7	604.32	0	0.0		4
5/16/06	3:34:46 PM	6	2.00	0	0	1	0	576.53	0	0.0		4
5/16/06	3:37:29 PM	7	2.00	0	0	3	6	617.99	0	0.0		4
5/16/06	3:40:11 PM	8	2.00	1	1	0	0	667.53	1	995.1		4
5/16/06	3:42:53 PM	9	2.00	3	3	0	0	629.10	5	190.8		4
5/16/06	3:45:35 PM	10	2.00	0	0	0	6	519.33	0	0.0		4
5/16/06	3:48:18 PM	11	2.00	0	0	4	0	662.27	0	0.0		4
5/16/06	3:51:01 PM	12	2.00	0	0	0	7	600.66	0	0.0		4
5/16/06	3:53:44 PM	13	2.00	0	0	0	8	606.69	0	0.0		4
5/16/06	3:56:28 PM	14	2.00	0	0	1	0	609.90	0	0.0		4
5/16/06	3:59:12 PM	15	2.00	0	0	0	0	623.96	0	0.0		4
5/16/06	4:01:54 PM	16	2.00	0	0	0	0	638.28	0	0.0		4

WR

2-19/06

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: Mar_114
Batch Ended: 5/16/06 13:20
Cal. Due Date: 11/17/06
Serial Number: 26966-3

Batch ID: MT-06-0307 [16] QA SMEARS 2ND RUN, W. JONES 5-16-06 RLH

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	2.18		0.00	1.31	
A2	2	0.00	2.00		0.00	1.17	
A3	3	0.00	2.28		0.30	1.78	
A4	4	0.00	2.10		0.00	1.21	
B1	5	0.00	1.89		0.25	1.68	
B2	6	0.00	1.85		0.00	1.12	
B3	7	0.00	2.18		0.00	1.33	
B4	8	0.00	1.99		1.85	2.07	
C1	9	0.00	2.07		0.00	1.27	
C2	10	0.00	1.98		3.92	2.58	
C3	11	0.00	2.14		0.45	1.79	
C4	12	0.00	1.99		0.45	1.61	
D1	13	0.00	2.05		0.00	1.26	
D2	14	0.00	2.17		0.32	1.69	
D3	15	0.00	2.12		1.50	2.15	
D4	16	0.00	2.05		0.40	1.66	

WJ WJ

MT-06-0307 1809 ed

COPY

2-20/186

MARSSIM Smear Data

Assay Definition-

Assay Description:
MARSSIM Smear Data

Assay Type: DPM (Single)
Report Name: Report1
Output Data Path: D:\MARSSIM_LSC
Raw Results Path: C:\Packard\Tricarb\Results\5801\MARSSIM_Smear_4\20060516_1715.results
Comma-Delimited File Name: D:\MARSSIM_LSC\MT-06-0307.002
Assay File Name: C:\Packard\TriCarb\Assays\MARSSIM_Smear_4.lsa

Count Conditions-

Nuclide: H-3 Mound
  Quench Indicator: tSIE/AEC
  External Std Terminator (sec): 0.5 2s%
  Pre-Count Delay (min): 0.00
Quench Set:
  Low Energy: H-3 Smear
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.5	18.6	1st Vial
B	2.0	18.6	1st Vial
C	40.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: Off
Colored Samples: Off Heterogeneity Monitor: Off
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				

Protocol# 4 - MARSSIM_Smear_4.lsa User: 5801

MARSSIM Smear Data

MT-06-0307 IR 8811

B
C

Instrument Block Data
Machine=Tri-Carb 2900TR
Version=2.06
423022
MODEL=Tri-Carb 2900TR
VERSION=2.06
SERIAL=423022

Cycle 1 Results

DATE	TIME	S#	Count Time	CPMA	CPMB	CPMC	LUM	tSIE	DPM1	A:2S%	MESSAGES	P#
5/16/06	5:16:29 PM	-1	10.00	10	9	9	18	620.02	0	19.9	B	4
5/16/06	5:27:19 PM	0	2.00	138	130	5	2	541.46	269	12.5		4
5/16/06	5:30:00 PM	1	2.00	0	0	2	6	603.34	0	0.0		4
5/16/06	5:32:43 PM	2	2.00	0	0	2	0	617.98	0	0.0		4
5/16/06	5:35:25 PM	3	2.00	0	0	2	0	667.33	0	0.0		4
5/16/06	5:38:07 PM	4	2.00	0	1	5	0	651.89	0	0.0		4
5/16/06	5:40:49 PM	5	2.00	0	0	0	0	584.05	0	0.0		4
5/16/06	5:43:33 PM	6	2.00	0	0	0	0	568.17	0	0.0		4
5/16/06	5:46:16 PM	7	2.00	0	0	0	7	599.31	0	0.0		4
5/16/06	5:49:00 PM	8	2.00	0	0	1	0	664.12	0	0.0		4
5/16/06	5:51:42 PM	9	2.00	11	12	0	0	623.11	20	61.1		4
5/16/06	5:54:25 PM	10	2.00	0	1	2	5	501.93	0	3752.6		4
5/16/06	5:57:06 PM	11	2.00	0	0	4	6	658.04	0	0.0		4
5/16/06	5:59:49 PM	12	2.00	0	0	0	8	584.66	0	0.0		4
5/16/06	6:02:31 PM	13	2.00	3	3	2	4	586.28	5	212.7		4
5/16/06	6:05:16 PM	14	2.00	1	2	0	0	611.28	2	551.5		4
5/16/06	6:07:59 PM	15	2.00	0	1	0	5	617.92	0	0.0		4
5/16/06	6:10:42 PM	16	2.00	0	0	0	0	631.55	0	0.0		4

WBF

↑
Records
JTC 5/24/2006

COPY

2-23/06

MT-06-0307
pg. ~~6 of 8~~ WS 5/18, 9 & 11

QC samples for T-01

QC ID#	SU#	Original Sample ID#	Original RSDS #	Room #
T01QC-01	1S10	1S100229S	05-1310	Rm. 16
T01QC-02	1C09	1C090110S	06-0089	T-CAP
T01QC-03	2S13	2S130118S	05-239	Rm. 214
T01QC-04	2S13	2S130120S	05-239	Rm. 214
T01QC-05	1C10	1C100101S	06-0180	T-CAP
T01QC-06	1n02a	1N02A0214S	05-903	Rm. 78A
T01QC-07	1n02c	1N02C0102S	05-866	Rm. 78
T01QC-08	1n03a	1N03A0115S	06-0053	Rm. 89
T01QC-09	1N08	1n080111S	05-1307	Rm. 99
T01QC-10	2c04	2C040122S	05-254	Rm. 254
T01QC-11	2c04	2C040116S	05-007	Rm. 252
T01QC-12	2C08	2C080201S	05-807	CORR. 24
T01QC-13	2S02D	2S02D0102S	06-0134	TUNNEL
T01QC-14	5n06	5N060216S	05-219	E. TOWER 4TH FLOOR
T01QC-15	5n06	5N060115S	05-219	E. TOWER 4TH FLOOR
T01QC-16	5n07	5N070201S	06-0195	W TOWER 3RD FLOOR

COPY

2-23/186

T-Bldg. Class 1 QC's

RSDS# MT-06-0307 RCT: [redacted] RCT: N/A

Alpha	43-68 BKG:	0	EFF:	0.205	PROBE AREA:	126	cm^2	Surface Eff:	0.5	Detector # :	1
Beta	43-68 BKG:	0	EFF:	0.163	PROBE AREA:	126	cm^2	Surface Eff:	0.5	Detector # :	2
Alpha Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:	0.5	Detector # :	3
Beta Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:	0.5	Detector # :	4

TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	item	DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	T01QC0001	5854	7809	5861	1	1	3/13/06	10:03	2	120	8
ALPHA	T01QC0002	5854	7809	5861	1	2	3/13/06	10:13	222	120	859
ALPHA	T01QC0005	5854	7809	5861	1	3	3/13/06	10:20	11	120	43
ALPHA	T01QC0006	5854	7809	5861	1	4	3/13/06	10:32	7	120	27
ALPHA	T01QC0007	5854	7809	5861	1	5	3/13/06	10:40	4	120	15
ALPHA	T01QC0008	5854	7809	5861	1	6	3/13/06	12:29	4	120	15
ALPHA	T01QC0009	5854	7809	5861	1	7	3/14/06	6:49	11	120	43
ALPHA	T01QC0016	5854	7809	5861	1	8	3/14/06	6:57	2	120	8
ALPHA	T01QC0014	5854	7809	5861	1	9	3/14/06	7:17	5	120	19
ALPHA	T01QC0015	5854	7809	5861	1	10	3/14/06	7:21	1	120	4
ALPHA	T01QC0012	5854	7809	5861	1	11	3/14/06	7:43	5	120	19
ALPHA	T01QC0011	5854	7809	5861	1	12	3/14/06	12:14	4	120	15
ALPHA	T01QC0010	5854	7809	5861	1	13	3/14/06	12:18	7	120	27
ALPHA	T01QC0003	5854	7809	5861	1	14	3/14/06	12:24	6	120	23
ALPHA	T01QC0004	5854	7809	5861	1	15	3/14/06	12:28	2	120	8
BETA	T01QC0001	5854	7809	5861	2	1	3/13/06	10:04	101	60	984
BETA	T01QC0002	5854	7809	5861	2	2	3/13/06	10:14	3545	60	34521
BETA	T01QC0005	5854	7809	5861	2	3	3/13/06	10:21	176	60	1714
BETA	T01QC0006	5854	7809	5861	2	4	3/13/06	10:33	111	60	1081
BETA	T01QC0007	5854	7809	5861	2	5	3/13/06	10:41	156	60	1519
BETA	T01QC0008	5854	7809	5861	2	6	3/13/06	12:30	137	60	1334
BETA	T01QC0009	5854	7809	5861	2	7	3/14/06	6:51	155	60	1509
BETA	T01QC0016	5854	7809	5861	2	8	3/14/06	6:58	147	60	1431
BETA	T01QC0014	5854	7809	5861	2	9	3/14/06	7:18	198	60	1928
BETA	T01QC0015	5854	7809	5861	2	10	3/14/06	7:22	200	60	1948
BETA	T01QC0012	5854	7809	5861	2	11	3/14/06	7:44	103	60	1003
BETA	T01QC0011	5854	7809	5861	2	12	3/14/06	12:15	118	60	1149
BETA	T01QC0010	5854	7809	5861	2	13	3/14/06	12:19	167	60	1626
BETA	T01QC0003	5854	7809	5861	2	14	3/14/06	12:25	136	60	1324
BETA	T01QC0004	5854	7809	5861	2	15	3/14/06	12:29	105	60	1022
					A						
					N						

WJ 5/18/06

2-24/186

COPY

T-Bldg. Class 1 QC's

RSDS# MT-06-0307 *RCT:* [redacted] *RCT:* N/A

Alpha	43-68 BKG:	0	EFF:	0.207	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 1
Beta	43-68 BKG:	0	EFF:	0.175	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 2
Alpha Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # : 3
Beta Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # : 4

TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	item	DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	T01QC0013	5922	[redacted]	5926	1	16	3/14/06	14:15	8	120	31
BETA	T01QC0013	5922	[redacted]	5926	2	16	3/14/06	14:16	175	60	1587

A

WJ 5/18/06

COPY 2-25/186

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 3 TOI

LOCATION: (BLDG./AREA/ROOM) T-100 IC 18	SURVEY NO. MT-06-0223
PURPOSE: Q C SURVEY	RWP NO. N/A
	DATE: 2-21-06
	TIME: 0900

MAP / DRAWING

100% α, β^- SCAN PERFORMED ON FLOOR AND LOWER WALLS (BELOW 7')

NO ELEVATED α, β^-, ABOVE ALARM SETPOINTS DETECTED

LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
K = factor of 1000
— · — · — = radiological boundary

△# = mrem/hr neutron
(#) = swipe number
[#] = air sample number
(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5884/5837	1-30-07
2350	5884/5888	1-30-07

Completed by: (Signature) [redacted] Date: 2-22-06
Completed by: (Print Name) NEAL REYNOLDS/Jan Gauthier
Counted by: (Signature) HP# N Date: A
Counted by: (Print Name) A
Reviewed/Approved by: (Signature) [redacted] Date: 4-11-06
Reviewed/Approved by: (Print Name) Jerry Taylor

2-26/186

Survey No. 111-06-0223

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16			N	
17			A	
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				
51				
52				
53		N		
54			A	
55				
56				
57				
58				
59				
60				
61				
62				
63				
64				
65				
66				
67				
68				
69				
70				

COMMENTS: N/A

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

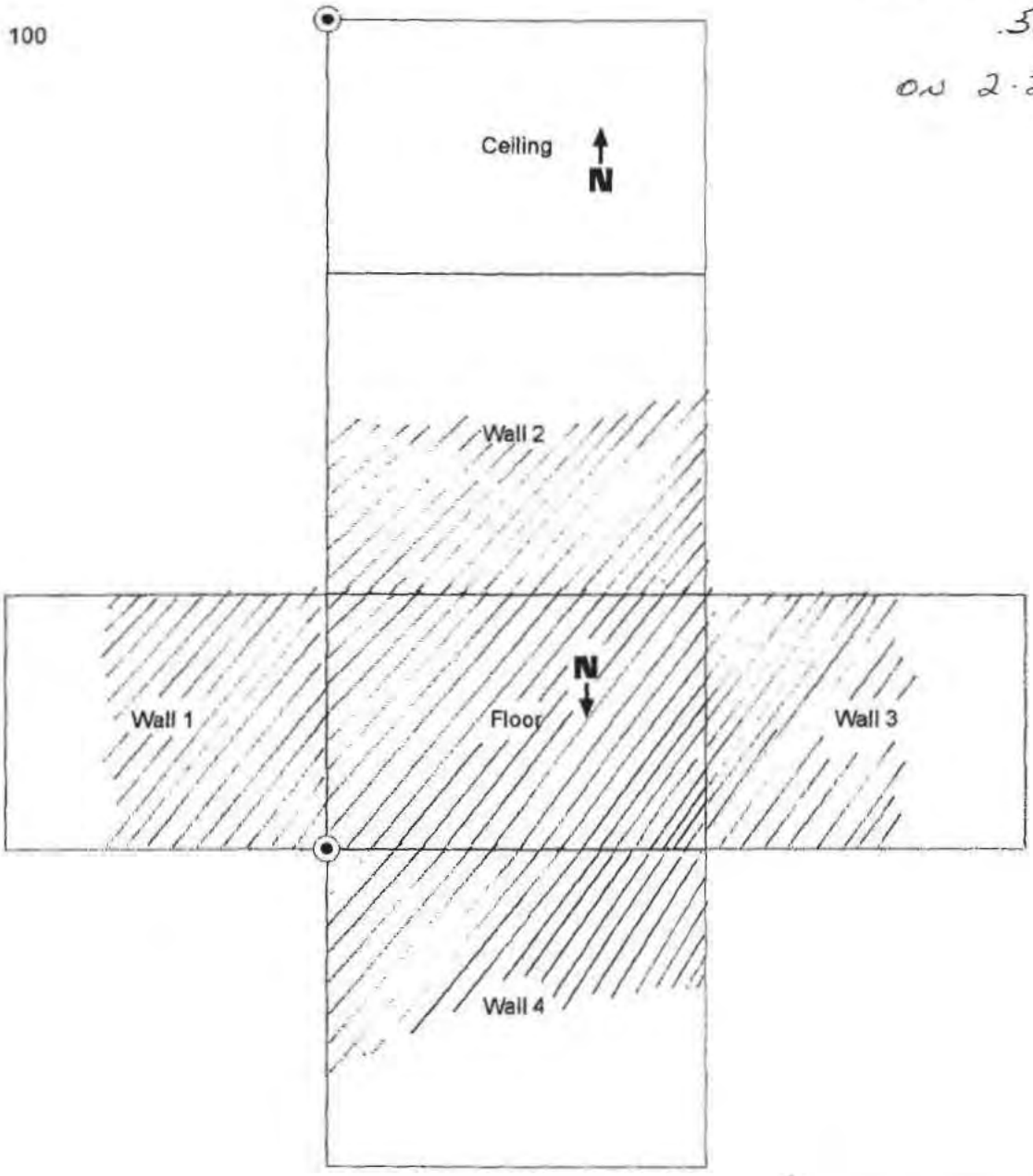
2-27/186

PAGE 3 OF 3
NTT-06-022

1C-18 100% scan of floors and walls < 2 meters
Class 1 ~~25% scan of walls > 2 meters~~ 4/17/06 MW =
QA rescans

PERFORMED WITH
2350# 5884/5888 ✓
5884/5888 ✓
ON 2-21-06 ✓

100



COPY

2-28/186

T01

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 3

LOCATION: (BLDG./AREA/ROOM) T-Bld RM-247C	SURVEY NO. NT-06-0235
PURPOSE: 100% Scan of Floor and Walls up to 2 Meters α/β QC Survey 2C-07	RWP NO. N/A
	DATE: 2/23/06
	TIME: 1400

MAP/DRAWING

See Attached Map QC survey

Note: No elevated α/β readings detected during scan.

COPY

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350-1	5889/5890/5934	1/17/07
	N/A	

Completed by: (Signature) Leonard Lovato Julie Kardas		Date: 2/23/06
Completed by: (Print Name) Leonard Lovato / Julie Kardas		
Counted by: (Signature) N/A	HP# N/A	Date: N/A
Counted by: (Print Name) N/A		
Reviewed/Approved by: (Signature) Jerry Taylor		Date: 3-2-06
Reviewed/Approved by: (Print Name) Jerry Taylor		

ML-9620 (2-98)

2-29/186

Survey No. MT-16-0235

Page 2 of 3

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm^2)				
Sample #	β/γ	Alpha	Tritium	Comments
		N/A		

Removable Contamination				
Swipes (dpm/100cm^2)				
Sample #	β/γ	Alpha	Tritium	Comments
		N/A		

COMMENTS: N/A

COPY

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620 (4-98)

2-30/186

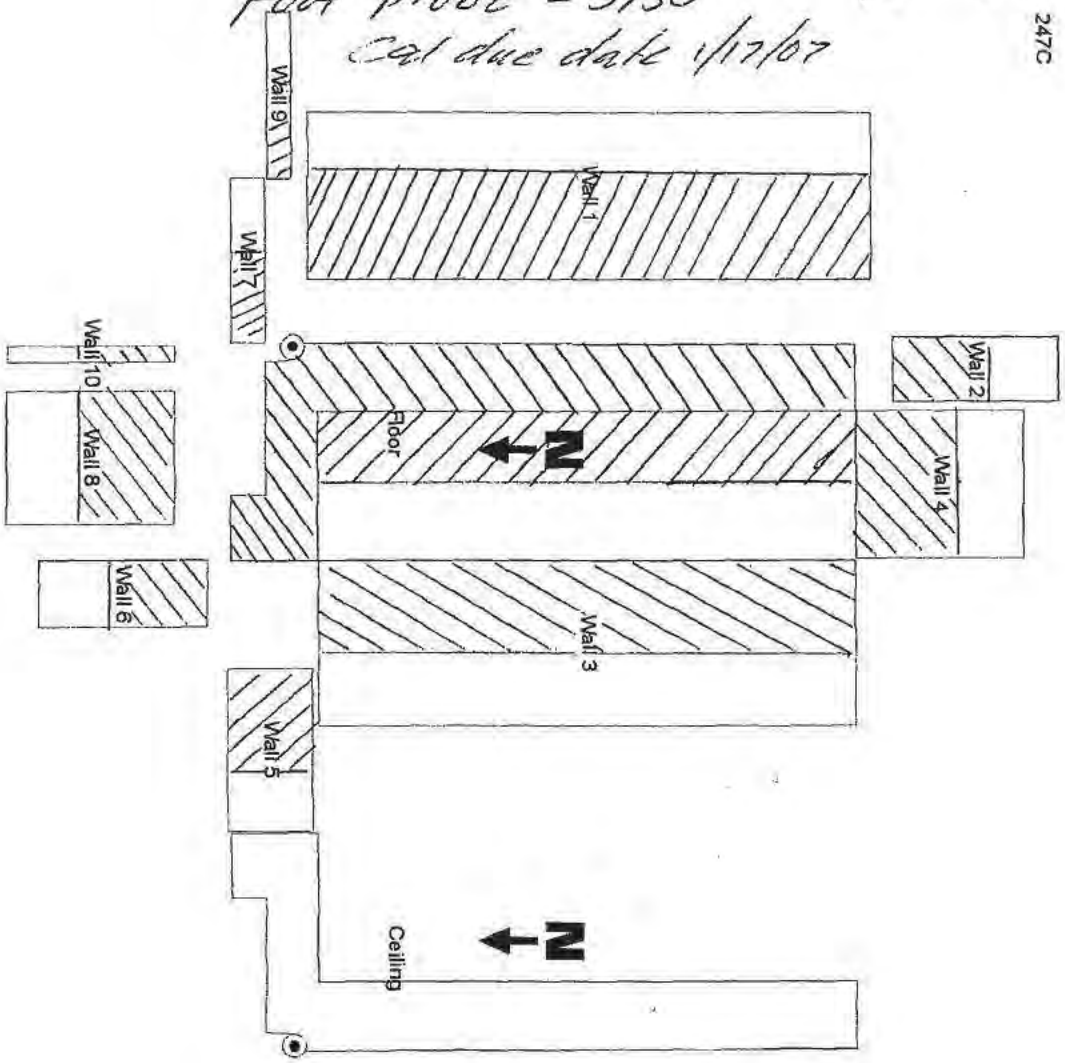
page 3 of 3
MT-06-0235

Inst. Used.
Model 2350-1-5889
Hand Probe - 5890
Foot Probe - 5930
Cal due date 1/17/07

Survey Walls & Floor
2/23/06

247C

2C-07 100 % scan of floor and walls up to 2 meters
~~Class 1 — 25% scan of walls above 2 meters~~
QA Rescans



COPY

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 3

LOCATION: (BLDG./AREA/ROOM) T-Bldg. - Room 17, 16B	SURVEY NO. MT-06-0249
PURPOSE: ~~QA~~ 3-13-06 Research QC	RWP NO. N/A
	DATE: 2-27-06
15-10	TIME: 1530

MAP/DRAWING

See Attached

No elevated α/β readings detected.

COPY

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5883/5885	1-23-07
↓	5883/5886	1-23-07
↓	5857/5859	10-4-06

Completed by: (Signature) BJ Roe B Nursick		Date: 2-27-06
Completed by: (Print Name) BJ Roe B Nursick		
Counted by: (Signature) N/A	HP# N/A	Date: N/A
Counted by: (Print Name) N/A		
Reviewed/Approved by: (Signature) Jerry Taylor		Date: 3-13-06
Reviewed/Approved by: (Print Name) Jerry Taylor 2-32/186		

ML-9620 (2-98)

Survey No.
MT-06-0249

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

COMMENTS: N/A

COPY

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620 (4-98)

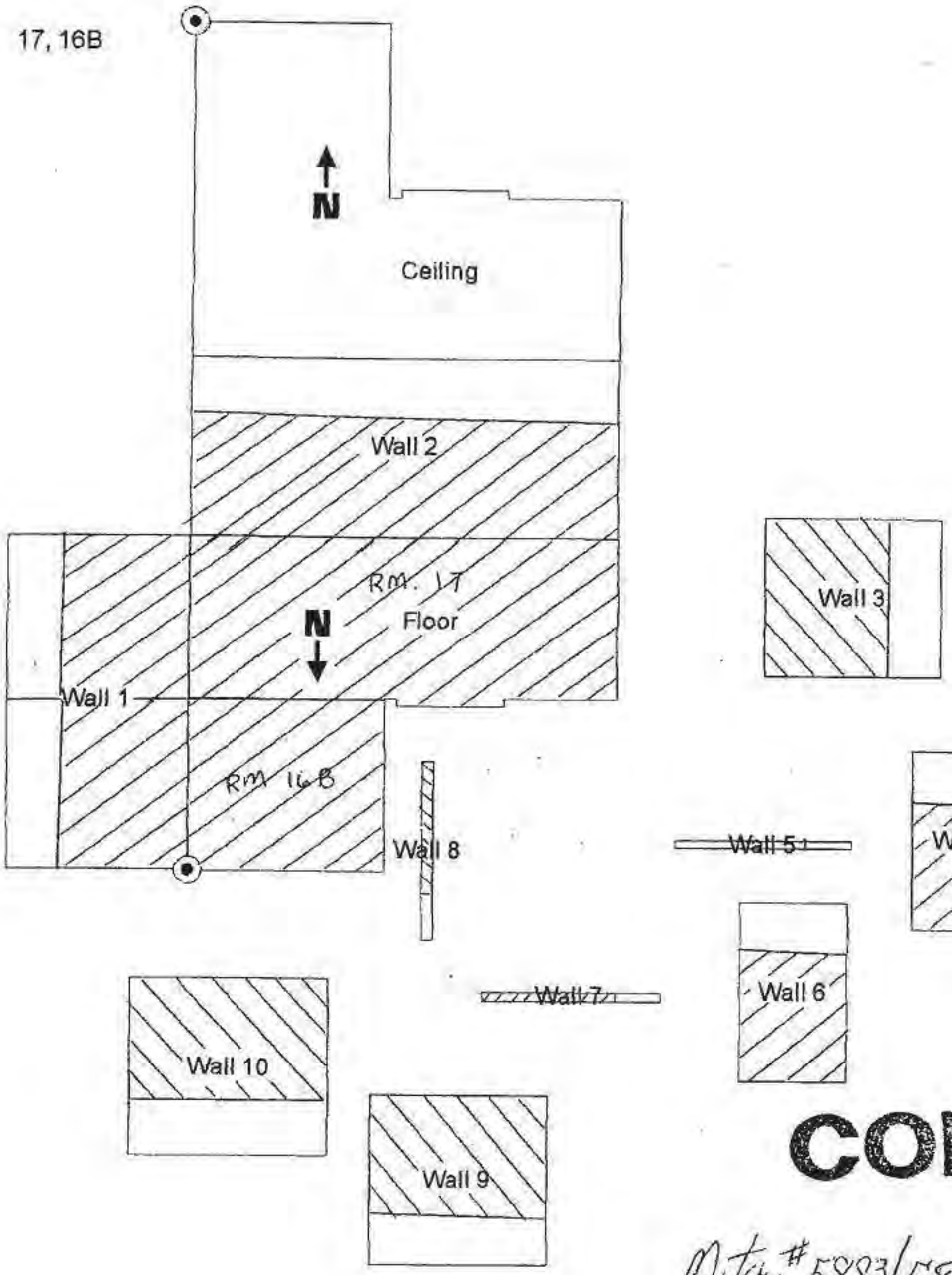
2-33/186

MT-06-0249

1S-10 **100 % scan of floor and walls up to 2 meters**

Class 1 ~~**25% scan of walls above 2 meters**~~ 4/17/06

QC ~~**QA**~~ **rescan**
3/13/06



COPY

Meter # 5883/5886
Floor scanned 2-24-06 MT
#5883/5885
Walls scanned 2-27-06

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 7 — Tot

LOCATION: (BLDG./AREA/ROOM) T-Building ZN-05A	SURVEY NO. MT-06-0251
PURPOSE: 100% Scan of Floors and Lower Walls up to 2 meters Corridor 28-A	RWP NO. N/A
	DATE: 2-28-06
	TIME: 12:10

MAP/DRAWING

SEE Attached

QC Survey

ZN-05A
Corridor 28-A

No Elevated Readings For 2 3' B' during Scanning.

COPY

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5889/5930	1-17-07
2350	5889/5870	1-17-07
2350	5884/5888	1-30-07
2350	5884/5887	1-30-07
	N/A	

Completed by: (Signature) Julie Kordas Thomas Lovett	HP# [redacted]	Date: 2-28-06
Completed by: (Print Name) Julie Kordas / Leonard Lovett		
Counted by: (Signature) N/A	HP# N/A	Date: N/A
Counted by: (Print Name) N/A		
Reviewed/Approved by: (Signature) Jerry Taylor	HP# [redacted]	Date: 3-2-06
Reviewed/Approved by: (Print Name) Jerry Taylor		

2-35/186

ML-9620 (2-98)

Survey No. MT-06-0251

Page 2 of 3

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N/A		

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N/A		

COMMENTS: N/A

COPY

NOTES:

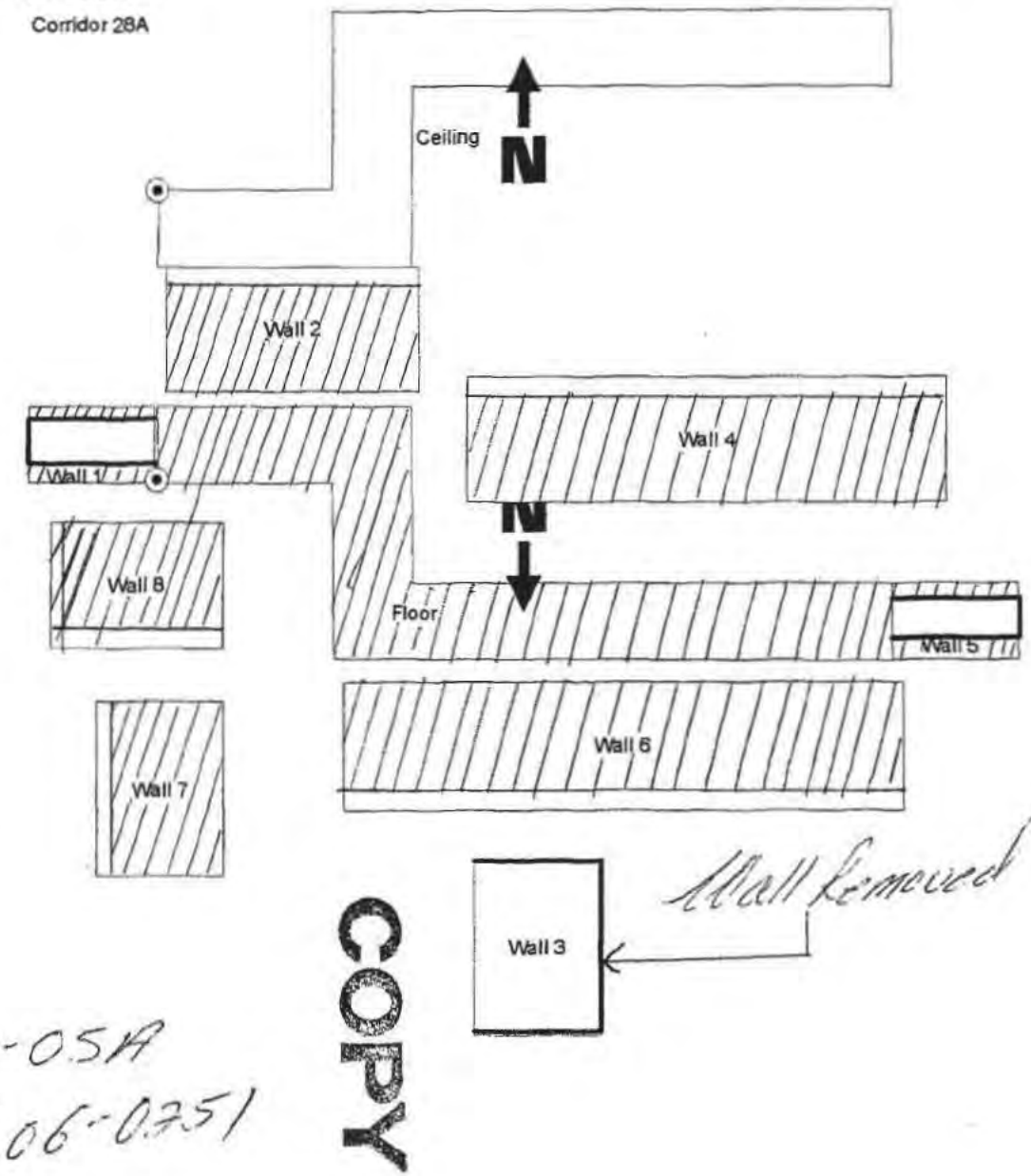
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620 (4-98)

2N-05A
Class 1

100% scan of floors and lower walls up to 2 meters
~~25% scan of walls above 2 meters~~ SRL

QC Rescan
Corridor 28A



Wall removed

COPY

Walls - 2-27-06 5859/H-5930 F-5890

Floors - 2-28-06 5884/H-5888 F-5887

Note: 110 elevated readings for d/p detected during survey.

12-27-06 Walls surveyed
12-28-06 Floors surveyed

2N-05A
MT-06-0251

Q-37/186

T-01

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 3

LOCATION: (BLDG./AREA/ROOM) T-BLDG. EAST TOWER	SURVEY NO. MT-06-0258
PURPOSE: BR 3-13-06 QC ~~QA~~ RESCAN 5N-06	RWP NO. N/A
	DATE: 3-1-06
	TIME: 1530

MAP/DRAWING

NO ELEVATED α β READINGS DETECTED DURING SCAN.

100% α β SCAN OF FLOOR AND WALLS UP TO 7 FEET.

25% α β SCAN OF WALLS ABOVE 7 FEET.

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr ($\beta+\eta+\gamma$) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm^2

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5857	10-4-06
43-68	5859	10-4-06
	N A	

Completed by: (Signature) B. Nursick / BJ Ree		Date: 3-1-06
Completed by: (Print Name) B. NURSICK / BJ Ree		
Counted by: (Signature) SEE ATTACHED SHEETS	HP# N/A	Date: N/A
Counted by: (Print Name) SEE ATTACHED SHEETS		
Reviewed/Approved by: (Signature) Jerry Taylor		Date: 3-13-06
Reviewed/Approved by: (Print Name) Jerry Taylor 2-38/186		

ML-9620 (2-98)

Survey No.
HT-06-0258

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N	A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N	A	

COMMENTS: N/A

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

2-39/186

5N-06 **100 % scan of floors and walls up to 2 meters**

Class 1 **25% scan of walls above 2 meters**

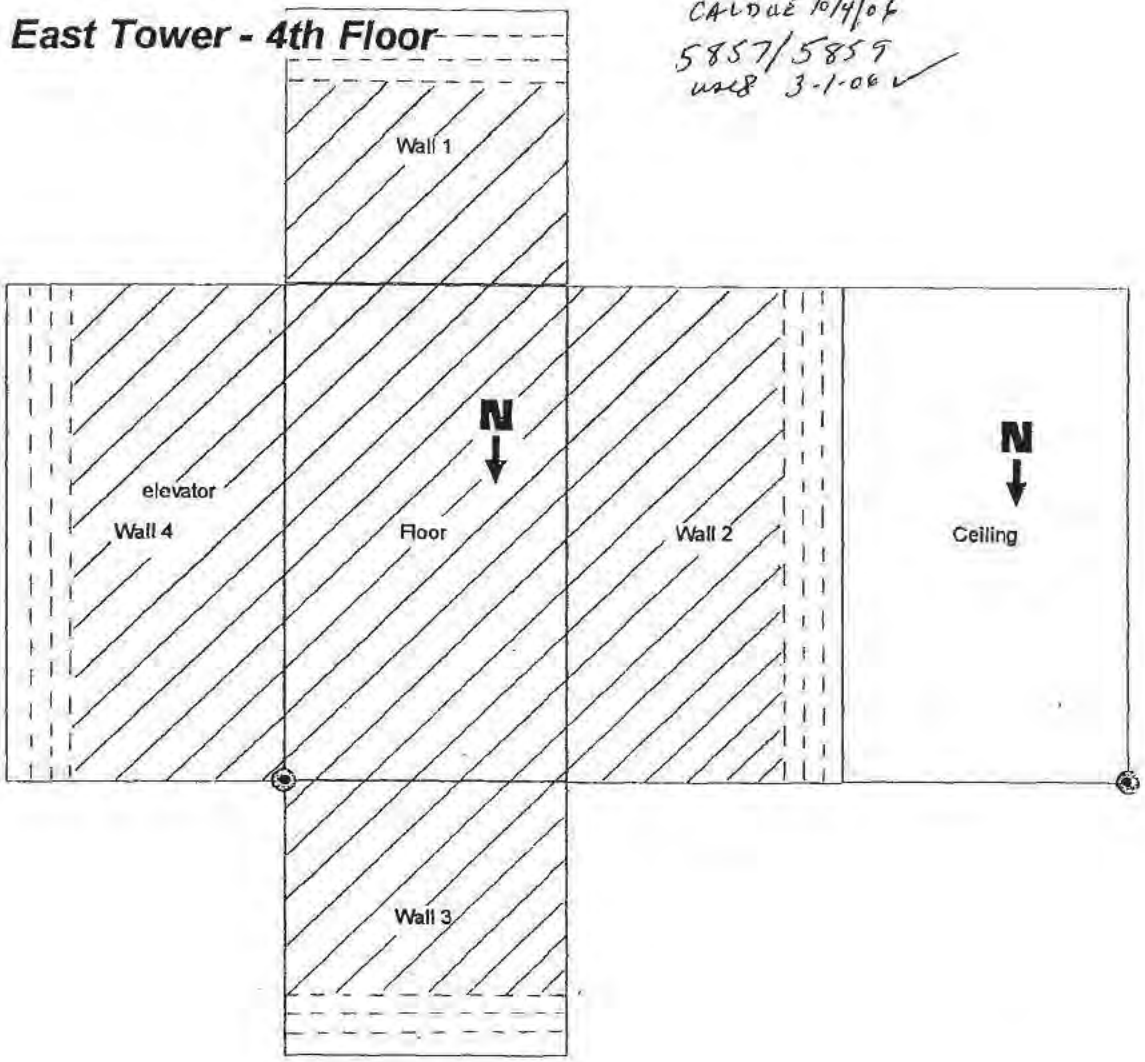
~~**- scan an area of approximately 1m2 around each static point on the ceiling**~~ 3/13/06 SK

QC

3/13/06 ~~**QA**~~ **Rescans**

CALIBRATE 10/4/04
5857/5859
used 3-1-06

East Tower - 4th Floor



2-40/186

T.1
T02

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) T BLDG Rm 79A	SURVEY NO. MT-06-0264
PURPOSE: QC SCAN FOR CLASS I ROOM 101-02B	RWP NO. N/A
	DATE: 3/3/06
	TIME: 1015

MAP/DRAWING

NO ELEVATED Alpha/BETA READINGS DETECTED DURING SCAN

See attached map

COPY

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm^2

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5883/5885/5886	1/23/07

Completed by: (Signature) Wayne Jones			Date: 3/3/06
Completed by: (Print Name) WAYNE JONES			
Counted by: (Signature) N/A		HP#	Date:
Counted by: (Print Name)			
Reviewed/Approved by: (Signature) Paul Hollo[illegible]			Date: 9-4-06
Reviewed/Approved by: (Print Name) J. Hollabaugh			2-41/186

ML-9620 (2-98)

Survey No. 0264
MT-06-~~0264~~
WJ 3/3/06

Page 2 of 3

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm^2)				▨
Sample #	β/γ	Alpha	Tritium	Comments
		N/A		

Removable Contamination				
Swipes (dpm/100cm^2)				▨
Sample #	β/γ	Alpha	Tritium	Comments
		N/A		

COPY

COMMENTS: N/A

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

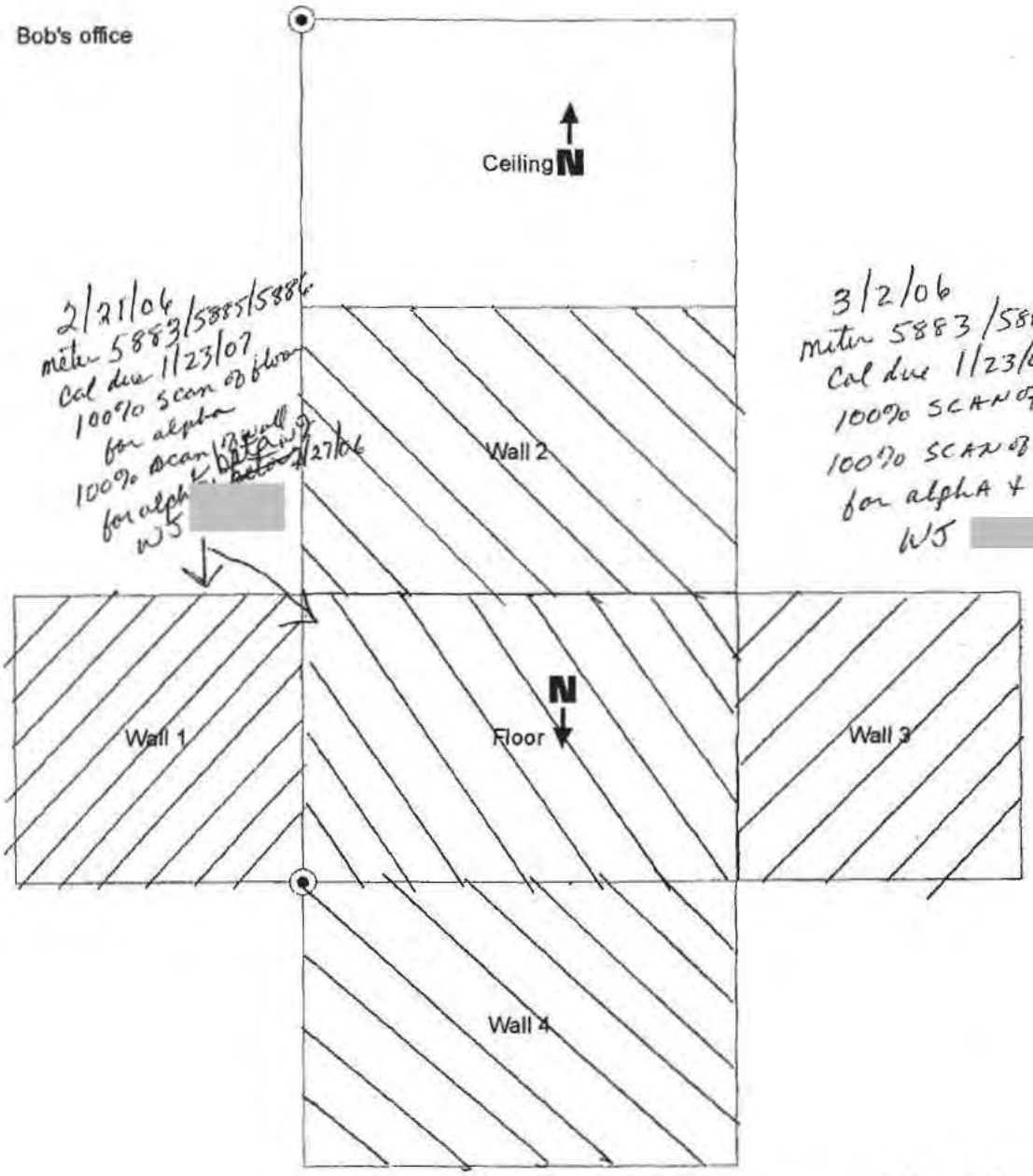
ML-9620 (4-98)

2-42/186

MT-06-0264 pg 303

1N-02B **100 % scan of floor**
Class 1 **100% scan of walls up to 2 meters**
Room 79A **25% scan of walls above 2 meters**
~~QA~~ Rescans

GC 4-17-06



2/21/06
meter 5883/5885/5886
Cal due 1/23/07
100% scan of floor for alpha
100% scan of Wall 2 for alpha 2/27/06
WJ [redacted]

3/2/06
meter 5883/5885/5886
Cal due 1/23/07
100% SCAN of Floor for Beta
100% SCAN of WALL 1 2 & 3
for alpha & Beta
WJ [redacted]

3/3/06
meter 5883/5885/5886
CAL due 1/23/07
100% SCAN of WALL 4
FOR Alpha & Beta
WJ [redacted]

COPY

2-43/186

T-02

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) T-Building- Room 3	SURVEY NO. MT-06-0260
PURPOSE: 100% Scan of Floors & 50% lower walls up to 2 meters J.K 3-2-06 15-02	RWP NO. N/A
	DATE: 3-2-06
	TIME: 13:00

MAP/DRAWING

SEE Attached

QC Survey

Model 2350-1

5884-H-5888-F-5887
Cal due date 1-30-07
3-1-06✓ 3-2-06✓

Note No Elevated Readings For α / β detected during Survey.

15-02

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5884/5888	1-30-07
2350	5884/5887	1-30-07

Completed by: (Signature) Julie Kordas			Date: 3-2-06
Completed by: (Print Name) Julie Kordas/Lorenzo Lovato			
Counted by: (Signature) N/A	HP# N/A		Date: N/A
Counted by: (Print Name) N/A			
Reviewed/Approved by: (Signature)			Date: 3-2-06
Reviewed/Approved by: (Print Name) Jerry Taylor			

2-44/186

ML-9620 (2-98)

Survey No. MT-06-0260

Page 2 of 3

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N/A		

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N/A		

COPY

COMMENTS: N/A

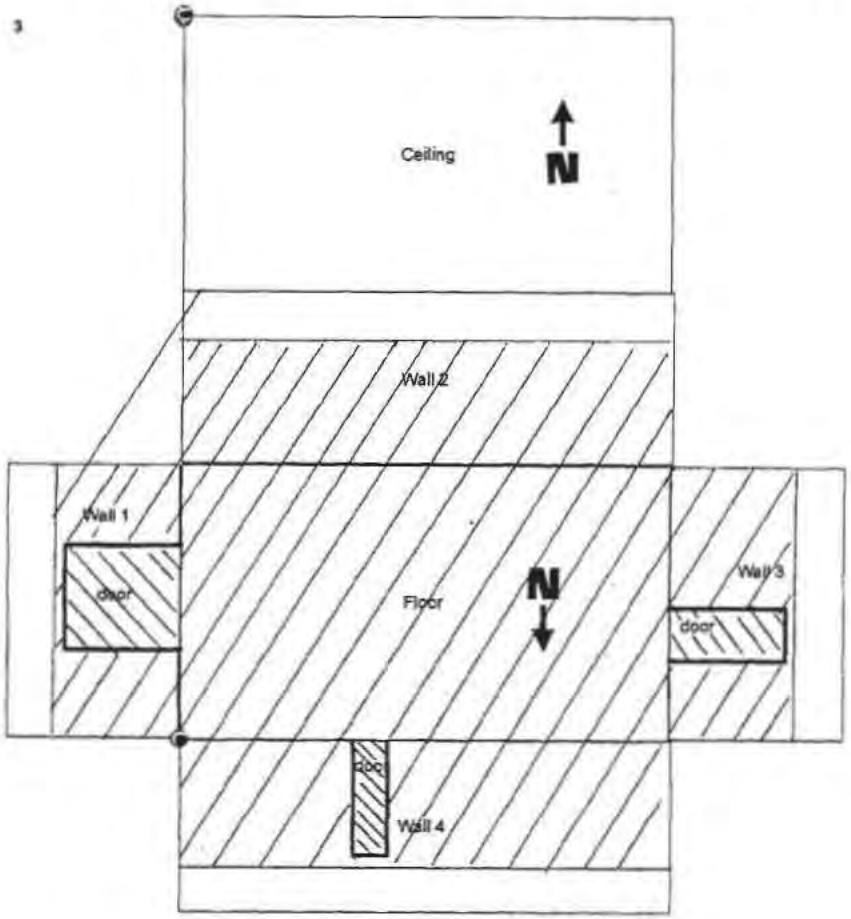
NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620 (4-98)

Inst used: Model-2350-1
S/N 5884-H·5888-F·5887
03/01/06 ? 03/02/06 Calibrate 1/3/06
Note: No elevated Readings for d/p detected during survey.

1S-02 100 % scan of floor
Class 2 50% of walls up to 2 meters
~~QA rescan~~ 25% scan of walls above 2 meters J.K 3-2-06
~~Scan an area of approximately 1m2 around each static measurement on the ceiling~~



Area: 3				
Label	Type	Surface	LX	LY
1S-02-02-3	Systematic	ceiling-f	4	9
1S-02-02-4	Systematic	ceiling-f	16	9

J.K 3-2-06

2-96/98

RADIOLOGICAL SURVEY DATA SHEET

WP 5/19/06

Page 1 of 10

LOCATION: (BLDG./AREA/ROOM) T- BLDG. SN-02	SURVEY NO. MT-06-0262
PURPOSE: BR 3-13-06 QC ~~A~~ RESCAN Rm. 152B	RWP NO. N/A
	DATE: 3-2-06
	TIME: 1600

MAP/DRAWING

NO ELEVATED α β READINGS DETECTED DURING SCAN.

SEE ATTACHED SHEETS

100% α β SCAN OF FLOOR
50% α β SCAN OF WALLS UP TO 2 METERS
25% α β SCAN OF WALLS ABOVE 2 METERS

$1 m^2$ AREA SCANNED AROUND STATIC POINT

COPY

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr ($\beta+\eta+\gamma$) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm^2

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5857	10-4-06
43-68	5859	10-4-06
43-37	5675	10-4-06
	N	
	A	

Completed by: (Signature) B. Nursick / BJ Roe		Date: 3-2-06
Completed by: (Print Name) B. NURSICK / BJ Roe		
Counted by: (Signature) SEE ATTACHED SHEETS	HP# N/A	Date: N/A
Counted by: (Print Name) SEE ATTACHED SHEETS		
Reviewed/Approved by: (Signature) Jerry Taylor		Date: 3-13-06
Reviewed/Approved by: (Print Name) Jerry Taylor 3-47/186		

ML-9620 (2-98)

Survey No.
MT-06-0262

WJ 5/18/06

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE ATTACHED	SHEETS		SN-02 02015
		N	A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N	A	

COMMENTS: N/A

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

PG 3 of 10

MT-06-0262

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: Mar_105
Batch Ended: 5/15/06 14:57
Cal. Due Date: 11/17/06
Serial Number: 26966-3

Batch ID: MT-06-0262 [1] QA SMEAR 1ST RUN, W. JONES 5-15-06 RLH

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
B1	1	0.00	1.91		1.44	2.06	

981/67-8

COPY

MARSSIM Smear Data

Assay Definition-

Assay Description:
MARSSIM Smear Data

Assay Type: DPM (Single)
Report Name: Report1
Output Data Path: D:\MARSSIM_LSC
Raw Results Path: C:\Packard\Tricarb\Results\5801\MARSSIM_Smear_2\20060516_0744.results
Comma-Delimited File Name: D:\MARSSIM_LSC\MT-06-0262.001
Assay File Name: C:\Packard\TriCarb\Assays\MARSSIM_Smear_2.lsa

Count Conditions-

Nuclide: H-3 Mound
   Quench Indicator: tSIE/AEC
   External Std Terminator (sec): 0.5 2s%
   Pre-Count Delay (min): 0.00
Quench Set:
   Low Energy: H-3 Smear
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.5	18.6	1st Vial
B	2.0	18.6	1st Vial
C	40.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: Off
Colored Samples: Off Heterogeneity Monitor: Off
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				

MARSSIM Smear Data

B
C

Instrument Block Data
Machine=Tri-Carb 2900TR
Version=2.06
423022
MODEL=Tri-Carb 2900TR
VERSION=2.06
SERIAL=423022

Cycle 1 Results

DATE	TIME	S#	Count Time	CPMA	CPMB	CPMC	LUM	tSIE	DPM1	A:2S%	MESSAGES	P#
5/16/06	7:45:04 AM	-1	10.00	9	9	10	4	610.30	0	21.0	B	2
5/16/06	7:55:54 AM	0	2.00	56	55	0	2	540.04	109	20.6		2
5/16/06	7:58:36 AM	1	2.00	0	0	2	0	575.45	0	0.0		2

MTD6-0262 pg 5 of 10

COPY

2-51/186

MT-06-0262 PB 0910

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: Mar_106
Batch Ended: 5/15/06 15:02
Cal. Due Date: 11/17/06
Serial Number: 26966-3

Batch ID: MT-06-0262 [1] QA SMEAR 2ND RUN, W. JONES 5-15-06 RLH

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
B1	1	0.00	1.93		2.62	2.38	

WJ WJ

COPY

981/55-2

Page 1 of 1 WJ 5/18/06

MT-06-0262 Pg 7 of 10

MARSSIM Smear Data

Assay Definition-

Assay Description:
MARSSIM Smear Data

Assay Type: DPM (Single)
Report Name: Report1
Output Data Path: D:\MARSSIM_LSC
Raw Results Path: C:\Packard\Tricarb\Results\5801\MARSSIM_Smear_2\20060516_0802.results
Comma-Delimited File Name: D:\MARSSIM_LSC\MT-06-0262.002
Assay File Name: C:\Packard\TriCarb\Assays\MARSSIM_Smear_2.lsa

Count Conditions-

Nuclide: H-3 Mound
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Set:
Low Energy: H-3 Smear
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.5	18.6	1st Vial
B	2.0	18.6	1st Vial
C	40.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: Off
Colored Samples: Off Heterogeneity Monitor: Off
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				

CORY 2.53/186

Protocol# 2 - MARSSIM_Smear_2.lsa User: 5801

MARSSIM Smear Data

B
C

Instrument Block Data
Machine=Tri-Carb 2900TR
Version=2.06
423022
MODEL=Tri-Carb 2900TR
VERSION=2.06
SERIAL=423022

Cycle 1 Results

DATE	TIME	S#	Count Time	CPMA	CPMB	CPMC	LUM	tSIE	DPM1	A:2S%	MESSAGES	P#
5/16/06	8:02:53 AM	-1	10.00	10	9	11	3	609.48	0	20.2	B	2
5/16/06	8:13:43 AM	0	2.00	61	58	0	1	540.24	118	19.8		2
5/16/06	8:16:25 AM	1	2.00	0	0	0	0	569.95	0	0.0		2

WJ

MT-06-0262 Pg 8 of 10

COPY

981/154-2

T-Building QA Rescans-1 Upper Static

RSDS# MT-06-0262 RCT: [redacted] RCT: [redacted]

Alpha	43-68 BKG:	0	EFF:	0.208 ✓	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector #: 1
Beta	43-68 BKG:	0	EFF:	0.164 ✓	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector #: 2
Alpha Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector #: 3
Beta Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector #: 4

TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	Item	DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	5N020201S	5857	[redacted]	5859	1	1	3/2/06	8:02	5	120	19 ✓
BETA	5N020201S	5857	[redacted]	5859	2	1	3/2/06	8:03	153	60	1481 ✓
					N	A					

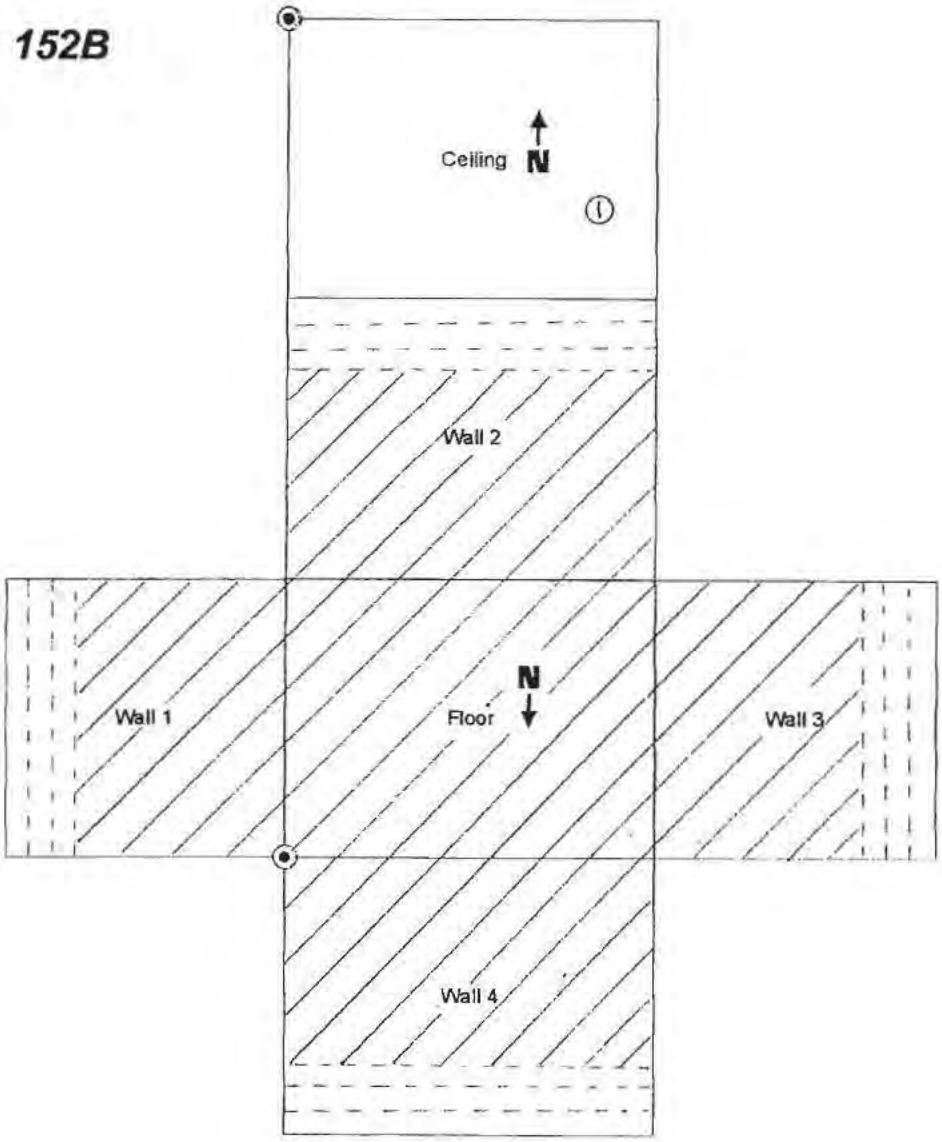
WJ 5/18/06

COPY

2-55/186

5N-02 **100 % scan of floor**
Class 2 **50% of walls up to 2 meters**
~~QA~~ rescan **25% scan of walls above 2 meters**
Scan an area of approximately 1m2 around each static measurement on the ceiling

152B



Area: 152B				
Label	Type	Surface	LX	LY
5N-02-02-1	Systematic	ceiling-f	10	6

COPY

2-56/186

T02

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) T- BLDG. 2N-02	SURVEY NO. MT-06-0265
PURPOSE: BR 3-13-06 QC ~~QA~~ RESCAN Rm. 299	RWP NO. N/A
	DATE: 3-3-06
	TIME: 1400

MAP/DRAWING

NO ELEVATED ∝ β READINGS DETECTED

DURING SCAN.

100% ∝ β SCAN OF FLOOR
50% ∝ β SCAN OF WALLS UP TO 2 METERS
25% ∝ β SCAN OF WALLS ABOVE 2 METERS

COPY

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5889	1-17-07
43-68	5890	1-17-07
	N A	

Completed by: (Signature) B. Dunsick / BJ Roe		Date: 3-3-06
Completed by: (Print Name) B. Norsick / B.J Roe.		
Counted by: (Signature) SEE ATTACHED SHEETS	HP# N/A	Date: N/A
Counted by: (Print Name) SEE ATTACHED SHEETS		
Reviewed/Approved by: (Signature) Jerry Taylor		Date: 3-13-06
Reviewed/Approved by: (Print Name) Jerry Taylor		

ML-9620 (2-98)

Survey No.
MT-06-0265

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm^2)				
Sample #	**β/γ**	**Alpha**	**Tritium**	**Comments**
		N	A	

Removable Contamination				
Swipes (dpm/100cm^2)				
Sample #	**β/γ**	**Alpha**	**Tritium**	**Comments**
		N	A	

COPY

COMMENTS: N/A

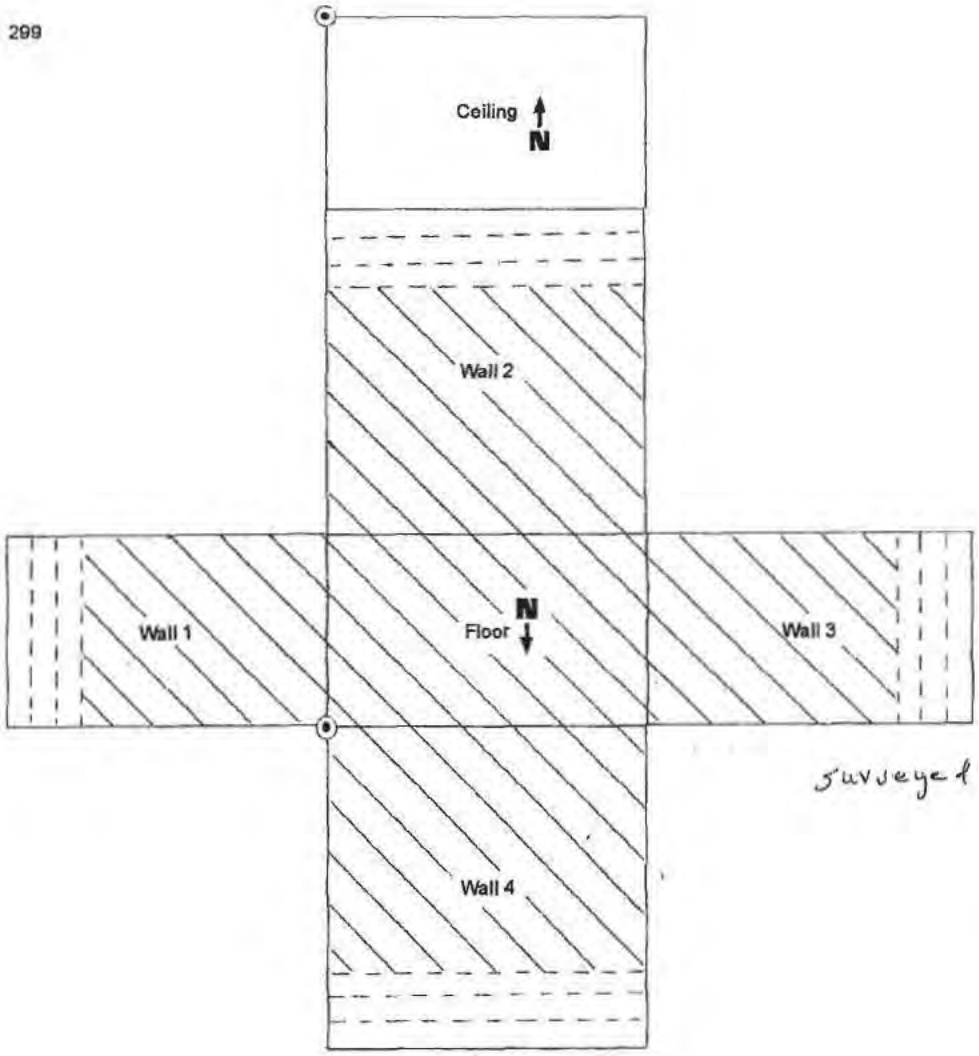
NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620 (4-98)

2-58/186

2N-02 100 % scan of floor
Class 2 50% of walls up to 2 meters
QC 3/13/06 ~~**QA rescan**~~ **25% scan of walls above 2 meters**
~~**Scan an area of approximately 1m2 around each static measurement on the ceiling**~~ 3/13/06
~~**NOTE: no static measurements were identified on the ceiling**~~ 2/13/06



surveyed 3/3/06 5889/5890

COPY

MT-06-026
pg 3 of 3

2-59/186

T-B

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) T-BLDG. 2N-01	SURVEY NO. MT-06-0268
PURPOSE: BR 3-13-06 QC ~~QA~~ RE SCAN Rm. 297	RWP NO. N/A
	DATE: 3-6-06
	TIME: 1500

MAP / DRAWING

NO ELEVATED ∝ β READINGS DETECTED DURING SCAN.

SEE ATTACHED SHEETS

100% ∝ β SCAN OF FLOOR
50% ∝ β SCAN OF WALLS UP TO 2 METERS
25% ∝ β SCAN OF WALLS ABOVE 2 METERS

LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
K = factor of 1000
— · — · — = radiological boundary
(#) = mrem/hr neutron
(#) = swipe number
[#] = air sample number
(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5673	3-1-07
43-68	5862	3-1-07
43-37	5676	3-1-07
	N A	

Completed by: (Signature) B. Nursick/BJ Roe			Date: 3-6-06
Completed by: (Print Name) B. NURSICK/B.J ROE			
Counted by: (Signature) N/A	HP# N/A		Date: N/A
Counted by: (Print Name) N/A			
Reviewed/Approved by: (Signature) Jerry Taylor			Date: 3/13/06
Reviewed/Approved by: (Print Name) Jerry Taylor			

2-60/186

Survey No.
MT-06-0268

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
	Swipes (dpm/100cm²)			
Sample #	β/γ	Alpha	Tritium	Comments
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18			N A	
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				

Removable Contamination				
	Swipes (dpm/100cm²)			
Sample #	β/γ	Alpha	Tritium	Comments
36				
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				
51				
52				
53			N A	
54				
55				
56				
57				
58				
59				
60				
61				
62				
63				
64				
65				
66				
67				
68				
69				
70				

COMMENTS: N/A

NOTES:

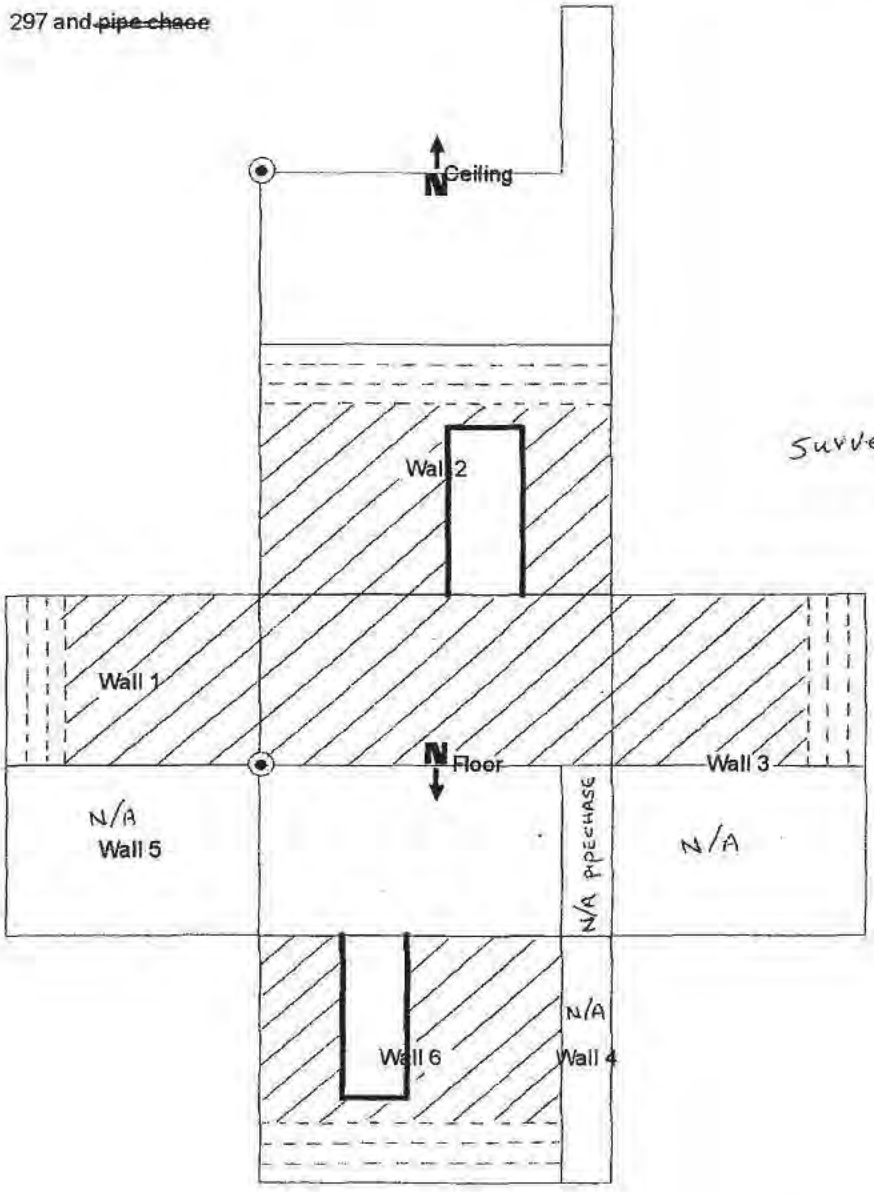
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

MI 0820 (4-98)

2-61/186

2N-01 100 % scan of floor
Class 2 50% of walls up to 2 meters
QC QA rescan 25% scan of walls above 2 meters 3/13/06 JR
~~Scan an area of approximately 1m2 around each static measurement on the ceiling~~ 3/13/06 JR
NOTE: no static measurements were identified on the ceiling and
pipe chase is not included only room 297
Pipe chase was reclassified as Class 1 and resurveyed as SU# 2N-15

297 and ~~pipe chase~~



surveyed 3-6-06 ✓
5673/5862/5676
Cal DUE 3/1/07

COPY

MF 05-4268
pg 3 OF 3

2-62/186

RADIOLOGICAL SURVEY DATA SHEET

WP 5/18/06

Page 1 of 7/10

✓

LOCATION: (BLDG./AREA/ROOM) TBLDG T-02	SURVEY NO. MT-06-0311
PURPOSE: QC SAmples FOR T-02 T-02	RWP NO. N/A
	DATE: 3/17/06
	TIME: 1000

MAP/DRAWING

JAmie took surveys on T02QC-09, T02QC-13 & T02QC-14

See attached sheet

COPY

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm^2

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5884/5887	1/30/07

Completed by: (Signature) Jayne Jones Jaynet M. Collins		Date: 3/17/06
Completed by: (Print Name) JAYNE JONES Jaynet M. Collins		
Counted by: (Signature) See attached	HP#	Date:
Counted by: (Print Name)		
Reviewed/Approved by: (Signature)		Date: 5-4-06
Reviewed/Approved by: (Print Name) J. HALABAUGH		2-63/186

ML-9620 (2-98)

WB 5/18/06

Survey No. MT-06-0311

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
	Swipes (dpm/100cm²)			
Sample #	β/γ	Alpha	Tritium	Comments
1	see attached			T02QC-01
2				T02QC-07
3				T02QC-11
4				T02QC-12
5				T02QC-16
6				T02QC-02
7				T02QC-05
8				T02QC-15
9				T02QC-03
10				T02QC-08
11				T02QC-04
12				T02QC-06
13				T02QC-10
14				T02QC-109 JC 5/16/06
15				T02QC-13
16	↓		↓	T02QC-14
	N/A			

Removable Contamination				
	Swipes (dpm/100cm²)			
Sample #	β/γ	Alpha	Tritium	Comments
	N/A			

COMMENTS: N/A

COPY

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

MT-06-0311 MS 30/10

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: Mar_101
Batch Ended: 5/15/06 13:35
Cal. Due Date: 11/17/06
Serial Number: 26966-3

Batch ID: MT-06-0311 QA SMEARS 1ST RUN, W. JONES 5-15-06 RLH

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	2.20		0.38	1.85	
A2	2	0.00	2.00		0.00	1.17	
A3	3	0.00	2.31		2.81	2.52	
A4	4	0.00	2.10		0.00	1.21	
B1	5	0.00	1.89		0.25	1.68	
B2	6	0.00	1.89		1.59	1.93	
B3	7	0.00	2.20		0.27	1.88	
B4	8	0.00	1.95		0.00	1.20	
C1	9	0.00	2.09		1.11	2.18	
C2	10	0.00	1.93		0.00	1.16	
C3	11	0.00	2.15		1.71	2.19	
C4	12	0.00	2.01		2.71	2.27	
D1	13	0.00	2.06		0.28	1.77	
D2	14	0.00	2.17		0.32	1.69	
D3	15	0.00	2.10		0.26	1.76	
D4	16	0.00	2.04		0.00	1.18	

WG WG

COPY 2-65/18

MARSSIM Smear Data

Assay Definition-

Assay Description:
MARSSIM Smear Data

Assay Type: DPM (Single)
Report Name: Report1
Output Data Path: D:\MARSSIM_LSC
Raw Results Path: C:\Packard\Tricarb\Results\5801\MARSSIM_Smear_4\20060515_1536.results
Comma-Delimited File Name: D:\MARSSIM_LSC\MT-06-0311.001
Assay File Name: C:\Packard\TriCarb\Assays\MARSSIM_Smear_4.lsa

Count Conditions-

Nuclide: H-3 Mound
  Quench Indicator: tSIE/AEC
  External Std Terminator (sec): 0.5 2s%
  Pre-Count Delay (min): 0.00
Quench Set:
  Low Energy: H-3 Smear
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.5	18.6	1st Vial
B	2.0	18.6	1st Vial
C	40.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: Off
Colored Samples: Off Heterogeneity Monitor: Off
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				

MARSSIM Smear Data

B
C

Instrument Block Data
Machine=Tri-Carb 2900TR
Version=2.06
423022
MODEL=Tri-Carb 2900TR
VERSION=2.06
SERIAL=423022

Cycle 1 Results

DATE	TIME	S#	Count Time	CPMA	CPMB	CPMC	LUM	tSIE	DPM1	A:2S%	MESSAGES	P#
5/15/06	3:37:01 PM	-1	10.00	10	8	9	32	624.67	0	19.7	B	4
5/15/06	3:47:51 PM	0	2.00	128	123	0	1	540.04	249	13.1		4
5/15/06	3:50:34 PM	1	2.00	0	0	2	0	594.47	0	0.0		4
5/15/06	3:53:16 PM	2	2.00	0	0	0	6	624.86	0	0.0		4
5/15/06	3:55:58 PM	3	2.00	1	1	0	17	634.21	2	447.1		4
5/15/06	3:58:40 PM	4	2.00	0	0	0	5	607.55	0	0.0		4
5/15/06	4:01:23 PM	5	2.00	2	3	1	0	620.57	3	305.7		4
5/15/06	4:04:06 PM	6	2.00	0	0	0	6	655.99	0	0.0		4
5/15/06	4:06:48 PM	7	2.00	0	1	1	0	591.51	0	0.0		4
5/15/06	4:09:30 PM	8	2.00	0	0	0	6	586.89	0	0.0		4
5/15/06	4:12:13 PM	9	2.00	0	0	0	7	640.70	0	0.0		4
5/15/06	4:14:56 PM	10	2.00	0	0	0	0	562.13	0	0.0		4
5/15/06	4:17:39 PM	11	2.00	0	0	0	0	587.03	0	0.0		4
5/15/06	4:20:21 PM	12	2.00	0	0	2	0	606.38	0	0.0		4
5/15/06	4:23:03 PM	13	2.00	0	0	4	0	657.81	0	0.0		4
5/15/06	4:25:46 PM	14	2.00	0	0	1	0	612.00	0	0.0		4
5/15/06	4:28:29 PM	15	2.00	0	1	0	5	645.94	0	0.0		4
5/15/06	4:31:11 PM	16	2.00	0	0	0	6	631.62	0	0.0		4

WJ

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8/6/06

Pg 5 of 10

MT-06-0311

MT-06-0311 Pg 6 of 10

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: Mar_102
Batch Ended: 5/15/06 13:38
Cal. Due Date: 11/17/06
Serial Number: 26966-3

Batch ID: MT-06-0311 QA SMEARS 2ND RUN, W. JONES 5-15-06 RLH

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	1.95	2.20		0.20	1.85	
A2	2	0.00	2.01		0.36	1.65	
A3	3	0.00	2.26		0.00	1.26	
A4	4	0.00	2.16		4.19	2.70	
B1	5	0.00	1.91		1.44	2.06	
B2	6	0.00	1.87		0.48	1.58	
B3	7	0.00	2.18		0.00	1.33	
B4	8	0.00	1.95		0.00	1.20	
C1	9	0.00	2.08		0.00	1.78	
C2	10	0.00	1.93		0.00	1.16	
C3	11	0.00	2.14		0.45	1.79	
C4	12	0.00	1.98		0.00	1.14	
D1	13	0.00	2.07		1.53	2.17	
D2	14	0.00	2.15		0.00	1.20	
D3	15	0.00	2.09		0.00	1.25	
D4	16	0.00	2.04		0.00	1.18	

WJ WJ

COPY

98/89-2

Protocol# 4 - MARSSIM_Smear_4.lsa User: 5801

MARSSIM Smear Data

Assay Definition-

Assay Description:
MARSSIM Smear Data

Assay Type: DPM (Single)
Report Name: Report1
Output Data Path: D:\MARSSIM_LSC
Raw Results Path: C:\Packard\Tricarb\Results\5801\MARSSIM_Smear_4\20060515_1747.results
Comma-Delimited File Name: D:\MARSSIM_LSC\MT-06-0311.002
Assay File Name: C:\Packard\TriCarb\Assays\MARSSIM_Smear_4.lsa

Count Conditions-

Nuclide: H-3 Mound
  Quench Indicator: tSIE/AEC
  External Std Terminator (sec): 0.5 2s%
  Pre-Count Delay (min): 0.00
Quench Set:
  Low Energy: H-3 Smear
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.5	18.6	1st Vial
B	2.0	18.6	1st Vial
C	40.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: Off
Colored Samples: Off Heterogeneity Monitor: Off
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				

MARSSIM Smear Data

B
C

Instrument Block Data
Machine=Tri-Carb 2900TR
Version=2.06
423022
MODEL=Tri-Carb 2900TR
VERSION=2.06
SERIAL=423022

Cycle 1 Results

DATE	TIME	S#	Count Time	CPMA	CPMB	CPMC	LUM	tSIE	DPM1	A:2S%	MESSAGES	P#
5/15/06	5:48:24 PM	-1	10.00	11	9	11	32	623.08	0	19.0	B	4
5/15/06	5:59:14 PM	0	2.00	139	134	0	2	536.78	271	12.6		4
5/15/06	6:01:57 PM	1	2.00	0	0	0	5	591.91	0	0.0		4
5/15/06	6:04:41 PM	2	2.00	0	0	0	0	622.34	0	0.0		4
5/15/06	6:07:23 PM	3	2.00	0	0	0	8	628.15	0	0.0		4
5/15/06	6:10:06 PM	4	2.00	1	3	4	0	600.43	3	376.6		4
5/15/06	6:12:48 PM	5	2.00	0	0	2	0	614.31	0	0.0		4
5/15/06	6:15:32 PM	6	2.00	0	0	0	0	650.56	0	0.0		4
5/15/06	6:18:14 PM	7	2.00	0	0	0	0	591.22	0	0.0		4
5/15/06	6:20:58 PM	8	2.00	0	0	0	5	571.12	0	0.0		4
5/15/06	6:23:41 PM	9	2.00	0	2	0	0	636.39	1	1188.9		4
5/15/06	6:26:24 PM	10	2.00	0	0	0	0	541.74	0	0.0		4
5/15/06	6:29:07 PM	11	2.00	0	0	0	8	586.04	0	0.0		4
5/15/06	6:31:50 PM	12	2.00	0	0	3	0	596.68	0	0.0		4
5/15/06	6:34:33 PM	13	2.00	0	0	0	0	653.36	0	0.0		4
5/15/06	6:37:16 PM	14	2.00	0	0	0	0	607.97	0	0.0		4
5/15/06	6:39:58 PM	15	2.00	0	0	0	0	644.35	0	0.0		4
5/15/06	6:42:43 PM	16	2.00	0	0	0	11	618.20	0	0.0		4

WA

Pg 8 of 10
MT-06-0311
COPY
8-20-06

MT-06-0311 wg 5/18/06 pg ~~6007~~ 9 of 10

QC samples for T-02

QC ID#	SU#	Original Sample ID#	Original RSDS #	Room #
T02QC-01	2S01	2S010106S	05-1344	EAST TUNNEL
T02QC-02	2N02	2N020111S	05-167	298
T02QC-03	2S05	2S050112S	05-236	221
T02QC-04	1N06	1N060213S	05-652	90
T02QC-05	2N01	2N010208S	05-209	314
T02QC-06	5N01	5N010202S	05-914	151
T02QC-07	2S01	2S010107S	05-1344	EAST TUNNEL
T02QC-08	2S05	2S050120S	05-236	223
T02QC-09	2S11	2S110207S	05-084	6E
T02QC-10	5n02	5N020110S	05-527	156
T02QC-11	2S03	2S030113S	06-0024	WEST TUNNEL
T02QC-12	2S03	2S030217S	06-0032	WEST TUNNEL
T02QC-13	2S11	2S110208S	05-084	6E
T02QC-14	2S11	2S110219S	05-339	6E
T02QC-15	2N01	2N010210S	05-209	321
T02QC-16	2S03	2S030119S	06-0024	WEST TUNNEL

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2-7/186

T-Building CLASS 2 QC Survey

RSDS# _MT-06-0311_____ RCT: [redacted]_____ RCT: _____

Alpha	43-68 BKG:	0	EFF:	0.208	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 1
Beta	43-68 BKG:	0	EFF:	0.164	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 2
Alpha Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # : 3
Beta Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # : 4

TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	item	DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	T02QC01	5884	[redacted]	5887	1	1	3/13/06	12:08	5	120	19
ALPHA	T02QC07	5884		5887	1	2	3/13/06	12:15	2	120	8
ALPHA	T02QC11	5884		5887	1	3	3/13/06	12:57	4	120	15
ALPHA	T02QC12	5884		5887	1	4	3/13/06	13:04	3	120	11
ALPHA	T02QC16	5884		5887	1	5	3/13/06	13:10	5	120	19
ALPHA	T02QC02	5884		5887	1	6	3/13/06	14:51	18	120	69
ALPHA	T02QC05	5884		5887	1	7	3/13/06	15:00	5	120	19
ALPHA	T02QC15	5884		5887	1	8	3/14/06	7:07	3	120	11
ALPHA	T02QC03	5884		5887	1	9	3/14/06	7:21	3	120	11
ALPHA	T02QC08	5884		5887	1	10	3/14/06	7:28	1	120	4
ALPHA	T02QC04	5884		5887	1	11	3/14/06	12:24	4	120	15
ALPHA	T02QC 06	5884		5887	1	12	3/14/06	12:31	6	120	23
ALPHA	T02QC 10	5884		5887	1	13	3/14/06	12:42	5	120	19
ALPHA	T02QC ~~11~~ 09	5884		5887	1	14	3/14/06	14:34	1	120	4
ALPHA	T02QC13	5884		5887	1	15	3/14/06	14:37	6	120	23
ALPHA	T02QC 14	5884		5887	1	16	3/14/06	14:46	9	120	34
BETA	T02QC01	5884		5887	2	17	3/13/06	12:09	73	60	707
BETA	T02QC07	5884		5887	2	18	3/13/06	12:16	115	60	1113
BETA	T02QC11	5884		5887	2	19	3/13/06	12:58	78	60	755
BETA	T02QC12	5884		5887	2	20	3/13/06	13:05	163	60	1578
BETA	T02QC16	5884		5887	2	21	3/13/06	13:11	186	60	1800
BETA	T02QC02	5884		5887	2	22	3/13/06	14:52	402	60	3891
BETA	T02QC05	5884		5887	2	23	3/13/06	15:01	109	60	1055
BETA	T02QC15	5884		5887	2	24	3/14/06	7:08	117	60	1132
BETA	T02QC03	5884		5887	2	25	3/14/06	7:22	118	60	1142
BETA	T02QC08	5884		5887	2	26	3/14/06	7:29	97	60	939
BETA	T02QC04	5884		5887	2	27	3/14/06	12:25	114	60	1103
BETA	T02QC 06	5884		5887	2	28	3/14/06	12:32	154	60	1491
BETA	T02QC 10	5884		5887	2	29	3/14/06	12:43	99	60	958
BETA	T02QC ~~11~~ 09	5884		5887	2	30	3/14/06	14:35	128	60	1239
BETA	T02QC13	5884		5887	2	31	3/14/06	14:38	140	60	1355
BETA	T02QC 14	5884		5887	2	32	3/14/06	14:47	103	60	997

COPY

W 5/18/06

2-72/186

T-03

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) T-Bldg 1N-05	SURVEY NO. MT-06-0301
PURPOSE: QC Re Scan of Floor + Walls Rm 88	RWP NO. N/A
	DATE: 3-10-06
	TIME: 1455

MAP / DRAWING

No elevated α β readings detected during scan

100% α β scan of floor
25% α β scan of walls up to 2 meters
See Attached Sheets

COPY

LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr ($\beta+\eta+\gamma$) extremity on contact
K = factor of 1000
— · — · — = radiological boundary
(#) = mrem/hr neutron
(#) = swipe number
[#] = air sample number
(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5854	7-28-06
43-68	5861	7-28-06
43-37	5852	7-28-06
	N/A	

Completed by: (Signature)	HP#	Date: 3-10-06
Completed by: (Print Name) B.J. Roe		
Counted by: (Signature) N/A	HP# N/A	Date: N/A
Counted by: (Print Name) N/A		
Reviewed/Approved by: (Signature)		Date: 5/12/06
Reviewed/Approved by: (Print Name) Jerry Taylor		

2-73/186

Survey No.
MT-96-031

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N/A		

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N/A		

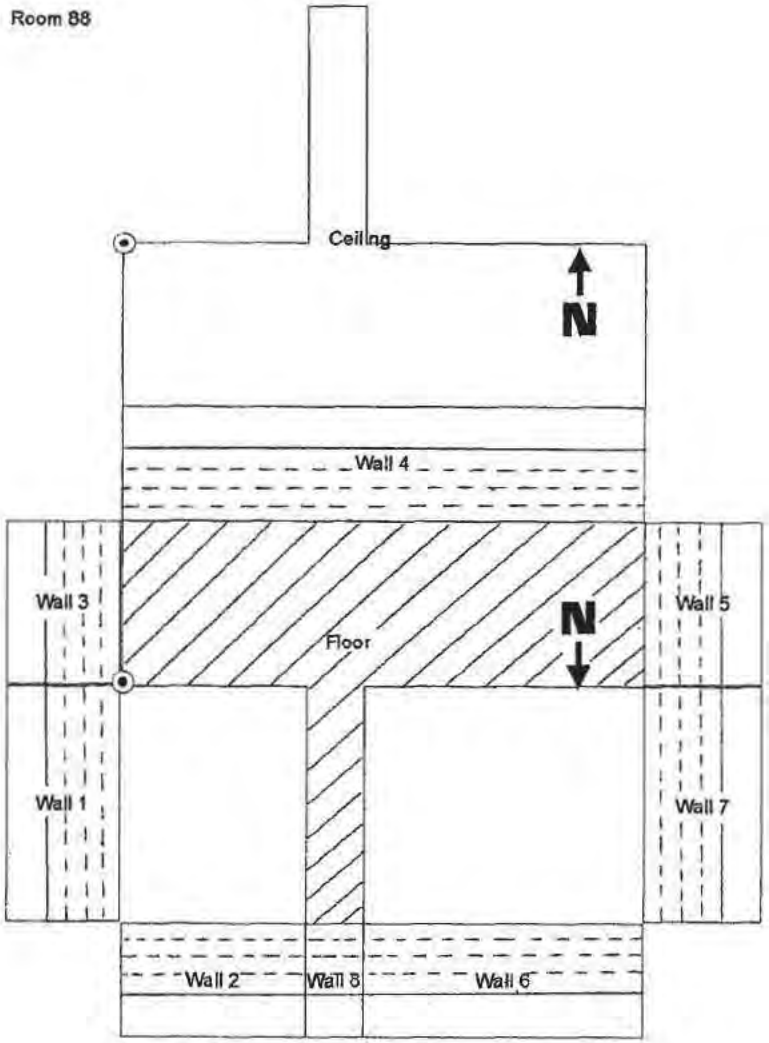
COMMENTS: N/A

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

2-74/186

1N-05-01 Class 3 Room 88 floor and walls < 2m
100 % floor
25% scan of the lower walls up to 2 meters
~~**Scan an area of approximately 1m2 around each static measurement on walls above 2 meters and on the ceiling**~~ 3/13/06 gm



3-9-06 & 3-10-06 ✓
Meter # 5854/5861
5854/5852
Cal. due 7-28-06
BR 7102
BN 7138

COPY

2-25/06

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) TBLDG	SURVEY NO. MT-06-0525
PURPOSE: T03 QC SURVEYS	RWP NO. N/A
	DATE: 5/18/06
	TIME: 0625

MAP / DRAWING

ELEVATED READINGS

T03QC05, T03QC09, T03QC10 & T03QC15

RSDS MT-05-1288 ACID ETCH EAST TOWER ANALYTICAL RESULTS TIE TO T03QC05, T03QC09, T03QC10, & T03QC15

LEGEND:

= mrem/hr (γ) whole body

#E = mrem/hr (β+η+γ) extremity on contact

K = factor of 1000

—·—·— = radiological boundary

COPY

△# = mrem/hr neutron

(#) = swipe number

[#] = air sample number

(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5920/5929	11/15/06 ✓

Completed by: (Signature) Wayne Jones Date: 5/18/06

Completed by: (Print Name) WAYNE JONES

Counted by: (Signature) See attached HP# N/A Date: N/A

Counted by: (Print Name) ↓ 2-76/186

Reviewed/Approved by: (Signature) Date: 6-9-06

Reviewed/Approved by: (Print Name) Jerry Taylor

Survey No.
MT-06-0525

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	See	attached		T03QC-01
2				T03QC-02
3				T03QC-03
4				T03QC-04
5				T03QC-05
6				T03QC-06
7				T03QC-07
8				T03QC-08
9				T03QC-09
10				T03QC-10
11				T03QC-11
12				T03QC-12
13				T03QC-13
14				T03QC-14
15				T03QC-15
16				T03QC-16

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

COMMENTS: N/A

COPY

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620 (4-98)

2-77/186

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COPY

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: Mar_120
Batch Ended: 5/18/06 9:32
Cal. Due Date: 11/17/06
Serial Number: 26966-3

Batch ID: MT-06-0525 [16] QA SMEARS 1ST RUN, W. JONES 5-18-06 RLH

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	2.18		0.00	1.32	
A2	2	0.00	2.00		0.00	1.17	
A3	3	0.00	2.26		0.00	1.26	
A4	4	0.00	2.10		0.00	1.21	
B1	5	0.00	1.87		0.00	1.20	
B2	6	0.00	1.89		1.59	1.93	
B3	7	1.91	2.24		2.70	2.65	
B4	8	0.00	2.03		4.24	2.68	
C1	9	0.00	2.07		0.00	1.27	
C2	10	0.00	1.93		0.00	1.16	
C3	11	0.00	2.15		1.71	2.19	
C4	12	0.00	1.98		0.00	1.14	
D1	13	0.00	2.07		1.53	2.17	
D2	14	0.00	2.18		1.51	2.07	
D3	15	0.00	2.09		0.00	1.25	
D4	16	0.00	2.05		0.40	1.66	

WJ WJ

981/8L-2

MARSSIM Smear Data

Assay Definition-

Assay Description:
MARSSIM Smear Data

Assay Type: DPM (Single)
Report Name: Report1
Output Data Path: C:\Packard\TriCarb\Results\~MARSSIMS
Raw Results Path: C:\Packard\Tricarb\Results\5801\MARSSIM_Smear_3\20060518_1016.results
Comma-Delimited File Name: C:\Packard\TriCarb\Results\~MARSSIMS\MT-06-0525.001
Assay File Name: C:\Packard\TriCarb\Assays\MARSSIM_Smear_3.1sa

Count Conditions-

Nuclide: H-3 Mound
  Quench Indicator: tSIE/AEC
  External Std Terminator (sec): 0.5 2s%
  Pre-Count Delay (min): 0.00
Quench Set:
  Low Energy: H-3 Smear
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.5	18.6	1st Vial
B	2.0	18.6	1st Vial
C	40.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: Off
Colored Samples: Off Heterogeneity Monitor: Off
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				

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MARSSIM Smear Data

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B
C

Instrument Block Data
Machine=Tri-Carb 2900TR
Version=2.06
423022
MODEL=Tri-Carb 2900TR
VERSION=2.06
SERIAL=423022

Cycle 1 Results

DATE	TIME	S#	Count Time	CPMA	CPMB	CPMC	LUM	tSIE	DPM1	A:2S%	MESSAGES	P#
5/18/06	10:16:40 AM	-1	10.00	9	9	12	10	619.53	0	20.8	B	3
5/18/06	10:27:30 AM	0	2.00	206	195	0	0	549.54	399	10.1		3
5/18/06	10:30:12 AM	1	2.00	0	0	0	7	591.07	0	0.0		3
5/18/06	10:32:56 AM	2	2.00	0	0	0	0	659.51	0	3953.1		3
5/18/06	10:35:38 AM	3	2.00	0	0	5	0	629.77	0	0.0		3
5/18/06	10:38:19 AM	4	2.00	0	0	0	0	660.51	0	0.0		3
5/18/06	10:41:01 AM	5	2.00	0	0	0	0	655.19	0	0.0		3
5/18/06	10:43:43 AM	6	2.00	0	1	0	0	650.01	0	3085.0		3
5/18/06	10:46:26 AM	7	2.00	6	4	0	23	515.42	12	95.7		3
5/18/06	10:49:09 AM	8	2.00	0	0	0	0	640.64	0	0.0		3
5/18/06	10:51:52 AM	9	2.00	0	0	0	6	664.26	0	0.0		3
5/18/06	10:54:35 AM	10	2.00	0	0	0	0	655.35	0	0.0		3
5/18/06	10:57:17 AM	11	2.00	0	0	0	0	597.14	0	0.0		3
5/18/06	11:00:00 AM	12	2.00	0	0	0	0	676.94	0	0.0		3
5/18/06	11:02:41 AM	13	2.00	0	0	0	0	618.08	0	0.0		3
5/18/06	11:05:25 AM	14	2.00	6	5	2	6	532.92	12	94.0		3
5/18/06	11:08:08 AM	15	2.00	0	0	0	0	665.21	0	0.0		3
5/18/06	11:10:50 AM	16	2.00	0	0	0	0	649.73	0	0.0		3

wg

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Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: Mar_121
Batch Ended: 5/18/06 9:34
Cal. Due Date: 11/17/06
Serial Number: 26966-3

Batch ID: MT-06-0525 [16] QA SMEARS 2ND RUN, W. JONES 5-18-06 RLH

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	2.21		1.68	2.26	
A2	2	0.00	2.00		0.00	1.17	
A3	3	0.00	2.26		0.00	1.27	
A4	4	1.90	2.10		0.00	1.21	
B1	5	1.58	1.87		0.00	1.20	
B2	6	0.00	1.89		1.59	1.93	
B3	7	0.00	2.18		0.00	1.34	
B4	8	0.00	2.01		3.04	2.39	
C1	9	0.00	2.11		2.36	2.52	
C2	10	0.00	1.97		2.78	2.30	
C3	11	0.00	2.17		4.23	2.83	
C4	12	0.00	1.98		0.00	1.14	
D1	13	0.00	2.06		0.28	1.77	
D2	14	0.00	2.17		0.32	1.69	
D3	15	0.00	2.09		0.00	1.25	
D4	16	0.00	2.04		0.00	1.18	

WJ WJ

98/18-2

MARSSIM Smear Data

Assay Definition-

Assay Description:
MARSSIM Smear Data

Assay Type: DPM (Single)
Report Name: Report1
Output Data Path: C:\Packard\TriCarb\Results\~MARSSIMS
Raw Results Path: C:\Packard\Tricarb\Results\5801\MARSSIM_Smear_3\20060518_1408.results
Comma-Delimited File Name: C:\Packard\TriCarb\Results\~MARSSIMS\MT-06-0525.002
Assay File Name: C:\Packard\TriCarb\Assays\MARSSIM_Smear_3.lsa

Count Conditions-

Nuclide: H-3 Mound
  Quench Indicator: tSIE/AEC
  External Std Terminator (sec): 0.5 2s%
  Pre-Count Delay (min): 0.00
Quench Set:
  Low Energy: H-3 Smear
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.5	18.6	1st Vial
B	2.0	18.6	1st Vial
C	40.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: Off
Colored Samples: Off Heterogeneity Monitor: Off
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				

MARSSIM Smear Data

B
C

Instrument Block Data
Machine=Tri-Carb 2900TR
Version=2.06
423022
MODEL=Tri-Carb 2900TR
VERSION=2.06
SERIAL=423022

Cycle 1 Results

DATE	TIME	S#	Count Time	CPMA	CPMB	CPMC	LUM	tSIE	DPM1	A:2S%	MESSAGES	P#
5/18/06	2:09:09 PM	-1	10.00	7	7	11	7	624.49	0	23.9	B	3
5/18/06	2:19:58 PM	0	2.00	206	195	0	0	553.02	396	10.1		3
5/18/06	2:22:40 PM	1	2.00	0	0	0	0	559.99	0	0.0		3
5/18/06	2:25:22 PM	2	2.00	2	2	0	0	654.77	4	228.0		3
5/18/06	2:28:04 PM	3	2.00	0	0	1	0	625.91	0	0.0		3
5/18/06	2:30:46 PM	4	2.00	4	3	0	0	661.51	6	139.4		3
5/18/06	2:33:28 PM	5	2.00	0	0	2	0	653.25	0	0.0		3
5/18/06	2:36:11 PM	6	2.00	5	3	0	4	651.30	8	112.9		3
5/18/06	2:38:54 PM	7	2.00	16	16	13	4	421.31	35	43.9		3
5/18/06	2:41:36 PM	8	2.00	4	3	0	0	610.30	6	139.4		3
5/18/06	2:44:18 PM	9	2.00	0	0	0	0	664.38	0	0.0		3
5/18/06	2:47:00 PM	10	2.00	2	2	0	6	657.12	4	228.0		3
5/18/06	2:49:43 PM	11	2.00	4	3	0	0	562.90	7	139.4		3
5/18/06	2:52:26 PM	12	2.00	6	6	1	0	677.50	10	89.4		3
5/18/06	2:55:08 PM	13	2.00	2	1	0	0	615.27	4	228.0		3
5/18/06	2:57:51 PM	14	2.00	0	0	0	10	442.93	0	0.0		3
5/18/06	3:00:33 PM	15	2.00	1	1	0	0	661.25	2	319.4		3
5/18/06	3:03:17 PM	√16	2.00	3	2	0	5	644.51	5	159.2		3

WJ

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QC samples for T-03

QC ID#	SU#	Original Sample ID#	Original RSDS #	Room #
T03QC-01	2S19	2s190102J	05-604	
T03QC-02	5n03	5N030109J	05-928	
T03QC-03	1N05	1N050115S	05-102	
T03QC-04	5N05	5N05E04J	05-897	
T03QC-05	5n03	5n030118J	05-904	
T03QC-06	5n03	5n030107J	05-904	
T03QC-07	5N05	5N050119J	897	
T03QC-08	1N05	1N050117S	05-102	
T03QC-09	5n03	5n030116J	05-904	
T03QC-10	5N04	5NO40105J	06-0079	
T03QC-11	5N04	5NO40104J	06-0079	
T03QC-12	5N04	0504R09J	05-902	
T03QC-13	2S19	2s190206J	05-635	
T03QC-14	5n03	5n030104J	05-904	
T03QC-15	5N04	0504S12J	05-902	
T03QC-16	2S18	2S180214J	05-820	

T-Building T03 QC Survey

RSDS# _MT-06-0525 *RCT:* [redacted] *RCT:* [redacted]

Alpha	43-68 BKG:	0	EFF:	0.21 ✓	PROBE AREA:	126	cm^2	Surface Eff:	0.5	Detector # :	1
Beta	43-68 BKG:	0	EFF:	0.16 ✓	PROBE AREA:	126	cm^2	Surface Eff:	0.5	Detector # :	2
Alpha Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:	0.5	Detector # :	3
Beta Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:	0.5	Detector # :	4

TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	item	DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	T03QC01	5920	[redacted]	5929	1	1	5/17/06	8:38	2	120	8
ALPHA	T03QC13	5920	[redacted]	5929	1	2	5/17/06	8:43	8	120	30
ALPHA	T03QC16	5920	[redacted]	5929	1	3	5/17/06	9:34	12	120	45
ALPHA	T03QC03	5920	[redacted]	5929	1	4	5/17/06	9:46	5	120	19
ALPHA	T03QC08	5920	[redacted]	5929	1	5	5/17/06	9:51	10	120	38
ALPHA	T03QC04	5920	[redacted]	5929	1	6	5/17/06	12:41	14	120	53
ALPHA	T03QC07	5920	[redacted]	5929	1	7	5/17/06	12:56	5	120	19
ALPHA	T03QC10	5920	[redacted]	5929	1	8	5/17/06	13:07	39	120	147
ALPHA	T03QC11	5920	[redacted]	5929	1	9	5/17/06	13:11	14	120	53
ALPHA	T03QC15	5920	[redacted]	5929	1	10	5/17/06	13:16	27	120	102
ALPHA	T03QC02	5920	[redacted]	5929	1	11	5/17/06	13:23	21	120	79
ALPHA	T03QC06	5920	[redacted]	5929	1	12	5/17/06	13:27	17	120	64
ALPHA	T03QC05	5920	[redacted]	5929	1	13	5/17/06	13:32	31	120	117
ALPHA	T03QC09	5920	[redacted]	5929	1	14	5/17/06	14:29	27	120	102
ALPHA	T03QC14	5920	[redacted]	5929	1	15	5/17/06	14:36	24	120	91 ✓
BETA	T03QC01	5920	[redacted]	5929	2	16	5/17/06	8:39	71	60	704
BETA	T03QC13	5920	[redacted]	5929	2	17	5/17/06	8:44	155	60	1538
BETA	T03QC16	5920	[redacted]	5929	2	18	5/17/06	9:35	170	60	1687
BETA	T03QC03	5920	[redacted]	5929	2	19	5/17/06	9:47	84	60	833
BETA	T03QC08	5920	[redacted]	5929	2	20	5/17/06	9:52	134	60	1329
BETA	T03QC04	5920	[redacted]	5929	2	21	5/17/06	12:42	396	60	3929
BETA	T03QC07	5920	[redacted]	5929	2	22	5/17/06	12:57	241	60	2391
BETA	T03QC10	5920	[redacted]	5929	2	23	5/17/06	13:08	407	60	4038
BETA	T03QC11	5920	[redacted]	5929	2	24	5/17/06	13:12	364	60	3611
BETA	T03QC15	5920	[redacted]	5929	2	25	5/17/06	13:17	410	60	4067
BETA	T03QC02	5920	[redacted]	5929	2	26	5/17/06	13:24	399	60	3958
BETA	T03QC06	5920	[redacted]	5929	2	27	5/17/06	13:28	400	60	3968
BETA	T03QC05	5920	[redacted]	5929	2	28	5/17/06	13:33	414	60	4107
BETA	T03QC09	5920	[redacted]	5929	2	29	5/17/06	14:30	399	60	3958
BETA	T03QC14	5920	[redacted]	5929	2	30	5/17/06	14:37	333	60	3304 ✓

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 1

LOCATION: (BLDG./AREA/ROOM) TBLDG Center Castle	SURVEY NO. MT-06-0595
PURPOSE: QC Survey on center CASTLE T03Q42	RWP NO. N/A
	DATE: 6/22/06
	TIME: 1400

MAP/DRAWING

READING TAKEN ON NORTH SIDE OF ROOF IN CENTER OF ROOF EDGE

COPY

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5920/5929	11/15/06
	N	

Completed by: (Signature)			Date: 6/22/06
Completed by: (Print Name) Scott Hollabaugh			
Counted by: (Signature) See attached	HP# N/A	Date: N/A	
Counted by: (Print Name)			
Reviewed/Approved by: (Signature)			Date: 6-26-06
Reviewed/Approved by: (Print Name) Jerry Taylor			

ML-0020 (2-00)

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Survey No. MT-06-0595

Page 2 of 7

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	see attached			T03QC12
		N	A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N	A	

COMMENTS: N/A

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If needed, mark N/A.

COPY

MARSSIM Smear Data

Assay Definition-

Assay Description:
MARSSIM Smear Data

Assay Type: DPM (Single)
Report Name: Report1
Output Data Path: C:\Packard\TriCarb\Results\~MARSSIMS
Raw Results Path: C:\Packard\Tricarb\Results\5801\MARSSIM_Smear_3\20060623_1725.results
Comma-Delimited File Name: C:\Packard\TriCarb\Results\~MARSSIMS\MT-06-0595.003
Assay File Name: C:\Packard\TriCarb\Assays\MARSSIM_Smear_3.1sa

Count Conditions-

Nuclide: H-3 Mound
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Set:
Low Energy: H-3 Smear
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.5	18.6	1st Vial
B	2.0	18.6	1st Vial
C	40.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: Off
Colored Samples: Off Heterogeneity Monitor: Off
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				

MT-06-0545 S1

MARSSIM Smear Data

B
C

Instrument Block Data
Machine=Tri-Carb 2900TR
Version=2.06
423022
MODEL=Tri-Carb 2900TR
VERSION=2.06
SERIAL=423022

Cycle 1 Results

DATE	TIME	S#	Count Time	CPMA	CPMB	CPMC	LUM	tSIE	DPM1	A:2S%	MESSAGES	P#
6/23/06	5:26:28 PM	-1	10.00	9	9	11	2	609.08	0	21.1	B	3
6/23/06	5:37:17 PM	0	2.00	30	28	0	4	531.77	60	29.9		3
6/23/06	5:39:59 PM	1	2.00	0	0	0	0	564.99	0	0.0		3

SH

COPY
2-84/186

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Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: Mar_173
Batch Ended: 6/23/06 14:02
Cal. Due Date: 11/17/06
Serial Number: 26966-3

Batch ID: MT-06-0595 S.HOLLABAUGH (1) AG ✓

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
AI	1	0.00 ✓	2.20		0.38 ✓	1.85	

COPY

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SH 6/26/06

FB 578

MT-06-0595

Replicate Fixed Point QC

Direct

QC ID#	Initial Smple ID#	RSDS	alpha (dpm/100cm2) initial	alpha (dpm/100cm2) replicate	beta (dpm/100cm2) initial	beta (dpm/100cm2) replicate
T03QC01	2s190102J	05-604	12	8.00	569	704.00
T03QC02	5N030109J	05-928	127	79.00	4497	3948.00
T03QC03	1N050115S	05-102	0	19.00	632	833.00
T03QC04	5N05E04J	05-897	242	53.00	3011	3929.00
T03QC05	5n030118J	05-904	87	117.00	3545	4107.00
T03QC06	5n030107J	05-904	79	64.00	4074	3968.00
T03QC07	5N050119J	05-897	65	19.00	2303	2391.00
T03QC08	1N050117S	05-102	18	38.00	770	1329.00
T03QC09	5n030116J	05-904	8	102.00	2018	3958.00
T03QC10	5NO40105J	06-0079	42	147.00	2967	4038.00
T03QC11	5NO40104J	06-0079	50	53.00	3048	3611.00
T03QC12	0504R09J	05-902	88	(a)	2827	(a)
T03QC13	2s190206J	05-635	24	30.00	1289	1538.00
T03QC14	5n030104J	05-904	74	91.00	2441	3304.00
T03QC15	0504S12J	05-902	134	102.00	3863	4067.00
T03QC16	2S180214J	05-820	95	45.00	2555	1687.00
Variance (S2) =			3757	1654	1483037	1739113
Ratio				2.271311		0.8527551
Agreement				NO		YES

(a) replicate measurement not reported on RSDS MT-06-0525

COPY

2-9/186

T-Building QC Survey T03

RSDS# __MT-06-0595__ *RCT:* [redacted] *RCT:* __N/A__

Alpha	43-68 BKG:	0	EFF:	0.21 ✓	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 1
Beta	43-68 BKG:	0	EFF:	0.16 ✓	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 2
Alpha Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # : 3
Beta Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # : 4

TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	Item	DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	T03QC12	5920	[redacted]	5929	1	1	6/22/06	13:36	19	120	72 ✓
BETA	T03QC12	5920	[redacted]	5929	2	1	6/22/06	13:38	214	60	2123 ✓

N A

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RADIOLOGICAL SURVEY DATA SHEET

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LOCATION: (BLDG./AREA/ROOM) T BLDG SEE MAPS	SURVEY NO. MT-06-0522
PURPOSE: QUALITY CONTROL CRAWLSPACE T04QC	RWP NO. N/A
	DATE: 5-15-06
	TIME: 1300

MAP / DRAWING

SEE ATTACHED

1 METER RADIUS ~~from floor to ceiling~~ ~5.2.2.0 2 α | β- AROUND SCANNED ~5.2.2.11

LOCATION from floor to ceiling.

NO ELEVATED AREAS RECORDED.

LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
K = factor of 1000
— · — · — = radiological boundary

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△# = mrem/hr neutron (#) = swipe number

[#] = air sample number (#/α) = α or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5920 | 5929	11/15/06 ✓
2350	5923 | 5925	5/12/06 ✓
	N/A	

Completed by: (Signature)		Date: 5-15-06
Completed by: (Print Name)	S. Richardson G. Hodges 4.0 nK	
Counted by: (Signature)	SEE ATTACHED	HP# N/A Date: N/A
Counted by: (Print Name)	SPECTS	
Reviewed/Approved by: (Signature)		Date: 5-23-06
Reviewed/Approved by: (Print Name)	Jerry Taylor	

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Survey No.
MT-06-0522

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RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTACHED		T04QC-04
2				T04QC-02
3				T04QC-11
4				T04QC-16
5				T04QC-08
6				T04QC-12
7				T04QC-15
8				T04QC-01
9				T04QC-14
10				T04QC-09
11				T04QC-13
12				T04QC-10
13				T04QC-05
14				T04QC-06
15				T04QC-03
16	SEE	ATTACHED		T04QC-07

N/A

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

N/A

COMMENTS: N/A

COPY

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620 (4-98)

2-94/186

Protocol# 2 - MARSSIM_Smear_2.lsa User: 5801

MARSSIM Smear Data

Assay Definition-

Assay Description:
MARSSIM Smear Data

Assay Type: DPM (Single)
Report Name: Report1
Output Data Path: D:\MARSSIM_LSC
Raw Results Path: C:\Packard\Tricarb\Results\5801\MARSSIM_Smear_2\20060517_1515.results
Comma-Delimited File Name: D:\MARSSIM_LSC\MT-06-0522.001
Assay File Name: C:\Packard\TriCarb\Assays\MARSSIM_Smear_2.lsa

Count Conditions-

Nuclide: H-3 Mound
   Quench Indicator: tSIE/AEC
   External Std Terminator (sec): 0.5 2s%
   Pre-Count Delay (min): 0.00
Quench Set:
   Low Energy: H-3 Smear
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.5	18.6	1st Vial
B	2.0	18.6	1st Vial
C	40.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: Off
Colored Samples: Off Heterogeneity Monitor: Off
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				

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MARSSIM Smear Data

B
C

Instrument Block Data
Machine=Tri-Carb 2900TR
Version=2.06
423022
MODEL=Tri-Carb 2900TR
VERSION=2.06
SERIAL=423022

Cycle 1 Results

DATE	TIME	S#	Count Time	CPMA	CPMB	CPMC	LUM	tSIE	DPM1	A:2S%	MESSAGES	P#
5/17/06	3:16:14 PM	-1	10.00	8	8	11	4	611.41	0	21.8	B	2
5/17/06	3:27:05 PM	0	2.00	58	54	0	2	541.08	112	20.2		2
5/17/06	3:29:47 PM	1	2.00	5	3	0	0	547.81	10	109.1		2
5/17/06	3:32:29 PM	2	2.00	2	2	2	5	576.63	4	245.2		2
5/17/06	3:35:12 PM	3	2.00	0	0	0	21	452.96	0	0.0		2
5/17/06	3:37:54 PM	4	2.00	1	1	0	5	573.91	2	433.2		2
5/17/06	3:40:36 PM	5	2.00	0	0	0	0	618.55	0	0.0		2
5/17/06	3:43:19 PM	6	2.00	0	0	1	0	586.23	0	0.0		2
5/17/06	3:46:08 PM	7	2.00	0	0	0	0	453.92	0	0.0		2
5/17/06	3:48:50 PM	8	2.00	0	0	1	7	601.90	0	0.0		2
5/17/06	3:51:33 PM	9	2.00	0	0	2	8	346.88	0	0.0		2
5/17/06	3:54:16 PM	10	2.00	0	0	1	10	468.09	0	0.0		2
5/17/06	3:56:58 PM	11	2.00	0	0	0	0	610.63	0	0.0		2
5/17/06	3:59:41 PM	12	2.00	4	3	0	0	581.79	7	145.6		2
5/17/06	4:02:24 PM	13	2.00	2	0	0	5	557.87	3	303.7		2
5/17/06	4:05:07 PM	14	2.00	0	0	0	8	382.83	0	0.0		2
5/17/06	4:07:50 PM	15	2.00	3	2	1	0	517.46	5	196.6		2
5/17/06	4:10:34 PM	16	2.00	3	3	0	5	583.35	5	194.3		2

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2250-96-MT

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Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: Mar_116
Batch Ended: 5/17/06 14:10
Cal. Due Date: 11/17/06
Serial Number: 26966-3

Batch ID: MT-06-0522 [16] QA SMEARS 1ST RUN, RICHARDSON/DICK 5-17-06 RLH

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	2.20		0.38	1.85	
A2	2	0.00	2.03		1.52	2.02	
A3	3	0.00	2.28		0.30	1.78	
A4	4	0.00	2.11		0.58	1.71	
B1	5	0.00	1.91		1.44	2.06	
B2	6	0.00	1.87		0.48	1.58	
B3	7	1.91	2.22		1.37	2.30	
B4	8	0.00	1.95		0.00	1.20	
C1	9	3.78	2.96		3.31	2.82	
C2	10	0.00	1.94		0.48	1.63	
C3	11	0.00	2.16		2.97	2.53	
C4	12	0.00	2.00		1.58	1.97	
D1	13	0.00	2.06		0.28	1.77	
D2	14	1.93	2.17		0.17	1.69	
D3	15	0.00	2.12		1.50	2.15	
D4	16	0.00	2.05		0.40	1.66	

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MT-06-0522

MARSSIM Smear Data

Assay Definition-

Assay Description:
MARSSIM Smear Data

Assay Type: DPM (Single)
Report Name: Report1
Output Data Path: D:\MARSSIM_LSC
Raw Results Path: C:\Packard\Tricarb\Results\5801\MARSSIM_Smear_2\20060517_1645.results
Comma-Delimited File Name: D:\MARSSIM_LSC\MT-06-0522.002
Assay File Name: C:\Packard\TriCarb\Assays\MARSSIM_Smear_2.lsa

Count Conditions-

Nuclide: H-3 Mound
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Set:
Low Energy: H-3 Smear
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.5	18.6	1st Vial
B	2.0	18.6	1st Vial
C	40.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: Off
Colored Samples: Off Heterogeneity Monitor: Off
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				

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MT-06-0522

MARSSIM Smear Data

B
C

Instrument Block Data
Machine=Tri-Carb 2900TR
Version=2.06
423022
MODEL=Tri-Carb 2900TR
VERSION=2.06
SERIAL=423022

Cycle 1 Results

DATE	TIME	S#	Count Time	CPMA	CPMB	CPMC	LUM	tSIE	DPM1	A:2S%	MESSAGES	P#
5/17/06	4:46:18 PM	-1	10.00	7	7	12	4	614.33	0	23.6	B	2
5/17/06	4:57:08 PM	0	2.00	51	46	0	3	543.51	98	21.5		2
5/17/06	4:59:50 PM	1	2.00	2	2	0	5	523.58	5	203.4		2
5/17/06	5:02:32 PM	2	2.00	4	3	0	9	571.29	8	118.3		2
5/17/06	5:05:14 PM	3	2.00	2	1	1	11	399.87	5	223.4		2
5/17/06	5:07:57 PM	4	2.00	2	2	0	5	547.27	4	206.1		2
5/17/06	5:10:40 PM	5	2.00	1	2	0	0	607.43	2	356.3		2
5/17/06	5:13:22 PM	6	2.00	1	0	0	0	531.12	2	372.5		2
5/17/06	5:16:11 PM	7	2.00	0	0	0	0	445.73	0	0.0		2
5/17/06	5:18:54 PM	8	2.00	3	2	0	0	590.91	5	170.8		2
5/17/06	5:21:37 PM	9	2.00	0	0	1	11	321.40	0	0.0		2
5/17/06	5:24:20 PM	10	2.00	2	2	0	0	434.43	4	253.9		2
5/17/06	5:27:03 PM	11	2.00	3	3	0	0	602.87	6	152.2		2
5/17/06	5:29:47 PM	12	2.00	1	2	0	0	578.69	2	347.2		2
5/17/06	5:32:30 PM	13	2.00	3	2	0	0	509.14	5	180.7		2
5/17/06	5:35:14 PM	14	2.00	3	4	0	5	348.03	9	144.3		2
5/17/06	5:37:57 PM	15	2.00	3	3	0	5	498.89	6	162.9		2
5/17/06	5:40:40 PM	√16	2.00	3	3	0	5	572.11	6	148.1		2

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MT-06-052

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: Mar_117
Batch Ended: 5/17/06 14:13
Cal. Due Date: 11/17/06
Serial Number: 26966-3

Batch ID: MT-06-0522 [16] QA SMEARS 2ND RUN, RICHARDSON/DICK 5-17-06 RLH

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	2.18		0.00	1.31	
A2	2	1.79	2.02		0.20	1.65	
A3	3	0.00	2.26		0.00	1.27	
A4	4	1.90	2.14		2.83	2.41	
B1	5	0.00	1.89		0.25	1.68	
B2	6	0.00	1.85		0.00	1.12	
B3	7	0.00	2.18		0.00	1.33	
B4	8	0.00	1.95		0.00	1.20	
C1	9	0.00	2.08		0.00	1.78	
C2	10	0.00	1.93		0.00	1.16	
C3	11	0.00	2.15		1.71	2.19	
C4	12	0.00	1.99		0.45	1.61	
D1	13	0.00	2.06		0.28	1.77	
D2	14	1.93	2.16		0.00	1.20	
D3	15	0.00	2.10		0.26	1.76	
D4	16	0.00	2.05		0.40	1.66	

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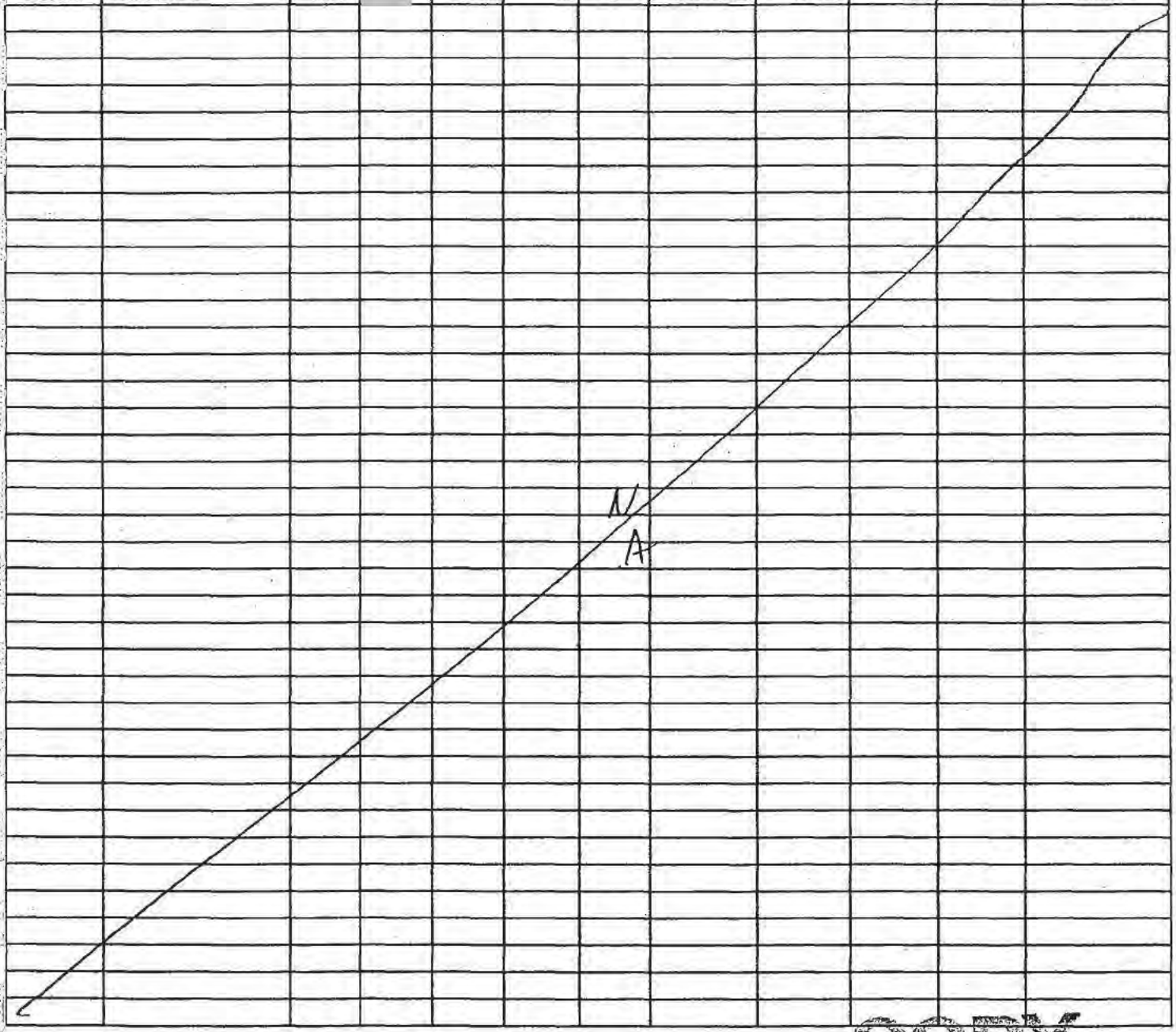
MT-06-0522

T-Building QC of crawlspace

RSDS# MT-06-0522 RCT: [redacted] RCT: [redacted]

Alpha	43-68 BKG:	0	EFF:	0.21 ✓	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 1
Beta	43-68 BKG:	0	EFF:	0.16 ✓	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 2
Alpha Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # : 3
Beta Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # : 4

TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	item	DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	T04QC04	5920	[redacted]	5929	1	1	5/15/06	10:20	15	120	57
ALPHA	T04QC02	5920	[redacted]	5929	1	2	5/15/06	12:18	6	120	23 ✓
BETA	T04QC04	5920	[redacted]	5929	2	1	5/15/06	10:21	113	60	1121
BETA	T04QC02	5920	[redacted]	5929	2	2	5/15/06	12:19	195	60	1935 ✓



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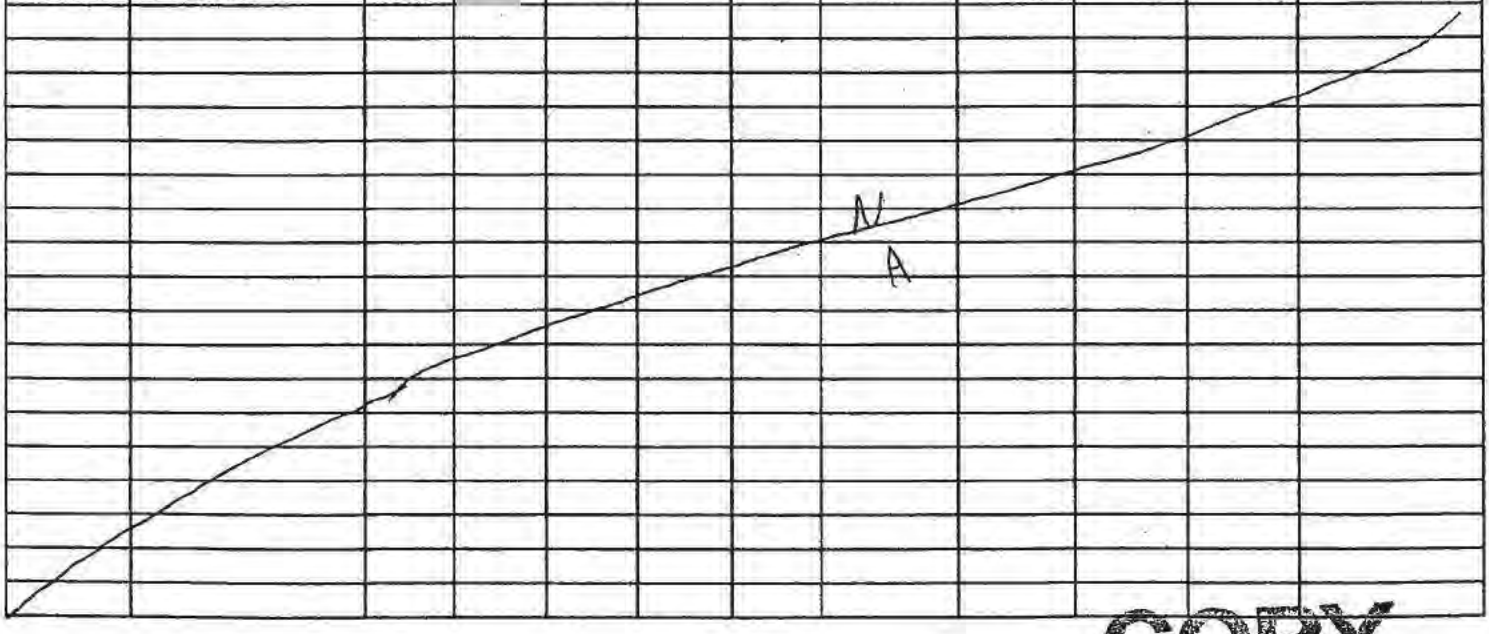
T-Building Quality control crawlspace

RSDS# MT-06-0522 *RCT:* [redacted] *RCT:* [redacted]

Alpha	43-68 BKG:	0	EFF:	0.2073 ✓	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 1
Beta	43-68 BKG:	0	EFF:	0.1578 ✓	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 2
Alpha Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # : 3
Beta Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # : 4

TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	item	DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	T04QC11	5923	[redacted]	5925	1	3	5/16/06	8:28	7	120	27
ALPHA	T04QC16	5923	[redacted]	5925	1	4	5/16/06	10:06	4	120	15
ALPHA	T04QC08	5923	[redacted]	5925	1	5	5/16/06	12:15	13	120	50
ALPHA	T04QC12	5923	[redacted]	5925	1	6	5/16/06	12:27	9	120	34
ALPHA	T04QC15	5923	[redacted]	5925	1	7	5/16/06	12:56	10	120	38
ALPHA	T04QC01	5923	[redacted]	5925	1	8	5/17/06	7:28	6	120	23
ALPHA	T04QC14	5923	[redacted]	5925	1	9	5/17/06	7:47	7	120	27
ALPHA	T04QC09	5923	[redacted]	5925	1	10	5/17/06	7:55	11	120	42
ALPHA	T04QC13	5923	[redacted]	5925	1	11	5/17/06	8:13	8	120	31
ALPHA	T04QC10	5923	[redacted]	5925	1	12	5/17/06	8:28	8	120	31
ALPHA	T04QC05	5923	[redacted]	5925	1	13	5/17/06	10:17	14	120	54
ALPHA	T04QC06	5923	[redacted]	5925	1	14	5/17/06	10:22	8	120	31 ✓
BETA	T04QC11	5923	[redacted]	5925	2	3	5/16/06	8:30	122	60	1227
BETA	T04QC16	5923	[redacted]	5925	2	4	5/16/06	10:07	90	60	905
BETA	T04QC08	5923	[redacted]	5925	2	5	5/16/06	12:16	161	60	1619
BETA	T04QC12	5923	[redacted]	5925	2	6	5/16/06	12:28	158	60	1589
BETA	T04QC15	5923	[redacted]	5925	2	7	5/16/06	12:57	104	60	1046
BETA	T04QC01	5923	[redacted]	5925	2	8	5/17/06	7:29	88	60	885
BETA	T04QC14	5923	[redacted]	5925	2	9	5/17/06	7:48	123	60	1237
BETA	T04QC09	5923	[redacted]	5925	2	10	5/17/06	7:56	164	60	1650
BETA	T04QC13	5923	[redacted]	5925	2	11	5/17/06	8:14	146	60	1469
BETA	T04QC10	5923	[redacted]	5925	2	12	5/17/06	8:29	115	60	1157
BETA	T04QC05	5923	[redacted]	5925	2	13	5/17/06	10:18	214	60	2153
BETA	T04QC06	5923	[redacted]	5925	2	14	5/17/06	10:23	100	60	1006 ✓



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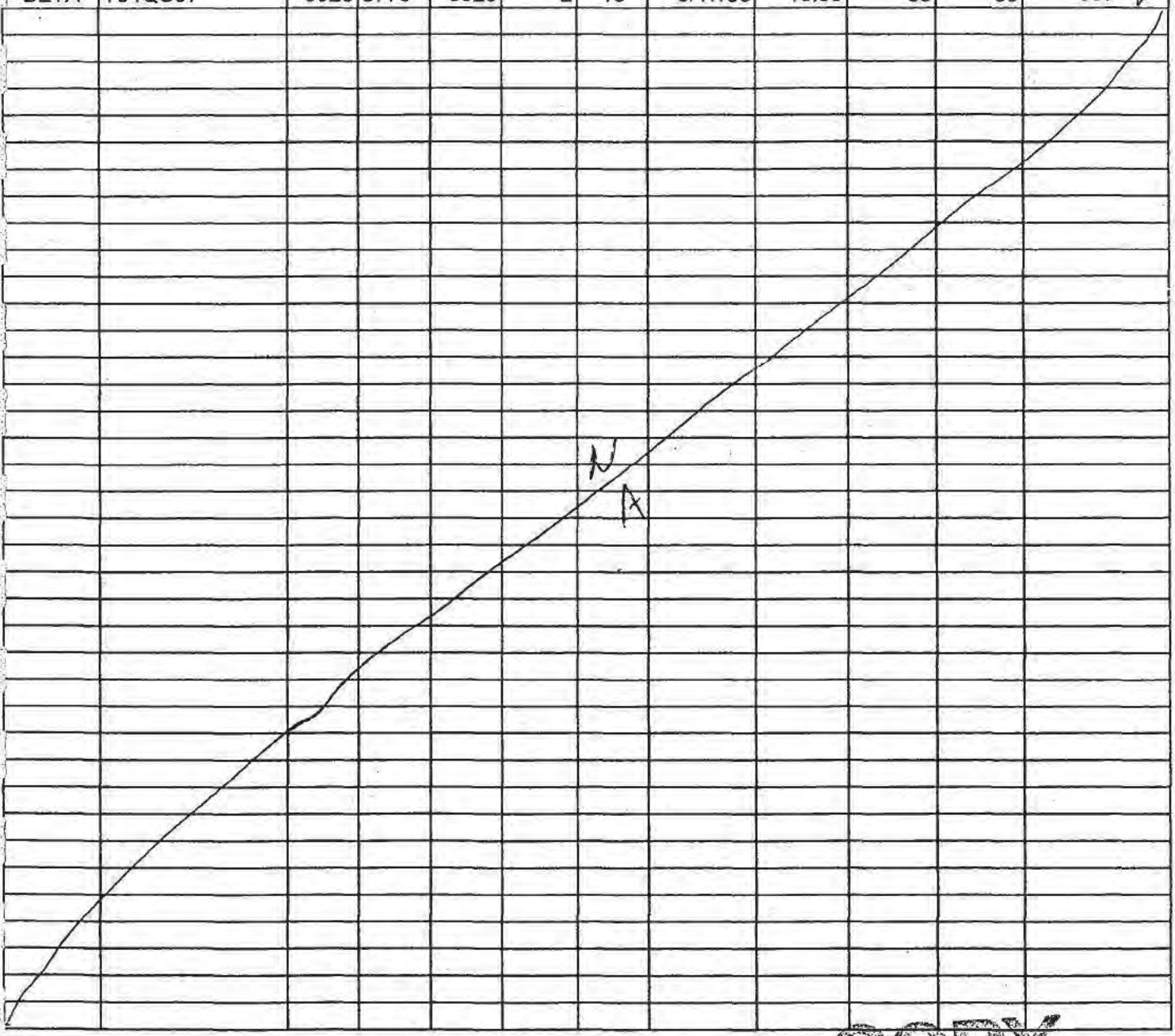
T-Building Quality control crawlspace

RSDS# MT-06-0522 *RCT:* [redacted] *RCT:* [redacted]

Alpha	43-68 BKG:	0	EFF:	0.2073 ✓	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 1
Beta	43-68 BKG:	0	EFF:	0.1578 ✓	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 2
Alpha Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # : 3
Beta Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # : 4

TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	item	DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	T04QC03	5923	[redacted]	5925	1	15	5/17/06	10:24	8	120	31
ALPHA	T04QC07	5923	[redacted]	5925	1	16	5/17/06	10:38	4	120	15 ✓
BETA	T04QC03	5923	[redacted]	5925	2	15	5/17/06	10:25	161	60	1619
BETA	T04QC07	5923	0776	5925	2	16	5/17/06	10:39	80	60	805 ✓



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T-04 QC samples

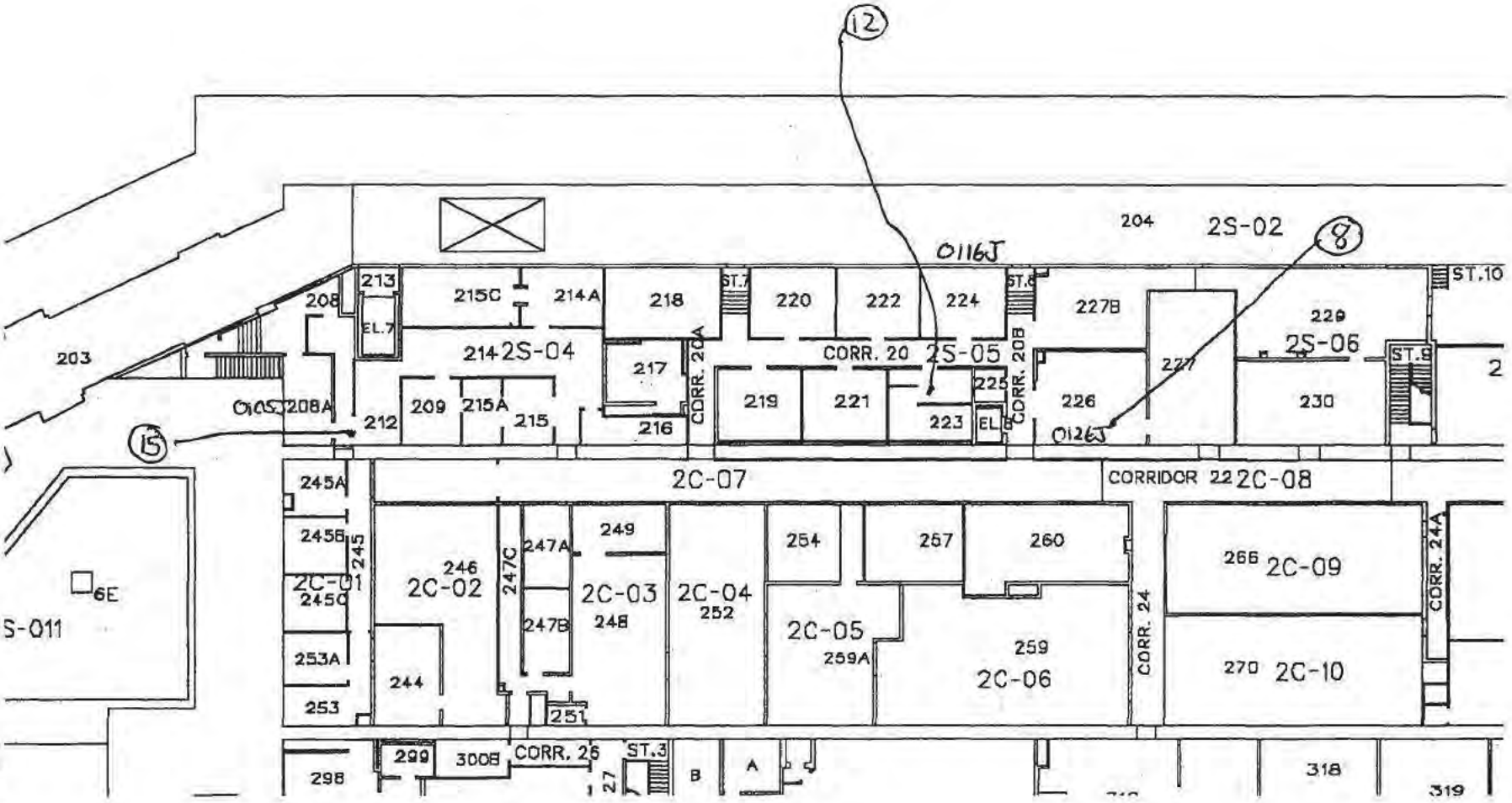
scan approximately 10 % of the total area
This is approximately a 100ft^2 around each static measurement location
1 meter radius scanning everything from floor to ceiling

QC ID#	SU#	Original Sample ID#	Original RSDS #	Room #
T04QC-01	2CS0201	2CS020112S	687	N/A
T04QC-02	1CS0301	1CS030108J	906	
T04QC-03	2CS0301	2CS030119S	385	
T04QC-04	1CS0301	1CS030108S	906	
T04QC-05	2CS0301	2CS030129J	385	
T04QC-06	2CS0301	2CS030113S	385	
T04QC-07	2CS0301	2CS030106J	307	
T04QC-08	2cs0101	2CS010126J	886	
T04QC-09	2CS0102	2cs010204J	668	
T04QC-10	2CS0303	2CS030322J	611	
T04QC-11	1CS0201	1CS020106J	728	
T04QC-12	2cs0101	2CS010116J	886	
T04QC-13	2CS0302	2CS030206J	393	
T04QC-14	2CS0102	2CS010201J	668	
T04QC-15	2cs0101	2CS010105J	844	
T04QC-16	2CS0202	2CS020212J	711	N/A

SEE MAPS

2CS-01-01
2nd floor southeast crawlspace

scan approximately 10 % of the total area
1 meter radius scanning everything from floor to ceiling
at judgmentals measurement locations



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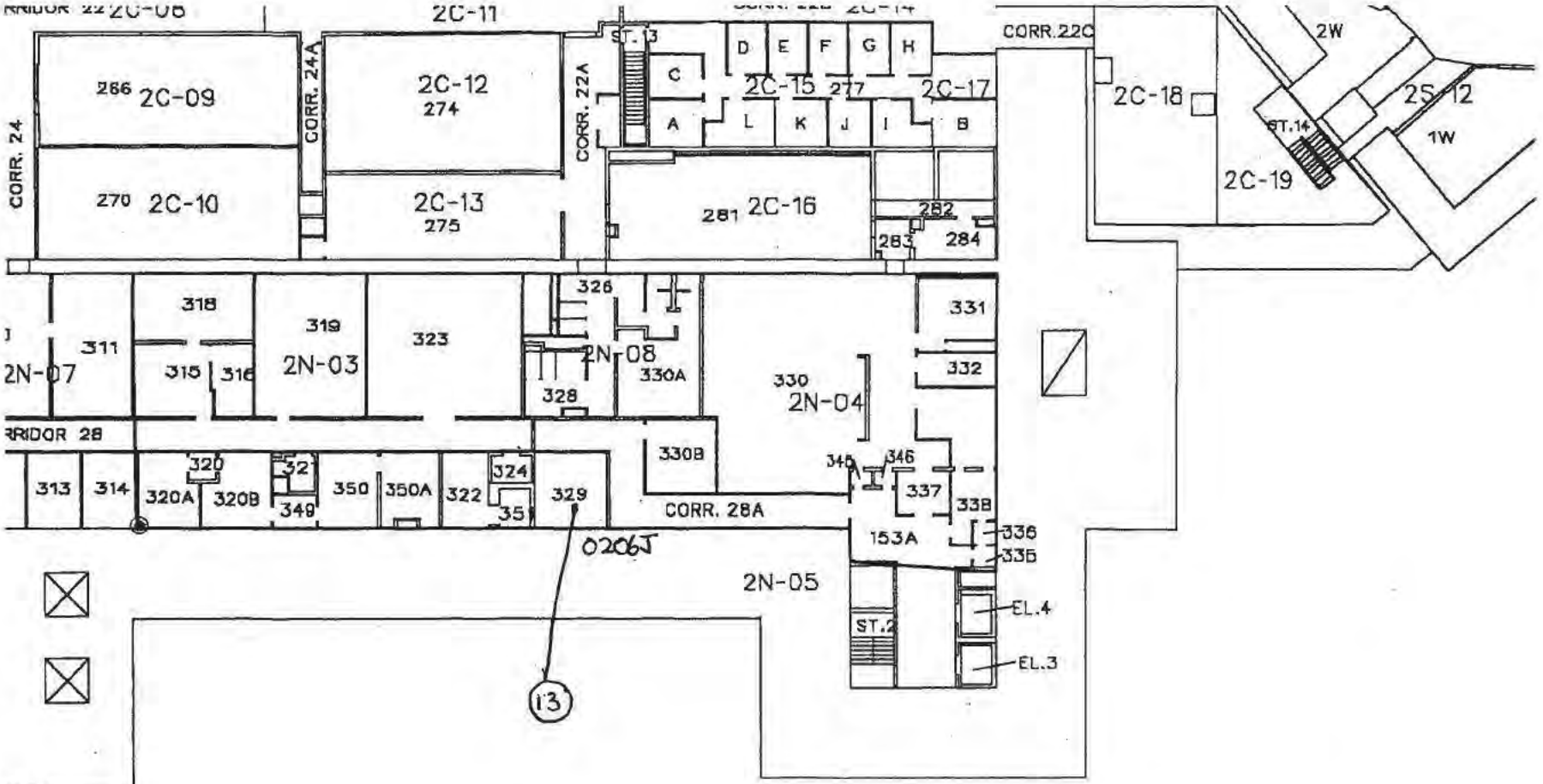
MT-06-0522

2CS-03-02
2nd floor northwest crawlspace

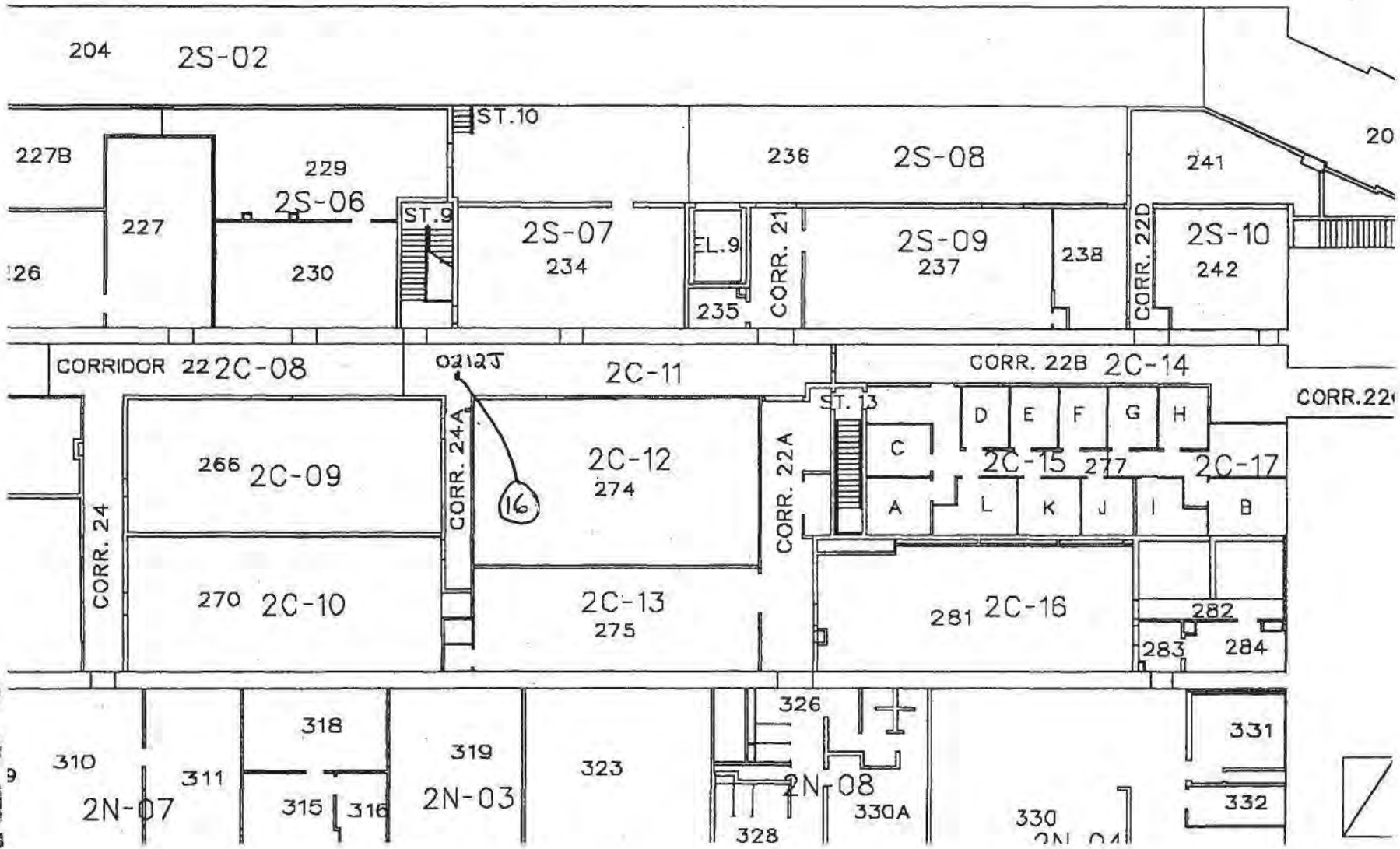


COPY

2-106/186

Pg 14 OF 21
mt-06-052

2CS-02-2 **Judgmentals (minimum of 30)**
2nd floor center west crawlspace



COPY

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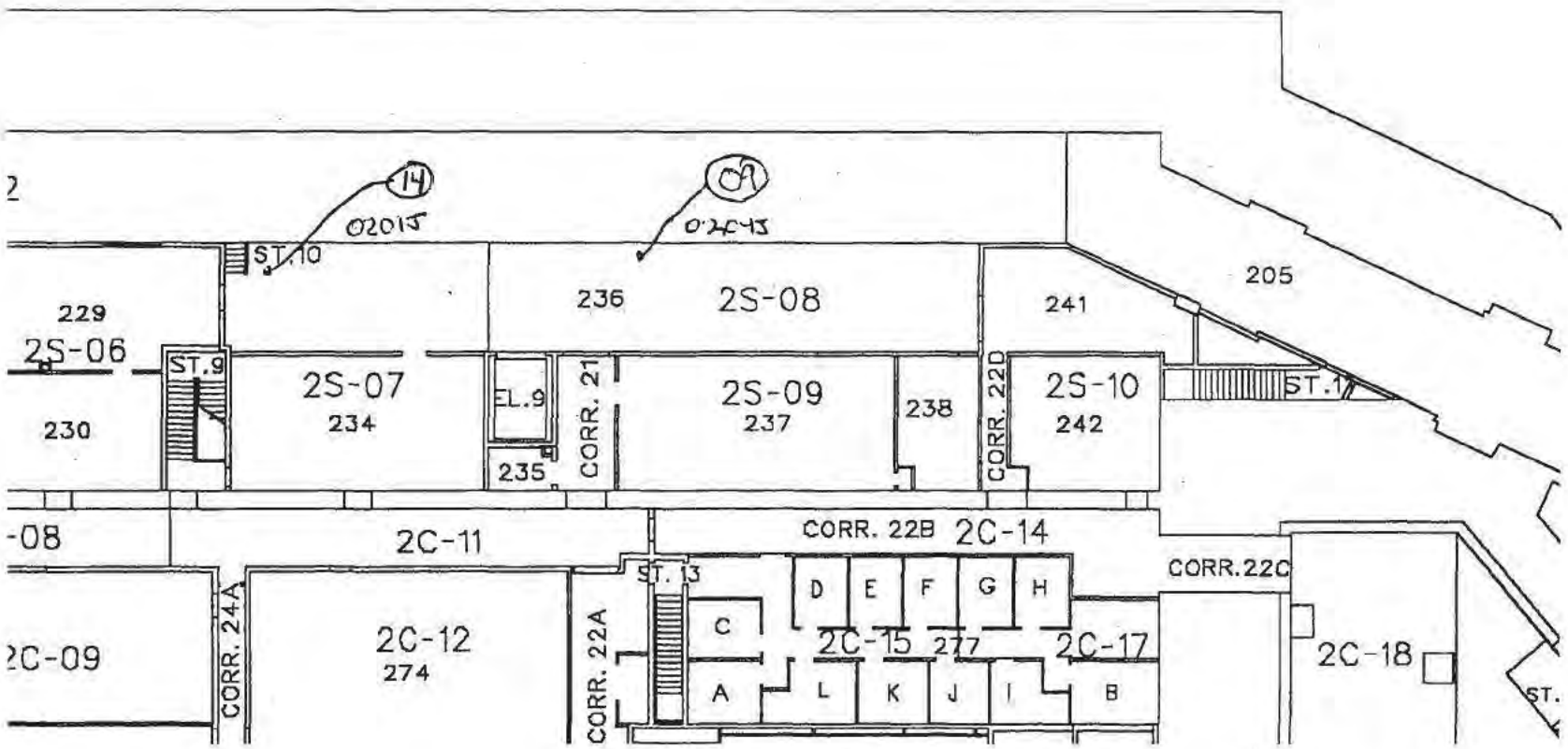
MT-06-0522

2CS-01-02
2nd floor southwest crawlspace



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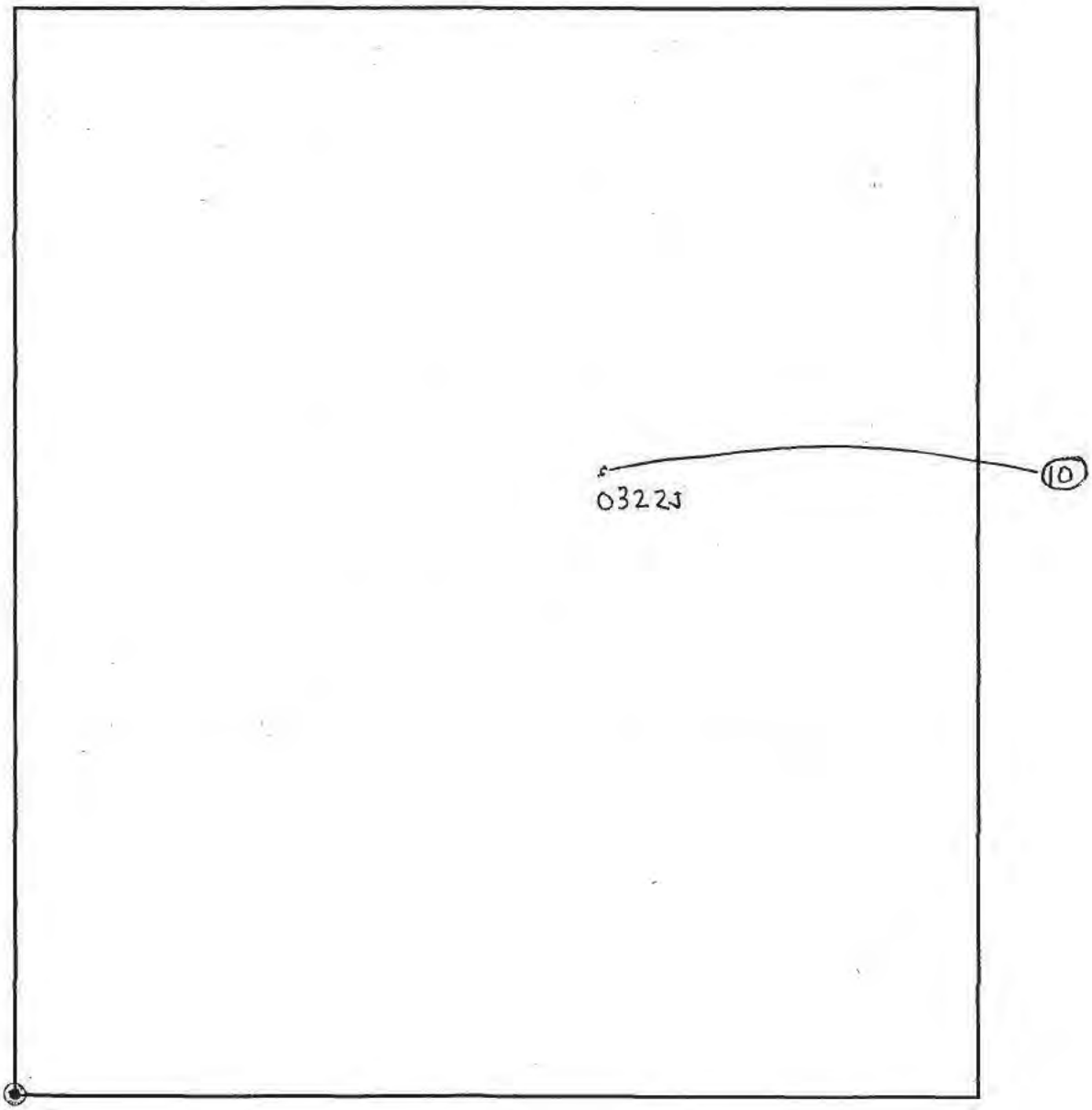
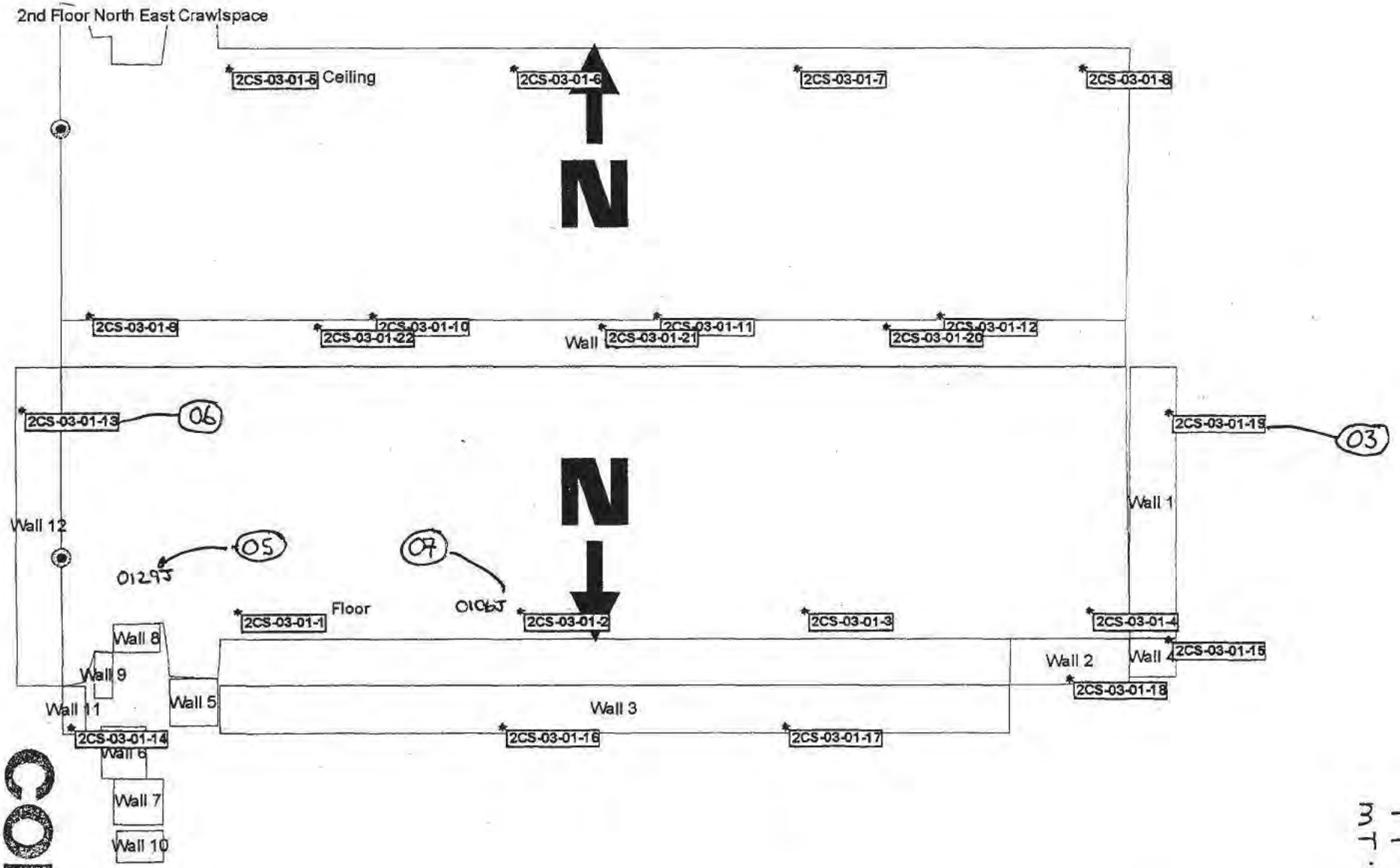
2-100/186

2CS-3-03 judgmental minimum 30
area around crawlspace opening above room 350



COPY

2-109/186



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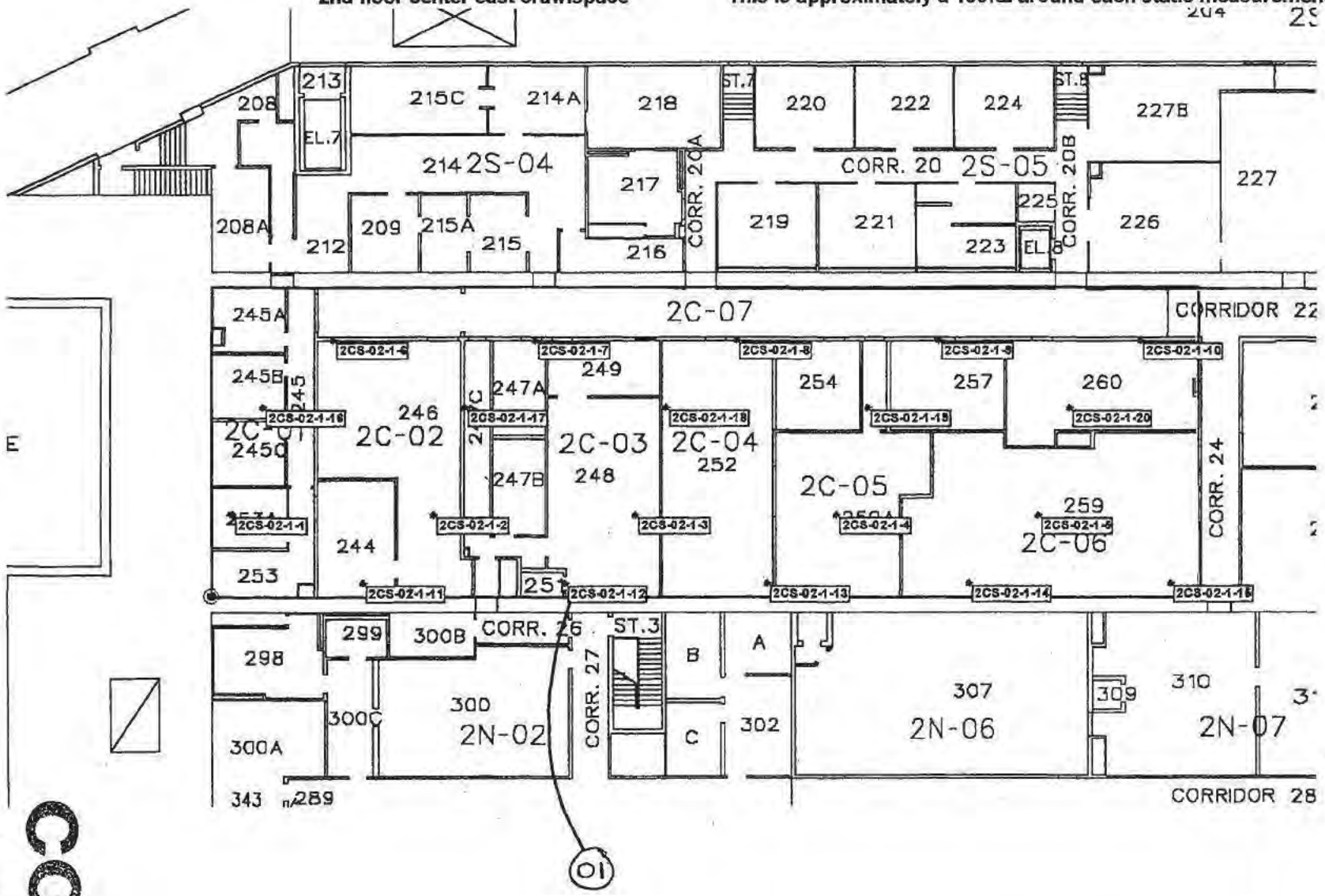
2-110/186

Pg 18 of 21
MT.06.0522

2CS-02-01
2nd floor center east crawlspace

scan approximately 10 % of the total area
This is approximately a 100ft2 around each static measurement location



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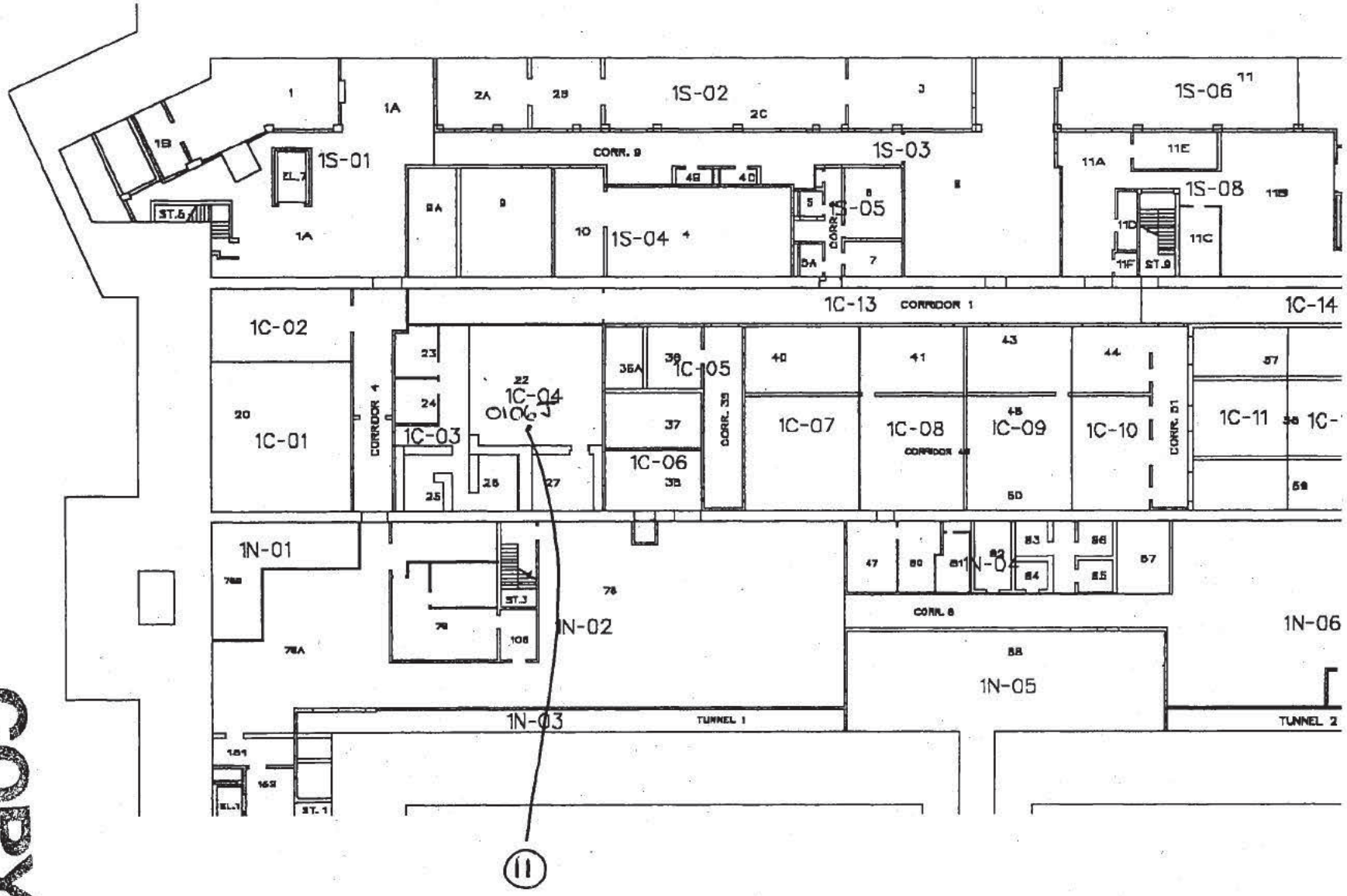
2-111/186

PG 19 OF 21
MT-06, 6522

1CS-02-01
1st floor east center crawlspace
scan approximately 10 % of the total area
This is approximately a 100ft2 around each static measurement location



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MT '06.0522

Pg 21 of 21
MT-06.0522

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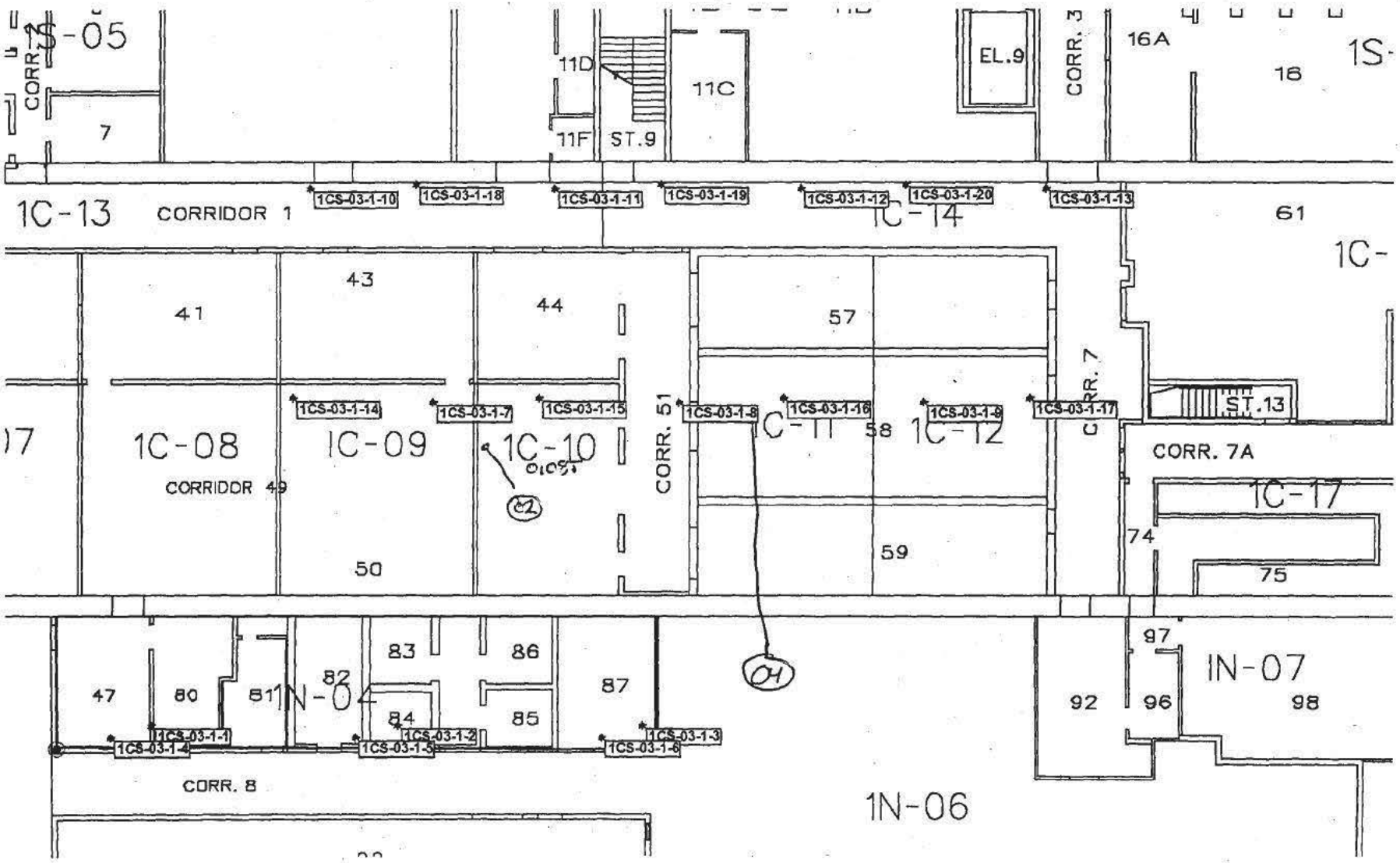
2-113/186

1CS-03-01
1st floor center and north bay crawlspace



WR 5/18/06

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) T BLD 6 Rms 2A & 37	SURVEY NO. MT-06-0432
PURPOSE: QC SURVEY ON 1 sump IN Rm 2A and 1 sump in Rm 37	RWP NO. N/A
	DATE: 4/17/06
	TIME: 1245

MAP / DRAWING

See attached map

LEGEND:

= mrem/hr (γ) whole body

#E = mrem/hr (β+η+γ) extremity on contact

K = factor of 1000

—·—·— = radiological boundary

COPY

(#) = mrem/hr neutron

(#) = swipe number

[#] = air sample number

(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5895/5896	3/23/07 ✓

Completed by: (Signature) Wayne Jones	HP#	Date: 4/17/06
Completed by: (Print Name) John Beko WAYNE JONES		
Counted by: (Signature) See attached	HP# N/A	Date: N/A
Counted by: (Print Name)		
Reviewed/Approved by: (Signature)		Date: 6-7-06
Reviewed/Approved by: (Print Name) Jerry Taylor 2-114/186		

Survey No.
MT-06-0432

ws 5/18/00
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RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	see	attached		T06QC-02
2				T06QC-06
3				T06QC-10
4				T06QC-11
5				T06QC-12
6				T06QC-14
7				T06QC-08
		N	A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N	A	

COPY

COMMENTS:
N
A

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620 (4-98)

2-115/186

MT-06-0432 Pg 3 of 10

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: Mar_109
Batch Ended: 5/16/06 13:01
Cal. Due Date: 11/17/06
Serial Number: 26966-3

Batch ID: MT-06-0432 [7] QA SMEARS 1ST RUN, W. JONES 5-16-06 RLH

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
B1	1	0.00	1.91		1.44	2.06	
B2	2	0.00	1.85		0.00	1.12	
B3	3	0.00	2.18		0.00	1.33	
B4	4	0.00	1.95		0.00	1.20	
C1	5	1.73	2.10		0.95	2.18	
C2	6	1.61	1.94		0.32	1.63	
C3	7	0.00	2.12		0.00	1.27	

WJ WJ

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2-11/9/186

Protocol# 2 - MARSSIM_Smear_2.lsa

User: 5801

MT-06-0432 Pg 5 of 10 Pg 4 of 10

MARSSIM Smear Data

Assay Definition-

Assay Description:
MARSSIM Smear Data

Assay Type: DPM (Single)
Report Name: Report1
Output Data Path: D:\MARSSIM_LSC
Raw Results Path: C:\Packard\Tricarb\Results\5801\MARSSIM_Smear_2\20060516_1355.results
Comma-Delimited File Name: D:\MARSSIM_LSC\MT-06-0432.002 ✓
Assay File Name: C:\Packard\TriCarb\Assays\MARSSIM_Smear_2.lsa

Count Conditions-

Nuclide: H-3 Mound
  Quench Indicator: tSIE/AEC
  External Std Terminator (sec): 0.5 2s%
  Pre-Count Delay (min): 0.00
Quench Set:
  Low Energy: H-3 Smear
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.5	18.6	1st Vial
B	2.0	18.6	1st Vial
C	40.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: Off
Colored Samples: Off Heterogeneity Monitor: Off
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				

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981/211 - 93

Protocol# 2 - MARSSIM_Smear_2.1sa User: 5801

MARSSIM Smear Data

B
C

Instrument Block Data
Machine=Tri-Carb 2900TR
Version=2.06
423022
MODEL=Tri-Carb 2900TR
VERSION=2.06
SERIAL=423022

Cycle 1 Results

DATE	TIME	S#	Count Time	CPMA	CPMB	CPMC	LUM	tSIE	DPM1	A:2S%	MESSAGES	P#
5/16/06	1:56:05 PM	-1	10.00	9	9	11	5	612.67	0	20.9	B	2
5/16/06	2:06:56 PM	0	2.00	50	48	0	3	540.46	97	22.2		2
5/16/06	2:09:40 PM	1	2.00	76	39	0	80	548.55	147	17.4		2
5/16/06	2:12:24 PM	2	2.00	16	4	1	84	618.33	29	46.6		2
5/16/06	2:15:06 PM	3	2.00	14	13	0	2	568.58	26	50.9		2
5/16/06	2:17:51 PM	4	2.00	19	11	0	77	546.12	36	41.0		2
5/16/06	2:20:33 PM	5	2.00	0	0	0	29	603.55	0	0.0		2
5/16/06	2:23:17 PM	6	2.00	55	30	0	85	547.74	107	20.9		2
5/16/06	2:26:02 PM	7	2.00	81	35	0	82	570.88	153	16.8		2

WD

MT-06-0432 Ref 0185

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2-118/186

MT-06-0432 PB 6/8/10

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: Mar_110
Batch Ended: 5/16/06 13:03
Cal. Due Date: 11/17/06
Serial Number: 26966-3

Batch ID: MT-06-0432 [7] QA SMEARS 2ND RUN, W. JONES 5-16-06 RLH

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
B1	1	0.00	1.91		1.44	2.06	
B2	2	0.00	1.87		0.48	1.58	
B3	3	0.00	2.18		0.00	1.33	
B4	4	0.00	1.97		0.66	1.69	
C1	5	0.00	2.09		1.11	2.18	
C2	6	0.00	1.93		0.00	1.16	
C3	7	0.00	2.14		0.45	1.79	

WJ WJ

981/611-2

R

MT-06-0432 PS 7 of 10

MARSSIM Smear Data

Assay Definition-

Assay Description:
MARSSIM Smear Data

Assay Type: DPM (Single)
Report Name: Report1
Output Data Path: D:\MARSSIM_LSC
Raw Results Path: C:\Packard\Tricarb\Results\5801\MARSSIM_Smear_2\20060516_1604.results
Comma-Delimited File Name: D:\MARSSIM_LSC\MT-06-0432.003
Assay File Name: C:\Packard\TriCarb\Assays\MARSSIM_Smear_2.lsa

Count Conditions-

Nuclide: H-3 Mound
  Quench Indicator: tSIE/AEC
  External Std Terminator (sec): 0.5 2s%
  Pre-Count Delay (min): 0.00
Quench Set:
  Low Energy: H-3 Smear
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.5	18.6	1st Vial
B	2.0	18.6	1st Vial
C	40.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: Off
Colored Samples: Off Heterogeneity Monitor: Off
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				

981/021-2

COPY

MARSSIM Smear Data

B
C

Instrument Block Data
Machine=Tri-Carb 2900TR
Version=2.06
423022
MODEL=Tri-Carb 2900TR
VERSION=2.06
SERIAL=423022

Cycle 1 Results

DATE	TIME	S#	Count Time	CPMA	CPMB	CPMC	LUM	tSIE	DPM1	A:2S%	MESSAGES	P#
5/16/06	4:04:46 PM	-1	10.00	8	8	11	7	607.74	0	22.1	B	2
5/16/06	4:15:34 PM	0	2.00	44	42	0	4	540.63	86	23.6		2
5/16/06	4:18:18 PM	1	2.00	21	14	0	62	494.65	43	37.0		2
5/16/06	4:21:02 PM	2	2.00	8	6	0	36	592.46	15	74.4		2
5/16/06	4:23:45 PM	3	2.00	10	9	0	0	548.00	19	64.0		2
5/16/06	4:26:29 PM	4	2.00	1	1	0	33	529.92	2	443.9		2
5/16/06	4:29:12 PM	5	2.00	0	0	0	13	564.07	0	0.0		2
5/16/06	4:31:55 PM	6	2.00	11	5	2	62	508.48	22	58.2		2
5/16/06	4:34:40 PM	7	2.00	15	7	0	53	533.79	29	47.6		2

MT-06-0432 PS 8/8/10

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2 - 12/1/86

QC SURVEY T-06

MT-06-0432

W9 5/18/06
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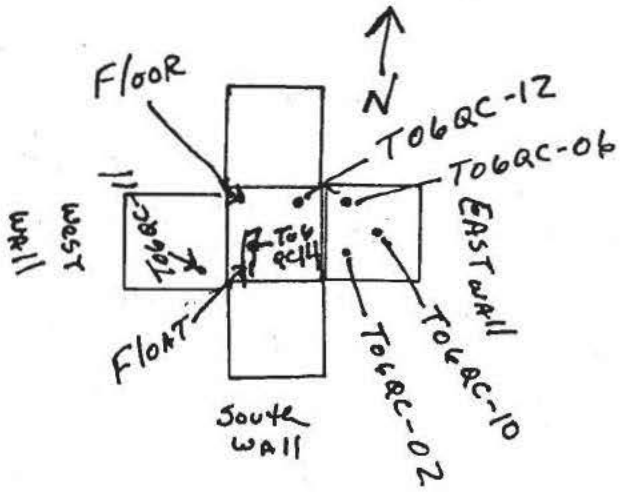
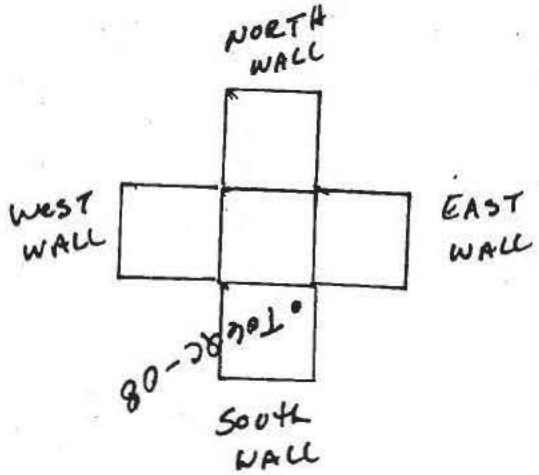
Rm 2A



Rm 37



2-122/186

T-Building T-06 QC Survey Sumps in RM. 2A and 37

RSDS# ___*MT-06-0432*___ *RCT:* ___[redacted]___ *RCT:* ___*N/A*___

Alpha	43-68 BKG:	0	EFF:	0.21 ✓	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector #: 1
Beta	43-68 BKG:	0	EFF:	0.163 ✓	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector #: 2
Alpha Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector #: 3
Beta Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector #: 4

TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	Item	DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	T06QC02	5895	[redacted]	5896	1	1	4/17/06	9:30	14	120	53
ALPHA	T06QC06	5895	[redacted]	5896	1	2	4/17/06	9:34	7	120	26
ALPHA	T06QC10	5895	[redacted]	5896	1	3	4/17/06	9:38	9	120	34
ALPHA	T06QC11	5895	[redacted]	5896	1	4	4/17/06	9:41	7	120	26
ALPHA	T06QC12	5895	[redacted]	5896	1	5	4/17/06	9:46	7	120	26
ALPHA	T06QC14	5895	[redacted]	5896	1	6	4/17/06	9:49	8	120	30
ALPHA	T06QC08	5895	[redacted]	5896	1	7	4/17/06	9:59	10	120	38 ✓
BETA	T06QC02	5895	[redacted]	5896	2	1	4/17/06	9:31	127	60	1237
BETA	T06QC06	5895	[redacted]	5896	2	2	4/17/06	9:35	124	60	1208
BETA	T06QC10	5895	[redacted]	5896	2	3	4/17/06	9:39	118	60	1149
BETA	T06QC11	5895	[redacted]	5896	2	4	4/17/06	9:42	130	60	1266
BETA	T06QC12	5895	[redacted]	5896	2	5	4/17/06	9:47	138	60	1344
BETA	T06QC14	5895	[redacted]	5896	2	6	4/17/06	9:50	73	60	711
BETA	T06QC08	5895	[redacted]	5896	2	7	4/17/06	10:00	137	60	1334 ✓

N
A

WP 5/18/06

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2-123/186

RADIOLOGICAL SURVEY DATA SHEET

W2 5/18/06

LOCATION: (BLDG./AREA/ROOM) T BLDG Rm 1 & 1A 190	SURVEY NO. MT-06-0435
PURPOSE: QC Survey in Sump and Fuel Cell ISO 1A SYSPRS215	RWP NO. N/A
	DATE: 4/18/06
	TIME: 1225

MAP / DRAWING

See attached map

LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
K = factor of 1000
— · — · — = radiological boundary

COPY

△# = mrem/hr neutron
(#) = swipe number
[#] = air sample number
(#/α) = or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5895/5896	3/23/07
2350	5922/5926	5/18/06

Completed by: (Signature) Wayne Jones	HP# [redacted]	Date: 4/18/06	
Completed by: (Print Name) WAYNE JONES			
Counted by: (Signature) See attached	HP# N/A	Date: N/A	
Counted by: (Print Name) ↓			
Reviewed/Approved by: (Signature) Jerry Taylor	[redacted]	Date: 4/20/06	
Reviewed/Approved by: (Print Name) Jerry Taylor			

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WP 5/18/06

Survey No.
MT-06-0435

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	See attached			T06QC-15
2				T06QC-03
3				T06QC-04
4				T06QC-05
5				T06QC-07
6				T06QC-09
7				T06QC-16
8				T06QC-01
9				T06QC-13
	N/A		N/A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N/A	N/A	

COMMENTS: N/A

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

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MT-06-0435

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: Mar_111
Batch Ended: 5/16/06 13:08
Cal. Due Date: 11/17/06
Serial Number: 26966-3

Batch ID: MT-06-0435 [9] QA SMEARS 1ST RUN, W. JONES 5-16-06 RLH

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
B1	1	0.00	1.87		0.00	1.20	
B2	2	1.69	1.89		1.39	1.93	
B3	3	0.00	2.18		0.00	1.34	
B4	4	0.00	1.97		0.66	1.69	
C1	5	1.73	2.10		0.95	2.18	
C2	6	0.00	1.95		1.63	1.99	
C3	7	2.02	2.14		0.30	1.79	
C4	8	0.00	1.99		0.45	1.61	
D1	9	0.00	2.05		0.00	1.26	

WJ WJ

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2-12-9/186

MARSSIM Smear Data

Assay Definition-

Assay Description:
MARSSIM Smear Data

Assay Type: DPM (Single)
Report Name: Report1
Output Data Path: C:\Packard\TriCarb\Results\~MARSSIMS
Raw Results Path: C:\Packard\Tricarb\Results\5801\MARSSIM_Smear_3\20060516_1428.results
Comma-Delimited File Name: C:\Packard\TriCarb\Results\~MARSSIMS\MT-06-0435.001
Assay File Name: C:\Packard\TriCarb\Assays\MARSSIM_Smear_3.lsa

Count Conditions-

Nuclide: H-3 Mound
  Quench Indicator: tSIE/AEC
  External Std Terminator (sec): 0.5 2s%
  Pre-Count Delay (min): 0.00
Quench Set:
  Low Energy: H-3 Smear
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.5	18.6	1st Vial
B	2.0	18.6	1st Vial
C	40.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: Off
Colored Samples: Off Heterogeneity Monitor: Off
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				

PS 4/6/17
MT-06-0435
COPY 2-12/186
RL

MARSSIM Smear Data

B
C

Instrument Block Data
Machine=Tri-Carb 2900TR
Version=2.06
423022
MODEL=Tri-Carb 2900TR
VERSION=2.06
SERIAL=423022

Cycle 1 Results

DATE	TIME	S#	Count Time	CPMA	CPMB	CPMC	LUM	tSIE	DPM1	A:2S%	MESSAGES	P#
5/16/06	2:29:22 PM	-1	10.00	7	7	12	12	618.61	0	23.4	B	3
5/16/06	2:40:11 PM	0	2.00	217	205	0	1	555.98	417	9.8		3
5/16/06	2:42:53 PM	1	2.00	2	2	0	0	562.47	4	216.1		3
5/16/06	2:45:36 PM	2	2.00	4	5	0	0	636.90	7	122.2		3
5/16/06	2:48:18 PM	3	2.00	0	1	0	0	585.03	0	2530.5		3
5/16/06	2:51:02 PM	4	2.00	0	0	0	0	604.70	0	0.0		3
5/16/06	2:53:45 PM	5	2.00	0	1	0	0	641.45	0	1955.3		3
5/16/06	2:56:28 PM	6	2.00	7	7	0	0	611.29	12	83.4		3
5/16/06	2:59:12 PM	7	2.00	0	0	0	0	580.78	0	0.0		3
5/16/06	3:01:54 PM	8	2.00.	3	3	0	0	576.59	6	154.5		3
5/16/06	3:04:37 PM	9	2.00	2	3	0	0	608.10	4	217.4		3

WP

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MT-06-0435

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: Mar_112
Batch Ended: 5/16/06 13:11
Cal. Due Date: 11/17/06
Serial Number: 26966-3

Batch ID: MT-06-0435 [9] QA SMEARS 2ND RUN, W. JONES 5-16-06 RLH

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
B1	1	0.00	1.87		0.00	1.20	
B2	2	0.00	1.89		1.59	1.93	
B3	3	0.00	2.18		0.00	1.34	
B4	4	0.00	1.97		0.66	1.69	
C1	5	0.00	2.08		0.00	1.78	
C2	6	0.00	1.93		0.00	1.16	
C3	7	0.00	2.16		2.97	2.53	
C4	8	3.60	2.81		1.28	1.97	
D1	9	0.00	2.05		0.00	1.26	

wg wg

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Page ~~1 of 1~~ wg
5/18/06

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MARSSIM Smear Data

Assay Definition-

Assay Description:
MARSSIM Smear Data

Assay Type: DPM (Single)
Report Name: Report1
Output Data Path: C:\Packard\TriCarb\Results\~MARSSIMS
Raw Results Path: C:\Packard\Tricarb\Results\5801\MARSSIM_Smear_3\20060516_1637.results
Comma-Delimited File Name: C:\Packard\TriCarb\Results\~MARSSIMS\MT-06-0435.002
Assay File Name: C:\Packard\TriCarb\Assays\MARSSIM_Smear_3.lsa

Count Conditions-

Nuclide: H-3 Mound
   Quench Indicator: tSIE/AEC
   External Std Terminator (sec): 0.5 2s%
   Pre-Count Delay (min): 0.00
Quench Set:
   Low Energy: H-3 Smear
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.5	18.6	1st Vial
B	2.0	18.6	1st Vial
C	40.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: Off
Colored Samples: Off Heterogeneity Monitor: Off
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				

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MARSSIM Smear Data

B
C

Instrument Block Data
Machine=Tri-Carb 2900TR
Version=2.06
423022
MODEL=Tri-Carb 2900TR
VERSION=2.06
SERIAL=423022

Cycle 1 Results

DATE	TIME	S#	Count Time	CPMA	CPMB	CPMC	LUM	tSIE	DPM1	A:2S%	MESSAGES	P#
5/16/06	4:37:58 PM	-1	10.00	10	9	8	10	617.54	0	19.8	B	3
5/16/06	4:48:47 PM	0	2.00	214	200	5	1	553.46	411	9.9		3
5/16/06	4:51:30 PM	1	2.00	1	2	1	0	554.47	3	373.1		3
5/16/06	4:54:13 PM	2	2.00	0	0	1	0	630.35	0	0.0		3
5/16/06	4:56:55 PM	3	2.00	0	0	0	0	579.15	0	0.0		3
5/16/06	4:59:38 PM	4	2.00	0	0	0	0	598.48	0	0.0		3
5/16/06	5:02:20 PM	5	2.00	0	0	0	0	638.55	0	0.0		3
5/16/06	5:05:03 PM	6	2.00	0	0	1	0	605.55	0	0.0		3
5/16/06	5:07:46 PM	7	2.00	0	0	2	0	570.47	0	0.0		3
5/16/06	5:10:29 PM	8	2.00	0	0	5	0	559.93	0	0.0		3
5/16/06	5:13:11 PM	9	2.00	0	0	4	0	607.39	0	0.0		3

MT-96-0435

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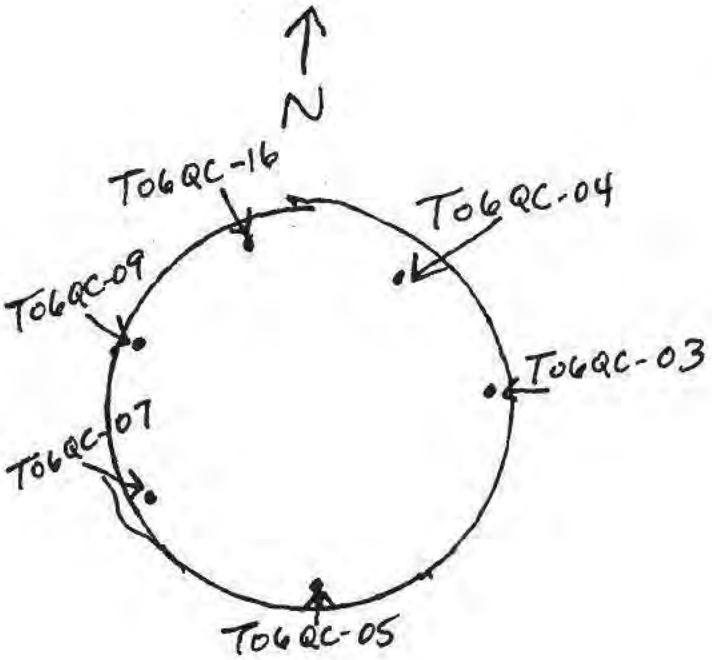
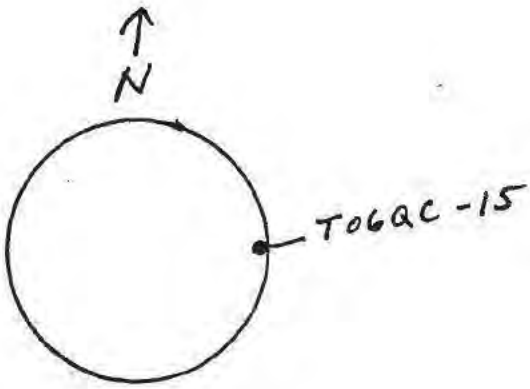
QC Survey Sump in Rm 1A
1501A



QC Survey Sump in Rm 90



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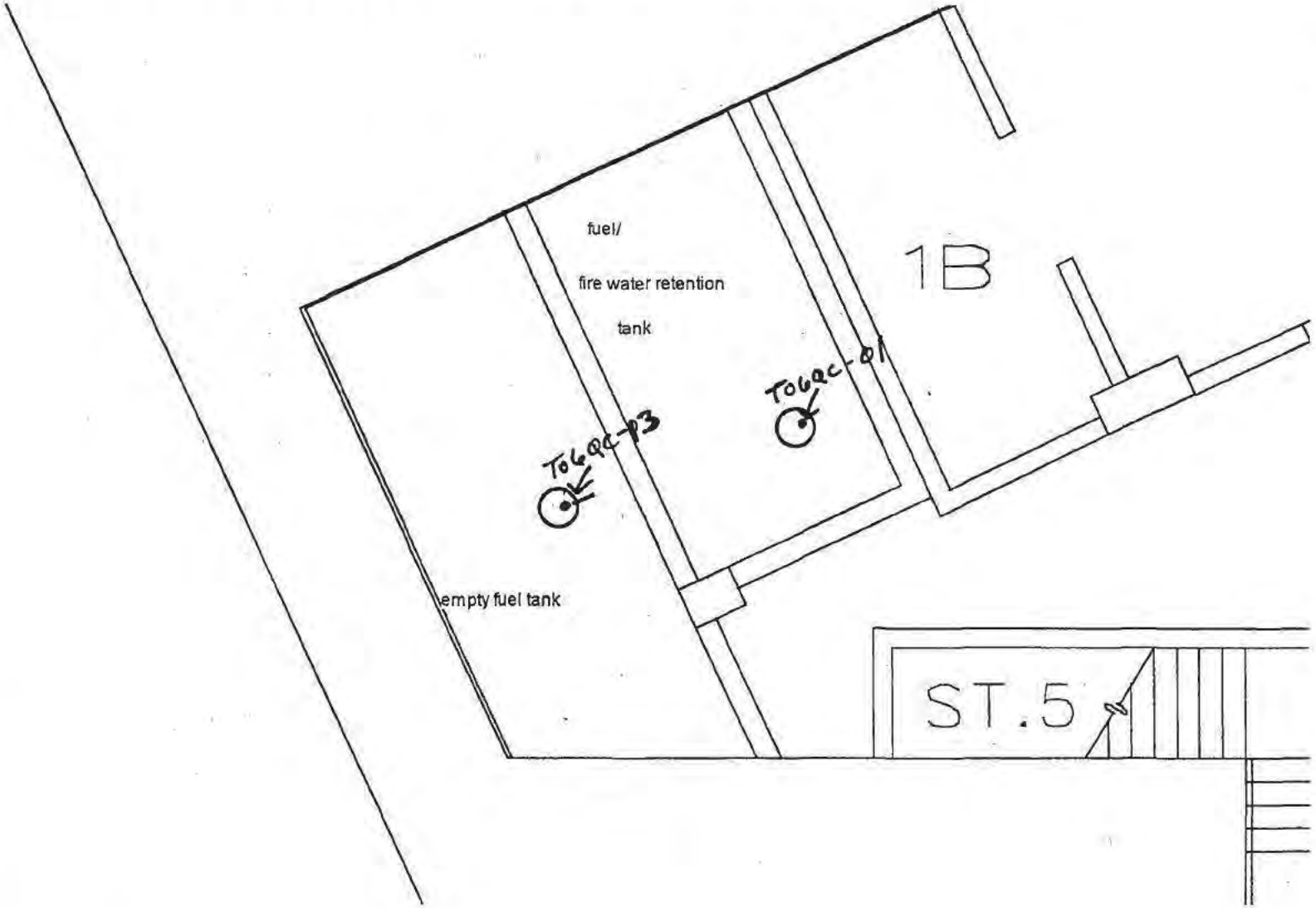
MT-06-0435 WJS 5/18/06 PS 799 10 of 12

QC Survey WJ 4/18/06

1S-01A ~~was broken down into three survey units~~
1S-01A, ~~1S-01B, and 1S-01C~~
~~The fuel tanks to be surveyed with~~ 1S-01A as a building utility



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T-Building QC Survey in Sump 1a and T-90

RSDS# _Mt-06-0435_____ RCT: _____ RCT: _____

Alpha	43-68 BKG:	0	EFF:	0.21 ✓	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 1
Beta	43-68 BKG:	0	EFF:	0.163 ✓	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 2
Alpha Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # : 3
Beta Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # : 4

TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	Item	DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	T06QC15	5895		5896	1	1	4/18/06	7:04	7	120	26
ALPHA	T06QC03	5895		5896	1	2	4/18/06	7:36	17	120	64
ALPHA	T06QC04	5895		5896	1	3	4/18/06	7:41	14	120	53
ALPHA	T06QC05	5895		5896	1	4	4/18/06	7:45	13	120	49
ALPHA	T06QC07	5895		5896	1	5	4/18/06	7:49	13	120	49
ALPHA	T06QC09	5895		5896	1	6	4/18/06	9:35	14	120	53
ALPHA	T06QC16	5895		5896	1	7	4/18/06	9:39	9	120	34 ✓
BETA	T06QC15	5895		5896	2	1	4/18/06	7:05	59	60	575
BETA	T06QC03	5895		5896	2	2	4/18/06	7:38	83	60	808
BETA	T06QC04	5895		5896	2	3	4/18/06	7:42	76	60	740
BETA	T06QC05	5895		5896	2	4	4/18/06	7:47	62	60	604
BETA	T06QC07	5895		5896	2	5	4/18/06	7:50	71	60	691
BETA	T06QC09	5895		5896	2	6	4/18/06	9:37	79	60	769
BETA	T06QC16	5895		5896	2	7	4/18/06	9:40	87	60	847 ✓

N A

WP 5/18/06

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T-Building QC Survey Fuel Cells in rm 1 1s01

RSDS# _MT-06-0435_____ RCT: _____ RCT: _____N/A_____

Alpha	43-68 BKG:	0	EFF:	0.2074 ✓	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 1
Beta	43-68 BKG:	0	EFF:	0.1747 ✓	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 2
Alpha Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # : 3
Beta Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # : 4

TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	item	DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	T06QC01	5922		5926	1	8	4/18/06	9:53	4	120	15
ALPHA	T06QC13	5922		5926	1	9	4/18/06	10:03	5	120	19 ✓
BETA	T06QC01	5922		5926	2	8	4/18/06	9:54	66	60	600
BETA	T06QC13	5922		5926	2	9	4/18/06	10:04	76	60	691 ✓

N A

WJS 5/18/06

RADIOLOGICAL SURVEY DATA SHEET

WG 5/18/06

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LOCATION: (BLDG./AREA/ROOM) T-BLDG. SYS13 - SYS21	SURVEY NO. MT-06-0324
PURPOSE: QC Samples For T-07	RWP NO. N/A
	DATE: 3-17-06
	TIME: 1515

MAP/DRAWING

NO ELEVATED α & β READINGS DETECTED DURING SCAN

SEE ATTACHED SHEETS

COPY

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr ($\beta+\eta+\gamma$) extremity on contact

(#) = mrem/hr neutron

[#] = air sample number

(#) = swipe number

(#/α) or /β = direct cont. measurement in dpm/100cm^2

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5854	7-28-06
43-68	5861	7-28-06
	N A	

Completed by: (Signature) B. Nursick 3/17/06		Date: 3-17-06
Completed by: (Print Name) B. NURSICK		
Counted by: (Signature) SEE ATTACHED SHEETS	HP#	Date:
Counted by: (Print Name) SEE ATTACHED SHEETS		
Reviewed/Approved by: (Signature) Paul Hall		Date: 5-4-06
Reviewed/Approved by: (Print Name) J. Hallabaugh		2-136/186

ML-9620 (2-98)

WP 5/18/06

Survey No.
MT-06-0324

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
	Swipes (dpm/100cm²)			
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE ATTACHED		SHEETS	SYS 20 01J
2				SYS 20 06J
3				SYS 20 11J
4				SYS 13 20J
5				SYS 13 17J
6				SYS 21 02J
7				SYS 21 01J
8				SYS 16 0120J
9				SYS 16 0113J
10				SYS 13 01J
11				SYS 16 18J
12				SYS 16 05J
13				SYS 20 05J
14				SYS 18 15J
15	↓	↓	↓	SYS 18 10J
16	SEE ATTACHED		SHEETS	SYS 16 19J
		N	A	

Removable Contamination				
	Swipes (dpm/100cm²)			
Sample #	β/γ	Alpha	Tritium	Comments
		N	A	

COMMENTS: N/A

COPY

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

Protocol# 1 - MARSSIM_Smear_1.lsa User: 5801

MARSSIM Smear Data

MT-06-0324 PR 5010

B
C

Instrument Block Data
Machine=Tri-Carb 2900TR
Version=2.06
423022
MODEL=Tri-Carb 2900TR
VERSION=2.06
SERIAL=423022

Cycle 1 Results

DATE	TIME	S#	Count Time	CPMA	CPMB	CPMC	LUM	tSIE	DPM1	A:2S%	MESSAGES	P#
5/15/06	4:34:04 PM	-1	10.00	10	9	10	25	600.32	0	19.9	B	1
5/15/06	4:44:53 PM	0	2.00	272	256	1	1	534.21	532	8.8		1
5/15/06	4:47:36 PM	1	2.00	0	0	1	0	446.31	0	0.0		1
5/15/06	4:50:20 PM	2	2.00	0	0	0	13	554.46	0	0.0		1
5/15/06	4:53:02 PM	3	2.00	25	23	2	9	578.32	46	34.9		1
5/15/06	4:55:45 PM	4	2.00	0	0	2	0	600.53	0	0.0		1
5/15/06	4:58:29 PM	5	2.00	0	0	1	0	648.92	0	0.0		1
5/15/06	5:01:12 PM	6	2.00	0	0	0	0	613.36	0	0.0		1
5/15/06	5:03:54 PM	7	2.00	18	16	0	13	593.73	33	43.4		1
5/15/06	5:06:37 PM	8	2.00	65	58	0	2	573.43	124	19.1		1
5/15/06	5:09:19 PM	9	2.00	3	3	1	0	654.94	5	191.8		1
5/15/06	5:12:02 PM	10	2.00	0	0	2	0	610.15	0	0.0		1
5/15/06	5:14:45 PM	11	2.00	0	0	1	7	581.81	0	0.0		1
5/15/06	5:17:26 PM	12	2.00	1	1	0	5	539.12	1	737.4		1
5/15/06	5:20:10 PM	13	2.00	1	1	0	0	651.06	2	594.6		1
5/15/06	5:22:53 PM	14	2.00	23	21	0	0	614.67	43	36.1		1
5/15/06	5:25:36 PM	15	2.00	24	18	0	24	653.97	43	35.2		1
5/15/06	5:28:19 PM	16	2.00	0	0	0	5	621.76	0	0.0		1

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MT-06-0324 RS 6/8/10

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: Mar_104
Batch Ended: 5/15/06 14:50
Cal. Due Date: 11/17/06
Serial Number: 26966-3

Batch ID: MT-06-0324 [16] QA SMEARS 2ND RUN, W. JONES 5-15-06 RLH

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	2.18		0.00	1.32	
A2	2	0.00	2.00		0.00	1.17	
A3	3	0.00	2.26		0.00	1.26	
A4	4	0.00	2.11		0.58	1.71	
B1	5	1.58	1.87		0.00	1.20	
B2	6	0.00	1.87		0.48	1.58	
B3	7	0.00	2.18		0.00	1.33	
B4	8	0.00	1.97		0.66	1.69	
C1	9	0.00	2.12		3.62	2.82	
C2	10	0.00	1.93		0.00	1.16	
C3	11	0.00	2.12		0.00	1.27	
C4	12	0.00	1.98		0.00	1.14	
D1	13	0.00	2.05		0.00	1.26	
D2	14	0.00	2.17		0.32	1.69	
D3	15	0.00	2.09		0.00	1.25	
D4	16	0.00	2.06		1.57	2.03	

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RS

MARSSIM Smear Data

Assay Definition-

Assay Description:
MARSSIM Smear Data

Assay Type: DPM (Single)
Report Name: Report1
Output Data Path: D:\MARSSIM_LSC
Raw Results Path: C:\Packard\Tricarb\Results\5801\MARSSIM_Smear_1\20060515_1845.results
Comma-Delimited File Name: D:\MARSSIM_LSC\MT-06-0324.002
Assay File Name: C:\Packard\TriCarb\Assays\MARSSIM_Smear_1.lsa

Count Conditions-

Nuclide: H-3 Mound
  Quench Indicator: tSIE/AEC
  External Std Terminator (sec): 0.5 2s%
  Pre-Count Delay (min): 0.00
Quench Set:
  Low Energy: H-3 Smear
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.5	18.6	1st Vial
B	2.0	18.6	1st Vial
C	40.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: Off
Colored Samples: Off Heterogeneity Monitor: Off
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				

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MARSSIM Smear Data

B
C

Instrument Block Data
Machine=Tri-Carb 2900TR
Version=2.06
423022
MODEL=Tri-Carb 2900TR
VERSION=2.06
SERIAL=423022

Cycle 1 Results

DATE	TIME	S#	Count Time	CPMA	CPMB	CPMC	LUM	tSIE	DPM1	A:2S%	MESSAGES	P#
5/15/06	6:45:35 PM	-1	10.00	12	10	12	26	601.63	0	18.5	B	1
5/15/06	6:56:24 PM	0	2.00	257	243	0	1	533.03	503	9.1		1
5/15/06	6:59:07 PM	1	2.00	0	0	0	0	417.87	0	0.0		1
5/15/06	7:01:50 PM	2	2.00	0	0	0	5	534.18	0	0.0		1
5/15/06	7:04:33 PM	3	2.00	19	18	1	5	557.17	36	43.0		1
5/15/06	7:07:16 PM	4	2.00	0	0	0	5	596.34	0	0.0		1
5/15/06	7:09:58 PM	5	2.00	0	0	0	7	638.96	0	0.0		1
5/15/06	7:12:41 PM	6	2.00	0	0	0	0	608.97	0	0.0		1
5/15/06	7:15:24 PM	7	2.00	22	18	0	6	583.80	41	38.5		1
5/15/06	7:18:06 PM	8	2.00	54	51	0	2	551.40	105	21.5		1
5/15/06	7:20:50 PM	9	2.00	0	1	0	4	651.02	0	0.0		1
5/15/06	7:23:33 PM	10	2.00	1	1	0	0	599.82	2	641.0		1
5/15/06	7:26:15 PM	11	2.00	0	0	0	12	567.10	0	0.0		1
5/15/06	7:28:58 PM	12	2.00	0	0	0	7	524.43	0	0.0		1
5/15/06	7:31:40 PM	13	2.00	0	0	0	5	647.41	0	0.0		1
5/15/06	7:34:24 PM	14	2.00	22	18	0	0	609.09	41	38.1		1
5/15/06	7:37:06 PM	15	2.00	30	23	0	16	648.58	53	31.4		1
5/15/06	7:39:48 PM	16	2.00	0	0	0	6	613.89	0	0.0		1

wg

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T-Bldg. T07 QC Statics

RSDS# MT-06-324 RCT: [redacted] RCT: [redacted]

Alpha	43-68 BKG:	0	EFF:	0.205	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 1
Beta	43-68 BKG:	0	EFF:	0.163	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 2
Alpha Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # : 3
Beta Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # : 4

TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	item	DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	T07QC0001	5854	[redacted]	5861	1	1	3/16/06	7:24	2	120	8
ALPHA	T07QC0011	5854		5861	1	2	3/16/06	7:46	2	120	8
ALPHA	T07QC0010	5854		5861	1	3	3/16/06	7:51	4	120	15
ALPHA	T07QC0012	5854		5861	1	4	3/16/06	7:56	5	120	19
ALPHA	T07QC0006	5854		5861	1	5	3/16/06	9:46	3	120	12
ALPHA	T07QC0007	5854		5861	1	6	3/16/06	9:56	9	120	35
ALPHA	T07QC0004	5854		5861	1	7	3/16/06	12:37	6	120	23
ALPHA	T07QC0009	5854		5861	1	8	3/16/06	12:43	6	120	23
ALPHA	T07QC0008	5854		5861	1	9	3/16/06	12:52	5	120	19
ALPHA	T07QC0014	5854		5861	1	10	3/16/06	12:59	10	120	39
ALPHA	T07QC0015	5854		5861	1	11	3/16/06	13:05	7	120	27
ALPHA	T07QC0016	5854		5861	1	12	3/16/06	13:11	4	120	15
ALPHA	T07QC0005	5854		5861	1	13	3/16/06	13:22	6	120	23
ALPHA	T07QC0002	5854		5861	1	14	3/16/06	13:46	8	120	31
ALPHA	T07QC0013	5854		5861	1	15	3/17/06	7:44	2	120	8
ALPHA	T07QC0003	5854		5861	1	16	3/17/06	7:50	7	120	27
BETA	T07QC0001	5854		5861	2	1	3/16/06	7:26	136	60	1324
BETA	T07QC0011	5854		5861	2	2	3/16/06	7:47	102	60	993
BETA	T07QC0010	5854		5861	2	3	3/16/06	7:52	105	60	1022
BETA	T07QC0012	5854		5861	2	4	3/16/06	7:58	111	60	1081
BETA	T07QC0006	5854		5861	2	5	3/16/06	9:48	115	60	1120
BETA	T07QC0007	5854		5861	2	6	3/16/06	9:58	160	60	1558
BETA	T07QC0004	5854		5861	2	7	3/16/06	12:38	157	60	1529
BETA	T07QC0009	5854		5861	2	8	3/16/06	12:44	141	60	1373
BETA	T07QC0008	5854		5861	2	9	3/16/06	12:55	112	60	1091
BETA	T07QC0014	5854		5861	2	10	3/16/06	13:00	127	60	1237
BETA	T07QC0015	5854		5861	2	11	3/16/06	13:06	144	60	1402
BETA	T07QC0016	5854		5861	2	12	3/16/06	13:12	128	60	1246
BETA	T07QC0005	5854		5861	2	13	3/16/06	13:24	131	60	1276
BETA	T07QC0002	5854		5861	2	14	3/16/06	13:47	397	60	3866
BETA	T07QC0013	5854		5861	2	15	3/17/06	7:46	186	60	1811
BETA	T07QC0003	5854		5861	2	16	3/17/06	7:51	157	60	1529
					N		A				

WP 5/18/06

COPY

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QC samples for T-07
SYS - SYS-13 thru SYS-21
NOTE: SYS 13, 14, and 15 are one piping systems and were combined into SYS-13
NOTE: SYS 17 and 18 are one piping system and were combined as SYS-18
NOTE: SYS-19 process water lines were removed during Safe Shutdown activities
Take static measurements, smears and scan 1m2 area around each location

	QC ID#	Location ID	RSDS	Room #
1	T07QC-01	SYS2001J	05-553	78A
14	T07QC-02	SYS1815J	05-561	296
16	T07QC-03	SYS1619J	05-581	277
7	T07QC-04	SYS2101J	05-556	90
13	T07QC-05	SYS2005J	05-553	78
5	T07QC-06	SYS1317J	05-545	78
6	T07QC-07	SYS2102J	05-556	90
9	T07QC-08	SYS160113J	05-1054	99
8	T07QC-09	SYS160120J	05-1054	99
3	T07QC-10	SYS2011J	05-553	78
2	T07QC-11	SYS2006J	05-553	78
4	T07QC-12	SYS1320J	05-545	78
15	T07QC-13	SYS1810J	05-561	281
10	T07QC-14	SYS1301J	545	99
11	T07QC-15	SYS1618J	05-581	99
12	T07QC-16	SYS1605J	05-581	~~98~~ 99

scan 1m2 around each location

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 20

LOCATION: (BLDG./AREA/ROOM) T-BLDG SEE MAPS	SURVEY NO. MT-06-0545
PURPOSE: EXHAUST VENTILATION QC's T-08	RWP NO. N/A
	DATE: 5-30-06
	TIME: 1630

MAP / DRAWING

SEE ATTACHED

SCANNED INSIDE VENTILATION
1 m^2 @ 1 P SEE PRINT OUT
for ELEVATED AREAS.

Reference RSDS # MT-05-0797
for ANALYTICAL for T08QC07

Reference RSDS # MT-~~06~~ 05-1178
6-9-06
for ANALYTICAL for T08QC13

LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
K = factor of 1000
— · — · — = radiological boundary

COPY

△ = mrem/hr neutron (#) = swipe number

[#] = air sample number (#/α) or /β = direct contamination measurement in dpm/100 cm^2

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5922/5926	5/21/07
2350	5923/5925	5/21/07
	N/A	

Completed by: (Signature) [signature] GH Hodges Date: 5/30/06
Completed by: (Print Name) S Richardson George Hodges
Counted by: (Signature) SEE ATTACHED HP# N/A Date: N/A
Counted by: (Print Name) SHEETS
Reviewed/Approved by: (Signature) [signature] Date: 6-9-06
Reviewed/Approved by: (Print Name) Jerry Taylor

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Survey No. MT-06-0545

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTACHED		T08QC 16
2				T08QC 20
3				T08QC 10
4				T08QC 05
5				T08QC 19
6				T08QC 01
7				T08QC 08
8				T08QC 03
9				T08QC 06
10				T08QC 14
11				T08QC X3 11
12				T08QC 25 13
13				T08QC 12 15
14				T08QC 07 12
15				T08QC 07
16	↓		↓	T08QC 17
17	SEE	ATTACHED		T08QC 18
		N	A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N	A	

COMMENTS: Q.C's.

COPY

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620 (4-98)

2-147/186

MARSSIM Smear Data

Assay Definition-

Assay Description:
MARSSIM Smear Data

Assay Type: DPM (Single)
Report Name: Report1
Output Data Path: D:\MARSSIM_LSC
Raw Results Path: C:\Packard\Tricarb\Results\5801\MARSSIM_Smear_1\20060530_1628.results
Comma-Delimited File Name: D:\MARSSIM_LSC\MT-06-0545.001
Assay File Name: C:\Packard\TriCarb\Assays\MARSSIM_Smear_1.lsa

Count Conditions-

Nuclide: H-3 Mound
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Set:
Low Energy: H-3 Smear
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.5	18.6	1st Vial
B	2.0	18.6	1st Vial
C	40.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: Off
Colored Samples: Off Heterogeneity Monitor: Off
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				

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MARSSIM Smear Data

B
C

Instrument Block Data
Machine=Tri-Carb 2900TR
Version=2.06
423022
MODEL=Tri-Carb 2900TR
VERSION=2.06
SERIAL=423022

Cycle 1 Results

DATE	TIME	S#	Count Time	CPMA	CPMB	CPMC	LUM	tSIE	DPM1	A:2S%	MESSAGES	P#
5/30/06	4:29:14 PM	-1	10.00	9	8	10	10	607.53	0	21.3	B	1
5/30/06	4:40:04 PM	0	2.00	249	236	2	0	532.68	488	9.2		1
5/30/06	4:42:48 PM	1	2.00	2	1	0	9	513.36	5	209.6		1
5/30/06	4:45:31 PM	2	2.00	187	162	2	1	593.58	347	10.6		1
5/30/06	4:48:15 PM	3	2.00	0	0	0	0	615.91	0	2211.9		1
5/30/06	4:50:58 PM	4	2.00	0	0	0	0	614.71	0	2211.9		1
5/30/06	4:53:41 PM	5	2.00	9	7	0	0	614.13	16	71.3		1
5/30/06	4:56:24 PM	6	2.00	0	0	2	0	569.44	0	0.0		1
5/30/06	4:59:08 PM	7	2.00	9	9	0	8	532.40	18	67.1		1
5/30/06	5:01:52 PM	8	2.00	15	15	0	2	538.65	30	47.2		1
5/30/06	5:04:36 PM	9	2.00	9	8	0	3	611.11	17	68.3		1
5/30/06	5:07:19 PM	10	2.00	5	5	0	4	485.00	11	109.2		1
5/30/06	5:10:03 PM	11	2.00	1	1	1	5	560.25	2	400.9		1
5/30/06	5:12:47 PM	12	2.00	1	2	0	0	442.46	3	400.9		1
5/30/06	5:15:45 PM	13	2.00	998	992	15	0	178.15	4625	4.5		1
5/30/06	5:18:30 PM	14	2.00	478	449	5	0	449.01	1022	6.5		1
5/30/06	5:21:16 PM	15	2.00	3	3	2	4	328.23	8	173.0		1
5/30/06	5:24:01 PM	16	2.00	10	10	0	0	542.73	19	66.1		1
5/30/06	5:26:51 PM	17	2.00	0	0	1	15	373.16	0	0.0		1

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: Mar_142
Batch Ended: 5/30/06 14:58
Cal. Due Date: 11/17/06
Serial Number: 26966-3

Batch ID: MT-06-0545 S.RICHARDSON (17) AG

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	2.21		1.68	2.26	
A2	2	0.00	2.00		0.00	1.17	
A3	3	0.00	2.26		0.00	1.27	
A4	4	0.00	2.11		0.58	1.71	
B1	5	0.00	1.87		0.00	1.20	
B2	6	0.00	1.85		0.00	1.12	
B3	7	0.00	2.18		0.00	1.33	
B4	8	0.00	1.97		0.66	1.69	
C2	9	0.00	1.97		2.78	2.30	
C3	10	0.00	2.16		2.97	2.53	
C4	11	0.00	1.98		0.00	1.14	
D1	12	1.73	2.05		0.00	1.26	
D2	13	1.92	2.37		18.01	4.98	
D3	14	0.00	2.16		5.22	3.05	
D4	15	1.71	2.07		1.43	2.03	
A1	16	1.95	2.18		0.00	1.31	
A2	17	0.00	2.01		0.36	1.65	

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MT-06-0545

Protocol# 1 - MARSSIM_Smear_1.lsa User: 5801

MARSSIM Smear Data

Assay Definition-

Assay Description:
MARSSIM Smear Data

Assay Type: DPM (Single)
Report Name: Report1
Output Data Path: D:\MARSSIM_LSC
Raw Results Path: C:\Packard\Tricarb\Results\5801\MARSSIM_Smear_1\20060530_1753.results
Comma-Delimited File Name: D:\MARSSIM_LSC\MT-06-0545.002
Assay File Name: C:\Packard\TriCarb\Assays\MARSSIM_Smear_1.lsa

Count Conditions-

Nuclide: H-3 Mound
  Quench Indicator: tSIE/AEC
  External Std Terminator (sec): 0.5 2s%
  Pre-Count Delay (min): 0.00
Quench Set:
  Low Energy: H-3 Smear
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.5	18.6	1st Vial
B	2.0	18.6	1st Vial
C	40.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: Off
Colored Samples: Off Heterogeneity Monitor: Off
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				

3-15-06

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MARSSIM Smear Data

B
C

Instrument Block Data
Machine=Tri-Carb 2900TR
Version=2.06
423022
MODEL=Tri-Carb 2900TR
VERSION=2.06
SERIAL=423022

Cycle 1 Results

DATE	TIME	S#	Count Time	CPMA	CPMB	CPMC	LUM	tSIE	DPM1	A:2S%	MESSAGES	P#
5/30/06	5:54:30 PM	-1	10.00	10	9	11	8	609.95	0	20.1	B	1
5/30/06	6:05:21 PM	0	2.00	237	227	2	0	531.93	464	9.4		1
5/30/06	6:08:03 PM	1	2.00	0	1	0	5	462.58	0	4894.9		1
5/30/06	6:10:47 PM	2	2.00	1	1	0	5	554.63	1	728.0		1
5/30/06	6:13:30 PM	3	2.00	0	0	0	0	609.20	0	0.0		1
5/30/06	6:16:14 PM	4	2.00	2	3	0	0	606.03	4	251.8		1
5/30/06	6:18:56 PM	5	2.00	9	9	0	0	605.33	17	71.2		1
5/30/06	6:21:40 PM	6	2.00	0	0	0	0	560.57	0	0.0		1
5/30/06	6:24:23 PM	7	2.00	6	7	0	3	526.36	12	98.3		1
5/30/06	6:27:07 PM	8	2.00	7	6	1	0	524.93	13	92.1		1
5/30/06	6:29:51 PM	9	2.00	10	10	0	3	601.53	18	66.3		1
5/30/06	6:32:36 PM	10	2.00	0	0	3	6	439.83	0	0.0		1
5/30/06	6:35:18 PM	11	2.00	0	0	0	7	542.22	0	0.0		1
5/30/06	6:38:02 PM	12	2.00	0	0	4	0	417.44	0	0.0		1
5/30/06	6:41:06 PM	13	2.00	1069	1062	8	0	179.12	4925	4.3		1
5/30/06	6:43:49 PM	14	2.00	401	369	2	0	426.74	883	7.2		1
5/30/06	6:46:35 PM	15	2.00	1	2	6	9	323.60	3	463.2		1
5/30/06	6:49:18 PM	16	2.00	1	1	0	0	524.41	1	734.0		1
5/30/06	6:52:23 PM	17	2.00	0	0	0	6	358.16	0	0.0		1

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MT-06-0545

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: Mar_143
Batch Ended: 5/30/06 15:07
Cal. Due Date: 11/17/06
Serial Number: 26966-3

Batch ID: MT-06-0545 S.RICHARDSON (17) AG

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	2.20		0.38	1.85	
A2	2	0.00	2.03		1.52	2.02	
A3	3	0.00	2.31		2.81	2.52	
A4	4	0.00	2.13		1.78	2.09	
B1	5	0.00	1.87		0.00	1.20	
B2	6	0.00	1.85		0.00	1.12	
B3	7	0.00	2.20		0.27	1.88	
B4	8	0.00	1.95		0.00	1.20	
C2	9	0.00	1.94		0.48	1.63	
C3	10	0.00	2.14		0.45	1.79	
C4	11	0.00	2.00		1.58	1.97	
D1	12	0.00	2.05		0.00	1.26	
D2	13	0.00	2.28		9.84	3.79	
D3	14	0.00	2.13		2.74	2.49	
D4	15	1.71	2.04		0.00	1.18	
A1	16	0.00	2.26		5.59	3.21	
A2	17	0.00	2.03		1.52	2.02	

5.31.06

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T-Building QC ventilation T-08

RSDS# MT-06-0545 *RCT:* [redacted] *RCT:* N/A

Alpha	43-68 BKG:	0	EFF:	0.206 ✓	PROBE AREA:	126	cm^2	Surface Eff:	0.5	Detector # :	1
Beta	43-68 BKG:	0	EFF:	0.163 ✓	PROBE AREA:	126	cm^2	Surface Eff:	0.5	Detector # :	2
Alpha Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:	0.5	Detector # :	3
Beta Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:	0.5	Detector # :	4

TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	item	DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	T08QC11	5923	[redacted]	5925	1	11	5/30/06	8:46	5	120	19 ✓
BETA	T08QC11	5923	[redacted]	5925	2	11	5/30/06	8:47	78	60	760 ✓

N/A

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T-Building QC Ventilation Exhaust T-08

RSDS# MT-06-0545 *RCT:* [redacted] *RCT:* [redacted]

Alpha	43-68 BKG:	0	EFF:	0.2 ✓	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector #: 1
Beta	43-68 BKG:	0	EFF:	0.1611 ✓	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector #: 2
Alpha Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector #: 3
Beta Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector #: 4

TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	Item	DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	T08QC16	5922	[redacted]	5926	1	1	5/24/06	12:43	8	120	32
ALPHA	T08QC20	5922		5926	1	2	5/24/06	13:07	5	120	20
ALPHA	T08QC10	5922		5926	1	3	5/24/06	13:19	10	120	40
ALPHA	T08QC05	5922		5926	1	4	5/24/06	13:28	9	120	36
ALPHA	T08QC19	5922		5926	1	5	5/24/06	14:37	10	120	40
ALPHA	T08QC01	5922		5926	1	6	5/25/06	7:35	10	120	40
ALPHA	T08QC08	5922		5926	1	7	5/25/06	8:14	9	120	36
ALPHA	T08QC03	5922		5926	1	8	5/25/06	8:32	21	120	83
ALPHA	T08QC06	5922		5926	1	9	5/25/06	9:44	6	120	24
ALPHA	T08QC14	5922		5926	1	10	5/25/06	12:26	14	120	56
ALPHA	T08QC13	5922		5926	1	12	5/30/06	10:05	27	120	107
ALPHA	T08QC15	5922		5926	1	13	5/30/06	10:30	23	120	91
ALPHA	T08QC12	5922		5926	1	14	5/30/06	13:30	9	120	36
ALPHA	T08QC07	5922		5926	1	15	5/30/06	13:59	33	120	131
ALPHA	T08QC17	5922		5926	1	16	5/30/06	14:05	10	120	40
ALPHA	T08QC18	5922		5926	1	17	5/30/06	14:12	6	120	24 ✓
BETA	T08QC16	5922		5926	2	1	5/24/06	12:44	91	60	897
BETA	T08QC20	5922		5926	2	2	5/24/06	13:09	69	60	680
BETA	T08QC10	5922		5926	2	3	5/24/06	13:20	94	60	926
BETA	T08QC05	5922		5926	2	4	5/24/06	13:29	84	60	828
BETA	T08QC19	5922		5926	2	5	5/24/06	14:38	110	60	1084
BETA	T08QC01	5922		5926	2	6	5/25/06	7:36	149	60	1468
BETA	T08QC08	5922		5926	2	7	5/25/06	8:15	80	60	788
BETA	T08QC03	5922		5926	2	8	5/25/06	8:33	92	60	906
BETA	T08QC06	5922		5926	2	9	5/25/06	9:45	85	60	837
BETA	T08QC14	5922		5926	2	10	5/25/06	12:27	341	60	3360
BETA	T08QC13	5922		5926	2	12	5/30/06	10:06	112	60	1104
BETA	T08QC15	5922		5926	2	13	5/30/06	10:31	305	60	3005
BETA	T08QC12	5922		5926	2	14	5/30/06	13:32	105	60	1035
BETA	T08QC07	5922		5926	2	15	5/30/06	14:00	325	60	3202
BETA	T08QC17	5922		5926	2	16	5/30/06	14:06	165	60	1626
BETA	T08QC18	5922		5926	2	17	5/30/06	14:13	184	60	1813 ✓

N/A

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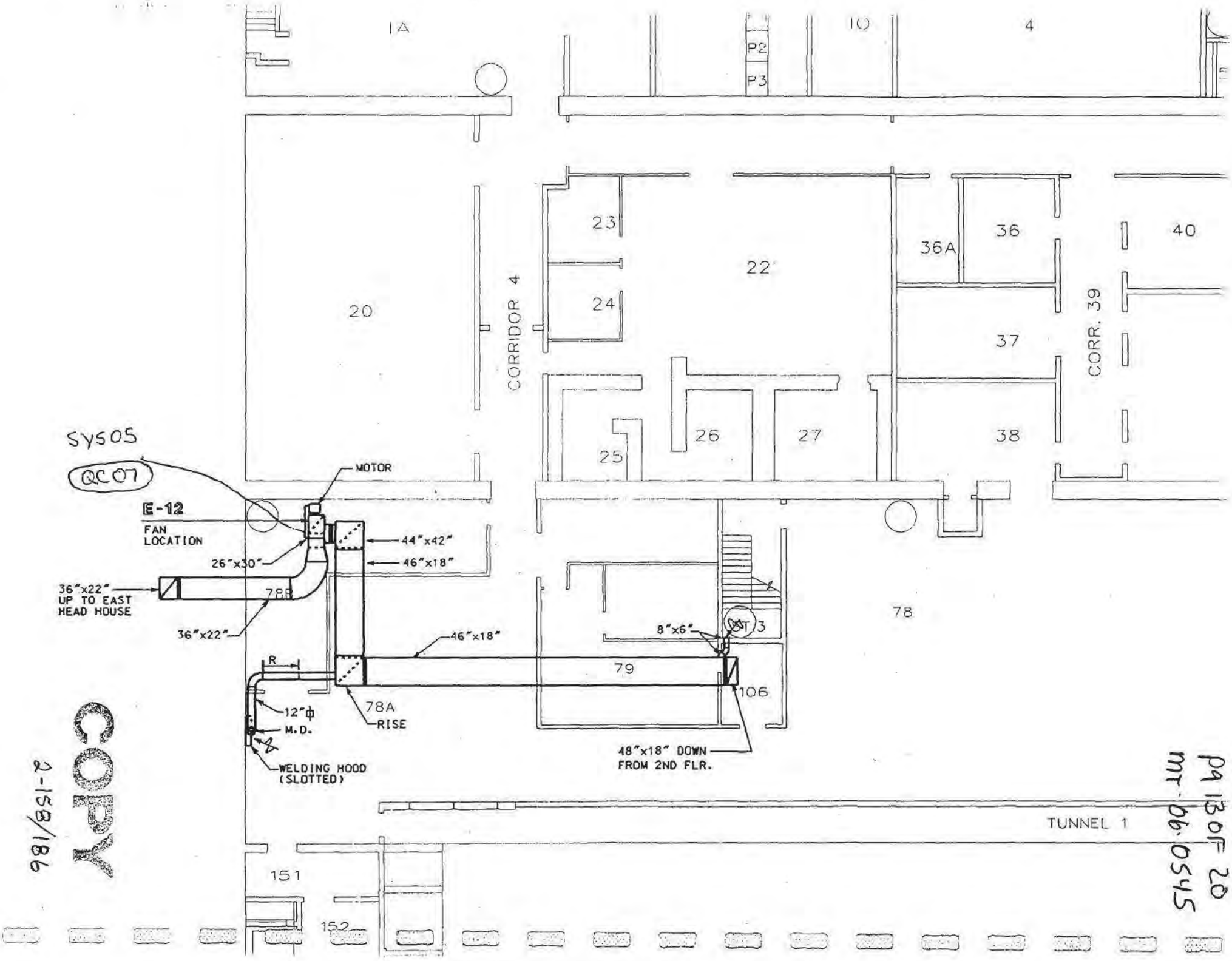

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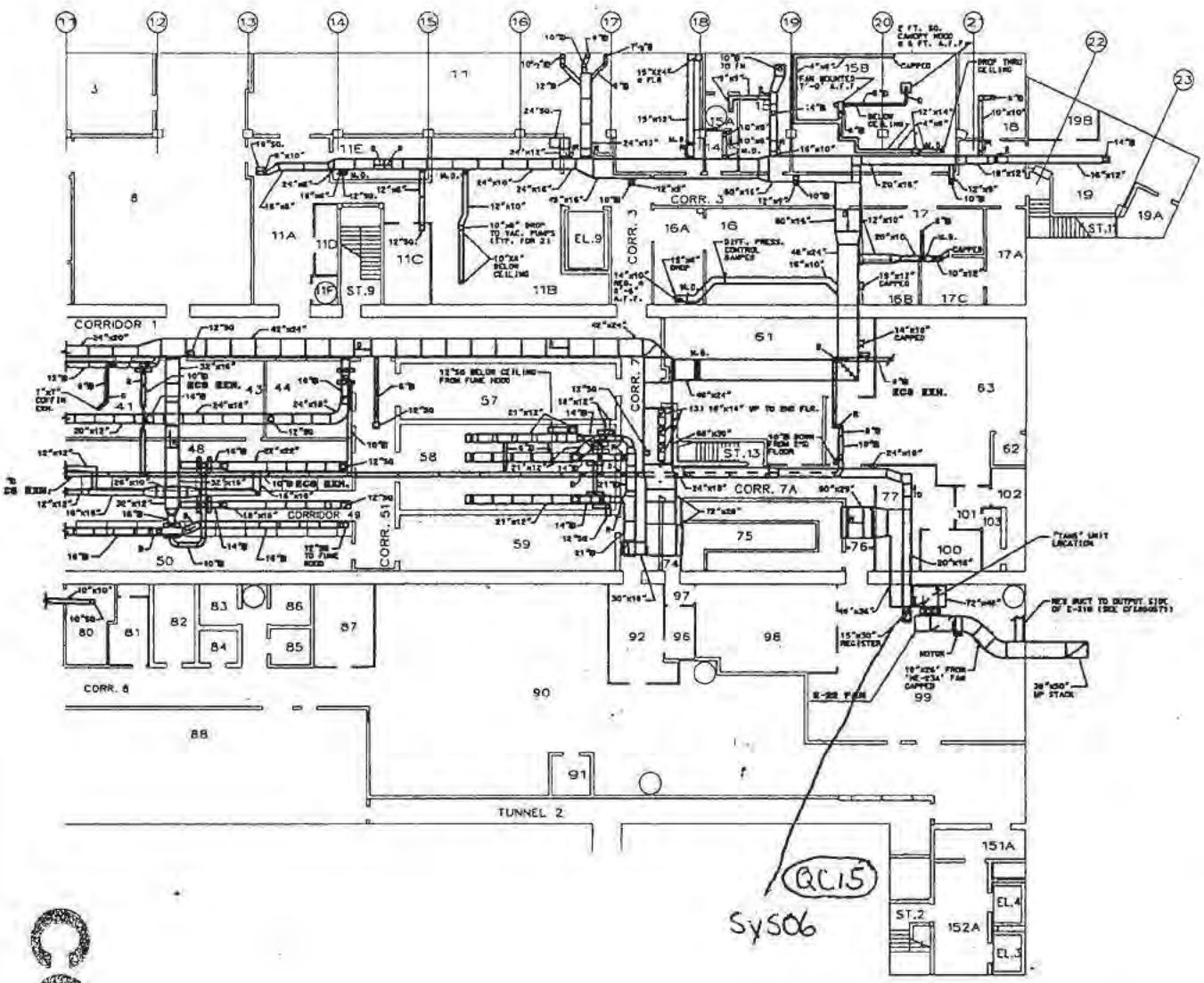
MT-06-0545



NO.	DATE	REVISION	BY	CHKD
B	11/12/96	REDRAWN & REVISED PER AS-BUILT	MR	JCB
C	08/15/02	REVISED PER ACO #02022ENG	MR	

NOTES:

1) SEE 16A1 4"Ø DUCT FROM 15"x6" TO COMPACTOR.
2) SEE 16A1 2"Ø DUCT FROM 15"x6" TO EQUIPMENT ON EAST WALL.
3) SEE 19B1 FAN - "FEARLESS ELECTRIC" MOD. #DBC
MOTOR- "B-C" 1/3 HP

FAN DATA

"BUFFALO", SIZE: 6, CLASS: 2, FAN RPM: 820
ACO# 901243

MOTOR: "GALOOP INDUSTRIAL MOTOR
CAT.# HK3647, FRAME: 364T, DES.# 11/840
60 HP 460V/3Ø/60hz
73 F.L.A. 1760 RPM S.F.: 1.15

REFERENCE DRAWINGS:
1) DF8950578
2) DF8950572
3) DF8921824
4) DF8950586
5) DF8950756
6) DF8951977
7) HAINES-BOSHTEL SHOP DWGS.
(301505-63027 THRU 63029)
8) SK04473 ("TANK" UNIT INSTALLATION)

LEGEND:

- SYMBOL FOR ROUND DUCT
- RISE
- DROP
- MANUAL DAMPER
- AUTOMATIC DAMPER
- VOLUME EXTRACTOR

N

T-BLDG.
FIRST FLOOR - WEST
H.V.A.C. SYSTEM 'E-22' AS-B

STATUS: AS-REL-11/12/96 MICROSTATION 5.

CORK

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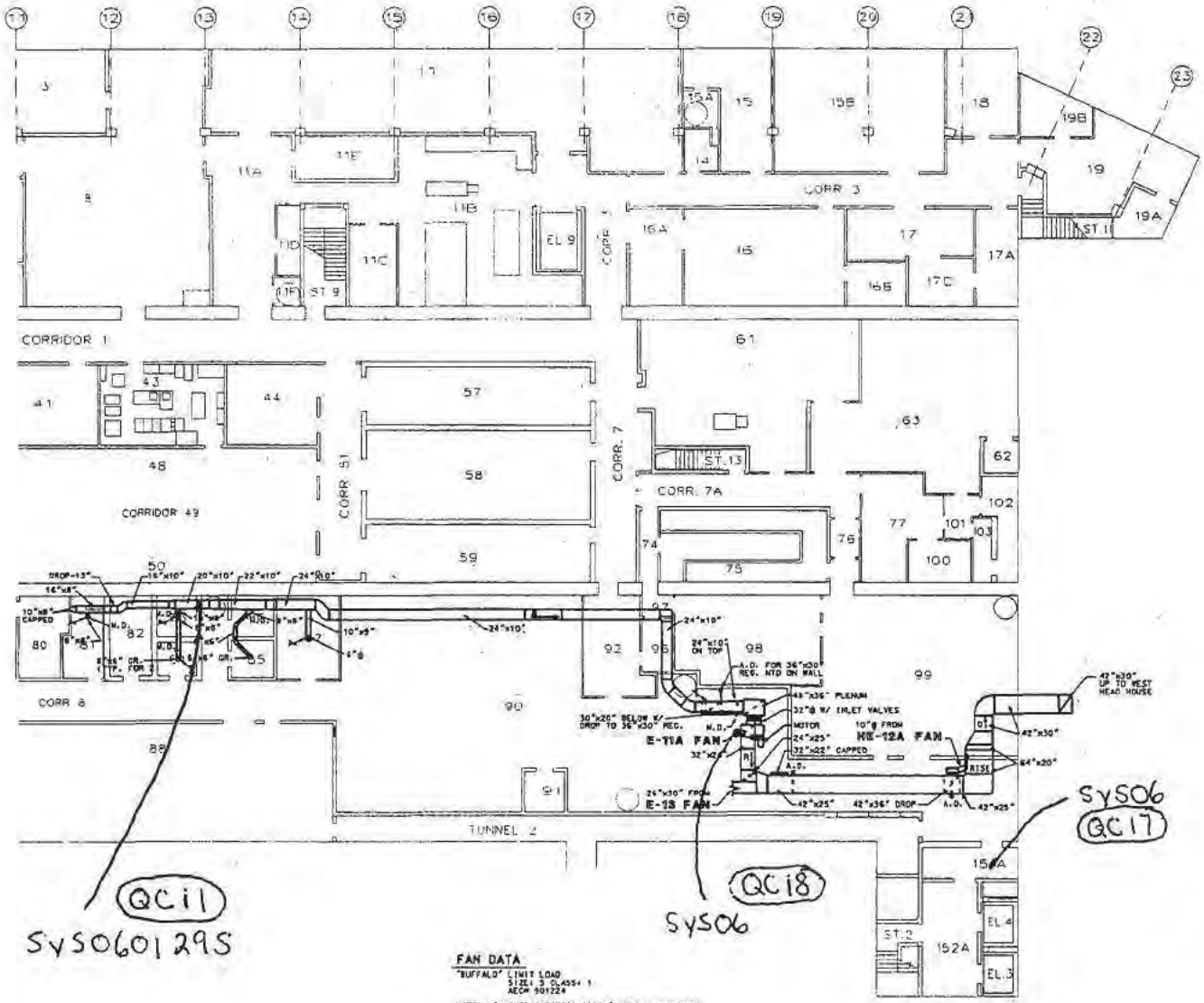
PG 14 OF 20
MT-08-0545

NO	DATE	REVISION	BY	CHKD	ENG	✓
8	11/11/96	REVISED & REDRAWN PER AS-BUILT	PHE	MJL	DRL	LH



LEGEND

- SYMBOL FOR ROUND DUCT
- RISE
- DROP
- MANUAL DAMPER
- AUTOMATIC DAMPER
- VOLUME EXTRACTOR

FAN DATA

"BUFFALO" LIMIT LOAD
SIZE: 3 CLASS: 1
AEC# 901224

MOTOR: "WAGNER ELECTRIC CORP." MODEL: 40EBJ323A
HP: 5 V/PH/CY/HZ: 460V/3PH/60HZ
FRAME: 254 TYPE: EPI CODE: H
F.L. AMPS: 6.6 F.L. SPEED: 1750 RPM

REFERENCE DRAWINGS

11 CFE850567
21 UTILITIES RESTORATION PHASE II / T BLDG.
A-E: ELLIS, MAEYAERT, GENHEIMER ASSOC., INC.
WMC JOB# 11357 BLDG. CODE: 352033

N

T BLDG.
FIRST FLOOR - WEST
H.V.A.C. SYSTEM 'E-11A' AS BUILT

JOB NUMBER 11468

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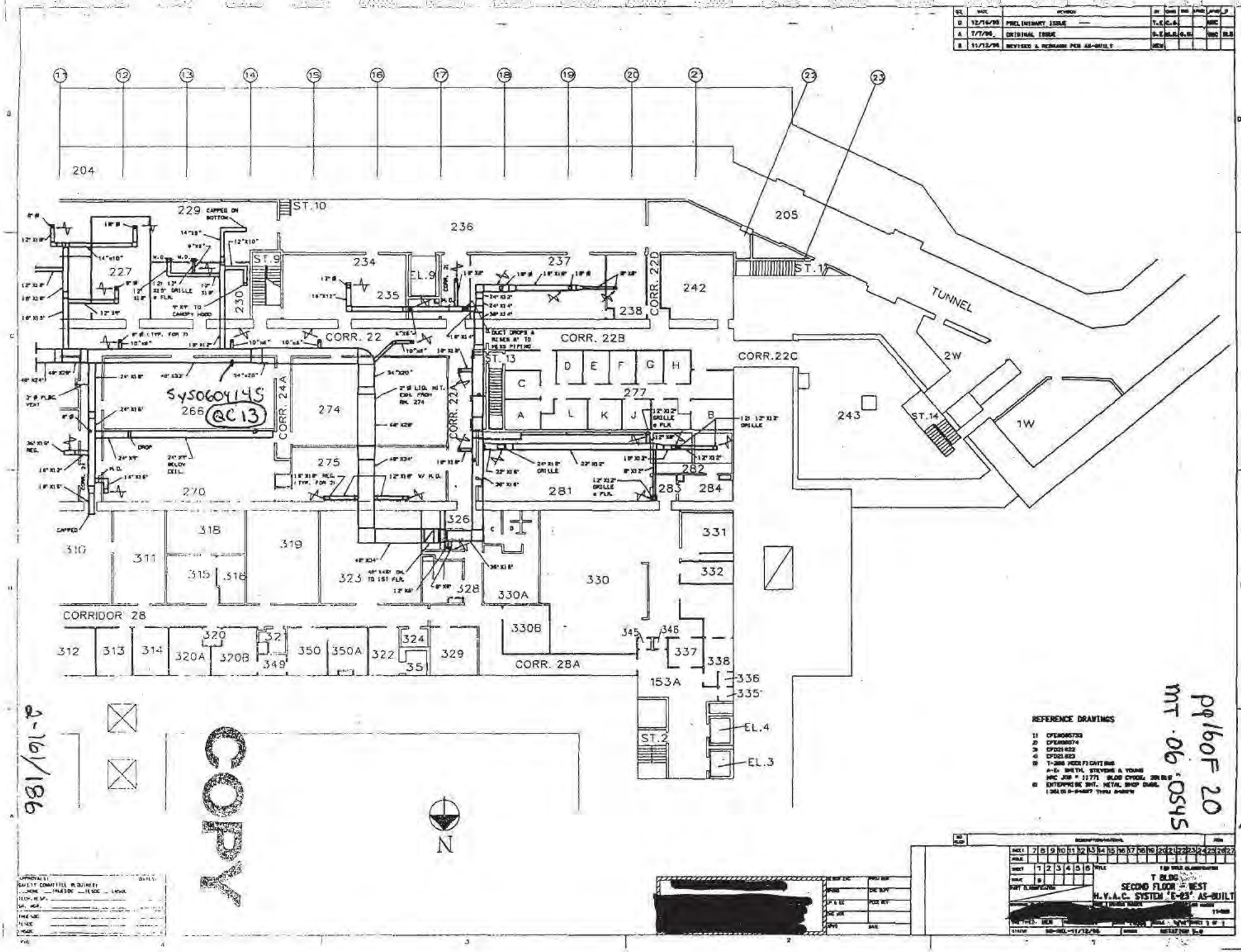
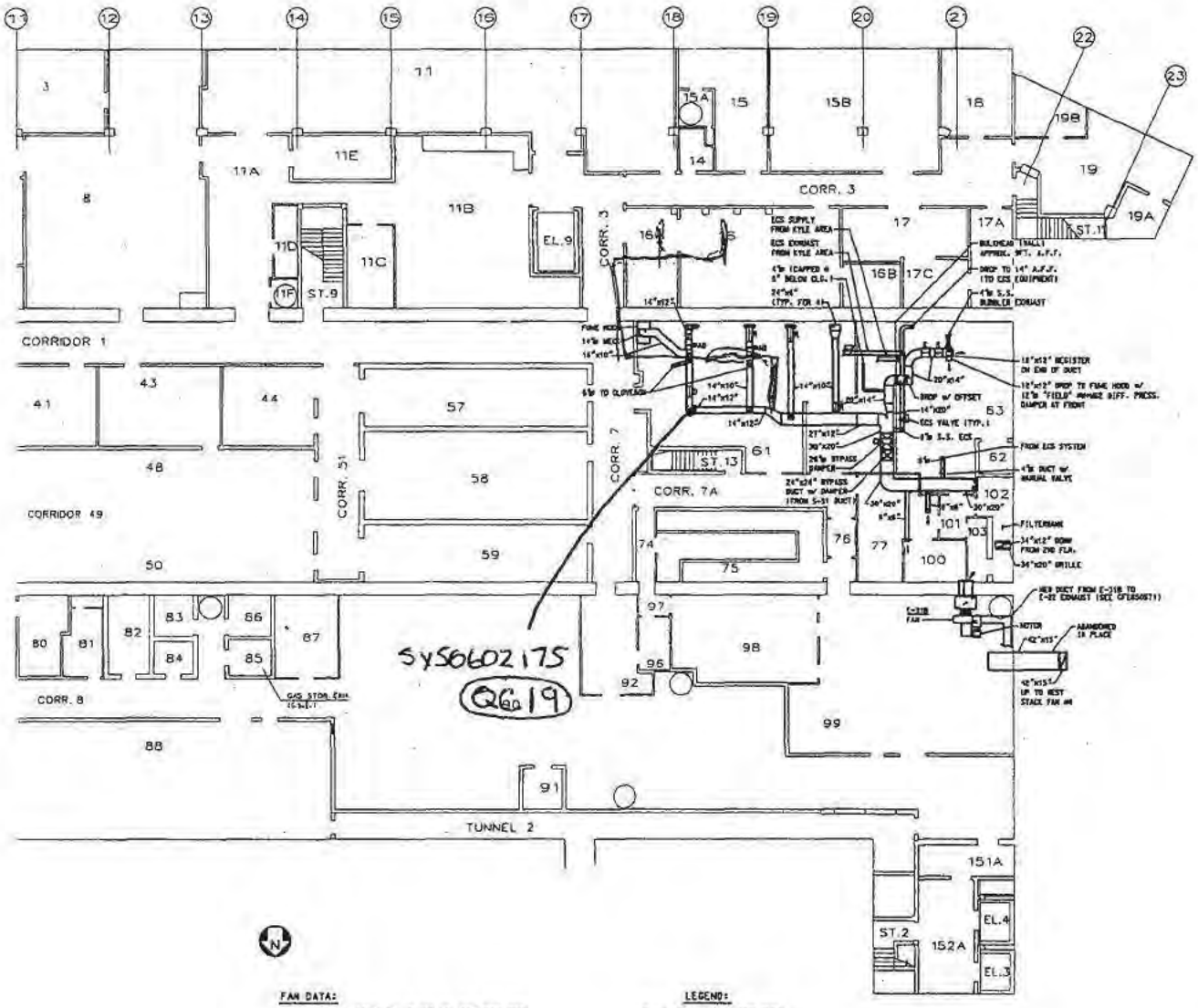


981/91-8

pg 1 of 20

mt 90.0545

NO.	DATE	REVISION	BY	CHKR	ENG	#
C	11/14/96	REDRAWN & REVISED PER AS-BUILT	MWD	MJL	DRL	
B	08/15/02	REVISED PER ACO #0202924D	MR			



FAN DATA:

"BUFFALO". SIZE: 35. CLASS AW. FAN RPM: 820.
ACC #901242
MOTOR: "DELCO". MODEL: 2G4150—Z. SER: L 74
FRAME: 286U
20 HP. 460V/3 /60Hz. 1750 RPM. 24.3 F.L.A.
S.F.: 1.0 CONTINUOUS DUTY

LEGEND:

- S - SYMBOL FOR ROUND DUCT
- R - RISE
- D - DROP
- MD - MANUAL DAMPER
- AD - AUTOMATIC DAMPER
- VE - VOLUME EXTRACTOR

REFERENCE DWG'S:

1. 4-10919
2. CFD21824
3. CFD22237
4. CFD650758
5. CFE650840

SHEET	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
SCALE																					
SHEET	1	2	3	4	5	6	TITLE														
SCALE	D																				
PART CLASSIFICATION																					

T BLDG.
FIRST FLOOR - WEST
H.V.A.C. SYSTEM E-318 AS BUILT

11468

DRAWING	DATE	VAC TYPE	MECH	PROJ T-BLDG	DUCT PAGES	SCALE 1/4"	SHEET 2 OF 1
PROJ MGR	DATE	NO-REL-11		SHOW		CH 2.0	

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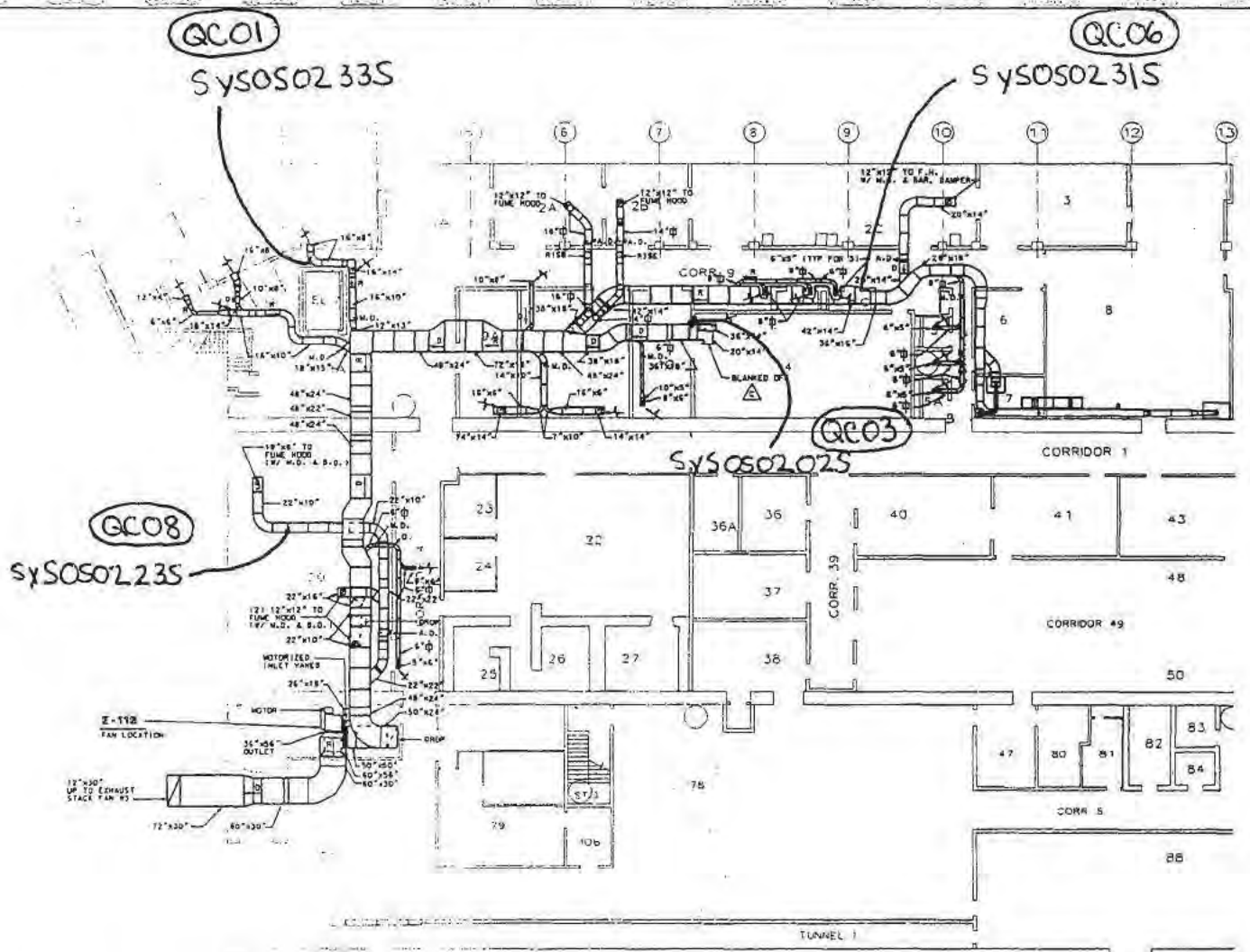
PG 17 OF 20
MT-06.0545



NO	DATE	REVISION	BY	CHK
B	11/11/96	REVISED & REDRAWN PER AS-BUILT	PHE	RJL
C	02/23/99	REVISED PER ACO #880423MD	MR	

FAN DATA

"TRANE" CENTRIFUGAL AIRFOIL FAN
MODEL #CAFB44B13CC3E0000100000S
TYPE: MASTER DL 3109-7454-01
SERIAL # E85J14294

MOTOR: "SIEMENS-ALLIS" INDUCTION MOTOR
TYPE D.O.P. FRAME 284T
F.L. AMPS: 65/32.5 S.F.: 1.15
230/460V/3PH/60HZ
1760 RPM CONTINUOUS DUTY

REFERENCE DRAWINGS

1) FSD21016
2) FSD22245
3) T BLDG MODIFICATIONS / ROOMS 1,2 & 20
A-E: SMITH, STEVENS & YOUNG
MRC JOB# 11409 BLDG CODE: 351509
4) HUGHES-BECHTOL SHOP DWGS-
1351509-04025 THRU 040273

LEGEND

- ϕ SYMBOL FOR ROUND DUCT
- RISE
- DROP
- MANUAL DAMPER
- AUTOMATIC DAMPER
- VOLUME EXTRACTOR

N

[redacted]

T BLDG
FIRST FLOOR - EAST
H.V.A.C. SYSTEM 'E-118'

PROJECT ENG. [redacted] DATE
APPROVED DATE
DWG TYPE MECH BLDG T-BLDG DWG# T4066 SCALE 1/4"=1' SHEET 1 OF 1
STATUS AS-BUILT-02/23/99 DRAWN MEYATT ON B-0

COPY

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MT-06-0545

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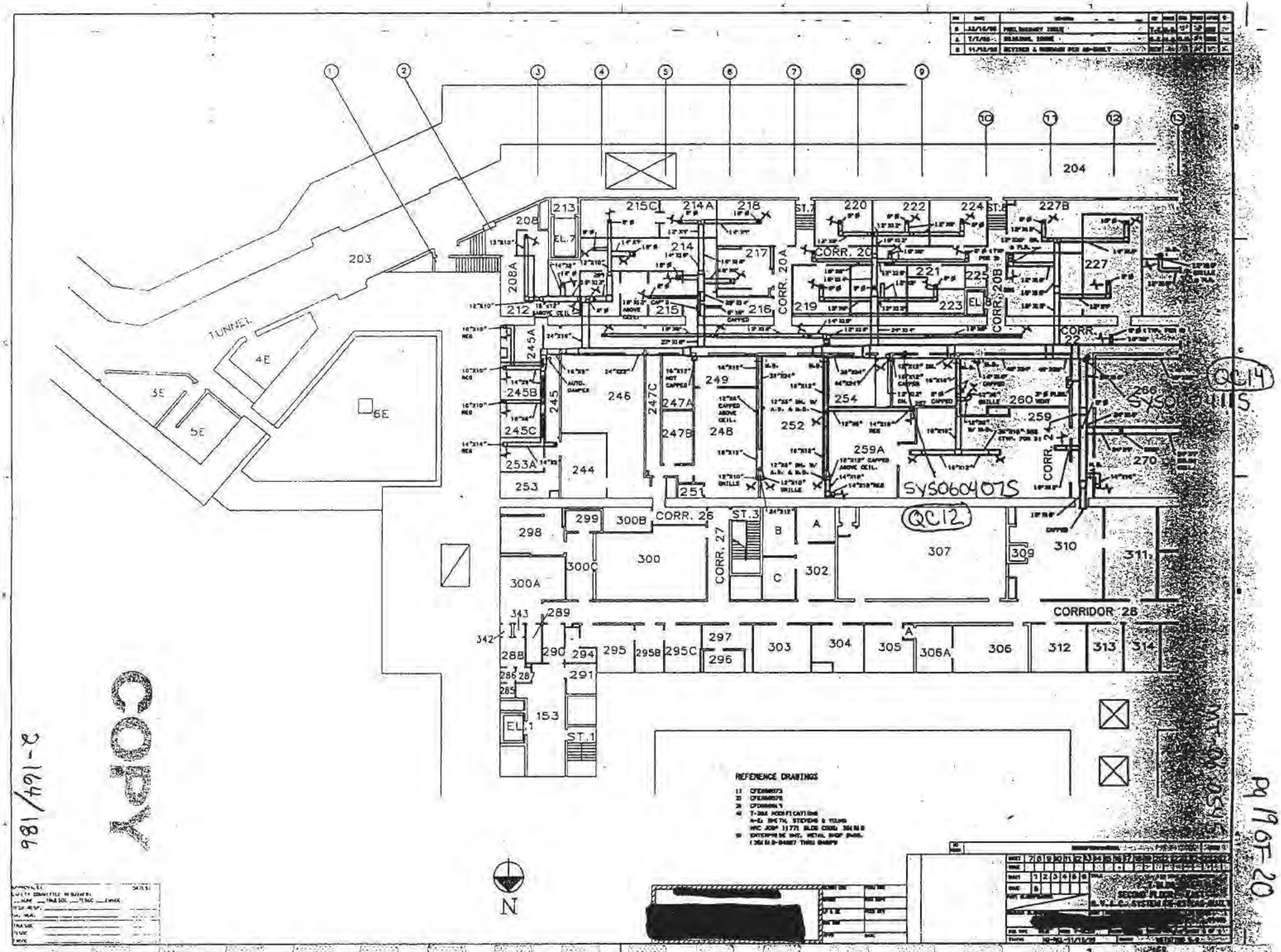

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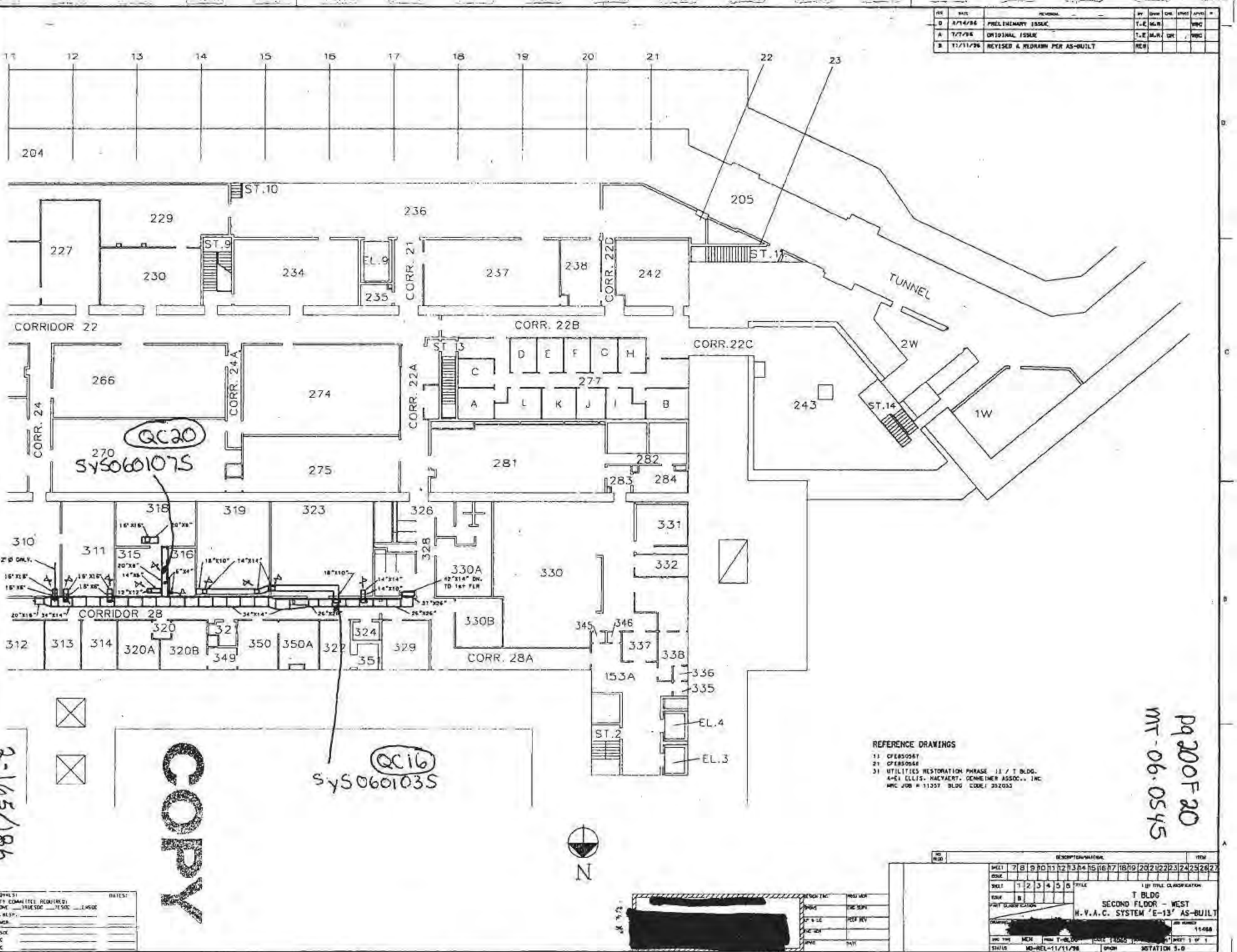
Pg 19 OF 20


11 12 13 14 15 16 17 18 19 20 21 22 23
204
205
ST.10
229
236
227
230
234
ST.9
EL.9
235
CORR. 21
237
238
CORR. 22D
242
ST.11
TUNNEL
CORRIDOR 22
CORR. 22B
CORR. 22C
2W
266
CORR. 24A
274
CORR. 22A
ST.13
C
D E F G H
277
A L K J I B
243
ST.14
1W
CORR. 24
QC20
270
SYS0601075
275
281
282
283
284
318
319
323
326
331
310
311
315
316
328
330A
330
332
CORRIDOR 28
320
321
324
330B
345
346
337
338
312
313
314
320A
320B
349
350
350A
322
35
329
CORR. 28A
153A
336
335
EL.4
ST.2
EL.3
QC16
SYS0601035
COPY
N
REFERENCE DRAWINGS
1) CFE850567
2) CFE850568
3) UTILITIES RESTORATION PHRASE II / T BLDG.
A-E: ELLIS- MACVAERT- GENHEIMER ASSOC., INC.
MMC JOB # 11357 BLDG CODE: 352033
T BLDG
SECOND FLOOR - WEST
H.V.A.C. SYSTEM 'E-13' AS-BUILT
11468
STATUS NO-REL-11/11/98
DRGN 3STATION 5.0
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pg 20 of 20
MT-06-0545

RADIOLOGICAL SURVEY DATA SHEET

WP 5/18/06

Page 1 of 7 10

LOCATION: (BLDG./AREA/ROOM) T BLDG Sys07-Sys12	SURVEY NO. MT-06-0319
PURPOSE: QC SAmples FOR T-09	RWP NO. N/A
	DATE: 3/17/06
	TIME: 0705

MAP/DRAWING

See attached sheet #6087

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LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr ($\beta+\eta+\gamma$) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm^2

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5892/5893	2/14/07

Completed by: (Signature) Wayne Jones	HP#	Date: 3/17/06
Completed by: (Print Name) WAYNE JONES J. JONES		
Counted by: (Signature) See attached	HP#	Date:
Counted by: (Print Name)		
Reviewed/Approved by: (Signature)	HP#	Date: 5-4-06
Reviewed/Approved by: (Print Name) J. HOLLABAUGH	2-166/186	

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	All	attached		T09QC-2
2				T09QC-10
3				T09QC-5
4				T09QC-14
5				T09QC-16
6				T09QC-7
7				T09QC-4
8				T09QC-11
9				T09QC-12
10				T09QC-6
11				T09QC-1
12				T09QC-9
13				T09QC-8
14				T09QC-3
15				T09QC-15
16	↓		↓	T09QC-13
		N	A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N	A	

COMMENTS: N A

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

MT-06-0319 pg 3 of 10

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: Mar_107
Batch Ended: 5/16/06 9:11
Cal. Due Date: 11/17/06
Serial Number: 26966-3

Batch ID: MT-06-0319 [16] QA SMEARS 1ST RUN, W. JONES 5-16-06 RLH

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	2.18		0.00	1.31	
A2	2	0.00	2.00		0.00	1.17	
A3	3	0.00	2.30		1.55	2.18	
A4	4	0.00	2.10		0.00	1.21	
B1	5	0.00	1.87		0.00	1.20	
B2	6	0.00	1.91		2.71	2.23	
B3	7	0.00	2.26		4.24	2.97	
B4	8	0.00	1.95		0.00	1.20	
C1	9	0.00	2.07		0.00	1.27	
C2	10	0.00	1.94		0.48	1.63	
C3	11	0.00	2.15		1.71	2.19	
C4	12	0.00	1.98		0.00	1.14	
D1	13	0.00	2.05		0.00	1.26	
D2	14	0.00	2.17		0.32	1.69	
D3	15	0.00	2.09		0.00	1.25	
D4	16	0.00	2.04		0.00	1.18	

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MARSSIM Smear Data

Assay Definition-

Assay Description:
MARSSIM Smear Data

Assay Type: DPM (Single)
Report Name: Report1
Output Data Path: D:\MARSSIM_LSC
Raw Results Path: C:\Packard\Tricarb\Results\5801\MARSSIM_Smear_1\20060516_0955.results
Comma-Delimited File Name: D:\MARSSIM_LSC\MT-06-0319.001
Assay File Name: C:\Packard\TriCarb\Assays\MARSSIM_Smear_1.lsa

Count Conditions-

Nuclide: H-3 Mound
  Quench Indicator: tSIE/AEC
  External Std Terminator (sec): 0.5 2s%
  Pre-Count Delay (min): 0.00
Quench Set:
  Low Energy: H-3 Smear
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.5	18.6	1st Vial
B	2.0	18.6	1st Vial
C	40.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: Off
Colored Samples: Off Heterogeneity Monitor: Off
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				

Protocol# 1 - MARSSIM_Smear_1.lsa User: 5801

MARSSIM Smear Data

B
C

Instrument Block Data
Machine=Tri-Carb 2900TR
Version=2.06
423022
MODEL=Tri-Carb 2900TR
VERSION=2.06
SERIAL=423022

Cycle 1 Results

DATE	TIME	S#	Count Time	CPMA	CPMB	CPMC	LUM	tSIE	DPM1	A:2S%	MESSAGES	P#
5/16/06	9:56:28 AM	-1	10.00	10	9	11	16	605.13	0	20.0	B	1
5/16/06	10:07:19 AM	0	2.00	270	263	4	0	531.68	529	8.8		1
5/16/06	10:10:02 AM	1	2.00	0	0	0	6	622.58	0	0.0		1
5/16/06	10:12:45 AM	2	2.00	0	0	0	0	643.05	0	0.0		1
5/16/06	10:15:28 AM	3	2.00	0	0	4	7	569.10	0	0.0		1
5/16/06	10:18:11 AM	4	2.00	0	0	0	0	629.89	0	0.0		1
5/16/06	10:20:54 AM	5	2.00	0	0	0	0	635.81	0	0.0		1
5/16/06	10:23:37 AM	6	2.00	0	1	0	5	635.63	0	*****		1
5/16/06	10:26:20 AM	7	2.00	64	55	0	5	519.63	126	19.3		1
5/16/06	10:29:04 AM	8	2.00	0	0	3	8	585.77	0	0.0		1
5/16/06	10:31:49 AM	9	2.00	413	368	0	0	598.14	766	7.1		1
5/16/06	10:34:32 AM	10	2.00	0	0	0	0	661.35	0	0.0		1
5/16/06	10:37:15 AM	11	2.00	0	0	4	0	625.30	0	0.0		1
5/16/06	10:39:58 AM	12	2.00	4	4	0	3	615.58	7	145.6		1
5/16/06	10:42:41 AM	13	2.00	0	0	0	6	624.69	0	0.0		1
5/16/06	10:45:24 AM	14	2.00	0	0	0	0	645.90	0	0.0		1
5/16/06	10:48:07 AM	15	2.00	0	0	0	7	591.75	0	0.0		1
5/16/06	10:50:49 AM	16	2.00	0	0	0	7	563.30	0	0.0		1

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Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: Mar_108
Batch Ended: 5/16/06 9:14
Cal. Due Date: 11/17/06
Serial Number: 26966-3

Batch ID: MT-06-0319 [16] QA SMEARS 2ND RUN, W. JONES 5-16-06 RLH

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	2.20		0.38	1.85	
A2	2	0.00	2.01		0.36	1.65	
A3	3	0.00	2.26		0.00	1.26	
A4	4	0.00	2.11		0.58	1.71	
B1	5	0.00	1.87		0.00	1.20	
B2	6	0.00	1.85		0.00	1.12	
B3	7	0.00	2.18		0.00	1.33	
B4	8	0.00	1.97		0.66	1.69	
C1	9	0.00	2.09		1.11	2.18	
C2	10	0.00	1.97		2.78	2.30	
C3	11	0.00	2.12		0.00	1.27	
C4	12	0.00	2.00		1.58	1.97	
D1	13	0.00	2.05		0.00	1.26	
D2	14	0.00	2.15		0.00	1.20	
D3	15	0.00	2.09		0.00	1.25	
D4	16	0.00	2.09		3.91	2.63	

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MT-06-0319 wo 3/18/06
pg ~~6 of 7~~ 9 of 10

QC samples for T-09
SYS07 - SYS-12

Sample ID#	QC ID#	Room #
SYS-12-3	T09 - QC-1	47 overhead
SYS-12-7	T09 - QC-2	78
SYS-08-13	T09 - QC-3	corridor 22
SYS-09-17	T09 - QC-4	15
SYS-07-16	T09 - QC-5	78A
SYS-12-18	T09 - QC-6	82 overhead
SYS-10-16	T09 - QC-7	99
SYS-07-6	T09 - QC-8	259
SYS-08-15	T09 - QC-9	T5W
SYS-12-8	T09 - QC-10	78
SYS-09-18	T09 - QC-11	15
SYS-08-9	T09 - QC-12	Corridor 7A
SYS-10-2	T09 - QC-13	226
SYS-11-3	T09 - QC-14	106
SYS-08-14	T09 - QC-15	corridor 22
SYS-11-16	T09 - QC-16	106

All

All QC ID # = 8/1/05
2350 # = 5928
Probe # 5927
RCTs = Hodges ([redacted])
Richardson ([redacted])

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T-Building QC Survey T09QC

RSDS# _MT-06-0319_____ RCT: [redacted] _____ RCT: [redacted] _____

Alpha	43-68 BKG:	0	EFF:	0.212	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 1
Beta	43-68 BKG:	0	EFF:	0.166	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector # : 2
Alpha Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # : 3
Beta Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector # : 4

TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	item	DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	T09QC2	5892	[redacted]	5893	1	1	3/16/06	7:03	1	120	4
ALPHA	T09QC10	5892	[redacted]	5893	1	2	3/16/06	7:09	1	120	4
ALPHA	T09QC5	5892	[redacted]	5893	1	3	3/16/06	7:18	3	120	11
ALPHA	T09QC14	5892	[redacted]	5893	1	4	3/16/06	7:24	3	120	11
ALPHA	T09QC16	5892	[redacted]	5893	1	5	3/16/06	7:29	1	120	4
ALPHA	T09QC7	5892	[redacted]	5893	1	6	3/16/06	7:42	5	120	19
ALPHA	T09QC4	5892	[redacted]	5893	1	7	3/16/06	9:35	5	120	19
ALPHA	T09QC11	5892	[redacted]	5893	1	8	3/16/06	9:41	0	120	0
ALPHA	T09QC12	5892	[redacted]	5893	1	9	3/16/06	9:48	5	120	19
ALPHA	T09QC6	5892	[redacted]	5893	1	10	3/16/06	10:08	4	120	15
ALPHA	T09QC1	5892	[redacted]	5893	1	11	3/16/06	10:19	3	120	11
ALPHA	T09QC9	5892	[redacted]	5893	1	12	3/16/06	12:34	2	120	7
ALPHA	T09QC8	5892	[redacted]	5893	1	13	3/16/06	12:44	5	120	19
ALPHA	T09QC3	5892	[redacted]	5893	1	14	3/16/06	12:49	2	120	7
ALPHA	T09QC15	5892	[redacted]	5893	1	15	3/16/06	12:53	4	120	15
ALPHA	T09QC13	5892	[redacted]	5893	1	16	3/16/06	13:01	2	120	7
BETA	T09QC2	5892	[redacted]	5893	2	17	3/16/06	7:04	101	60	966
BETA	T09QC10	5892	[redacted]	5893	2	18	3/16/06	7:10	101	60	966
BETA	T09QC5	5892	[redacted]	5893	2	19	3/16/06	7:19	88	60	841
BETA	T09QC14	5892	[redacted]	5893	2	20	3/16/06	7:25	155	60	1482
BETA	T09QC16	5892	[redacted]	5893	2	21	3/16/06	7:30	165	60	1578
BETA	T09QC7	5892	[redacted]	5893	2	22	3/16/06	7:43	83	60	794
BETA	T09QC4	5892	[redacted]	5893	2	23	3/16/06	9:36	135	60	1291
BETA	T09QC11	5892	[redacted]	5893	2	24	3/16/06	9:43	145	60	1386
BETA	T09QC12	5892	[redacted]	5893	2	25	3/16/06	9:49	117	60	1119
BETA	T09QC6	5892	[redacted]	5893	2	26	3/16/06	10:10	86	60	822
BETA	T09QC1	5892	[redacted]	5893	2	27	3/16/06	10:20	99	60	947
BETA	T09QC9	5892	[redacted]	5893	2	28	3/16/06	12:35	76	60	727
BETA	T09QC8	5892	[redacted]	5893	2	29	3/16/06	12:45	76	60	727
BETA	T09QC3	5892	[redacted]	5893	2	30	3/16/06	12:50	103	60	985
BETA	T09QC15	5892	[redacted]	5893	2	31	3/16/06	12:54	111	60	1061
BETA	T09QC13	5892	[redacted]	5893	2	32	3/16/06	13:02	129	60	1234

W 05/18/06

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RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) T-BLDG See Maps	SURVEY NO. MT-06-0543
PURPOSE: Supply SYS03, SYS04. QC T10	RWP NO. N/A
	DATE: 6-2-06
	TIME: 1100

MAP / DRAWING

SEE ATTACHED.

SCANNED AROUND LOCATION 1m² α/β. NO ELEVATED READINGS DETECTED.

LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
K = factor of 1000
— · — · — = radiological boundary

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△# = mrem/hr neutron
(#) = swipe number
[#] = air sample number
(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5927/5926	5/21/07 ✓
	N	
	A	

Completed by: (Signature) [redacted] Date: 6-2-06
Completed by: (Print Name) S Richardson & Hodges
Counted by: (Signature) SEE ATTACHED HP# N/A Date: N/A
Counted by: (Print Name) sheets 2-176/186
Reviewed/Approved by: (Signature) [redacted] Date: 6-7-06
Reviewed/Approved by: (Print Name) Jerry Taylor

Survey No. MT-06-0543

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTACHED		T10QC 04
2				T10QC 16
3				T10QC 12
4				T10QC 10
5				T10QC 07
6				T10QC 03
7				T10QC 15
8				T10QC 09
9				T10QC 14
10				T10QC 02
11				T10QC 01
12				T10QC 05
13				T10QC 11
14				T10QC 08
15				T10QC 13
16	SEE	ATTACHED		T10QC 06
			N/A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
			N/A	

COMMENTS: N/A

COPY

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

MARSSIM Smear Data

Assay Definition-

Assay Description:
MARSSIM Smear Data

Assay Type: DPM (Single)
Report Name: Report1
Output Data Path: D:\MARSSIM_LSC
Raw Results Path: C:\Packard\Tricarb\Results\5801\MARSSIM_Smear_4\20060605_1112.results
Comma-Delimited File Name: D:\MARSSIM_LSC\MT-06-0543.001
Assay File Name: C:\Packard\TriCarb\Assays\MARSSIM_Smear_4.lsa

Count Conditions-

Nuclide: H-3 Mound
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Set:
Low Energy: H-3 Smear
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.5	18.6	1st Vial
B	2.0	18.6	1st Vial
C	40.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: Off
Colored Samples: Off Heterogeneity Monitor: Off
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				

MARSSIM Smear Data

B
C

Instrument Block Data
Machine=Tri-Carb 2900TR
Version=2.06
423022
MODEL=Tri-Carb 2900TR
VERSION=2.06
SERIAL=423022

Cycle 1 Results

DATE	TIME	S#	Count Time	CPMA	CPMB	CPMC	LUM	tSIE	DPM1	A:2S%	MESSAGES	P#
6/5/06	11:13:40 AM	-1	10.00	9	8	12	8	628.03	0	20.8	B	4
6/5/06	11:24:32 AM	0	2.00	127	122	0	1	541.88	246	13.1		4
6/5/06	11:27:15 AM	1	2.00	1	2	0	5	451.90	1	801.7		4
6/5/06	11:29:58 AM	2	2.00	0	1	0	0	483.67	0	0.0		4
6/5/06	11:32:41 AM	3	2.00	0	1	1	0	505.52	0	0.0		4
6/5/06	11:35:24 AM	4	2.00	0	0	0	7	533.35	0	0.0		4
6/5/06	11:38:06 AM	5	2.00	0	0	0	0	611.64	0	0.0		4
6/5/06	11:40:48 AM	6	2.00	0	1	0	0	620.55	0	0.0		4
6/5/06	11:43:32 AM	7	2.00	0	0	0	0	636.41	0	0.0		4
6/5/06	11:46:15 AM	8	2.00	1	2	0	0	590.48	1	654.6		4
6/5/06	11:49:00 AM	9	2.00	0	0	0	0	593.30	0	0.0		4
6/5/06	11:51:43 AM	10	2.00	0	0	1	0	536.73	0	0.0		4
6/5/06	11:54:26 AM	11	2.00	0	0	0	0	466.28	0	0.0		4
6/5/06	11:57:12 AM	12	2.00	157	106	0	92	435.21	342	11.7		4
6/5/06	11:59:58 AM	13	2.00	0	1	0	0	571.11	0	0.0		4
6/5/06	12:02:40 PM	14	2.00	9	8	0	3	498.04	18	71.2		4
6/5/06	12:05:23 PM	15	2.00	18	12	2	2	568.88	34	42.3		4
6/5/06	12:08:06 PM	16	2.00	0	0	0	9	562.77	0	0.0		4

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: Mar_155
Batch Ended: 6/5/06 10:08
Cal. Due Date: 11/17/06
Serial Number: 26966-3

Batch ID: MT-06-0543 [16] QC SAMPLES 1ST RUN, RICHARDSON 6-5-06 RLH

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	2.21		1.68	2.26	
A2	2	0.00	2.04		2.68	2.33	
A3	3	0.00	2.28		0.30	1.78	
A4	4	0.00	2.10		0.00	1.21	
B1	5	0.00	1.89		0.25	1.68	
B2	6	0.00	1.89		1.59	1.93	
B3	7	0.00	2.22		1.59	2.30	
B4	8	0.00	1.95		0.00	1.20	
C1	9	0.00	2.11		2.36	2.52	
C2	10	0.00	1.98		3.92	2.58	
C3	11	0.00	2.14		0.45	1.79	
C4	12	0.00	1.99		0.45	1.61	
D1	13	0.00	2.05		0.00	1.26	
D2	14	0.00	2.15		0.00	1.20	
D3	15	0.00	2.09		0.00	1.25	
D4 ✓	16	0.00	2.04		0.00	1.18	

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← 6.6.06

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MARSSIM Smear Data

Assay Definition-

Assay Description:
MARSSIM Smear Data

Assay Type: DPM (Single)
Report Name: Report1
Output Data Path: D:\MARSSIM_LSC
Raw Results Path: C:\Packard\Tricarb\Results\5801\MARSSIM_Smear_4\20060605_1314.results
Comma-Delimited File Name: D:\MARSSIM_LSC\MT-06-0543.002
Assay File Name: C:\Packard\TriCarb\Assays\MARSSIM_Smear_4.lsa

Count Conditions-

Nuclide: H-3 Mound
Quench Indicator: tSIE/AEC
External Std Terminator (sec): 0.5 2s%
Pre-Count Delay (min): 0.00
Quench Set:
Low Energy: H-3 Smear
Count Time (min): 2.00
Count Mode: Normal
Assay Count Cycles: 1 Repeat Sample Count: 1
#Vials/Sample: 1 Calculate % Reference: Off

Background Subtract: On - 1st Vial
Low CPM Threshold: Off
2 Sigma % Terminator: Off

Regions	LL	UL	Bkg Subtract
A	0.5	18.6	1st Vial
B	2.0	18.6	1st Vial
C	40.0	2000.0	1st Vial

Count Corrections-

Static Controller: On Luminescence Correction: Off
Colored Samples: Off Heterogeneity Monitor: Off
Coincidence Time (nsec): 18 Delay Before Burst (nsec): 75

Half Life-

Half Life Correction: Off

Regions	Half Life	Units	Reference Date	Reference Time
A				

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MARSSIM Smear Data

B
C

Instrument Block Data
Machine=Tri-Carb 2900TR
Version=2.06
423022
MODEL=Tri-Carb 2900TR
VERSION=2.06
SERIAL=423022

Cycle 1 Results

DATE	TIME	S#	Count Time	CPMA	CPMB	CPMC	LUM	tSIE	DPM1	A:2S%	MESSAGES	P#
6/5/06	1:14:49 PM	-1	10.00	8	7	12	13	628.40	0	22.3	B	4
6/5/06	1:25:40 PM	0	2.00	113	111	0	2	540.83	221	13.8		4
6/5/06	1:28:24 PM	1	2.00	0	0	0	0	402.52	0	0.0		4
6/5/06	1:31:06 PM	2	2.00	0	0	0	6	458.84	0	0.0		4
6/5/06	1:33:50 PM	3	2.00	0	0	0	7	491.61	0	0.0		4
6/5/06	1:36:34 PM	4	2.00	0	0	0	7	515.24	0	0.0		4
6/5/06	1:39:17 PM	5	2.00	0	0	0	0	591.04	0	0.0		4
6/5/06	1:41:59 PM	6	2.00	0	0	0	0	611.25	0	0.0		4
6/5/06	1:44:41 PM	7	2.00	0	0	0	0	631.12	0	0.0		4
6/5/06	1:47:24 PM	8	2.00	0	0	0	6	577.00	0	3440.1		4
6/5/06	1:50:08 PM	9	2.00	1	2	0	0	576.64	3	337.5		4
6/5/06	1:52:52 PM	10	2.00	1	2	0	0	524.82	2	450.7		4
6/5/06	1:55:35 PM	11	2.00	0	0	0	6	436.46	0	0.0		4
6/5/06	1:58:20 PM	12	2.00	68	54	0	89	403.05	154	18.3		4
6/5/06	2:01:05 PM	13	2.00	0	1	0	0	552.47	1	1029.4		4
6/5/06	2:03:48 PM	14	2.00	0	0	0	0	473.54	0	0.0		4
6/5/06	2:06:31 PM	15	2.00	0	0	0	0	546.91	0	0.0		4
6/5/06	2:09:14 PM	✓16	2.00	0	0	0	6	531.30	0	3278.4		4

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Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: Mar_156
Batch Ended: 6/5/06 10:10
Cal. Due Date: 11/17/06
Serial Number: 26966-3

Batch ID: MT-06-0543 [16] QC SAMPLES 2ND RUN, RICHARDSON 6-5-06 RLH

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
A1	1	0.00	2.23		2.98	2.62	
A2	2	1.79	2.06		3.68	2.61	
A3	3	0.00	2.28		0.30	1.78	
A4	4	0.00	2.11		0.58	1.71	
B1	5	0.00	1.89		0.25	1.68	
B2	6	0.00	1.89		1.59	1.93	
B3	7	0.00	2.20		0.27	1.88	
B4	8	0.00	1.99		1.85	2.07	
C1	9	0.00	2.09		1.11	2.18	
C2	10	0.00	1.93		0.00	1.15	
C3	11	0.00	2.12		0.00	1.27	
C4	12	0.00	1.98		0.00	1.14	
D1	13	1.73	2.05		0.00	1.26	
D2	14	0.00	2.15		0.00	1.20	
D3	15	0.00	2.09		0.00	1.25	
D4 ✓	16	0.00	2.06		1.57	2.03	

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6.7 wl

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MT-06-0543

T-Building QC T10 ventilation supply

RSDS# MT-06-0543 RCT: [redacted] RCT: [redacted]

Alpha	43-68 BKG:	0	EFF:	0.2	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector #: 1
Beta	43-68 BKG:	0	EFF:	0.1611	PROBE AREA:	126	cm^2	Surface Eff:		0.5	Detector #: 2
Alpha Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector #: 3
Beta Scan	43-37 BKG:	0	EFF:	0.22	PROBE AREA:	584	cm^2	Surface Eff:		0.5	Detector #: 4

TYPE	LOCATION	2350#	RCT ID	PROBE	DET #	item	DATE	TIME	CNTS	CT TIME	dpm/100cm2
ALPHA	T10QC04	5922	[redacted]	5926	1	1	6/1/06	7:36	13	120	52
ALPHA	T10QC16	5922		5926	1	2	6/1/06	7:42	11	120	44
ALPHA	T10QC12	5922		5926	1	3	6/1/06	7:46	6	120	24
ALPHA	T10QC10	5922		5926	1	4	6/1/06	7:57	6	120	24
ALPHA	T10QC07	5922		5926	1	5	6/1/06	8:02	11	120	44
ALPHA	T10QC03	5922		5926	1	6	6/1/06	8:11	4	120	16
ALPHA	T10QC15	5922		5926	1	7	6/1/06	8:15	7	120	28
ALPHA	T10QC09	5922		5926	1	8	6/1/06	8:25	6	120	24
ALPHA	T10QC14	5922		5926	1	9	6/1/06	8:31	8	120	32
ALPHA	T10QC02	5922		5926	1	10	6/1/06	8:39	8	120	32
ALPHA	T10QC01	5922		5926	1	11	6/1/06	13:59	8	120	32
ALPHA	T10QC05	5922		5926	1	12	6/1/06	14:04	18	120	71
ALPHA	T10QC11	5922		5926	1	13	6/1/06	14:08	7	120	28
ALPHA	T10QC08	5922		5926	1	14	6/1/06	14:26	10	120	40
ALPHA	T10QC13	5922		5926	1	15	6/1/06	14:31	7	120	28
ALPHA	T10QC06	5922		5926	1	16	6/2/06	9:33	17	120	67 ✓
BETA	T10QC04	5922		5926	2	1	6/1/06	7:38	118	60	1163
BETA	T10QC16	5922		5926	2	2	6/1/06	7:43	320	60	3153
BETA	T10QC12	5922		5926	2	3	6/1/06	7:47	91	60	897
BETA	T10QC10	5922		5926	2	4	6/1/06	7:58	99	60	975
BETA	T10QC07	5922		5926	2	5	6/1/06	8:03	74	60	729
BETA	T10QC03	5922		5926	2	6	6/1/06	8:12	82	60	808
BETA	T10QC15	5922		5926	2	7	6/1/06	8:16	78	60	769
BETA	T10QC09	5922		5926	2	8	6/1/06	8:27	82	60	808
BETA	T10QC14	5922		5926	2	9	6/1/06	8:32	111	60	1094
BETA	T10QC02	5922		5926	2	10	6/1/06	8:40	123	60	1212
BETA	T10QC01	5922		5926	2	11	6/1/06	14:00	193	60	1902
BETA	T10QC05	5922		5926	2	12	6/1/06	14:05	204	60	2010
BETA	T10QC11	5922		5926	2	13	6/1/06	14:09	162	60	1596
BETA	T10QC08	5922		5926	2	14	6/1/06	14:27	125	60	1232
BETA	T10QC13	5922		5926	2	15	6/1/06	14:32	153	60	1507
BETA	T10QC06	5922		5926	2	16	6/2/06	9:34	122	60	1202 ✓

N/A

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QC samples for T-10

Take static measurements, smears and scan 1m^2 area around each location

QC ID#	SU#	Original Sample ID#	Original RSDS #	Room #	
T10QC-01	SYS04	SYS04S1A3S	05-823	W. Penthouse	housing WALL S1A
T10QC-02	SYS04	SYS04S23AJ	05-799	INTAKE screen	S-23
T10QC-03	SYS03	SYS03S2210	05-805	bottom housing	S-22
T10QC-04	SYS04	SYS043101	05-800	screen	S-31
T10QC-05	SYS04	SYS04S1A1S	05-823	W. Penthouse	filter frame S1A
T10QC-06	SYS03	SYS03S1106	805	bottom of housing	S-11
T10QC-07	SYS03	SYS03S2113	05-805	filter frame	S-21
T10QC-08	SYS03	SYS03S101J	05-836	E. Penthouse	bottom of housing S1
T10QC-09	SYS03	SYS03S1201	05-805	filter frame	S-12
T10QC-10	SYS03	SYS03S2114	05-805	bottom of housing	S-21
T10QC-11	SYS04	SYS04S1A2S	05-823	W. Penthouse	bottom of housing S1A
T10QC-12	SYS04	SYS043104	05-800	WALL	S-31
T10QC-13	SYS03	SYS03S101S	05-836	E. Penthouse	filter frame S1
T10QC-14	SYS03	SYS03S1204	05-805	filter screen	S-12
T10QC-15	SYS03	SYS03S2211	05-805	WALL housing	S-22
T10QC-16	SYS04	SYS043103	05-800	filter housing	S-31

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(Supplemental sheet for biased measurements)

RSDS # MT-06-0543
RCT INT/HP SR [redacted] 6H [redacted]

Label	Room	Surface	LX	LY
T10QC 04	~~78~~ 90	METAL	SEE PG	10
T10QC 16	~~78~~ 90	filter		
T10QC 12	~~78~~ 90	METAL		
T10QC 10	78	METAL		
T10QC 07	78	filter		
T10QC 03	78	METAL		
T10QC 15	78	METAL		
T10QC 09	78	filter		
T10QC 14	78	filter		
T10QC 02	90	METAL		
T10QC 01	West Penthouse	METAL		
T10QC 05	West Penthouse	filter		
T10QC 11	West Penthouse	METAL		
T10QC 08	East Penthouse	METAL		
T10QC 13	East Penthouse	filter		
T10QC 06	78	METAL	SEE PAGE	10

J- designator represents measurement as judgmental location
E-designator represents measurement as potentially elevated activity.
D-designator represents measurement at a drain.
V-designator represents measurement on ventalation system.
U-designator represents measurement on a utility drop.

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Attachment 3 – Soil Analysis Reports for T-11 QC Samples

1" sample

SOIL ANALYSIS REPORT

Field Sample ID:
Lab Sample ID: GL09702
File ID: 25000113.s0
Priority: Yes

Description\Location
0600454 Resrad T-48 Duplicate
Long Count

Collector:
Date Received: 01/26/06
Date Collected: 01/26/06

Radionuclide		Activity (pCi/g)	MDA
Co-60		80.48	0.69
Cs-137		0.84	0.35
Pb-210	*	1.08	2.18
Ra-226	*	0.19	2.94
Ac-227 (D)	*	0	1.15
Th-230	*	0	23.81
Th-232 (D)	*	0	4.43
Pu-238	*	0	16.12
Am-241	*	0	0.25

Other Nuclides

Radionuclide	Activity (pCi/g)	MDA
Ag-108m	0.03	0.28
Bi-207	1.66	0.25
Bi-210m	13.21	0.42

Σ_{DOT} 0.15 nCi/g

Instrument type: High Purity Germanium

Σ_{DOT} 2nCi/g limit, total activity.

(D) Denotes identification by daughter emissions. Sample is Assumed to be in secular equilibrium.

* Indicates activity < MDA. MDA used in limits calculation

Comments: U-238D 10.13 pCi/g 77.4 MDA

Date: 01/28/06 Counted By: 5288 Analyzed By: 5288 Initials

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SOIL ANALYSIS REPORT

Field Sample ID:
Lab Sample ID: GL09762
File ID: 25000115.s0
Priority: Yes

Description\Location
0600460 Resrad T-48
Long Count

Collector: 7728
Date Received: 01/30/06
Date Collected:01/27/06

Radionuclide		Activity (pCi/g)	MDA
Co-60		104.1	0.32
Cs-137		1.97	0.22
Pb-210	*	0.44	1.01
Ra-226	*	1.06	1.39
Ac-227 (D)	*	0.26	0.48
Th-230	*	0	9.1
Th-232 (D)	*	0	2.5
Pu-238	*	0	7.22
Am-241	*	0.02	0.1

Other Nuclides

Radionuclide	Activity (pCi/g)	MDA
Ag-108m	0.09	0.14
Bi-207	0.27	0.13
Bi-210m	0.97	0.21

$\sum_{DOT}$ 0.13 nCi/g

Instrument type: High Purity Germanium

$\sum_{DOT}$ 2nCi/g limit, total activity.

(D) Denotes identification by daughter emissions. Sample is Assumed to be in secular equilibrium.

* Indicates activity < MDA. MDA used in limits calculation

Comments: U-238d 4.03 pCi/g 44.88 MDA
Eu-154 .8 pCi/g .18 MDA

Date: 02/01/06 Counted By: [redacted] Analyzed By: [redacted] Initials GB

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1st sample

SOIL ANALYSIS REPORT

Field Sample ID:
Lab Sample ID: GL09701
File ID: 25000112.s0
Priority: Yes

Description\Location
0600453 Resrad T-48
Long Count

Collector:
Date Received: 01/26/06
Date Collected: 01/26/06

Radionuclide		Activity (pCi/g)	MDA
Co-60		22.15	0.22
Cs-137		0.37	0.26
Pb-210	*	0	1.6
Ra-226	*	1.42	2.41
Ac-227 (D)	*	0	0.81
Th-230	*	4.12	21.04
Th-232 (D)	*	0.37	1.36
Pu-238	*	0	13.45
Am-241	*	0	0.22

Other Nuclides

Radionuclide	Activity (pCi/g)	MDA
Ag-108m	0.15	0.19
Bi-207	1.44	0.15
Bi-210m	13.91	0.24

Σ_{DOT} 0.08 nCi/g

Instrument type: High Purity Germanium

Σ_{DOT} 2nCi/g limit, total activity.

(D) Denotes identification by daughter emissions. Sample is Assumed to be in secular equilibrium.

* Indicates activity < MDA. MDA used in limits calculation

Comments: U-238D 0.0 pCi/g 62.92 MDA

Date: 01/28/06 Counted By: [redacted] Analyzed By: [redacted] Initials

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Attachment 4 – Radiological Survey Data Sheets With Updated Calibration Dates

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) T-Bldg T-204	SURVEY NO. MT-06-0132
PURPOSE: Upper & Lower Judgement 2.502-D	RWP NO. N/A
	DATE: 2-06-06
	TIME: 0700

MAP / DRAWING

NO ELEVATED READINGS @ 1/3'

COPY

LEGEND:

= mrem/hr (γ) whole body

#E = mrem/hr (β+η+γ) extremity on contact

K = factor of 1000

— · — · — = radiological boundary

△ # = mrem/hr neutron

(#) = swipe number

[#] = air sample number

(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5854/5861	7-28-05 06 2/1/06 gc
	N	
	A	

Completed by: (Signature) Donna Watson / B.J Roe — Date: 2-8-06

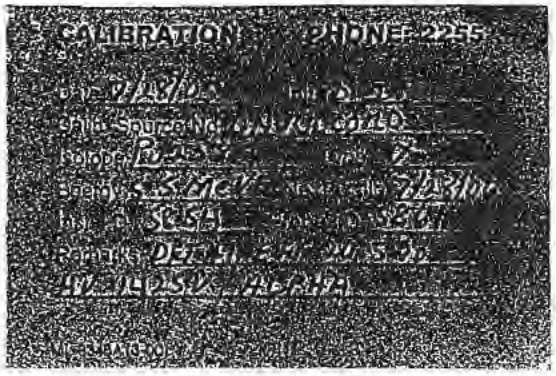
Completed by: (Print Name) Donna Watson / B.J Roe

Counted by: (Signature) See Attached Sheets — HP# N/A — Date: N/A

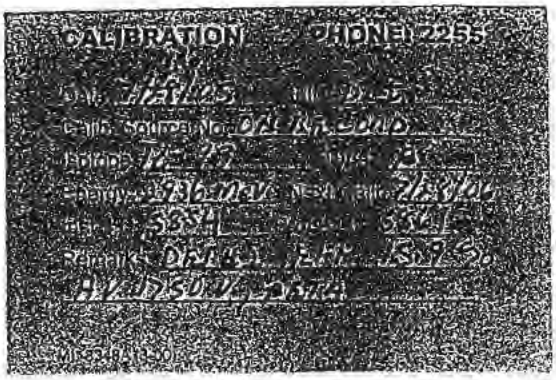
Counted by: (Print Name)

Reviewed/Approved by: (Signature) Jerry Taylor — Date: 2-8-06

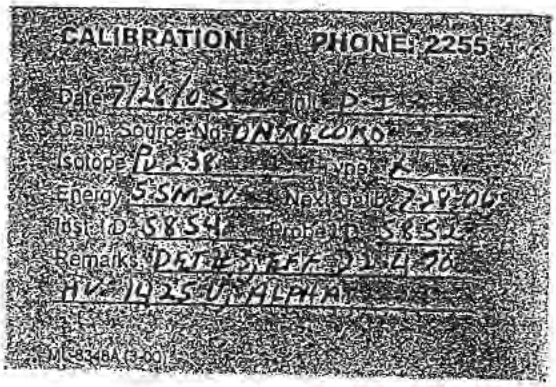
Reviewed/Approved by: (Print Name) Jerry Taylor 4-1/88



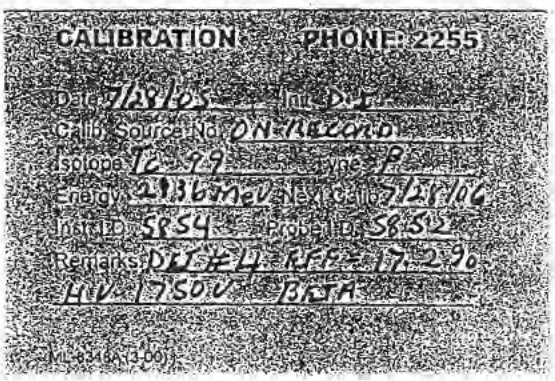
D1



Before
10-26-05 D2
(AFTER 10.24.05
EFF 0.19 gm)



D1



D1

AFTER 7/

COPY

5854

4-2/88

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) T-154/A-1, 155A	SURVEY NO. MT-05-088
PURPOSE: MARSSim ALPHA / BETA SURVEY ON FLOOR, UPPER AND LOWER WALLS DOSE RATE SURVEY	RWP NO. N/A
	DATE: 1-26-05
	TIME: 0900

5N-07

MAP/DRAWING

5 MICRO REM/HR BACKGROUND

5 MICRO REM/HR IN ALL GENERAL AREAS.

ALPHA/BETA SCAN PERFORMED ON ALL WALLS, 100% UP TO 2 METERS, 25% ABOVE NO α/β- ELEVATED LEVELS DETECTED, AND NO ALARMS ON 5N-01-01 AND 5N01-02

ALPHA/BETA SCAN PERFORMED ON FLOORS, 100% ELEVATED LEVELS DETECTED AT AREAS DESIGNATED 5N-01-1E, ~~5N-01-2E~~ 3-23-05 AND 5N-01-3E

COPY

LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
α or β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5877 / 5863	10-12-05
2350	5878 / 5882	4-12-05 10-12-05 NC
2350	5858 / 5860	11-12-05 1/26/05
2350	5883 / 5885	1-7-06
MICRO REM	3982	8-30-05

Completed by: (Signature)	[redacted]	EID #	DATE: 1-26-05
Completed by: (Print Name)	NEAL REYNOLDS		
Counted by: (Signature)	SEE ATTACHED	HP # N	DATE: A
Counted by: (Print Name)			
Reviewed/Approved by: (Signature)	[redacted]	HP #	DATE: 2-14-05
Reviewed/Approved by: (Print Name)	Jerry Taylor		

ML-9620 (2-98)

4-3/88

Date 10/12/04 Init. CKA
Calib. Source No. on Record
Isotope Tc-99 Type β
Energy .292 MeV. Next Calib. 10/12/05
Inst. I.D. 5877/5878 Probe I.D.: 5881
Remarks: D4, H.V. = 1100
βeff = 14.3%

D4

ML-8348A (3-00)

AS OF 5/5/05

Date 10/12/04 Init. CKA
Calib. Source No. on Record
Isotope Pu 238 Type α
Energy 5.5 MeV. Next Calib. 10/12/05
Inst. I.D. 5877 or 5878 Probe I.D.: 5881
Remarks: D3, H.V. = 1400
αeff = 21.59%

D3

ML-8348A (3-00)

CALIBRATION **PHONE: 2255**

Date 10/12/04 Init. CKA
Calib. Source No. on Record
Isotope Pu 238 Type α
Energy 5.5 MeV. Next Calib. 10/12/05
Inst. I.D.: 5877/5878 Probe I.D.: 5882
Remarks: D5, H.V. = 1300
αeff = 22.14%

D5

ML-8348A (3-00)

CALIBRATION **PHONE: 2255**

Date 10/12/04 Init. CKA
Calib. Source No. on Record
Isotope Tc-99 Type β
Energy .292 MeV. Next Calib. 10/12/05
Inst. I.D.: 5877/5878 Probe I.D.: 5882
Remarks: D6, H.V. = 1700
βeff = 17.26%

D6

ML-8348A (3-00)

5877/5878 as of 5/5/05
Tagged out of Cal 10-13-05

COPY

4-4/88

RADIOLOGICAL SURVEY DATA SHEET

LOCATION (BLDG./AREA/ROOM): 5-05-214	SURVEY NO.: MT-05-021
PURPOSE: POST ACID ETCH DECON SURVEY 5N07	RWP NO.: N/A
	DATE: 2-4-05
	TIME: 1440

MAP/DRAWING

ELEVATED AREA 5N-0101-6E WAS FOUND DURING POST DECON SURVEY OF 5N-01-5E (SEE RSDS# MT-05-012)

THIS AREA IS FOUND TO BE BELOW RELEASE LIMITS SEE PAGE 6.

REMOVABLE CONTAMINATION IS ALSO BELOW RELEASE LIMITS. SEE PAGE 4 AND 5

ELEVATED AREA IS APPROXIMATELY PROBE SIZE 6¼" X 18¼"

COPY

LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) = or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5878 / 5882	4-19-05
		10-12-05
	N	
	A	

Completed by: (Signature)		HP #	DATE: 2-4-05
Completed by: (Print Name)	NEAL REYNOLDS		
Counted by: (Signature)	SEE	HP # N	DATE: A
Counted by: (Print Name)	ATTACHED		
Reviewed/Approved by: (Signature)		HP #	DATE: 2-22-05
Reviewed/Approved by: (Print Name)	Terry Taylor		

ML-9620 (2-98)

4-5/88

CALIBRATION **PHONE: 2255**

Date 10/12/04 Init. CKA
Calib. Source No. on Record
Isotope Tc-99 Type β
Energy .292 MeV. Next Calib. 10/12/05
Inst. I.D.: 5877/5878 Probe I.D.: 5881
Remarks: D4, H.V. = 1700 V
β eff = 14.3%

D4

ML-8348A (3-00)

AS OF 5/5/05

CALIBRATION **PHONE: 2255**

Date 10/12/04 Init. CKA
Calib. Source No. on Record
Isotope Pu 238 Type α
Energy 5.5 MeV. Next Calib. 10/12/05
Inst. I.D.: 5877 or 5878 Probe I.D.: 5881
Remarks: D3, H.V. = 1410
α eff = 21.59%

D3

ML-8348A (3-00)

CALIBRATION **PHONE: 2255**

Date 10/12/04 Init. CKA
Calib. Source No. on Record
Isotope Pu 238 Type α
Energy 5.5 MeV. Next Calib. 10/12/05
Inst. I.D.: 5877/5878 Probe I.D.: 5882
Remarks: D5, H.V. = 1300
α eff = 22.14%

D5

ML-8348A (3-00)

CALIBRATION **PHONE: 2255**

Date 10/12/04 Init. CKA
Calib. Source No. on Record
Isotope Tc-99 Type β
Energy .292 MeV. Next Calib. 10/12/05
Inst. I.D.: 5877/5878 Probe I.D.: 5882
Remarks: D6, H.V. = 1700
β eff = 17.26%

D6

ML-8348A (3-00)

5877/5878 as of 5/5/05
Tagged out of Cal 10-13-05

COPY

4-6/88

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 3

LOCATION: (BLDG./AREA/ROOM) T-554-A-0-1/2	SURVEY NO. MT-05-242
PURPOSE: CHARACTERIZE ELEVATED AREA	RWP NO. N/A
	DATE: 5-11-05
	TIME: 0830

5NO7

MAP/DRAWING

ELEVATED AREA AT LOCATION 154A 0101E HAD ACTIVITY OF 159 DPM/100 cm² & SEE PAGE 3 NO REMOVABLE CONTAMINATION FOUND. AREA IS TO BE DECONNED.

Refer to MT-06-0353 for follow-up (5NOT0101PR)

COPY

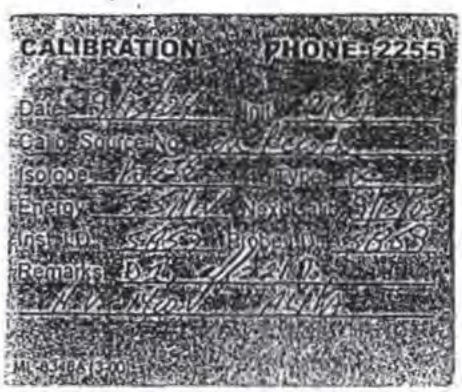
LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /□ = direct cont. measurement in dpm/100cm²

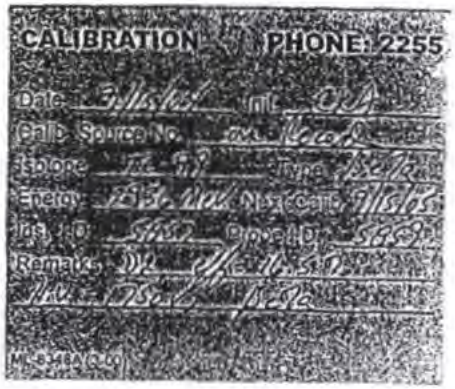
INSTRUMENTS USED

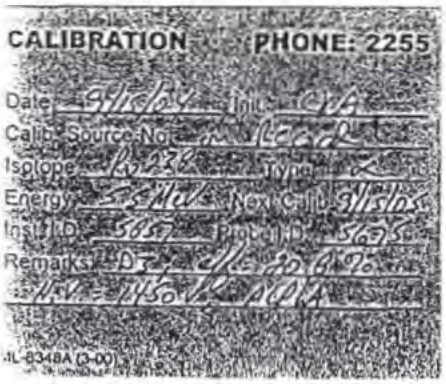
Instrument	Serial Number	Cal. Due Date
2350	5857/5859	9-15-05 ~~9-11-05~~
	/	
	N	
	A	

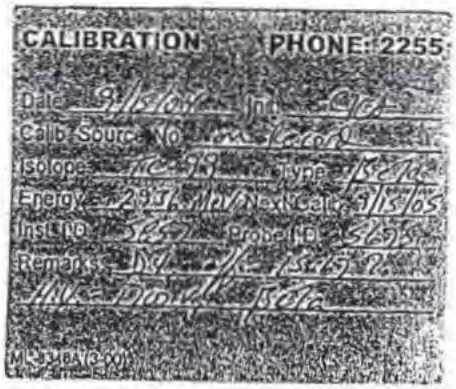
Completed by: (Signature)		Date: 5-11-05
Completed by: (Print Name) NEAL REYNOLDS J Merrill		
Counted by: (Signature) SEE	HP# N/A	Date:
Counted by: (Print Name) ATTACHED		
Reviewed/Approved by: (Signature)	HP#	Date: 5-14-05
Reviewed/Approved by: (Print Name) Jerry Taylor		

ML-9620 (2-98) 4-7/88









5857

COPY

Cart 9
Before 9/15/05

04-0449
PG 051

4-8/88

5857

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 7 (8-pg 11/7/05) 82 7-14-05

LOCATION: (BLDG./AREA/ROOM) T-Bldg Room 330	SURVEY NO. MT-05-467
PURPOSE: Backup data for Honda 2N13/2N14 ~~2N-08~~ 8/19/05 ~~2N-08~~ 2/24/06	RWP NO. N/A
	DATE: 7-14-05
	TIME: 0735

MAP/DRAWING

Base 2350-1 readings taken as comparasion to the SCM-2 elevated readings

2N040101E Follow-ups
Post Remediation Survey Hole #1 Scan only MT-05-547
DIRECT READINGS MT-05-0573
SMEARS RESULTS MT-05-0591
Post Remediation Survey Verification MT-05-753

2N040104E
2N040105E
2N040106E
> Follow-ups
Post Hole #7 REMEDIATION Survey (SCAN ONLY) MT-05-~~755 (2N14)~~ 547 2/24/06 JM
Post Remediation Verification MT-05-753

2N040102E
2N040103E
~~2N040104E 2/24/06 JM~~
> Hole #5 Post Remediation Scan only MT-05-547
Post Remediation Verification MT-05-753

COPY

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

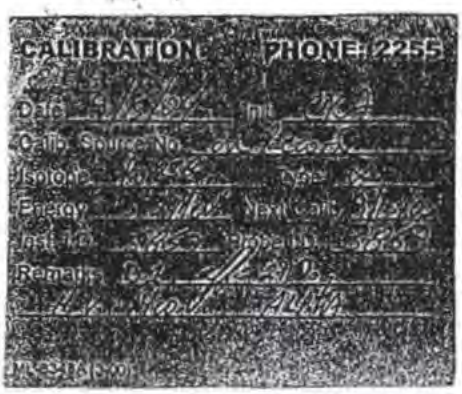
INSTRUMENTS USED

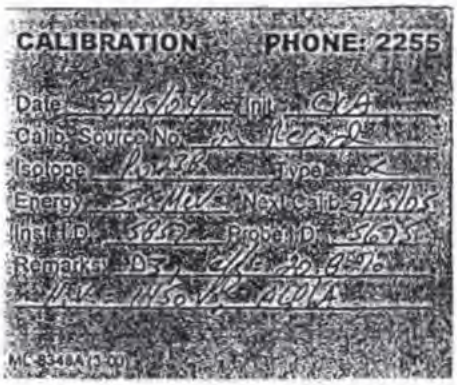
Instrument	Serial Number	Cal. Due Date 7/4/05 JM
2350	5857/5859	~~7/12/05~~ 9/15/05
	A	
	N	

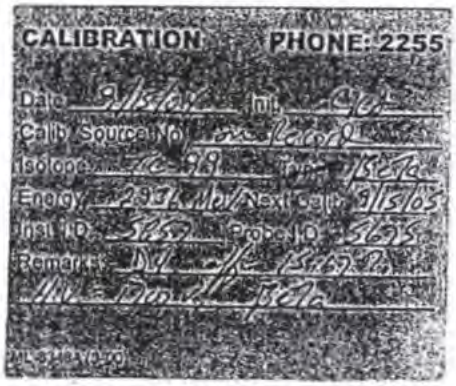
Completed by: (Signature) [redacted]	HP#	Date: 7-14-02
Completed by: (Print Name) BJ Roe		
Counted by: (Signature) See Attached Sheets	HP# N/A	Date: N/A
Counted by: (Print Name) See Attached Sheets		
Reviewed/Approved by: (Signature) [redacted]	HP# [redacted]	Date: 7-15-05
Reviewed/Approved by: (Print Name) Jerry Taylor		

ML-0620 (2-98)

4-9/88







5857

Cart 9
Before 9/15/05

COPY

5857 4-10/88

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 6

LOCATION: (BLDG./AREA/ROOM) T-BLDG Room 330 West (2N14)	SURVEY NO. MT-05-737
PURPOSE: Survey of Suspected Elevated Spots	RWP NO. N/A
	DATE: 8-29-05
	TIME: 1200

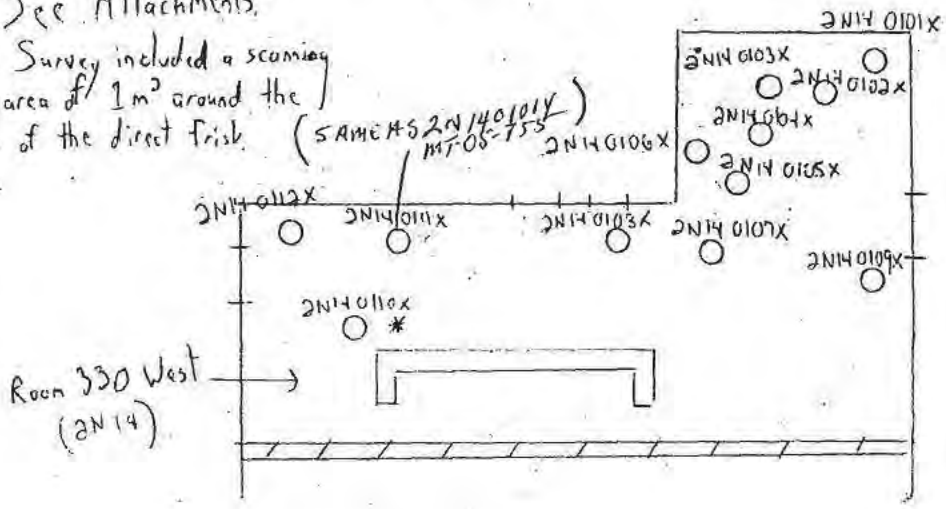
MAP / DRAWING

Survey Location 2N14 0111X had alpha reading of 348 dpm/100 cm². All other locations had alpha readings <100 dpm/100 cm².

N →

See Attachments.

Note: Survey included a scanning of an area of 1 m² around the location of the direct frisk. (SAMEAS 2N14 0101X MT-05-755)



Denotes Boundary Between 2N14 and 2N13

* Denotes Survey Location with Cluster of 2 Painted Circles

Refer to MT 05-755 post remediation survey

LEGEND:

= mrem/hr (γ) whole body

#E = mrem/hr (β+η+γ) extremity on contact

K = factor of 1000

—·—·— = radiological boundary

△# = mrem/hr neutron

(#) = swipe number

[#] = air sample number

(#/α) = or /β = direct contamination measurement in dpm/100 cm²

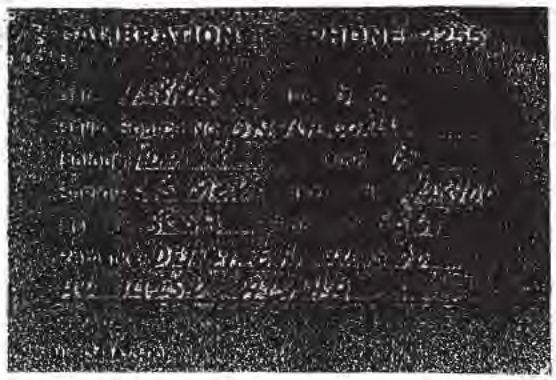
INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5854 & 5861	7-28-05 06
N/A	N/A	N/A
↓	↓	↓

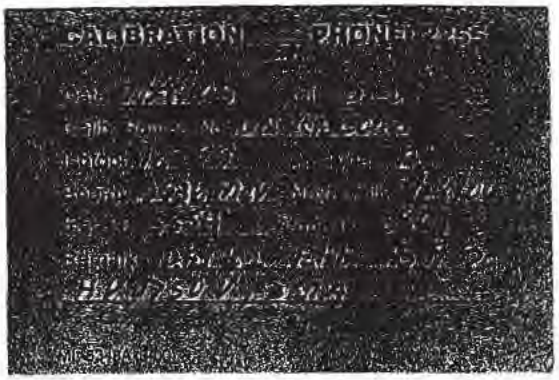
Completed by: (Signature) T. King	[redacted]		Date: 8-29-05
Completed by: (Print Name) T. King			
Counted by: (Signature) See Attachments	HP#		Date:
Counted by: (Print Name) See Attachments			
Reviewed/Approved by: (Signature)	[redacted]		Date: 9/5/05
Reviewed/Approved by: (Print Name) Jess Griffin			

4-11/88

COPY

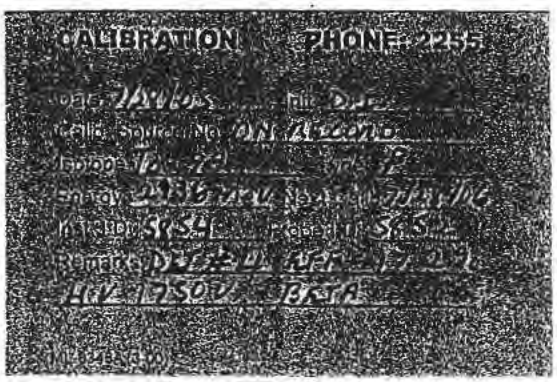


D1



Before 10-26.05 D2
(AFTER 10.26.05 EFF. Chg 9)

D3



D4

AFTER 7/28/05

5854

COPY 4-12-88

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) T. BLDG Rm 338	SURVEY NO. MT-05-1219
PURPOSE: POST CONCRETE REMOVAL (Judgement Fills) 2N14	RWP NO. N/A
	DATE: 11/23/05
	TIME: 0730

REF. ORIGINAL RSDS MT-05-329

MAP/DRAWING

SEE ATTACHED sheets

100% Area Scanned no elevated α & β⁻ detected

MT-05-1219

Survey location 0101JX and 0102JX are follow up scans and statics for 338-0102E and 338-0103E from RSDS MT-05-329

COPY

LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α or #/β) = direct cont. measurement in dpm/100cm²

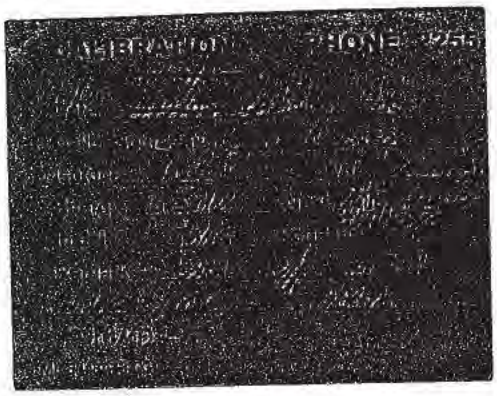
INSTRUMENTS USED

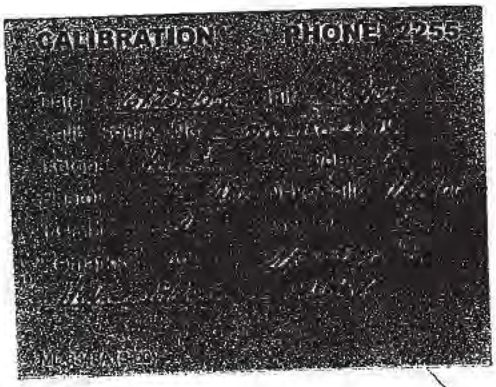
Instrument	Serial Number	Cal. Due Date
2350	5889 / 5890	~~11/05~~ to 10/06 ~~11/06~~
	N/A	

Completed by: (Signature)		DATE: 11/23/05
Completed by: (Print Name) S Richardson George Weissenberger		
Counted by: (Signature) SEE ATTACHED	HI #	DATE:
Counted by: (Print Name) SHEETS		
Reviewed/Approved by: (Signature)	HI #	DATE: 12/16/05
Reviewed/Approved by: (Print Name) Jess Griffin		

ML-9620 (2-98)

4-13/88





5889 AFTER 6/29/05
to 1-17-06

COPY

4-14/88

CH2MHILL

From: Ronald R. Daily
Date: July 13, 2006
Subject: Micro-Rem Information

The following information is provided to correct any misinformation placed on the RSDSs:

Mound ID #:	3979
Instrument Serial #:	1488
Cal Date:	4/25/06
Cal Due Date:	4/25/07

Mound ID #:	3980
Instrument Serial #:	1486
Cal Date:	5/13/05
Cal Due Date:	05/13/06

Mound ID #:	3981
Instrument Serial #:	1483
Cal Date:	4/25/06
Cal Due Date:	4/25/07

Mound ID #:	4128
Instrument Serial #:	1491
Cal Date:	4/25/06
Cal Due Date:	4/25/07

Ronald R. Daily
Radiological Protection Manager

COPY

4-15-88

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 12 5m 12/12/05

LOCATION: (BLDG./AREA/ROOM) T Bldg Room 7 8	SURVEY NO. MT-05-0927
PURPOSE: MARSSIM SURVEY (SURVEY UNIT IN02-d UPPER Stakes & JVdosimetrols dose rate survey	RWP NO. NR
	DATE: 10-4-05
	TIME: 1320

MAP/DRAWING

MARSSIM SURVEY UPPER stakes and JVdosimetrols - 1 Meter square scan & direct Reading Around each survey point.
NO elevated Readings (LA) detected
BKG. 5 mrem/hr
dose rate survey. ALL Readings 5 mrem/hr.

COPY

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+n+γ) extremity on contact
= mrem/hr neutron
= air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
E350	5655/5488	2-06
MICRON	3979	4-7-06
		ext 6-25-06
	R	

Completed by: (Signature)	HP# [redacted]	Date: 10-5-05
Completed by: (Print Name) JOE Lowry / JOE Brazfus		
Counted by: (Signature) see attached sheets	HP#	Date:
Counted by: (Print Name)		
Reviewed/Approved by: (Signature)	HP# [redacted]	Date: 10/11/05
Reviewed/Approved by: (Print Name) Jess Griffin		4-16-88

ML-0620 (2-99)

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) T BLDG / 2516 / Room 226, Corridor 20 Corridor 203, 225	SURVEY NO. MT-05-1066
PURPOSE: PERFORM SURVEY OF DRAINS, VENTS & UTILITIES.	RWP NO. N/A
	DATE: 10/24/05
PERFORM DOSE RATE SURVEY	TIME: 1630

MAP/DRAWING

SEE ATTACHED SURVEY FOR LOCATIONS.

SEE ATTACHED SHEET FOR SURVEY RESULTS.

REFERENCE RSDS # MT-05-1099 FOR REMAINING SURVEY POINTS

MICRO R 3979 CAL DUE DATE 4/7/06

GENERAL AREA DOSE RATES - 5μ REM/HR

BACKGROUND DOSE RATE - 5μ REM/HR

COPY

LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) = or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350-1	5928/5927	5/24/06
MICRO-REM	3979	4/07/06 4/7/06 7/5/06
	N	
	A	

Completed by: (Signature)		DATE: 10/24/05
Completed by: (Print Name) RICARDO V. BURKE		
Counted by: (Signature) SEE ATTACHED SHEET	HP # N/A	DATE: N/A
Counted by: (Print Name) SEE ATTACHED SHEET		
Reviewed/Approved by: (Signature)	HP #	DATE: 10-27-05
Reviewed/Approved by: (Print Name) Jerry Taylor, 4-17-06		

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 1BLDG / INDSB / WEST TUNNEL	SURVEY NO. MT-06-0049
PURPOSE: ① LOWER STATIC SURVEY ② DOSE RATE SURVEY (1/12/06)	RWP NO. N/A DATE: 1/13/06 TIME: 1600

MAP/DRAWING

- SEE ATTACHED ~~SURVEY~~ SHEET #3 FOR LOCATIONS & RESULTS.
- A SCAN OF THE AREA 1M² AROUND EACH SURVEY POINT SHOWED NO ELEVATED α OR β⁻ CONTAMINATION.

GENERAL AREA DOSE RATE - 5 μREM/HR

BACKGROUND DOSE RATE - 5 μREM/HR

COPY

LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
(#) = mrem/hr neutron
(#) = swipe number
[#] = air sample number
(#/α) = or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350-1	5928/5927	5/24/06
MICRO-REM	7/15/97 HBO 3979	4/7/06
	N	
	A	

Completed by: (Signature) K. Abercrombie	[redacted]	DATE: 1/13/06
Completed by: (Print Name) RICARDO V. BUELE / K. Abercrombie		
Counted by: (Signature) SEE ATTACHED SHEET	HI' #	DATE:
Counted by: (Print Name) SEE ATTACHED SHEET		
Reviewed/Approved by: (Signature) M.	[redacted]	DATE: 1/24/06
Reviewed/Approved by: (Print Name) Jess Griffin		4-18-88

ML-9620 (2-98)

YRMC

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 8

LOCATION: (BLDG./AREA/ROOM) J BLDG 99 crawlspace	SURVEY NO. MT-06-0362
PURPOSE: 6/9/06 ~~DRAINS, VENTS, AND UTS~~ SYS02A DOSE RATE SURVEY	RWP NO. N/A
	DATE: 3-28-06
	TIME: 0900

MAP / DRAWING

SEE ATTACHED.

this survey IS A redo of RSDS # MT-06-0304 which was done before ~~AFTER~~ survey UNIT was split

ONLY DRAIN (NO VENT + UT IS IN AREA #2) See RSDS MT-06-0567 DVU

BACKGROUND DOSE RATE : 5 u mrem/hr

MAXIMUM DOSE RATE : 5 u mrem/hr

LEGEND: # = mrem/hr (γ) whole body

#E = mrem/hr (β+η+γ) extremity on contact

K = factor of 1000

— · — · — = radiological boundary

COPY

△# = mrem/hr neutron (#) = swipe number

[#] = air sample number (#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5920/5929	11/15/06
micromm	7/5/new ~~1480~~ 3980	5/13/06
	N/A	

Completed by: (Signature)	[redacted]	Date:	3-28-06
Completed by: (Print Name)	Richardson & Hodges		
Counted by: (Signature)	SEE ATTACHED	HP# N/A	Date: N/A
Counted by: (Print Name)	SHEETS		
Reviewed/Approved by: (Signature)	[redacted]	H	Date: 3/31/06
Reviewed/Approved by: (Print Name)	Terry Taylor		

4-19-88

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) T-BLDG E-3	SURVEY NO. MT-06-~~0439~~ 0469
PURPOSE: Judgementals SYSOSO1 + DOSE RATE E-3 1ST FLOOR	RWP NO. N/A
	DATE: 5-1-06
	TIME: 1600

MAP / DRAWING

SEE ATTACHED

α/β^- SCANNED 1 m^2 Approx. around each location. SEE page # 6 for Elevated locations

REF. MT-06-0269 FOR E3 DUCT ANALYTICAL RESULTS

DOSE RATED DONE ON 5-2-06

Background dose rate 5 mrem/hr

Maxium dose rate 5 mrem/hr

LEGEND: # = mrem/hr (γ) whole body

#E = mrem/hr (β+η+γ) extremity on contact

K = factor of 1000

—·—·— = radiological boundary

COPY

△# = mrem/hr neutron (#) = swipe number

[#] = air sample number (#/α) or /β = direct contamination measurement in dpm/100 cm^2

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5920/5929	11/15/06
Microrem	7/6/06 ~~11~~ 86 3980	5/13/06
	N/A	
	A	

Completed by: (Signature)			Date: 5-1-06
Completed by: (Print Name)	A. Dick Taylor		
Counted by: (Signature)	SEE ATTACHED	HP# N/A	Date: N/A
Counted by: (Print Name)	Sheets		
Reviewed/Approved by: (Signature)			Date: 5/4/06
Reviewed/Approved by: (Print Name)	Jerry Taylor 4-20-88		

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 3

LOCATION: (BLDG./AREA/ROOM) T-BLD6 2ND FLOOR E-3 Rm307	SURVEY NO. MT-06-0471
PURPOSE: DOSE + RATES CREW SPACE	RWP NO. N/A
SYS050)	DATE: 5/2/06
	TIME: 1030

MAP / DRAWING

SEE MAP page #3

ENTIRE SYSTEM DOSE RATED

BACKGROUND DOSE RATE 5 mrem/hr

MAXIMUM DOSE RATE 5 mrem/hr

LEGEND:

= mrem/hr (γ) whole body

#E = mrem/hr (β+η+γ) extremity on contact

K = factor of 1000

—·—·— = radiological boundary

COPY

△# = mrem/hr neutron

(#) = swipe number

[#] = air sample number

(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
microrem	7/6/06 4486 3980	5/13/06
	N	
	A	

Completed by: (Signature)	HP#	Date: 5-2-06
Completed by: (Print Name)		
Counted by: (Signature) N/A	HP# N/A	Date: N/A
Counted by: (Print Name) N/A		
Reviewed/Approved by: (Signature)	HP#	Date: 5-4-06
Reviewed/Approved by: (Print Name) Jerry Taylor		

Jerry Taylor 4-21/88 [illegible]

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) T-BLDG 1ST FLOOR E-12	SURVEY NO. MT-06-0473
PURPOSE: DOSE RATES SYS 0501	RWP NO. N/A
	DATE: 5-2-06
	TIME: 1200

MAP / DRAWING

SEE pg 3 for LOCATIONS

BACKGROUND DOSE RATE 5 mrem/hr

MAXIMUM DOSE RATE 5 mrem/hr

LEGEND:

= mrem/hr (γ) whole body

#E = mrem/hr (β+η+γ) extremity on contact

K = factor of 1000

—·—·— = radiological boundary

COPY

△# = mrem/hr neutron

(#) = swipe number

[#] = air sample number

(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
MICROREM	3980 H486 7/4/04	5/13/06
	NA	
	A	

Completed by: (Signature)		Date: 5-2-06
Completed by: (Print Name) S Richardson		
Counted by: (Signature) N/A	HP# N/A	Date: N/A
Counted by: (Print Name) N/A		
Reviewed/Approved by: (Signature) Jerry Taylor		Date: 5-4-06
Reviewed/Approved by: (Print Name) Jerry Taylor 4-22-88 RM		

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) T BLDG Rm 281 Crawlspace	SURVEY NO. MT-06-0482
PURPOSE: DOSE RATE E-31B 2ND FL. SYS 0602	RWP NO. N/A
	DATE: 5.4.06
	TIME: 1008

MAP / DRAWING

SEE ATTACHED

BACKGROUND DOSE RATE 5 mrem/hr

MAXIMUM DOSE RATE 5 mrem/hr

LEGEND:

= mrem/hr (γ) whole body

#E = mrem/hr (β+η+γ) extremity on contact

K = factor of 1000

—·—·— = radiological boundary

COPY

△# = mrem/hr neutron

(#) = swipe number

[#] = air sample number

(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
MICROREM	~~7/4/04 4485~~ 3980	5/13/06
	N/A	

Completed by: (Signature)			Date: 5.4.06
Completed by: (Print Name) S Richardson			
Counted by: (Signature) N/A	HP# N/A		Date: N/A
Counted by: (Print Name) N/A			
Reviewed/Approved by: (Signature)			Date: 5-12-06
Reviewed/Approved by: (Print Name) Jerry Taylor			

04-23-88

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 3

LOCATION: (BLDG./AREA/ROOM) T-B406 ENTIRE E-3/B 1ST FL	SURVEY NO. MT-06-0486
PURPOSE: DOSE RATES SX50602	RWP NO. N/A
	DATE: 5-4-06
	TIME: 0945

MAP / DRAWING

SEE ATTACHED

BACKGROUND DOSE RATE 5 mrem/hr

MAXIMUM DOSE RATE 5 mrem/hr

LEGEND:

= mrem/hr (γ) whole body

#E = mrem/hr (β+η+γ) extremity on contact

K = factor of 1000

—·—·— = radiological boundary

COPY

(#) = mrem/hr neutron

(#) = swipe number

[#] = air sample number

(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
Microrem	7/6/05 1496 3980	5/13/06
	N	
	A	

Completed by: (Signature)		Date: 5-4-06
Completed by: (Print Name) S RICHARDSON		
Counted by: (Signature) N/A	HP# N/A	Date: N/A
Counted by: (Print Name) N/A		
Reviewed/Approved by: (Signature) Jerry Taylor		Date: 5-12-06
Reviewed/Approved by: (Print Name) Jerry Taylor 4-24-88		

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 34

LOCATION: (BLDG./AREA/ROOM) T-BLDG ENTIRE E-22 1st Fl.	SURVEY NO. MT-06-0487
PURPOSE: DOSE RATES SYS0602	RWP NO. N/A
	DATE: 5-4-06
	TIME: 1035

MAP / DRAWING

SEE ATTACHED

BACKGROUND DOSE RATE 5 urem/hr

MAXIMUM DOSE RATE 5 urem/hr

LEGEND:
- # = mrem/hr (γ) whole body
- #E = mrem/hr (β+η+γ) extremity on contact
- K = factor of 1000
- —·—·— = radiological boundary

COPY

- △ (#) = mrem/hr neutron
- (#) = swipe number
- [#] = air sample number
- (#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
MICRONEM	7/6/06 1486 3980	8/13/06
	N/A	

Completed by: (Signature)			Date: 5-4-06
Completed by: (Print Name) S Richardson			
Counted by: (Signature) N/A	HP# N/A		Date: N/A
Counted by: (Print Name) N/A			
Reviewed/Approved by: (Signature) Jerry Taylor			Date: 5-12-06
Reviewed/Approved by: (Print Name) Jerry Taylor			

4-25/88

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) T BLDG SEE MAP	SURVEY NO. MT-06-0508
PURPOSE: 2ND FL. DOSE RATE E-31A SxS 0604	RWP NO. N/A
	DATE: 5/10/06
	TIME: 1500

MAP / DRAWING

SEE ATTACHED

BACKGROUND DOSE RATE 5 μrem/hr

MAXIMUM DOSE RATE 5 μrem/hr

LEGEND: # = mrem/hr (γ) whole body

#E = mrem/hr (β+η+γ) extremity on contact

K = factor of 1000

—·—·— = radiological boundary

(#) = mrem/hr neutron

(#) = swipe number

[#] = air sample number

(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
MICRONEM	3980 H486 7/5/06	5-13-06
	N/A	

Completed by: (Signature)	[redacted]	Date: 5/10/06
Completed by: (Print Name) S. RICHARDSON		
Counted by: (Signature) N/A	HP# N/A	Date: N/A
Counted by: (Print Name) N/A		
Reviewed/Approved by: (Signature)	[redacted]	Date: 5-11-06
Reviewed/Approved by: (Print Name) Terry Taylor		

Terry Taylor 4-26-88

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) T-BLDG SEE MAP	SURVEY NO. MT-06-0509
PURPOSE: 1st Floor DOSE RATE HE-23 SyS0604	RWP NO. N/A
	DATE: 5/10/06
	TIME: 1445

MAP / DRAWING

SEE ATTACHED

BACKGROUND DOSE RATE 5 mrem/hr

MAXIMUM DOSE RATE 5 mrem/hr

COPY

LEGEND:

= mrem/hr (γ) whole body

#E = mrem/hr (β+η+γ) extremity on contact

K = factor of 1000

— · — · · = radiological boundary

△# = mrem/hr neutron

(#) = swipe number

[#] = air sample number

(#/α) = or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
Micrornem	3989 7/5/06	5-13-06
	N	
	A	

Completed by: (Signature) [redacted] Date: 5/10/06

Completed by: (Print Name) S Richardson

Counted by: (Signature) N/A HP# N/A Date: N/A

Counted by: (Print Name) N/A

Reviewed/Approved by: (Signature) [redacted] Date: 5-11-06

Reviewed/Approved by: (Print Name) Jerry Taylor 4/29/08

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) T-58 IC12	SURVEY NO. MT-06-0586
PURPOSE: DOSE RATE SURVEY	RWP NO. N/A
	DATE: 6-16-06
	TIME: 1200

MAP/DRAWING

REFERENCE RSDS MT-06-0397 AND MT-05-1195 FOR RELEVANT MAPS

GH 6-19-06

~~COPY~~

ORIGINAL

COPY

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm^2

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
MICROREM	~~4494~~ 4128 7/5/06	4-25-07
	N	
	A	

Completed by: (Signature) Neal Reynolds	[redacted]	Date: 6-16-06
Completed by: (Print Name) NEAL REYNOLDS		
Counted by: (Signature) N/A	HP# N/A	Date: N/A
Counted by: (Print Name) N/A		
Reviewed/Approved by: (Signature) Donald R Pauley	[redacted]	Date: 6-19-06
Reviewed/Approved by: (Print Name) Donald R Pauley		4-28-88

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 3

LOCATION: (BLDG./AREA/ROOM) T-57 IC11	SURVEY NO. MT-06-0588
PURPOSE: DOSE RATE SURVEY	RWP NO. N/A
	DATE: 6-16-06
	TIME: 0900

MAP/DRAWING

REFERENCE RSDS MT-06-0526 AND MT-06-0115 FOR RELEVANT MAPS.

COPY

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
MICRoREM	~~1491~~ 4128 7/5/06	4-25-07
	N/A	

Completed by: (Signature)	HP#	Date: 6-16-06
Completed by: (Print Name) NEAL REYNOLDS		
Counted by: (Signature) N/A	HP# N/A	Date: N/A
Counted by: (Print Name) N/A		
Reviewed/Approved by: (Signature)		Date: 6-19-06
Reviewed/Approved by: (Print Name) Ronald K Daly		4/29/08

ML-9520 (2-98)

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) T Bldg SYS 05-01 E-12, E-3	SURVEY NO. MT-05-631
PURPOSE: Marrsim scan / Gamma measurements / Dose Rate	RWP NO. NA
	DATE: 8-10-05
	TIME: 1230

MAP / DRAWING

Scan of 1M² @ static points

See Attached

No elevated α/β - levels detected during scan

Micro Rem BKG = 5 uR/HR Highest Micro Rem Reading in Crawl @ Vent = 5 uR/HR

LEGEND:

= mrem/hr (γ) whole body

#E = mrem/hr (β+η+γ) extremity on contact

K = factor of 1000

—·—·— = radiological boundary

COPY

△# = mrem/hr neutron

(#) = swipe number

[#] = air sample number

(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
Micro Rem	~~4486~~ 3980 7/06	5-13-06
2350 4368	5923 5925	5-17-06
NA	NA	NA
NA	NA	NA

Completed by: (Signature) George Weissenburger	HP#	Date: 8-10-05
Completed by: (Print Name) George Weissenburger / Phillip Cole		
Counted by: (Signature) NA	HP# NA	Date: NA
Counted by: (Print Name) NA	NA	
Reviewed/Approved by: (Signature) Jerry Taylor	HP#	Date: 8-25-05
Reviewed/Approved by: (Print Name) Jerry Taylor 4-30-88		

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) T-BLD G. T-CAP (IC09)	SURVEY NO. MT 06-0089
PURPOSE: Lower Statics / DOSE RATE SURVEY	RWP NO. N/A
	DATE: 1-24-06
RESRAD	TIME: 1030

MAP / DRAWING

See Attachments.

Dose Rate BKG D. 4 G/A 4

Bicron S/N 3981 Micron B2, 1-24-06 Rem/hr. cal due 4-7-06

COPY

LEGEND:
- # = mrem/hr (γ) whole body
- #E = mrem/hr (β+η+γ) extremity on contact
- K = factor of 1000
- — · — · — = radiological boundary
- (#) = mrem/hr neutron
- (#) = swipe number
- [#] = air sample number
- (#/α) = or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5895 w 5896	2-5-06
N/A	N/A	N/A
↓	↓	↓
↓	↓	↓

Completed by: (Signature)	J. Kline / T. Gauthier		Date: 1-24-06
Completed by: (Print Name)	T. Kline / T. Gauthier		
Counted by: (Signature)	See Attachments.	HP# N/A	Date: N/A
Counted by: (Print Name)	See Attachments		
Reviewed/Approved by: (Signature)	Jerry Taylor	H	Date: 2-9-06
Reviewed/Approved by: (Print Name)	Jerry Taylor		

4-31-88 QMC

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 3

LOCATION: (BLDG./AREA/ROOM) T-252 SH#2C-04	SURVEY NO. MT-05-824
PURPOSE: Scan of floor, and lower and upper walls by SCM 23 AND 2350	RWP NO. N/A
	DATE: 9-12-05 / 9-13-05
	TIME: 1500

MAP/DRAWING

~~LESS THAN~~ Below 9/23/05 gw

100% α/β⁻ scan of floors and walls ← 2 meters 9/10/05 gw

~~Greater Than~~ ABOVE 9/23/05 gw

25% α/β⁻ scan of walls → 2 meters 9/10/05 gw

7 elevated areas detected on floor

1 elevated area detected on wall

See RSDSs MT-05-536
MT-05-542
MT-05-707
MT-05-719

Note: No elevated α/β readings detected during scanning with survey performed on 9-13-05.

COPY

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

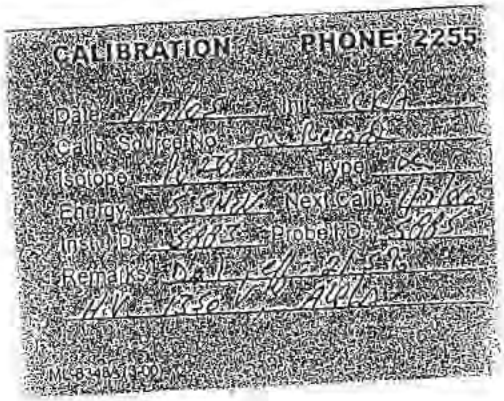
INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
SCM23	R-180	6-1-05 6-1-06
2350	5883 / 5885	1-7-06
2350	5889 / 5890	1-17-06
N/A	N/A	N/A
↓	↓	↓

Completed by: (Signature) Neal Reynolds / Tom King	Date: 9-13-05
Completed by: (Print Name) NEAL REYNOLDS Tom King	
Counted by: (Signature) N/A	HP# Date:
Counted by: (Print Name) N/A	
Reviewed/Approved by: (Signature) Jerry Taylor	Date: 9-23-05
Reviewed/Approved by: (Print Name) Jerry Taylor	

4-32/88

ML-0620 (2-98)


CALIBRATION PHONE: 2255

Date: 4/16/88 Init: GVA

Calib. Source No: ex Lead

Isotope: Tc-99 Type: B

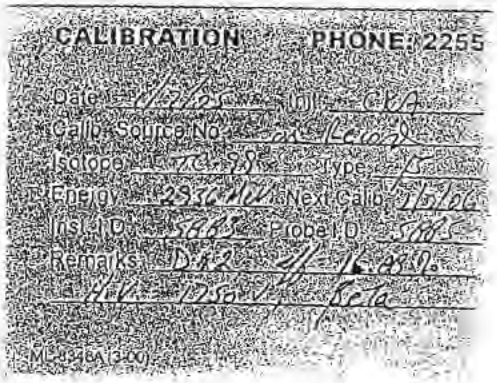
Energy: 140 KeV Next Calib: 10/16/88

Inst. I.D.: 5883 Probe I.D.: 5886

Remarks: Det #2 4/16/88 1430

HV: 1250 V Set to

ML-934BA(3-00)


CALIBRATION PHONE: 2255

Date: 4/16/88 Init: GVA

Calib. Source No: ex Lead

Isotope: Tc-99 Type: B

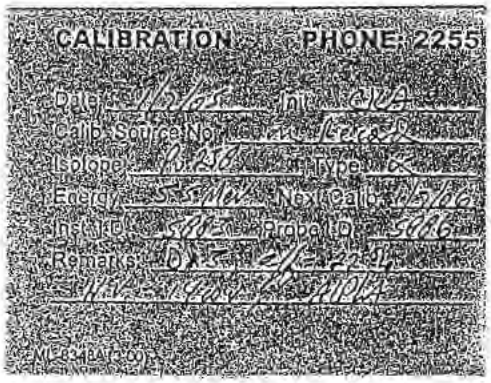
Energy: 140 KeV Next Calib: 10/16/88

Inst. I.D.: 5883 Probe I.D.: 5886

Remarks: Det #2 4/16/88 1430

HV: 1250 V Set to

ML-934BA(3-00)


CALIBRATION PHONE: 2255

Date: 4/16/88 Init: GVA

Calib. Source No: ex Lead

Isotope: Tc-99 Type: B

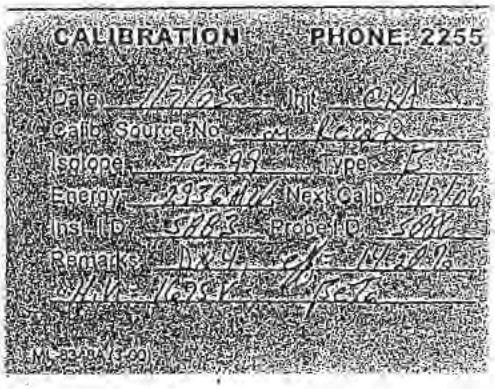
Energy: 140 KeV Next Calib: 10/16/88

Inst. I.D.: 5883 Probe I.D.: 5886

Remarks: Det #2 4/16/88 1430

HV: 1250 V Set to

ML-934BA(3-00)


CALIBRATION PHONE: 2255

Date: 4/16/88 Init: GVA

Calib. Source No: ex Lead

Isotope: Tc-99 Type: B

Energy: 140 KeV Next Calib: 10/16/88

Inst. I.D.: 5883 Probe I.D.: 5886

Remarks: Det #2 4/16/88 1430

HV: 1250 V Set to

ML-934BA(3-00)

5883

CART #4

COPY

5883

4/33/88

RADIOLOGICAL SURVEY DATA SHEET

1 of 13
Page 1 of 4 DOW 3-29-05

LOCATION: (BLDG./AREA/ROOM) TSW-1C20	SURVEY NO. MT-05-103
PURPOSE: Data Point - Static Measurements	RWP NO. N/A
	DATE: 3/29/05
	TIME: 12:18

MAP/DRAWING

See Attached Pages ALL READINGS BELOW ALARM SET POINTS

Ceiling SCAN 1 Meter AROund Static Points

COPY

MICRO R 3985 5/21/05 BKg 3uR/h AReA 2uR/h

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+n+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5883/5885	1/7/05 04 5/25/06
	V	
	A	

Completed by: (Signature) Donna Watson		Date: 3/29/05
Completed by: (Print Name) Donna Watson Jess R. Griffin		
Counted by: (Signature) See Attached Pages	HP# N/A	Date: N/A
Counted by: (Print Name)		
Reviewed/Approved by: (Signature)	HP [redacted]	Date: 3-3-05
Reviewed/Approved by: (Print Name) Jerry Taylor		

4-34/88

ML-0620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) T-Bldg Unit 1C03 Rooms 25, 24, 22	SURVEY NO. MT-05-300
PURPOSE: T-Bldg Unit 1C-03 Rooms 22, 25, 24 Upper & Lower Walls Survey	RWP NO. N/A
	DATE: 5/20/05
	TIME: 2200

MAP/DRAWING

NO Elevated Readings on Alpha/Beta SCAN

ALL Readings below ALARM set Points

SCAN 100% Lower WALLS up to 2 meters α/β

SCAN 25% upper WALLS above 2 meters α/β

COPY

LEGEND: # = mrem/hr (γ) whole body
*E = mrem/hr (β+η+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5884/5887	1/8/06 ✓
~~2350~~	~~5885/5864~~	~~6/9/05~~ 5/25/06
2350	5855/5864	6/9/05 ✓
2350	5673/5862	7/29/05 ✓
2350	5892/5893	1/31/05 06
		5/25/04
ML-0620 (2-98) 2350	5883/5885	1/7/06 ✓

Completed by: (Signature) Tina Roberson Wayne Jones Kenny Simpson			Date: 5/20/05
Completed by: (Print Name) Wayne Jones TINA ROBERTSON, TRISHA WAGSH Kenny Simpson			
Counted by: (Signature) N/A	HP# N/A		Date: N/A
Counted by: (Print Name) N/A			
Reviewed/Approved by: (Signature) K. Rau	Date: 5-24-05		
Reviewed/Approved by: (Print Name) K. Rau			

4-35/88

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 9 MT-05-411

LOCATION: (BLDG./AREA/ROOM)	SURVEY NO. ~~MT-05-082-A~~ 4/20
PURPOSE: TBldg - T5W Judgementals on Floors, Walls, Beams	RWP NO. N/A
	DATE: 3.30.05
	TIME: 12:09

MT-05-082 Also has
MT-05-082-A Added

MAP/DRAWING

See Attached Pages
All Readings below alarm set points

COPY

MICRO R 3980 CAL date 5/21/05 BKG 3 mrem/h AREA 2 mrem/h

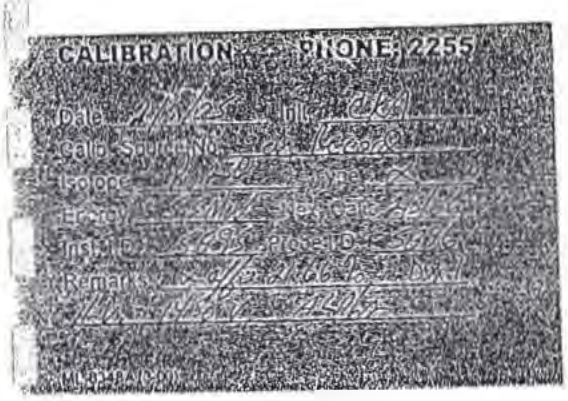
LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

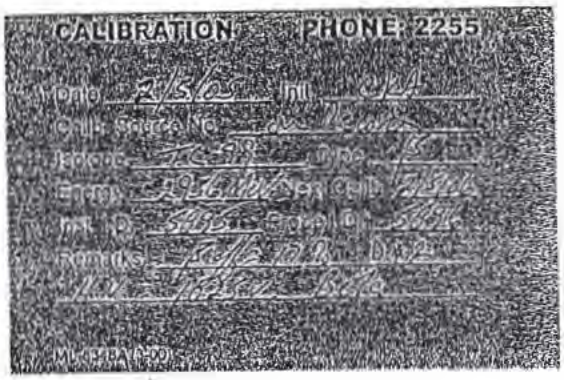
INSTRUMENTS USED

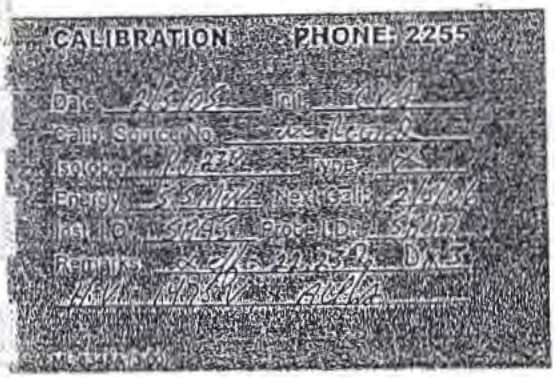
Instrument	Serial Number	Cal. Due Date
2350	5883/5885	11/7/05 5/21/06
	N	
	A	

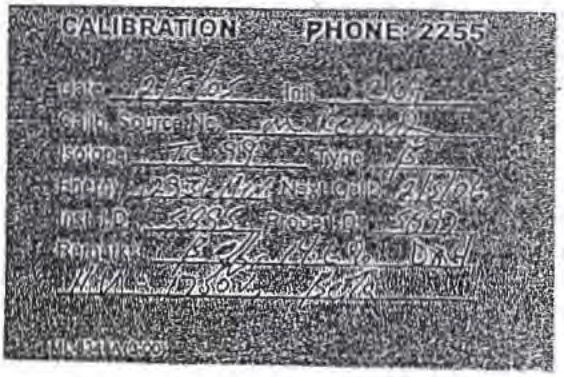
Completed by: (Signature) Donna Watson for A Diff. Date: 3/30/05
Completed by: (Print Name) Donna Watson Jess E. Griffin
Counted by: (Signature) See Attached Pages HP# N/A Date: N/A
Counted by: (Print Name)
Reviewed/Approved by: (Signature) Jerry Taylor Date: 5-5-05
Reviewed/Approved by: (Print Name) Jerry Taylor 4-36/08

ML-0620 (2-08)









5895

CART #6

before 2/5/04

COPY

4-37/80

5895

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) T-BLDG Rm-266	SURVEY NO. MT-05-470
PURPOSE: Marssim survey 2C-09 on vents & UTILITIES	RWP NO. NA
	DATE: 071305
	TIME: 1227

MAP / DRAWING

See attached Sheets

LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
K = factor of 1000
—·—·— = radiological boundary

COPY

△# = mrem/hr neutron
(#) = swipe number
[#] = air sample number
(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5894/5896	2/5/06 071305 5/25/06

Completed by: (Signature)	HP#	Date: 7-13-05
Completed by: (Print Name) Joseph Kozyra Greg Wesenberg		
Counted by: (Signature) See	HP# N/A	Date: N/A
Counted by: (Print Name) attachments		
Reviewed/Approved by: (Signature)	HP#	Date: 8-2-05
Reviewed/Approved by: (Print Name) J. Mallabaugh		

4-38/88

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 8

LOCATION: (BLDG/AREA/ROOM) T-BLDG Rm-266	SURVEY NO. MT-05-477
PURPOSE: Marssin Survey - Static readings on floor & lower walls - 2C-09	RWP NO. NA
	DATE: 071405
	TIME: 1345

MAP / DRAWING

See Attached Sheets
No Elevated Readings αB Detected

LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
K = factor of 1000
—·—·— = radiological boundary

COPY

△# = mrem/hr neutron
(#) = swipe number
[#] = air sample number
(#/α) or /β = direct contamination measurement in dpm/100 cm²

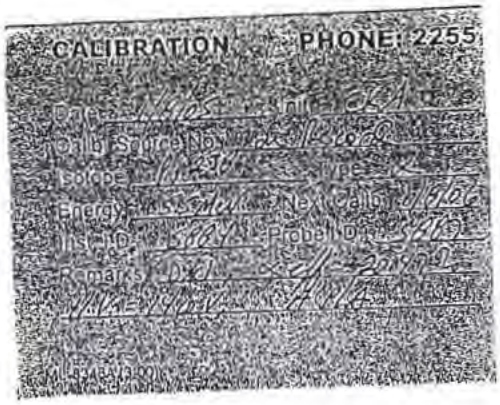
INSTRUMENTS USED

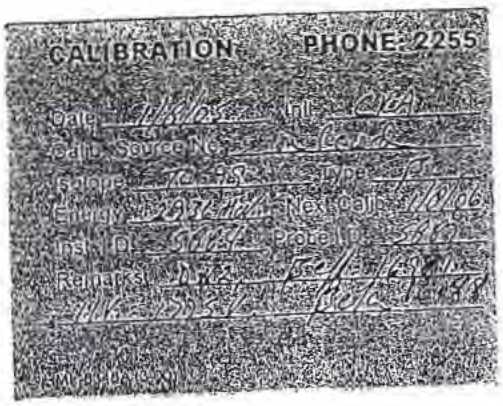
Instrument	Serial Number	Cal. Due Date
2350	5895/5896	2/5/06 ~~8/13/05~~ 5/25/06
	~	A

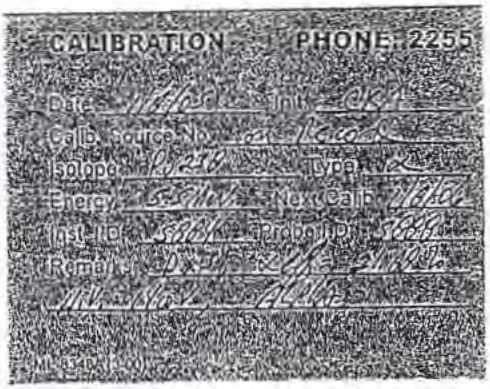
Completed by: (Signature)			Date: 7-14-05
Completed by: (Print Name) Joseph Rozycki George Wasserburger			
Counted by: (Signature) See Attached	HP#		Date:
Counted by: (Print Name) See Attached			
Reviewed/Approved by: (Signature)	HP#		Date: 8/8/05
Reviewed/Approved by: (Print Name) Jess Gutierrez			

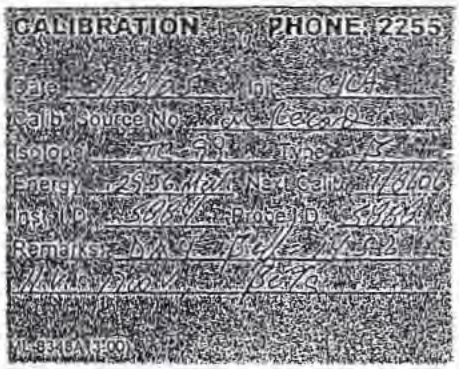
4-39/88

ML-9620 (2-98)









5884

CART #3

COPY

5884

4-40/88

3/2/05 TR

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 8 9

LOCATION: (BLDG./AREA/ROOM) 291, 294	SURVEY NO. MT-05-045
PURPOSE: T-Bldg Rooms 291, 294 Smears & Directs on DRAINS & Vents	RWP NO. N/A
	DATE: 2/24/05
	TIME: 1503

~~2N-01~~ 2N-10 J.M. 10-13-05

MAP/DRAWING

NO Alpha / Beta detected during SCANNING
All Readings were below Alarm set Points
Static reading & Elevated levels on Vent (291) 2N0102O1V

COPY

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5884/5887	1/8/05 ~~05~~ 06
	N	
	A	

Completed by: (Signature) Tina Robertson Donna Watson		Date: 3/2/05
Completed by: (Print Name) TINA Robertson DONNA WATSON		
Counted by: (Signature) See Attachments	HP# N/A	Date: N/A
Counted by: (Print Name) N/A		4-41 88
Reviewed/Approved by: (Signature)		Date: 3-8-05
Reviewed/Approved by: (Print Name) Jerry Taylor		

ML-9620 (2-98)

Suitcase
5924 / 5929
α EFF. Pu238 30% NOT BEING USE Chy INSTRUMENT
β EFF. TC99 21%
CALIBRATION DUE DATE 5/9/06
α H.V. 1400V β⁻ 1750 V

Suit Case
5920 / 5929
α EFF. Pu238 21%
β⁻ EFF. TC-99 16% as of 12-21 before 16.6
CALIBRATION DUE DATE 11/15/06
α H.V. 1400 V β⁻ HV 1750 V

Suitcase
5923 / 5925
α EFF. 20.73% (5-17-05)
β⁻ EFF. before 9/20/05 20.46%
after 9/20/05 15.78%
α HV 1325V β⁻ HV 1750V
CALIBRATION DUE DATE 5/17/06

Suitcase
5928 / 5927 (5-24-05
α EFF. 22%
β⁻ EFF. 16.8%
HV α 1425V HV β⁻ 1725
CALIBRATION DUE DATE 5/24/06

Suitcase
5858 / 5860 (11-22-05).
α EFF. 20%
β⁻ EFF. 16.6%
HV α 1300V HV β⁻ 1850
CALIBRATION DUE DATE 11/22/06

Suitcase
5922 / 5926
α EFF. 20.74%
β⁻ EFF. 17.47%
H.V. α 1325
H.V. β⁻ 1740
CAL DUE 5/18/06.

COPY 4-42/88

1

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 0604 2/28/06 T. Bldg Sys ~~0603~~ Above Rms 252 254 259A	SURVEY NO. MT-05-674
PURPOSE: Marsin's Static and Scan Survey	RWP NO. NA
	DATE: 8/16/05
	TIME: 1440

MAP / DRAWING

Refer to RSDS number below for previous statics

MT-05-535	~~0604 2/28/06~~ (1 m²)
MT-05-538	~~0603-085~~
MT-05-519	0604 2/24/06
	~~0603~~ 185
	0604 2/28/06
	~~0605~~ 065

NO Elevated α B⁻ Readings detected during 1 m² scan of Static points listed above

LEGEND:

= mrem/hr (γ) whole body

#E = mrem/hr (β+η+γ) extremity on contact

K = factor of 1000

—·—·— = radiological boundary

COPY

(#) = mrem/hr neutron

(#) = swipe number

[#] = air sample number

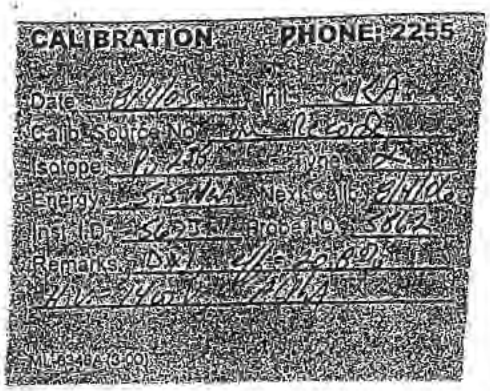
(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350 4368	5923 5925	5-17-06 5-25-06
	NA	

Completed by: (Signature)			Date: 8-16-05
Completed by: (Print Name) George Weisenburger / Phillip Cole			
Counted by: (Signature)	SEE Attached	HP#	Date:
Counted by: (Print Name)	SEE Attached		4-43-88
Reviewed/Approved by: (Signature)		HP#	Date: 9/14/05
Reviewed/Approved by: (Print Name)			

RW


CALIBRATION PHONE: 2255

Date 8/4/05 Init CLA

Calib Source No in record

Isotope Fe 55 Type X

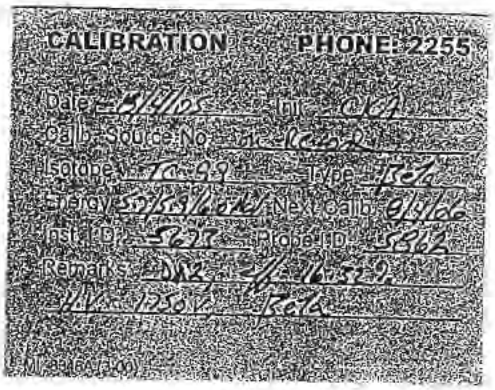
Energy 5.5 Mev Next Calib 8/4/06

Inst I.D 5673 Probe I.D 5362

Remarks D.W. cl = 20.62 mR/hr

H.V. = Hard Wired

ML-8346A (8-00)


CALIBRATION PHONE: 2255

Date 8/4/05 Init CLA

Calib Source No in record

Isotope Tc 99 Type Beta

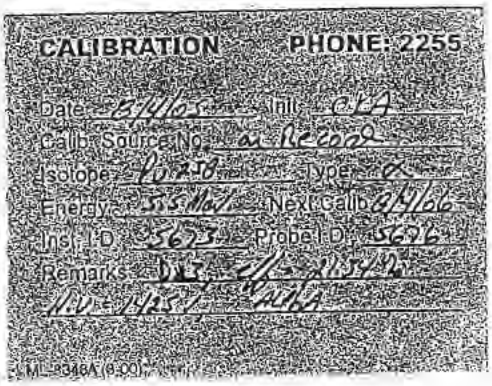
Energy 292 keV Next Calib 8/4/06

Inst I.D 5673 Probe I.D 5362

Remarks D.W. cl = 16.52 mR/hr

H.V. = 1250 V Beta

ML-8346A (8-00)


CALIBRATION PHONE: 2255

Date 8/4/05 Init CLA

Calib Source No in record

Isotope Fe 55 Type X

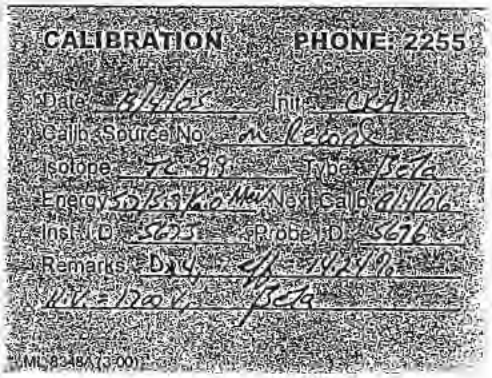
Energy 5.5 Mev Next Calib 8/4/06

Inst I.D 5673 Probe I.D 5676

Remarks D.W. cl = 21.52 mR/hr

H.V. = 1425 V Alpha

ML-8346A (8-00)


CALIBRATION PHONE: 2255

Date 8/4/05 Init CLA

Calib Source No in record

Isotope Tc 99 Type Beta

Energy 292 keV Next Calib 8/4/06

Inst I.D 5673 Probe I.D 5676

Remarks D.W. cl = 14.37 mR/hr

H.V. = 1200 V Beta

ML-8346A (8-00)

5673

AFTER 8/4/05

Decontl 2/10/06

removed 3-1-06

COPY 4.44/88

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 12 (~~10~~) 12/16/05

LOCATION: (BLDG./AREA/ROOM) T-BLDG East End of 78	SURVEY NO. MT-05-0866
PURPOSE: Marssims static & Judgemental direct readings of lower walls & floor UNIT 1 NOZC	RWP NO: NA
	DATE: 22 Sep 05
	TIME: 1224

MAP/DRAWING

See Attached

COPY

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

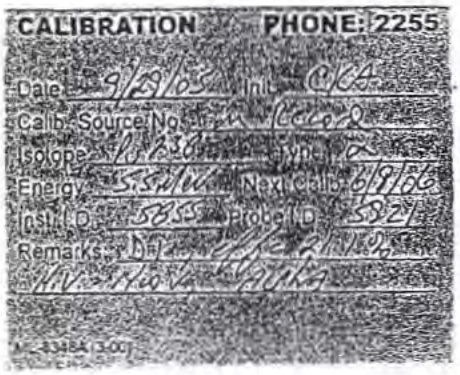
INSTRUMENTS USED

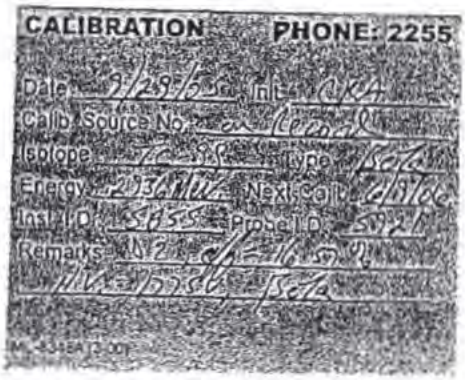
Instrument	Serial Number	Cal. Due Date
239-1	5623 K586	7-5-06
	6-25-06	

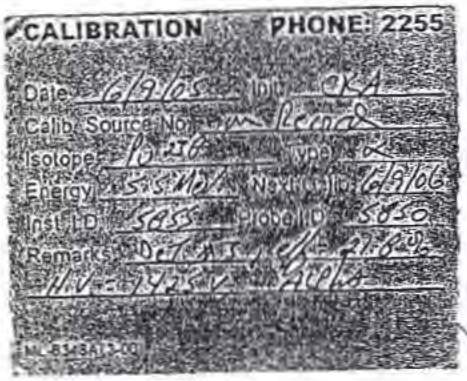
Completed by: (Signature)	[redacted]	Date:	22 Sep 05
Completed by: (Print Name)	Jessica Kazyak		
Counted by: (Signature)	See Attached	HP#	Date:
Counted by: (Print Name)			
Reviewed/Approved by: (Signature)		HP# [redacted]	Date: 5 Oct 05
Reviewed/Approved by: (Print Name)	Jess Corbin		

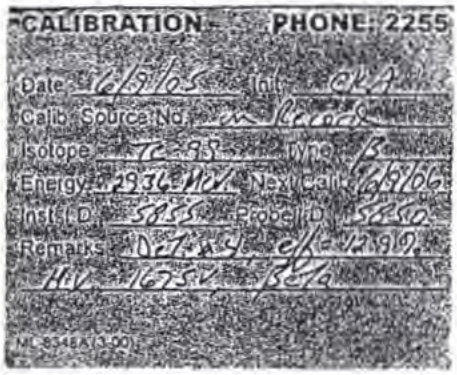
45 88

ML-0620 (2-06)


CALIBRATION PHONE: 2255
Date 9/29/05 Init CKA
Calib. Source No. Lead
Isotope Tc-99 Type B
Energy 140 keV Next Calib 6/8/06
Inst. I.D. 5855 Probe I.D. 5921
Remarks Det #5 Ch #2 HV 1036 Beta
MC-8348A (3-00)


CALIBRATION PHONE: 2255
Date 9/29/05 Init CKA
Calib. Source No. Lead
Isotope Tc-99 Type Beta
Energy 140 keV Next Calib 6/8/06
Inst. I.D. 5855 Probe I.D. 5921
Remarks Det #5 Ch #2 HV 1036 Beta
MC-8348A (3-00)


CALIBRATION PHONE: 2255
Date 6/9/05 Init CKA
Calib. Source No. Lead
Isotope Tc-99 Type B
Energy 140 keV Next Calib 6/8/06
Inst. I.D. 5855 Probe I.D. 5850
Remarks Det #5 Ch #2 HV 1025 V Beta
MC-8348A (3-00)


CALIBRATION PHONE: 2255
Date 6/9/05 Init CKA
Calib. Source No. Lead
Isotope Tc-99 Type B
Energy 140 keV Next Calib 6/8/06
Inst. I.D. 5855 Probe I.D. 5850
Remarks Det #5 Ch #2 HV 1025 V Beta
MC-8348A (3-00)

5855/5921

4-44/88

COPY

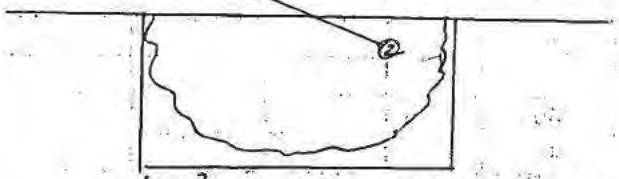
RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) T-78 IN021	SURVEY NO. MT-05-1024
PURPOSE: SCAN FLOOR where glycol DRUM WAS REMOVED IN02C0101J REMEDIATION SURVEY Follow-up To MT-05-572 IN020102E	RWP NO. N/A
	DATE: 10-18-05
	TIME: 1600

MAP/DRAWING

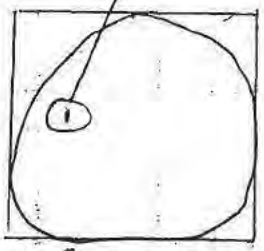
NO ELEVATED α/β^- DETECTED DURING SCAN

ORIGINAL RSDS MT-05-571 IN020102E
Follow-up REF. MT-05-572
REMEDIATION TO MT-05-572
MT-05-1024 IN020102E
IN02D0102X



1 m^2 SURVEY OF AREA ROUND REMEDIATION
MT-05-572 IN020102E
REMEDIATION SURVEY NOW MT-05-1024 (IN02D0102X)

IN02C0101J



1 m^2 SURVEY OF AREA AFTER DRUM REMOVED

COPY

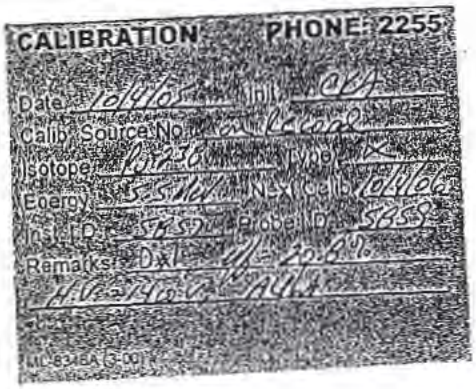
LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
□# = air sample number
(#) = swipe number
(#/α) or/β = direct cont. measurement in dpm/100cm²

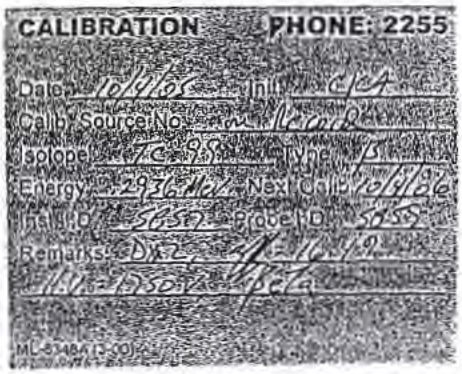
INSTRUMENTS USED

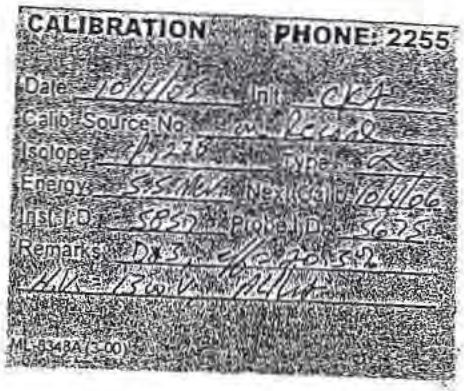
Instrument	Serial Number	Cal. Due Date
2350/43-68	5855/5921	6/9/06 6/12/06
	N	
	A	

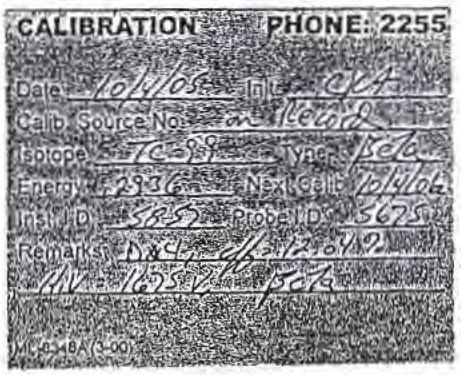
Completed by: (Signature)	HP # [redacted]	DATE: 10-18-05
Completed by: (Print Name) Jerry Taylor		
Counted by: (Signature) See attachments	HP # N/A	DATE: N/A
Counted by: (Print Name)		
Reviewed/Approved by: (Signature)	HP # [redacted]	DATE: 10/25/05
Reviewed/Approved by: (Print Name) Jess Griffin		4-47/88

ML-9620 (2-98)


CALIBRATION PHONE: 2255
Date 10/4/05 Init CEA
Calib. Source No. Cs-137 Cal
Isotope Cs-137 Type B
Energy .655 MeV Next Calib 10/4/06
Inst. I.D. 5852 Probe I.D. 5857
Remarks: D# 1 HV = 20.6%
HV = 540 V Alpha


CALIBRATION PHONE: 2255
Date 10/4/05 Init CEA
Calib. Source No. Cs-137 Cal
Isotope Cs-137 Type B
Energy .2936 MeV Next Calib 10/4/06
Inst. I.D. 5852 Probe I.D. 5857
Remarks: D# 2 HV = 16.9%
HV = 1350 V Beta


CALIBRATION PHONE: 2255
Date 10/4/05 Init CEA
Calib. Source No. Cs-137 Cal
Isotope Cs-137 Type B
Energy .655 MeV Next Calib 10/4/06
Inst. I.D. 5852 Probe I.D. 5675
Remarks: D# 3 HV = 13.0%
HV = 1300 V Alpha


CALIBRATION PHONE: 2255
Date 10/4/05 Init CEA
Calib. Source No. Cs-137 Cal
Isotope Cs-137 Type B
Energy .2936 MeV Next Calib 10/4/06
Inst. I.D. 5852 Probe I.D. 5675
Remarks: D# 4 HV = 16.5%
HV = 1650 V Beta

5857 after 10/4/05

COPY 448/88

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 9

LOCATION: (BLDG./AREA/ROOM) T-BLDG Rm 92, 96, 97, 98	SURVEY NO. MT-05-0949
PURPOSE: Marssims Drains, Vents, & Utility Survey Unit 1N07	RWP NO. NA
	DATE: 10/17/05
	TIME: 1546

MAP/DRAWING

Note: 0102V, 0104V, 0103U, & 0105V ∝ elevated readings found - direct readings

~~NOTE: 102V, 105U CONSIDERED 0~~ Lr 12.6.05

NOTE: 102V (279) CONSIDERED OVER 300 REMOVED
105V OVER 300 ~REMOVED
103U below 300 - removed ANYWAY
104V NO VENT COVER PRESENT, sample TAKEN
SENT TO LAB.

Reference RSDS MT-05-1223 for follow up survey

COPY

LEGEND: # = mrem/hr (γ) whole body; # E = mrem/hr (β+η+γ) extremity on contact; (#) = mrem/hr neutron; [#] = air sample number; (#) = swipe number; (#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350-1	58577585g	~~4/15/05~~ 10-7-06

10-4-06

Completed by: (Signature) S Richardson		Date: 10/19/05
Completed by: (Print Name) Justin Kenyon S Richardson		
Counted by: (Signature) SEE	HP#	Date:
Counted by: (Print Name) ATTACHMENTS		
Reviewed/Approved by: (Signature)	HP#	Date: 12/1/05
Reviewed/Approved by: (Print Name) Tess Grant		

ML-0620 (2-99)

4-49/88

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG/AREA/ROOM) T-BLDG Rm 153A, 337, 2EA	SURVEY NO. MT-05-1000
PURPOSE: MASSIM LOWER STATIC SURVEY 2N05 ~~2N05A~~ 1/20/06	RWP NO. NA
	DATE: 10-13-05
	TIME: 1505

MAP/DRAWING

See Attached

COPY

LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact

(#) = mrem/hr neutron

[#] = air sample number

(#) = swipe number

(#/α) = α or β = direct cont. measurement in dpm/100cm²

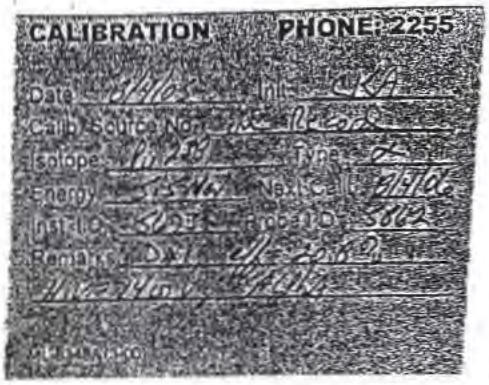
INSTRUMENTS USED

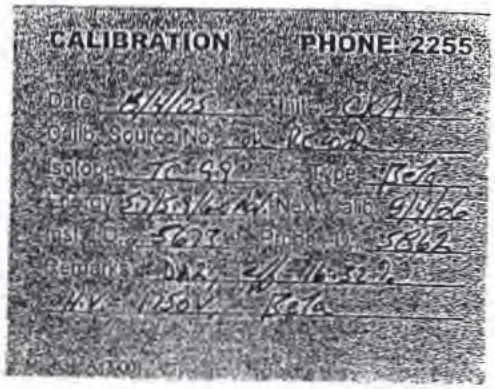
Instrument	Serial Number	Cal. Due Date
2350-1	58577/58559	10/4/05 06 GM 6-25-06

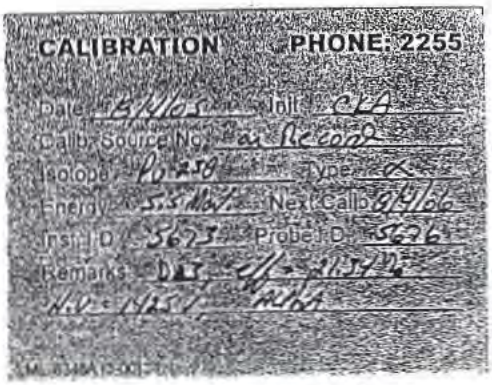
Completed by: (Signature)	TIP #	DATE: 10/13/05
Completed by: (Print Name) Joseph Kozyra		
Counted by: (Signature) N/A SEE ATTACHED Sheets	EP #	DATE:
Counted by: (Print Name)		
Reviewed/Approved by: (Signature)	TIP #	DATE: 10/
Reviewed/Approved by: (Print Name) J. Holabaugh		

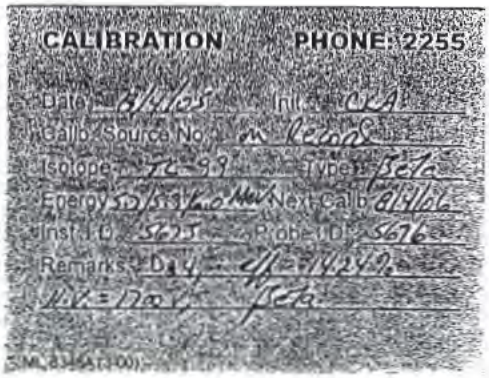
4-50/88

ML-9620 (2-98)


CALIBRATION PHONE: 2255
Date 8/4/05 Init CLA
Calib Source No a Record
Isotope Pu 239 Type α
Energy 5.15 MeV Next Calib 8/4/06
Inst I.D. 5673 Probe I.D. 5662
Remarks D.A. = 4/= 21.34?
H.V. = 1425 V Beta


CALIBRATION PHONE: 2255
Date 8/4/05 Init CLA
Calib Source No a Record
Isotope Tc 99 Type Beta
Energy 0.293 MeV Next Calib 8/4/06
Inst I.D. 5673 Probe I.D. 5662
Remarks D.A. = 4/= 14.32?
H.V. = 1450 V Beta


CALIBRATION PHONE: 2255
Date 8/4/05 Init CLA
Calib Source No a Record
Isotope Pu 239 Type α
Energy 5.15 MeV Next Calib 8/4/06
Inst I.D. 5673 Probe I.D. 5676
Remarks D.A. = 4/= 21.34?
H.V. = 1425 V Beta


CALIBRATION PHONE: 2255
Date 8/4/05 Init CLA
Calib Source No a Record
Isotope Tc 99 Type Beta
Energy 0.293 MeV Next Calib 8/4/06
Inst I.D. 5673 Probe I.D. 5676
Remarks D.A. = 4/= 14.24?
H.V. = 1400 V Beta

5673

AFTER 8/4/05

Good until 2/10/06

recalc: 3-1-06

COPY

4-51/88

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) T Bld 2509 Corr 21A	SURVEY NO. MI-05-1040
PURPOSE: Marrams Post Shonka Scan Fill In Survey	RWP NO. NA
	DATE: 10-17-05
	TIME: 1600

MAP/DRAWING

See Attached

100 % Scan of floor

100% Scan of walls up to 2meters
25% Scan of walls above 2meters

COPY

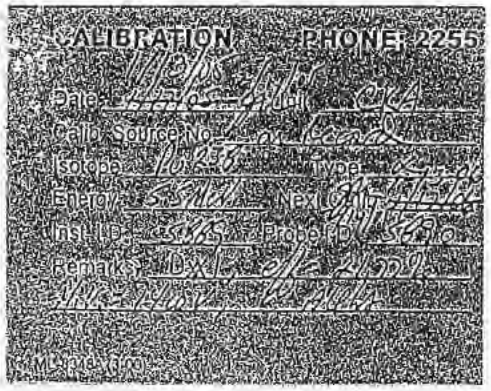
LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

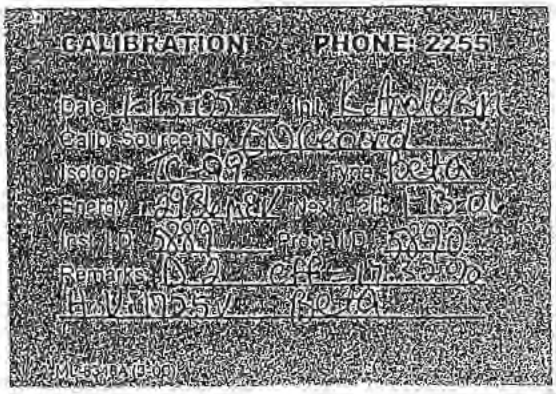
INSTRUMENTS USED

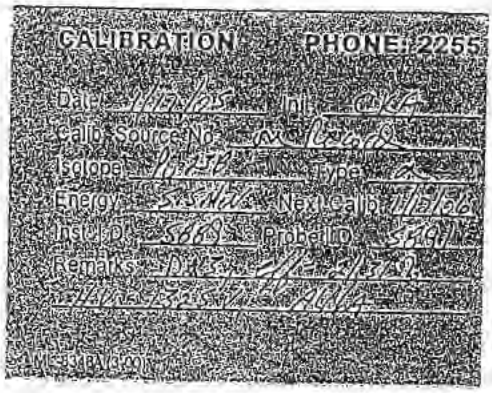
Instrument	Serial Number	Cal. Due Date
2350 43-68	5673 5862	~~8-4-06~~ 5
— 43-37	7676 —	~~8-4-06~~
	NA	5/23/06

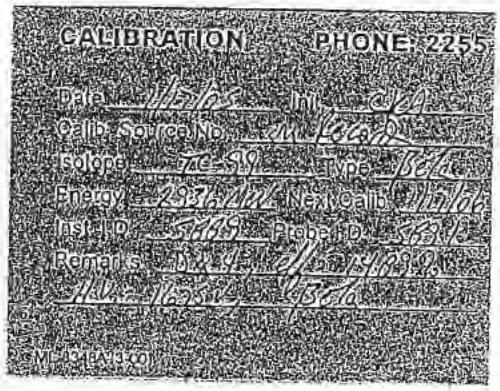
Completed by: (Signature)	HP#	Date: 10-17-05
Completed by: (Print Name) George Weissenberger		
Counted by: (Signature) See Attached	HP#	Date:
Counted by: (Print Name) See Attached		
Reviewed/Approved by: (Signature)	HP#	Date: 10-25-05
Reviewed/Approved by: (Print Name) J. Hollabaugh		4-52/88

ML-0020 (2-00)









5889

Before 6/29/05

Cart #5

COPY

4-53/88

5889

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 6 7-21-6-05

LOCATION: (BLDG./AREA/ROOM) Rooms 82, 84, 86, 87	SURVEY NO. MT-05-107
PURPOSE: IN04 - Rooms 82, 84, 86, 87 Judgementals / Dose Rate Survey	RWP NO. N/A
	DATE: 4/2/05
	TIME: 10:38

MAP/DRAWING

Dose Rates Judgements Survey 4-2-05

	Back Ground	meter Readings	
Room 82	5 ur/hr	4 ur/hr	4/2/05
Room 84	5 ur/hr	5 ur/hr	4/2/05
Room 86	5 ur/hr	5 ur/hr	4/2/05
Room 87	5 ur/hr	4 ur/hr	4/2/05

COPY

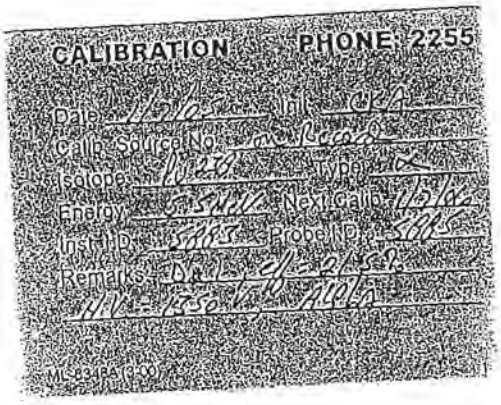
LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5889/5890	1/13/05 06
Micro Rem	3980	5/21/05
	N/A	

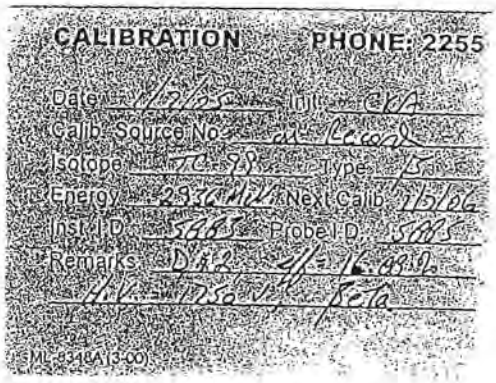
Completed by: (Signature) Tina Robinson / George S. Hodges Date: 4/2/05
Completed by: (Print Name) Tina Robinson / George S. Hodges
Counted by: (Signature) See attachments HP# Date:
Counted by: (Print Name) See Attachments 4-5-05
Reviewed/Approved by: (Signature) Jerry Taylor Date: 4-6-05
Reviewed/Approved by: (Print Name) Jerry Taylor

ML-0820 (2-98)


CALIBRATION PHONE: 2255

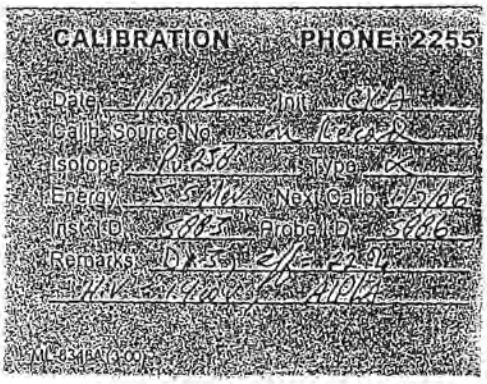
Date 1/12/05 Init CKA
Calib. Source No. AM Rec'd
Isotope Tc-99 Type E
Energy 0.141 MeV Next Calib. 1/5/06
Inst. I.D. 5883 Probe I.D. 5883
Remarks D.A. 2" = 2.68
H.V. = 1250 V. Beta

ML-6348A (3-00)


CALIBRATION PHONE: 2255

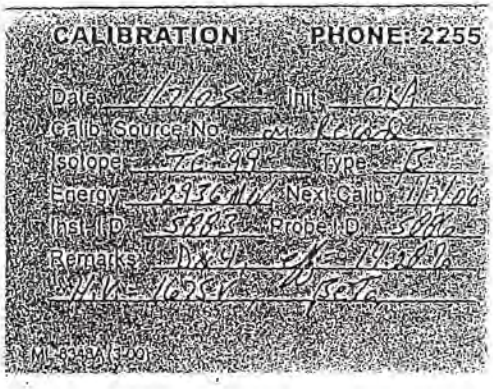
Date 1/12/05 Init CKA
Calib. Source No. AM Rec'd
Isotope Tc-99 Type E
Energy 0.141 MeV Next Calib. 1/5/06
Inst. I.D. 5883 Probe I.D. 5883
Remarks D.A. 2" = 1.68 D.
H.V. = 1250 V. Beta

ML-6348A (3-00)


CALIBRATION PHONE: 2255

Date 1/12/05 Init CKA
Calib. Source No. AM Rec'd
Isotope Tc-99 Type E
Energy 0.141 MeV Next Calib. 1/5/06
Inst. I.D. 5883 Probe I.D. 5886
Remarks D.A. 2" = 2.24
H.V. = 1400 V. Alpha

ML-6348A (3-00)


CALIBRATION PHONE: 2255

Date 1/12/05 Init CKA
Calib. Source No. AM Rec'd
Isotope Tc-99 Type E
Energy 0.141 MeV Next Calib. 1/5/06
Inst. I.D. 5883 Probe I.D. 5886
Remarks D.A. 2" = 1.68 D.
H.V. = 1625 V. Beta

ML-6348A (3-00)

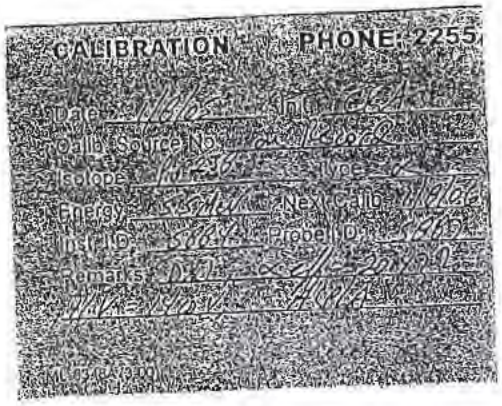
5883

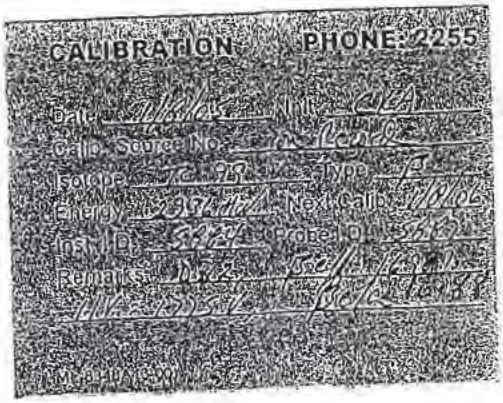
CART #4

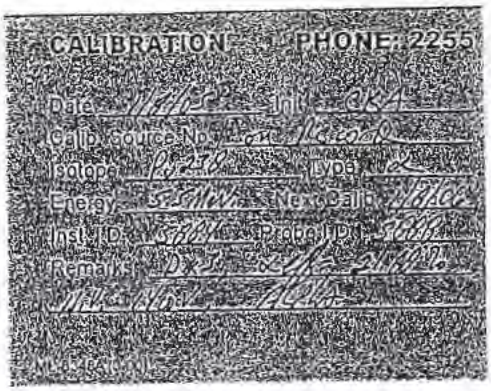
COPY

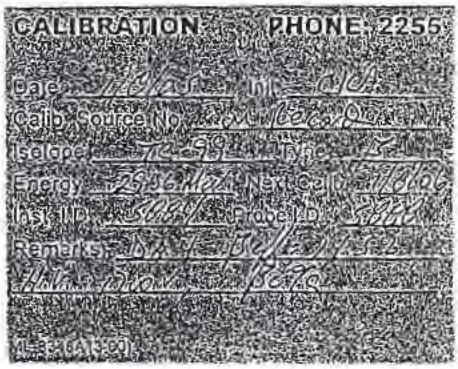
4-55/88

5883









5884

CART #3

4-56/88

5884

RADIOLOGICAL SURVEY DATA SHEET

11/9/05
5
Page 1 of 3 on 11/4/05

LOCATION: (BLDG./AREA/ROOM) T-Bldg Unit 1C02 Room 20	SURVEY NO. MT-05-208
PURPOSE: T-Bldg Unit 1C02 Room 20 W/ALL SCAN Survey. and SCM Floor Survey	RWP NO. N/A
	DATE: 5/4/05
	TIME: 1245

MAP/DRAWING

100% ALPHA/Beta Wall SCAN up to 7FT
25% ALPHA/Beta Wall SCAN Above 2 meters

No Elevated Readings
No Readings Above ALARM Set Points

SCM(Shanka) surveyed 100% of floor for ∝ and β. There were 6 areas on the floor, 1 on the wall of 20 South and 1 on the floor of Corridor 4 that need to be resurveyed. Reference MT-05-974 for 20 South resurvey and MT-05-986 for Corridor 4 resurvey.

COPY

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β - direct cont. measurement in dpm/100cm²

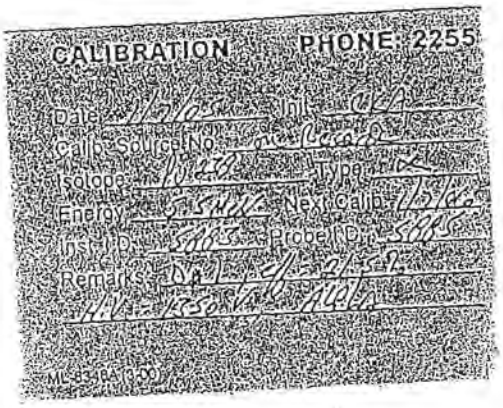
SCM	SCM 53/23	6/1/06

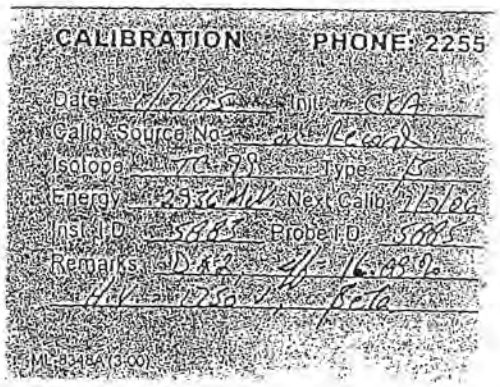
INSTRUMENTS USED

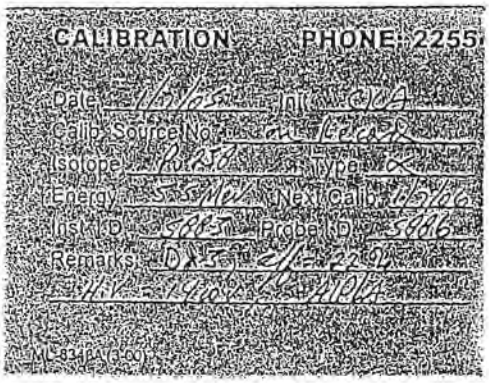
Instrument	Serial Number	Cal. Due Date
2350	5884/5887	1/8/06 05 5/5/06
2350	5883/5885	1/7/06 05 5/5/06
	N/A	

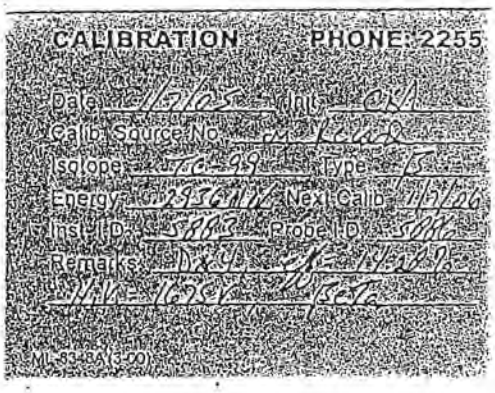
Completed by: (Signature) Tina Robertson/Frances Walsh	HP# [redacted]	Date: 5/4/05
Completed by: (Print Name) TINA Robertson/F Walsh		
Counted by: (Signature) N/A	HP#	Date:
Counted by: (Print Name) N/A		4-57/58
Reviewed/Approved by: (Signature) R. Davis	[redacted]	Date: 5-5-05
Reviewed/Approved by: (Print Name) R. DAVIS		

ML-0620 (2-08)


CALIBRATION PHONE: 2255
Date 1/10/85 Init CKA
Calib. Source No. Cal Lead
Isotope Pu-238 Type L
Energy 5.5 MeV Next Calib. 1/5/86
Inst. I.D. 5883 Probe I.D. 5885
Remarks D.A.L. 4-2/4-8.
H.V. 1250 V Beta
ML-8348A (3-00)


CALIBRATION PHONE: 2255
Date 1/10/85 Init CKA
Calib. Source No. Cal Lead
Isotope TC-99 Type L
Energy 0.2356 MeV Next Calib. 1/5/86
Inst. I.D. 5883 Probe I.D. 5885
Remarks D.A.L. 4-16.8%
H.V. 1250 V Beta
ML-8348A (3-00)


CALIBRATION PHONE: 2255
Date 1/10/85 Init CKA
Calib. Source No. Cal Lead
Isotope Pu-238 Type L
Energy 5.5 MeV Next Calib. 1/5/86
Inst. I.D. 5883 Probe I.D. 5886
Remarks D.A.L. 4-22%
H.V. 1400 V Alpha
ML-8348A (3-00)


CALIBRATION PHONE: 2255
Date 1/10/85 Init CKA
Calib. Source No. Cal Lead
Isotope TC-99 Type L
Energy 0.2356 MeV Next Calib. 1/5/86
Inst. I.D. 5883 Probe I.D. 5886
Remarks D.A.L. 4-14.2%
H.V. 1650 V Beta
ML-8348A (3-00)

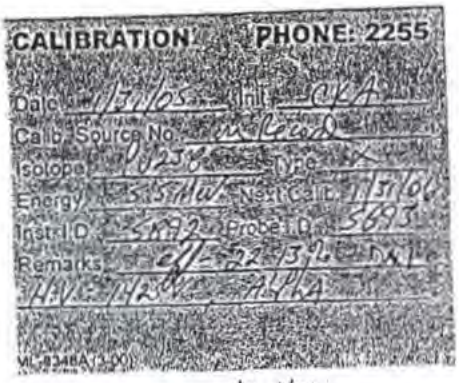
5883

CART #4

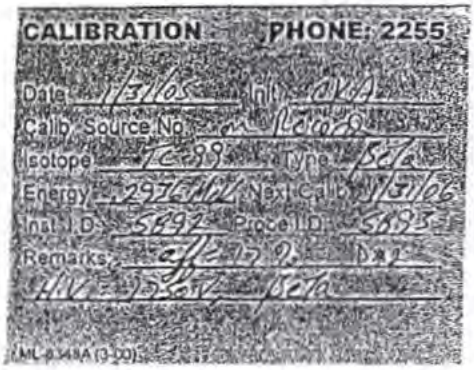
COPY

4-58/88

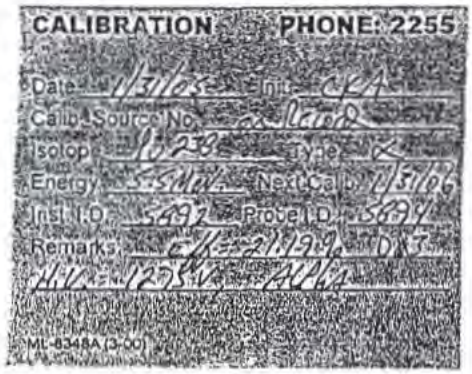
5883

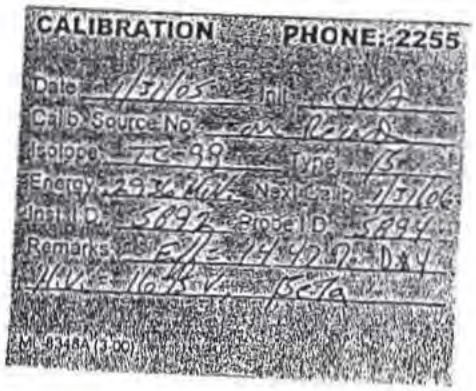

CALIBRATION PHONE: 2255
Date 1/31/05 Init CKA
Calib Source No Am Rod
Isotope U238 Type X
Energy 1.15 MeV Next Calib 1/31/06
Inst I.D. 5892 Probe I.D. 5893
Remarks eff = 22.3% D#1
HV = 1250 V Alpha
ML-8348A (3-00)

D#1


CALIBRATION PHONE: 2255
Date 1/31/05 Init CKA
Calib Source No Am Rod
Isotope Tc-99 Type Beta
Energy .297 MeV Next Calib 1/31/06
Inst I.D. 5892 Probe I.D. 5893
Remarks eff = 17.9% D#2
HV = 1550 V Beta
ML-8348A (3-00)

D#2


CALIBRATION PHONE: 2255
Date 1/31/05 Init CKA
Calib Source No Am Rod
Isotope U238 Type X
Energy 1.15 MeV Next Calib 1/31/06
Inst I.D. 5892 Probe I.D. 5894
Remarks eff = 21.9% D#3
HV = 1250 V Alpha
ML-8348A (3-00)


CALIBRATION PHONE: 2255
Date 1/31/05 Init CKA
Calib Source No Am Rod
Isotope Tc-99 Type Beta
Energy .297 MeV Next Calib 1/31/06
Inst I.D. 5892 Probe I.D. 5894
Remarks eff = 14.9% D#4
HV = 1650 V Beta
ML-8348A (3-00)

5892

CART #7

4-59/88

5892

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 4

LOCATION: (BLDG./AREA/ROOM) T-BLG RM 291, 294. 2'N-10	SURVEY NO. M-4-05 248
PURPOSE: SCANNED FLOOR + WALLS	RWP NO. NA
	DATE: 5-11-05
	TIME: 0030

MAP/DRAWING

NO ELEVATED READINGS α/β.

ALL READING BELOW ALARM SAT POINT

COPY

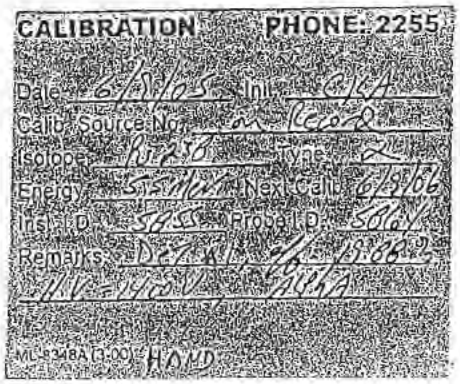
LEGEND: # = mrem/hr (γ) whole body
*E = mrem/hr (β+n+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

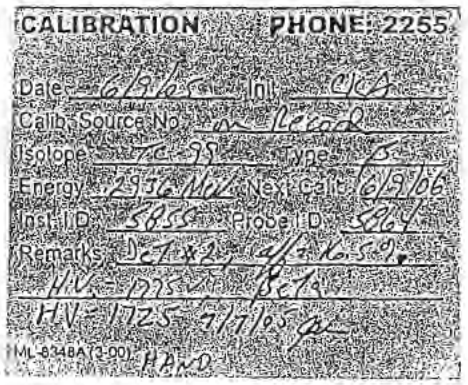
INSTRUMENTS USED

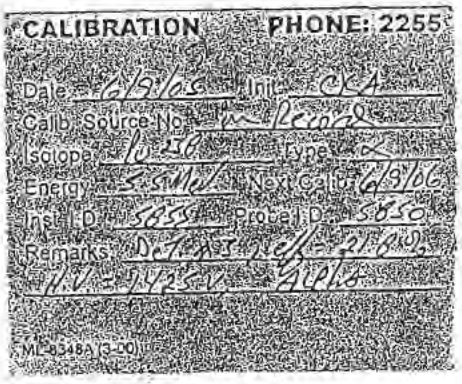
Instrument	Serial Number	Cal. Due Date
2350	5892/5893	1-31-05
2350	5883/5885/5886	1-7-05
	N/A	

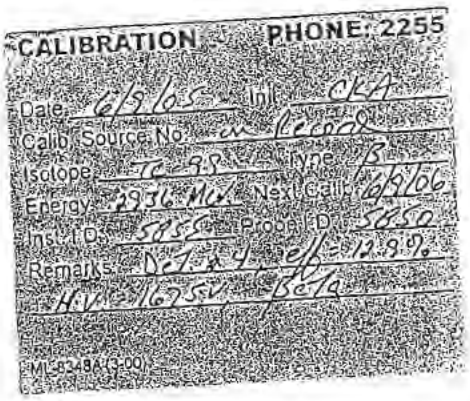
Completed by: (Signature) Travis Walsh Kenny Simpson		Date: 5-11-05
Completed by: (Print Name) TRAVIS WALSH KENNY SIMPSON		
Counted by: (Signature) JOBS TW 5-11-05	HP#	Date:
Counted by: (Print Name) N/A		4-60/88
Reviewed/Approved by: (Signature)		Date: 5-16-05
Reviewed/Approved by: (Print Name) K. DAVIS		

ML-0620 (2-98)


CALIBRATION PHONE: 2255
Date 6/9/05 Init CKA
Calib. Source No. in Record
Isotope Tc 99 Type B
Energy .2936 MeV Next Calib 6/9/06
Inst. I.D. 5855 Probe I.D. 5864
Remarks Det #2 eff = 16.5%
H.V. = 1725 V Beta
ML-8348A (3-00) HAND


CALIBRATION PHONE: 2255
Date 6/9/05 Init CKA
Calib. Source No. in Record
Isotope Tc 99 Type B
Energy .2936 MeV Next Calib 6/9/06
Inst. I.D. 5855 Probe I.D. 5864
Remarks Det #2 eff = 16.5%
H.V. = 1725 V Beta
H.V. = 1725 7/7/05 gc
ML-8348A (3-00) HAND


CALIBRATION PHONE: 2255
Date 6/9/05 Init CKA
Calib. Source No. in Record
Isotope Tc 99 Type B
Energy .2936 MeV Next Calib 6/9/06
Inst. I.D. 5855 Probe I.D. 5850
Remarks Det #3 eff = 21.8%
H.V. = 1425 V Alpha
ML-8348A (3-00)


CALIBRATION PHONE: 2255
Date 6/9/05 Init CKA
Calib. Source No. in Record
Isotope Tc 99 Type B
Energy .2936 MeV Next Calib 6/9/06
Inst. I.D. 5855 Probe I.D. 5850
Remarks Det #4 eff = 12.9%
H.V. = 1675 V Beta
ML-8348A (3-00)

after 6/9/05

5855

CAL 6/9/06

COPY

4.61/88

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 2

LOCATION: (BLDG./AREA/ROOM) TRG 2C13-Rm 275	SURVEY NO. MT-05-0489
PURPOSE:	RWP NO. N/A
	DATE: 7-16-05
1 DAY Floor Survey 2350 - SHONKA	TIME: 1420

MAP/DRAWING

NO ELEVATED Levels DETECTED by 2350
ONE ELEVATED Area ON WALL DETECTED By SCM-23

WALL(1)
25% ALPHA-Beta
SCANNED Above 7ft
100% ALPHA-Beta
from floor up to 7ft

WALL(4)
25% ALPHA-Beta
18 inches From Ceiling Intersect down
100% ALPHA-Beta from Floor Intersect up 8 inches

WALL(3)
25% ALPHA-Beta
2½ ft from Ceiling Intersect
100% ALPHA-Beta
From Floor Intersect to 7ft

FLOOR
100% ALPHA-Beta
1ft AROUND ALL Sides Of FLOOR.

SEE RSDS # MT-05-774 AND MT-05-579 FOR Follow-up surveys

COPY

SCM23 R-180 6-01-06

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5855/5860	6-9-05
2350	5854/5861/5857	7-20-05
2350	5895/5896	2-5-06
	N	
	A	

Completed by: (Signature) Donna Watson	HP#	Date: 7-16-05
Completed by: (Print Name) Donna Watson		
Counted by: (Signature) N/A	HP#	Date:
Counted by: (Print Name) N/A		4-62/88
Reviewed/Approved by: (Signature)	HP#	Date: 7-17-05
Reviewed/Approved by: (Print Name) JARED HOLLABAUGH		

ML-0620 (2-08)

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) T Bldg INDI T78B	SURVEY NO. MT-05-664
PURPOSE: Survey; DRAINS, VENT, UTILITIES	RWP NO. N/A
	DATE: 8/16/05
	TIME: 1540

MAP / DRAWING

SEE ATTACHED

NO ELEVATED READINGS

COPY

LEGEND:

= mrem/hr (γ) whole body

#E = mrem/hr (β+η+γ) extremity on contact

K = factor of 1000

—·—·— = radiological boundary

△# = mrem/hr neutron

(#) = swipe number

[#] = air sample number

(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5855/5864	~~6/16/05~~ 6-9-06 GH 6-25-06
N	"	A

Completed by: (Signature) R. Harper	HP# [redacted]	Date: 8/16/05	
Completed by: (Print Name) R. HARPER			4-63/88
Counted by: (Signature) N/A	HP# N/A	Date: N/A	
Counted by: (Print Name)			
Reviewed/Approved by: (Signature)	HP# [redacted]	Date: 9/4/05	
Reviewed/Approved by: (Print Name)			

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 1N01 T78B	SURVEY NO. MT-05-665
PURPOSE: Judgemental survey	RWP NO. N/A
	DATE: 8/18/05
	TIME: 1505

MAP / DRAWING

NO ELEVATED READING

SEE ATTACHED

COPY

LEGEND:

= mrem/hr (γ) whole body

#E = mrem/hr (β+η+γ) extremity on contact

K = factor of 1000

—·—·— = radiological boundary

(#) = mrem/hr neutron

(#) = swipe number

[#] = air sample number

(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5865/5864	6/4/05 5-9-06
N	A	

Completed by: (Signature) R. Harper			Date: 8/18/05
Completed by: (Print Name) R. HARPER			
Counted by: (Signature) N/A	HP# N/A		Date: N/A
Counted by: (Print Name)			
Reviewed/Approved by: (Signature)			Date: 9/4/05
Reviewed/Approved by: (Print Name)			

4-24-88

Suitcase
5924 / 5929
∝ EFF. Pu238 30% NOT BEING USE Chg IN STATEMENT
B EFF. TC99 21%
CALIBRATION DUE DATE 5/9/06
∝ H.V 1400V B' 1750V

Suit Case
5920 / 5929
∝ EFF. Pu238 21%
B' EFF. TC-99 16% as of 12-21 before 16.1%
CALIBRATION DUE DATE 11/15/06
∝ H.V. 1400V B'HV 1750V

Suitcase
5923 / 5925
∝ EFF. 20.73% (5-17-05)
B' EFF. before 9/20/05 20.46%
after 9/20/05 15.78%
∝ HV 1325V B' HV 1750V
CALIBRATION DUE DATE 5/17/06

Suitcase
5928 / 5927 (5-24-05
∝ EFF. 22%
B' EFF. 16.8%
HV ∝ 1425V HV B' 1725
CALIBRATION DUE DATE 5/24/06

Suitcase
5858 / 5860 (11-22-05)
∝ EFF. 20%
B' EFF. 16.6%
HV ∝ 1300V HV B' 1850
CALIBRATION DUE DATE 11/22/06

Suitcase
5922 / 5926
∝ EFF. 20.74%
B' EFF. 17.47%
H.V. ∝ 1325
H.V. B' 1740
CAL DUE 5/18/06

COPY
4-65/88

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 2

LOCATION: (BLDG./AREA/ROOM) TBldg 06-01 Above Rms 315316,318	**SURVEY NO.** MT-05-658
PURPOSE: ma rrsims survey (1m² scan Within) taken due to elevated reading and holes ~~needed~~ NOW enlargement	**RWP NO.** NA
	DATE: 8-16-05
	TIME: 1630

MAP/DRAWING

1 m² scan Sys 06-01-01S
06-01-03S
06-01-05S
06-01-07S
06-01-07S
06-01-09S
06-01-11S ✓
06-01-13S
06-01 15S ✓

1m² scan Sys 06-01-05J ✓

Refer. To MT-05-311 for elevated and previes readings

NO α B⁻ Elevated Readings detected during scan

Note: No static readings taken scan performed due to Holes were now enlarged

LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact

(#) = mrem/hr neutron

(#) = swipe number

[#] = air sample number

(#/α) = or /β = direct cont. Measurement in dpm/100cm²

COPY

INSTRUMENTS USED

Instrument	Serial Number	Cal Due Date
2350 43-68	5923 5925	5-17-05 6-2-06
	N A	

Completed by: (Signature)	[redacted]	Date: 8-16-05
Completed by: (Print Name) George Wessenburg / Phillip Cole		
Counted by: (Signature) See Attached Sheets NA	HP# NA	Date: NA
Counted by: (Print Name) See Attached Sheets NA		
Reviewed/Approved by: (Signature)	HP# [redacted]	Date: 10/5/05
Reviewed/Approved by: (Print Name) Jess Griffin		4-66/88

ML-9620 (2-98)

Suitcase
5924 / 5929
∝ EFF. Pu238 30% NOT BEING USE Chg IN STRUCTS
B EFF. TC99 21%
CALIBRATION DUE DATE 5/9/06
∝ H.V 1400V B' 1750V

Suit Case
5920 / 5929
∝ EFF. Pu238 21%
B' EFF. TC-99 16% as of 12-21-05 before 16.1%
CALIBRATION DUE DATE 11/15/06
∝ H.V. 1400V B' HV 1750V

Suitcase
5923 / 5925
∝ EFF. 20.73% (5-17-05)
B' EFF. before 9/20/05 20.46%
after 9/20/05 15.78%
∝ HV 1325V B' HV 1750V
CALIBRATION DUE DATE 5/17/06

Suitcase
5928 / 5927 (5-24-05
∝ EFF. 22%
B' EFF. 16.8%
HV ∝ 1425V HV B' 1725
CALIBRATION DUE DATE 5/24/06

Suitcase
5858 / 5860 (11-22-05)
∝ EFF. 20%
B' EFF. 16.6%
HV ∝ 1300V HV B' 1850
CALIBRATION DUE DATE 11/22/06

Suitcase
5922 / 5924
∝ EFF. 20.74%
B' EFF. 17.47%
H.V. ∝ 1325
H.V. B' 1740
CAL DUE 5/18/06

COPY

4-67/88

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG. / ROOM / AREA) T bldg / 1st floor /	SURVEY NO. MT-06-0439
PURPOSE: HVAC system E-11B SYS0502 Static readings (REPLACES MT-06-0096 VOID SURVEY)	RWP NO. NA
	DATE: 4-19-06
	TIME: 1500

MAP / DRAWING

SEE ATTACHED MAP FOR LOCATION:

SEE ATTACHED SHEETS FOR SAMPLE AND INSTRUMENT INFO:

COPY

LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
K = factor of 1000
— · — · — = radiological boundary

△# = mrem/hr neutron
= air sample number
(#) = swipe number
(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
SEE	ATTACHED	
2350-1	5920/5929	11-15-06 4-07 4-06

Completed by: (Signature) [redacted]		Date: 4-21-06
Completed by: (Print Name) John Beko N Reynolds		
Counted by: (Signature) SEE	HP# N/A	Date: N/A
Counted by: (Print Name) ATTACHED		
Reviewed/Approved by: (Signature) [redacted]	HP# [redacted]	Date: 4/25/06
Reviewed/Approved by: (Print Name) Jerry Taylor		

4-68/88

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 8

LOCATION: (BLDG./AREA/ROOM) T'BLDG 1ST Floor Penetration	SURVEY NO. MT-06-0298
PURPOSE: Penetrations Sys 0501 0604 ~~U.S.~~	RWP NO. N/A
	DATE: 3.11.06
	TIME: 1600

MAP/DRAWING

SEE ATTACHED

SCANNED INSIDE WALL where VENTILATION RAN through α /β⁻ NO Elevated.

COPY

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5920 | 5929	~~11-15-06~~ 04/25/06
		11-15-06
	N	
	A	

Completed by: (Signature) Deb Hodges		Date: 3.11.06
Completed by: (Print Name) S Richardson G. Hodges		
Counted by: (Signature) SEE ATTACHED	HP# N/A	Date: N/A
Counted by: (Print Name) SHEETS		4-69/88
Reviewed/Approved by: (Signature) Terry Taylor	HP#	Date: 4-12-06
Reviewed/Approved by: (Print Name) Terry Taylor RP		

ML-9620 (2-98)


CALIBRATION PHONE: 2255

Date 7/28/05 Init D.I.

Calib. Source No. ON RECORD

Isotope Pu-238 Type A

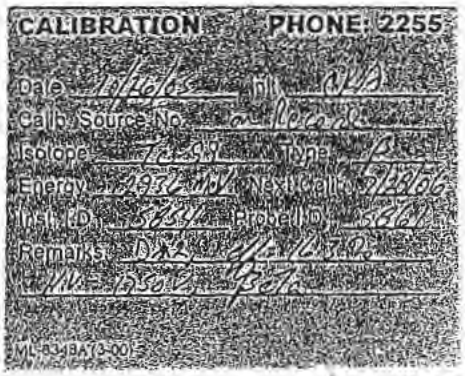
Energy 5.5 MeV Next Calib 7/28/06

Inst. I.D. 5854 Probe I.D. 5861

Remarks DET #1 EFF 20.5%

HV 1425 V, ALPHA

ML-8348A (3-00)


CALIBRATION PHONE: 2255

Date 7/28/05 Init D.I.

Calib. Source No. ON RECORD

Isotope Tc-99 Type B

Energy .294 MeV Next Calib 7/28/06

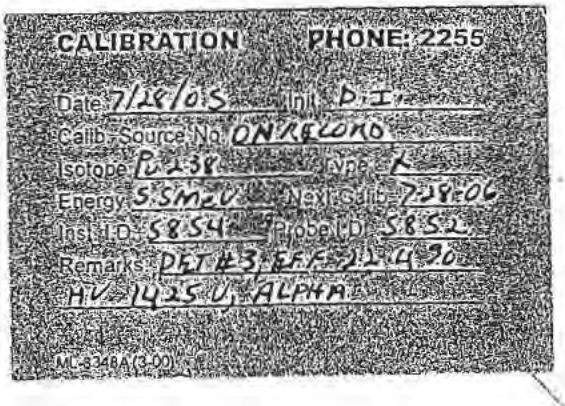
Inst. I.D. 5854 Probe I.D. 5861

Remarks DET #2 EFF 16.4%

HV 1750 V, BETA

ML-8348A (3-00)

AFTER 10/26/05
Because of EFF. Chg.


CALIBRATION PHONE: 2255

Date 7/28/05 Init D.I.

Calib. Source No. ON RECORD

Isotope Pu-238 Type A

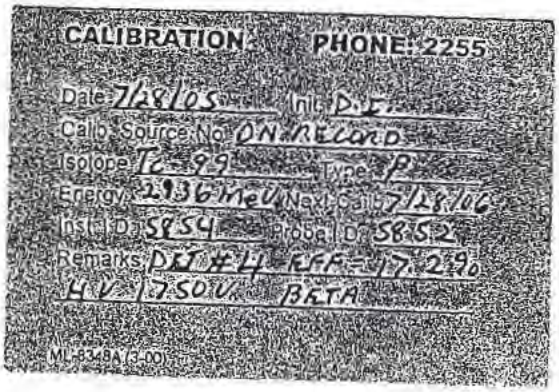
Energy 5.5 MeV Next Calib 7/28/06

Inst. I.D. 5854 Probe I.D. 5852

Remarks DET #3 EFF 12.4%

HV 1425 V, ALPHA

ML-8348A (3-00)


CALIBRATION PHONE: 2255

Date 7/28/05 Init D.I.

Calib. Source No. ON RECORD

Isotope Tc-99 Type B

Energy .296 MeV Next Calib 7/28/06

Inst. I.D. 5854 Probe I.D. 5852

Remarks DET #4 EFF 17.2%

HV 1750 V, BETA

ML-8348A (3-00)

5854/5861
as of 7/28/05 except D2
after 10/26/05

5854

COPY

4-70/88

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG/AREA/ROOM) T Bld IN03A East, West Tunnels	SURVEY NO. MT-05-1271
PURPOSE: Follow up Post Remediation	RWP NO. N/A
	DATE: 12/7/05
IN03A	TIME: 1600

MAP/DRAWING

See Attached

~~Reference MT-05-806 for IN030103E (1/18/06 gw~~

" "

~~IN030101E~~

~~MT-05-1184 for IN030101E + IN030102E 1/18/06 gw~~

gw 1-18-06

" " " "

~~6.7 8X~~ ~~0.14X~~

gw 1-18-06 1-18-06

6w

SCANNED AREA

AROUND SPOTS. NO

ELEVATED AREA DETECTED.

REF. ORIGINAL RSDS MT-05-806. (IN030101E)
Follow-up MT-05-854 (IN0304J)
Follow-up Post Remediation this RSDS (IN030103E)
DATA Points.
IN030102E SAME AS IN030110X on RSDS MT-05-1184
IN030103E SAME AS IN030114X on RSDS MT-05-1184

COPY

LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) = or/β = direct cont. measurement in dpm/100cm²

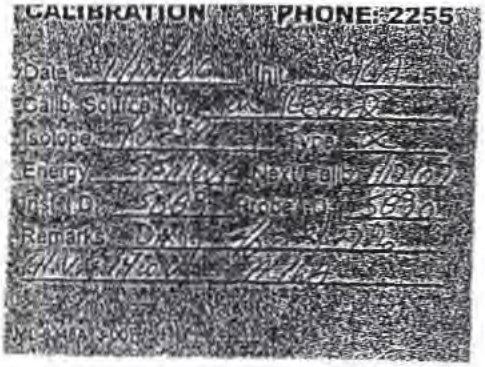
INSTRUMENTS USED

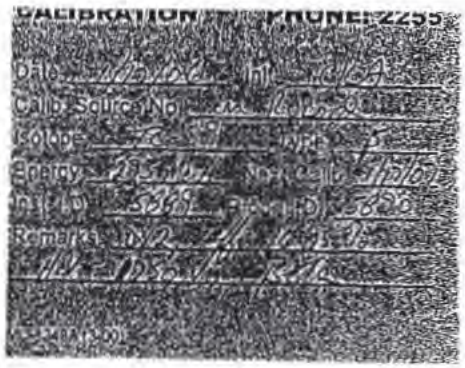
Instrument	Serial Number	Cal. Due Date
2350 4368	5854 5861	7-28-06 1/18/06 gw
	NA	

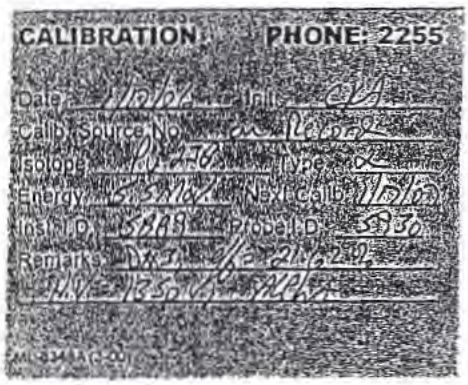
Completed by: (Signature) S Richardson	HP #	DATE: 12/7/05
Completed by: (Print Name) George Weissenburger / Stephen Richardson		
Counted by: (Signature) See Attached	HP #	DATE: →
Counted by: (Print Name) sheets →		
Reviewed/Approved by: (Signature) Jerry Taylor	HP #	DATE: 1-17-06
Reviewed/Approved by: (Print Name) Jerry Taylor		

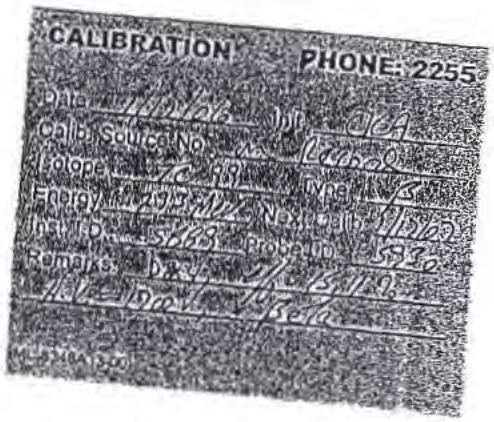
4-71/88

ML-9620 (2-98)









AS OF
1-19/06

5889/5890

COPY

4-12/88

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 11

LOCATION: (BLDG./AREA/ROOM) J-Bldg.	SURVEY NO. MT-06-0317
PURPOSE: Statics - Upper & Lower Room 226 & Corridor 208 2516	RWP NO. N/A
	DATE: 3-15-06
	TIME: 1400

MAP/DRAWING

See attached

No elevated α/β detected during scan.

Scanned 1 sq. meter around points on ceiling

COPY

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5889/5890	1-17-~~06~~ 07 4/26/06 jw
	A	
	N	

Completed by: (Signature) BJ Roe K. Jones			Date: 3-15-06
Completed by: (Print Name) BJ Roe K. Jones			
Counted by: (Signature) See Attached	HP# N/A		Date: N/A
Counted by: (Print Name) See Attached			4-13-88
Reviewed/Approved by: (Signature)	HP#		Date: 3/16/06
Reviewed/Approved by: (Print Name) Jess Griffin			

ML-9620 (2-98)

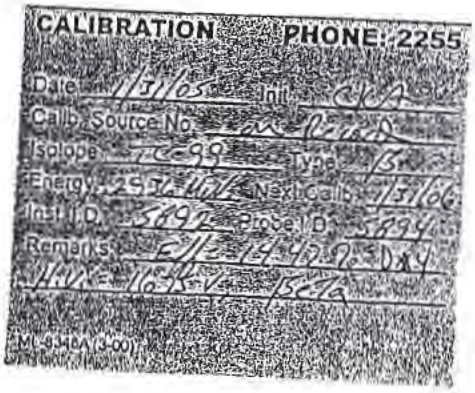

CALIBRATION PHONE: 2255
Date 1/31/05 Init. CKA
Calib. Source No. Am Record
Isotope 241 Type X
Energy 5.5 MeV Next Calib. 1/31/06
Inst. I.D. 5892 Probe I.D. 5693
Remarks CH = 21392 DH1
H.V. = 1425V ALPHA
ML-6346A (3-00)

DH1


CALIBRATION PHONE: 2255
Date 1/31/05 Init. CKA
Calib. Source No. Am Record
Isotope TC99 Type BETA
Energy 292 KeV Next Calib. 1/31/06
Inst. I.D. 5892 Probe I.D. 5693
Remarks CH ID 2 DH2
H.V. = 1050V BETA
ML-6346A (3-00)

DH2


CALIBRATION PHONE: 2255
Date 1/31/05 Init. CKA
Calib. Source No. Am Record
Isotope 241 Type X
Energy 5.5 MeV Next Calib. 1/31/06
Inst. I.D. 5892 Probe I.D. 5894
Remarks CH = 21392 DH3
H.V. = 1250V ALPHA
ML-6346A (3-00)


CALIBRATION PHONE: 2255
Date 1/31/05 Init. CKA
Calib. Source No. Am Record
Isotope TC99 Type BETA
Energy 292 KeV Next Calib. 1/31/06
Inst. I.D. 5892 Probe I.D. 5894
Remarks CH = 14492 DH4
H.V. = 1625V BETA
ML-6346A (3-00)

5892

CART #7

COPY

4-14-88

5892

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 2

LOCATION: (BLDG./AREA/ROOM) T-BLDG CORRIDOR 20 · (2516)	SURVEY NO. MT-05-952
PURPOSE: Survey of Suspected Elevated Spots (Additional Spots Added by Shanka)	RWP NO. N/A
	DATE: 10-6-05
	TIME: 1530

MAP/DRAWING

No elevated α/β readings detected during scan.

See Attachments

Reference RSDS MT-05-745 for SCM23 summary report.

COPY

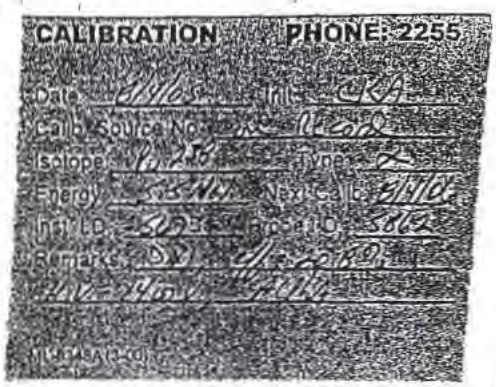
LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

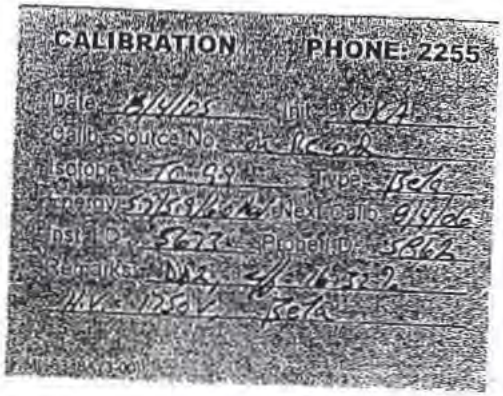
INSTRUMENTS USED

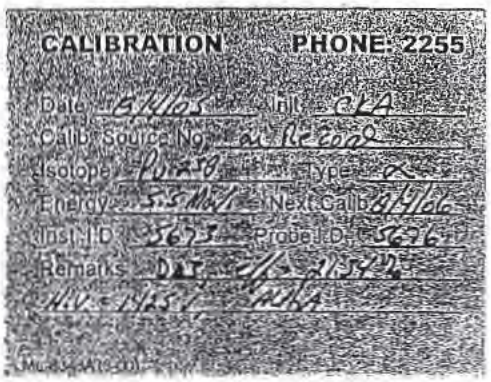
Instrument	Serial Number	Cal. Due Date
2350	5892 ; 5893	1-31-05-06 7-5-06
N/A.	N/A	N/A

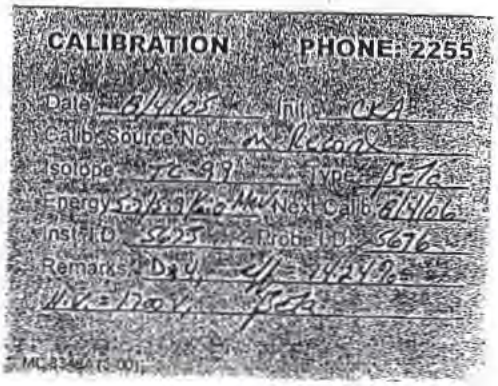
Completed by: (Signature) J. King	HP# [redacted]	Date: 10-6-05
Completed by: (Print Name) T. King		
Counted by: (Signature) See Attachment	HP#	Date:
Counted by: (Print Name) See Attachments		
Reviewed/Approved by: (Signature)	HP# [redacted]	Date: 10/19/05
Reviewed/Approved by: (Print Name) Joe Gilkin		4-75-08

ML-0620 (2-06)


CALIBRATION PHONE: 2255
Date 8/4/05 Init CLA
Calib Source No Lot Record
Isotope Pu-239 Type α
Energy 5.5 MeV Next Calib 8/4/06
Inst I.D. 5673 Probe I.D. 5676
Remarks DAC 4π = 1425 cpm
MCA 3A (3-00)


CALIBRATION PHONE: 2255
Date 8/4/05 Init CLA
Calib Source No Lot Record
Isotope Tc-99 Type Beta
Energy 0.3 MeV Next Calib 8/4/06
Inst I.D. 5673 Probe I.D. 5676
Remarks DAC 4π = 2142 cpm
MCA 3A (3-00)


CALIBRATION PHONE: 2255
Date 8/4/05 Init CLA
Calib Source No Lot Record
Isotope Pu-239 Type α
Energy 5.5 MeV Next Calib 8/4/06
Inst I.D. 5673 Probe I.D. 5676
Remarks DAC 4π = 1425 cpm
MCA 3A (3-00)


CALIBRATION PHONE: 2255
Date 8/4/05 Init CLA
Calib Source No Lot Record
Isotope Tc-99 Type Beta
Energy 0.3 MeV Next Calib 8/4/06
Inst I.D. 5673 Probe I.D. 5676
Remarks DAC 4π = 2142 cpm
MCA 3A (3-00)

5673

AFTER 8/4/05

Good until 2/10/06

recalc 3-1-06

COPY

4-16-88

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) T Bld 2509 Corr 21A	SURVEY NO. NT-05-1040
PURPOSE: marrying post Sherka scan Fill In survey	RWP NO. NA
	DATE: 10-17-05
	TIME: 1600

MAP/DRAWING

See Attached

100 % scan of floor

100 % scan of walls up to 2meters
25% scan of walls above 2meters

COPY

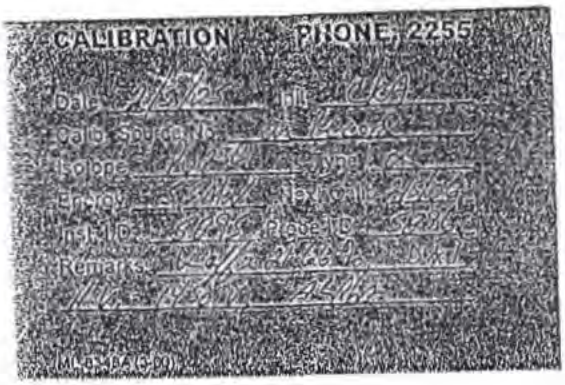
LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

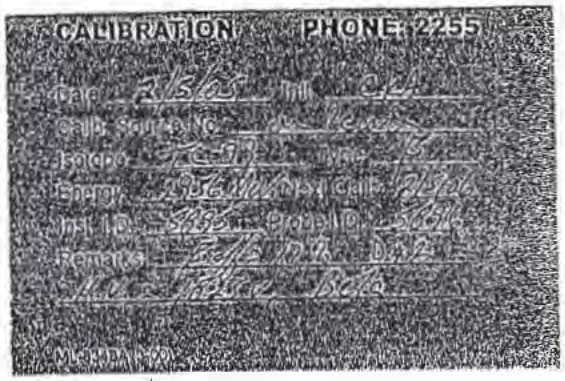
INSTRUMENTS USED

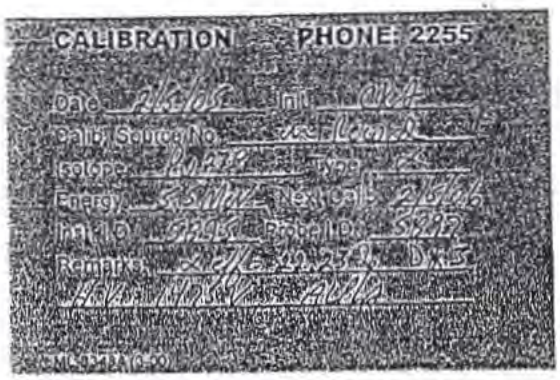
Instrument	Serial Number	Cal. Due Date
2350 43-68	5673 5862	~~8-4-06~~ 5-05
— 43-37	7676 —	~~8-4-06~~ 5-05
	NA	5/25/06

Completed by: (Signature)	HP#	Date: 10-17-05
Completed by: (Print Name) George Wissa		
Counted by: (Signature) See Attached	HP#	Date:
Counted by: (Print Name) See Attached		
Reviewed/Approved by: (Signature)	HP#	Date: 10-25-05
Reviewed/Approved by: (Print Name) J. HOLLABAUGH		4/7/88

ML-0820 (2-08)







5895

CART #6

COPY

before 2/5/04

5895

4-18/88

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 7

LOCATION: (BLDG./AREA/ROOM) T-BLDG Rm-266	SURVEY NO. MT-05-470
PURPOSE: Marssim survey DC-09 on vents & UTILITIES	RWP NO. NA
	DATE: 071305
	TIME: 1227

MAP / DRAWING

See attached Sheets

COPY

LEGEND:

= mrem/hr (γ) whole body

#E = mrem/hr (β+η+γ) extremity on contact

K = factor of 1000

— · — · — = radiological boundary

(#) = mrem/hr neutron

(#) = swipe number

[#] = air sample number

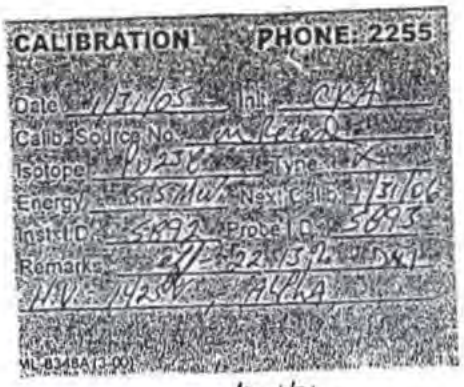
(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

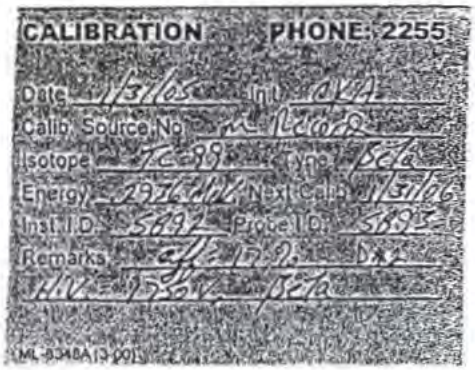
Instrument	Serial Number	Cal. Due Date
2350	5895/5896	2/5/06 ~~071305~~ 5/25/06

Completed by: (Signature)	HP#	Date: 7-13-05
Completed by: (Print Name) Joseph Kozma George Weissenberger		
Counted by: (Signature) See	HP# N/A	Date: N/A
Counted by: (Print Name) attachments		
Reviewed/Approved by: (Signature)	HP#	Date: 8-2-05
Reviewed/Approved by: (Print Name) J. HOLADAY		4-79/88 RWC

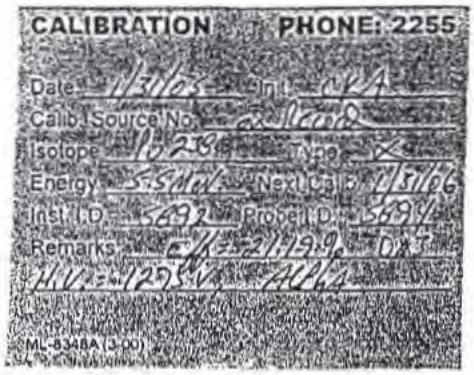
ML-9620 (2-98)

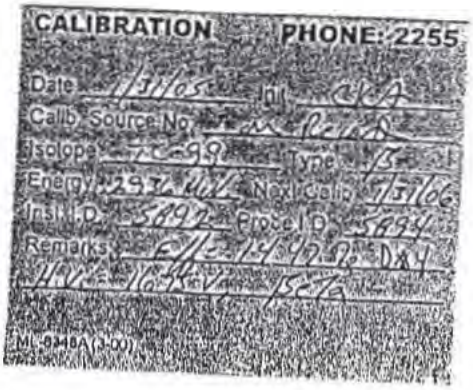

CALIBRATION PHONE: 2255
Date 1/31/05 Init CVA
Calib. Source No. [illegible]
Isotope [illegible] Type [illegible]
Energy [illegible] Next Calib 1/31/06
Inst. I.D. 5892 Probe I.D. 5893
Remarks [illegible]
H.V. 1425V [illegible]
ML-8348A (3-00)

D#1


CALIBRATION PHONE: 2255
Date 1/31/05 Init CVA
Calib. Source No. [illegible]
Isotope Tc-99 Type [illegible]
Energy [illegible] Next Calib 1/31/06
Inst. I.D. 5892 Probe I.D. 5893
Remarks [illegible]
H.V. 1550V [illegible]
ML-8348A (3-00)

D#2


CALIBRATION PHONE: 2255
Date 1/31/05 Init CVA
Calib. Source No. [illegible]
Isotope [illegible] Type [illegible]
Energy [illegible] Next Calib 1/31/06
Inst. I.D. 5892 Probe I.D. [illegible]
Remarks [illegible]
H.V. 1250V [illegible]
ML-8348A (3-00)


CALIBRATION PHONE: 2255
Date 1/31/05 Init CVA
Calib. Source No. [illegible]
Isotope Tc-99 Type [illegible]
Energy [illegible] Next Calib 1/31/06
Inst. I.D. 5892 Probe I.D. [illegible]
Remarks [illegible]
H.V. 1650V [illegible]
ML-8348A (3-00)

5892

CART #7

COPY

5892

4-80/88

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) T-Bldg Unit 1C03 Rooms 25,26,22	SURVEY NO. MT-05-300
PURPOSE: T-Bldg Unit 1C-03 Rooms 22, 25, 26 Upper & Lower Walls Survey	RWP NO. N/A
	DATE: 5/20/05
	TIME: 2200

MAP/DRAWING

NO Elevated Readings on Alpha/Beta Scan

ALL Readings below Alarm set Points

SCAN 100% Lower WALLS upto 2 meters α/β

SCAN 25% upper WALLS above 2 meters α/β

COPY

LEGEND: # = mrem/hr (γ) whole body; *E = mrem/hr (β+η+γ) extremity on contact; (#) = mrem/hr neutron; [#] = air sample number; (#) = swipe number; (#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5884/5887	1/8/06 ✓
~~2350~~	~~5855/5864~~	~~6/9/05~~ 5/25/06
2350	5855/5864	6/9/05 ✓
2350	5673/5862	7/29/05 ✓
2350	5892/5893	1/31/05 06
		5/25/04
ML-0820 (2-98)		
→ 2350	5883/5885	1/7/06 ✓

Completed by: (Signature) Tina Roberson Wayne Jones Kay Simpson		Date: 5/20/05
Completed by: (Print Name) WAYNE JONES TINA ROBERTSON, TERESA WAGNER Kay Simpson		
Counted by: (Signature) N/A	HP# N/A	Date: N/A
Counted by: (Print Name) N/A		
Reviewed/Approved by: (Signature)	HP#	Date: 5-24-05
Reviewed/Approved by: (Print Name) K. Davis		4-81/88

Suitcase
5924 / 5929
∝ EFF. Pu238 30% NOT BEING USE Chg INSTRUMENT
B EFF. TC99 21%
CALibration DATE 5/9/06
∝ H.V. 1400V B' 1750V

Suit Case
5920 / 5929
∝ EFF. Pu238 21%
B' EFF. TC-99 16% as of 12-21-05 before 16.6
CALibration DATE 11/15/06
∝ H.V 1400V B'HV 1750V

Suitcase
5923 / 5925
∝ EFF. 20.73% (5-17-05)
B' EFF. before 9/20/05 20.46%
after 9/20/05 15.78%
∝ HV 1325V B' HV 1750V
CALIBRATION DATE 5/17/06

Suitcase
5928 / 5927 (5-24-05
∝ EFF. 22%
B' EFF. 16.8%
HV ∝ 1425V HV B' 1725V
CALIBRATION DATE 5/24/06

Suitcase
5858 / 5860 (11-22-05)
∝ EFF. 20%
B' EFF. 16.6%
HV ∝ 1300V HV B' 1850
CALibration DATE 11/22/06

COPY

Suitcase
5922 / 5926
∝ EFF. 20.74%
B' EFF. 17.47%
H.V. ∝ 1325
H.V. B' 1740
CAL DUE 5/18/06

4-82/88

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG. / ROOM / AREA) T bldg / 1st floor /	SURVEY NO. MT-06-0439
PURPOSE: HVAC system E-11B SYSOSO2 Static readings (REPLACES MT-06-0096 VOID SURVEY)	RWP NO. NA
	DATE: 4-19-06
	TIME: 1500

MAP / DRAWING

SEE ATTACHED MAP FOR LOCATION:

SEE ATTACHED SHEETS FOR SAMPLE AND INSTRUMENT INFO:

COPY

LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
K = factor of 1000
— · — · — = radiological boundary

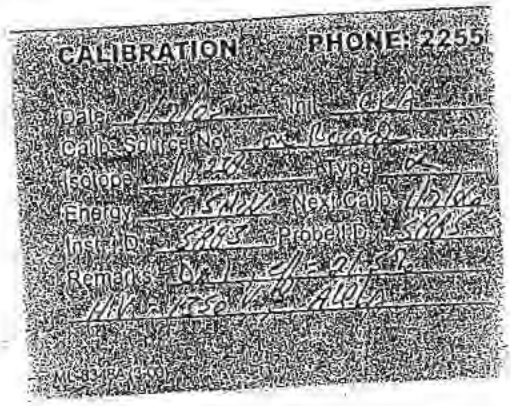
△# = mrem/hr neutron
(#) = swipe number
[#] = air sample number
(#/α) or /β = direct contamination measurement in dpm/100 cm²

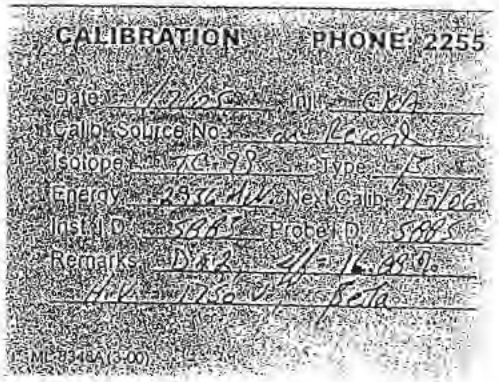
INSTRUMENTS USED

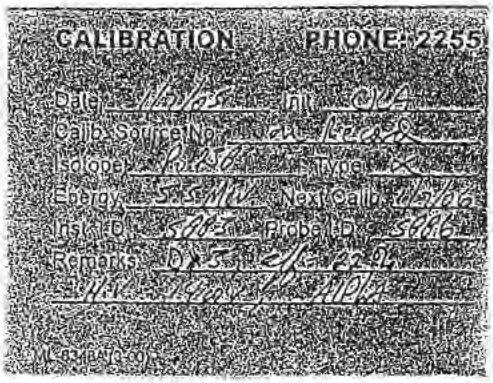
Instrument	Serial Number	Cal. Due Date
SEE	ATTACHED	
2350-1	5920/5929	11-15-06 4-07 4-07

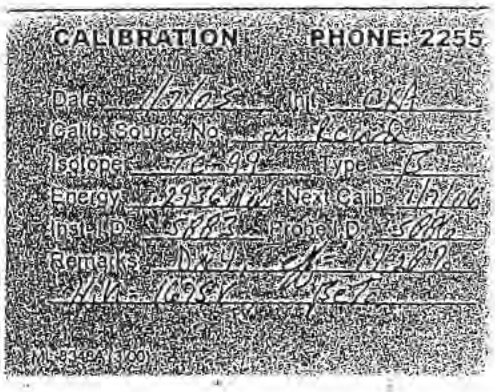
Completed by: (Signature)	[redacted]		Date: 4-21-06
Completed by: (Print Name)	John Beko N Reynolds		
Counted by: (Signature)	SEE	HP# N/A	Date: N/A
Counted by: (Print Name)	ATTACHED		
Reviewed/Approved by: (Signature)	[redacted]		Date: 4/25/06
Reviewed/Approved by: (Print Name)	Jerry Taylor		

4-83/88


CALIBRATION PHONE: 2255
Date 4/10/85 Init CLA
Calib. Source No. Am Local
Isotope Am 241 Type B
Energy 59.54 KeV Next Calib. 7/10/85
Inst. I.D. 5883 Probe I.D. 5883
Remarks D= 1.5 E= 2.1 F= 2.2
H= 1.50 V= 1.20 Alpha
ML-8348A (3-00)


CALIBRATION PHONE: 2255
Date 4/10/85 Init CLA
Calib. Source No. Am Local
Isotope Am 241 Type B
Energy 59.54 KeV Next Calib. 7/10/85
Inst. I.D. 5883 Probe I.D. 5883
Remarks D= 1.2 E= 1.4 F= 1.5
H= 1.50 V= 1.20 Beta
ML-8348A (3-00)


CALIBRATION PHONE: 2255
Date 4/10/85 Init CLA
Calib. Source No. Am Local
Isotope Am 241 Type B
Energy 59.54 KeV Next Calib. 7/10/85
Inst. I.D. 5883 Probe I.D. 5886
Remarks D= 1.5 E= 2.1 F= 2.2
H= 1.50 V= 1.20 Alpha
ML-8348A (3-00)


CALIBRATION PHONE: 2255
Date 4/10/85 Init CLA
Calib. Source No. Am Local
Isotope Am 241 Type B
Energy 59.54 KeV Next Calib. 7/10/85
Inst. I.D. 5883 Probe I.D. 5886
Remarks D= 1.2 E= 1.4 F= 1.5
H= 1.50 V= 1.20 Beta
ML-8348A (3-00)

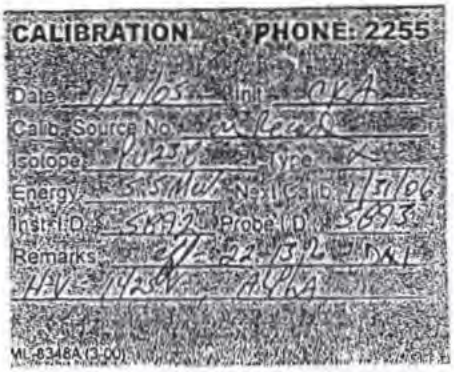
5883

CART #4

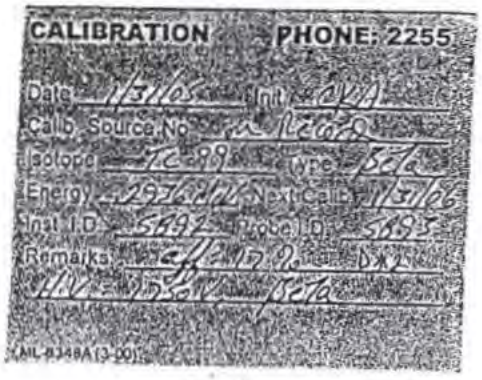
COPY

5883

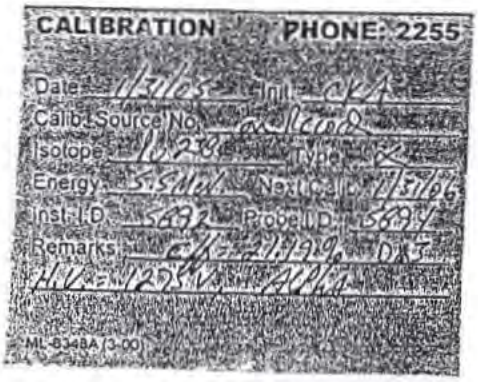
4-84/88

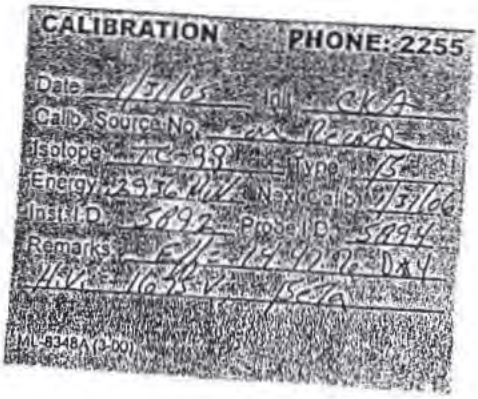


DA1



DA2





5892

CART #7

COPY

5892

4-85/88

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 4

LOCATION: (BLDG./AREA/ROOM) T-BLG RM 291, 294. 2N-10	SURVEY NO. M-1-05 248
PURPOSE: SCANNED FLOOR + WALLS	RWP NO. NA
	DATE: 5-11-05
	TIME: 0030

MAP/DRAWING

NO ELEVATED READINGS α/β.

ALL READING BELOW ALARM SAT. POINT

COPY

LEGEND: # = mrem/hr (γ) whole body
* E = mrem/hr (β+n+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

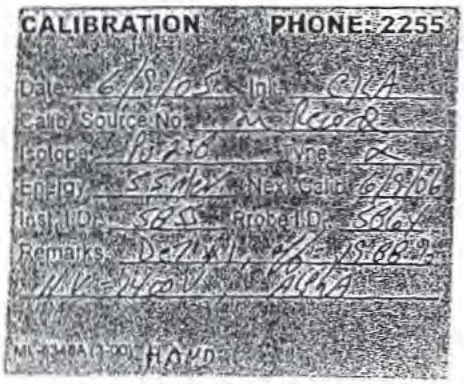
INSTRUMENTS USED

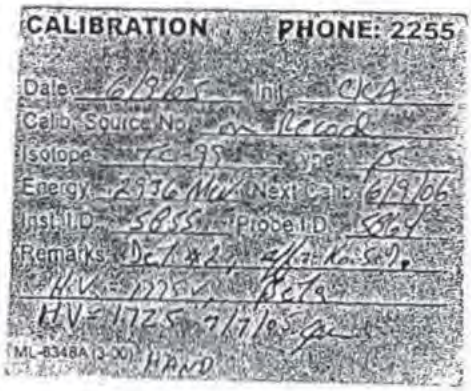
Instrument	Serial Number	Cal. Due Date
2350	5892/5893	1-31-05
2350	5883/5885/5886	1-7-05
	N/A	

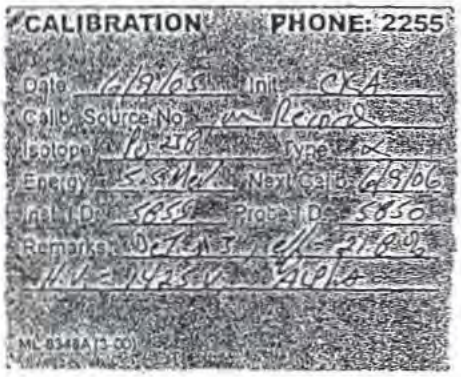
Completed by: (Signature) Teresa Walsh Kenny Simpson		Date: 5-11-05
Completed by: (Print Name) TERESA WALSH KENNY SIMPSON		
Counted by: (Signature) TOBY TW 5-11-05	HP#	Date:
Counted by: (Print Name) N/A		
Reviewed/Approved by: (Signature)	HP#	Date: 5-12-05
Reviewed/Approved by: (Print Name) K. DAVIS		

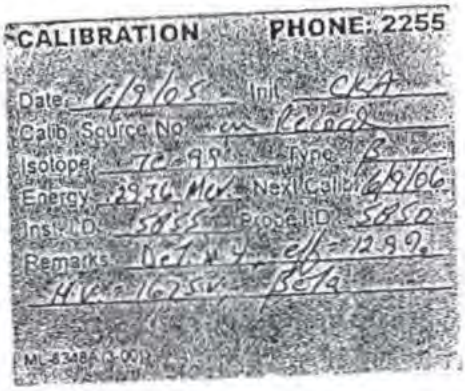
ML-0620 (2-98)

4-86/88


CALIBRATION PHONE: 2255
Date 6/9/05 Init CKA
Calib. Source No. Am Rad
Isotope Tc-99 Type β
Energy .2936 Mev Next Calib 6/9/06
Inst. I.D. 5855 Probe I.D. 5864
Remarks Det #1, 4/π = 45.88
HV = 1425 V Alpha
ML-8348A (3-00) HAND


CALIBRATION PHONE: 2255
Date 6/9/05 Init CKA
Calib. Source No. Am Rad
Isotope Tc-99 Type β
Energy .2936 Mev Next Calib 6/9/06
Inst. I.D. 5855 Probe I.D. 5864
Remarks Det #2, 4/π = 45.97
HV = 1725 V Beta
HV = 1725 7/7/05 ga
ML-8348A (3-00) HAND


CALIBRATION PHONE: 2255
Date 6/9/05 Init CKA
Calib. Source No. Am Rad
Isotope Pu-239 Type α
Energy 5.5 Mev Next Calib 6/9/06
Inst. I.D. 5855 Probe I.D. 5850
Remarks Det #3 4π = 21.80
HV = 1425 V Alpha
ML-8348A (3-00)


CALIBRATION PHONE: 2255
Date 6/9/05 Init CKA
Calib. Source No. Am Rad
Isotope Tc-99 Type β
Energy .2936 Mev Next Calib 6/9/06
Inst. I.D. 5855 Probe I.D. 5850
Remarks Det #4 4π = 12.99
HV = 1625 V Beta
ML-8348A (3-00)

after 6/9/05

COPY

5855

CAL 6/9/06

4-87/88

Pg 1 of 3
DW-8-12-05

RADIOLOGICAL SURVEY DATA SHEET

~~Page 1 of 3~~ 9/13/05 gm

LOCATION: (BLDG./AREA/ROOM) TRLR 2C13-RM 275	SURVEY NO. MT-05-0489
PURPOSE: WALLS, FLOOR SURVEY 2350-SHONKA	RWP NO. N/A
	DATE: 7-16-05
	TIME: 1420

MAP/DRAWING

NO ELEVATED LEVELS DETECTED by 2350
ONE ELEVATED ∝ area ON WALL DETECTED BY SCM-23

WALL(1)
25% ALPHA-BETA
SCANNED Above 4ft
100% ALPHA-BETA
from floor up to 4ft

WALL(4)
25% ALPHA-BETA
18 inches From Ceiling INTERSECT down
100% ALPHA-BETA FROM FLOOR INTERSECT up
8 inches

WALL(3)
25% ALPHA-BETA
2½ ft from Ceiling Intersect
100% ALPHA-BETA
FROM FLOOR INTERSECT to 4ft

FLOOR
100% ALPHA-BETA
1ft AROUND ALL SIDES
OF FLOOR.

SEE RSDS# MT-05-774 AND MT-05-579
FOR FOLLOW-UP SURVEYS

COPY

SCM23 R-180 6-01-06

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
(#) = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2350	5855/5856	10-9-05
2350	5854/5861	7-20-05
2350	5895/5896	2-5-06
	N/A	

Completed by: (Signature) Donna Watson	HP# [redacted]	Date: 7-16-05
Completed by: (Print Name) DONNA WATSON		
Counted by: (Signature) N/A	HP#	Date:
Counted by: (Print Name) N/A		
Reviewed/Approved by: (Signature) [signature]	HP# [redacted]	Date: 7-17-05
Reviewed/Approved by: (Print Name) JARED HOLLABAUGH		4-88/88

ML-0620 (2-98)