Attachment F

Final Status Survey Report #6 Documentation

(UNDER SEPARATE COVER)

FINAL

COLUMBUS CLOSURE PROJECT CHARACTERIZATION AND FINAL STATUS SURVEY REPORT FOR THE JN-1B FUEL POOL, TRANSFER CANAL, AND BOTH THE INSIDE AND OUTSIDE SUMPS VOLUME I

Revision 1
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Prepared by

ECC & E2 Closure Services
1425 State Route 142 East
West Jefferson, OH 43162

Contract Number: DE-AC24-04OH20171

Final Characterization and Final Status Report for the JN-1B Fuel Pool, Transfer Canal, and both the Inside and Outside Sumps

Revision Data Compiled By:

Randy Parsons/Characterization Lead — Date: 6/17/06

Revised FSS Report Written By:

Keith Anderson, Site Radiation Safety Office — Date: June 16, 2006

Approved By:

Glenn Henderson, Closure Manager — Date: June 17, 2006

Dave Garber, Quality Assurance Manager — Date: 6/16/06

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1.0 Introduction

This report contains the final status surveys (FSS) of the Fuel Pool and Transfer Canal within the JN-1B Building located at the Columbus Closure Project (CCP), 1425 Plain City/Georgesville Road State Route 142 East, West Jefferson, OH 43162. Final status surveys were conducted according to the guidance presented the *Manual for Conducting Surveys in Support of License Termination*, NUREG/CR-5849 (NUREG/CR-5849) and the *Radiological Characterization and Final Status Plan for Battelle Columbus Laboratories Decommissioning Project, West Jefferson Site*, DD-97-02 (Final Status Plan) (Battelle, 2000). The final status surveys were conducted during April 2005 of the area encompassing the JN-1B Fuel Pool floor and wall surfaces from the floor up 12 meters (grid designators A through L) and the Transfer Canal floor and wall surfaces from the floor up 10 meters (grid designators A through J). Included are both the Fuel Pool Inside and Outside Sumps.

The intent of this final status survey report is to provide a complete and unambiguous record of the radiological status of the JN-1B Fuel Pool, Transfer Canal, and both the Inside and Outside Sumps. Sufficient information and data is provided to enable an independent re-creation and evaluation at some future date of both the survey activities and the reported results for these areas. Information in this report is also available in referenced technical basis documents, final status survey plans and procedures, and the *Battelle Memorial Institute Columbus Operations, Decommissioning Plan*, DD-93-19 (BMI Decommissioning Plan), and reporting and quality assurance procedures.

To the extent practicable, this final status survey report is presented with minimal information incorporated by reference. The report has been generated following the comprehensive, annotated outline presented in Chapter 9 of NUREG-5849 (ORAU, 1992).

1.1 Background

On April 16, 1943, BMI, acting through what is now its Battelle Columbus Operations (BCO), entered into Contract No. W-7405-ENG-92 with the Manhattan Engineering District to perform atomic energy research and development (R&D) activities. BCO performed nuclear materials research and development at privately-owned facilities for the Manhattan Engineering District and its successor agencies – the Atomic Energy Commission (AEC), the Energy Research and Development Agency (ERDA), and the Department of Energy (DOE). Research and development continued until 1988 (Battelle, 2003).

The BCO facilities at the King Avenue Site, Columbus, Ohio, and the West Jefferson North (WJN) and South (WJS) Sites, West Jefferson, Ohio, became partially radiologically contaminated as a result of the R&D activities. Decontamination of the

King Avenue and West Jefferson South (WJS) Sites have been completed and activities continue at the WJN site. The DOE, as the successor to the AEC and the Government's earlier work, is the agreed party with predominant liability and responsibility for decontamination and decommissioning (D&D) of the BCO facilities (Battelle, 2003). The Assistant Secretary for Nuclear Energy of the DOE accepted the decontamination and decommissioning (D&D) of the WJN into the DOE's Surplus Facilities Management Program as a major project (DOE, 1986). The DOE is the agency funding and managing the cleanup of the WJN (Battelle, 2003). However, the site is not a DOE-owned facility.

BMI holds U.S. Nuclear Regulatory Commission (NRC) license number SNM-7. BMI has continually operated and conducted D&D activities in full compliance with this NRC license. The BMI Decommissioning Plan for the WJN site does not serve as a declaration to terminate SNM-7, but establish the criteria for performing D&D activities. The end goal of the BMI Decommissioning Plan is to reach unrestricted use conditions for the site (Battelle, 2003).

The DOE has contracted ECC&E2 Closure Services, LLC (Closure Services) to safely remove DOE radioactive materials and contamination from WJN site. Removal of radioactive material will be to levels allowing future use of the site without radiological restrictions as described in the BMI Decommissioning Plan. Closure Services has conducted characterization and final status surveys of the JN-1B Fuel Pool, Transfer Canal, and both the Inside and Outside Sumps to demonstrate that these areas are available for unrestricted release.

2.0 Site Description

Created in 1984, the Battelle Columbus Decommissioning Project (BCLDP) is a remediation project that included nine buildings at the King Avenue site and six at the WJN site. The CCP is the successor of the BCLDP. The WJN site has two remaining permanent structures (nuclear research facility JN-1B, and the Well House). Several outfalls, filter beds, and wells are also located at the site.

2.1 Facility Description

The oldest and most contaminated building in the Nuclear Sciences Area is the Hot Cell Building (JN-1). This building began operation in 1955 and was used until 1988 for nuclear research studies. Work conducted there included evaluations of both power and research reactor fuels; post-irradiation examination of fissile, control rod, source, and structural materials and components; and examination of irradiation surveillance capsules. In addition, the facility has been the site of radiation source encapsulation and physical and mechanical property studies of irradiated materials and structures.

The JN-1B Fuel Pool and Transfer Canal are concrete structures located in the High Bay of JN-1. Previously, the Fuel Pool and Transfer Canal were used to store nuclear material for research and development purposes. These areas have been emptied as part of the ongoing decommissioning activities of the facility and the steel liner has been removed. Several decontamination and dismantlement activities have been performed leaving these areas in a stable configuration.

The concrete pool walls are 20 feet wide on all sides and are approximately 50 feet deep from the top of the parapet to the pool floor. The concrete wall thickness ranges from 1 foot 8 inches to 2 feet 2 inches. The concrete floor is 2 feet to 2 feet 3 inches thick. The Transfer Canal is located on the southwest corner of the Fuel Pool wall, running 4 feet wide and 11 feet long by 50 feet deep. See Figure 3.

Located along the south-east corner of the Fuel Pool are 2 monitoring sumps, the Outside and the Inside sumps. The Outside sump collects water migrating from outside of the external structure of the Fuel Pool (basically ground water migration). The Outside Sump is connected to a perimeter drain that runs along the outside perimeter of the Fuel Pool and Transfer Canal structures. Historically, water samples collected from the Outside Sump have not shown detectable amounts of licensed radioactive material. The Outside Sump is an 8 inch schedule 80 steel pipe that runs 50 feet vertically through the inside of a Fuel Pool structural caisson and extends 8 feet below the Fuel Pool floor. See Figure 6. The Outside Sump remains intact and operational.

The Inside Sump collects water migrating outside of the Fuel Pool Stainless Steel Liner and concrete sub floor (both previously removed), yet inside of the Fuel Pool inner structure. The Inside Sump was connected to a perforated drain pipe that was removed and ran along the inside perimeter of the Fuel Pool. The Inside Sump is an 8 inch

schedule 80 steel pipe that runs 50 feet vertically through the inside of the second Fuel Pool structural caisson, extending 8 feet below the floor of the Fuel Pool floor. See Figure 5. Analytical results of water collected from the Inside Sump have historically indicated minor levels (just above effluent release limits) of radioactive material. Remaining components of the Inside Sump include the 50 foot vertical 8 inch schedule 80 steel pipe and a single remaining 4 inch diameter, 4 foot long horizontal section.

Two classifications of areas are used in NUREG-5849 and are termed **affected** or **unaffected.** These classifications are defined as (NRC, 1992):

> **Affected Areas:** Areas that have potential radioactive contamination (based on plant operating history) or known radioactive contamination (based on past or preliminary radiological surveillance). This would normally include areas where radioactive materials were used and stored, where records indicate spills or other unusual occurrences that could have resulted in spread of contamination, and where radioactive materials were buried. Areas immediately surrounding or adjacent to locations where radioactive materials were used, stored, or buried are included in this classification because of the potential for inadvertent spread of contamination.
>
> **Unaffected Areas:** All areas not classified as affected. These areas are not expected to contain residual radioactivity, based on knowledge of site history and previous information.

The JN-1 complex is considered Category 2 Affected Areas due to the documented historical use of nuclear and radioactive materials and contamination detected during the scoping surveys. Category 2 buildings exhibit high radiation fields and extensive contamination in hot cell areas and lower levels of contamination in operating areas throughout the building. Additionally, the BMI Decommissioning Plan identifies these areas as a baseline facility requiring decontamination and decommissioning as part of the license termination (Battelle, 2003).

3.0 Decommissioning Activities

3.1 Decommissioning Objective

The JN-1B Fuel Pool, Transfer Canal, and both the Outside and Inside Sumps are considered to be affected, baseline areas. Baseline areas have been specifically identified in the BMI Decommissioning Plan as exhibiting residual radioactive contamination. The objective of the final status survey performed in the JN-1B Fuel Pool, Transfer Canal, and 2 associated sumps is to statistically demonstrate that the decontamination activities were successful and the area encompassing the JN-1B Fuel Pool floor and wall surfaces from the floor up 12 meters (grid designators A through L), the Transfer Canal floor and wall surfaces from the floor up 10 meters (grid designators A through J), and both the Inside and Outside sumps from a point 12 meters above the Fuel Pool floor, are available for unrestricted release. Structural components outside these parameters will be removed during the JN-1B building demolition and packaged as low level waste. See Figure 4.

Table 1 presents the surface release criteria as detailed in DD-93-02, Rev. 0, "Surface Release Criteria Technical Basis Document," (Battelle, 1993A).

At completion of these activities, the areas encompassing the JN-1B Fuel Pool floor and wall surfaces from the floor up 12 meters (grid designators A through L), the Transfer Canal floor and wall surfaces from the floor up 10 meters (grid designators A through J), and both the Inside and Outside Sumps, from a point 12 meters above the Fuel Pool floor, will be backfilled with a self compacting material (i.e. fly ash, concrete, grout, etc).

4.0 Final Status Survey Procedures

The CS Characterization Team conducted the final status survey of the JN-1B Fuel Pool, Transfer Canal, and 2 associated sumps according to the Final Status Plan (Battelle, 2000). CS Characterization Teams performed final status surveys under Work Instruction 2130 (Closure Services, 2005).

The planning and implementation of the final status survey of the facility surface for baseline areas adhered to the requirements the Final Status Plan (Battelle, 2000).

4.1 Survey Parameters for the Fuel Pool and Transfer Canal

The Final Status Plan requires that grid systems be established for structure baseline areas (Battelle, 2000). The JN-1B Fuel Pool and Transfer Canal characterization and final status survey grid system comprised of one square meter (1m x 1m) grids in the structure. Figure 3 presents the JN-1B Fuel Pool and Transfer Canal grids and alpha numeric identifier for each.

Direct and indirect surveys were performed within each grid as required by the Final Status Plan, §5.1.3 (Battelle, 2000). The Characterization Team scanned 100 percent of the areas encompassing the JN-1B Fuel Pool floor and wall surfaces from the floor up 12 meters (grid designators A through L) and the Transfer Canal floor and wall surfaces from the floor up 10 meters (grid designators A through J). Scanning surveys included alpha and beta measurements of all accessible surfaces. Static one-minute readings were performed in a grid if scan survey readings indicated a net activity above the Decision Level Value (DLV). Section 4.3 of this report discusses the DLV in further detail.

The grid system established during characterization was used for the final status surveys. Grids in the JN-1B Fuel Pool and Transfer Canal were divided into three categories: designated, adjacent, and non-designated. Designated grids are grids in which contamination was detected during the characterization process and were marked for decontamination and/or grids that were inaccessible during characterization. Adjacent grids were grids that border a designated grid. The remaining grids are considered non-designated. Final Status surveys encompassed scanning surveys of all designated, adjacent, and non-designated grids.

A population statistical survey was conducted for the floors and the wall surfaces within the JN-1B Fuel Pool and Transfer Canal as required by §5.3.3 of the Final Status Plan (Battelle, 2000). Population surveys are those grouped surface activity measurements that are performed at randomly and systematically selected locations. Surface activity measurements are performed for a 1-minute, static count, using a large area (180 cm^2) gas proportional detector. This method provides detection efficiencies well below the guideline level. Population surveys were performed in all grids.

4.2 Survey Parameters for the Inside and Outside Sumps

Direct and indirect surveys were performed within the Inside and Outside Sumps. The Characterization Team performed static 1-minute readings of the Inside and Outside Sumps using a two inch by two inch sodium iodide detector. The detector was sleeved and lowered into the sumps. Static 1-minute readings were taken at 2.5 foot increments until the bottom of the sump was reached. A comparison was performed between the Outside Sump, which historically is clean and free from radioactive material, to results of the Inside Sump. Given the history and lack of finding any detectable amounts of radioactivity, the 1-minute static measurements collected from the outside base of the fuel pool to 4.5 meters below-grade within the Outside Sump, represent what is expected to be background levels for this type of steel piping embedded within a concrete column and placed into 50 feet of soil. The portion of the Outside Sump from the surface to 4.52 meters below surface grade was removed during the excavation of the building foundation and associated below-grade infrastructure. A statistical analysis of the static readings, including Chauvenet's Criterion, was performed for each sump. Additionally, the results of the Inside Sump were then compared to the Outside Sump to establish the fact that they both contain less than detection level amounts of radioactivity. See Tables 9 and 10.

Liquid and smear samples were also collected from the Inside and Outside Sumps located in Building JN-1B and used for additional evaluation purposes. All smear results were less than the instrument MDA. See Tables 11 and 12 for liquid sample results.

4.3 Background/Baseline Levels Identified

The Characterization Team performed a background survey in support of the characterization and final status survey for the JN-1B Fuel Pool and Transfer Canal. The background survey was conducted within Building JN-6 for alpha + beta and alpha integrated measurements for each building material type. Building JN-6 was constructed during the same time period and of similar materials as Building JN-1. Additionally, the final status survey performed for Building JN-6 supported the unrestricted release of the facility (Closure Services, 2004). Building material types selected for the background survey included:

- Concrete block wall,
- Concrete forms & Concrete floor,
- LONAM (steel, window frames, building components), and
- Brick

Background surveys were performed in the same manner and with the same instrumentation used during the characterization and final status survey of the JN-1B Fuel Pool and Transfer Canal.

A decision level value (DLV) was calculated to permit the field identification of surfaces requiring additional radiological measurements. Decision level values were calculated using the following equation (Battelle, 2000).

$$DLV = \bar{x}_{bkg} + MDA$$

where:

$\bar{x}_{bkg}$ = mean background value (cpm)
MDA = minimum detectable activity (cpm).

MDA values were calculated using the following equation:

$$MDA = 3 + 4.65(\sigma_{bkg})$$

where:

σ_{bkg} = standard deviation of background value.

4.4 Major Contaminants Identified

Existing monitoring data and historical information available for Building JN-1 indicates that contamination consists of fission and activation products. The radioactive substances which have been identified in JN-1 include cesium-137 (Cs-137), cobalt-60 (Co-60), americium-241 (Am-241), strontium-90 (Sr-90), plutonium-238 (Pu-238), plutonium-239 (Pu-239), plutonium-240 (Pu-240), plutonium-241 (Pu-241), and a few other individual nuclides. Cs-137, Co-60, Am-241, Pu-241, and Sr-90 are the prominent isotopes present. The more restrictive surface contamination limits associated with Sr-90 (1,000 dpm/100cm^2, total fixed plus removable) and Pu-239 (100 dpm/100cm^2 total fixed plus removable), shown in Table 1, were applied to the characterization and final status survey for the JN-1B Fuel Pool and Transfer Canal.

Additional radioanalytical sampling was performed in the JN-1B Fuel Pool Inside Sump, specifically for Sr-90 activity. No Sr-90 activity was detected. See Table 12.

4.5 Guidelines Established

Table 1 presents the surface contamination guidelines applied for the JN-1B Fuel Pool and Transfer Canal. These criteria are provided by DOE Order 5400.5 "Radiation Protection of the Public and Environment," which reference Regulatory Guide 1.86. DOE Order 5400.5 does not define the release levels for nuclides such as transuranics, Ra-226 and Th-230; therefore the CCP adopted the guidance of Regulatory Guide 1.86.

The more restrictive surface contamination limits associated with Sr-90, and Pu-239, were applied to the characterization and final status survey for total fixed plus removable and removal contamination for alpha + beta measurements for the JN-1B Fuel Pool and Transfer Canal surfaces. Additional radioanalytical sampling was performed in the JN-1B Fuel Pool Inside Sump specifically for Sr-90. Sr-90 was not detected. See Table 12. Given this, the survey data by NaI analysis will be compared to Table 1 values for beta-gamma emitters (radionuclides with decay modes other than alpha emission or spontaneous fission) of 5,000 dpm/100cm^2 average and 15,000 dpm/100 cm^2 maximum.

Exposure rates were compared to the mean background limit listed in DD-97-02, Rev. 0. The calculated mean background exposure rate and the 95 percent confidence intervals used for the CCP grounds are 8 ± 2 μR/hr.

5.0 Equipment and Procedures

5.1 Equipment

Direct reading gas proportional survey instruments sensitive to alpha and beta radiation are used to monitor facility surfaces for residual radioactive materials. Ludlum Model 43-20 gas proportional detectors (180 square centimeters (cm^2) detection areas) with Eberline ESP-2 meters were used to scan all building surfaces. The 180 cm^2 detector was used for all static measurements for the determination of residual radioactivity levels. P-10 gas was supplied via a continuous feed to the detectors. Thin, flat plate thorium-230 and technicium-99 (Tc-99) sources traceable to the National Institute of Standards and Technology (NIST) per requirements of ANSI-N323a, "Radiation Protection Instrumentation Test and Calibration" were used to calibrate the gas proportional instruments for alpha and beta detection, respectively (ANSI, 1997). Tc-99 was used as the calibration source in accordance with Section 4.2.2 of ANSI-N323A which states "the detector shall be calibrated with an energy that is less than or similar to beta energies in the field." (ANSI, 1997) The average beta energy of Tc-99 is 85 KeV, with the average energies of Co-60, Cs-137, and Sr-90 being 95, 156, and 196 KeV, respectively.

Other instrumentation used in the support of the final status survey includes:

- Ludlum Model 19 Exposure Rate Meter to perform gamma radiation measurements
- Ludlum Model 44-10 two-inch by two-inch sodium iodide detectors with Eberline ESP-2 meters were used to perform static 1-minute readings within the Inside and Outside Sumps.
- VMS based Canberra Procount data acquisition system in conjunction with high purity germanium detectors for gamma spectroscopy of concrete samples.
- Tennelec Model LB5100 Simultaneous Alpha and Beta Gas Proportional Counter to count smear samples

5.2 Minimum Detectable Activities

Minimum detectable activities (MDAs) are determined utilizing the data collected for each surface material. The following equation is used to calculate the MDA:

$$MDA = \frac{3 + (4.65 * \sigma_{bkg})}{Eff * T * G}$$

where:

σ_{bkg} = standard deviation of background value = $\sqrt{counts_{bkg}}$

Eff	=	efficiency of detector
T	=	time in minutes
G	=	geometry = $\frac{\text{active probe area in cm}^2}{100}$

The MDA for large, wide area sources was calculated assuming the radioactive source remained under the detector approximately one minute, allowing the MDA for wide-area source scan surveys to approach the MDA reported for a static survey. The MDA for a wide-area source, for alpha and beta emitters, was calculated at 260 disintegrations per minute per 100 square centimeters (dpm/100 cm^2) and 18.5 dpm/100 cm^2, for alpha only. The MDA for scans involving point sources were calculated by evaluating the time a point source remained under the detection area, given a worst-case brick background. An MDA for a point source configuration during a scan survey for alpha and beta emitters was calculated as 1600 dpm/100 cm^2 and 281 dpm/100 cm^2, for alpha only. Attachment A details the method for calculating the MDA.

5.3 Procedures

The Characterization Team was formally trained and qualified to applicable procedures prior to the initiation of the characterization and final status surveys. Documentation of training is maintained by CCP Project Records.

The following plans and procedures were utilized for the surveys:

DD-93-19, Rev. 5	Decommissioning Plan, Battelle Memorial Institute Columbus Operations
DD-97-02, Rev. 0	Radiological Characterization and Final Status Plan for BCLDP West Jefferson Site
SC-OP-002, Rev. 0	Facility Post-Decontamination Final Status Survey for Baseline Areas
SC-OP-004, Rev. 0	Radioactive Contamination Monitoring Requirements for Facility Surface Characterization
SC-OP-007, Rev. 0	Baseline Reference Values for Facility Radiological Characterization Surveys
SC-OP-010, Rev. 0	Establishing a Surface Reference Grid for Walls, Floors, and Ceilings for a Detailed Characterization Survey
SC-SP-004.2, Rev. 3	Manual and Mechanical Collection of Surface and Subsurface Soil Samples in Support of Site Characterization
SC-SP-006, Rev. 3	Sampling Sediment and Sludge for Chemical and Radiological Characterization
SC-SP-015, Rev. 1	Sampling Special Materials for Characterization

6.0 Survey Findings

6.1 Exposure Rate Surveys

The calculated mean background exposure rate and the 95 percent confidence intervals used for the CCP grounds are 8 ± 2 μR/hr. The exposure rate readings for each appropriate area are presented in Table 6 for the Fuel Pool and Table 8 for the Transfer Canal. The exposure rate readings were individually compared to the mean background value of 8 ± 2 μR/hr in order to show compliance with the background release criterion (exposure rate surveys must be less than 13 μR/hr to be compliant). The average one meter measurement was 8.3 μR/hr, the minimum measurement was 7 μR/hr and the maximum measurement was 10 μR/hr, see Tables 5 through 8. Additionally, once survey, sampling, and backfilling have been completed, CS will perform additional exposure rate measurements (uR/hr) at one meter above the top of the backfilled material.

6.2 Sampling of the Inside and Outside Sumps

Liquid and smear samples were collected from the Inside and Outside Sumps located in Building JN-1B. Analysis of the liquid and smear samples have shown no radionuclides detected above the associated MDA. Additional Sr-90 analysis was performed on a sample collected from within the inside sump. Sr-90 was not detected. Liquid analytical results are found in Tables 11 and 12.

6.3 Scanning and Fixed Measurements

6.3.1 Scanning and Fixed Measurements of the Fuel Pool and Transfer Canal

Final status surveys for total (fixed and removable) were less than the release criteria defined in Table 1.

Tables 5 through 8 present the static, scan, and removable survey results of the Fuel Pool and Transfer Canal. Numerical values in the tables represent residual activities and were computed as follows:

$$\frac{dpm}{100cm^2} = \frac{C_g - C_b}{(T)(Eff)(\frac{180}{100})}$$

Where:

C_g = Gross counts (counts/180 cm^2)
C_b = Mean value of background counts (counts/180 cm^2)
T = count time (min) [one minute count time is standard]
Eff = average instrument efficiency

Count rates for both wide area (greater than the probe area of 180 cm^2) and point (less than the probe area of 180 cm^2) sources were normalized to 100 cm^2 through this equation. Utilizing the equation confirms that all wide-area sources met the 1,000 dpm/100 cm^2 release criteria. Point sources, if identified, were also subject to the normalizing equation. Therefore, activities for point sources was limited to 1600 dpm/100 cm^2, beta-gamma, which is well below the beta-gamma release criteria for "hot spots" of 3,000 dpm/100 cm^2.

Areas where measurements exceed the decision level value (DLV), precise identification of the area and additional data collection is required. Further data collection includes: (a) a static alpha-plus-beta measurement, (b) a static alpha-only measurement, and (c) a smear sample. In these areas, it is Closure Services current practice to decontaminate the area to below 1000 dpm/100 cm^2.

The following summarizes the alpha + beta scanning and integrated measurement surveys obtained for the JN-1B Fuel Pool and Transfer Canal. A total of 396 survey grids were scanned, static measurements and smears were collected in all 396 survey grids. The results of these surveys are summarized below.

Location	Total Alpha + Beta Activity in dpm/100cm^2		
	Average	Minimum	Maximum
Fuel Pool Scanning - Walls	89.80	-405.25	736.30
Fuel Pool Static - Walls	-70.61	-505.77	768.45
Fuel Pool Scanning - Floor	62.20	-296.80	584.09
Fuel Pool Static - Floor	-132.09	-424.13	748.71
Transfer Canal Scanning - Walls	30.65	-417.19	775.68
Transfer Canal Static - Walls	-338.76	-563.97	88.38
Transfer Canal Scanning - Floor	63.42	-96.44	249.48
Transfer Canal Static - Floor	-185.19	-231.48	-151.52

CS Characterization Teams and decontamination support personnel performed repeated survey and decon efforts. Upon completion of the initial effort, the final status surveys were performed with additional remediation as an integrated effort. This was largely due to space limitations and access limitations of personnel into areas above a two meter elevation. Initial decon efforts included the use of concrete surface scabblers and reciprocating drill motors with chisel bits, ventilation control, and pressure wash efforts. Remedial decon efforts included the use of HEPA vacuum assisted scabbler units. Final status surveys for total (fixed and removable) were less than the release criteria defined in Table 1.

6.3.2 Fixed Measurements of the Inside and Outside Sumps

Static 1-minute readings of the Inside and Outside Sumps were performed with a two inch by two inch sodium iodide detector. The detector was sleeved and lowered into the sumps. Static 1-minute readings were taken at 2.5 foot increments until the bottom of the

sump. or the water level, was reached. Results of the survey of both sumps indicate a uniform distribution of residual radioactivity. Additionally, a comparison between the Outside Sump. which historically is clean and free from radioactive material, to results of the Inside Sump, indicates similar activity readings. The 1-minute static measurements obtained within the Outside Sump may represent and establish what is expected to be background levels within steel piping embedded inside the concrete column and placed into 50 feet of soil. This assertion is supported by the historical use of the Outside Sump and non-detectable levels from water samples collected from the sump. A statistical analysis of the static readings, including Chauvenet's Criterion. was performed for each sump. Additionally, the results of the Inside Sump were then compared to the Outside Sump to establish the fact that they both contain no detectable amounts of radioactivity. See Tables 9 and 10.

Final status surveys using a two inch by two inch sodium iodide detector indicated consistent background levels within both the Inside and Outside Sumps. CS Characterization Teams identified 22 locations out of 22 locations within the Inside Sump Vertical line and 8 within the Inside Sump Horizontal line that indicated levels above the release criteria. The following details the 30 locations, initial survey results, decontamination methods performed by D&D Crews, and the results of the post-decontamination surveys. Survey results are in kcpm. The survey "Location" and "Depth into Line" is the physical description of the affected area. "Material" refers to the type of material which was contaminated. The decontamination method "Wire Brush" refers to the use of a combination acid wash, detergent wash and a stiff bristle wire brush aggressively scrubbing the sump interior surfaces. See Table 3 for a discussion on the horizontal line.

Inside Sump:

Location	Depth into Line	Material	Pre-Decon (kcpm)	Decon Method	Post-Decon (kcpm)
Vertical Line	2.5'	Steel Pipe	4.4	Wire Brush	3.8
Vertical Line	5'	Steel Pipe	4.5	Wire Brush	3.8
Vertical Line	7.5'	Steel Pipe	4.5	Wire Brush	3.8
Vertical Line	10'	Steel Pipe	6.8	Wire Brush	3.7
Vertical Line	12.5'	Steel Pipe	8.1	Wire Brush	3.6
Vertical Line	15'	Steel Pipe	8.9	Wire Brush	3.6
Vertical Line	17.5'	Steel Pipe	11.2	Wire Brush	3.5
Vertical Line	20'	Steel Pipe	7.4	Wire Brush	3.5
Vertical Line	22.5'	Steel Pipe	9.9	Wire Brush	3.6
Vertical Line	25'	Steel Pipe	9.3	Wire Brush	3.5
Vertical Line	27.5'	Steel Pipe	9.3	Wire Brush	3.5
Vertical Line	30'	Steel Pipe	9.7	Wire Brush	3.5
Vertical Line	32.5'	Steel Pipe	10.8	Wire Brush	3.6
Vertical Line	35'	Steel Pipe	6.6	Wire Brush	3.4
Vertical Line	37.5'	Steel Pipe	7.9	Wire Brush	3.7
Vertical Line	40'	Steel Pipe	6.3	Wire Brush	3.6
Vertical Line	42.5'	Steel Pipe	6.1	Wire Brush	3.6

Vertical Line	45'	Steel Pipe	7.8	Wire Brush	4.3
Vertical Line	47.5'	Steel Pipe	27.6	Wire Brush	6.9
Vertical Line	50'	Steel Pipe	29.3	Wire Brush	3.9
Vertical Line	52.5'	Steel Pipe	27.7	Wire Brush	3.7
Vertical Line	54'	Steel Pipe	108	Wire Brush	5.5

Horizontal Line	1"	Steel Pipe	9.8	Wire Brush	7.2
Horizontal Line	6"	Steel Pipe	5.5	Wire Brush	5.0
Horizontal Line	12"	Steel Pipe	5.8	Wire Brush	4.9
Horizontal Line	18"	Steel Pipe	6.5	Wire Brush	5.5
Horizontal Line	24"	Steel Pipe	11.7	Wire Brush	10.5
Horizontal Line	30"	Steel Pipe	13.1	Wire Brush	12.2
Horizontal Line	36"	Steel Pipe	12.0	Wire Brush	8.7
Horizontal Line	42"	Steel Pipe	8.2	Wire Brush	6.9

7.0 Conclusions

The characterization and final status survey results demonstrate that the radiological endpoint criteria objectives of the NRC-approved Decommissioning Plan have been met for the areas addressed by this effort. (Battelle, 2003) The scanning and the integrated measurements for alpha + beta and the smear survey results obtained from the area encompassing the JN-1B Fuel Pool floor and wall surfaces from the floor up 12 meters (grid designators A through L) and the Transfer Canal floor and wall surfaces from the floor up 10 meters (grid designators A through J), are reported as concentrations less than those listed in Table 1. Results of the survey and a statistical analysis performed within the Inside and Outside Sumps indicate a uniform distribution of residual radioactivity that is at or below the established background and has met the release criteria.

8.0 References

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FIGURES

FIGURE 1 – SITE MAP

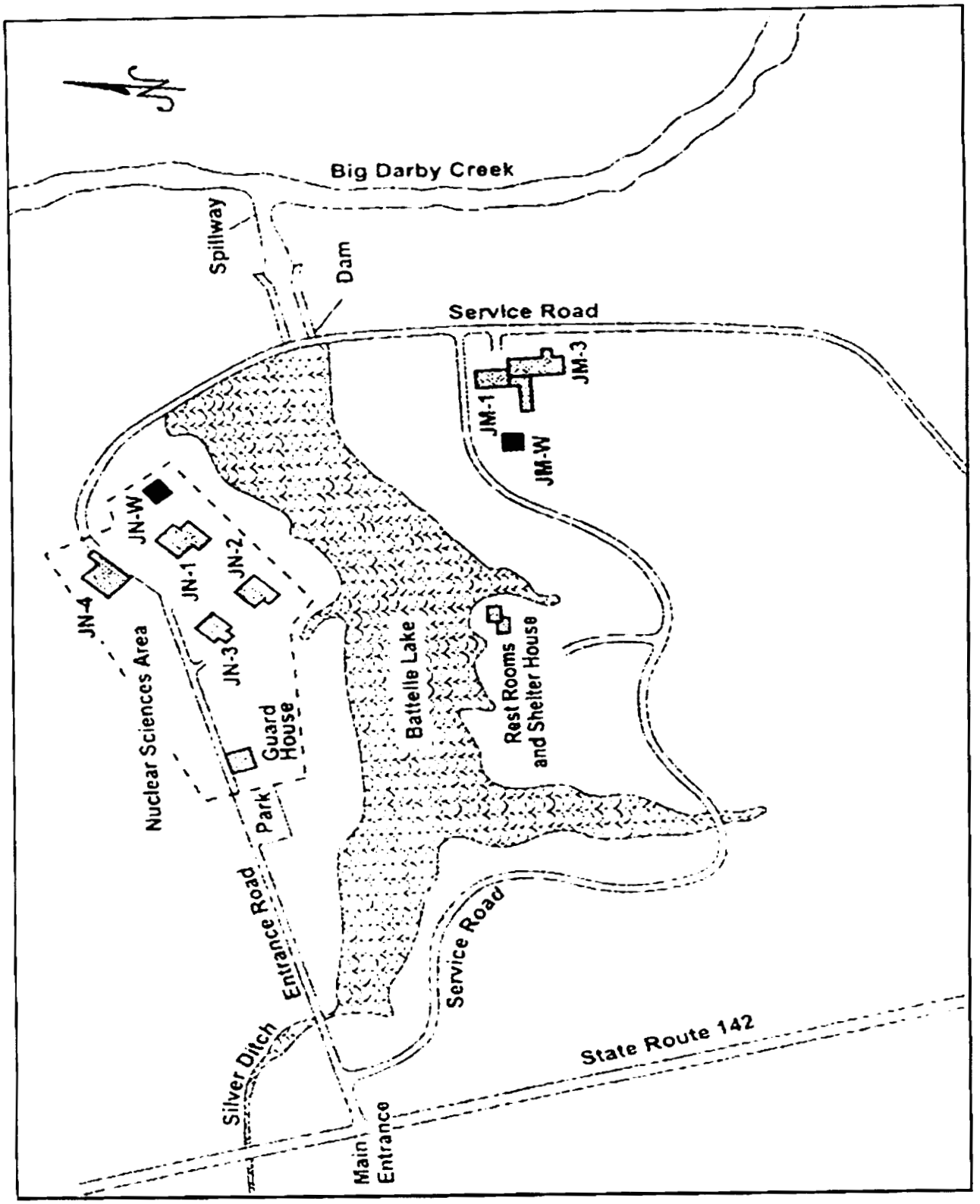


FIGURE 2 – JN-1B MAP

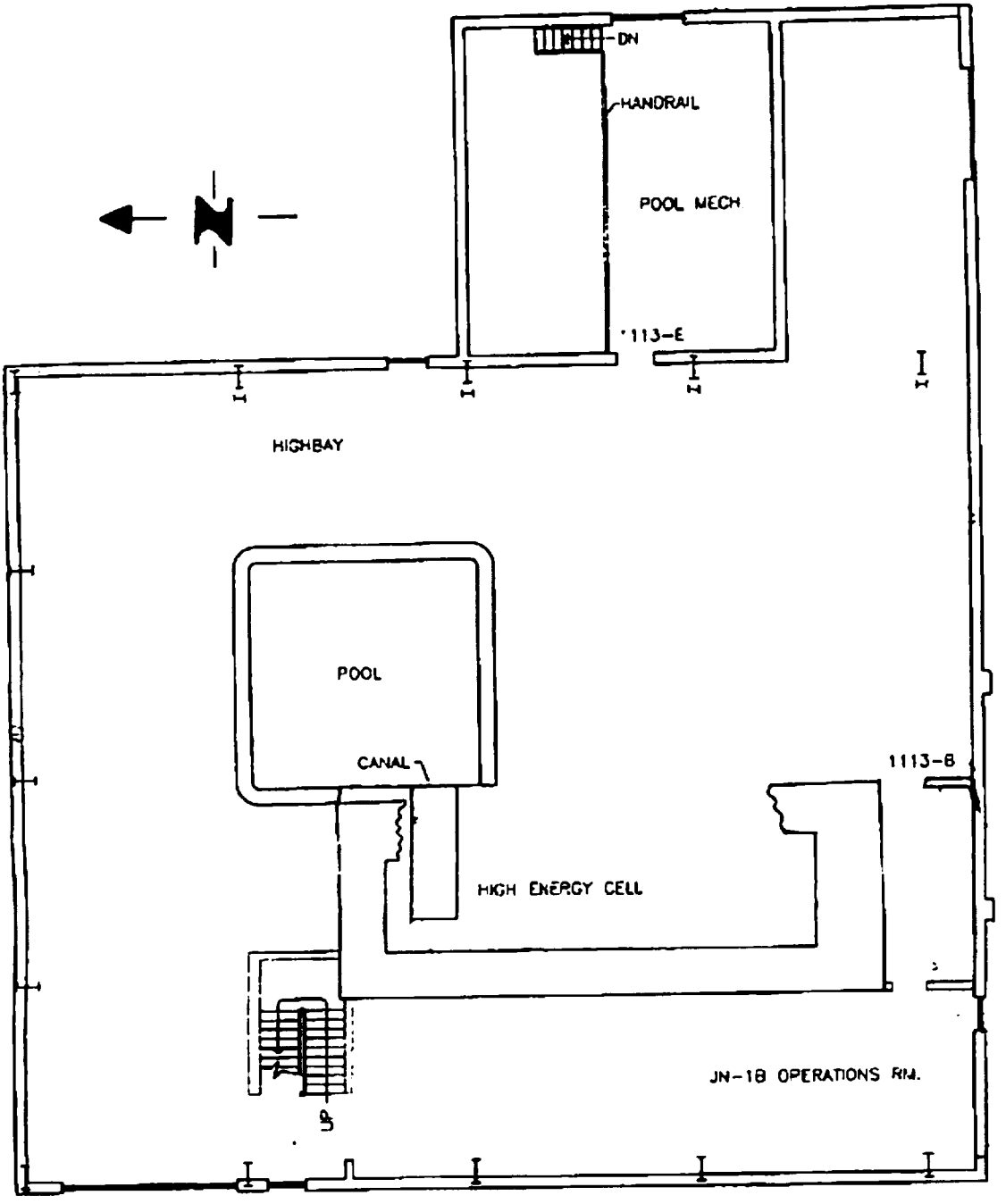
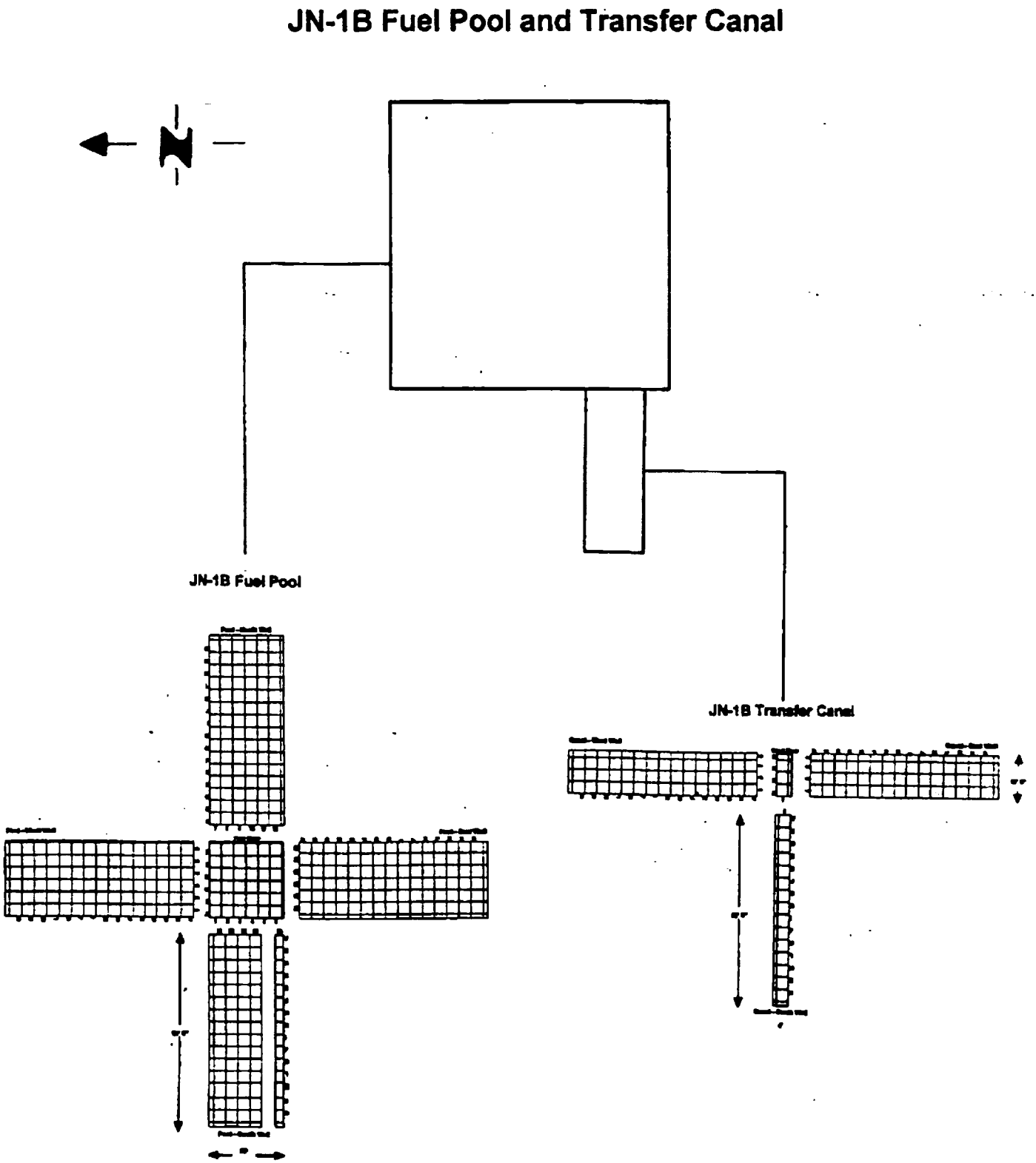
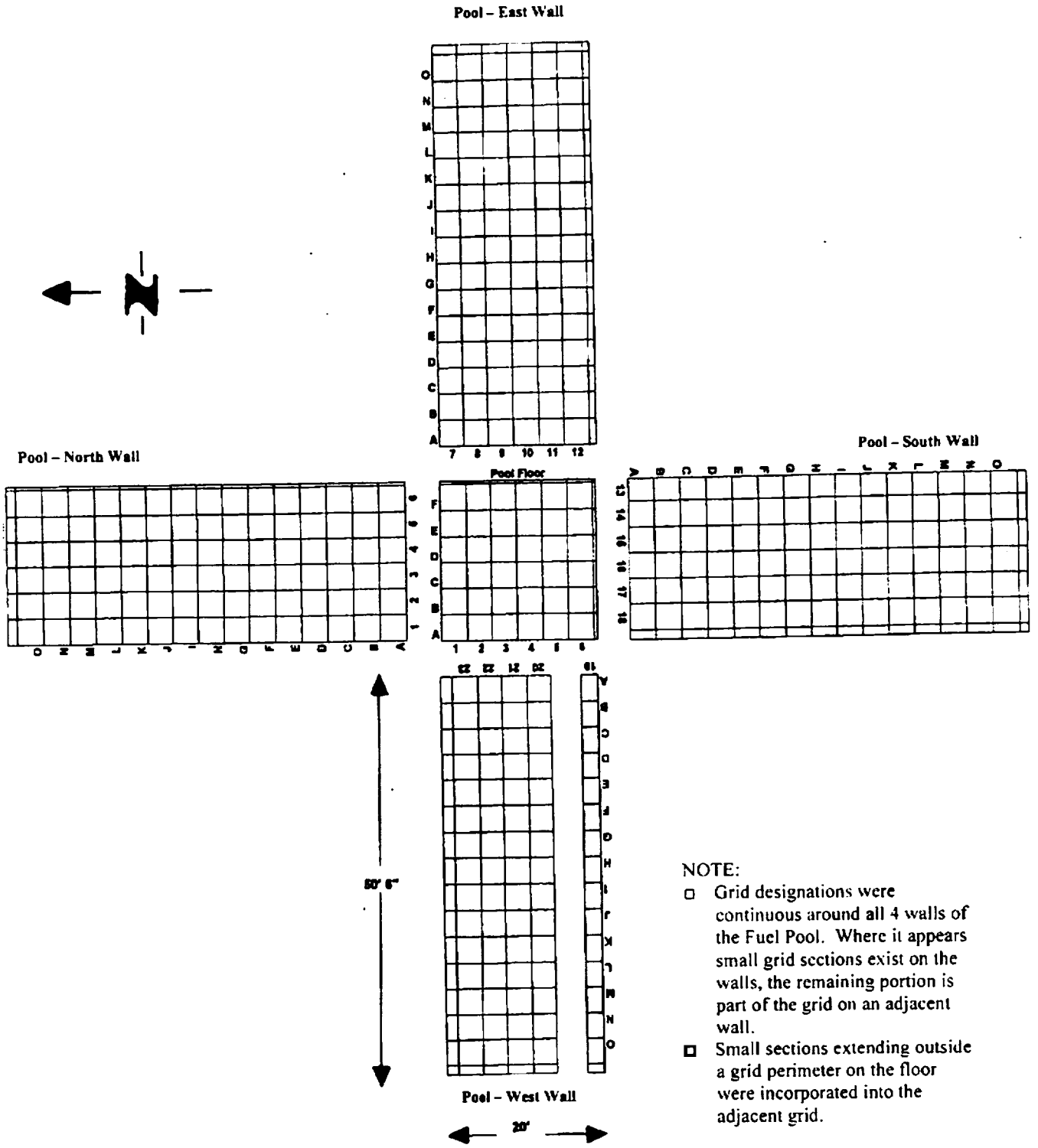


FIGURE 3 – JN-1B FUEL POOL AND TRANSFER CANAL GRID MAP



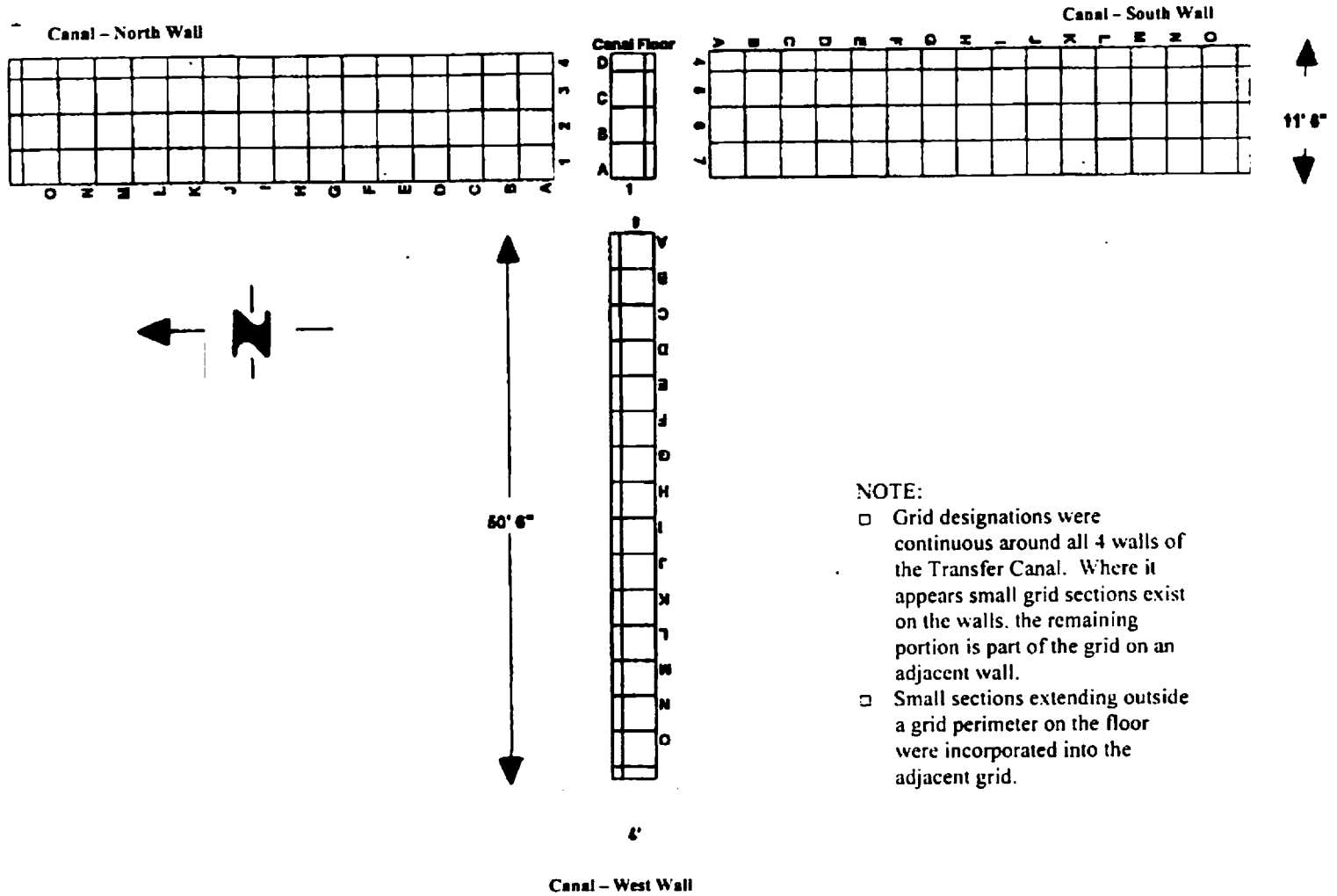
JN-1B Fuel Pool



NOTE:

- Grid designations were continuous around all 4 walls of the Fuel Pool. Where it appears small grid sections exist on the walls, the remaining portion is part of the grid on an adjacent wall.
- Small sections extending outside a grid perimeter on the floor were incorporated into the adjacent grid.

JN-1B Transfer Canal

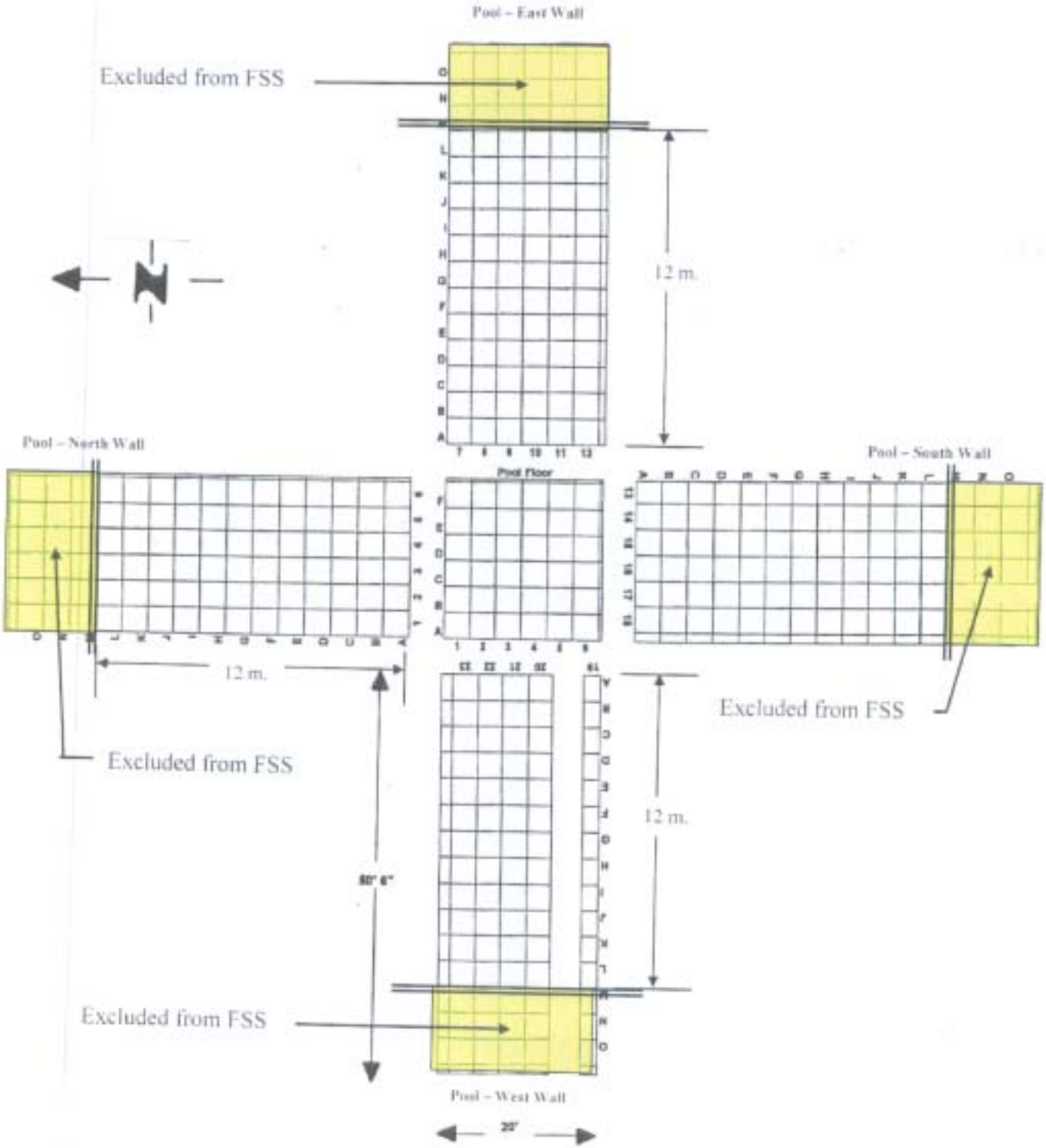


NOTE:

- Grid designations were continuous around all 4 walls of the Transfer Canal. Where it appears small grid sections exist on the walls, the remaining portion is part of the grid on an adjacent wall.
- Small sections extending outside a grid perimeter on the floor were incorporated into the adjacent grid.

FIGURE 4 – JN-1B FUEL POOL AND TRANSFER CANAL AREAS EXCLUDED FROM FSS

JN-1B Fuel Pool



JN-1B Transfer Canal

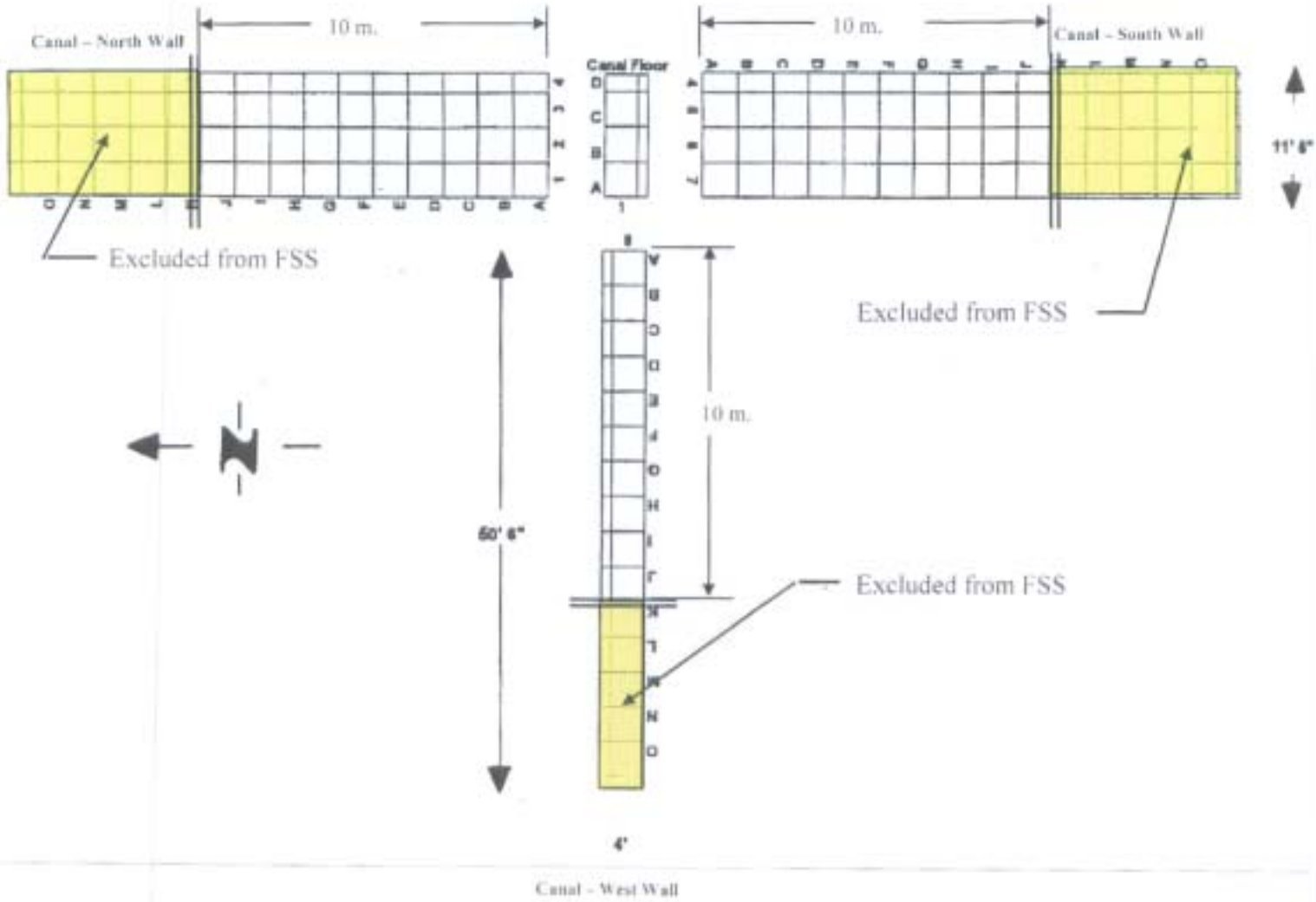


FIGURE 5 – JN-1B INSIDE SUMP MAP

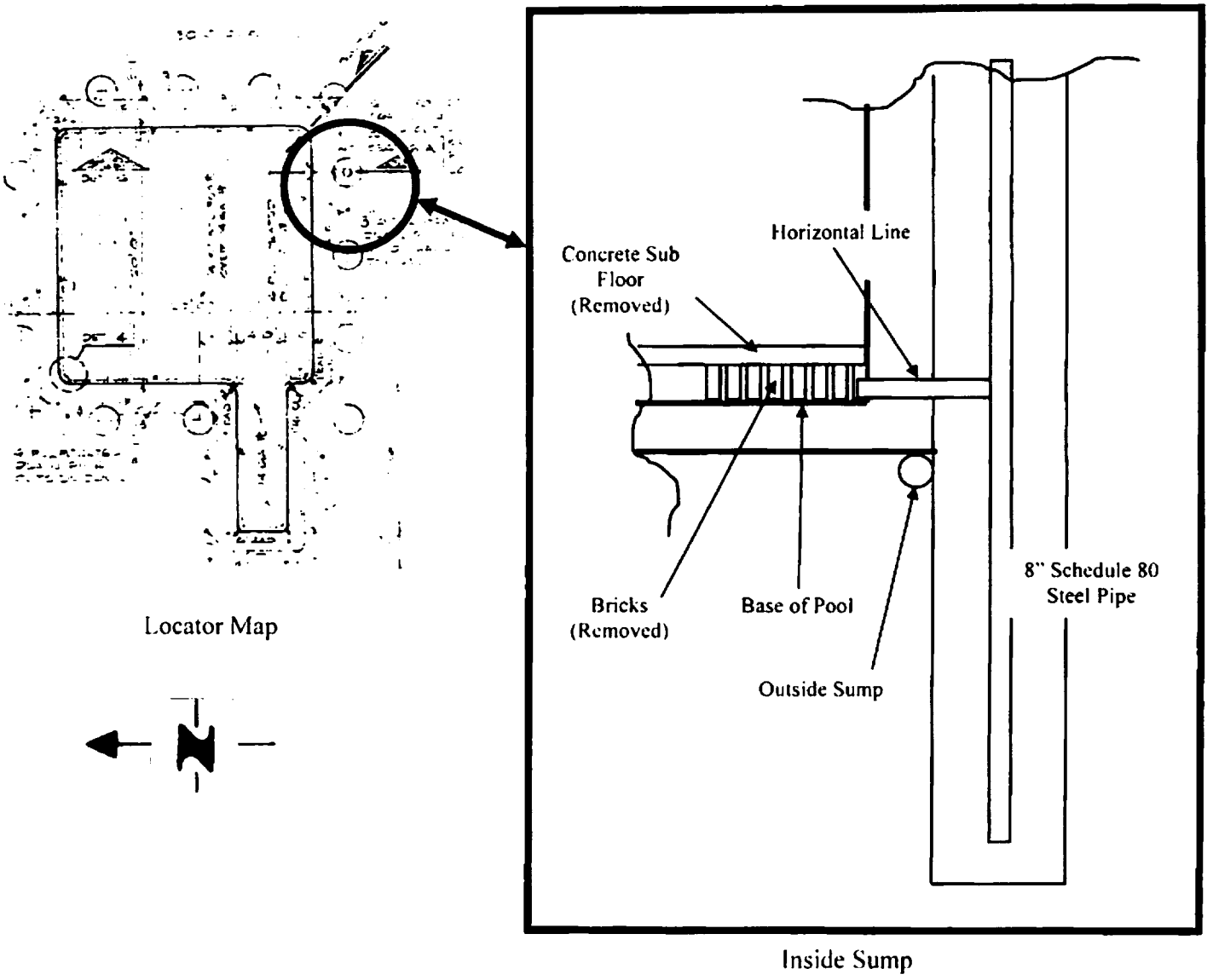
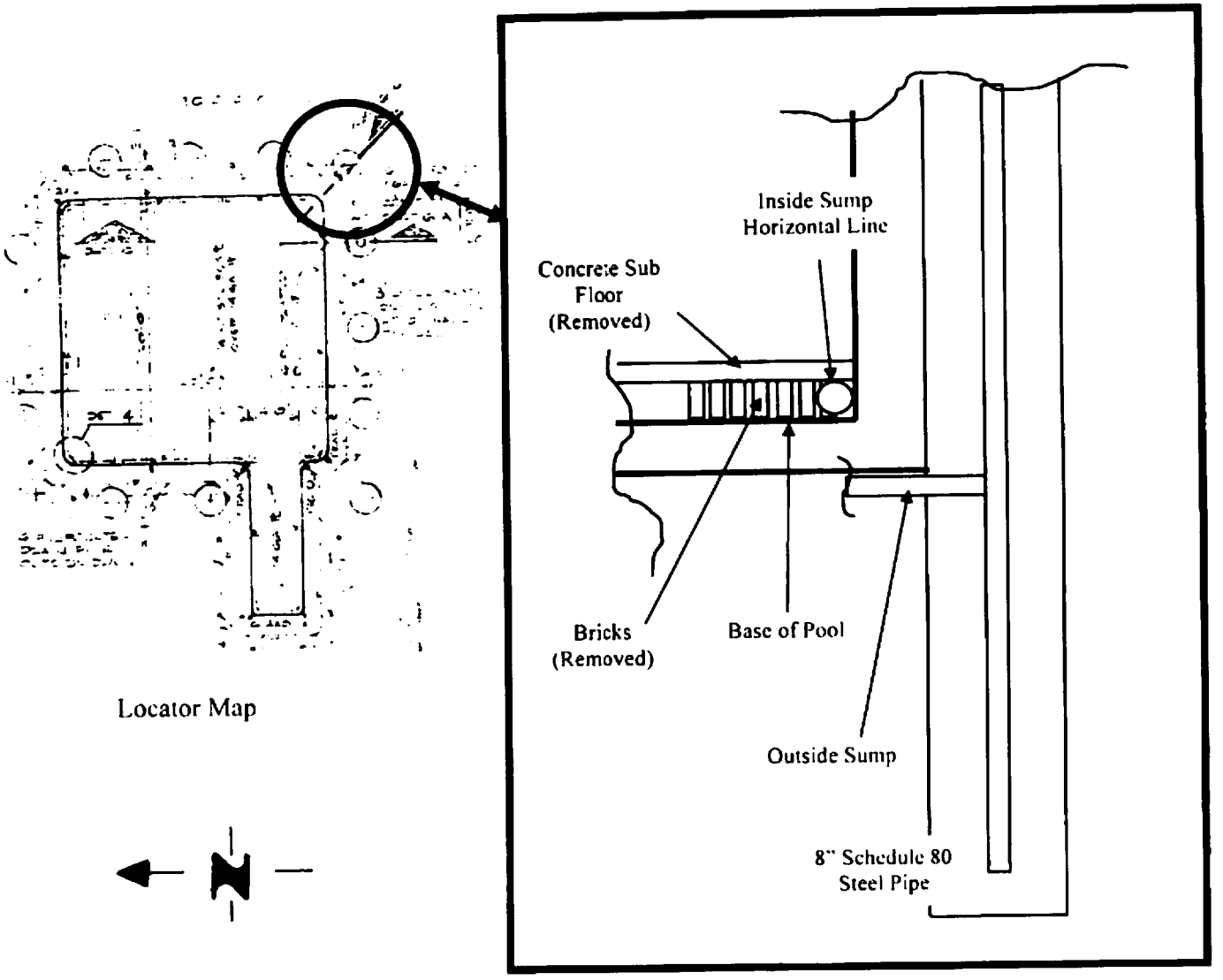


FIGURE 6 – JN-1B OUTSIDE SUMP MAP



TABLES

TABLE 1
SURFACE CONTAMINATION GUIDELINES FOR BCLDP

Radionuclides [2]	Allowable Total Residual Surface Contamination (dpm/100 cm²)[1]		
	Average [3,4]	Maximum [4,3]	Removable [4,6]
Transuranics, I-125, I-129, Ra-226, Ac-227, Ra-228, Th-228, Th-230, Pa-231	Reserved (100)*	Reserved (300)*	Reserved (20)*
Th-Natural, Sr-90, I-126, I-131, I-133, , Ra-223, Ra-224, U-232, Th-232	1,000	3,000	200
U-Natural, U-235, U-238, and associated decay product, alpha emitters	5,000	15,000	1,000
Beta-gamma emitters (radionuclides with decay modes other than alpha emission or spontaneous fission) except Sr-90 and others notes above. [7]	5,000	15,000	1,000

(1) As used in this table, dpm (disintegrations per minute) means the rate of emission by radioactive material as determined by correcting the counts per minute 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 exists, 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 m². For objects of less surface area, the average should be derived for each such object.

(4) The average and maximum dose rates associated with surface contamination resulting from beta-gamma emitters should not exceed 0.2 mrad/hr and 1.0 mrad/hr., respectively, at 1 cm.

(5) The maximum contamination level applies to an area of not more than 100 cm².

(6) The amount of removable material per 100 cm² of surface area should be determined by wiping and area of that size with dry filter or soft absorbent paper, applying moderate pressure, and measuring the amount of radioactive material on the wiping an appropriate instrument of known efficiency. When removable contamination on objects of surface area less than 100 cm² 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 has been separated from the other fission products or mixtures where the Sr-90 has been enriched.

* Regulatory Guide 1.86

TABLE 2

JN-1B INSIDE SUMP VERTICAL SECTION (NaI) PROBE READINGS

Distance (ft)	Reading (kcpm)
2.5	3.84
5	3.75
7.5	3.83
10	3.66
12.5	3.62
15	3.57
17.5	3.54
20	3.46
22.5	3.56
25	3.54
27.5	3.52
30	3.50
32.5	3.64
35	3.40
37.5	3.66
40	3.62
42.5	3.62
45	4.33
47.5	6.90
50	3.86
52.5	3.66
54	5.52

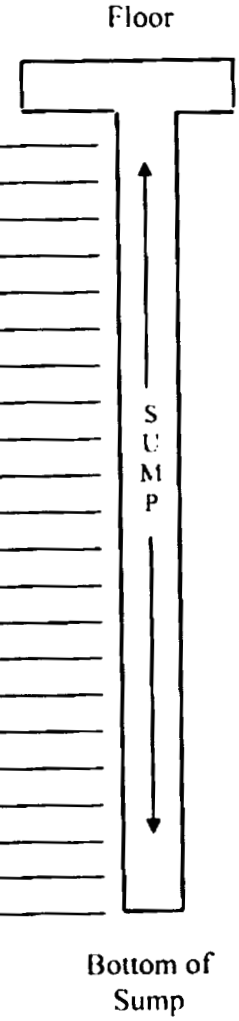
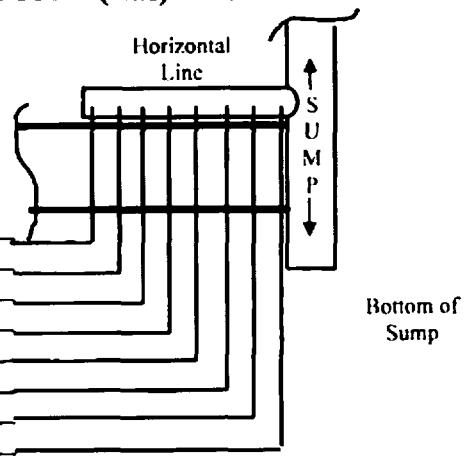


TABLE 3

JN-1B INSIDE SUMP HORIZONTAL SECTION (NaI) PROBE READINGS

Distance (in.)	Reading (kcpm)
1"	7.2
6"	5.0
12"	4.9
18"	5.5
24"	10.5
30"	12.2
36"	8.7
42"	6.9



Conversion from cpm to dpm/100cm²:

Distance (in.)	cpm_{gross}	cpm_{bkg}	cpm_{net}	dpm	dpm/cm²	dpm/100cm²
1	7200	4350	2850	22265.63	22.88	2287.97
6	5000	4350	650	5078.13	5.22	521.82
12	4900	4350	550	4296.88	4.42	441.54
18	5500	4350	1150	8984.38	9.23	923.22
24	10500	4350	6150	48046.88	49.37	4937.20
30	12200	4350	7850	61328.13	63.02	6301.96
36	8700	4350	4350	33984.38	34.92	3492.17
42	6900	4350	2550	19921.88	20.47	2047.13
					Average:	2619.13

cpm_{net}: cpm_{gross} - cpm_{bkg}
dpm: cpm_{net} / eff. = cpm_{net} / 0.128
dpm/cm²: dpm / 973.16

Where; 973.16 was calculated as follows:

Pipe Diam (D):	4"
Length of Pipe monitored (L):	12" (6" to either side of the detector center line)
I/S Circumference (C):	$\pi D = \pi 4 = 12.57$ in
I/S Surface Area:	$CL = 12.57(12) = 150.84$ in² = 973.16 cm²

dpm/100cm²: dpm/cm² X 100

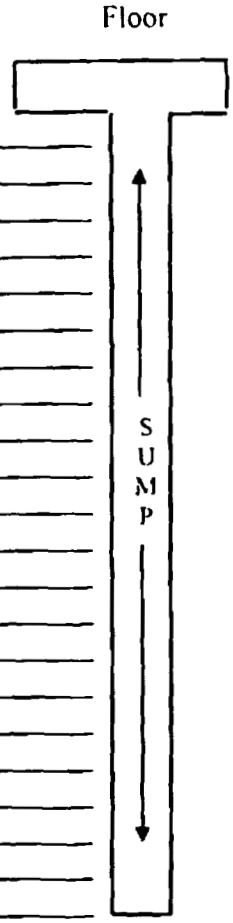
Discussion:

The above table was used to convert the NaI readings into units of dpm/100cm² for comparison to Table 1 values. As stated in Section 4.4 of this report, additional radioanalytical sampling was performed in the JN-1B Fuel Pool Inside Sump specifically for Sr-90. Sr-90 was not detected. Given this, the above survey data by NaI analysis was compared to Table 1 values for beta-gamma emitters (radionuclides with decay modes other than alpha emission or spontaneous fission) of 5,000 dpm/100cm² average and 15,000 dpm/100 cm² maximum. As indicated, the average activity is 2,619.13 dpm/100cm² and the maximum activity is 6,301.96 dpm/100cm². Both values are below the release criteria for beta-gamma emitters per Table 1.

TABLE 4

JN-1B OUTSIDE SUMP (NaI) PROBE READINGS

Distance (ft)	Reading (kcpm)
2.5	5.20
5	5.77
7.5	6.75
10	5.22
12.5	4.91
15	4.33
17.5	3.92
20	3.79
22.5	3.66
25	3.68
27.5	3.55
30	3.49
32.5	3.59
35	3.99
37.5	3.78
40	3.95
42.5	N/A*
45	
47.5	
50	
52.5	
54	N/A*



* Water Level – Unable to Survey

TABLE 5

JN-1B FUEL POOL SCAN SURVEY RESULTS

CHARACTERIZATION SURVEY DATA SHEET

SCAN SURVEY RESULTS

Area/Building: JN - 1B
Room: Fuel Pool
Date: 04/23/05

			Results in CPM					Instrument		Results in DPM/100cm²	Results in CPM					Instrument		Results in DPM/100cm²	Smear Results in DPM/100cm²		Results in µR/hr Gamma	
	Surface	Material	Alpha + Beta BKG			Scan Measurements					Alpha BKG			Scan Measurements								
Grid	Medium	Type	DLV	Ambient	Mean	Gross Counts	Net Counts	EFF	CF	Activity	DLV	Ambient	Mean	Gross Counts	Net Counts	EFF	CF	Activity	Alpha	Beta	Contact	1 Meter
A1	N.Wall	C	545	306	457	317	-140	0.292	1.8	-266.38	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
A2	N.Wall	C	545	306	457	481	24	0.292	1.8	45.86	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
A3	N.Wall	C	545	306	457	472	15	0.292	1.8	28.64	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
A4	N.Wall	C	545	306	457	420	-37	0.292	1.8	-70.40	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
A5	N.Wall	C	545	306	457	509	52	0.292	1.8	98.63	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
A6	N.Wall	C	545	306	457	360	-97	0.292	1.8	-184.55	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
A7	E.Wall	C	545	488	457	338	-119	0.284	1.8	-232.79	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
A8	E.Wall	C	545	488	457	352	-105	0.284	1.8	-206.40	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
A9	E.Wall	C	545	488	457	623	166	0.284	1.8	324.73	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
A10	E.Wall	C	545	488	457	348	-109	0.284	1.8	-213.22	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
A11	E.Wall	C	545	488	457	378	-79	0.284	1.8	-154.54	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
A12	E.Wall	C	545	488	457	585	128	0.284	1.8	250.39	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
A13	S.Wall	C	545	337	457	455	-2	0.284	1.8	-3.91	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
A14	S.Wall	C	545	337	457	351	-106	0.284	1.8	-207.36	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
A15	S.Wall	C	545	337	457	339	-118	0.284	1.8	-230.83	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
A16	S.Wall	C	545	337	457	327	-130	0.284	1.8	-254.39	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
A17	S.Wall	C	545	337	457	336	-121	0.284	1.8	-236.79	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
A18	S.Wall	C	545	337	457	303	-154	0.284	1.8	-301.25	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
A19	W.Wall	C	545	289	457	272	-185	0.292	1.8	-351.98	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
A20	W.Wall	C	545	289	457	267	-190	0.292	1.8	-361.49	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
A21	W.Wall	C	545	289	457	306	-152	0.292	1.8	-289.19	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
A22	W.Wall	C	545	289	457	273	-184	0.292	1.8	-350.08	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
A23	W.Wall	C	545	289	457	399	-58	0.292	1.8	-110.36	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
A24	W.Wall	C	545	289	457	585	128	0.292	1.8	243.53	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
B1	N.Wall	C	545	306	457	400	-57	0.292	1.8	-108.45	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
B2	N.Wall	C	545	306	457	683	226	0.292	1.8	429.98	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
B3	N.Wall	C	545	306	457	455	-2	0.292	1.8	-3.81	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
B4	N.Wall	C	545	306	457	360	-97	0.292	1.8	-184.55	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
B5	N.Wall	C	545	306	457	706	248	0.292	1.8	471.84	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
B6	N.Wall	C	545	306	457	761	304	0.292	1.8	576.39	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
B7	E.Wall	C	545	488	457	606	148	0.284	1.8	289.51	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
B8	E.Wall	C	545	488	457	607	150	0.284	1.8	293.43	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
B9	E.Wall	C	545	488	457	587	130	0.284	1.8	254.30	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
B10	E.Wall	C	545	488	457	685	228	0.284	1.8	446.01	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
B11	E.Wall	C	545	488	457	678	221	0.284	1.8	432.32	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
B12	E.Wall	C	545	488	457	593	136	0.284	1.8	266.04	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
B13	S.Wall	C	545	337	457	826	369	0.284	1.8	721.83	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
B14	S.Wall	C	545	337	457	555	98	0.284	1.8	191.71	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
B15	S.Wall	C	545	337	457	668	211	0.284	1.8	412.76	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
B16	S.Wall	C	545	337	457	737	280	0.284	1.8	547.73	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
B17	S.Wall	C	545	337	457	316	-141	0.284	1.8	-275.62	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
B18	S.Wall	C	545	337	457	300	-157	0.284	1.8	-307.12	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
B19	W.Wall	C	545	289	457	626	169	0.292	1.8	321.54	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
B20	W.Wall	C	545	289	457	497	40	0.292	1.8	76.10	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
B21	W.Wall	C	545	289	457	417	-40	0.292	1.8	-76.10	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
B22	W.Wall	C	545	289	457	483	26	0.292	1.8	49.47	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A

CHARACTERIZATION SURVEY DATA SHEET

SCAN SURVEY RESULTS

Area/Building: JN - 1B
Room: Fuel Pool
Date: 04/23/05

			Results in CPM							Results in	Results in CPM								Results in	Smear Results in		Results in µR/hr	
	Surface	Material	Alpha + Beta BKG			Scan Measurements		Instrument		DPM/100cm²	Alpha BKG			Scan Measurements		Instrument			DPM/100cm²	DPM/100cm²		Gamma	
Grid	Medium	Type	DLV	Ambient	Mean	Gross Counts	Net Counts	EFF	CF	Activity	DLV	Ambient	Mean	Gross Counts	Net Counts	EFF	CF	Activity	Alpha	Beta		Contact	1 Meter
B23	W.Wall	C	546	289	457	720	263	0.292	1.8	500.38	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A		N/A	N/A
B24	W.Wall	C	546	289	457	600	143	0.292	1.8	272.07	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A		N/A	N/A
C1	N.Wall	C	546	306	457	477	20	0.292	1.8	38.06	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A		N/A	N/A
C2	N.Wall	C	546	306	457	535	78	0.292	1.8	148.40	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A		N/A	N/A
C3	N.Wall	C	546	306	457	403	-54	0.292	1.8	-102.74	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A		N/A	N/A
C4	N.Wall	C	546	306	457	480	23	0.292	1.8	43.76	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A		N/A	N/A
C5	N.Wall	C	546	306	457	432	-25	0.292	1.8	-47.68	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A		N/A	N/A
C6	N.Wall	C	546	306	457	631	174	0.292	1.8	331.06	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A		N/A	N/A
C7	E.Wall	C	546	488	457	478	21	0.284	1.8	41.08	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A		N/A	N/A
C8	E.Wall	C	546	488	457	447	-10	0.284	1.8	-19.56	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A		N/A	N/A
C9	E.Wall	C	546	488	457	447	-10	0.284	1.8	-19.56	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A		N/A	N/A
C10	E.Wall	C	546	488	457	434	-23	0.284	1.8	-44.99	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A		N/A	N/A
C11	E.Wall	C	546	488	457	642	185	0.284	1.8	361.89	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A		N/A	N/A
C12	E.Wall	C	546	488	457	671	114	0.284	1.8	223.00	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A		N/A	N/A
C13	S.Wall	C	546	337	457	666	209	0.284	1.8	408.84	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A		N/A	N/A
C14	S.Wall	C	546	337	457	447	-10	0.284	1.8	-19.56	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A		N/A	N/A
C15	S.Wall	C	546	337	457	476	19	0.284	1.8	37.17	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A		N/A	N/A
C16	S.Wall	C	546	337	457	638	181	0.284	1.8	354.07	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A		N/A	N/A
C17	S.Wall	C	546	337	457	518	59	0.284	1.8	115.41	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A		N/A	N/A
C18	S.Wall	C	546	337	457	619	162	0.284	1.8	316.90	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A		N/A	N/A
C19	W.Wall	C	546	289	457	387	-70	0.292	1.8	-133.18	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A		N/A	N/A
C20	W.Wall	C	546	289	457	340	-117	0.292	1.8	-222.60	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A		N/A	N/A
C21	W.Wall	C	546	289	457	318	-139	0.292	1.8	-264.46	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A		N/A	N/A
C22	W.Wall	C	546	289	457	381	-76	0.292	1.8	-144.60	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A		N/A	N/A
C23	W.Wall	C	546	289	457	301	-156	0.292	1.8	-296.80	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A		N/A	N/A
C24	W.Wall	C	546	289	457	244	-213	0.292	1.8	-405.26	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A		N/A	N/A
D1	N.Wall	C	546	306	457	660	193	0.292	1.8	367.20	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A		N/A	N/A
D2	N.Wall	C	546	306	457	544	87	0.292	1.8	165.53	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A		N/A	N/A
D3	N.Wall	C	546	306	457	360	-97	0.292	1.8	-184.55	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A		N/A	N/A
D4	N.Wall	C	546	306	457	333	-124	0.292	1.8	-235.92	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A		N/A	N/A
D5	N.Wall	C	546	306	457	300	-157	0.292	1.8	-298.71	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A		N/A	N/A
D6	N.Wall	C	546	306	457	306	-151	0.292	1.8	-287.29	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A		N/A	N/A
D7	E.Wall	C	546	488	457	512	55	0.284	1.8	107.59	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A		N/A	N/A
D8	E.Wall	C	546	488	457	520	63	0.284	1.8	123.24	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A		N/A	N/A
D9	E.Wall	C	546	488	457	446	-12	0.284	1.8	-23.47	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A		N/A	N/A
D10	E.Wall	C	546	488	457	621	164	0.284	1.8	320.81	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A		N/A	N/A
D11	E.Wall	C	546	488	457	636	179	0.284	1.8	350.16	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A		N/A	N/A
D12	E.Wall	C	546	488	457	441	-16	0.284	1.8	-31.30	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A		N/A	N/A
D13	S.Wall	C	546	337	457	646	189	0.284	1.8	369.72	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A		N/A	N/A
D14	S.Wall	C	546	337	457	627	170	0.284	1.8	332.55	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A		N/A	N/A
D15	S.Wall	C	546	337	457	433	-24	0.284	1.8	-46.96	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A		N/A	N/A
D16	S.Wall	C	546	337	457	562	105	0.284	1.8	205.40	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A		N/A	N/A
D17	S.Wall	C	546	337	457	528	71	0.284	1.8	138.89	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A		N/A	N/A
D18	S.Wall	C	546	337	457	602	145	0.284	1.8	283.65	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A		N/A	N/A
D19	W.Wall	C	546	289	457	354	-103	0.292	1.8	-196.97	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A		N/A	N/A
D20	W.Wall	C	546	289	457	457	0	0.292	1.8	0.00	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A		N/A	N/A
D21	W.Wall	C	546	289	457	310	-147	0.292	1.8	-279.66	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A		N/A	N/A

CHARACTERIZATION SURVEY DATA SHEET

SCAN SURVEY RESULTS

Area/Building: JN - 1B
Room: Fuel Pool
Date: 04/23/05

			Results in CPM							Results in	Results in CPM							Results in	Smear Results in		Results in µR/hr	
	Surface	Material	Alpha + Beta BKG			Scan Measurements		Instrument		DPM/100cm²	Alpha BKG			Scan Measurements		Instrument		DPM/100cm²	DPM/100cm²		Gamma	
Grid	Medium	Type	DLV	Ambient	Mean	Gross Counts	Net Counts	EFF	CF	Activity	DLV	Ambient	Mean	Gross Counts	Net Counts	EFF	CF	Activity	Alpha	Beta	Contact	1 Meter
D22	W.Wall	C	646	289	467	390	-77	0.292	1.8	-146.60	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
D23	W.Wall	C	646	289	467	356	-102	0.292	1.8	-194.06	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
D24	W.Wall	C	646	289	467	341	-116	0.292	1.8	-220.70	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
E1	N.Wall	C	646	306	467	640	183	0.292	1.8	348.17	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
E2	N.Wall	C	646	306	467	483	-4	0.292	1.8	-7.61	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
E3	N.Wall	C	646	306	467	432	-26	0.292	1.8	-47.56	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
E4	N.Wall	C	646	306	467	497	30	0.292	1.8	57.08	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
E5	N.Wall	C	646	306	467	626	168	0.292	1.8	319.63	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
E6	N.Wall	C	646	306	467	442	-15	0.292	1.8	-28.54	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
E7	E.Wall	C	646	488	467	497	30	0.284	1.8	58.69	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
E8	E.Wall	C	646	488	467	642	105	0.284	1.8	205.40	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
E9	E.Wall	C	646	488	467	597	130	0.284	1.8	254.30	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
E10	E.Wall	C	646	488	467	720	253	0.284	1.8	514.48	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
E11	E.Wall	C	646	489	467	591	134	0.284	1.8	262.13	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
E12	E.Wall	C	646	488	467	538	81	0.284	1.8	158.46	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
E13	S.Wall	C	646	337	467	496	38	0.284	1.8	74.33	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
E14	S.Wall	C	646	337	467	484	27	0.284	1.8	52.92	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
E15	S.Wall	C	646	337	467	474	17	0.284	1.8	33.26	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
E16	S.Wall	C	646	337	467	511	54	0.284	1.8	105.63	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
E17	S.Wall	C	646	337	467	496	38	0.284	1.8	74.33	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
E18	S.Wall	C	646	337	467	445	-12	0.284	1.8	-23.47	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
E19	W.Wall	C	646	289	467	347	-110	0.292	1.8	-209.28	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
E20	W.Wall	C	646	289	467	373	-84	0.292	1.8	-159.82	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
E21	W.Wall	C	646	289	467	328	-129	0.292	1.8	-245.43	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
E22	W.Wall	C	646	289	467	369	-98	0.292	1.8	-186.45	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
E23	W.Wall	C	646	289	467	380	-97	0.292	1.8	-184.55	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
E24	W.Wall	C	646	289	467	392	-65	0.292	1.8	-123.67	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
F1	N.Wall	C	646	306	467	463	-4	0.292	1.8	-7.61	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
F2	N.Wall	C	646	306	467	480	23	0.292	1.8	43.76	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
F3	N.Wall	C	646	306	467	466	-2	0.292	1.8	-3.81	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
F4	N.Wall	C	646	306	467	435	-22	0.292	1.8	-41.86	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
F5	N.Wall	C	646	306	467	517	60	0.292	1.8	114.16	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
F6	N.Wall	C	646	306	467	496	39	0.292	1.8	74.20	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
F7	E.Wall	C	646	488	467	476	19	0.284	1.8	37.17	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
F8	E.Wall	C	646	488	467	637	170	0.284	1.8	332.55	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
F9	E.Wall	C	646	488	467	493	36	0.284	1.8	70.42	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
F10	E.Wall	C	646	488	467	466	9	0.284	1.8	17.61	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
F11	E.Wall	C	646	488	467	636	178	0.284	1.8	348.20	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
F12	E.Wall	C	646	488	467	622	166	0.284	1.8	322.77	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
F13	S.Wall	C	646	337	467	479	22	0.284	1.8	43.04	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
F14	S.Wall	C	646	337	467	646	189	0.284	1.8	369.72	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
F15	S.Wall	C	646	337	467	466	9	0.284	1.8	17.61	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
F16	S.Wall	C	646	337	467	402	-58	0.284	1.8	-107.59	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
F17	S.Wall	C	646	337	467	406	-52	0.284	1.8	-101.72	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
F18	S.Wall	C	646	337	467	378	-79	0.284	1.8	-154.54	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
F19	W.Wall	C	646	289	467	366	-101	0.292	1.8	-192.16	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
F20	W.Wall	C	646	289	467	420	-37	0.292	1.8	-70.40	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A

CHARACTERIZATION SURVEY DATA SHEET

SCAN SURVEY RESULTS

Area/Building: JN - 1B
Room: Fuel Pool
Date: 04/23/05

			Results in CPM							Results in	Results in CPM							Results in	Smear Results in		Results in µR/hr	
	Surface	Material	Alpha + Beta BKG			Scan Measurements		Instrument		DPM/100cm²	Alpha BKG			Scan Measurements		Instrument		DPM/100cm²	DPM/100cm²		Gamma	
Grid	Medium	Type	DLV	Ambient	Mean	Gross Counts	Net Counts	EFF	CF	Activity	DLV	Ambient	Mean	Gross Counts	Net Counts	EFF	CF	Activity	Alpha	Beta	Contact	1 Meter
F21	W.Wall	C	545	289	457	461	4	0.292	1.8	7.61	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
F22	W.Wall	C	545	289	457	330	-127	0.292	1.8	-241.63	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
F23	W.Wall	C	545	289	457	403	-54	0.292	1.8	-102.74	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
F24	W.Wall	C	545	289	457	353	-104	0.292	1.8	-197.87	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
G1	N.Wall	C	545	306	457	420	-37	0.292	1.8	-70.40	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
G2	N.Wall	C	545	306	457	376	-81	0.292	1.8	-154.11	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
G3	N.Wall	C	545	306	457	413	-44	0.292	1.8	-83.71	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
G4	N.Wall	C	545	306	457	485	28	0.292	1.8	53.27	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
G5	N.Wall	C	545	306	457	406	-62	0.292	1.8	-98.93	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
G6	N.Wall	C	545	306	457	421	-36	0.292	1.8	-68.49	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
G7	E.Wall	C	545	488	457	549	92	0.284	1.8	179.97	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
G8	E.Wall	C	545	488	457	426	-31	0.284	1.8	-60.64	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
G9	E.Wall	C	545	488	457	538	79	0.284	1.8	154.64	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
G10	E.Wall	C	545	488	457	456	-2	0.284	1.8	-3.91	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
G11	E.Wall	C	545	488	457	578	121	0.284	1.8	236.70	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
G12	E.Wall	C	545	488	457	581	124	0.284	1.8	242.57	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
G13	S.Wall	C	545	337	457	445	-12	0.284	1.8	-23.47	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
G14	S.Wall	C	545	337	457	433	-24	0.284	1.8	-46.98	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
G15	S.Wall	C	545	337	457	466	9	0.284	1.8	17.61	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
G16	S.Wall	C	545	337	457	513	56	0.284	1.8	109.55	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
G17	S.Wall	C	545	337	457	459	2	0.284	1.8	3.91	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
G18	S.Wall	C	545	337	457	443	-14	0.284	1.8	-27.39	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
G19	W.Wall	C	545	289	457	309	-148	0.292	1.8	-281.58	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
G20	W.Wall	C	545	289	457	296	-161	0.292	1.8	-306.32	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
G21	W.Wall	C	545	289	457	403	-54	0.292	1.8	-102.74	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
G22	W.Wall	C	545	289	457	360	-97	0.292	1.8	-184.65	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
G23	W.Wall	C	545	289	457	378	-79	0.292	1.8	-150.30	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
G24	W.Wall	C	545	289	457	408	-49	0.292	1.8	-93.23	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
H1	N.Wall	C	545	306	457	429	-28	0.292	1.8	-53.27	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
H2	N.Wall	C	545	306	457	416	-41	0.292	1.8	-78.01	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
H3	N.Wall	C	545	306	457	447	-10	0.292	1.8	-19.03	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
H4	N.Wall	C	545	306	457	457	0	0.292	1.8	0.00	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
H5	N.Wall	C	545	306	457	479	22	0.292	1.8	41.86	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
H6	N.Wall	C	545	306	457	583	126	0.292	1.8	239.73	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
H7	E.Wall	C	545	488	457	540	83	0.284	1.8	162.36	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
H8	E.Wall	C	545	488	457	616	58	0.284	1.8	113.46	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
H9	E.Wall	C	545	488	457	461	4	0.284	1.8	7.82	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
H10	E.Wall	C	545	488	457	583	126	0.284	1.8	246.48	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
H11	E.Wall	C	545	488	457	488	31	0.284	1.8	60.64	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
H12	E.Wall	C	545	488	457	537	80	0.284	1.8	156.49	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
H13	S.Wall	C	545	337	457	533	76	0.284	1.8	148.67	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
H14	S.Wall	C	545	337	457	453	-4	0.284	1.8	-7.82	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
H15	S.Wall	C	545	337	457	485	28	0.284	1.8	54.77	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
H16	S.Wall	C	545	337	457	578	121	0.284	1.8	236.70	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
H17	S.Wall	C	545	337	457	461	4	0.284	1.8	7.82	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
H18	S.Wall	C	545	337	457	499	42	0.284	1.8	82.16	35	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
H19	W.Wall	C	545	289	457	528	71	0.292	1.8	135.08	35	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A

CHARACTERIZATION SURVEY DATA SHEET

SCAN SURVEY RESULTS

Area/Building: JN - 1B
Room: Fuel Pool
Date: 04/23/05

			Results in CPM							Results in	Results in CPM							Results in	Smear Results in		Results in µR/hr	
	Surface	Material	Alpha + Beta BKG			Scan Measurements		Instrument		DPM/100cm²	Alpha BKG			Scan Measurements		Instrument		DPM/100cm²	DPM/100cm²		Gamma	
Grid	Medium	Type	DLV	Ambient	Mean	Gross Counts	Net Counts	EFF	CF	Activity	DLV	Ambient	Mean	Gross Counts	Net Counts	EFF	CF	Activity	Alpha	Beta	Contact	1 Meter
H20	W.Wall	C	546	289	467	607	150	0.292	1.8	285.39	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
H21	W.Wall	C	546	289	467	383	-74	0.292	1.8	-140.79	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
H22	W.Wall	C	546	289	467	436	-21	0.292	1.8	-39.96	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
H23	W.Wall	C	546	289	467	483	26	0.292	1.8	49.47	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
H24	W.Wall	C	546	289	467	636	179	0.292	1.8	340.86	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
I1	N.Wall	C	546	306	457	440	-17	0.292	1.8	-32.34	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
I2	N.Wall	C	546	306	457	420	-37	0.292	1.8	-70.40	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
I3	N.Wall	C	546	306	457	422	-36	0.292	1.8	-68.69	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
I4	N.Wall	C	546	306	457	456	-1	0.292	1.8	-1.90	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
I5	N.Wall	C	546	306	457	454	-3	0.292	1.8	-5.71	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
I6	N.Wall	C	546	306	457	562	105	0.292	1.8	199.77	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
I7	E.Wall	C	546	488	457	720	263	0.284	1.8	514.48	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
I8	E.Wall	C	546	488	457	536	79	0.284	1.8	154.64	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
I9	E.Wall	C	546	488	457	469	12	0.284	1.8	23.47	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
I10	E.Wall	C	546	488	457	665	208	0.284	1.8	406.69	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
I11	E.Wall	C	546	488	457	503	46	0.284	1.8	89.98	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
I12	E.Wall	C	546	488	457	532	75	0.284	1.8	146.71	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
I13	S.Wall	C	546	337	457	507	50	0.284	1.8	97.81	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
I14	S.Wall	C	546	337	457	512	55	0.284	1.8	107.69	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
I15	S.Wall	C	546	337	457	491	34	0.284	1.8	66.51	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
I16	S.Wall	C	546	337	457	525	69	0.284	1.8	134.98	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
I17	S.Wall	C	546	337	457	532	75	0.284	1.8	146.71	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
I18	S.Wall	C	546	337	457	439	-18	0.284	1.8	-35.21	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
I19	W.Wall	C	546	289	467	540	83	0.292	1.8	157.91	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
I20	W.Wall	C	546	289	467	686	228	0.292	1.8	433.79	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
I21	W.Wall	C	546	289	467	475	18	0.292	1.8	34.25	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
I22	W.Wall	C	546	289	467	467	10	0.292	1.8	19.03	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
I23	W.Wall	C	546	289	467	469	12	0.292	1.8	22.83	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
I24	W.Wall	C	546	289	467	506	49	0.292	1.8	93.23	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
J1	N.Wall	C	546	306	457	449	-8	0.292	1.8	-15.22	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
J2	N.Wall	C	546	306	457	440	-17	0.292	1.8	-32.34	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
J3	N.Wall	C	546	306	457	411	-46	0.292	1.8	-87.62	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
J4	N.Wall	C	546	306	457	437	-20	0.292	1.8	-38.06	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
J5	N.Wall	C	546	306	457	598	141	0.292	1.8	268.26	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
J6	N.Wall	C	546	306	457	564	107	0.292	1.8	203.58	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
J7	E.Wall	C	546	488	457	620	183	0.284	1.8	318.86	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
J8	E.Wall	C	546	488	457	581	124	0.284	1.8	242.57	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
J9	E.Wall	C	546	488	457	508	61	0.284	1.8	99.77	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
J10	E.Wall	C	546	488	457	513	56	0.284	1.8	109.55	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
J11	E.Wall	C	546	488	457	724	267	0.284	1.8	522.30	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
J12	E.Wall	C	546	488	457	645	188	0.284	1.8	367.76	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
J13	S.Wall	C	546	337	457	586	129	0.284	1.8	252.38	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
J14	S.Wall	C	546	337	457	422	-36	0.284	1.8	-68.47	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
J15	S.Wall	C	546	337	457	496	39	0.284	1.8	76.29	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
J16	S.Wall	C	546	337	457	514	57	0.284	1.8	111.50	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
J17	S.Wall	C	546	337	457	517	60	0.284	1.8	117.37	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
J18	S.Wall	C	546	337	457	493	36	0.284	1.8	70.42	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A

CHARACTERIZATION SURVEY DATA SHEET

SCAN SURVEY RESULTS

Area/Building: JN - 1B
Room: Fuel Pool
Date: 04/23/05

			Results in CPM							Results in	Results in CPM							Results in	Smear Results in		Results in µR/hr	
	Surface	Material	Alpha + Beta BKG			Scan Measurements		Instrument		DPM/100cm²	Alpha BKG			Scan Measurements		Instrument		DPM/100cm²	DPM/100cm²		Gamma	
Grid	Medium	Type	DLV	Ambient	Mean	Gross Counts	Net Counts	EFF	CF	Activity	DLV	Ambient	Mean	Gross Counts	Net Counts	EFF	CF	Activity	Alpha	Beta	Contact	1 Meter
J19	W.Wall	C	646	289	467	582	126	0.292	1.8	237.82	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
J20	W.Wall	C	646	289	467	579	112	0.292	1.8	213.09	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
J21	W.Wall	C	646	289	467	430	-27	0.292	1.8	-51.37	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
J22	W.Wall	C	646	289	467	400	-57	0.292	1.8	-108.45	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
J23	W.Wall	C	646	289	467	523	66	0.292	1.8	125.67	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
J24	W.Wall	C	646	289	467	505	48	0.292	1.8	91.32	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
K1	N.Wall	C	646	306	467	437	-20	0.292	1.8	-38.06	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
K2	N.Wall	C	646	306	467	496	29	0.292	1.8	55.18	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
K3	N.Wall	C	646	306	467	518	61	0.292	1.8	116.06	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
K4	N.Wall	C	646	306	467	666	108	0.292	1.8	205.48	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
K6	N.Wall	C	646	306	467	524	67	0.292	1.8	127.47	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
K6	N.Wall	C	646	306	467	674	207	0.292	1.8	393.84	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
K7	E.Wall	C	646	488	467	792	336	0.284	1.8	655.32	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
K8	E.Wall	C	646	488	467	526	69	0.284	1.8	133.02	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
K9	E.Wall	C	646	488	467	677	220	0.284	1.8	430.36	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
K10	E.Wall	C	646	488	467	506	49	0.284	1.8	95.85	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
K11	E.Wall	C	646	488	467	626	169	0.284	1.8	330.69	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
K12	E.Wall	C	646	488	467	722	265	0.284	1.8	518.39	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
K13	S.Wall	C	646	337	467	468	1	0.284	1.8	1.96	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
K14	S.Wall	C	646	337	467	528	71	0.284	1.8	138.89	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
K15	S.Wall	C	646	337	467	498	31	0.284	1.8	60.84	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
K16	S.Wall	C	646	337	467	691	234	0.284	1.8	457.76	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
K17	S.Wall	C	646	337	467	533	76	0.284	1.8	148.67	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
K18	S.Wall	C	646	337	467	607	140	0.284	1.8	273.87	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
K19	W.Wall	C	646	289	467	609	143	0.292	1.8	272.07	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
K20	W.Wall	C	646	289	467	616	159	0.292	1.8	302.51	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
K21	W.Wall	C	646	289	467	460	3	0.292	1.8	5.71	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
K22	W.Wall	C	646	289	467	446	-11	0.292	1.8	-20.93	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
K23	W.Wall	C	646	289	467	532	75	0.292	1.8	142.69	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
K24	W.Wall	C	646	289	467	730	273	0.292	1.8	519.41	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
L1	N.Wall	C	646	306	467	616	159	0.292	1.8	302.51	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
L2	N.Wall	C	646	306	467	609	143	0.292	1.8	272.07	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
L3	N.Wall	C	646	306	467	517	60	0.292	1.8	114.16	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
L4	N.Wall	C	646	306	467	844	387	0.292	1.8	736.30	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
L5	N.Wall	C	646	306	467	627	170	0.292	1.8	323.44	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
L6	N.Wall	C	646	306	467	676	218	0.292	1.8	414.76	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
L7	E.Wall	C	646	488	467	674	217	0.284	1.8	424.49	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
L8	E.Wall	C	646	488	467	709	252	0.284	1.8	492.96	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
L9	E.Wall	C	646	488	467	666	198	0.284	1.8	387.32	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
L10	E.Wall	C	646	488	467	576	109	0.284	1.8	213.22	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
L11	E.Wall	C	646	488	467	796	339	0.284	1.8	663.16	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
L12	E.Wall	C	646	488	467	614	157	0.284	1.8	307.12	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
L13	S.Wall	C	646	337	467	644	187	0.284	1.8	366.81	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
L14	S.Wall	C	646	337	467	728	271	0.284	1.8	530.13	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
L15	S.Wall	C	646	337	467	538	81	0.284	1.8	158.45	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
L16	S.Wall	C	646	337	467	594	127	0.284	1.8	248.44	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
L17	S.Wall	C	646	337	467	491	34	0.284	1.8	66.51	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A

CHARACTERIZATION SURVEY DATA SHEET

SCAN SURVEY RESULTS

Area/Building: JN - 1B
Room: Fuel Pool
Date: 04/23/05

			Results in CPM					Instrument		Results in	Results in CPM					Instrument		Results in	Smear Results in		Results in µR/hr	
			Alpha + Beta BKG			Scan Measurements				DPM/100cm²	Alpha BKG			Scan Measurements				DPM/100cm²	DPM/100cm²		Gamma	
Grid	Surface Medium	Material Type	DLV	Ambient	Mean	Gross Counts	Net Counts	EFF	CF	Activity	DLV	Ambient	Mean	Gross Counts	Net Counts	EFF	CF	Activity	Alpha	Beta	Contact	1 Meter
L18	S.Wall	C	646	337	467	504	47	0.284	1.8	91.84	36	N/A	16	N/A	N/A	0.232	1.8	N/A	N/A	N/A	N/A	N/A
L19	W.Wall	C	646	289	467	456	-1	0.292	1.8	-1.90	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
L20	W.Wall	C	646	289	467	591	134	0.292	1.8	264.96	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
L21	W.Wall	C	646	289	467	500	43	0.292	1.8	81.81	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
L22	W.Wall	C	646	289	467	496	39	0.292	1.8	74.20	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
L23	W.Wall	C	646	289	467	774	317	0.292	1.8	603.12	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
L24	W.Wall	C	646	289	467	830	373	0.292	1.8	709.87	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
A1	Floor	C	646	311	467	597	130	0.292	1.8	247.34	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
A2	Floor	C	646	311	467	764	307	0.292	1.8	584.09	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
A3	Floor	C	646	311	467	721	264	0.292	1.8	502.28	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
A4	Floor	C	646	311	467	412	-45	0.292	1.8	-85.62	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
A5	Floor	C	646	311	467	536	79	0.292	1.8	150.30	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
A6	Floor	C	646	311	467	386	-71	0.292	1.8	-135.08	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
B1	Floor	C	646	311	467	466	-1	0.292	1.8	-1.90	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
B2	Floor	C	646	311	467	506	49	0.292	1.8	93.23	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
B3	Floor	C	646	311	467	526	68	0.292	1.8	129.36	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
B4	Floor	C	646	311	467	728	271	0.292	1.8	515.69	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
B5	Floor	C	646	311	467	666	111	0.292	1.8	211.19	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
B6	Floor	C	646	311	467	543	86	0.292	1.8	163.62	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
C1	Floor	C	646	311	467	634	177	0.292	1.8	336.76	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
C2	Floor	C	646	311	467	460	-7	0.292	1.8	-13.32	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
C3	Floor	C	646	311	467	573	116	0.292	1.8	220.70	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
C4	Floor	C	646	311	467	554	87	0.292	1.8	164.56	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
C5	Floor	C	646	311	467	516	59	0.292	1.8	112.26	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
C6	Floor	C	646	311	467	337	-130	0.292	1.8	-247.34	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
D1	Floor	C	646	311	467	492	36	0.292	1.8	68.59	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
D2	Floor	C	646	311	467	370	-87	0.292	1.8	-165.53	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
D3	Floor	C	646	311	467	590	133	0.292	1.8	253.04	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
D4	Floor	C	646	311	467	472	16	0.292	1.8	28.54	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
D5	Floor	C	646	311	467	669	202	0.292	1.8	384.32	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
D6	Floor	C	646	311	467	391	-66	0.292	1.8	-125.67	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
E1	Floor	C	646	311	467	547	90	0.292	1.8	171.23	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
E2	Floor	C	646	311	467	469	2	0.292	1.8	3.81	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
E3	Floor	C	646	311	467	646	89	0.292	1.8	169.33	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
E4	Floor	C	646	311	467	686	129	0.292	1.8	245.43	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
E5	Floor	C	646	311	467	301	-166	0.292	1.8	-298.60	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
E6	Floor	C	646	311	467	362	-105	0.292	1.8	-199.77	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
F1	Floor	C	646	311	467	331	-126	0.292	1.8	-239.73	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
F2	Floor	C	646	311	467	347	-110	0.292	1.8	-209.28	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
F3	Floor	C	646	311	467	308	-149	0.292	1.8	-283.49	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
F4	Floor	C	646	311	467	379	-78	0.292	1.8	-148.40	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
F5	Floor	C	646	311	467	360	-97	0.292	1.8	-184.66	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A
F6	Floor	C	646	311	467	353	-104	0.292	1.8	-197.87	36	N/A	16	N/A	N/A	0.242	1.8	N/A	N/A	N/A	N/A	N/A

Grid A14 on South Wall has a protruding metal pipe reading 2k

TABLE 6

JN-1B FUEL POOL STATIC SURVEY RESULTS

CHARACTERIZATION SURVEY DATA SHEET

STATIC SURVEY RESULTS

Area/Building: JN - 1B
Room:Fuel Pool
Date: 04/22/05 - 04/25/05

			Results in CPM							Results in	Results in CPM							Results in	Smear Results in		Results in µR/hr	
	Surface	Material	Alpha + Beta BKG			Scan Measurements		Instrument		DPM/100cm²	Alpha BKG			Scan Measurements		Instrument		DPM/100cm²	DPM/100cm²		Gamma	
Grid	Medium	Type	DLV	Ambient	Mean	Gross Counts	Net Counts	EFF	CF	Activity	DLV	Ambient	Mean	Gross Counts	Net Counts	EFF	CF	Activity	Alpha	Beta	Contact	1 Meter
A1	N.Wall	C	473	241	393	163	-230	0.279	1.8	-457.98	11	1	3	8	5	0.217	1.8	12.80	-0.26	-2.8	N/A	N/A
A2	N.Wall	C	473	241	393	139	-254	0.279	1.8	-506.77	11	1	3	9	6	0.217	1.8	15.36	-0.26	0.81	N/A	N/A
A3	N.Wall	C	473	241	393	185	-208	0.279	1.8	-414.18	11	1	3	3	0	0.217	1.8	0.00	-0.26	1.92	N/A	N/A
A4	N.Wall	C	473	241	393	218	-175	0.279	1.8	-348.47	11	1	3	9	6	0.217	1.8	15.36	-0.26	-1.39	N/A	N/A
A5	N.Wall	C	473	241	393	167	-236	0.279	1.8	-469.93	11	1	3	6	3	0.217	1.8	7.68	-0.26	6.35	N/A	N/A
A6	N.Wall	C	473	241	393	187	-206	0.279	1.8	-410.20	11	1	3	6	3	0.217	1.8	7.68	-0.26	4.13	N/A	N/A
A7	E.Wall	C	473	437	393	265	-128	0.274	1.8	-259.63	11	3	3	5	2	0.238	1.8	4.67	-0.26	4.13	N/A	N/A
A8	E.Wall	C	473	437	393	280	-113	0.274	1.8	-229.12	11	3	3	10	7	0.238	1.8	16.34	-0.26	-1.39	N/A	N/A
A9	E.Wall	C	473	437	393	436	43	0.274	1.8	87.19	11	3	3	12	9	0.238	1.8	21.01	-0.26	-0.28	N/A	N/A
A10	E.Wall	C	473	437	393	283	-110	0.274	1.8	-223.03	11	3	3	3	0	0.238	1.8	0.00	-0.26	6.35	N/A	N/A
A11	E.Wall	C	473	437	393	263	-130	0.274	1.8	-263.58	11	3	3	3	0	0.238	1.8	0.00	-0.26	5.24	N/A	N/A
A12	E.Wall	C	473	437	393	260	-143	0.274	1.8	-289.94	11	3	3	2	-1	0.238	1.8	-2.33	-0.26	0.81	N/A	N/A
A13	S.Wall	C	473	270	393	264	-129	0.274	1.8	-261.56	11	2	3	4	1	0.238	1.8	2.33	1.69	-0.28	N/A	N/A
A14	S.Wall	C	473	270	393	168	-235	0.274	1.8	-476.48	11	2	3	2	-1	0.238	1.8	-2.33	-0.26	-2.5	N/A	N/A
A15	S.Wall	C	473	270	393	166	-237	0.274	1.8	-480.54	11	2	3	1	-2	0.238	1.8	-4.67	-0.26	-0.28	N/A	N/A
A16	S.Wall	C	473	270	393	165	-228	0.274	1.8	-462.29	11	2	3	3	0	0.238	1.8	0.00	-0.26	-0.28	N/A	N/A
A17	S.Wall	C	473	270	393	212	-181	0.274	1.8	-366.99	11	2	3	1	-2	0.238	1.8	-4.67	-0.26	1.92	N/A	N/A
A18	S.Wall	C	473	270	393	252	-141	0.274	1.8	-285.89	11	2	3	2	-1	0.238	1.8	-2.33	1.69	-0.28	N/A	N/A
A19	W.Wall	C	473	311	393	167	-226	0.279	1.8	-450.02	11	3	3	2	-1	0.217	1.8	-2.56	-0.26	-2.5	N/A	N/A
A20	W.Wall	C	473	311	393	155	-238	0.279	1.8	-473.91	11	3	3	3	0	0.217	1.8	0.00	-0.26	-1.3	N/A	N/A
A21	W.Wall	C	473	311	393	150	-243	0.279	1.8	-483.87	11	3	3	2	-1	0.217	1.8	-2.56	-0.26	-2.5	N/A	N/A
A22	W.Wall	C	473	311	393	154	-209	0.279	1.8	-416.17	11	3	3	1	-2	0.217	1.8	-5.12	-0.26	-0.28	N/A	N/A
A23	W.Wall	C	473	311	393	148	-245	0.279	1.8	-487.86	11	3	3	0	-3	0.217	1.8	-7.68	-0.26	-0.28	N/A	N/A
A24	W.Wall	C	473	311	393	149	-244	0.279	1.8	-485.86	11	3	3	0	-3	0.217	1.8	-7.68	-0.26	-1.39	N/A	N/A
B1	N.Wall	C	473	241	393	241	-152	0.279	1.8	-302.67	11	1	3	2	-1	0.217	1.8	-2.56	1.69	12.99	N/A	N/A
B2	N.Wall	C	473	241	393	364	-39	0.279	1.8	-77.66	11	1	3	2	-1	0.217	1.8	-2.56	-0.26	-0.28	N/A	N/A
B3	N.Wall	C	473	241	393	280	-113	0.279	1.8	-225.01	11	1	3	4	1	0.217	1.8	2.56	-0.26	0.81	N/A	N/A
B4	N.Wall	C	473	241	393	335	-58	0.279	1.8	-115.49	11	1	3	7	4	0.217	1.8	10.24	-0.26	3.03	N/A	N/A
B5	N.Wall	C	473	241	393	262	-131	0.279	1.8	-260.85	11	1	3	9	6	0.217	1.8	15.36	-0.26	1.92	N/A	N/A
B6	N.Wall	C	473	241	393	276	-117	0.279	1.8	-232.97	11	1	3	8	5	0.217	1.8	12.80	-0.26	1.92	N/A	N/A
B7	E.Wall	C	473	437	393	386	-7	0.274	1.8	-14.19	11	3	3	6	3	0.238	1.8	7.00	-0.26	18.62	N/A	N/A
B8	E.Wall	C	473	437	393	396	3	0.274	1.8	6.08	11	3	3	12	9	0.238	1.8	21.01	-0.26	10.77	N/A	N/A
B9	E.Wall	C	473	437	393	372	-21	0.274	1.8	-42.58	11	3	3	6	3	0.238	1.8	7.00	-0.26	4.13	N/A	N/A
B10	E.Wall	C	473	437	393	489	96	0.274	1.8	194.65	11	3	3	10	7	0.238	1.8	16.34	1.69	7.46	N/A	N/A
B11	E.Wall	C	473	437	393	449	56	0.274	1.8	113.64	11	3	3	11	8	0.238	1.8	18.67	1.69	6.35	N/A	N/A
B12	E.Wall	C	473	437	393	432	39	0.274	1.8	79.08	11	3	3	6	3	0.238	1.8	7.00	-0.26	6.24	N/A	N/A
B13	S.Wall	C	473	270	393	341	-32	0.274	1.8	-64.88	11	2	3	4	1	0.238	1.8	2.33	-0.26	-0.28	N/A	N/A
B14	S.Wall	C	473	270	393	248	-145	0.274	1.8	-294.00	11	2	3	10	7	0.238	1.8	16.34	-0.26	7.46	N/A	N/A
B15	S.Wall	C	473	270	393	298	-95	0.274	1.8	-192.62	11	2	3	5	2	0.238	1.8	4.67	-0.26	6.35	N/A	N/A
B16	S.Wall	C	473	270	393	427	34	0.274	1.8	68.94	11	2	3	5	2	0.238	1.8	4.67	-0.26	-0.28	N/A	N/A
B17	S.Wall	C	473	270	393	252	-141	0.274	1.8	-285.89	11	2	3	4	1	0.238	1.8	2.33	1.69	3.03	N/A	N/A
B18	S.Wall	C	473	270	393	231	-162	0.274	1.8	-328.47	11	2	3	4	1	0.238	1.8	2.33	-0.26	3.03	N/A	N/A
B19	W.Wall	C	473	311	393	461	58	0.279	1.8	115.49	11	3	3	9	6	0.217	1.8	15.36	3.46	-2.5	N/A	N/A
B20	W.Wall	C	473	311	393	236	-167	0.279	1.8	-312.62	11	3	3	0	-3	0.217	1.8	-7.68	1.69	-0.28	N/A	N/A
B21	W.Wall	C	473	311	393	266	-138	0.279	1.8	-274.79	11	3	3	5	2	0.217	1.8	5.12	-0.26	-2.8	N/A	N/A
B22	W.Wall	C	473	311	393	246	-148	0.279	1.8	-294.70	11	3	3	6	3	0.217	1.8	7.68	-0.26	8.56	N/A	N/A

CHARACTERIZATION SURVEY DATA SHEET

STATIC SURVEY RESULTS

Area/Building: JN - 1B
Room:Fuel Pool
Date: 04/22/05 - 04/25/05

			Results in CPM							Results in	Results in CPM								Results in	Smear Results in		Results in µR/hr	
	Surface	Material	Alpha + Beta BKG			Scan Measurements		Instrument		DPM/100cm²	Alpha BKG			Scan Measurements		Instrument		DPM/100cm²	DPM/100cm²			Gamma	
Grid	Medium	Type	DLV	Ambient	Mean	Gross Counts	Net Counts	EFF	CF	Activity	DLV	Ambient	Mean	Gross Counts	Net Counts	EFF	CF	Activity	Alpha	Beta		Contact	1 Meter
B23	W.Wall	C	473	311	393	353	-40	0.279	1.8	-79.66	11	3	3	4	1	0.217	1.8	2.66	-0.26	-0.28		N/A	N/A
B24	W.Wall	C	473	311	393	354	-39	0.279	1.8	-77.66	11	3	3	6	3	0.217	1.8	7.68	-0.26	14.09		N/A	N/A
C1	N.Wall	C	473	241	393	309	-84	0.279	1.8	-167.26	11	1	3	7	4	0.217	1.8	10.24	-0.26	4.13		N/A	N/A
C2	N.Wall	C	473	241	393	283	-110	0.279	1.8	-219.04	11	1	3	6	3	0.217	1.8	7.68	-0.26	7.46		N/A	N/A
C3	N.Wall	C	473	241	393	220	-173	0.279	1.8	-344.48	11	1	3	5	2	0.217	1.8	5.12	-0.26	0.81		N/A	N/A
C4	N.Wall	C	473	241	393	265	-128	0.279	1.8	-254.88	11	1	3	3	0	0.217	1.8	0.00	3.45	6.36		N/A	N/A
C5	N.Wall	C	473	241	393	275	-118	0.279	1.8	-234.97	11	1	3	7	4	0.217	1.8	10.24	-0.26	0.81		N/A	N/A
C6	N.Wall	C	473	241	393	310	-83	0.279	1.8	-165.27	11	1	3	3	0	0.217	1.8	0.00	-0.26	3.03		N/A	N/A
C7	E.Wall	C	473	437	393	415	22	0.274	1.8	44.61	11	3	3	9	6	0.238	1.8	14.01	-0.26	-0.28		N/A	N/A
C8	E.Wall	C	473	437	393	358	-35	0.274	1.8	-70.97	11	3	3	9	6	0.238	1.8	14.01	-0.26	4.13		N/A	N/A
C9	E.Wall	C	473	437	393	490	97	0.274	1.8	196.67	11	3	3	6	2	0.238	1.8	4.67	1.59	10.77		N/A	N/A
C10	E.Wall	C	473	437	393	412	19	0.274	1.8	38.52	11	3	3	9	6	0.238	1.8	14.01	-0.26	6.36		N/A	N/A
C11	E.Wall	C	473	437	393	458	65	0.274	1.8	131.79	11	3	3	6	3	0.238	1.8	7.00	-0.26	0.81		N/A	N/A
C12	E.Wall	C	473	437	393	579	186	0.274	1.8	377.13	11	3	3	3	0	0.238	1.8	0.00	1.59	8.56		N/A	N/A
C13	S.Wall	C	473	270	393	398	5	0.274	1.8	10.14	11	2	3	9	6	0.238	1.8	14.01	1.59	3.03		N/A	N/A
C14	S.Wall	C	473	270	393	396	3	0.274	1.8	6.08	11	2	3	3	0	0.238	1.8	0.00	-0.26	7.46		N/A	N/A
C15	S.Wall	C	473	270	393	490	97	0.274	1.8	196.67	11	2	3	3	0	0.238	1.8	0.00	-0.26	7.46		N/A	N/A
C16	S.Wall	C	473	270	393	569	176	0.274	1.8	356.85	11	2	3	9	6	0.238	1.8	14.01	1.59	1.92		N/A	N/A
C17	S.Wall	C	473	270	393	254	-139	0.274	1.8	-281.83	11	2	3	1	-2	0.238	1.8	-4.67	1.59	10.77		N/A	N/A
C18	S.Wall	C	473	270	393	563	170	0.274	1.8	344.69	11	2	3	6	3	0.238	1.8	7.00	-0.26	8.24		N/A	N/A
C19	W.Wall	C	473	311	393	330	-63	0.279	1.8	-126.46	11	3	3	1	-2	0.217	1.8	-5.12	-0.26	0.81		N/A	N/A
C20	W.Wall	C	473	311	393	202	-191	0.279	1.8	-380.33	11	3	3	3	0	0.217	1.8	0.00	-0.26	4.13		N/A	N/A
C21	W.Wall	C	473	311	393	259	-134	0.279	1.8	-266.83	11	3	3	3	0	0.217	1.8	0.00	-0.26	1.92		N/A	N/A
C22	W.Wall	C	473	311	393	229	-164	0.279	1.8	-326.56	11	3	3	3	0	0.217	1.8	0.00	-0.26	-3.6		N/A	N/A
C23	W.Wall	C	473	311	393	255	-138	0.279	1.8	-274.79	11	3	3	4	1	0.217	1.8	2.56	-0.26	0.81		N/A	N/A
C24	W.Wall	C	473	311	393	216	-177	0.279	1.8	-352.45	11	3	3	5	2	0.217	1.8	5.12	3.45	1.92		N/A	N/A
D1	N.Wall	C	473	241	393	246	-147	0.279	1.8	-292.71	11	1	3	1	-2	0.217	1.8	-5.12	1.59	-0.28		N/A	N/A
D2	N.Wall	C	473	241	393	239	-154	0.279	1.8	-306.65	11	1	3	0	-3	0.217	1.8	-7.68	-0.26	6.36		N/A	N/A
D3	N.Wall	C	473	241	393	262	-131	0.279	1.8	-260.85	11	1	3	3	0	0.217	1.8	0.00	-0.26	8.24		N/A	N/A
D4	N.Wall	C	473	241	393	241	-152	0.279	1.8	-302.67	11	1	3	3	0	0.217	1.8	0.00	-0.26	1.92		N/A	N/A
D5	N.Wall	C	473	241	393	208	-185	0.279	1.8	-368.38	11	1	3	3	0	0.217	1.8	0.00	-0.26	3.03		N/A	N/A
D6	N.Wall	C	473	241	393	198	-195	0.279	1.8	-388.29	11	1	3	6	3	0.217	1.8	7.68	1.59	-1.39		N/A	N/A
D7	E.Wall	C	473	437	393	324	-69	0.274	1.8	-139.90	11	3	3	9	6	0.238	1.8	14.01	-0.26	3.03		N/A	N/A
D8	E.Wall	C	473	437	393	373	-20	0.274	1.8	-40.56	11	3	3	3	0	0.238	1.8	0.00	-0.26	3.03		N/A	N/A
D9	E.Wall	C	473	437	393	379	-14	0.274	1.8	-28.39	11	3	3	3	0	0.238	1.8	0.00	-0.26	7.46		N/A	N/A
D10	E.Wall	C	473	437	393	361	-32	0.274	1.8	-64.88	11	3	3	7	4	0.238	1.8	9.34	1.59	6.36		N/A	N/A
D11	E.Wall	C	473	437	393	356	-37	0.274	1.8	-75.02	11	3	3	4	1	0.238	1.8	2.33	-0.26	-2.6		N/A	N/A
D12	E.Wall	C	473	437	393	575	182	0.274	1.8	369.02	11	3	3	5	2	0.238	1.8	4.67	-0.26	0.81		N/A	N/A
D13	S.Wall	C	473	270	393	507	114	0.274	1.8	231.14	11	2	3	3	0	0.238	1.8	0.00	-0.26	0.81		N/A	N/A
D14	S.Wall	C	473	270	393	426	33	0.274	1.8	66.91	11	2	3	2	-1	0.238	1.8	-2.33	-0.26	1.92		N/A	N/A
D15	S.Wall	C	473	270	393	351	-42	0.274	1.8	-85.16	11	2	3	2	-1	0.238	1.8	-2.33	1.59	63.93		N/A	N/A
D16	S.Wall	C	473	270	393	379	-14	0.274	1.8	-28.39	11	2	3	2	-1	0.238	1.8	-2.33	-0.26	4.13		N/A	N/A
D17	S.Wall	C	473	270	393	599	206	0.274	1.8	417.68	11	2	3	2	-1	0.238	1.8	-2.33	-0.26	8.56		N/A	N/A
D18	S.Wall	C	473	270	393	494	101	0.274	1.8	204.79	11	2	3	2	-1	0.238	1.8	-2.33	-0.26	9.67		N/A	N/A
D19	W.Wall	C	473	311	393	286	-107	0.279	1.8	-213.06	11	3	3	1	-2	0.217	1.8	-5.12	1.59	6.36		N/A	N/A
D20	W.Wall	C	473	311	393	344	-49	0.279	1.8	-97.57	11	3	3	3	0	0.217	1.8	0.00	-0.26	1.92		N/A	N/A
D21	W.Wall	C	473	311	393	191	-202	0.279	1.8	-402.23	11	3	3	4	1	0.217	1.8	2.56	-0.26	0.81		N/A	N/A

CHARACTERIZATION SURVEY DATA SHEET

STATIC SURVEY RESULTS

Area/Building: JN - 1B
Room:Fuel Pool
Date: 04/22/05 - 04/25/05

			Results in CPM							Results in	Results in CPM								Results in	Smear Results in		Results in µR/hr	
	Surface	Material	Alpha + Beta BKG			Scan Measurements		Instrument		DPM/100cm²	Alpha BKG			Scan Measurements		Instrument			DPM/100cm²			Gamma	
Grid	Medium	Type	DLV	Ambient	Mean	Gross Counts	Net Counts	EFF	CF	Activity	DLV	Ambient	Mean	Gross Counts	Net Counts	EFF	CF	Activity	Alpha	Beta		Contact	1 Meter
D22	W.Wall	C	473	311	393	206	-188	0.279	1.8	-374.35	11	3	3	6	2	0.217	1.8	5.12	-0.26	0.81		N/A	N/A
D23	W.Wall	C	473	311	393	210	-183	0.279	1.8	-364.40	11	3	3	2	-1	0.217	1.8	-2.56	-0.26	3.03		N/A	N/A
D24	W.Wall	C	473	311	393	394	1	0.279	1.8	1.99	11	3	3	4	1	0.217	1.8	2.56	-0.26	4.13		N/A	N/A
E1	N.Wall	C	473	241	393	304	-89	0.279	1.8	-177.22	11	1	3	1	-2	0.217	1.8	-5.12	-0.26	0.81		N/A	N/A
E2	N.Wall	C	473	241	393	320	-73	0.279	1.8	-145.38	11	1	3	8	5	0.217	1.8	12.80	-0.26	4.13		N/A	N/A
E3	N.Wall	C	473	241	393	330	-63	0.279	1.8	-125.46	11	1	3	4	1	0.217	1.8	2.56	-0.26	9.67		N/A	N/A
E4	N.Wall	C	473	241	393	368	-25	0.279	1.8	-49.78	11	1	3	4	1	0.217	1.8	2.56	1.59	4.13		N/A	N/A
E5	N.Wall	C	473	241	393	271	-122	0.279	1.8	-242.93	11	1	3	8	5	0.217	1.8	12.80	-0.26	0.81		N/A	N/A
E6	N.Wall	C	473	241	393	321	-72	0.279	1.8	-143.37	11	1	3	7	4	0.217	1.8	10.24	-0.26	6.35		N/A	N/A
E7	E.Wall	C	473	437	393	407	14	0.274	1.8	28.39	11	3	3	6	2	0.238	1.8	4.67	-0.26	8.56		N/A	N/A
E8	E.Wall	C	473	437	393	463	60	0.274	1.8	121.65	11	3	3	3	0	0.238	1.8	0.00	1.59	48.4		N/A	N/A
E9	E.Wall	C	473	437	393	432	39	0.274	1.8	79.08	11	3	3	7	4	0.238	1.8	9.34	-0.26	6.35		N/A	N/A
E10	E.Wall	C	473	437	393	522	129	0.274	1.8	261.56	11	3	3	3	0	0.238	1.8	0.00	-0.26	18.52		N/A	N/A
E11	E.Wall	C	473	437	393	462	69	0.274	1.8	139.90	11	3	3	3	0	0.238	1.8	0.00	-0.26	5.24		N/A	N/A
E12	E.Wall	C	473	437	393	382	-11	0.274	1.8	-22.30	11	3	3	9	6	0.238	1.8	14.01	1.59	110.38		N/A	N/A
E13	S.Wall	C	473	270	393	338	-55	0.274	1.8	-111.52	11	2	3	2	-1	0.238	1.8	-2.33	-0.26	3.03		N/A	N/A
E14	S.Wall	C	473	270	393	387	-6	0.274	1.8	-12.17	11	2	3	2	-1	0.238	1.8	-2.33	-0.26	4.13		N/A	N/A
E15	S.Wall	C	473	270	393	378	-15	0.274	1.8	36.50	11	2	3	7	4	0.238	1.8	9.34	-0.26	7.45		N/A	N/A
E16	S.Wall	C	473	270	393	413	20	0.274	1.8	40.55	11	2	3	7	4	0.238	1.8	9.34	1.59	9.67		N/A	N/A
E17	S.Wall	C	473	270	393	432	39	0.274	1.8	79.08	11	2	3	6	3	0.238	1.8	7.00	1.59	1.92		N/A	N/A
E18	S.Wall	C	473	270	393	363	-30	0.274	1.8	-60.83	11	2	3	3	0	0.238	1.8	0.00	1.59	1.92		N/A	N/A
E19	W.Wall	C	473	311	393	201	-192	0.279	1.8	-382.32	11	3	3	1	-2	0.217	1.8	-5.12	-0.26	-3.6		N/A	N/A
E20	W.Wall	C	473	311	393	229	-164	0.279	1.8	-326.56	11	3	3	3	0	0.217	1.8	0.00	1.59	-1.39		N/A	N/A
E21	W.Wall	C	473	311	393	198	-195	0.279	1.8	-388.29	11	3	3	2	-1	0.217	1.8	-2.56	-0.26	-0.26		N/A	N/A
E22	W.Wall	C	473	311	393	205	-188	0.279	1.8	-374.35	11	3	3	6	2	0.217	1.8	5.12	-0.26	-0.26		N/A	N/A
E23	W.Wall	C	473	311	393	216	-177	0.279	1.8	-352.45	11	3	3	4	1	0.217	1.8	2.56	-0.26	0.81		N/A	N/A
E24	W.Wall	C	473	311	393	344	-49	0.279	1.8	-97.67	11	3	3	1	-2	0.217	1.8	-5.12	-0.26	-0.26		N/A	N/A
F1	N.Wall	C	473	241	393	222	-171	0.279	1.8	-340.56	11	1	3	3	0	0.217	1.8	0.00	-0.26	8.56		N/A	N/A
F2	N.Wall	C	473	241	393	283	-110	0.279	1.8	-219.04	11	1	3	1	-2	0.217	1.8	-5.12	-0.26	0.81		N/A	N/A
F3	N.Wall	C	473	241	393	214	-179	0.279	1.8	-356.43	11	1	3	7	4	0.217	1.8	10.24	-0.26	0.81		N/A	N/A
F4	N.Wall	C	473	241	393	258	-135	0.279	1.8	-268.82	11	1	3	2	-1	0.217	1.8	-2.56	-0.26	0.81		N/A	N/A
F5	N.Wall	C	473	241	393	250	-143	0.279	1.8	-284.75	11	1	3	3	0	0.217	1.8	0.00	-0.26	-1.39		N/A	N/A
F6	N.Wall	C	473	241	393	381	-12	0.279	1.8	-23.89	11	1	3	4	1	0.217	1.8	2.56	1.59	11.88		N/A	N/A
F7	E.Wall	C	473	437	393	429	36	0.274	1.8	72.99	11	3	3	6	3	0.238	1.8	7.00	-0.26	4.13		N/A	N/A
F8	E.Wall	C	473	437	393	398	5	0.274	1.8	10.14	11	3	3	7	4	0.238	1.8	9.34	1.59	0.81		N/A	N/A
F9	E.Wall	C	473	437	393	353	-40	0.274	1.8	-81.10	11	3	3	3	0	0.238	1.8	0.00	-0.26	4.13		N/A	N/A
F10	E.Wall	C	473	437	393	350	-43	0.274	1.8	-87.19	11	3	3	8	5	0.238	1.8	11.67	-0.26	7.45		N/A	N/A
F11	E.Wall	C	473	437	393	478	85	0.274	1.8	172.34	11	3	3	11	8	0.238	1.8	18.67	-0.26	10.77		N/A	N/A
F12	E.Wall	C	473	437	393	437	44	0.274	1.8	89.21	11	3	3	6	3	0.238	1.8	7.00	1.59	1.92		N/A	N/A
F13	S.Wall	C	473	270	393	472	79	0.274	1.8	160.18	11	2	3	6	3	0.238	1.8	7.00	1.59	4.13		N/A	N/A
F14	S.Wall	C	473	270	393	396	3	0.274	1.8	6.08	11	2	3	8	5	0.238	1.8	11.67	3.46	32.19		N/A	N/A
F15	S.Wall	C	473	270	393	372	-21	0.274	1.8	-42.58	11	2	3	4	1	0.238	1.8	2.33	-0.26	1.92		N/A	N/A
F16	S.Wall	C	473	270	393	415	22	0.274	1.8	44.61	11	2	3	3	0	0.238	1.8	0.00	-0.26	-0.26		N/A	N/A
F17	S.Wall	C	473	270	393	373	-20	0.274	1.8	-40.56	11	2	3	1	-2	0.238	1.8	-4.67	-0.26	-0.26		N/A	N/A
F18	S.Wall	C	473	270	393	401	8	0.274	1.8	16.22	11	2	3	2	-1	0.238	1.8	-2.33	-0.26	1.92		N/A	N/A
F19	W.Wall	C	473	311	393	256	-137	0.279	1.8	-272.80	11	3	3	3	0	0.217	1.8	0.00	-0.26	-0.26		N/A	N/A
F20	W.Wall	C	473	311	393	217	-176	0.279	1.8	-350.46	11	3	3	2	-1	0.217	1.8	-2.56	1.59	-0.26		N/A	N/A

CHARACTERIZATION SURVEY DATA SHEET
STATIC SURVEY RESULTS

Area/Building: JN - 1B
Room: Fuel Pool
Date: 04/22/05 - 04/25/05

			Results in CPM							Results in	Results in CPM							Results in	Smear Results in		Results in µR/hr	
	Surface	Material	Alpha + Beta BKG			Scan Measurements		Instrument		DPM/100cm²	Alpha BKG			Scan Measurements		Instrument		DPM/100cm²	DPM/100cm²		Gamma	
Grid	Medium	Type	DLV	Ambient	Mean	Gross Counts	Net Counts	EFF	CF	Activity	DLV	Ambient	Mean	Gross Counts	Net Counts	EFF	CF	Activity	Alpha	Beta	Contact	1 Meter
F21	W.Wall	C	473	311	393	748	355	0.279	1.8	706.69	11	3	3	3	0	0.217	1.8	0.00	-0.26	3.03	N/A	N/A
F22	W.Wall	C	473	311	393	258	-135	0.279	1.8	-268.82	11	3	3	7	4	0.217	1.8	10.24	-0.26	1.92	N/A	N/A
F23	W.Wall	C	473	311	393	216	-178	0.279	1.8	-354.44	11	3	3	6	3	0.217	1.8	7.68	1.69	1.92	N/A	N/A
F24	W.Wall	C	473	311	393	236	-158	0.279	1.8	-314.62	11	3	3	3	0	0.217	1.8	0.00	-0.26	-0.26	N/A	N/A
G1	N.Wall	C	473	241	393	327	-66	0.279	1.8	-131.42	11	1	3	4	1	0.217	1.8	2.56	-0.26	27.37	N/A	N/A
G2	N.Wall	C	473	241	393	242	-151	0.279	1.8	-300.68	11	1	3	3	0	0.217	1.8	0.00	-0.26	0.81	N/A	N/A
G3	N.Wall	C	473	241	393	231	-162	0.279	1.8	-322.56	11	1	3	2	-1	0.217	1.8	-2.56	-0.26	0.81	N/A	N/A
G4	N.Wall	C	473	241	393	258	-135	0.279	1.8	-268.82	11	1	3	6	3	0.217	1.8	7.68	3.46	0.81	N/A	N/A
G5	N.Wall	C	473	241	393	264	-129	0.279	1.8	-256.87	11	1	3	2	-1	0.217	1.8	-2.56	3.46	1.92	N/A	N/A
G6	N.Wall	C	473	241	393	270	-123	0.279	1.8	-244.92	11	1	3	9	6	0.217	1.8	16.38	-0.26	-1.39	N/A	N/A
G7	E.Wall	C	473	437	393	381	-12	0.274	1.8	-24.33	11	3	3	6	2	0.238	1.8	4.67	-0.26	-2.6	N/A	N/A
G8	E.Wall	C	473	437	393	384	-9	0.274	1.8	-18.26	11	3	3	8	5	0.238	1.8	11.67	-0.26	5.24	N/A	N/A
G9	E.Wall	C	473	437	393	423	30	0.274	1.8	60.83	11	3	3	8	5	0.238	1.8	11.67	-0.26	10.77	N/A	N/A
G10	E.Wall	C	473	437	393	392	-1	0.274	1.8	-2.03	11	3	3	3	0	0.238	1.8	0.00	3.46	3.03	N/A	N/A
G11	E.Wall	C	473	437	393	433	40	0.274	1.8	81.10	11	3	3	6	2	0.238	1.8	4.67	-0.26	10.77	N/A	N/A
G12	E.Wall	C	473	437	393	432	39	0.274	1.8	79.08	11	3	3	11	8	0.238	1.8	18.67	1.69	10.77	N/A	N/A
G13	S.Wall	C	473	270	393	482	59	0.274	1.8	119.83	11	2	3	2	-1	0.238	1.8	-2.33	1.69	41.76	N/A	N/A
G14	S.Wall	C	473	270	393	365	-28	0.274	1.8	-56.77	11	2	3	2	-1	0.238	1.8	-2.33	-0.26	11.88	N/A	N/A
G15	S.Wall	C	473	270	393	378	-15	0.274	1.8	-30.41	11	2	3	2	-1	0.238	1.8	-2.33	-0.26	0.81	N/A	N/A
G16	S.Wall	C	473	270	393	424	31	0.274	1.8	62.88	11	2	3	4	1	0.238	1.8	2.33	-0.26	0.81	N/A	N/A
G17	S.Wall	C	473	270	393	439	46	0.274	1.8	93.27	11	2	3	10	7	0.238	1.8	16.34	-0.26	9.67	N/A	N/A
G18	S.Wall	C	473	270	393	349	-44	0.274	1.8	-89.21	11	2	3	3	0	0.238	1.8	0.00	-0.26	1.92	N/A	N/A
G19	W.Wall	C	473	311	393	271	-122	0.279	1.8	-242.93	11	3	3	5	2	0.217	1.8	5.12	-0.26	-0.26	N/A	N/A
G20	W.Wall	C	473	311	393	218	-175	0.279	1.8	-348.47	11	3	3	0	-3	0.217	1.8	-7.68	-0.26	0.81	N/A	N/A
G21	W.Wall	C	473	311	393	253	-140	0.279	1.8	-278.77	11	3	3	3	0	0.217	1.8	0.00	1.69	0.81	N/A	N/A
G22	W.Wall	C	473	311	393	254	-139	0.279	1.8	-276.78	11	3	3	5	2	0.217	1.8	5.12	-0.26	-2.6	N/A	N/A
G23	W.Wall	C	473	311	393	238	-155	0.279	1.8	-308.64	11	3	3	3	0	0.217	1.8	0.00	-0.26	1.92	N/A	N/A
G24	W.Wall	C	473	311	393	181	-212	0.279	1.8	-422.14	11	3	3	4	1	0.217	1.8	2.56	-0.26	3.03	N/A	N/A
H1	N.Wall	C	473	241	393	355	-38	0.279	1.8	-75.67	11	1	3	10	7	0.217	1.8	17.92	1.69	8.56	N/A	N/A
H2	N.Wall	C	473	241	393	218	-175	0.279	1.8	-348.47	11	1	3	3	0	0.217	1.8	0.00	-0.26	4.13	N/A	N/A
H3	N.Wall	C	473	241	393	247	-146	0.279	1.8	-290.72	11	1	3	5	2	0.217	1.8	5.12	-0.26	9.67	N/A	N/A
H4	N.Wall	C	473	241	393	317	-76	0.279	1.8	-151.33	11	1	3	9	6	0.217	1.8	15.36	-0.26	-0.26	N/A	N/A
H5	N.Wall	C	473	241	393	314	-79	0.279	1.8	-157.31	11	1	3	28	25	0.217	1.8	64.00	3.46	6.36	N/A	N/A
H6	N.Wall	C	473	241	393	294	-99	0.279	1.8	-197.13	11	1	3	3	0	0.217	1.8	0.00	1.69	3.03	N/A	N/A
H7	E.Wall	C	473	437	393	338	-55	0.274	1.8	-111.52	11	3	3	2	-1	0.238	1.8	-2.33	-0.26	1.92	N/A	N/A
H8	E.Wall	C	473	437	393	357	-36	0.274	1.8	-72.99	11	3	3	4	1	0.238	1.8	2.33	-0.26	10.77	N/A	N/A
H9	E.Wall	C	473	437	393	373	-20	0.274	1.8	-40.56	11	3	3	7	4	0.238	1.8	9.34	-0.26	4.13	N/A	N/A
H10	E.Wall	C	473	437	393	377	-16	0.274	1.8	-32.44	11	3	3	4	1	0.238	1.8	2.33	-0.26	6.24	N/A	N/A
H11	E.Wall	C	473	437	393	382	-11	0.274	1.8	-22.30	11	3	3	8	5	0.238	1.8	11.67	-0.26	1.92	N/A	N/A
H12	E.Wall	C	473	437	393	373	-20	0.274	1.8	-40.56	11	3	3	4	1	0.238	1.8	2.33	-0.26	4.13	N/A	N/A
H13	S.Wall	C	473	270	393	392	-1	0.274	1.8	-2.03	11	2	3	2	-1	0.238	1.8	-2.33	-0.26	3.03	N/A	N/A
H14	S.Wall	C	473	270	393	507	114	0.274	1.8	231.14	11	2	3	6	3	0.238	1.8	7.00	-0.26	12.99	N/A	N/A
H15	S.Wall	C	473	270	393	401	8	0.274	1.8	16.22	11	2	3	7	4	0.238	1.8	9.34	-0.26	0.81	N/A	N/A
H16	S.Wall	C	473	270	393	439	46	0.274	1.8	93.27	11	2	3	4	1	0.238	1.8	2.33	3.46	9.67	N/A	N/A
H17	S.Wall	C	473	270	393	772	379	0.274	1.8	768.46	11	2	3	6	3	0.238	1.8	7.00	-0.26	9.67	N/A	N/A
H18	S.Wall	C	473	270	393	466	63	0.274	1.8	127.74	11	2	3	4	1	0.238	1.8	2.33	3.46	3.03	N/A	N/A
H19	W.Wall	C	473	311	393	427	34	0.279	1.8	67.70	11	3	3	2	-1	0.217	1.8	-2.56	1.69	0.81	N/A	N/A

CHARACTERIZATION SURVEY DATA SHEET

STATIC SURVEY RESULTS

Area/Building: JN - 1B
Room:Fuel Pool
Date: 04/22/05 - 04/25/05

			Results in CPM							Results in	Results in CPM							Results in	Smear Results in		Results in µR/hr	
	Surface	Material	Alpha + Beta BKG			Scan Measurements		Instrument		DPM/100cm²	Alpha BKG			Scan Measurements		Instrument		DPM/100cm²	DPM/100cm²		Gamma	
Grid	Medium	Type	DLV	Ambient	Mean	Gross Counts	Net Counts	EFF	CF	Activity	DLV	Ambient	Mean	Gross Counts	Net Counts	EFF	CF	Activity	Alpha	Beta	Contact	1 Meter
H20	W.Wall	C	473	311	393	596	203	0.279	1.8	404.22	11	3	3	7	4	0.217	1.8	10.24	-0.26	0.81	N/A	N/A
H21	W.Wall	C	473	311	393	248	-145	0.279	1.8	-288.73	11	3	3	6	3	0.217	1.8	7.68	-0.26	-1.39	N/A	N/A
H22	W.Wall	C	473	311	393	360	-43	0.279	1.8	-85.82	11	3	3	5	2	0.217	1.8	5.12	-0.26	0.81	N/A	N/A
H23	W.Wall	C	473	311	393	343	-50	0.279	1.8	-99.56	11	3	3	5	2	0.217	1.8	5.12	-0.26	1.92	N/A	N/A
H24	W.Wall	C	473	311	393	309	-84	0.279	1.8	-167.26	11	3	3	7	4	0.217	1.8	10.24	1.59	3.03	N/A	N/A
I1	N.Wall	C	473	241	393	262	-131	0.279	1.8	-260.85	11	1	3	4	1	0.217	1.8	2.56	-0.26	-2.5	N/A	N/A
I2	N.Wall	C	473	241	393	256	-137	0.279	1.8	-272.80	11	1	3	6	3	0.217	1.8	7.68	1.59	1.92	N/A	N/A
I3	N.Wall	C	473	241	393	278	-116	0.279	1.8	-228.99	11	1	3	4	1	0.217	1.8	2.56	-0.26	7.46	N/A	N/A
I4	N.Wall	C	473	241	393	324	-69	0.279	1.8	-137.40	11	1	3	9	6	0.217	1.8	15.36	-0.26	3.03	N/A	N/A
I5	N.Wall	C	473	241	393	282	-111	0.279	1.8	-221.03	11	1	3	6	2	0.217	1.8	5.12	-0.26	4.13	N/A	N/A
I6	N.Wall	C	473	241	393	310	-83	0.279	1.8	-165.27	11	1	3	7	4	0.217	1.8	10.24	1.59	9.67	N/A	N/A
I7	E.Wall	C	473	437	393	449	56	0.274	1.8	113.64	11	3	3	8	5	0.238	1.8	11.67	1.59	9.67	N/A	N/A
I8	E.Wall	C	473	437	393	550	157	0.274	1.8	318.33	11	3	3	3	0	0.238	1.8	0.00	-0.26	-0.28	N/A	N/A
I9	E.Wall	C	473	437	393	384	-9	0.274	1.8	-18.25	11	3	3	5	2	0.238	1.8	4.67	-0.26	-1.39	N/A	N/A
I10	E.Wall	C	473	437	393	450	57	0.274	1.8	115.67	11	3	3	7	4	0.238	1.8	9.34	-0.26	3.03	N/A	N/A
I11	E.Wall	C	473	437	393	440	47	0.274	1.8	95.30	11	3	3	6	3	0.238	1.8	7.00	-0.26	-2.5	N/A	N/A
I12	E.Wall	C	473	437	393	370	-23	0.274	1.8	-46.63	11	3	3	8	5	0.238	1.8	11.67	-0.26	3.03	N/A	N/A
I13	S.Wall	C	473	270	393	439	46	0.274	1.8	93.27	11	2	3	13	10	0.238	1.8	23.34	1.59	6.24	N/A	N/A
I14	S.Wall	C	473	270	393	642	249	0.274	1.8	504.87	11	2	3	2	-1	0.238	1.8	-2.33	5.31	7.46	N/A	N/A
I15	S.Wall	C	473	270	393	412	19	0.274	1.8	38.52	11	2	3	6	3	0.238	1.8	7.00	-0.26	-0.28	N/A	N/A
I16	S.Wall	C	473	270	393	488	95	0.274	1.8	192.62	11	2	3	6	3	0.238	1.8	7.00	-0.26	0.81	N/A	N/A
I17	S.Wall	C	473	270	393	503	110	0.274	1.8	223.03	11	2	3	4	1	0.238	1.8	2.33	-0.26	7.46	N/A	N/A
I18	S.Wall	C	473	270	393	328	-65	0.274	1.8	-131.79	11	2	3	2	-1	0.238	1.8	-2.33	1.59	9.67	N/A	N/A
I19	W.Wall	C	473	311	393	297	-96	0.279	1.8	-191.16	11	3	3	4	1	0.217	1.8	2.56	-0.26	-0.28	N/A	N/A
I20	W.Wall	C	473	311	393	494	101	0.279	1.8	201.12	11	3	3	3	0	0.217	1.8	0.00	-0.26	-0.28	N/A	N/A
I21	W.Wall	C	473	311	393	289	-104	0.279	1.8	-207.09	11	3	3	4	1	0.217	1.8	2.56	-0.26	-0.28	N/A	N/A
I22	W.Wall	C	473	311	393	442	49	0.279	1.8	97.57	11	3	3	6	3	0.217	1.8	7.68	-0.26	0.81	N/A	N/A
I23	W.Wall	C	473	311	393	307	-86	0.279	1.8	-171.28	11	3	3	8	5	0.217	1.8	12.80	3.46	0.81	N/A	N/A
I24	W.Wall	C	473	311	393	339	-54	0.279	1.8	-107.63	11	3	3	6	2	0.217	1.8	5.12	-0.26	3.03	N/A	N/A
J1	N.Wall	C	473	241	393	258	-136	0.279	1.8	-268.82	11	1	3	2	-1	0.217	1.8	-2.56	-0.26	-1.39	N/A	N/A
J2	N.Wall	C	473	241	393	298	-95	0.279	1.8	-189.17	11	1	3	1	-2	0.217	1.8	-5.12	-0.26	4.13	N/A	N/A
J3	N.Wall	C	473	241	393	310	-83	0.279	1.8	-165.27	11	1	3	7	4	0.217	1.8	10.24	-0.26	1.92	N/A	N/A
J4	N.Wall	C	473	241	393	273	-120	0.279	1.8	-238.95	11	1	3	2	-1	0.217	1.8	-2.56	1.59	-1.39	N/A	N/A
J5	N.Wall	C	473	241	393	296	-97	0.279	1.8	-193.15	11	1	3	4	1	0.217	1.8	2.56	3.45	87.14	N/A	N/A
J6	N.Wall	C	473	241	393	338	-55	0.279	1.8	-109.62	11	1	3	4	1	0.217	1.8	2.56	-0.26	4.13	N/A	N/A
J7	E.Wall	C	473	437	393	436	43	0.274	1.8	87.19	11	3	3	7	4	0.238	1.8	9.34	-0.26	-1.39	N/A	N/A
J8	E.Wall	C	473	437	393	419	26	0.274	1.8	52.72	11	3	3	8	5	0.238	1.8	11.67	-0.26	-0.28	N/A	N/A
J9	E.Wall	C	473	437	393	419	26	0.274	1.8	52.72	11	3	3	4	1	0.238	1.8	2.33	-0.26	-0.28	N/A	N/A
J10	E.Wall	C	473	437	393	420	27	0.274	1.8	54.74	11	3	3	4	1	0.238	1.8	2.33	1.59	6.36	N/A	N/A
J11	E.Wall	C	473	437	393	461	68	0.274	1.8	137.88	11	3	3	2	-1	0.238	1.8	-2.33	5.31	3.03	N/A	N/A
J12	E.Wall	C	473	437	393	491	98	0.274	1.8	198.70	11	3	3	7	4	0.238	1.8	9.34	-0.26	1.92	N/A	N/A
J13	S.Wall	C	473	270	393	495	102	0.274	1.8	206.81	11	2	3	3	0	0.238	1.8	0.00	-0.26	3.03	N/A	N/A
J14	S.Wall	C	473	270	393	416	22	0.274	1.8	44.61	11	2	3	5	2	0.238	1.8	4.67	-0.26	7.46	N/A	N/A
J15	S.Wall	C	473	270	393	407	14	0.274	1.8	28.39	11	2	3	2	-1	0.238	1.8	-2.33	-0.26	1.92	N/A	N/A
J16	S.Wall	C	473	270	393	439	46	0.274	1.8	93.27	11	2	3	4	1	0.238	1.8	2.33	-0.26	3.03	N/A	N/A
J17	S.Wall	C	473	270	393	424	31	0.274	1.8	62.86	11	2	3	4	1	0.238	1.8	2.33	-0.26	1.92	N/A	N/A
J18	S.Wall	C	473	270	393	552	159	0.274	1.8	322.38	11	2	3	3	0	0.238	1.8	0.00	3.45	6.24	N/A	N/A

CHARACTERIZATION SURVEY DATA SHEET

STATIC SURVEY RESULTS

Area/Building: JN - 1B
Room:Fuel Pool
Date: 04/22/05 - 04/25/05

Grid	Surface Medium	Material Type	Results in CPM: Alpha + Beta BKG DLV	Alpha + Beta BKG Ambient	Alpha + Beta BKG Mean	Scan Measurements Gross Counts	Scan Measurements Net Counts	Instrument EFF	Instrument CF	Results in DPM/100cm² Activity	Results in CPM: Alpha BKG DLV	Alpha BKG Ambient	Alpha BKG Mean	Scan Measurements Gross Counts	Scan Measurements Net Counts	Instrument EFF	Instrument CF	Results in DPM/100cm² Activity	Smear Results in DPM/100cm² Alpha	Smear Results in DPM/100cm² Beta	Results in µR/hr Gamma Contact	Results in µR/hr Gamma 1 Meter
J19	W.Wall	C	473	311	393	304	-89	0.279	1.8	-177.22	11	3	3	7	4	0.217	1.8	10.24	-0.26	-1.39	N/A	N/A
J20	W.Wall	C	473	311	393	628	236	0.279	1.8	467.94	11	3	3	6	3	0.217	1.8	7.68	-0.26	-0.26	N/A	N/A
J21	W.Wall	C	473	311	393	480	87	0.279	1.8	173.24	11	3	3	6	3	0.217	1.8	7.68	-0.26	-0.26	N/A	N/A
J22	W.Wall	C	473	311	393	254	-139	0.279	1.8	-276.78	11	3	3	5	2	0.217	1.8	6.12	-0.26	-1.39	N/A	N/A
J23	W.Wall	C	473	311	393	471	78	0.279	1.8	155.32	11	3	3	9	6	0.217	1.8	15.36	-0.26	3.03	N/A	N/A
J24	W.Wall	C	473	311	393	255	-138	0.279	1.8	-274.79	11	3	3	5	2	0.217	1.8	6.12	-0.26	16.31	N/A	N/A
K1	N.Wall	C	473	241	393	296	-98	0.279	1.8	-195.14	11	1	3	6	3	0.217	1.8	7.68	-0.26	-0.26	N/A	N/A
K2	N.Wall	C	473	241	393	289	-104	0.279	1.8	-207.09	11	1	3	3	0	0.217	1.8	0.00	1.69	1.92	N/A	N/A
K3	N.Wall	C	473	241	393	381	-12	0.279	1.8	-23.89	11	1	3	2	-1	0.217	1.8	-2.56	-0.26	0.81	N/A	N/A
K4	N.Wall	C	473	241	393	343	-50	0.279	1.8	-99.56	11	1	3	4	1	0.217	1.8	2.56	1.69	1.92	N/A	N/A
K5	N.Wall	C	473	241	393	360	-43	0.279	1.8	-85.62	11	1	3	10	7	0.217	1.8	17.92	-0.26	-0.26	N/A	N/A
K6	N.Wall	C	473	241	393	386	-8	0.279	1.8	-15.93	11	1	3	5	2	0.217	1.8	6.12	-0.26	16.31	N/A	N/A
K7	E.Wall	C	473	437	393	512	119	0.274	1.8	241.28	11	3	3	6	3	0.238	1.8	7.00	1.69	0.81	N/A	N/A
K8	E.Wall	C	473	437	393	437	44	0.274	1.8	89.21	11	3	3	10	7	0.238	1.8	16.34	-0.26	8.58	N/A	N/A
K9	E.Wall	C	473	437	393	476	83	0.274	1.8	168.29	11	3	3	2	-1	0.238	1.8	-2.33	-0.26	0.81	N/A	N/A
K10	E.Wall	C	473	437	393	402	9	0.274	1.8	18.25	11	3	3	3	0	0.238	1.8	0.00	-0.26	-0.26	N/A	N/A
K11	E.Wall	C	473	437	393	464	71	0.274	1.8	143.98	11	3	3	7	4	0.238	1.8	9.34	-0.26	5.24	N/A	N/A
K12	E.Wall	C	473	437	393	459	66	0.274	1.8	133.82	11	3	3	6	3	0.238	1.8	7.00	-0.26	0.81	N/A	N/A
K13	S.Wall	C	473	270	393	430	37	0.274	1.8	76.02	11	2	3	5	2	0.238	1.8	4.67	1.69	11.88	N/A	N/A
K14	S.Wall	C	473	270	393	157	-236	0.274	1.8	-478.61	11	2	3	2	-1	0.238	1.8	-2.33	-0.26	0.81	N/A	N/A
K15	S.Wall	C	473	270	393	442	49	0.274	1.8	99.35	11	2	3	2	-1	0.238	1.8	-2.33	1.69	0.81	N/A	N/A
K16	S.Wall	C	473	270	393	436	43	0.274	1.8	87.19	11	2	3	6	3	0.238	1.8	7.00	-0.26	9.67	N/A	N/A
K17	S.Wall	C	473	270	393	439	46	0.274	1.8	93.27	11	2	3	3	0	0.238	1.8	0.00	-0.26	0.81	N/A	N/A
K18	S.Wall	C	473	270	393	509	116	0.274	1.8	235.20	11	2	3	9	6	0.238	1.8	14.01	-0.26	-1.39	N/A	N/A
K19	W.Wall	C	473	311	393	350	-43	0.279	1.8	-85.62	11	3	3	5	2	0.217	1.8	6.12	-0.26	7.46	N/A	N/A
K20	W.Wall	C	473	311	393	361	-32	0.279	1.8	-63.72	11	3	3	2	-1	0.217	1.8	-2.56	-0.26	4.13	N/A	N/A
K21	W.Wall	C	473	311	393	356	-37	0.279	1.8	-73.68	11	3	3	5	2	0.217	1.8	6.12	1.69	-0.26	N/A	N/A
K22	W.Wall	C	473	311	393	272	-121	0.279	1.8	-240.94	11	3	3	7	4	0.217	1.8	10.24	-0.26	0.81	N/A	N/A
K23	W.Wall	C	473	311	393	332	-61	0.279	1.8	-121.47	11	3	3	4	1	0.217	1.8	2.56	-0.26	-2.5	N/A	N/A
K24	W.Wall	C	473	311	393	390	-3	0.279	1.8	-6.97	11	3	3	2	-1	0.217	1.8	-2.56	3.46	4.13	N/A	N/A
L1	N.Wall	C	473	241	393	363	-30	0.279	1.8	-59.74	11	1	3	6	3	0.217	1.8	7.68	-0.26	-0.26	N/A	N/A
L2	N.Wall	C	473	241	393	416	22	0.279	1.8	43.81	11	1	3	3	0	0.217	1.8	0.00	-0.26	0.81	N/A	N/A
L3	N.Wall	C	473	241	393	426	33	0.279	1.8	65.71	11	1	3	6	3	0.217	1.8	7.68	-0.26	6.36	N/A	N/A
L4	N.Wall	C	473	241	393	448	55	0.279	1.8	109.52	11	1	3	2	-1	0.217	1.8	-2.56	1.69	27.37	N/A	N/A
L5	N.Wall	C	473	241	393	492	99	0.279	1.8	197.13	11	1	3	5	2	0.217	1.8	6.12	1.69	8.56	N/A	N/A
L6	N.Wall	C	473	241	393	406	12	0.279	1.8	23.89	11	1	3	6	3	0.217	1.8	7.68	1.69	0.81	N/A	N/A
L7	E.Wall	C	473	437	393	579	186	0.274	1.8	377.13	11	3	3	6	3	0.238	1.8	7.00	1.69	3.03	N/A	N/A
L8	E.Wall	C	473	437	393	553	160	0.274	1.8	324.41	11	3	3	11	8	0.238	1.8	18.67	-0.26	0.81	N/A	N/A
L9	E.Wall	C	473	437	393	528	135	0.274	1.8	273.72	11	3	3	9	6	0.238	1.8	14.01	1.69	3.03	N/A	N/A
L10	E.Wall	C	473	437	393	505	112	0.274	1.8	227.09	11	3	3	7	4	0.238	1.8	9.34	-0.26	-0.26	N/A	N/A
L11	E.Wall	C	473	437	393	598	205	0.274	1.8	416.85	11	3	3	9	6	0.238	1.8	14.01	-0.26	7.46	N/A	N/A
L12	E.Wall	C	473	437	393	559	166	0.274	1.8	336.88	11	3	3	9	6	0.238	1.8	14.01	1.69	3.03	N/A	N/A
L13	S.Wall	C	473	270	393	486	93	0.274	1.8	188.56	11	2	3	4	1	0.238	1.8	2.33	-0.26	10.77	N/A	N/A
L14	S.Wall	C	473	270	393	500	107	0.274	1.8	216.96	11	2	3	4	1	0.238	1.8	2.33	-0.26	1.92	N/A	N/A
L15	S.Wall	C	473	270	393	677	184	0.274	1.8	373.07	11	2	3	2	-1	0.238	1.8	-2.33	-0.26	1.92	N/A	N/A
L16	S.Wall	C	473	270	393	561	168	0.274	1.8	340.63	11	2	3	2	-1	0.238	1.8	-2.33	-0.26	3.03	N/A	N/A
L17	S.Wall	C	473	270	393	394	1	0.274	1.8	2.03	11	2	3	2	-1	0.238	1.8	-2.33	1.69	-1.39	N/A	N/A

CHARACTERIZATION SURVEY DATA SHEET

STATIC SURVEY RESULTS

Area/Building: JN - 1B
Room:Fuel Pool
Date: 04/22/05 - 04/25/05

			Results In CPM							Results In	Results In CPM							Results In	Smear Results In		Results In µR/hr	
	Surface	Material	Alpha + Beta BKG			Scan Measurements		Instrument		DPM/100cm²	Alpha BKG			Scan Measurements		Instrument		DPM/100cm²	DPM/100cm²		Gamma	
Grid	Medium	Type	DLV	Ambient	Mean	Gross Counts	Net Counts	EFF	CF	Activity	DLV	Ambient	Mean	Gross Counts	Net Counts	EFF	CF	Activity	Alpha	Beta	Contact	1 Meter
L18	S.Wall	C	473	270	393	415	22	0.274	1.8	44.61	11	2	3	2	-1	0.238	1.8	-2.33	-0.26	3.03	N/A	N/A
L19	W.Wall	C	473	311	393	319	-74	0.279	1.8	-147.38	11	3	3	6	2	0.217	1.8	5.12	1.69	-1.39	N/A	N/A
L20	W.Wall	C	473	311	393	480	87	0.279	1.8	173.24	11	3	3	2	-1	0.217	1.8	-2.56	-0.26	4.13	N/A	N/A
L21	W.Wall	C	473	311	393	333	-60	0.279	1.8	-119.47	11	3	3	12	9	0.217	1.8	23.04	3.46	-0.28	N/A	N/A
L22	W.Wall	C	473	311	393	399	6	0.279	1.8	11.95	11	3	3	8	5	0.217	1.8	12.80	-0.26	1.92	N/A	N/A
L23	W.Wall	C	473	311	393	423	30	0.279	1.8	59.74	11	3	3	5	2	0.217	1.8	5.12	-0.26	1.92	N/A	N/A
L24	W.Wall	C	473	311	393	627	234	0.279	1.8	466.95	11	3	3	3	0	0.217	1.8	0.00	-0.26	0.81	N/A	N/A
A1	Floor	C	473	287	393	239	-154	0.279	1.8	-306.65	11	2	3	1	-2	0.217	1.8	-5.12	-0.26	-3.6	8	8
A2	Floor	C	473	287	393	317	-76	0.279	1.8	-151.33	11	2	3	4	1	0.217	1.8	2.56	-0.26	-0.28	N/A	N/A
A3	Floor	C	473	287	393	282	-111	0.279	1.8	-221.03	11	2	3	3	0	0.217	1.8	0.00	-0.26	4.13	N/A	N/A
A4	Floor	C	473	287	393	331	-62	0.279	1.8	-123.48	11	2	3	2	-1	0.217	1.8	-2.56	-0.26	-0.28	N/A	N/A
A5	Floor	C	473	287	393	344	-49	0.279	1.8	-97.57	11	2	3	5	2	0.217	1.8	5.12	-0.26	0.81	N/A	N/A
A6	Floor	C	473	287	393	444	51	0.279	1.8	101.56	11	2	3	0	-3	0.217	1.8	-7.68	-0.26	0.81	7	9
B1	Floor	C	473	287	393	430	37	0.279	1.8	73.68	11	2	3	4	1	0.217	1.8	2.56	-0.26	-1.39	N/A	N/A
B2	Floor	C	473	287	393	399	6	0.279	1.8	11.95	11	2	3	1	-2	0.217	1.8	-5.12	-0.26	-1.39	N/A	N/A
B3	Floor	C	473	287	393	298	-95	0.279	1.8	-189.17	11	2	3	4	1	0.217	1.8	2.56	-0.26	1.92	N/A	N/A
B4	Floor	C	473	287	393	327	-66	0.279	1.8	-131.42	11	2	3	3	0	0.217	1.8	0.00	-0.26	-1.39	N/A	N/A
B5	Floor	C	473	287	393	286	-107	0.279	1.8	-213.06	11	2	3	4	1	0.217	1.8	2.56	-0.26	-3.6	N/A	N/A
B6	Floor	C	473	287	393	449	56	0.279	1.8	111.51	11	2	3	4	1	0.217	1.8	2.56	-0.26	-1.39	N/A	N/A
C1	Floor	C	473	287	393	210	-183	0.279	1.8	-364.40	11	2	3	1	-2	0.217	1.8	-5.12	-0.26	-1.39	N/A	N/A
C2	Floor	C	473	287	393	298	-95	0.279	1.8	-189.17	11	2	3	4	1	0.217	1.8	2.56	-0.26	-2.5	N/A	N/A
C3	Floor	C	473	287	393	466	73	0.279	1.8	145.38	11	2	3	3	0	0.217	1.8	0.00	-0.26	0.81	N/A	N/A
C4	Floor	C	473	287	393	447	54	0.279	1.8	107.63	11	2	3	3	0	0.217	1.8	0.00	-0.26	3.03	9	9
C5	Floor	C	473	287	393	294	-99	0.279	1.8	-197.13	11	2	3	1	-2	0.217	1.8	-5.12	1.69	-1.39	N/A	N/A
C6	Floor	C	473	287	393	219	-174	0.279	1.8	-346.48	11	2	3	4	1	0.217	1.8	2.56	-0.26	-2.5	N/A	N/A
D1	Floor	C	473	287	393	183	-210	0.279	1.8	-418.16	11	2	3	1	-2	0.217	1.8	-5.12	1.69	1.92	N/A	N/A
D2	Floor	C	473	287	393	346	-47	0.279	1.8	-93.59	11	2	3	0	-3	0.217	1.8	-7.68	-0.26	0.81	N/A	N/A
D3	Floor	C	473	287	393	500	107	0.279	1.8	213.06	11	2	3	3	0	0.217	1.8	0.00	-0.26	-2.5	N/A	N/A
D4	Floor	C	473	287	393	286	-107	0.279	1.8	-213.06	11	2	3	6	3	0.217	1.8	7.68	-0.26	0.81	N/A	N/A
D5	Floor	C	473	287	393	317	-76	0.279	1.8	-151.33	11	2	3	1	-2	0.217	1.8	-5.12	-0.26	-0.28	N/A	N/A
D6	Floor	C	473	287	393	216	-177	0.279	1.8	-352.48	11	2	3	3	0	0.217	1.8	0.00	-0.26	-0.28	N/A	N/A
E1	Floor	C	473	287	393	410	17	0.279	1.8	33.86	11	2	3	2	-1	0.217	1.8	-2.56	-0.26	-0.28	N/A	N/A
E2	Floor	C	473	287	393	385	-8	0.279	1.8	-15.93	11	2	3	4	1	0.217	1.8	2.56	1.69	-0.28	N/A	N/A
E3	Floor	C	473	287	393	340	-53	0.279	1.8	-105.64	11	2	3	2	-1	0.217	1.8	-2.56	-0.26	-1.39	N/A	N/A
E4	Floor	C	473	287	393	769	376	0.279	1.8	748.71	11	2	3	3	0	0.217	1.8	0.00	-0.26	0.81	N/A	N/A
E5	Floor	C	473	287	393	298	-95	0.279	1.8	-189.17	11	2	3	6	3	0.217	1.8	7.68	-0.26	-0.28	N/A	N/A
E6	Floor	C	473	287	393	204	-189	0.279	1.8	-376.34	11	2	3	0	-3	0.217	1.8	-7.68	-0.26	-0.28	N/A	N/A
F1	Floor	C	473	287	393	316	-77	0.279	1.8	-153.33	11	2	3	3	0	0.217	1.8	0.00	-0.26	0.81	8	8
F2	Floor	C	473	287	393	259	-134	0.279	1.8	-266.83	11	2	3	2	-1	0.217	1.8	-2.56	-0.26	-0.28	N/A	N/A
F3	Floor	C	473	287	393	226	-167	0.279	1.8	-332.54	11	2	3	0	-3	0.217	1.8	-7.68	1.69	-1.39	N/A	N/A
F4	Floor	C	473	287	393	187	-206	0.279	1.8	-410.20	11	2	3	3	0	0.217	1.8	0.00	-0.26	0.81	N/A	N/A
F5	Floor	C	473	287	393	258	-135	0.279	1.8	-268.82	11	2	3	6	2	0.217	1.8	5.12	-0.26	6.35	N/A	N/A
F6	Floor	C	473	287	393	180	-213	0.279	1.8	-424.13	11	2	3	1	-2	0.217	1.8	-5.12	-0.26	1.92	10	7

TABLE 7

JN-1B TRANSFER CANAL SCAN SURVEY RESULTS

CHARACTERIZATION SURVEY DATA SHEET

SCAN SURVEY RESULTS

Area/Building: JN - 1B
Room: Transfer Canal
Date: 04/21/05 - 04/25/05

Grid	Surface Medium	Material Type	Results in CPM: Alpha + Beta BKG DLV	Alpha + Beta BKG Ambient	Alpha + Beta BKG Mean	Scan Measurements Gross Counts	Scan Measurements Net Counts	Instrument EFF	Instrument CF	Results in DPM/100cm² Activity	Results in CPM: Alpha BKG DLV	Alpha BKG Ambient	Alpha BKG Mean	Scan Measurements Gross Counts	Scan Measurements Net Counts	Instrument EFF	Instrument CF	Results in DPM/100cm² Activity	Smear Results in DPM/100cm² Alpha	Smear Results in DPM/100cm² Beta	Results in µR/hr Gamma Contact	Results in µR/hr Gamma 1 Meter
A1	N.Wall	C	545	199	457	436	-21	0.265	1.8	-44.03	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
A2	N.Wall	C	545	199	457	321	-136	0.265	1.8	-285.12	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
A3	N.Wall	C	545	199	457	408	-49	0.265	1.8	-102.73	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
A4	N.Wall	C	545	199	457	332	-125	0.265	1.8	-262.06	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
A4	S.Wall	C	545	199	457	479	22	0.265	1.8	46.12	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
A5	S.Wall	C	545	199	457	525	68	0.265	1.8	142.58	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
A6	S.Wall	C	545	199	457	593	136	0.265	1.8	285.12	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
A7	S.Wall	C	545	199	457	762	305	0.265	1.8	639.41	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
A8	W.Wall	C	545	199	457	827	370	0.265	1.8	775.68	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
B1	N.Wall	C	545	199	457	469	12	0.265	1.8	25.16	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
B2	N.Wall	C	545	199	457	506	49	0.265	1.8	102.73	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
B3	N.Wall	C	545	199	457	324	-133	0.265	1.8	-278.83	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
B4	N.Wall	C	545	199	457	464	7	0.265	1.8	14.68	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
B4	S.Wall	C	545	199	457	774	317	0.265	1.8	664.67	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
B5	S.Wall	C	545	199	457	446	-11	0.265	1.8	-23.08	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
B6	S.Wall	C	545	199	457	349	-108	0.265	1.8	-226.42	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
B7	S.Wall	C	545	199	457	661	204	0.265	1.8	427.67	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
B8	W.Wall	C	545	199	457	445	-12	0.265	1.8	-25.16	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
C1	N.Wall	C	545	199	457	451	-6	0.265	1.8	-12.58	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
C2	N.Wall	C	545	199	457	347	-110	0.265	1.8	-230.61	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
C3	N.Wall	C	545	199	457	413	-44	0.265	1.8	-92.24	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
C4	N.Wall	C	545	199	457	400	-57	0.265	1.8	-119.50	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
C4	S.Wall	C	545	199	457	346	-112	0.265	1.8	-234.80	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
C5	S.Wall	C	545	199	457	418	-39	0.265	1.8	-81.76	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
C6	S.Wall	C	545	199	457	466	9	0.265	1.8	18.87	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
C7	S.Wall	C	545	199	457	348	-109	0.265	1.8	-228.51	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
C8	W.Wall	C	545	199	457	391	-66	0.265	1.8	-138.38	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
D1	N.Wall	C	545	199	457	352	-105	0.265	1.8	-220.13	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
D2	N.Wall	C	545	199	457	392	-65	0.265	1.8	-136.27	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
D3	N.Wall	C	545	199	457	324	-133	0.265	1.8	-278.83	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
D4	N.Wall	C	545	199	457	443	-14	0.265	1.8	-29.35	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
D4	S.Wall	C	545	199	457	391	-66	0.265	1.8	-138.38	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
D5	S.Wall	C	545	199	457	788	329	0.265	1.8	689.73	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
D6	S.Wall	C	545	199	457	315	-142	0.265	1.8	-297.69	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
D7	S.Wall	C	545	199	457	455	-2	0.265	1.8	-4.19	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
D8	W.Wall	C	545	199	457	654	197	0.265	1.8	413.00	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
E1	N.Wall	C	545	199	457	455	-2	0.265	1.8	-4.19	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
E2	N.Wall	C	545	199	457	420	-37	0.265	1.8	-77.57	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
E3	N.Wall	C	545	199	457	363	-94	0.265	1.8	-197.06	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
E4	N.Wall	C	545	199	457	298	-159	0.265	1.8	-333.33	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
E4	S.Wall	C	545	199	457	393	-64	0.265	1.8	-134.17	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
E5	S.Wall	C	545	199	457	305	-152	0.265	1.8	-318.66	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
E6	S.Wall	C	545	199	457	819	362	0.265	1.8	758.91	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
E7	S.Wall	C	545	199	457	318	-139	0.265	1.8	-291.40	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
E8	W.Wall	C	545	199	457	633	176	0.265	1.8	368.97	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
F1	N.Wall	C	545	199	457	782	325	0.265	1.8	681.34	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A

CHARACTERIZATION SURVEY DATA SHEET

SCAN SURVEY RESULTS

Area/Building: JN - 1B
Room: Transfer Canal
Date: 04/21/05 - 04/25/05

			Results in CPM							Results in	Results in CPM							Results in	Smear Results in		Results in µR/hr	
	Surface	Material	Alpha + Beta BKG			Scan Measurements		Instrument		DPM/100cm²	Alpha BKG			Scan Measurements		Instrument		DPM/100cm²	DPM/100cm²		Gamma	
Grid	Medium	Type	DLV	Ambient	Mean	Gross Counts	Net Counts	EFF	CF	Activity	DLV	Ambient	Mean	Gross Counts	Net Counts	EFF	CF	Activity	Alpha	Beta	Contact	1 Meter
F2	N.Wall	C	545	199	457	357	-100	0.266	1.8	-269.84	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
F3	N.Wall	C	545	199	457	341	-116	0.266	1.8	-243.19	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
F4	N.Wall	C	545	199	457	288	-169	0.266	1.8	-364.30	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
F4	S.Wall	C	545	199	457	772	316	0.266	1.8	680.38	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
F5	S.Wall	C	545	199	457	288	-169	0.266	1.8	-364.30	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
F6	S.Wall	C	545	199	457	466	9	0.266	1.8	18.87	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
F7	S.Wall	C	545	199	457	604	147	0.266	1.8	308.18	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
F8	W.Wall	C	545	199	457	549	92	0.266	1.8	192.87	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
G1	N.Wall	C	545	199	457	477	20	0.266	1.8	41.93	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
G2	N.Wall	C	545	199	457	396	-61	0.266	1.8	-127.88	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
G3	N.Wall	C	545	199	457	595	138	0.266	1.8	289.31	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
G4	N.Wall	C	545	199	457	258	-199	0.266	1.8	-417.19	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
G4	S.Wall	C	545	199	457	342	-115	0.266	1.8	-241.09	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
G5	S.Wall	C	545	199	457	355	-102	0.266	1.8	-213.84	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
G6	S.Wall	C	545	199	457	530	73	0.266	1.8	153.04	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
G7	S.Wall	C	545	199	457	470	13	0.266	1.8	27.26	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
G8	W.Wall	C	545	199	457	369	-88	0.266	1.8	-184.49	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
H1	N.Wall	C	545	434	457	399	-58	0.266	1.8	-121.59	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
H2	N.Wall	C	545	434	457	493	36	0.266	1.8	75.47	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
H3	N.Wall	C	545	434	457	720	263	0.266	1.8	551.36	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
H4	N.Wall	C	545	434	457	459	2	0.266	1.8	4.19	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
H4	S.Wall	C	545	434	457	482	25	0.266	1.8	52.41	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
H5	S.Wall	C	545	434	457	380	-77	0.266	1.8	-161.43	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
H6	S.Wall	C	545	434	457	336	-121	0.266	1.8	-253.67	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
H7	S.Wall	C	545	434	457	402	-55	0.266	1.8	-115.30	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
H8	W.Wall	C	545	434	457	407	-50	0.266	1.8	-104.82	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
I1	N.Wall	C	545	434	457	503	46	0.266	1.8	96.44	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
I2	N.Wall	C	545	434	457	492	35	0.266	1.8	73.38	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
I3	N.Wall	C	545	434	457	546	89	0.266	1.8	186.58	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
I4	N.Wall	C	545	434	457	671	214	0.266	1.8	448.64	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
I4	S.Wall	C	545	434	457	507	50	0.266	1.8	104.82	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
I5	S.Wall	C	545	434	457	379	-78	0.266	1.8	-163.62	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
I6	S.Wall	C	545	434	457	346	-111	0.266	1.8	-232.70	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
I7	S.Wall	C	545	434	457	484	27	0.266	1.8	56.60	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
I8	W.Wall	C	545	434	457	533	76	0.266	1.8	159.33	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
J1	N.Wall	C	545	434	457	506	49	0.266	1.8	102.73	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
J2	N.Wall	C	545	434	457	568	111	0.266	1.8	232.70	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
J3	N.Wall	C	545	434	457	705	248	0.266	1.8	519.92	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
J4	N.Wall	C	545	434	457	509	52	0.266	1.8	109.01	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
J4	S.Wall	C	545	434	457	447	-10	0.266	1.8	-20.96	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
J5	S.Wall	C	545	434	457	424	-33	0.266	1.8	-69.18	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
J6	S.Wall	C	545	434	457	487	30	0.266	1.8	62.89	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
J7	S.Wall	C	545	434	457	632	175	0.266	1.8	366.88	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
J8	W.Wall	C	545	434	457	574	117	0.266	1.8	245.28	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
A1	Floor	C	545	434	457	411	-46	0.266	1.8	-96.44	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
B1	Floor	C	545	434	457	496	39	0.266	1.8	81.78	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A
C1	Floor	C	545	434	457	576	119	0.266	1.8	249.48	36	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A

CHARACTERIZATION SURVEY DATA SHEET

SCAN SURVEY RESULTS

Area/Building: JN - 1B
Room: Transfer Canal
Date: 04/21/05 - 04/25/05

Grid	Surface Medium	Material Type	Results in CPM: Alpha + Beta BKG			Scan Measurements		Instrument		Results in DPM/100cm²	Results in CPM: Alpha BKG			Scan Measurements		Instrument		Results in DPM/100cm²	Smear Results in DPM/100cm²		Results in µR/hr Gamma	
			DLV	Ambient	Mean	Gross Counts	Net Counts	EFF	CF	Activity	DLV	Ambient	Mean	Gross Counts	Net Counts	EFF	CF	Activity	Alpha	Beta	Contact	1 Meter
D1	Floor	C	648	434	457	466	9	0.266	1.8	18.87	38	N/A	16	N/A	N/A	0.22	1.8	N/A	N/A	N/A	N/A	N/A

TABLE 8

JN-1B TRANSFER CANAL STATIC SURVEY RESULTS

CHARACTERIZATION SURVEY DATA SHEET

STATIC SURVEY RESULTS

Area/Building: JN - 1B
Room: Transfer Canal
Date:04/21/05 - 4/25/05

			Results in CPM							Results in	Results in CPM							Results in	Smear Results in		Results in µR/hr	
	Surface	Material	Alpha + Beta BKG			Static Measurements		Instrument		DPM/100cm²	Alpha BKG			Static Measurements		Instrument		DPM/100cm²	DPM/100cm²		Gamma	
Grid	Medium	Type	DLV	Ambient	Mean	Gross Counts	Net Counts	EFF	CF	Activity	DLV	Ambient	Mean	Gross Count	Net Counts	EFF	CF	Activity	Alpha	Beta	Contact	1 Meter
A1	N.Wall	C	473	170	393	278	-115	0.264	1.8	-242.00	11	0	3	1	-2	0.233	1.8	-4.77	-0.26	1.92	N/A	N/A
A2	N.Wall	C	473	170	393	182	-211	0.264	1.8	-444.02	11	0	3	4	1	0.233	1.8	2.38	-0.26	0.81	N/A	N/A
A3	N.Wall	C	473	170	393	149	-244	0.264	1.8	-513.47	11	0	3	1	-2	0.233	1.8	-4.77	-0.26	0.81	N/A	N/A
A4	N.Wall	C	473	170	393	167	-236	0.264	1.8	-496.63	11	0	3	4	1	0.233	1.8	2.38	-0.26	4.13	N/A	N/A
A4	S.Wall	C	473	170	393	126	-268	0.264	1.8	-563.97	11	0	3	6	2	0.233	1.8	4.77	-0.26	3.03	N/A	N/A
A5	S.Wall	C	473	170	393	269	-134	0.264	1.8	-281.99	11	0	3	1	-2	0.233	1.8	-4.77	-0.26	0.81	N/A	N/A
A6	S.Wall	C	473	170	393	219	-174	0.264	1.8	-366.16	11	0	3	0	-3	0.233	1.8	-7.15	-0.26	-3.6	N/A	N/A
A7	S.Wall	C	473	170	393	216	-177	0.264	1.8	-372.47	11	0	3	1	-2	0.233	1.8	-4.77	1.69	3.03	N/A	N/A
A8	W.Wall	C	473	170	393	232	-161	0.264	1.8	-338.80	11	0	3	1	-2	0.233	1.8	-4.77	-0.26	0.81	N/A	N/A
B1	N.Wall	C	473	170	393	231	-162	0.264	1.8	-340.91	11	0	3	6	2	0.233	1.8	4.77	1.69	1.92	N/A	N/A
B2	N.Wall	C	473	170	393	210	-183	0.264	1.8	-385.10	11	0	3	3	0	0.233	1.8	0.00	-0.26	-0.26	N/A	N/A
B3	N.Wall	C	473	170	393	211	-182	0.264	1.8	-383.00	11	0	3	2	-1	0.233	1.8	-2.38	-0.26	0.81	N/A	N/A
B4	N.Wall	C	473	170	393	211	-182	0.264	1.8	-383.00	11	0	3	4	1	0.233	1.8	2.38	-0.26	4.13	N/A	N/A
B4	S.Wall	C	473	170	393	198	-195	0.264	1.8	-410.36	11	0	3	3	0	0.233	1.8	0.00	-0.26	-0.26	N/A	N/A
B5	S.Wall	C	473	170	393	188	-205	0.264	1.8	-431.40	11	0	3	3	0	0.233	1.8	0.00	-0.26	1.92	N/A	N/A
B6	S.Wall	C	473	170	393	181	-212	0.264	1.8	-446.13	11	0	3	3	0	0.233	1.8	0.00	-0.26	1.92	N/A	N/A
B7	S.Wall	C	473	170	393	175	-218	0.264	1.8	-458.75	11	0	3	6	2	0.233	1.8	4.77	-0.26	1.92	N/A	N/A
B8	W.Wall	C	473	170	393	257	-136	0.264	1.8	-286.20	11	0	3	1	-2	0.233	1.8	-4.77	1.69	1.92	N/A	N/A
C1	N.Wall	C	473	170	393	243	-150	0.264	1.8	-315.66	11	0	3	0	-3	0.233	1.8	-7.15	-0.26	-1.39	N/A	N/A
C2	N.Wall	C	473	170	393	220	-173	0.264	1.8	-364.06	11	0	3	4	1	0.233	1.8	2.38	1.69	1.92	N/A	N/A
C3	N.Wall	C	473	170	393	161	-232	0.264	1.8	-488.22	11	0	3	4	1	0.233	1.8	2.38	-0.26	-2.6	N/A	N/A
C4	N.Wall	C	473	170	393	195	-198	0.264	1.8	-416.67	11	0	3	7	4	0.233	1.8	9.54	1.69	0.81	N/A	N/A
C4	S.Wall	C	473	170	393	296	-96	0.264	1.8	-206.23	11	0	3	2	-1	0.233	1.8	-2.38	-0.26	6.24	N/A	N/A
C5	S.Wall	C	473	170	393	179	-214	0.264	1.8	-450.34	11	0	3	1	-2	0.233	1.8	-4.77	-0.26	3.03	N/A	N/A
C6	S.Wall	C	473	170	393	177	-216	0.264	1.8	-454.55	11	0	3	9	6	0.233	1.8	14.31	-0.26	-1.39	N/A	N/A
C7	S.Wall	C	473	170	393	273	-120	0.264	1.8	-252.53	11	0	3	2	-1	0.233	1.8	-2.38	-0.26	9.67	N/A	N/A
C8	W.Wall	C	473	170	393	191	-202	0.264	1.8	-425.08	11	0	3	6	3	0.233	1.8	7.15	-0.26	3.03	N/A	N/A
D1	N.Wall	C	473	170	393	279	-114	0.264	1.8	-239.90	11	0	3	6	2	0.233	1.8	4.77	1.69	-0.26	N/A	N/A
D2	N.Wall	C	473	170	393	241	-152	0.264	1.8	-319.87	11	0	3	6	2	0.233	1.8	4.77	-0.26	0.81	N/A	N/A
D3	N.Wall	C	473	170	393	140	-253	0.264	1.8	-532.41	11	0	3	3	0	0.233	1.8	0.00	-0.26	1.92	N/A	N/A
D4	N.Wall	C	473	170	393	193	-200	0.264	1.8	-420.88	11	0	3	1	-2	0.233	1.8	-4.77	-0.26	-2.6	N/A	N/A
D4	S.Wall	C	473	170	393	240	-153	0.264	1.8	-321.97	11	0	3	4	1	0.233	1.8	2.38	-0.26	0.81	N/A	N/A
D5	S.Wall	C	473	170	393	212	-181	0.264	1.8	-380.89	11	0	3	3	0	0.233	1.8	0.00	-0.26	-2.6	N/A	N/A
D6	S.Wall	C	473	170	393	169	-224	0.264	1.8	-471.38	11	0	3	1	-2	0.233	1.8	-4.77	-0.26	1.92	N/A	N/A
D7	S.Wall	C	473	170	393	275	-118	0.264	1.8	-248.32	11	0	3	6	2	0.233	1.8	4.77	-0.26	0.81	N/A	N/A
D8	W.Wall	C	473	170	393	206	-188	0.264	1.8	-395.62	11	0	3	6	2	0.233	1.8	4.77	-0.26	0.81	N/A	N/A
E1	N.Wall	C	473	170	393	239	-154	0.264	1.8	-324.07	11	0	3	0	-3	0.233	1.8	-7.15	1.69	0.81	N/A	N/A
E2	N.Wall	C	473	170	393	209	-184	0.264	1.8	-387.21	11	0	3	4	1	0.233	1.8	2.38	-0.26	-0.26	N/A	N/A
E3	N.Wall	C	473	170	393	211	-182	0.264	1.8	-383.00	11	0	3	6	3	0.233	1.8	7.15	-0.26	0.81	N/A	N/A
E4	N.Wall	C	473	170	393	173	-220	0.264	1.8	-462.96	11	0	3	3	0	0.233	1.8	0.00	-0.26	0.81	N/A	N/A
E4	S.Wall	C	473	170	393	199	-194	0.264	1.8	-408.26	11	0	3	1	-2	0.233	1.8	-4.77	-0.26	-0.26	N/A	N/A
E5	S.Wall	C	473	170	393	196	-197	0.264	1.8	-414.56	11	0	3	2	-1	0.233	1.8	-2.38	1.69	0.81	N/A	N/A
E6	S.Wall	C	473	170	393	144	-249	0.264	1.8	-523.99	11	0	3	3	0	0.233	1.8	0.00	-0.26	-0.26	N/A	N/A
E7	S.Wall	C	473	170	393	218	-175	0.264	1.8	-368.27	11	0	3	4	1	0.233	1.8	2.38	-0.26	3.03	N/A	N/A
E8	W.Wall	C	473	170	393	196	-197	0.264	1.8	-414.56	11	0	3	9	6	0.233	1.8	14.31	-0.26	0.81	N/A	N/A
F1	N.Wall	C	473	170	393	215	-178	0.264	1.8	-374.58	11	0	3	5	2	0.233	1.8	4.77	1.69	-2.6	N/A	N/A

CHARACTERIZATION SURVEY DATA SHEET
STATIC SURVEY RESULTS

Area/Building: JN - 1B
Room: Transfer Canal
Date:04/21/05 - 4/25/05

			Results in CPM							Results in	Results in CPM							Results in	Smear Results in		Results in µR/hr	
	Surface	Material	Alpha + Beta BKG			Static Measurements		Instrument		DPM/100cm²	Alpha BKG			Static Measurements		Instrument		DPM/100cm²	DPM/100cm²		Gamma	
Grid	Medium	Type	DLV	Ambient	Mean	Gross Counts	Net Counts	EFF	CF	Activity	DLV	Ambient	Mean	Gross Count	Net Counts	EFF	CF	Activity	Alpha	Beta	Contact	1 Meter
F2	N.Wall	C	473	170	393	178	-216	0.264	1.8	-452.44	11	0	3	1	-2	0.233	1.8	-4.77	-0.26	-3.6	N/A	N/A
F3	N.Wall	C	473	170	393	194	-199	0.264	1.8	-416.77	11	0	3	5	2	0.233	1.8	4.77	-0.26	3.03	N/A	N/A
F4	N.Wall	C	473	170	393	194	-199	0.264	1.8	-416.77	11	0	3	5	2	0.233	1.8	4.77	-0.26	3.03	N/A	N/A
F4	S.Wall	C	473	170	393	192	-201	0.264	1.8	-422.98	11	0	3	3	0	0.233	1.8	0.00	-0.26	0.81	N/A	N/A
F5	S.Wall	C	473	170	393	212	-181	0.264	1.8	-380.89	11	0	3	5	2	0.233	1.8	4.77	-0.26	0.81	N/A	N/A
F6	S.Wall	C	473	170	393	166	-237	0.264	1.8	-498.74	11	0	3	4	1	0.233	1.8	2.38	-0.26	-1.39	N/A	N/A
F7	S.Wall	C	473	170	393	222	-171	0.264	1.8	-359.85	11	0	3	2	-1	0.233	1.8	-2.38	-0.26	-0.28	N/A	N/A
F8	W.Wall	C	473	170	393	224	-169	0.264	1.8	-355.64	11	0	3	1	-2	0.233	1.8	-4.77	1.59	0.81	N/A	N/A
G1	N.Wall	C	473	170	393	182	-211	0.264	1.8	-444.02	11	0	3	1	-2	0.233	1.8	-4.77	-0.26	-2.6	N/A	N/A
G2	N.Wall	C	473	170	393	211	-182	0.264	1.8	-383.00	11	0	3	4	1	0.233	1.8	2.38	1.59	-2.6	N/A	N/A
G3	N.Wall	C	473	170	393	261	-132	0.264	1.8	-277.78	11	0	3	3	0	0.233	1.8	0.00	-0.26	0.81	N/A	N/A
G4	N.Wall	C	473	170	393	201	-192	0.264	1.8	-404.04	11	0	3	2	-1	0.233	1.8	-2.38	-0.26	1.92	N/A	N/A
G4	S.Wall	C	473	170	393	234	-159	0.264	1.8	-334.60	11	0	3	4	1	0.233	1.8	2.38	-0.26	0.81	N/A	N/A
G5	S.Wall	C	473	170	393	184	-209	0.264	1.8	-439.81	11	0	3	1	-2	0.233	1.8	-4.77	1.59	-2.6	N/A	N/A
G6	S.Wall	C	473	170	393	284	-109	0.264	1.8	-229.38	11	0	3	0	-3	0.233	1.8	-7.15	-0.26	1.92	N/A	N/A
G7	S.Wall	C	473	170	393	219	-174	0.264	1.8	-366.16	11	0	3	5	2	0.233	1.8	4.77	-0.26	0.81	N/A	N/A
G8	W.Wall	C	473	170	393	266	-138	0.264	1.8	-290.40	11	0	3	3	0	0.233	1.8	0.00	-0.26	-0.28	N/A	N/A
H1	N.Wall	C	473	169	393	246	-147	0.264	1.8	-309.34	11	2	3	0	-3	0.233	1.8	-7.15	3.46	-0.28	N/A	N/A
H2	N.Wall	C	473	169	393	233	-160	0.264	1.8	-336.70	11	2	3	3	0	0.233	1.8	0.00	-0.26	-0.28	N/A	N/A
H3	N.Wall	C	473	169	393	201	-192	0.264	1.8	-404.04	11	2	3	4	1	0.233	1.8	2.38	-0.26	-2.6	N/A	N/A
H4	N.Wall	C	473	169	393	187	-206	0.264	1.8	-433.60	11	2	3	4	1	0.233	1.8	2.38	-0.26	-3.6	N/A	N/A
H4	S.Wall	C	473	169	393	436	42	0.264	1.8	88.38	11	2	3	1	-2	0.233	1.8	-4.77	-0.26	-0.28	N/A	N/A
H5	S.Wall	C	473	169	393	186	-207	0.264	1.8	-436.61	11	2	3	2	-1	0.233	1.8	-2.38	1.59	-2.6	N/A	N/A
H6	S.Wall	C	473	169	393	194	-199	0.264	1.8	-418.77	11	2	3	1	-2	0.233	1.8	-4.77	-0.26	-2.6	N/A	N/A
H7	S.Wall	C	473	169	393	216	-177	0.264	1.8	-372.47	11	2	3	4	1	0.233	1.8	2.38	-0.26	5.24	N/A	N/A
H8	W.Wall	C	473	169	393	257	-136	0.264	1.8	-286.20	11	2	3	2	-1	0.233	1.8	-2.38	-0.26	-0.28	N/A	N/A
I1	N.Wall	C	473	169	393	247	-146	0.264	1.8	-307.24	11	2	3	6	3	0.233	1.8	7.15	-0.26	1.92	N/A	N/A
I2	N.Wall	C	473	169	393	329	64	0.264	1.8	-134.68	11	2	3	2	-1	0.233	1.8	-2.38	-0.26	1.92	N/A	N/A
I3	N.Wall	C	473	169	393	406	13	0.264	1.8	27.38	11	2	3	1	-2	0.233	1.8	-4.77	-0.26	0.81	N/A	N/A
I4	N.Wall	C	473	169	393	381	-12	0.264	1.8	-25.25	11	2	3	3	0	0.233	1.8	0.00	-0.26	-0.28	N/A	N/A
I4	S.Wall	C	473	169	393	432	39	0.264	1.8	82.07	11	2	3	1	-2	0.233	1.8	-4.77	-0.26	0.81	N/A	N/A
I5	S.Wall	C	473	169	393	211	-182	0.264	1.8	-383.00	11	2	3	4	1	0.233	1.8	2.38	-0.26	-0.28	N/A	N/A
I6	S.Wall	C	473	169	393	243	-150	0.264	1.8	-315.66	11	2	3	0	-3	0.233	1.8	-7.15	-0.26	0.81	N/A	N/A
I7	S.Wall	C	473	169	393	374	-19	0.264	1.8	-39.98	11	2	3	4	1	0.233	1.8	2.38	-0.26	5.24	N/A	N/A
I8	W.Wall	C	473	169	393	280	-113	0.264	1.8	-237.79	11	2	3	2	-1	0.233	1.8	-2.38	-0.26	-0.28	N/A	N/A
J1	N.Wall	C	473	169	393	265	-128	0.264	1.8	-269.36	11	2	3	1	-2	0.233	1.8	-4.77	3.46	3.03	N/A	N/A
J2	N.Wall	C	473	169	393	358	-35	0.264	1.8	-73.66	11	2	3	3	0	0.233	1.8	0.00	-0.26	-0.28	N/A	N/A
J3	N.Wall	C	473	169	393	301	-92	0.264	1.8	-193.60	11	2	3	3	0	0.233	1.8	0.00	-0.26	-0.28	N/A	N/A
J4	N.Wall	C	473	169	393	296	-97	0.264	1.8	-204.12	11	2	3	9	6	0.233	1.8	14.31	-0.26	1.92	N/A	N/A
J4	S.Wall	C	473	169	393	311	-82	0.264	1.8	-172.58	11	2	3	1	-2	0.233	1.8	-4.77	-0.26	1.92	N/A	N/A
J5	S.Wall	C	473	169	393	291	-102	0.264	1.8	-214.65	11	2	3	6	3	0.233	1.8	7.15	-0.26	0.81	N/A	N/A
J6	S.Wall	C	473	169	393	266	-128	0.264	1.8	-269.36	11	2	3	3	0	0.233	1.8	0.00	1.59	5.24	N/A	N/A
J7	S.Wall	C	473	169	393	283	-110	0.264	1.8	-231.48	11	2	3	3	0	0.233	1.8	0.00	-0.26	-0.28	N/A	N/A
J8	W.Wall	C	473	169	393	284	-109	0.264	1.8	-229.38	11	2	3	3	0	0.233	1.8	0.00	-0.26	0.81	N/A	N/A
A1	Floor	C	473	169	393	283	-110	0.264	1.8	-231.48	11	2	3	7	4	0.233	1.8	9.54	-0.26	-0.28	7.10	7.9
B1	Floor	C	473	169	393	297	-96	0.264	1.8	-202.02	11	2	3	4	1	0.233	1.8	2.38	-0.26	3.03	9	10
C1	Floor	C	473	169	393	321	-72	0.264	1.8	-151.52	11	2	3	3	0	0.233	1.8	0.00	-0.26	-0.28	N/A	N/A

CHARACTERIZATION SURVEY DATA SHEET

STATIC SURVEY RESULTS

Area/Building: JN - 1B
Room: Transfer Canal
Date:04/21/05 - 4/25/05

Grid	Surface Medium	Material Type	Results in CPM: Alpha + Beta BKG DLV	Alpha + Beta BKG Ambient	Alpha + Beta BKG Mean	Static Measurements Gross Counts	Static Measurements Net Counts	Instrument EFF	Instrument CF	Results in DPM/100cm² Activity	Results in CPM: Alpha BKG DLV	Alpha BKG Ambient	Alpha BKG Mean	Static Measurements Gross Counts	Static Measurements Net Counts	Instrument EFF	Instrument CF	Results in DPM/100cm² Activity	Smear Results in DPM/100cm² Alpha	Smear Results in DPM/100cm² Beta	Results in µR/hr Gamma Contact	Results in µR/hr Gamma 1 Meter
D1	Floor	C	473	169	383	319	-74	0.264	1.8	-155.72	11	2	3	5	2	0.233	1.8	4.77	-0.26	-2.5	8.9	9.8

TABLE 9

CHAUVENET'S CRITERION AND STATISTICAL ANALYSIS – JN-1B OUTSIDE SUMP

Chauvenet's Criterion and Statistical Analysis

Building:	JN-1B	Area:	Outside Sump	Surface Material:	Steel Pipe and Concrete
Meter ID:	I91495	Probe ID:	GI93706	HPS#	J28458
Survey Date:	3/3/2005	*Chauvenet's Criterion	2.152	Survey Type:	Low Energy Gamma (NaI)

Depth from Floor Level (ft)**	Reading (kcpm)	Comparison CC
2.5	5.20	0.895
5	5.77	1.495
7.5	6.75	2.525
10	5.22	0.916
12.5	4.91	0.590
15	4.33	0.020
17.5	3.92	0.451
20	3.79	0.588
22.5	3.66	0.724
25	3.68	0.703
27.5	3.55	0.840
30	3.49	0.903
32.5	3.59	0.798
35	3.99	0.377
37.5	3.78	0.598
40	3.95	0.419

Mean	4.349
Std Dev	0.951
Data Points	16
MDA	N/A
DLV	N/A
Mean + 2 Sigma	6.251
Mean + 3 Sigma	7.202
Survey BKG	N/A

** As per Exhibit 2, SC-OP-007*

*** Water Level was at 37.5' and 40' Unable to survey below this point*

Range (mean +/- 2 σ): 2.45 to 6.25

Discussion:

The 1-minute static measurements obtained within the Outside Sump may represent and establish what is expected to be background levels within steel piping embedded inside the concrete column and placed into 50 feet of soil. This assertion is supported by the historical use of the Outside Sump and non-detectable levels from water samples collected from the sump. A statistical analysis of the static readings including Chauvenet's Criterion, was performed for each sump. The lone outlier from the Chauvenet's criterion, 7.5', is attributable to the location's proximity to former drain lines from the pool. These lines will be removed at a later date and disposed of as low level waste.

TABLE 10

CHAUVENET'S CRITERION AND STATISTICAL ANALYSIS – JN-1B INSIDE SUMP

Chauvenet's Criterion and Statistical Analysis

Building	JN-1B	Area	Inside Sump	Surface Material	Steel Pipe and Concrete
Meter ID:	I91495	Probe ID	168575	HPS#	J28416
Survey Date:	2/25/2005	*Chauvenet's Criterion:	2.278	Survey Type	Low Energy Gamma (NaI)

Depth from Floor Level (ft)	Reading (kcpm)	Comparison CC
2.5	3.84	0.063
5	3.75	0.175
7.5	3.83	0.076
10	3.66	0.287
12.5	3.62	0.337
15	3.57	0.400
17.5	3.54	0.437
20	3.46	0.536
22.5	3.56	0.412
25	3.54	0.437
27.5	3.52	0.462
30	3.50	0.487
32.5	3.64	0.312
35	3.40	0.611
37.5	3.66	0.287
40	3.62	0.337
42.5	3.62	0.337
45	4.33	0.547
47.5	6.90	**3.746**
50	3.86	0.038
52.5	3.66	0.287
55	5.52	2.028

Mean	3.891
Std Dev	0.803
Data Points	22
MDA	N/A
DLV	N/A
Mean + 2 Sigma	5.497
Mean + 3 Sigma	6.300
Survey BKG	N/A

** As per Exhibit 2, SC-OP-007*

Range (mean +/- 2 σ): 2.28 to 5.50

Discussion:

The 1-minute static measurements obtained within the Outside Sump may represent and establish what is expected to be background levels within steel piping embedded inside the concrete column and placed into 50 feet of soil. This assertion is supported by the historical use of the Outside Sump and non-detectable levels from water samples collected from the sump. A statistical analysis of the static readings, including Chauvenet's Criterion, was performed for each sump. Additionally, the results of the Inside Sump were then compared to the Outside Sump to establish the fact that they both contain less than detection level amounts of radioactivity. The lone outlier from the Chauvenet's criterion, 47.5', is attributable to the location's proximity to the horizontal section of the inner sump.

Results of the survey of both sumps indicate a uniform distribution of residual radioactivity. A comparison between the Outside Sump, which historically is clean and free from radioactive material, to results of the Inside Sump indicates similar activity readings. This is based on the mean and standard deviations. The Outside Sump Mean is 4.349 comparred to the Inside Sump mean of 3.891. The range of the Outside Sump is 2.45 to 6.25, and the range of the Inside Sump is 2.28 to 5.50. Static readings from the Inside Sump are all within the range established for the Outside Sump indicating a uniform distibution.

TABLE 11

JN-1B OUTSIDE SUMP WATER SAMPLE ANALYTICAL RESULTS

JN-1B Outside Sump Water Sample Analytical Results

Analytical Parameter	Fraction of Mix	10CFR20 T2C2 Release Limit (uCi/ml)	RL-05-0759 4/6/05 Result (uCi/ml)	RL-05-0818 4/8/05 Result (uCi/ml)	RL-05-1105 4/18/05 Result (uCi/ml)
Am-241	1.719E-02	2.00E-08	3.225E-10	3.060E-10	3.999E-10
Co-60	1.065E-01	3.00E-06	1.998E-09	1.896E-09	2.477E-09
Cs-134	1.411E-03	9.00E-07	2.647E-11	2.512E-11	3.282E-11
Cs-137*	3.432E-01	1.00E-06	6.440E-09	6.111E-09	7.985E-09
Eu-154	5.296E-03	7.00E-06	9.939E-11	9.431E-11	1.232E-10
Pu-238	1.659E-02	2.00E-08	3.114E-10	2.954E-10	3.860E-10
Pu-239	2.129E-03	2.00E-08	3.996E-11	3.792E-11	4.954E-11
Pu-240	3.470E-03	2.00E-08	6.511E-11	6.178E-11	8.073E-11
Pu-241	2.789E-01	1.00E-06	5.233E-09	4.966E-09	6.488E-09
Sr-90	2.254E-01	5.00E-07	4.229E-09	4.013E-09	5.244E-09
	1.000E+00	Fraction of Limit	5.779E-02	5.483E-02	7.165E-02

* Cs-137 Ratioed to remaining Isotopes in JN Standard Isotopic Mix where their contribution is negligable.

TABLE 12

JN-1B INSIDE SUMP WATER SAMPLE ANALYTICAL RESULTS

JN-1B Inside Sump Water Sample

Analytical Parameter	Fraction of Mix	10CFR20 T2C2 Release Limit (uCi/ml)	RL-05-1171 J29034 Result (uCi/ml)
Am-241	1.719E-02	2.00E-08	1.834E-09
Co-60	1.065E-01	3.00E-06	1.136E-08
Cs-134	1.411E-03	9.00E-07	1.506E-10
Cs-137*	3.432E-01	1.00E-06	3.663E-08
Eu-154	5.296E-03	7.00E-06	5.653E-10
Pu-238	1.659E-02	2.00E-08	1.771E-09
Pu-239	2.129E-03	2.00E-08	2.273E-10
Pu-240	3.470E-03	2.00E-08	3.703E-10
Pu-241	2.789E-01	1.00E-06	2.976E-08
Sr-90	2.254E-01	5.00E-07	2.405E-08
	1.000E+00	Fraction of Limit	3.287E-01

* Cs-137 Ratioed to remaining Isotopes in JN Standard Isotopic Mix where their contribution is negligable.

Sr-90 Analytical Results

Isotope	Result (uCi/ml)	MDA (uCi/ml)	RL-TP-035
Sr-90	4.43E-09	6.29E-09	< MDA

Attachment A

Minimum Detectable Activity Calculations for a Ludlum Model 43-20 Detector and Eberline ESP-2 Meter

The minimum detectable activity (MDA) for scanning an alpha/beta point source with instrument progression rate of 5 centimeters per second (cm/sec) is calculated using the following method:

Given:

Width of detector = 10 cm
Area of detector = 180 cm^2

Time probe is above point (T) = $\frac{10cm}{5cm/\sec} * \frac{1\min}{60\sec} = 0.033\min$

Alpha/beta background (worst case brick) = 729 counts per minute (cpm)

C_b = scanning background = 729 cpm x 0.033 min = 24.1 counts (c)
S_b = standard deviation of $C_b = \sqrt{C_b} = 4.91$
Eff = efficiency of detector = 0.28 counts per disintegration (c/d)

$$MDA = \frac{3 + (4.65 * S_b)}{Eff * T * \frac{A}{100}} = \frac{3 + (4.65 * 4.91)}{(0.28 * 0.033 * \frac{180}{100})} = 1600 \text{ dpm/100 cm}^2$$

For a wide area alpha/beta source, the MDA would approach the static 1 minute count MDA:

T = 1 minute
S_b = $\sqrt{background} = \sqrt{729} = 27$ cpm

$$MDA + \frac{3 + (4.65 * 27)}{(0.28 * 1 * \frac{180}{100})} = 260 \text{ dpm/100 cm}^2$$

The MDA for an alpha source is calculated using the same methodology. The following presents the calculation.

Given:

Width of detector = 10 cm

Area of detector = 180 cm^2

Time probe is above point (T) = $\frac{10cm}{5cm/\sec} * \frac{1\min}{60\sec} = 0.033\min$

Alpha background = 1 counts per minute (cpm)

C_b = scanning background = 1 cpm x 0.033 min = 0.033 counts (c)

S_b = standard deviation of C_b = $\sqrt{C_b}$ = 0.18

Eff = efficiency of detector = 0.23 counts per disintegration (c/d)

$$MDA = \frac{3 + (4.65 * S_b)}{Eff * T * \frac{A}{100}} = \frac{3 + (4.65 * 0.18)}{(0.23 * 0.033 * \frac{180}{100})} = 281 \text{ disintegrations per minute}$$

For a wide area alpha/beta source, the MDA would approach the static 1 minute count MDA:

T = 1 minute

S_b = $\sqrt{background} = \sqrt{1} = 1$ cpm

$$MDA + \frac{3 + (4.65 * 1)}{(0.23 * 1 * \frac{A}{100})} = 18.5 \text{ dpm}/100 \text{ cm}^2$$

ATTACHMENT B.

At-depth Volumetric Concrete Sampling Performed in the JN-1B Fuel Pool and Transfer Canal

This Attachment is prepared to document results of at-depth concrete volumetric samples collected from 36 systematically chosen locations within the JN-1B Fuel Pool and Transfer Canal. Additionally, this document is intended to demonstrate that the JN-1B structural integrity remained in tact and that there is no detectable evidence that any radioactivity has migrated outside the Fuel Pool and/or Transfer Canal structures.

Attached and discussed below are results of the at-depth concrete volumetric samples collected from 36 systematically chosen location within the JN-1B Fuel Pool and Transfer Canal. This work was performed in accordance with Work Instruction WI-2130, *Characterization and Final Status Survey / Sampling of the JN-1B Pool and Transfer Canal.*

Discussion:

As supplemental information to the Final Status Survey process within the JN-1B Fuel Pool and Transfer Canal, concrete volumetric samples were collected and analyzed. See below Figures within this Attachment for locations. The intent of these samples is to both verify that the structure maintained its designed integrity and that water and radioactive material had not migrated into or outside the pool structure.

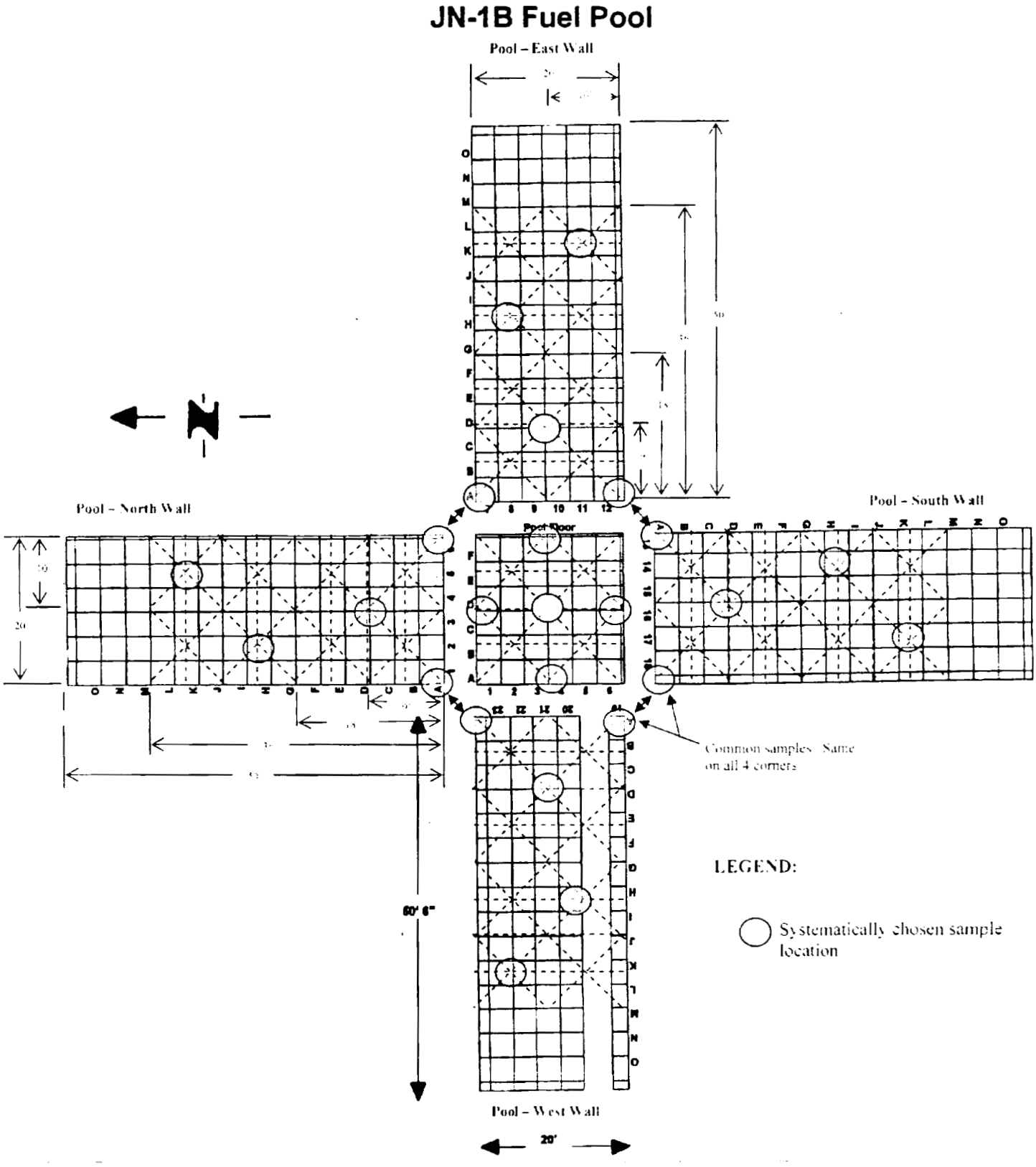
The planned volumetric concrete sampling required 4 basic steps. They include: 1) layout 1 meter x 1 meter grids over all surfaces from a point 14' below surface grade to the floors and including the floors, 2) layout the locations of each concrete volumetric sample point, 3) perform a 1-minute static direct count rate measurement at each sampling location, 4) and then collect a 0-6" concrete sample, roughly 80 grams.

The 36 samples include: 16 samples on the pool walls, 5 samples on the pool floor, 8 samples on the transfer canal walls, 2 samples on the transfer canal floor and an additional 5 discretionary samples. See below Tables, within this Attachment, for sample results.

Conclusion:

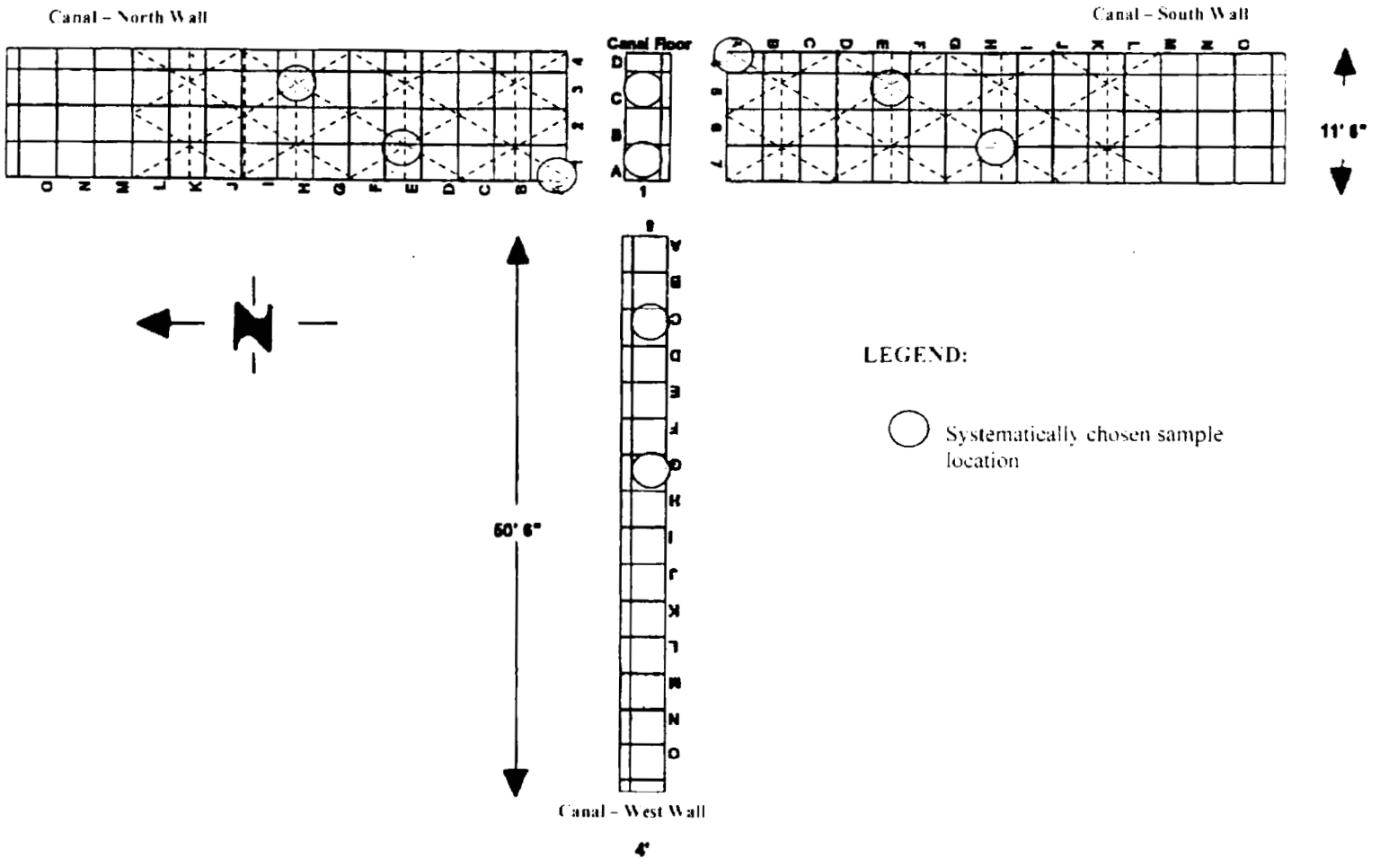
The 1-minute static count rate measurement results were all below the surface release criteria found in DD-93-02, *Surface Release Technical Basis Document*. All concrete volumetric samples were below the volumetric release criteria found in DD-93-03, *Volumetric Release Criteria Technical Basis Document for the BCLDP*. All Outside Sump samples have been analyzed and found to be free of radioactive material. Provided this lack of radioactive material within or outside the Fuel Pool and Transfer Canal structures it is apparent that the Fuel Pool and Transfer Canal structural integrity remained in tact. There is no evidence of radioactive material migrating outside these structures and therefore there is no clear need to sample soils located outside these structures.

ATTACHMENT B.



ATTACHMENT B.

JN-1B Transfer Canal



ATTACHMENT B.

Results of Volumetric Concrete Samples from JN-1B Pool and Transfer Canal

Grid Loc.	RL #	Grid Description	Gamma Spec Results
FPW A1	RL-05-0807	6" up from floor and in corner of wall	*
FPW A6/A7	RL-05-0808	6" up from floor and in corner of wall between A6 and A7	*
FPW C3/C4 and D3/D4	RL-05-0713	Intersection of these 4 grids	*
FPW H2	RL-05-0714	Center of grid	*
FPW K5	RL-05-0715	Center of grid	*
FPW C9/C10 and D9/D10	RL-05-0717	Intersection of these 4 grids	*
FPW H8	RL-05-0718	Center of grid	*
FPW K11	RL-05-0719	Center of grid	*
FPW A13	RL-05-0720	6" up from floor and in corner of wall	*
FPW A18/A19	RL-05-0721	6" up from floor and in corner of wall between A18 and A19	*
FPW C15/C16 and D15/D16	RL-05-0722	Intersection of these 4 grids	*
FPW H14	RL-05-0723	Center of grid	*
FPW K17	RL-05-0724	Center of grid	*
FPW C21/D21	RL-05-0725	On grid line between C21 and D21, center of grids	*
FPW H20	RL-05-0726	18" up from bottom of grid, on corner into Canal	*
FPW K22/K23	RL-05-0727	On grid line between K22 and K23, center of grids	*
FPF A3/A4	RL-05-0809	On grid line between A3 and A4 and 6" from West wall	*
FPF C1/D1	RL-05-0729	On grid line between C1 and D1 and 6" from North wall	*
FPF C3/C4 and D3/D4	RL-05-0730	Intersection of these 4 grids	*
FPF C6/D6	RL-05-0731	On grid line between C6 and D6 and 6" from South wall	*
FPF F3/F4	RL-05-0732	On grid line between F3 and F3 and 6" from East wall	*
TCW A1	RL-05-0810	6" off floor, in corner of wall	*
TCW E1	RL-05-0761	18" up from the bottom grid line, 12" left of E1/E2 grid line	*
TCW H3	RL-05-0762	18" up from the bottom grid line, 12" left of H3/H4 grid line	** Cs-137: 0.877 pCi/g
TCW A4 South	RL-05-0763	6" up from floor, on corner into Canal	*
TCW E5	RL-05-0764	18" up from the bottom grid line, 12" right of E4/E5 grid line	*
TCW H7	RL-05-0765	18" up from the bottom grid line, 12" right of H6/H7 grid line	*
TCW C8	RL-05-0766	Center of grid	*
TCW G8	RL-05-0767	Center of grid	*
TCF A1	RL-05-0768	Center of grid	** Cs-137: 1.66 pCi/g
TCF C1	RL-05-0811	Center of grid	*
TCW C4 D	RL-05-0812	Discretionary – Transfer Canal Wall, @ top of metal band	*
FPW C3 D	RL-05-0771	Discretionary – Fuel Pool Wall, @ groove in concrete	*
FPW F9 D	RL-05-0772	Discretionary – Fuel Pool Wall, weep grove @ metal band	*
TCW A7 D	RL-05-0773	Discretionary – Transfer Canal Wall, between 2 elevated areas	** Cs-137: 1.08 pCi/g
TCW A2 D	RL-05-0774	Discretionary – Transfer Canal Wall, between 2 elevated areas	*

- All sample weights were within the calculated range, as per WI-2130.
* Indicates no detectable licensed material above MDA.
** Isotopes detected, but below Release Criteria