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# POST-REMEDIAL ACTION REPORT FOR THE RAFFINATE PIT WORK ZONE (WP-437/RU021)

WELDON SPRING SITE REMEDIAL ACTION PROJECT
WELDON SPRING, MISSOURI

**MAY 2002** **REV. 0**

RECORD

U.S. Department of Energy
Oak Ridge Operations Office
Weldon Spring Site Remedial Action Project

Prepared by MK-Ferguson Company and Jacobs Engineering Group

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DOE/OR/21548-907

*Weldon Spring Site Remedial Action Project*

# Post-Remedial Action Report for the Raffinate Pit Work Zone (WP-437/RU021)

Revision 0

May 2002

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and
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U.S. DEPARTMENT OF ENERGY
Oak Ridge Operations Office
Under Contract DE-AC05-86OR21548

## ABSTRACT

Work Package-437 (WP-437) has been divided into twelve work zones. This report details the confirmation field activities and analytical results for contaminated soil removal of the Raffinate Pit work zone portion. This 37-acre work zone consists primarily of the four Raffinate Pits and associated interceptor trenches. The Raffinate Pit work zone has been designated as Remedial Unit (RU) 021 and subdivided into fifty-five confirmation units (CUs).

Remediation was designed to achieve surface As Low As Reasonably Achievable (ALARA) goals, and confirmation of soil remediation was required to meet cleanup standards, as established in the *Record of Decision for Remedial Action at the Chemical Plant Area of the Weldon Spring Site*. Final confirmation data verify that the established goals and standards were achieved.

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# 1. INTRODUCTION

## 1.1 Purpose

Work Package-437 (WP-437) is divided into 12 work zones, 11 of which are identified in Figure 1-1. In addition, there is the Vicinity Property DA-6 work zone off site just west of the Ash Pond work zone. This report details the confirmation field activities and analytical results for contaminated soil removal of the Raffinate Pit work zone portion of WP-437.

Soil characterization results, pre-excavation walkovers, and historical process knowledge of the WP-437 work zones determined that the work zones contained contaminant concentrations that exceeded the As Low As Reasonably Achievable (ALARA) goals established in the *Record of Decision for Remedial Action at the Chemical Plant Area of the Weldon Spring Site* (ROD) (Ref. 1). Remediation was designed to achieve surface ALARA goals, and confirmation of soil remediation to the ROD cleanup standards was required.

The Raffinate Pit work zone was subdivided into fifty-five confirmation units (CUs) that are collectively known as remedial unit (RU) 021 and are identified in Figure 1-2. Individual CU figures are presented in Section 4 of this report.

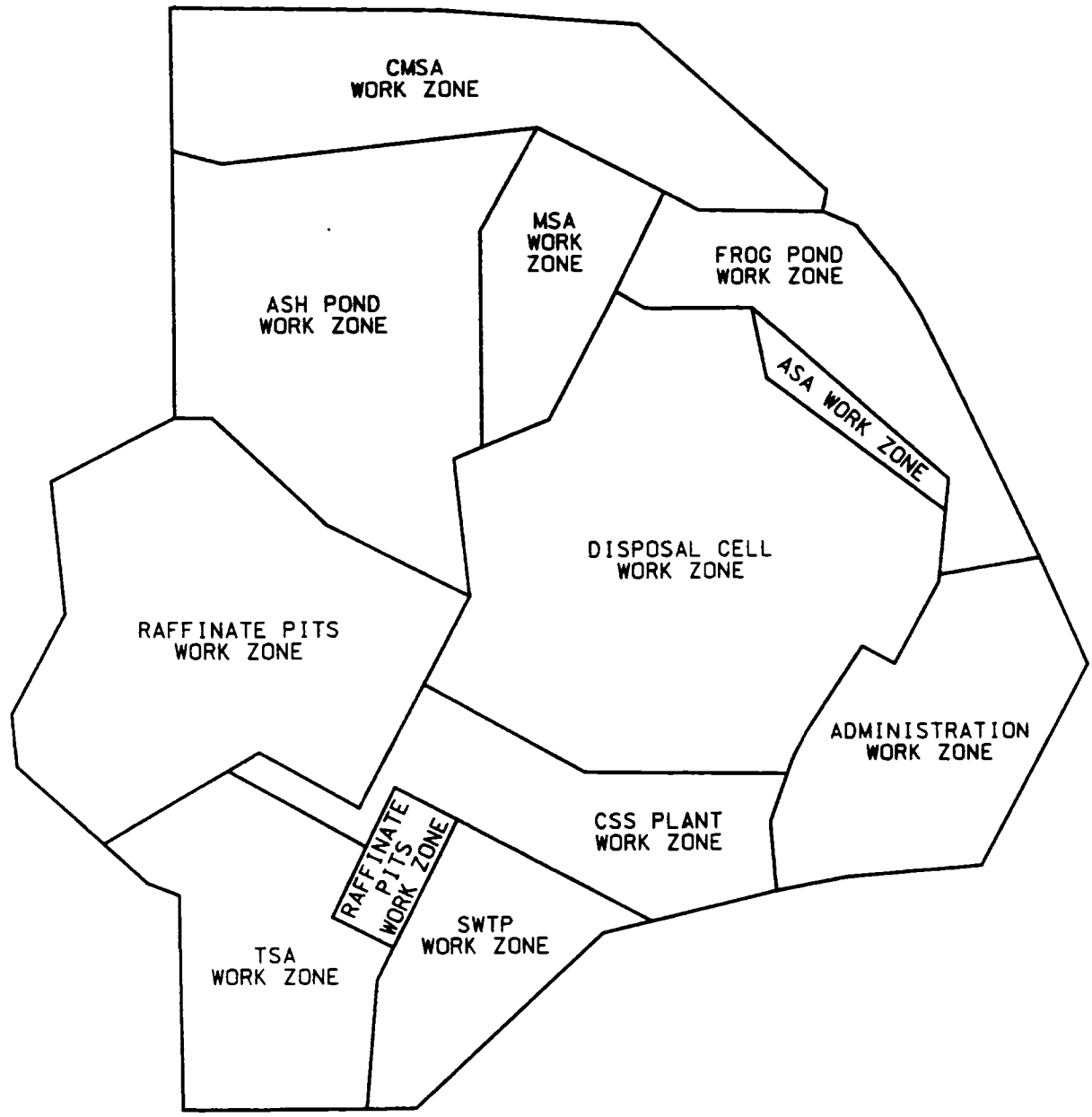
## 1.2 Scope

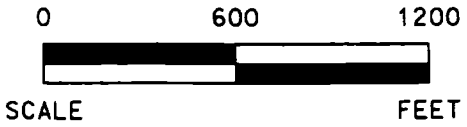
This report describes the remedial activities, final walkovers and confirmation sampling conducted on contaminated soils within RU021. Confirmation walkovers and soil sampling were conducted in accordance with the *Confirmation Sampling Plan Details for the Disposal Cell Facility (WP-437)* (Ref. 2). This plan was developed to ensure that the objectives identified in the *Chemical Plant Area Cleanup Attainment Confirmation Plan* (Ref. 3) were accomplished, and to ensure that the remediation requirements of the ROD were met.

## 1.3 Remediation and Confirmation Process

This report details the activities conducted to remediate the Raffinate Pit portion of WP-437, which consists of CU221 through CU271 and CU391 through CU394. Remediation consisted of excavation of contaminated sludge and soils within the Raffinate Pits, and removal of interceptor trenches associated with the Raffinate Pits. Following remediation, walkovers were conducted and confirmation samples were collected to ensure that all contaminated materials had been remediated.

The entire remediation process included characterization sampling, historical data review, contaminants of concern (COC) identification, confirmation plan development, contaminated soil excavation, radiological walkover surveys, confirmation soil sampling, preliminary and final data review, completion of disposition forms, quality assurance/quality control (QA/QC) review, summary of findings and conclusions, and closure report preparation.

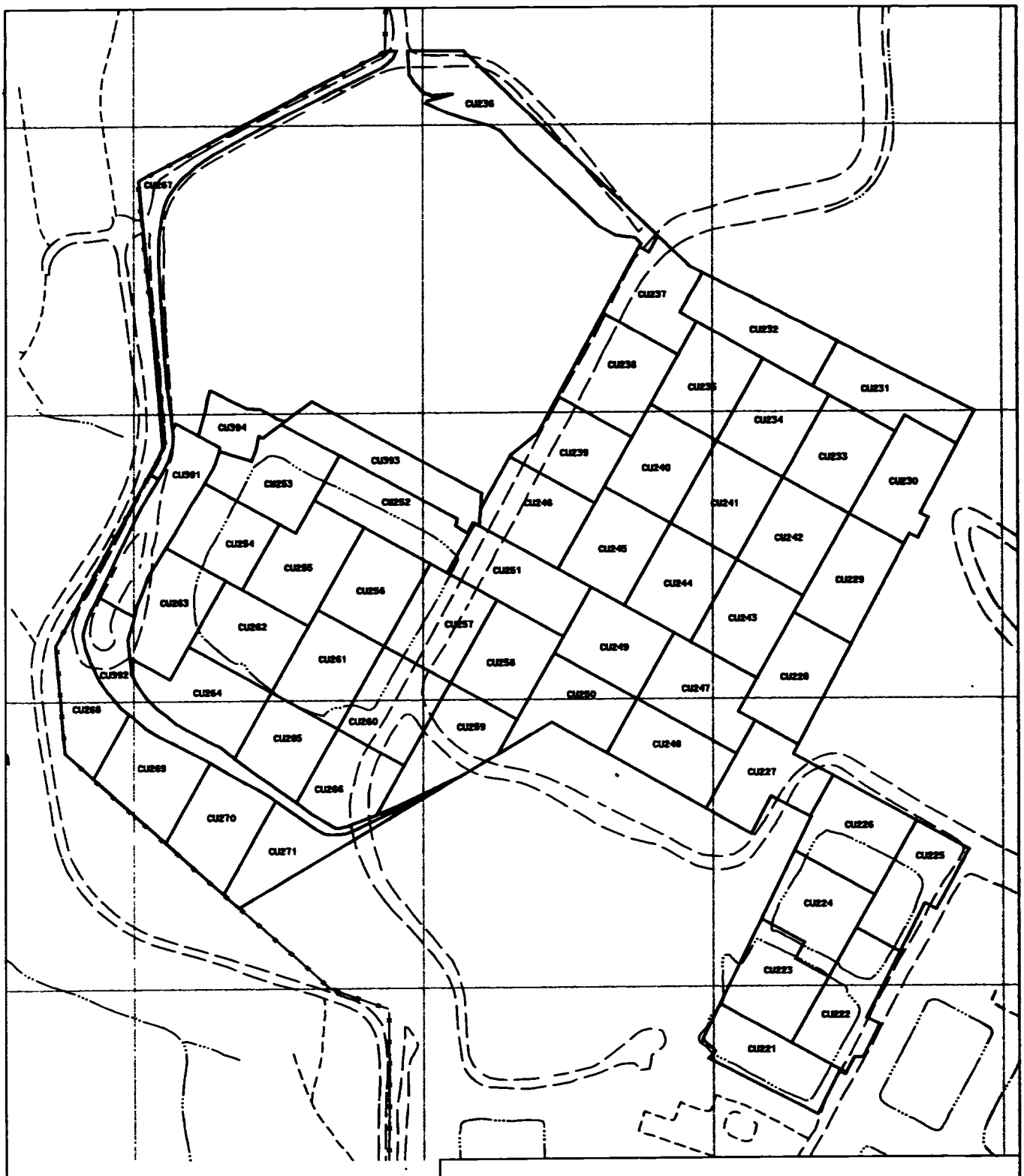





WP-437 WORK ZONE DESIGNATIONS

FIGURE 1-1

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO.: A/CP/001/0101 | |
| ORIGINATOR: LGE | DRAWN BY: GLN | DATE: 1/16/02 | |




N

0 250 500

SCALE FEET

CONFIRMATION UNITS IN REMEDIAL UNIT RU021

FIGURE 1-2

| | | | |
|---|---|---|---|
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| ORIGINATOR: MGL | DRAWN BY: GLN | DATE: 2/11/02 | |

# 2. PRE-REMEDIATION ACTIVITIES

## 2.1 Determining Contaminants of Concern

Contaminant of concern (COC) determination was dependant upon historical information, characterization results, and visual observation during field activities, and not all COCs were required for all sample locations. The full process for identifying COCs is detailed in the *Confirmation Sampling Plan Details for the Disposal Cell Facility (WP-437)* (Ref. 2). This plan identified COCs for RU021 as arsenic (As), chromium (Cr), lead (Pb), thallium (Tl), polynuclear aromatic hydrocarbon (PAH), polychlorinated biphenyl (PCB), 2,4,6-Trinitrotoluene (TNT), Radium-226 (Ra-226), Radium-228 (Ra-228), Thorium-230 (Th-230), Thorium-232 (Th-232), and Uranium-238 (U-238).

When the WP-437 Confirmation Sampling Plan was written, Raffinate Pit characterization was incomplete. As the sludge was removed from each of the Raffinate Pits, characterization of the floors was completed. Additional details are presented in Section 4. In addition, four new CUs were created in the raffinate pit 4 area to encompass remaining portions of the berms that were not part of the sampling plan. See Interoffice Correspondence (IOC) dated September 27, 1999, and November 11, 1999, in Appendix D of this report for details. Figure 1-2 shows the final CU configuration and COC lists for each CU can be found in the Summary Forms in Section 4 of this report.

## 2.2 Data Quality Objectives

Data Quality Objectives (DQOs) were identified to specify quality data and ensure that the data would be sufficient to support the decision making process throughout remedial activities, including the confirmation process. Confirmation DQOs were developed for sampling and analyzing soils during remediation and for the subsequent data evaluation. The DQOs were designed to make statistically defensible decisions regarding attainment of cleanup standards. Sampling and analytical programs for the WP-437 work zones were designed in accordance with DQOs stated in the *Chemical Plant Area Cleanup Attainment Confirmation Plan* (Ref. 3).

## 2.3 Cleanup Standards

The objective of the Department of Energy (DOE) As Low As Reasonably Achievable (ALARA) process is to reduce exposures and risks associated with residual contamination. The ROD (Ref. 1) established two different sets of cleanup standards: risk-based cleanup criteria and ALARA goals. Remedial activities for WP-437 were designed to remove soil where the Contaminant of Concern (COC) concentrations were found by characterization or during remediation activities to exceed ALARA goals. Table 2-1 summarizes the cleanup criteria and ALARA goals established in the ROD that are applicable for COCs in the Raffinate Pit work zone. Throughout the remedial activities at RU021, COC concentrations were evaluated with the ALARA process.

Table 2-1 ROD Cleanup Standards for COCs within the WP-437 Raffinate Pit Work Zone

| | SURFACE [a] | | SUBSURFACE [b] | |
|---|---|---|---|---|
| RADIONUCLIDE (pCi/g) | ALARA | CRITERIA | ALARA | CRITERIA |
| Ra-226 | 5.0 | 6.2 | 5.0 | 16.2 |
| Ra-228 | 5.0 | 6.2 | 5.0 | 16.2 |
| Total Radium | 5.0 | 6.2 | 5.0 | 16.2 |
| Th-230 | 5.0 | 6.2 | 5.0 | 16.2 |
| Th-232 | 5.0 | 6.2 | 5.0 | 16.2 |
| U-238 | 30.0 | 120 | 30.0 | 120.0 |
| CHEMICAL (mg/kg) | | | | |
| Arsenic | 45 | 75 | 75 | 750 |
| Chromium | 90 | 100 | 100 | 1000 |
| Lead | 240 | 450 | 450 | 4500 |
| Thallium | 16 | 20 | 20 | 200 |
| TNT | 14 | 140 | 140 | 1400 |
| PAH | 0.44 | 5.6 | 5.6 | 56 |
| PCB | 0.65 | 8 | 8 | 80 |

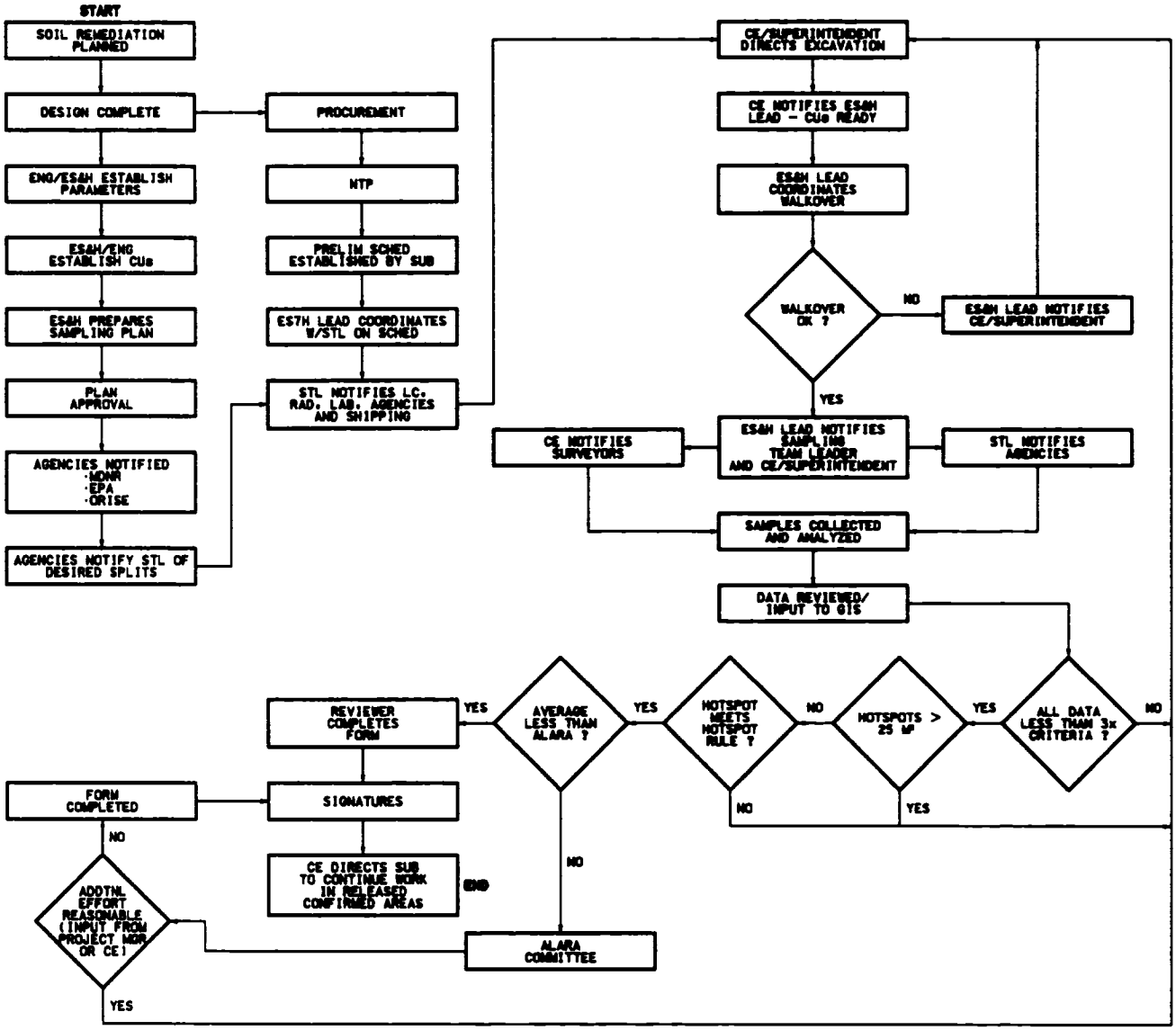
(a) Values listed for surface soils apply to contamination within the upper 15 cm (6 in.) of the soil column.
(b) Values for subsurface apply to contamination in soils below 15 cm (6 in.).

Source: *Record of Decision for Remedial Action at the Chemical Plant Area of the Weldon Spring Site* (Ref. 1)

## 2.4 Cleanup Confirmation Process

The cleanup confirmation process is used to determine, under the remedial guidelines, if remediation activities have achieved the cleanup standards. Figure 2-1 shows the cleanup confirmation process for remedial activities conducted at the WP-437 area.

The decision-making process specifies how the data will be applied and evaluated within the cleanup confirmation process. The decision-making process includes provisions for any hot spots that may be encountered by applying a formula to determine the acceptable concentration for the COC.




# CLEANUP CONFIRMATION PROCESS

## FIGURE 2-1

| | | | |
|---|---|---|---|
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| ORIGINATOR: ML | DRAWN BY: GLN | DATE: 1/16/02 | |

# 3. REMEDIAL ACTIVITIES

## 3.1 Field Activities

Contaminated soils and structures were removed from the Raffinate Pit work zone and areas were excavated to design depths as detailed in the Raffinate Pit work zone specifications (Ref. 4), where applicable. The excavation of contaminated soils in Raffinate Pits 1, 2, and 3 was designed to subsurface criteria in areas where the cost of excavation outweighed the limited amount of contamination removed at depth (Ref. 10). These areas are identified in Section 4, Table 4-1. After the initial excavation was complete, radiological walkover surveys were conducted to evaluate the need for additional excavation. When the surveys indicated no additional excavation was needed, confirmation soil samples were collected.

Confirmation results were then reviewed, and additional excavation and confirmation sampling was conducted in hot spot areas, if necessary. After achieving cleanup standards, a disposition form was completed with preliminary analytical results. The form was reviewed and signed by authorized project personnel. The confirmation unit (CU) was then released back to the subcontractor for final grading.

Field activities completed during remediation, such as walkover surveys and soil sampling, were conducted in accordance with procedures specified in the *Confirmation Sampling Plan Details for the Disposal Cell Facility (WP-437)* (Ref. 2). Field activities were conducted to achieve and document sampling objectives specified in the *Chemical Plant Area Cleanup Attainment Confirmation Plan* (Ref. 3). All sampling and remedial action surveys were conducted and documented in accordance with Weldon Spring Site Remedial Action Project (WSSRAP) Environmental Safety and Health (ES&H) procedures.

### 3.1.1 Walkover Surveys

Radiological walkover surveys were conducted after contaminated soil removal was complete to determine if confirmation sampling could begin. The surveys were conducted using a 2 in. x 2 in. sodium iodide (NaI) scintillation detector. In general, survey readings were within an acceptable range (less than 1.5 times background) for all applicable CUs in this work zone. An exception was found in CU223, where two areas remaining exceeded 1.5 times background and additional samples were collected. Details are provided on the CU Summary Form in Section 4 of this report.

As expected and detailed in the Sampling Plan, elevated gamma radiation backgrounds resulting from the exposed raffinate in adjacent areas were encountered during walkovers in some portions of RU 021. Therefore, shielded detectors were used while performing walkover surveys in these areas to minimize the raffinate gamma background contribution. These walkover results, combined with the high scanning minimum detectable concentration characteristic of one of the primary COCs in the area, Th-230, were considered of limited use for

detecting small areas of contaminated soil with concentrations near the Th-230 criterion and therefore a greater reliance was placed on sampling to identify residual hot spots. Over half of the hot spots that were identified during sampling in RU 021 were due to Th-230. In these cases, the Th-230 hotspots probably would not have been identified by scanning, even under ideal conditions. Refer to Section 2.1 of the *Confirmation Sampling Plan Details for the Disposal Cell Facility (WP 437)* for additional details.

### 3.1.2 Soil Sampling

Once the walkovers were completed, or it was determined that confirmation sample collection could begin, soil sampling was conducted as part of the confirmation process. The sampling locations for CUs in RU021 are shown in the figures in Section 4. Analytical suites for the CUs were dependant upon the COC list developed from historical information, characterization data, and visual identification in the field as discussed in Section 2.

The subsequent survey and confirmation sample results indicated that contaminants were below the applicable cleanup standards and the averages were less than the applicable ALARA goals; therefore, no further remediation was conducted for RU021. Disposition forms were completed following the receipt of preliminary analytical data for all CUs within the Raffinate Pit work zone.

## 3.2 Laboratory Activities

Radiological analyses for RU021 were conducted at on-site and off-site laboratories in accordance with the *Project Management Contractor Quality Assurance Program* (Ref. 5) and the *Environmental Quality Assurance Project Plan* (EQAPjP) (Ref. 6). CU releases were based on estimated Ra-226 results. In addition, the concentration of Th-232 was calculated based on the analytical results of Ra-228 and the calculated value was used for CU releases. Both of these calculations are explained in detail in interoffice correspondences (IOCs) in Appendix D. Chemical analyses for RU021 were conducted at subcontracted off-site laboratories using Contract Laboratory Program (CLP) methodologies.

Summaries of the analytical results for each CU can be found in Section 4 of this report. Analytical data were subject to verification, review, and validation upon receipt from the laboratory, as detailed in Section 5 of this report.

## 3.3 Independent Verification Activities

The Oak Ridge Institute for Science and Education (ORISE) was contracted by the U. S. Department of Energy (DOE) to verify confirmation soil sampling in the chemical plant area. Verification activities included independent walkover radiological surveys and collection and analysis of soil samples to verify proper disposition of CUs. Field verification activities were conducted in accordance with ORISE's final survey plan (Ref. 7).

ORISE visits to verify WP-437 work zones included 14 CUs in the Raffinate Pit work zone. Soil sampled collected by ORISE and associated samples collected by the Project Management Contractor (PMC) are noted on the Summary Forms in Section 4 of this report. A table summarizing ORISE hotspot information is presented in Appendix E. A final verification report will be prepared by ORISE. The ORISE report will contain verification of walkover surveys and soil sampling results and will affirm that the remedial action objectives were achieved.

# 4. CONFIRMATION UNITS RESULTS SUMMARY

This section summarizes the confirmation unit (CU) analytical results for the fifty-five CUs in RU021. In total, 1783 locations were sampled between 07/08/98 and 07/22/00. Preliminary results were below cleanup criteria. Average contaminant of concern (COC) concentrations as indicated by preliminary data remained below as low as reasonably achievable (ALARA) goals with the exception of the PAH average for CU267. Details are presented in the appropriate summary form in this section. All 100 $m^2$ averages from final data are less than criteria.

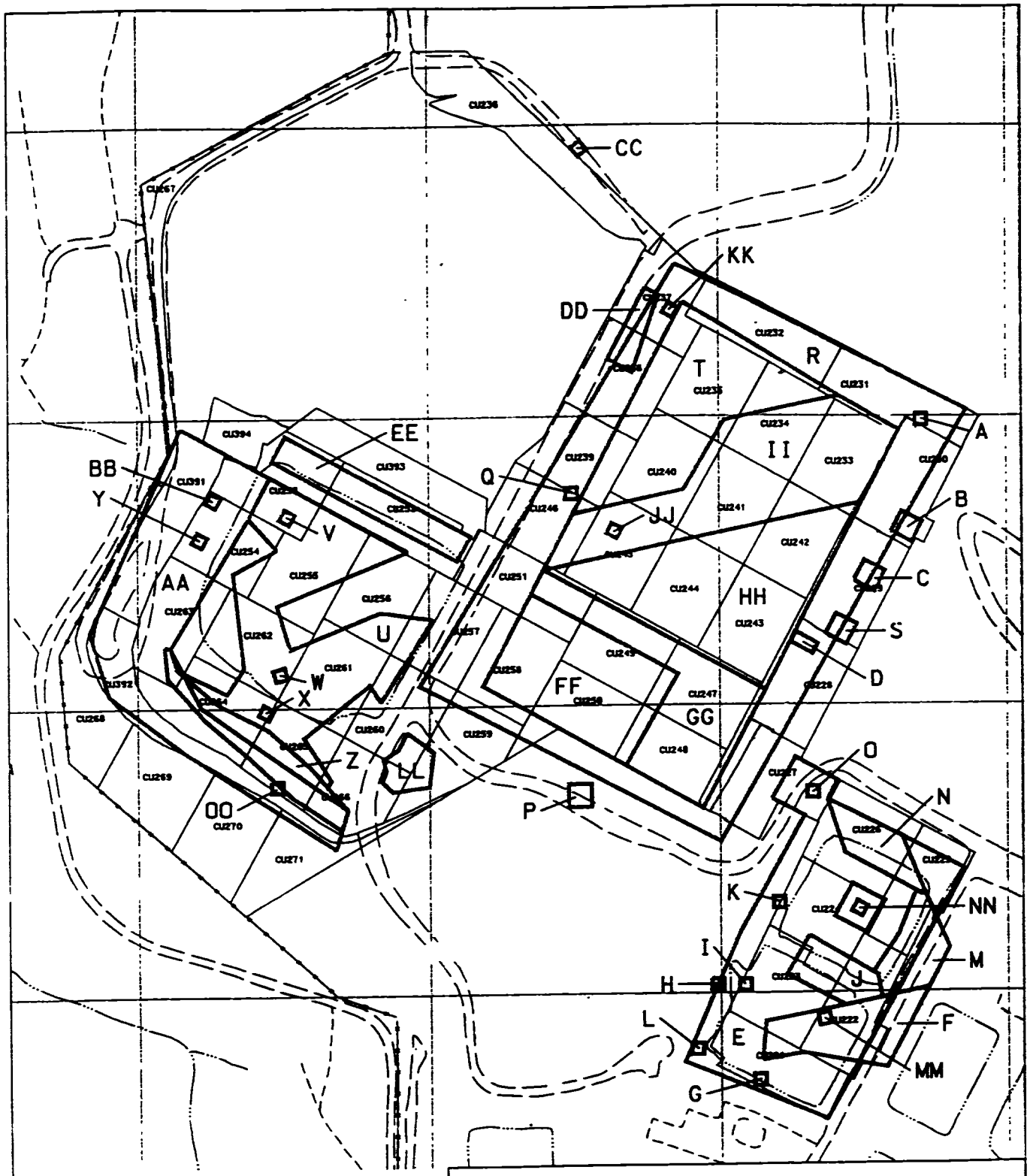
After the preliminary data were reviewed, disposition forms were completed and signed by authorized reviewers. Based on the preliminary confirmation data, all fifty-five CUs in RU021 were fully released as complying with the appropriate cleanup standards.

Note that the preliminary data were the initial results available immediately from the laboratory and were used for releases. These preliminary results could vary from the final results based upon laboratory quality checks or Weldon Spring Site Remedial Action Project (WSSRAP) verification activities. Upon receipt of the data packages, the final data were reviewed and compared to the preliminary data. The final analytical results agreed with or were lower than the preliminary results and indicated that the remedial activities were completed. The final results meet the cleanup standards as detailed in the *Chemical Plant Area Cleanup Area Attainment Confirmation Plan* (Ref. 3) for all CUs in RU021.

Additional characterization of the raffinate pits was conducted once the sludge was removed. Characterization results are detailed in the *Results of Engineering Soil Sampling for Weldon Spring Raffinate Pits 3 and 4* (Ref. 8) and associated addendums and the *Results of Engineering Soil Sampling for Weldon Spring Raffinate Pit 1 Bottom* (Ref. 9). Based upon these results, the number of in-situ contamination areas identified in the sampling plan with the prefix RPX-, increased from five to forty-six. Details of these areas are presented in the Raffinate Pit Work Zone Specifications (Ref. 4) and the *In-Situ Soil Excavation Technical Memorandum* (Ref. 10). Table 4-1 provides summary information and Figure 4-1 shows the locations of the in-situ areas.

Tables 4-2 through 4-56 and associated figures provide the confirmation details for each CU, and all data presented is final data. Copies of the walkover survey information for each CU are presented in Appendix A. The final data are presented in Appendix B. A list of sample location coordinates is presented in Appendix C.

On the following tables in this section, the "Date Released For Unrestricted Use" refers to the date that confirmation activities were completed and the CU was released to the subcontractor to begin final backfilling and/or regrading. The phrase is not synonymous with DOE Order 5400.5 terminology that refers to release without radiological restrictions.




RAFFINATE PITS WORK ZONE
IN-SITU AREAS (RPX's)

FIGURE 4-1

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO.: A/RP/002/0102 | |
| ORIGINATOR: MGL | DRAWN BY: GLN | DATE: 2/1/02 | |

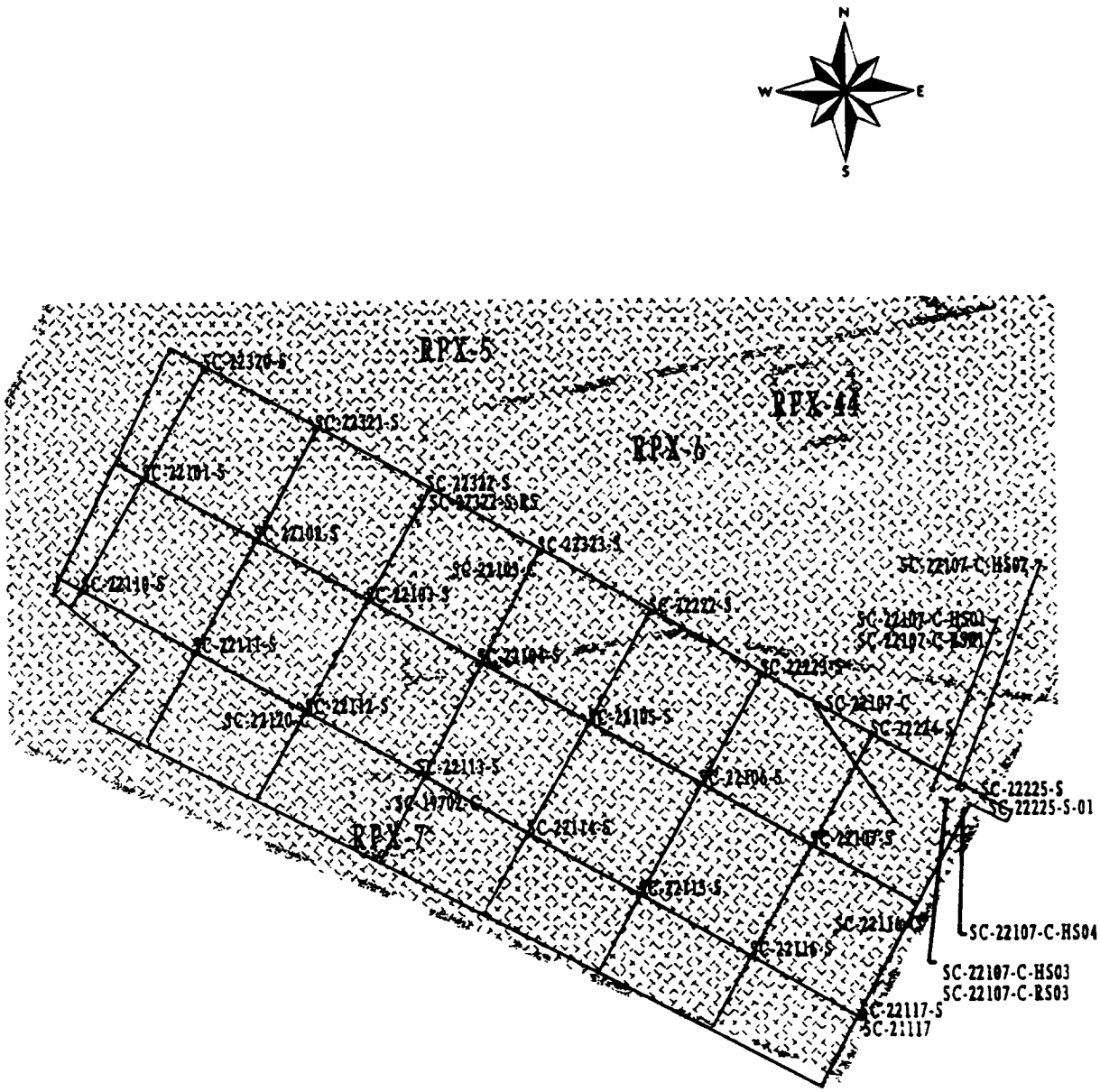
Table 4-1 Summary of Raffinate Pit In-Situ Areas (RPXs)

| In-situ area | Area | Contaminant | Reference for Figure 4-1 | In-situ area | Area | Contaminant | Reference for Figure 4-1 |
|---|---|---|---|---|---|---|---|
| RPX-1 | Pit 3 | Th-230 | A | RPX-24 | Pit 4 | Ra/Th/U | W |
| RPX-2 | Pit 3 | Th-230 | B | RPX-25 | Pit 4 | Ra/Th | X |
| RPX-3 | Pit 3 | Th-230 | C | RPX-26 | Not Used | - | - |
| RPX-4 | Pit 3 | PAH | D | RPX-27 | Pit 4 | PAH | Y |
| RPX-5 | Pits 1 and 2 | Ra/Th/PAH | E | RPX-28 | Pit 4 | Ra/Th | Z |
| RPX-6 | Pits 1 and 2 | Ra/Th | F | RPX-29(a) | Pit 4 | PAH | AA |
| RPX-7 | Pits 1 and 2 | Ra/Th | G | RPX-30 | Pit 4 | Ra/Th/PAH | BB |
| RPX-8 | Pits 1 and 2 | Ra/Th/PAH | H | RPX-31 | Not Used | - | - |
| RPX-9 | Pits 1 and 2 | Ra/Th | I | RPX-32 | Not Used | - | - |
| RPX-10 | Pits 1 and 2 | Ra/Th | J | RPX-33 | Ash Pond | PAH | CC |
| RPX-11 | Pits 1 and 2 | Ra/Th | K | RPX-34 | Pit 3 | As/Cr/Ra/Th | DD |
| RPX-12 | Not Used | - | - | RPX-35 | Pit 4 | Cont. material | EE |
| RPX-13 | Pits 1 and 2 | Th-230 | L | RPX-36(b) | Pit 3 | Th | FF |
| RPX-14 | Pits 1 and 2 | Ra/Th/PAH | M | RPX-37 | Pit 3 | Th | GG |
| RPX-15 | Pits 1 and 2 | Ra/Th | N | RPX-38 | Pit 3 | Th | HH |
| RPX-16 | Pits 1 and 2 | Th-230 | O | RPX-39 | Pit 3 | Th | II |
| RPX-17 | South of Pit 3 | PAH | P | RPX-40 | Pit 3 | Th | JJ |
| RPX-18 | Pit 3 | PAH | Q | RPX-41 | Not Used | - | - |
| RPX-19(a) | Pit 3 | Th-230 | R | RPX-42 | Pit 3 | Th | KK |
| RPX-20 | Pit 3 | Ra-226/228 | S | RPX-43 | Pit 4 | PCB | LL |
| RPX-21 | Pit 3 | Th-230 | T | RPX-44 | Pits 1 and 2 | Ra/Th | MM |
| RPX-22 | Pit 4 | Th/U | U | RPX-45 | Pits 1 and 2 | Th | NN |
| RPX-23 | Pit 4 | Ra/Th | V | RPX-46 | Pit 4 | PAH | OO |

Table 4-1 Summary of Raffinate Pit In-Situ Areas (RPXs) Continued

(a) RPX-19 and RPX-29 represent in-situ excavations targeting the removal of the 1954 topo. This lens when encountered near the raffinate pits was typically contaminated. These RPXs were created to represent that excavation. In general, the original confirmation sampling and removal of clean material occurred prior to reaching the 1954 surface. Samples of this surface are typically represented by the "-01" suffix.

(b) Represent areas not excavated to surface ALARA. Details can be found in the *In-Situ Soil Excavation* Technical Memorandum (Ref. 10).




150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021
## Confirmation Unit CU221

Figure: 4-2

| | | | |
|---|---|---|---|
| REPORT NO : DOE/OR/21548-907 | | EXHIBIT NO : | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE: 02/18/02 | |

# Table 4 - 2 Summary of CU221

CU 221 RU 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | X |
| | | | PCB | |
| | | | TNT | |

Reference Figure: 4 - 2

**DATE RELEASED FOR UNRESTRICTED USE:** 06/ 09/00

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m$^2$ < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the southern portion of Raffinate Pit 2.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 5,700 - 10,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *04/16/00; 05/01/00; 05/05/00; 05/20/00*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 32

TOTAL # OF UTILITY SAMPLES : 0

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-5 and RPX-7. One sample point (SC-19702-C) was was added to represent RPX-7. (2) One Th-230 hotspot was identified at SC-22322-S. This hotspot was excavated and resampled. (3) All final results are below ALARA.*

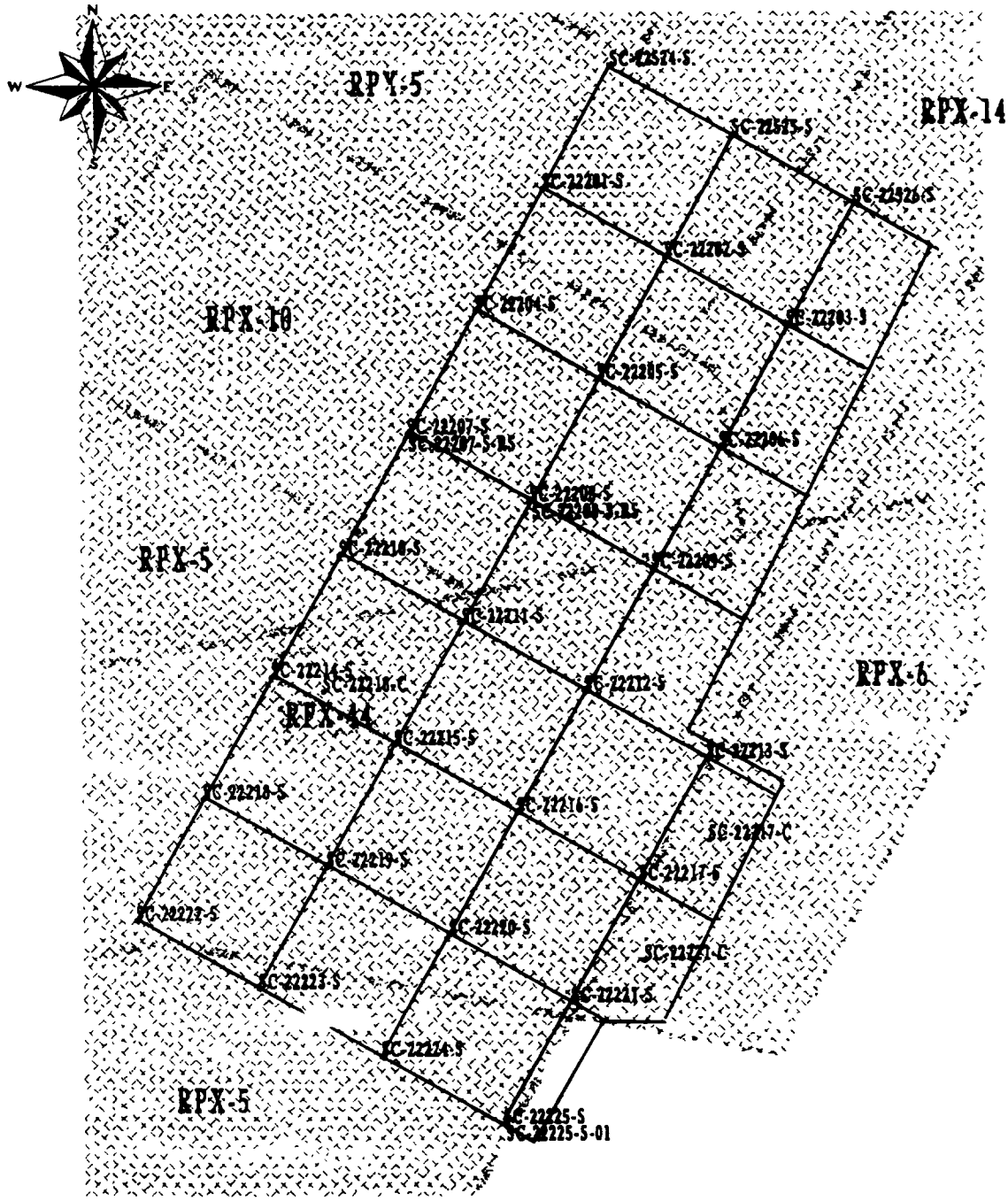
ORISE ACTION - *ORISE visited CU221 on 05/23/00. They identified four areas near grid point SC-22107-S with elevated readings. These locations were sampled to determine hotspot status and were identified as SC-22107-S-HS01 thru SC-22107-S-HS04. Based upon preliminary data, two of the locations (SC-22107-S-HS01 and SC-22107-S-HS03) exceeded criteria for radium. These areas were excavated and resampled. ORISE also collected a sample within this area. Their result agreed with PMC samples, identifying radium as the only contaminant above criteria. All final results are below ALARA.*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 34 | 0.19 - 2.84 | 0.75 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 34 | 0.34 - 1.30 | 0.87 | 5 | 6.2 | 0 | 0 |
| Total Radium | 34 | 0.58 - 4.14 | 1.62 | 5 | 6.2 | 0 | 0 |
| Th-230 | 34 | 0.69 - 3.52 | 1.24 | 5 | 6.2 | 0 | 0 |
| Th-232 | 34 | 0.35 - 1.33 | 0.89 | 5 | 6.2 | 0 | 0 |
| U-238 | 34 | 0.81 - 6.65 | 1.52 | 30 | 120 | 0 | 0 |
| PAH | 11 | results < detection limit | N/A | 0.44 | 5.6 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021
## Confirmation Unit CU222

Figure: 4-3

| | | | | | |
|---|---|---|---|---|---|
| REPORT NO.: | DOE/OR/21548-907 | EXHIBIT NO : | | | |
| ORIGINATOR: | MGL | DRAWN BY: | LGE | DATE | 04/03/02 |

# Table 4 - 3 Summary of CU222

CU 222 RU 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | X |
| | | | PCB | |
| | | | TNT | |

Reference Figure: 4 - 3

**DATE RELEASED FOR UNRESTRICTED USE:** 06/ 09/00

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m² < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the eastern portion of Raffinate Pits 1 and 2.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 4,000 - 10,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *04/16/00; 05/01/00; 05/02/00; 05/17/00; 05/19/00; 05/23/00; 06/02/00*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 31

TOTAL # OF UTILITY SAMPLES : 0

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-5, RPX-6, RPX-10, and RPX-14. (2) Sample location SC-22218-C was added to represent RPX-44. (3) Two radium hotspots were identified at SC-22207-S and SC-22708-S based upon preliminary data. Both hotspots were excavated and resampled. (4) All final results are below ALARA.*

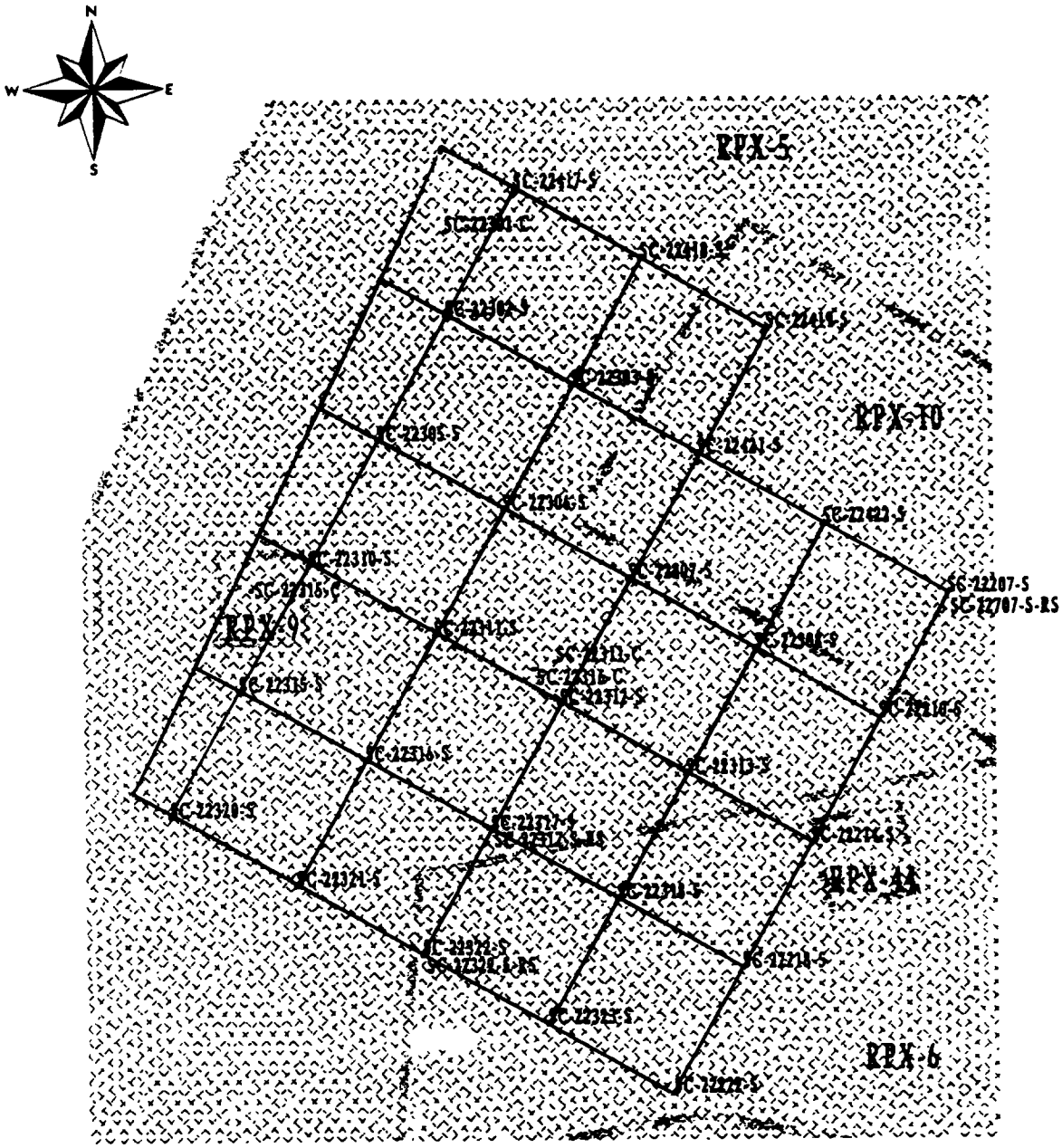
ORISE ACTION - *One sampled was collected by ORISE approximately 5 meters northeast of SC-22201-S. All results were below ALARA.*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 32 | 0.21 - 0.99 | 0.6 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 32 | 0.31 - 1.27 | 0.86 | 5 | 6.2 | 0 | 0 |
| Total Radium | 32 | 0.52 - 2.11 | 1.46 | 5 | 6.2 | 0 | 0 |
| Th-230 | 32 | 0.70 - 3.52 | 1.17 | 5 | 6.2 | 0 | 0 |
| Th-232 | 32 | 0.32 - 1.30 | 0.88 | 5 | 6.2 | 0 | 0 |
| U-238 | 32 | 0.89 - 2.30 | 1.44 | 30 | 120 | 0 | 0 |
| PAH | 19 | 0.0 - 0.02 | 0.002 | 0.44 | 5.6 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




NOTE: SAMPLES SC-22419-S-HS01 THROUGH SC-22419-S-HS04, ARE SET APPROXIMATELY 2.5 METERS FROM SC-22419-S

150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021 Confirmation Unit CU223

Figure: 4-4

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO · | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE: 02/18/02 | |

# Table 4 - 4 Summary of CU223

CU 223 RU 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | X |
| | | | PCB | |
| | | | TNT | |

Reference Figure: 4 - 4

**DATE RELEASED FOR UNRESTRICTED USE:** 06/ 13/00

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m² < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the northwestern portion of Raffinate Pit 2.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 5,000 - 12,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [ ] YES [X] NO

DATE(S) SCANNED: *05/05/00; 05/20/00; 05/23/00; 06/03/00*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 32

TOTAL # OF UTILITY SAMPLES : 0

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-5, RPX-6 and RPX-10. Sampled location SC-22315-C was added to represent RPX-9. (2) During final walkovers conducted on 06/03/00, areas at 2 times background remained, as noted on the form (see Appendix A). Additional sample locations (SC-22311-C and SC-22316-C) were added to represent those areas, in accordance with the WP-437 Confirmation Sampling Plan. (3) Based upon preliminary data, two Th-230 (SC-22317-S and SC-22322-S) and two radium hotspots (SC-22207-S and SC-22419-S) were identified. Both Th-230 hotspots and one of the radium hotspots were excavated and resampled. One of the radium hotspots was sampled around to determine size and was found to meet the hotspot rule, therefore no further excavation was required. Based upon final data (which allows for radon ingrowth - see Section 3.2), this radium result was below criteria and therefore no hotspots actually remain. (4) All final results are below criteria.*

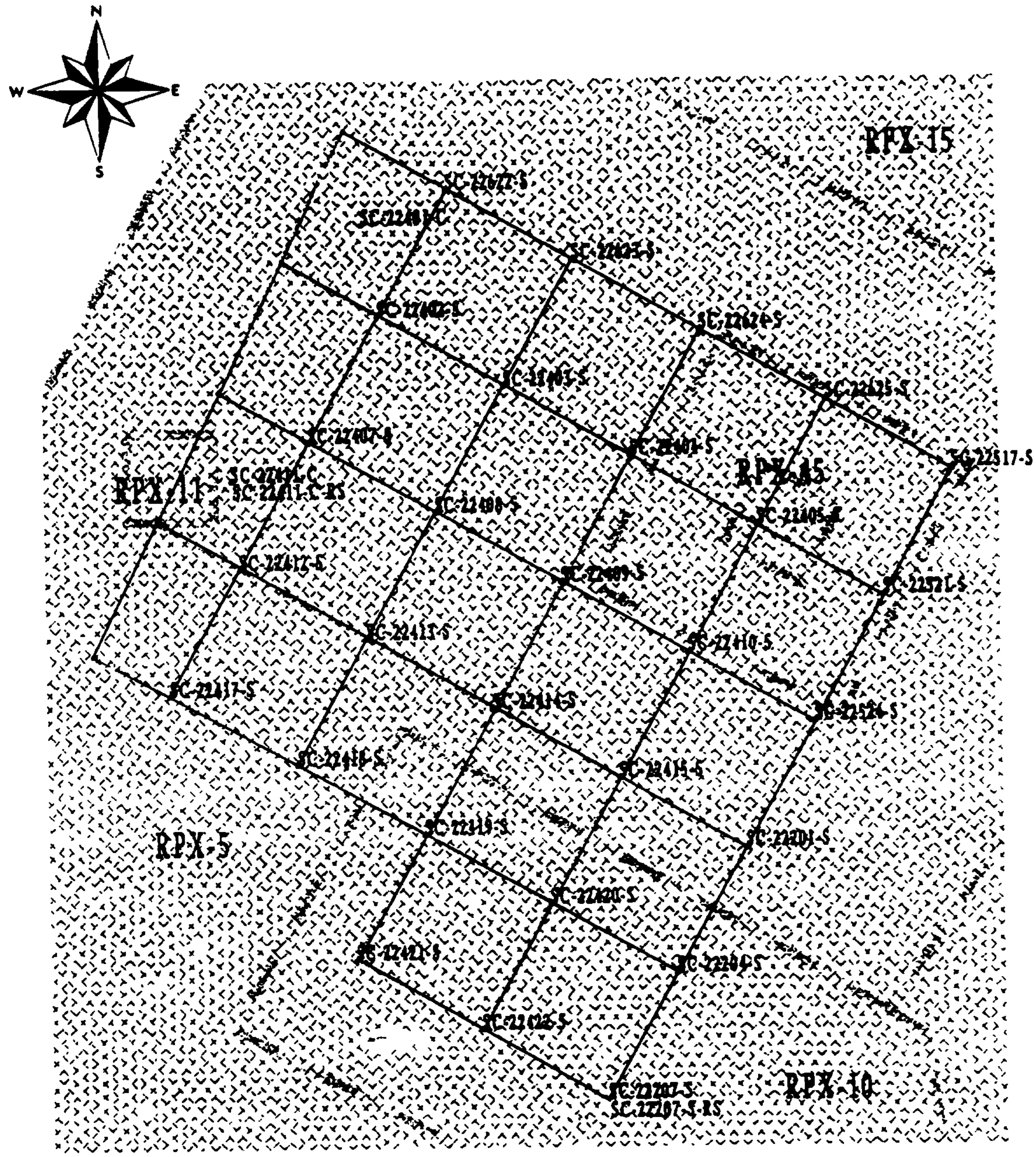
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

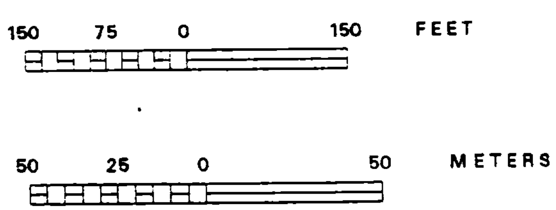
## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 32 | 0.26 - 4.0 | 0.92 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 32 | 0.36 - 1.32 | 0.93 | 5 | 6.2 | 0 | 0 |
| Total Radium | 32 | 0.98 - 5.12 | 1.84 | 5 | 6.2 | 1 | 0 |
| Th-230 | 32 | 0.80 - 3.23 | 1.28 | 5 | 6.2 | 0 | 0 |
| Th-232 | 32 | 0.37 - 1.35 | 0.95 | 5 | 6.2 | 0 | 0 |
| U-238 | 32 | 1.00 - 7.37 | 1.36 | 30 | 120 | 0 | 0 |
| PAH | 10 | results < detection limit | N/A | 0.44 | 5.6 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




NOTE: SAMPLES SC-22419-S-HS01
THROUGH SC-22419-S-HS04 ARE
OFFSET APPROXIMATELY 2.5 METERS
FROM SC-22419-S




# Sample Locations in Remedial Unit RU021 Confirmation Unit CU224

Figure: 4-5

| | | | | | |
|---|---|---|---|---|---|
| REPORT NO.: | DOE/OR/21548-907 | | EXHIBIT NO : | | |
| ORIGINATOR: | MGL | DRAWN BY: | LGE | DATE: | 01/14/02 |

# Table 4 - 5 Summary of CU224

CU 224 RU 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | X |
| | | | PCB | |
| | | | TNT | |

Reference Figure: 4 - 5

**DATE RELEASED FOR UNRESTRICTED USE:** 06/ 13/00

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m² < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the southern portion of Raffinate Pit 1.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 5,000 - 12,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *05/05/00; 05/22/00; 05/23/00; 06/02/00; 06/03/00*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 30

TOTAL # OF UTILITY SAMPLES : 0

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-5, RPX-10, RPX-11 and RPX-45.*
*(2) Based upon preliminary data, one Th-230 and two radium hotspots were identified. The Th-230 hotspot (SC-22411-C) and one of the radium hotspots (SC-22207-S) were excavated and resampled. The second radium hotspot (SC-22419-S) was sampled around and found to meet the hotspot rule, therefore no additional excavation was required. Based upon final data (which allows for radon ingrowth - see Section 3.2), this radium result was below criteria and therefore no hotspots actually remain.*
*(3) All final results are below criteria.*

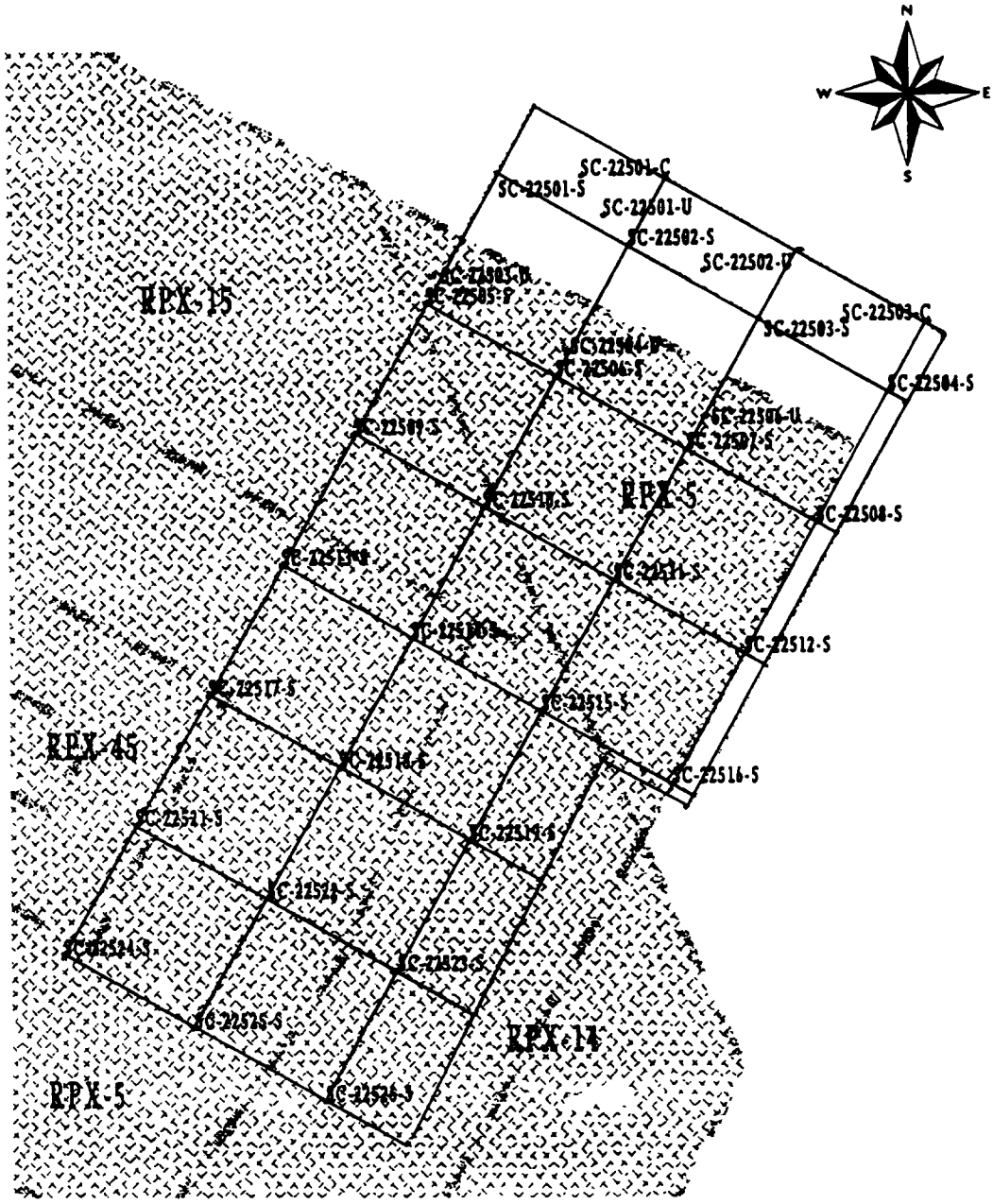
ORISE ACTION - *Two samples were collected by ORISE, one at approximately 5 meters northeast of SC-22403-S and one approximately 5 meters northeast of SC-22418-S. All results were below ALARA.*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 30 | 0.21 - 4.00 | 0.78 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 30 | 0.31 - 1.32 | 0.96 | 5 | 6.2 | 0 | 0 |
| Total Radium | 30 | 0.52 - 5.12 | 1.74 | 5 | 6.2 | 1 | 0 |
| Th-230 | 30 | 0.83 - 5.86 | 1.43 | 5 | 6.2 | 1 | 0 |
| Th-232 | 30 | 0.32 - 1.35 | 0.98 | 5 | 6.2 | 0 | 0 |
| U-238 | 30 | 1.00 - 2.92 | 1.20 | 30 | 120 | 0 | 0 |
| PAH | 3 | results < detection limit | N/A | 0.44 | 5.6 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021
## Confirmation Unit CU225

Figure: 4-6

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO: | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE: 01/14/02 | |

# Table 4 - 6 Summary of CU225

CU 225 RU 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | X |
| | | | PCB | |
| | | | TNT | |

Reference Figure: 4 - 6

**DATE RELEASED FOR UNRESTRICTED USE:** 06/ 09/00

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m² < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the northeast portion of Raffinate Pit 1.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 4,000 - 10,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *03/04/00; 03/24/00; 05/19/00; 05/22/00; 06/02/00*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 32

TOTAL # OF UTILITY SAMPLES : 5

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [ ] YES [X] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-5, RPX-14, and RPX-15. (2) Upon removal of the interceptor trench, running north of pit 1, 5 utility confirmation samples (SC-22501-U thru SC-22504-U and SC-22506-U) were added to represent the excavation. Note that SC-22505-U was skipped in the numbering and does not exist. (3) All final results are below Criteria.*

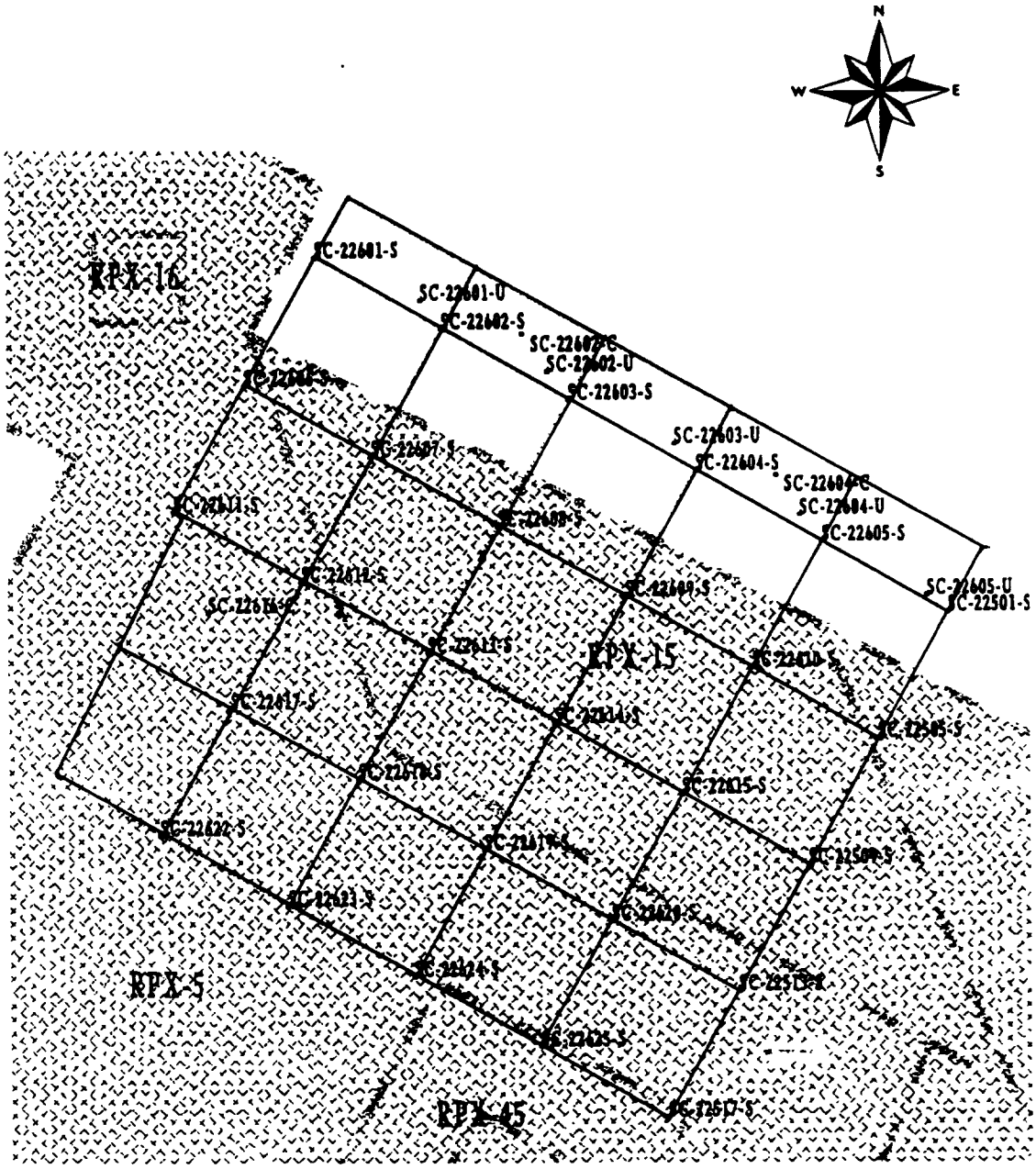
ORISE ACTION - *Two samples were collected by ORISE, one at approximately 5 meters northeast of SC-22509-S and one approximately 5 meters northeast of SC-22518-S. All results are below ALARA.*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 32 | 0.24 - 1.05 | 0.64 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 32 | 0.39 - 1.30 | 0.94 | 5 | 6.2 | 0 | 0 |
| Total Radium | 32 | 0.67 - 2.08 | 1.58 | 5 | 6.2 | 0 | 0 |
| Th-230 | 32 | 0.64 - 5.03 | 1.73 | 5 | 6.2 | 1 | 0 |
| Th-232 | 32 | 0.40 - 1.33 | 0.96 | 5 | 6.2 | 0 | 0 |
| U-238 | 32 | 0.98 - 2.73 | 1.26 | 30 | 120 | 0 | 0 |
| PAH | 4 | results < detection limit | N/A | 0.44 | 5.6 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021
## Confirmation Unit CU226

Figure: 4-7

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO : | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE | 01/14/02 |

# Table 4 - 7 Summary of CU226

| CU | 226 | RU | 21 |
|---|---|---|---|
| COC | Ra-226 | X | As |
| | Ra-228 | X | Cr |
| | Th-230 | X | Pb |
| | Th-232 | X | Tl |
| | U-238 | X | PAH X |
| | | | PCB |
| Reference Figure: | 4 - 7 | | TNT |

**DATE RELEASED FOR UNRESTRICTED USE:** 06/ 16/00

**CLEANUP STANDARD** [X] SURFACE [ ] SUBSURFACE

**EACH 100m² < CRITERIA?** [X] YES [ ] NO

**LOCATION DESCRIPTION:** *This CU represents the northwestern portion of Raffinate Pit 1.*

## WALKOVER SURVEY INFORMATION

**BACKGROUND:** 5,000 - 11,000 cpm
(shielding may have been used on a case-by-case basis)

**FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ?** [X] YES [ ] NO

**DATE(S) SCANNED:** *03/04/00; 03/24/00; 03/30/00; 05/22/00; 06/02/00; 06/07/00*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 36

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

TOTAL # OF UTILITY SAMPLES : 5

ADDITIONAL EXCAVATION REQUIRED? [ ] YES [X] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-5 and RPX15. (2) Upon removal of the interceptor trench, 5 utility confirmation samples (SC-22601-U thru SC-22605-U) were added to represent the excavation. 3) All final results are below Criteria.*

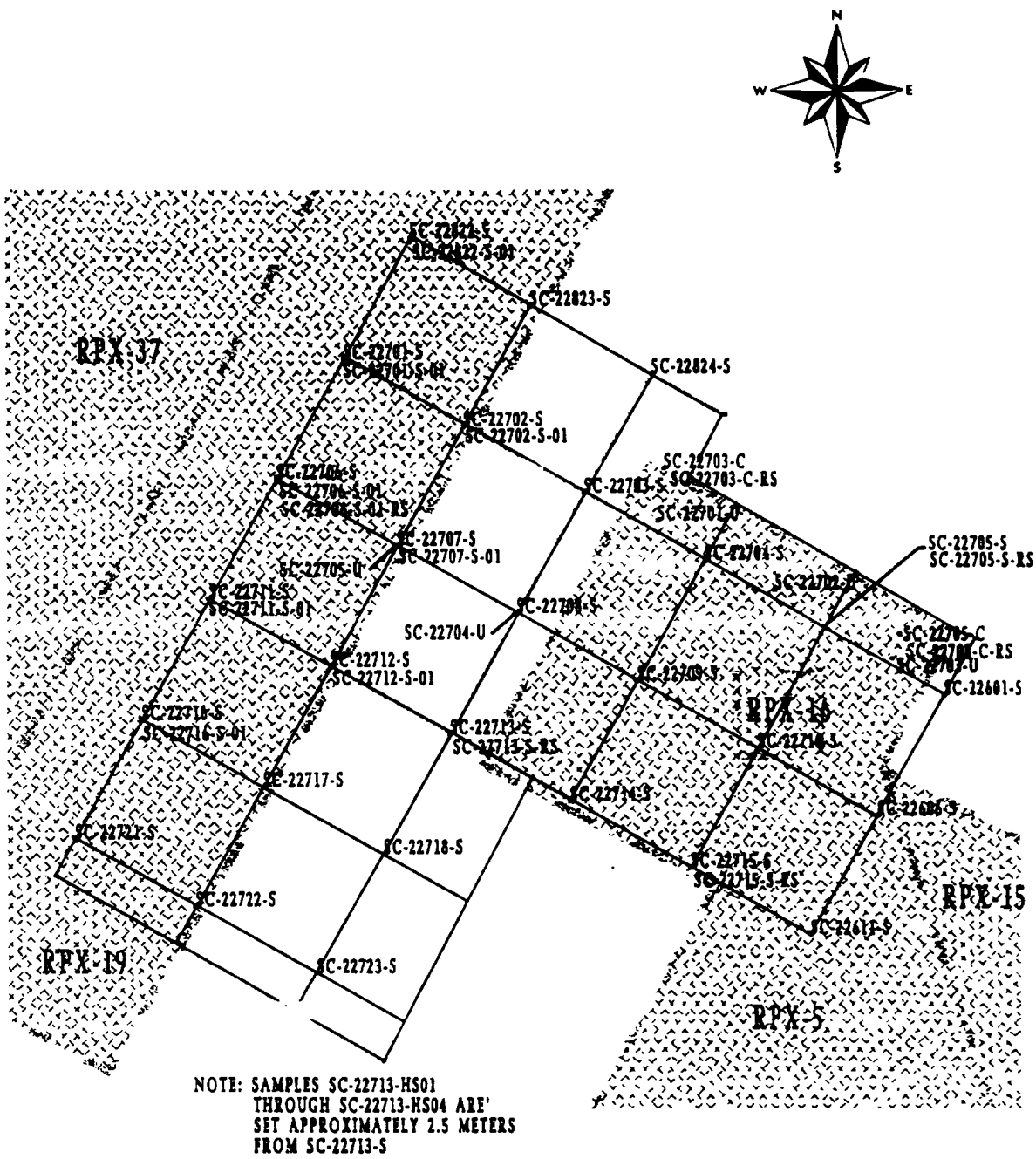
ORISE ACTION - *Two samples were collected by ORISE, one approximately 5 meters northeast of SC-22608-S and one approximately 5 meters northeast of SC-22617-S. All results were below ALARA.*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 36 | 0.44 - 1.12 | 0.72 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 36 | 0.38 - 1.37 | 1.02 | 5 | 6.2 | 0 | 0 |
| Total Radium | 36 | 0.87 - 2.49 | 1.73 | 5 | 6.2 | 0 | 0 |
| Th-230 | 36 | 0.83 - 5.90 | 1.60 | 5 | 6.2 | 1 | 0 |
| Th-232 | 36 | 0.39 - 1.40 | 1.05 | 5 | 6.2 | 0 | 0 |
| U-238 | 36 | 0.98 - 2.28 | 1.16 | 30 | 120 | 0 | 0 |
| PAH | 1 | result < detection limit | N/A | 0.44 | 5.6 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




NOTE: SAMPLES SC-22713-HS01 THROUGH SC-22713-HS04 ARE' SET APPROXIMATELY 2.5 METERS FROM SC-22713-S

150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021 Confirmation Unit CU227

Figure: 4-8

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO : | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE 01/14/02 | |

# Table 4 - 8 Summary of CU227

CU 227 RU 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | X |
| | | | PCB | |
| | | | TNT | |

Reference Figure: 4 - 8

**DATE RELEASED FOR UNRESTRICTED USE:** 06/ 16/00

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m² < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the southeastern portion of Raffinate Pit 3.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 4,000 - 20,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *03/18/99; 03/31/99; 05/24/99; 07/14/99; 03/04/00; 03/21/00; 03/30/00; 06/02/00; 06/07/00*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 42

TOTAL # OF UTILITY SAMPLES : 5

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-5, RPX-16 and RPX-19. (2) Two Th-230 hotspots were identified at SC-22713-S and SC-22715-S. The first hotspot was sampled around to determine size and failed the hotspot rule. The area was excavated and resampled. The second hotspot was excavated and resampled. (3) Three locations were prematurely pinned and sampled (SC-22703-C, SC-22705-C, and SC-22705-S) before reaching the design excavation elevation. The locations were resampled once the design elevation was reached. (4) Upon removal of contaminated pipelines, 5 utility sample locations (SC-22701-U thru SC-22705-U) were added to represent the trench. (5) All final results are below ALARA.*

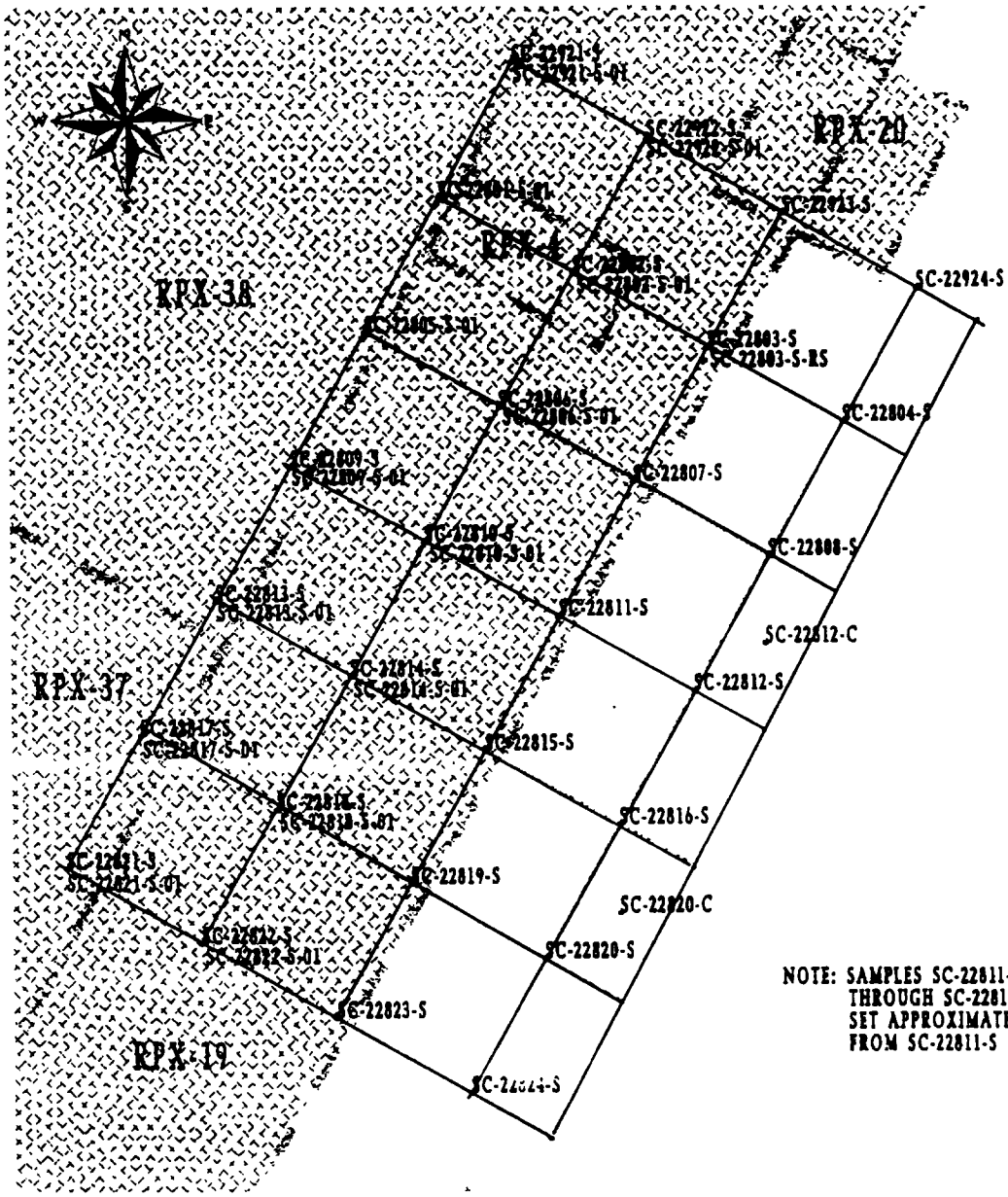
ORISE ACTION - *Two unbiased samples were collected by ORISE, one approximately 5 meters northeast of SC-22707-S and one approximately 5 meters northeast of SC-22716-S. The results for the first sample were below ALARA. The Th-230 results for the second sample exceeded criteria, although the 100m2 average remained below criteria. Results from samples collected by ORISE are not included in the summary statistics. Details can be found in the ORISE Verification Survey Report for WP 437.*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 42 | 0.66 - 1.68 | 1.07 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 42 | 0.38 - 1.39 | 0.90 | 5 | 6.2 | 0 | 0 |
| Total Radium | 42 | 1.16 - 2.75 | 1.97 | 5 | 6.2 | 0 | 0 |
| Th-230 | 42 | 0.64 - 4.27 | 1.70 | 5 | 6.2 | 0 | 0 |
| Th-232 | 42 | 0.39 - 1.42 | 0.92 | 5 | 6.2 | 0 | 0 |
| U-238 | 42 | 0.99 - 3.51 | 1.36 | 30 | 120 | 0 | 0 |
| PAH | 9 | 0.0 - 0.12 | 0.03 | 0.44 | 5.6 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021
## Confirmation Unit CU228

Figure: 4-9

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO : | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE | 01/14/02 |

# Table 4 - 9 Summary of CU228

CU 228 RU 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | X |
| | | | PCB | |
| | | | TNT | |

Reference Figure: 4 - 9

**DATE RELEASED FOR UNRESTRICTED USE:** 07/ 21/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m² < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the southeastern portion of Raffinate Pit 3.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 6,000 - 20,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *03/18/99; 03/31/99; 04/13/99; 05/06/99; 07/14/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 30

TOTAL # OF UTILITY SAMPLES : 0

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [X] YES [ ] NO

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-4, RPX-19, RPX-20, RPX-37 and RPX-38. (2) One radium hotspot was identified at SC-22811-S. This hotspot met the hotspot rule (size < 25 sq m) and therefore did not require additional excavation. The hotspot calculation is presented in Appendix E. (3) One Th-230 hotspot was identified at SC-22803-S. This hotspot was excavated and resampled. (4) All final results are below criteria with the exception of the radium hotspot.*

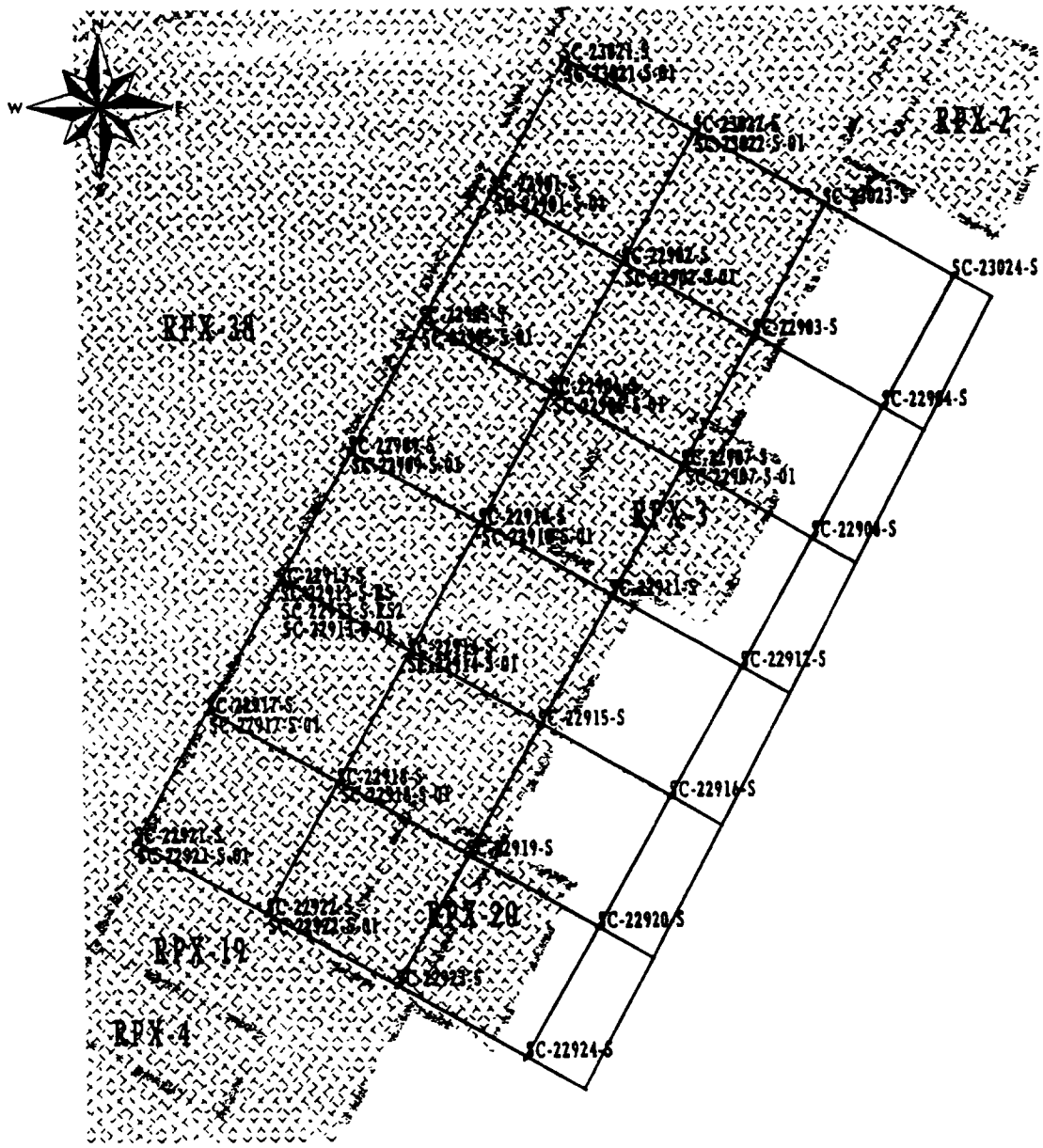
ORISE ACTION - *Three samples were collected by ORISE, one approximately 5 meters northeast of SC-22812-S, the second one approximately 5 meters northeast of SC-22814-S, and the third approximately 5 meters northeast of SC-22824-S. All results were below ALARA.*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 42 | 0.34 - 5.71 | 1.26 | 5 | 6.2 | 1 | 0 |
| Ra-228 | 42 | 0.41 - 1.47 | 0.87 | 5 | 6.2 | 0 | 0 |
| Total Radium | 42 | 0.78 - 6.22 | 2.13 | 5 | 6.2 | 1 | 1 |
| Th-230 | 42 | 0.45 - 3.25 | 1.39 | 5 | 6.2 | 0 | 0 |
| Th-232 | 42 | 0.42 - 1.51 | 0.89 | 5 | 6.2 | 0 | 0 |
| U-238 | 42 | 1.17 - 3.36 | 1.43 | 30 | 120 | 0 | 0 |
| PAH | 1 | result < detection limit | N/A | 0.44 | 5.6 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021
## Confirmation Unit CU229

Figure: 4-10

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO : | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE | 01/14/02 |

# Table 4 - 10 Summary of CU229

CU 229 RU 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | |
| | | | PCB | |
| | | | TNT | |

Reference Figure: 4 -10

**DATE RELEASED FOR UNRESTRICTED USE:** 07/ 21/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m$^2$ < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the eastern portion of Raffinate Pit 3.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 6,000 - 20,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *03/18/99;03/31/99; 05/06/99; 07/14/99; 07/15/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 28

TOTAL # OF UTILITY SAMPLES : 0

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-3, RPX-19, and RPX-20.*
*(2) One Th-230 hotspot was identified at SC-22913-S. The hotspot was excavated and resampled.*
*(3) All final results are below ALARA.*

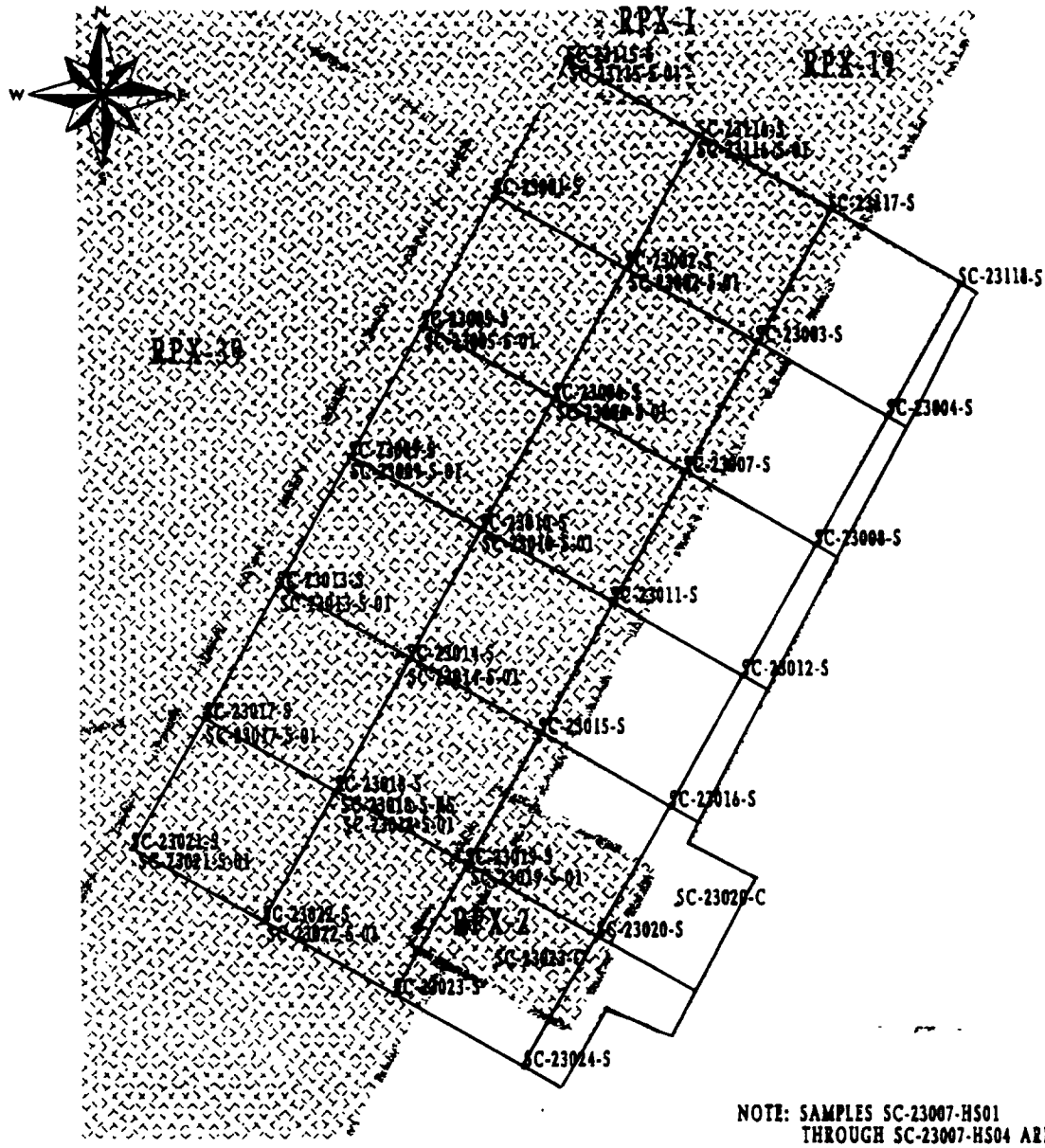
ORISE ACTION - *Three unbiased samples were collected by ORISE, one approximately 5 meters northeast of SC-22932-S, the second approximately 5 meters northeast of SC-22910-S, and the third approximately 5 meters northeast of SC-22919-S. Results for SC-22903-S and SC-22910-S were less than ALARA. The Th-230 results for the third sample exceeded criteria, although the 100m2 average remained below criteria. Results from samples collected by ORISE are not included in the summary statistics. Details can be found in the ORISE Verification Survey Report for WP 437.*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 43 | 0.31 - 3.17 | 1.09 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 43 | 0.41 - 1.62 | 0.89 | 5 | 6.2 | 0 | 0 |
| Total Radium | 43 | 0.79 - 4.79 | 1.98 | 5 | 6.2 | 0 | 0 |
| Th-230 | 43 | 0.81 - 5.74 | 1.70 | 5 | 6.2 | 2 | 0 |
| Th-232 | 43 | 0.42 - 1.66 | 0.91 | 5 | 6.2 | 0 | 0 |
| U-238 | 43 | 1.21 - 3.97 | 1.46 | 30 | 120 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




NOTE: SAMPLES SC-23007-HS01 THROUGH SC-23007-HS04 ARE SET APPROXIMATELY 2.5 METERS FROM SC-23007-S AND SAMPLES SC-23018-HS01 THROUGH SC-23018-HS04 ARE SET APPROXIMATELY 2.5 METERS FROM SC-23018-S

150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021 Confirmation Unit CU230

## Figure: 4-11

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO : | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE | 01/14/02 |

# Table 4 - 11 Summary of CU230

CU 230 RU 21

COC

| | | | |
|---|---|---|---|
| Ra-226 | X | As | |
| Ra-228 | X | Cr | |
| Th-230 | X | Pb | |
| Th-232 | X | Tl | |
| U-238 | X | PAH | |
| | | PCB | |
| | | TNT | |

Reference Figure: 4-11

**DATE RELEASED FOR UNRESTRICTED USE:** 07/ 22/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m² < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the eastern portion of Raffinate Pit 3.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 5,000 - 20,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *03/18/99; 03/31/99; 05/28/99; 06/22/99; 07/16/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 30

TOTAL # OF UTILITY SAMPLES : 0

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [X] YES [ ] NO

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-2 and RPX-19.*
*(2) Two Th-230 hotspots were identified at SC-23007-S and SC-23018-S. The first hotspot was sampled around to determine size and passed the hotspot rule, therefore no additional excavation was required. The hotspot calculation is presented in Appendix E. The second hotspot was sampled around to determine size and failed the hotspot rule. The area was excavated and resampled.*
*(3) All final results are below criteria with the exception of the remaining Th-230 hotspot.*

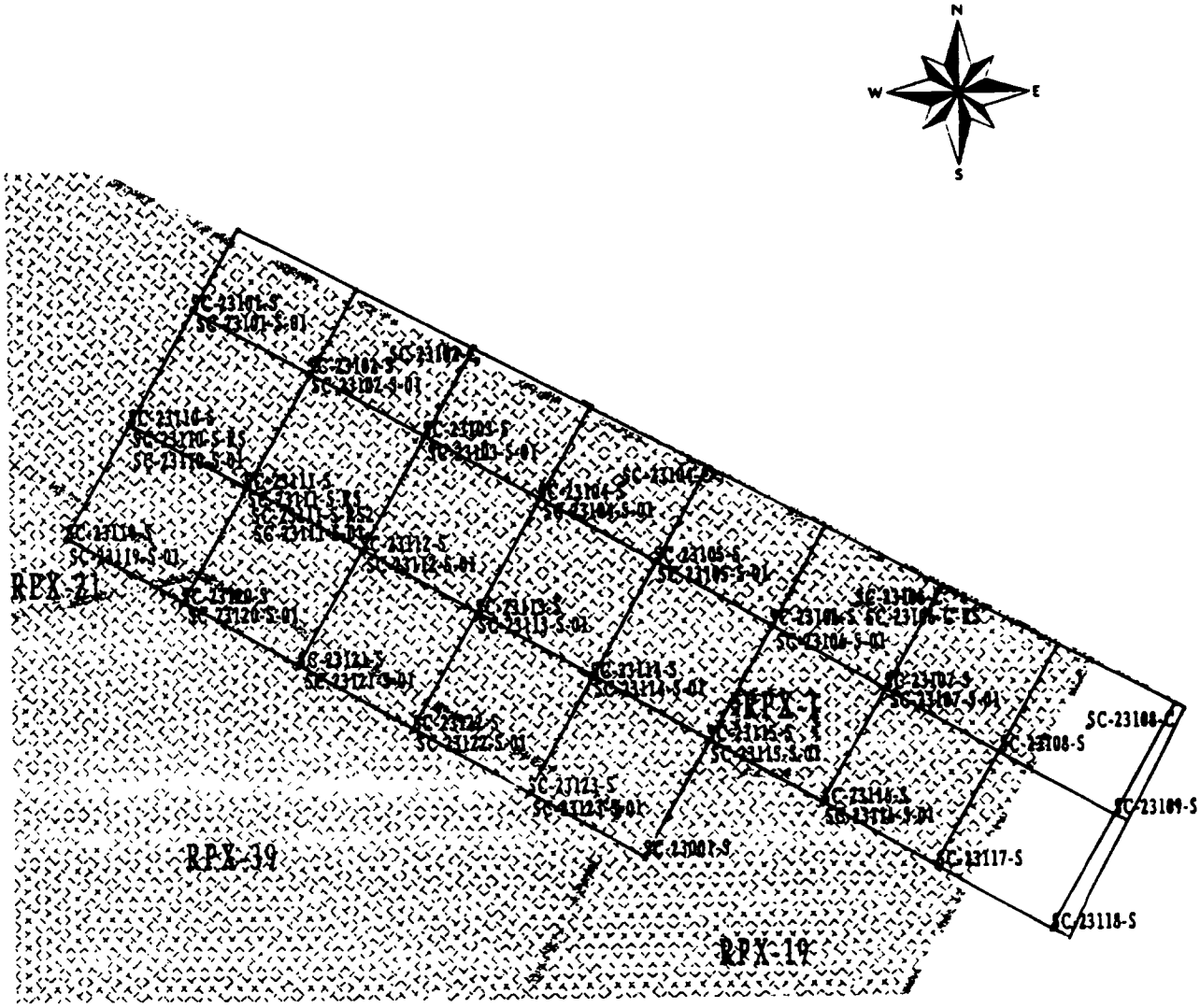
ORISE ACTION - *Two samples were collected by ORISE, one approximately 5 meters northeast of SC-23010-S and one approximately 5 meters northeast of SC-23022-S. All results were below ALARA.*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 44 | 0.67 - 1.47 | 1.00 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 44 | 0.36 - 1.33 | 0.90 | 5 | 6.2 | 0 | 0 |
| Total Radium | 44 | 1.13 - 2.55 | 1.90 | 5 | 6.2 | 0 | 0 |
| Th-230 | 44 | 0.82 - 9.08 | 1.69 | 5 | 6.2 | 1 | 1 |
| Th-232 | 44 | 0.37 - 1.36 | 0.92 | 5 | 6.2 | 0 | 0 |
| U-238 | 44 | 1.18 - 4.97 | 1.55 | 30 | 120 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g.




NOTE: SAMPLES SC-23110-HS01
THROUGH SC-23110-HS04 ARE
SET APPROXIMATELY 2.5 METERS
FROM SC-23110-S
AND SAMPLES SC-23111-HS01
THROUGH SC-23111-HS04 ARE
SET APPROXIMATELY 2.5 METERS
FROM SC-23111-S

150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021 Confirmation Unit CU231

Figure: 4-12

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO : | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE: 02/04/02 | |

# Table 4 - 12 Summary of CU231

CU 231 RU 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | |
| | | | PCB | |
| | | | TNT | |

Reference Figure: 4-12

**DATE RELEASED FOR UNRESTRICTED USE:** 07/ 26/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m$^2$ < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the northern portion of Raffinate Pit 3.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 6,000 - 20,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *03/18/99; 03/31/99; 06/04/99; 06/22/99; 07/16/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 28

TOTAL # OF UTILITY SAMPLES : 0

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-1, RPX-19, RPX-21, and RPX-39. (2) Three Th-230 hotspots were identified at SC-23106-C, SC-23110-S, and SC-23111-S. The SC-23106-C hotspot was excavated and resampled. The SC-23110-S and SC-23111-S were sampled around to determine size, but failed the hotspot rule and both were excavated and resampled. SC-23111-S required an additional excavation to remediate the hotspot. (3) All final results are below ALARA.*

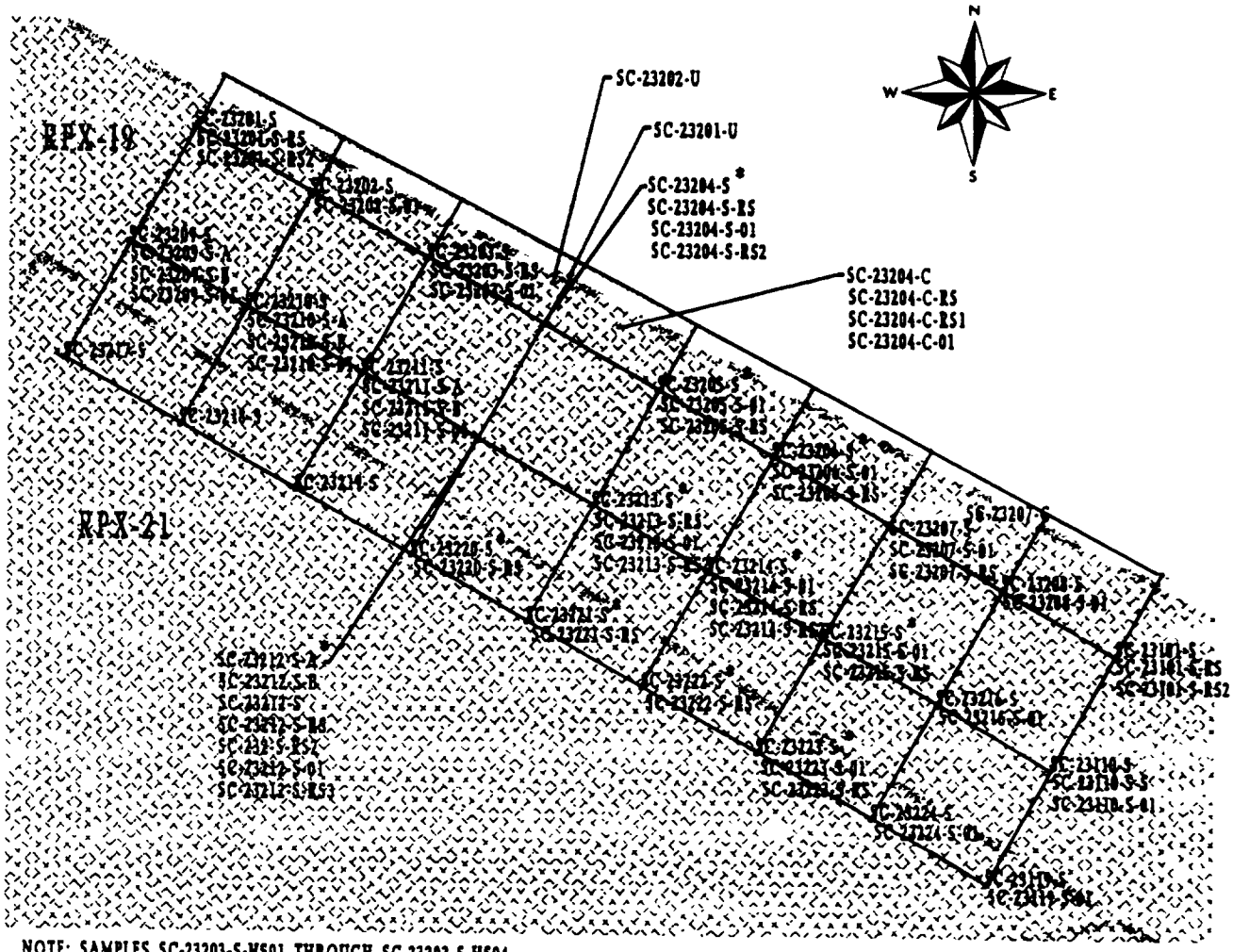
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 47 | 0.30 - 1.47 | 0.96 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 47 | 0.42 - 1.34 | 0.93 | 5 | 6.2 | 0 | 0 |
| Total Radium | 47 | 0.75 - 2.65 | 1.89 | 5 | 6.2 | 0 | 0 |
| Th-230 | 47 | 0.76 - 4.34 | 1.56 | 5 | 6.2 | 0 | 0 |
| Th-232 | 47 | 0.43 - 1.37 | 0.95 | 5 | 6.2 | 0 | 0 |
| U-238 | 47 | 1.20 - 7.43 | 1.52 | 30 | 120 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g.




NOTE: SAMPLES SC-23203-S-HS01 THROUGH SC-23203-S-HS04,
SC-23204-C-HS01 THROUGH SC-23204-C-HS04,
SC-23204-S-HS01 THROUGH SC-23204-S-HS04,
SC-23212-S-HS01 THROUGH SC-23212-S-HS04,
SC-23213-S-HS01 THROUGH SC-23213-S-HS04, AND
SC-23110-S-HS01 THROUGH SC-23110-S-HS04
ARE SET APPROXIMATELY 2.5 METERS FROM
THEIR ASSOCIATED PARENT SAMPLES.

* DESIGNATES TNT SAMPLES

150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021
## Confirmation Unit CU232

Figure: 4-13

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO : | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE 02/18/02 | |

# Table 4 - 13 Summary of CU232

CU 232 RU 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | |
| | | | PCB | |
| | | | TNT | X |

Reference Figure: 4-13

**DATE RELEASED FOR UNRESTRICTED USE:** 07/ 20/00

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m² < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the northern portion of Raffinate Pit 3.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 5,000 - 20,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *03/01/99; 03/18/99; 05/24/99; 06/04/99; 06/10/99; 07/16/99; 07/22/99; 07/23/99; 07/23/99; 07/25/99; 07/30/99; 04/29/00*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 29

TOTAL # OF UTILITY SAMPLES : 2

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-19 and RPX-21. (2) The northwest corner of pit 3 required several sampling events in order to sequence work within the pit. In addition to routine confirmation samples, lifts of soil were removed and stockpiled, with the exposed surfaces being sampled (identified by the suffix -A or -B) to determine disposition. (3) Two utility sample locations, SC-23201-U and SC-23202-U, were added to represent excavations where contaminated material was identified visually during excavation and removed. (4) SC-23201-S was resampled due to possible recontamination by nearby remediation activities. (5) FiveTh-230 hotspots were identified at SC-23203-S, SC-23204-C, SC-23212-S, SC-23213-S, and SC-23110-S. All failed the hotspot rule and were excavated and resampled. (6) After confirmation, a TNT stockpile was created within the boundaries of CU232 from soils excavated from Ash Pond. After the stockpile was removed, twelve locations that fell within the footprint of this stockpile were resampled for TNT only. One of the locations, SC-23214-S, was identified as a TNT hotspot and required additional excavation and resampling. (7) All final results are below criteria.*

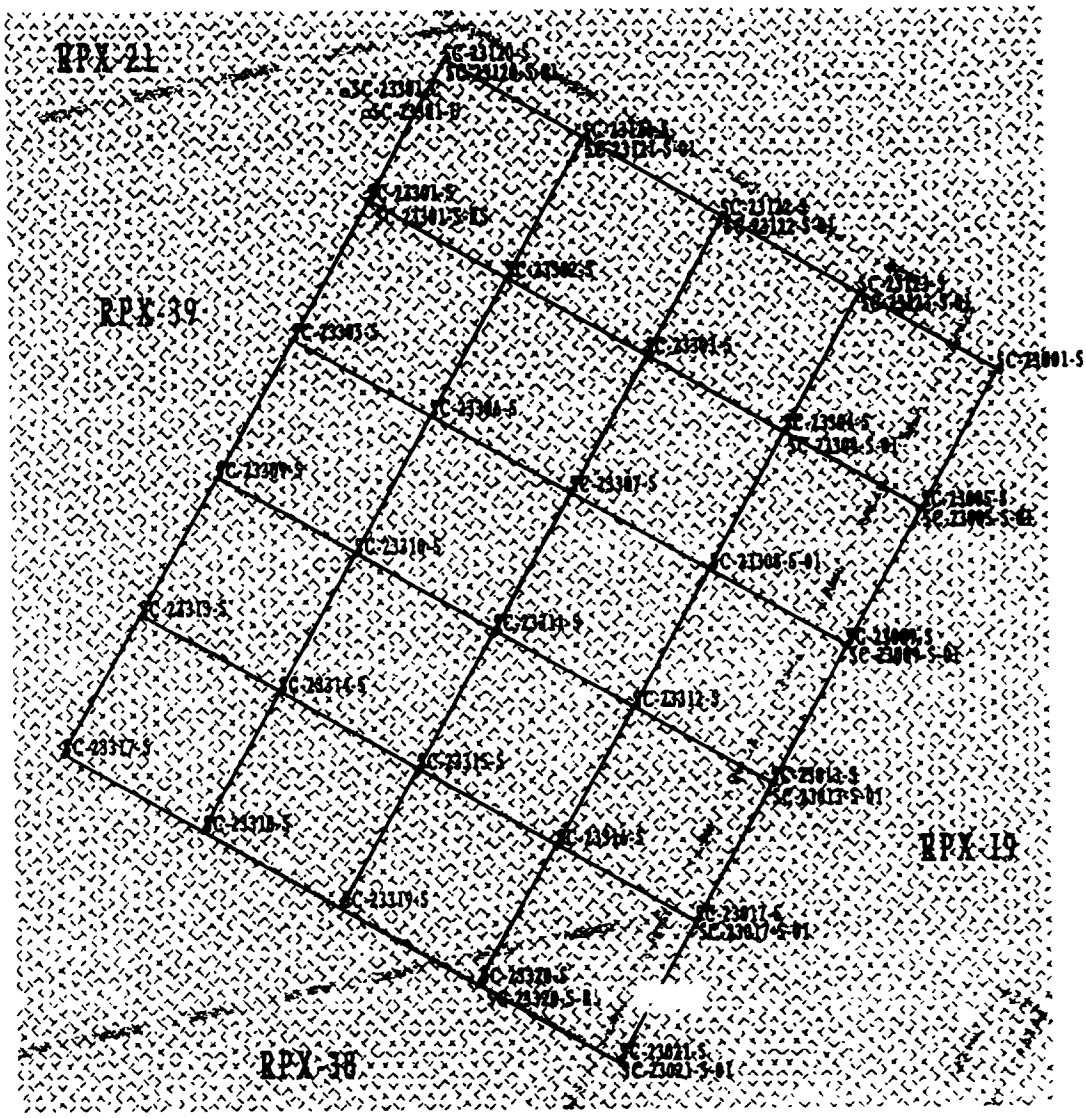
ALARA COMMITTEE ACTION - *None*

ORISE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 52 | 0.31 - 1.79 | 0.92 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 52 | 0.42 - 1.36 | 0.82 | 5 | 6.2 | 0 | 0 |
| Total Radium | 52 | 0.76 -2.77 | 1.74 | 5 | 6.2 | 0 | 0 |
| Th-230 | 52 | 0.84 - 5.51 | 2.02 | 5 | 6.2 | 2 | 0 |
| Th-232 | 52 | 0.43 - 1.39 | 0.84 | 5 | 6.2 | 0 | 0 |
| U-238 | 52 | 1.24 - 19.4 | 2.71 | 30 | 120 | 0 | 0 |
| TNT | 12 | 0.12 - 3.40 | 0.84 | 14 | 140 | 0 | 0 |

NOTE. Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021
## Confirmation Unit CU233

Figure: 4-14

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO : | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE 02/04/02 | |

# Table 4 - 14 Summary of CU233

| CU | 233 | RU | 21 |
|---|---|---|---|

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | |
| | | | PCB | |
| | | | TNT | X |

Reference Figure: 4-14

**DATE RELEASED FOR UNRESTRICTED USE:** 11/ 30/99

CLEANUP STANDARD [ ] SURFACE [X] SUBSURFACE

EACH 100m² < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the northern portion of Raffinate Pit 3.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 6,000 - 11,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *06/04/99; 07/16/99; 07/22/99; 11/12/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 32

TOTAL # OF UTILITY SAMPLES : 1

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-49, RPX-38, and RPX-39. (2) One Ra/Th-230 hotspot was identified at SC-23320-S. The hotspot was excavated and resampled. (3) During excavation of a sump near the northeast corner of raffinate pit 3, a twelve inch transite pipe was uncovered. The pipe and surrounding soil were scanned and showed no signs of radiological contamination, but purple stained soil around the pipe proved to be contaminated with nitroaromatics. The pipe and associated contaminated soil were removed and 3 locations (one planned grid point at SC-23301-S and two new locations at SC-23301-C and SC-23301-U) were sampled for nitroaromatics. (4) All final results are below subsurface criteria.*

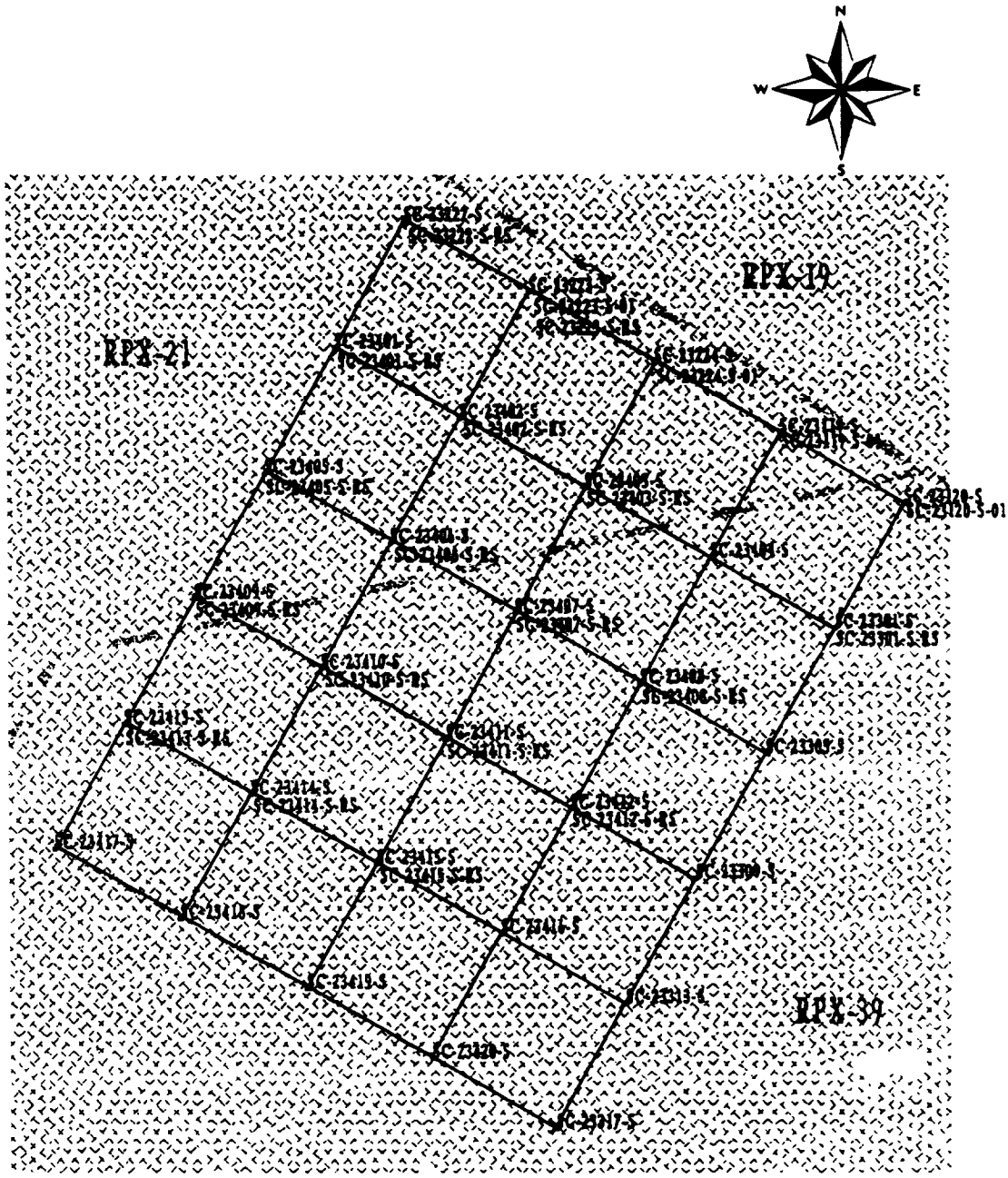
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 40 | 0.32 - 3.23 | 0.95 | 5 | 16.2 | 0 | 0 |
| Ra-228 | 40 | 0.42 - 1.35 | 0.93 | 5 | 16.2 | 0 | 0 |
| Total Radium | 40 | 1.21 - 4.43 | 1.88 | 5 | 16.2 | 0 | 0 |
| Th-230 | 40 | 0.84 - 10.3 | 1.90 | 5 | 16.2 | 2 | 0 |
| Th-232 | 40 | 0.43 - 1.38 | 0.95 | 5 | 16.2 | 0 | 0 |
| U-238 | 40 | 0.97 - 7.43 | 1.61 | 30 | 120 | 0 | 0 |
| TNT | 3 | 0.34 - 3.50 | 1.61 | 140 | 1400 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021
## Confirmation Unit CU234

Figure: 4-15

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO : | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE | 02/04/02 |

# Table 4 - 15 Summary of CU234

**CU** 234 **RU** 21

**COC**

| | | | |
|---|---|---|---|
| Ra-226 | X | As | |
| Ra-228 | X | Cr | |
| Th-230 | X | Pb | |
| Th-232 | X | Tl | |
| U-238 | X | PAH | |
| | | PCB | |
| | | TNT | X |

**Reference Figure:** 4-15

**DATE RELEASED FOR UNRESTRICTED USE:** 07/ 20/00

**CLEANUP STANDARD** [ ] SURFACE [X] SUBSURFACE

**EACH 100m² < CRITERIA?** [X] YES [ ] NO

**LOCATION DESCRIPTION:** *This CU represents the northern portion of Raffinate Pit 3.*

## WALKOVER SURVEY INFORMATION

**BACKGROUND:** 10,000 - 11,000 cpm
(shielding may have been used on a case-by-case basis)

**FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ?** [X] YES [ ] NO

**DATE(S) SCANNED:** *07/22/99; 07/23/99; 07/05/00; 07/09/00*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 30

TOTAL # OF UTILITY SAMPLES : 0

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-19, RPX-21 and RPX-39. (2) During clean excavation after the CU had been released, TNT contamination was discovered. The contaminated soil was excavated and five of the confirmation grid points that fell within the excavated area were resampled for TNT. (3) Nitroaromatic soil was stockpiled and treated within the boundaries of this CU. Since the material was identified as a RCRA waste, those confirmation grid locations within the footprint of this treatment area were resampled for TNT and DNT. The 2,4-DNT results were less than the detection limit. The TNT results are included in the summary statistics. (4) All final results are below criteria.*

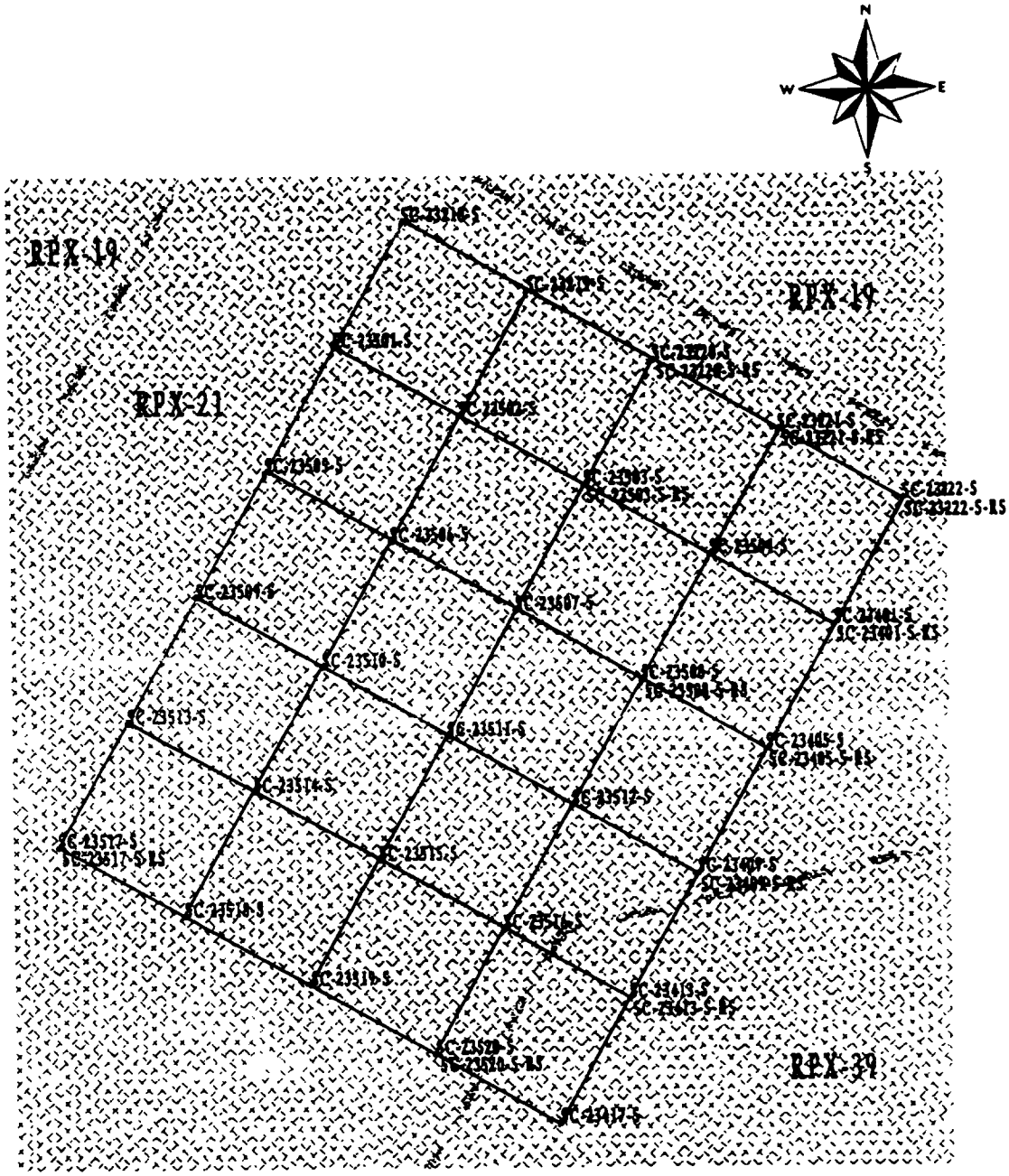
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 34 | 0.61 - 3.23 | 0.93 | 5 | 16.2 | 0 | 0 |
| Ra-228 | 34 | 0.38 - 1.44 | 0.89 | 5 | 16.2 | 0 | 0 |
| Total Radium | 34 | 1.10 - 4.43 | 1.83 | 5 | 16.2 | 0 | 0 |
| Th-230 | 34 | 0.83 - 9.09 | 2.47 | 5 | 16.2 | 4 | 0 |
| Th-232 | 34 | 0.39 - 1.48 | 0.91 | 5 | 16.2 | 0 | 0 |
| U-238 | 34 | 0.97 - 7.43 | 1.48 | 30 | 120 | 0 | 0 |
| TNT | 13 | 0.06 - 1.30 | 0.27 | 140 | 1400 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021
# Confirmation Unit CU235

Figure: 4-16

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO · | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE: 02/04/02 | |

# Table 4 - 16 Summary of CU235

CU 235 RU 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | |
| | | | PCB | |
| | | | TNT | X |

Reference Figure: 4-16

**DATE RELEASED FOR UNRESTRICTED USE:** 06/ 22/00

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m² < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the northern portion of Raffinate Pit 3.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 9,000 - 12,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *07/22/99; 07/25/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 30

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

TOTAL # OF UTILITY SAMPLES : 0

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-21 and RPX-39. (2) Four Th-230 hotspots were identified at SC-23413-S, SC-23503-S, SC-23517-S, and SC-23520-S. All hotspots were excavated and resampled. (3) During clean excavation after the CU had been released, TNT contamination was discovered. The contaminated soil was excavated and those confirmation grid points that fell within the excavated area were resampled for TNT. (4) Nitroaromatic soil was stockpiled and treated within the boundaries of this CU. Since the material was identified as a RCRA waste, those grid locations within the footprint of this treatment area were resampled for TNT and DNT. The 2,4-DNT results were less than the detection limit and the TNT results are included in the summary statistics. (5) All final results are below criteria.*

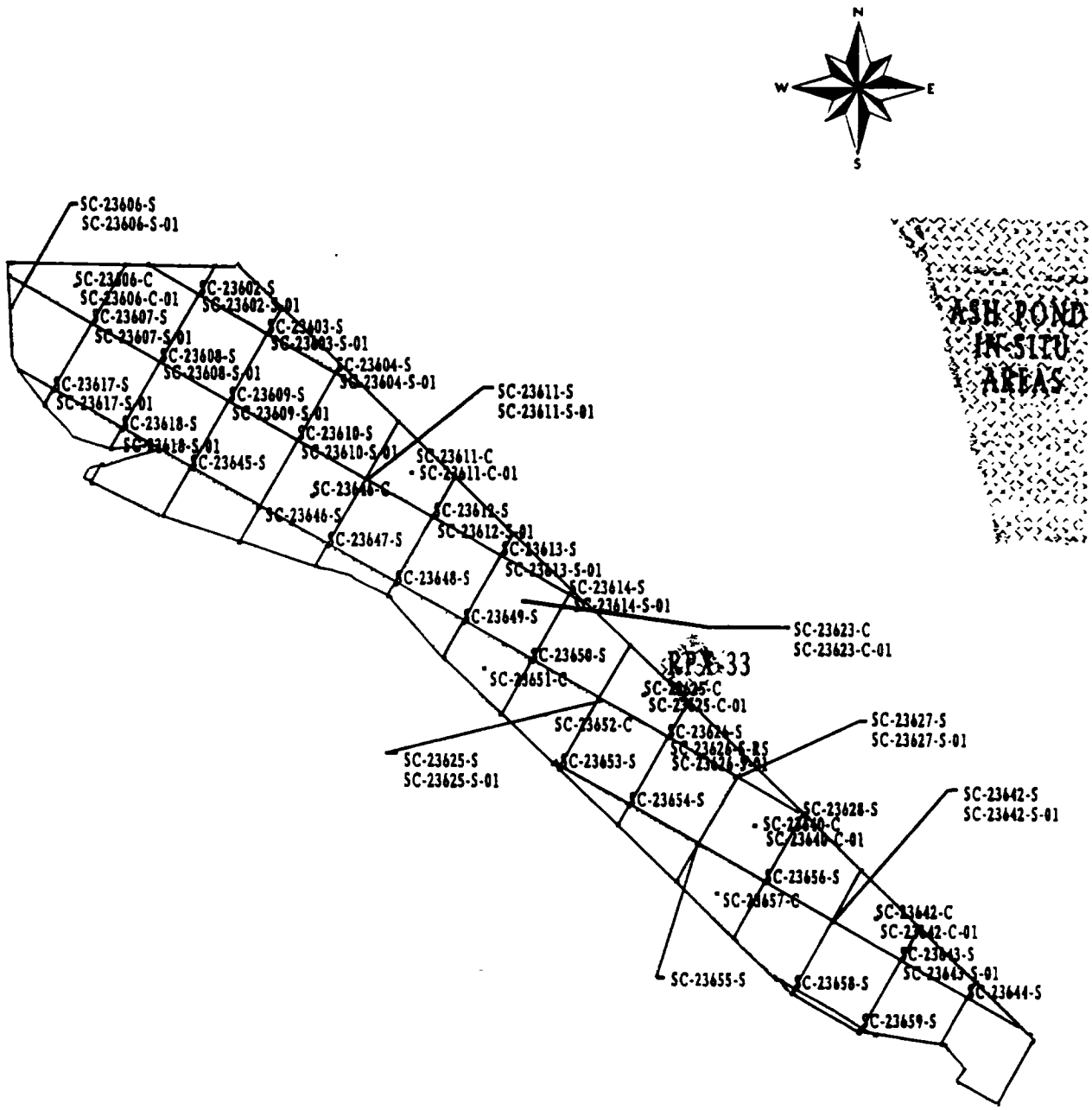
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 30 | 0.29 - 2.61 | 0.83 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 30 | 0.44 - 1.51 | 0.90 | 5 | 6.2 | 0 | 0 |
| Total Radium | 30 | 0.77 - 3.83 | 1.74 | 5 | 6.2 | 0 | 0 |
| Th-230 | 30 | 0.83 - 5.04 | 1.65 | 5 | 6.2 | 1 | 0 |
| Th-232 | 30 | 0.45 - 1.55 | 0.92 | 5 | 6.2 | 0 | 0 |
| U-238 | 30 | 1.16 - 3.12 | 1.37 | 30 | 120 | 0 | 0 |
| TNT | 3 | 0.06 - 1.30 | 0.41 | 14 | 140 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021
## Confirmation Unit CU236

Figure: 4-17

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO: | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE: 02/04/02 | |

# Table 4 - 17 Summary of CU236

CU 236 RU 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | X |
| | Ra-228 | X | Cr | X |
| | Th-230 | X | Pb | X |
| | Th-232 | X | Tl | X |
| | U-238 | X | PAH | X |
| | | | PCB | X |
| | | | TNT | X |

Reference Figure: 4-17

**DATE RELEASED FOR UNRESTRICTED USE:** 09/ 02/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m² < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the northern portion of Raffinate Pit 4.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 6,000 - 23,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *02/14/99; 02/17/99; 02/19/99; 03/29/99; 07/23/99; 08/23/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 44

TOTAL # OF UTILITY SAMPLES : 0

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) The boundary for this CU was expanded to include an adjacent area where contaminated soils had to be removed to the 1954 elevations. Samples collected upon removal to the 1954 elevations are identified by the suffix '-01.' (2) One Ra/Th-230 hotspot was identified at SC-23626-S. The hotspot was excavated and resampled. (3) All final results are below criteria.*

ORISE ACTION - *None*

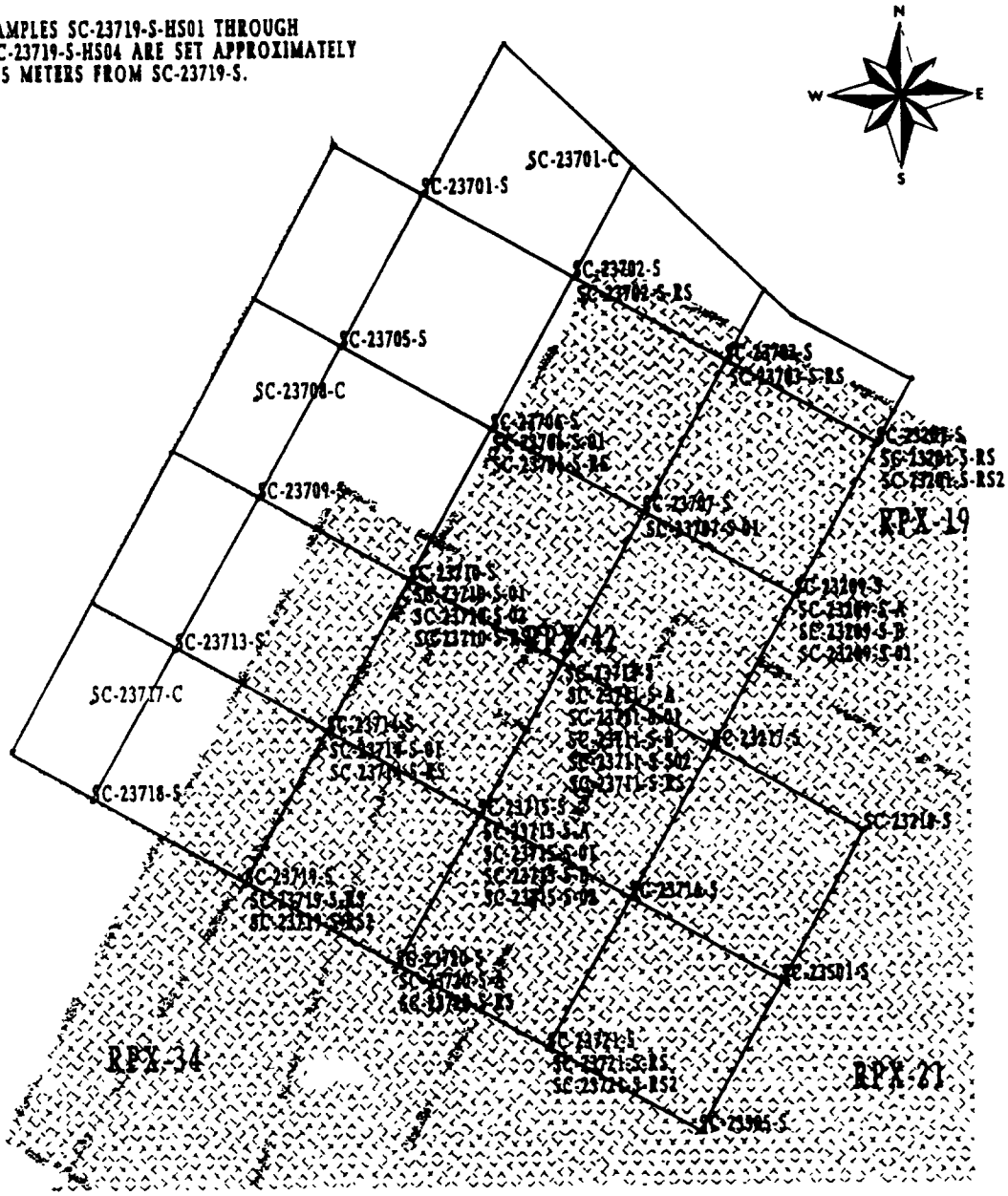
ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| As | 27 | 4.4 - 14.3 | 8.24 | 45 | 75 | 0 | 0 |
| Cr | 27 | 7.5 - 26.4 | 16.35 | 90 | 110 | 0 | 0 |
| Pb | 27 | 8.4 - 28.4 | 15.54 | 240 | 450 | 0 | 0 |
| Tl | 6 | 1.7 - 6.6 | 3.48 | 16 | 20 | 0 | 0 |
| Ra-226 | 69 | 0.30 - 2.54 | 1.08 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 69 | 0.33 - 1.95 | 0.9 | 5 | 6.2 | 0 | 0 |
| Total Radium | 69 | 0.69 - 4.15 | 1.97 | 5 | 6.2 | 0 | 0 |
| Th-230 | 69 | 0.33 - 2.71 | 1.38 | 5 | 6.2 | 0 | 0 |
| Th-232 | 69 | 0.34 - 2.00 | 0.92 | 5 | 6.2 | 0 | 0 |
| U-238 | 69 | 0.93 - 19.10 | 2.94 | 30 | 120 | 0 | 0 |
| PAH | 27 | 0.0 - 1.5 | 0.13 | 0.44 | 5.6 | 3 | 0 |
| PCB | 27 | 0.0 - 2.3 | 0.10 | 0.65 | 8 | 1 | 0 |
| TNT | 27 | results < detection limit | N/A | 14 | 140 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.

NOTE: SAMPLES SC-23719-S-HS01 THROUGH SC-23719-S-HS04 ARE SET APPROXIMATELY 2.5 METERS FROM SC-23719-S.




150 75 0 150 FEET

50 25 0 50 METERS

Sample Locations in Remedial Unit RU021
Confirmation Unit CU237

Figure: 4-18

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE: 02/04/02 | |

# Table 4 - 18 Summary of CU237

CU 237 RU 21

COC

| | | | |
|---|---|---|---|
| Ra-226 | X | As | X |
| Ra-228 | X | Cr | X |
| Th-230 | X | Pb | |
| Th-232 | X | Tl | |
| U-238 | X | PAH | |
| | | PCB | |
| | | TNT | |

Reference Figure: 4-18

**DATE RELEASED FOR UNRESTRICTED USE:** 09/ 02/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m² < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the northern portion of Raffinate Pits 3 and 4.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 5,000 - 18,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *01/28/99; 03/01/99; 05/08/99; 06/10/99; 07/27/99; 08/12/99; 08/23/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 26

TOTAL # OF UTILITY SAMPLES : 0

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-19, RPX-21, RPX-34, and RPX-42. (2) Two Th-230 hotspots were identified at SC-23719-S and SC-23721-S. The first hotspot was sampled around to determine size and failed the hotspot rule, therefore it was excavated and resampled. The other hotspot required two excavation attempts before results were below criteria. (3) The northwest corner of pit 3 required several sampling events in order to sequence work within the pit. In addition to routine confirmation samples, lifts of soil were removed and stockpiled, with the exposed surfaces being sampled (identified by the suffix -A or -B) to determine disposition. Resamples were also collected on the ramp floor upon exiting the pit to ensure contaminated material had not been tracked out of the pit.*
*(4) All final results are below criteria.*

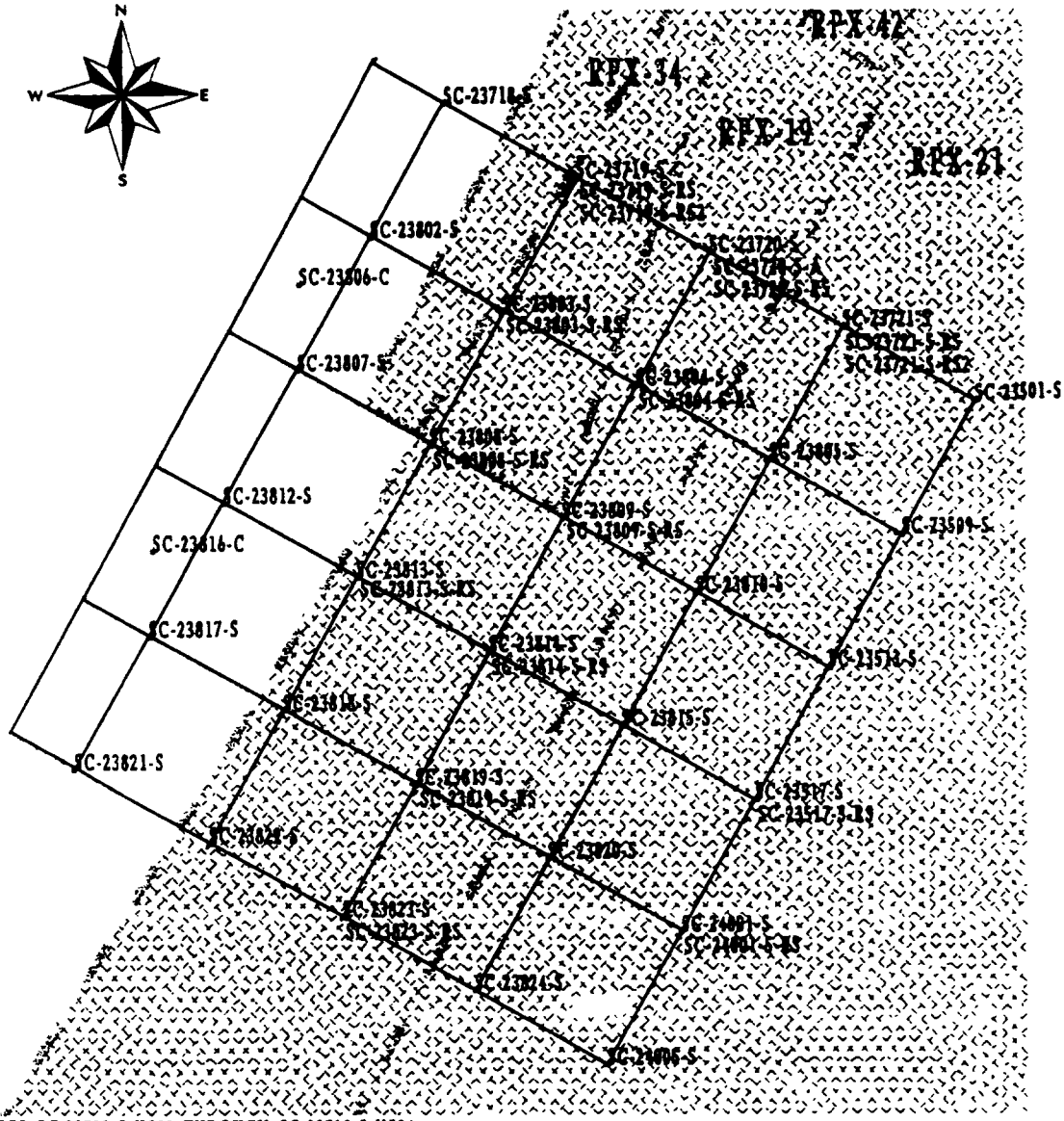
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| As | 3 | 6.1 - 7.6 | 7.10 | 45 | 75 | 0 | 0 |
| Cr | 3 | 16.8 - 26.1 | 19.90 | 90 | 110 | 0 | 0 |
| Ra-226 | 29 | 0.28 - 3.69 | 0.90 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 29 | 0.42 - 1.72 | 0.98 | 5 | 6.2 | 0 | 0 |
| Total Radium | 29 | 0.77 - 5.22 | 1.88 | 5 | 6.2 | 1 | 0 |
| Th-230 | 29 | 0.75 - 5.51 | 1.61 | 5 | 6.2 | 1 | 0 |
| Th-232 | 29 | 0.43 - 1.76 | 1.00 | 5 | 6.2 | 0 | 0 |
| U-238 | 29 | 1.14 - 12.9 | 1.83 | 30 | 120 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




NOTE: SAMPLES SC-23719-S-HS01 THROUGH SC-23719-S-HS04, SC-23808-S-HS01 THROUGH SC-23808-S-HS04, SC-23813-S-HS01 THROUGH SC-23813-S-HS04, AND SC-23816-C-HS01 THROUGH SC-23816-C-HS04 ARE SET APPROXIMATELY 2.5 METERS FROM THEIR ASSOCIATED PARENT SAMPLES.

150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021 Confirmation Unit CU238

Figure: 4-19

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO : | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE 02/04/02 | |

# Table 4 - 19 Summary of CU238

| CU | 238 | RU | 21 |
|---|---|---|---|

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | X |
| | Ra-228 | X | Cr | X |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | |
| | | | PCB | |
| | | | TNT | |

**Reference Figure:** 4-19

**DATE RELEASED FOR UNRESTRICTED USE:** 09/ 03/99

**CLEANUP STANDARD** [X] SURFACE [ ] SUBSURFACE

**EACH 100m² < CRITERIA?** [X] YES [ ] NO

**LOCATION DESCRIPTION:** *This CU represents the northern portion of Raffinate Pit 3 and the common berm.*

## WALKOVER SURVEY INFORMATION

**BACKGROUND:** 5,000 - 12,000 cpm
(shielding may have been used on a case-by-case basis)

**FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ?** [X] YES [ ] NO

**DATE(S) SCANNED:** *01/28/99; 05/08/99; 08/23/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 32

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [X] YES [ ] NO

TOTAL # OF UTILITY SAMPLES : 0

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

*(1) Planned confirmation grid points represent RPX-19, RPX-21, and RPX-34. (2) Seven Th-230 hotspots were identified: SC-23517-S; SC-23719-S, SC-23721-S; SC-23808-S; SC-23813-S; SC-23816-C and SC-24001-S. Additional samples were collected around four of these to determine if they met the hotspot rule. Only one location, SC-23816-C, passed and did not require additional excavation. The remaining 6 were excavated and resampled. Due to scattered contamination encountered within the berm, most of the berm in this area was removed as contaminated until reaching the in-situ design depths. Therefore, many of the locations were resampled and given the '-RS' suffix and not the '-01' suffix used often in the other CUs to represent the 1954 topo surface.*

*(3) All final results are below criteria, with the exception of the above mentioned Th-230 hotspot.*

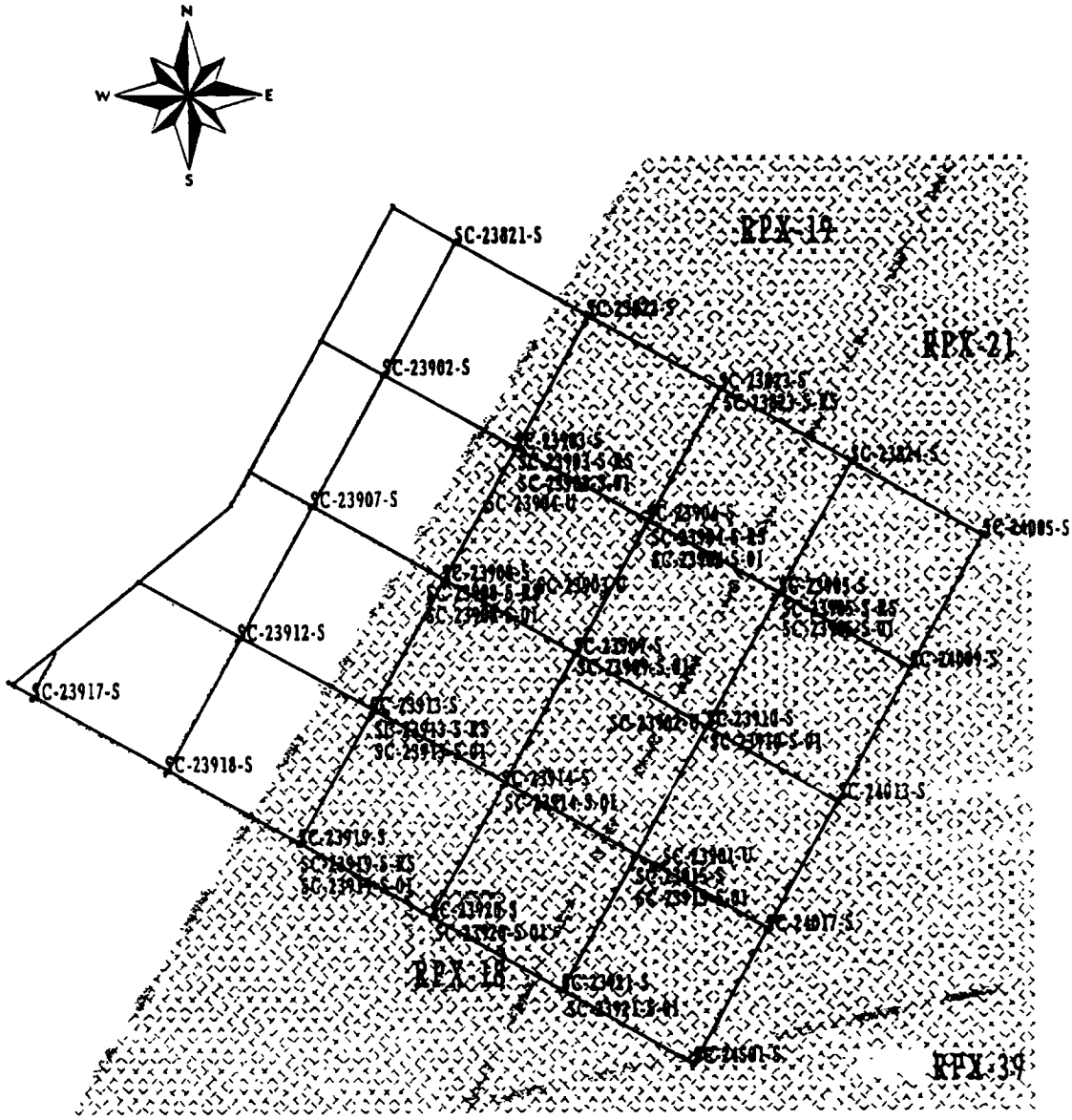
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| As | 3 | 6.2 - 7.8 | 7.17 | 45 | 75 | 0 | 0 |
| Cr | 3 | 16.8 - 25.8 | 21.0 | 90 | 110 | 0 | 0 |
| Ra-226 | 32 | 0.30 - 3.12 | 0.91 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 32 | 0.44 - 1.82 | 0.99 | 5 | 6.2 | 0 | 0 |
| Total Radium | 32 | 0.79 - 3.70 | 1.90 | 5 | 6.2 | 0 | 0 |
| Th-230 | 32 | 0.75 - 7.94 | 1.85 | 5 | 6.2 | 2 | 1 |
| Th-232 | 32 | 0.45 - 1.87 | 1.01 | 5 | 6.2 | 0 | 0 |
| U-238 | 32 | 0.86 - 1.91 | 1.31 | 30 | 120 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




NOTE: SAMPLES SC-23904-S-01-HS01 THROUGH SC-23904-S-01-HS04
ARE SET APPROXIMATELY 2.5 METERS FROM SC-23904-S-01.

150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021
# Confirmation Unit CU239

## Figure: 4-20

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO · | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE 02/04/02 | |

# Table 4 - 20 Summary of CU239

| CU | 239 | RU | 21 |
|---|---|---|---|

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | X |
| | | | PCB | |
| | | | TNT | |

**Reference Figure:** 4-20

**DATE RELEASED FOR UNRESTRICTED USE:** 10/ 05/99

**CLEANUP STANDARD** [X] SURFACE [ ] SUBSURFACE

**EACH 100m² < CRITERIA?** [X] YES [ ] NO

**LOCATION DESCRIPTION:** *This CU represents the northern portion of Raffinate Pits 3 and the common berm.*

## WALKOVER SURVEY INFORMATION

**BACKGROUND:** 5,000 - 23,000 cpm
(shielding may have been used on a case-by-case basis)

**FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ?** [X] YES [ ] NO

**DATE(S) SCANNED:** *01/29/99; 04/27/99; 05/08/99; 07/23/99; 08/23/99; 09/25/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 30

TOTAL # OF UTILITY SAMPLES : 4

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [X] YES [ ] NO

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-18, RPX-19, RPX-21 and RPX-39. (2) Five Th-230 hotspots were identified at SC-23903-S; SC-23904-S-01; SC-23905-S; SC-23913-S; and SC-23919-S. Four of these hotspots were excavated and resampled. Samples collected around SC-23904-S-01 determined the hotspot size met the hotspot rule. No further excavation was required. The hotspot calculation is presented in Appendix E. (3) One Th-230/Ra hotspot was identified at SC-23908-S. This hotspot was excavated and resampled. (4) Four utility samples identified as SC-23901-U thru SC-23904-U were collected after removal of a transite pipe. (5) Two locations (SC-23823-S and SC-23904-S) were resampled due to possible recontamination. (6) All final results are below criteria, with the exception of the remaining hotspot.*

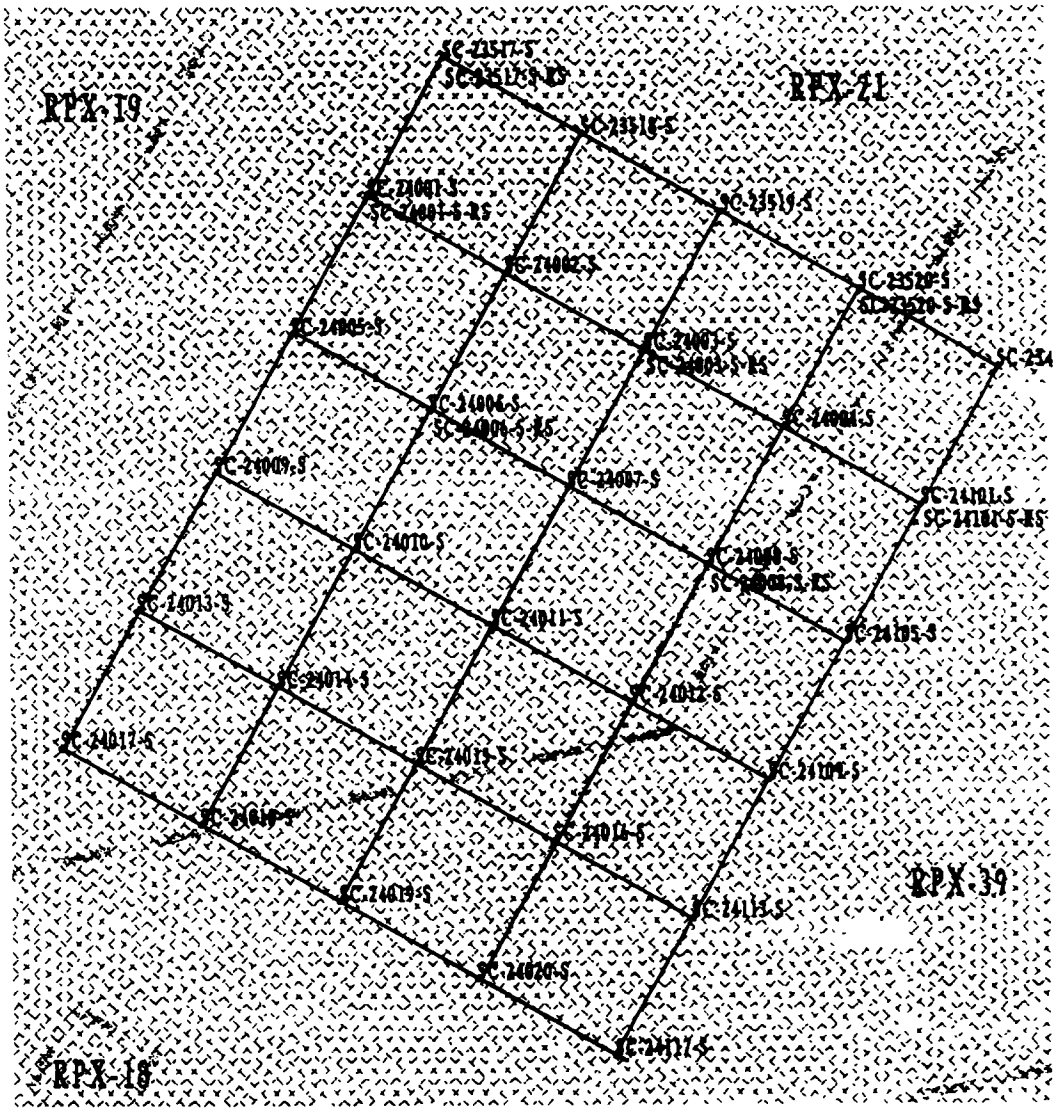
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 42 | 0.25 - 1.26 | 0.87 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 42 | 0.39 - 1.92 | 0.82 | 5 | 6.2 | 0 | 0 |
| Total Radium | 42 | 0.72 - 3.18 | 1.69 | 5 | 6.2 | 0 | 0 |
| Th-230 | 42 | 0.68 - 9.14 | 1.85 | 5 | 6.2 | 4 | 1 |
| Th-232 | 42 | 0.40 - 1.97 | 0.84 | 5 | 6.2 | 0 | 0 |
| U-238 | 42 | 1.18 - 6.04 | 1.57 | 30 | 120 | 0 | 0 |
| PAH | 1 | results < detection limit | N/A | 0.44 | 5.6 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021
## Confirmation Unit CU240

Figure: 4-21

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE: 02/04/02 | |

# Table 4 - 21 Summary of CU240

| CU | 240 | RU | 21 |
|---|---|---|---|

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | |
| | | | PCB | |
| | | | TNT | |

**Reference Figure:** 4-21

**DATE RELEASED FOR UNRESTRICTED USE:** 08/ 05/99

**CLEANUP STANDARD** [X] SURFACE [ ] SUBSURFACE

**EACH 100m² < CRITERIA?** [X] YES [ ] NO

**LOCATION DESCRIPTION:** *This CU represents the central portion of Raffinate Pit 3.*

## WALKOVER SURVEY INFORMATION

**BACKGROUND:** 8,000 - 10,000 cpm
(shielding may have been used on a case-by-case basis)

**FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ?** [X] YES [ ] NO

**DATE(S) SCANNED:** *06/24/99; 07/14/99; 07/22/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 30

TOTAL # OF UTILITY SAMPLES : 0

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-21 and RPX-39.*
*(2) Seven Th-230 hotspots were identified at SC-23517-S; SC-23520-S; SC-24001-S; SC-24003-S; SC-24006-S; SC-24008-S; and SC-24101-S. All hotspots were excavated and resampled.*
*(3) All final results are below criteria.*

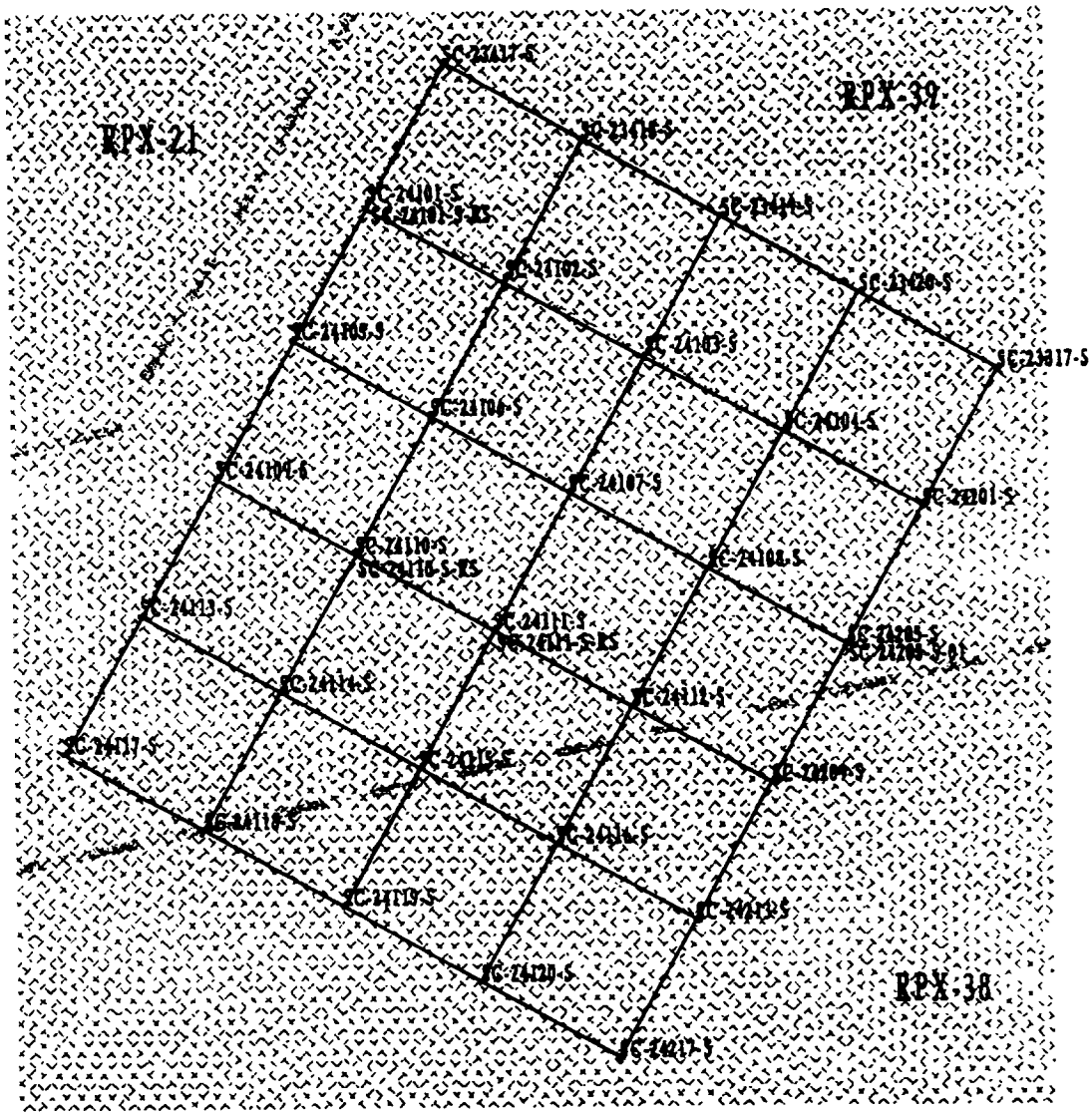
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 30 | 0.27 - 3.12 | 0.97 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 30 | 0.44 - 1.64 | 0.98 | 5 | 6.2 | 0 | 0 |
| Total Radium | 30 | 0.76 - 4.05 | 1.95 | 5 | 6.2 | 0 | 0 |
| Th-230 | 30 | 0.88 - 6.11 | 2.05 | 5 | 6.2 | 4 | 0 |
| Th-232 | 30 | 0.45 - 1.68 | 1.00 | 5 | 6.2 | 0 | 0 |
| U-238 | 30 | 0.82 - 2.02 | 1.34 | 30 | 120 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g.




150 75 0 150 FEET

50 25 0 50 METERS

Sample Locations in Remedial Unit RU021

Confirmation Unit CU241

Figure: 4-22

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO. | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE: 02/04/02 | |

# Table 4 - 22 Summary of CU241

CU 241 RU 21

COC

| | | | |
|---|---|---|---|
| Ra-226 | X | As | |
| Ra-228 | X | Cr | |
| Th-230 | X | Pb | |
| Th-232 | X | Tl | |
| U-238 | X | PAH | |
| | | PCB | |
| | | TNT | |

Reference Figure: 4-22

**DATE RELEASED FOR UNRESTRICTED USE:** 08/ 05/99

CLEANUP STANDARD [ ] SURFACE [X] SUBSURFACE

EACH 100m² < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the central portion of Raffinate Pit 3.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 10,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *06/23/99; 06/24/99; 07/22/99; 07/23/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 30

TOTAL # OF UTILITY SAMPLES : 0

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-38 and RPX-39.*
*(2) Four Th-230 hotspots were identified at SC-24101-S; SC-24110-S; SC-24111-S; and SC-24205-S. All hotspots were excavated and resampled.*
*(3) All final results are below subsurface criteria.*

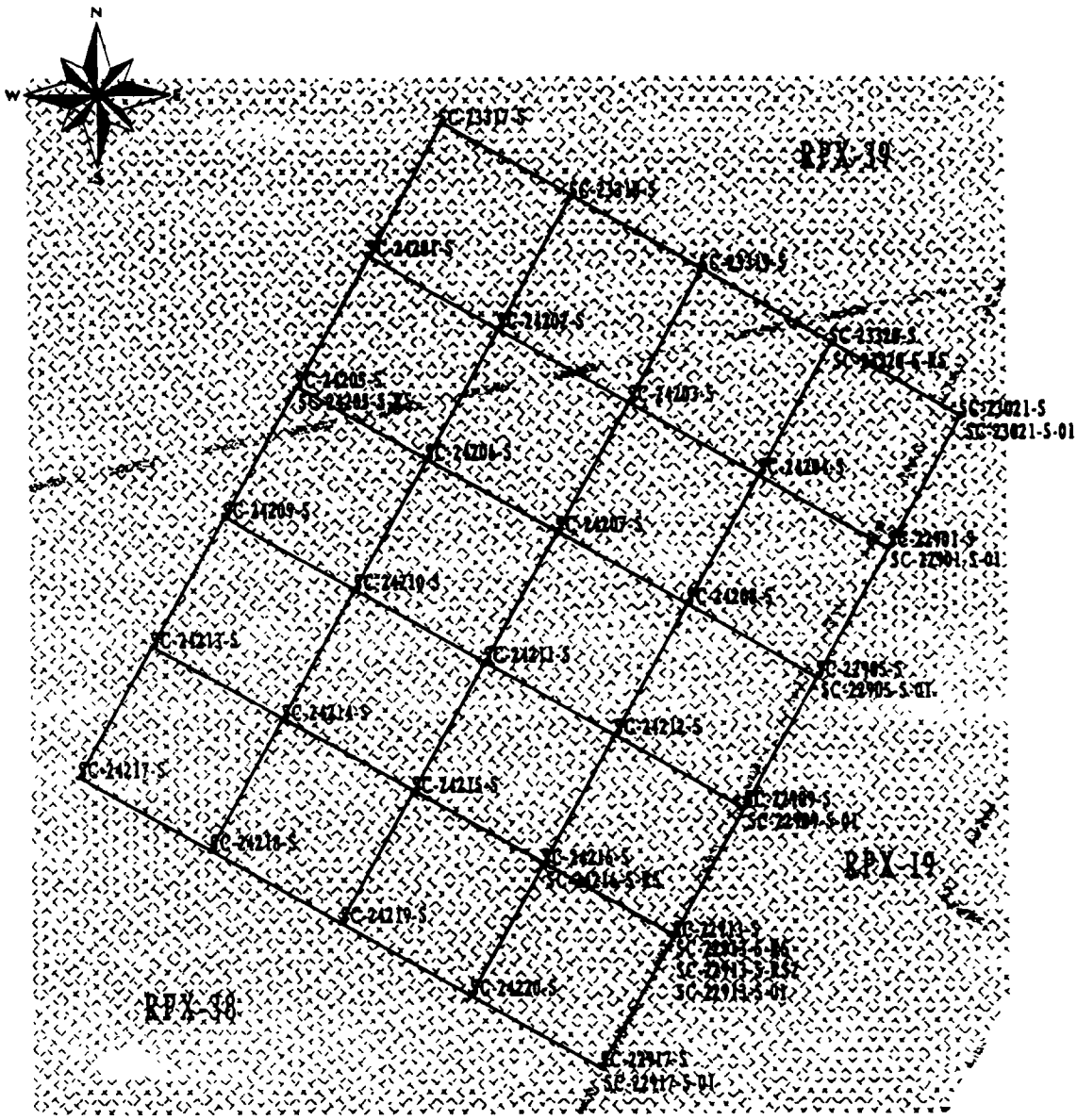
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 30 | 0.28 - 3.23 | 0.86 | 5 | 16.2 | 0 | 0 |
| Ra-228 | 30 | 0.44 - 1.42 | 0.99 | 5 | 16.2 | 0 | 0 |
| Total Radium | 30 | 0.76 - 4.43 | 1.85 | 5 | 16.2 | 0 | 0 |
| Th-230 | 30 | 0.87 - 11.1 | 3.11 | 5 | 16.2 | 6 | 0 |
| Th-232 | 30 | 0.45 - 1.46 | 1.01 | 5 | 16.2 | 0 | 0 |
| U-238 | 30 | 1.16 - 2.32 | 1.33 | 30 | 120 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g.




150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021 Confirmation Unit CU242

Figure: 4-23

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO. | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE: 02/04/02 | |

# Table 4 - 23 Summary of CU242

CU 242 RU 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | |
| | | | PCB | |
| | | | TNT | |

Reference Figure: 4-23

**DATE RELEASED FOR UNRESTRICTED USE:** 08/ 05/99

CLEANUP STANDARD [ ] SURFACE [X] SUBSURFACE

EACH 100m$^2$ < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the central portion of Raffinate Pit 3.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 8,000 - 10,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *06/24/99; 07/14/99; 07/15/99; 07/16/99; 07/22/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 30

TOTAL # OF UTILITY SAMPLES : 0

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-19, RPX-38, and RPX-39. (2) Three Th-230 hotspots were identified at SC-22913-S, SC-24205-S, and SC-24216-S. One total radium/Th-230 hotspot was identified at SC-23320-S. All four hotspots were excavated and resampled. (3) All final results are below subsurface criteria.*

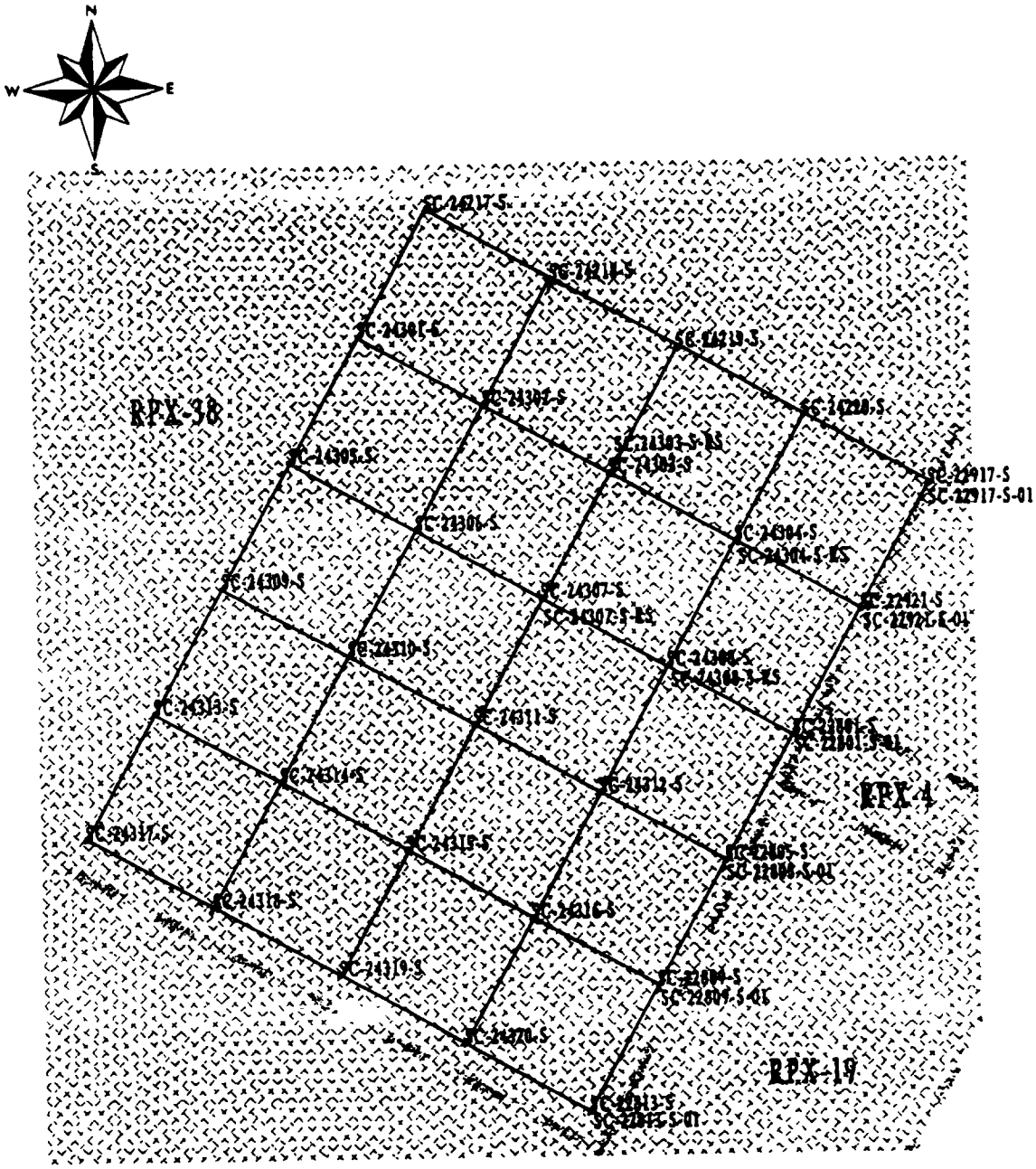
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 36 | 0.30 - 3.23 | 0.96 | 5 | 16.2 | 0 | 0 |
| Ra-228 | 36 | 0.41 - 1.62 | 0.92 | 5 | 16.2 | 0 | 0 |
| Total Radium | 36 | 0.78 - 4.79 | 1.88 | 5 | 16.2 | 0 | 0 |
| Th-230 | 36 | 0.90 - 14.1 | 2.67 | 5 | 16.2 | 4 | 0 |
| Th-232 | 36 | 0.42 - 1.66 | 0.94 | 5 | 16.2 | 0 | 0 |
| U-238 | 36 | 1.16 - 7.21 | 1.55 | 30 | 120 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g.




150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021
# Confirmation Unit CU243

## Figure: 4-24

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO : | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE: 02/04/02 | |

# Table 4 - 24 Summary of CU243

CU 243 RU 21

COC

| | | | |
|---|---|---|---|
| Ra-226 | X | As | |
| Ra-228 | X | Cr | |
| Th-230 | X | Pb | |
| Th-232 | X | Tl | |
| U-238 | X | PAH | |
| | | PCB | |
| | | TNT | |

Reference Figure: 4-24

DATE RELEASED FOR UNRESTRICTED USE: 07/ 26/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m² < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the central portion of Raffinate Pit 3.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 8,000 - 10,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *06/15/99; 06/23/99; 06/24/99; 07/14/99; 07/15/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 30

TOTAL # OF UTILITY SAMPLES : 0

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-19 and RPX-38.*
*(2) Four Th-230 hotspots were identified at SC-24303-S, SC-24304-S, SC-24307-S, and SC-24308-S. These hotspots were excavated and resampled.*
*(3) All final results are below criteria.*

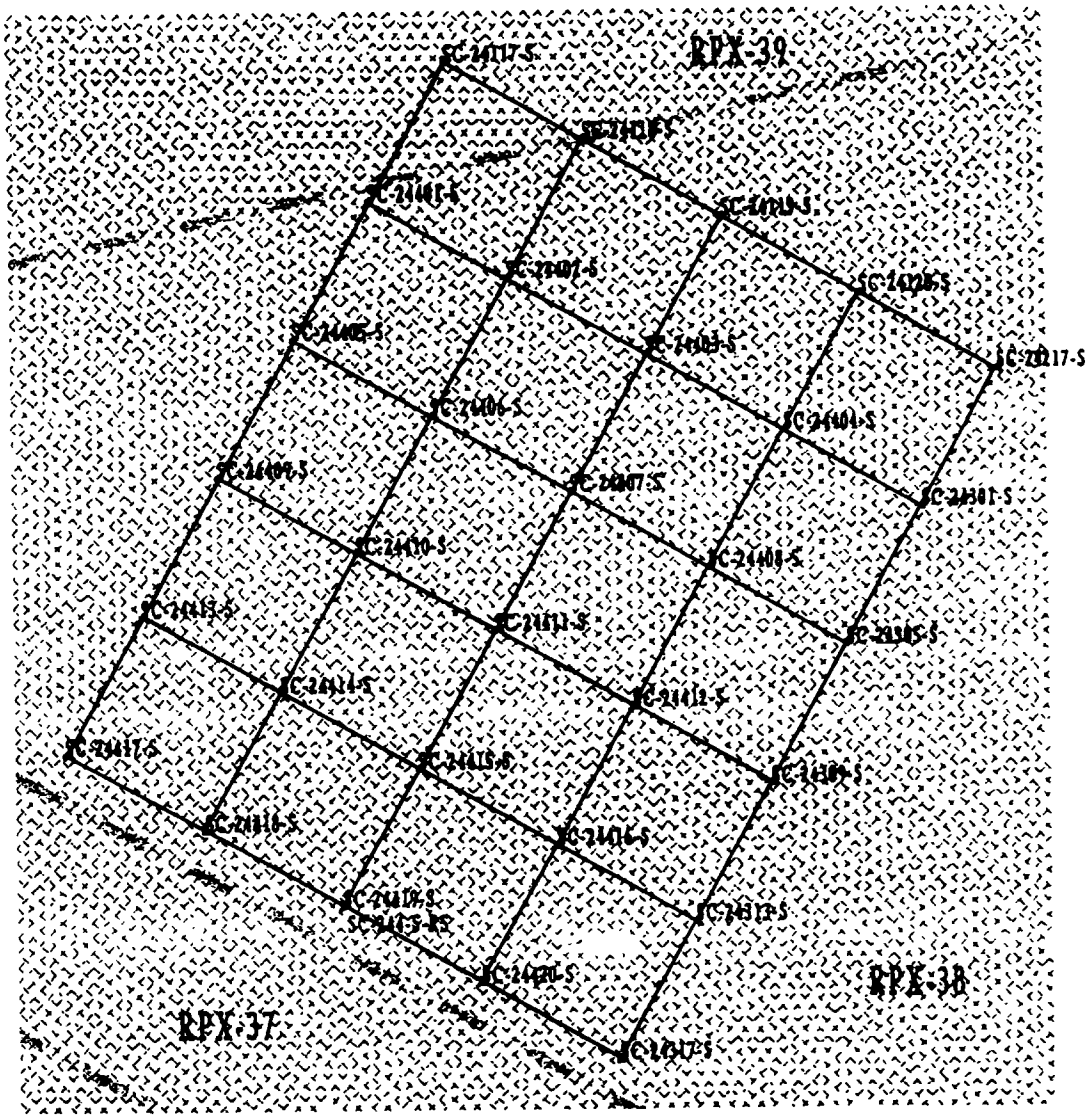
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 34 | 0.27 - 3.95 | 0.8 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 34 | 0.41 - 1.53 | 0.84 | 5 | 6.2 | 0 | 0 |
| Total Radium | 34 | 0.71 - 5.48 | 1.64 | 5 | 6.2 | 1 | 0 |
| Th-230 | 34 | 0.89 - 5.74 | 1.66 | 5 | 6.2 | 1 | 0 |
| Th-232 | 34 | 0.42 - 1.57 | 0.86 | 5 | 6.2 | 0 | 0 |
| U-238 | 34 | 1.16 - 1.95 | 1.34 | 30 | 120 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g.




150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021
## Confirmation Unit CU244

Figure: 4-25

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE: 01/16/02 | |

# Table 4 - 25 Summary of CU244

CU 244 RU 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | |
| | | | PCB | |
| | | | TNT | |

Reference Figure: 4-25

**DATE RELEASED FOR UNRESTRICTED USE:** 07/ 19/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m$^2$ < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the central portion of Raffinate Pit 3.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 10,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *06/15/99; 06/23/99; 06/24/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 30

TOTAL # OF UTILITY SAMPLES : 0

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-38 and RPX-39.*
*(2)One Th-230 hotspot was identified at SC-24419-S. The hotspot was excavated and resampled.*
*(3) All final results are below ALARA.*

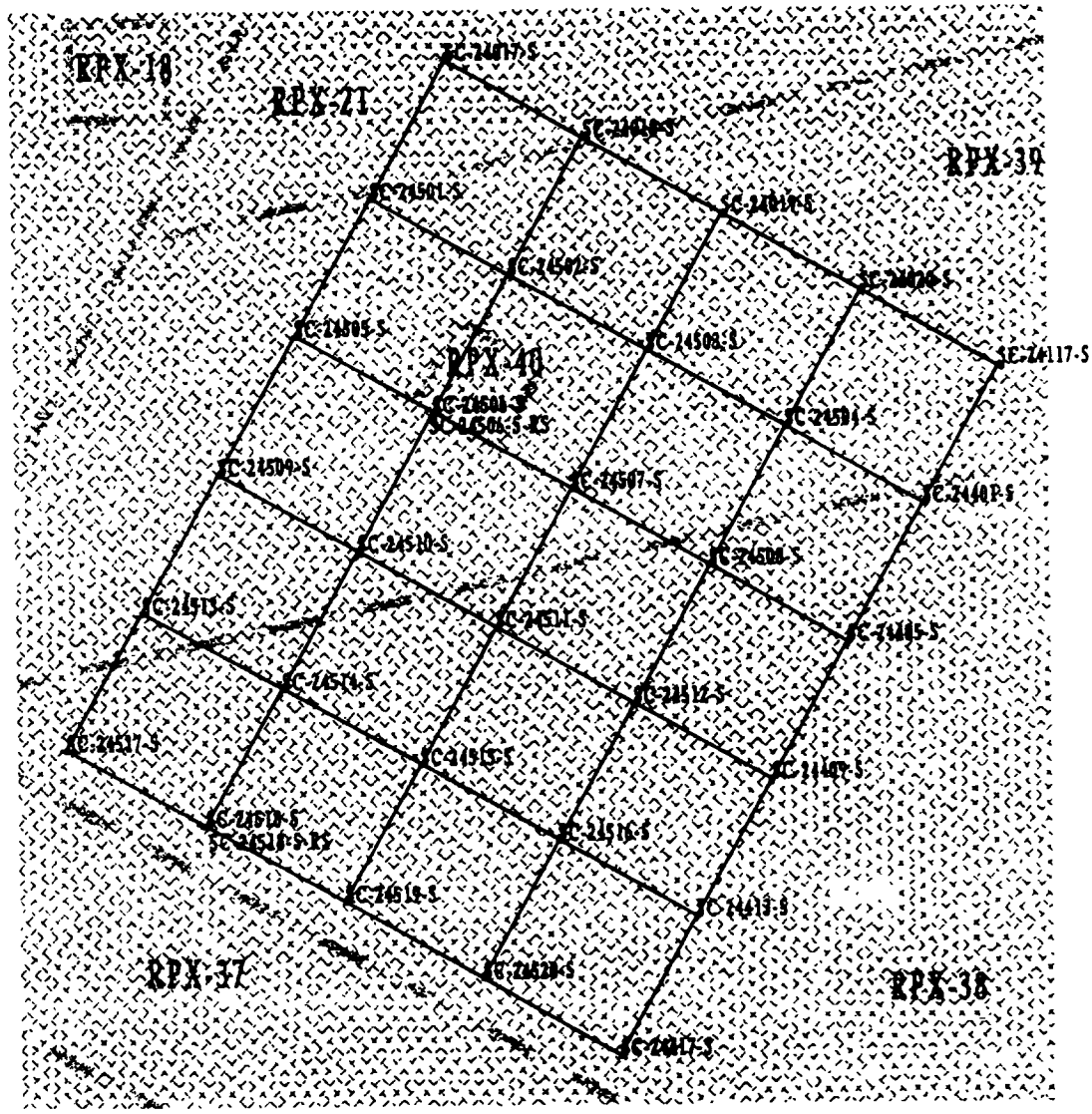
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 30 | 0.29 - 1.05 | 0.71 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 30 | 0.42 - 1.37 | 0.93 | 5 | 6.2 | 0 | 0 |
| Total Radium | 30 | 0.71 - 2.10. | 1.64 | 5 | 6.2 | 0 | 0 |
| Th-230 | 30 | 0.92 - 4.85 | 1.90 | 5 | 6.2 | 0 | 0 |
| Th-232 | 30 | 0.43 - 1.40 | 0.95 | 5 | 6.2 | 0 | 0 |
| U-238 | 30 | 0.82 - 1.34 | 1.25 | 30 | 120 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g.


N
W
E
S
RPX-18
RPX-27
RPX-39
RPX-40
RPX-37
RPX-38
SC-24117-S
SC-24501-S
SC-24502-S
SC-24505-S
SC-24508-S
SC-24509-S
SC-24510-S
SC-24511-S
SC-24512-S
SC-24513-S
SC-24514-S
SC-24515-S
SC-24516-S
SC-24517-S
SC-24518-S
SC-24519-S
SC-24520-S
SC-24521-S
SC-24522-S
SC-24523-S
SC-24524-S
SC-24525-S
SC-24526-S
SC-24527-S
SC-24528-S
SC-24529-S
SC-24530-S
SC-24531-S
SC-24532-S
SC-24533-S
SC-24534-S
SC-24535-S
SC-24536-S
SC-24537-S
SC-24538-S
SC-24539-S
SC-24540-S
SC-24541-S
SC-24542-S
SC-24543-S
SC-24544-S
SC-24545-S
SC-24546-S
SC-24547-S

# Table 4 - 26 Summary of CU245

CU 245 RU 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | |
| | | | PCB | |
| | | | TNT | |

Reference Figure: 4-26

DATE RELEASED FOR UNRESTRICTED USE: 08/ 11/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m² < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the central portion of Raffinate Pit 3.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 10,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *06/23/99; 06/24/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 30

TOTAL # OF UTILITY SAMPLES : 0

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-21, RPX-38, RPX-39, and RPX-40.*
*(2) The location representing RPX-40 was sampled prior to reaching the design elevation. The original results were not used and the location was resampled after reaching design elevation.*
*(3) One Th-230 hotspot was identified at SC-24518-S. The hotspot was excavated and resampled.*
*(4) All final results are below Criteria.*

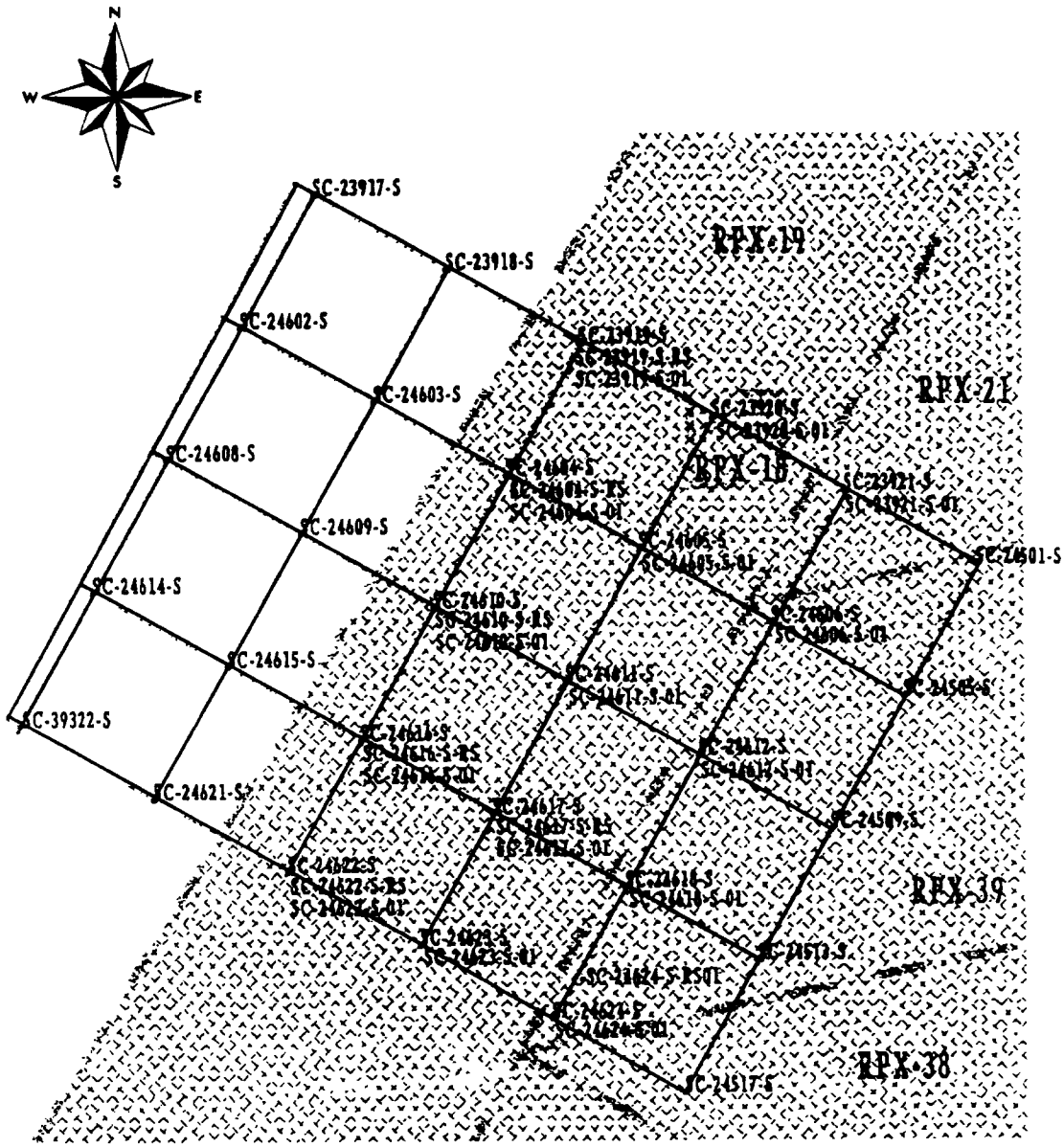
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 31 | 0.27 - 1.04 | 0.67 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 31 | 0.40 - 1.36 | 0.85 | 5 | 6.2 | 0 | 0 |
| Total Radium | 31 | 0.74 - 2.15 | 1.52 | 5 | 6.2 | 0 | 0 |
| Th-230 | 31 | 0.92 - 6.11 | 1.62 | 5 | 6.2 | 1 | 0 |
| Th-232 | 31 | 0.41 - 1.39 | 0.87 | 5 | 6.2 | 0 | 0 |
| U-238 | 31 | 1.15 - 1.35 | 1.25 | 30 | 120 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g.




NOTE: SAMPLES SC-24617-S-HS01 THROUGH SC-24617-S-HS04, ARE SET APPROXIMATELY 2.5 METERS FROM SC-24617-S

150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021
## Confirmation Unit CU246

Figure: 4-27

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO : | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE: 02/18/02 | |

# Table 4 - 27 Summary of CU246

| CU | 246 | RU | 21 |
|---|---|---|---|
| COC | Ra-226 | X | As | X |
| | Ra-228 | X | Cr | X |
| | Th-230 | X | Pb | X |
| | Th-232 | X | Tl | X |
| | U-238 | X | PAH | X |
| | | | PCB | X |
| Reference Figure: | 4-27 | | TNT | X |

**DATE RELEASED FOR UNRESTRICTED USE:** 11/ 24/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m$^2$ < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the central portions of Raffinate Pits 3 and 4.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 5,000 - 23,000 cpm (shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *01/29/99; 04/27/99; 07/23/99; 08/23/99; 09/25/99; 09/27/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 30

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

TOTAL # OF UTILITY SAMPLES : 0

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

COMMENTS - *(1) Planned confirmation grid points represent RPX-18, RPX-19, RPX-21, RPX-38, and RPX-39. (2) Five Th-230 hotspots were identified at SC-24604-S, SC-24610-S, SC-24616-S, SC-24617-S, and SC-23919-S. The first three were excavated and resampled and found to still be contaminated. These areas were excavated as contaminated until reaching the 1954 topo and then resampled again and given the suffix '-01.' The fourth hotspot was sampled around to determine size. It failed the hotspot rule and was therefore excavated and resampled. The fifth Th-230 hotspot was excavated and resampled. (3) One Th-230/total radium hotspot was identified at SC-24622-S. This hotspot was excavated and resampled. (4). Sample ID 'SC-24620-S' was renamed 'SC-39322-S' upon creation of CU393. (5) All final results are below ALARA.*

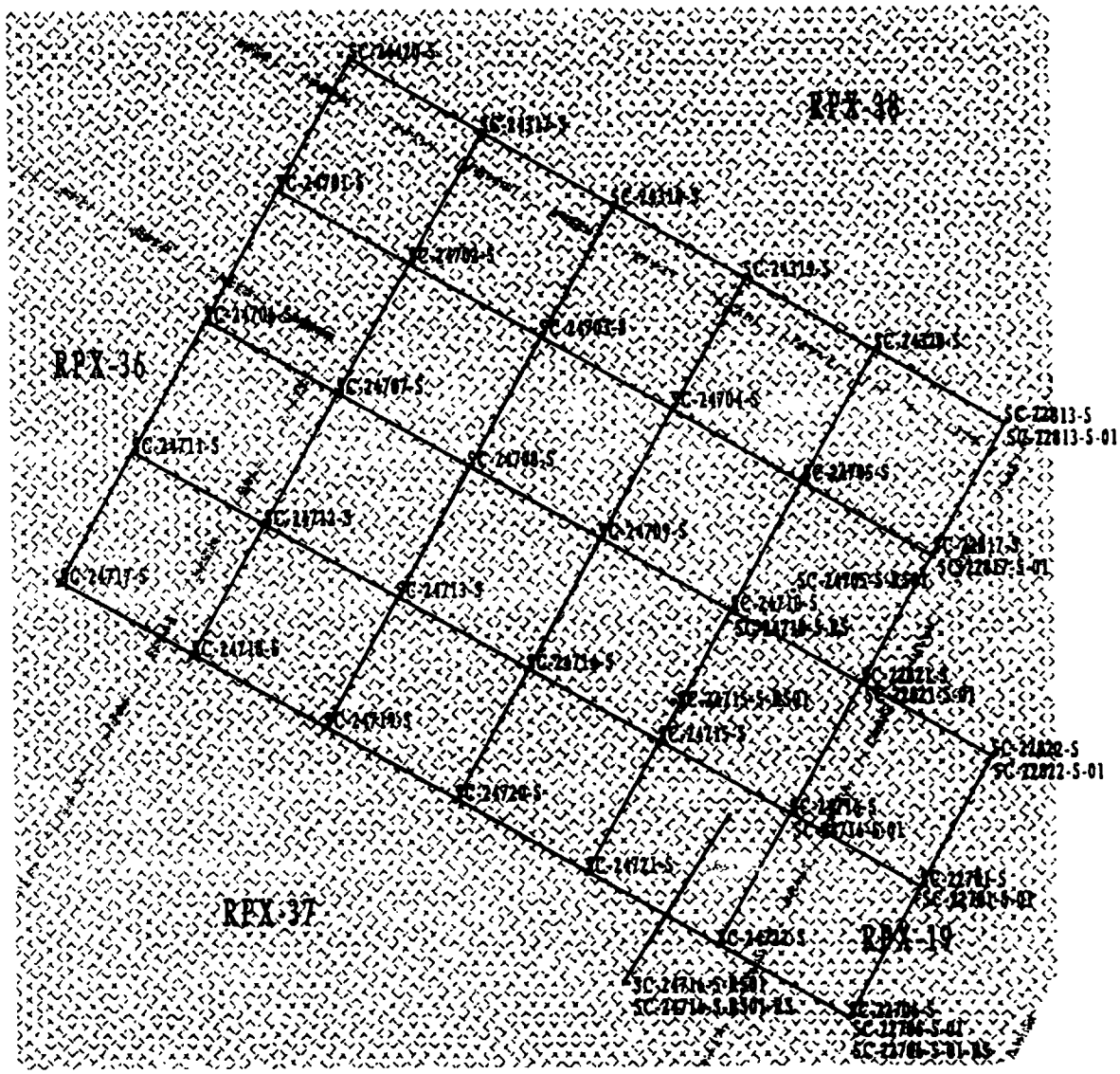
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Arsenic | 1 | 10 | N/A | 45 | 75 | 0 | 0 |
| Chromium | 1 | 14.8 | N/A | 90 | 110 | 0 | 0 |
| Lead | 1 | 12.9 | N/A | 240 | 450 | 0 | 0 |
| Thallium | 1 | 3 | N/A | 16 | 20 | 0 | 0 |
| Ra-226 | 42 | 0.25 - 1.62 | 0.87 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 42 | 0.39 - 1.50 | 0.84 | 5 | 6.2 | 0 | 0 |
| Total Radium | 42 | 0.72 - 2.79 | 1.71 | 5 | 6.2 | 0 | 0 |
| Th-230 | 42 | 0.68 - 4.10 | 1.58 | 5 | 6.2 | 0 | 0 |
| Th-232 | 42 | 0.40 - 1.54 | 0.86 | 5 | 6.2 | 0 | 0 |
| U-238 | 42 | 1.18 - 4.56 | 1.49 | 30 | 120 | 0 | 0 |
| TNT | 1 | result < detection limit | N/A | 14 | 140 | 0 | 0 |
| PCB | 1 | result < detection limit | N/A | 0.65 | 8 | 0 | 0 |
| PAH | 2 | results < detection limit | N/A | 0.44 | 5.6 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021
## Confirmation Unit CU247

Figure: 4-28

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO · | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE: 02/04/02 | |

# Table 4 - 28 Summary of CU247

CU 247 RU 21

COC

| | | | |
|---|---|---|---|
| Ra-226 | X | As | |
| Ra-228 | X | Cr | |
| Th-230 | X | Pb | |
| Th-232 | X | Tl | |
| U-238 | X | PAH | |
| | | PCB | |
| | | TNT | |

Reference Figure: 4-28

**DATE RELEASED FOR UNRESTRICTED USE:** 07/ 20/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m² < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the southern portion of Raffinate Pit 3.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 6,000 - 10,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *04/13/99; 05/06/99; 06/02/99; 06/15/99; 07/14/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 33

TOTAL # OF UTILITY SAMPLES : 0

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-19, RPX-36, RPX-37, and RPX-38. (2) One Th-230 hotspot was identified at SC-24710-S. This hotspot was excavated and resampled. All results were below ALARA. (2) 'SC-22706-S-01' was erroneously staked and sampled before reaching the design elevation. The sample results were not used and excavation continued until reaching the design elevation. The location was resampled and designated with a '-01-RS' suffix. (3) All final results are below Criteria.*

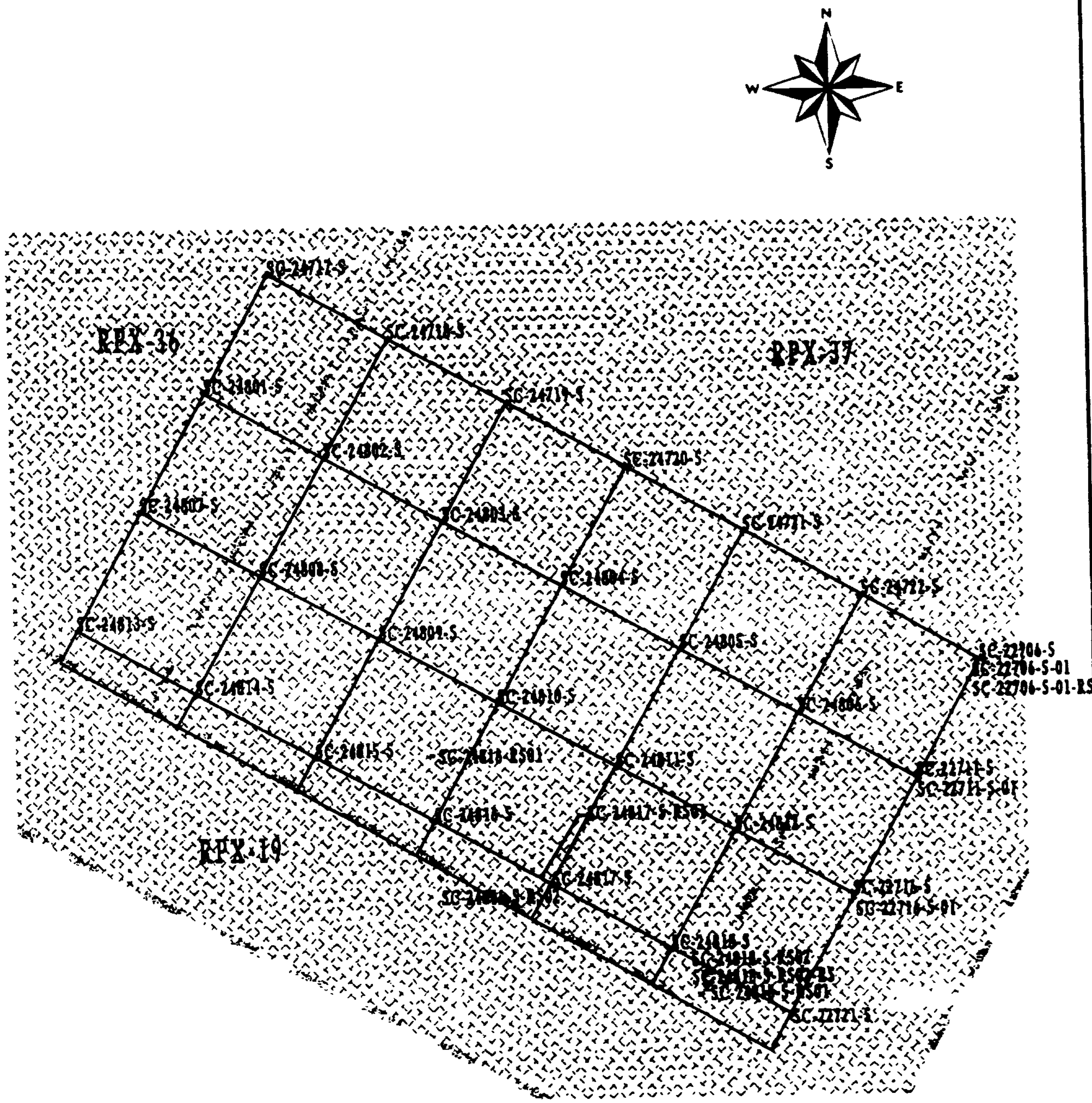
ORISE ACTION - *ORISE identified three areas with elevated readings. These areas were automatically excavated and resampled. One area, SC-24716-S-RS01, required a second excavation and resampling. All results were below ALARA.*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 43 | 0.27 - 1.69 | 0.89 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 43 | 0.41 - 1.49 | 0.94 | 5 | 6.2 | 0 | 0 |
| Total Radium | 43 | 0.78 - 3.08 | 1.83 | 5 | 6.2 | 0 | 0 |
| Th-230 | 43 | 0.45 - 5.36 | 1.35 | 5 | 6.2 | 1 | 0 |
| Th-232 | 43 | 0.42 - 1.53 | 0.96 | 5 | 6.2 | 0 | 0 |
| U-238 | 43 | 0.22 - 3.36 | 1.35 | 30 | 120 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g.




150 75 0 150 FEET

50 25 0 50 METERS

**Sample Locations in Remedial Unit RU021**

**Confirmation Unit CU248**

Figure: 4-29

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE: 02/05/02 | |

# Table 4 - 29 Summary of CU248

CU 248 RU 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | |
| | | | PCB | |
| | | | TNT | |

Reference Figure: 4-29

**DATE RELEASED FOR UNRESTRICTED USE:** 06/ 15/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m² < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the southern portion of Raffinate Pit 3.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 7,000 - 9,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *04/13/99; 06/02/99; 06/03/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 28

TOTAL # OF UTILITY SAMPLES : 0

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-19, RPX-36 and RPX-37.*
*(2) 'SC-22706-S-01' was erroneously staked and sampled before reaching the design elevation. The sample results were not used and excavation continued until reaching the design elevation. The location was resampled and designated with a '-01-RS' suffix.*
*(3) All final results are below ALARA.*

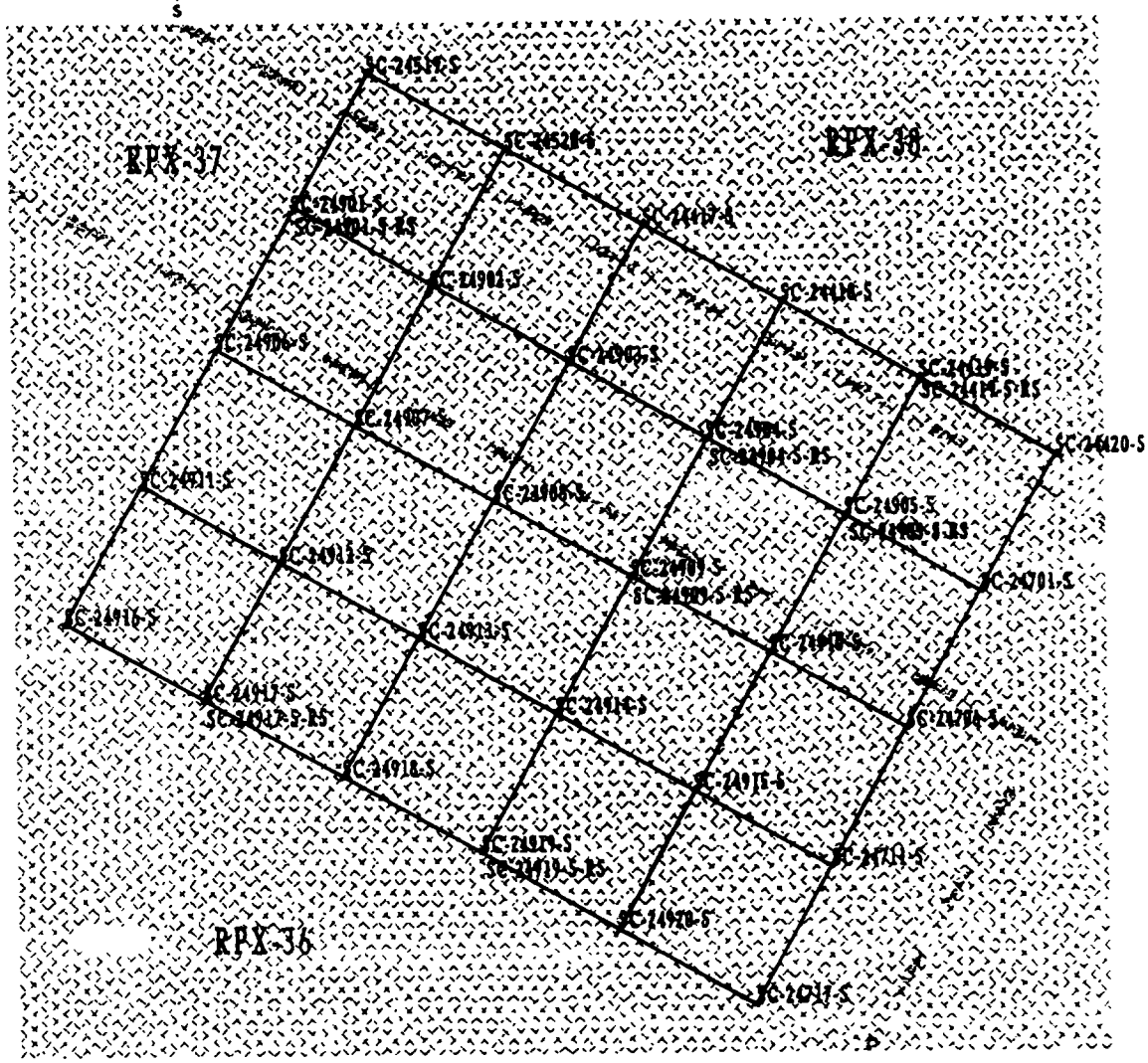
ORISE ACTION - *ORISE identified five areas with elevated readings. These areas were automatically excavated and resampled. One area, SC-24818-S-RS02, required a second excavation and resampling. All results were below ALARA.*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 36 | 0.31 - 3.85 | 0.97 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 36 | 0.42 - 1.65 | 0.95 | 5 | 6.2 | 0 | 0 |
| Total Radium | 36 | 0.73 - 4.39 | 1.92 | 5 | 6.2 | 0 | 0 |
| Th-230 | 36 | 0.76 - 4.27 | 1.32 | 5 | 6.2 | 0 | 0 |
| Th-232 | 36 | 0.43 - 1.69 | 0.97 | 5 | 6.2 | 0 | 0 |
| U-238 | 36 | 0.80 - 2.44 | 1.31 | 30 | 120 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g.




150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021
## Confirmation Unit CU249

Figure: 4-30

| | | | |
|---|---|---|---|
| REPORT NO: DOE/OR/21548-907 | | EXHIBIT NO: | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE: 01/17/02 | |

# Table 4 - 30 Summary of CU249

CU 249 RU 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | |
| | | | PCB | |
| | | | TNT | |

Reference Figure: 4-30

**DATE RELEASED FOR UNRESTRICTED USE:** 07/ 20/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m² < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the southern portion of Raffinate Pit 3.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 9,000 - 10,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *06/02/99; 06/11/99; 06/15/99; 06/23/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 30

TOTAL # OF UTILITY SAMPLES : 0

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-36, RPX-37, and RPX-38. (2) Seven Th-230 hotspots were identified at SC-24419-S; SC-24901-S; SC-24904-S; SC-24905-S; SC-24909-S; SC-24917-S; and SC-24919-S. All were excavated and resampled. (3) All final results are below ALARA.*

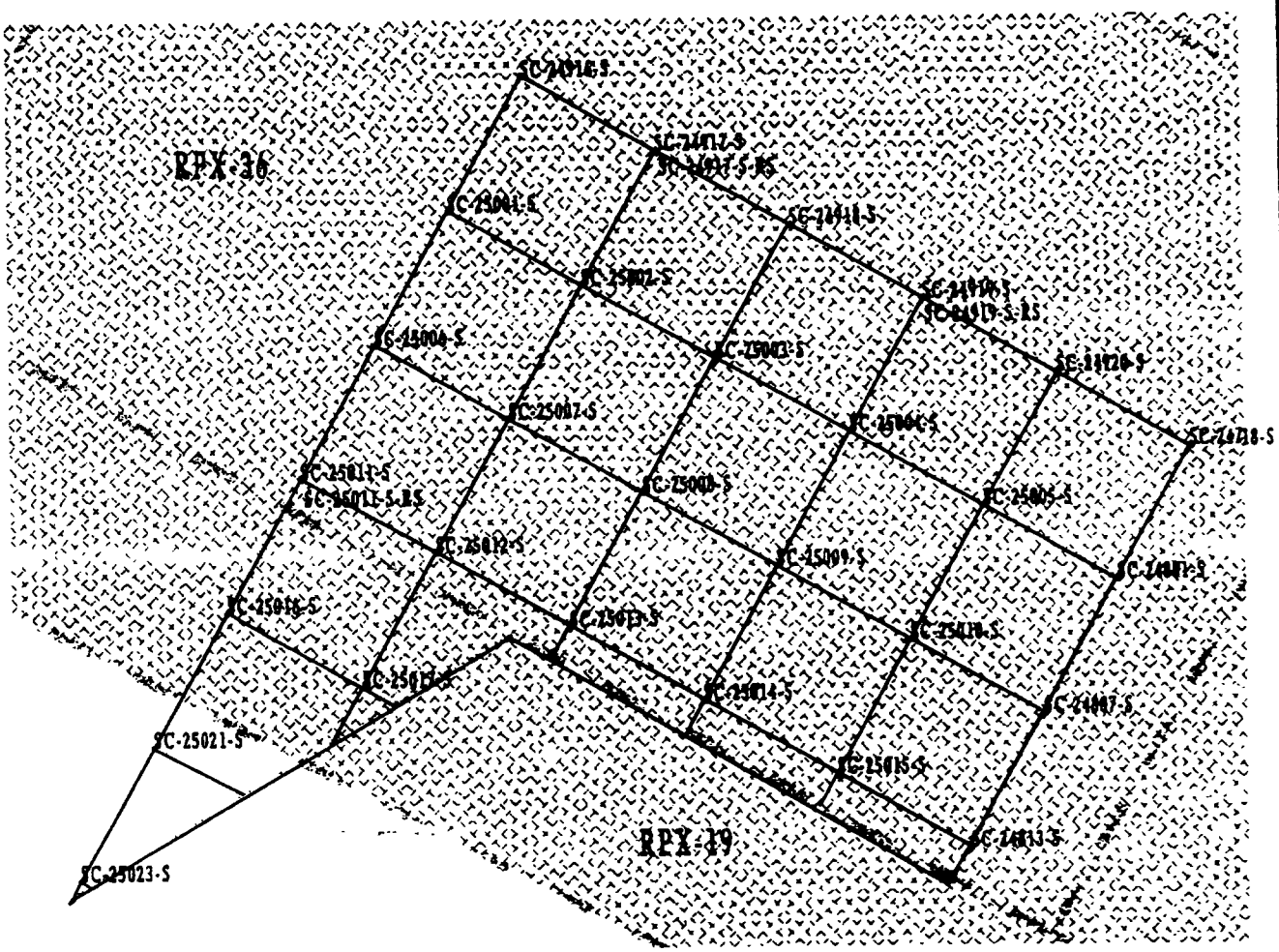
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 30 | 0.27 - 3.34 | 0.90 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 30 | 0.40 - 1.60 | 0.93 | 5 | 6.2 | 0 | 0 |
| Total Radium | 30 | 0.76 - 4.94 | 1.82 | 5 | 6.2 | 0 | 0 |
| Th-230 | 30 | 0.70 - 3.36 | 1.59 | 5 | 6.2 | 0 | 0 |
| Th-232 | 30 | 0.41 - 1.64 | 0.95 | 5 | 6.2 | 0 | 0 |
| U-238 | 30 | 1.21 - 1.89 | 1.35 | 30 | 120 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g.




150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021
## Confirmation Unit CU250

Figure: 4-31

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO : | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE: 01/17/02 | |

# Table 4 - 31 Summary of CU250

CU 250 RU 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | |
| | | | PCB | |
| | | | TNT | |

Reference Figure: 4-31

**DATE RELEASED FOR UNRESTRICTED USE:** 11/ 02/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m$^2$ < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the southern portion of Raffinate Pit 3.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 6,000 - 10,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *06/02/99; 06/04/99; 06/11/99; 06/17/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 28

TOTAL # OF UTILITY SAMPLES : 0

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned confirmation grid samples represent RPX-19 and RPX-36. (2) Two Th-230 hotspots were identified at SC-24917-S and SC-24919-S. Both hotspots were excavated and resampled. (3) One total radium/Th-230 hotspot was identified at SC-25011-S. This hotspot was excavated and resampled. (4) All final results were below Criteria.*

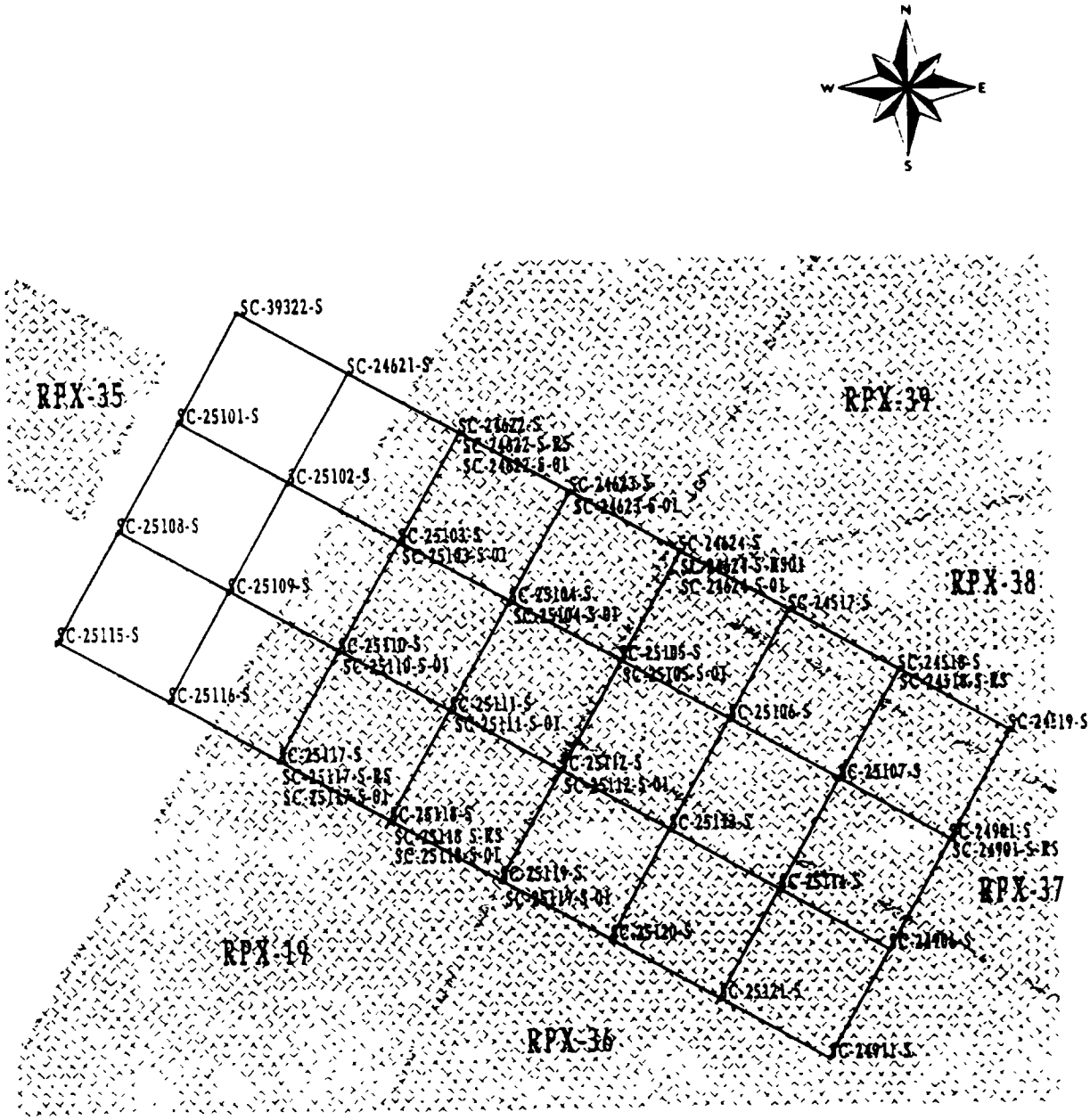
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 28 | 0.33 - 3.34 | 0.89 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 28 | 0.45 - 1.60 | 0.94 | 5 | 6.2 | 0 | 0 |
| Total Radium | 28 | 0.78 - 4.94 | 1.83 | 5 | 6.2 | 0 | 0 |
| Th-230 | 28 | 0.75 - 6.15 | 1.63 | 5 | 6.2 | 1 | 0 |
| Th-232 | 28 | 0.46 - 1.64 | 0.96 | 5 | 6.2 | 0 | 0 |
| U-238 | 28 | 0.86 - 2.14 | 1.35 | 30 | 120 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g.




NOTE: SAMPLES SC-25118-S-HS01 THROUGH SC-25118-S-HS04.
ARE SET APPROXIMATELY 2.5 METERS FROM SC-25118-S.

150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021 Confirmation Unit CU251

Figure: 4-32

| | | | |
|---|---|---|---|
| REPORT NO: DOE/OR/21548-907 | | EXHIBIT NO: | |
| ORIGINATOR MGL | DRAWN BY: LGE | DATE 04/01/02 | |

# Table 4 - 32 Summary of CU251

CU 251 RU 21

COC

| | | | |
|---|---|---|---|
| Ra-226 | X | As | X |
| Ra-228 | X | Cr | X |
| Th-230 | X | Pb | X |
| Th-232 | X | Tl | X |
| U-238 | X | PAH | X |
| | | PCB | X |
| | | TNT | X |

Reference Figure: 4-32

**DATE RELEASED FOR UNRESTRICTED USE:** 10/ 12/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m² < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the southern portion of Raffinate Pits 3 and 4.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 5,000 - 23,000 cpm

(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *01/29/99; 04/27/99; 06/11/99; 06/17/99; 07/23/99; 09/25/99; 09/28/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 32

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

TOTAL # OF UTILITY SAMPLES : 0

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-19, RPX-36, RPX-37, RPX-38 and RPX-39. (2) Three Th-230 hotspots were identified at SC-24518-S, SC-24901-S, and SC-25118-S. The first two were excavated and resampled. The third one was sampled around to determine size. It failed the hotspot rule and was therefore excavated and resampled. (3) Two total radium/Th-230 hotspots were identified at SC-25117-S and SC-24622-S. Both hotspots were excavated and resampled. (4) Sample ID SC-24620-S was renamed SC-39322-S upon creation of CU393. (5) All final results are below ALARA.*

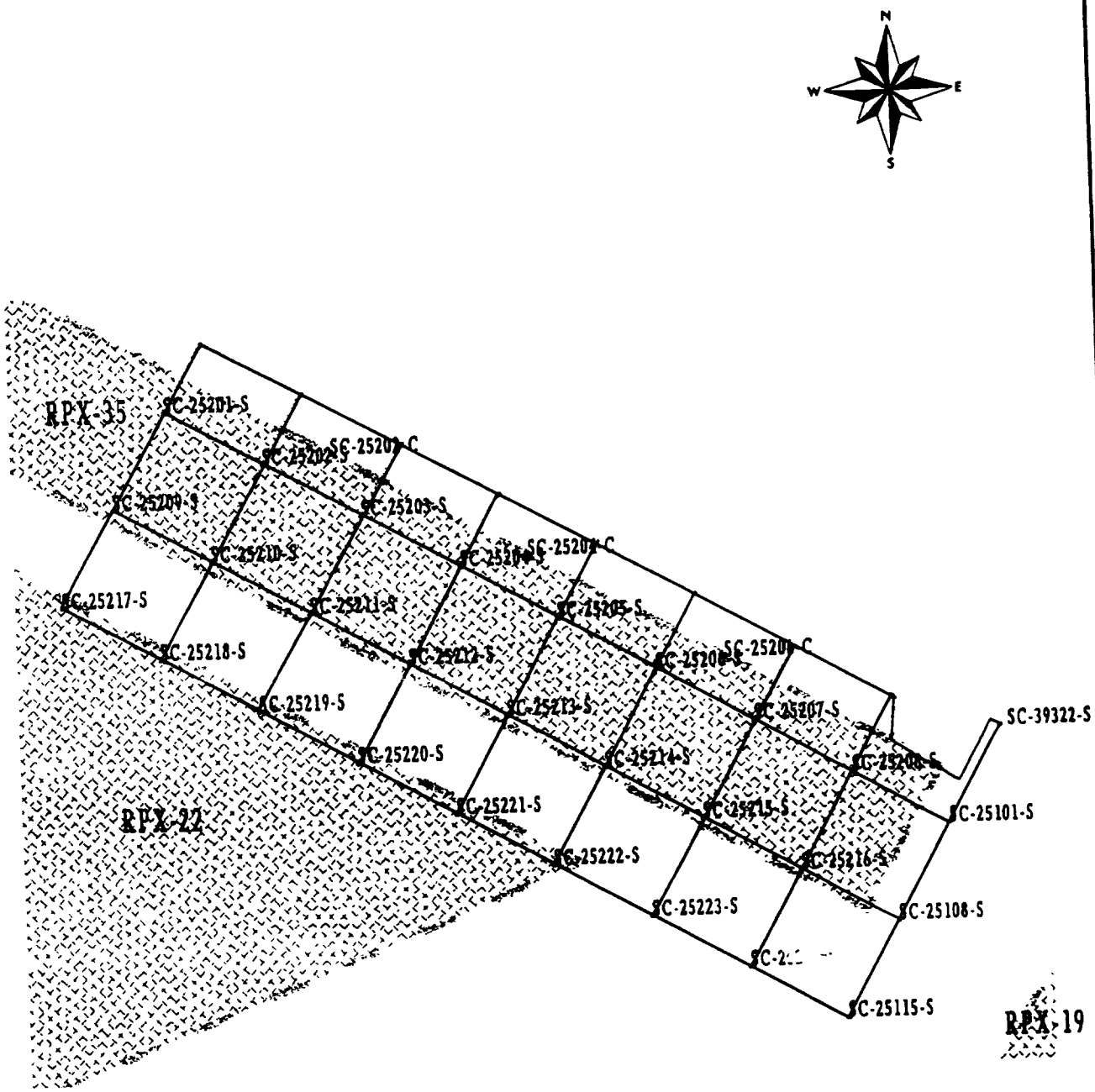
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| As | 3 | 9.9 - 21.8 | 13.9 | 45 | 75 | 0 | 0 |
| Cr | 3 | 14.7 - 18.5 | 16.0 | 90 | 110 | 0 | 0 |
| Pb | 3 | 9.9 - 16.4 | 13.1 | 240 | 450 | 0 | 0 |
| Tl | 3 | 1.1 - 3.0 | 1.9 | 16 | 20 | 0 | 0 |
| Ra-226 | 43 | 0.26 - 1.40 | 0.82 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 43 | 0.40 - 1.62 | 0.89 | 5 | 6.2 | 0 | 0 |
| Total Radium | 43 | 0.71 - 2.82 | 1.72 | 5 | 6.2 | 0 | 0 |
| Th-230 | 43 | 0.77 - 4.10 | 1.70 | 5 | 6.2 | 0 | 0 |
| Th-232 | 43 | 0.41 - 1.66 | 0.93 | 5 | 6.2 | 0 | 0 |
| U-238 | 43 | 1.13 - 4.03 | 1.41 | 30 | 120 | 0 | 0 |
| PAH | 3 | results < detection limit | N/A | 0.44 | 5.6 | 0 | 0 |
| PCB | 3 | results < detection limit | N/A | 0.65 | 8 | 0 | 0 |
| TNT | 3 | results < detection limit | N/A | 14 | 140 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021
## Confirmation Unit CU252

Figure: 4-33

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO.: | |
| ORIGINATOR: MGL | DRAWN BY: LGB | DATE 02/04/02 | |

# Table 4 - 33 Summary of CU252

| CU | 252 | RU | 21 |
|---|---|---|---|

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | X |
| | Ra-228 | X | Cr | X |
| | Th-230 | X | Pb | X |
| | Th-232 | X | Tl | X |
| | U-238 | X | PAH | X |
| | | | PCB | X |
| | | | TNT | X |

**Reference Figure:** 4-33

**DATE RELEASED FOR UNRESTRICTED USE:** 10/ 12/99

**CLEANUP STANDARD** [X] SURFACE [ ] SUBSURFACE

**EACH 100m² < CRITERIA?** [X] YES [ ] NO

**LOCATION DESCRIPTION:** *This CU represents a portion of Raffinate Pit 4.*

## WALKOVER SURVEY INFORMATION

**BACKGROUND:** 11,000 - 12,000 cpm
(shielding may have been used on a case-by-case basis)

**FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ?** [X] YES [ ] NO

**DATE(S) SCANNED:** *09/25/99; 09/28/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 31

TOTAL # OF UTILITY SAMPLES : 0

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [ ] YES [X] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-22 and RPX-35.*
*(2) Sample ID 'SC-24620-S' was renamed 'SC-39322-S' upon creation of CU393.*
*(3) All final results are below ALARA.*

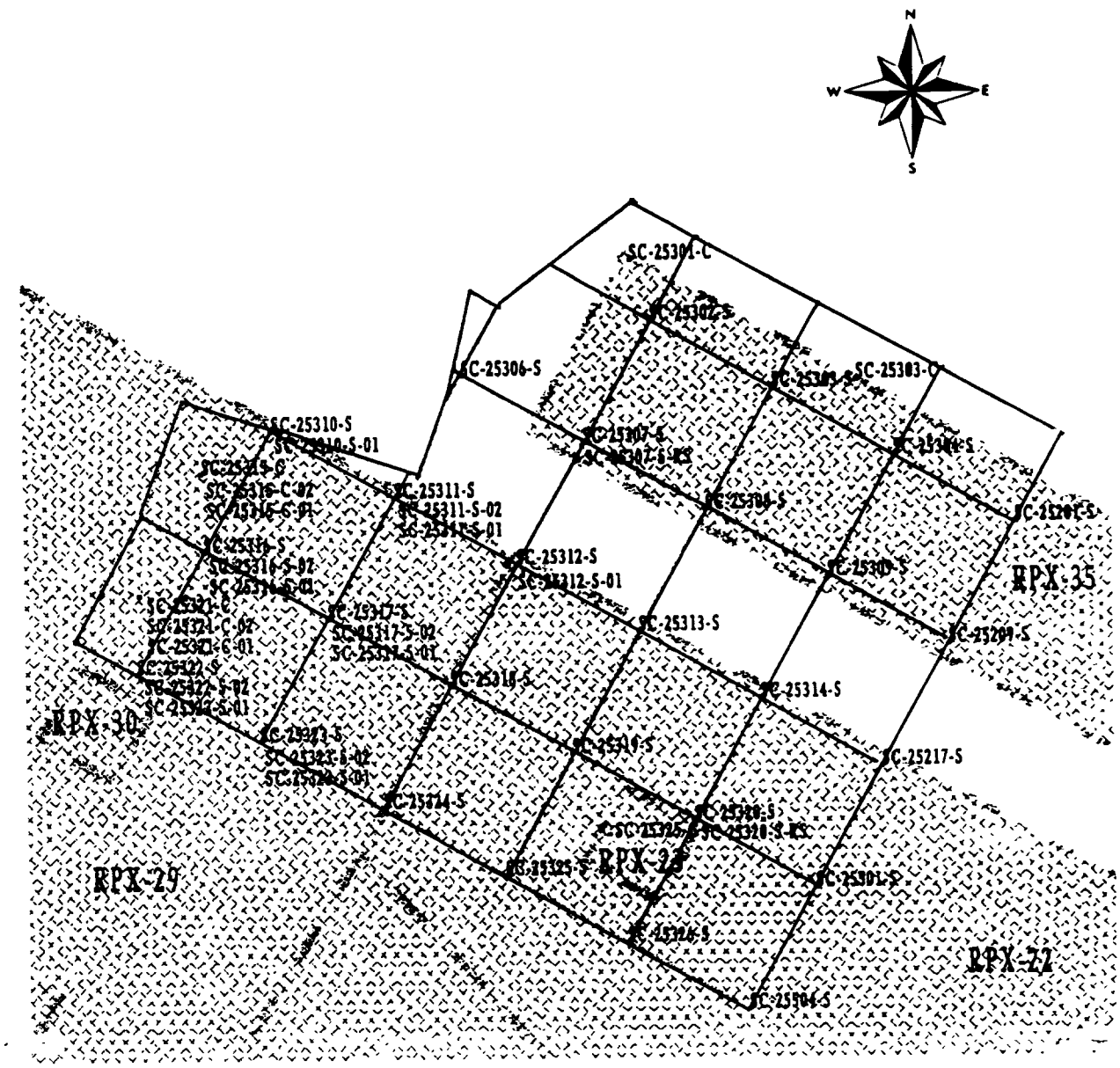
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| As | 22 | 2.5 - 21.8 | 9.29 | 45 | 75 | 0 | 0 |
| Cr | 22 | 10.2 - 28.7 | 17.02 | 90 | 110 | 0 | 0 |
| Pb | 22 | 6.1 - 24.3 | 12.44 | 240 | 450 | 0 | 0 |
| Tl | 22 | 0.3 - 3.0 | 1.29 | 16 | 20 | 0 | 0 |
| Ra-226 | 31 | 0.22 - 1.74 | 0.53 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 31 | 0.38 - 1.29 | 0.77 | 5 | 6.2 | 0 | 0 |
| Total Radium | 31 | 0.65 - 2.19 | 1.30 | 5 | 6.2 | 0 | 0 |
| Th-230 | 31 | 0.69 - 1.37 | 0.96 | 5 | 6.2 | 0 | 0 |
| Th-232 | 31 | 0.39 - 1.32 | 0.79 | 5 | 6.2 | 0 | 0 |
| U-238 | 31 | 0.73 - 7.88 | 1.92 | 30 | 120 | 0 | 0 |
| PAH | 22 | 0.0 - 0.003 | 0.01 | 0.44 | 5.6 | 0 | 0 |
| PCB | 22 | results < detection limit | N/A | 0.65 | 8 | 0 | 0 |
| TNT | 22 | results < detection limit | N/A | 14 | 140 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021
## Confirmation Unit CU253

Figure: 4-34

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO : | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE 02/05/02 | |

# Table 4 - 34 Summary of CU253

| CU | 253 | RU | 21 |
|---|---|---|---|

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | X |
| | Ra-228 | X | Cr | X |
| | Th-230 | X | Pb | X |
| | Th-232 | X | Tl | X |
| | U-238 | X | PAH | X |
| | | | PCB | X |
| | | | TNT | X |

**Reference Figure:** 4-34

**DATE RELEASED FOR UNRESTRICTED USE:** 10/ 22/99

**CLEANUP STANDARD** [X] SURFACE [ ] SUBSURFACE

**EACH 100m² < CRITERIA?** [X] YES [ ] NO

**LOCATION DESCRIPTION:** *This CU represents the western portion of Raffinate Pit 4.*

## WALKOVER SURVEY INFORMATION

**BACKGROUND:** 10,000 - 35,000 cpm
(shielding may have been used on a case-by-case basis)

**FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ?** [X] YES [ ] NO

**DATE(S) SCANNED:** *10/02/98; 09/25/99; 09/28/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 32

TOTAL # OF UTILITY SAMPLES : 0

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-22, RPX-29, and RPX-35. An additional sample location, SC-25325-C, was added to represent the RPX-23 excavation. (2) One Th-230 hotspot was identifed at SC-25307-S. The area was excavated and resampled. (3) Many locations were sampled three times: the original sampling event (in 1998 under WP-471), a second confirmation sampling after finding contaminated material during clean excavation ('-02' suffix), and again after completing the 1954 topo excavation ('-01' suffix). (4) All final results are below criteria.*

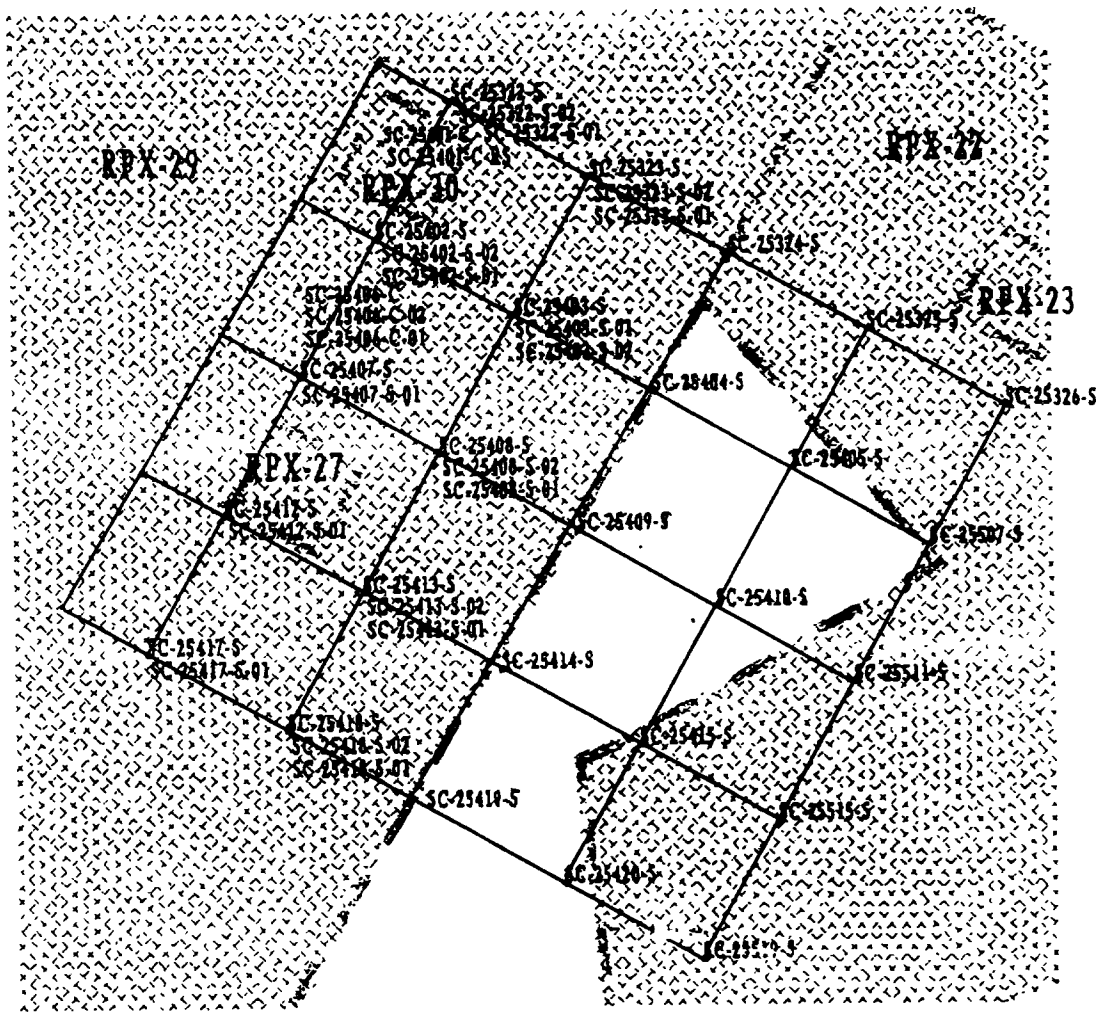
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| As | 11 | 2.4 - 16.3 | 8.4 | 45 | 75 | 0 | 0 |
| Cr | 11 | 13.6 - 28.7 | 17.4 | 90 | 110 | 0 | 0 |
| Pb | 11 | 5.6 - 25.9 | 13.5 | 240 | 450 | 0 | 0 |
| Tl | 11 | 1.5 - 5.5 | 2.5 | 16 | 20 | 0 | 0 |
| Ra-226 | 49 | 0.22 - 4.2 | 0.93 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 49 | 0.41 - 1.79 | 1.00 | 5 | 6.2 | 0 | 0 |
| Total Radium | 49 | 0.70 - 5.56 | 1.93 | 5 | 6.2 | 1 | 0 |
| Th-230 | 49 | 0.74 - 5.17 | 1.28 | 5 | 6.2 | 1 | 0 |
| Th-232 | 49 | 0.42 - 1.83 | 1.03 | 5 | 6.2 | 0 | 0 |
| U-238 | 49 | 1.17 - 2.89 | 1.43 | 30 | 120 | 0 | 0 |
| PAH | 28 | 0 - 0.8 | 0.04 | 0.44 | 5.6 | 1 | 0 |
| PCB | 11 | results < detection limit | N/A | 0.65 | 8 | 0 | 0 |
| TNT | 11 | results < detection limit | N/A | 14 | 140 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021
## Confirmation Unit CU254

Figure: 4-35

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO: | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE: 02/04/02 | |

# Table 4 - 35 Summary of CU254

CU: 254 RU: 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | X |
| | | | PCB | |
| | | | TNT | |

Reference Figure: 4-35

**DATE RELEASED FOR UNRESTRICTED USE:** 10/ 22/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m$^2$ < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the western portion of Raffinate Pit 4.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 10,000 - 35,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *10/02/98; 09/14/99; 09/25/99; 09/28/99; 10/07/99; 10/20/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 26

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

TOTAL # OF UTILITY SAMPLES : 0

ADDITIONAL EXCAVATION REQUIRED? [ ] YES [X] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-22, RPX-27, RPX-29 (1954 topo), and RPX-30. RPX-27 was excavated along with RPX-29, therefore the resampled locations within the two RPXs have the '-01' suffixes. (2) Many locations were sampled three times: the original sampling event (in 1998 under WP-471), a second confirmation sampling after finding contaminated material ('-02' suffix), and again after completing the 54 topo excavation ('-01' suffix). (3) 'SC-25401-C' was erroneously staked and sampled before reaching the design elevation. The sample results were not used and contaminated excavation continued until reaching the design elevation. The location was resampled and designated with a '-RS' suffix. (4) All final results are below criteria.*

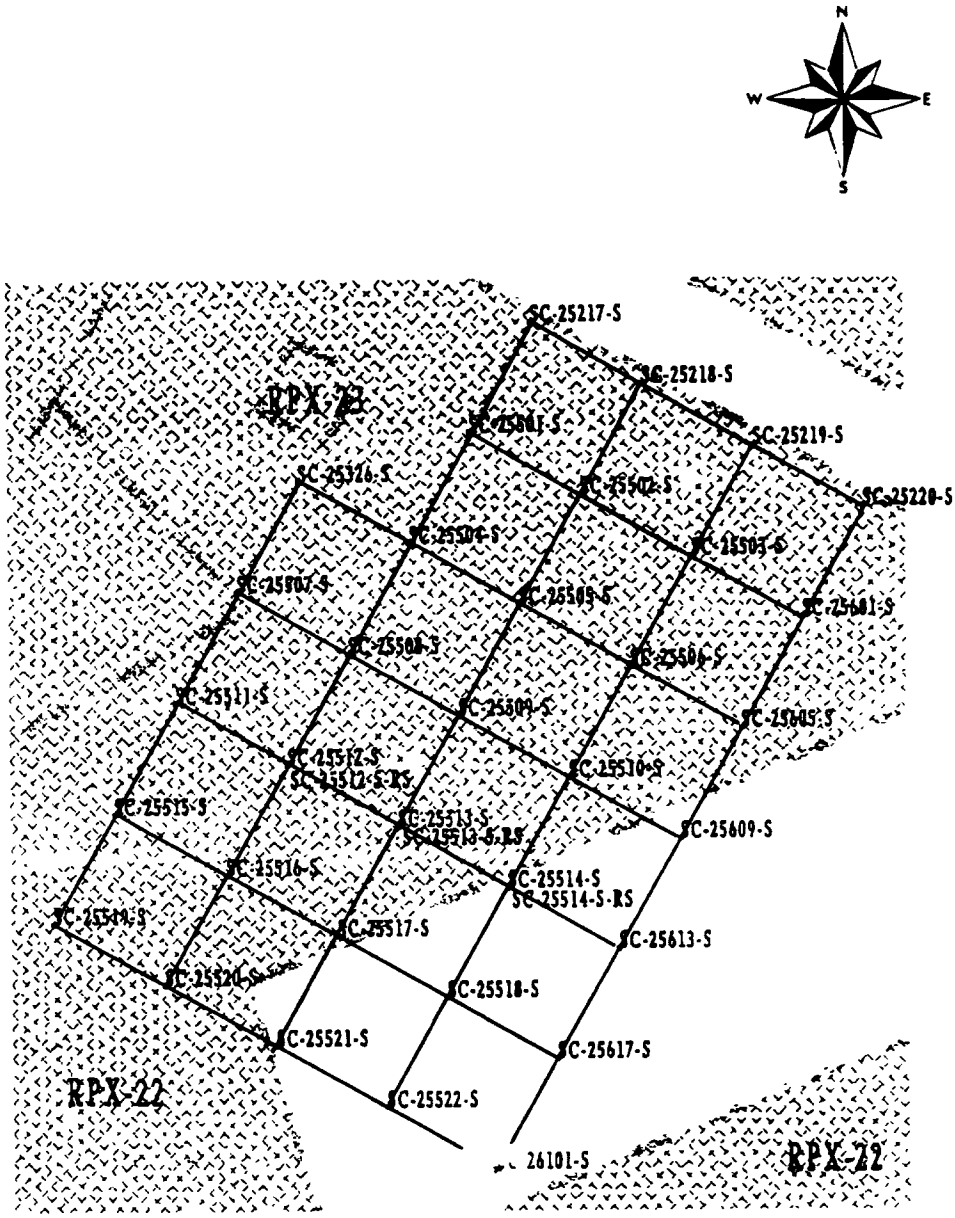
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 46 | 0.24 - 1.46 | 0.89 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 46 | 0.43 - 1.55 | 1.02 | 5 | 6.2 | 0 | 0 |
| Total Radium | 46 | 0.83 - 2.78 | 1.92 | 5 | 6.2 | 0 | 0 |
| Th-230 | 46 | 0.71 - 2.11 | 1.09 | 5 | 6.2 | 0 | 0 |
| Th-232 | 46 | 0.44 - 1.59 | 1.05 | 5 | 6.2 | 0 | 0 |
| U-238 | 46 | 0.82 - 3.17 | 1.49 | 30 | 120 | 0 | 0 |
| PAH | 18 | 0.0 - 1.1 | 0.2 | 0.44 | 5.6 | 3 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021
## Confirmation Unit CU255

Figure: 4-36

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO · | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE: 01/10/02 | |

# Table 4 - 36 Summary of CU255

CU 255 RU 21

COC

| | | | |
|---|---|---|---|
| Ra-226 | X | As | |
| Ra-228 | X | Cr | |
| Th-230 | X | Pb | |
| Th-232 | X | Tl | |
| U-238 | X | PAH | |
| | | PCB | |
| | | TNT | |

Reference Figure: 4-36

DATE RELEASED FOR UNRESTRICTED USE: 10/ 28/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m$^2$ < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the southern portion of Raffinate Pit 4.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 10,000 - 12,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *09/28/99; 10/07/99; 10/11/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 33

TOTAL # OF UTILITY SAMPLES : 0

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-22. (2) Three Total Ra/Th-230 hotspots were identified at SC-25512-S, SC-25513-S, and SC-25514-S. All were excavated and resampled. (3) All final results were below ALARA.*

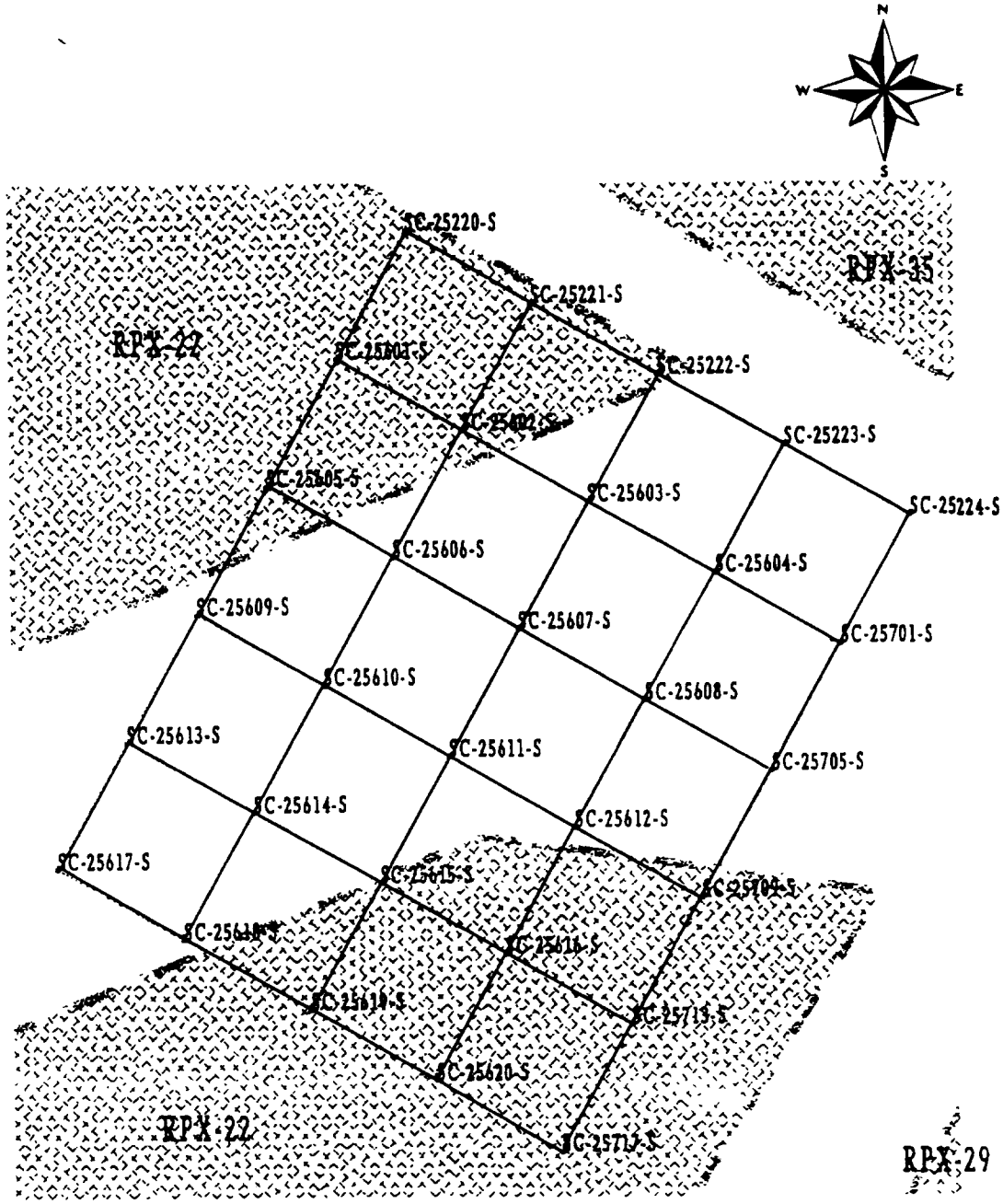
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 33 | 0.22 - 1.23 | 0.55 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 33 | 0.41 - 1.21 | 0.77 | 5 | 6.2 | 0 | 0 |
| Total Radium | 33 | 0.70 - 2.19 | 1.32 | 5 | 6.2 | 0 | 0 |
| Th-230 | 33 | 0.74 - 2.34 | 1.16 | 5 | 6.2 | 0 | 0 |
| Th-232 | 33 | 0.42 - 1.24 | 0.79 | 5 | 6.2 | 0 | 0 |
| U-238 | 33 | 1.15 - 9.50 | 3.39 | 30 | 120 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g.




150 75 0 150 FEET

50 25 0 50 METERS

Sample Locations in Remedial Unit RU021
Confirmation Unit CU256

Figure: 4-37

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO.: | |
| ORIGINATOR: MGL | DRAWN BY: LGB | DATE 01/10/02 | |

# Table 4 - 37 Summary of CU256

CU 256 RU 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | |
| | | | PCB | |
| | | | TNT | |

Reference Figure: 4-37

DATE RELEASED FOR UNRESTRICTED USE: 10/ 29/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m$^2$ < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the southern portion of Raffinate Pit 4.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 10,000 - 12,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *09/25/99; 10/07/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 30

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

TOTAL # OF UTILITY SAMPLES : 0

ADDITIONAL EXCAVATION REQUIRED? [ ] YES [X] NO

GENERAL COMMENTS - *Planned confirmation grid points represent RPX-22. All results are below ALARA.*

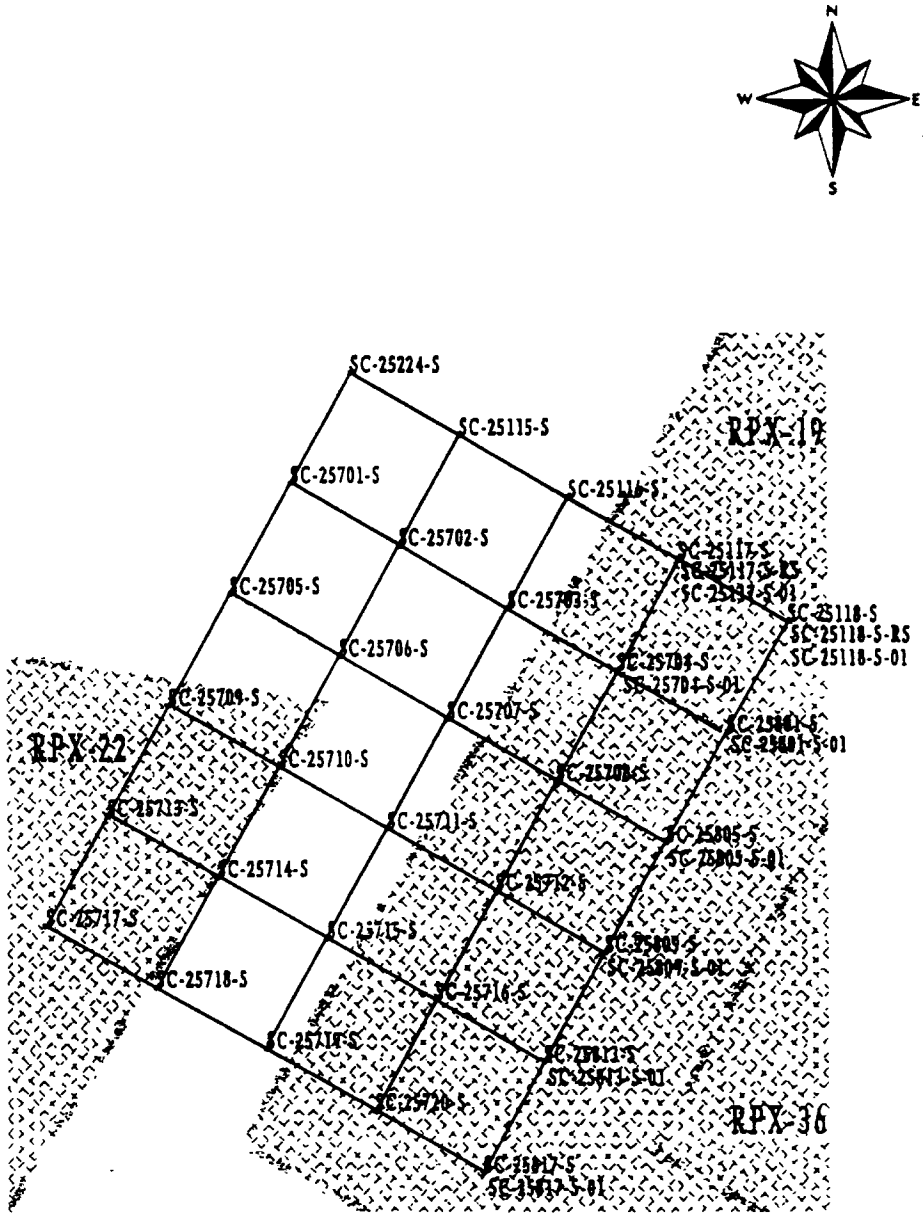
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 30 | 0.28 - 1.74 | 0.58 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 30 | 0.38 - 1.23 | 0.78 | 5 | 6.2 | 0 | 0 |
| Total Radium | 30 | 0.66 - 2.19 | 1.36 | 5 | 6.2 | 0 | 0 |
| Th-230 | 30 | 0.82 - 1.44 | 1.09 | 5 | 6.2 | 0 | 0 |
| Th-232 | 30 | 0.39 - 1.26 | 0.80 | 5 | 6.2 | 0 | 0 |
| U-238 | 30 | 1.18 - 9.13 | 5.21 | 30 | 120 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g.




NOTE: SAMPLES SC-25118-S-HS01 THROUGH SC-25118-S-HS04, ARE SET APPROXIMATELY 2.5 METERS FROM SC-25118-S

150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021 Confirmation Unit CU257

Figure: 4-38

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO : | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE 02/04/02 | |

# Table 4 - 38 Summary of CU257

CU 257 RU 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | |
| | | | PCB | |
| | | | TNT | |

Reference Figure: 4-38

**DATE RELEASED FOR UNRESTRICTED USE:** 10/ 28/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m$^2$ < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents portions of both Raffinate Pits 3 and 4.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 10,000 - 23,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *01/29/99; 07/23/99; 09/25/99; 10/07/99; 10/18/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 30

TOTAL # OF UTILITY SAMPLES : 0

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned grid points represent RPX-19 and RPX-22. (2) Three hotspots were identified. Two Th-230 hotspots were located at SC-25117-S and SC-25118-S. Both areas were excavated and resampled. One total Ra/Th-230 hotspot was located at SC-25704-S. This area was excavated to the RPX-19 design elevation (1954 topo) and then resampled. The resample ID was given the '-01' suffix instead of an '-RS' to be consistent with the identification of other 54-topo samples. (3) All final results are below criteria.*

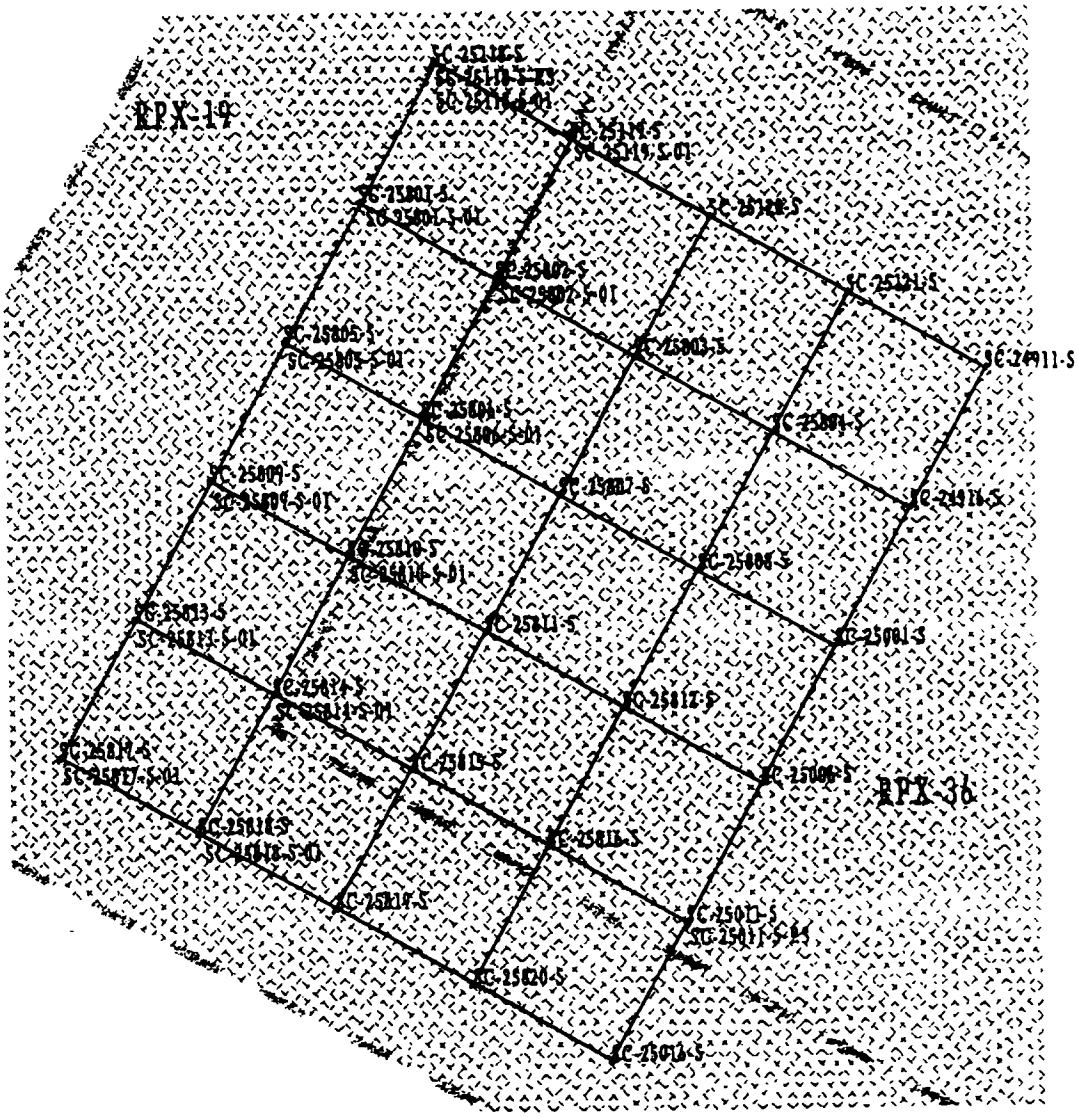
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 37 | 0.26 - 1.11 | 0.73 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 37 | 0.43 - 1.62 | 0.97 | 5 | 6.2 | 0 | 0 |
| Total Radium | 37 | 0.72 - 2.73 | 1.71 | 5 | 6.2 | 0 | 0 |
| Th-230 | 37 | 0.76 - 3.70 | 1.24 | 5 | 6.2 | 0 | 0 |
| Th-232 | 37 | 0.44 - 1.66 | 0.99 | 5 | 6.2 | 0 | 0 |
| U-238 | 37 | 1.17 - 64.8 | 4.19 | 30 | 120 | 1 | 0 |

NOTE: Radiological contaminants are listed in pCi/g.




NOTE: SAMPLES SC-25118-S-HS01 THROUGH SC-25118-S-HS04.
ARE SET APPROXIMATELY 2.5 METERS FROM SC-25118-S

150 75 0 150 FEET

50 25 0 50 METERS

Sample Locations in Remedial Unit RU021

Confirmation Unit CU258

Figure: 4-39

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO : | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE: 01/17/02 | |

# Table 4 - 39 Summary of CU258

CU 258 RU 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | |
| | | | PCB | |
| | | | TNT | |

Reference Figure: 4-39

**DATE RELEASED FOR UNRESTRICTED USE:** 09/ 30/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m² < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the southwest corner of Raffinate Pit 3.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 5,000 - 12,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *04/27/99; 06/04/99; 06/11/99; 06/15/99; 06/17/99; 07/23/99; 09/27/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 30

TOTAL # OF UTILITY SAMPLES : 0

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned grid points represent RPX-19 and RPX-36. (2) Two hotspots were identified. The first was a Th-230 hotspot at SC-25118-S. The hotspot was sampled around to determine the size. It failed the hotspot rule. The area was excavated and resampled. The second was a total radium/Th-230 hotspot at SC-25011-S. This area was excavated and resampled. (3) All final results are below criteria.*

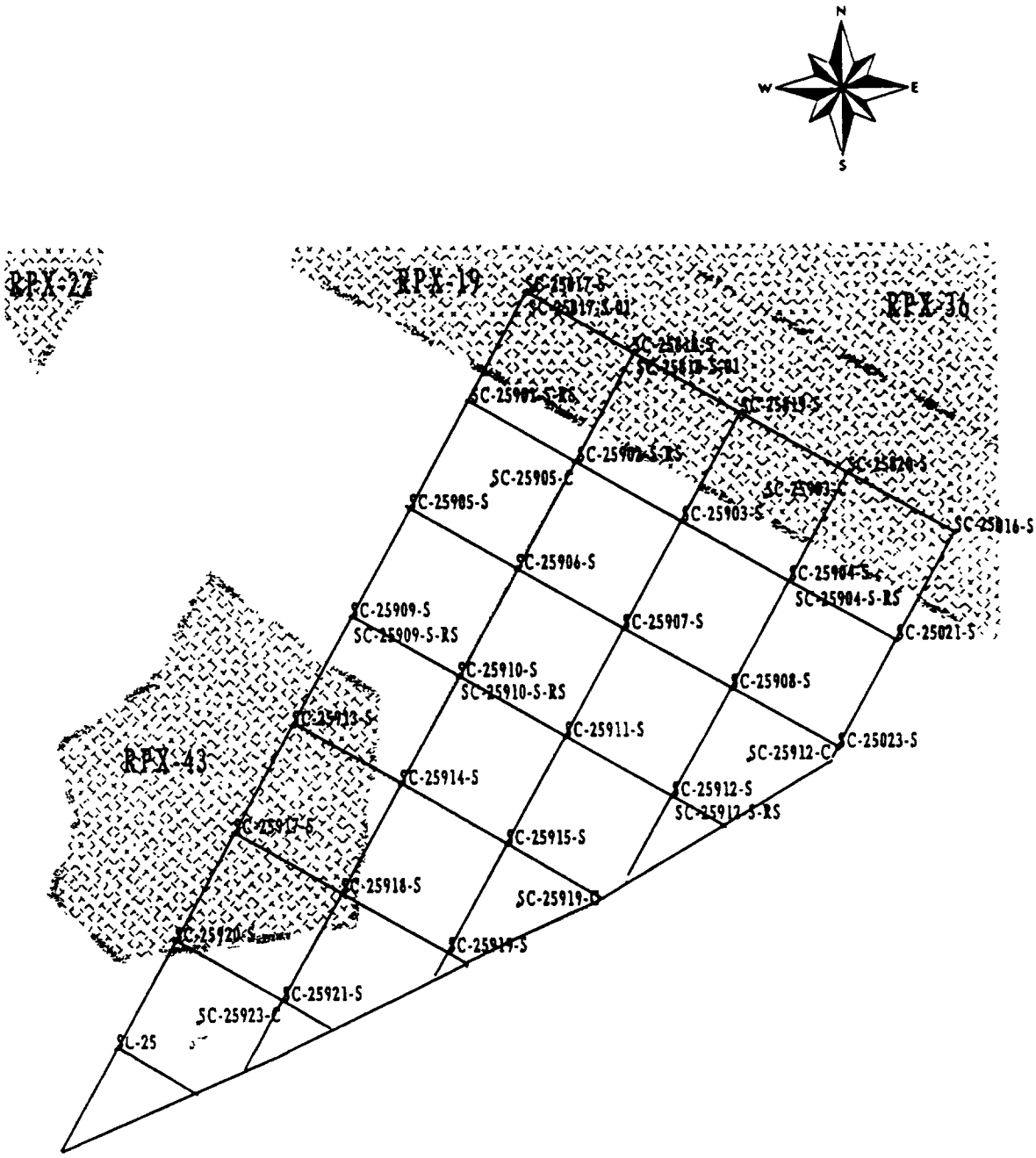
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 42 | 0.28 - 1.14 | 0.77 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 42 | 0.44 - 1.41 | 0.92 | 5 | 6.2 | 0 | 0 |
| Total Radium | 42 | 0.77 - 2.34 | 1.68 | 5 | 6.2 | 0 | 0 |
| Th-230 | 42 | 0.76 - 5.56 | 1.59 | 5 | 6.2 | 1 | 0 |
| Th-232 | 42 | 0.45 - 1.45 | 0.94 | 5 | 6.2 | 0 | 0 |
| U-238 | 42 | 0.86 - 4.76 | 1.40 | 30 | 120 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g.




150 75 0 150 FEET

50 25 0 50 METERS

Sample Locations in Remedial Unit RU021
Confirmation Unit CU259

Figure: 4-40

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO: | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE: 02/04/02 | |

# Table 4 - 40 Summary of CU259

CU 259 RU 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | |
| | | | PCB | X |
| | | | TNT | |

Reference Figure: 4-40

**DATE RELEASED FOR UNRESTRICTED USE:** 11/ 09/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m$^2$ < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents an area south of Raffinate Pit 3.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 6,000 - 12,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *06/04/99; 07/03/99; 09/27/99; 10/12/99; 10/25/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 33

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

TOTAL # OF UTILITY SAMPLES : 0

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned grid points represent RPX-19 (1954 topo) and RPX-43. (2) Two locations (SC-25901-S-RS and SC-25902-S-RS) were mistakenly given the suffix of '-RS' which identifies them as resamples. These locations were only sampled once and should have been identified with the original ID (SC-25901-S and SC-25902-S). (3) Four Th-230 hotspots were identified at SC-25904-S; SC-25909-S; SC-25910-S; and SC-25912-S. These areas were further excavated and resampled. (4) All final results are below criteria.*

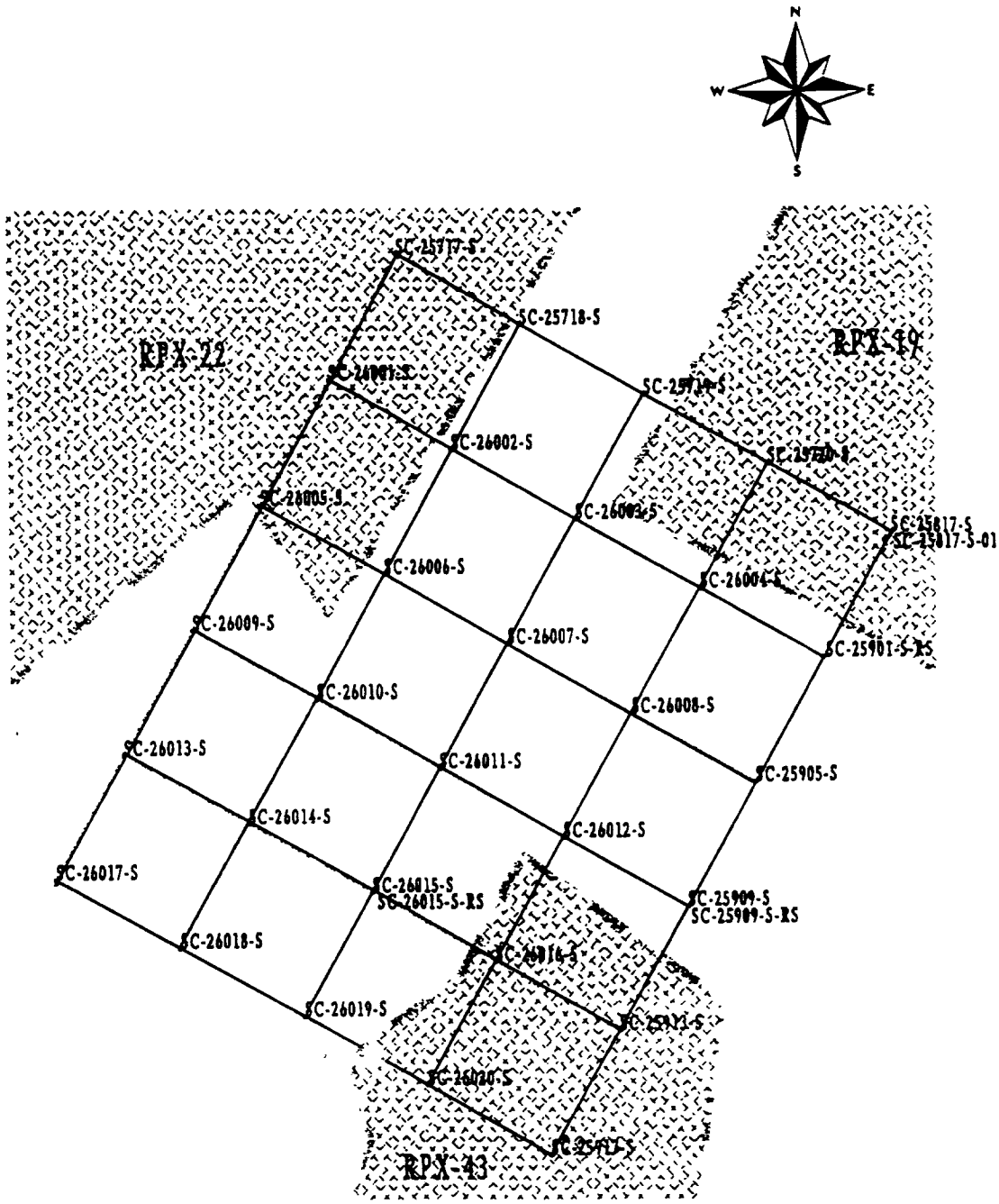
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 35 | 0.26 - 1.23 | 0.81 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 35 | 0.44 - 1.40 | 0.85 | 5 | 6.2 | 0 | 0 |
| Total Radium | 35 | 0.70 - 2.29 | 1.66 | 5 | 6.2 | 0 | 0 |
| Th-230 | 35 | 0.74 - 5.56 | 1.48 | 5 | 6.2 | 1 | 0 |
| Th-232 | 35 | 0.45 - 1.44 | 0.87 | 5 | 6.2 | 0 | 0 |
| U-238 | 35 | 1.23 - 1.59 | 1.34 | 30 | 120 | 0 | 0 |
| PCB | 4 | results < detection limit | N/A | 0.65 | 8 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021
## Confirmation Unit CU260

Figure: 4-41

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO · | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE 02/04/02 | |

# Table 4 - 41 Summary of CU260

CU 260 RU 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | |
| | | | PCB | X |
| | | | TNT | |

Reference Figure: 4-41

**DATE RELEASED FOR UNRESTRICTED USE:** 11/ 09/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m² < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents southern areas the Raffinate Pits Work Zone.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 8,000 - 11,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *10/11/99; 10/12/99; 10/19/99; 10/25/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 30

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

TOTAL # OF UTILITY SAMPLES : 0

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned grid points represent RPX-19 (1954 topo), RPX-22 and RPX-43. (2) Location SC-25901-S was mistakenly given the suffix of '-RS' which identifies it as a resample. This location was sampled only once and should have been identified with the original ID (SC-25901-S). (3) Two Th-230 hotspots were identified at SC-25909-S and SC-26015-S. These areas were further excavated and resampled. (4) All final results are below criteria.*

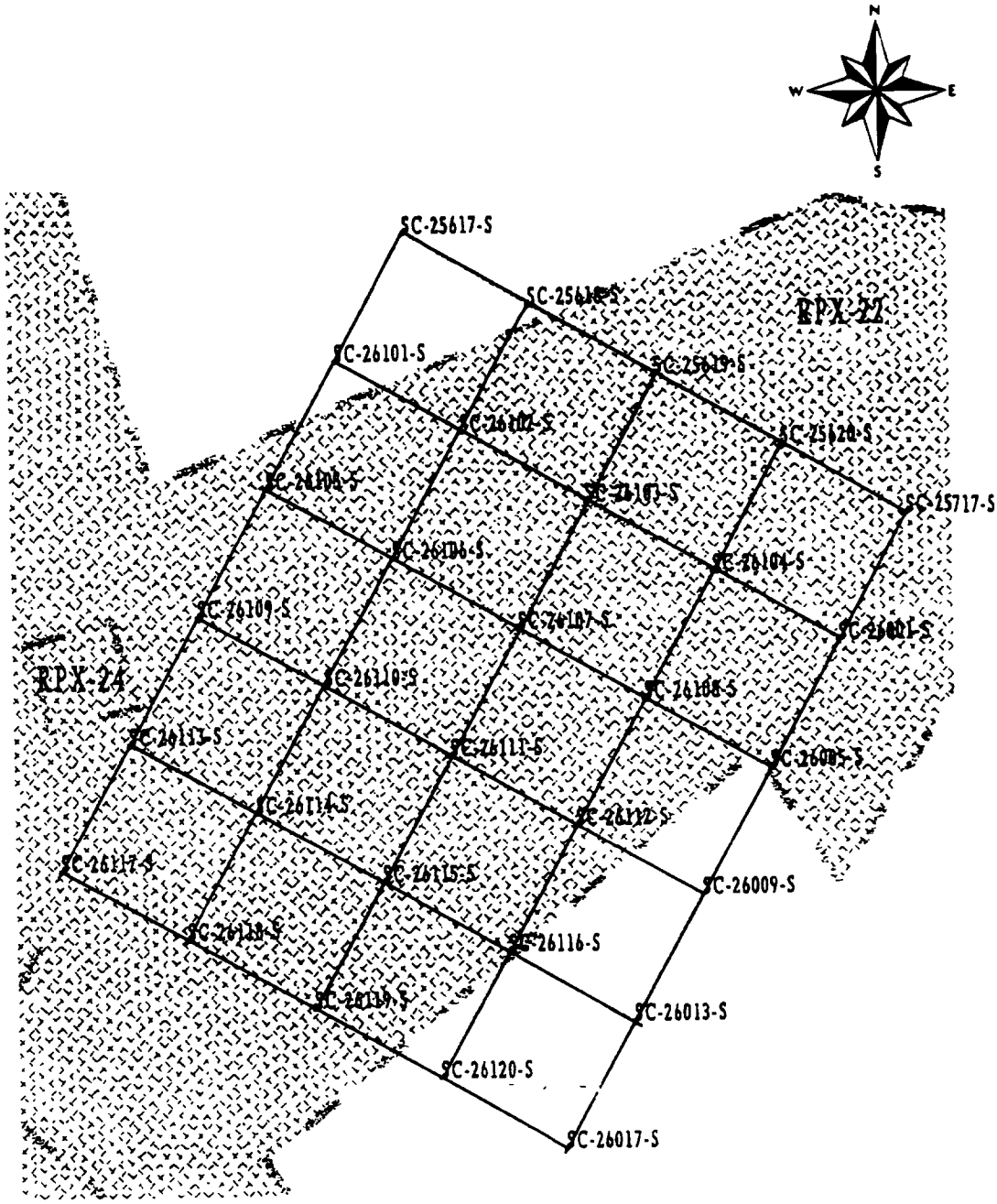
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 31 | 0.26 - 1.32 | 0.68 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 31 | 0.42 - 1.96 | 1.01 | 5 | 6.2 | 0 | 0 |
| Total Radium | 31 | 0.68 - 3.28 | 1.68 | 5 | 6.2 | 0 | 0 |
| Th-230 | 31 | 0.72 - 3.75 | 1.47 | 5 | 6.2 | 0 | 0 |
| Th-232 | 31 | 0.43 - 2.01 | 1.04 | 5 | 6.2 | 0 | 0 |
| U-238 | 31 | 1.14 - 64.8 | 3.75 | 30 | 120 | 1 | 0 |
| PCB | 4 | 0.0 - 0.54 | 0.14 | 0.65 | 8 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




150 75 0 150 FEET

50 25 0 50 METERS

Sample Locations in Remedial Unit RU021
Confirmation Unit CU261

Figure: 4-42

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO : | |
| ORIGINATOR: MGL | DRAWN BY: LGB | DATE: 01/10/02 | |

# Table 4 - 42 Summary of CU261

CU 261 RU 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | |
| | | | PCB | |
| | | | TNT | |

Reference Figure: 4-42

DATE RELEASED FOR UNRESTRICTED USE: 10/ 28/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m² < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the southern portion of Raffinate Pit 4.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 8,400 - 10,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *10/13/99; 10/19/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 30

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

TOTAL # OF UTILITY SAMPLES : 0

ADDITIONAL EXCAVATION REQUIRED? [ ] YES [X] NO

GENERAL COMMENTS - *Planned grid points represent RPX-22. All final results are below ALARA.*

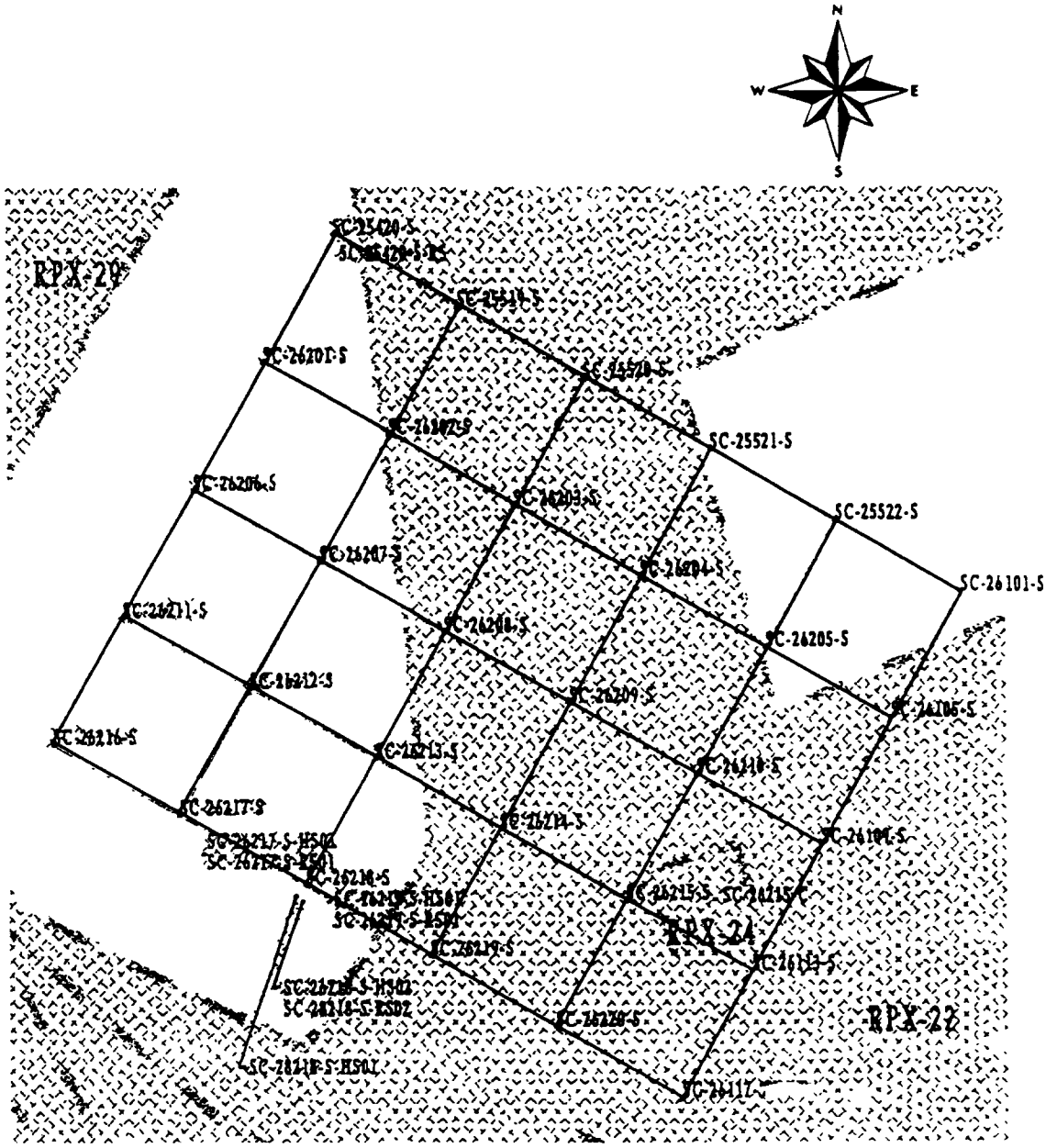
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 30 | 0.24 - 0.94 | 0.49 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 30 | 0.39 - 1.23 | 0.87 | 5 | 6.2 | 0 | 0 |
| Total Radium | 30 | 0.65 - 2.01 | 1.36 | 5 | 6.2 | 0 | 0 |
| Th-230 | 30 | 0.73 - 1.96 | 1.09 | 5 | 6.2 | 0 | 0 |
| Th-232 | 30 | 0.40 - 1.26 | 0.89 | 5 | 6.2 | 0 | 0 |
| U-238 | 30 | 1.13 - 9.12 | 3.39 | 30 | 120 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g.




150 75 0 150 FEET

50 25 0 50 METERS

Sample Locations in Remedial Unit RU021

Confirmation Unit CU262

Figure: 4-43

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE | 02/18/02 |

# Table 4 - 43 Summary of CU262

CU 262 RU 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | |
| | | | PCB | |
| | | | TNT | |

Reference Figure: 4-43

DATE RELEASED FOR UNRESTRICTED USE: 10/ 28/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m$^2$ < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the southern portion of Raffinate Pit 4.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 10,000 - 12,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *09/14/99; 10/07/99; 10/18/99; 10/20/99; 10/11/00*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 35

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

TOTAL # OF UTILITY SAMPLES : 0

ADDITIONAL EXCAVATION REQUIRED? [ ] YES [X] NO

GENERAL COMMENTS - *(1) Planned grid locations represent RPX-22.*
*(2) Sample location SC-26215-C was added to represent RPX-24.*
*(3) All final results are below ALARA.*

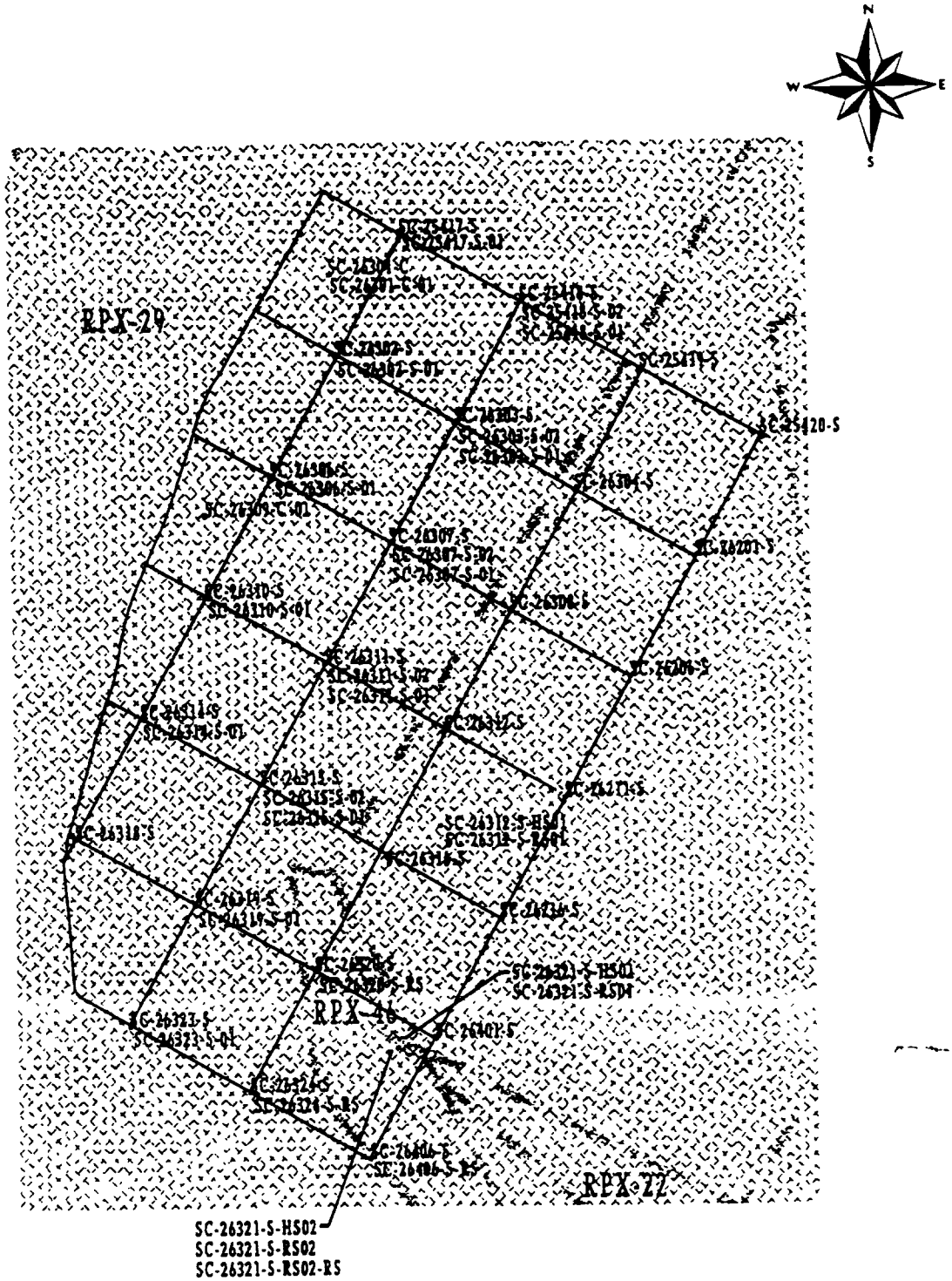
ORISE ACTION - *ORISE walked over CU262 on 10/01/99 and identified four locations with elevated readings. Two of these locations exceeded criteria for radium and thorium, the results for the other two locations were below ALARA. The first two locations were excavated and resampled. One of the locations (SC-26218-S-HS02) which had results below ALARA, was inadvertantly excavated and resampled. Resample results were used in the summary statistics. Final results were below ALARA.*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 35 | 0.26 - 0.96 | 0.54 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 35 | 0.42 - 1.33 | 0.89 | 5 | 6.2 | 0 | 0 |
| Total Radium | 35 | 0.70 - 2.06 | 1.43 | 5 | 6.2 | 0 | 0 |
| Th-230 | 35 | 0.65 - 3.45 | 1.25 | 5 | 6.2 | 0 | 0 |
| Th-232 | 35 | 0.43 - 1.36 | 0.91 | 5 | 6.2 | 0 | 0 |
| U-238 | 35 | 1.09 - 14.5 | 2.79 | 30 | 120 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g.




150 75 0 150 FEET

50 25 0 50 METERS

Sample Locations in Remedial Unit RU021

Confirmation Unit CU263

Figure: 4-44

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO : | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE | 02/18/02 |

# Table 4 - 44 Summary of CU263

CU 263 RU 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | X |
| | | | PCB | |
| | | | TNT | |

Reference Figure: 4-44

DATE RELEASED FOR UNRESTRICTED USE: 11/ 24/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m² < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the southern portion of Raffinate Pit 4.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 10,000 - 35,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *10/02/98; 08/30/99; 09/14/99; 09/28/99; 10/07/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 32

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

TOTAL # OF UTILITY SAMPLES : 0

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned grid locations represent RPX-28 and RPX-29 (1954 topo). (2) The original sample for location SC-26320-S inadvertently omitted PAH, therefore this location was resampled for PAH only. (3) Many locations were sampled three times: the original sampling event (in 1998 under WP-471), a second confirmation sampling event after finding contaminated material during clean excavation ('-RS' suffix), and again after completing the 1954 topo excavation ('-01' suffix).*
*(4) All final results are below criteria.*

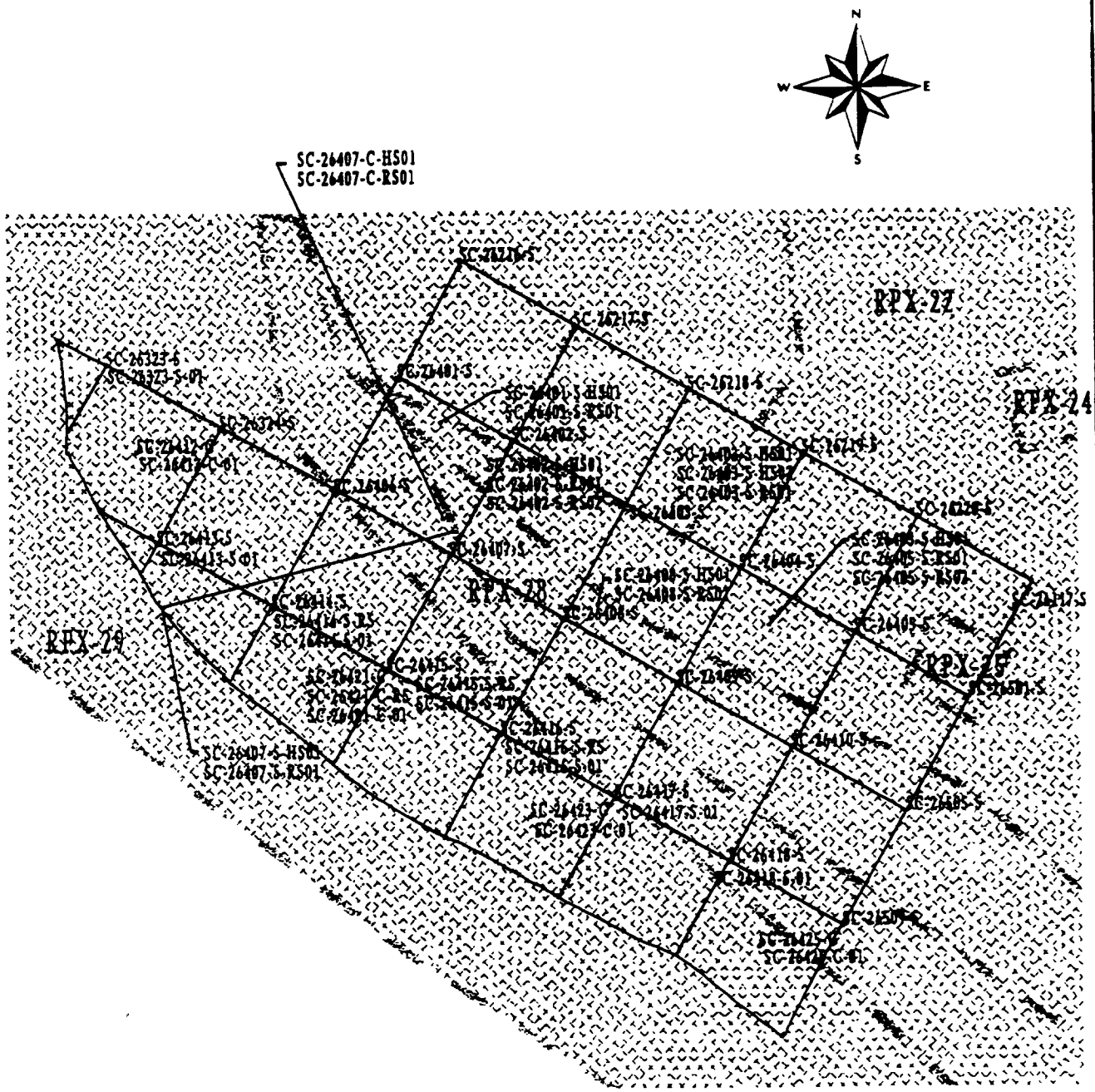
ORISE ACTION - *ORISE walked over CU263 on 10/01/99 and identified three locations with elevated readings. Two of these locations exceeded criteria for radium and thorium, the third one was a thorium hotspot. All three locations were excavated and resampled. Final results were below ALARA.*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 50 | 0.28 - 1.59 | 0.88 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 50 | 0.42 - 1.81 | 0.99 | 5 | 6.2 | 0 | 0 |
| Total Radium | 50 | 0.75 - 2.94 | 1.87 | 5 | 6.2 | 0 | 0 |
| Th-230 | 50 | 0.69 - 2.55 | 1.08 | 5 | 6.2 | 0 | 0 |
| Th-232 | 50 | 0.43 - 1.86 | 1.01 | 5 | 6.2 | 0 | 0 |
| U-238 | 50 | 1.13 - 2.12 | 1.42 | 30 | 120 | 0 | 0 |
| PAH | 15 | 0.0 - 1.6 | 0.23 | 0.44 | 5.6 | 3 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




NOTE: SAMPLES SC-26403-S-HS02-HS01 THROUGH SC-26403-S-HS02-HS04, ARE SET APPROXIMATELY 2.5 METERS FROM SC-26403-S-HS02

150 75 0 150 FEET

50 25 0 50 METERS

Sample Locations in Remedial Unit RU021

Confirmation Unit CU264

Figure: 4-45

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO : | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE: 02/18/02 | |

# Table 4 - 45 Summary of CU264

CU 264 RU 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | X |
| | | | PCB | |
| | | | TNT | |

Reference Figure: 4-45

**DATE RELEASED FOR UNRESTRICTED USE:** 10/ 28/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m² < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the southern portion of Raffinate Pit 4.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 12,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *08/30/99; 09/14/99; 09/28/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 35

TOTAL # OF UTILITY SAMPLES : 0

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned grid locations represent RPX-22, RPX-25, RPX-28, and RPX-29 (1954 topo).*
*(2) Many locations were sampled three times: the original sampling event (in 1998 under WP-471), a second confirmation sampling event after finding contaminated material during clean excavation ('-RS' suffix), and again after completing the 54 topo excavation ('-01' suffix).*
*(3) All final results are below criteria, with the exception of the one ORISE hotspot identified (SC-26403-S-HS02) which exceeded criteria, but met the hotspot rule. See text below.*

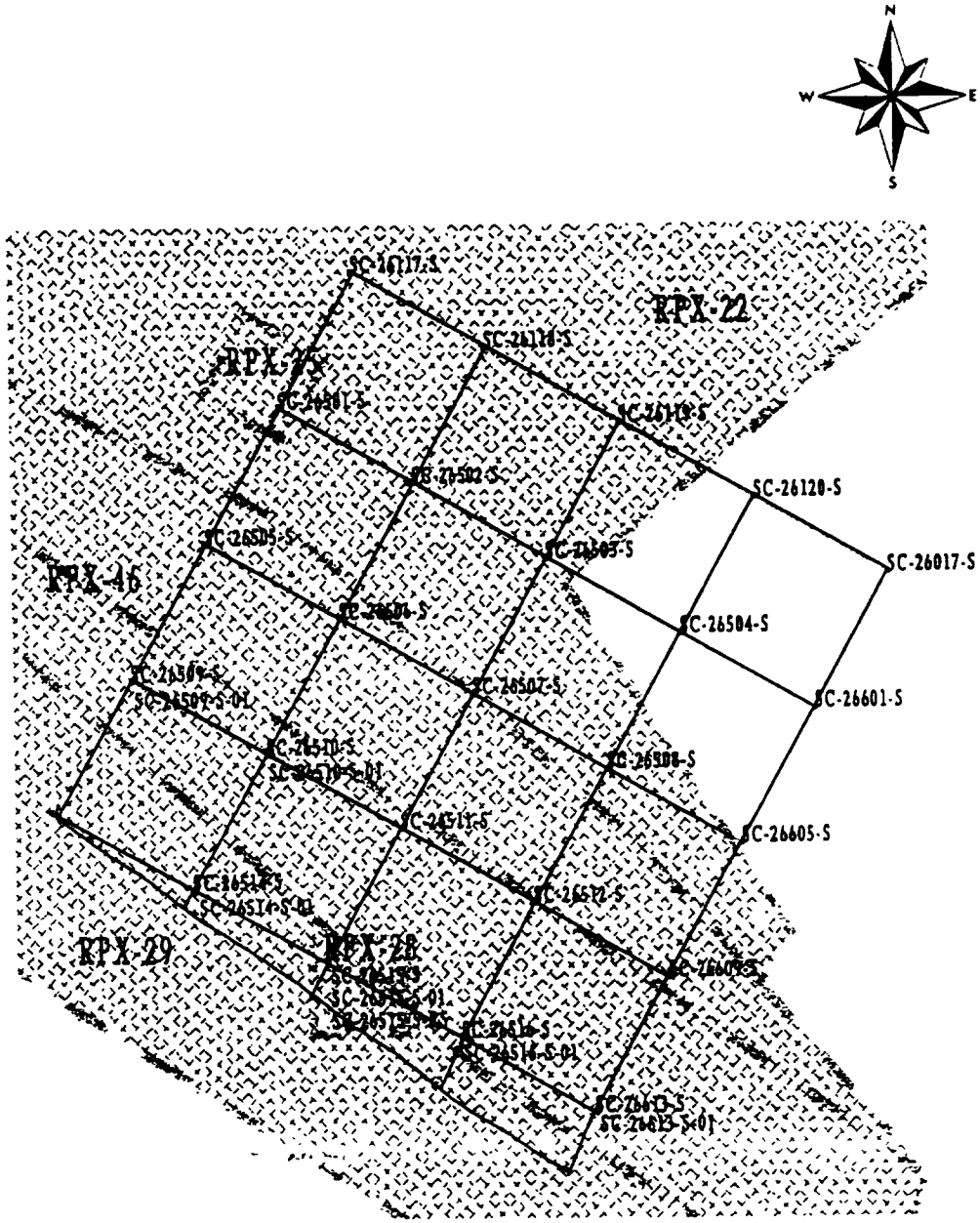
ORISE ACTION - *ORISE walked over CU264 on 10/01/99 and identified eight locations with elevated readings. All locations were sampled by the PMC. Seven of the eight locations exceeded criteria for radium and/or th-230. These areas were excavated and resampled. One location exceeded criteria but met the hotspot rule.*
*The remaining location had results that were below ALARA The resample data has been included in the statistics.*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 51 | 0.28 - 1.52 | 0.74 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 51 | 0.33 - 2.63 | 0.96 | 5 | 6.2 | 0 | 0 |
| Total Radium | 51 | 0.75 - 3.54 | 1.70 | 5 | 6.2 | 0 | 0 |
| Th-230 | 51 | 0.79 - 12.4 | 1.47 | 5 | 6.2 | 1 | 1 |
| Th-232 | 51 | 0.34 - 2.70 | 0.98 | 5 | 6.2 | 0 | 0 |
| U-238 | 51 | 1.13 - 8.18 | 1.62 | 30 | 120 | 0 | 0 |
| PAH | 24 | results < detection limit | N/A | 0.44 | 5.6 | ~0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




150 75 0 150 FEET

50 25 0 50 METERS

Sample Locations in Remedial Unit RU021
Confirmation Unit CU265

Figure: 4-46

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO · | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE | 01/17/02 |

# Table 4 - 46 Summary of CU265

CU 265 RU 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | X |
| | | | PCB | |
| | | | TNT | |

Reference Figure: 4-46

**DATE RELEASED FOR UNRESTRICTED USE:** 07/ 25/00

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m² < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the southern portion of Raffinate Pit 4.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 10,000 - 12,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *08/30/99; 09/14/99; 09/28/99; 10/19/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 24

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

TOTAL # OF UTILITY SAMPLES : 0

ADDITIONAL EXCAVATION REQUIRED? [ ] YES [X] NO

GENERAL COMMENTS - *(1) Planned confirmation gnd points represent RPX-22, RPX-25, RPX-28, RPX-29, and RPX-46 RPX-29 (1954 topo) samples are identified with the added suffix '-01.'*
*(2) All final results are below criteria*

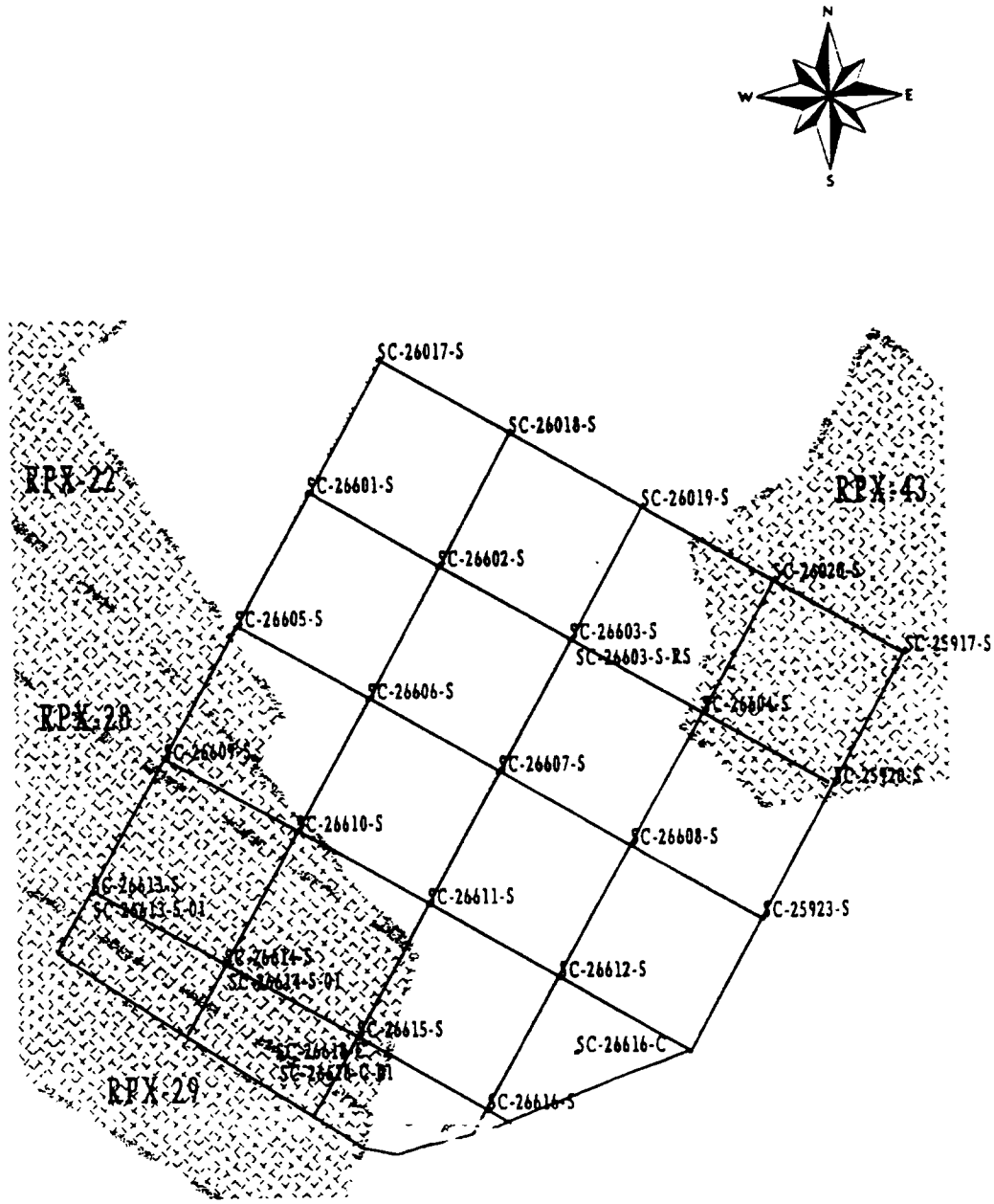
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| [illegible] | [illegible] SAMPLES | CONCENTRATION RANGE | AVERAGE CONCENTRATION | [illegible] | [illegible] | [illegible] | [illegible] CRITERIA |
|---|---|---|---|---|---|---|---|
| Ra-226 | 31 | 0.22 - 1.23 | 0.75 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 31 | 0.41 - 1.40 | 0.94 | 5 | 6.2 | 0 | 0 |
| Total Radium | 31 | 0.78 - 2.36 | 1.69 | 5 | 6.2 | 0 | 0 |
| Th-230 | 31 | 0.79 - 6.07 | 1.49 | 5 | 6.2 | 1 | 0 |
| Th-232 | 31 | 0.42 - 1.44 | 0.96 | 5 | 6.2 | 0 | 0 |
| U-238 | 31 | 0.85 - 5.66 | 1.69 | 30 | 120 | 0 | 0 |
| PAH | 15 | 0.0 - 0.76 | 0.08 | 0.44 | 5.6 | 1 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




150 75 0 150 FEET

50 25 0 50 METERS

Sample Locations in Remedial Unit RU021

Confirmation Unit CU266

Figure: 4-47

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO | |
| ORIGINATOR MGL | DRAWN BY LGE | DATE 02/04/02 | |

# Table 4 - 47 Summary of CU266

CU 266 RU 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | X |
| | | | PCB | X |
| | | | TNT | |

Reference Figure: 4-47

**DATE RELEASED FOR UNRESTRICTED USE:** 11/ 10/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m² < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the southern portion of Raffinate Pit 4.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 8,000 - 12,000 cpm

(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *08/30/99; 09/28/99; 10/12/99; 10/19/99; 10/25/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 25

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

TOTAL # OF UTILITY SAMPLES : 0

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned confirmation gnd points represent RPX-22, RPX-28, RPX-29, and RPX-43. RPX-29 (1954 topo) samples are identified with the added suffix '-01.'*
*(2) One Th-230 hotspot was identified at SC-26603-S The hotspot was excavated and resampled.*
*(3) All final results are below criteria.*

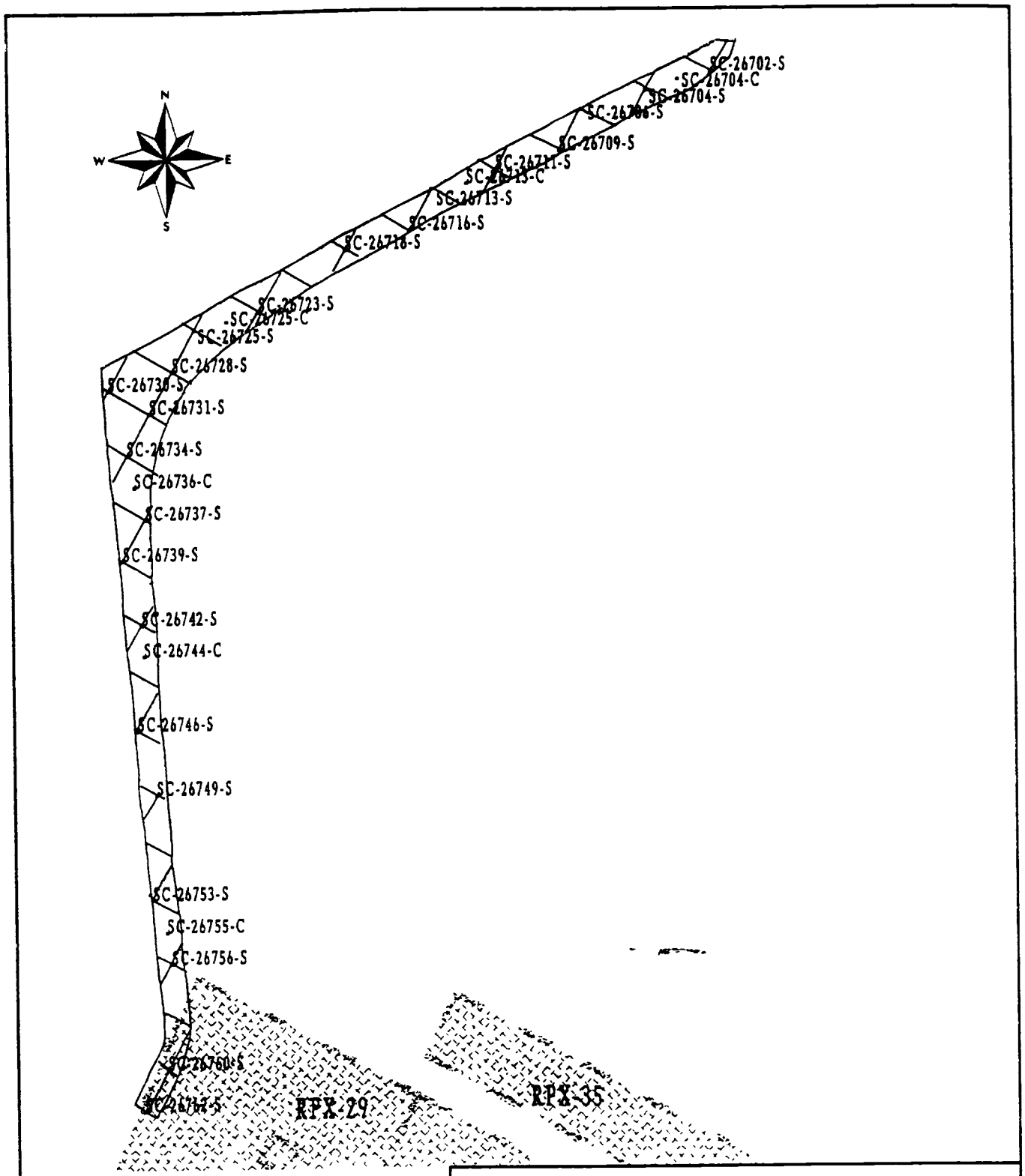
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
|---|---|---|---|---|---|---|---|
| Ra-226 | 28 | 0.29 - 1.24 | 0.85 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 28 | 0.41 - 1.46 | 0.98 | 5 | 6.2 | 0 | 0 |
| Total Radium | 28 | 0.82 - 2.48 | 1.83 | 5 | 6.2 | 0 | 0 |
| Th-230 | 28 | 0.85 - 5.37 | 1.49 | 5 | 6.2 | 1 | 0 |
| Th-232 | 28 | 0.42 - 1.50 | 1.00 | 5 | 6.2 | 0 | 0 |
| U-238 | 28 | 1.17 - 1.59 | 1.32 | 30 | 120 | 0 | 0 |
| PCB | 4 | results < detection limit | N/A | 0.65 | 8 | 0 | 0 |
| PAH | 7 | 0.0 - 0.81 | 0.12 | 0.44 | 5.6 | 1 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




150 75 0 150 FEET

50 25 0 50 METERS

Sample Locations in Remedial Unit RU021
Confirmation Unit CU267

Figure: 4-48

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO | |
| ORIGINATOR: MGL | DRAWN BY: LGB | DATE 01/10/02 | |

# Table 4 - 48 Summary of CU267

CU 267 RU 21

COC

| | | | |
|---|---|---|---|
| Ra-226 | X | As | |
| Ra-228 | X | Cr | |
| Th-230 | X | Pb | |
| Th-232 | X | Tl | |
| U-238 | X | PAH | X |
| | | PCB | |
| | | TNT | |

Reference Figure: 4-48

**DATE RELEASED FOR UNRESTRICTED USE:** 07/ 26/00

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m$^2$ < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents an area west of Raffinate Pit 4.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 7,000 - 10,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *10/28/99; 10/29/99; 07/13/00*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 29

TOTAL # OF UTILITY SAMPLES : 0

AVERAGES < ALARA? [ ] YES [X] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [ ] YES [X] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-29.*
*(2) All final results are below criteria.*

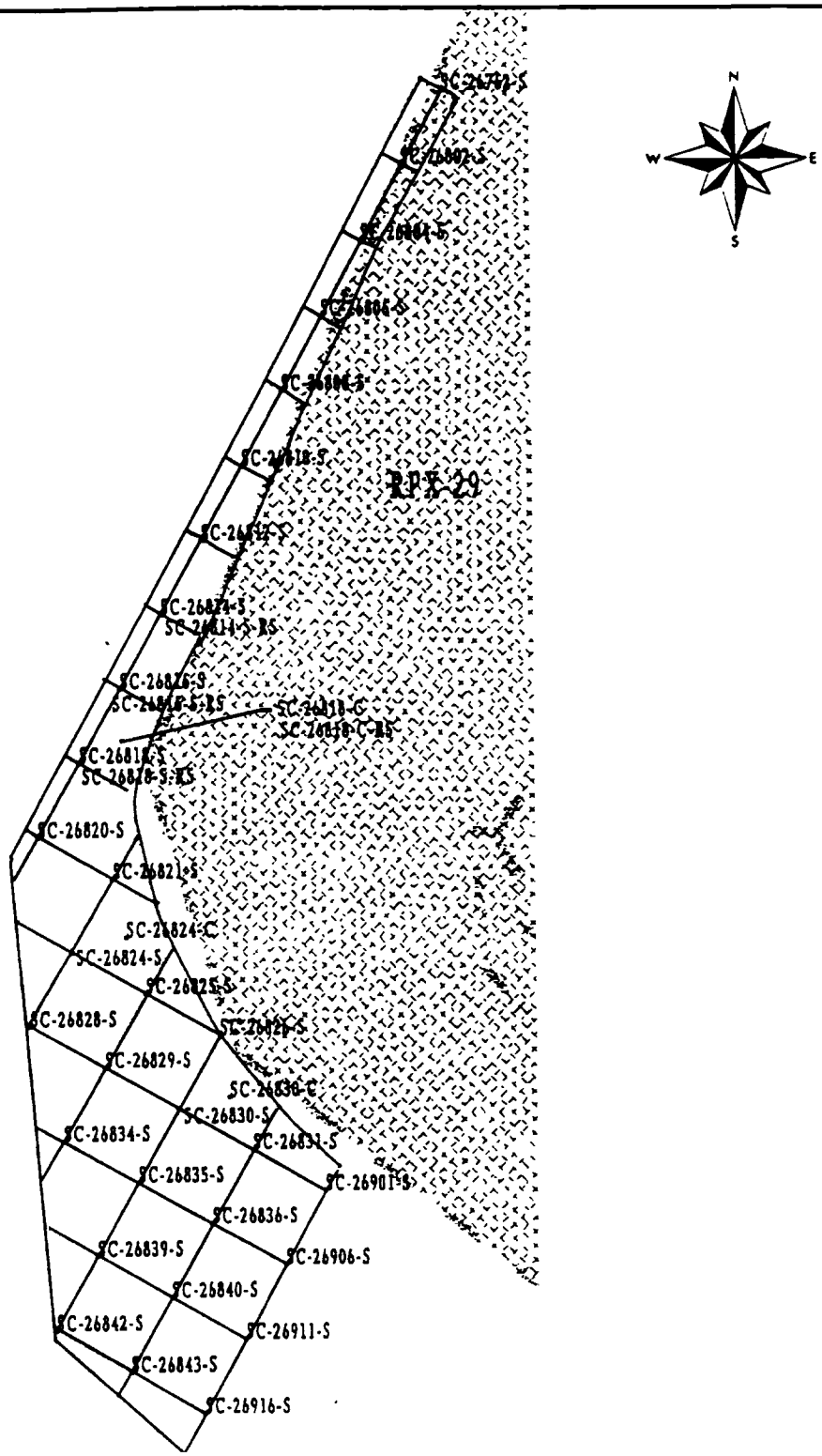
ORISE ACTION - *None.*

ALARA COMMITTEE ACTION - *Preliminary PAH data average exceeds ALARA for this CU. The ALARA committee met on 11/10/99. The number of CUs having PAH average below ALARA far outnumber CUs averaging above ALARA. Committee decision was to release the CU.*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 29 | 0.26 - 0.97 | 0.69 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 29 | 0.29 - 1.14 | 0.67 | 5 | 6.2 | 0 | 0 |
| Total Radium | 29 | 0.60 - 2.11 | 1.36 | 5 | 6.2 | 0 | 0 |
| Th-230 | 29 | 0.87 - 2.76 | 1.34 | 5 | 6.2 | 0 | 0 |
| Th-232 | 29 | 0.30 - 1.17 | 0.69 | 5 | 6.2 | 0 | 0 |
| U-238 | 29 | 1.00 - 1.87 | 1.16 | 30 | 120 | 0 | 0 |
| PAH | 2 | 0.24 - 1.20 | 0.72 | 0.44 | 5.6 | 1 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




150 75 0 150 FEET

50 25 0 50 METERS

Sample Locations in Remedial Unit RU021
Confirmation Unit CU268

Figure: 4-49

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE | 01/17/02 |

# Table 4 - 49 Summary of CU268

CU 268 RU 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | X |
| | | | PCB | |
| | | | TNT | |

Reference Figure: 4-49

**DATE RELEASED FOR UNRESTRICTED USE:** 11/ 16/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m² < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents an area west of Raffinate Pit 4.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 7,000 - 10,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *06/24/99; 10/28/99; 10/29/99; 11/01/99; 11/02/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 33

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

TOTAL # OF UTILITY SAMPLES : 0

ADDITIONAL EXCAVATION REQUIRED? [ ] YES [X] NO

GENERAL COMMENTS - *(1) Four locations (SC-26814-S; SC-26816-S; SC-26818-C; and SC-26818-S) were not sampled for PAHs during the original sampling event, therefore PAH samples were collected a few days later. These samples are identified with the suffix "-RS."*
*(2) All final results are below criteria.*

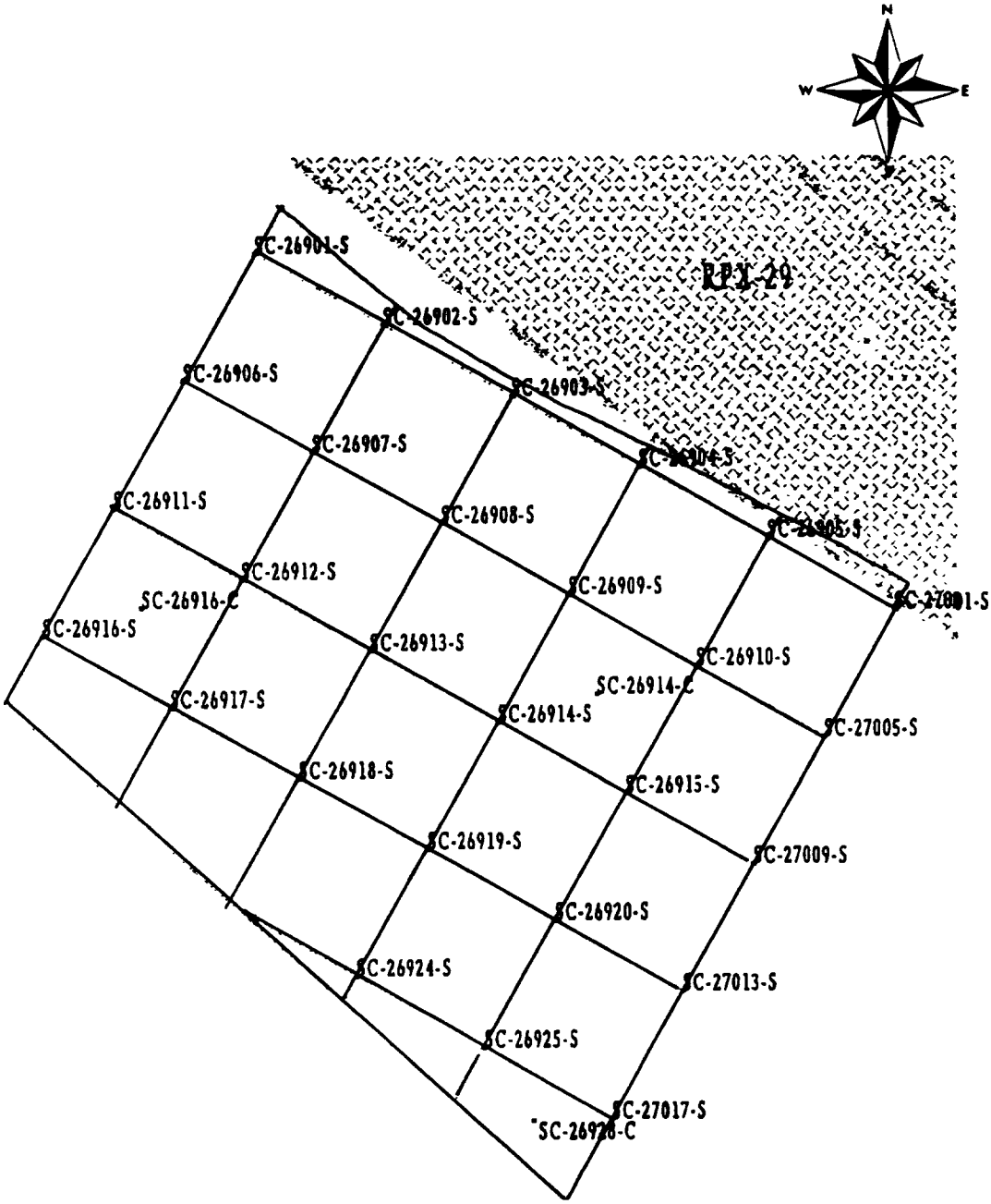
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 33 | 0.20 - 1.06 | 0.68 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 33 | 0.16 - 1.18 | 0.66 | 5 | 6.2 | 0 | 0 |
| Total Radium | 33 | 0.45 - 2.18 | 1.34 | 5 | 6.2 | 0 | 0 |
| Th-230 | 33 | 0.74 - 1.86 | 1.36 | 5 | 6.2 | 0 | 0 |
| Th-232 | 33 | 0.16 - 1.21 | 0.68 | 5 | 6.2 | 0 | 0 |
| U-238 | 33 | 0.53 - 2.61 | 1.3 | 30 | 120 | 0 | 0 |
| PAH | 11 | 0.0 - 1.2 | 0.2 | 0.44 | 5.6 | 2 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021
## Confirmation Unit CU269

Figure: 4-50

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO · | |
| ORIGINATOR: MGL | DRAWN BY: LGB | DATE | 01/10/02 |

# Table 4 - 50 Summary of CU269

CU 269 RU 21

COC

| | | | |
|---|---|---|---|
| Ra-226 | X | As | |
| Ra-228 | X | Cr | |
| Th-230 | X | Pb | |
| Th-232 | X | Tl | |
| U-238 | X | PAH | |
| | | PCB | |
| | | TNT | |

Reference Figure: 4-50

DATE RELEASED FOR UNRESTRICTED USE: 07/ 08/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m$^2$ < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents an area south of Raffinate Pit 4.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 10,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *06/24/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : *30*

TOTAL # OF UTILITY SAMPLES : *0*

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [ ] YES [X] NO

GENERAL COMMENTS - *All final results are below criteria.*

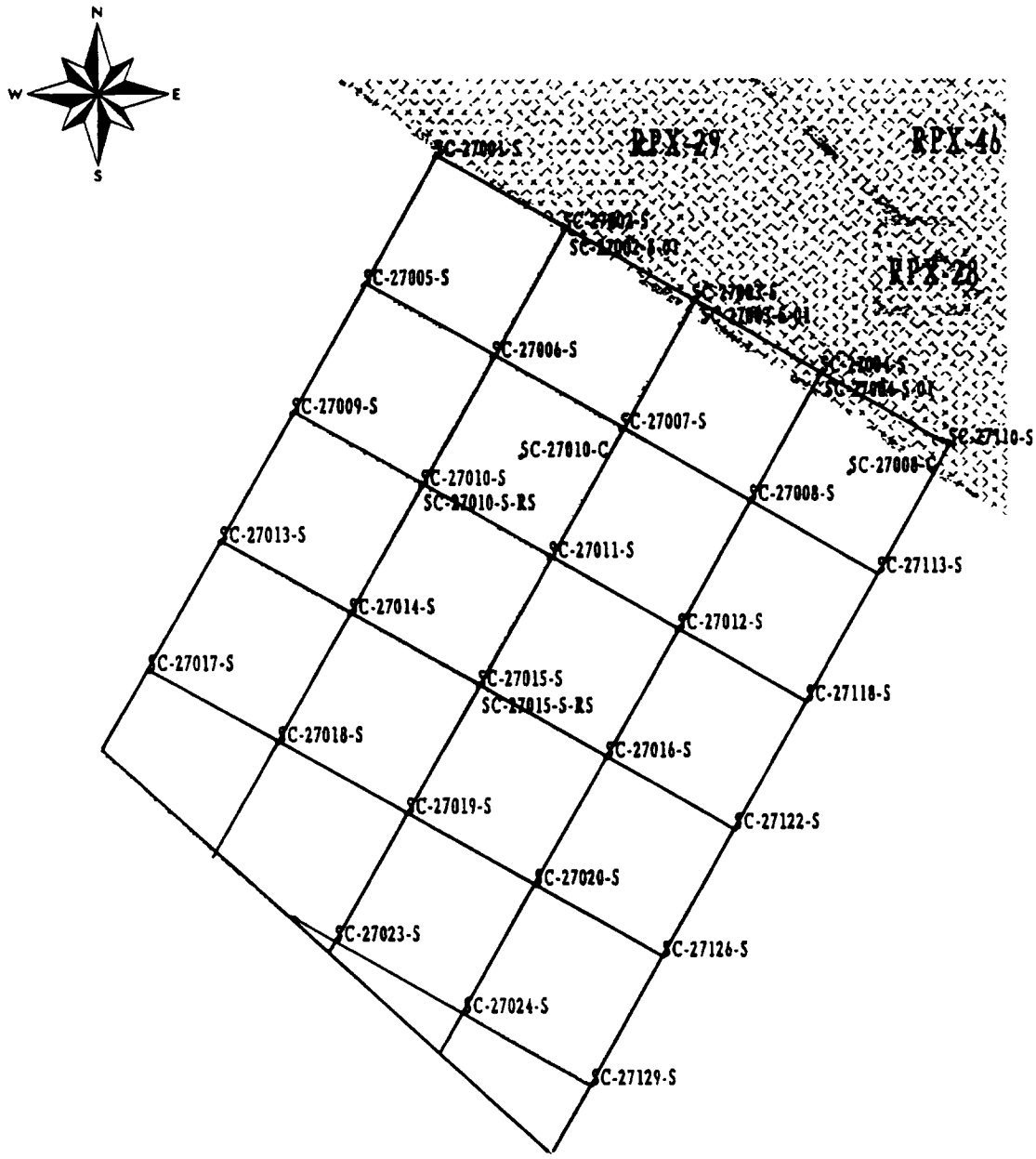
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 30 | 0.29 - 1.06 | 0.75 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 30 | 0.35 - 1.43 | 0.89 | 5 | 6.2 | 0 | 0 |
| Total Radium | 30 | 0.78 - 2.27 | 1.65 | 5 | 6.2 | 0 | 0 |
| Th-230 | 30 | 0.98 - 5.23 | 1.7 | 5 | 6.2 | 1 | 0 |
| Th-232 | 30 | 0.36 - 1.47 | 0.91 | 5 | 6.2 | 0 | 0 |
| U-238 | 30 | 1.08 - 4.94 | 1.51 | 30 | 120 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g.




150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021
## Confirmation Unit CU270

Figure: 4-51

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO : | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE | 01/17/02 |

# Table 4 - 51 Summary of CU270

CU 270 RU 21

COC

| | | | |
|---|---|---|---|
| Ra-226 | X | As | |
| Ra-228 | X | Cr | |
| Th-230 | X | Pb | |
| Th-232 | X | Tl | |
| U-238 | X | PAH | X |
| | | PCB | |
| | | TNT | |

Reference Figure: 4-51

**DATE RELEASED FOR UNRESTRICTED USE:** 10/ 12/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m² < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents an area south of Raffinate Pit 4.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 10,000 - 12,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *06/24/99; 09/28/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 30

TOTAL # OF UTILITY SAMPLES : 0

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-29 (1954 topo).*
*(2) Two Th-230 hotspots were identified at SC-27010-S and SC-27015-S. These areas were further excavated and resampled.*
*(3) All final results are below criteria.*

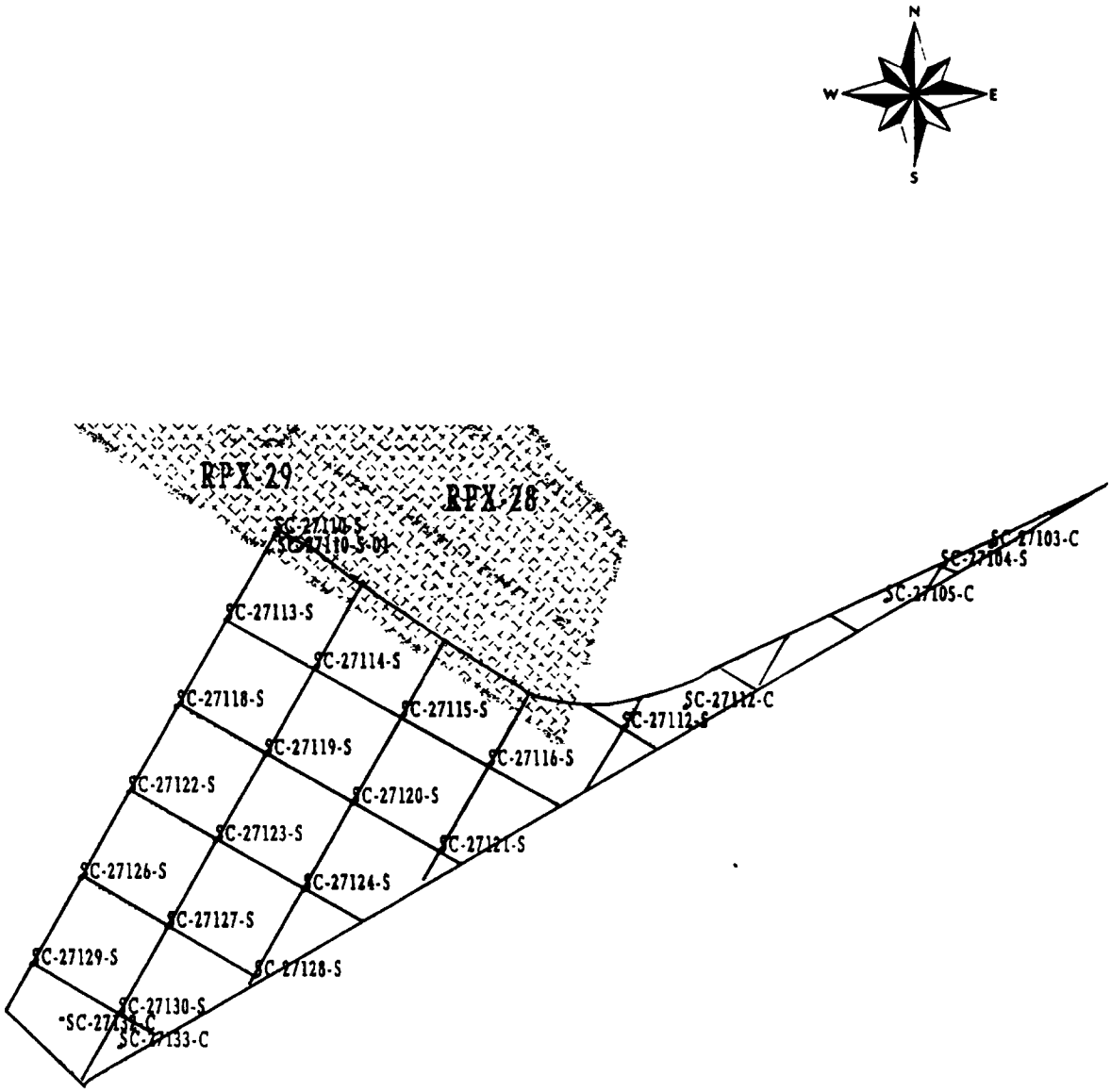
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 34 | 0.29 - 1.1 | 0.76 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 34 | 0.44 - 1.32 | 0.77 | 5 | 6.2 | 0 | 0 |
| Total Radium | 34 | 0.74 - 2.37 | 1.53 | 5 | 6.2 | 0 | 0 |
| Th-230 | 34 | 0.94 - 6.19 | 2.26 | 5 | 6.2 | 2 | 0 |
| Th-232 | 34 | 0.45 - 1.35 | 0.79 | 5 | 6.2 | 0 | 0 |
| U-238 | 34 | 1.1 - 2.16 | 1.34 | 30 | 120 | 0 | 0 |
| PAH | 4 | results < detection limit | N/A | 0.44 | 5.6 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




150 75 0 150 FEET

50 25 0 50 METERS

# Sample Locations in Remedial Unit RU021
## Confirmation Unit CU271

Figure: 4-52

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO: | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE 01/14/02 | |

# Table 4 - 52 Summary of CU271

CU 271 RU 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | X |
| | | | PCB | |
| | | | TNT | |

Reference Figure: 4-52

DATE RELEASED FOR UNRESTRICTED USE: 11/ 12/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m² < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents an area south of Raffinate Pit 4.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 7,000 - 10,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *06/24/99; 07/12/99; 09/28/99; 10/25/99; 11/05/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 24

TOTAL # OF UTILITY SAMPLES : 0

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [ ] YES [X] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-29 (1954 topo).*
*(2) All final results are below ALARA.*

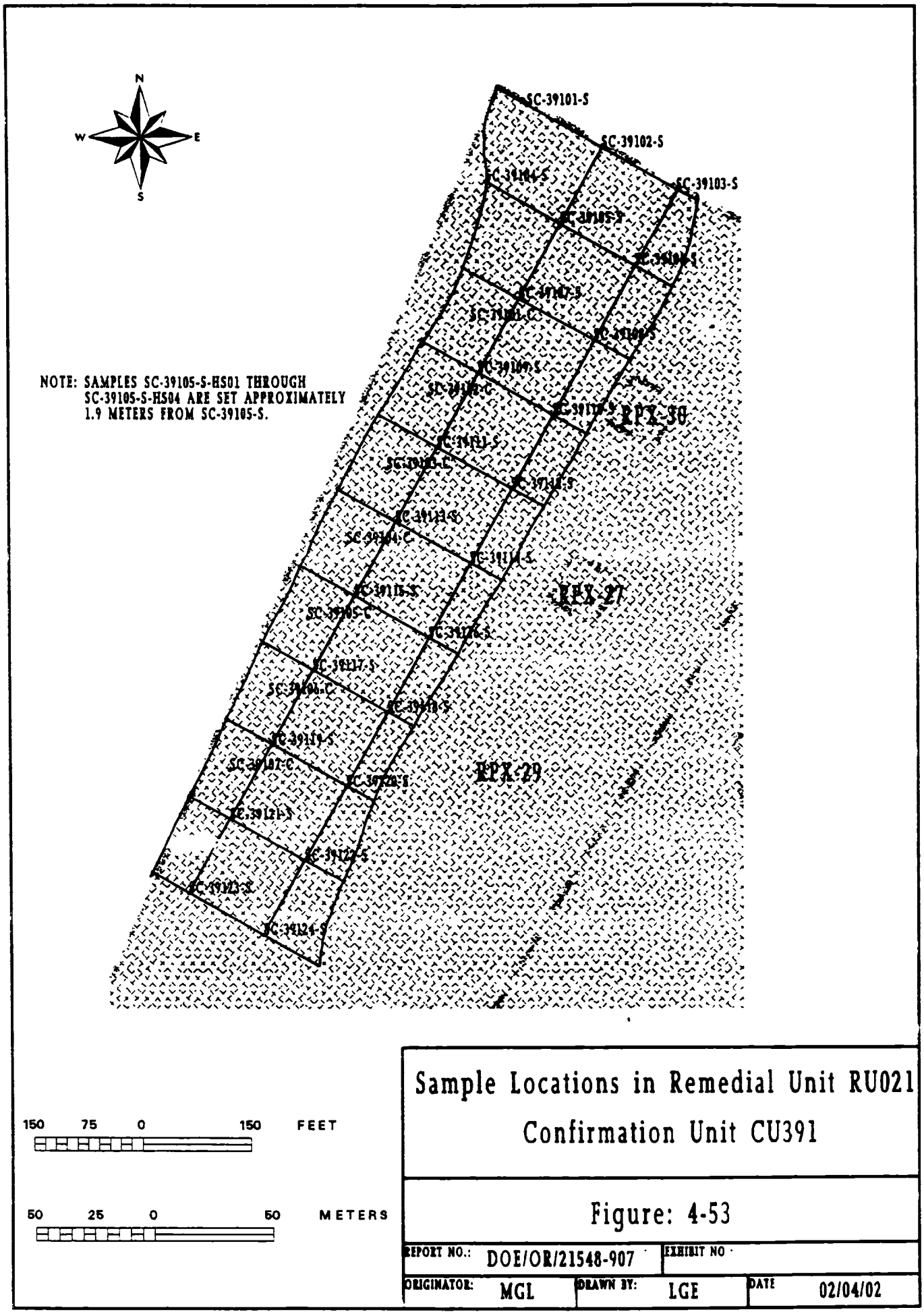
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 25 | 0.31 - 1.08 | 0.85 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 25 | 0.40 - 1.32 | 0.76 | 5 | 6.2 | 0 | 0 |
| Total Radium | 25 | 0.71 - 2.37 | 1.61 | 5 | 6.2 | 0 | 0 |
| Th-230 | 25 | 0.78 - 4.29 | 1.93 | 5 | 6.2 | 0 | 0 |
| Th-232 | 25 | 0.41 - 1.35 | 0.78 | 5 | 6.2 | 0 | 0 |
| U-238 | 25 | 1.1 - 2.67 | 1.38 | 30 | 120 | 0 | 0 |
| PAH | 1 | 0 | N/A | 0.44 | 5.6 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




# Sample Locations in Remedial Unit RU021
## Confirmation Unit CU391

Figure: 4-53

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE | 02/04/02 |

# Table 4 - 53 Summary of CU391

CU 391 RU 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | X |
| | | | PCB | |
| | | | TNT | |

Reference Figure: 4-53

**DATE RELEASED FOR UNRESTRICTED USE:** 11/ 05/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m² < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the western berm of Raffinate Pit 4.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 7,000 - 12,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *09/28/99; 10/28/99; 10/07/99; 11/01/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 31

TOTAL # OF UTILITY SAMPLES : 0

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [X] YES [ ] NO

ADDITIONAL EXCAVATION REQUIRED? [ ] YES [X] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-29. (2) CU391 was created to confirm the portion of RPX-29 on the west berm of raffinate pit 4 that was not previously covered by an existing confirmation unit. The IOC discussing the creation of CU391 has been included in Appendix D. (3) One Th-230 hotspot was identifed at SC-39105-S. Samples collected around the location determined the hotspot size met the hotspot rule (calculation presented in Appendix E). No further excavation was required. (4) All final results are below Criteria with the exception of the Th-230 hotspot mentioned above.*

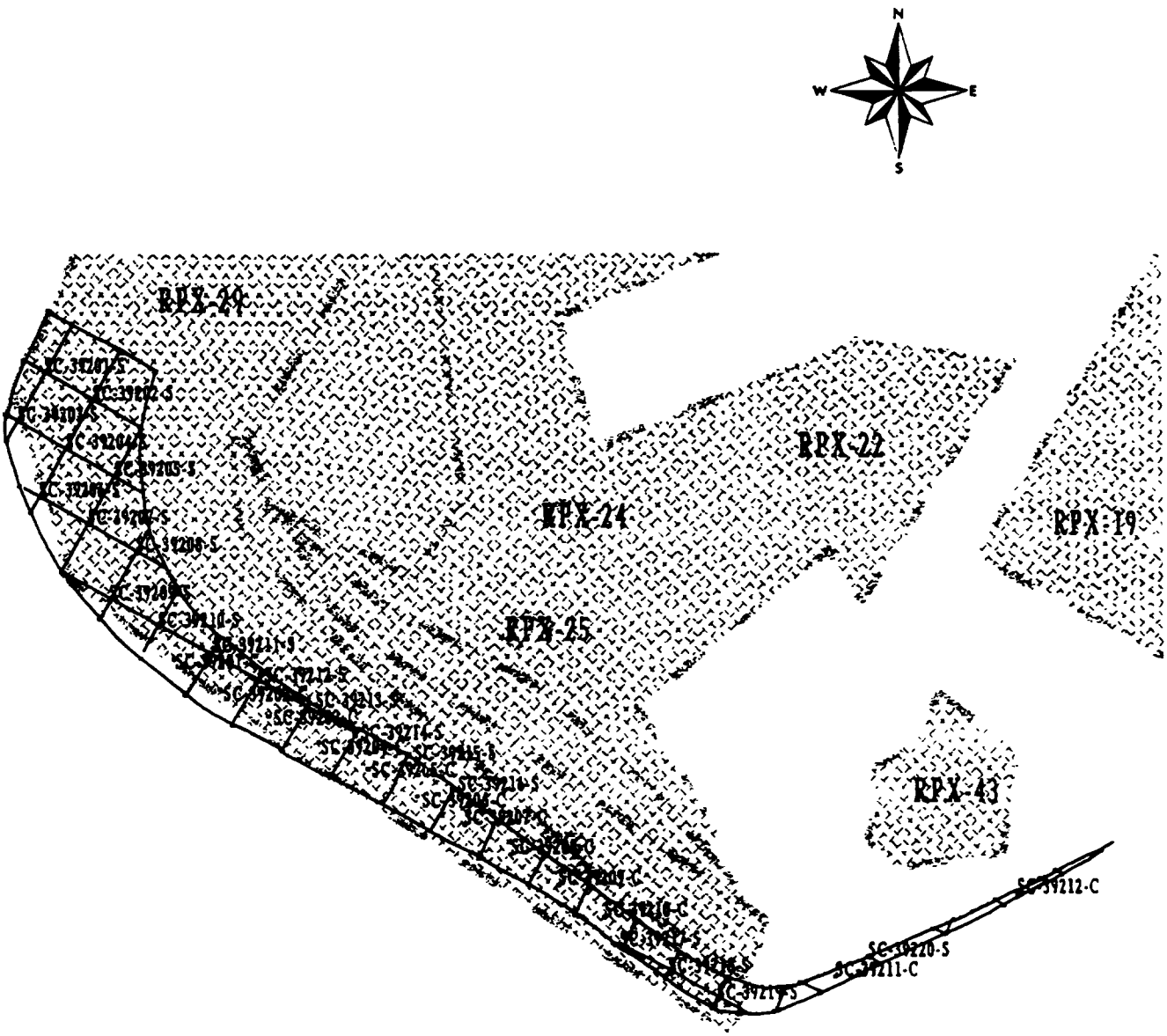
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 31 | 0.31 - 1.08 | 0.78 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 31 | 0.36 - 1.33 | 0.81 | 5 | 6.2 | 0 | 0 |
| Total Radium | 31 | 0.74 - 2.21 | 1.59 | 5 | 6.2 | 0 | 0 |
| Th-230 | 31 | 0.76 - 16.4 | 1.60 | 5 | 6.2 | 1 | 1 |
| Th-232 | 31 | 0.37 - 1.36 | 0.83 | 5 | 6.2 | 0 | 0 |
| U-238 | 31 | 1.11 - 1.51 | 1.31 | 30 | 120 | 0 | 0 |
| PAH | 31 | 0.0 - 2.20 | 0.36 | 0.44 | 5.6 | 8 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




150 75 0 150 FEET

50 25 0 50 METERS

Sample Locations in Remedial Unit RU021
Confirmation Unit CU392

Figure: 4-54

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO : | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE: 01/10/02 | |

# Table 4 - 54 Summary of CU392

CU 392 RU 21

COC

| | | | |
|---|---|---|---|
| Ra-226 | X | As | |
| Ra-228 | X | Cr | |
| Th-230 | X | Pb | |
| Th-232 | X | Tl | |
| U-238 | X | PAH | X |
| | | PCB | |
| | | TNT | |

Reference Figure: 4-54

**DATE RELEASED FOR UNRESTRICTED USE:** 11/ 02/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m² < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the southern berm of Raffinate Pit 4.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 8,000- 12,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *09/28/99; 10/08/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 32

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

TOTAL # OF UTILITY SAMPLES : 0

ADDITIONAL EXCAVATION REQUIRED? [ ] YES [X] NO

GENERAL COMMENTS - *(1) Planned confirmation grid points represent RPX-29.*
*(2) CU392 was created to confirm the portion of RPX-29 on the south berm of raffinate pit 4 that was not previously covered by an existing confirmation unit. The IOC discussing the creation of CU392 has been included in Appendix D.*
*(3) All final results are below ALARA.*

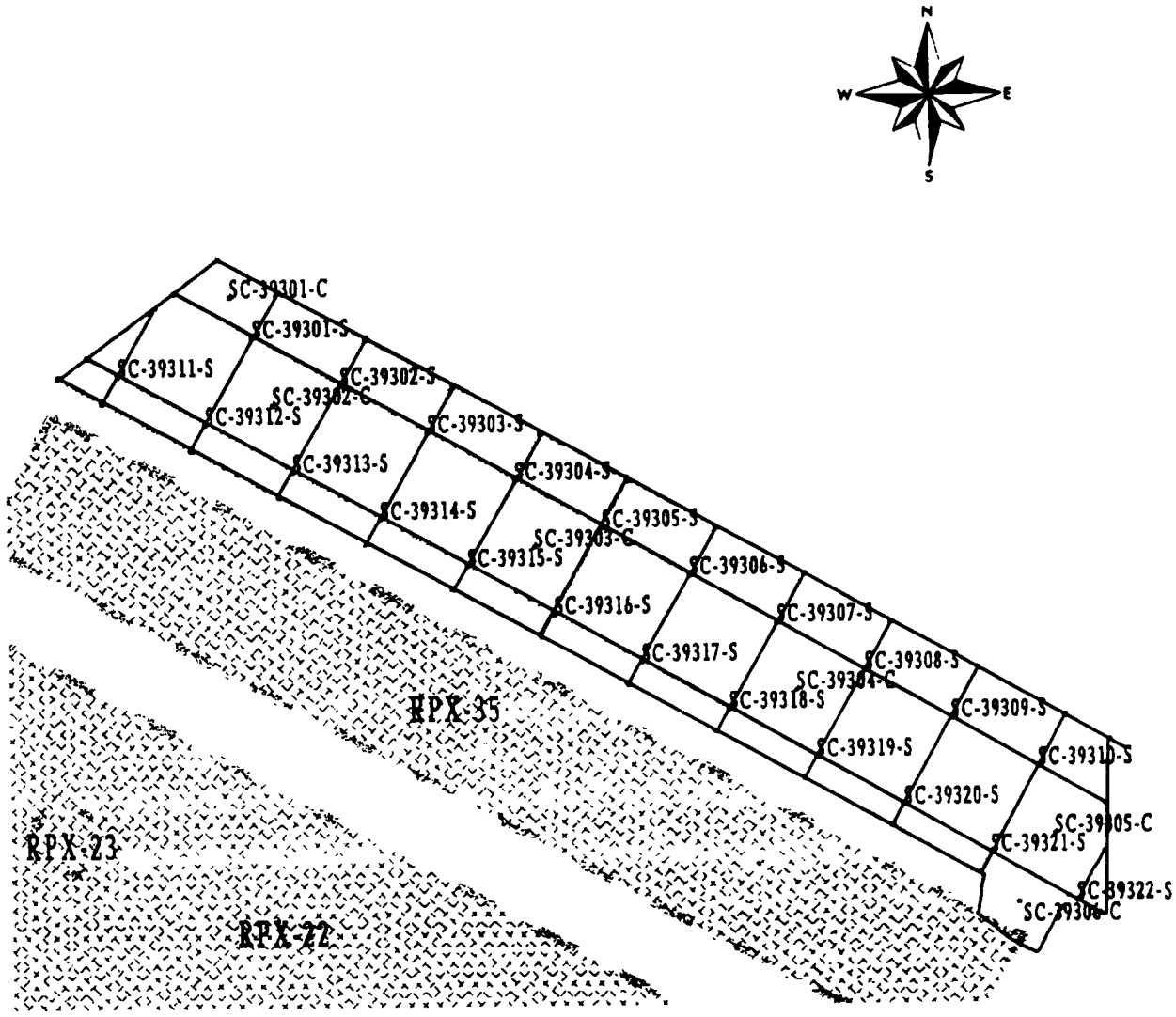
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 32 | 0.31 - 1.07 | 0.77 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 32 | 0.44 - 1.39 | 0.91 | 5 | 6.2 | 0 | 0 |
| Total Radium | 32 | 0.78 - 2.23 | 1.68 | 5 | 6.2 | 0 | 0 |
| Th-230 | 32 | 0.91 - 3.38 | 1.30 | 5 | 6.2 | 0 | 0 |
| Th-232 | 32 | 0.45 - 1.42 | 0.93 | 5 | 6.2 | 0 | 0 |
| U-238 | 32 | 1.17 - 2.29 | 1.35 | 30 | 120 | 0 | 0 |
| PAH | 32 | 0.0 - 0.007 | 0.005 | 0.44 | 5.6 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




150 75 0 150 FEET

50 25 0 50 METERS

Sample Locations in Remedial Unit RU021

Confirmation Unit CU393

Figure: 4-55

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO : | |
| ORIGINATOR: MGL | DRAWN BY: LGE | DATE | 01/10/02 |

# Table 4 - 55 Summary of CU393

CU: 393 RU: 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | X |
| | Ra-228 | X | Cr | X |
| | Th-230 | X | Pb | X |
| | Th-232 | X | Tl | X |
| | U-238 | X | PAH | X |
| | | | PCB | X |
| | | | TNT | X |

Reference Figure: 4-55

**DATE RELEASED FOR UNRESTRICTED USE:** 10/ 05/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m² < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the Raffinate Pit 4 intermediate berm.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 11,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *09/27/99*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : 28

TOTAL # OF UTILITY SAMPLES : 0

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

ADDITIONAL EXCAVATION REQUIRED? [ ] YES [X] NO

GENERAL COMMENTS - *(1) CU393 was created to confirm adjacent areas associated with the excavation of RPX-35, which extended into the former WP-471 work zone. The excavation limits for RPX-35 extended to the north due to sloping requirements associated with safety during the excavation.*
*In-situ area RPX-35 was developed after the WP-437 sampling plan was issued when contaminated soil was used to construct an intermediate dike of raffinate pit 4. Upon removal of the intermediate dike, the area was confirmed. The IOC discussing the creation of CU393 has been included in Appendix D.*
*(2) All final results are less than ALARA.*

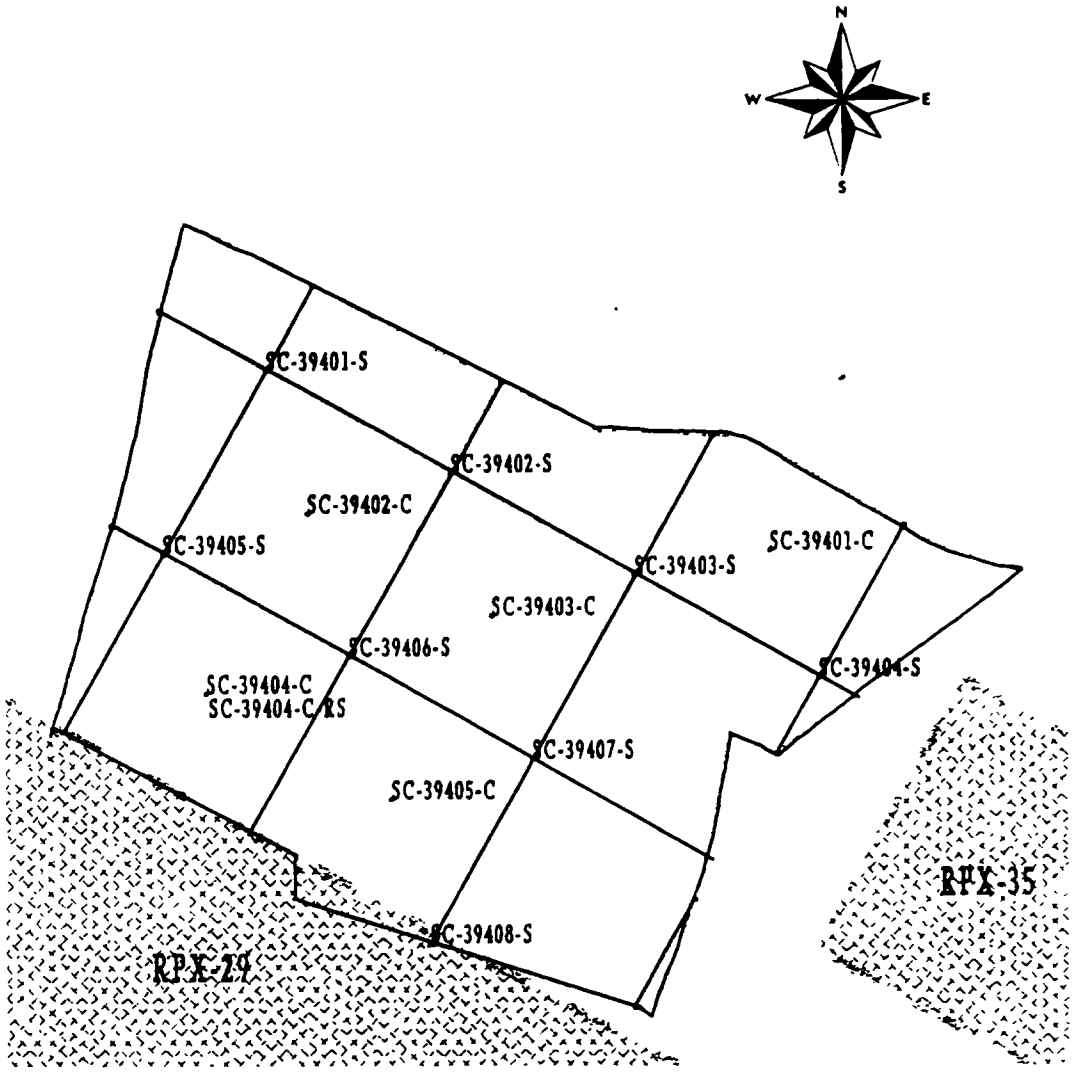
ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Arsenic | 28 | 5.3 - 12.9 | 9.18 | 45 | 75 | 0 | 0 |
| Chromium | 28 | 11.6 - 25.2 | 17.2 | 90 | 110 | 0 | 0 |
| Lead | 28 | 10.7 - 31.4 | 15.36 | 240 | 450 | 0 | 0 |
| Thallium | 28 | 0.98 - 4.2 | 2.61 | 16 | 20 | 0 | 0 |
| Ra-226 | 28 | 0.24 - 1.12 | 0.62 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 28 | 0.44 - 1.40 | 0.88 | 5 | 6.2 | 0 | 0 |
| Total Radium | 28 | 0.72 - 2.32 | 1.50 | 5 | 6.2 | 0 | 0 |
| Th-230 | 28 | 0.63 - 4.11 | 1.51 | 5 | 6.2 | 0 | 0 |
| Th-232 | 28 | 0.45 - 1.44 | 0.90 | 5 | 6.2 | 0 | 0 |
| U-238 | 28 | 1.17 - 2.49 | 1.38 | 30 | 120 | 0 | 0 |
| TNT | 28 | results < detection limit | N/A | 14 | 140 | 0 | 0 |
| PCB | 28 | 0.0 - 0.009 | 0.003 | 0.65 | 8 | 0 | 0 |
| PAH | 28 | 0.0 - 0.006 | 0.004 | 0.44 | 5.6 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g. Chemical contaminants are listed in mg/kg.




150 75 0 150 FEET

50 25 0 50 METERS

Sample Locations in Remedial Unit RU021
Confirmation Unit CU394

Figure: 4-56

| | | | |
|---|---|---|---|
| REPORT NO.: DOE/OR/21548-907 | | EXHIBIT NO · | |
| ORIGINATOR: MGL | DRAWN BY· LGE | DATE. 01/10/02 | |

# Table 4 - 56 Summary of CU394

CU 394 RU 21

| COC | | | | |
|---|---|---|---|---|
| | Ra-226 | X | As | |
| | Ra-228 | X | Cr | |
| | Th-230 | X | Pb | |
| | Th-232 | X | Tl | |
| | U-238 | X | PAH | |
| | | | PCB | |
| | | | TNT | |

Reference Figure: 4-56

**DATE RELEASED FOR UNRESTRICTED USE:** 10/ 13/99

CLEANUP STANDARD [X] SURFACE [ ] SUBSURFACE

EACH 100m² < CRITERIA? [X] YES [ ] NO

LOCATION DESCRIPTION: *This CU represents the northwestern portion of Raffinate Pit 4.*

## WALKOVER SURVEY INFORMATION

BACKGROUND: 11,000 cpm
(shielding may have been used on a case-by-case basis)

FINAL SURVEY(S) BELOW 1.5 X BACKGROUND ? [X] YES [ ] NO

DATE(S) SCANNED: *09/25/1999*

## CONFIRMATION SAMPLING INFORMATION

TOTAL # OF SAMPLE LOCATIONS : *11*

AVERAGES < ALARA? [X] YES [ ] NO

HOTSPOTS REMAINING? [ ] YES [X] NO

TOTAL # OF UTILITY SAMPLES : *0*

ADDITIONAL EXCAVATION REQUIRED? [X] YES [ ] NO

GENERAL COMMENTS - *(1) CU394 was created to confirm an area just west of the intermediate berm where elevated radiological activity had been identified. The IOC discussing the creation of CU393 has been included in Appendix D. Locations SC-39405-S and SC-39408-S did not fall within the excavated area and were not sampled.*
*(2) One Th-230 hotspot was identified at SC-39404-C. The area was further excavated and resampled.*
*(3) All final results are below ALARA.*

ORISE ACTION - *None*

ALARA COMMITTEE ACTION - *None*

## CU SUMMARY DATA

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ra-226 | 11 | 0.28 - 0.69 | 0.57 | 5 | 6.2 | 0 | 0 |
| Ra-228 | 11 | 0.46 - 1.28 | 0.97 | 5 | 6.2 | 0 | 0 |
| Total Radium | 11 | 0.99 - 1.94 | 1.54 | 5 | 6.2 | 0 | 0 |
| Th-230 | 11 | 0.84 - 1.33 | 1.05 | 5 | 6.2 | 0 | 0 |
| Th-232 | 11 | 0.47 - 1.31 | 0.99 | 5 | 6.2 | 0 | 0 |
| U-238 | 11 | 1.11 - 1.26 | 1.22 | 30 | 120 | 0 | 0 |

NOTE: Radiological contaminants are listed in pCi/g.

# 5. DATA EVALUATION

Work Package-437 (WP-437) final analytical data were evaluated to determine whether data quality objectives developed for the Weldon Spring Site Remedial Action Project (WSSRAP) were met and to ensure that overall data quality results were generated from these remedial activities. The data were evaluated in accordance with the *Project Management Contractor Quality Assurance Program* (Ref. 5) and the *Environmental Quality Assurance Project Plan* (Ref. 6). The data evaluation process was completed by data verification, data review, data validation, and data management activities as stated in the *Chemical Plant Area Cleanup Area Attainment Confirmation Plan* (Ref. 3).

## 5.1 Data Verification

Data verification was conducted in accordance with ES&H 4.9.1, *Environmental Monitoring Data Verification*, to ensure that documentation and data were reported in compliance with established reporting requirements and standard operating procedures (SOPs), and to ensure that all analyses were performed. All analytical results received from the laboratory were reviewed to verify that samples were properly handled according to WSSRAP protocol. The following factors were reviewed and evaluated: sample identification, chain of custody, holding times, sample preservation requirements, sample analysis request forms, data reviews, laboratory tracking, data reporting requirements, and the database transfer.

## 5.2 Data Review

Data packages were reviewed to ensure that final data were properly identified, analyzed, reported, and that they met data quality requirements (DQRs). The data were also reviewed to check for inconsistencies with the field quality control (QC) samples. Final analytical results were also compared to the preliminary results to identify any changes in data.

During confirmation of WP-437 areas, which included RU021, soil samples were obtained in accordance with the details provided in the *Confirmation Sampling Plan Details for the Disposal Cell Facility* (WP-437) (Ref. 2). This plan indicates that quality control samples were to be taken at a frequency of 1 per 20 samples or 5%. The quality control samples collected included duplicates, field replicates, secondary duplicates, matrix spikes/matrix spike duplicates, and equipment blanks. Since the 5% requirement was based on all WP-437 confirmation sampling, the quality control data will be discussed in a separate report entitled *WP-437 Confirmation Quality Control Results Report*.

## 5.3 Data Validation

Data validation was performed on 10% of all analytical data generated from the confirmation sampling activities. Data validation was conducted in accordance with ES&H 4.9.2, *Environmental Monitoring Data Validation*. Note that the validation of 10% of the data is based upon all confirmation data collected for WP-437, and not 10% of each work zone. The percentage of confirmation validated will be discussed in the *WP-437 Confirmation Quality Control Results Report*.

# 6. SUMMARY OF CLOSURE REPORT FINDINGS

The Raffinate Pit work zone portion requiring confirmation under Work Package (WP-437) consisted of the fifty-five confirmation units (CUs) within Remedial Unit (RU)021. Summary information regarding the remedial activities is presented in Section 4 of this report.

## 6.1 Data Evaluation

Upon completion of remediation activities, preliminary results were used to complete disposition forms in accordance with ES&H 1.2.1, *Soil Remediation Disposition Process*. Based on the preliminary results, each CU was released when disposition forms were reviewed and signed by authorized project personnel.

## 6.2 Summary of WP-437 Confirmation Results

Table 6-1 provides a summary of the total number of samples collected and analyzed for each contaminant during remedial activities in RU021. The number of samples and the minimum, maximum, and average concentrations are also provided for each contaminant. The table was generated using final data sets compiled from all samples that represented soils left in place.

Table 6-1 Summary Totals for RU021

| CONTAMINANT | NO OF SAMPLES | CONCENTRATION RANGE | AVERAGE CONCENTRATION | SURFACE ALARA | SURFACE CRITERIA | RESULTS > ALARA |
|---|---|---|---|---|---|---|
| As (mg/kg) | 90 | 2 4 – 21 8 | 8 64 | 45 | 75 | 0 |
| Cr (mg/kg) | 90 | 7 5 – 28 7 | 17 08 | 90 | 110 | 0 |
| Pb (mg/kg) | 85 | 5 6 – 31 4 | 14 40 | 240 | 450 | 0 |
| Tl (mg/kg) | 64 | 0 31 – 6 6 | 2 25 | 16 | 20 | 0 |
| TNT (mg/kg) | 114 | 0 003 – 3 5 | 0 16 | 14 | 140 | 0 |
| PAH (mg/kg) | 298 | 0 0 – 2 2 | 0 09 | 0 44 | 5 60 | 22 |
| PCB (mg/kg) | 91 | 0 0 – 2 3 | 0 04 | 0 65 | 8 00 | 1 |
| Ra-226 (pCi/g) | 1516 | 0 19 – 5 71 | 0 83 | 5 00 | 6 20 | 1 |
| Ra-228 (pCi/g) | 1516 | 0 16 – 2.63 | 0 91 | 5 00 | 6 20 | 0 |
| Total Radium* (pCi/g) | 1516 | 0.45 – 6.22 | 1 74 | 5.00 | 6 20 | 5 |
| Th-230 (pCi/g) | 1516 | 0 33 – 16 4 | 1 56 | 5 00 | 6 20 | 35 |
| Th-232 (pCi/g) | 1516 | 0 16 – 2 70 | 0 93 | 5 00 | 6 20 | 0 |
| U-238 (pCi/g) | 1515 | 0 21 – 64 8 | 1 70 | 30 00 | 120 00 | 1 |

* Total Radium consists of Ra-226 values plus Ra-228 values

Final analytical results generated from the remedial activities indicated that the RU021 average concentrations for each COC were below the ALARA goal. With only one exception, COC averages are also below ALARA for each of the fifty-five CUs. One CU had a PAH average exceeded ALARA. All 100 $m^2$ averages were less than criteria.

## 6.3 Summary of Chemical Plant Confirmation Results

To meet the requirements of the ROD, more than 50% of the results for each parameter had to be less than the ALARA goal. Table 6-2 summarizes the cumulative results to date.

Table 6-2 Summary Totals for Confirmation

| CONTAMINANT | NO. OF SAMPLES | MINIMUM CONCENTRATION | MAXIMUM CONCENTRATION | AVERAGE CONCENTRATION | RESULTS > ALARA |
|---|---|---|---|---|---|
| Arsenic (mg/kg) | 2322 | 0.48 | 123 | 8.24 | 1 |
| Chromium (mg/kg) | 2693 | 1.40 | 76.2 | 17.33 | 0 |
| Pb (mg/kg) | 2291 | 1.80 | 817 | 19.01 | 8 |
| Thallium (mg/kg) | 1062 | 0.12 | 20.3 | 1.80 | 2 |
| PAH (mg/kg) | 2338 | 0.0 | 14.1 | 0.11 | 150 |
| PCB (mg/kg) | 2921 | 0.0 | 6.4 | 0.05 | 46 |
| TNT (mg/kg) | 1306 | 0.002 | 34 | 0.17 | 2 |
| Ra-226 (pCi/g) | 6050 | 0.13 | 9.43 | 1.07 | 5 |
| Ra-228 (pCi/g) | 5859 | 0.16 | 6.60 | 1.06 | 3 |
| Th-230 (pCi/g) | 5314 | 0.09 | 23.10 | 1.57 | 107 |
| Th-232 (pCi/g) | 5309 | 0.16 | 6.77 | 1.06 | 2 |
| Toluene (mg/kg) | 4 | 0.00 | 3.40 | 0.85 | 0 |
| U-238 (pCi/g) | 7928 | 0.21 | 228 | 3.13 | 77 |

NOTE: This table contains summary results from cumulative confirmation including WP-253, WP-399, WP-420, WP-458, WP-461, WP-471, WP-437 (RU015, RU016, RU017, RU018, RU019, RU020, RU021, RU023, and RU025), and WP-551/Task D (RU026)

## 6.4 Comparison of Standard Deviations

This section compares the estimated standard deviations calculated following U. S. Environmental Protection Agency (EPA) guidance with deviations calculated using confirmation results. Since there were no existing remediation data available to calculate the standard deviation (sigma), the *Chemical Plant Area Cleanup Area Attainment Confirmation Plan* (Ref. 3) estimated sigma using the range (assuming the average concentration remaining after remediation would not exceed cleanup criteria) divided by six. To determine whether the

specified level of precision was obtained, a comparison was made between the estimated sigma and the calculated sigma using the RU021 results.

The comparison indicated that the specified level of precision (a false positive = 0.05 and a false negative = 0.20) had been obtained. All of the RU021 calculations except Th-230 were less than estimated sigmas, indicating that the minimum specified precision was met. Table 6-3 presents the estimated sigma and calculated sigmas for each COC.

The RU021 and cumulative sigmas for Th-230 exceeded the estimated sigma. This is a factor of hot spots left in place based upon subsurface criteria in previous CUs. The estimated standard deviation, recalculated for Th-230 using subsurface criteria, was 2.7. The RU021 and cumulative sigmas were both less than the estimated subsurface sigma.

Table 6-3 Comparison of Standard Deviations

| COC | Estimated Sigma(a) | RU021 Sigma (b) | Cumulative Sigma (c) |
|---|---|---|---|
| Arsenic (mg/kg) | 12.5 | 3 05 | 4.37 |
| Chromium (mg/kg) | 18.3 | 3.81 | 5.05 |
| Lead (mg/kg) | 75 | 5.16 | 28.33 |
| Thallium (mg/kg) | 3 3 | 1 22 | 1.63 |
| PAH (mg/kg) | 0 93 | 0.29 | 0 49 |
| PCB (mg/kg) | 1 33 | 0.25 | 0.31 |
| TNT (mg/kg) | 23.3 | 0.52 | 1.28 |
| Ra-226 (pCi/g) | 1.03 | 0.34 | 0 46 |
| Ra-228 (pCi/g) | 1.03 | 0.34 | 0 39 |
| Th-230 (pCi/g) | 1 03 | 1 17 | 1.18 |
| Th-232 (pCi/g) | 1.03 | 0 34 | 0 41 |
| U-238 (pCi/g) | 20 | 2.25 | 7 04 |

(a) Sigma estimated in the *Attainment Plan* (Ref. 3).
(b) Sigma calculated using only the WP437 (RU021) confirmation results.
(c) Sigma calculated using cumulative confirmation results (WP-253, WP-399, WP-458, WP-461, WP-471, WP-437 (RU015, RU016, RU017, RU018, RU019, RU020, RU021, RU023, and RU025), and WP-551/Task D (RU026).

# 7. REFERENCES


1. Department of Energy. *Record of Decision for Remedial Action at the Chemical Plant Area of the Weldon Spring Site*. DOE/OR/21548-376. Oak Ridge Field Office. St. Charles, MO. September 1993.

2. MK-Ferguson and Jacobs Engineering Group. *Confirmation Sampling Plan Details for the Disposal Cell Facility (WP-437)*, Rev 0. DOE/OR/21548-706. Prepared for the U.S. Department of Energy, Oak Ridge Field Office. St. Charles, MO. January 1998.

3. MK-Ferguson and Jacobs Engineering Group. *Chemical Plant Area Cleanup Attainment Confirmation Plan*, Rev. 3. DOE/OR/21548-491. Prepared for the U.S. Department of Energy, Oak Ridge Field Office. St. Charles, MO. December 1995.

4. MK-Ferguson Company. *Raffinate Pit Work Zone Specifications*, Rev. 8. Specification Document No. 3840-7-437-02307. Prepared for the U.S. Department of Energy Weldon Spring Site Remedial Action Project. St. Charles, MO. August 1996.

5. MK-Ferguson Company and Jacobs Engineering Group. *Project Management Contractor Quality Assurance Program*, Rev. 3. DOE/OR/21548-506. Prepared for the U.S. Department of Energy, Oak Ridge Operations Office. St. Charles, MO. November 2000.

6. MK-Ferguson and Jacobs Engineering Group. *Environmental Quality Assurance Project Plan*, Rev. 5. DOE/OR/21548-352. Prepared for the U.S. Department of Energy, Oak Ridge Field Office. St. Charles, MO. November 2000.

7. Oak Ridge Institute for Science and Education. *Final Verification Survey Plan for the Chemical Plant Area Weldon Spring Site Remedial Action Project, Weldon Spring, Missouri.* Prepared by the Environmental Survey and Site Assessment Program, Energy/Environment Systems Division, for the U. S. Department of Energy. Weldon Spring, Missouri. December 7, 1995.

8. MK-Ferguson and Jacobs Engineering Group. *Results of Engineering Soil Sampling for Weldon Spring Raffinate Pits 3 and 4*, Rev. 0. DOE/OR/21548-761. Prepared for the U.S. Department of Energy, Oak Ridge Field Office. St. Charles, MO. January 1999.

9. MK-Ferguson and Jacobs Engineering Group. *Results of Engineering Soil Sampling for Weldon Spring Raffinate Pit 1 Bottom*, Rev. 0. DOE/OR/21548-849. Prepared for the U.S. Department of Energy, Oak Ridge Field Office. St. Charles, MO. May 2000.

10. MK-Environmental Services. *In-Situ Soil Excavation, WP 437/Task 778*, Rev. 1. Technical Memorandum No. 3840TM-7229-0. Prepared for MK-Ferguson Group, Weldon Spring Site Remedial Action Project. St. Charles, MO. February 2002.

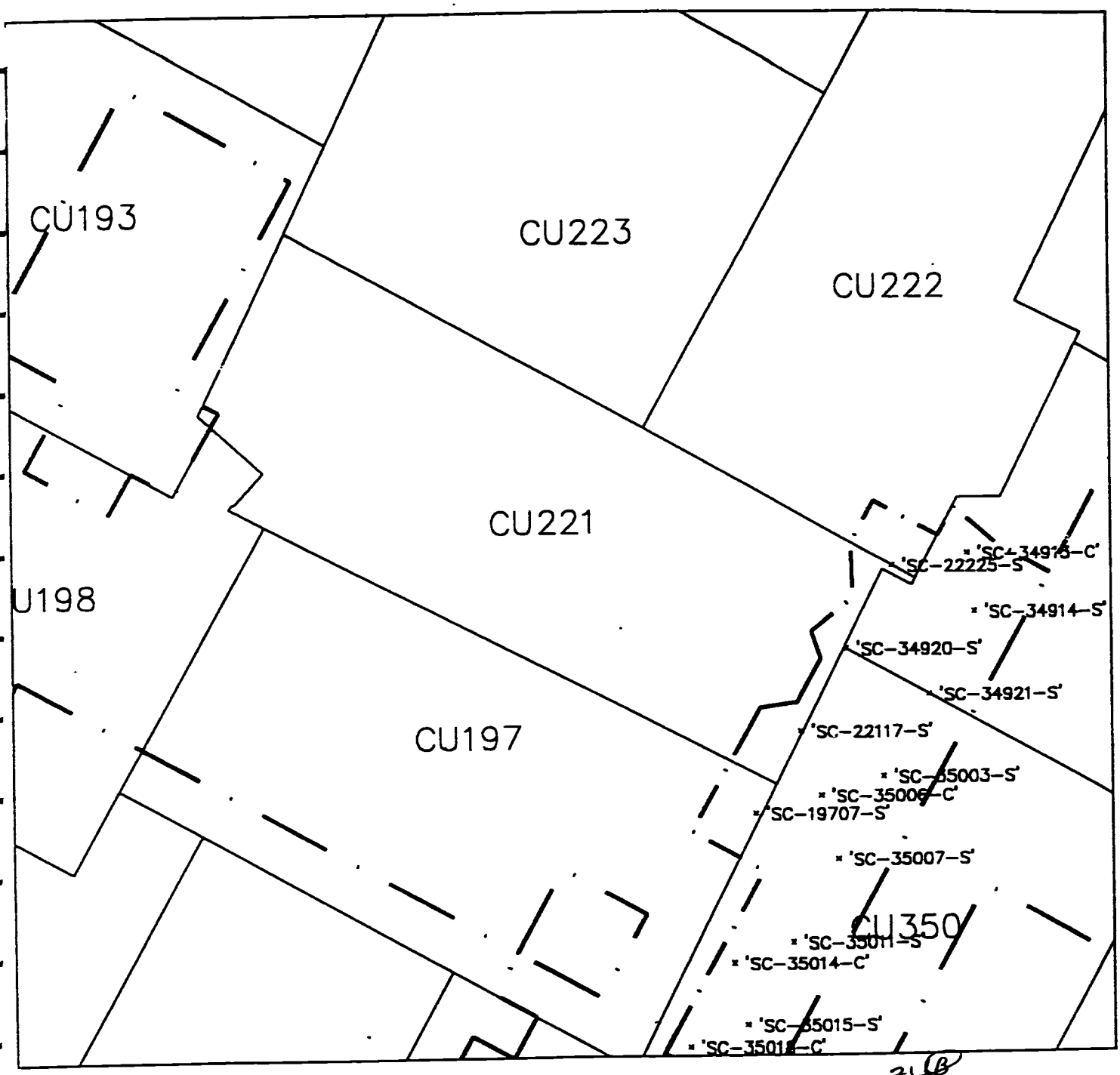
## PROCEDURES

ES&H 1.2.1 *Soil Remediation Disposition Process*
ES&H 4.9.1 *Environmental Monitoring Data Verification*
ES&H 4.9.2 *Environmental Monitoring Data Validation*

## ACRONYMS

| | |
|---|---|
| ALARA | as low as reasonably achievable |
| CLP | Contract Laboratory Program |
| COC | contaminant of concern |
| CPM | counts per minute |
| CU | confirmation unit |
| DOE | Department of Energy |
| DQO | Data Quality Objectives |
| DQR | Data Quality Requirements |
| EPA | Environmental Protection Agency |
| EQAPjP | Environmental Quality Assurance Project Plan |
| ES&H | Environmental Safety and Health |
| IOC | Interoffice Correspondence |
| MDNR | Missouri Department of Natural Resources |
| NaI | sodium iodide |
| ORISE | Oak Ridge Institute for Science and Education |
| PMC | Project Management Contractor |
| QA | quality assurance |
| QC | quality control |
| ROD | Record of Decision for Remedial Action at the Chemical Plant Area of the Weldon Spring Site |
| RU | remedial unit |
| STL | Sample Team Leader (from Figure 2-1) |
| SOP | standard operating procedure |
| WP | work package |
| WSSRAP | Weldon Spring Site Remedial Action Project |

# APPENDIX A
## WP437 RU021 Final Walkover Forms




LEGEND

· 'SC-32606-S' SAMPLE POINTS PINNED

— · — · — PINNING LIMITS

N

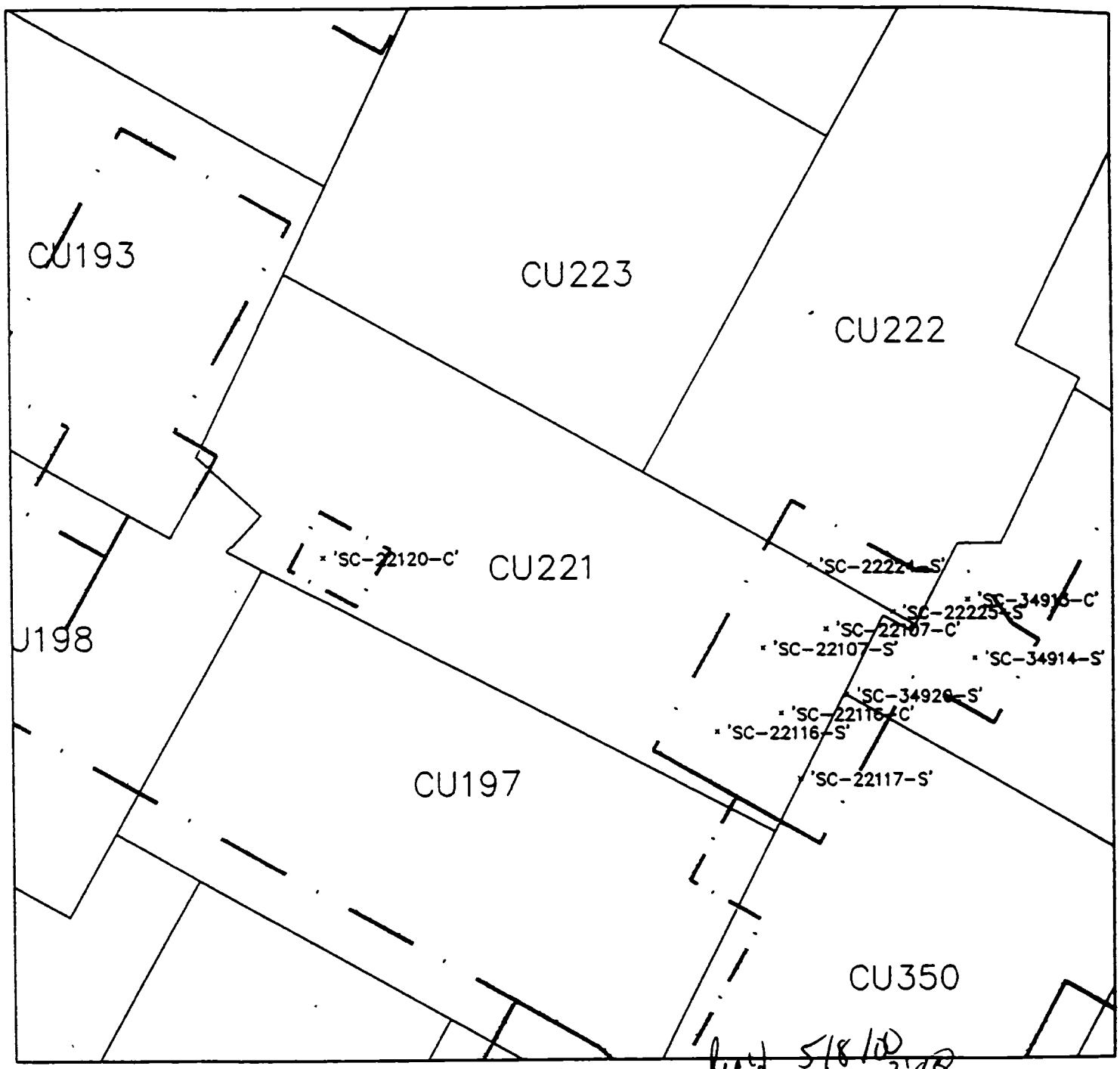
Radiation Survey Form WP 437, RU ~~22~~ 21 (B) CU 221

Date Plotted 4/17/00

DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "M" |
| Meter Serial #: | 117617 | Detector Serial #: | 130764 |
| Calibration Due: | 10/13/00 | Calibration Due: | 9/24/00 |
| Survey Date / Time: | 4/16/00 | Field Bkg.: | 6000 cpm |
| Surveyor(s): | C. Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background




Rec'd 5/8/00

LEGEND

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

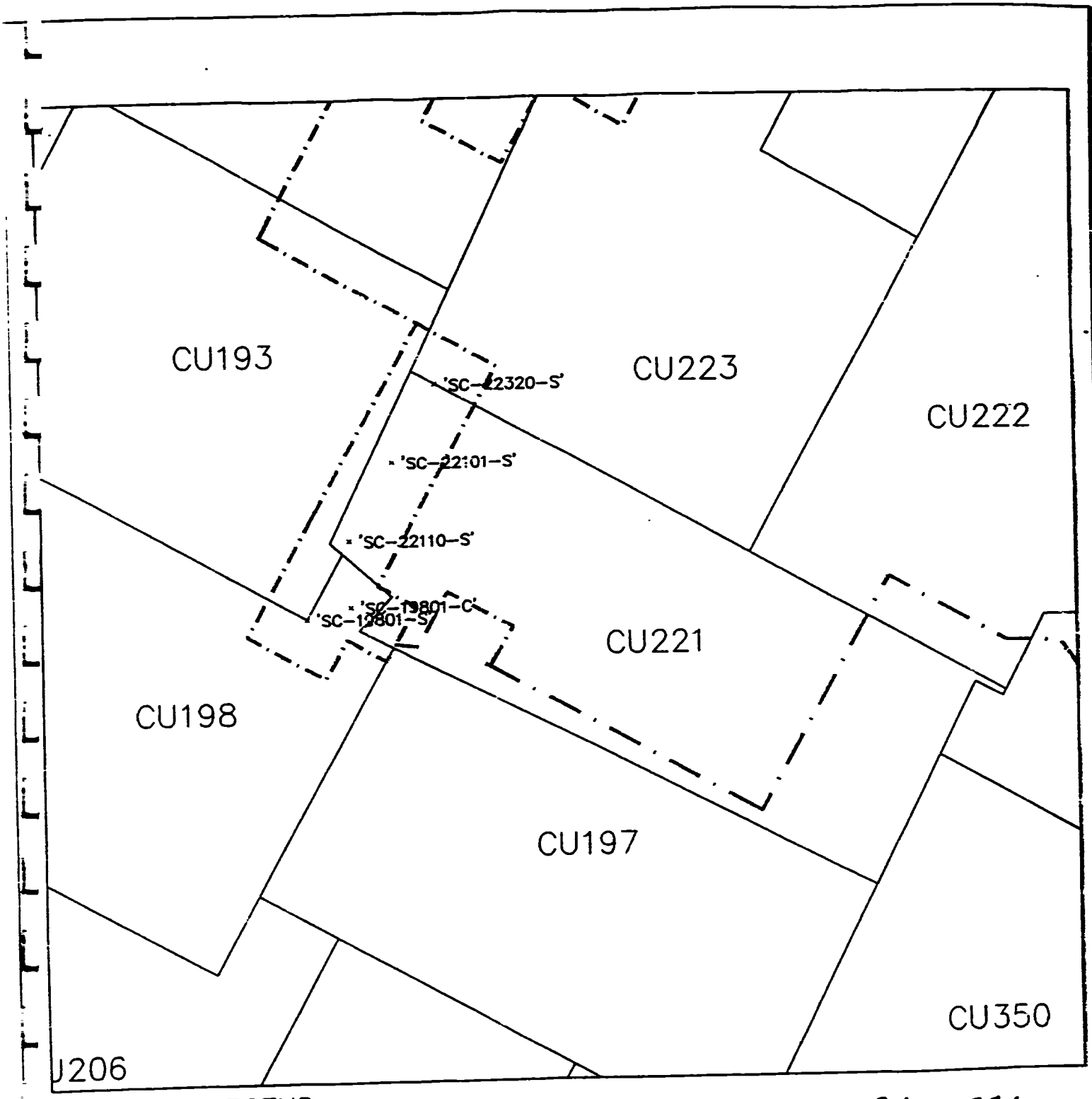
Radiation Survey Form WP 437, RU 22 CU 221

Date Plotted 5/6/00

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "M" |
| Meter Serial #: | 117617 | Detector Serial #: | 130764 |
| Calibration Due: | 10/13/00 | Calibration Due: | 9/24/00 |
| Survey Date / Time: | 5/1/00 | Field Bkg.: | 5700 cpm |
| Surveyor(s): | C. Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background




LEGEND

• 'SC-32606-S' SAMPLE POINTS PINNED

— · — · — PINNING LIMITS

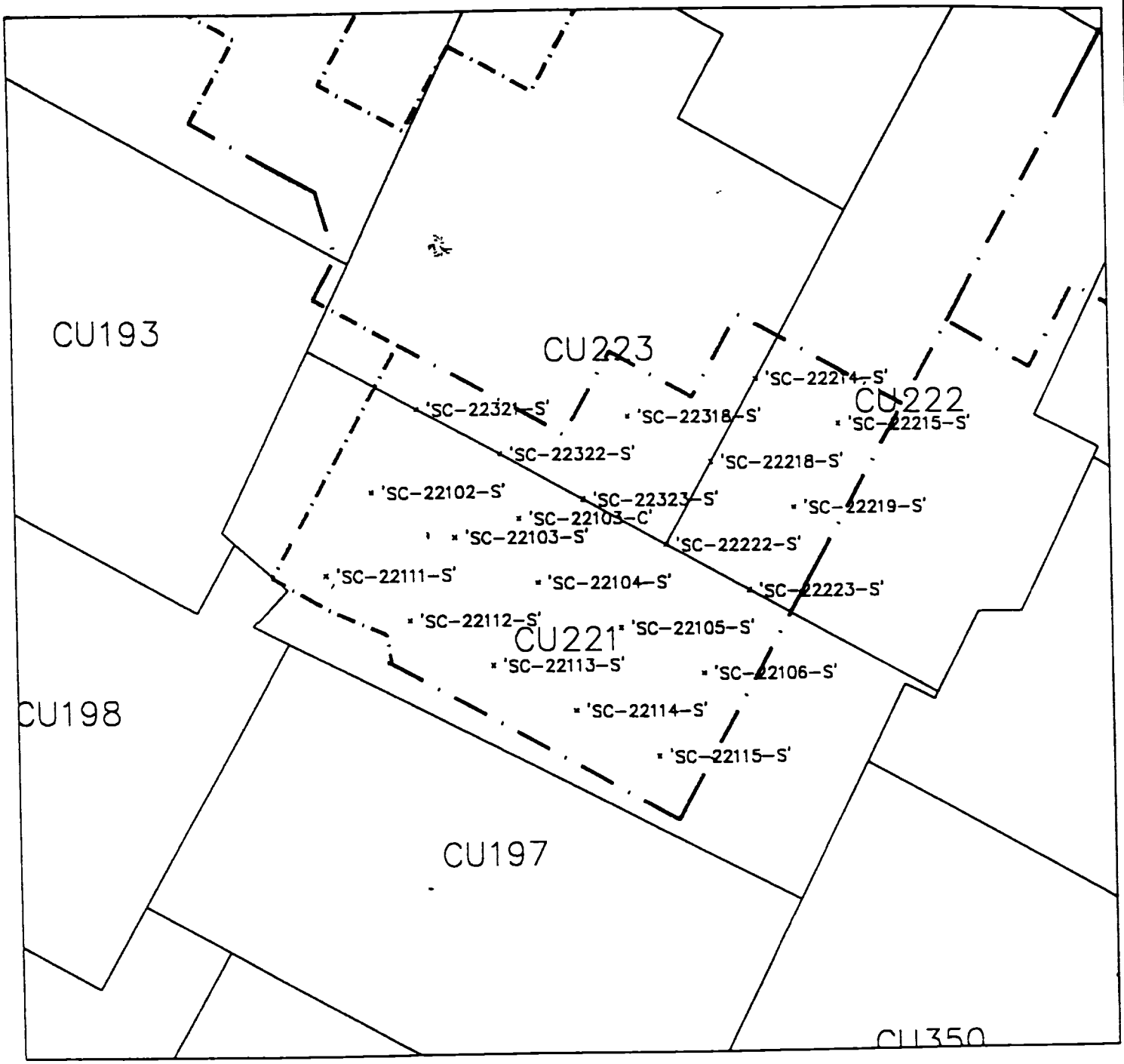
N

Radiation Survey Form WP 437, RU 21 CU 221

Date Plotted 5/10/00

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "F" |
| Meter Serial #: | 99158 | Detector Serial #: | 122191 |
| Calibration Due: | 7/24/00 | Calibration Due: | 9/24/00 |
| Survey Date / Time: | 5/5/00 | Field Bkg.: | 5,000 CPM |
| Surveyor(s): | C. Hamer, T. Brown | | |
| Comments: | All readings <1.5 Bkg | | |




LEGEND

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

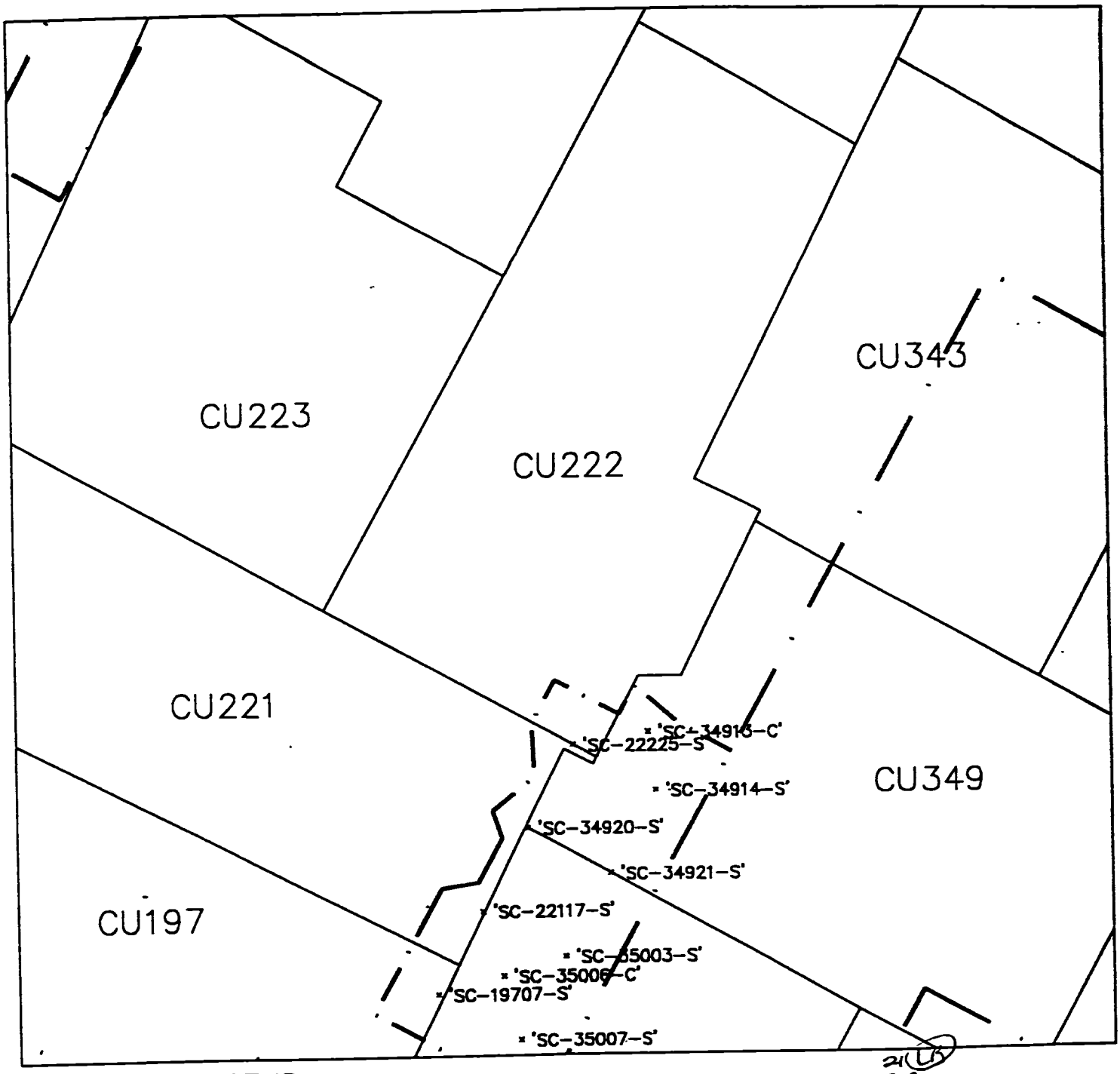
N

Radiation Survey Form WP 437, RU 21 CU 221

Date Plotted 5/21/00 DBD CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "P" |
| Meter Serial #: | 154199 | Detector Serial #: | 17606 |
| Calibration Date: | 2/09/01 | Calibration Date: | 1/21/01 |
| Survey Date / Time: | 5/20/00 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | C. Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background




LEGEND

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

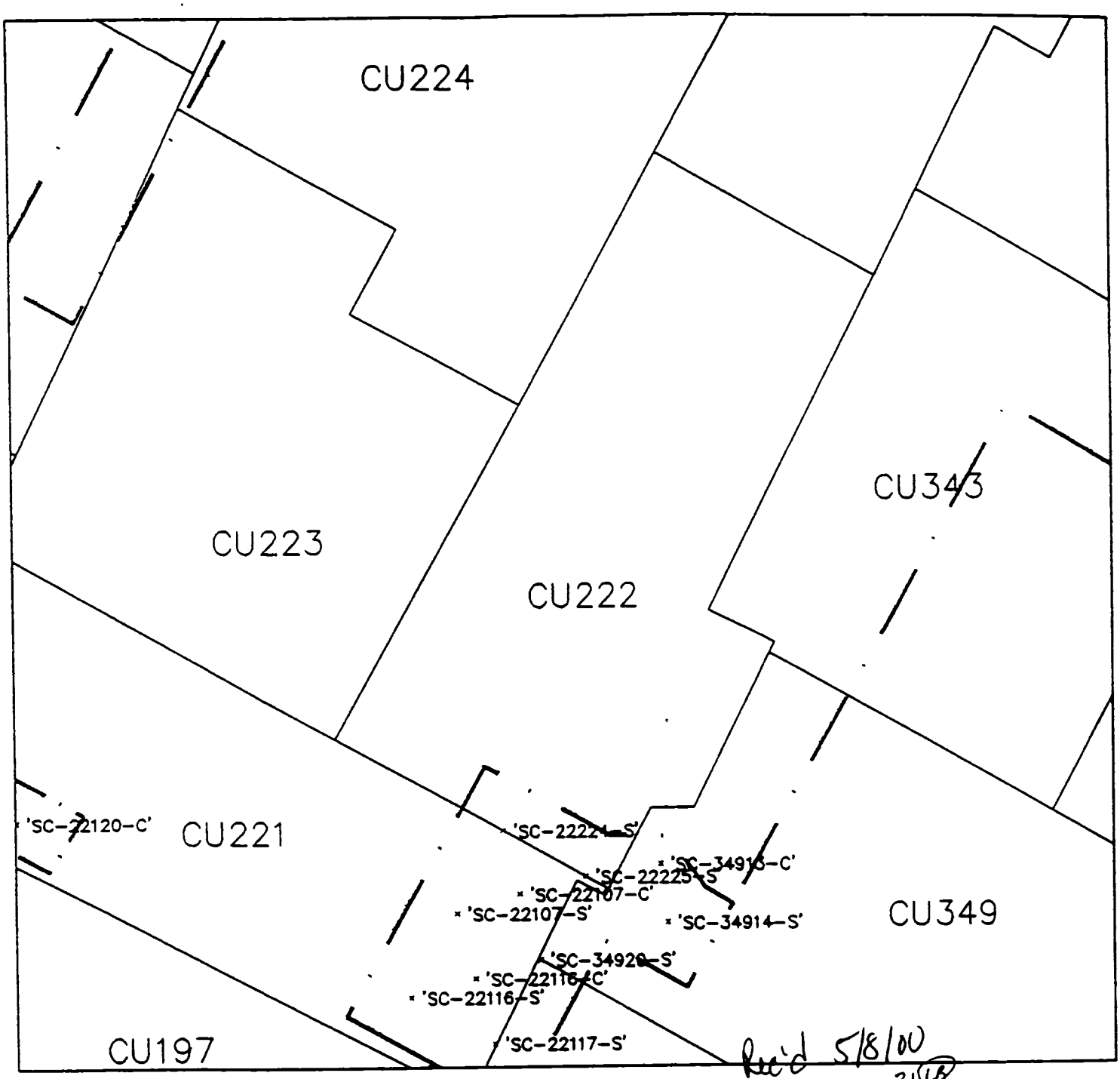
Radiation Survey Form WP 437, RU ~~22~~ 21(U3) CU 222

Date Plotted 4/17/00

DEID CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "n" |
| Meter Serial #: | 117617 | Detector Serial #: | 130764 |
| Calibration Due: | 10/13/00 | Calibration Due: | 9/24/00 |
| Survey Date / Time: | 4/16/00 | Field Bkg.: | 6000 cpm |
| Surveyor(s): | C. Hamer | | |

Comments: Area was surveyed and found to be less than 1.5 times background




Rec'd 5/8/00

LEGEND

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

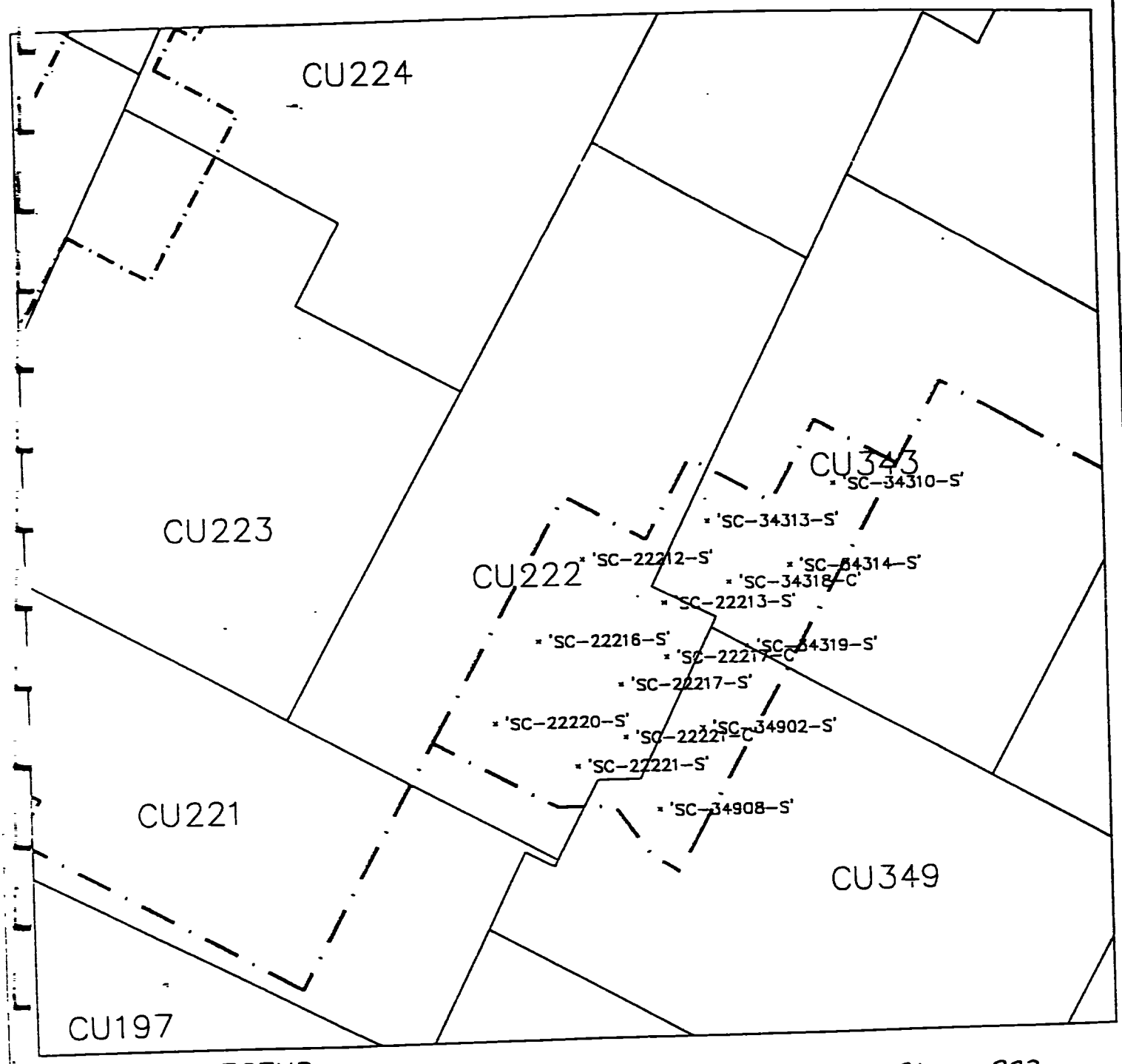
Radiation Survey Form WP 437, RU ~~22~~ 21 CU 222

Date Plotted 5/6/00

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "M" |
| Meter Serial #: | 117617 | Detector Serial #: | 130764 |
| Calibration Date: | 10/13/00 | Calibration Date: | 9/24/00 |
| Survey Date / Time: | 5/1/00 | Field Bkg.: | 5700 cpm |
| Surveyor(s): | C Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background




LEGEND

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

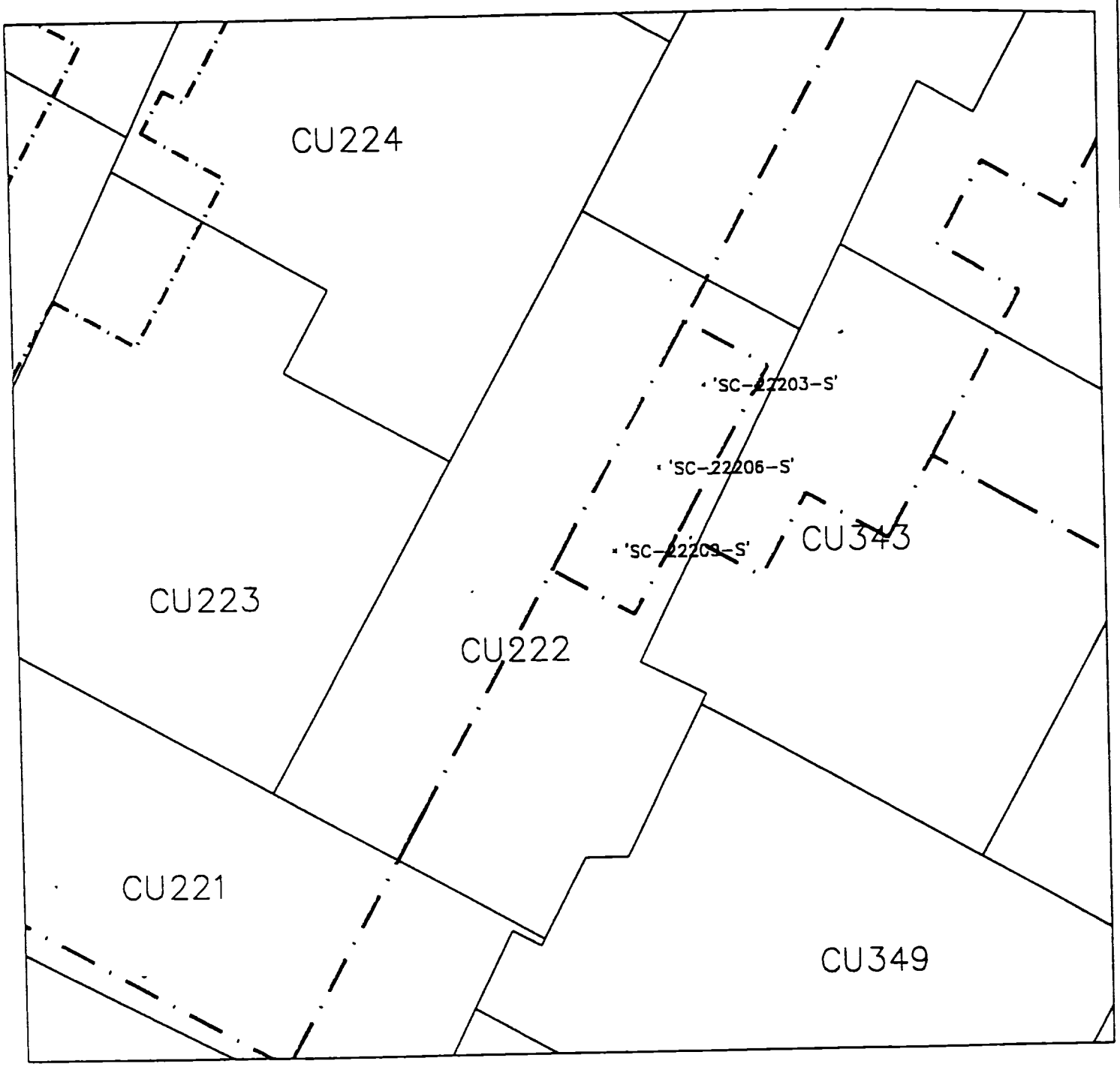
Radiation Survey Form WP 437, RU 21 CU 222

Date Plotted 5/18/00

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "P" |
| Meter Serial #: | 154199 | Detector Serial #: | 17606 |
| Calibration Date: | 2/09/01 | Calibration Date: | 1/21/01 |
| Survey Date / Time: | 5/17/00 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | C. Hanna | | |

Comments: Area was surveyed and found to be less than 1.5 times background




LEGEND

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

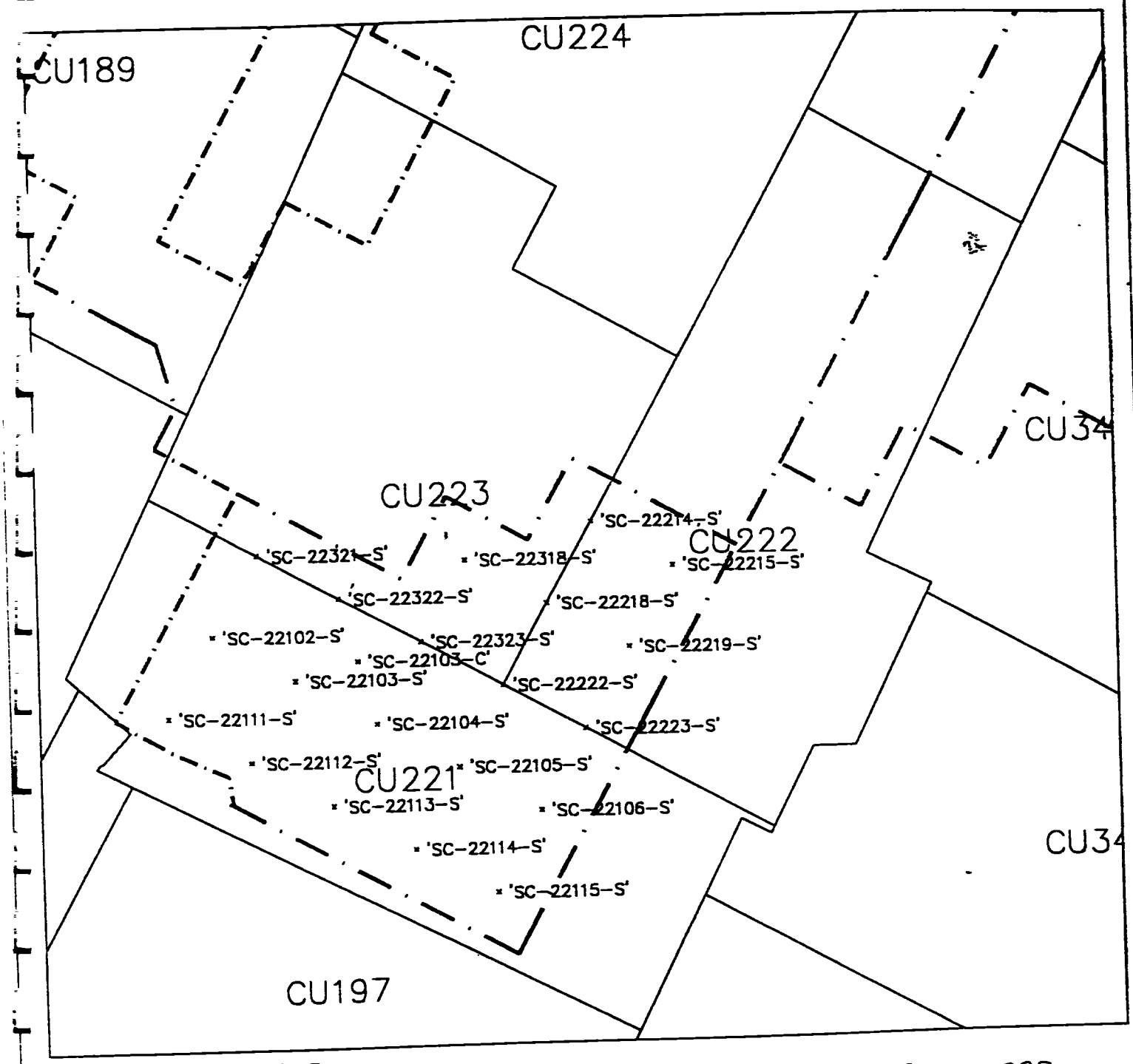
N

Radiation Survey Form WP 437, RU 21 CU 222

Date Plotted 5/20/00

DEIO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "F" |
| Meter Serial #: | 99158 | Detector Serial #: | 122191 |
| Calibration Date: | 7/24/00 | Calibration Date: | 9/24/00 |
| Survey Date / Time: | 5/19/00 | Field Bkg. | 4,000CPM |
| Surveyor(s): | T. Brown | | |
| Comments: | All readings <1.5 Bkg | | |




LEGEND

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

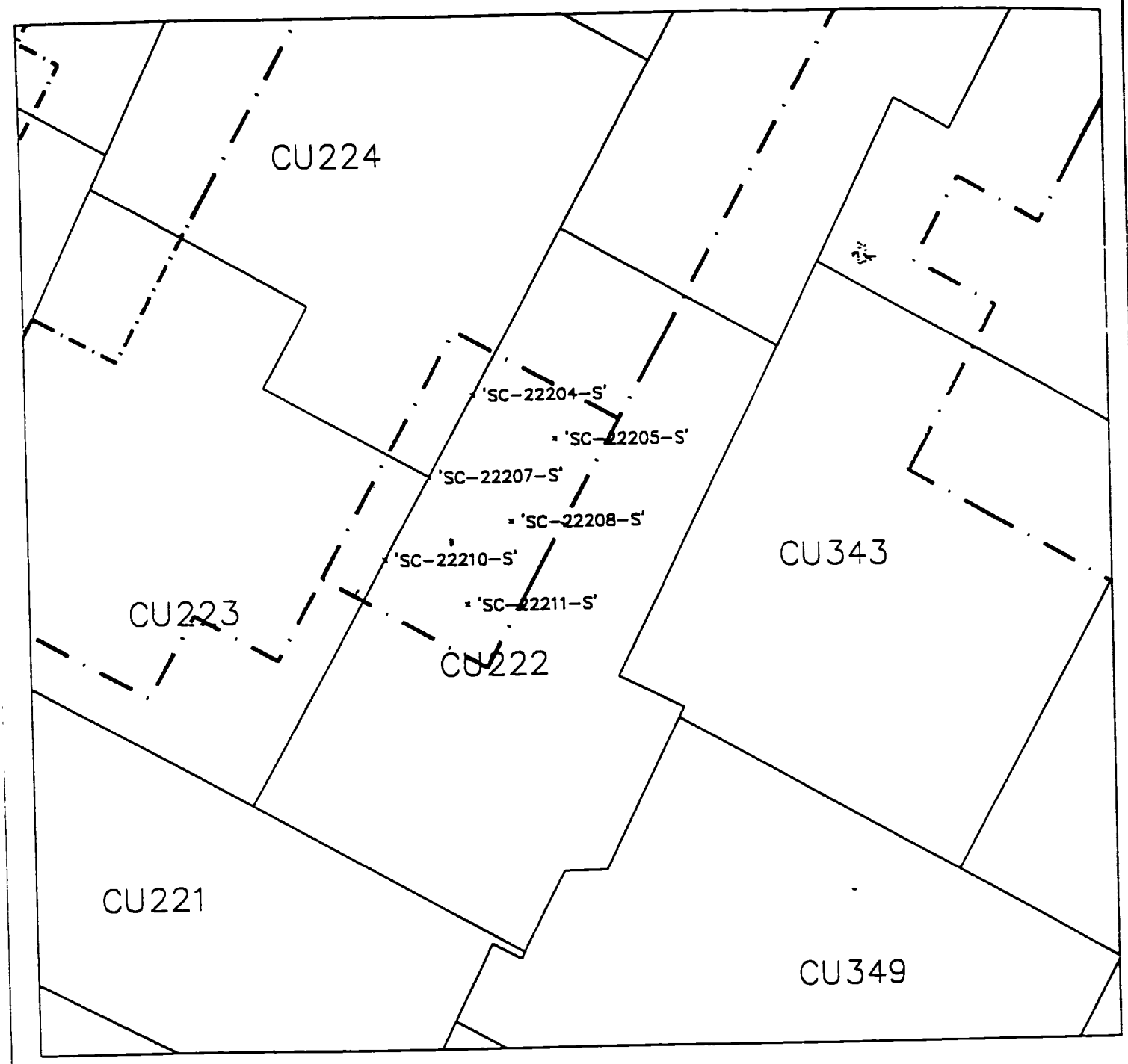
Radiation Survey Form WP 437, RU 21 CU 222

Date Plotted 5/21/00

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "P" |
| Meter Serial #: | 154199 | Detector Serial #: | 17606 |
| Calibration Date: | 2/09/01 | Calibration Date: | 1/21/01 |
| Survey Date / Time: | 5/20/00 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | C. Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background




LEGEND

• 'SC-32606-S' SAMPLE POINTS PINNED

— · — · — PINNING LIMITS

N

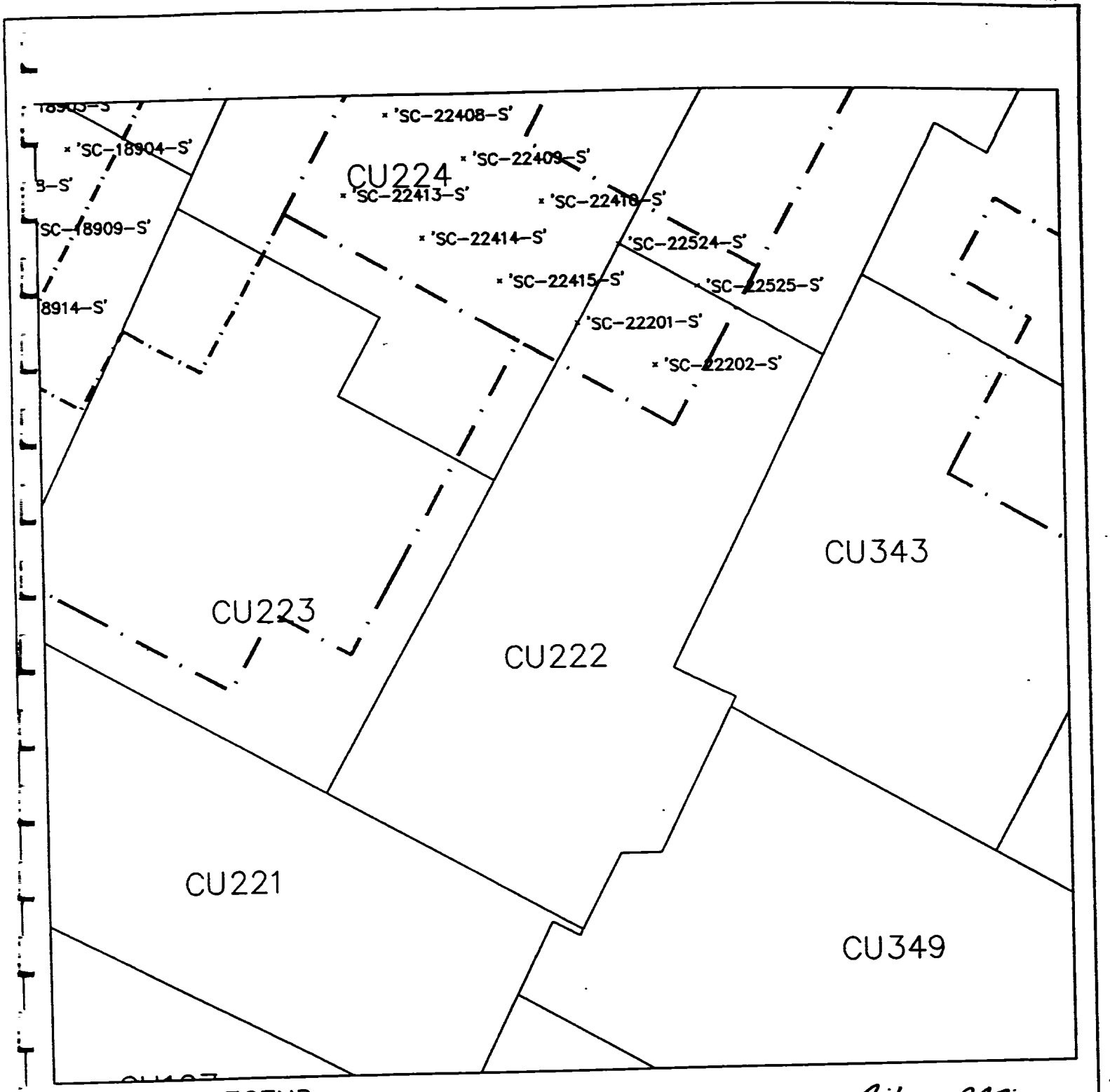
Radiation Survey Form WP 437, RU 21 CU 222

Date Plotted 5/24/00

DBD CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "P" |
| Meter Serial #: | 154199 | Detector Serial #: | 17606 |
| Calibration Date: | 2/09/01 | Calibration Date: | 1/21/01 |
| Survey Date / Time: | 5/23/00 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | C. Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background




LEGEND

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

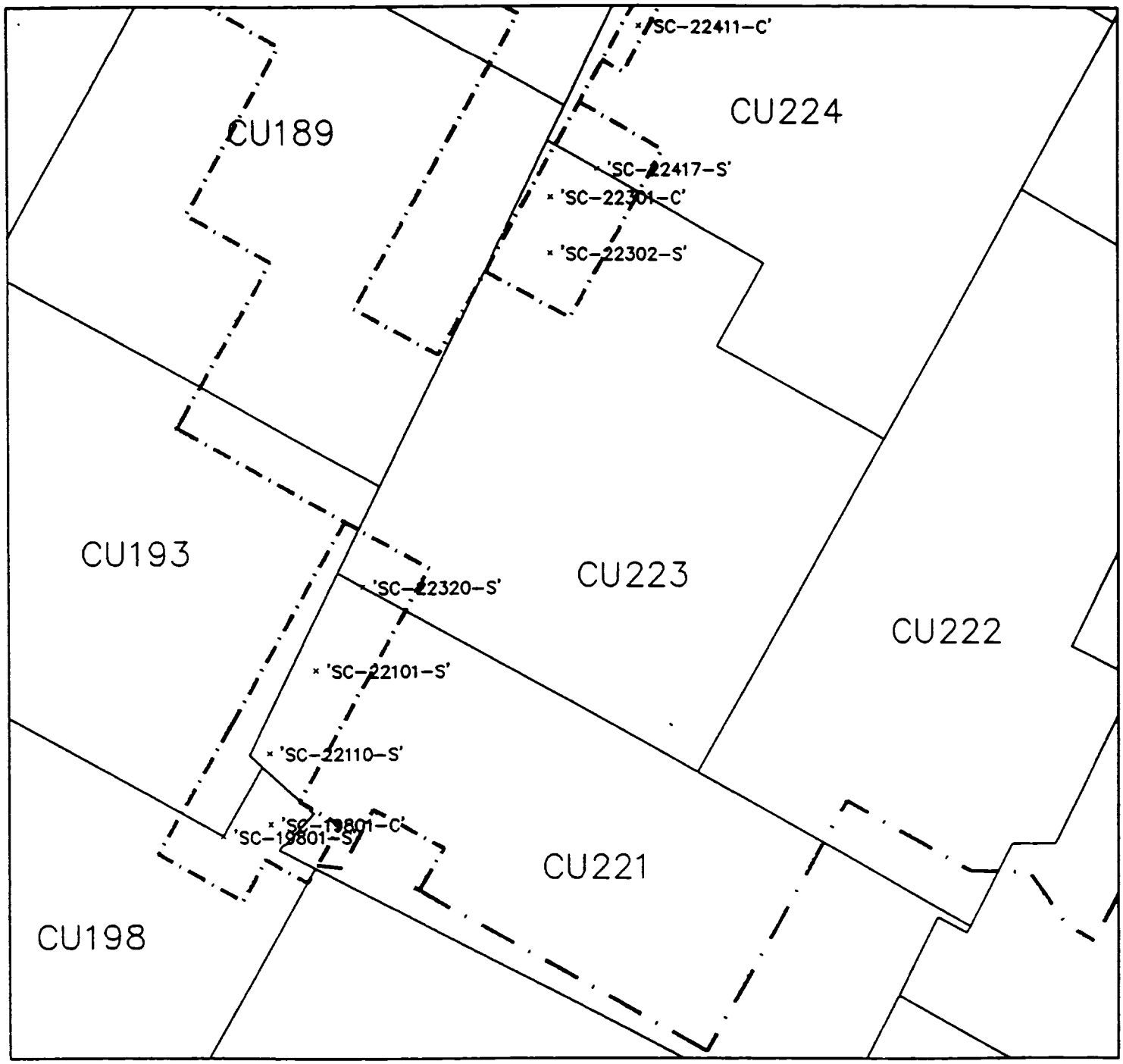
Radiation Survey Form WP 437, RU 21 CU 222

Date Plotted 6/2/00

DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "P" |
| Meter Serial #: | 154199 | Detector Serial #: | 17606 |
| Calibration Due: | 2/09/01 | Calibration Due: | 1/21/01 |
| Survey Date / Time: | 6/2/00 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | C. Hanna | | |

Comments: Area was surveyed and found to be less than 1.5 times background




LEGEND

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

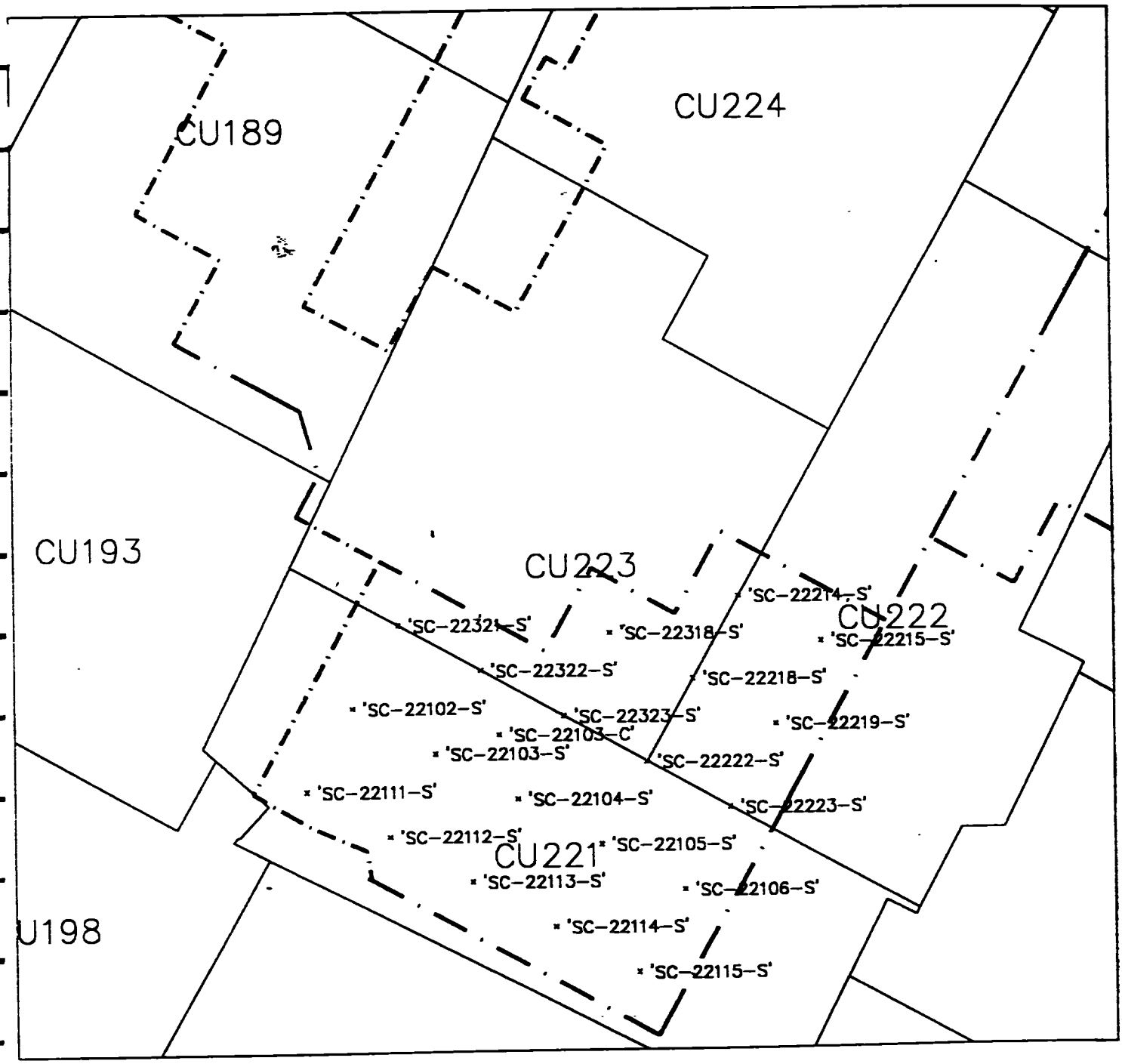
N

Radiation Survey Form WP 437, RU 21 CU 223

Date Plotted 5/10/00

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "F" |
| Meter Serial #: | 9958 | Detector Serial #: | 122191 |
| Calibration Due: | 7/24/00 | Calibration Due: | 9/24/00 |
| Survey Date / Time: | 5/5/00 | Field Bkg.: | 5,000 cpm |
| Surveyor(s): | C. Hamner, T. Brown | | |
| Comments: | All readings <1.5 BKg | | |




LEGEND

· 'SC-32606-S' SAMPLE POINTS PINNED

— · — · — PINNING LIMITS

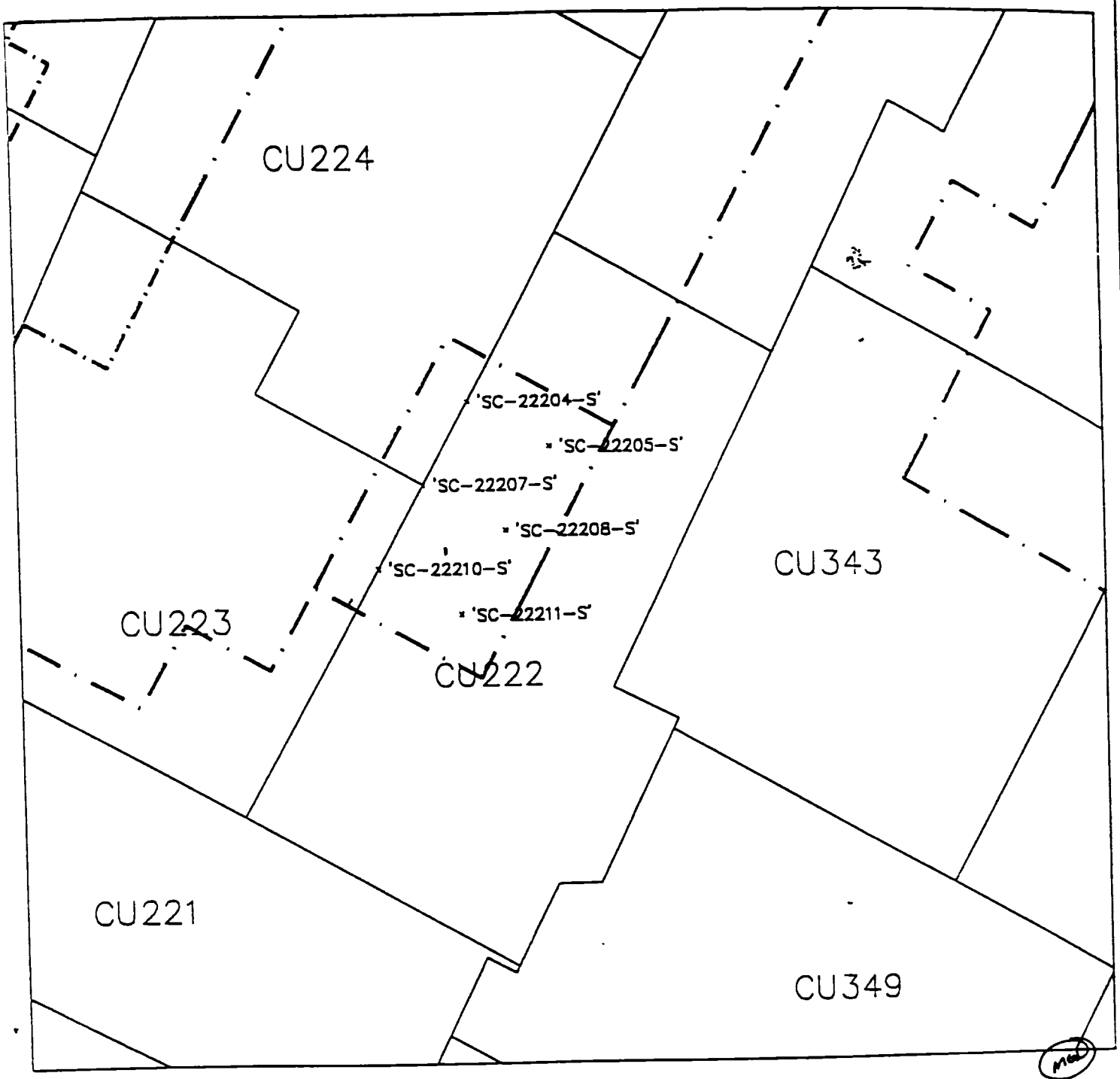
N

**Radiation Survey Form WP 437, RU** 21 **CU** 223

**Date Plotted** 5/21/00 DHO CAD

| | | | |
|---|---|---|---|
| **Meter Model #:** | 2221 | **Detector Model #:** | 2x2 NaI "P" |
| **Meter Serial #:** | 154199 | **Detector Serial #:** | 17606 |
| **Calibration Due:** | 2/09/01 | **Calibration Due:** | 1/21/01 |
| **Survey Date / Time:** | 5/20/00 | **Field Bkg.:** | 10,000 cpm |
| **Surveyor(s):** | C. Hanner | | |

**Comments:** Area was surveyed and found to be less than 1.5 times background




LEGEND

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

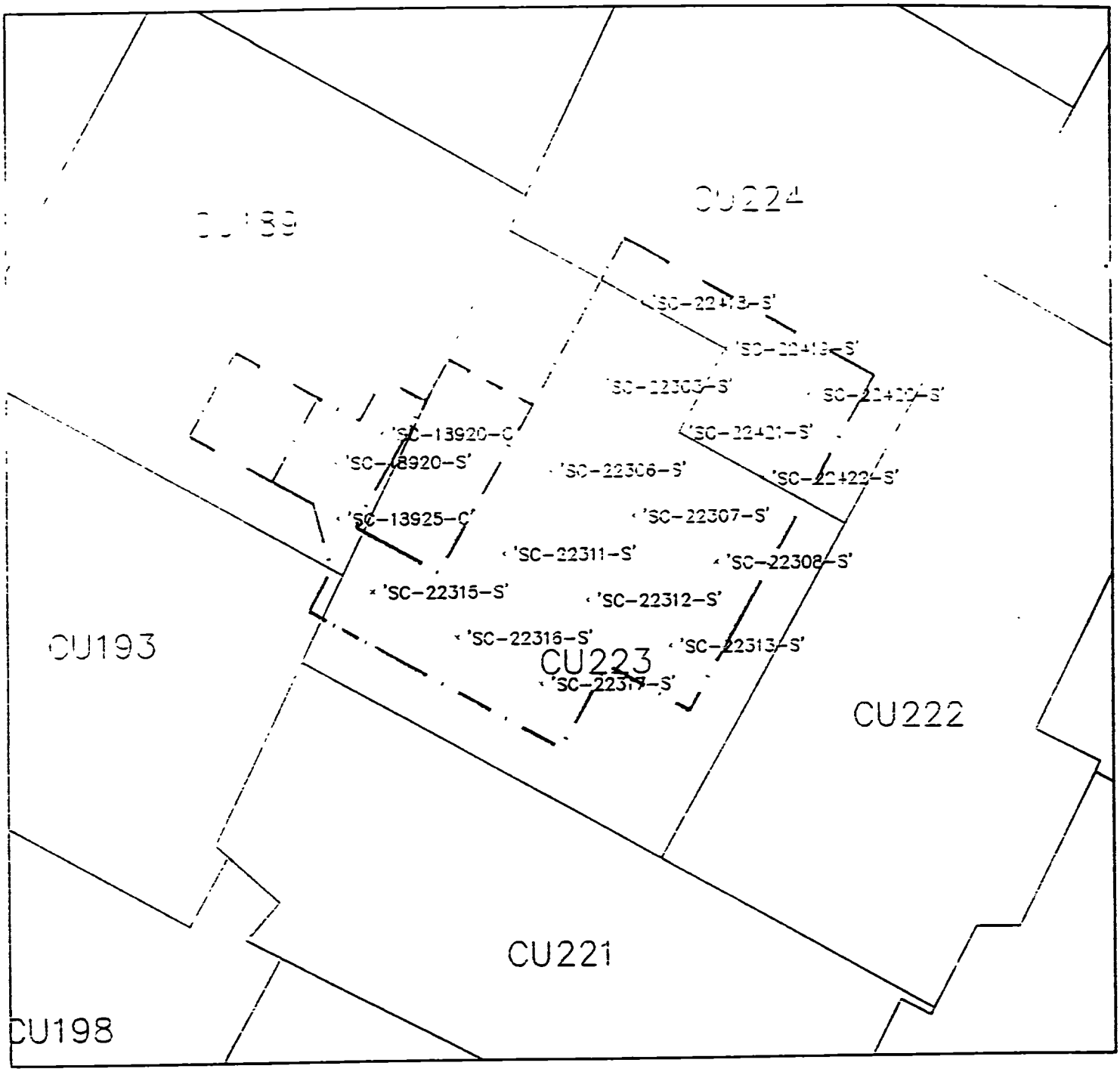
Radiation Survey Form WP 437, RU 21 CU 2223

Date Plotted 5/24/00

DBD CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "P" |
| Meter Serial #: | 154199 | Detector Serial #: | 17606 |
| Calibration Date: | 2/09/01 | Calibration Date: | 1/21/01 |
| Survey Date / Time: | 5/23/00 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | C. Hanna | | |

Comments: Area was surveyed and found to be less than 1.5 times background




LEGEND

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

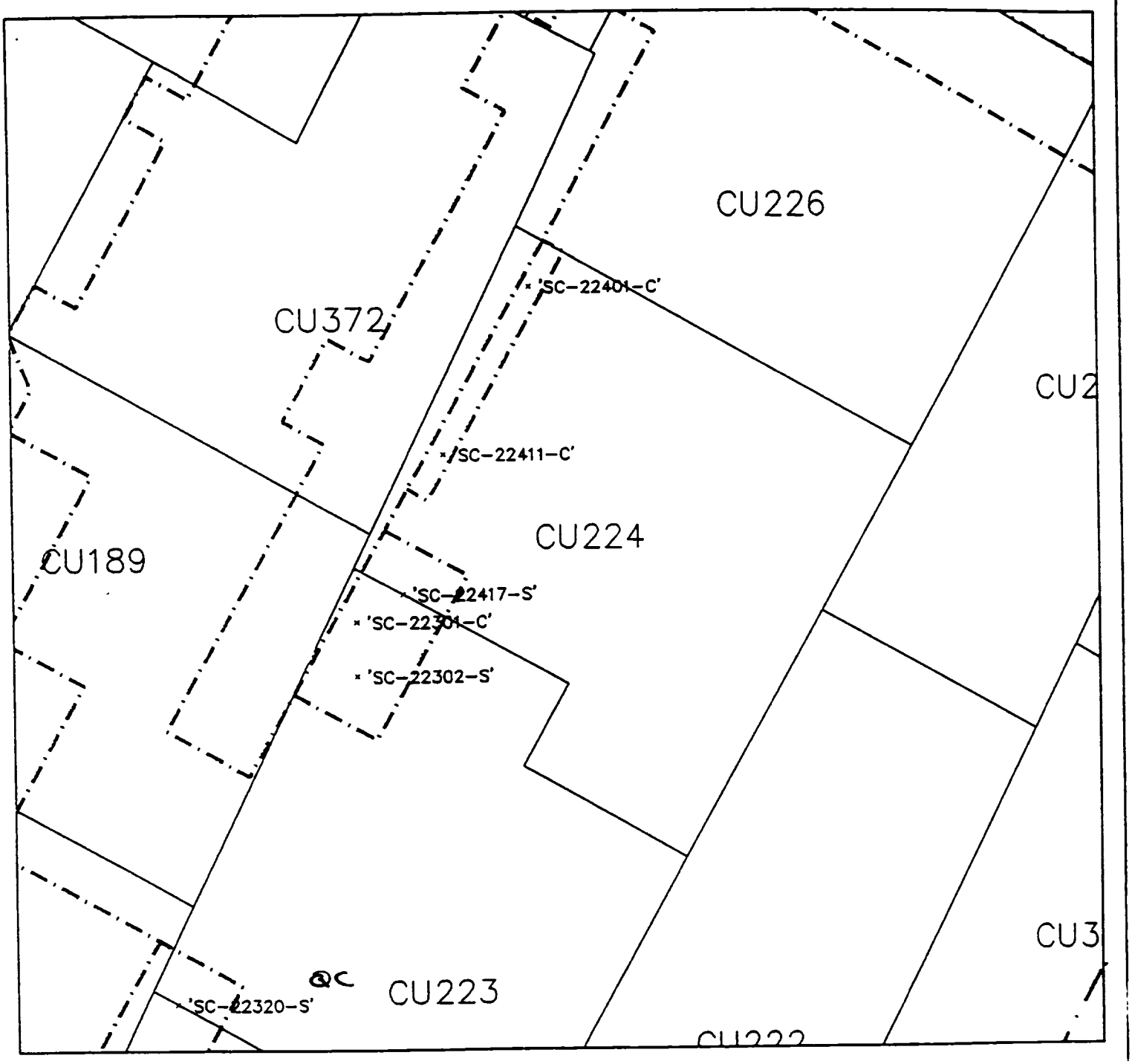
Radiation Survey Form WP 437, RU 21 CU 223

Date Plotted 6/4/00

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "P" |
| Meter Serial #: | 154199 | Detector Serial #: | 17606 |
| Calibration Date: | 2/09/01 | Calibration Date: | 1/21/01 |
| Survey Date Time: | 6/3/00 | Field Bkg: | 12,000 cpm |
| Surveyor(s): | C. Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background except two small hotspots. ESH-W was about 2 feet in diameter and twice background. ESH-N was about 1 foot in diameter and twice background




LEGEND

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

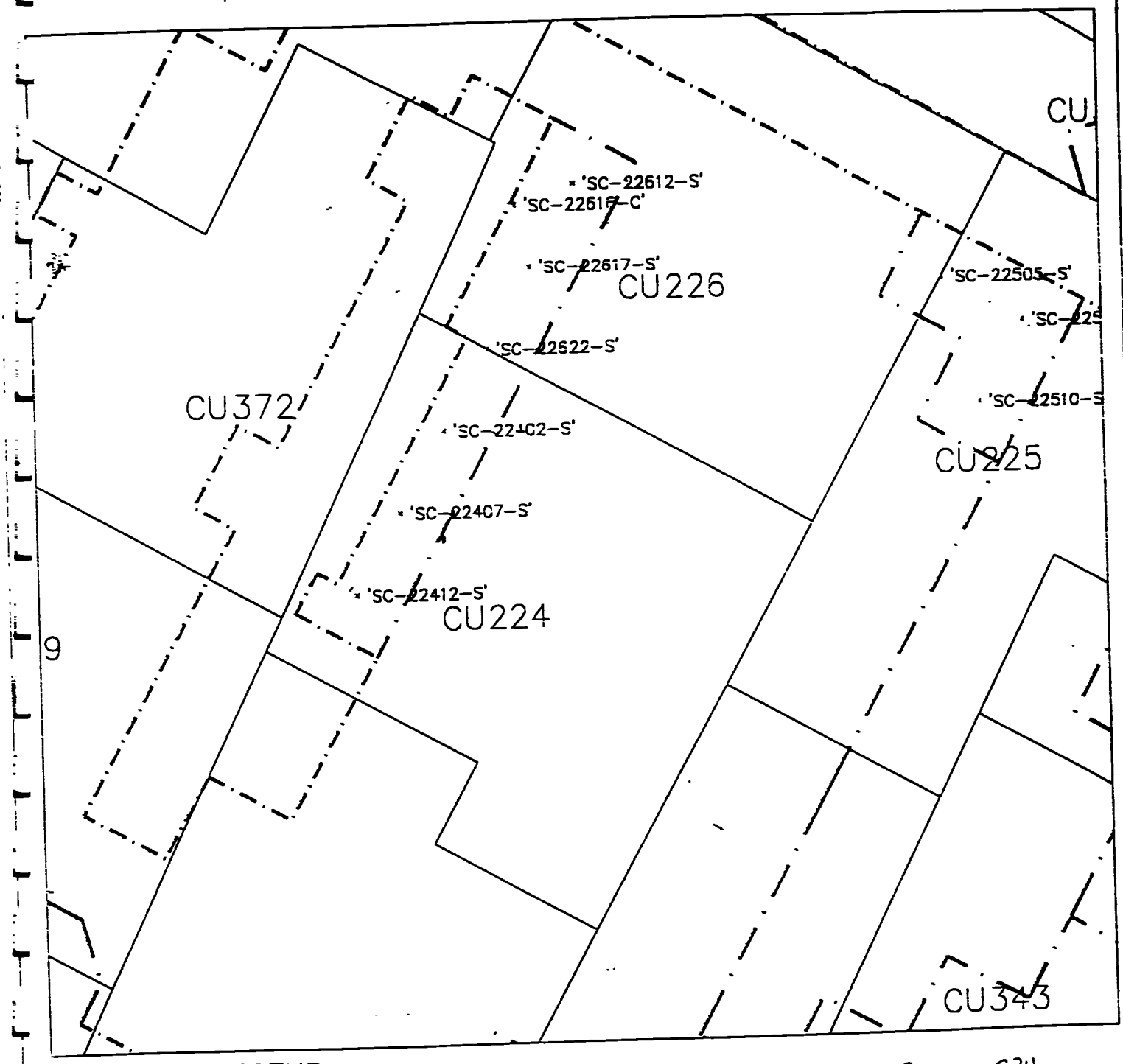
N

sampled 5-12-00

Radiation Survey Form WP 437, RU 21 CU 224

Date Plotted 5/10/00 DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "F" |
| Meter Serial #: | 99158 | Detector Serial #: | 122191 |
| Calibration Due: | 7/24/00 | Calibration Due: | 9/24/00 |
| Survey Date / Time: | 5/5/00 | Field Bkg.: | 5,000 CPM |
| Surveyor(s): | C. Hamner, T. Brown | | |
| Comments: | All readings < 1.5 BKg | | |




LEGEND

'SC-32506-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

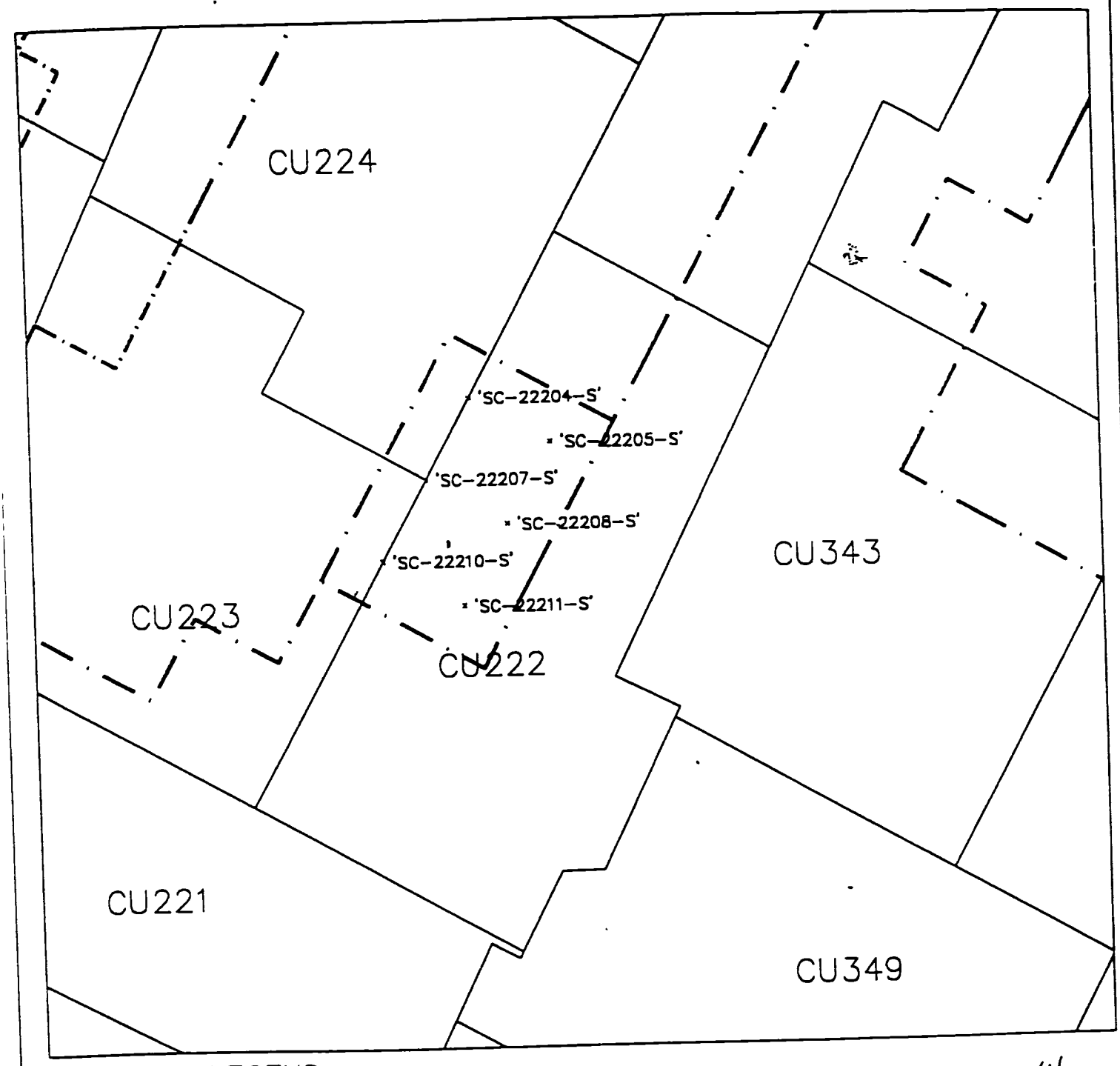
Radiation Survey Form WP 437, RU 21 CU 224

Date Plotted 5/23/00

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "P" |
| Meter Serial #: | 154199 | Detector Serial #: | 17606 |
| Calibration Date: | 2/09/01 | Calibration Date: | 1/21/01 |
| Survey Date / Time: | 5/22/00 | Field Stg.: | 10,000 cpm |
| Surveyor(s): | C. Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background




LEGEND

· 'SC-32606-S' SAMPLE POINTS PINNED

— · — · — PINNING LIMITS

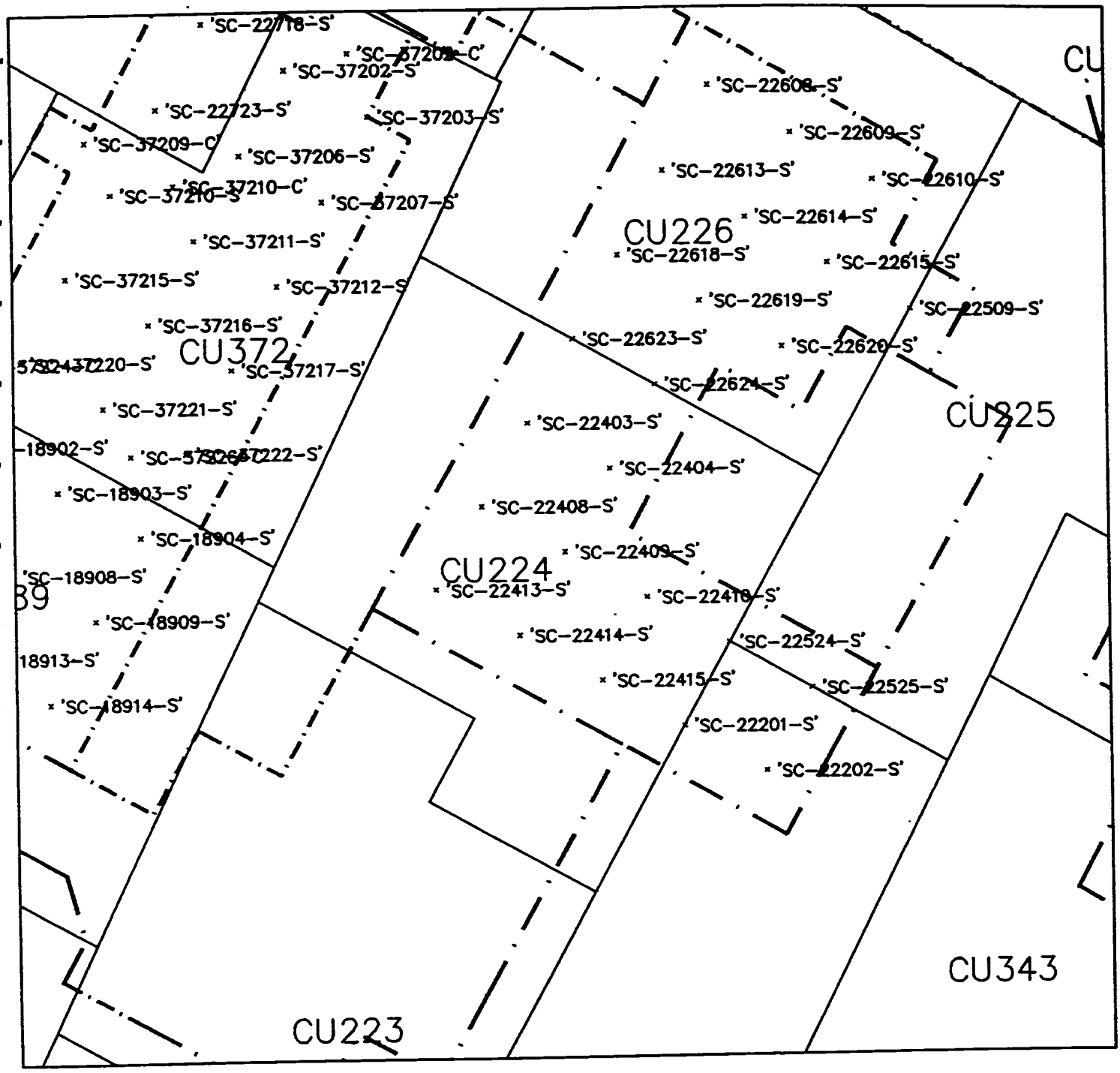
N

Radiation Survey Form WP 437, RU 21 CU 2224 MLL DISS CAD

Date Plotted 5/24/00

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "P" |
| Meter Serial #: | 154199 | Detector Serial #: | 17606 |
| Calibration Due: | 2/09/01 | Calibration Due: | 1/21/01 |
| Survey Date / Time: | 5/23/00 | Field Bkg. | 10,000 cpm |
| Surveyor(s): | C. Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background




LEGEND

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

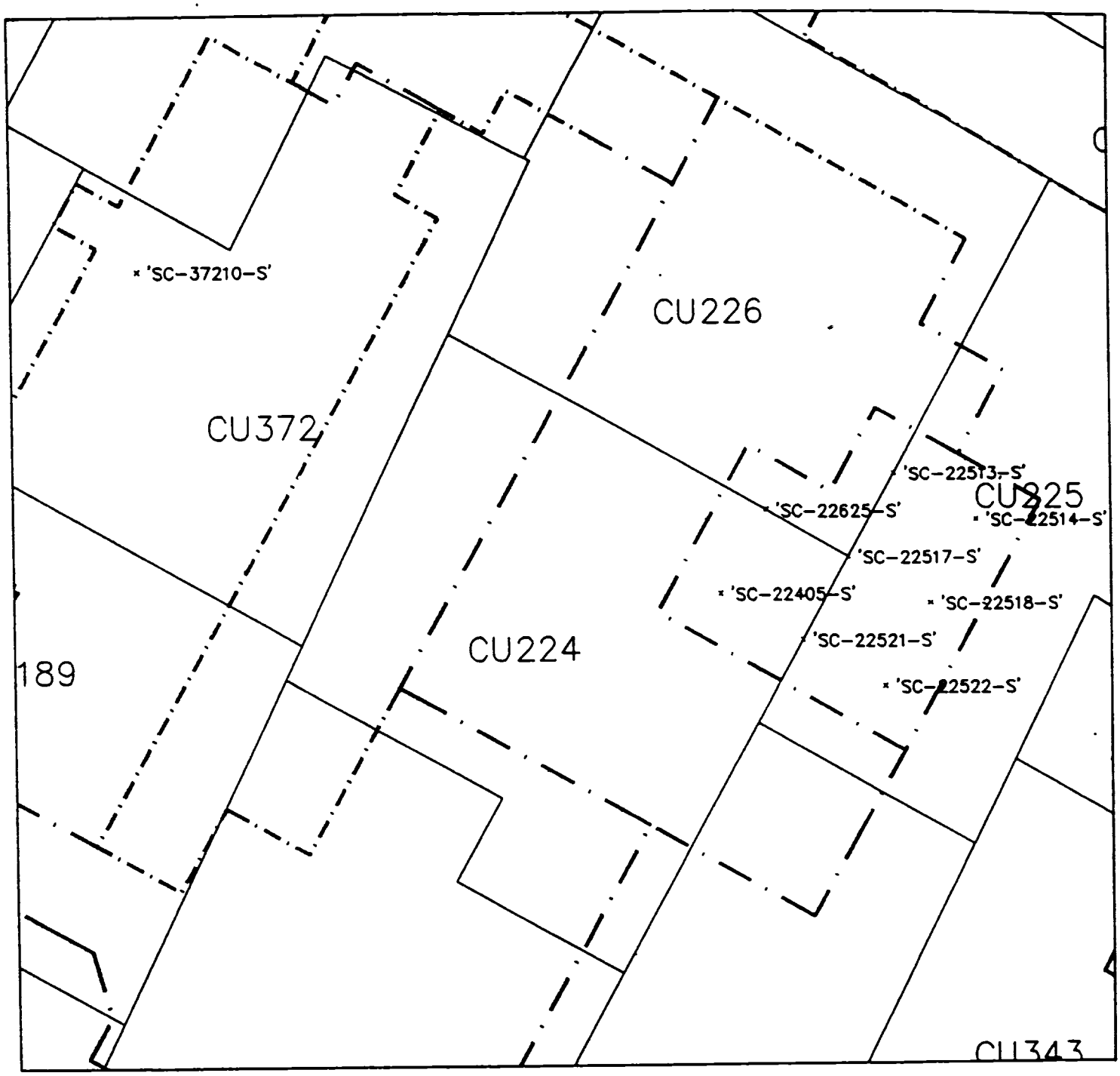
Radiation Survey Form WP 437, RU 21 CU 224

Date Plotted 6/2/00

DEIO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "P" |
| Meter Serial #: | 154197 | Detector Serial #: | 17606 |
| Calibration Date: | 2/09/01 | Calibration Date: | 1/21/01 |
| Survey Date / Time: | 6/2/00 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | C. Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background




LEGEND

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

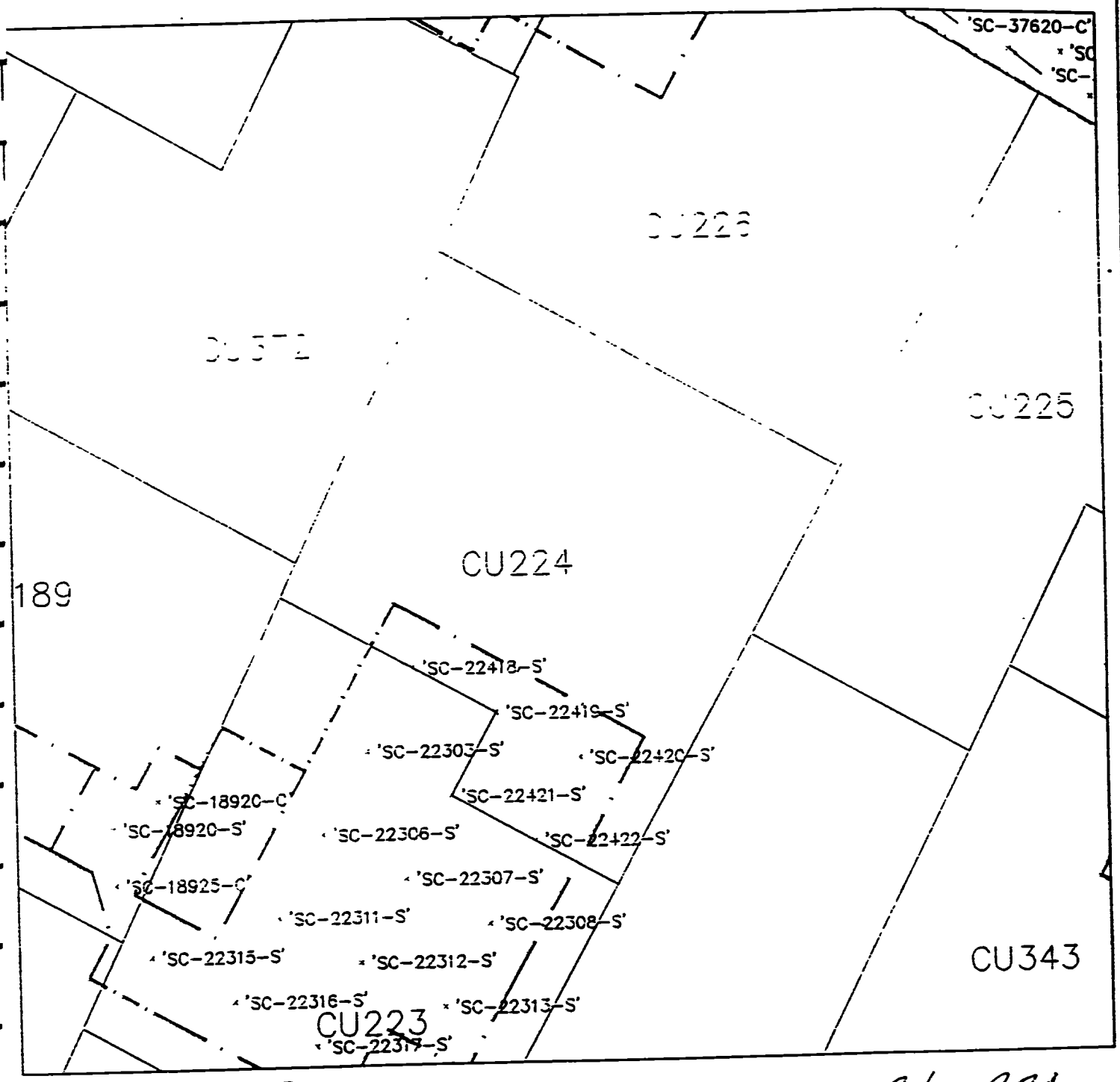
Radiation Survey Form WP 437, RU 21 CU 224

Date Plotted 6/3/00

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2 x 2 NaI 4 pi |
| Meter Serial #: | 154199 | Detector Serial #: | 17606 |
| Calibration Date: | 2/09/01 | Calibration Date: | 1/21/01 |
| Survey Date / Time: | 6/2/00 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | C. Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background




LEGEND

'SC-32506-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

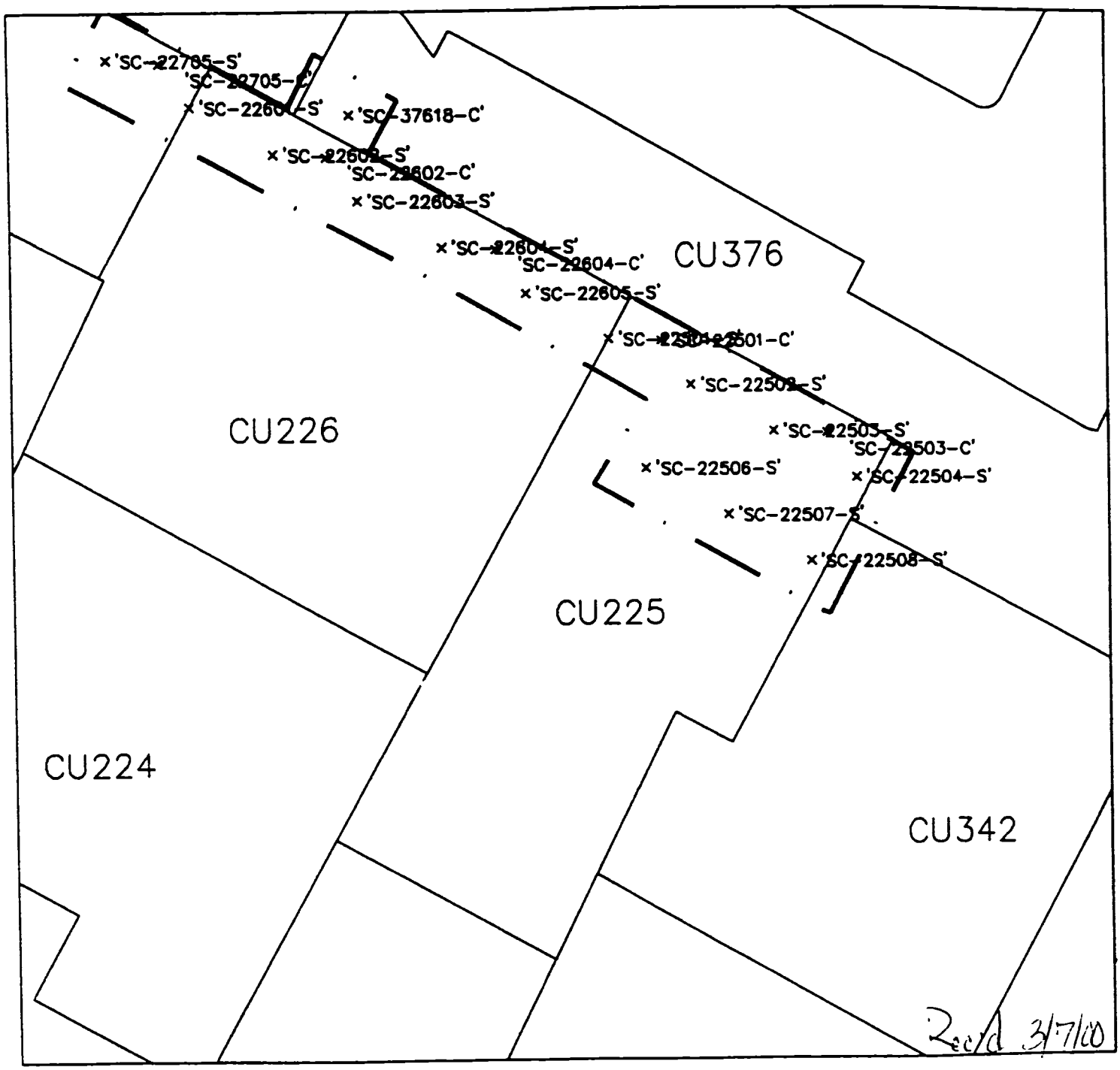
Radiation Survey Form WP 437, RU 21 CU 224

Date Plotted 6/4/00

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "P" |
| Meter Serial #: | 154199 | Detector Serial #: | 17606 |
| Calibration Date: | 2/09/01 | Calibration Date: | 1/21/01 |
| Survey Date, Time: | 6/3/00 | Field Stg: | 12,000 cpm |
| Surveyor(s): | C. Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background.




LEGEND

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 50 100

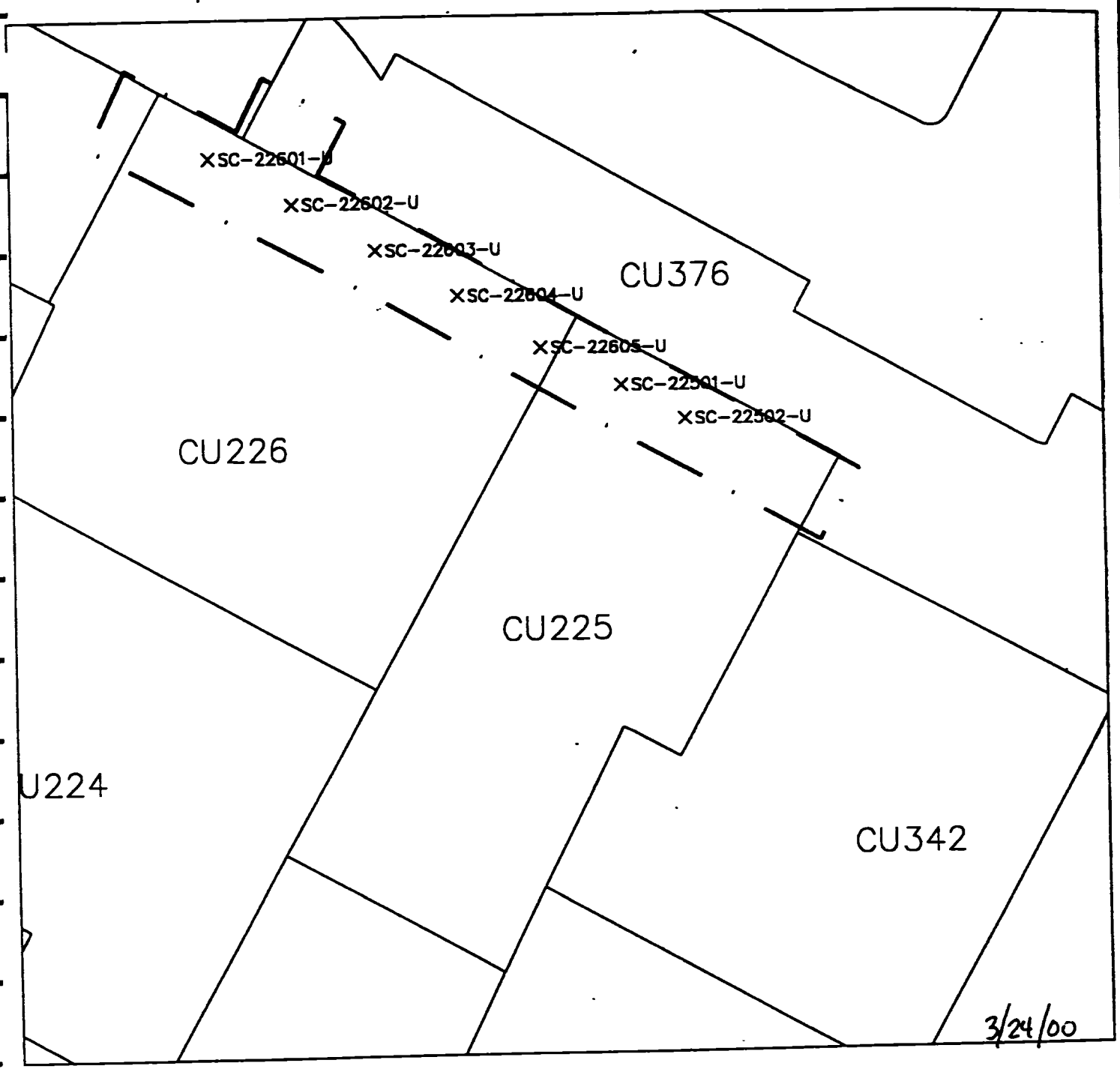
( IN FEET )

1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 225

DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | ~~TBD-10~~ 2221 | Detector Model #: | 44-10 'F' |
| Meter Serial #: | 99158 | Detector Serial #: | 122191 |
| Calibration Date: | 7/24/00 | Calibration Date: | 8/19/00 |
| Survey Date / Time: | 3/4/00 | Field Bkg.: | 5000 CPM |
| Surveyor(s): | T. Brown | | |
| Comments: | All readings <1.5 Bkg | | |




LEGEND

• 'SC-32606-S' SAMPLE POINTS PINNED

— · — · — PINNING LIMITS

N

GRAPHIC SCALE

50 0 50 100

( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 225

DHO CAD

Meter Model #: 2221 Detector Model #: 2x2 NaI "M"

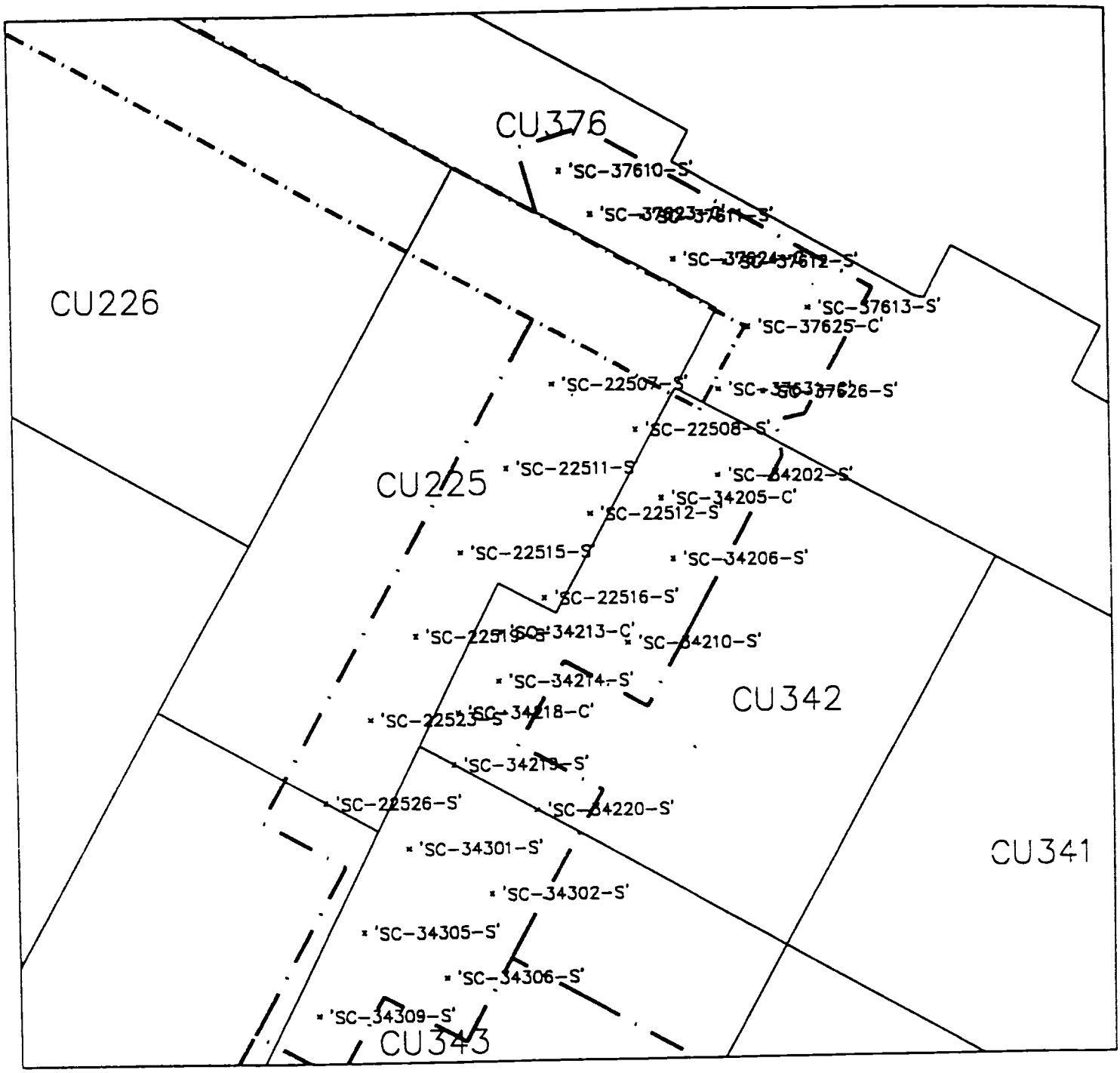
Meter Serial #: 117617 Detector Serial #: 130764

Calibration Date: 10/13/00 Calibration Date: 9/24/00

Survey Date / Time: 3/24/00 Field Bkg.: 6000 cpm

Surveyor(s): C. Hanner

Comments: Area was surveyed and found to be less than 1.5 times background




LEGEND

· 'SC-32606-S' SAMPLE POINTS PINNED

— · — · — PINNING LIMITS

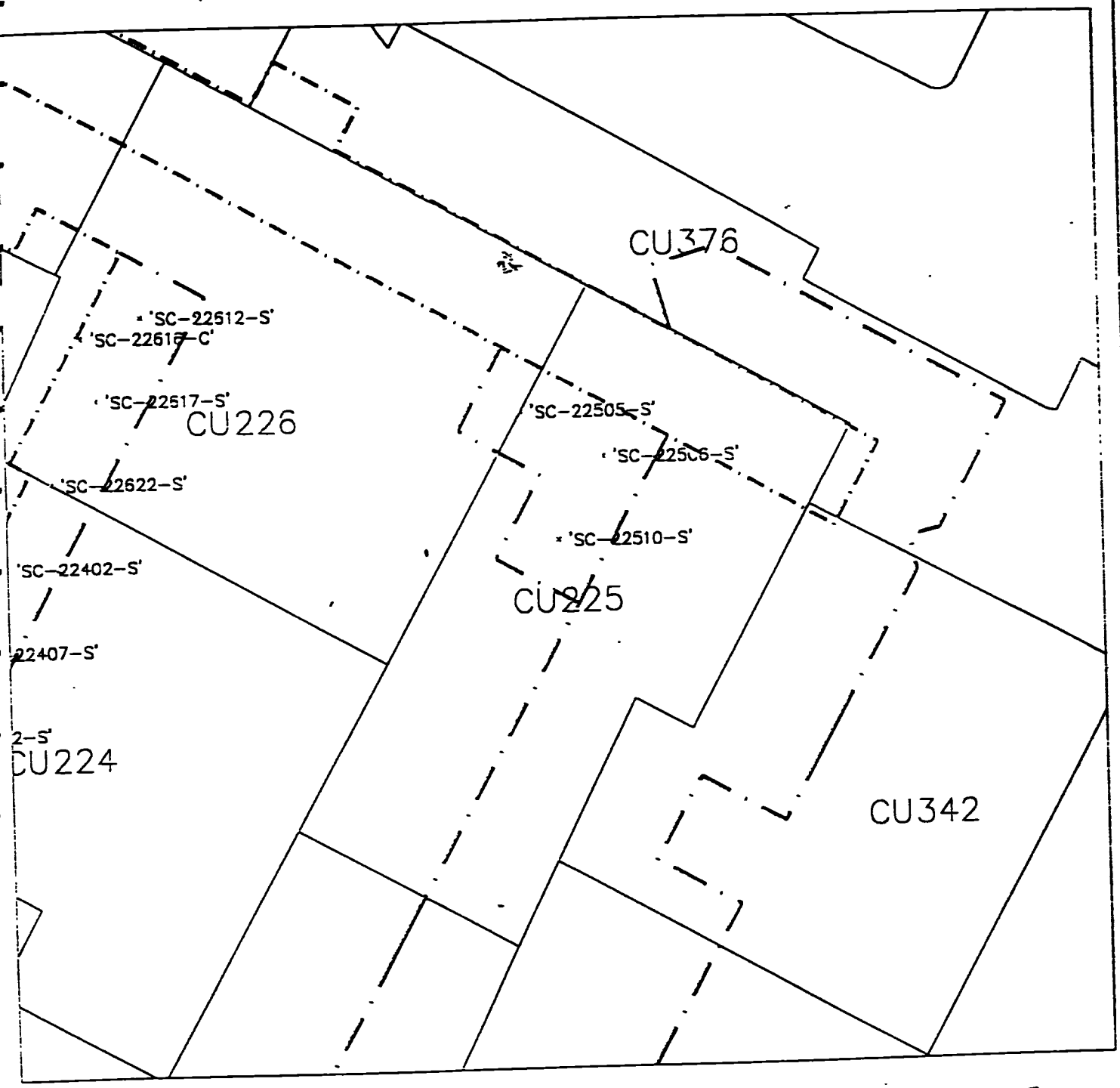
N

Radiation Survey Form WP 437, RU 21 CU 225

Date Plotted 5/20/00

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "F" |
| Meter Serial #: | 99158 | Detector Serial #: | 122191 |
| Calibration Date: | 7/24/00 | Calibration Date: | 9/29/00 |
| Survey Date / Time: | 5/19/00 | Field Bkg. | 4,000 CPM |
| Surveyor(s): | T. Brower | | |
| Comments: | All readings <1.5 Bkg. | | |




LEGEND

· 'SC-32506-S' SAMPLE POINTS PINNED

— · — · — PINNING LIMITS

N

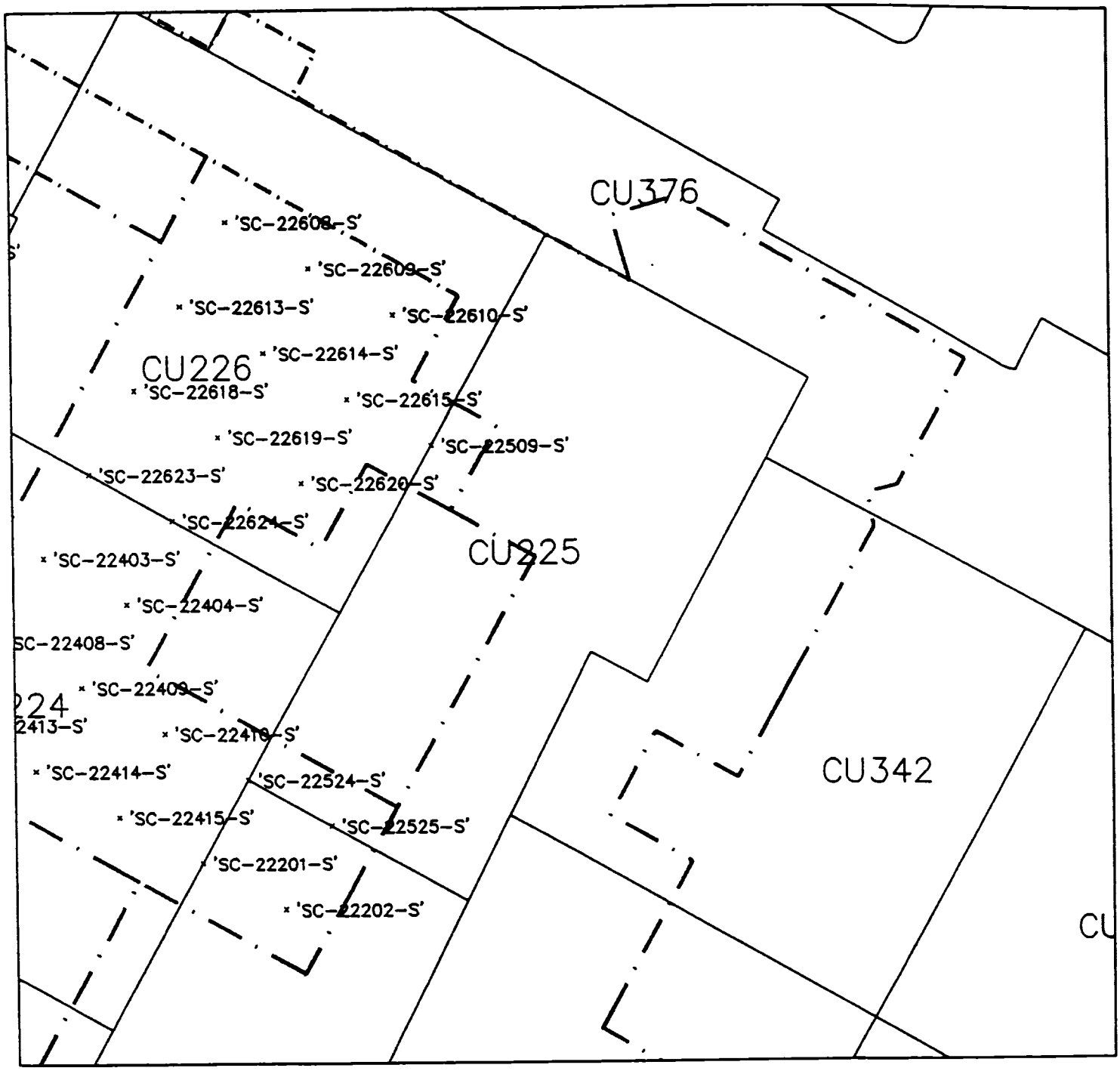
Radiation Survey Form WP 437, RU 21 CU 225

Date Plotted 5/23/00

DBD CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 3x3 NaI "P" |
| Meter Serial #: | 154199 | Detector Serial #: | 17606 |
| Calibration Date: | 2/09/01 | Calibration Date: | 1/21/01 |
| Survey Date / Time: | 5/22/00 | Field Stg.: | 10,000 cpm |
| Surveyor(s): | C. Hener | | |

Comments: Area was surveyed and found to be less than 1.5 times background




LEGEND

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

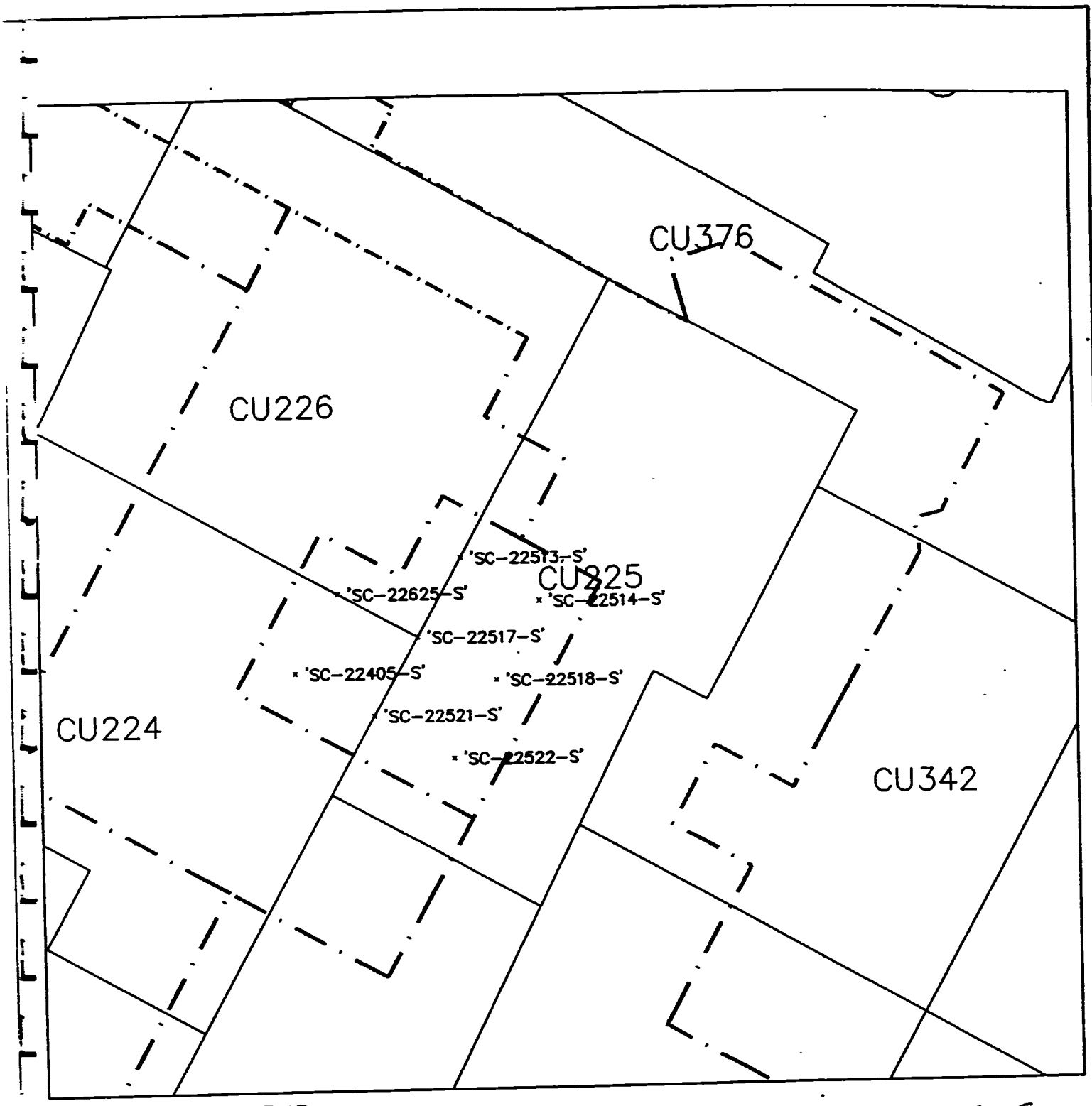
N

Radiation Survey Form WP 437, RU 21 CU 225

Date Plotted 6/2/00 DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "P" |
| Meter Serial #: | 154199 | Detector Serial #: | 17606 |
| Calibration Date: | 2/09/01 | Calibration Date: | 1/31/01 |
| Survey Date / Time: | 6/2/00 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | C. Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background




LEGEND

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

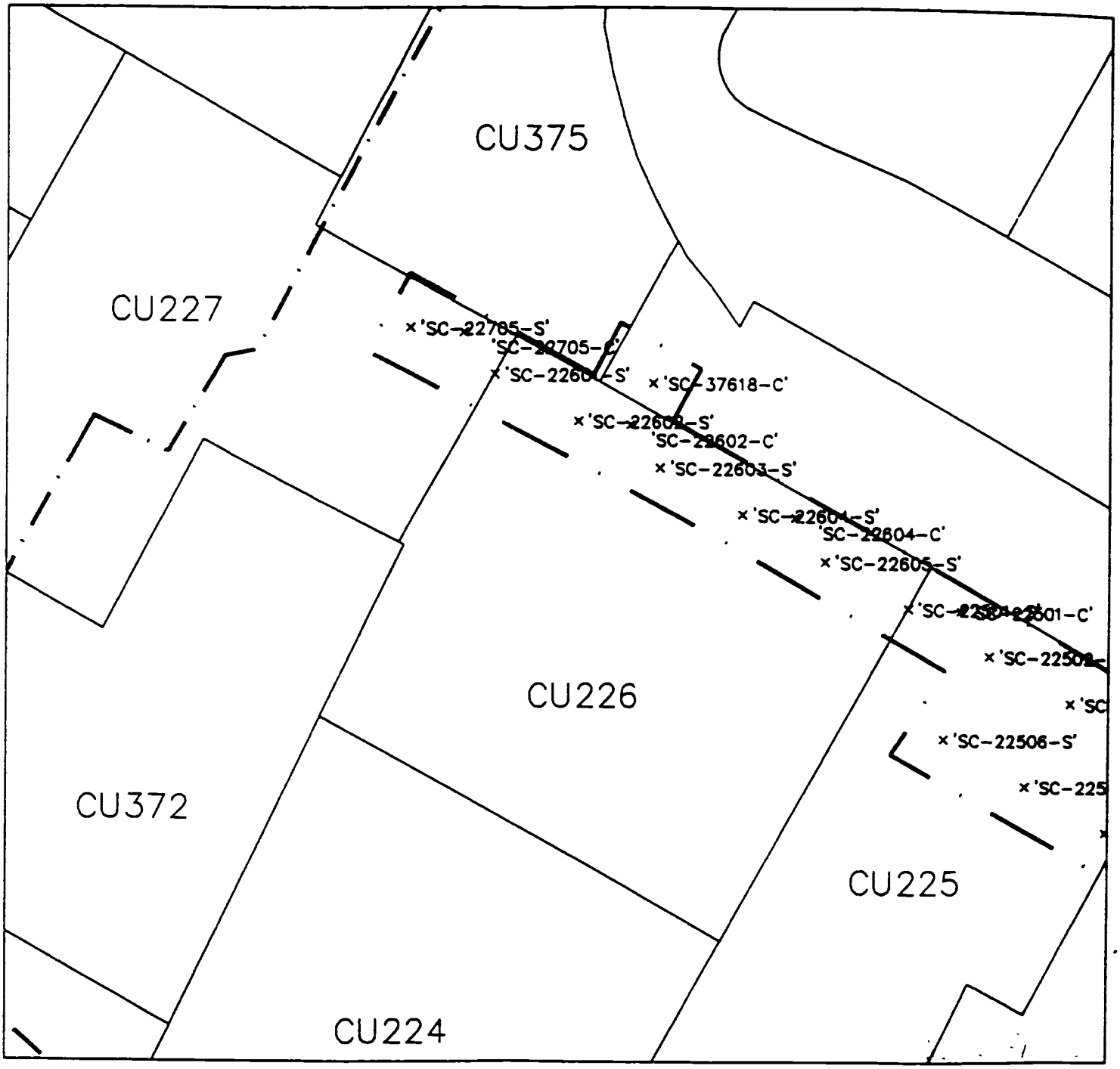
Radiation Survey Form WP 437, RU 21 CU 225

Date Plotted 6/3/00

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "p" |
| Meter Serial #: | 154199 | Detector Serial #: | 17606 |
| Calibration Date: | 2/09/01 | Calibration Date: | 1/21/01 |
| Survey Date / Time: | 6/2/00 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | C. Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background




LEGEND

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

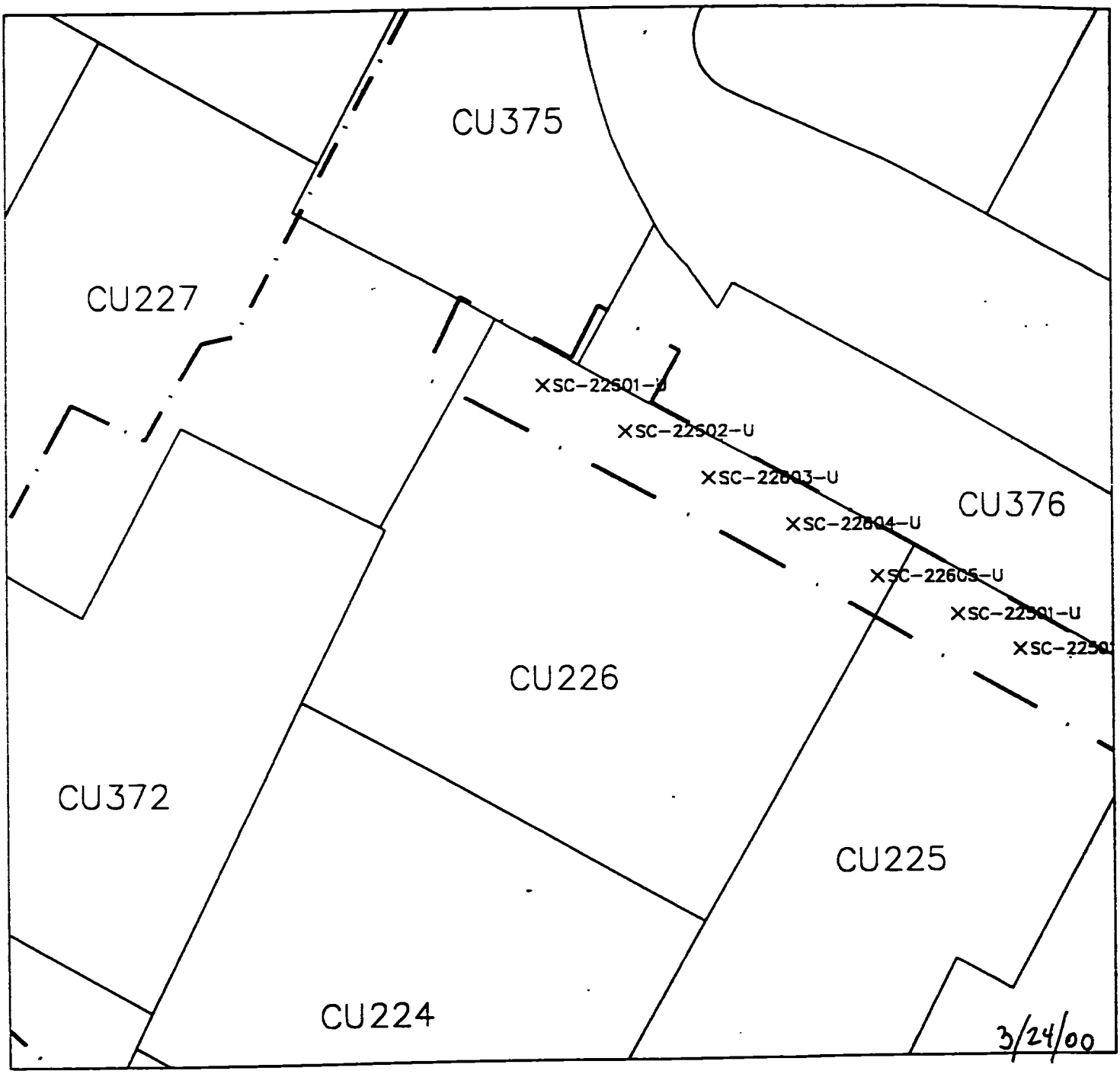
50 0 50 100

( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 226

HBD CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 44-10 '4' |
| Meter Serial #: | 99158 | Detector Serial #: | 122191 |
| Calibration Date: | 7/24/00 | Calibration Date: | 8/19/00 |
| Survey Date / Time: | 3/4/00 | Field Bkg.: | 5,000 CPM |
| Surveyor(s): | T. Brower | | |
| Comments: | All readings < 1.5 Bkg | | |




LEGEND

Radiation Survey Form WP 437, RU 21 CU 226

DEO CAD

• 'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

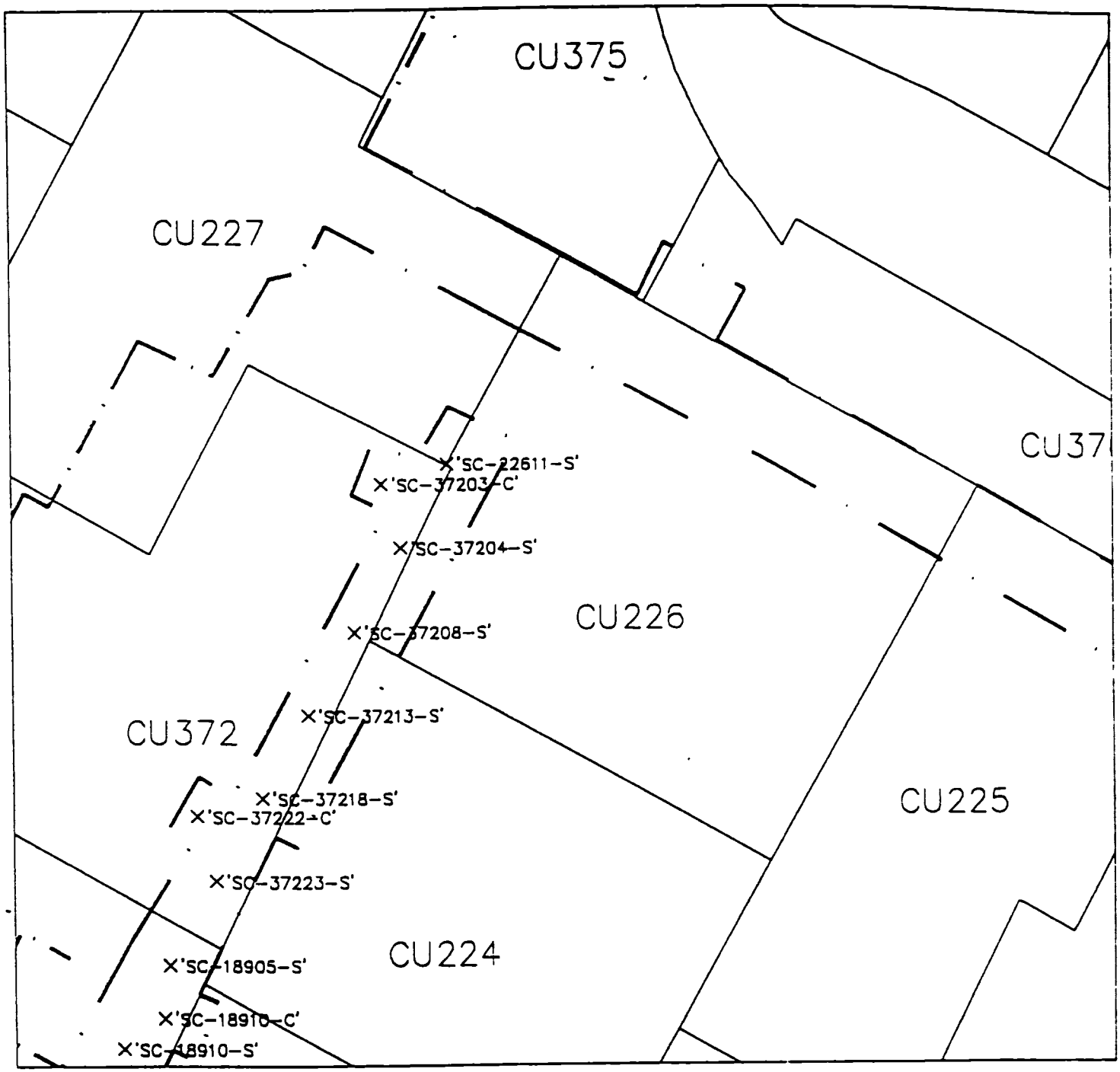
50 0 50 100

( IN FEET )

1 inch = 50 ft.

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "M" |
| Meter Serial #: | 117617 | Detector Serial #: | 130764 |
| Calibration Date: | 10/13/00 | Calibration Date: | 9/24/00 |
| Survey Date/Time: | 3/24/00 | Field Bkg: | 6000 cpm |
| Surveyor(s): | C. Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background




LEGEND

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 50 100

( IN FEET )

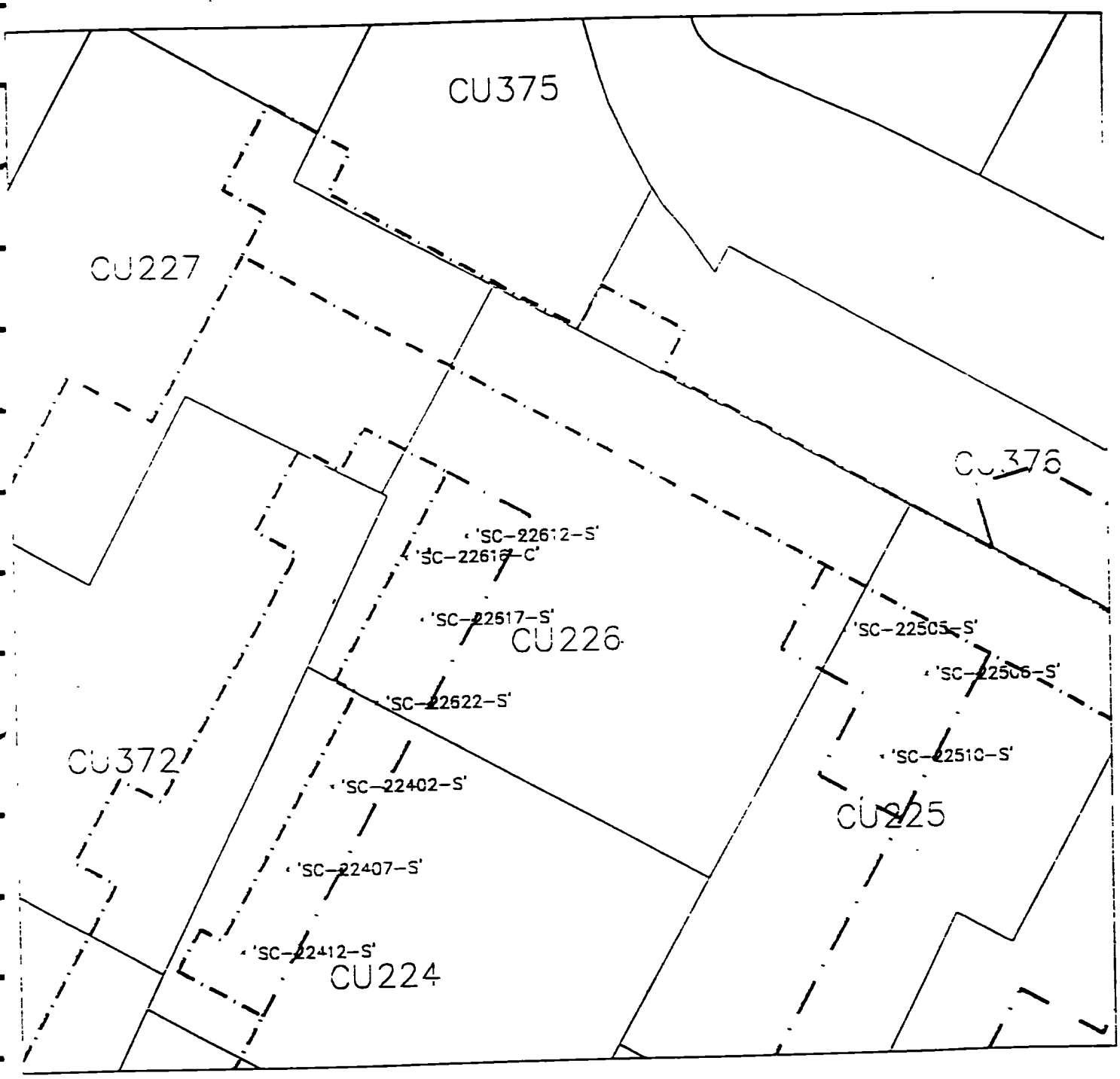
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 226

Date Plotted _____ DBD CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 N-I "m" |
| Meter Serial #: | 117617 | Detector Serial #: | 130764 |
| Calibration Due: | 10/13/00 | Calibration Due: | 9/24/00 |
| Survey Date / Time: | 3/30/00 | Field Bkg.: | 6000 cpm |
| Surveyor(s): | C. Hanna | | |

Comments: Area was surveyed and found to be less than 1.5 times background




LEGEND

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

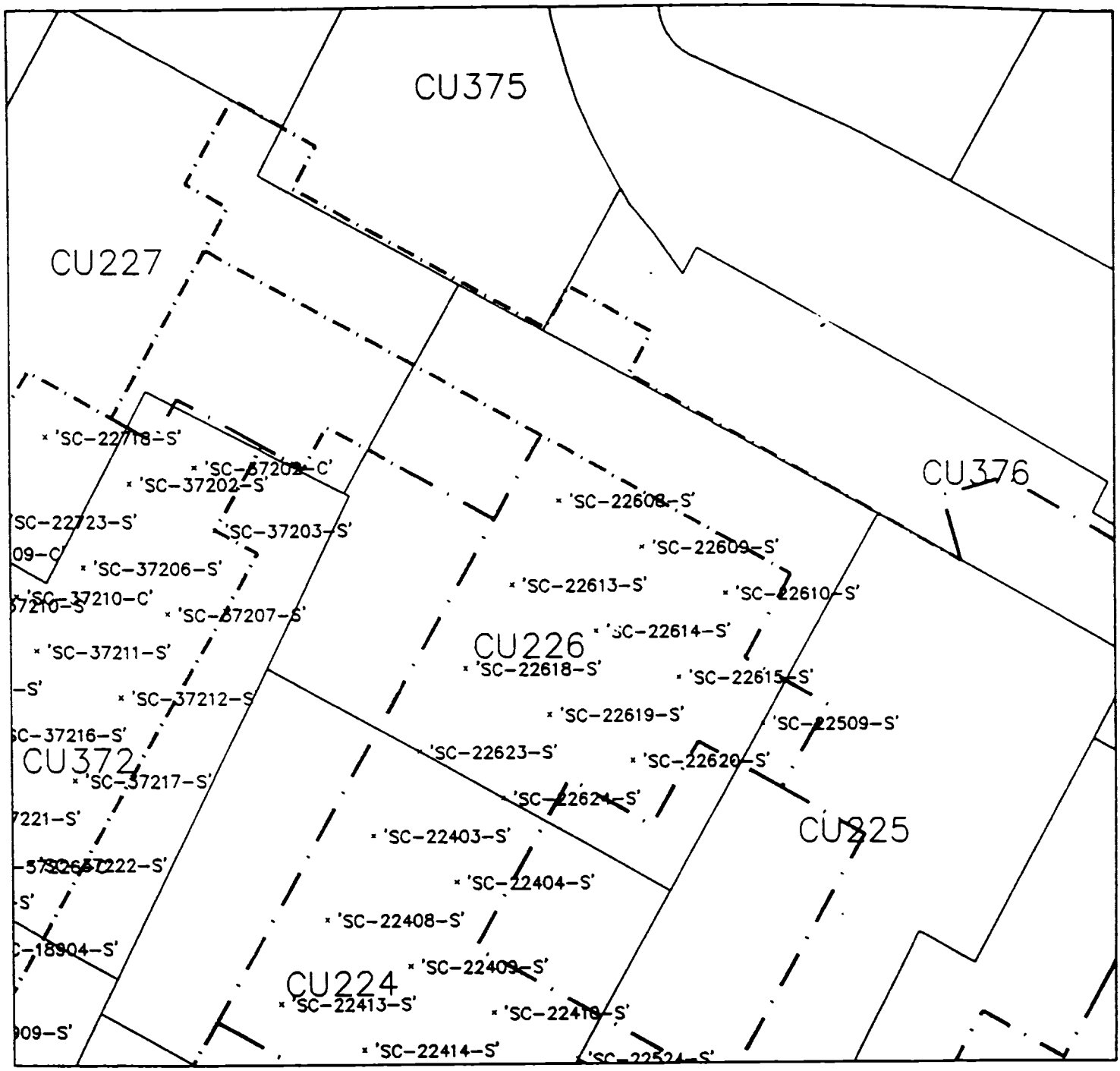
Radiation Survey Form WP 437, RU 21 CU 226

Date Plotted 5/23/00

DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "p" |
| Meter Serial #: | 154199 | Detector Serial #: | 17606 |
| Calibration Due: | 2/09/01 | Calibration Due: | 1/21/01 |
| Survey Date / Time: | 5/22/00 | Field Blog: | 10,000 cpm |
| Surveyor(s): | C. Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background




LEGEND

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

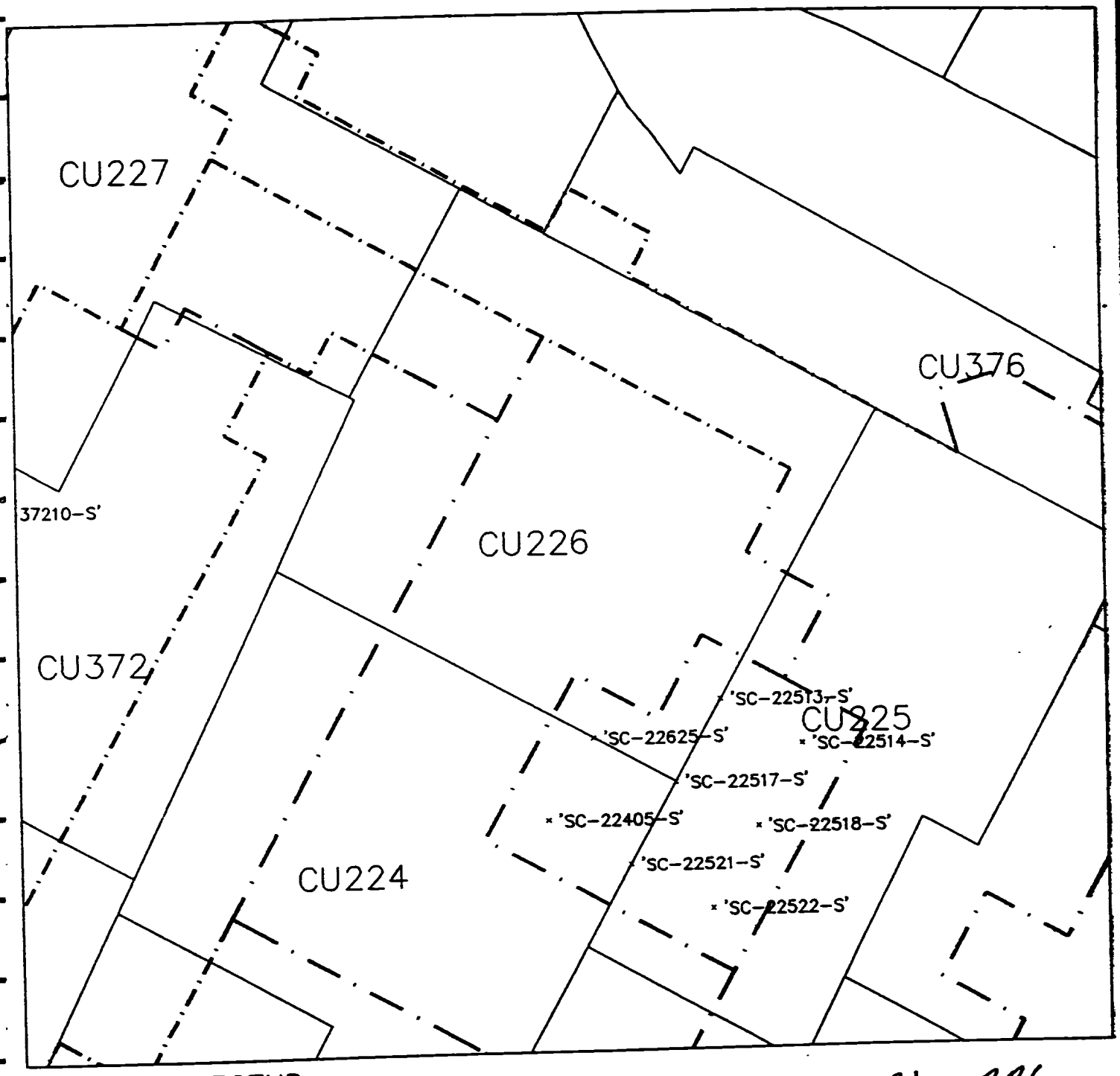
Radiation Survey Form WP 437, RU 21 CU 226

Date Plotted 6/2/00

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI 1" |
| Meter Serial #: | 154199 | Detector Serial #: | 17606 |
| Calibration Date: | 2/04/01 | Calibration Date: | 1/2/01 |
| Survey Date / Time: | 6/2/00 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | C. Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background.




LEGEND

· 'SC-32606-S' SAMPLE POINTS PINNED

— · — · — PINNING LIMITS

N

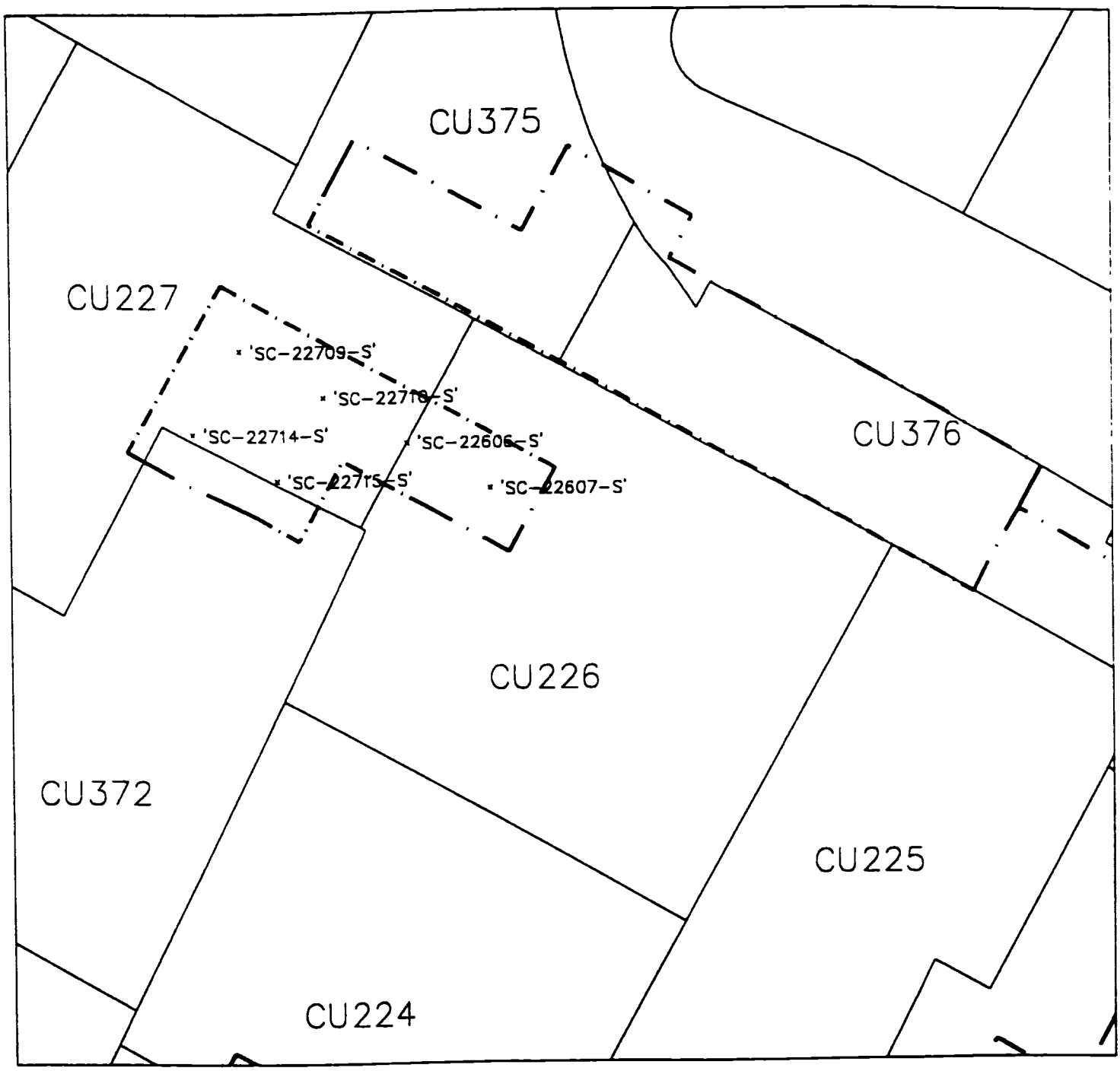
Radiation Survey Form WP 437, RU 21 CU 226

Date Plotted 6/3/00

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "P" |
| Meter Serial #: | 154199 | Detector Serial #: | 17606 |
| Calibration Date: | 2/09/01 | Calibration Date: | 1/21/01 |
| Survey Date / Time: | 6/2/00 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | C. Hamer | | |

Comments: Area was surveyed and found to be less than 1.5 times background




LEGEND

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

**Radiation Survey Form WP 437, RU** 21 **CU** 226

**Date Plotted** 6/07/00 **DBD CAD**

**Meter Model #:** 2221 **Detector Model #:** 2x2 NaI "P"

**Meter Serial #:** 154199 **Detector Serial #:** 17606

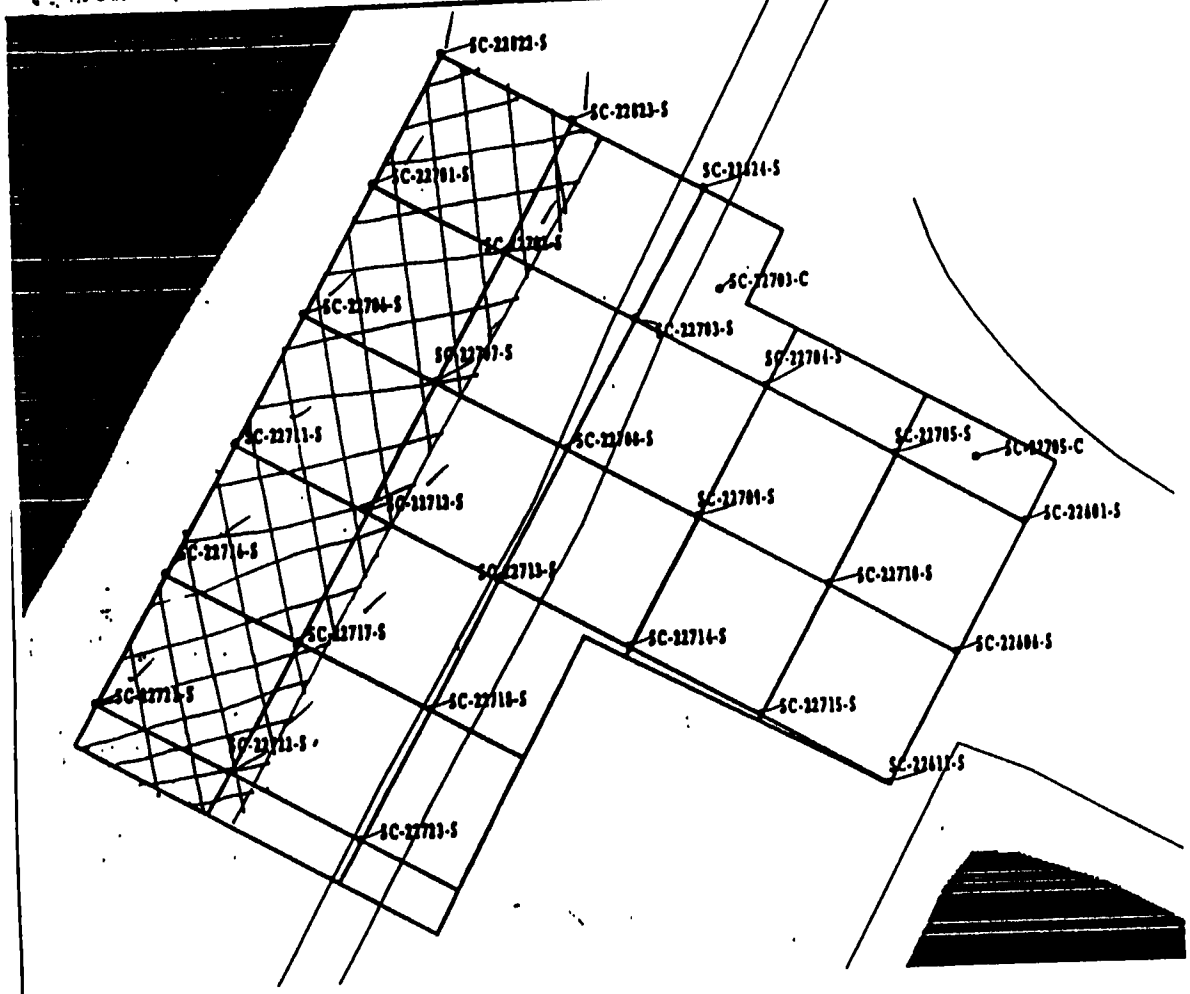
**Calibration Date:** 2/09/00 **Calibration Date:** 11/21/01

**Survey Date / Time:** 6/7/00 **Field Bkg.:** 11,000 cpm

**Surveyor(s):** C. Hamner

**Comments:** Area was surveyed and found to be less than 1.5 times background

# Radiation Survey Form WP 437, RU021CU227




WSSRAP GIS

15 7.5 0 15 METERS

45 22.5 0 45 FEET

N W E S

Meter Model#: 2221 Detector Model#: 44-10

Meter Serial#: 4536 Detector Serial#: 4240

Calibration Due: 8-27-99 Calibration Due: 8-11-99

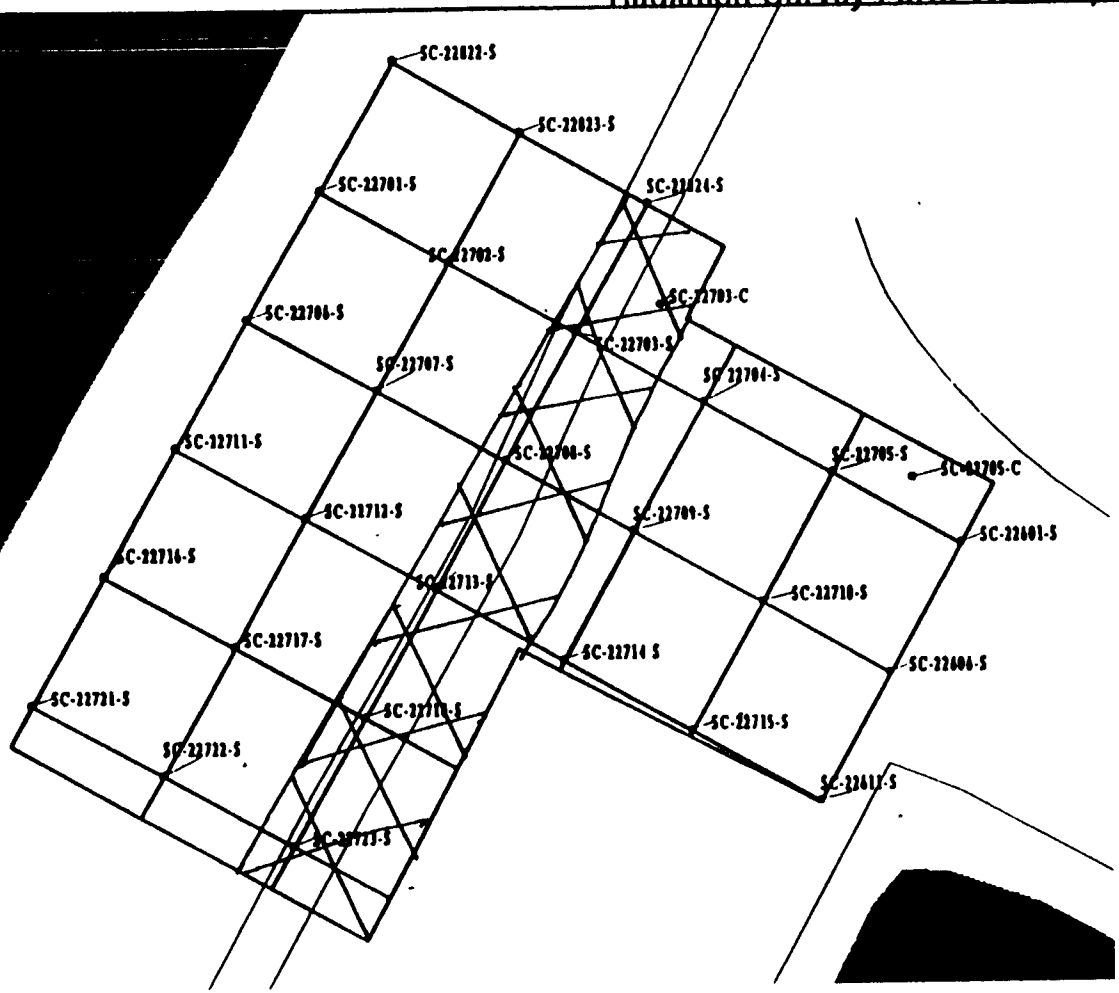
Survey Date/Time: 3/18/99 0900 Field Bkg.: 20,000 CPM

Surveyor(s): Tim Brower

Comments: All above areas surveyed & found to be less than 1½ times background

Roped off 3/27/99 KMA

# Radiation Survey Form WP 437, RU021CU227




Rcvd 3/31/99 - Noon
(For interceptor trench proper)

WBSRAP GIS

Meter Model#: 2221 Detector Model#: ~~122191~~ TB 2x2

Meter Serial#: 127252 Detector Serial#: ~~44~~ TB 122191

Calibration Due: 8-27-99 Calibration Due: 8-11-99

Survey Date/Time: 3/31/99 0800 Field Bkg.: 10,000

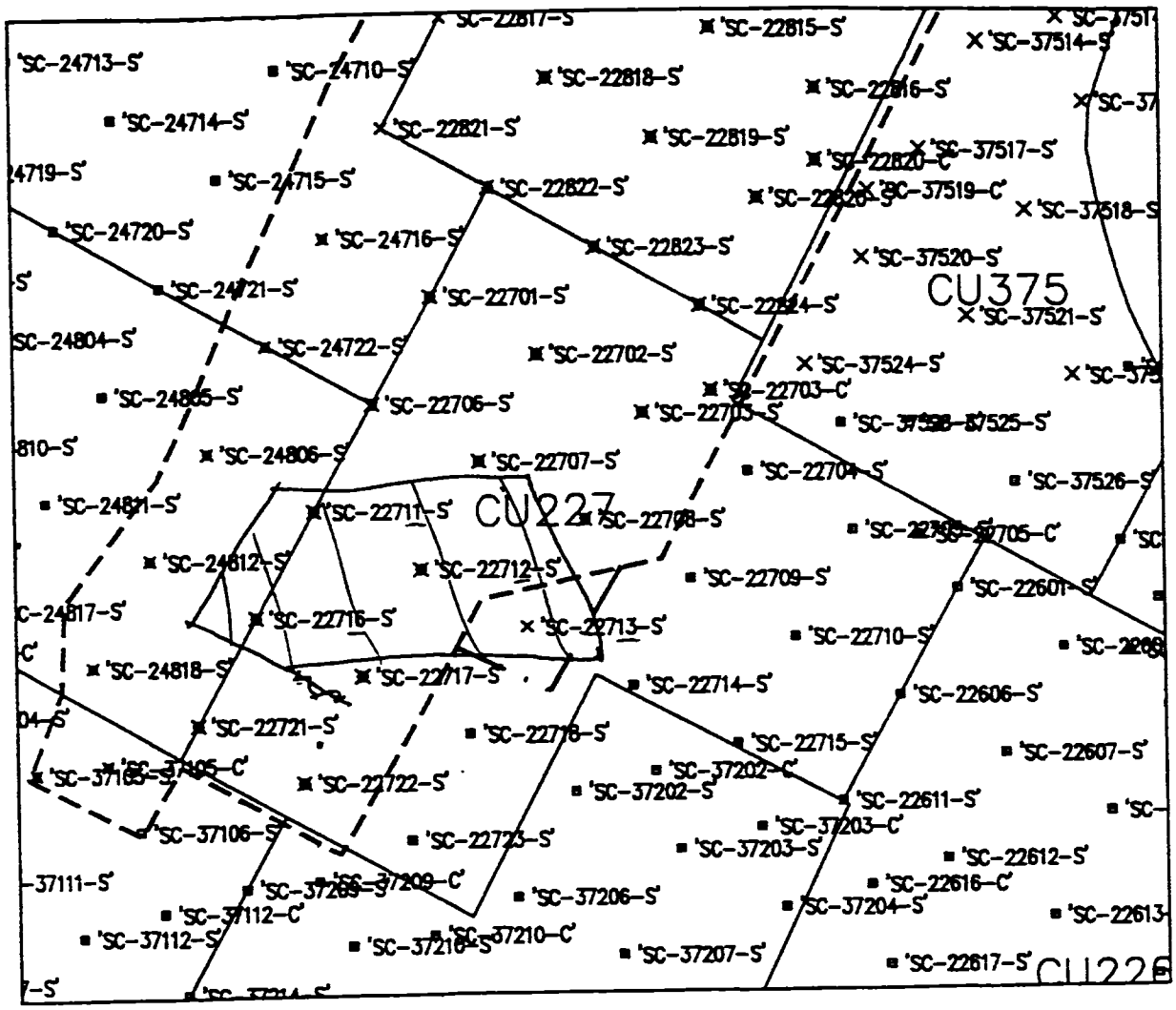
Surveyor(s): T. Brown & C. Henner

Comments: All readings <1.5 x background

15 7.5 0 15 METERS

45 22.5 0 45 FEET

N W E S




## LEGEND

- ▪ 'SC-32606-S' SAMPLE POINTS NOT PINNED
- × 'SC-32606-S' SAMPLE POINTS PINNED
- ✖ 'SC-32606-S' SAMPLE POINTS PREVIOUSLY PINNED AND CONFIRMED
- — — — — CONFIRMED AREA
- — · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 227

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2X2 |
| Meter Serial #: | 122252 | Detector Serial #: | F |
| Calibration Date: | 8.27.99 | Calibration Date: | 8.11.99 |
| Survey Date / Time: | 5.20.99 | Field Bkg.: | 5,000 CPM |
| Surveyor(s): | MEDINA / BROWER | | |
| Comments: | Area surveyed < 1.5 x Bkg. Area Bkg. ≈ 5,000 CPM | | |

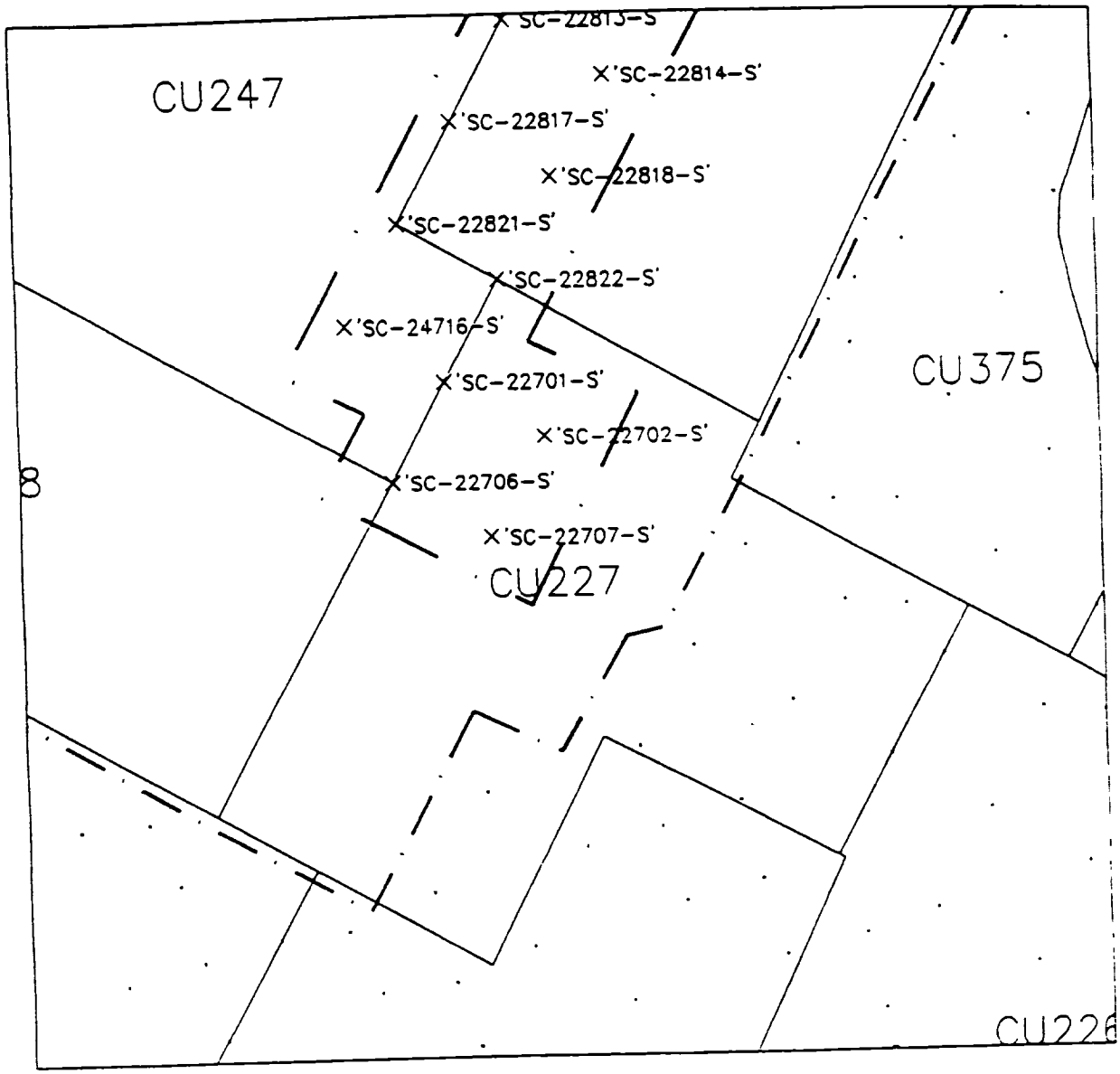
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.




Rcvd 7/16/99
0720
(Sampled 7/15)

LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 227

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model # | 2221 | Detector Model #: | NaI "2x2" |
| Meter Serial # | 117607 | Detector Serial #: | 25143 |
| Calibration Due | 12-18-99 | Calibration Due: | 01-24-00 |
| Survey Date / Time: | 07-14-99 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | G. Barker | | |
| Comments: | All areas surveyed < 1.5 BKG | | |

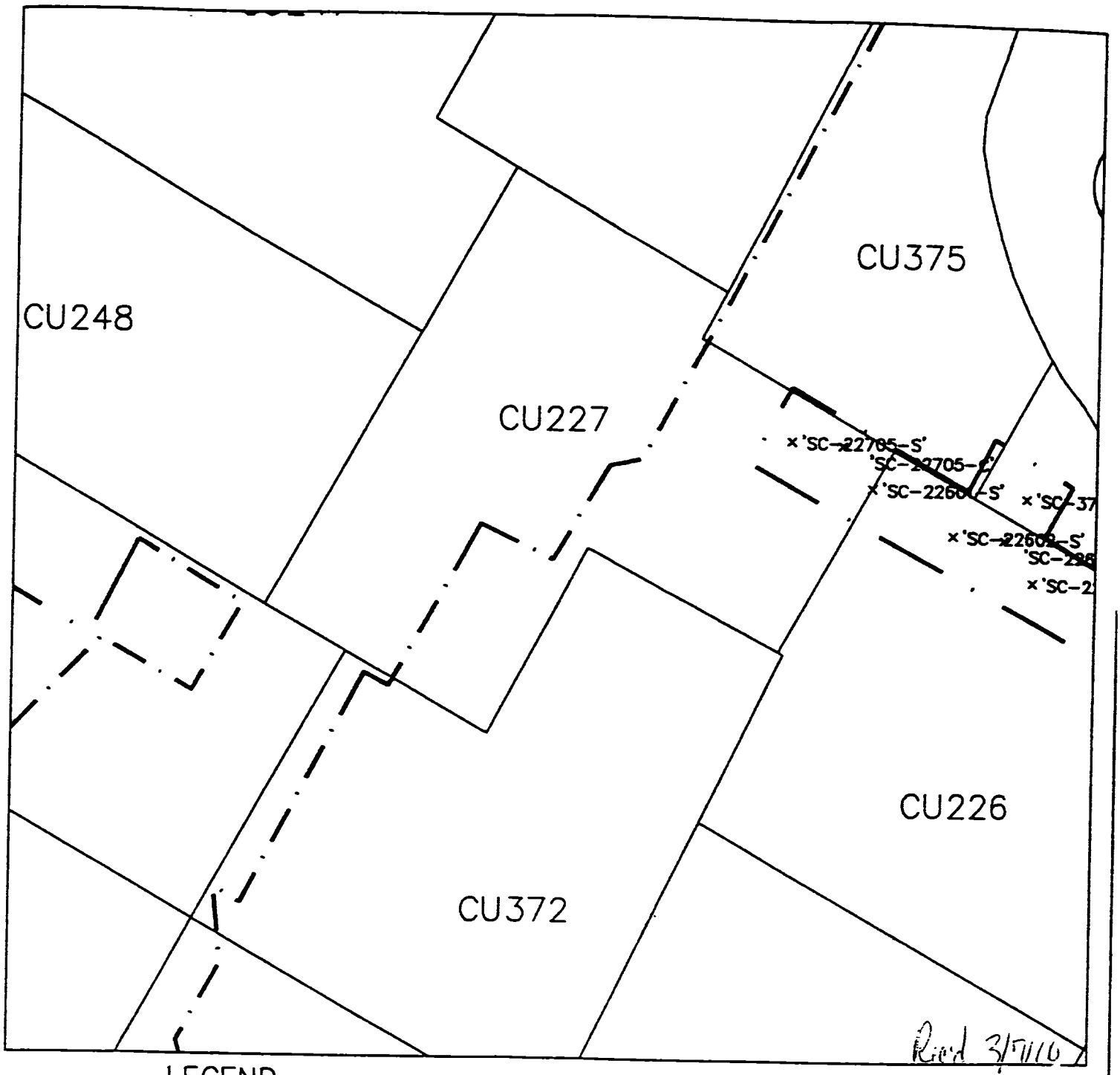
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.




LEGEND

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

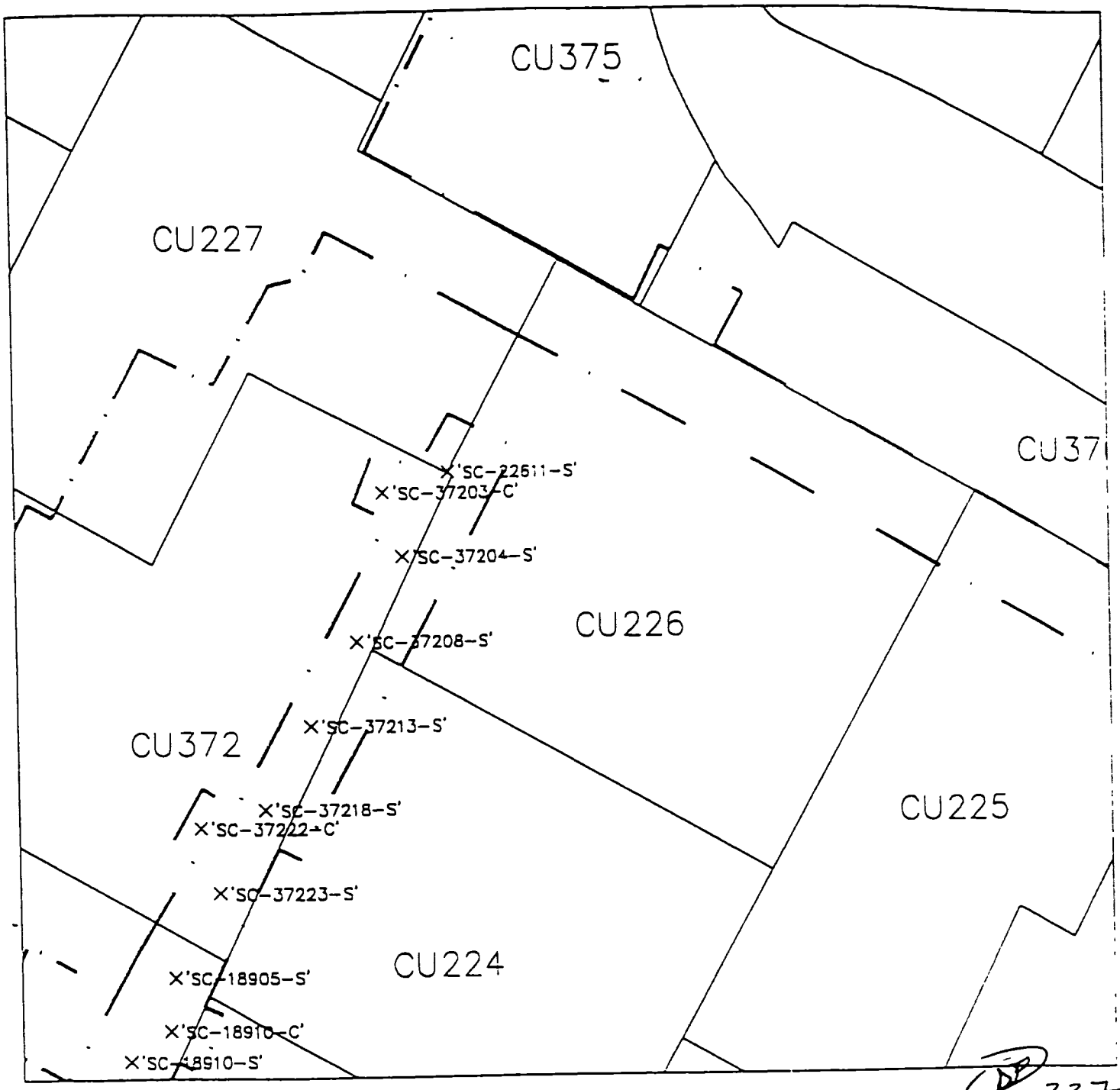
50 0 50 100

( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 227

DBD CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 44-10 "F" |
| Meter Serial #: | 99158 | Detector Serial #: | 122191 |
| Calibration Date: | 2/24/00 | Calibration Date: | 8/19/00 |
| Survey Date / Time: | 3/4/00 | Field Bkg.: | 5,000 CPM |
| Surveyor(s): | T. Brower | | |
| Comments: | All readings <1.5 BKG | | |




LEGEND

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 50 100

( IN FEET )

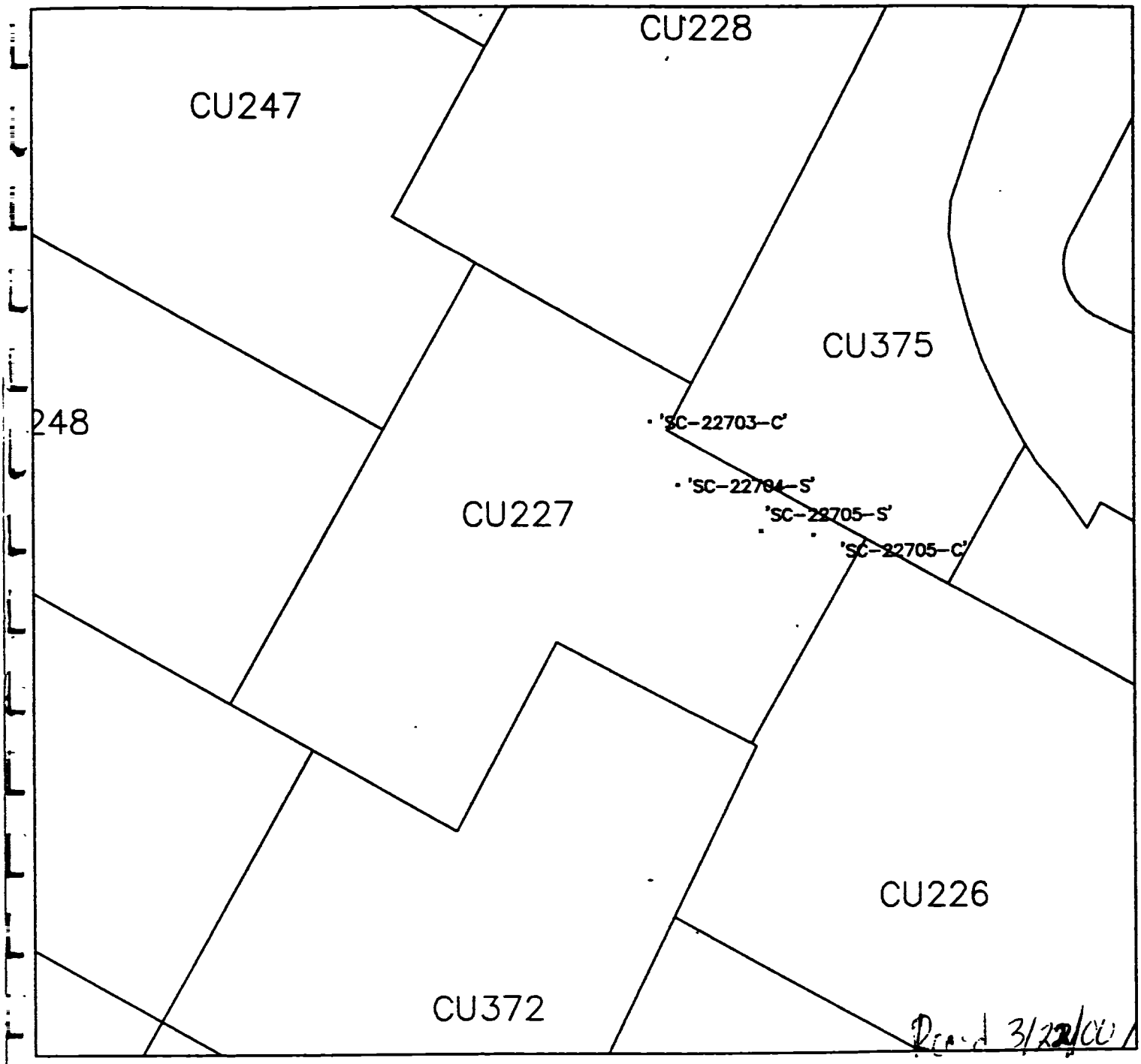
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU ~~226~~ 227

Date Plotted _____ DED CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "m" |
| Meter Serial #: | 117617 | Detector Serial #: | 130764 |
| Calibration Date: | 10/13/00 | Calibration Date: | 9/29/00 |
| Survey Date / Time: | 3/30/00 | Field Bkg. | 6000 cpm |
| Surveyor(s): | C. Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background




Radiation Survey Form WP 437, RU 21 CU 227
3/21/00

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "M" |
| Meter Serial #: | 117617 | Detector Serial #: | 130764 |
| Calibration Date: | 10/13/00 | Calibration Date: | 9/24/00 |
| Survey Date / Time: | 3/21/00 | Field Bkg.: | 4000 cpm |
| Surveyor(s): | J. Rankins | | |

Comments: Area was surveyed and found to be less than 1.5 times background

N

GRAPHIC SCALE

50 0 50 100

( IN FEET )
1 inch = 50 ft.

LEGEND

• 'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 50 100

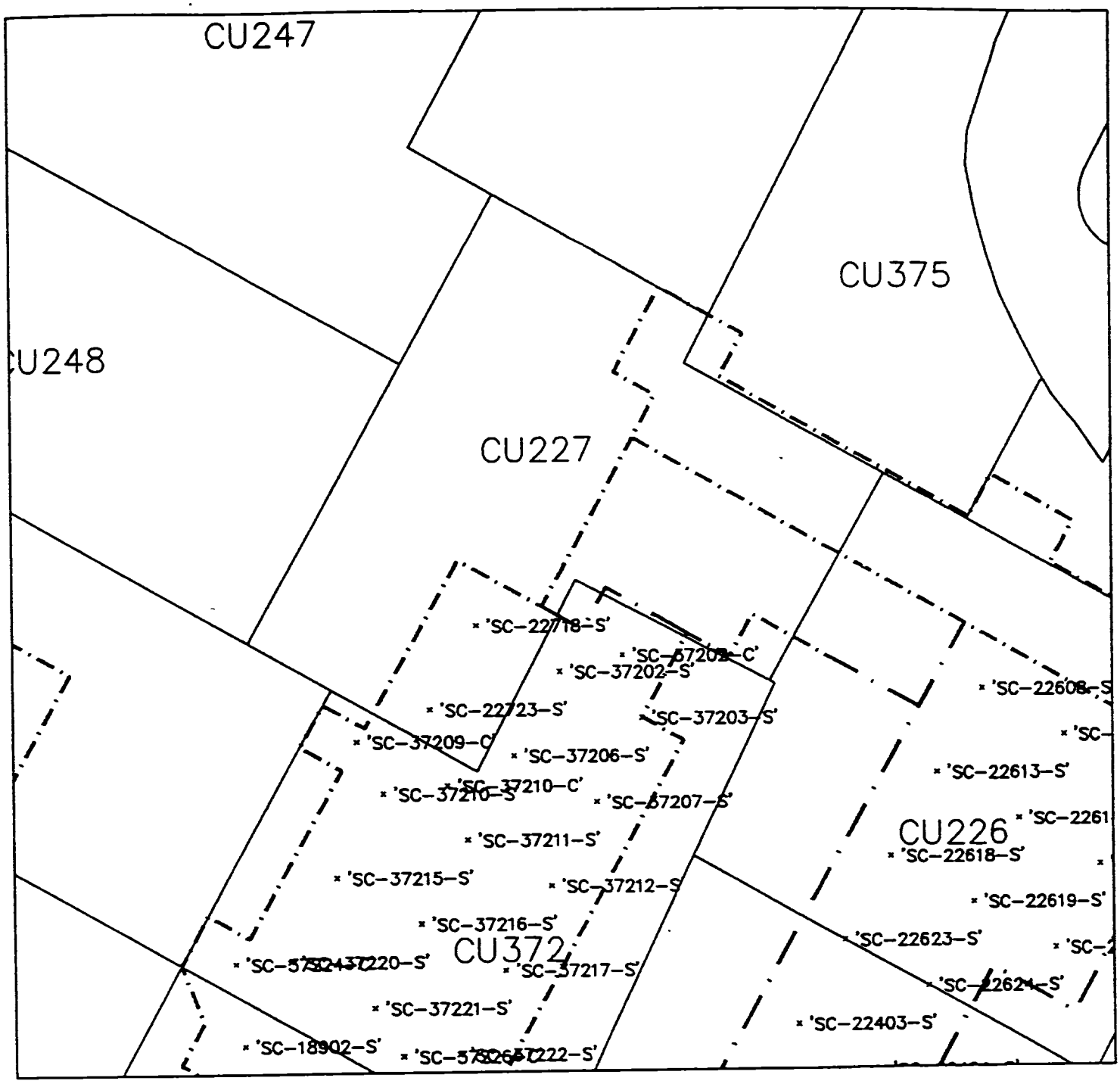
( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 227

Date Plotted 3/31/00

DBID CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "M" |
| Meter Serial #: | 117617 | Detector Serial #: | 130769 |
| Calibration Date: | 10/13/00 | Calibration Date: | 9/24/00 |
| Survey Date / Time: | 3/30/00 | Field Bkg. | 6,000 cpm |
| Surveyor(s): | T. Brewer | | |
| Comments: | All readings < 1.5 Bkg. | | |




LEGEND

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

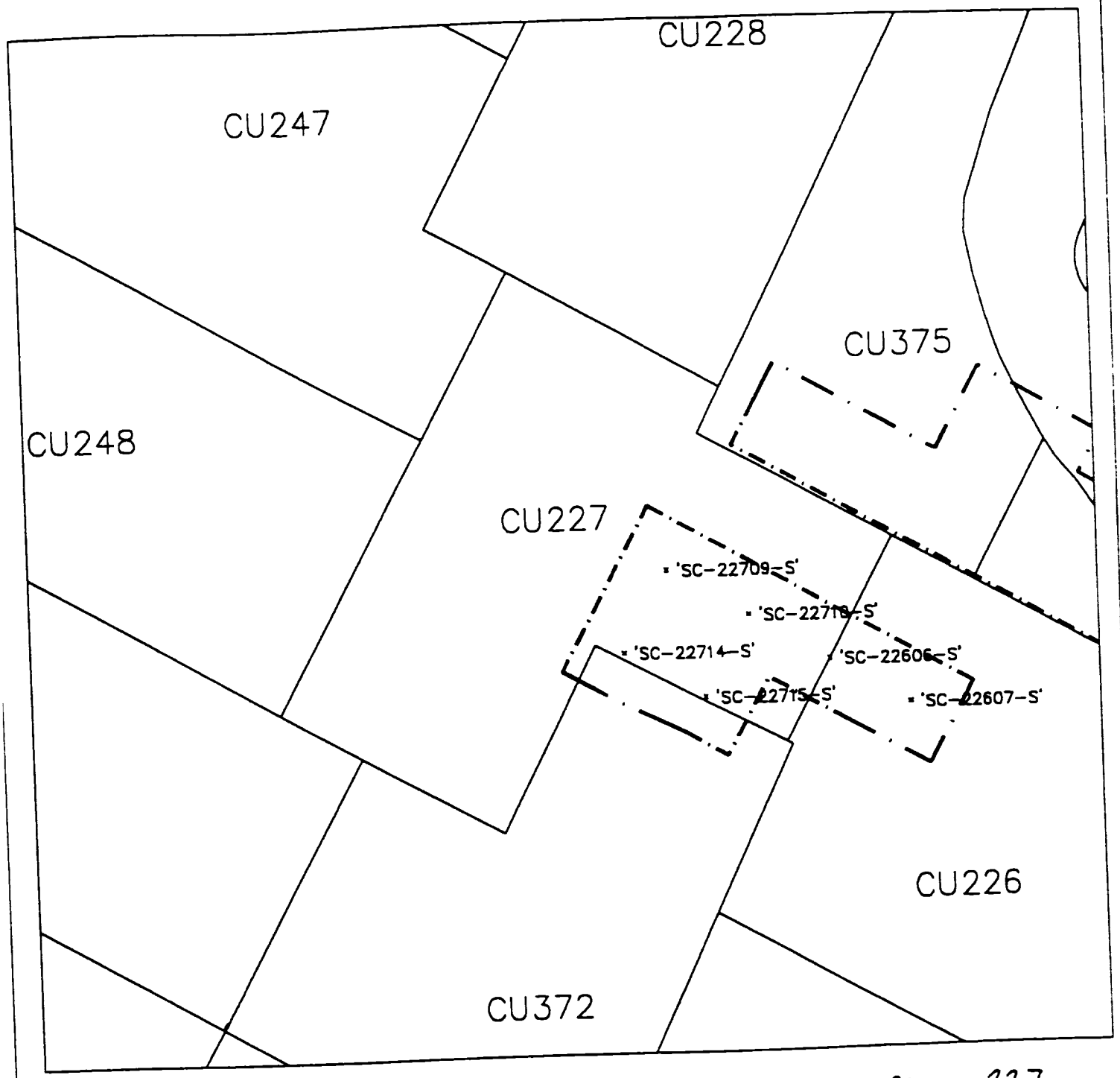
Radiation Survey Form WP 437, RU 21 CU 227

Date Plotted 6/2/00

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "P" |
| Meter Serial #: | 154199 | Detector Serial #: | 17606 |
| Calibration Due: | 2/09/01 | Calibration Due: | 1/21/01 |
| Survey Date / Time: | 6/2/00 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | C. Hanna | | |

Comments: Area was surveyed and found to be less than 1.5 times background




LEGEND

• 'SC-32606-S' SAMPLE POINTS PINNED

— · — · — PINNING LIMITS

N

Radiation Survey Form WP 437, RU 21 CU 227

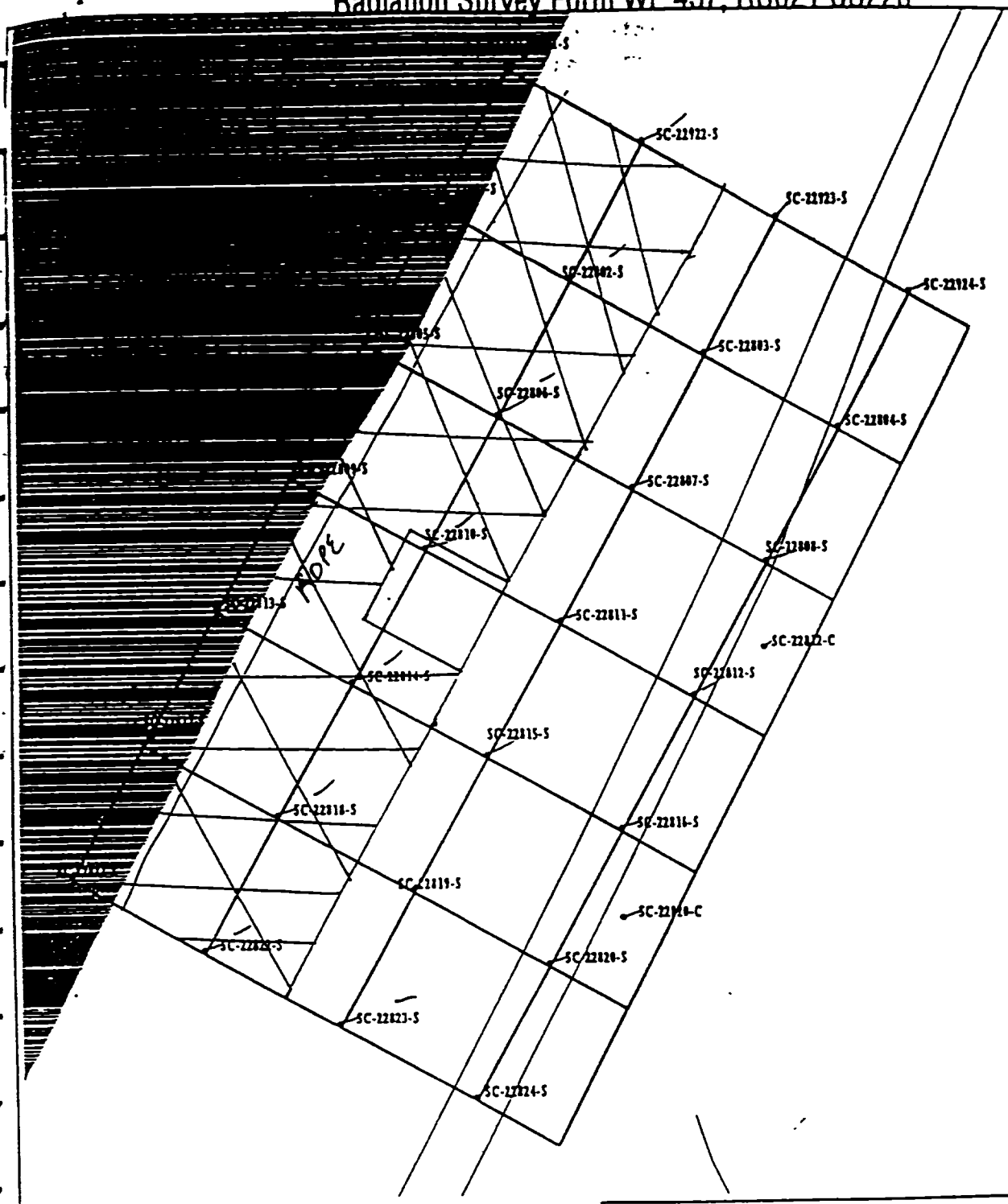
Date Plotted 6/07/00

DBD CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI |
| Meter Serial #: | 154199 | Detector Serial #: | 17606 |
| Calibration Date: | 2/9/01 | Calibration Date: | 1/21/01 |
| Survey Date / Time: | 6/7/00 | Field Bkg. | 11,000 cpm |
| Surveyor(s): | C. Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background

# Radiation Survey Form WP 437, RU021 CU228




WSSRAP GIS

15 7.5 0 METERS

45 22.5 0 FEET

Meter Model#: 2221

Meter Serial#: 4536

Calibration Due: 3/18/99

Survey Date/Time: 3/18/99 0900

Surveyor(s): Tim Brower

Comments: All above areas surveyed & found to be < 1½ times background

Detector Model#: 44-10

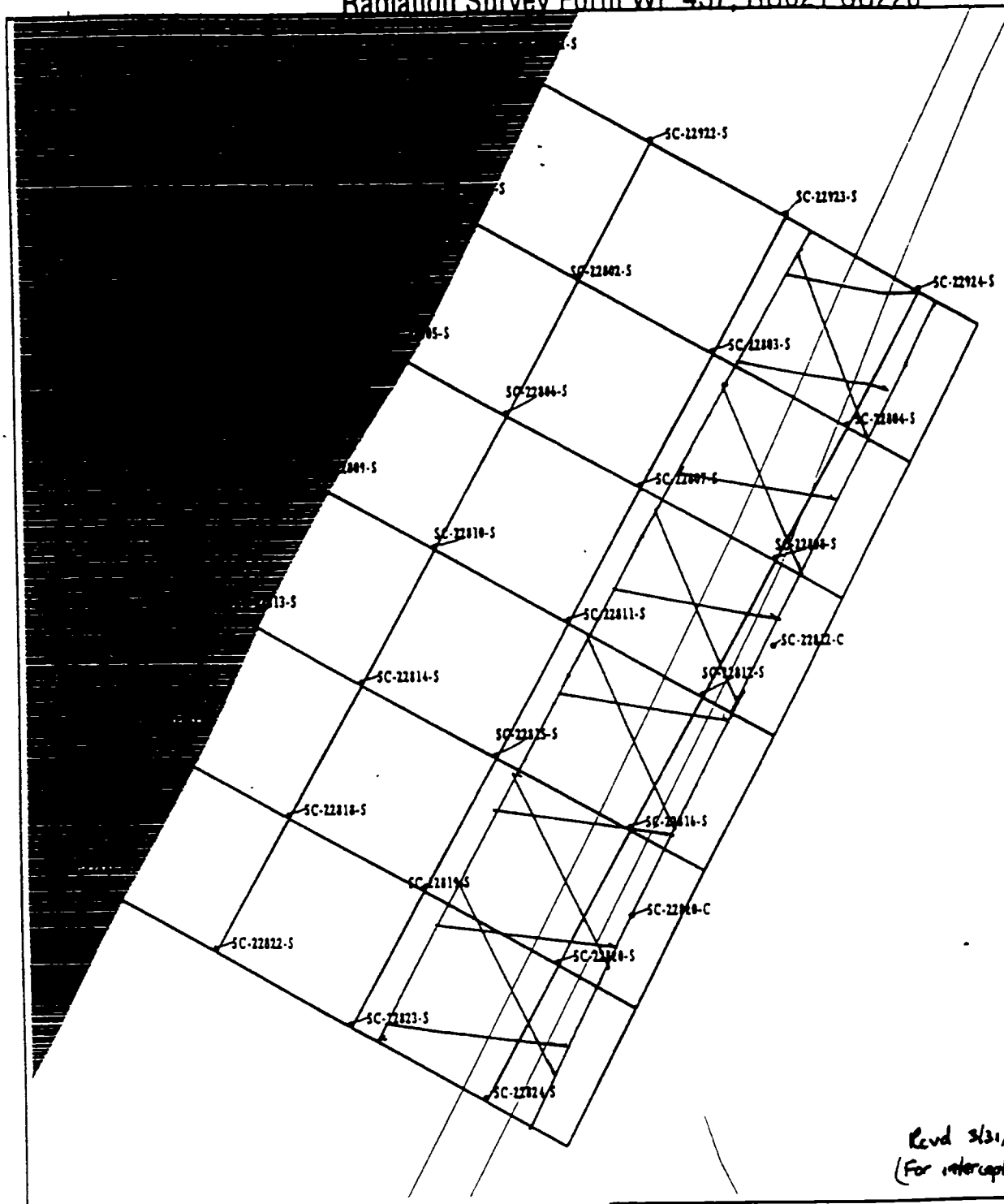
Detector Serial#: 4240

Calibration Due: 8/11/99

Field Bkg.: 20,000 cpm

[illegible] 3-18-99 [illegible]

# Radiation Survey Form WP 437, RU021 CU228




Rcvd 3/31/99 - Noon
(For interceptor trench proper) WSSRAP GIS

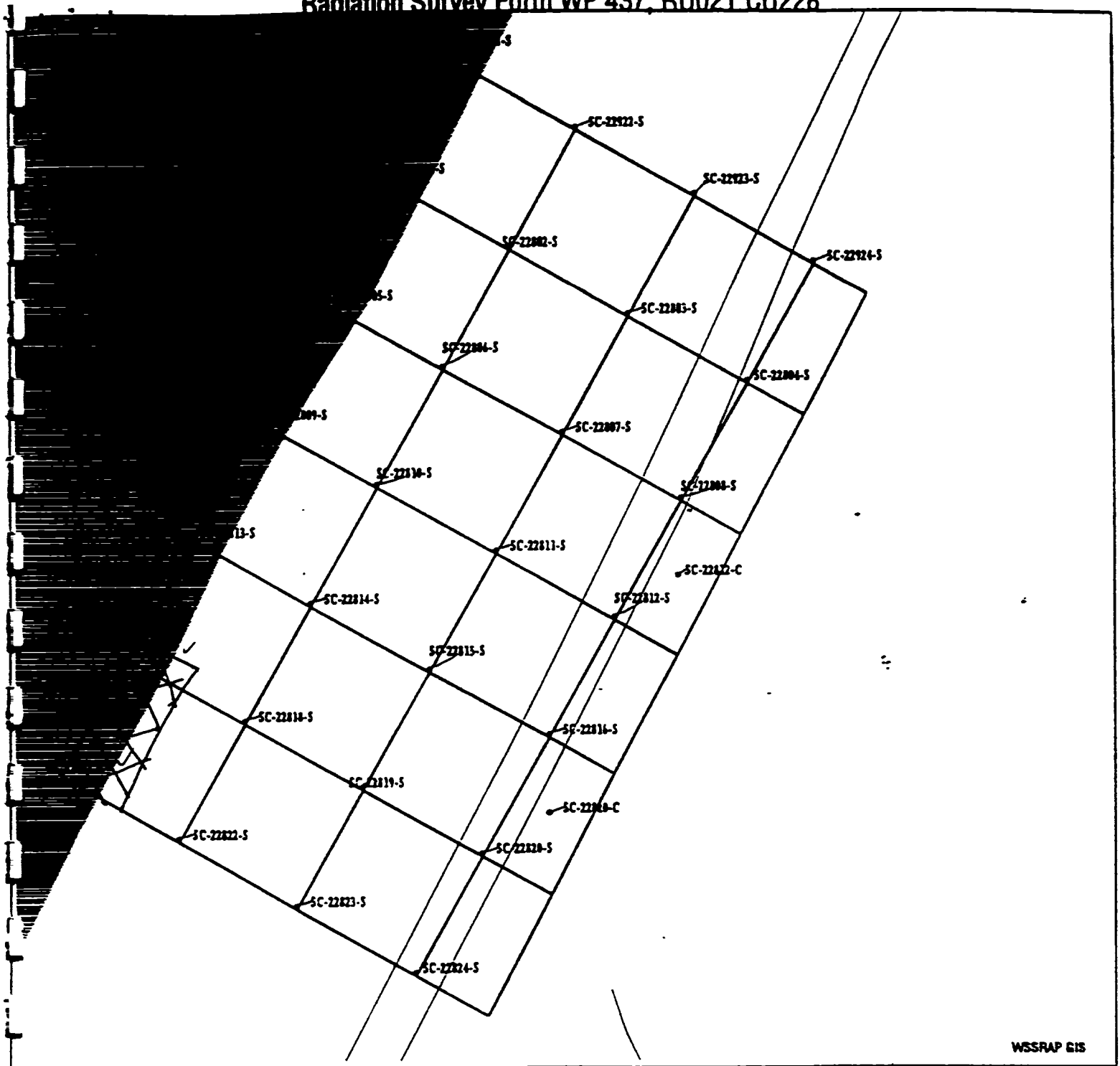
15 7.5 0 METERS

45 22.5 0 FEET

Meter Model#: 2221
Meter Serial#: 127252
Calibration Due: 8.27.99
Survey Date/Time: 3/31/99 0800
Surveyor(s): T. Brower & C. Hanner
Comments: All readings <1.5 x background

Detector Model#: 2x2
Detector Serial#: 122191
Calibration Due: 8.11.99
Field Bkg.: 10,000

# Radiation Survey Form WP 437, RU021 CU228




WSSRAP GIS

15 7.5 0 METERS

45 22.5 0 FEET

N W E S

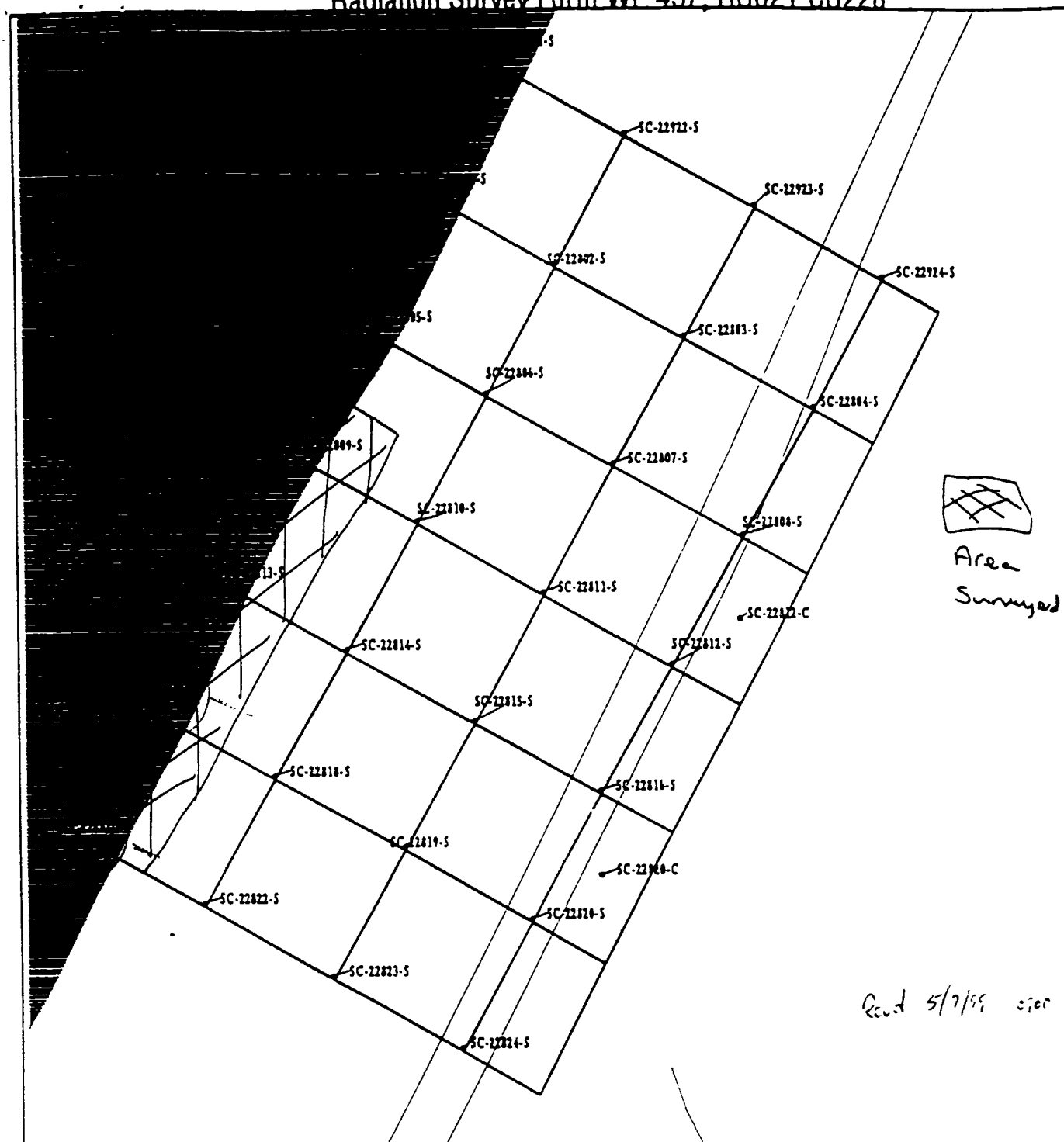
| | |
|---|---|
| Meter Model#: 2221 | Detector Model#: 2x2 NaI "F" |
| Meter Serial#: 127252 | Detector Serial#: 122191 |
| Calibration Due: 8-27-99 | Calibration Due: 8-11-99 |
| Survey Date/Time: 4-13-99 | Field Bkg.: 8000 cpm |

Surveyor(s): C. Hanner & T. Brauer

Comments: Area surveyed and found to be less than 1.5 times background

SAMPLED 4/14/99

# Radiation Survey Form WP 437, RU021 CU228




Rcvd 5/7/99 0700

WSSRAP GIS

15 7.5 0 METERS

45 22.5 0 FEET

Meter Model#: 2221

Detector Model#: 2x2 NaI "M"

Meter Serial#: 106696

Detector Serial#: 130764

Calibration Due: 12-1-99

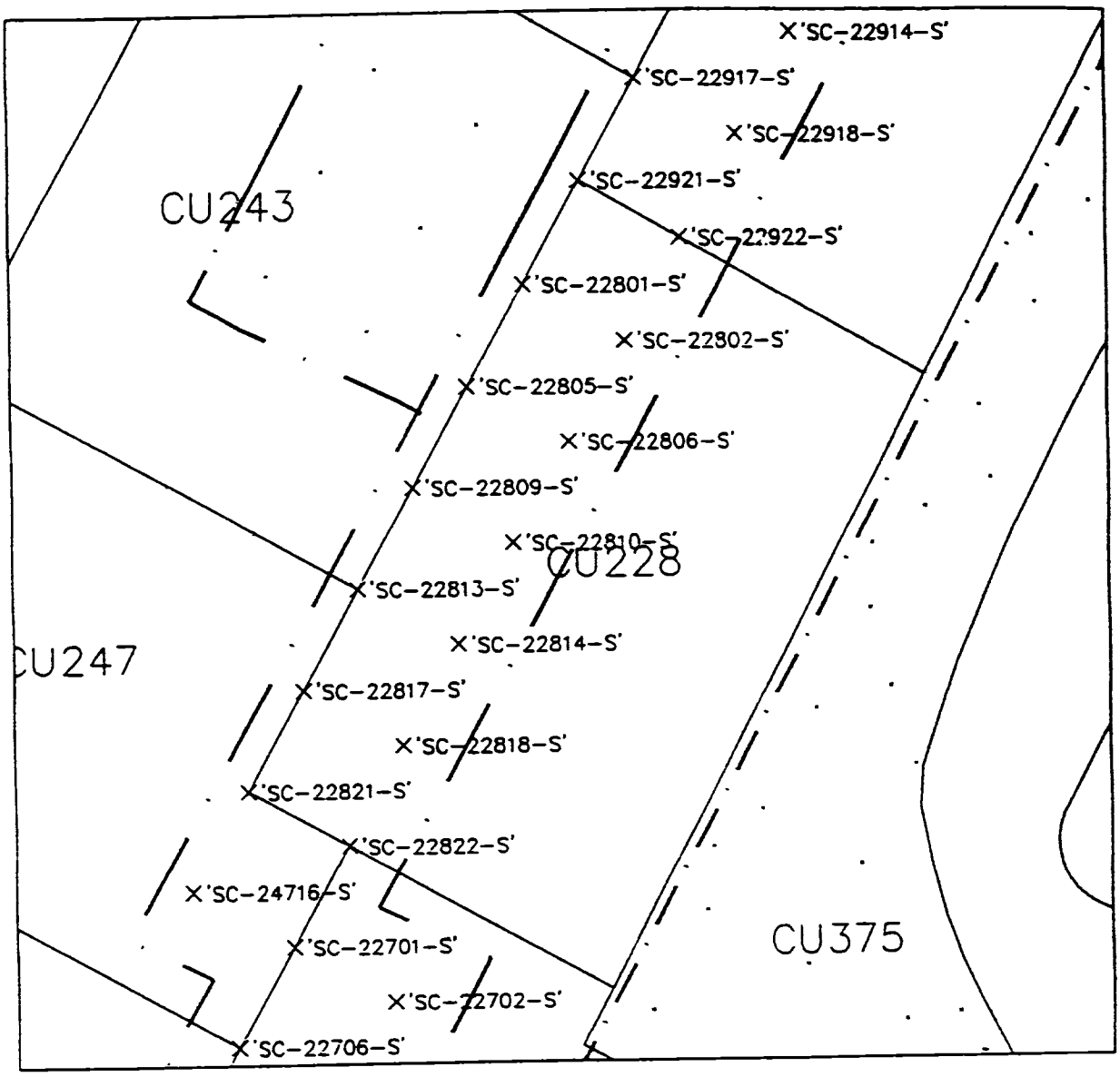
Calibration Due: 7-21-99

Survey Date/Time: 5/6/99

Field Bkg.: 6000 Cpm

Surveyor(s): C. Hanner

Comments: Area was surveyed and found to be less than 1.5 times background




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

— · — · — PINNING LIMITS

Rcvd 7/16/99
6720 (Sampled 7/15)

Radiation Survey Form WP 437, RU 21 CU 228

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | NaI "2x2" |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Due: | 12-18-99 | Calibration Due: | 1-24-00 |
| Survey Date / Time: | 07-14-99 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | J. Rankins | | |
| Comments: | All meas < 1.5 BKG | | |

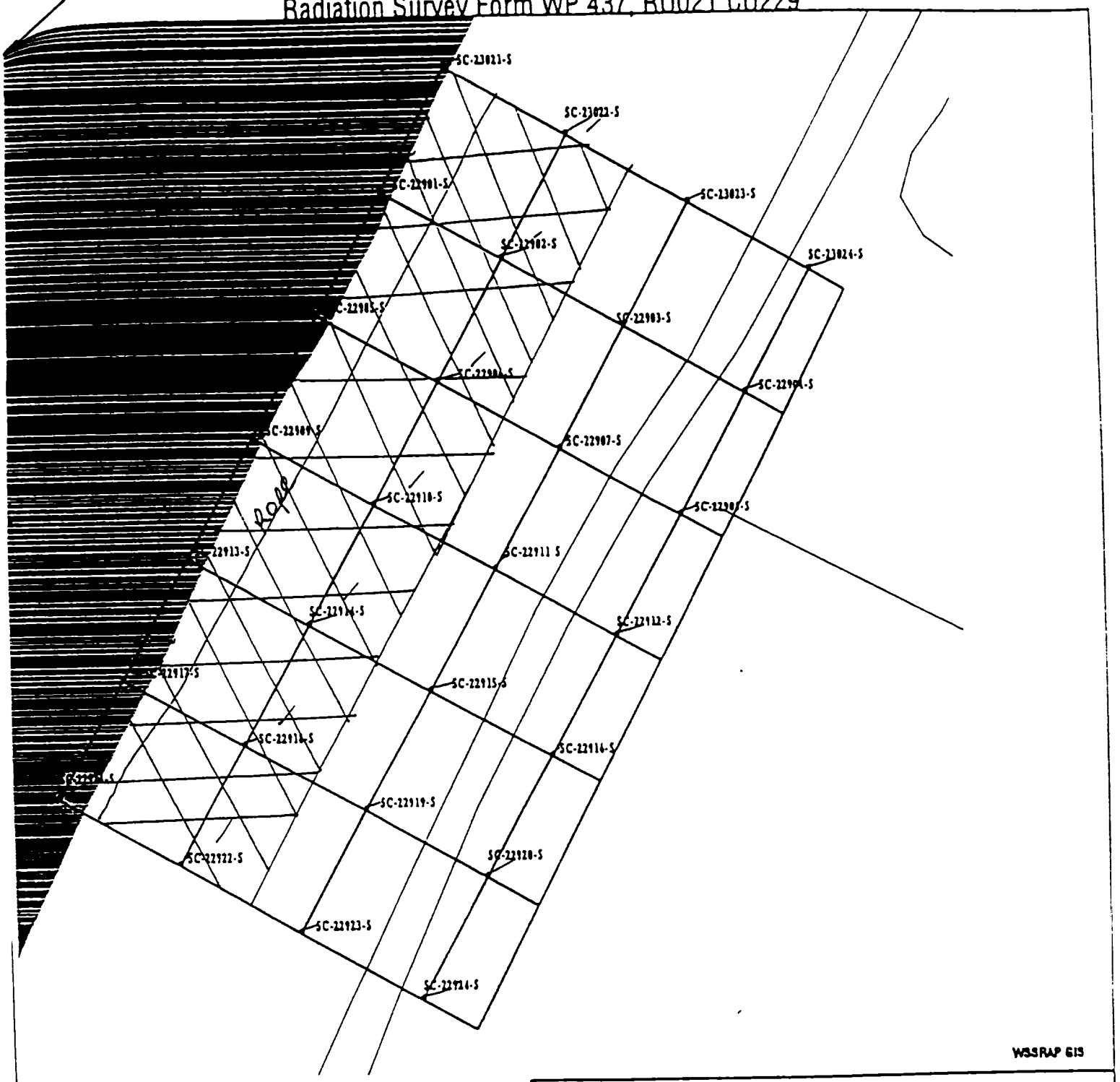
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.

# Radiation Survey Form WP 437, BU021 CU229




WSSRAP GIS

15 7.5 0 METERS

45 22.5 0 FEET

Meter Model#: 2221

Meter Serial#: 4536

Calibration Due: 8-27-99

Survey Date/Time: 3/18/99 0900

Surveyor(s): Tim Brewer

Detector Model#: 44-10

Detector Serial#: 4240

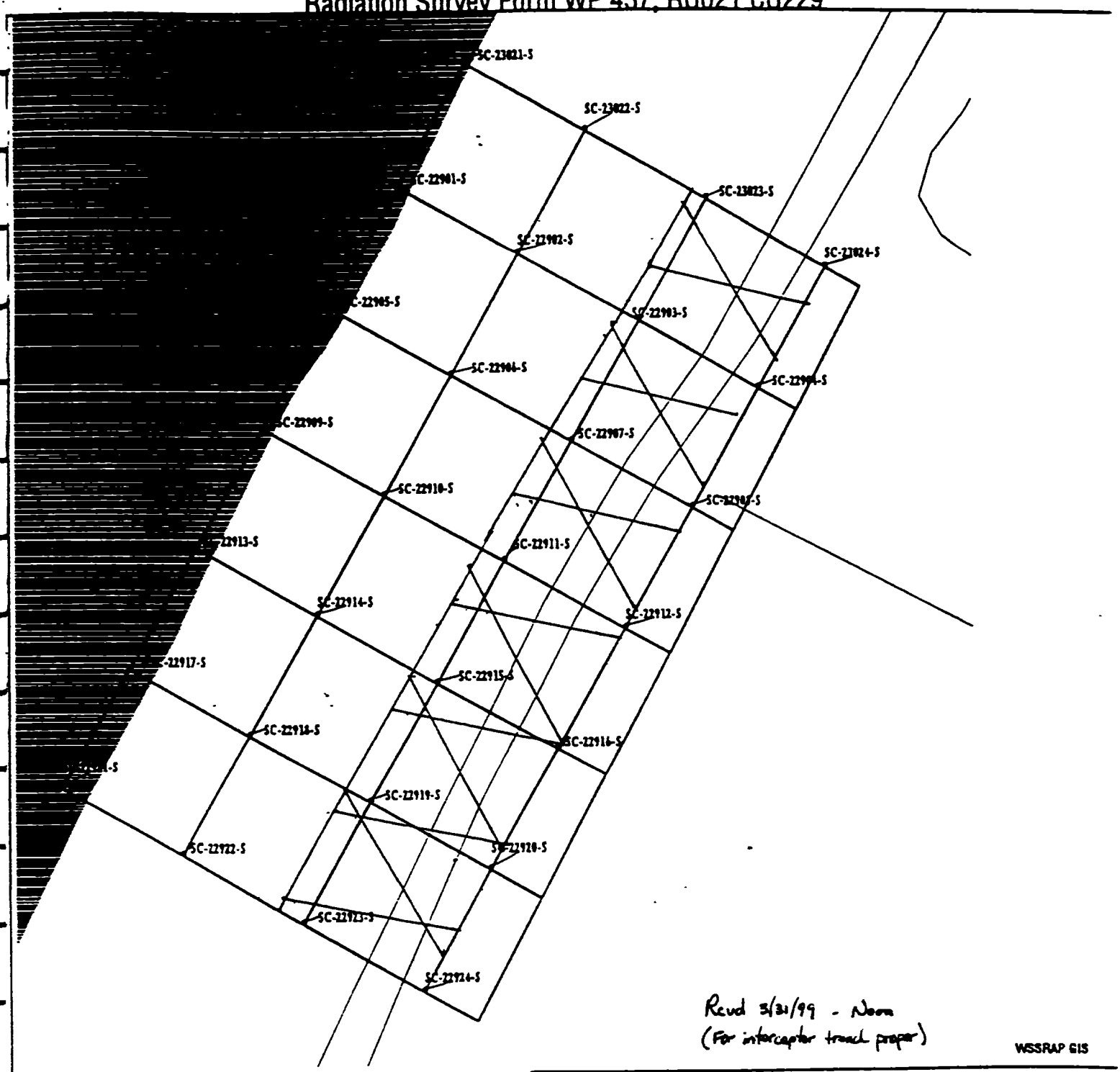
Calibration Due: 8-11-99

Field Bkg.: 20,000

Comments: All above areas surveyed & found to be < 1½ times background

Road off 3/27/99 KAA

# Radiation Survey Form WP 437, RU021 CU229




Rcvd 3/31/99 - Norm
(For interceptor trench proper)

WSSRAP GIS

15 7.5 0 METERS

45 22.5 0 FEET

Meter Model#: 2221

Meter Serial#: 127252

Calibration Due: 8-27-99

Survey Date/Time: 3/31/99/0800

Surveyor(s): T. Brower + C. Hamner

Comments: All reading <1.5 x background

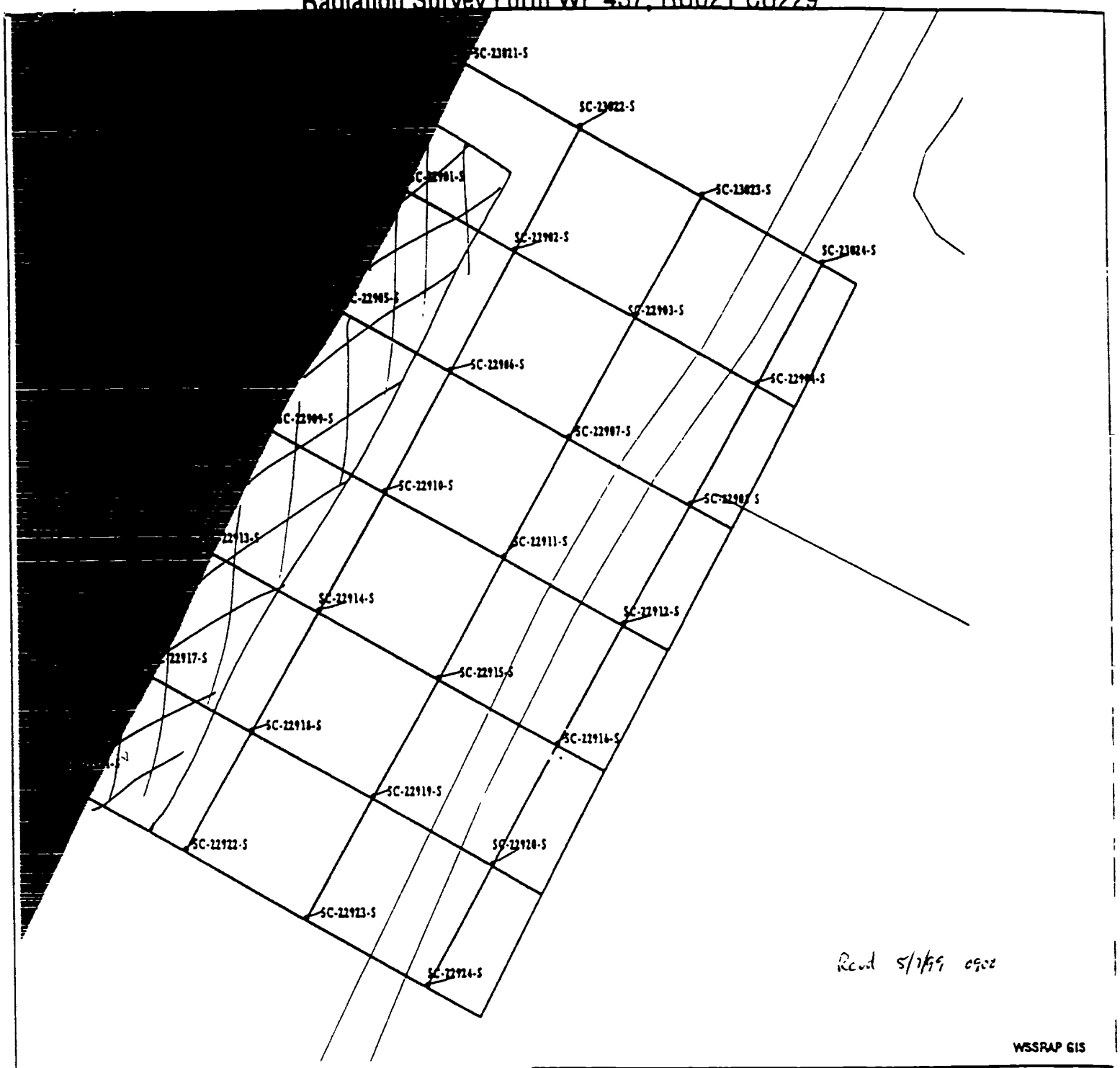
Detector Model#: 2x2

Detector Serial#: 122191

Calibration Due: 8-11-99

Field Bkg.: 10,000

# Radiation Survey Form WP 437, BU021 CU229




Rcvd 5/7/99 0900

WSSRAP GIS

15 7.5 0 METERS

45 22.5 0 FEET

Meter Model#: 2221

Meter Serial#: 106696

Calibration Due: 12-1-99

Survey Date/Time: 5/6/99

Surveyor(s): C. Hanner

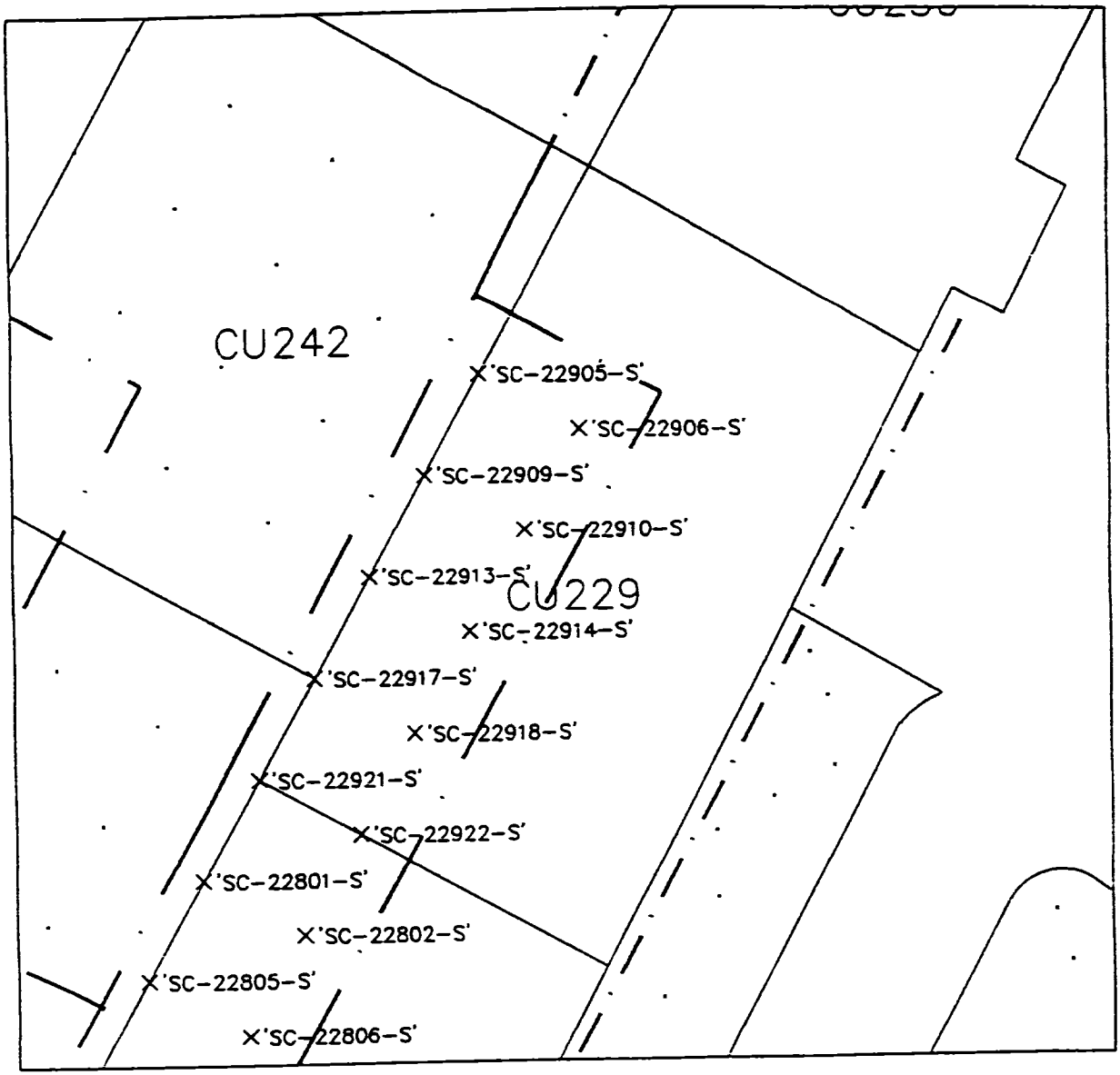
Detector Model#: 2x2 NaI "n"

Detector Serial#: 130764

Calibration Due: 7-21-99

Field Bkg.: 6000 cpm

Comments: Area was surveyed and found to be less than 1.5 times background




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

Rcvd 7/16/99

072C (Sampled 7/15/99)

229

Radiation Survey Form WP 437, RU 21 CU _____

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | NaI "2-2" |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Due: | 12-18-99 | Calibration Due: | 1-24-00 |
| Survey Date / Time: | 07-14-99 | Field Bkg.: | 18,000 cpm |
| Surveyor(s): | J. [illegible] | | |
| Comments: | All areas < 1.5 BKG. | | |

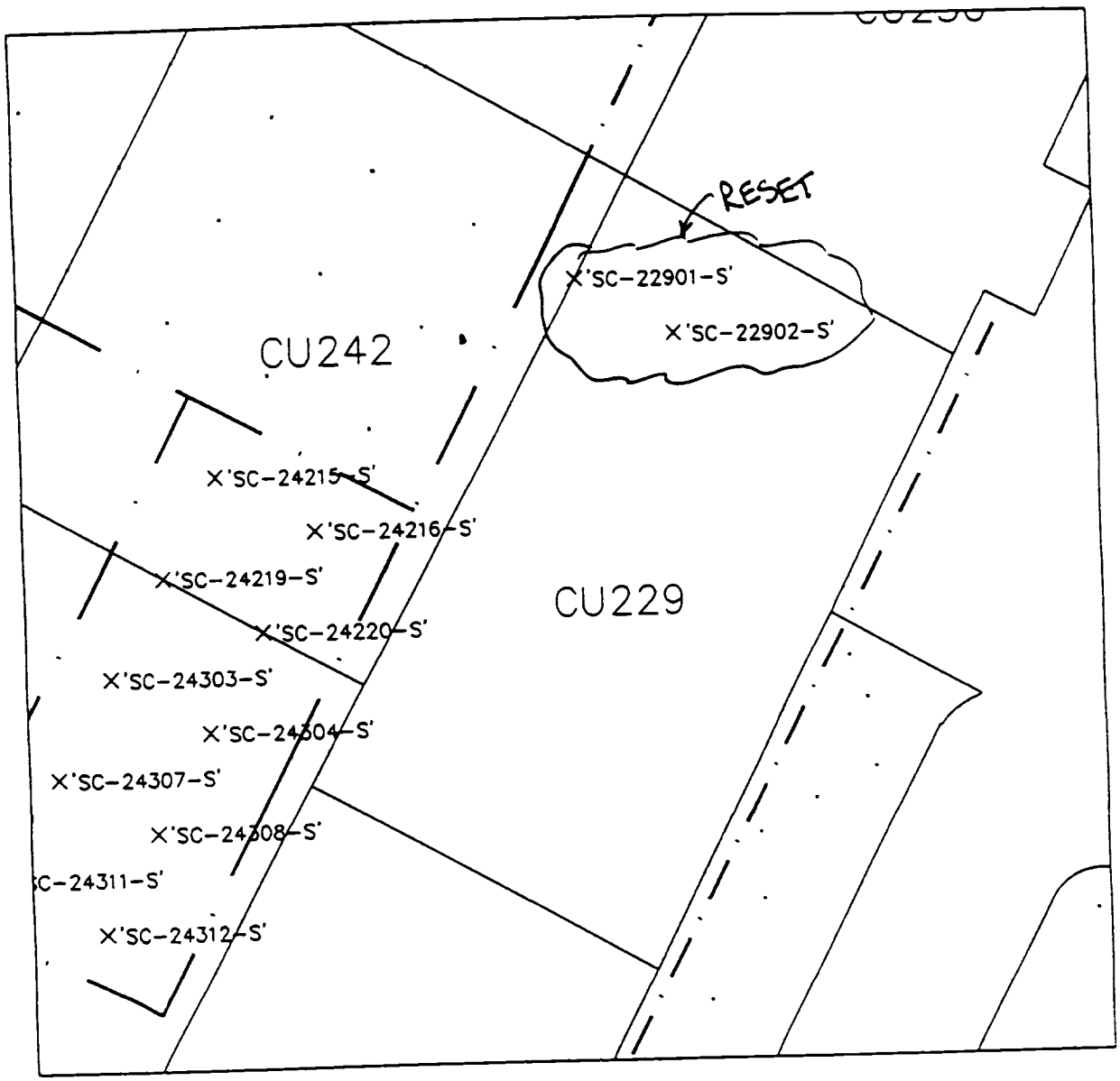
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.




Rcvd 7/16/99

LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 229

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model # | 2221 | Detector Model #: | 2x2 "G" |
| Meter Serial # | 127247 | Detector Serial # | 4241 |
| Calibration Due: | 9/25/99 | Calibration Due: | 1/24/00 |
| Survey Date / Time: | 7/15/99 | Field Bkg. | 8,000 CPM |
| Surveyor(s): | T. Brown | | |
| Comments: | All readings 4.5 BKg | | |

N

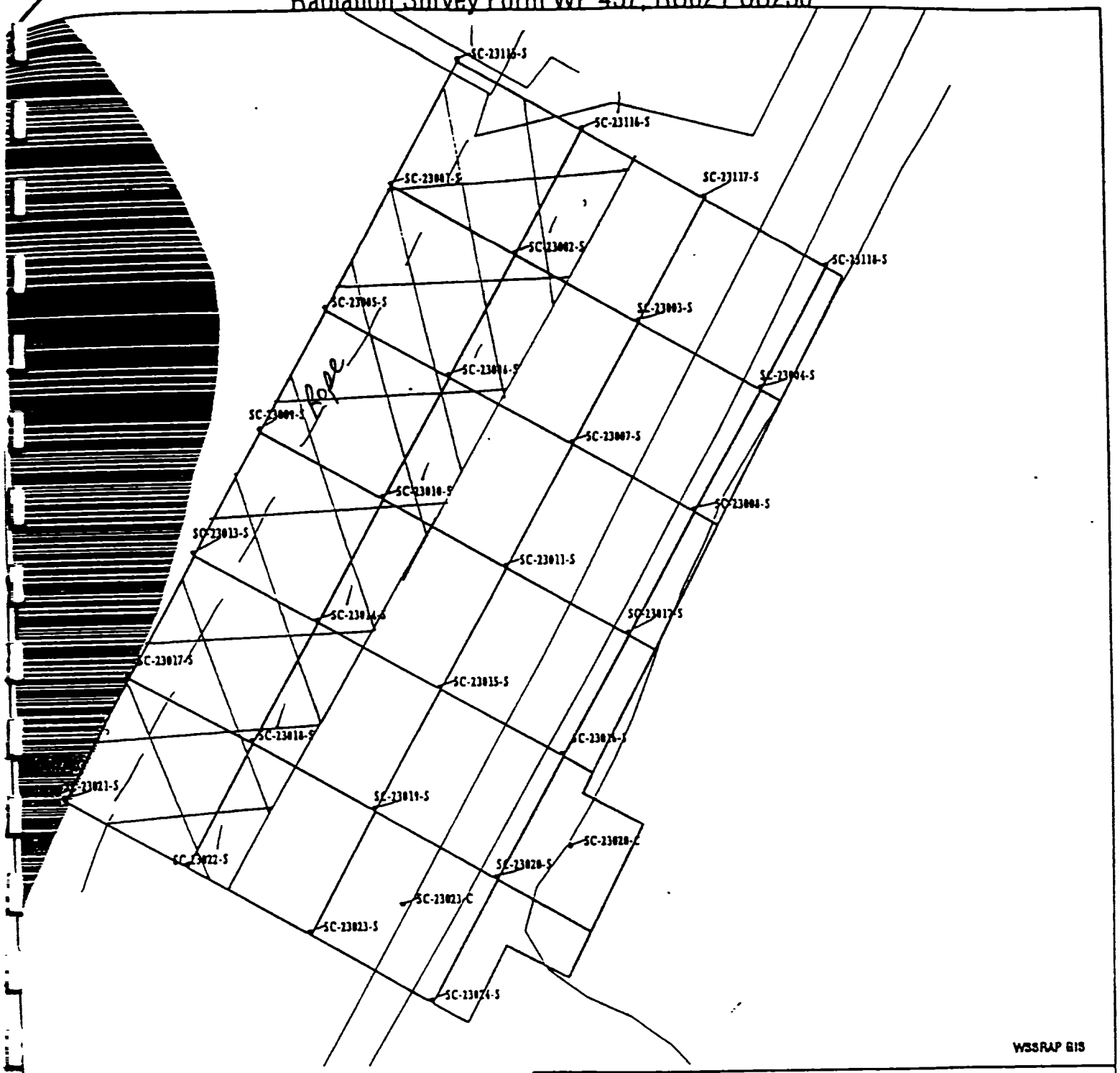
GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.

# Radiation Survey Form WP 437, RU021 CU230




WSSRAP GIS

15 7.5 0 METERS

45 22.5 0 FEET

Meter Model#: 2221 Detector Model#: 44-10

Meter Serial#: 4536 Detector Serial#: 4240

Calibration Due: 8-27-99 Calibration Due: 8-11-99

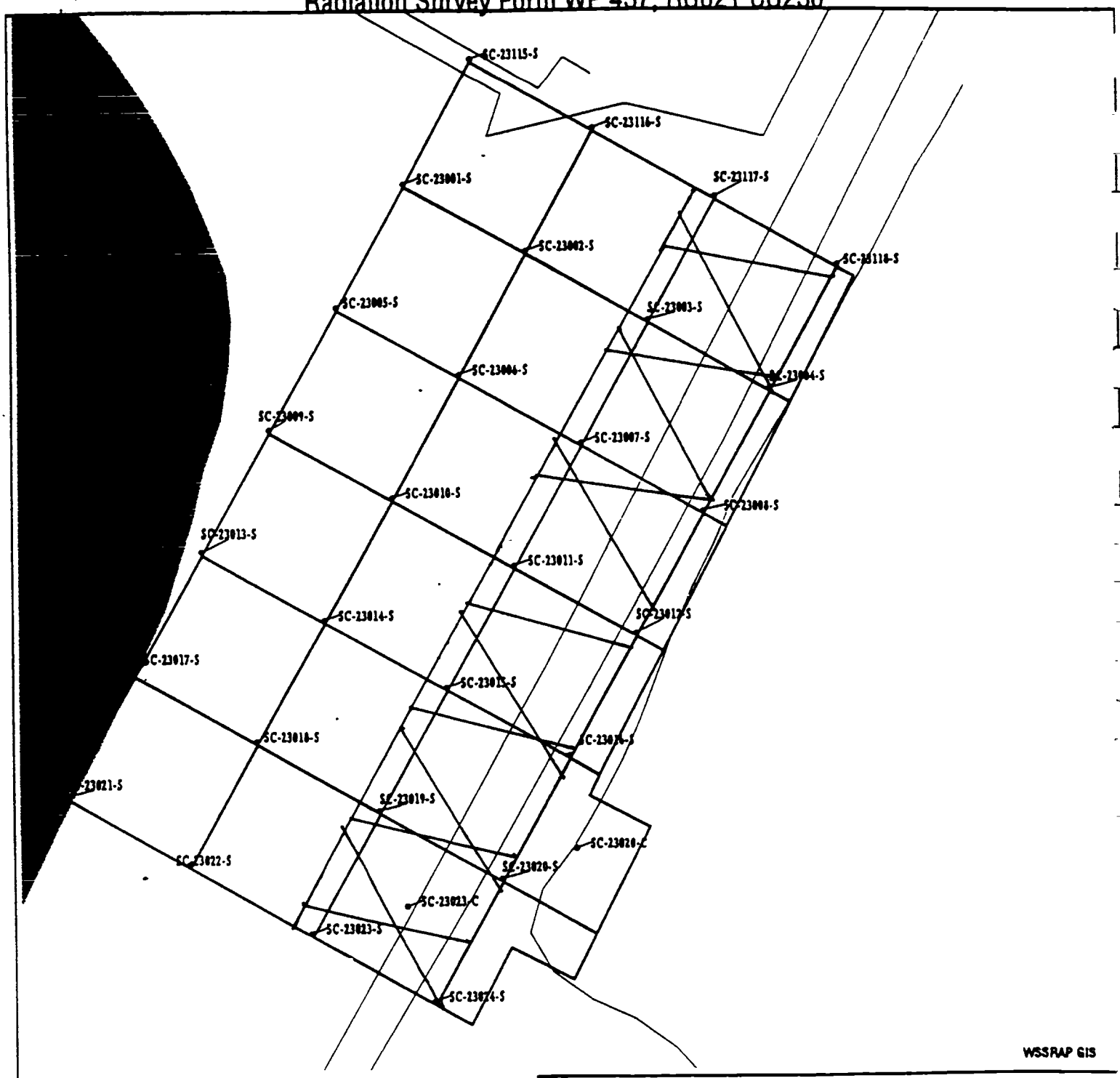
Survey Date/Time: 3/18/99 0900 Field Bkg.: 20,000 CPM

Surveyor(s): Tim Brower

Comments: All above areas surveyed & found to be less than 1½ times background

Rope off 3/27/99 [illegible]

# Radiation Survey Form WP 437, RU021 CU230




WSSRAP GIS

15 7.5 0 METERS

45 22.5 0 FEET

N E S

Meter Model#: 2221 Detector Model#: 2x2

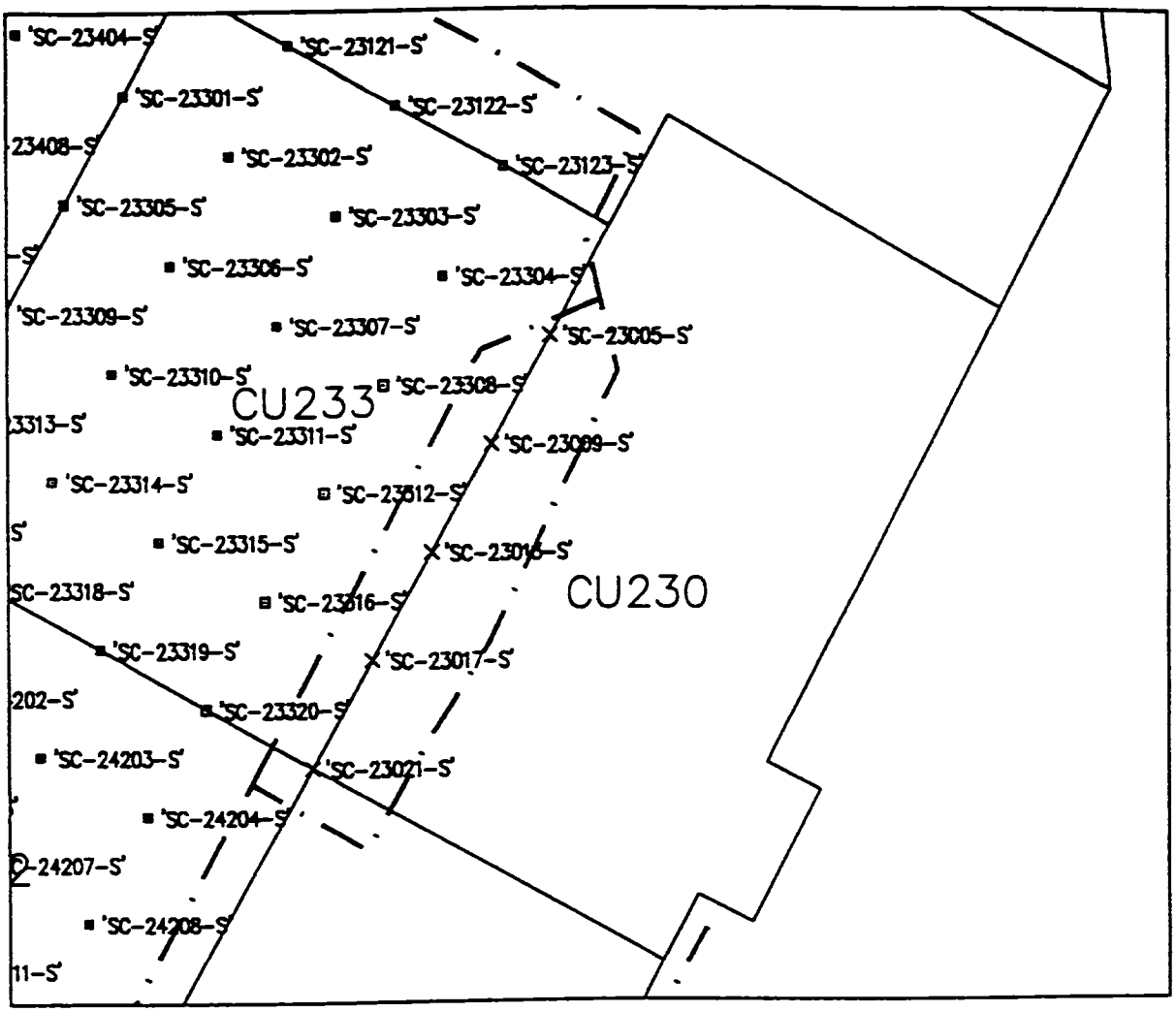
Meter Serial#: 127252 Detector Serial#: 122191

Calibration Due: 8-27-99 Calibration Due: 8-11-99

Survey Date/Time: 3/31/99 0800 Field Bkg.: 10,000

Surveyor(s): T. Brower & C. Hanner

Comments: All reading <1.5 x background




## LEGEND

- ▪ 'SC-32606-S' SAMPLE POINTS NOT PINNED
- × 'SC-32606-S' SAMPLE POINTS PINNED
- — · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 230

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 F |
| Meter Serial #: | 127252 | Detector Serial #: | |
| Calibration Date: | 8-27-99 | Calibration Date: | 8-11-99 |
| Survey Date / Time: | 5/28/99 | Field Bkg.: | 5,000 cpm |
| Surveyor(s): | T. Brown | | |
| Comments: | All readings < 1.5 times Bkg | | |

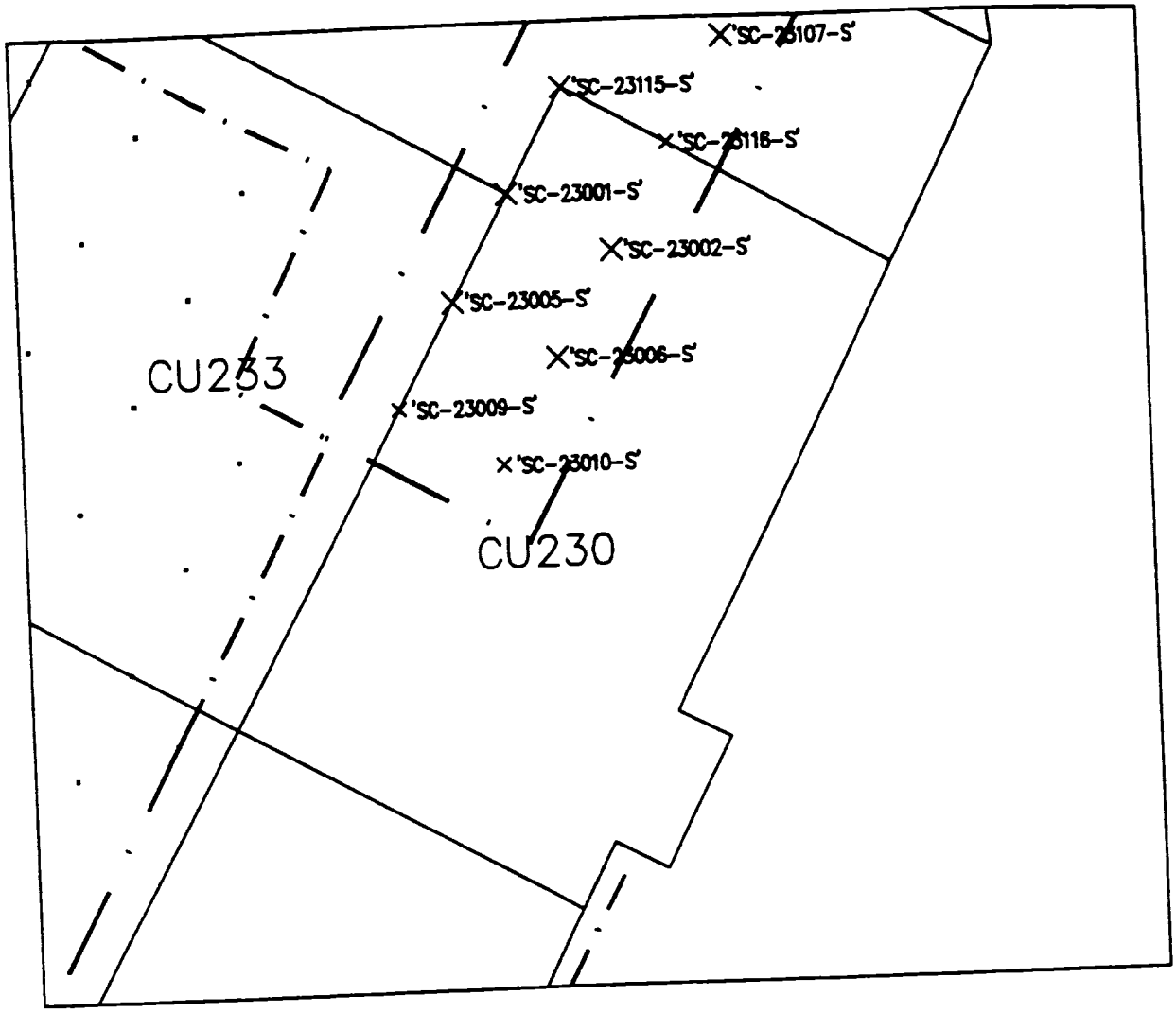
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.




LEGEND

- 'SC-32606-S' SAMPLE POINTS NOT PINNED
- × 'SC-32606-S' SAMPLE POINTS PINNED
- — · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 230

DEO CAD

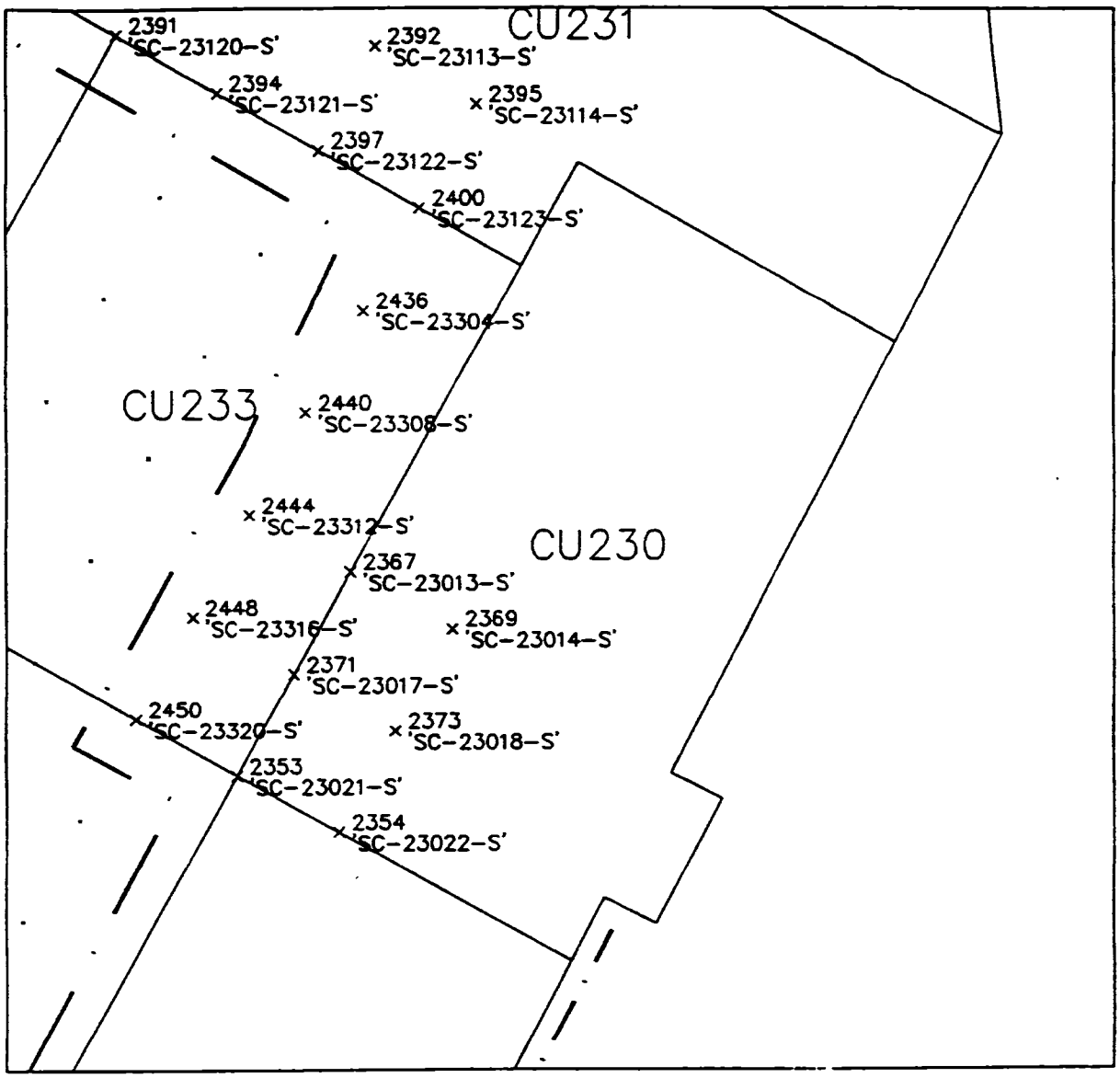
| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 G |
| Meter Serial #: | 127247 | Detector Serial #: | 122192 |
| Calibration Due: | 9/25/99 | Calibration Due: | 1/24/00 |
| Survey Date / Time: | 6/22/99 | Field Bkg.: | 9,000 cpm |
| Surveyor(s): | T. Brewer | | |
| Comments: | All readings <1.5 Bkg | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

SAMPLE POINTS NOT PINNED

×'SC-32606-S' SAMPLE POINTS PINNED

— · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 230

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "G" |
| Meter Serial #: | 127247 | Detector Serial #: | 4241 |
| Calibration Due: | 1/25/99 | Calibration Due: | 1/24/00 |
| Survey Date / Time: | 7/16/99 | Field Bkg.: | 8,000 CPM |
| Surveyor(s): | T. Brewer | | |
| Comments: | All readings <1.5 BKG | | |

N

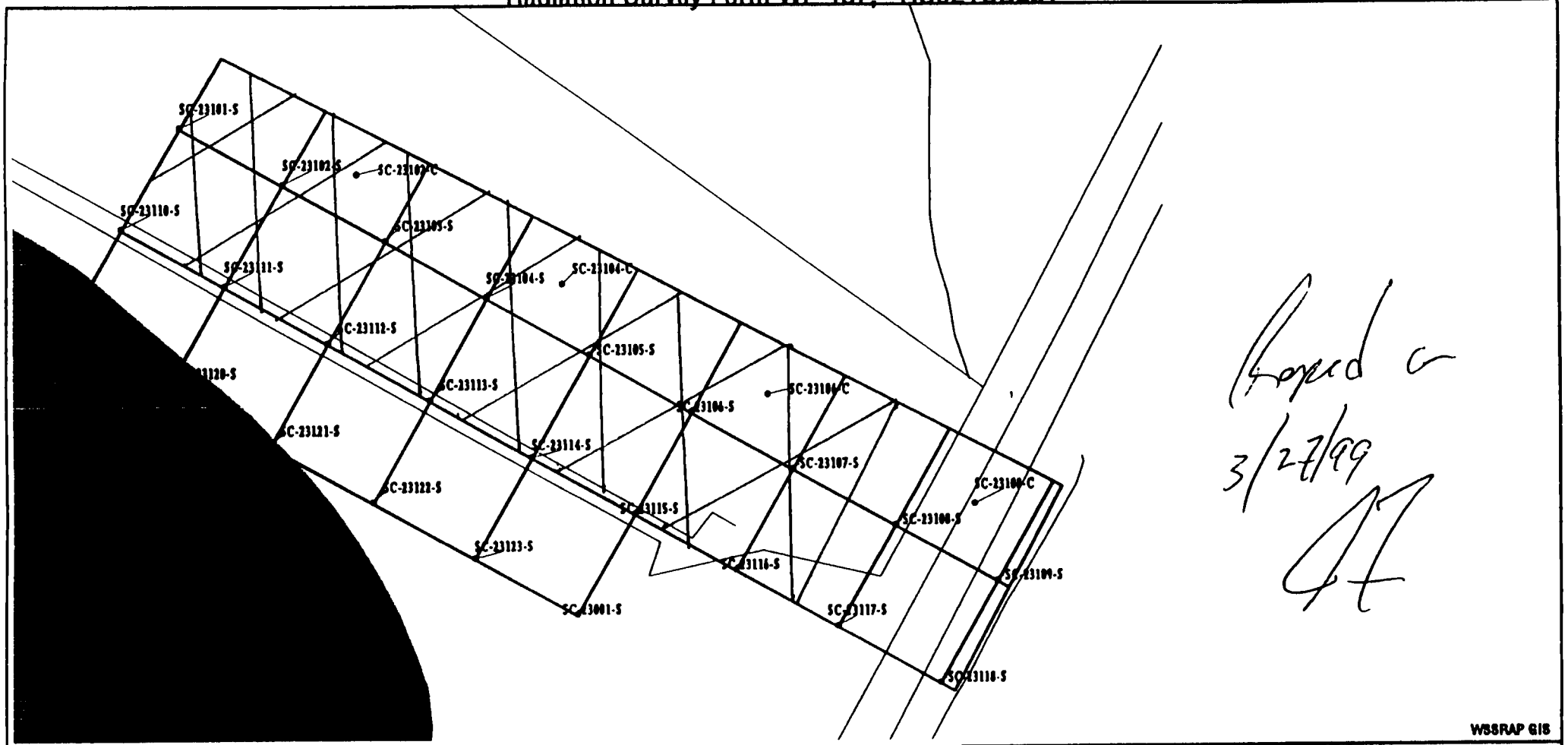
GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.

# Radiation Survey Form WP 437, RU021CU231




Cleared 3/27/99

15 7.5 0 15 METERS

45 22.5 0 45 FEET

N W E S

Meter Model#: 2221 Detector Model#: 44-10

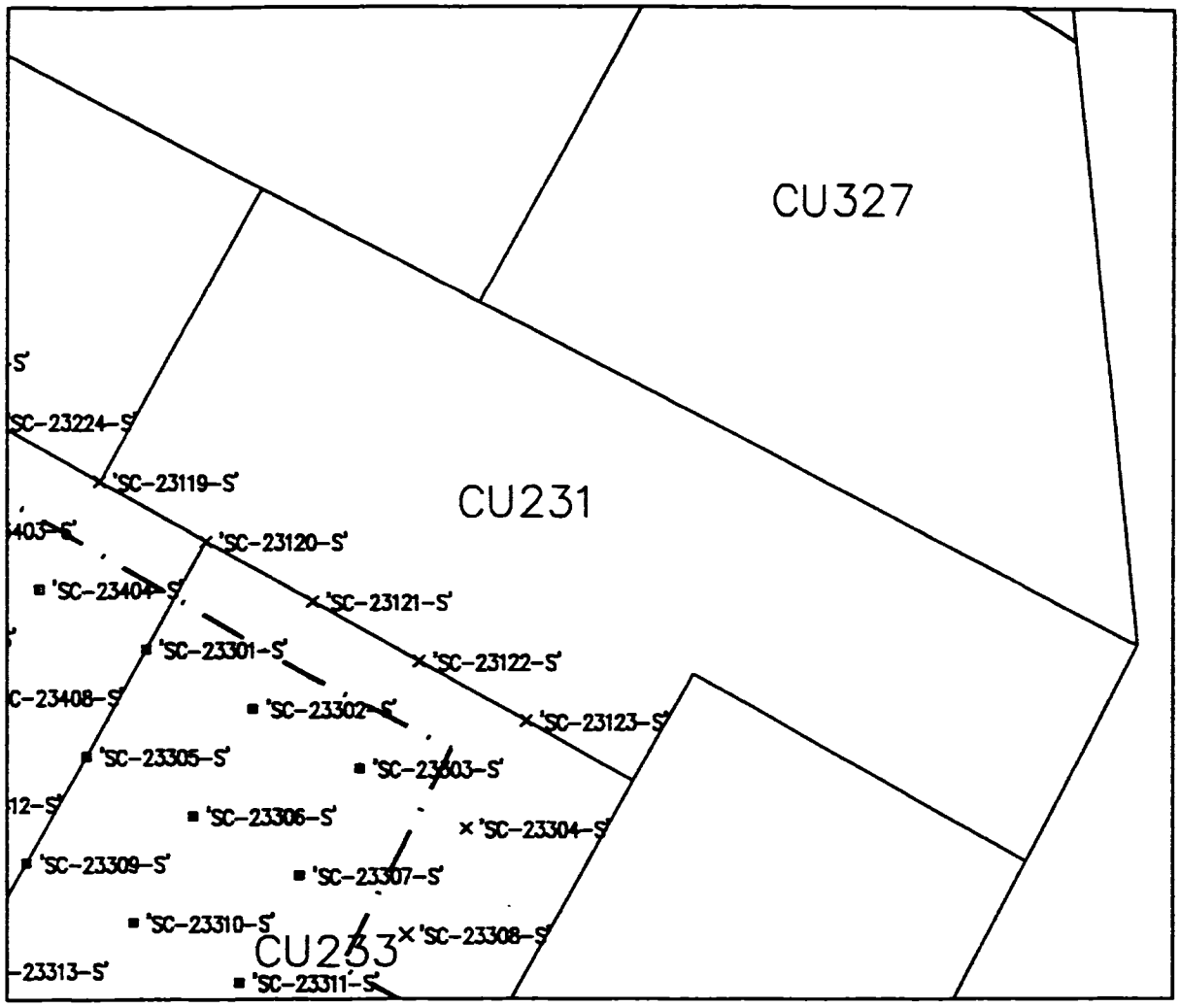
Meter Serial#: 4236 Detector Serial#: 4240

Calibration Due: 8-27-99 Calibration Due: 8-11-99

Survey Date/Time: 3/18/99 0900 Field Bkg.: 20,000 CPM

Surveyor(s): Tim Brewer

Comments: All above areas surveyed & found to be < 1½ times background




## LEGEND

- ■ 'SC-32606-S' SAMPLE POINTS NOT PINNED
- × 'SC-32606-S' SAMPLE POINTS PINNED
- — · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 231

DBO CAD

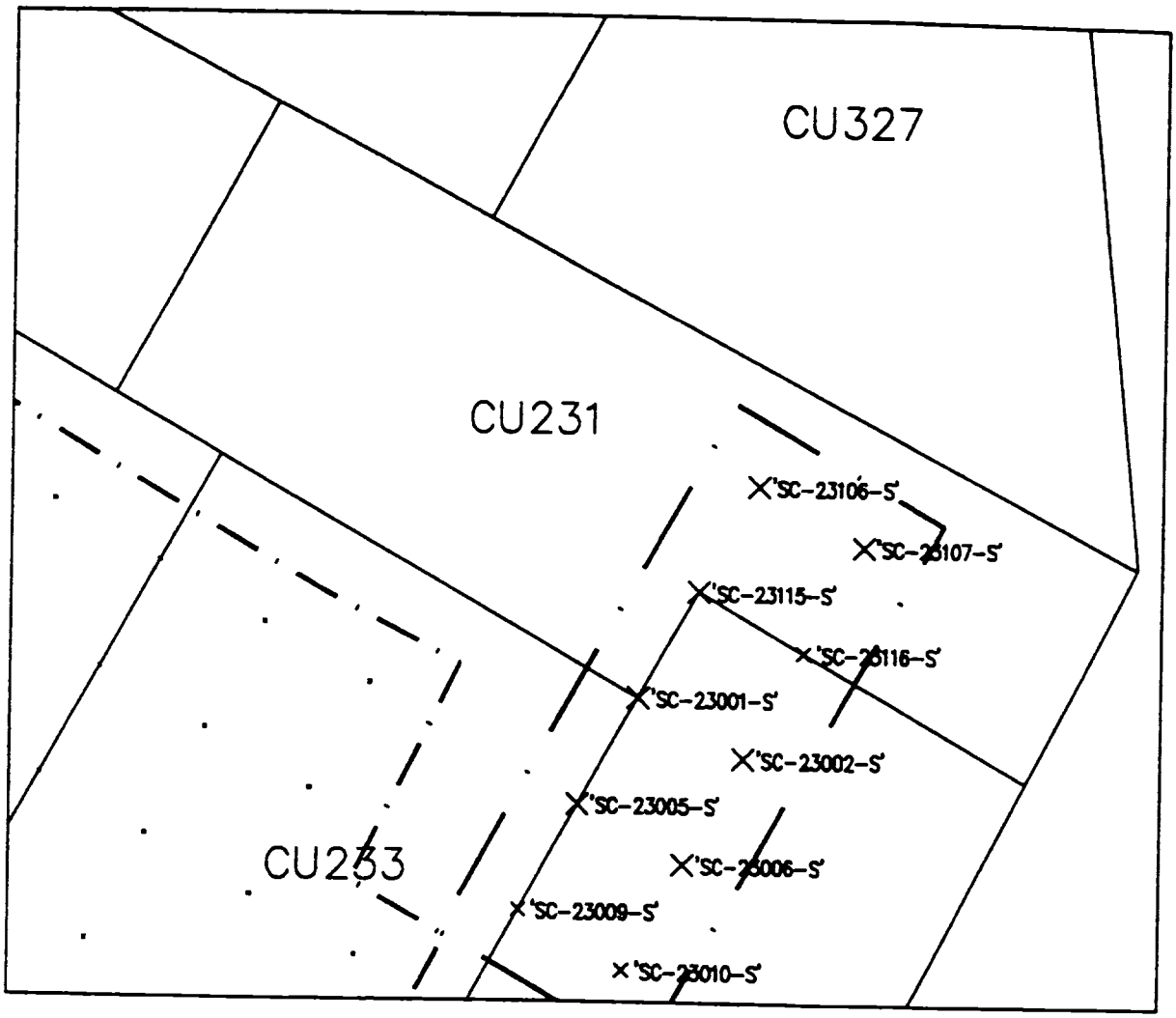
| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 L |
| Meter Serial #: | 125435 | Detector Serial #: | 130763 |
| Calibration Date: | 12/20/99 | Calibration Date: | 8/11/99 |
| Survey Date / Time: | 6/4/99 | Field Bkg.: | 6000 cpm |
| Surveyor(s): | T. Brown / J. Rankins | | |
| Comments: | All readings < 1.5 times Bkg. | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

· 'SC-32606-S' SAMPLE POINTS NOT PINNED
× 'SC-32606-S' SAMPLE POINTS PINNED
— · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 231

DEO CAD

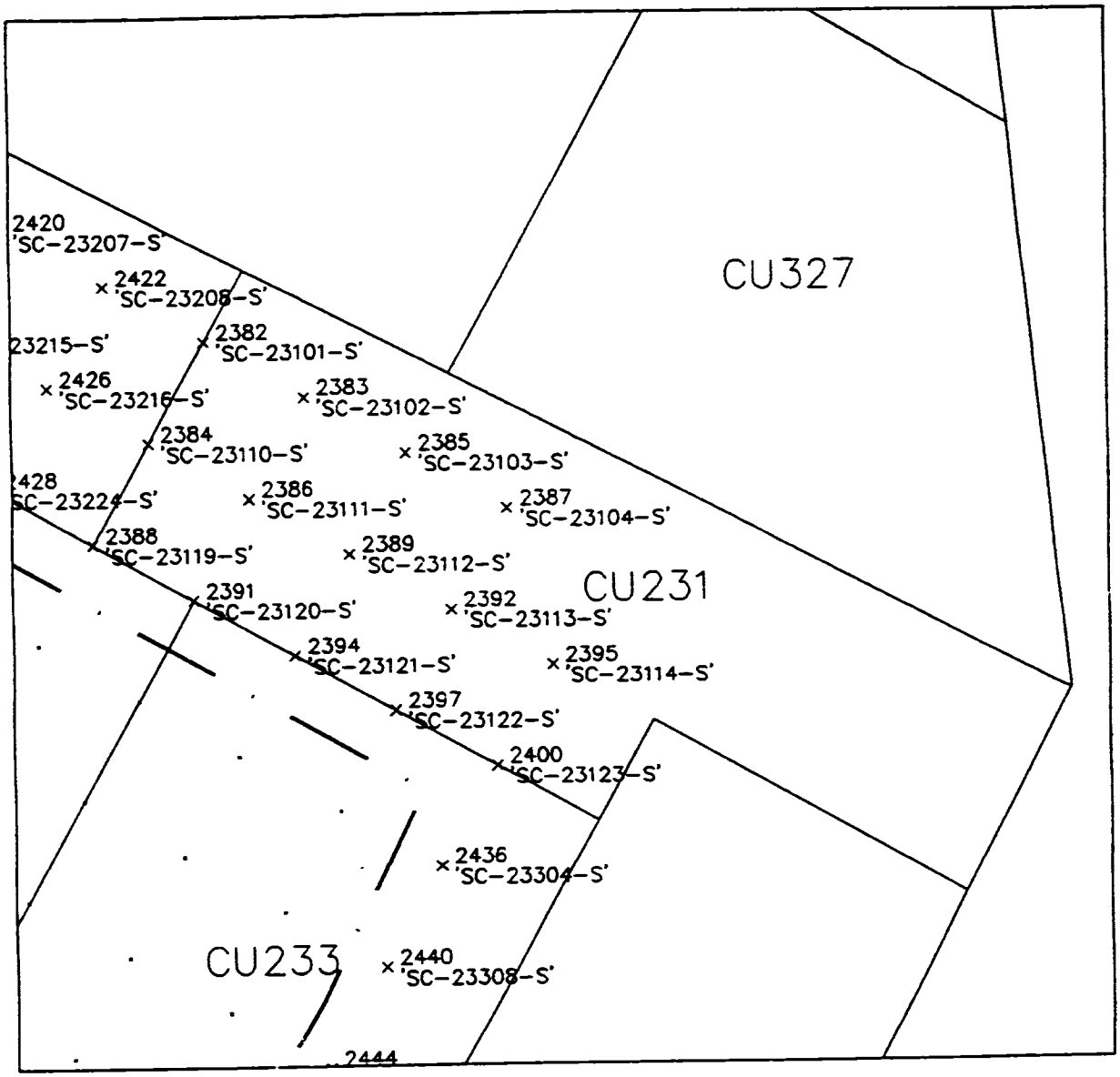
| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 G |
| Meter Serial #: | 127247 | Detector Serial #: | 122192 |
| Calibration Due: | 9/25/99 | Calibration Due: | 1/24/00 |
| Survey Date / Time: | 6/22/99 | Field Bkg.: | 9,000 CPM |
| Surveyor(s): | T. Brewer | | |
| Comments: | All readings <1.5 BKg | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

SAMPLE POINTS NOT PINNED

×'SC-32606-S' SAMPLE POINTS PINNED

— · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 231

DHO CAD

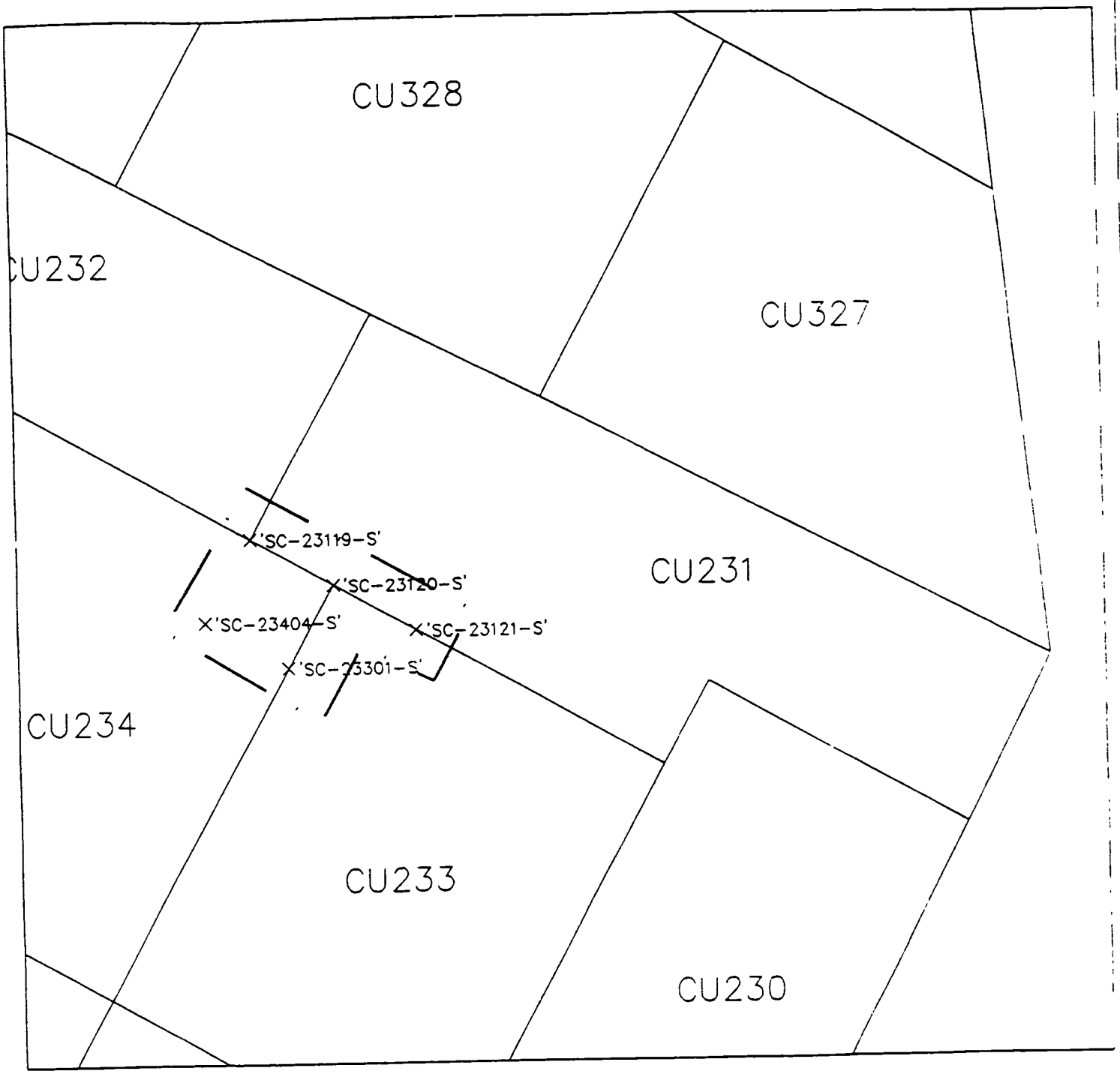
| | | | |
|---|---|---|---|
| Meter Model # : | 2221 | Detector Model #: | 2x2"6" |
| Meter Serial # : | 127247 | Detector Serial #: | 4241 |
| Calibration Due: | 1/25/99 | Calibration Due: | 1/24/00 |
| Survey Date / Time: | 7/16/99 | Field Bkg.: | 8,000 CPM |
| Surveyor(s): | T. Brower | | |
| Comments: | All readings <1.5 Bkg | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

| | |
|---|---|
| · | SAMPLE POINTS NOT PINNED |
| ×'SC-32606-S' | SAMPLE POINTS PINNED |
| — · — · — | PINNING LIMITS |

N

GRAPHIC SCALE

50 0 25 50

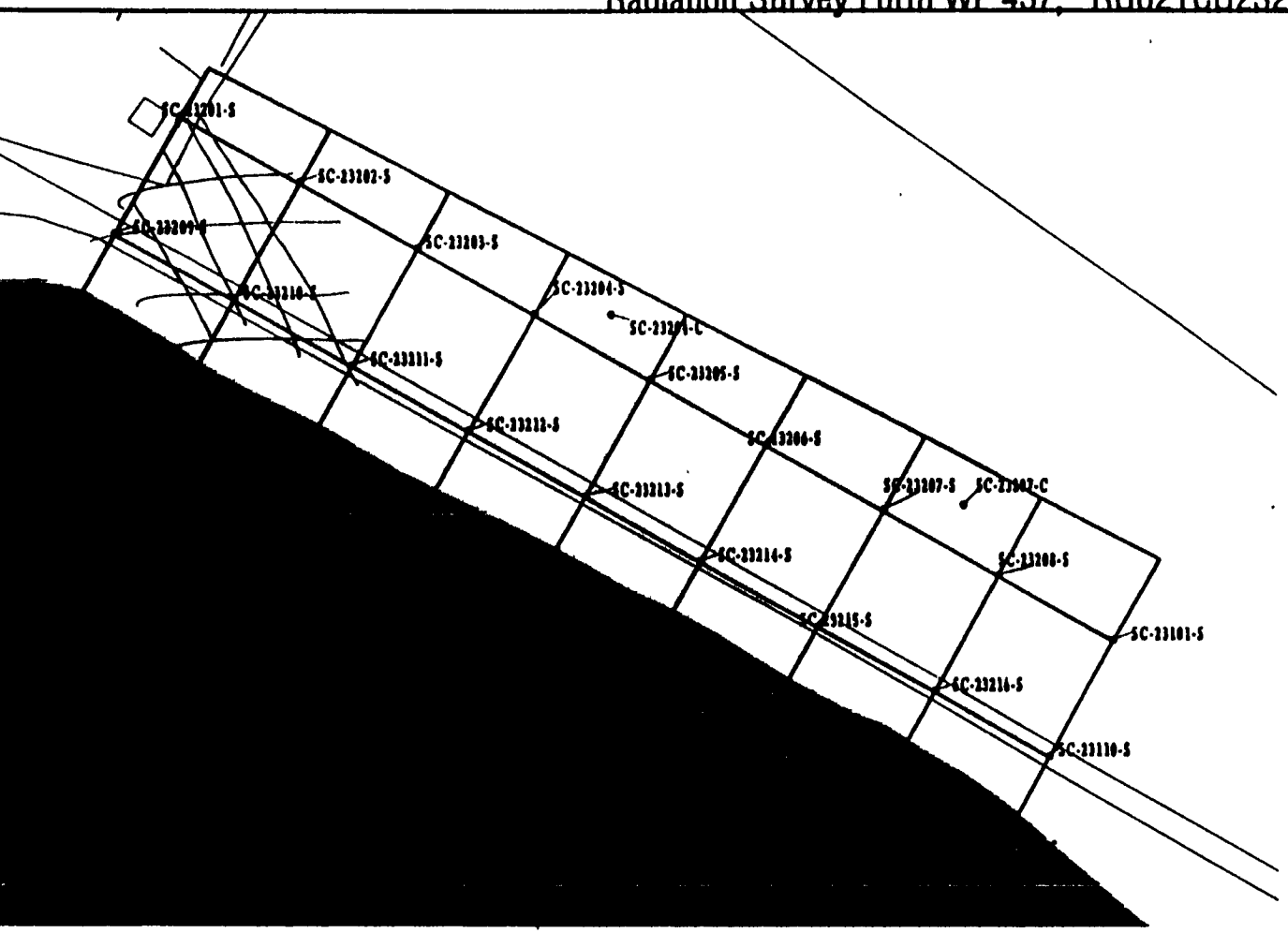
( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 231

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model # | 2221 | Detector Model # | 2-2 "G" |
| Meter Serial # | 127257 | Detector Serial # | DOE - 4241 |
| Calibration Due | 09-02-00 | Calibration Due | 01-24-00 |
| Survey Date / Time | 11-12-99 | Field Bkg. | 11,000 cpm |
| Surveyor(s) | J. Rankin | | |
| Comments | All meas < 1.5 BKG. | | |

# Radiation Survey Form WP 437, RU021CU232




WSSRAP GIS

15 7.5 0 15 METERS

45 22.5 0 45 FEET

N W E S

Meter Model#: 2221 | 2221 Detector Model#: 2x2 NaI M&O

Meter Serial#: 106696 | 4268 Detector Serial#: 130764 | 5779

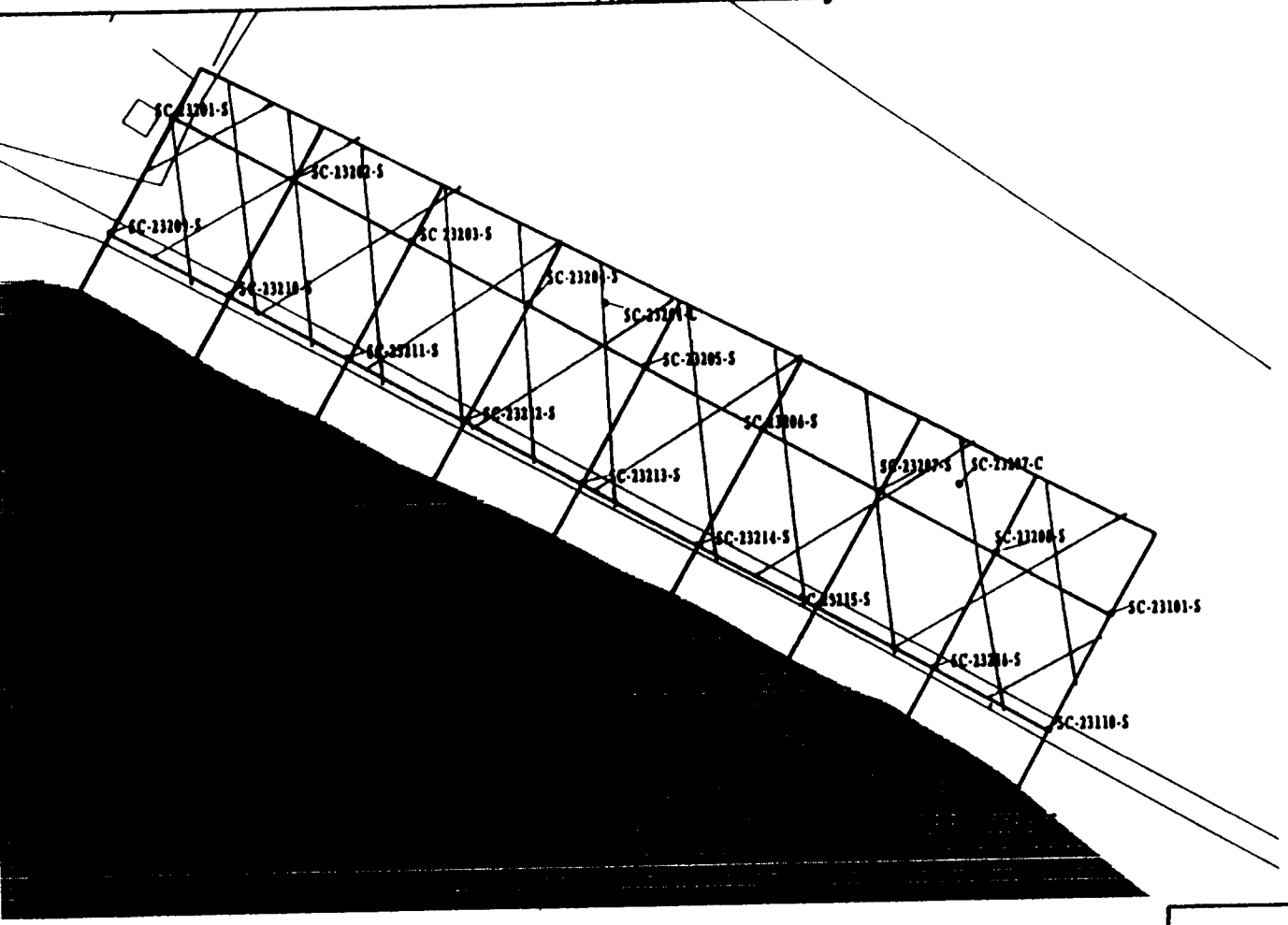
Calibration Due: 12-1-99 | 12-18-99 Calibration Due: 7-21-99 | 5-6-99

Survey Date/Time: 3/1/99 Field Bkg.: 18000 on Top 8500 on Face of Slope

Surveyor(s): C. Hanner & M. Medina

Comments: Area was surveyed and found to be less than 1.5 times background

# Radiation Survey Form WP 437, RU021CU232




Roped on 3/27/99
07

WSSRAP GIS

15 7.5 0 15 METERS

45 22.5 0 45 FEET

N W E S

Meter Model#: 2221 Detector Model#: 44-10

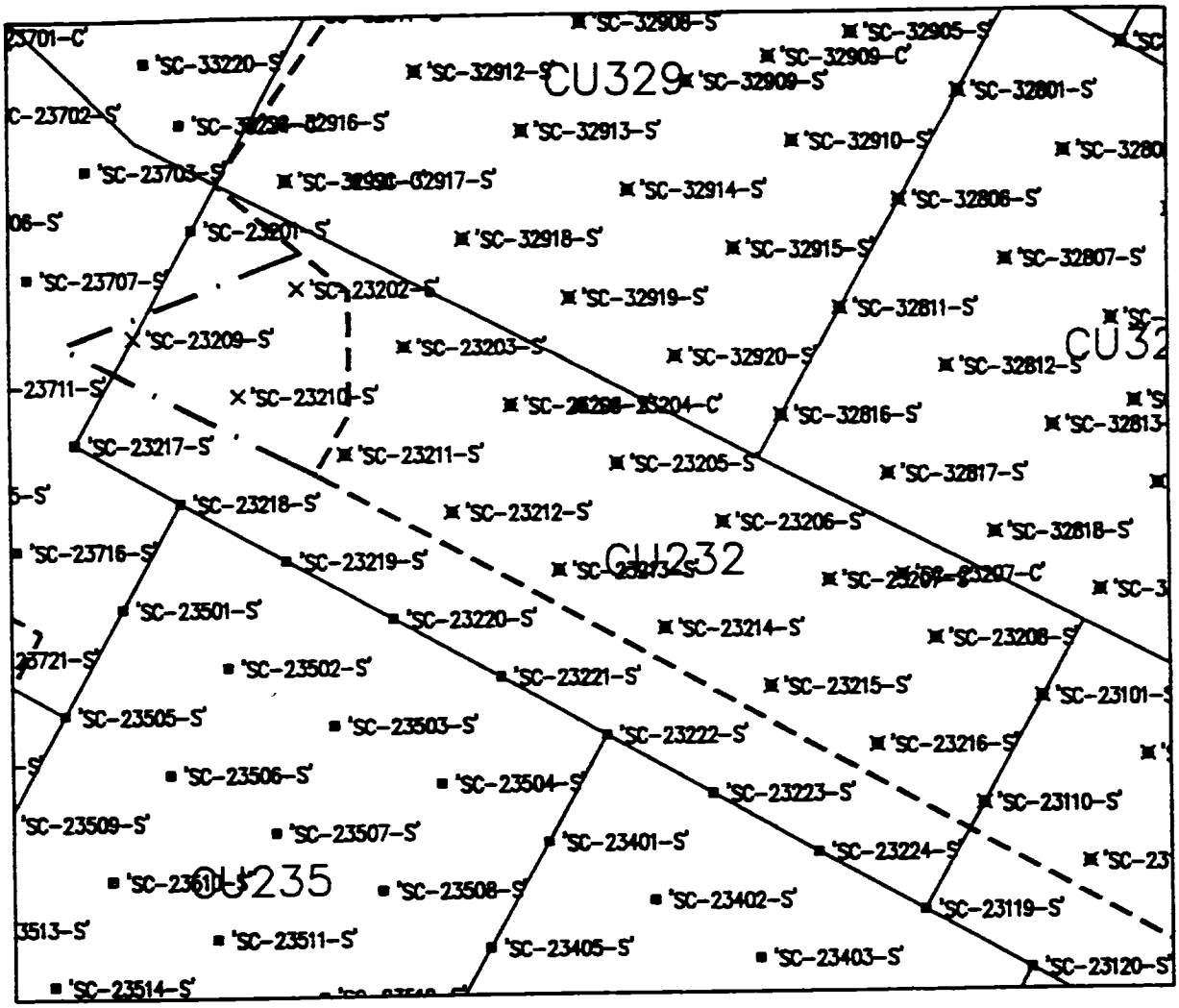
Meter Serial#: 4536 Detector Serial#: 4240

Calibration Due: 3/18/99 Calibration Due: 8/11/99

Survey Date/Time: 3/18/99 0900 Field Bkg.: 20,000 CPM

Surveyor(s): Tim Brower

Comments: All above areas surveyed & found to be < 1½ times background




## LEGEND

- ▪ 'SC-32606-S' SAMPLE POINTS NOT PINNED
- × 'SC-32606-S' SAMPLE POINTS PINNED
- ⌘ 'SC-32606-S' SAMPLE POINTS PREVIOUSLY PINNED AND CONFIRMED
- — — — — — CONFIRMED AREA
- — · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 232

DBO CAD

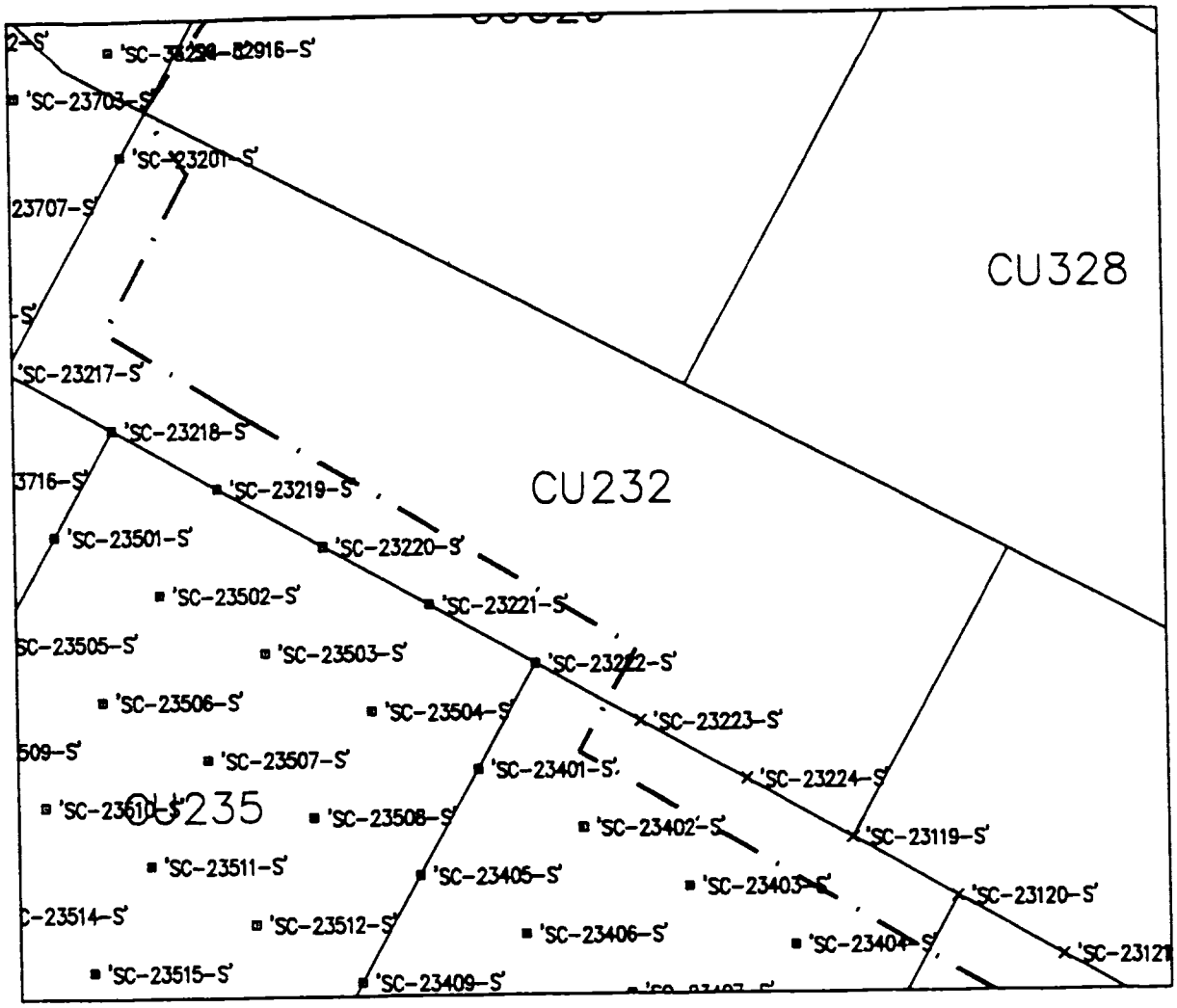
| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2221 |
| Meter Serial #: | 125435 | Detector Serial #: | 130763 |
| Calibration Date: | 12/20/99 | Calibration Date: | 8-11-99 |
| Survey Date / Time: | 5/24/99 | Field Bkg.: | 5000 cpm |
| Surveyor(s): | T. Bower | | |
| Comments: | All readings <1.5 times BKg | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

- ▪ 'SC-32606-S' SAMPLE POINTS NOT PINNED
- × 'SC-32606-S' SAMPLE POINTS PINNED
- — · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 232

DBO CAD

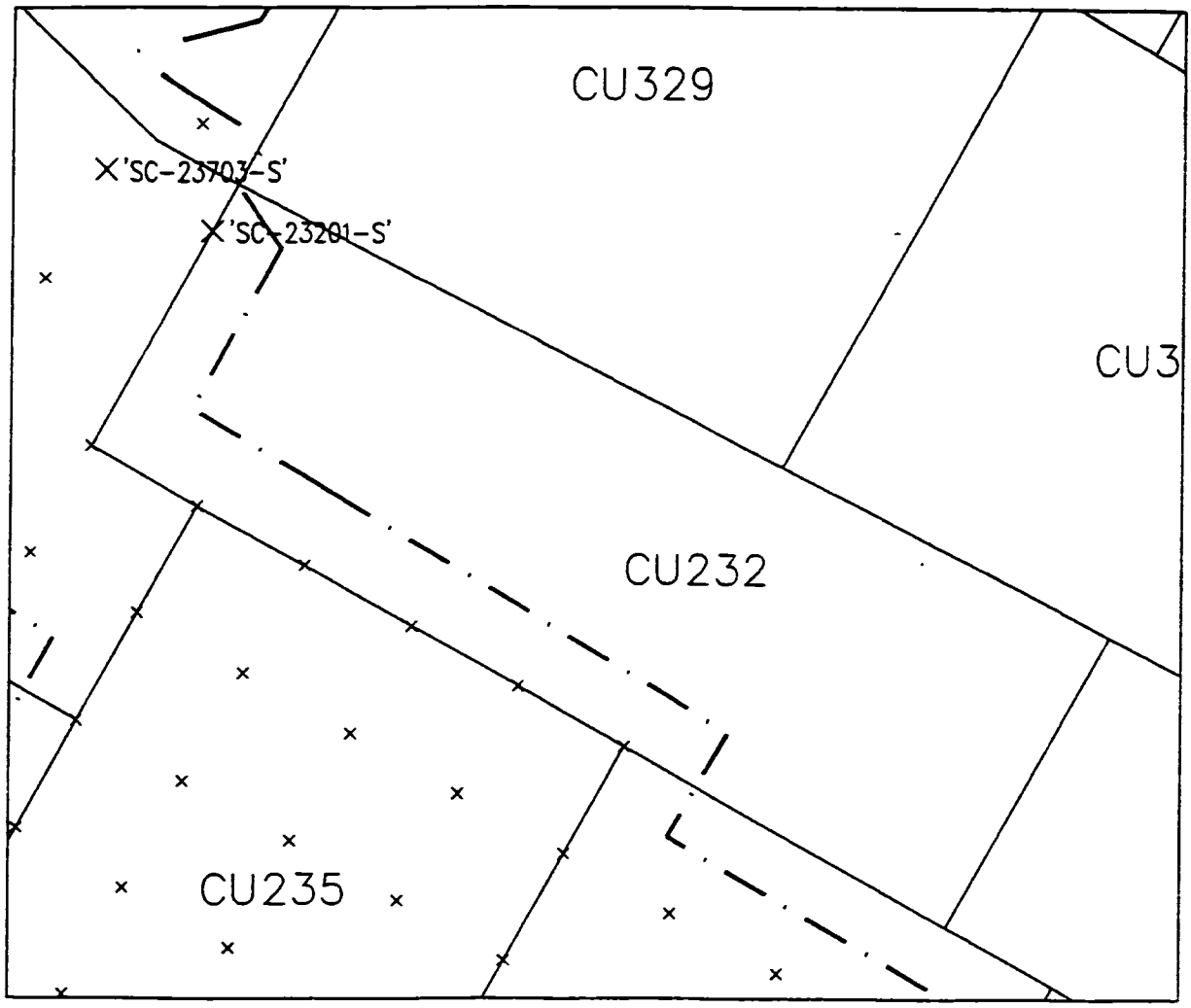
| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2L |
| Meter Serial #: | 125435 | Detector Serial #: | 130763 |
| Calibration Date: | 12/20/99 | Calibration Date: | 8/11/99 |
| Survey Date / Time: | 6/4/99 | Field Bkg.: | 6,000 cpm |
| Surveyor(s): | J. Brewer / J. Rankins | | |
| Comments: | All readings <1.5 times Bkg. | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

▫ 'SC-32606-S' SAMPLE POINTS NOT PINNED
× 'SC-32606-S' SAMPLE POINTS PINNED
— · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 232

DHO CAD

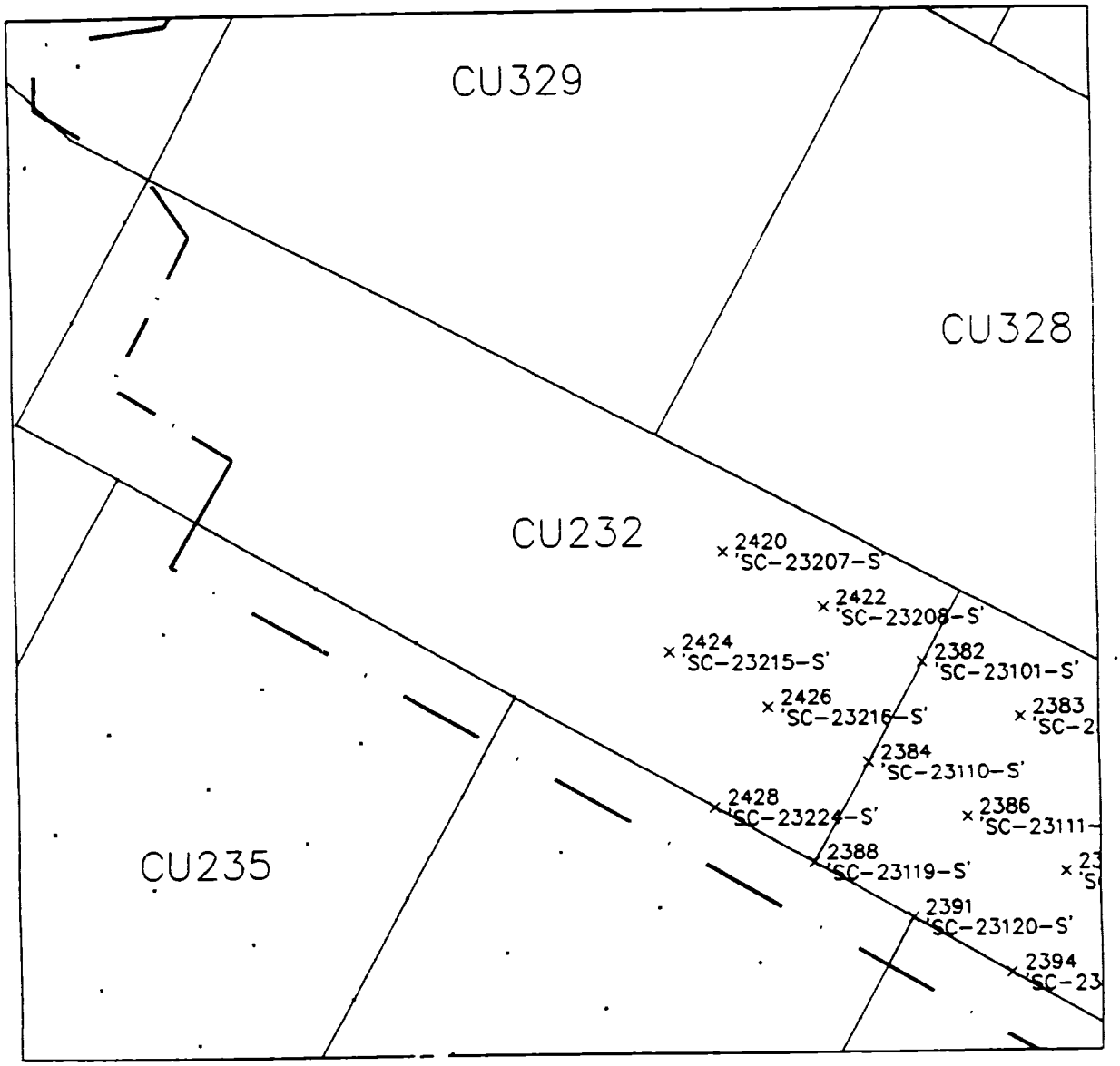
| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2G |
| Meter Serial #: | 127247 | Detector Serial #: | 4241 |
| Calibration Due: | 9-25-99 | Calibration Due: | 1-24-00 |
| Survey Date Time: | 6/10/99 | Field Bkg.: | 10,000CPM |
| Surveyor(s): | T. Brower | | |
| Comments: | All readings < 1.5 Bkg. | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

| | |
|---|---|
| · | SAMPLE POINTS NOT PINNED |
| ×'SC-32606-S' | SAMPLE POINTS PINNED |
| — · — · — | PINNING LIMITS |

Radiation Survey Form WP 437, RU 21 CU 232

DHO CAD

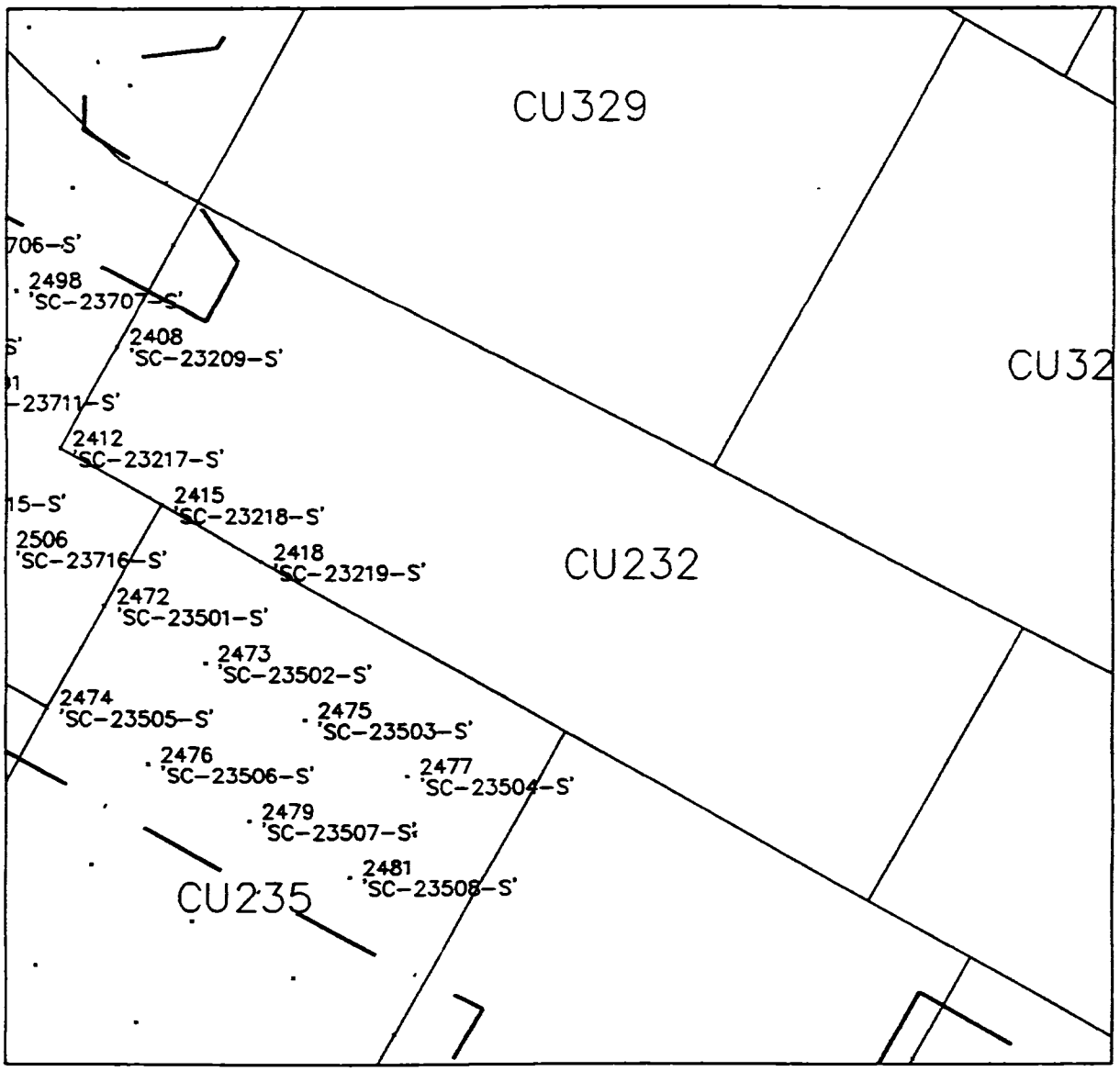
| | | | |
|---|---|---|---|
| Meter Model # | 2221 | Detector Model #: | 2x2 "6" |
| Meter Serial # | 127247 | Detector Serial # | 4241 |
| Calibration Due: | 1/25/99 | Calibration Due: | 1/24/00 |
| Survey Date / Time: | 7/16/99 | Field Bkg. | 8,000CPM |
| Surveyor(s). | T. Brower | | |
| Comments: | All readings w/o Bkg. | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




## LEGEND

| | |
|---|---|
| · | SAMPLE POINTS NOT PINNED |
| ×'SC-32606-S' | SAMPLE POINTS PINNED |
| — · — · — | PINNING LIMITS |

Radiation Survey Form WP 437, RU 21 CU 232

7-31-99 DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | NaI "2x2 |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Due: | 12-18-99 | Calibration Due: | 01-24-00 |
| Survey Date / Time: | 07-22-99 | Field Bkg.: | 12,000 cpm |
| Surveyor(s): | J. Rankin | | |

Comments: All areas surveyed < 1.5 BKG. Also, CY's # 23207 and 23210 were included

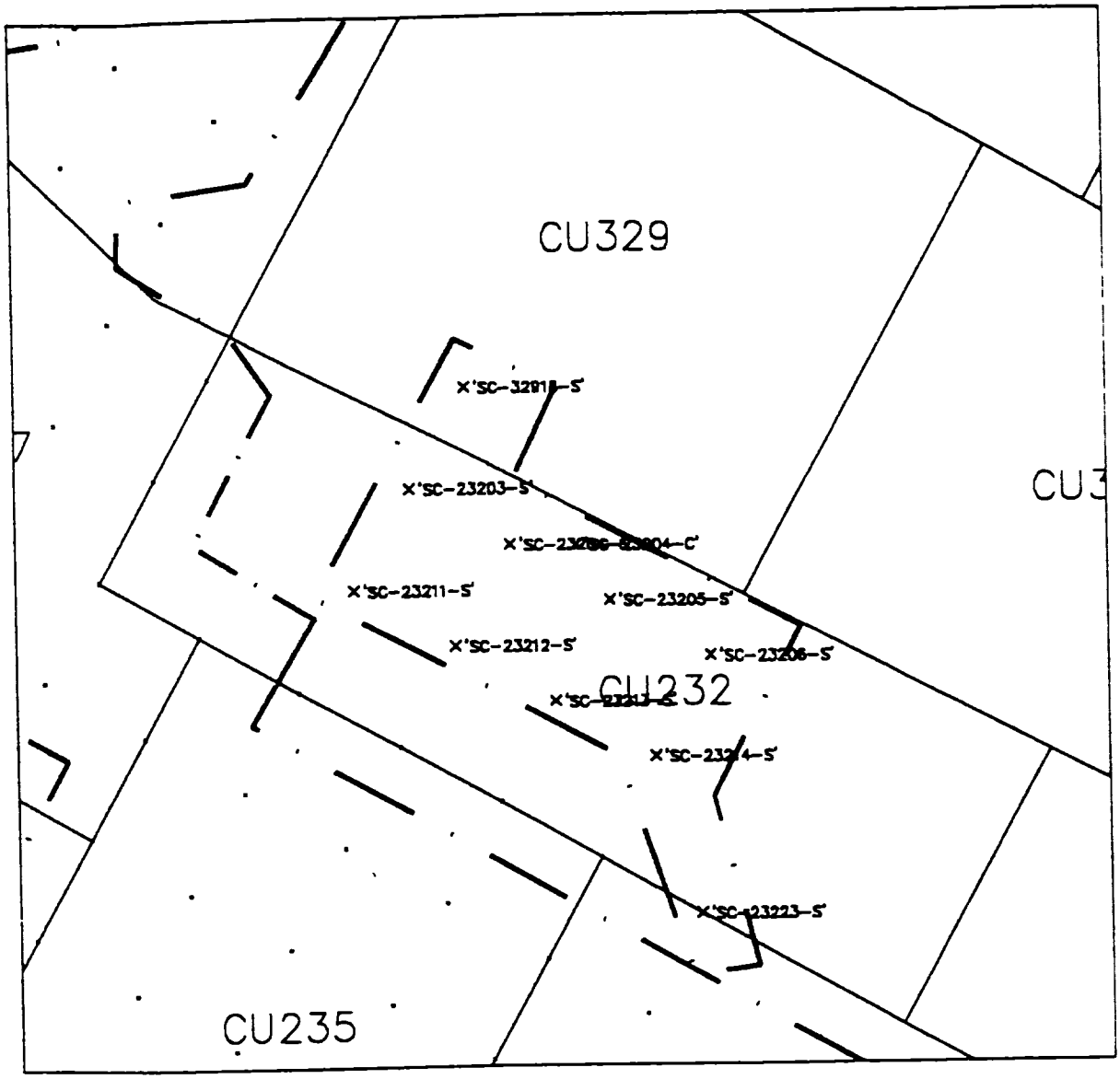
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.




LEGEND

| | |
|---|---|
| . | SAMPLE POINTS NOT PINNED |
| X'SC-32606-S' | SAMPLE POINTS PINNED |
| — · — · — | PINNING LIMITS |

Radiation Survey Form WP 437, RU 21 CU 232

DBD CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "G" |
| Meter Serial #: | 127247 | Detector Serial #: | 122192 |
| Calibration Due: | 9/25/99 | Calibration Date: | 1/29/00 |
| Survey Date / Time: | 1/25/99 | Field Bkg.: | 9,500 |
| Surveyor(s): | C. Hanson | | |

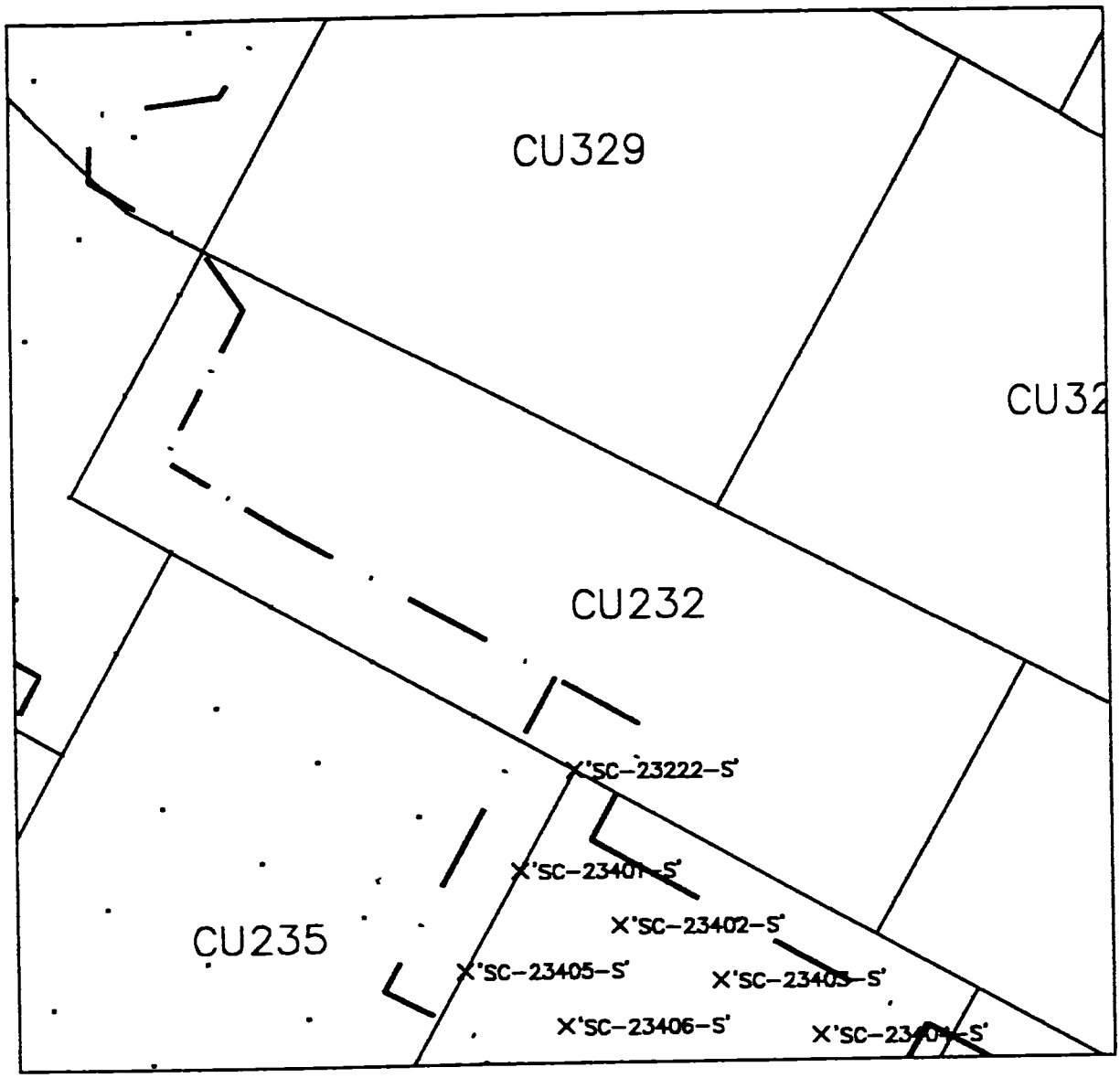
Comments: Area was surveyed and found to be less than 1.5 times background

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 232

DBD CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "6" |
| Meter Serial #: | 127247 | Detector Serial #: | 122192 |
| Calibration Date: | 9/25/99 | Calibration Date: | 1/24/00 |
| Survey Date / Time: | 7/23/99 | Field Bkg: | 10,000 cpm |
| Surveyor(s): | T. Brewer | | |
| Comments: | All readings <1.5 BKG | | |

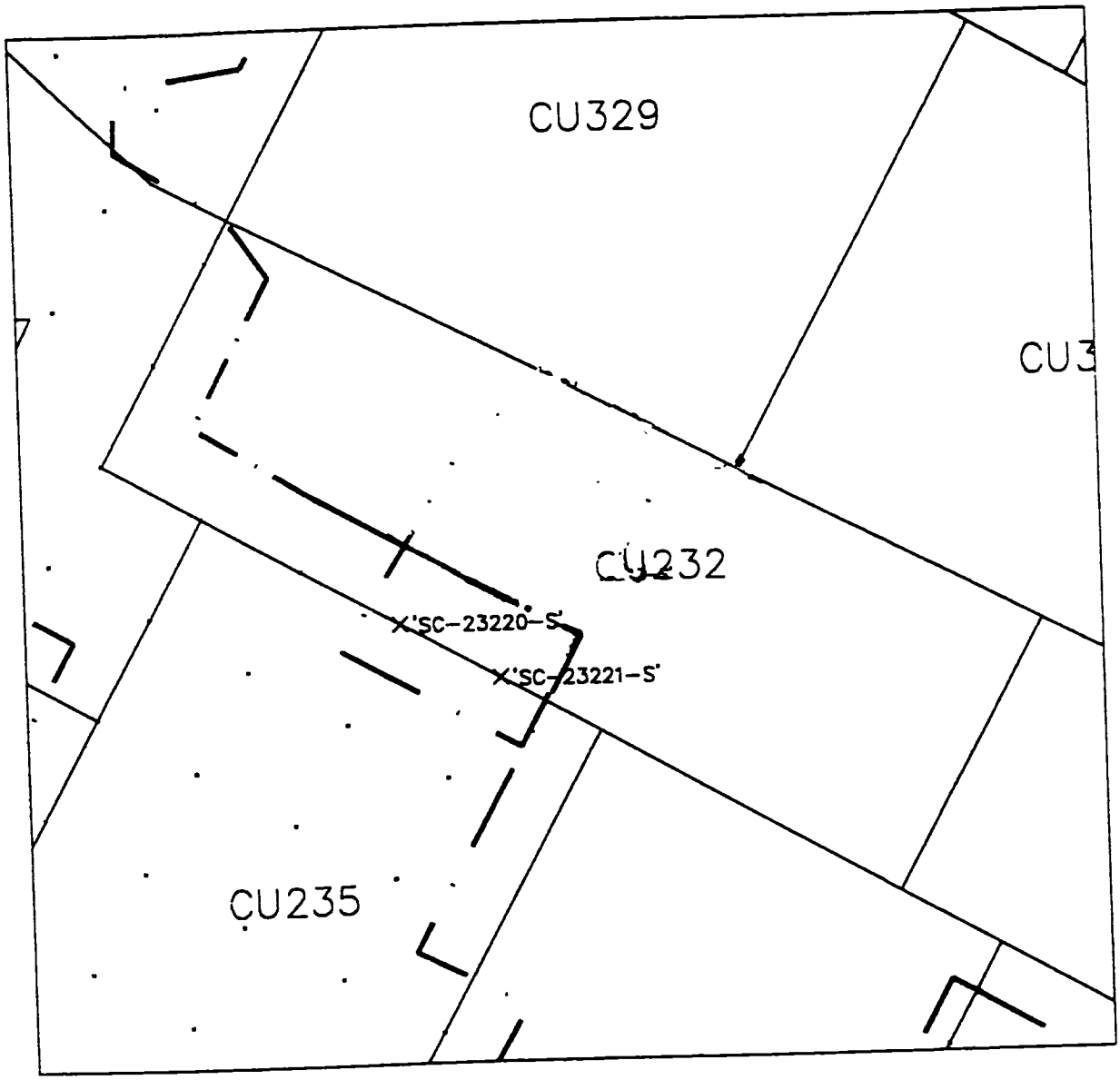
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.




LEGEND

. SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

— · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 232

DSD CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "G" |
| Meter Serial #: | 127247 | Detector Serial #: | 122192 |
| Calibration Date: | 9/25/99 | Calibration Date: | 1/24/00 |
| Survey Date / Time: | 7/25/99 | Field Bkg.: | 9,000 |
| Surveyor(s): | C. Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background

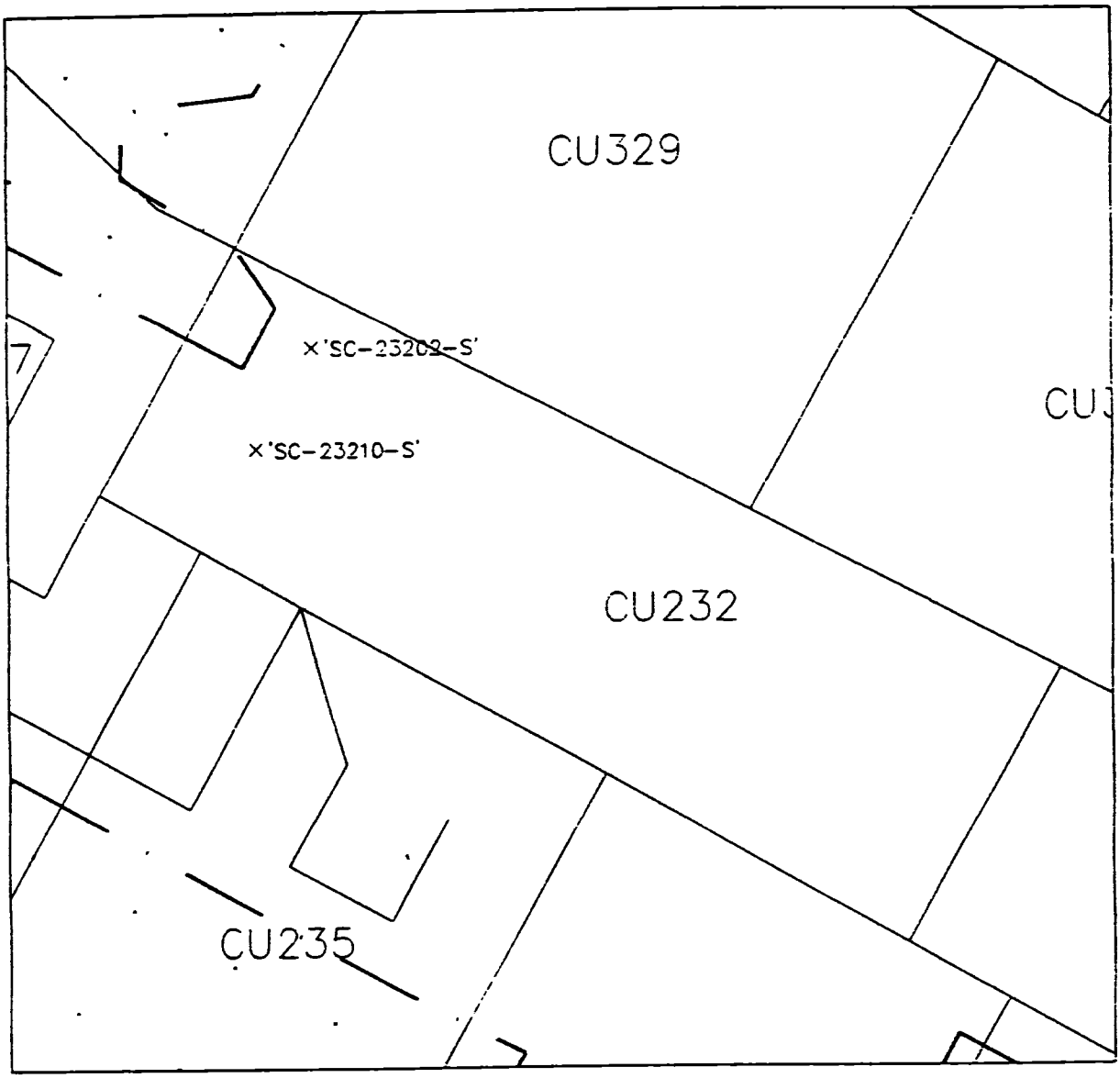
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.




LEGEND

SAMPLE POINTS NOT PINNED

×'SC-32606-S' SAMPLE POINTS PINNED

— · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 232

8/2/99 DHO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | NaI "2x2" |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Due: | 12-18-99 | Calibration Due: | 01-24-00 |
| Survey Date / Time: | 07-30-99 | Field Bkg.: | 12,000 cpm |
| Surveyor(s): | J. Rankin | | |
| Comments: | All areas surveyed < 1.5 BKG. | | |

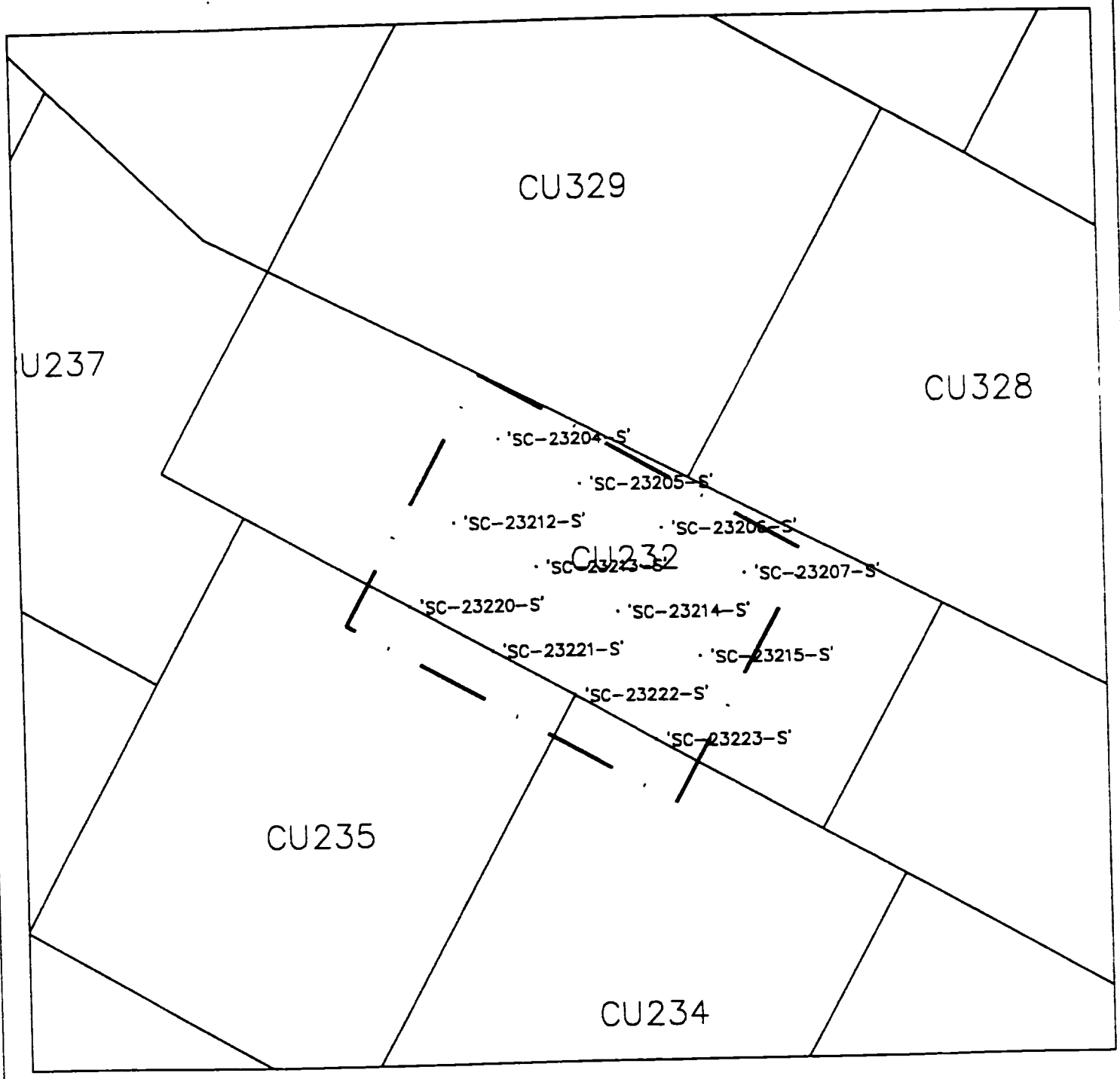
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.




LEGEND

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

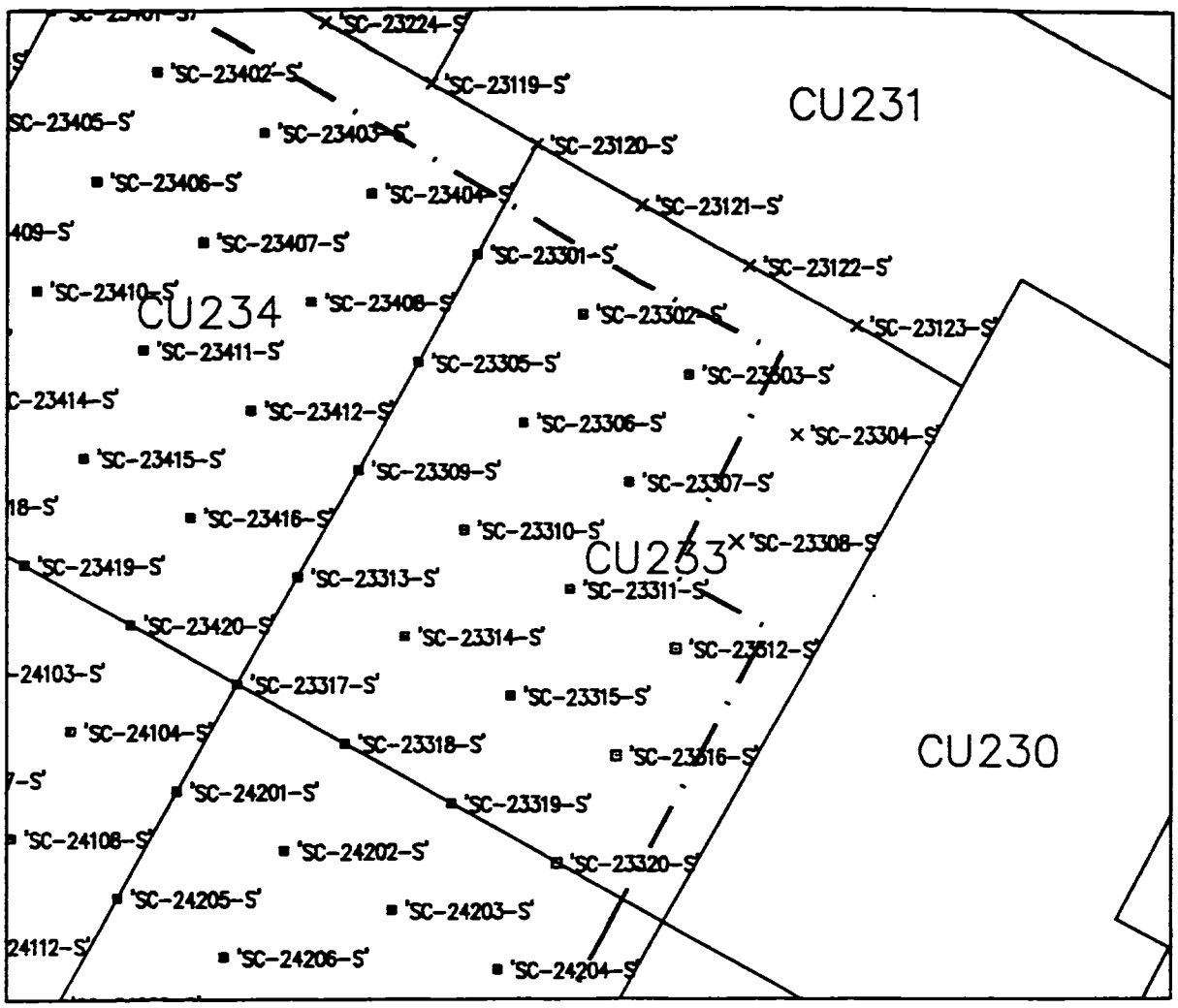
N

Radiation Survey Form WP 437, RU 21 CU 232

Date Plotted 5/01/00 DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "M" |
| Meter Serial #: | 117617 | Detector Serial #: | 130764 |
| Calibration Due: | 10/13/00 | Calibration Due: | 9/24/00 |
| Survey Date / Time: | 4/29/00 | Field Bkg: | 6000 cpm |
| Surveyor(s): | C. Hanson | | |

Comments: Area was surveyed and found to be less than 1.5 times background




## LEGEND

- ■ 'SC-32606-S' SAMPLE POINTS NOT PINNED
- × 'SC-32606-S' SAMPLE POINTS PINNED
- — · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 233

DBO CAD

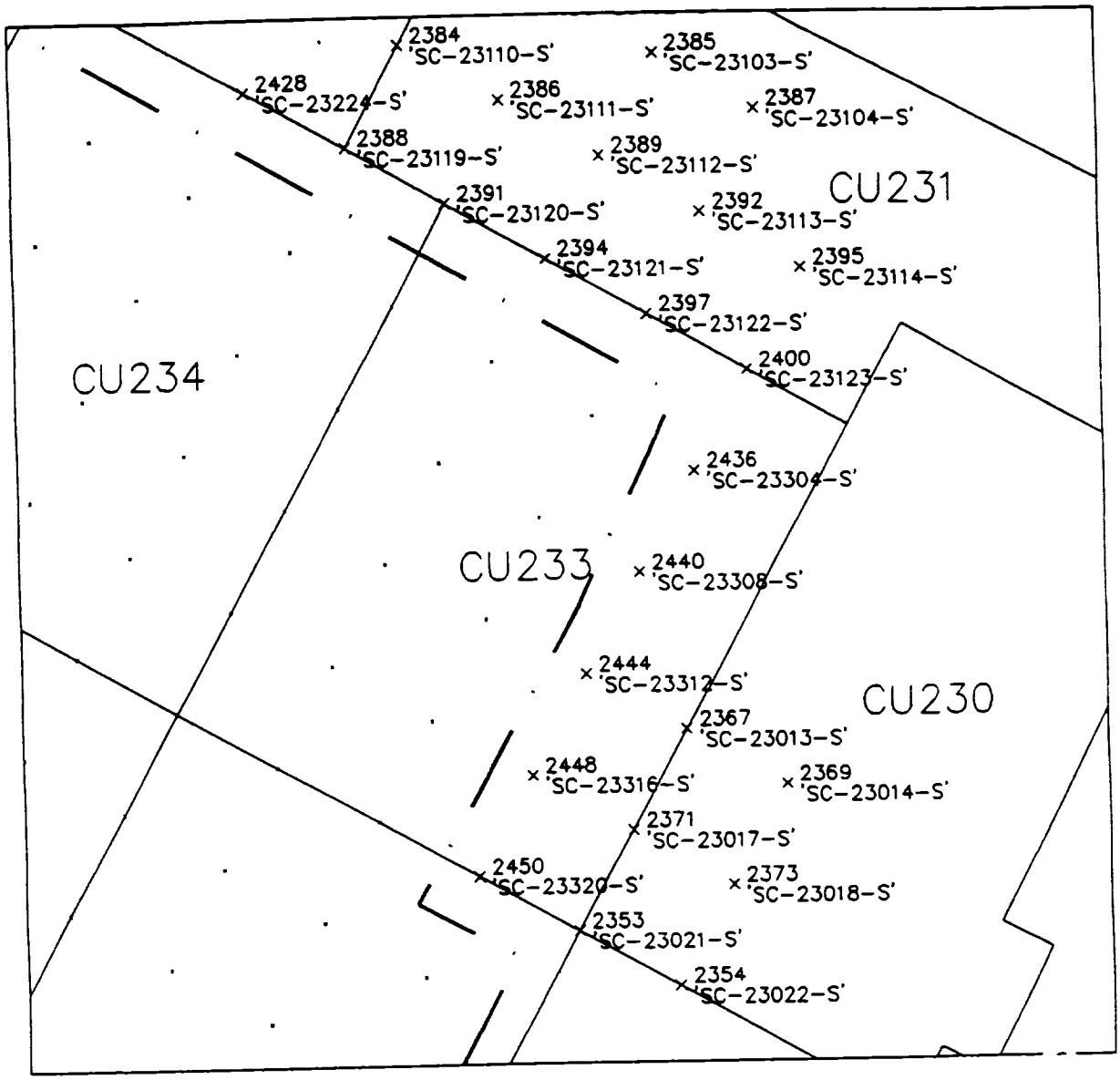
| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2L |
| Meter Serial #: | 125435 | Detector Serial #: | 130763 |
| Calibration Date: | 12/20/99 | Calibration Date: | 8/11/99 |
| Survey Date / Time: | 6/4/99 | Field Bkg.: | 6,000 CPM |
| Surveyor(s): | T. Brower / J. Rankins | | |
| Comments: | All readings < 1.5 times Bkg | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

SAMPLE POINTS NOT PINNED

× 'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 233

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model # | 2221 | Detector Model #: | 2x2"6" |
| Meter Serial # | 127247 | Detector Serial #: | 4241 |
| Calibration Due | 1/25/99 | Calibration Due: | 1/24/00 |
| Survey Date / Time: | 7/16/99 | Field Bkg. | 8,000 CPM |
| Surveyor(s): | T. Brower | | |
| Comments: | All readings <1.5 Bkg | | |

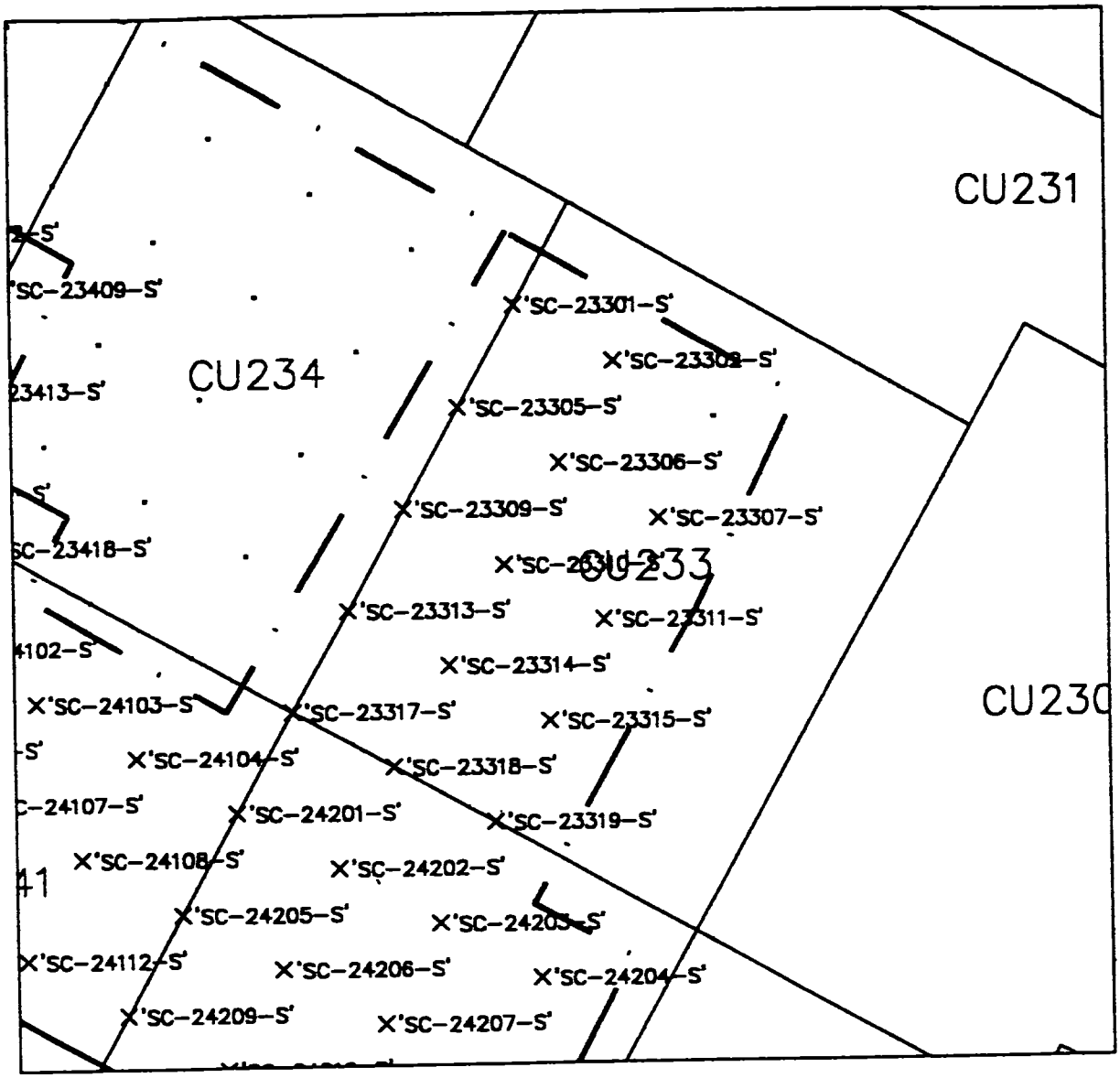
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 233

DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "G" |
| Meter Serial #: | 127247 | Detector Serial #: | 122192 |
| Calibration Date: | 9/25/99 | Calibration Date: | 1/24/00 |
| Survey Date / Time: | 7/22/99 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | C. Hamm | | |

Comments: Area was surveyed and found to be less than 1.5 times background

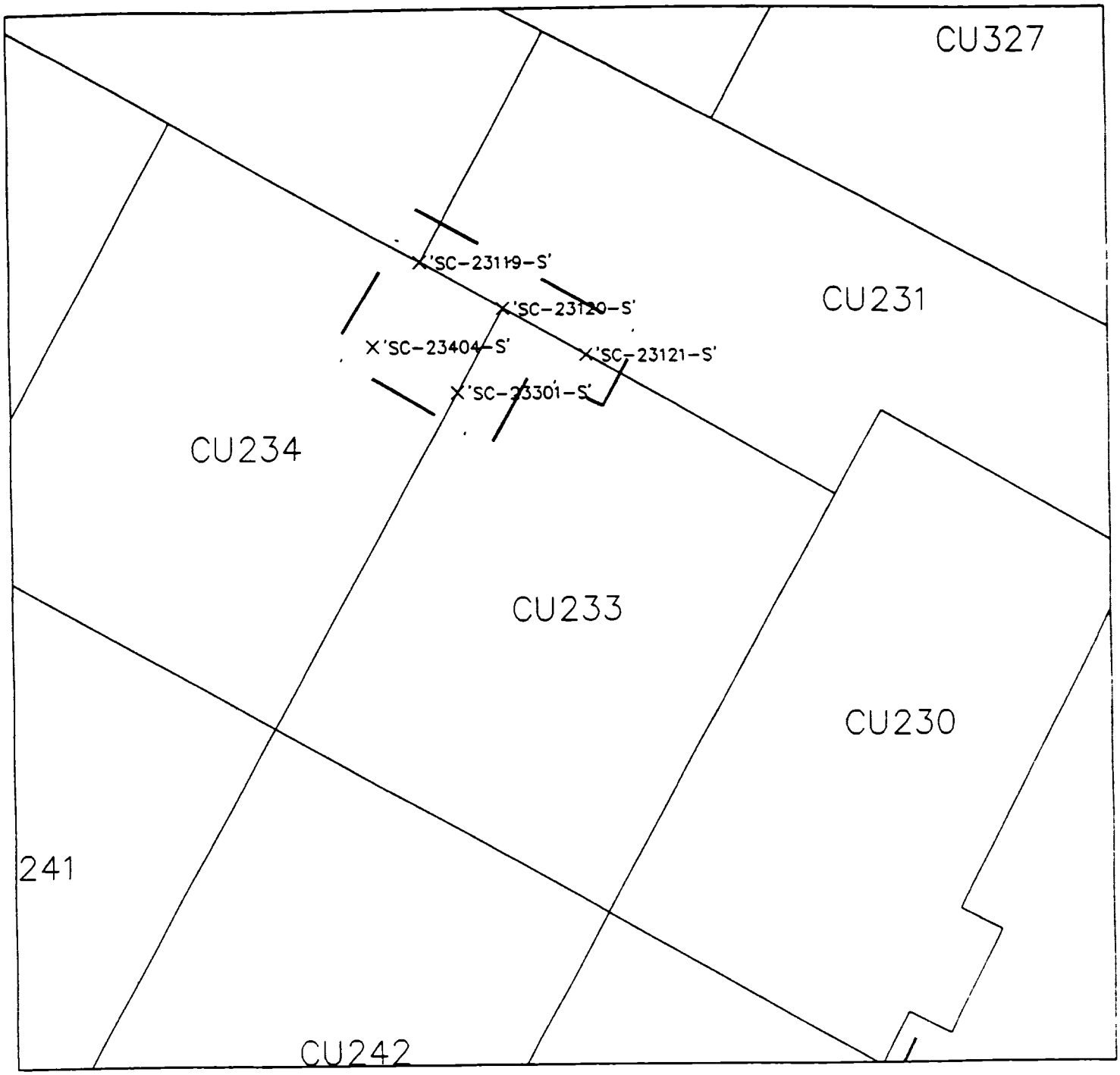
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

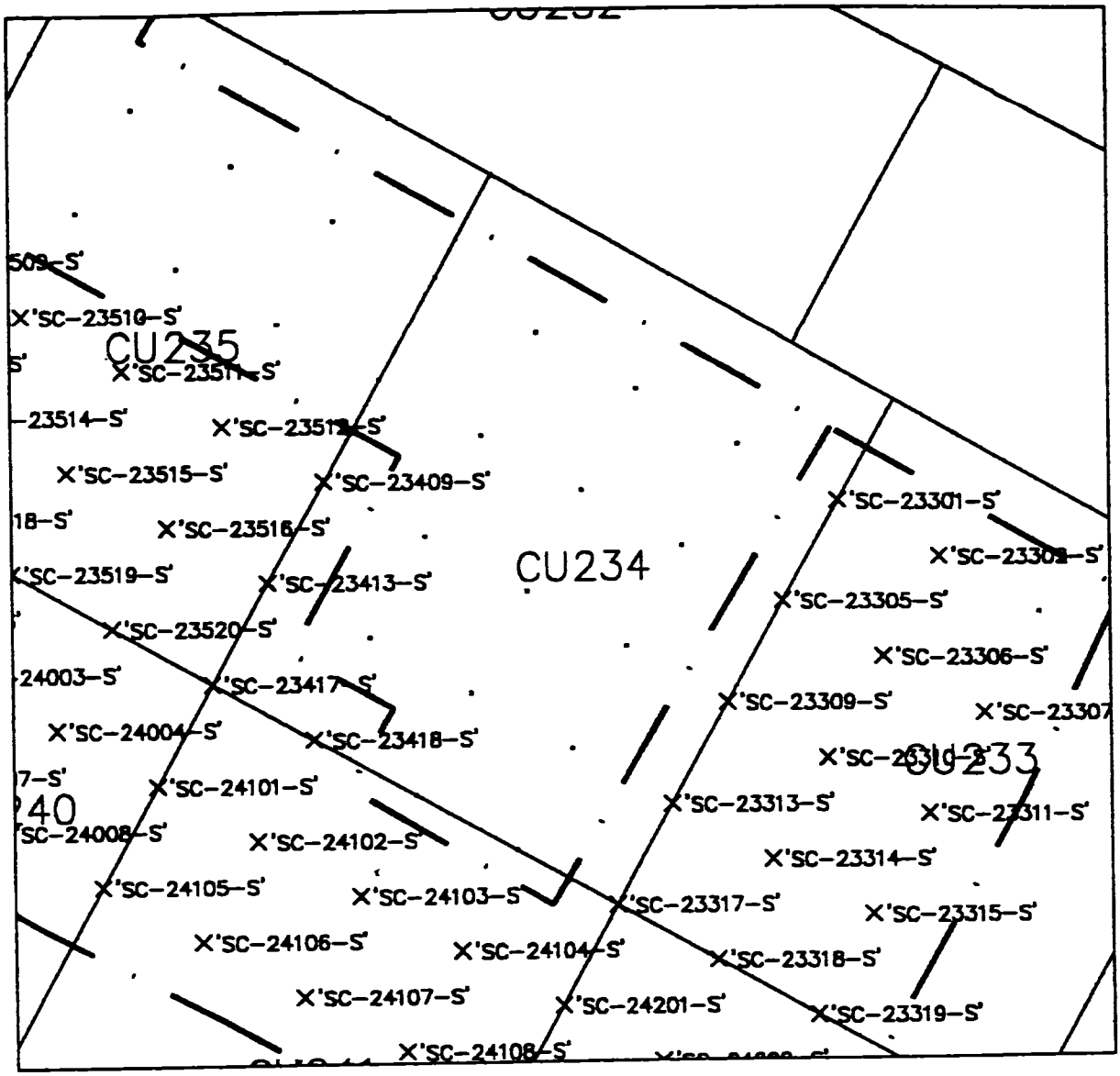
50 0 25 50

( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 233

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model # | 2221 | Detector Model # | 2x2 "6" |
| Meter Serial # | 127252 | Detector Serial # | DOE # 4241 |
| Calibration Due | 09-02-00 | Calibration Due | 01-24-00 |
| Survey Date / Time | 11-12-99 | Field Bkg. | 11,000 cpm |
| Surveyor(s): | [illegible] | | |
| Comments. | All areas < 1.5 BKG. | | |




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

— · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 234

DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "6" |
| Meter Serial #: | 127247 | Detector Serial #: | 122192 |
| Calibration Date: | 9/25/99 | Calibration Date: | 1/24/00 |
| Survey Date / Time: | 7/22/99 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | C. Harper | | |

Comments: Area was surveyed and found to be less than 1.5 times background

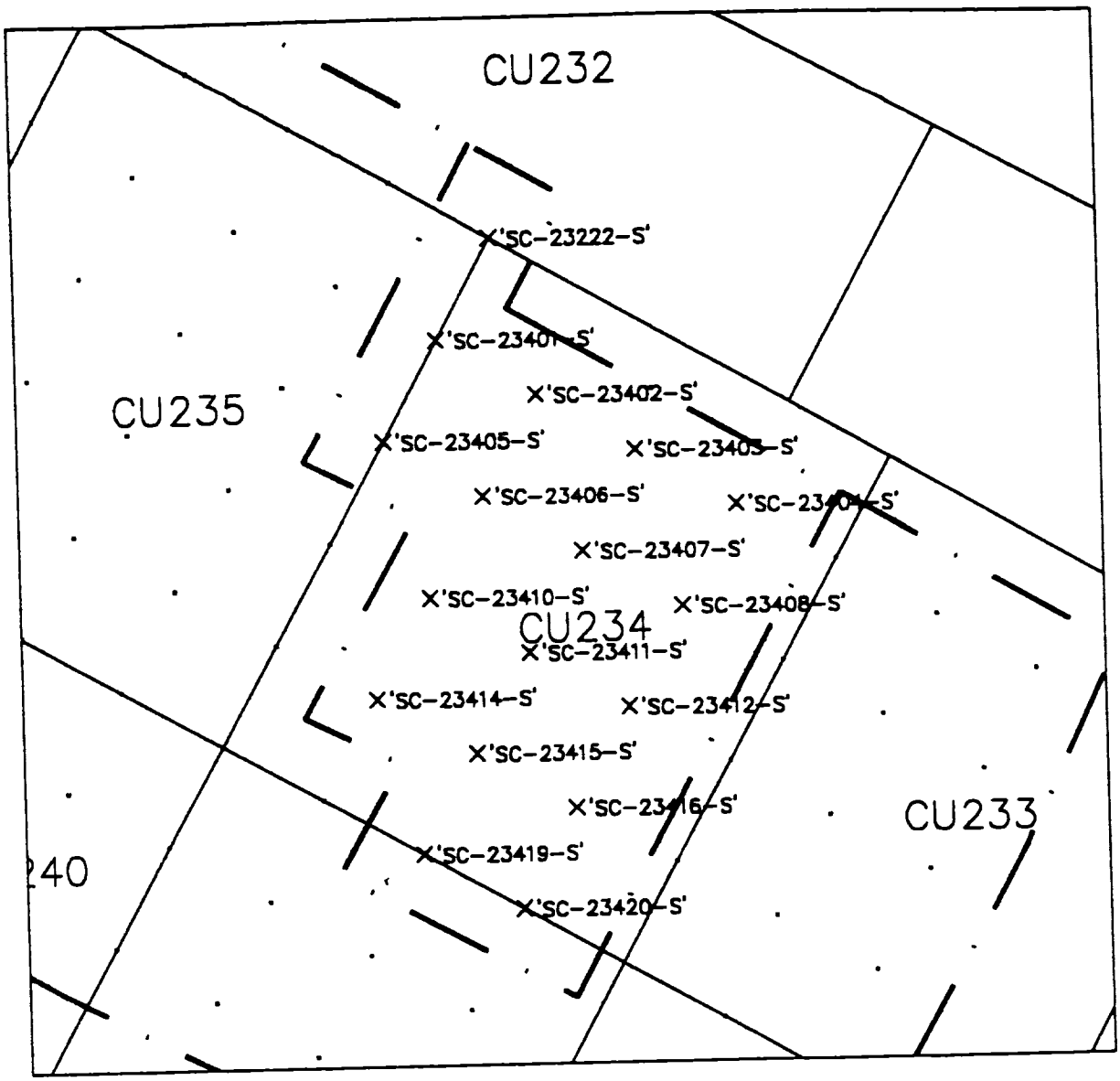
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.




LEGEND

. SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

— · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 234

DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "6" |
| Meter Serial #: | 127247 | Detector Serial #: | 122192 |
| Calibration Date: | 9/25/99 | Calibration Date: | 1/24/00 |
| Survey Date / Time: | 7/23/99 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | T. Brown | | |
| Comments: | All readings 41.5 BKg | | |

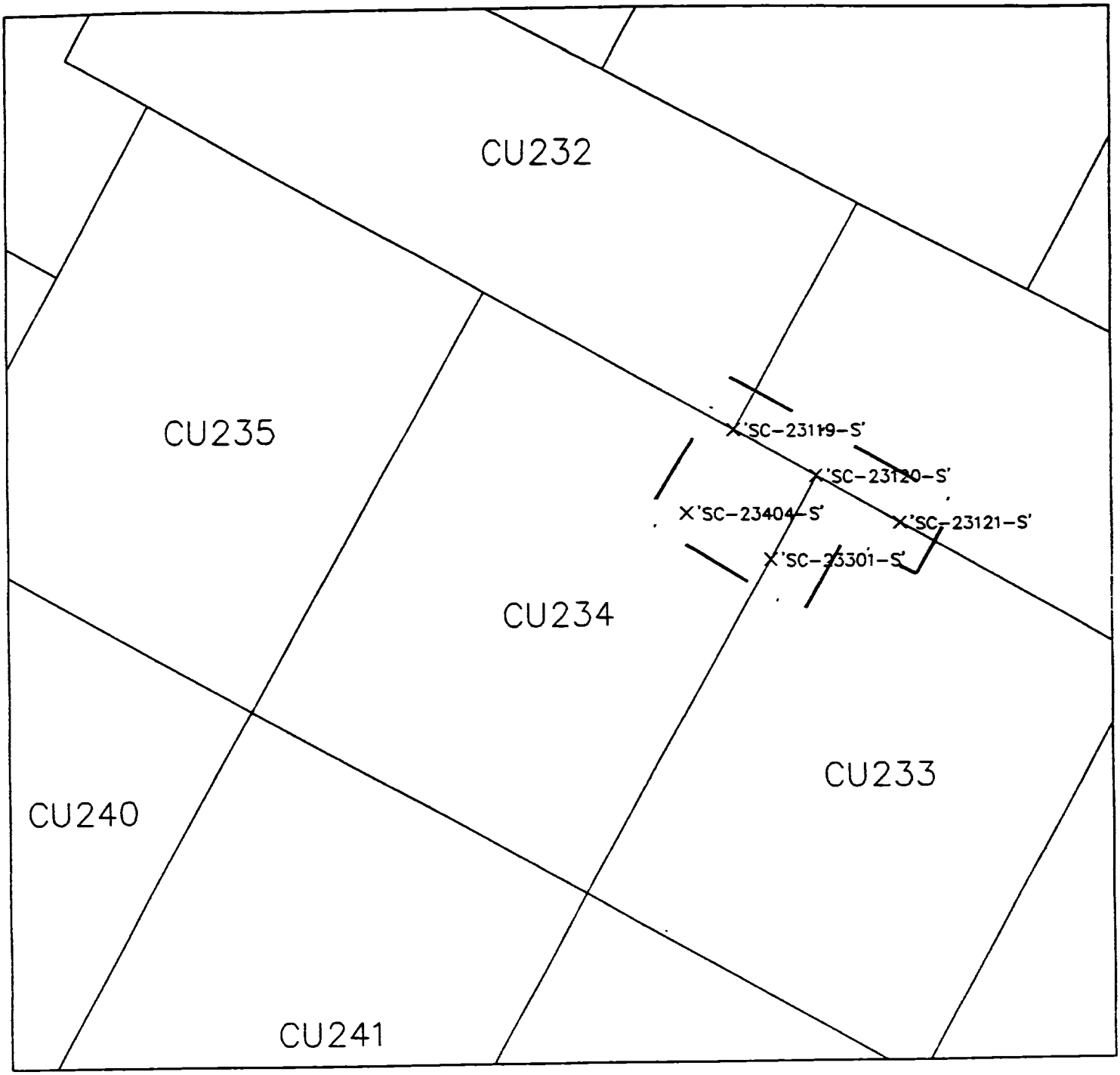
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.




LEGEND

SAMPLE POINTS NOT PINNED

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

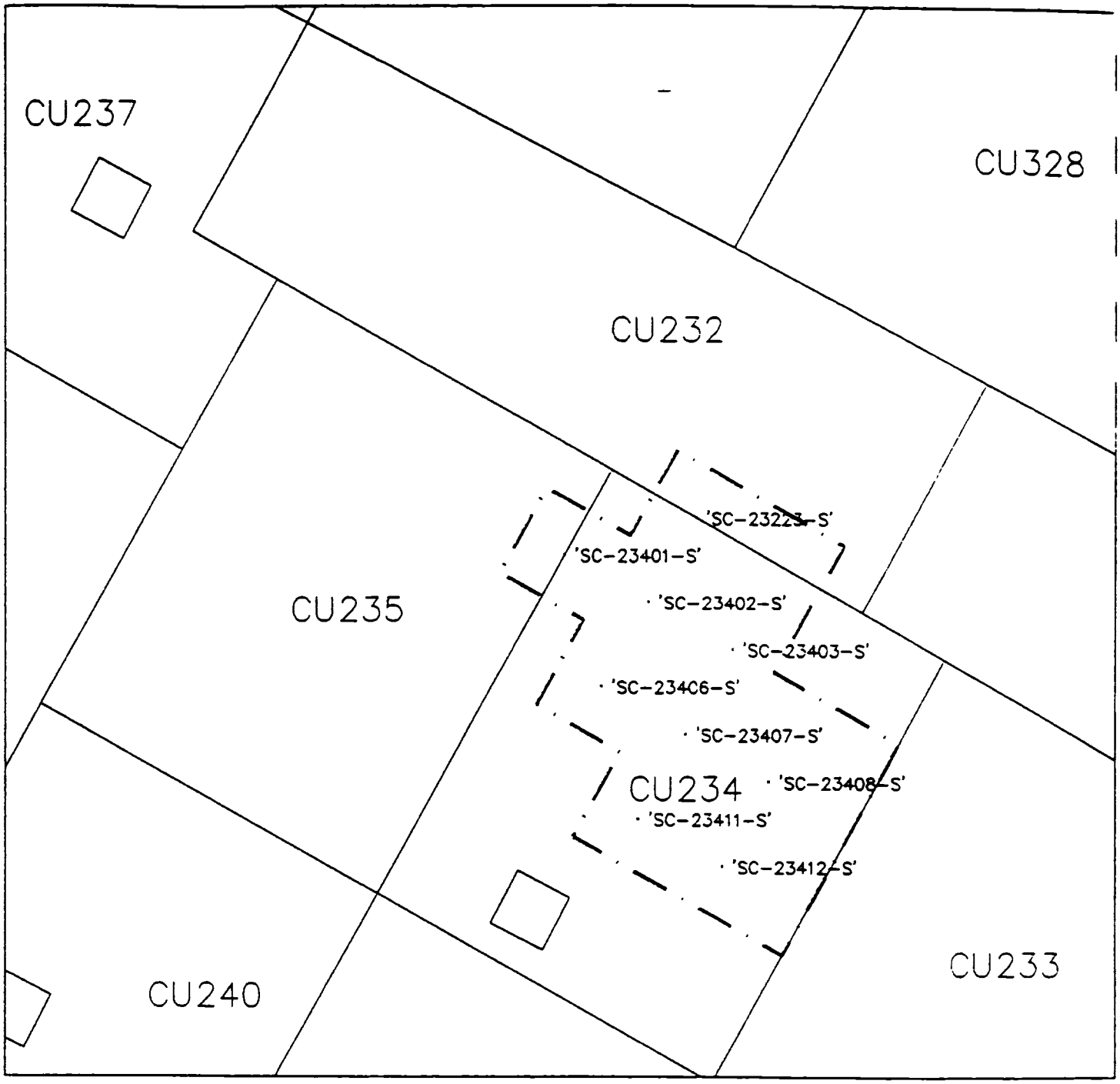
50 0 25 50

( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 234

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 7x2 "6" |
| Meter Serial #: | 127252 | Detector Serial #: | DOE # 4241 |
| Calibration Due: | 09-02-00 | Calibration Due: | 01-28-00 |
| Survey Date / Time: | 11-12-99 | Field Bkg.: | 11,000 |
| Surveyor(s): | J. Franklin | | |
| Comments: | all meas < 1.5 BKG | | |




LEGEND

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 50 100

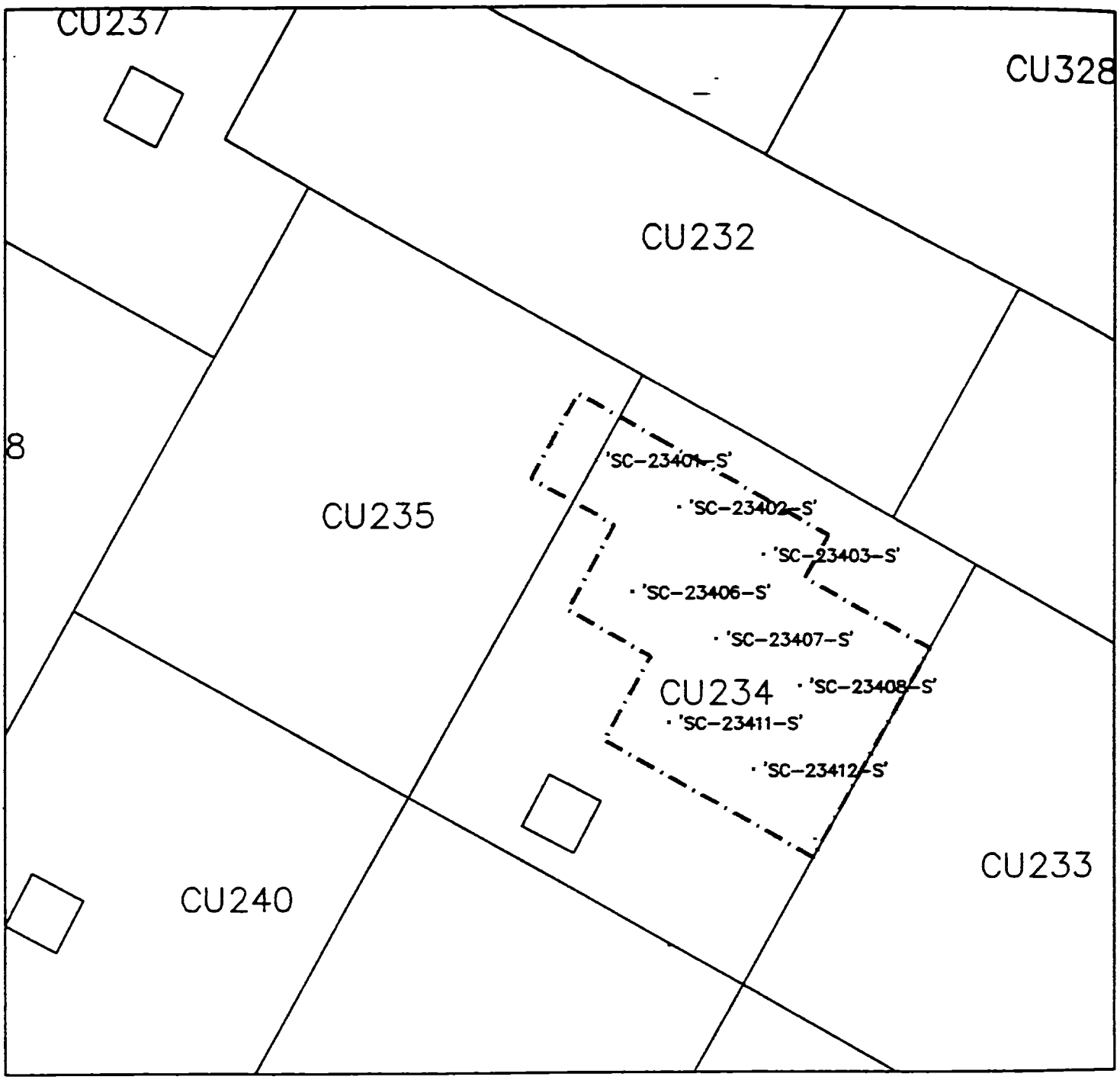
( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 234/232

Date Plotted 7/8/00

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "P" |
| Meter Serial #: | 154199 | Detector Serial #: | 17606 |
| Calibration Due: | 2/9/01 | Calibration Due: | 1/21/01 |
| Survey Date / Time: | 7/5/00 | Field Bkg.: | 10,000 CPM |
| Surveyor(s): | J. Bowen | | |
| Comments: | All readings <1.5 Bkg | | |




LEGEND

• 'SC-32606-S' SAMPLE POINTS PINNED

—·—·—·— PINNING LIMITS

N

GRAPHIC SCALE

50 0 50 100

( IN FEET )
1 inch = 50 ft.

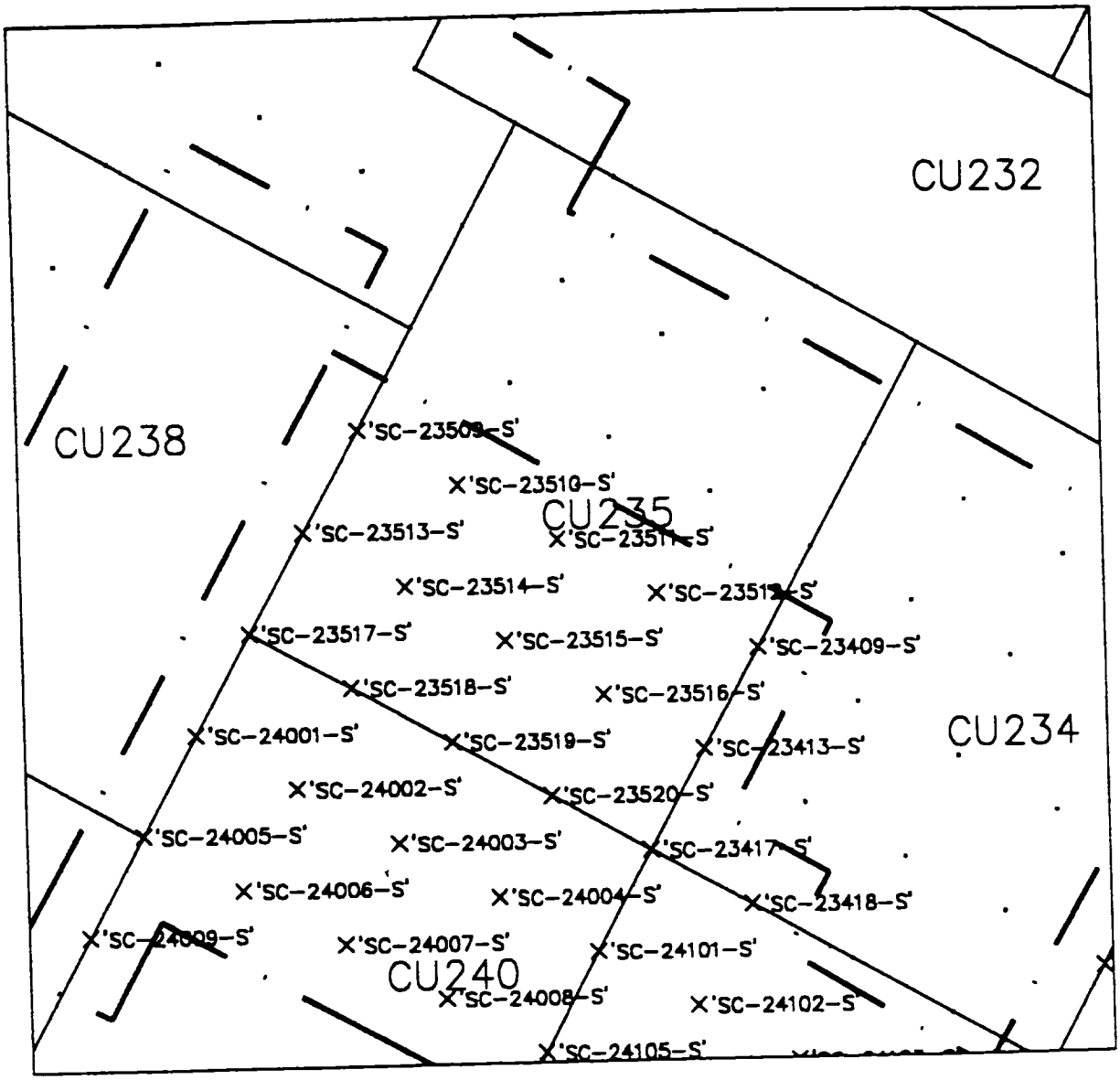
Radiation Survey Form WP 437, RU 21 CU 234

Date Plotted 7/10/00

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "P" |
| Meter Serial #: | 154199 | Detector Serial #: | 17606 |
| Calibration Due: | 2/9/01 | Calibration Due: | 1/21/01 |
| Survey Date / Time: | 7/9/00 | Field Bkg.: | 10,000 CPM |
| Surveyor(s): | T. Brower | | |
| Comments: | All ~~reading~~ TPB soil <1.5 x BKg | | |

\Fieio_price\ cdrive\ cdsk\ PROJ\ CONUNIT\ dwg\ con_pits.dwg




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 235

DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "G" |
| Meter Serial #: | 127247 | Detector Serial #: | 122192 |
| Calibration Date: | 9/25/99 | Calibration Date: | 1/24/00 |
| Survey Date / Time: | 7/22/99 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | C. Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background

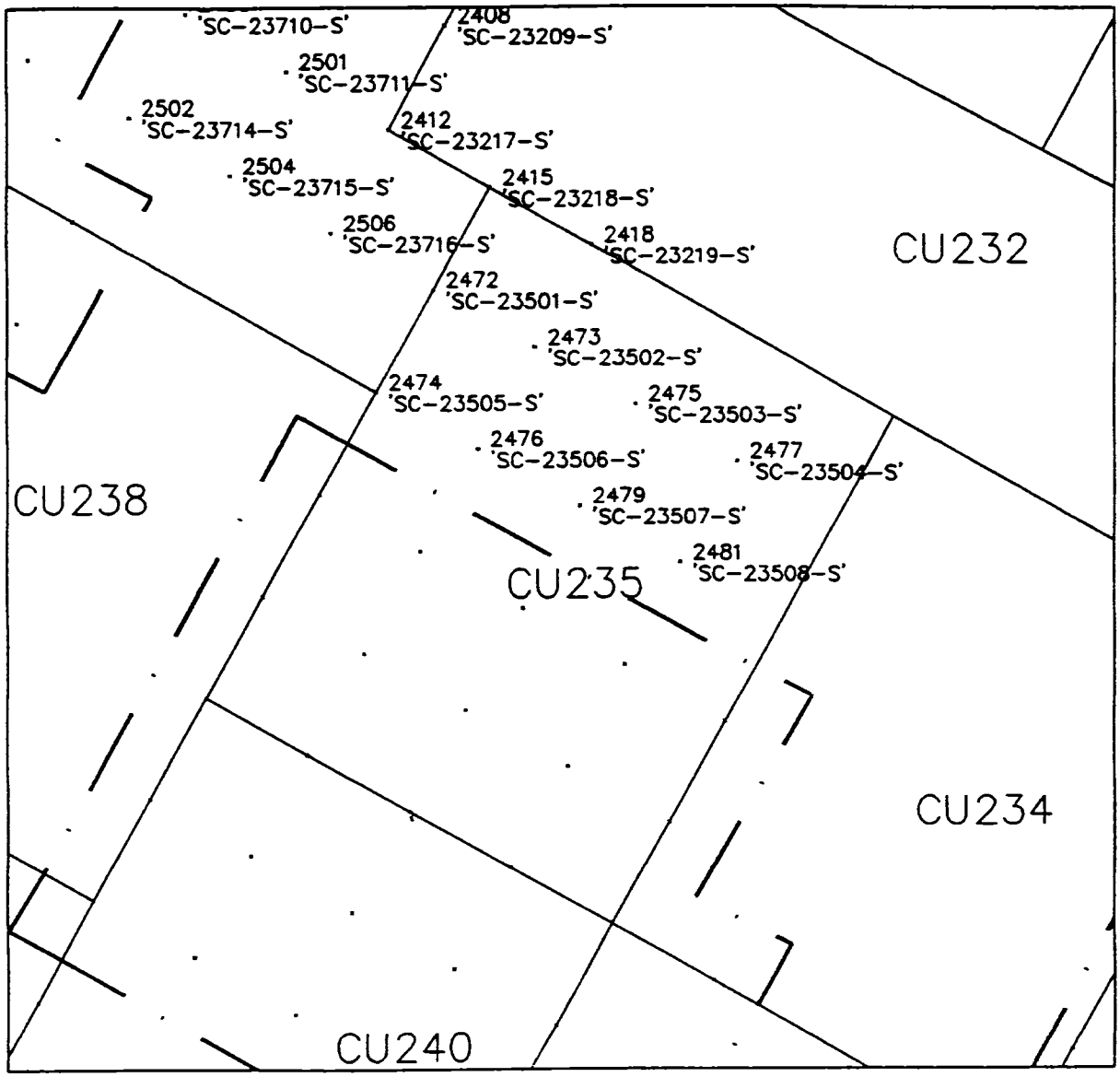
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.




LEGEND

| | |
|---|---|
| · | SAMPLE POINTS NOT PINNED |
| ×'SC-32606-S' | SAMPLE POINTS PINNED |
| — · — · — | PINNING LIMITS |

Radiation Survey Form WP 437, RU 21 CU 235

7-31-99

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | NaI "2x2" |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Due: | 12-18-99 | Calibration Due: | 01-24-00 |
| Survey Date / Time: | 07-22-99 | Field Bkg.: | 12,000 cpm |
| Surveyor(s): | J. Rankin | | |

Comments: All areas surveyed <1.5 BKG. CU #'s 23202 and 23210 are also included.

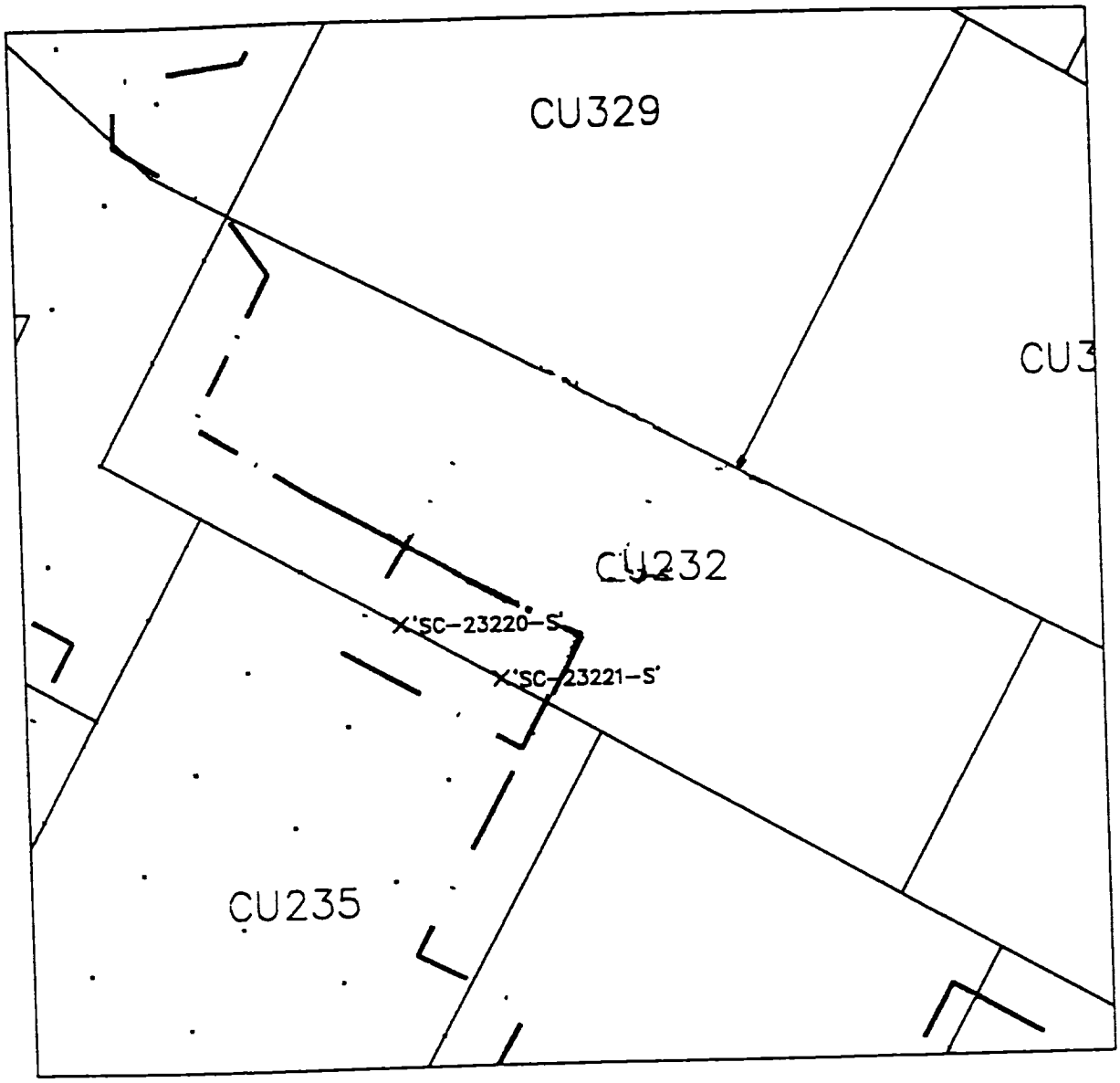
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU ~~232~~ 235

DBD CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "G" |
| Meter Serial #: | 127247 | Detector Serial #: | 122192 |
| Calibration Date: | 9/25/99 | Calibration Date: | 1/24/00 |
| Survey Date / Time: | 7/25/99 | Field Bkg.: | 9,000 |
| Surveyor(s): | C. Hanna | | |

Comments: Area was surveyed and found to be less than 1.5 times background

N

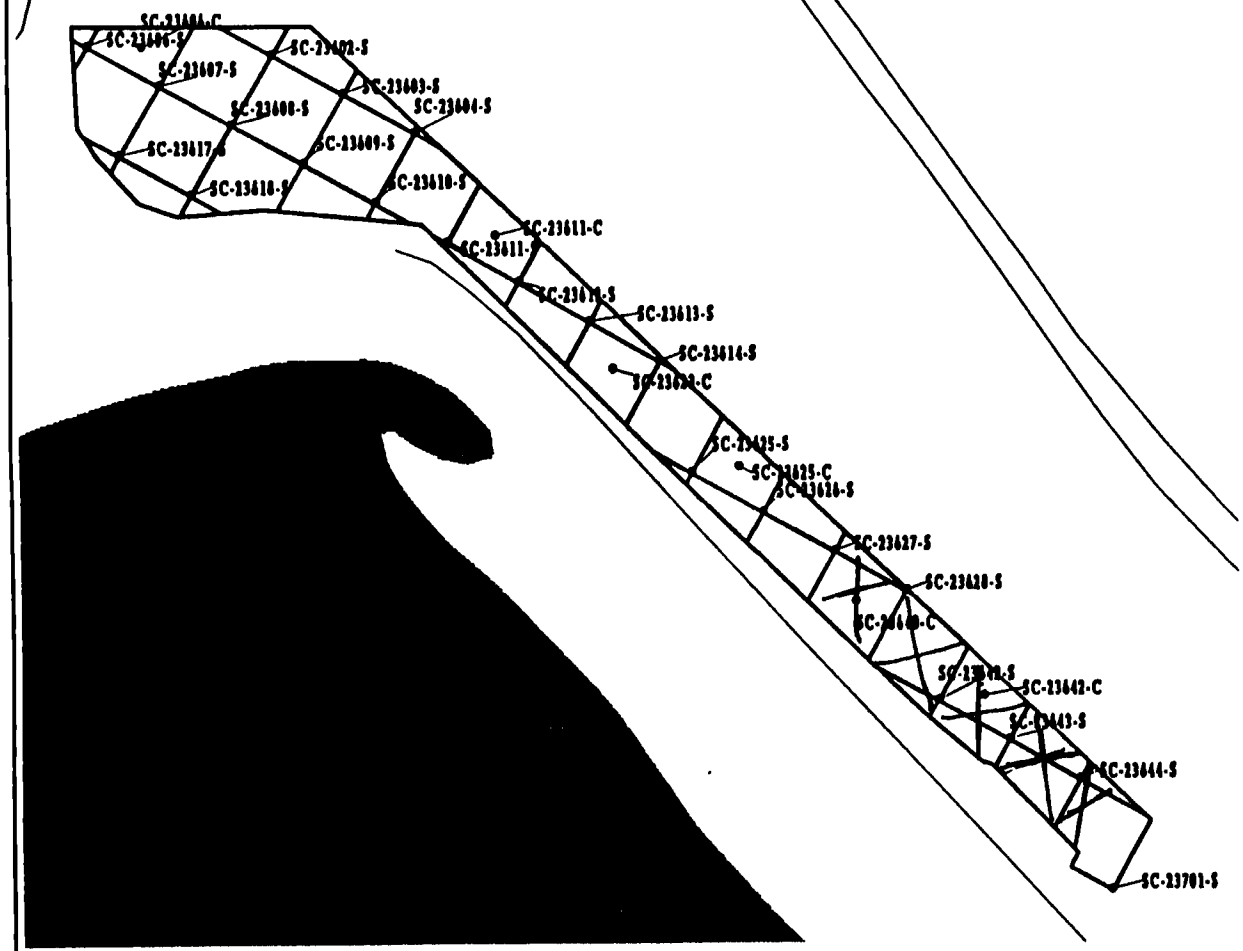
GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.

# Radiation Survey Form WP 437, RU021CU236




WSSRAP GIS

15 7.5 0 15 METERS

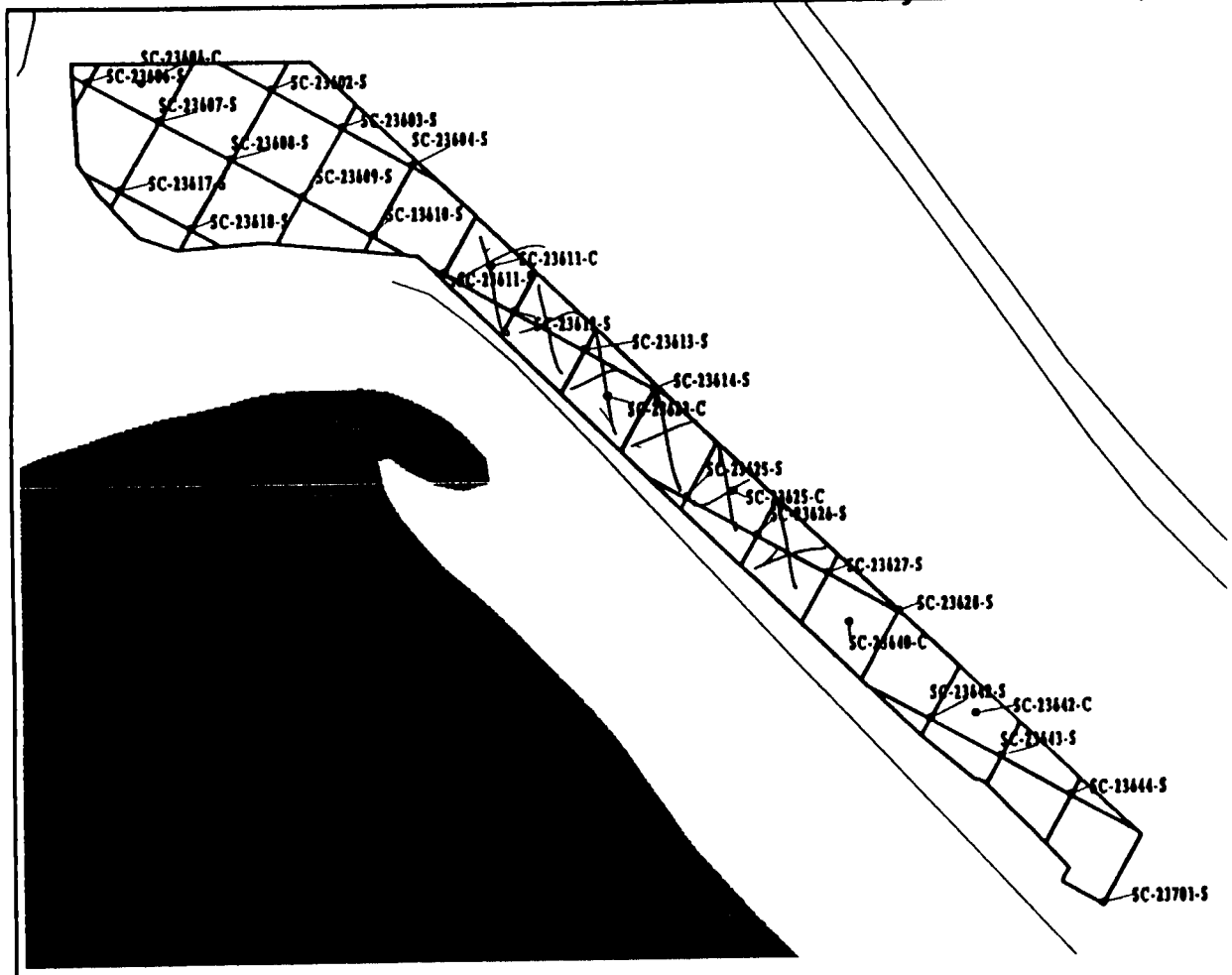
45 22.5 0 45 FEET

N W E S

| | | | |
|---|---|---|---|
| Meter Model#: | 2221 | Detector Model#: | ~~130763~~ NaI 2 |
| Meter Serial#: | 125435 | Detector Serial#: | 130763 |
| Calibration Due: | 12-20-99 | Calibration Due: | 8-11-99 |
| Survey Date/Time: | 02/14/99 | Field Bkg.: | 23,000 CPTM |
| Surveyor(s): | [signature] | | |

Comments: open probe survey. Background was ≈ 23,000 CPTM area surveyed <1.5 BKG.

# Radiation Survey Form WP 437, RU021CU236




WSSRAP GIS

15 7.5 0 15 METERS

45 22.5 0 45 FEET

N
W E
S

Meter Model#: 2221

Meter Serial#: 125435

Calibration Due: 12-20.99

Survey Date/Time: 2/17/99

Surveyor(s): M. MEDINA

Detector Model#: NaI 2x2

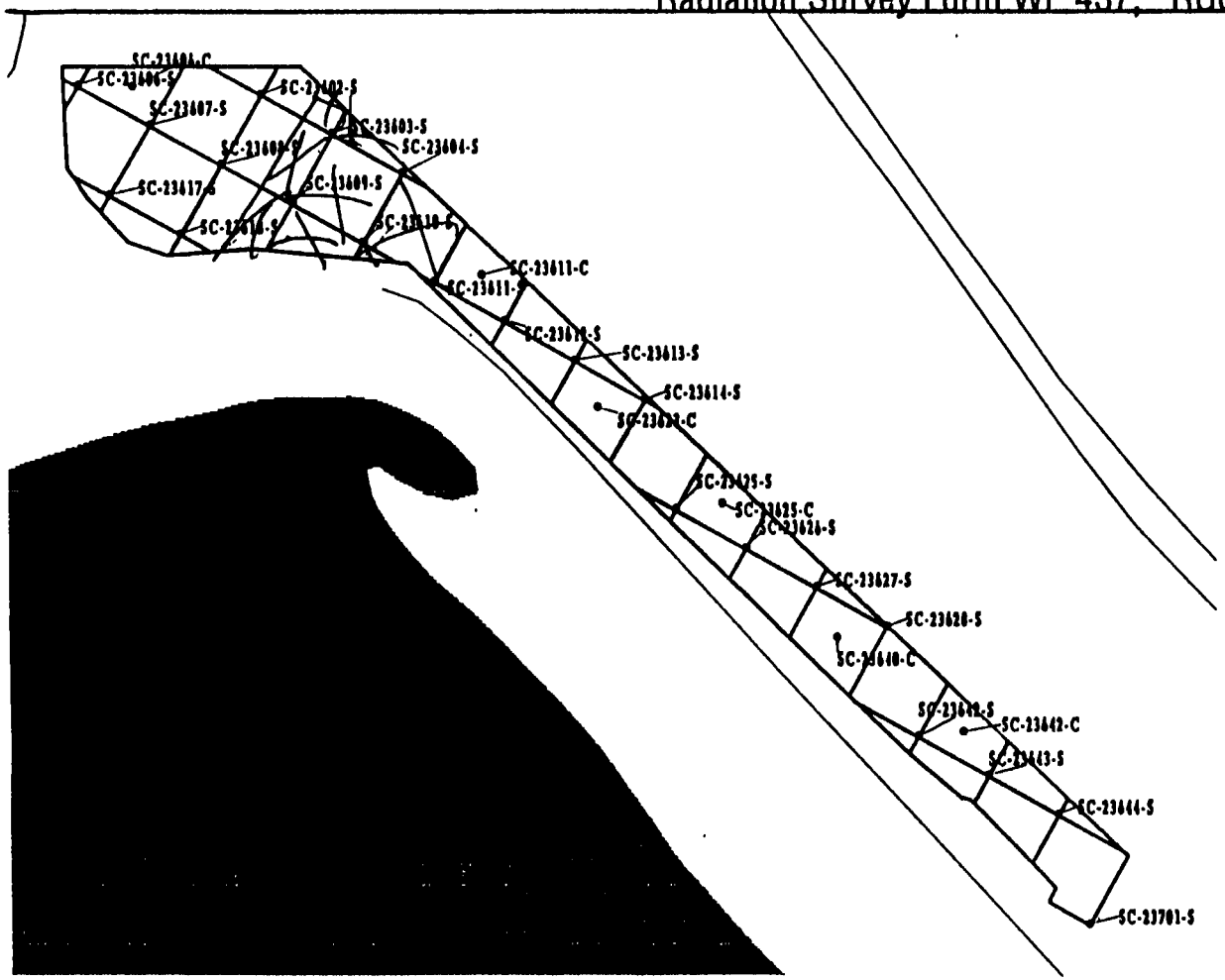
Detector Serial#: 130763

Calibration Due: 8-11.99

Field Bkg.: 15,000 CPM

Comments: BKG. ≈15,000 CPM area surveyed < 1.5 X BKG.

# Radiation Survey Form WP 437, RU021CU236




WSSRAP GIS

15 7.5 0 15 METERS

45 22.5 0 45 FEET

N W E S

Meter Model#: 2221 Detector Model#: NaI 2x2

Meter Serial#: 125435 Detector Serial#: 130763

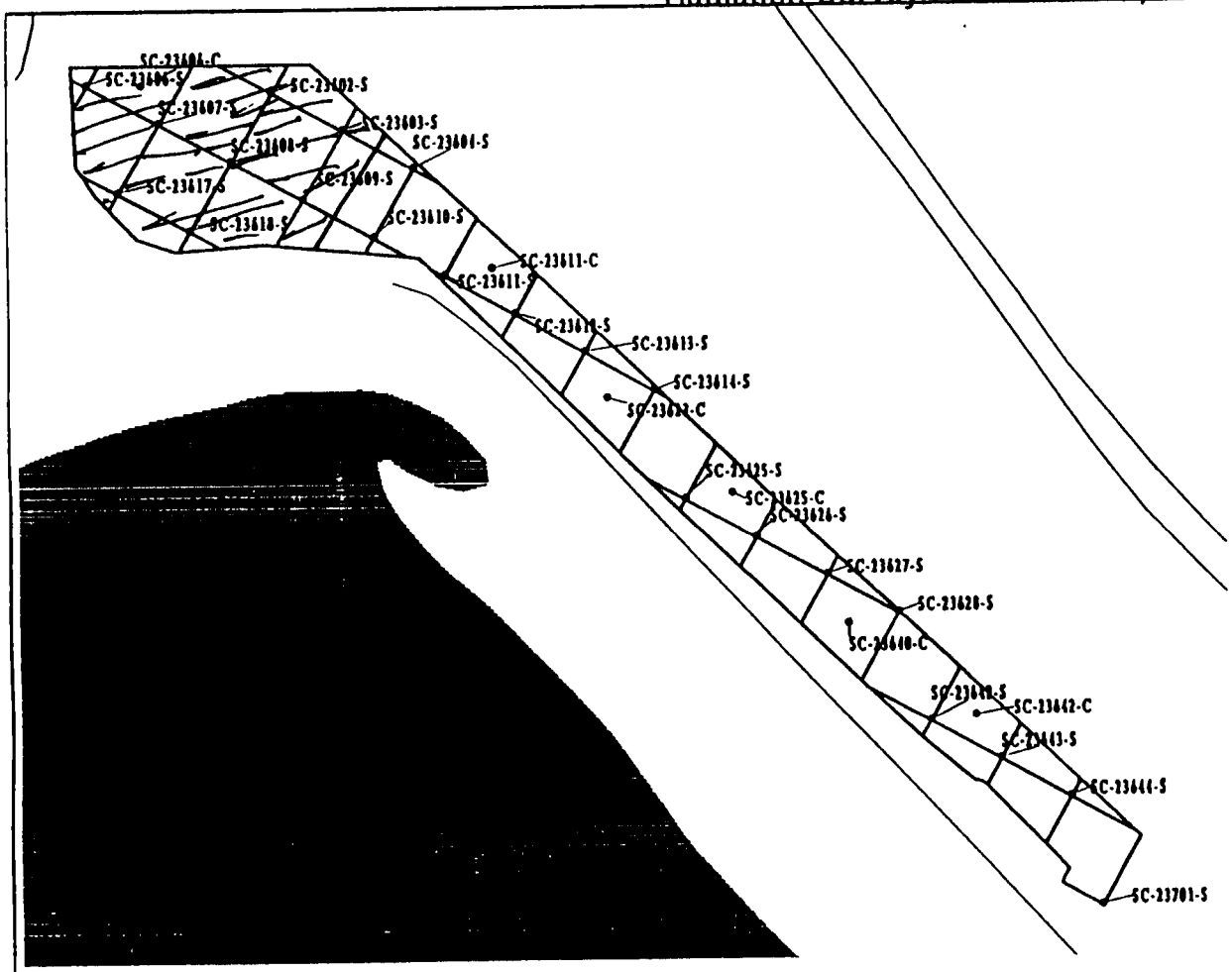
Calibration Due: 12.20.99 Calibration Due: 8.11.99

Survey Date/Time: 2/19/99 Field Bkg.: 6,000 CPM SHIELDED

Surveyor(s): M. MEDINA

Comments: SHIELDED BKG. 6,000 CPM Area surveyed <1.5 x BKG.

# Radiation Survey Form WP 437, RU021GU236




WSSRAP GIS

15 7.5 0 15 METERS

45 22.5 0 45 FEET

N
W E
S

Meter Model#: 2221

Meter Serial#: 127252

Calibration Due: 8/24/99

Survey Date/Time: 3/24/99

Surveyor(s): M. MEDINA

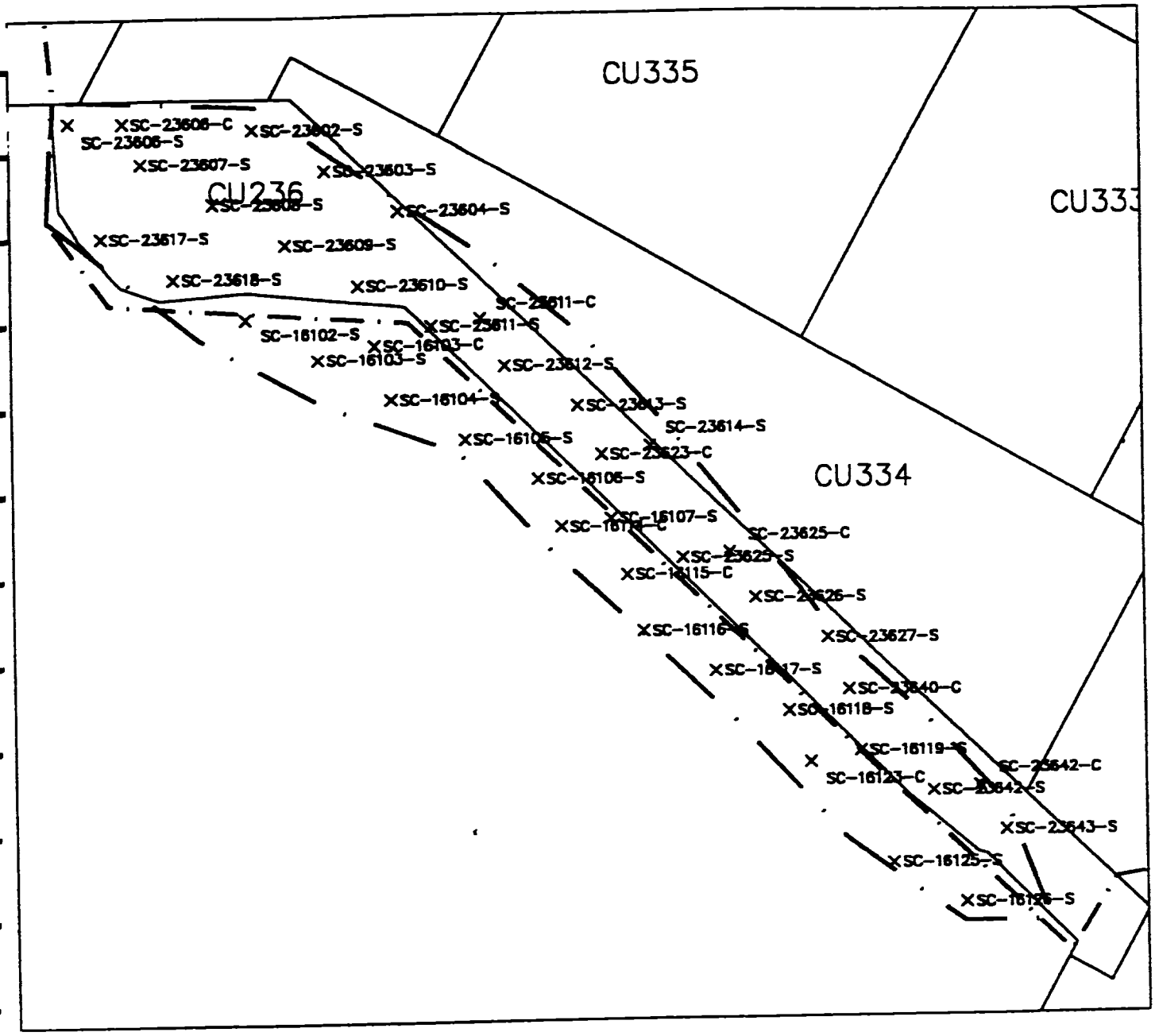
Detector Model#: 2X2

Detector Serial#: 122191

Calibration Due: 8/11/99

Field Bkg.: 9,000 CPM

Comments: AREA SURVEYED 15 x 846. AREA 846. 29,000 CPM




LEGEND

. SAMPLE POINTS NOT PINNED

× 'SC-32606-S' SAMPLE POINTS PINNED

— · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 236

DBD CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2×2 NaI "6" |
| Meter Serial #: | 127247 | Detector Serial #: | 122192 |
| Calibration Date: | 9/25/99 | Calibration Date: | 1/24/00 |
| Survey Date / Time: | 7/23/99 | Field Bkg.: | 9,000 cpm |
| Surveyor(s): | C. Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background

N

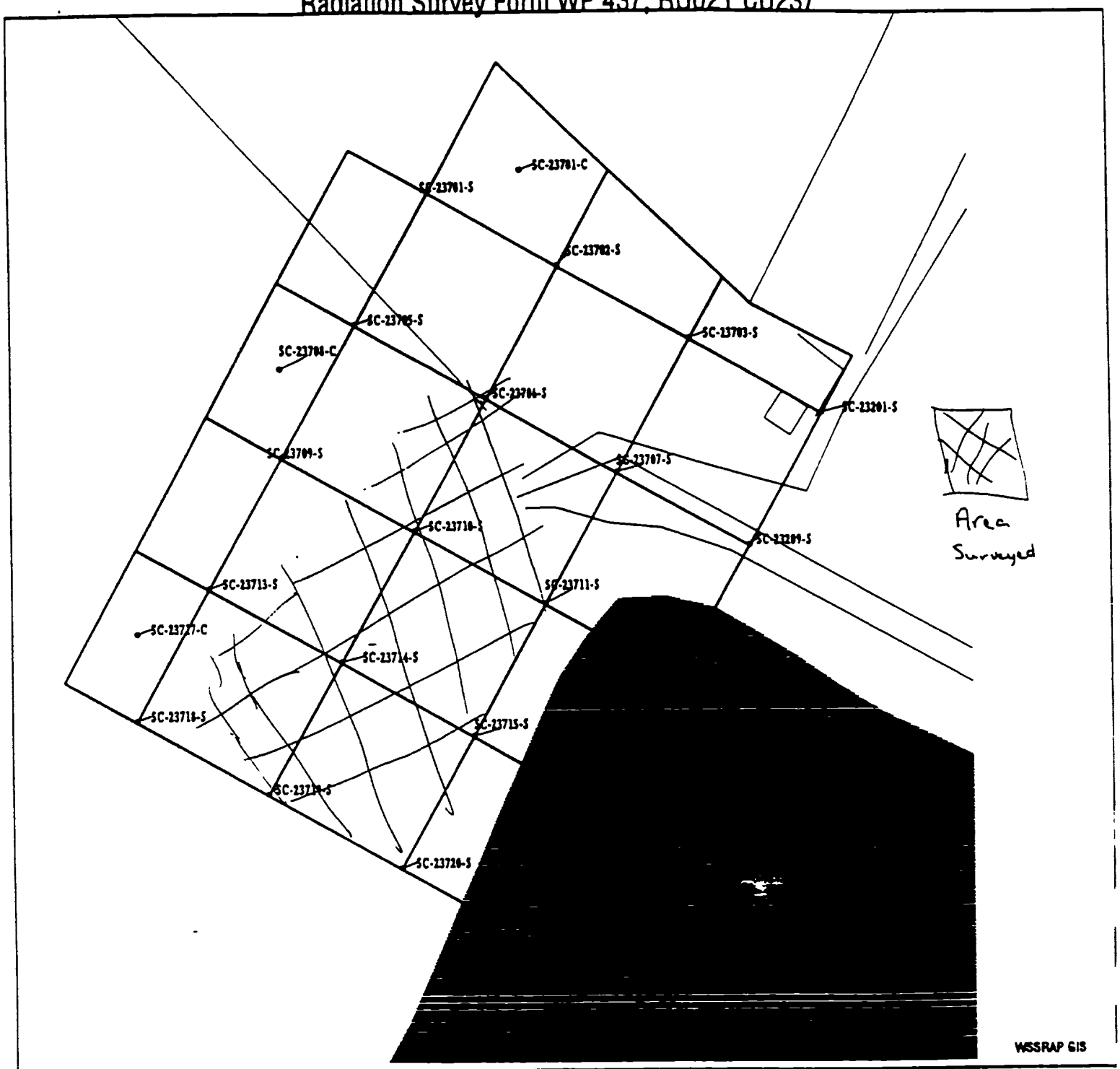
GRAPHIC SCALE

80 0 30 60

( IN FEET )

1 inch = 60 ft.

# Radiation Survey Form WP 437, BU021 CU237




15 7.5 0 METERS

45 22.5 0 FEET

Meter Model#: 2221 & 2221

Meter Serial#: 106696 & 127252

Calibration Due: 12-1-99 & 8-27-99

Survey Date/Time: 11/28/99 DF

Surveyor(s): C. Hanner & J. Rankins

Detector Model#: NaI 2x2 Detector Tubes

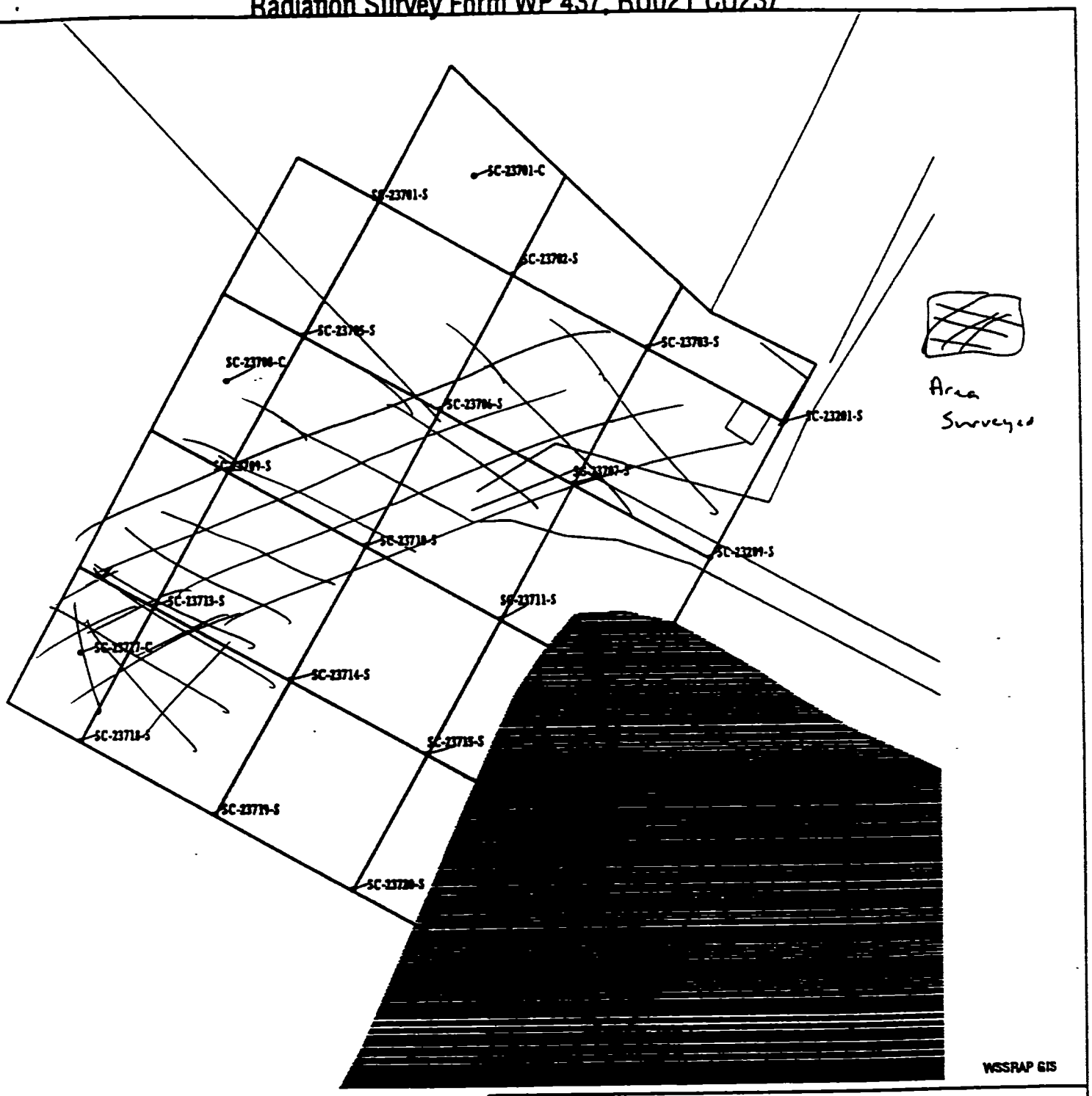
Detector Serial#: 130764 & 122191

Calibration Due: 7-21-99 & 8-11-99

Field Bkg.: 12,000

Comments: Area surveyed and found to be below 1.5 times background

# Radiation Survey Form WP 437, RU021 CU237




15 7.5 0 METERS

45 22.5 0 FEET

N W E S

Meter Model#: 2221 / 2221

Meter Serial#: 106696 / 4268

Calibration Due: 12-1-99 / 12-18-99

Survey Date/Time: 3/1/99

Surveyor(s): C. Hanner & M. Medina

Detector Model#: 2x2 NaI M&O

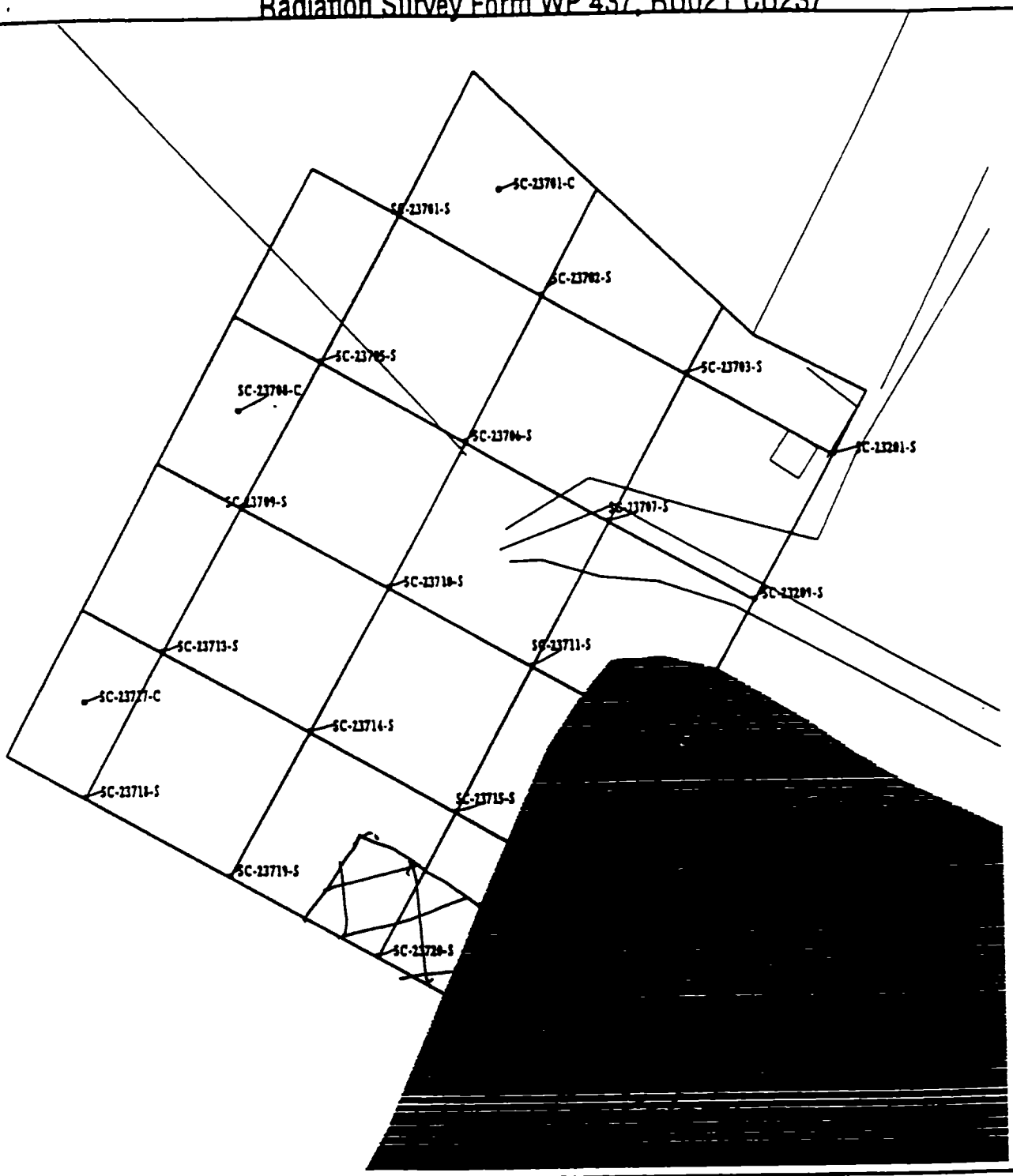
Detector Serial#: 130764 / 5779

Calibration Due: 7-21-99 / 5-6-99

Field Bkg.: 18000 on Top
8500 on Face of Slope

Comments: Area was surveyed and found to be less than 1.5 times background

# Radiation Survey Form WP 437, BU021 CU237




WSSRAP GIS

15 7.5 0 METERS

45 22.5 0 FEET

Meter Model#: 2221

Meter Serial#: ~~2575~~ TB 106696

Calibration Due: 12-1-99

Survey Date/Time: 5-8-99

Surveyor(s): T. Brown

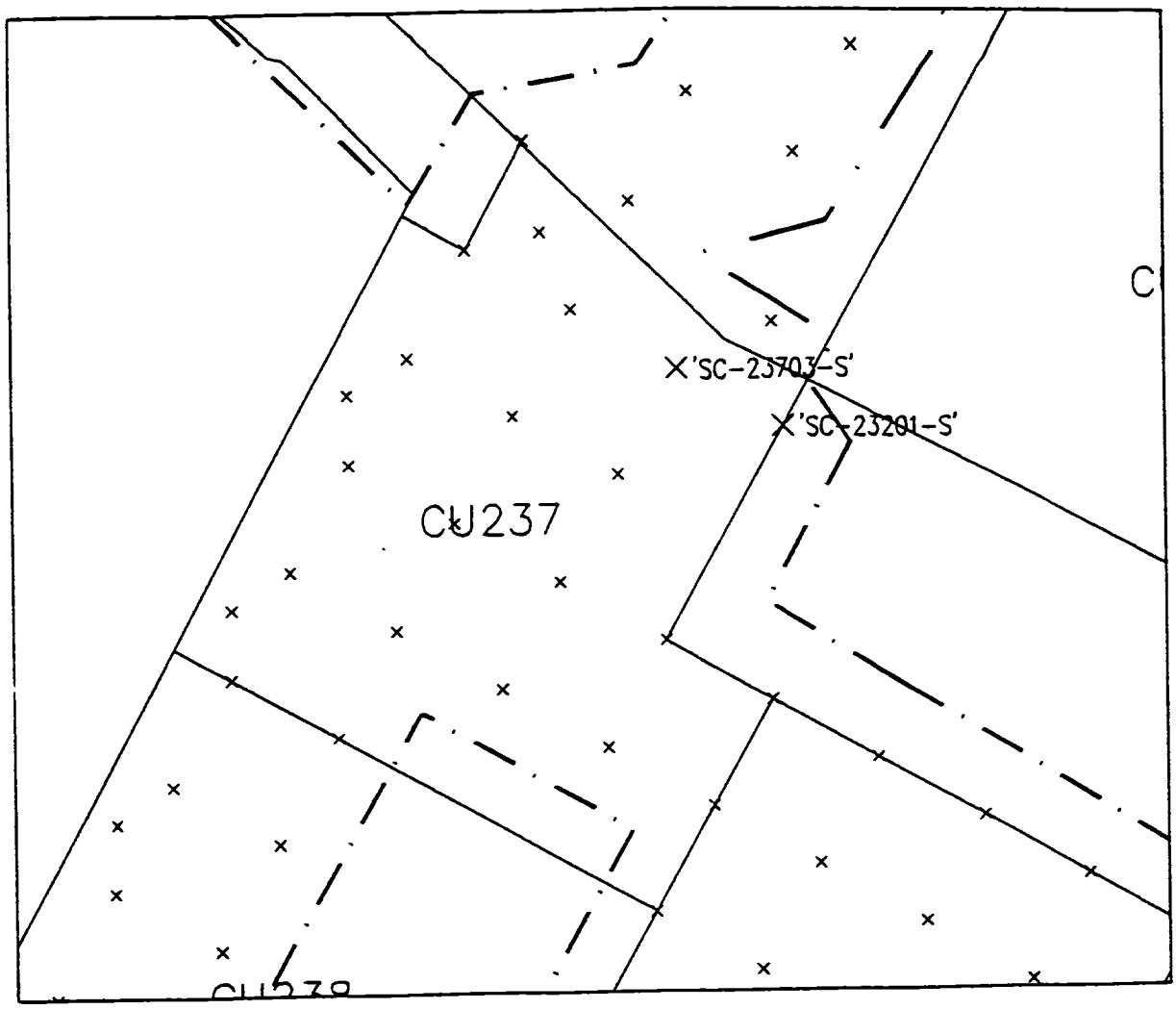
Comments: All readings w/1.5 times BKgr.

Detector Model#: NaI 2x2

Detector Serial#: 130764

Calibration Due: 7-21-99

Field Bkg.: 5,000 cpm




LEGEND

▫ 'SC-32606-S' SAMPLE POINTS NOT PINNED
× 'SC-32606-S' SAMPLE POINTS PINNED
— · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 237

DBO CAD

Meter Model #: 2221
Meter Serial #: 127247
Calibration Date: 9-25.99
Survey Date Time: 6/10/99
Surveyor(s): T. Brown
Comments: All readings <1.5 Bkg

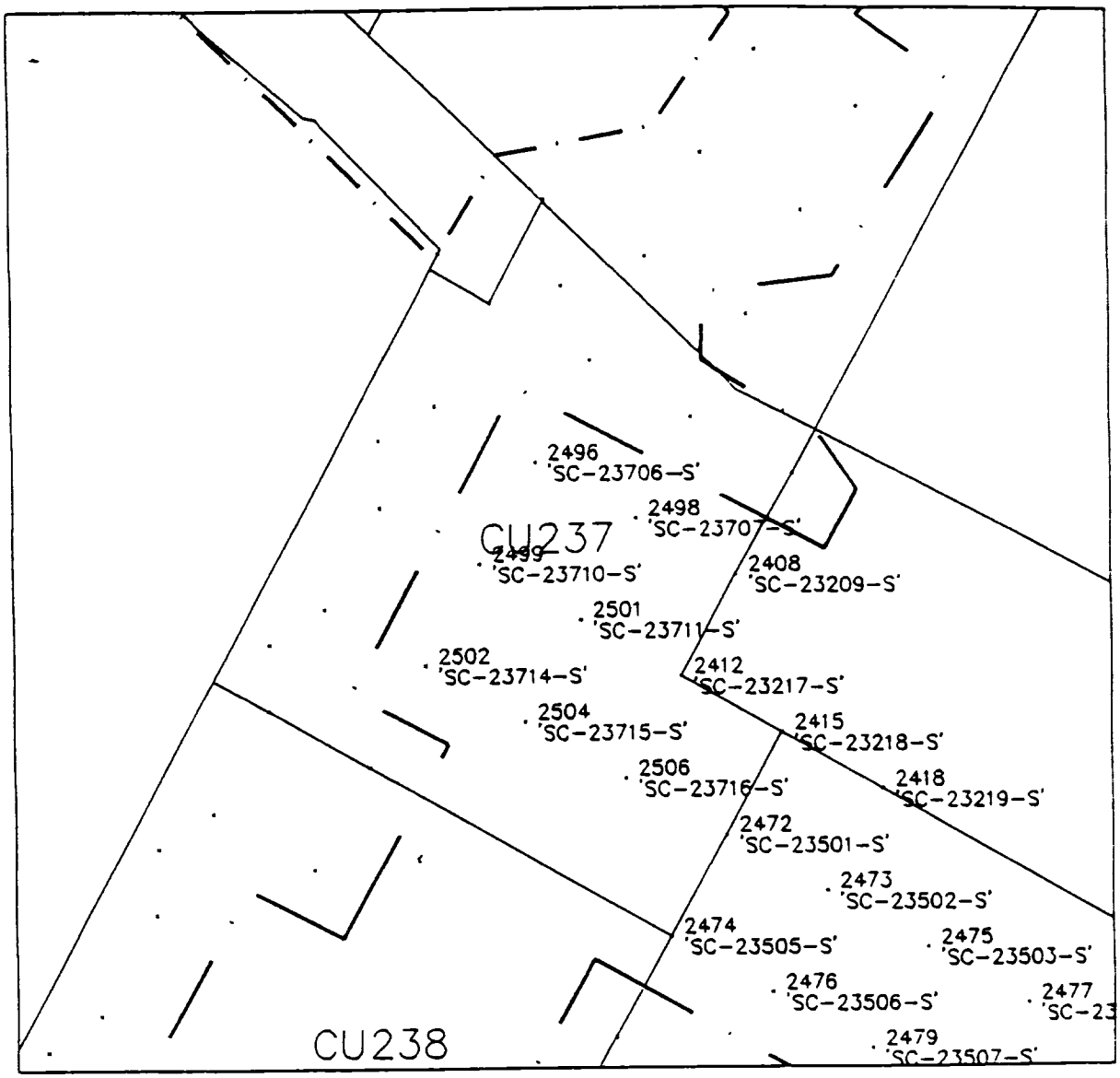
Detector Model #: 2x2 6
Detector Serial #: 4241
Calibration Date: 1-24-00
Field Bkg.: 10,000 CPM

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

| | |
|---|---|
| . | SAMPLE POINTS NOT PINNED |
| ×'SC-32606-S' | SAMPLE POINTS PINNED |
| — · — · — | PINNING LIMITS |

Radiation Survey Form WP 437, RU 21 CU 237

7-31-99 DBO CAD

| | | | |
|---|---|---|---|
| Meter Model # | 2221 | Detector Model #: | UAT "2x2" |
| Meter Serial # | 117607 | Detector Serial #: | 25143 |
| Calibration Due: | 12-18-99 | Calibration Due: | 01-24-00 |
| Survey Date / Time: | 07-27-99 | Field Bkg. | 12,000 cpm |
| Surveyor(s): | J. Rankin | | |

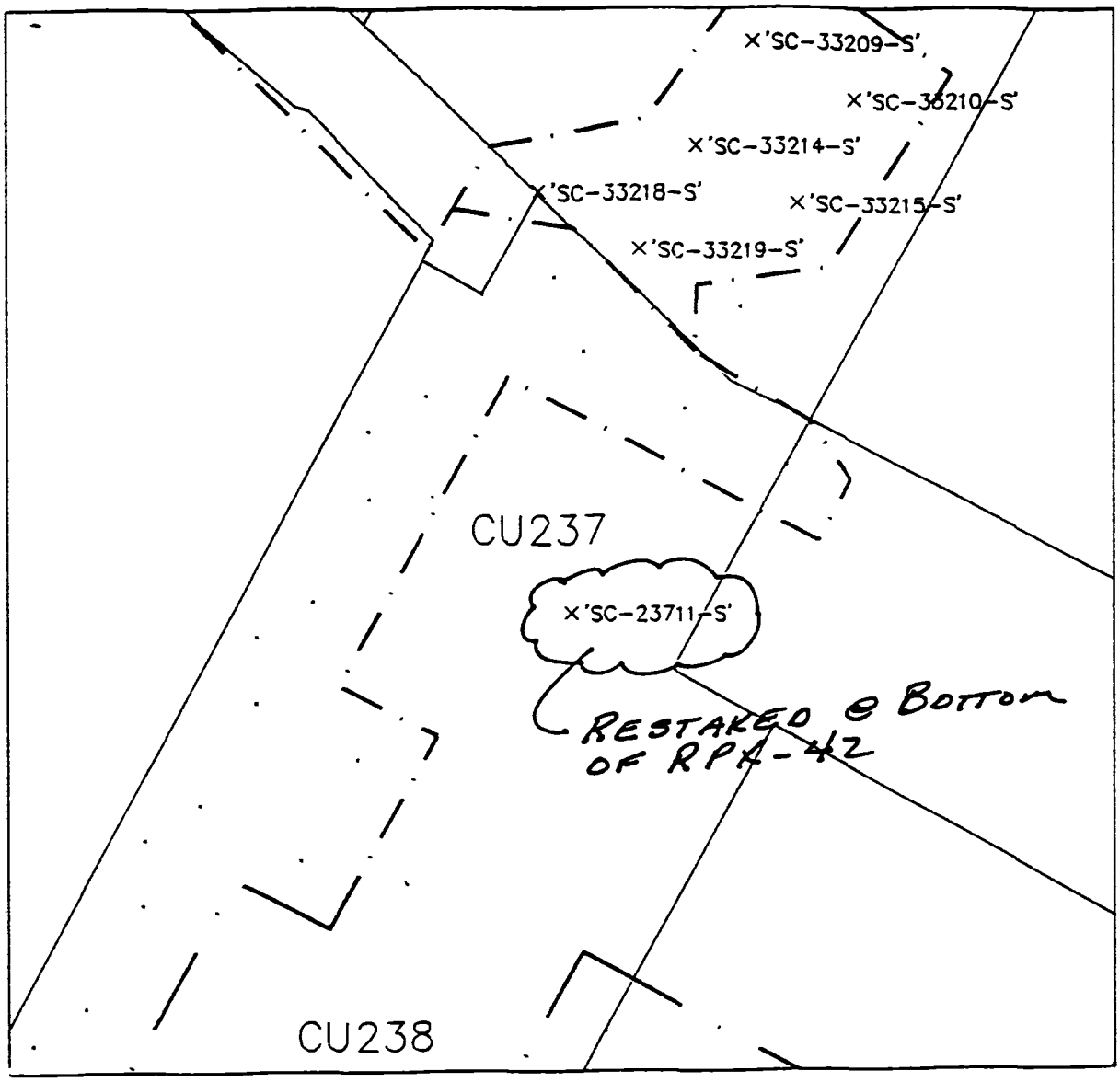
Comments: All areas surveyed < 1.5 Bq
Also CU's # 23207 and 23210 are included.

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

SAMPLE POINTS NOT PINNED

×'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 237

8/13/99

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "G" |
| Meter Serial #: | 127247 | Detector Serial #: | 122192 |
| Calibration Date: | 9/25/99 | Calibration Date: | 1/24/00 |
| Survey Date Time: | 8/12/99 | Field Bkg.: | 10,000 |
| Surveyor(s): | J. Rankins | | |

Comments: Area was surveyed and found to be less than 1.5 times background

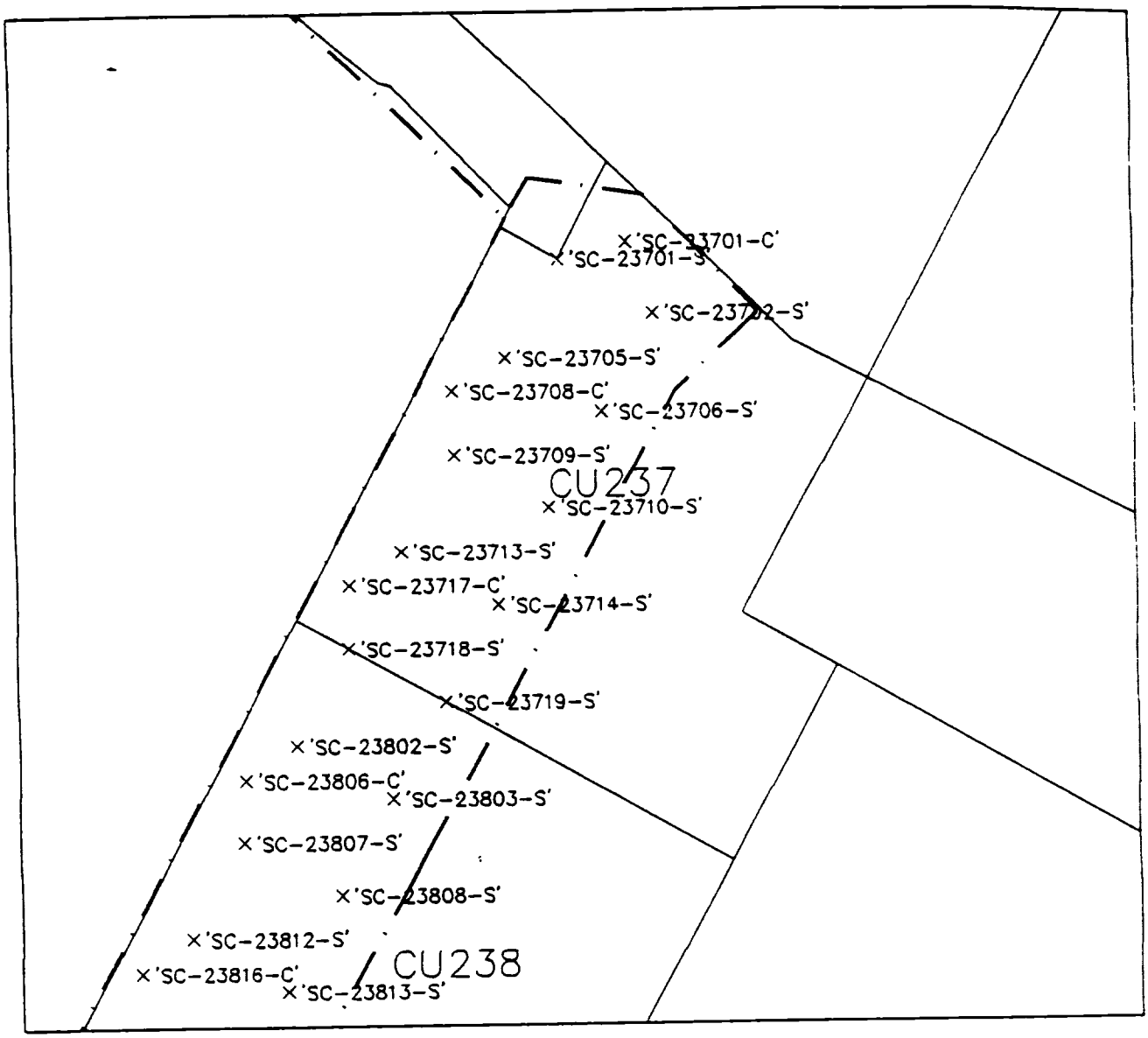
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.




LEGEND

SAMPLE POINTS NOT PINNED

×'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 237

8/24/99

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "G" |
| Meter Serial #: | 127247 | Detector Serial #: | 122192 |
| Calibration Due: | 9/25/99 | Calibration Due: | 1/24/00 |
| Survey Date / Time: | 8/23/99 | Field Bkg. | 12,000 cpm |
| Surveyor(s): | C. Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background

N

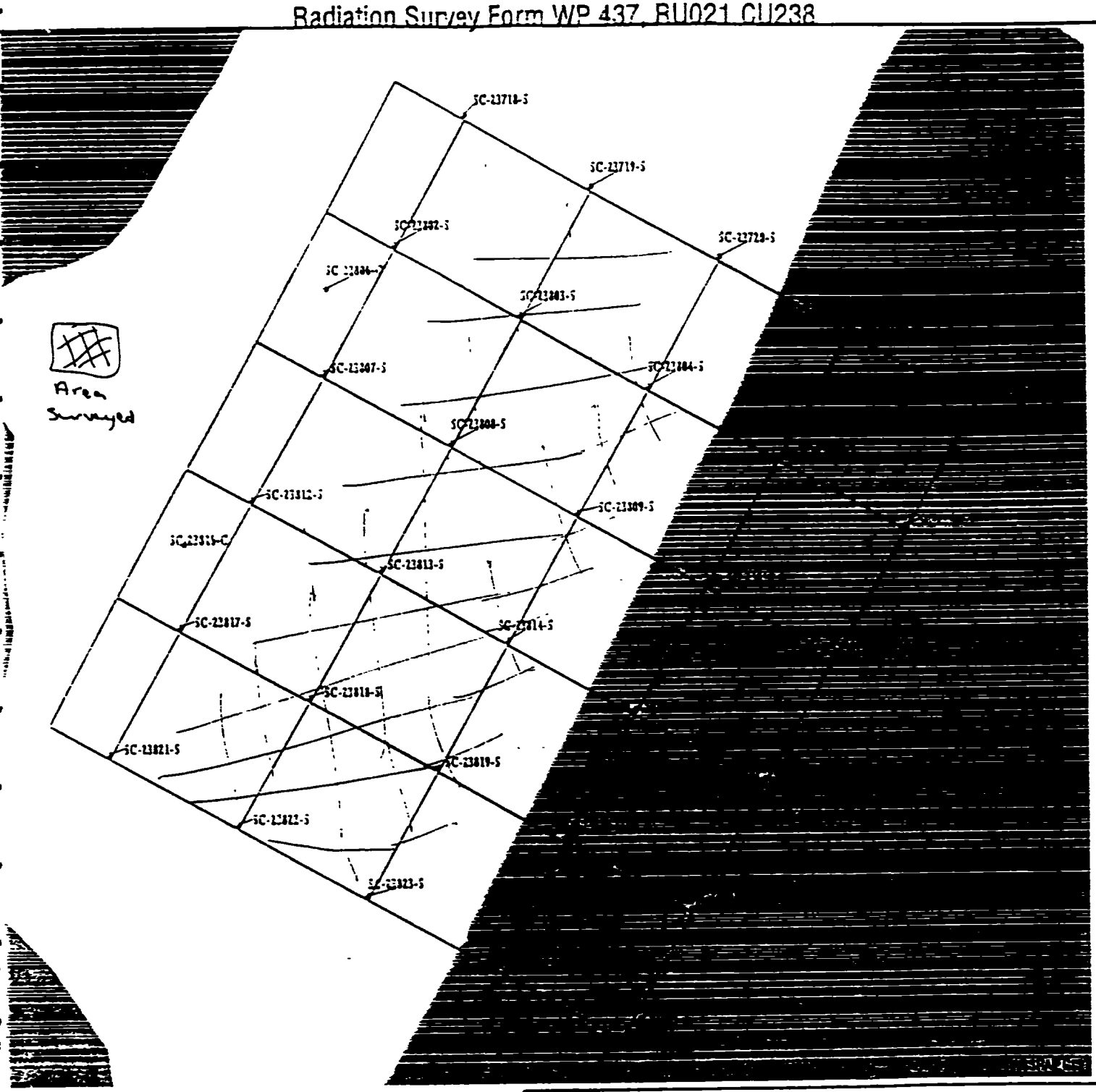
GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.

# Radiation Survey Form WP 437, BU021 CU238




7.5 0 METERS

22.5 0 FEET

Meter Model#: 2221 & 2221

Meter Serial#: 106696 & 127252

Calibration Due: 12-1-99 & 8-27-99

Survey Date/Time: 1/28/99

Detector Model#: NaI 2x2 Detector

Detector Serial#: 130764 & 122191

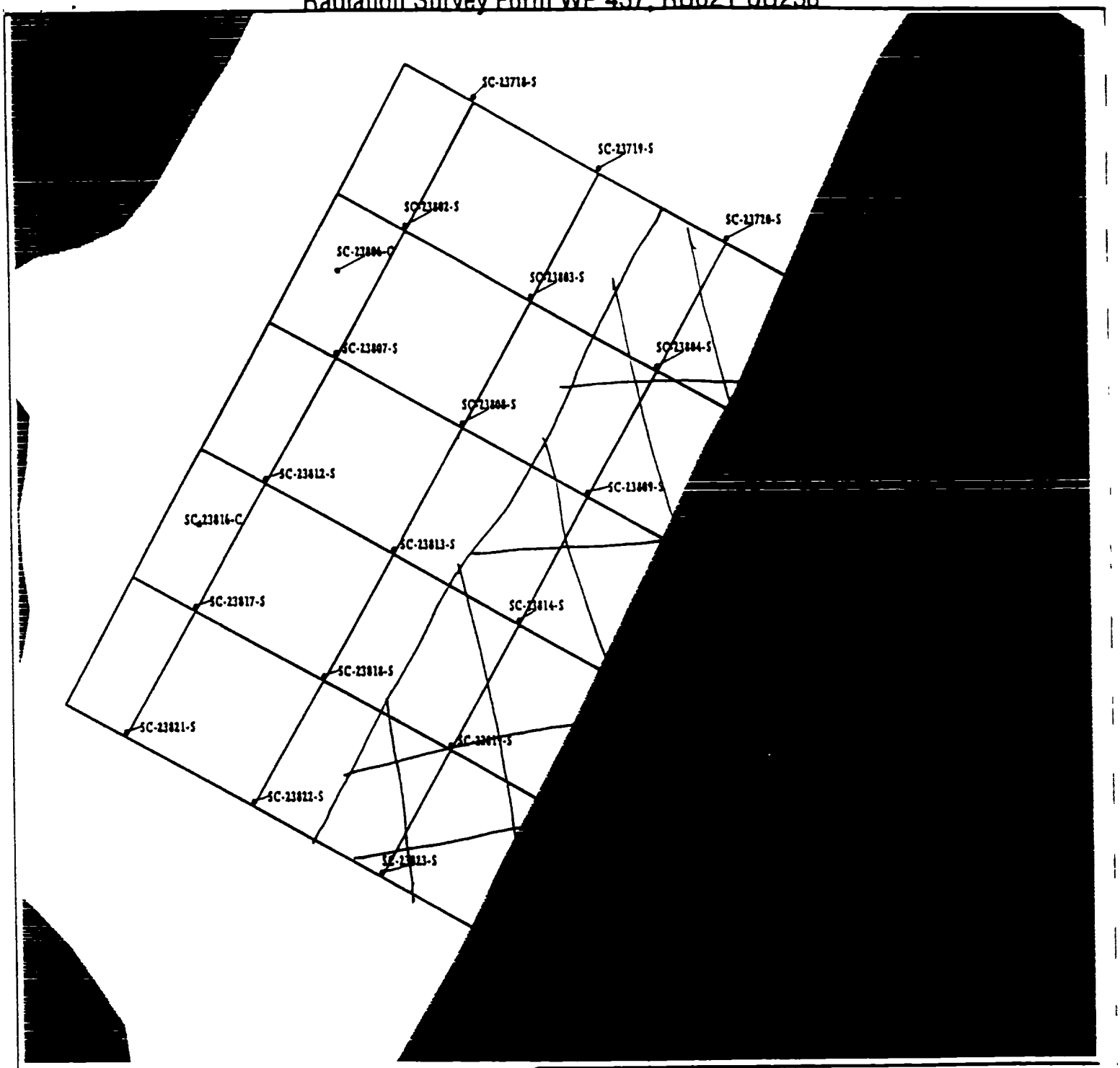
Calibration Due: 7-21-99 & 8-11-99

Field Bkg. 12,000

Surveyor(s): C. Hanner & J. Rankins

Comments: Area surveyed and found to be below 1.5 times background

# Radiation Survey Form WP 437, RU021 CU238




15 7.5 0 METERS

45 22.5 0 FEET

Meter Model#: 2221

Meter Serial#: 106696

Calibration Due: 12-1-99

Survey Date/Time: 5-8-99

Surveyor(s): J. Brower

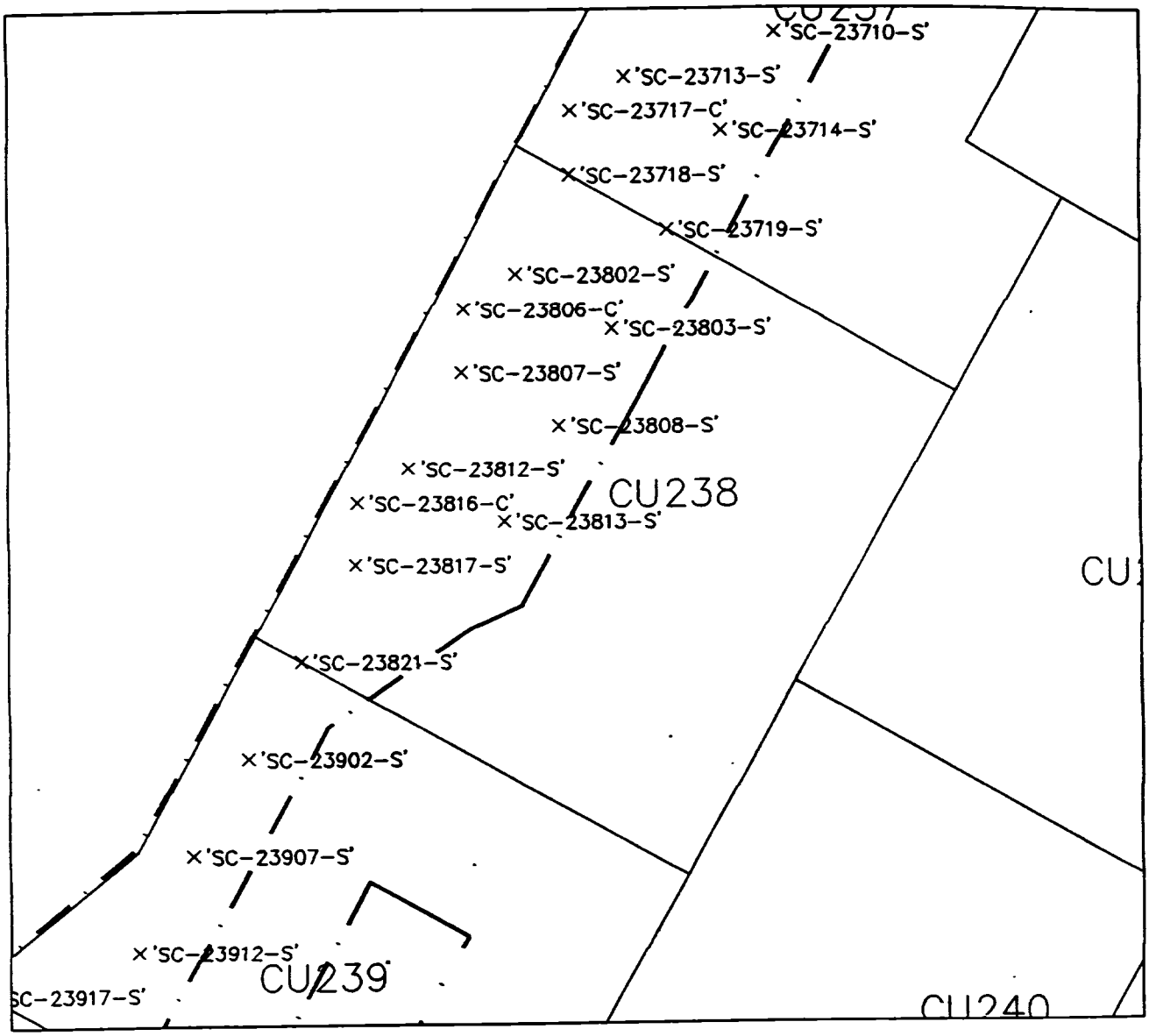
Comments: All readings <1.5 times Bkgs.

Detector Model#: NaI 2x2

Detector Serial#: 130764

Calibration Due: 7-21-99

Field Bkg.: 5,000 CPM




LEGEND

SAMPLE POINTS NOT PINNED

×'SC-32606-S' SAMPLE POINTS PINNED

— · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 238

8/24/99

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2+2 NaI 6" |
| Meter Serial #: | 127247 | Detector Serial #: | 122192 |
| Calibration Date: | 9/25/99 | Calibration Date: | 1/24/00 |
| Survey Date / Time: | 8/25/99 | Field Bkg.: | 12,000 cpm |
| Surveyor(s): | C. Hanna | | |

Comments: Area was surveyed and found to be less than 1.5 times background

N

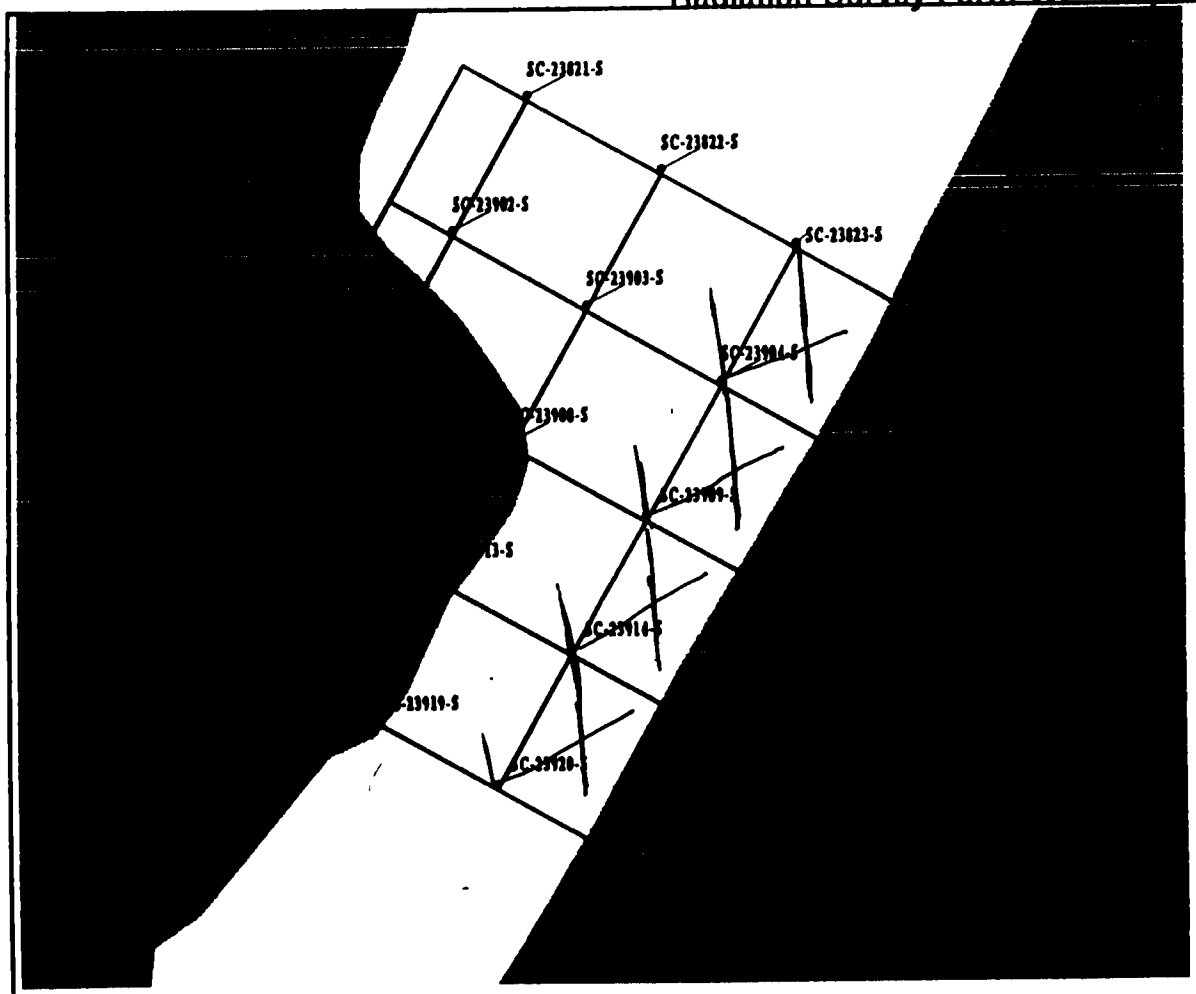
GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.

# Radiation Survey Form WP 437, RU021CU239




15 7.5 0 15 METERS

45 22.5 0 45 FEET

N E S

WSSRAP GIS

Meter Model#: 2221 / 2221 Detector Model#: NaI 2x2 / NaI 2x2

Meter Serial#: 116696 / 117607 Detector Serial#: 130764 / 1602582

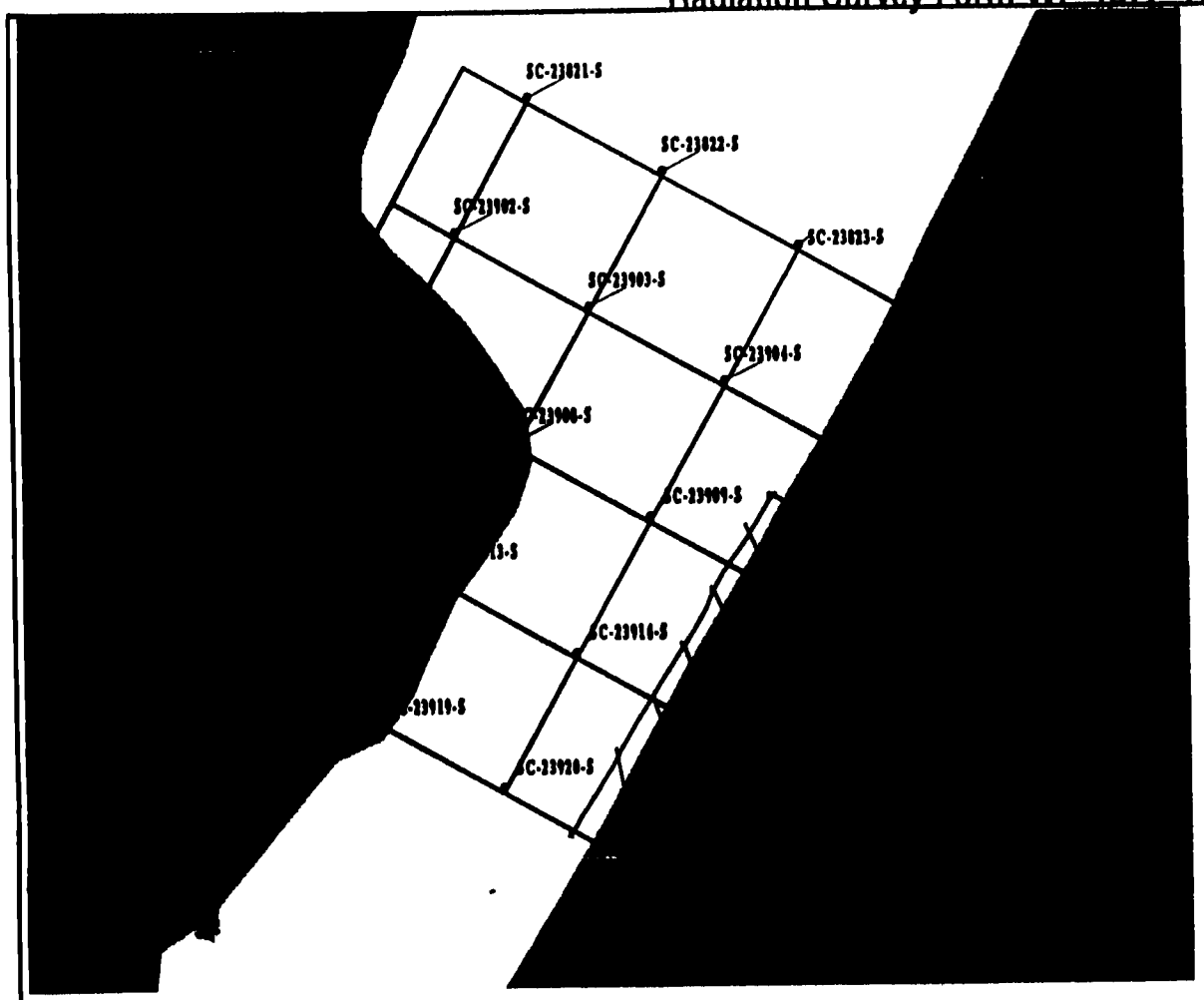
Calibration Due: 12-1-99 / 12-18-99 Calibration Due: 7-21-99 / 5-6-99

Survey Date/Time: 01/29/99 Field Bkg.: 12K / 23K

Surveyor(s): Jonathan Rankins & Chris Hamner

Comments: Area was surveyed and found to be below 1.5 times background

# Radiation Survey Form WP 437 RU021CU239




WSSRAP GIS

15 7.5 0 15 METERS

45 22.5 0 45 FEET

N E S

Meter Model#: 2221 Detector Model#: NaI 2x2

Meter Serial#: 127252 Detector Serial#: 122191

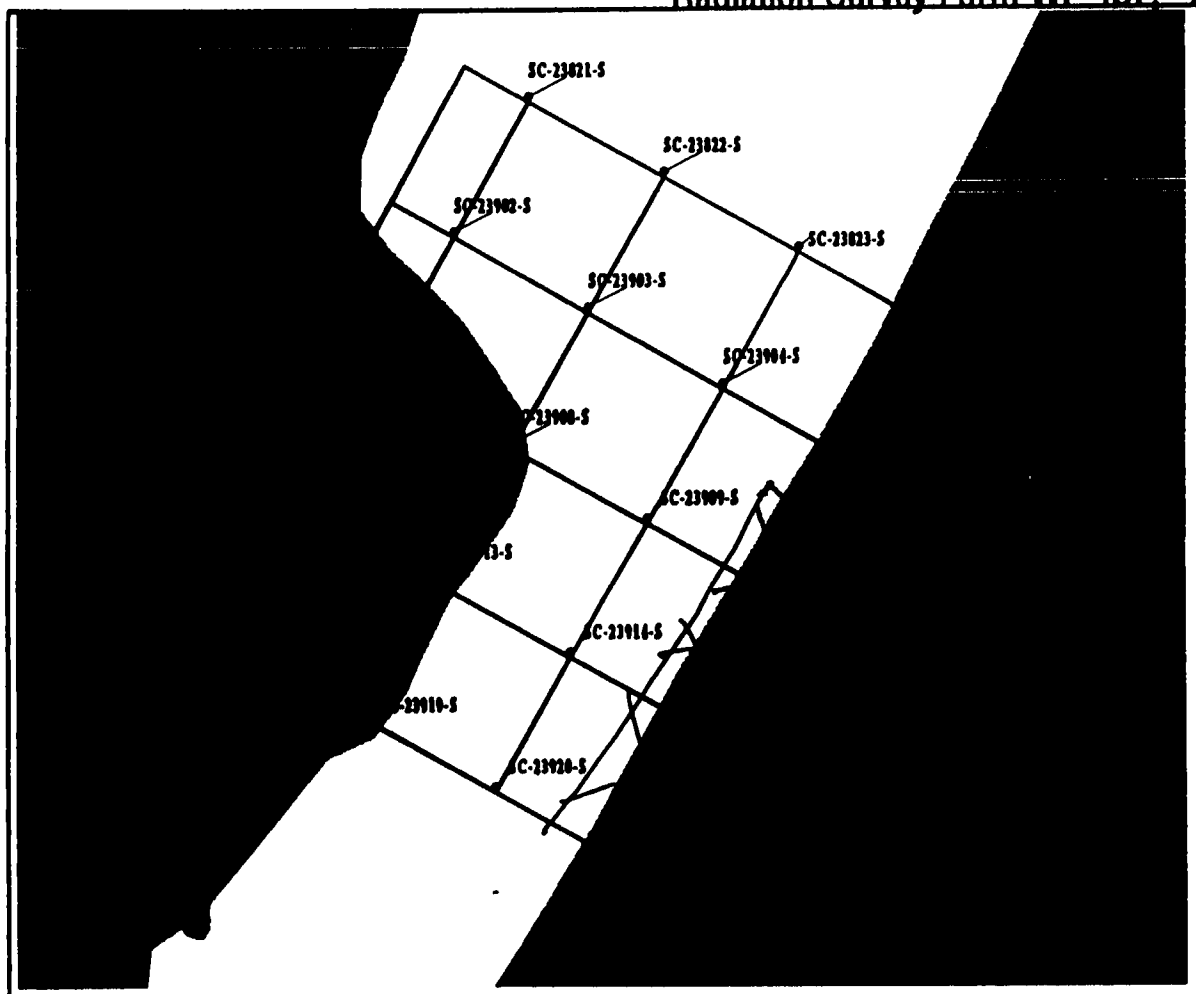
Calibration Due: 8-27-99 Calibration Due: 8-11-99

Survey Date/Time: 4/27/99 Field Bkg.: 5,000 CPM

Surveyor(s): T. Brewer

Comments: All readings < 1.5 times Bkg.

# Radiation Survey Form WP 437, RU021CU239



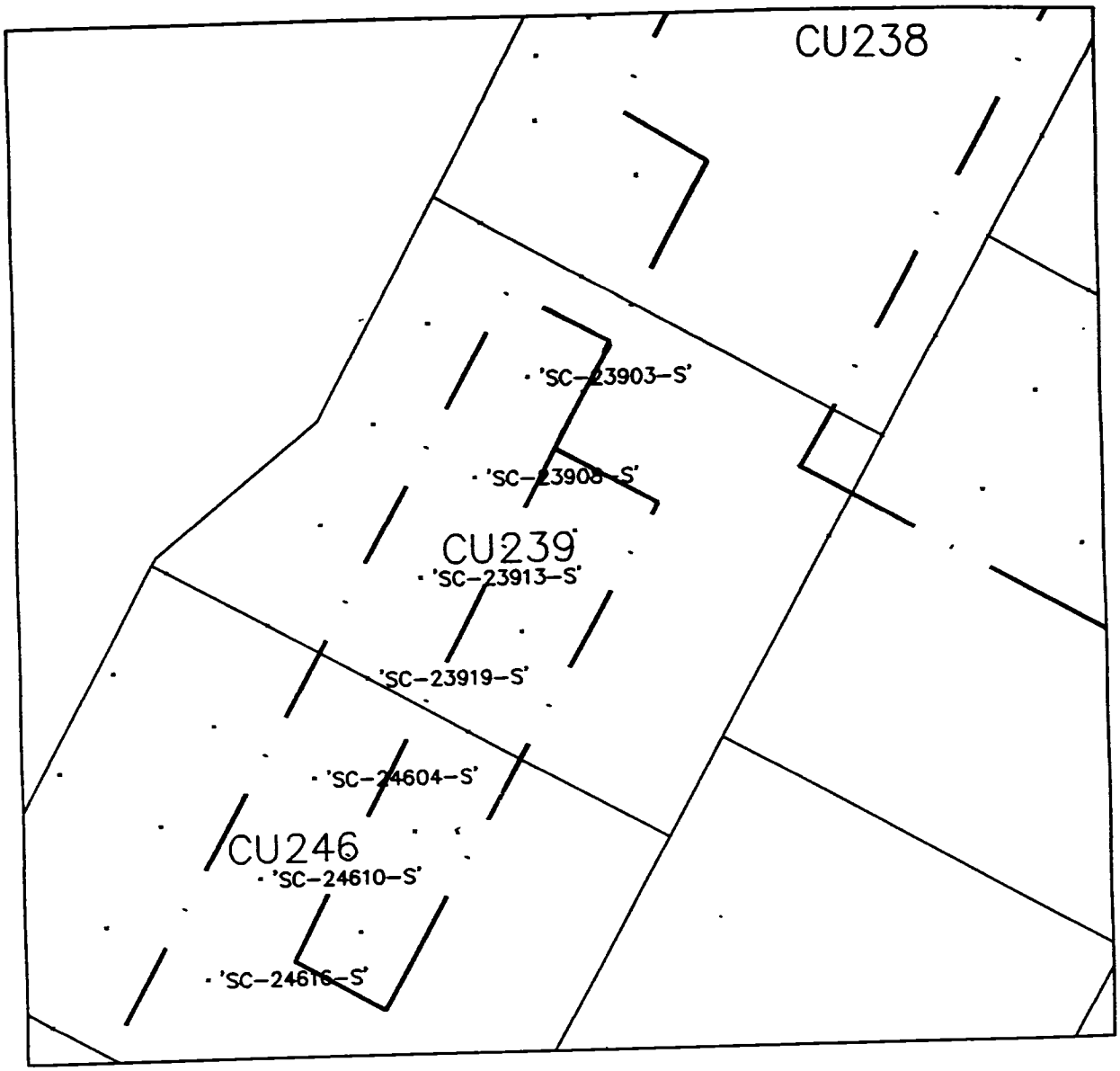

WSSRAP GIS

| | | | |
|---|---|---|---|
| Meter Model#: | 2221 | Detector Model#: | NaI 2x2 |
| Meter Serial#: | 106696 | Detector Serial#: | 130764 |
| Calibration Due: | 12-1-99 | Calibration Due: | 7-21-99 |
| Survey Date/Time: | 5-8-99 | Field Bkg.: | 5,000 CPM |
| Surveyor(s): | T. Brown | | |
| Comments: | All readings <1.5 Times Bkgr. | | |

16 7.5 0 16 METERS

45 22.5 0 45 FEET

N E S




LEGEND

SAMPLE POINTS NOT PINNED

x'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 239

8-3-99

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | NaI "2x2" |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Due: | 12-18-99 | Calibration Due: | 01-24-00 |
| Survey Date / Time: | 07-23-99 | Field Bkg.: | 12,000 cpm |
| Surveyor(s): | J. Rankin | | |
| Comments: | All areas surveyed < 1.5 BKG. | | |

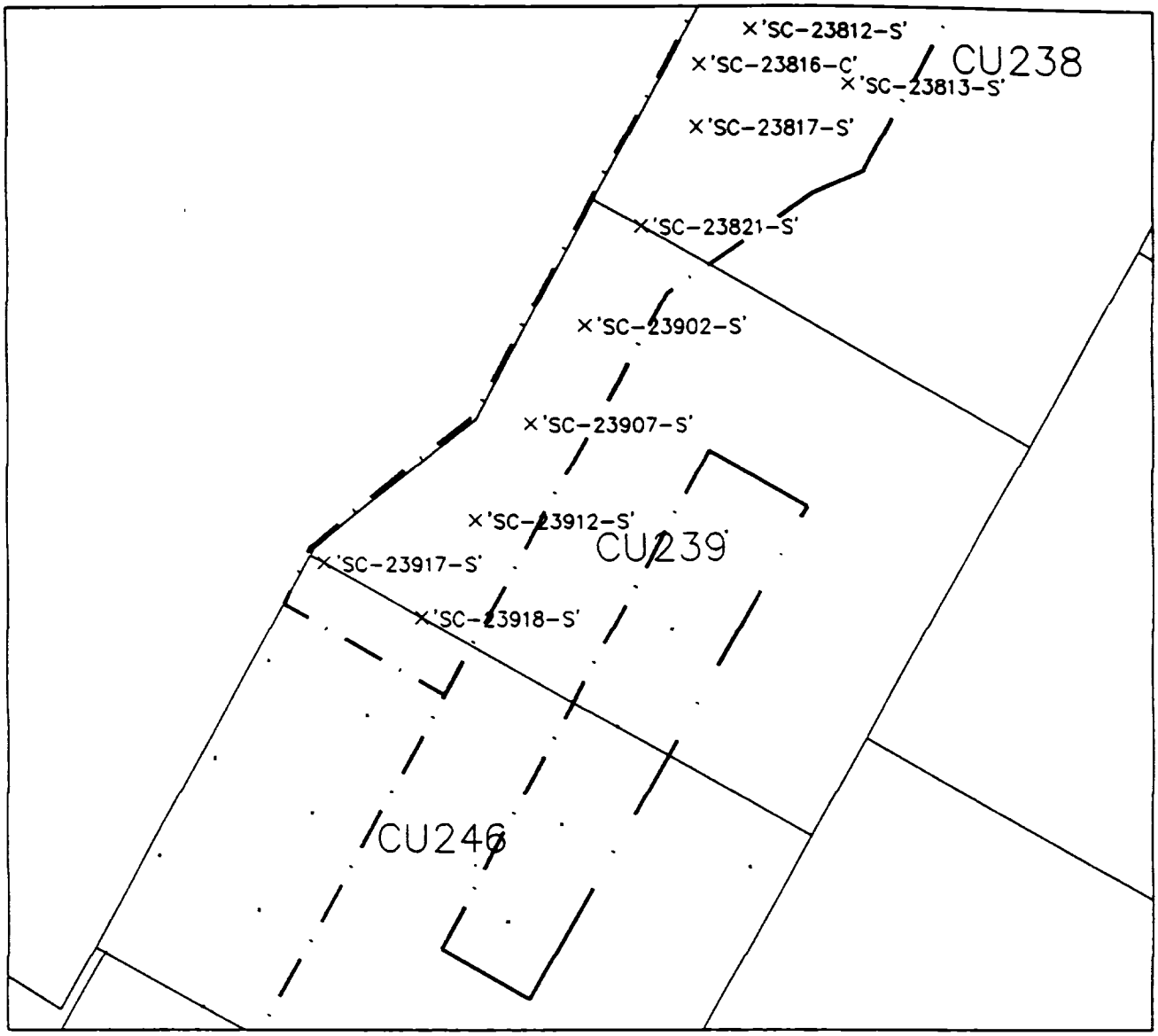
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.




LEGEND

| | |
|---|---|
| · | SAMPLE POINTS NOT PINNED |
| ×'SC-32606-S' | SAMPLE POINTS PINNED |
| — · — · — | PINNING LIMITS |

Radiation Survey Form WP 437, RU 21 CU 239

8/24/99

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model # | 2221 | Detector Model #: | 2x2 NaI "6" |
| Meter Serial # | 127247 | Detector Serial # | 122192 |
| Calibration Due: | 9/25/99 | Calibration Due: | 1/24/00 |
| Survey Date / Time. | 8/25/99 | Field Bkg. | 12,000 cpm |
| Surveyor(s). | C. Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background

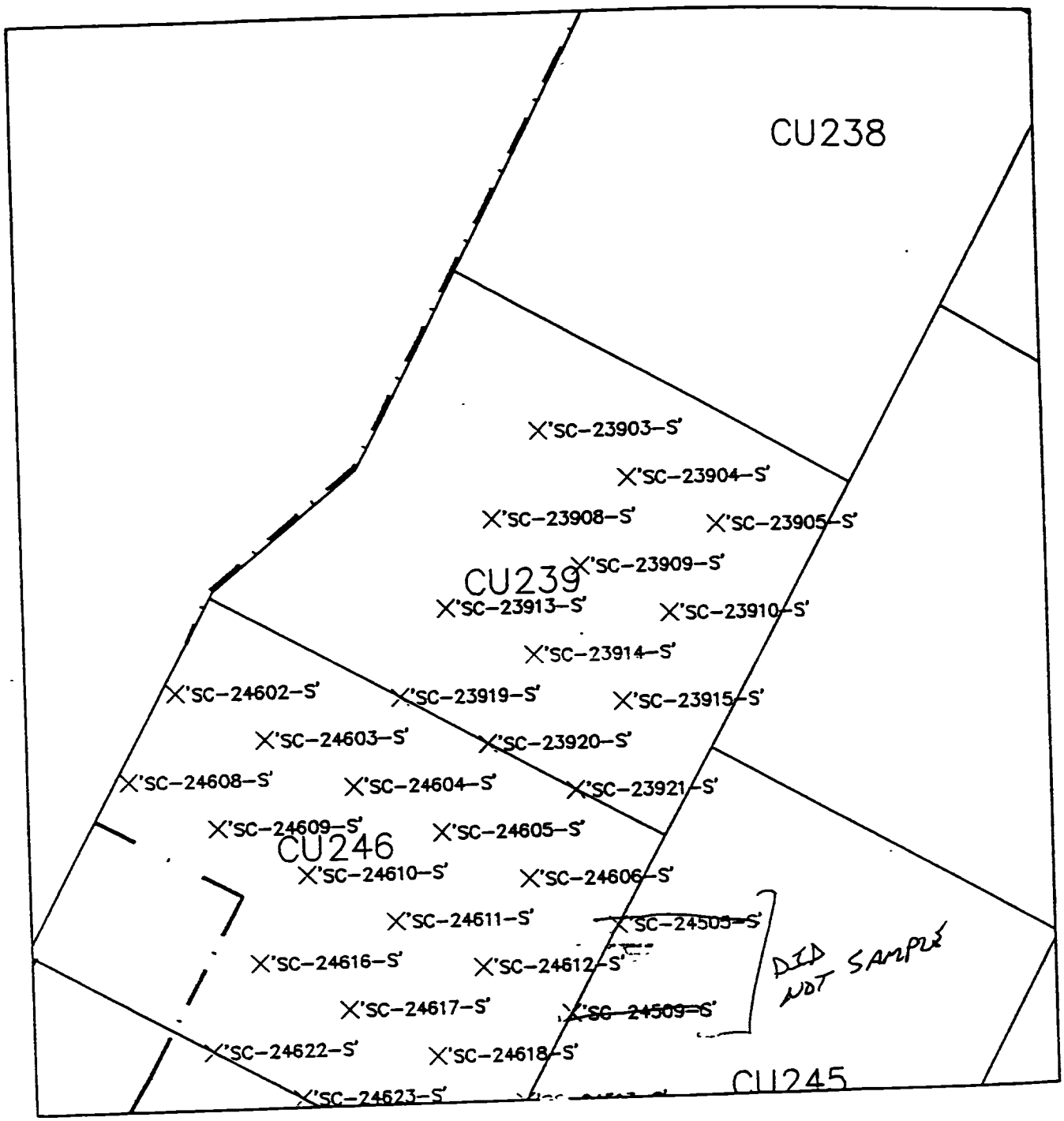
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

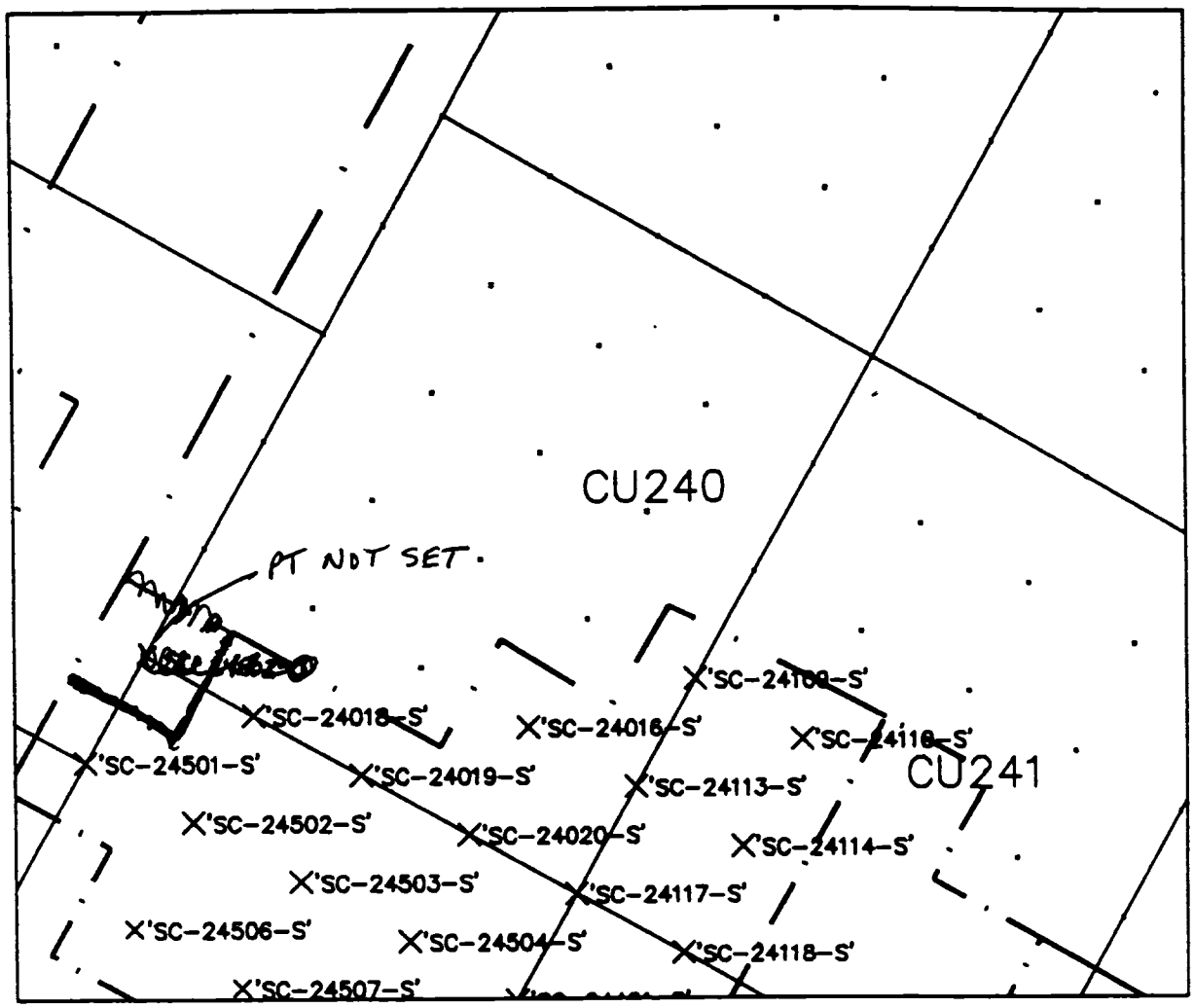
GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 239
9/26/99 DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 44-16-2 | Detector Model #: | 2221 |
| Meter Serial #: | 130774 N | Detector Serial #: | 106696 |
| Calibration Due: | 1-24-00 | Calibration Due: | 12-1-99 |
| Survey Date / Time: | 9-25-99 / 1600 | Field Bkg.: | 12,600 cpm |
| Surveyor(s): | DFEMING | | |
| Comments: | ALL AREAS SURVEYED WERE < 1.5 x BKG | | |




LEGEND

· 'SC-32606-S' SAMPLE POINTS NOT PINNED
× 'SC-32606-S' SAMPLE POINTS PINNED
— · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 240

DBO CAD

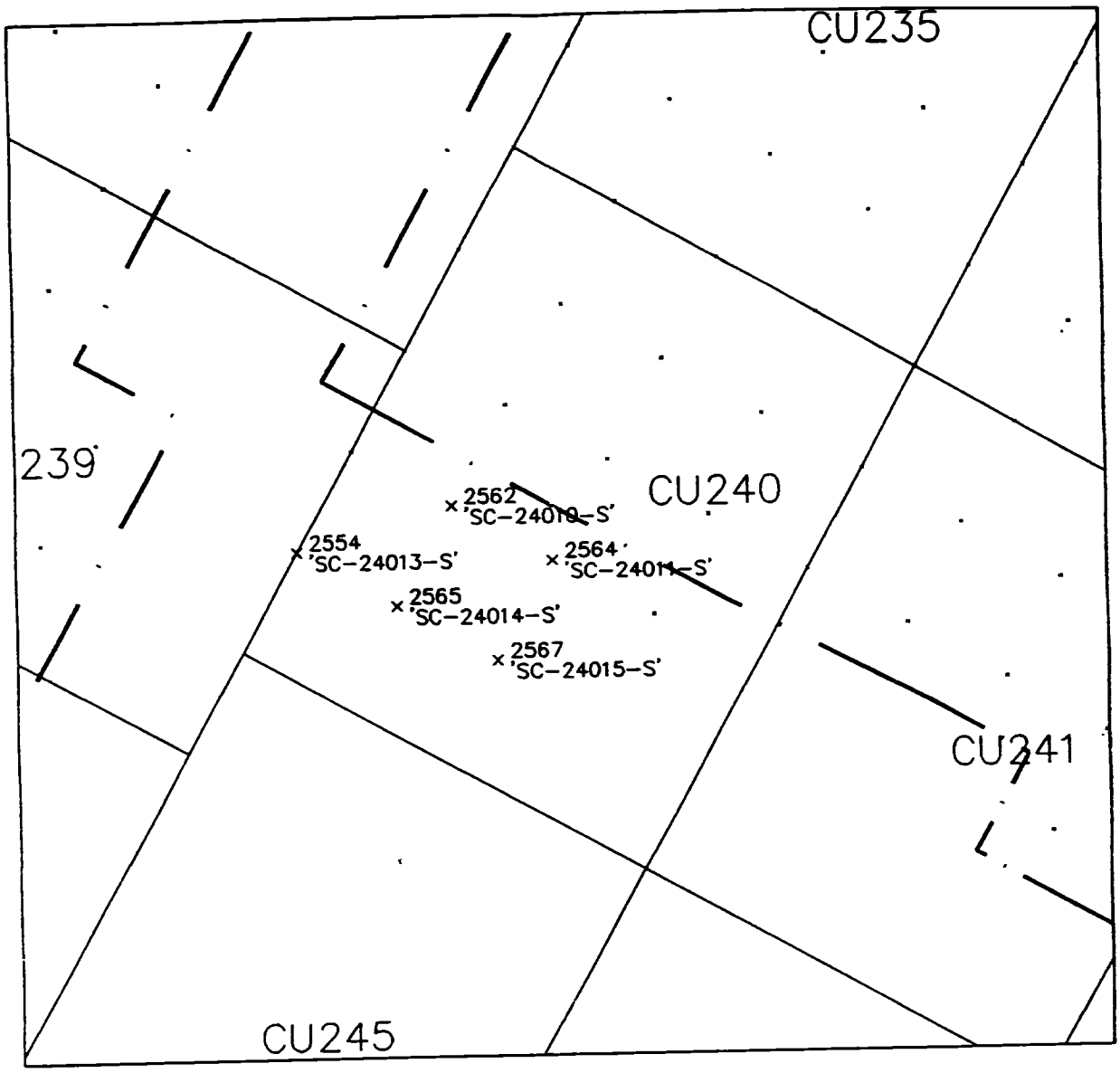
| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "6" |
| Meter Serial #: | 127247 | Detector Serial #: | 122192 |
| Calibration Due: | 9/25/99 | Calibration Due: | 1/24/00 |
| Survey Date / Time: | 6/24/99 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | T. Brewer | | |
| Comments: | All readings <1.5 Bkg. | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

SAMPLE POINTS NOT PINNED

× 'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 240

TPA DHO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "6" |
| Meter Serial #: | 127247 | Detector Serial #: | 4241 |
| Calibration Due: | 1/25/99 | Calibration Due: | 1/24/00 |
| Survey Date / Time: | 7/14/99 | Field Bkg.: | 8,000 CPM |
| Surveyor(s): | T. Brown | | |
| Comments: | All readings i1.5 BKg | | |

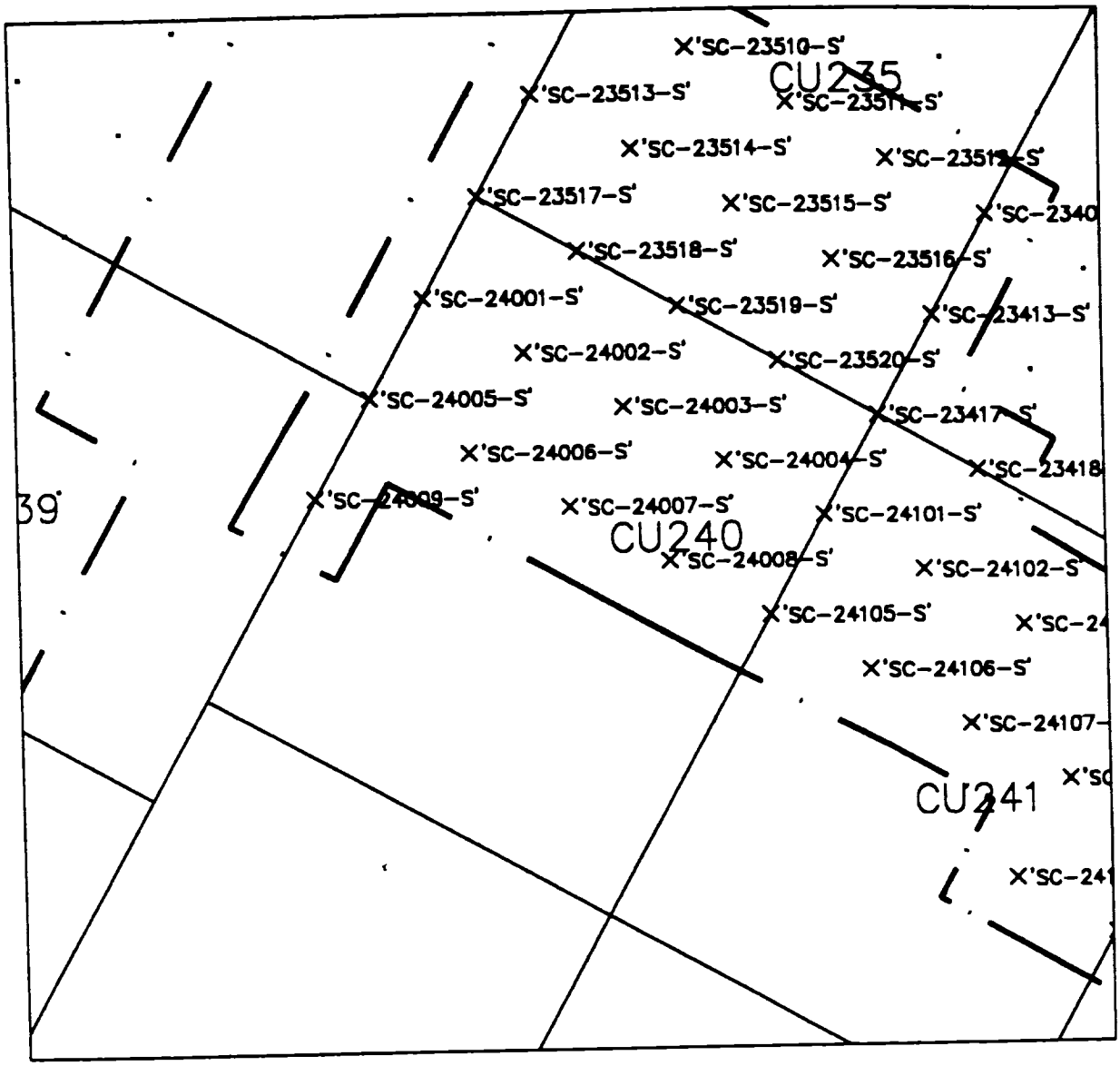
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

**Radiation Survey Form WP 437, RU** 21 **CU** 240

DBD CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "G" |
| Meter Serial #: | 127247 | Detector Serial #: | 122192 |
| Calibration Date: | 9/25/99 | Calibration Date: | 1/24/00 |
| Survey Date / Time: | 7/22/99 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | C. Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background

Sample Point 240-12-S Also included, though not indicated

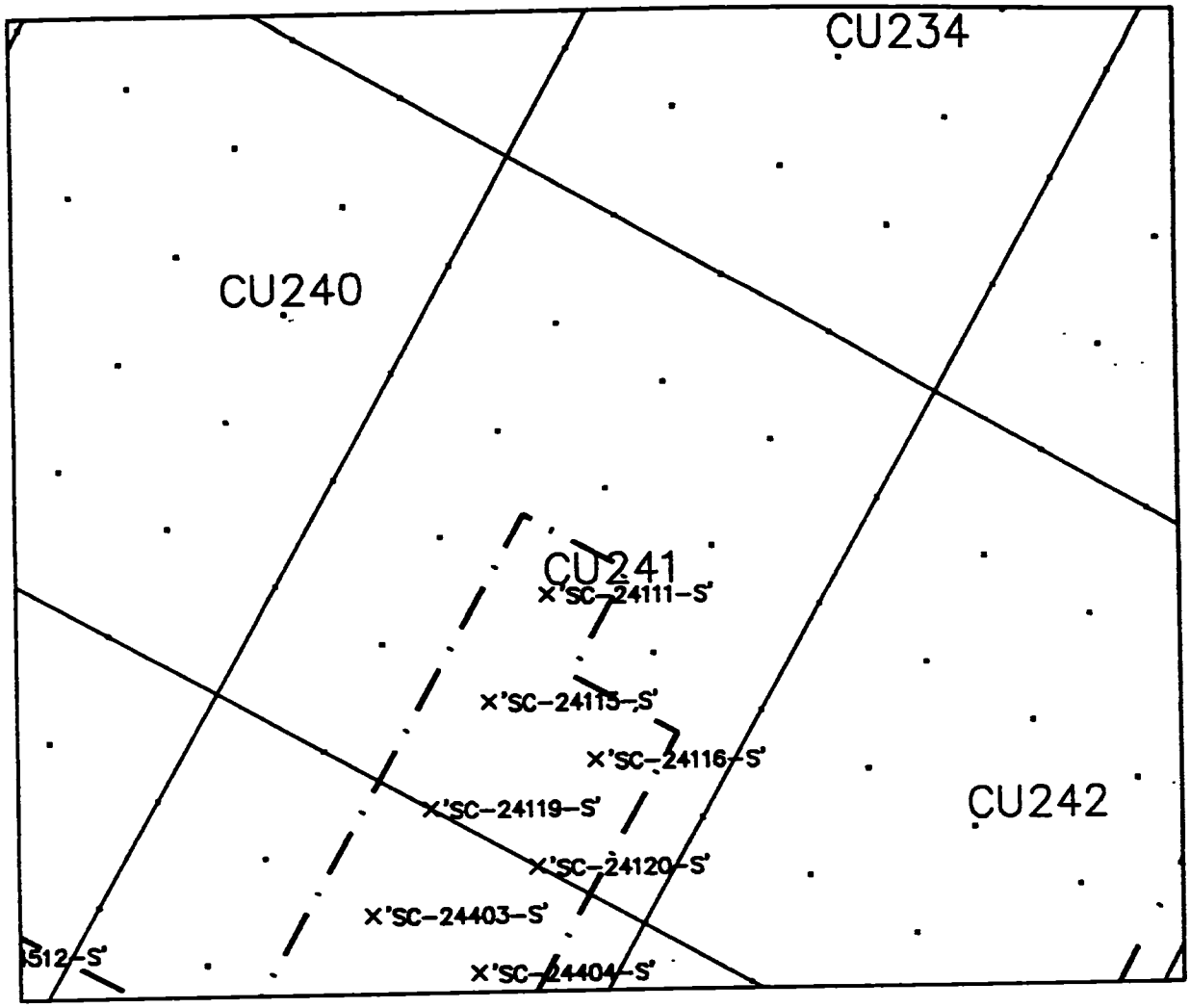
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.




LEGEND

- 'SC-32606-S' SAMPLE POINTS NOT PINNED
× 'SC-32606-S' SAMPLE POINTS PINNED
— · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 241

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "F" |
| Meter Serial #: | 127252 | Detector Serial #: | 122191 |
| Calibration Due: | 8/27/99 | Calibration Due: | 8/11/99 |
| Survey Date / Time: | 6/23/99 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | C. Hanor | | |

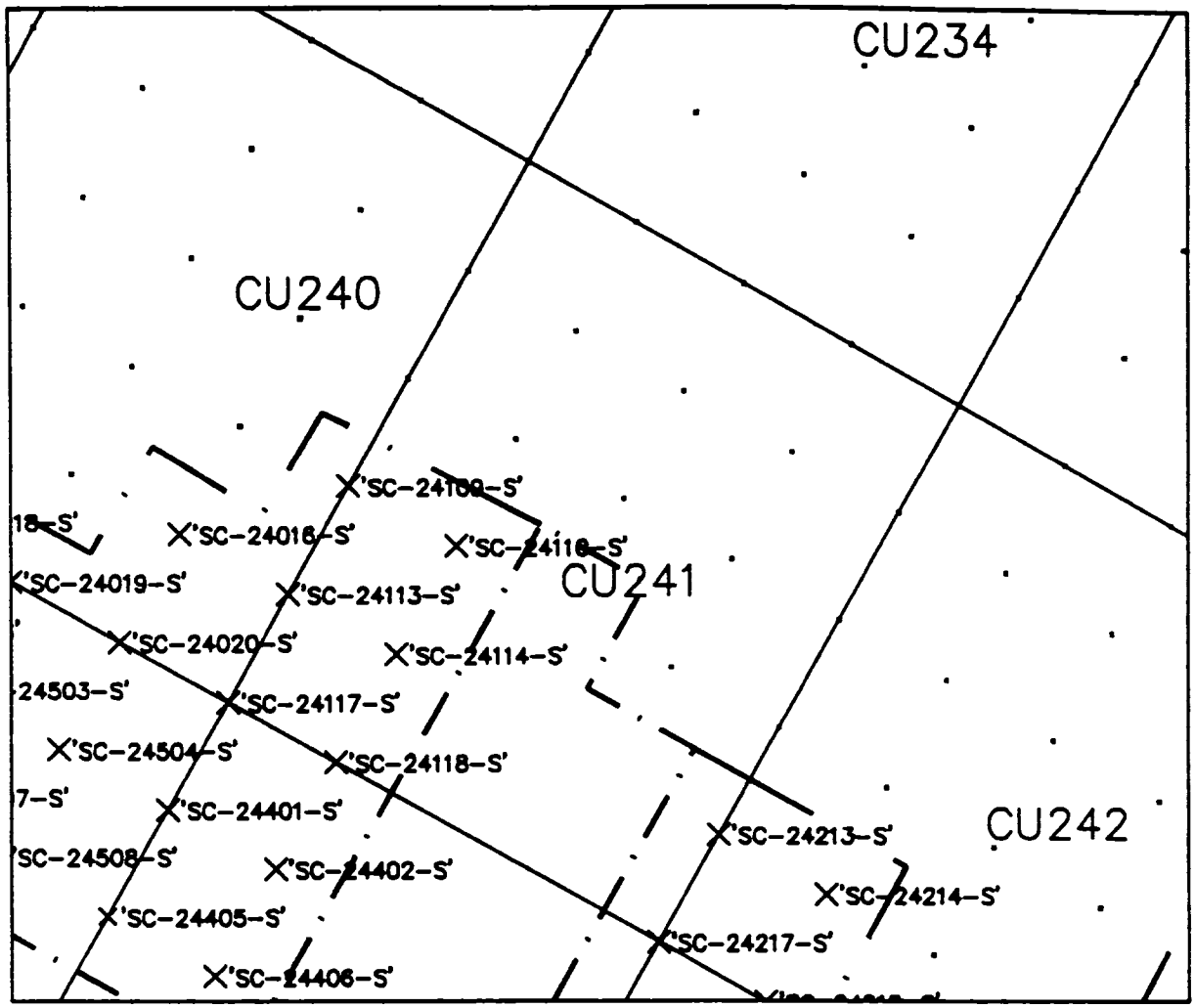
Comments: Area was surveyed and found to be less than 1.5 times background

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

· 'SC-32606-S' SAMPLE POINTS NOT PINNED
× 'SC-32606-S' SAMPLE POINTS PINNED
— · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 241

DBO CAD

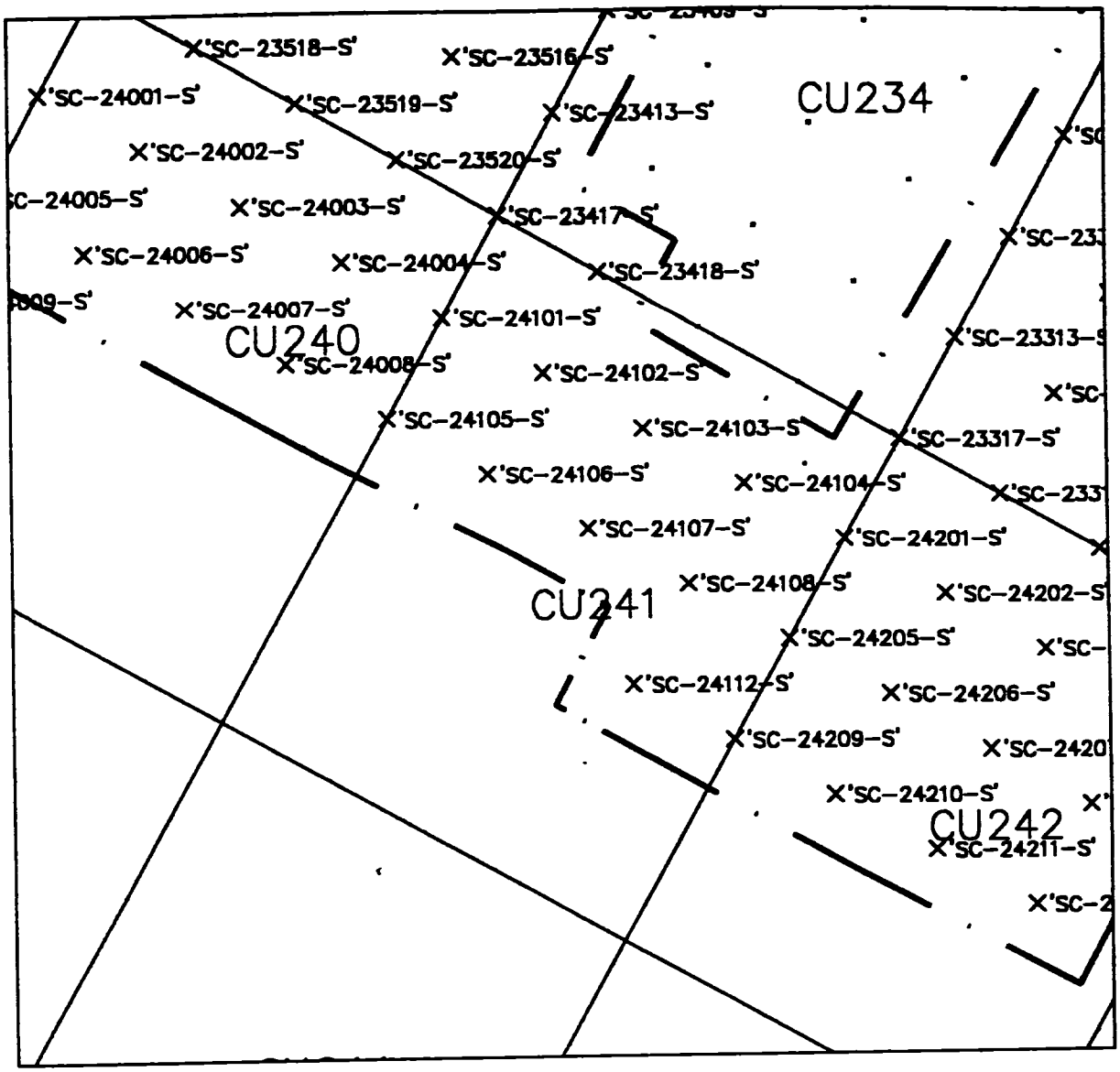
| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "6" |
| Meter Serial #: | 127247 | Detector Serial #: | 122192 |
| Calibration Date: | 9/25/99 | Calibration Date: | 1/24/00 |
| Survey Date / Time: | 6/24/99 | Field Bkg.: | 10,000 CPM |
| Surveyor(s): | T. Brewer | | |
| Comments: | All readings <1.5 BKg | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 241

DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "G" |
| Meter Serial #: | 127247 | Detector Serial #: | 122192 |
| Calibration Date: | 9/25/99 | Calibration Date: | 11/24/00 |
| Survey Date / Time: | 7/22/99 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | C. Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background

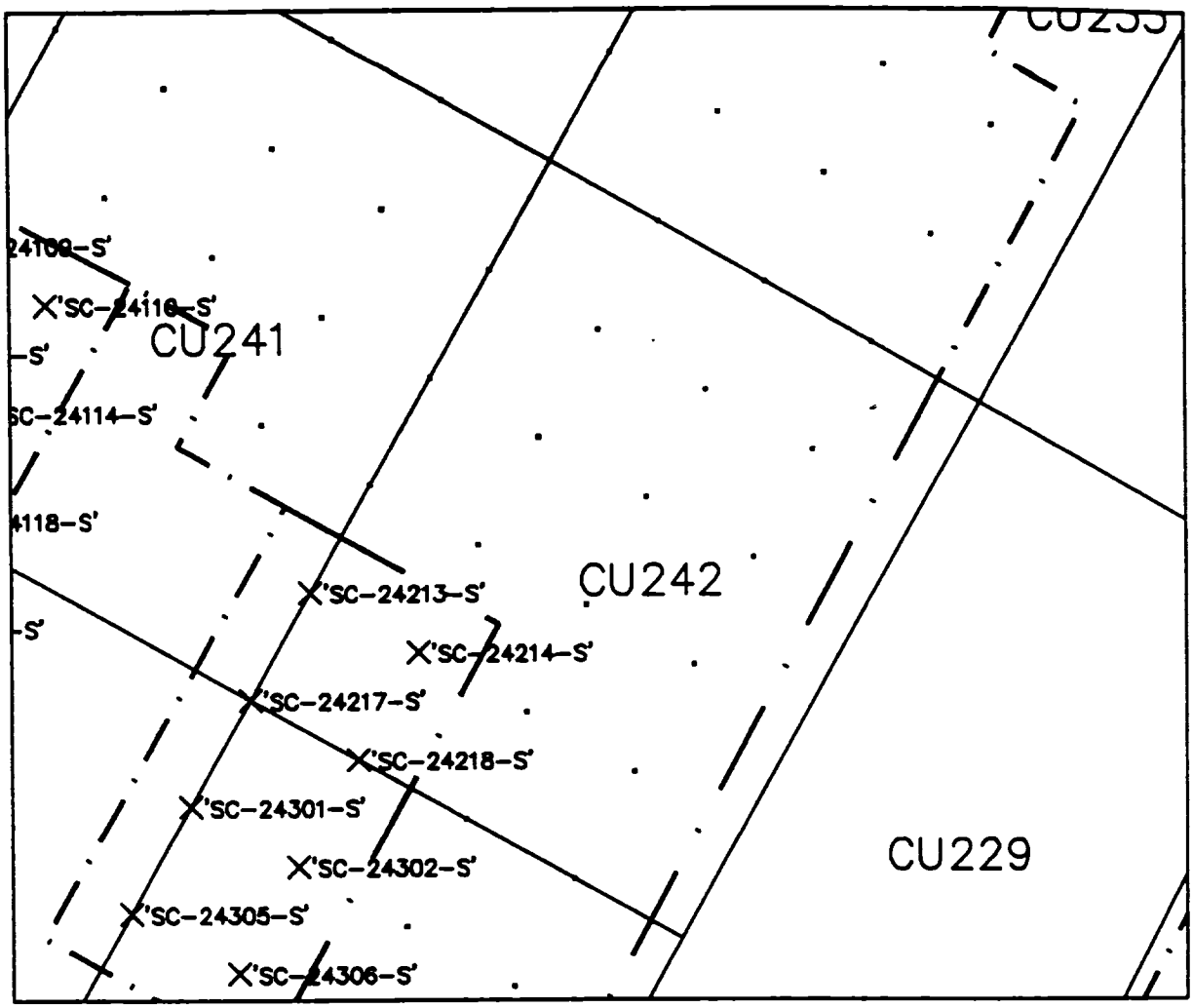
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.




## LEGEND

- · 'SC-32606-S' SAMPLE POINTS NOT PINNED
- × 'SC-32606-S' SAMPLE POINTS PINNED
- — · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 242

DBO CAD

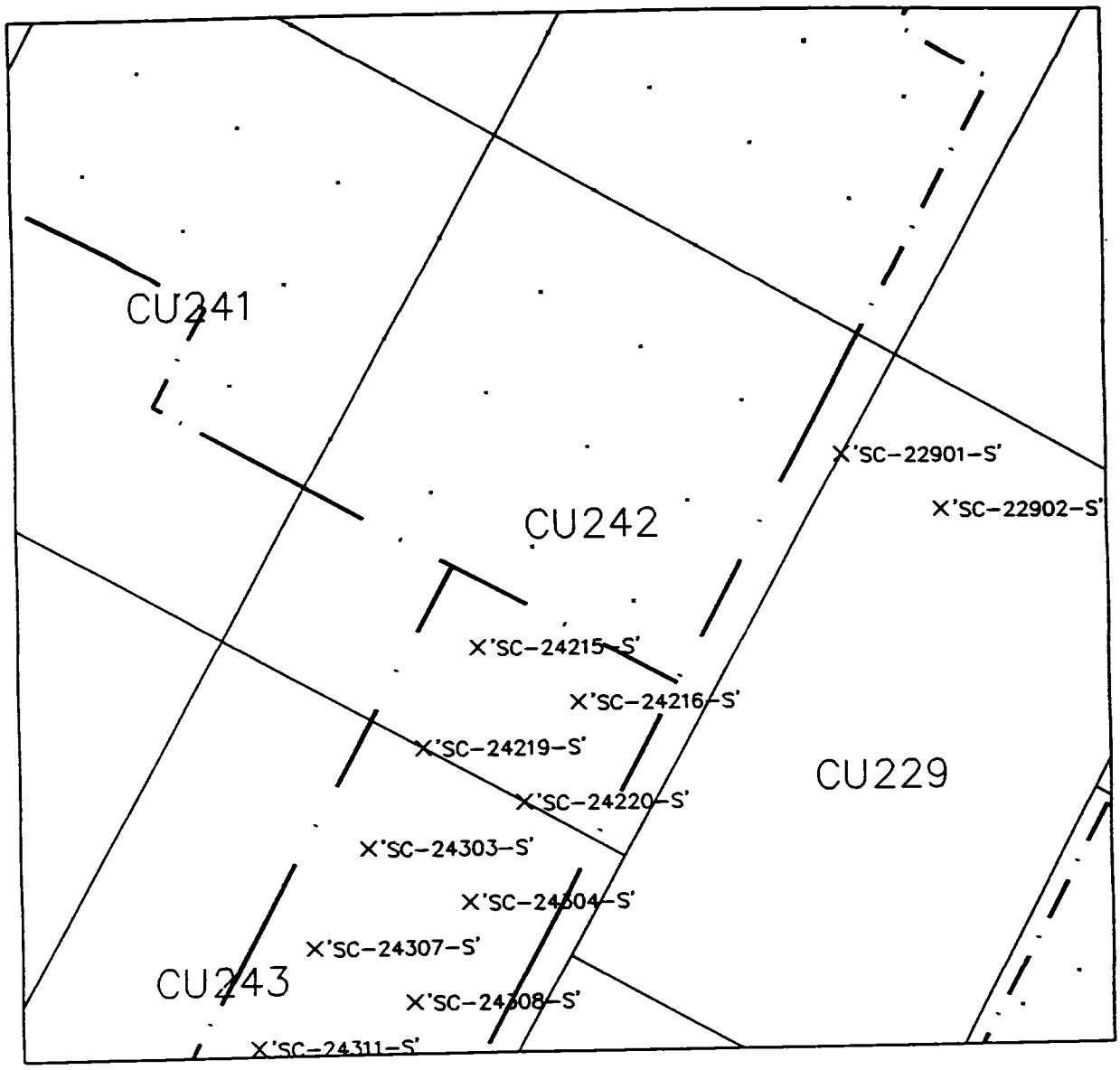
| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "G" |
| Meter Serial #: | 127247 | Detector Serial #: | 122192 |
| Calibration Date: | 9/25/99 | Calibration Date: | 1/29/00 |
| Survey Date / Time: | 6/24/99 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | T. Brower | | |
| Comments: | All readings <1.5 BKg | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

| | |
|---|---|
| . | SAMPLE POINTS NOT PINNED |
| X'SC-32606-S' | SAMPLE POINTS PINNED |
| — · — · — | PINNING LIMITS |

Radiation Survey Form WP 437, RU 21 CU 242

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "G" |
| Meter Serial #: | 127247 | Detector Serial #: | 4241 |
| Calibration Due: | 9/25/99 | Calibration Due: | 1/24/00 |
| Survey Date / Time: | 7/15/99 | Field Bkg.: | [illegible] 8000 CPM |
| Surveyor(s): | T Brower | | |
| Comments: | All readings <1.5 BKg | | |

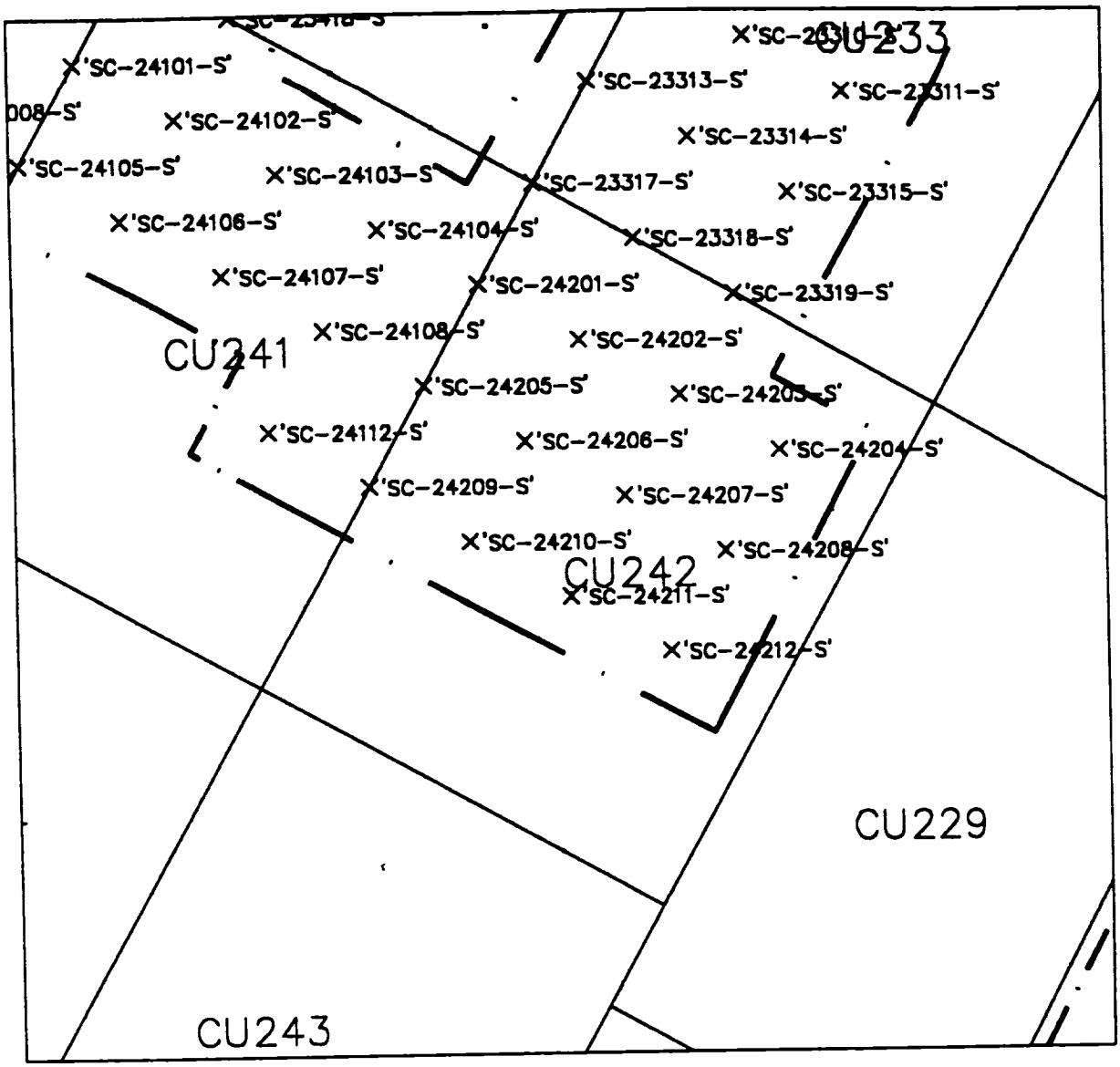
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.




LEGEND

| | |
|---|---|
| . | SAMPLE POINTS NOT PINNED |
| X'SC-32606-S' | SAMPLE POINTS PINNED |
| — · — · — | PINNING LIMITS |

Radiation Survey Form WP 437, RU 21 CU 242

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "6" |
| Meter Serial #: | 127247 | Detector Serial #: | 122192 |
| Calibration Date: | 9/25/99 | Calibration Date: | 1/24/00 |
| Survey Date / Time: | 7/22/99 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | C. Hanner | | |

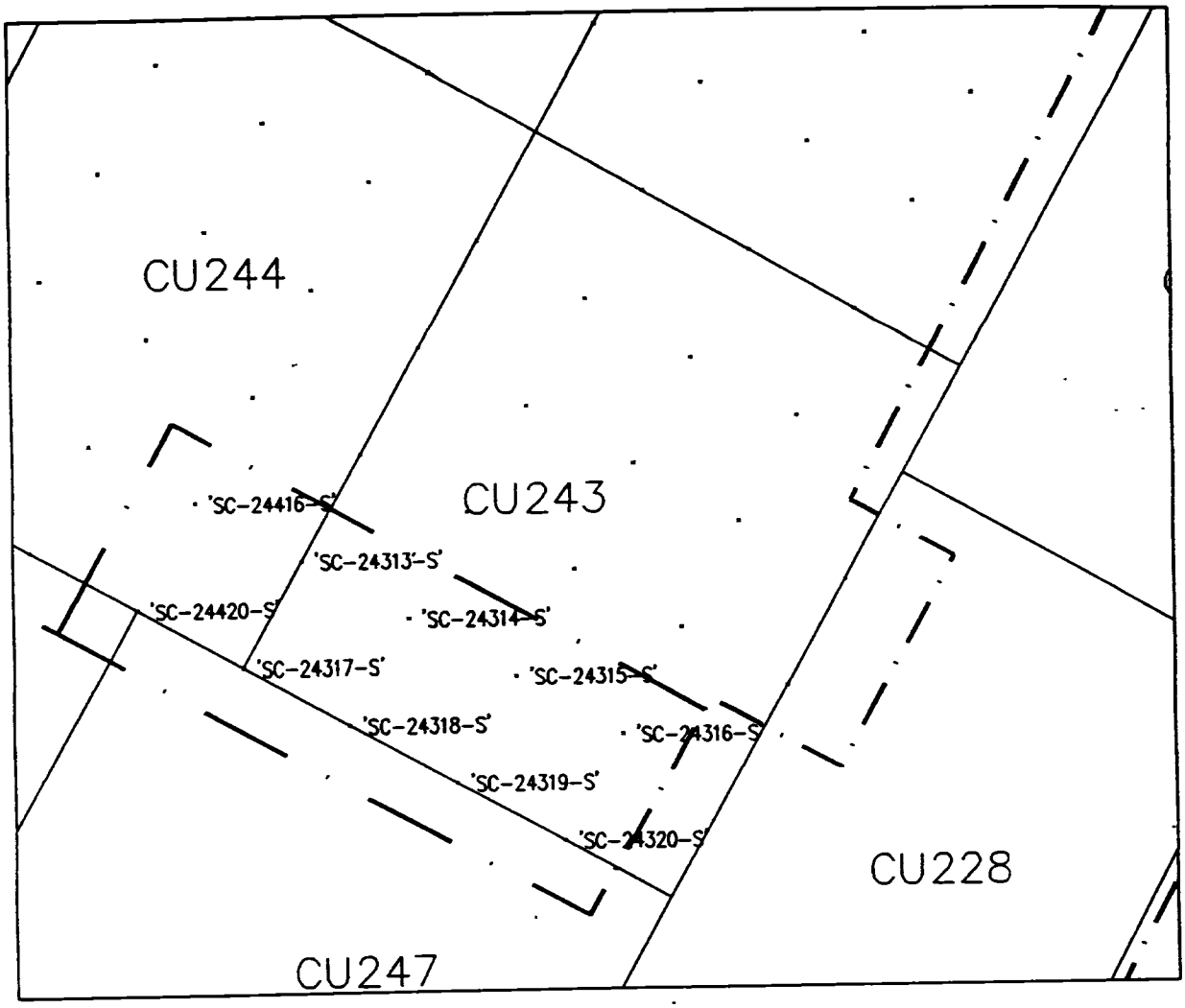
Comments: Area was surveyed and found to be less than 1.5 times background

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

- ▫ 'SC-32606-S' SAMPLE POINTS NOT PINNED
- × 'SC-32606-S' SAMPLE POINTS PINNED
- — · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 243

DHO CAD

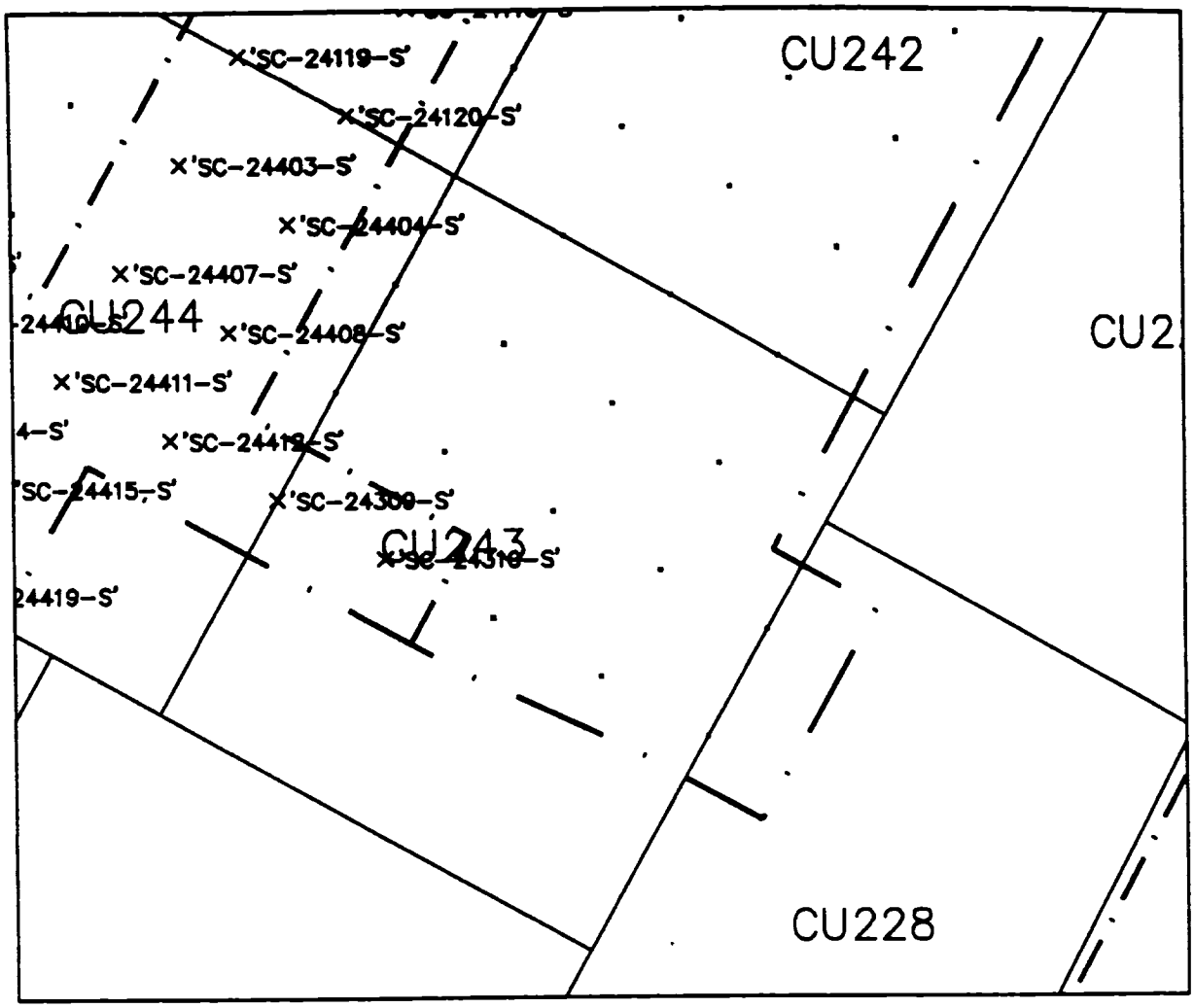
| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 |
| Meter Serial #: | 127252 | Detector Serial #: | F |
| Calibration Due: | 8/27/99 | Calibration Due: | 8/11/99 |
| Survey Date / Time: | 6/15/99 | Field Bkg.: | 10,000CPM |
| Surveyor(s): | T. Brower | | |
| Comments: | All readings <1.5 Bkg | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

- · 'SC-32606-S' SAMPLE POINTS NOT PINNED
- × 'SC-32606-S' SAMPLE POINTS PINNED
- — · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 243

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2+2 NaI "F" |
| Meter Serial #: | 127252 | Detector Serial #: | 122191 |
| Calibration Due: | 8/27/99 | Calibration Due: | 8/11/99 |
| Survey Date / Time: | 6/23/99 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | C. Hanner | | |

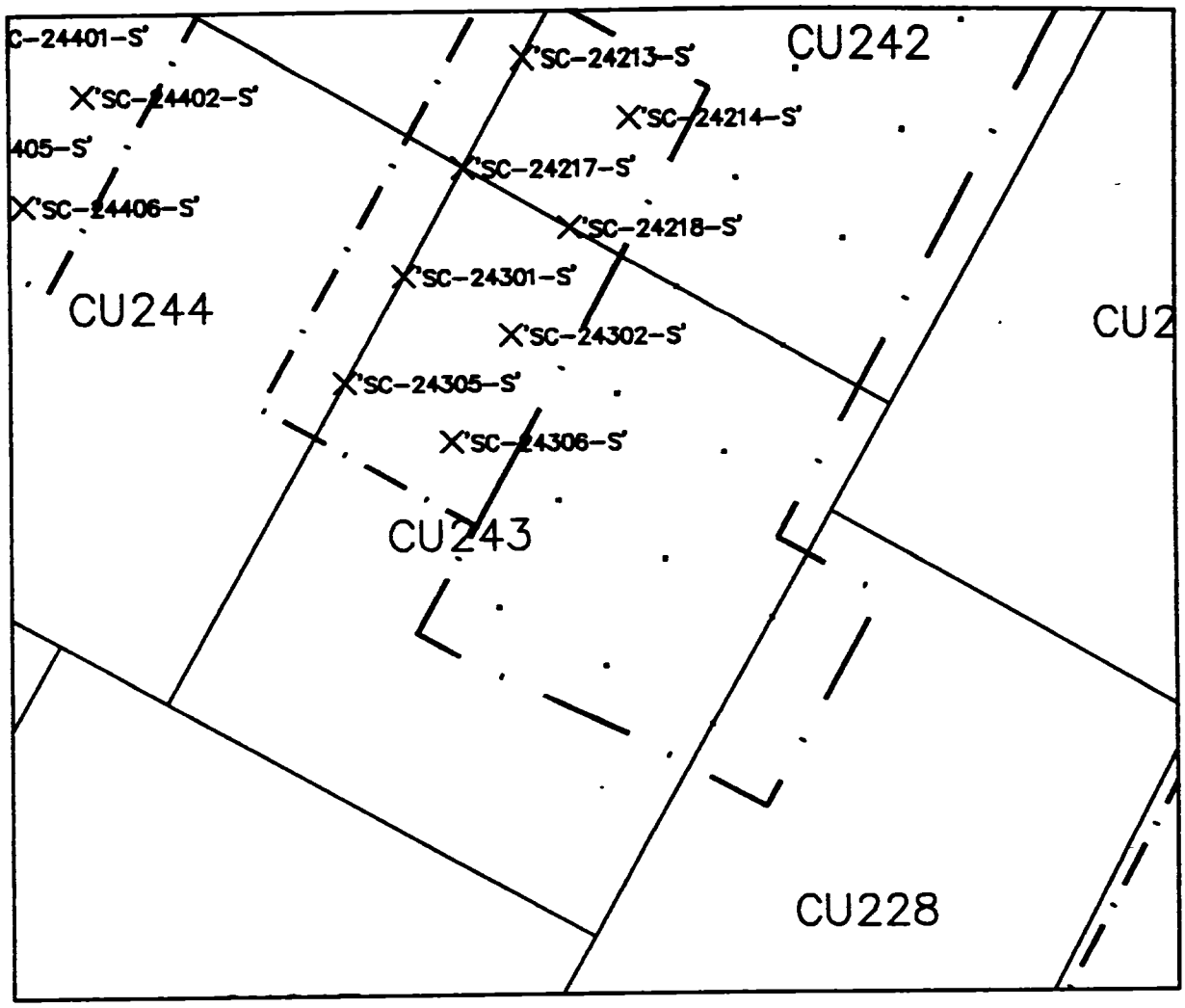
Comments: Area was surveyed and found to be less than 1.5 times background

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

· 'SC-32606-S' SAMPLE POINTS NOT PINNED
× 'SC-32606-S' SAMPLE POINTS PINNED
— · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 243

DBD CAD

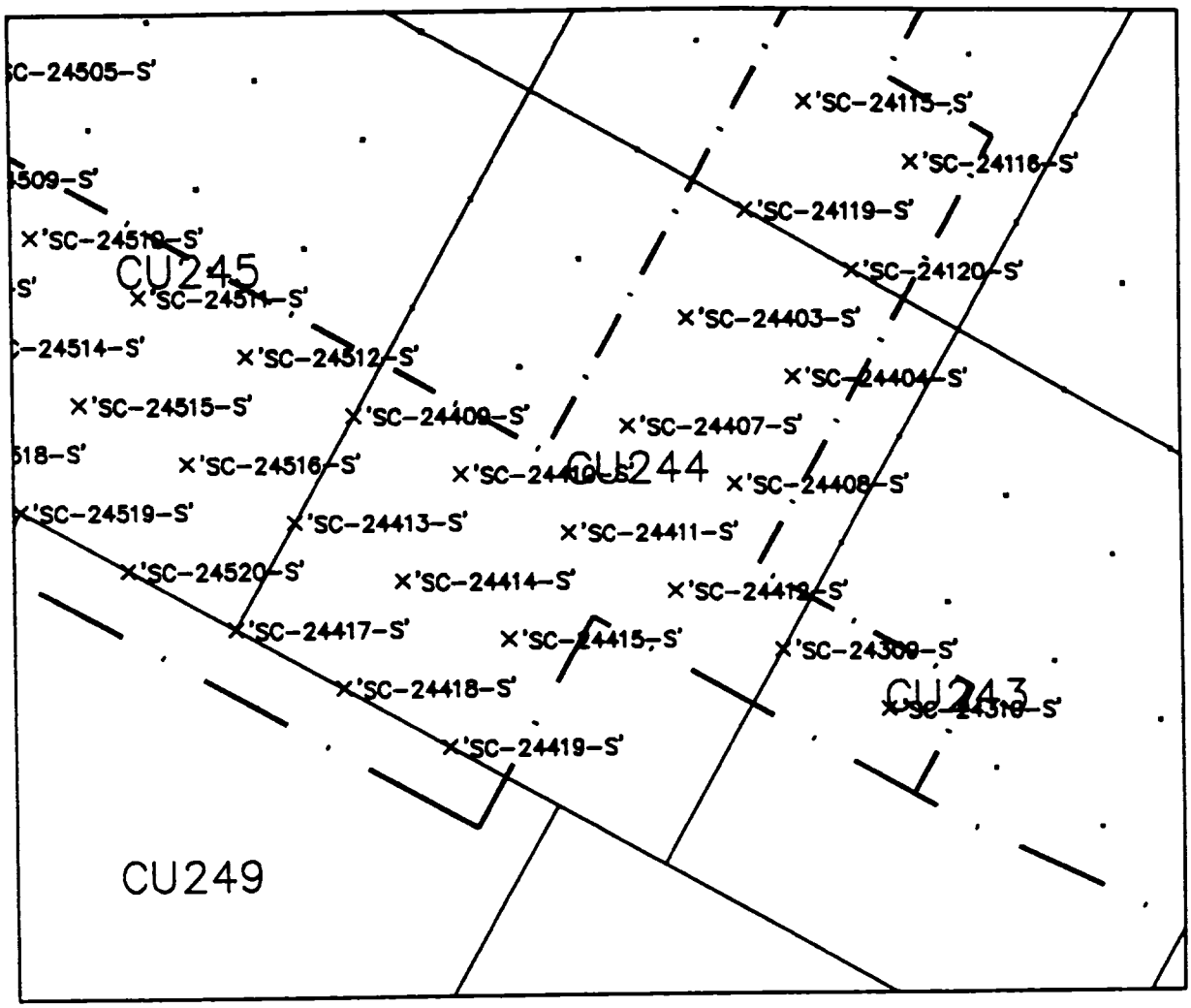
| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "G" |
| Meter Serial #: | 127247 | Detector Serial #: | 122192 |
| Calibration Due: | 9/25/99 | Calibration Due: | 1/24/00 |
| Survey Date / Time: | 6/24/99 | Field Bkg.: | 10,000 CPM |
| Surveyor(s): | T. Brower | | |
| Comments: | All readings <1.5 Bkg | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




## LEGEND

| | |
|---|---|
| · 'SC-32606-S' | SAMPLE POINTS NOT PINNED |
| × 'SC-32606-S' | SAMPLE POINTS PINNED |
| — · — · — | PINNING LIMITS |

Radiation Survey Form WP 437, RU 21 CU 244

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2+2 NaI "F |
| Meter Serial #: | 127252 | Detector Serial #: | 122191 |
| Calibration Due: | 8/27/99 | Calibration Due: | 8/11/99 |
| Survey Date / Time: | 6/23/99 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | C. Hanner | | |

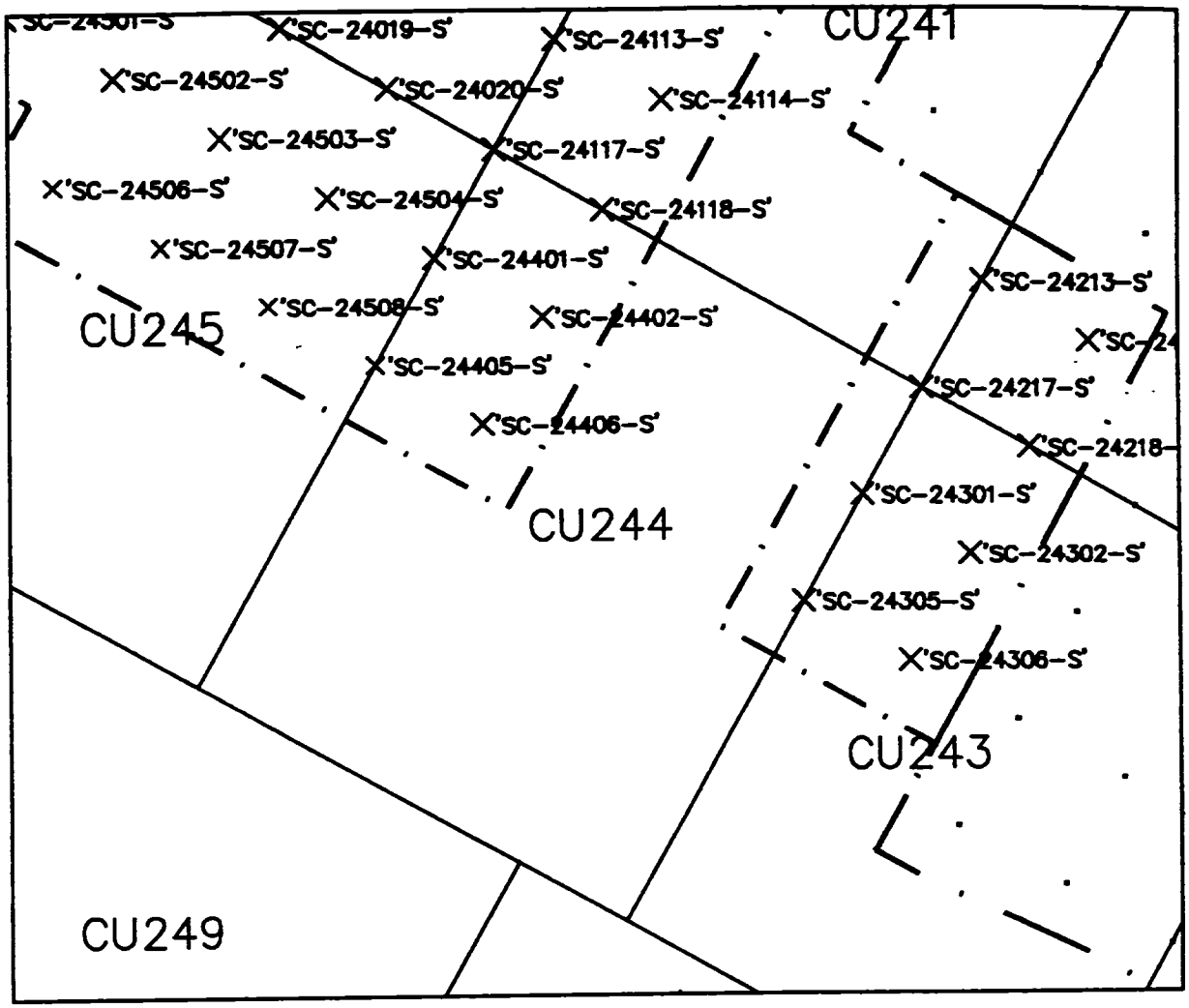
Comments: Area was surveyed and found to be less than 1.5 times background

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

· 'SC-32606-S' SAMPLE POINTS NOT PINNED
× 'SC-32606-S' SAMPLE POINTS PINNED
— · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 244

DEO CAD

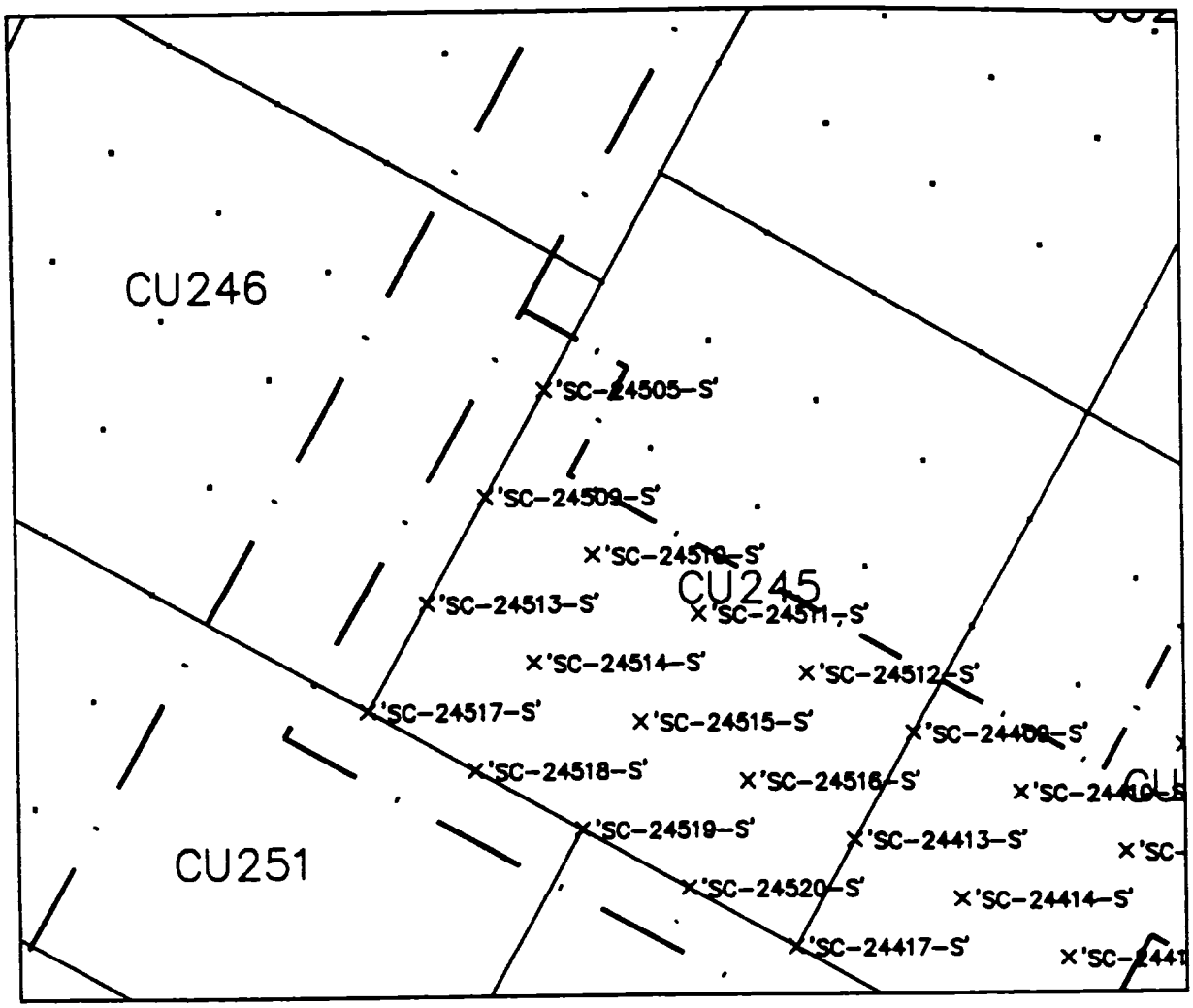
| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2"6" |
| Meter Serial #: | 127247 | Detector Serial #: | 122192 |
| Calibration Date: | 9/25/99 | Calibration Date: | 1/24/00 |
| Survey Date / Time: | 6/24/99 | Field Bkg.: | 10,000 CPM |
| Surveyor(s): | T. Brower | | |
| Comments: | All readings < 1.5 Bkg | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

· 'SC-32606-S' SAMPLE POINTS NOT PINNED
× 'SC-32606-S' SAMPLE POINTS PINNED
— · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 245

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "F" |
| Meter Serial #: | 127252 | Detector Serial #: | 122191 |
| Calibration Date: | 8/27/99 | Calibration Date: | 8/11/99 |
| Survey Date / Time: | 6/23/99 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | C. Hanner | | |

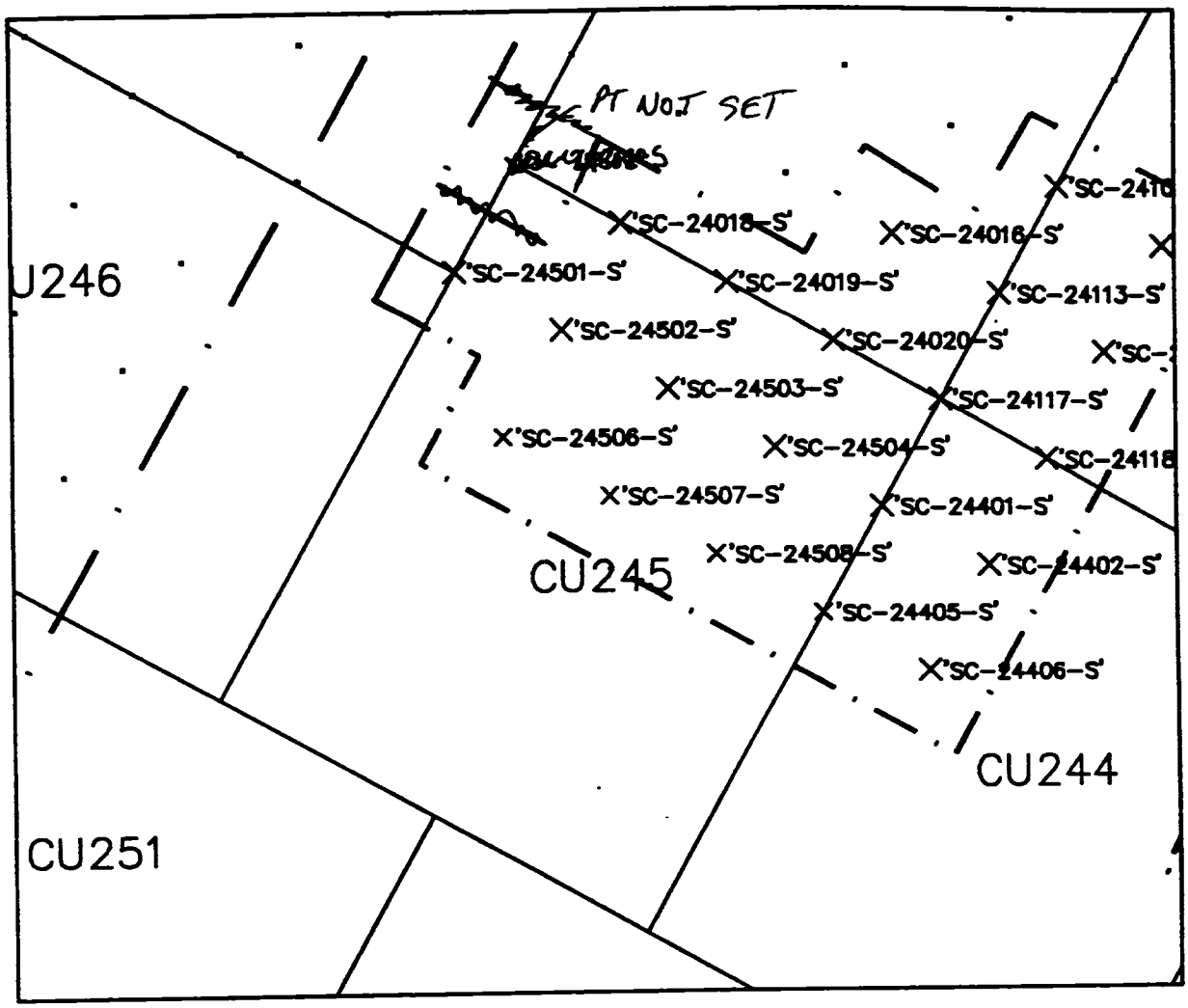
Comments: Area was surveyed and found to be less than 1.5 times background

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

- · 'SC-32606-S' SAMPLE POINTS NOT PINNED
- × 'SC-32606-S' SAMPLE POINTS PINNED
- — · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 245

DBD CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "G" |
| Meter Serial #: | 127247 | Detector Serial #: | 122192 |
| Calibration Date: | 9/25/99 | Calibration Date: | 1/29/00 |
| Survey Date / Time: | 6/24/99 | Field Bkg.: | 10,000 CPM |
| Surveyor(s): | T. Brower | | |
| Comments: | All readings <1.5 BKG | | |

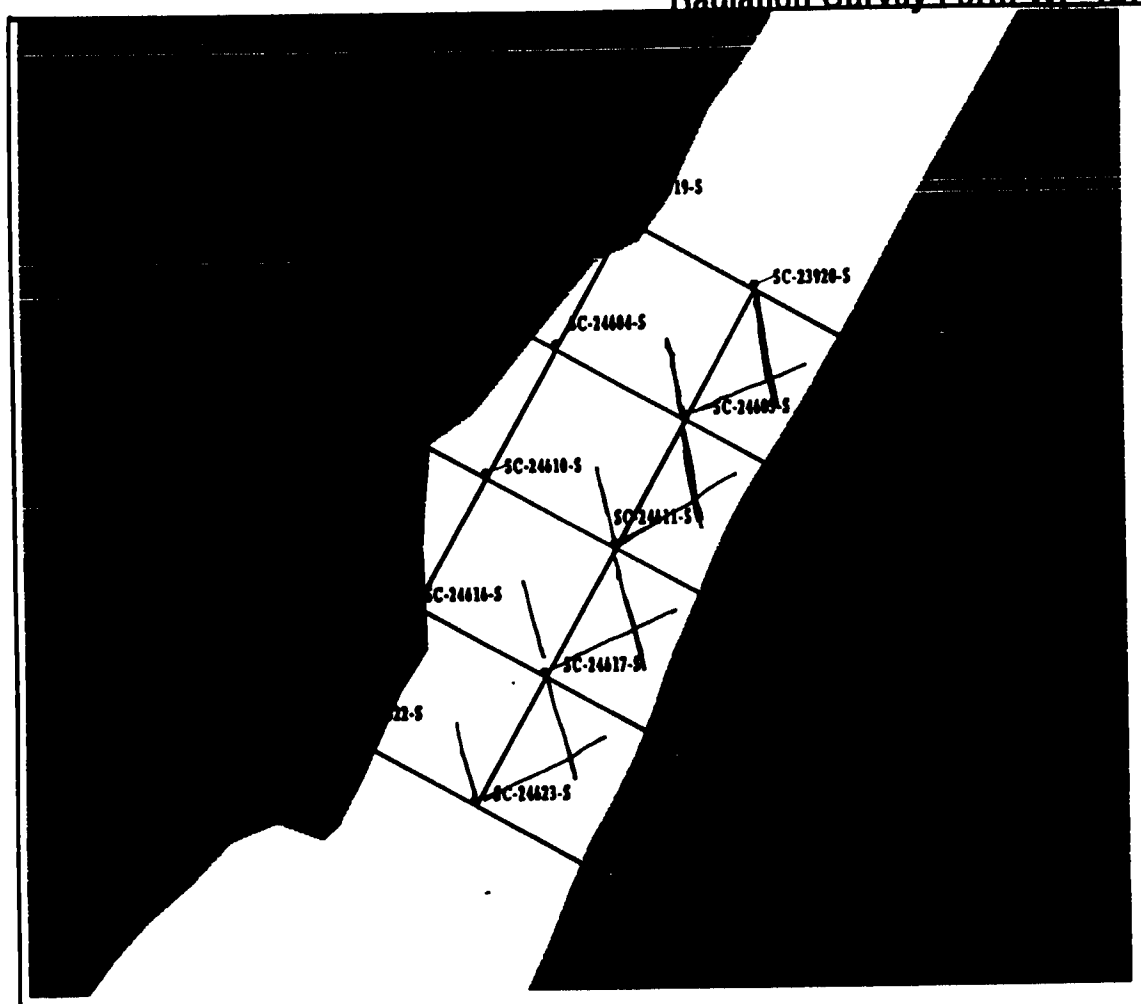
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.

# Radiation Survey Form WP 437, RU021CU246




WSSRAP GIS

15 7.5 0 15 METERS

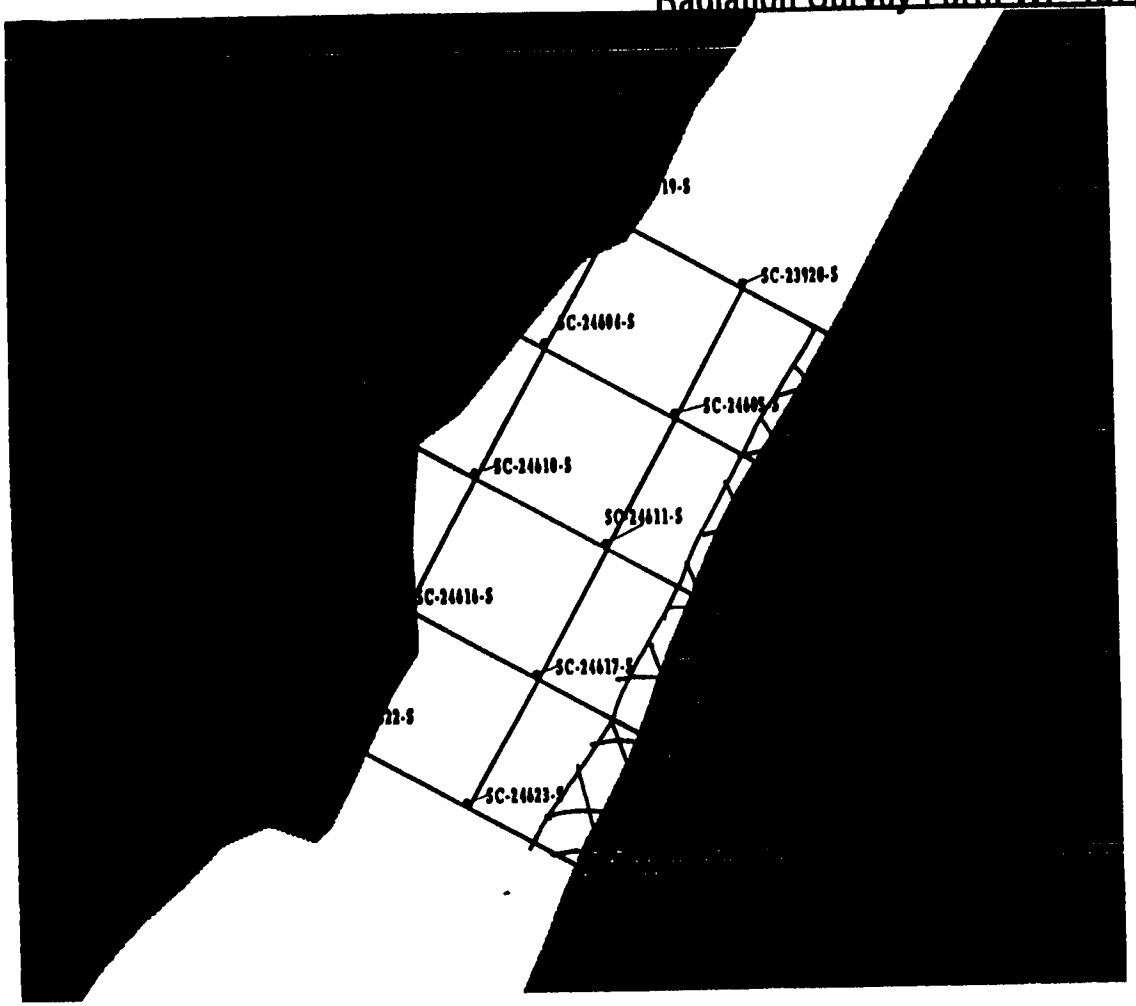
45 22.5 0 45 FEET

N W E S

| | | | |
|---|---|---|---|
| Meter Model#: | 2221 / 2221 | Detector Model#: | NaI 2x2 / NaI 2x2 |
| Meter Serial#: | 106696 / 117607 | Detector Serial#: | 130769 / 1602582 |
| Calibration Due: | 12-1-99 / 12-18-99 | Calibration Due: | 7-21-99 / 5-6-99 |
| Survey Date/Time: | 01/29/99 | Field Bkg.: | 12K / 23K |
| Surveyor(s): | Jonathan Rankins • Chris Hanner | | |

Comments: Area was surveyed and found to be below 1.5 times background

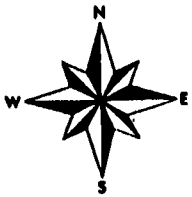
# Radiation Survey Form WP 437, RU021CU246




WSSRAP GIS

15 7.5 0 15 METERS

45 22.5 0 45 FEET




Meter Model#: 2221 Detector Model#: NaI 2x2

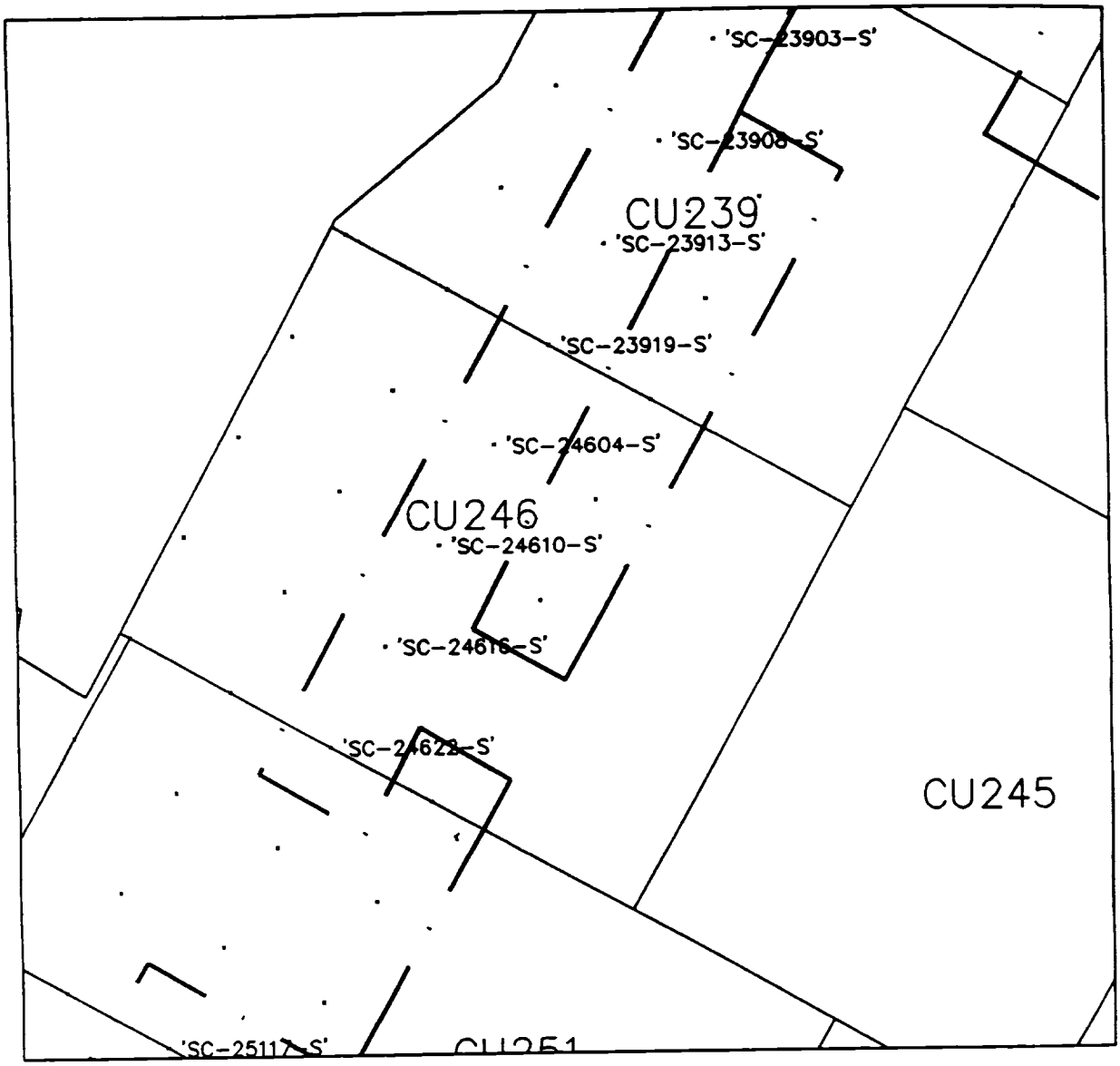
Meter Serial#: 127252 Detector Serial#: 122 191

Calibration Due: 8-27-99 Calibration Due: 8-11-99

Survey Date/Time: 4/27/99 Field Bkg.: 5,000 CPM

Surveyor(s): T. Brewer

Comments: All readings <1.5 times Bkg.




LEGEND

| | |
|---|---|
| . | SAMPLE POINTS NOT PINNED |
| ×'SC-32606-S' | SAMPLE POINTS PINNED |
| — · — · — | PINNING LIMITS |

Radiation Survey Form WP 437, RU 21 CU 246

8-3-99

DBD CAD

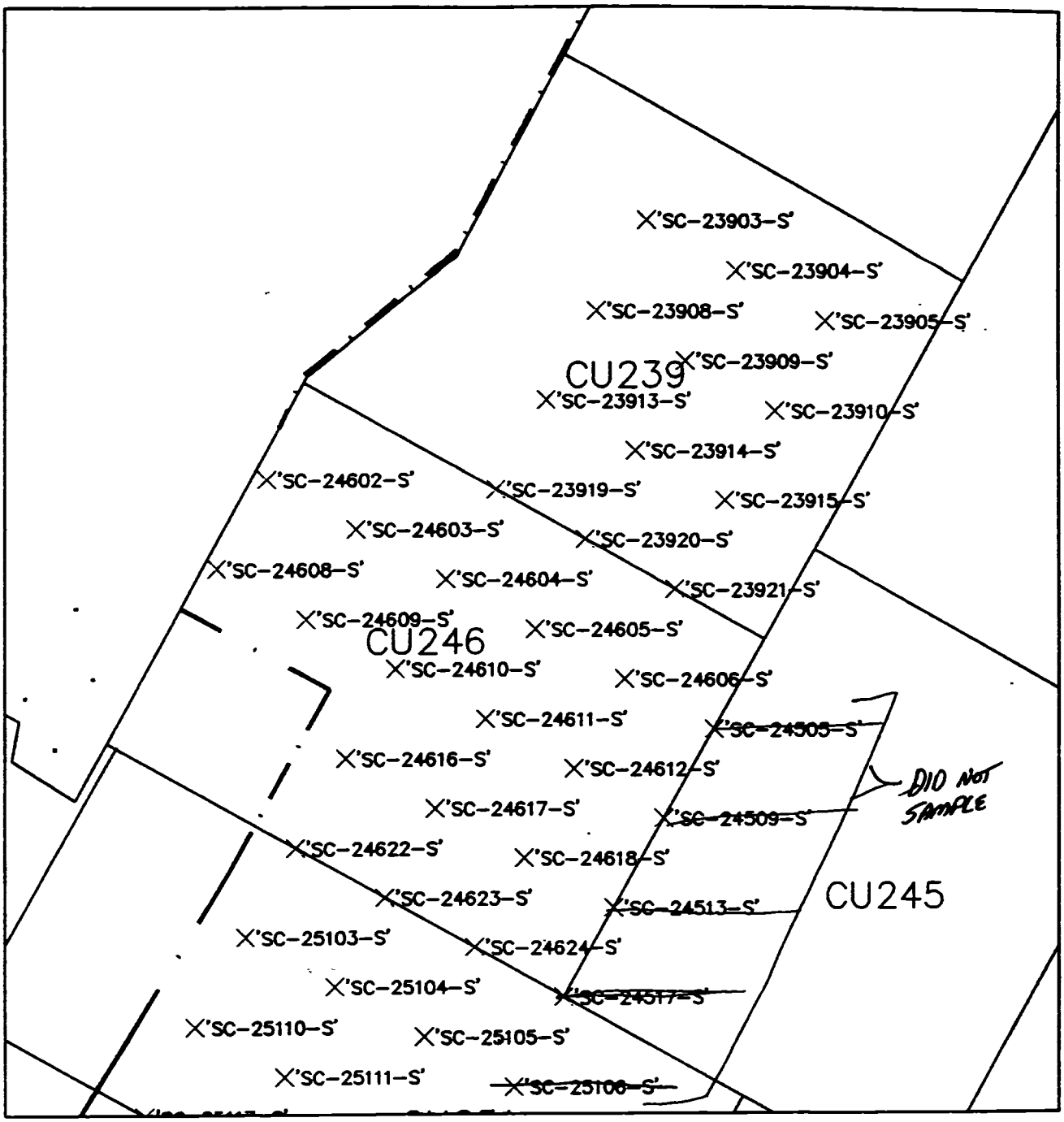
| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | NaI "2x2" |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Due: | 12-18-99 | Calibration Due: | 01-24-00 |
| Survey Date / Time: | 07-23-99 | Field Bkg.: | 12,000 cpm |
| Surveyor(s): | J. Rankin | | |
| Comments: | All areas surveyed < 1.5 BKG | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




## LEGEND

X'SC-32606-S' SAMPLE POINTS NOT PINNED

SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.

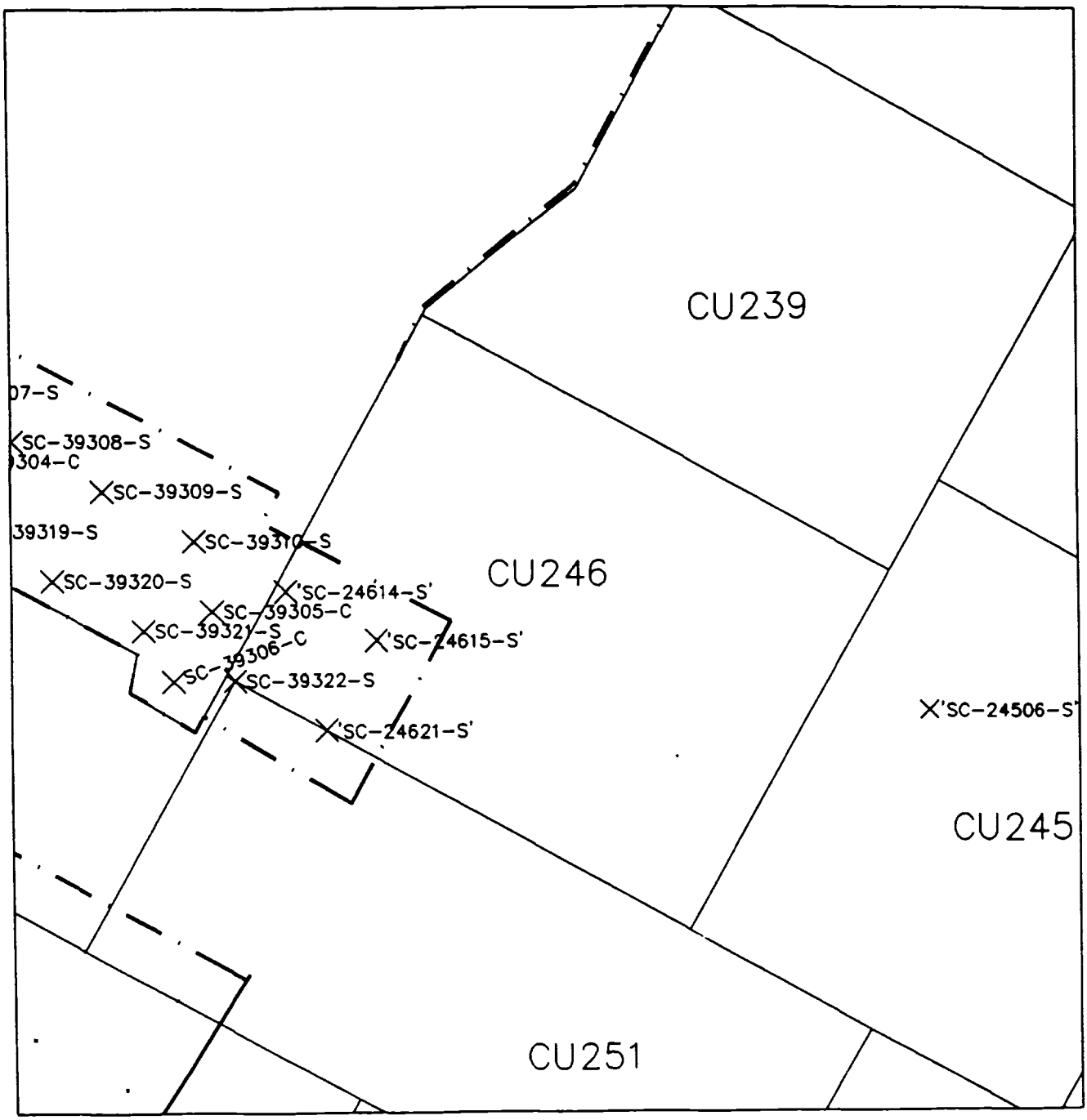
Radiation Survey Form WP 437, RU 21 CU 246

9/26/99

DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 44-10-2 | Detector Model #: | 2221 |
| Meter Serial #: | 130774 N | Detector Serial #: | 106696 |
| Calibration Date: | 1-24-00 | Calibration Date: | 12-2-99 |
| Survey Date / Time: | 9-26-99 / 1600 | Field Bkg.: | 12,000 cpm |
| Surveyor(s): | D FLEMING | | |

Comments: ALL AREAS SURVEYED LWERE <1.5 x BKG




LEGEND

SAMPLE POINTS NOT PINNED

×'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.

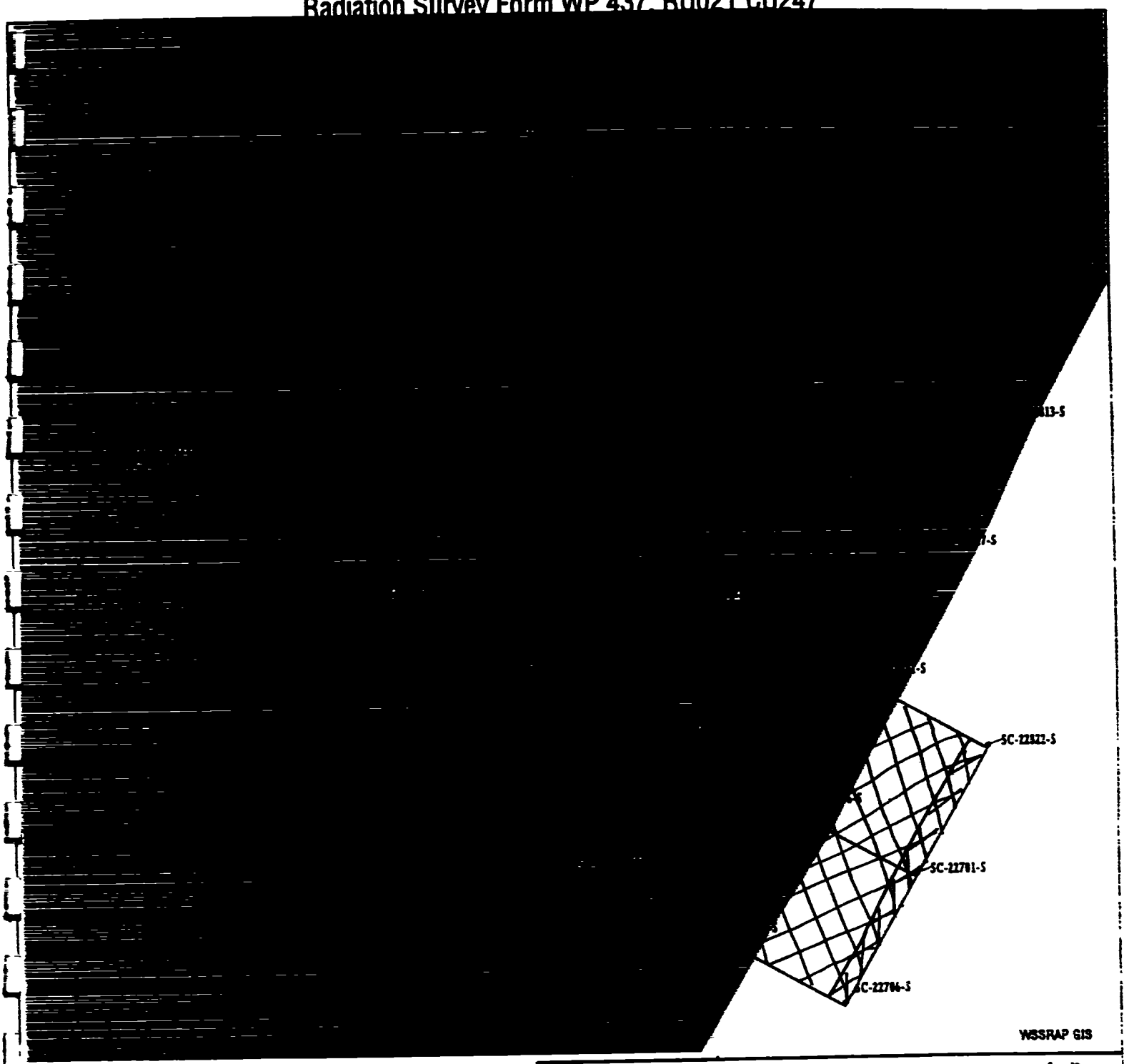
Radiation Survey Form WP 437, RU 21 CU 246

9/28/99

DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "O" |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Due: | 12/18/99 | Calibration Due: | 1/24/00 |
| Survey Date / Time: | 9/27/99 | Field Bkg.: | 11,000 |
| Surveyor(s): | T. Brown | | |
| Comments: | All readings <1.5 Bkg | | |

# Radiation Survey Form WP 437, BU021 CU247




15 7.5 0 METERS

45 22.5 0 FEET

Meter Model#: 2221

Meter Serial#: 127252

Calibration Due: 8-27-99

Survey Date/Time: 4-13-99

Detector Model#: 2x2 NaI "F"

Detector Serial#: 122191

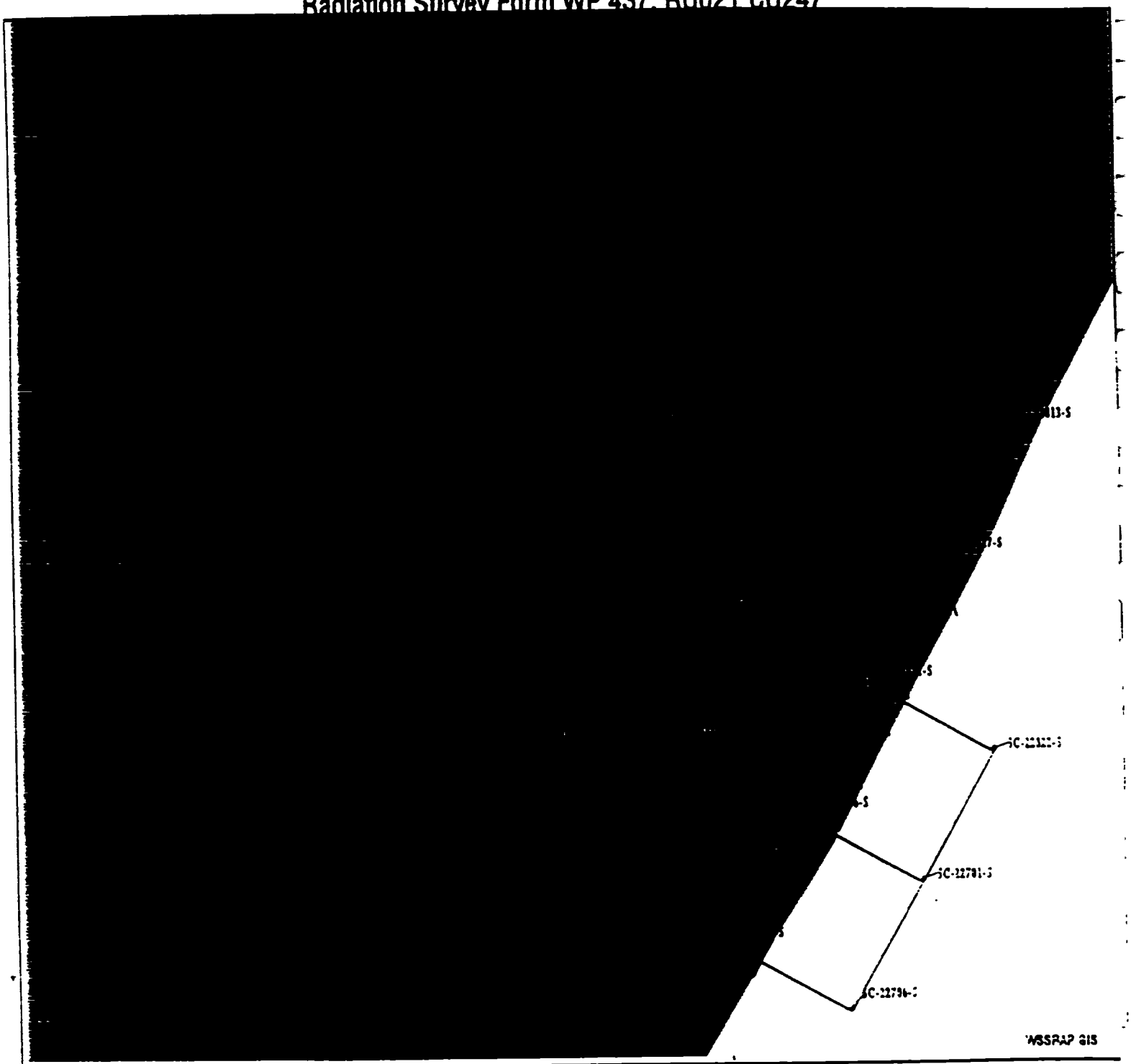
Calibration Due: 8-11-99

Field Bkg.: 8000 cpm

Surveyor(s): C. Hanna & T. Brown

Comments: Area surveyed and found to be less than 1.5 times background

# Radiation Survey Form WP 437, RU021 CU247




15 7.5 0 METERS

45 22.5 0 FEET

Meter Model#: 2221

Meter Serial#: 106696

Calibration Due: 12-1-99

Survey Date/Time: 5/6/99

Surveyor(s): C. Hanner

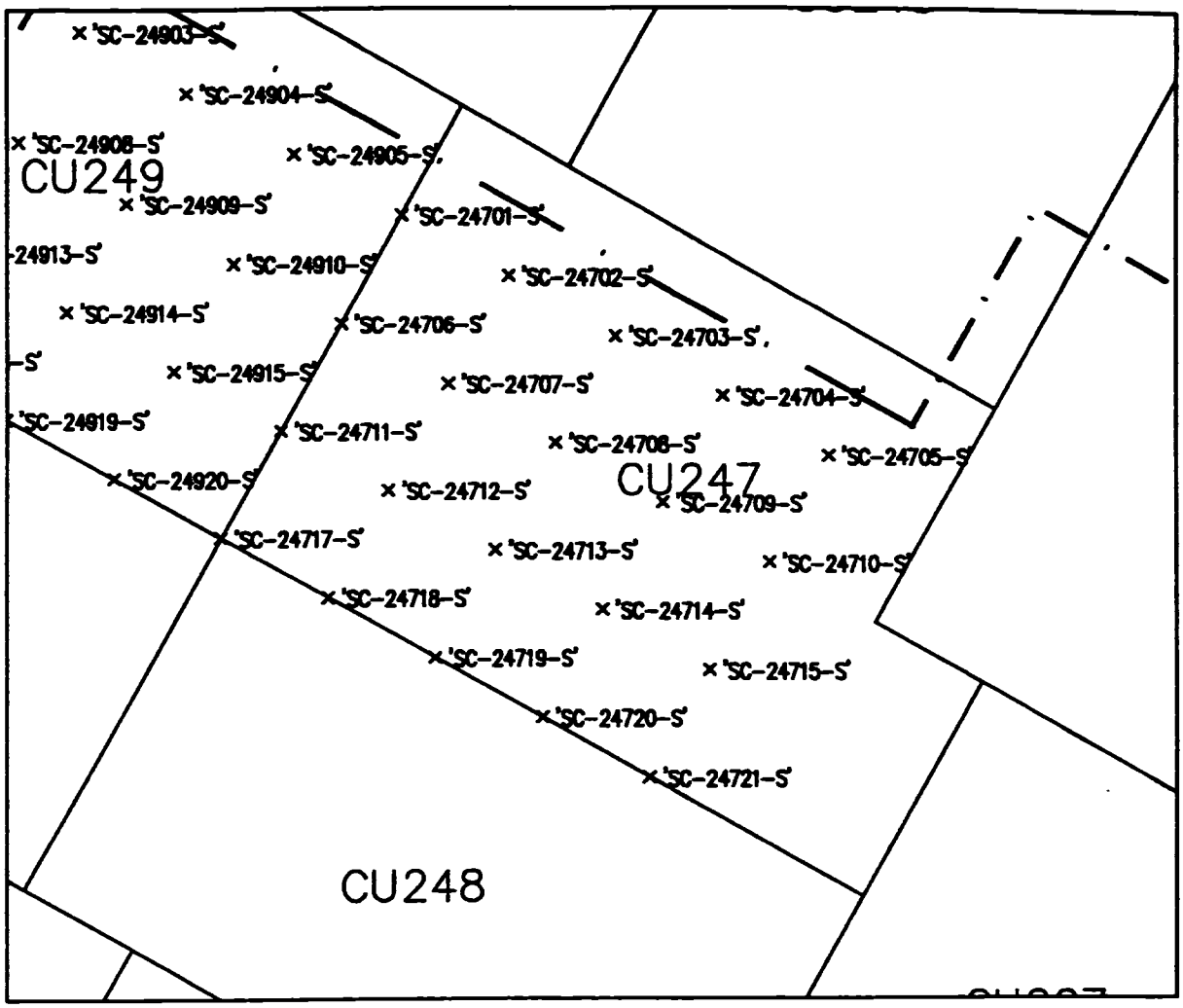
Detector Model#: TS0764 2x2 NaI "n"

Detector Serial#: 130764

Calibration Due: 7-21-99

Field Bkg.: 6000 cpm

Comments: Area was surveyed and found to be less than 1.5 times background




## LEGEND

- ▪ 'SC-32606-S' SAMPLE POINTS NOT PINNED
- × 'SC-32606-S' SAMPLE POINTS PINNED
- — · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 247

DEO CAD

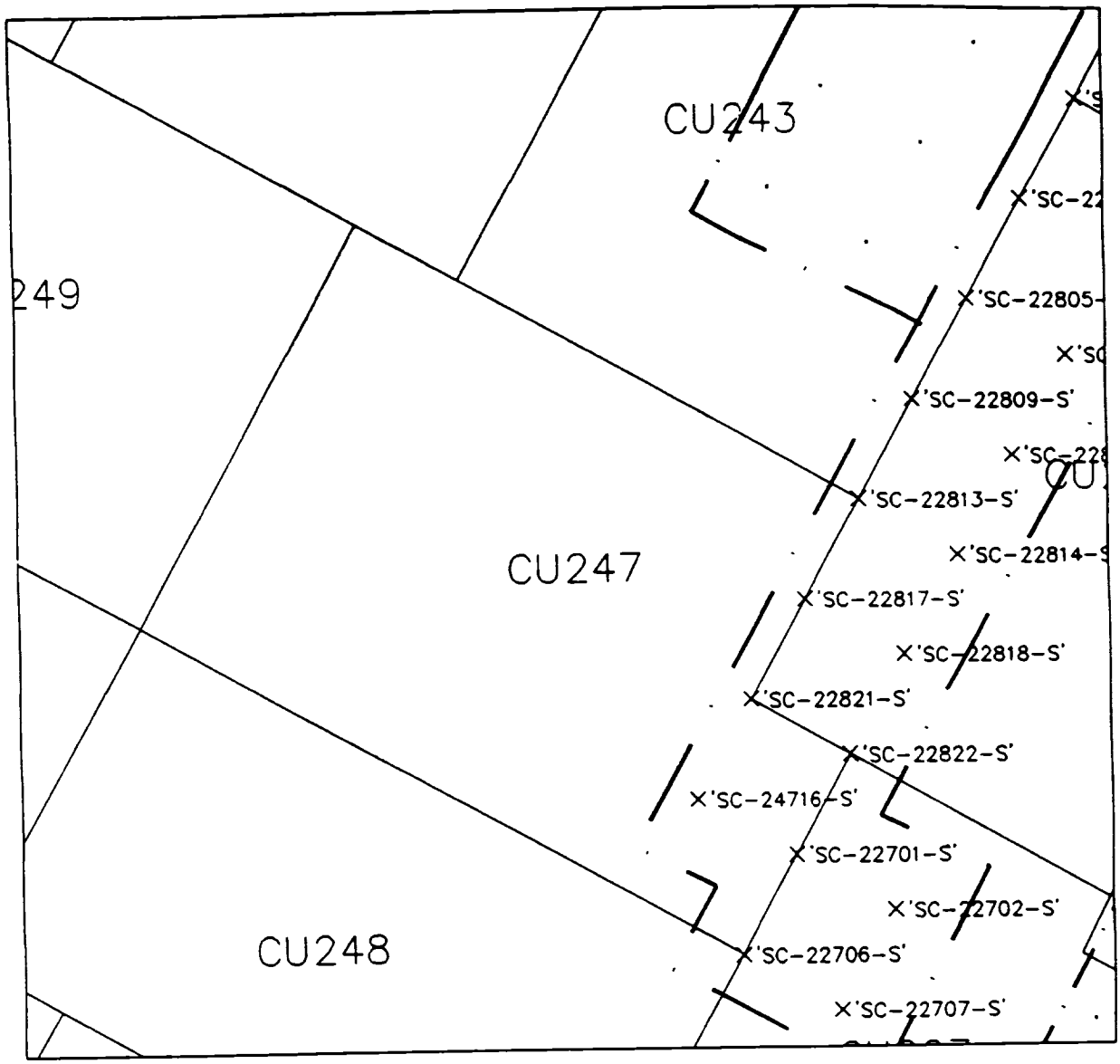
| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 L |
| Meter Serial #: | 125435 | Detector Serial #: | 130763 |
| Calibration Due: | 12-20-99 | Calibration Due: | 8-11-99 |
| Survey Date / Time: | 6-2-99/AM | Field Bkg.: | 9,000 cpm |
| Surveyor(s): | T BROWNER / J RANKINS | | |
| Comments: | ALL READINGS < 1.5 x BKG | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

SAMPLE POINTS NOT PINNED

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 247

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | NaI "2x2" |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Due: | 12-18-99 | Calibration Due: | 01-24-00 |
| Survey Date / Time: | 07-14-99 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | J. Rankin | | |
| Comments: | All meas. averaged < 1.5 BKG | | |

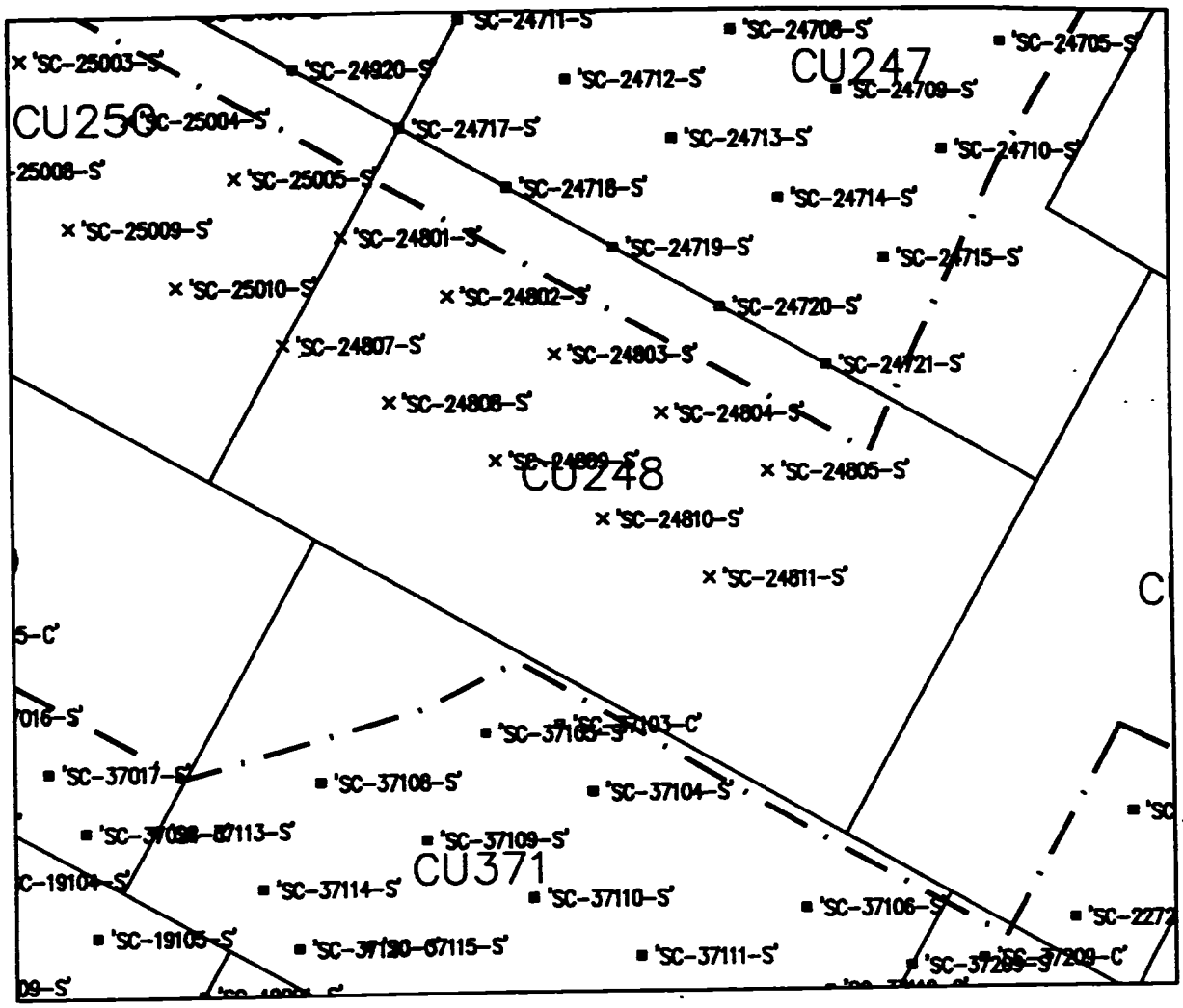
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.




## LEGEND

- ▪ 'SC-32606-S' SAMPLE POINTS NOT PINNED
- × 'SC-32606-S' SAMPLE POINTS PINNED
- — · — · — PINNING LIMITS

**Radiation Survey Form WP 437, RU** 21 **CU** 248

DBO CAD

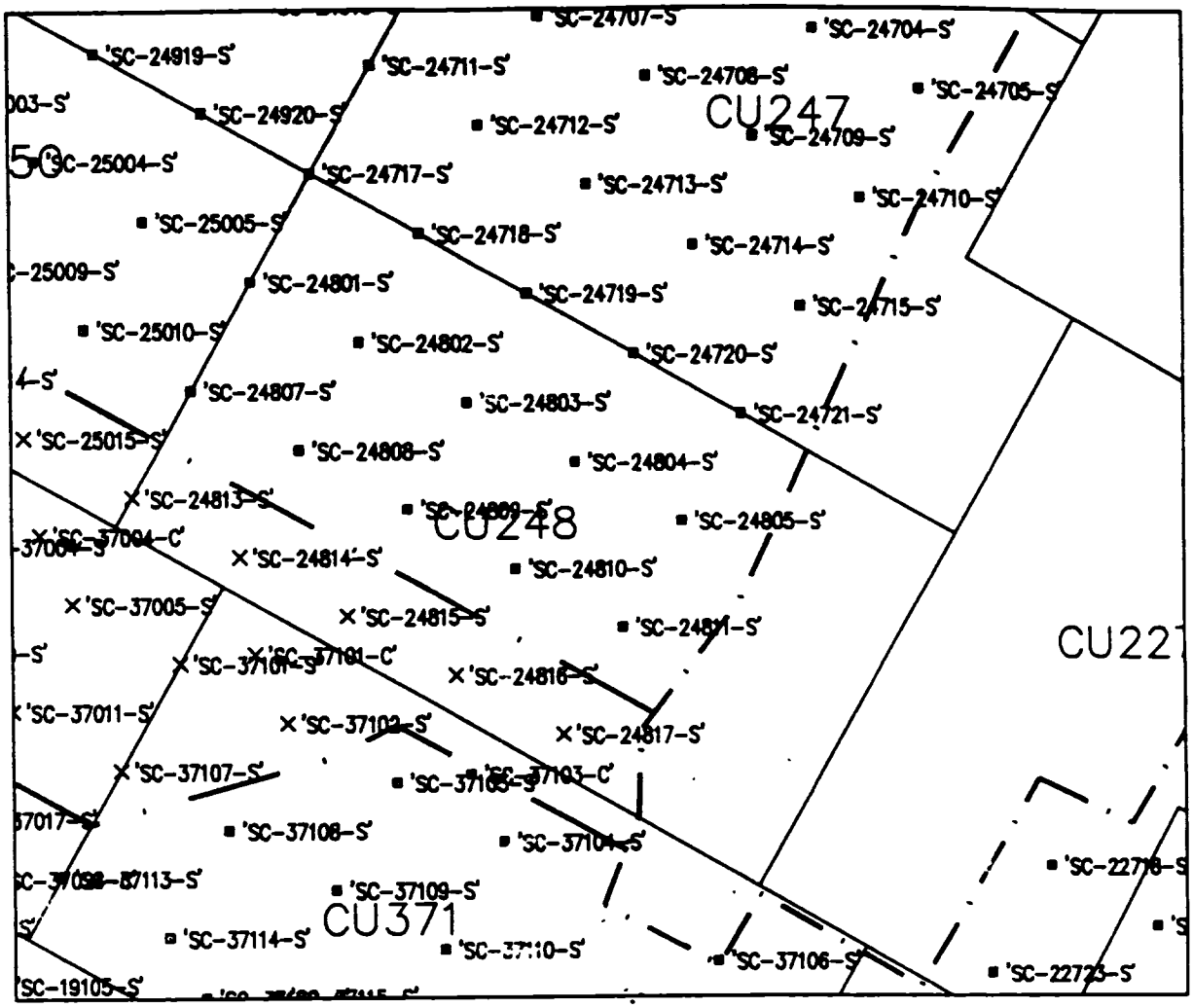
| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 L |
| Meter Serial #: | 125435 | Detector Serial #: | 130763 |
| Calibration Due: | 12-20-99 | Calibration Due: | 8-11-99 |
| Survey Date / Time: | 6-2-99 / PM | Field Bkg.: | 9,000 cpm |
| Surveyor(s): | J RANKINS / T BROWER | | |
| Comments: | ALL READINGS < 1.5 x BKG | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




## LEGEND

- ▪ 'SC-32606-S' SAMPLE POINTS NOT PINNED
- × 'SC-32606-S' SAMPLE POINTS PINNED
- — · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 248

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | NaI "2x2" |
| Meter Serial #: | 125435 | Detector Serial #: | 130763 |
| Calibration Due: | 12-20-99 | Calibration Due: | 8-11-99 |
| Survey Date / Time: | 6-03-99 | Field Bkg. | 7K |
| Surveyor(s): | J. [illegible] | | |
| Comments: | All areas < 45 BKG | | |

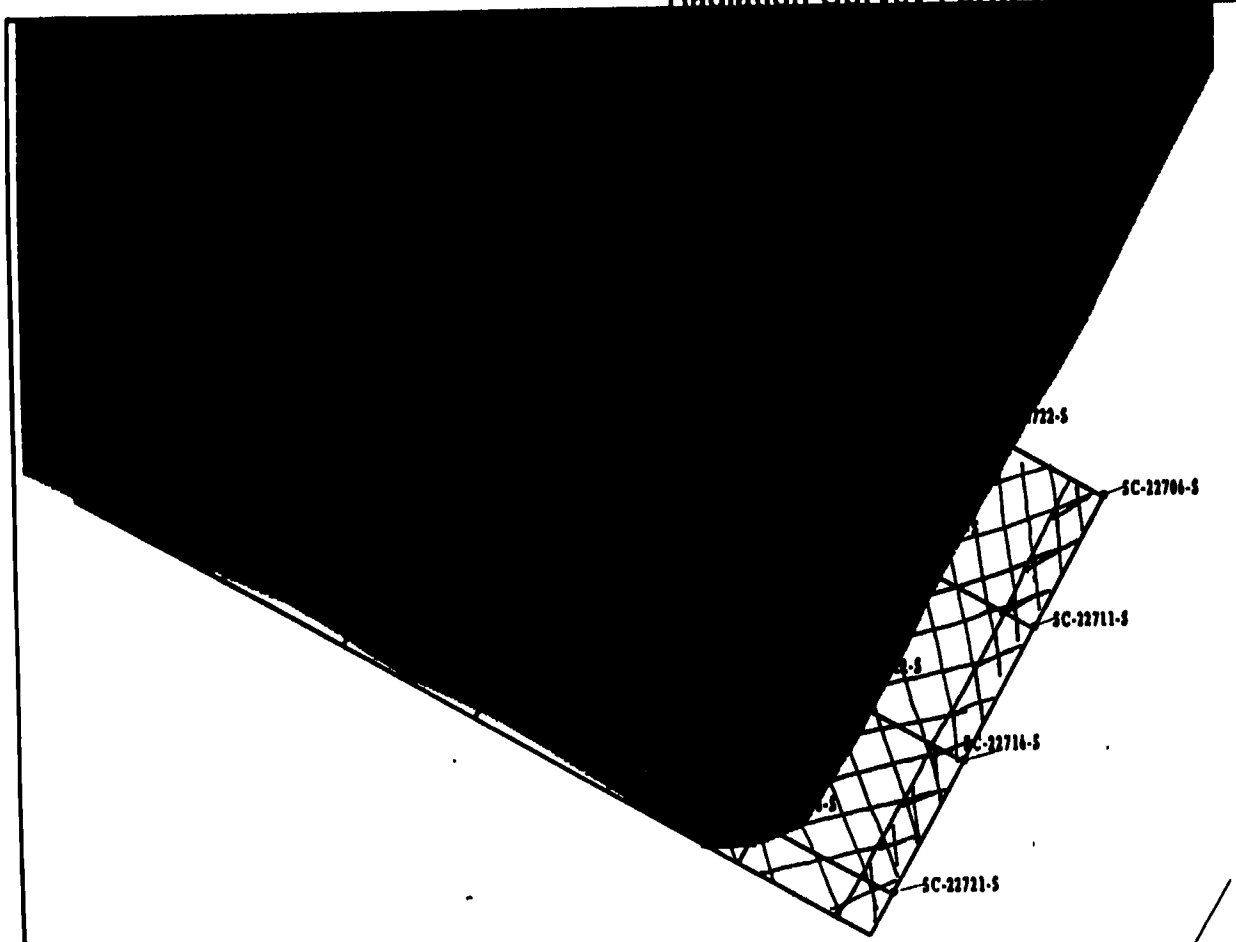
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437. RU021CU248



WSSRAP GI

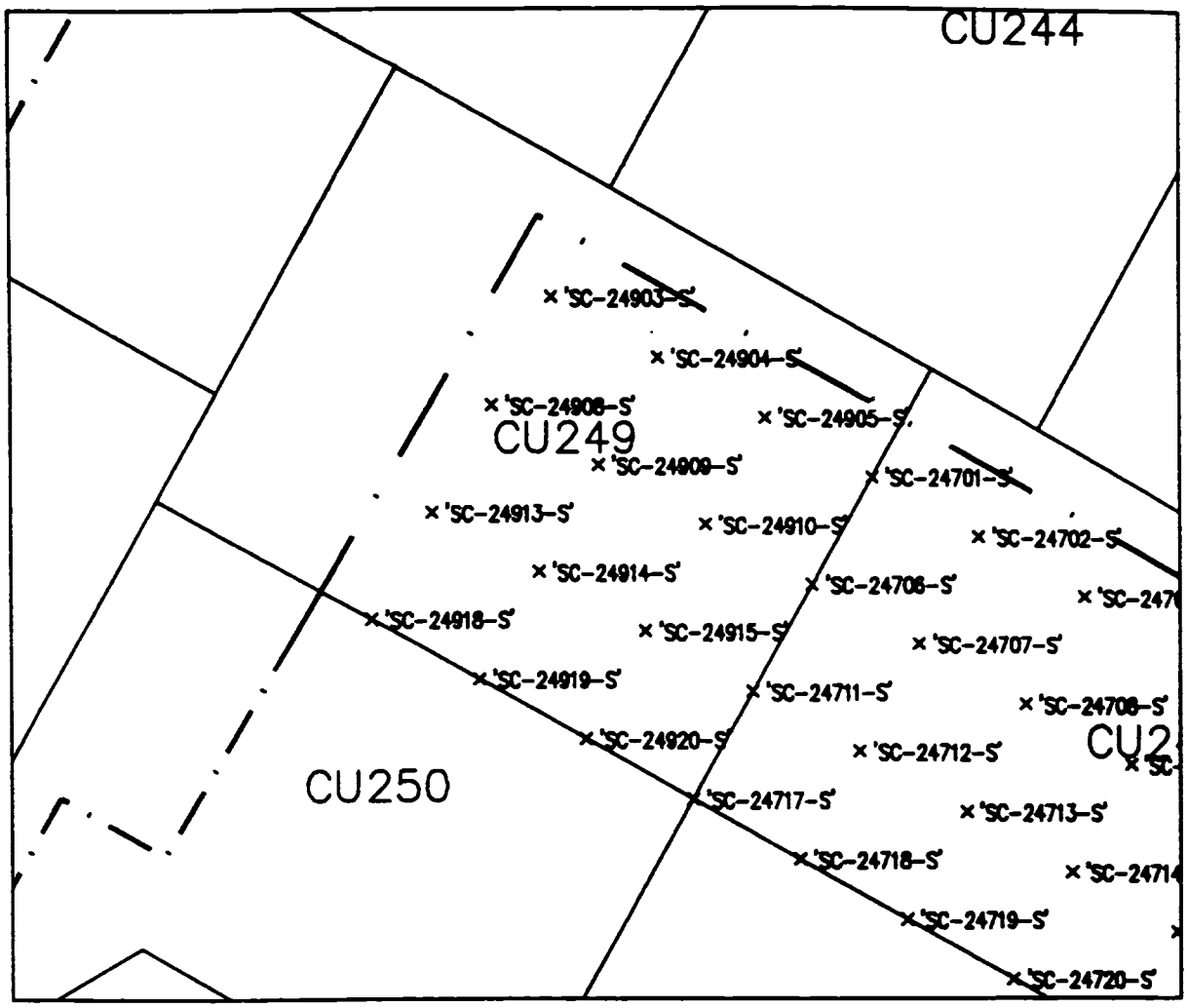
| | |
|---|---|
| Meter Model#: 2221 | Detector Model#: 2x2 NaI "F" |
| Meter Serial#: 127252 | Detector Serial#: 122191 |
| Calibration Due: 8-27-99 | Calibration Due: 8-11-99 |
| Survey Date/Time: 4-17-99 | Field Bkg.: 8000 cpm |
| Surveyor(s): C. Hanner & T. Brown | |

Comments: Area surveyed and found to be less than 1.5 times background

15 7.5 0 15 METERS

45 22.5 0 45 FEET

N W E S




## LEGEND

- ▪ 'SC-32606-S' SAMPLE POINTS NOT PINNED
- × 'SC-32606-S' SAMPLE POINTS PINNED
- — · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 249

DBO CAD

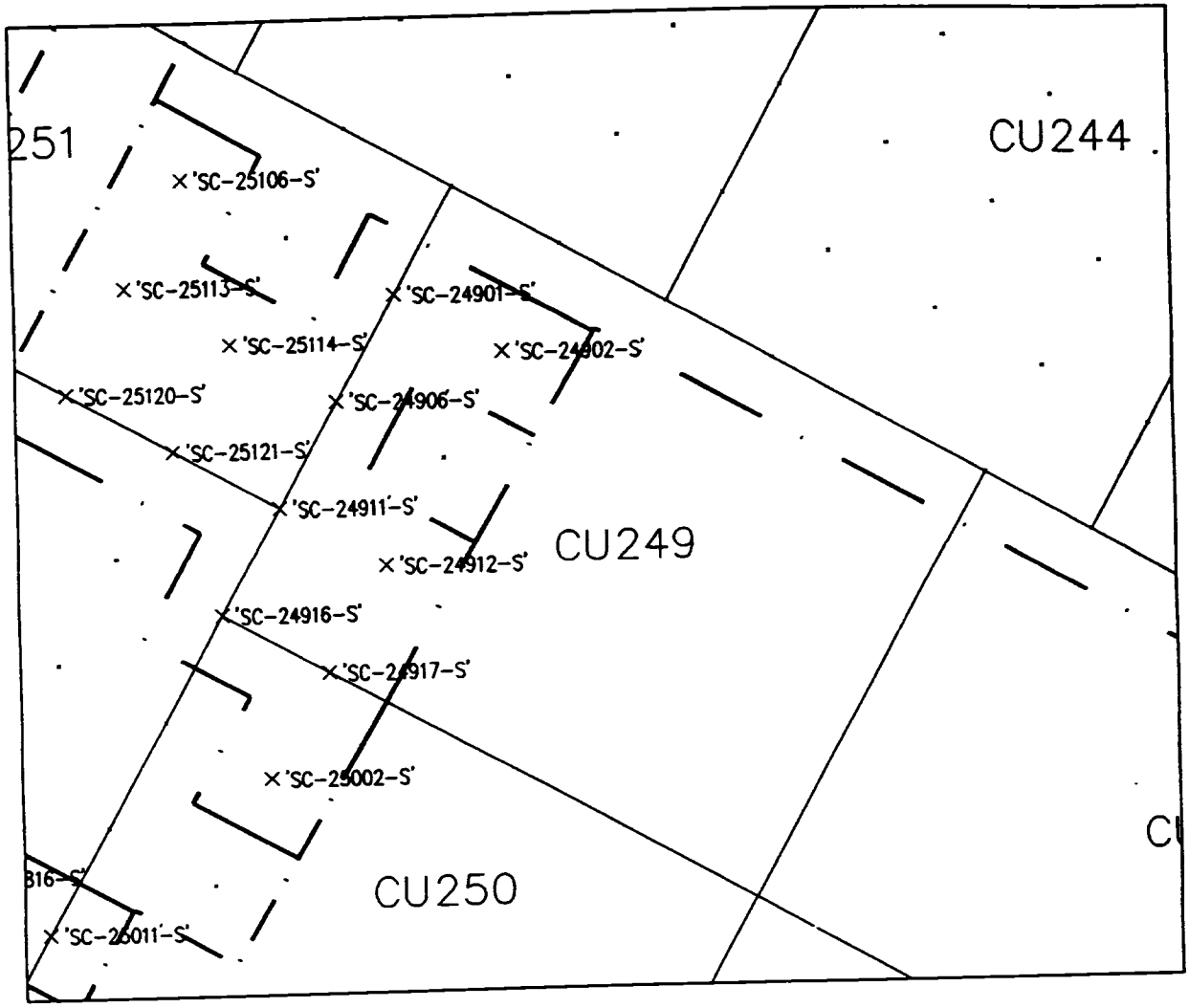
| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2L |
| Meter Serial #: | 125435 | Detector Serial #: | 130763 |
| Calibration Date: | 12-20-99 | Calibration Date: | 8-11-99 |
| Survey Date / Time: | 6-2-99 /PM | Field Bkg.: | 9,000 cpm |
| Surveyor(s): | J RAWKINS / T BROWNER | | |
| Comments: | ALL READINGS <1.5 x BKG | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

▫ 'SC-32606-S' SAMPLE POINTS NOT PINNED
× 'SC-32606-S' SAMPLE POINTS PINNED
— · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 249

DHO CAD

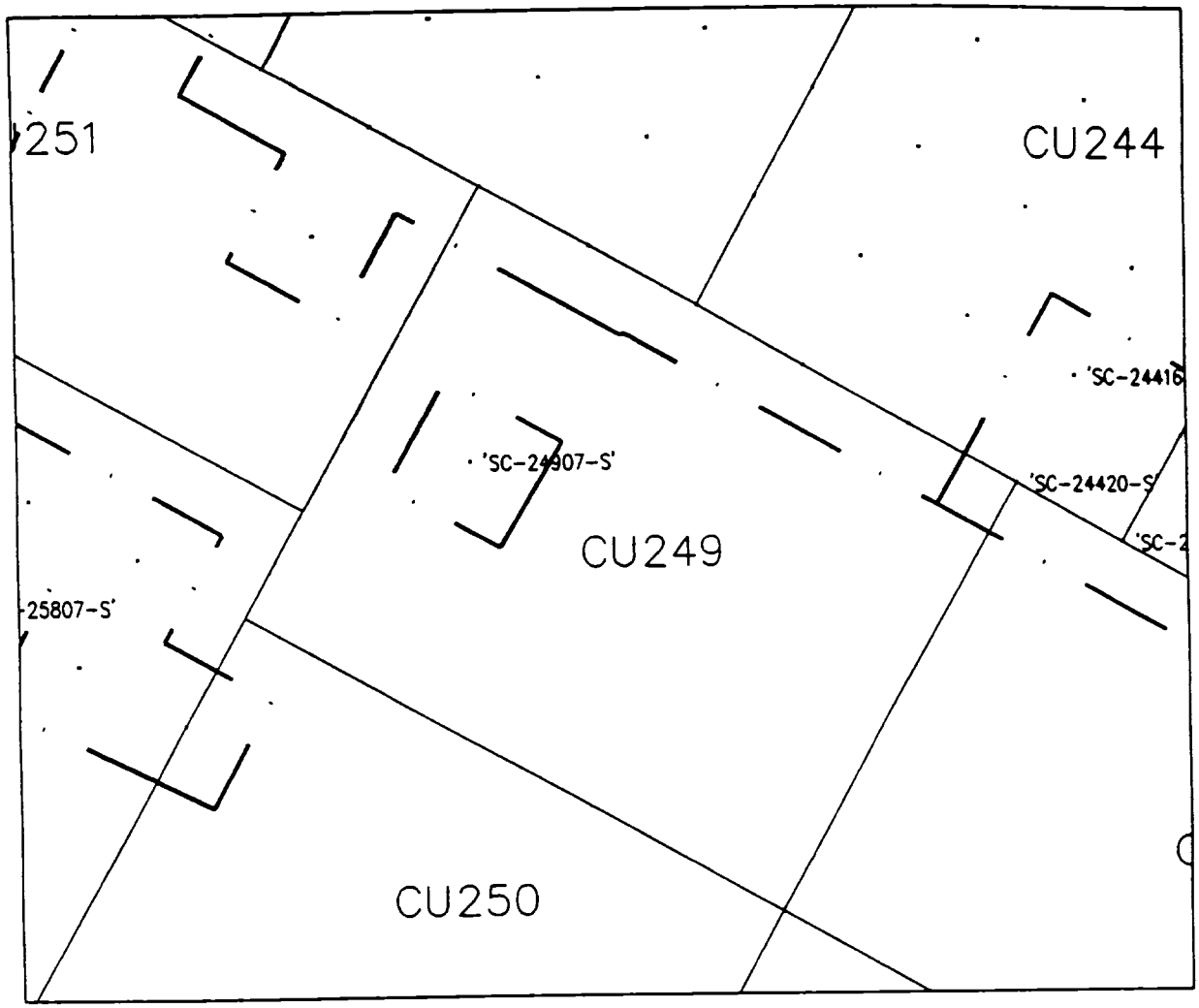
| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 |
| Meter Serial #: | 127252 | Detector Serial #: | F |
| Calibration Due: | 8/27/99 | Calibration Due: | 8/11/99 |
| Survey Date / Time: | 6/11/99 | Field Bkg.: | 10,000 CPM |
| Surveyor(s): | T. Brewer | | |
| Comments: | All readings <1.5 times Bkg | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

- ▫ 'SC-32606-S' SAMPLE POINTS NOT PINNED
- × 'SC-32606-S' SAMPLE POINTS PINNED
- — · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 249

DBO CAD

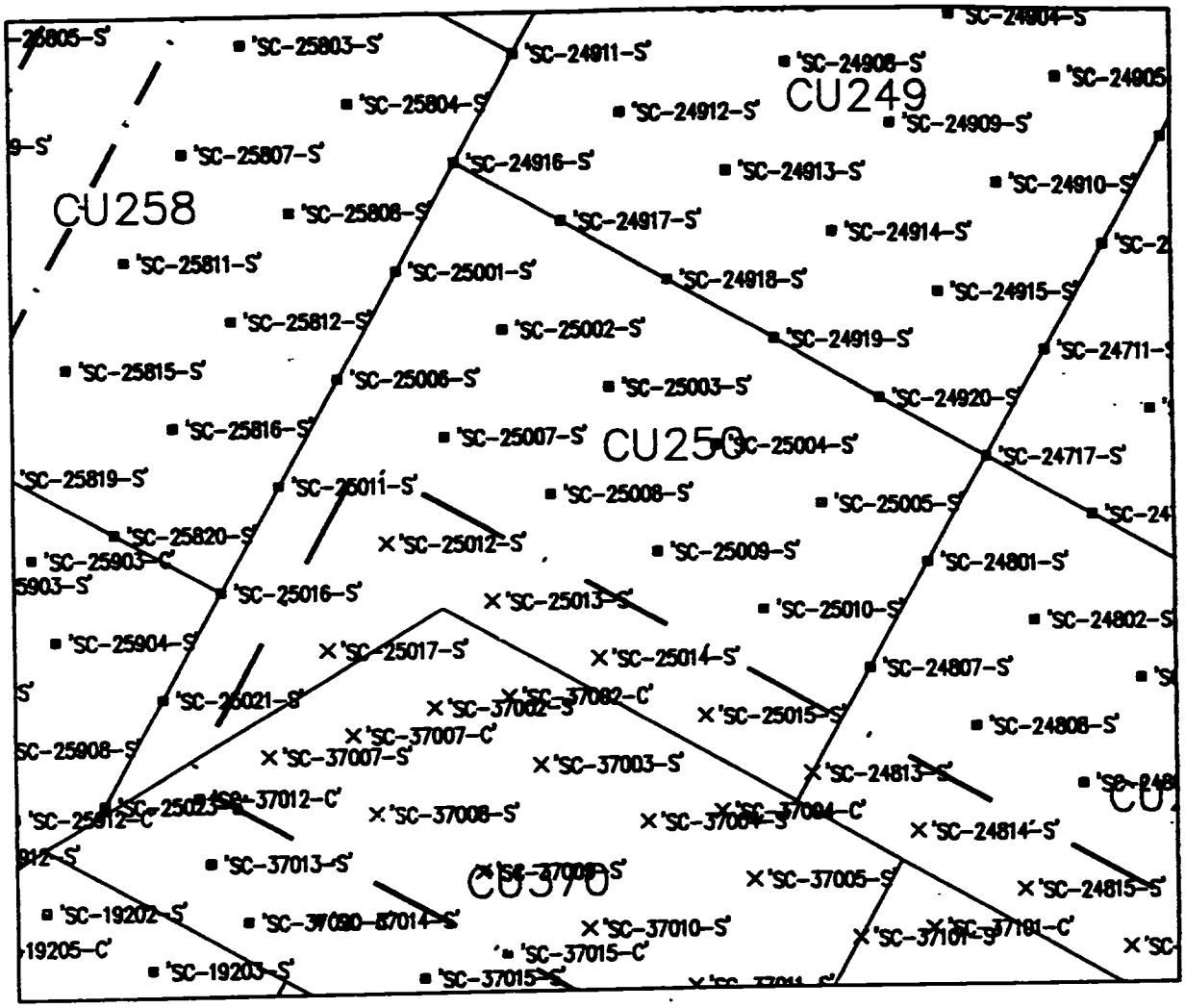
| | | | |
|---|---|---|---|
| Meter Model # | 2221 | Detector Model #: | 2x2 |
| Meter Serial # | 127252 | Detector Serial #: | F |
| Calibration Due: | 8/27/99 | Calibration Due: | 8/11/99 |
| Survey Date / Time: | 6/15/99 | Field Bkg.: | 10,000 CPM |
| Surveyor(s): | T. Brower | | |
| Comments: | All readings w/.5 Bkg | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




## LEGEND

- ■ 'SC-32606-S' SAMPLE POINTS NOT PINNED
- × 'SC-32606-S' SAMPLE POINTS PINNED
- — · — · — PINNING LIMITS

Radiation Survey.Form WP 437, RU 21 CU 250

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | NaI "2x2" |
| Meter Serial #: | 125435 | Detector Serial #: | 130763 |
| Calibration Date: | 12-20-99 | Calibration Date: | 8-11-99 |
| Survey Date / Time: | 6-02-99 | Field Bkg.: | 7K |
| Surveyor(s): | J. Rankin | | |
| Comments: | All areas < 1.5 BKG | | |

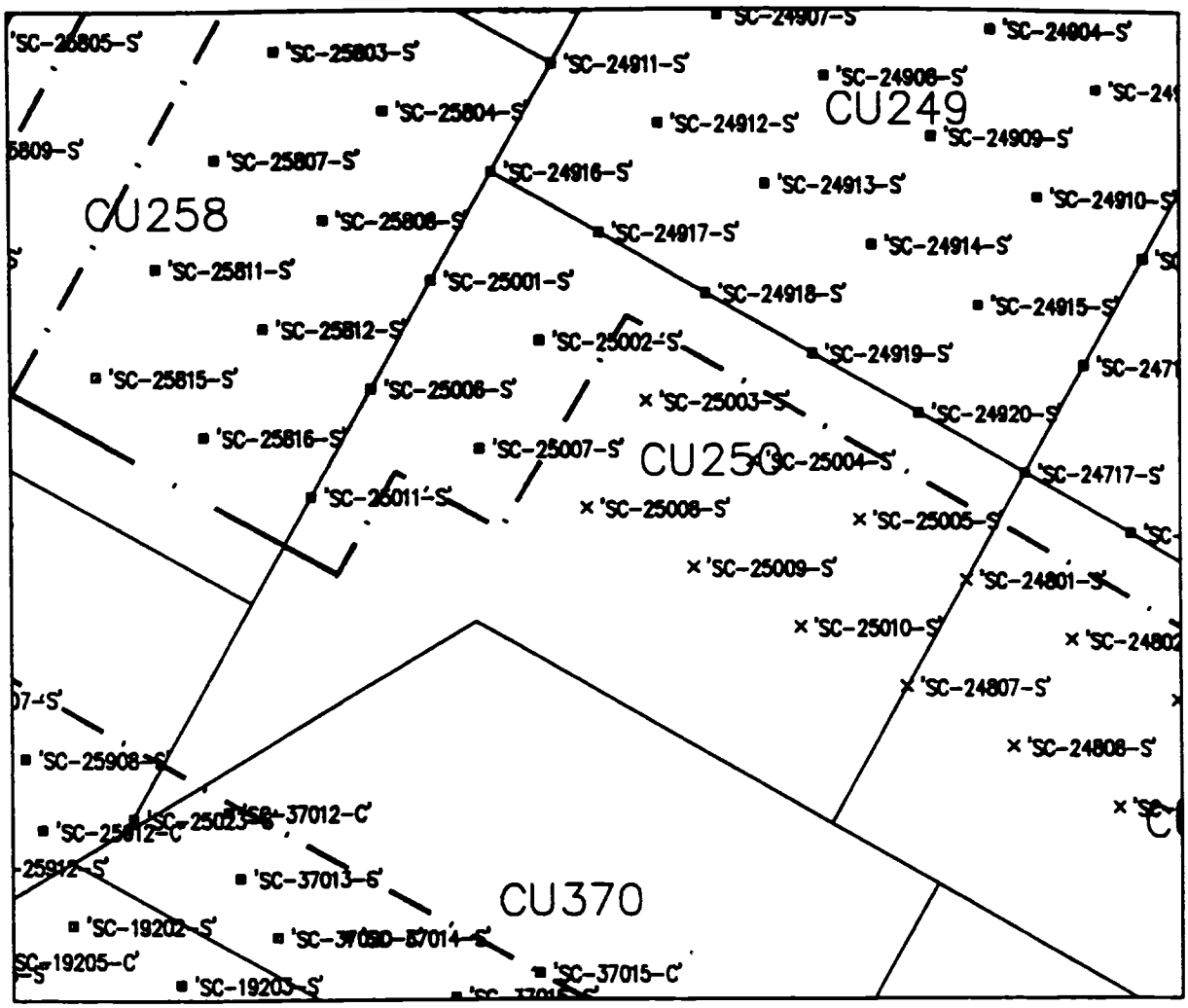
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.




## LEGEND

- ■ 'SC-32606-S' SAMPLE POINTS NOT PINNED
- × 'SC-32606-S' SAMPLE POINTS PINNED
- — · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 250

DBO CAD

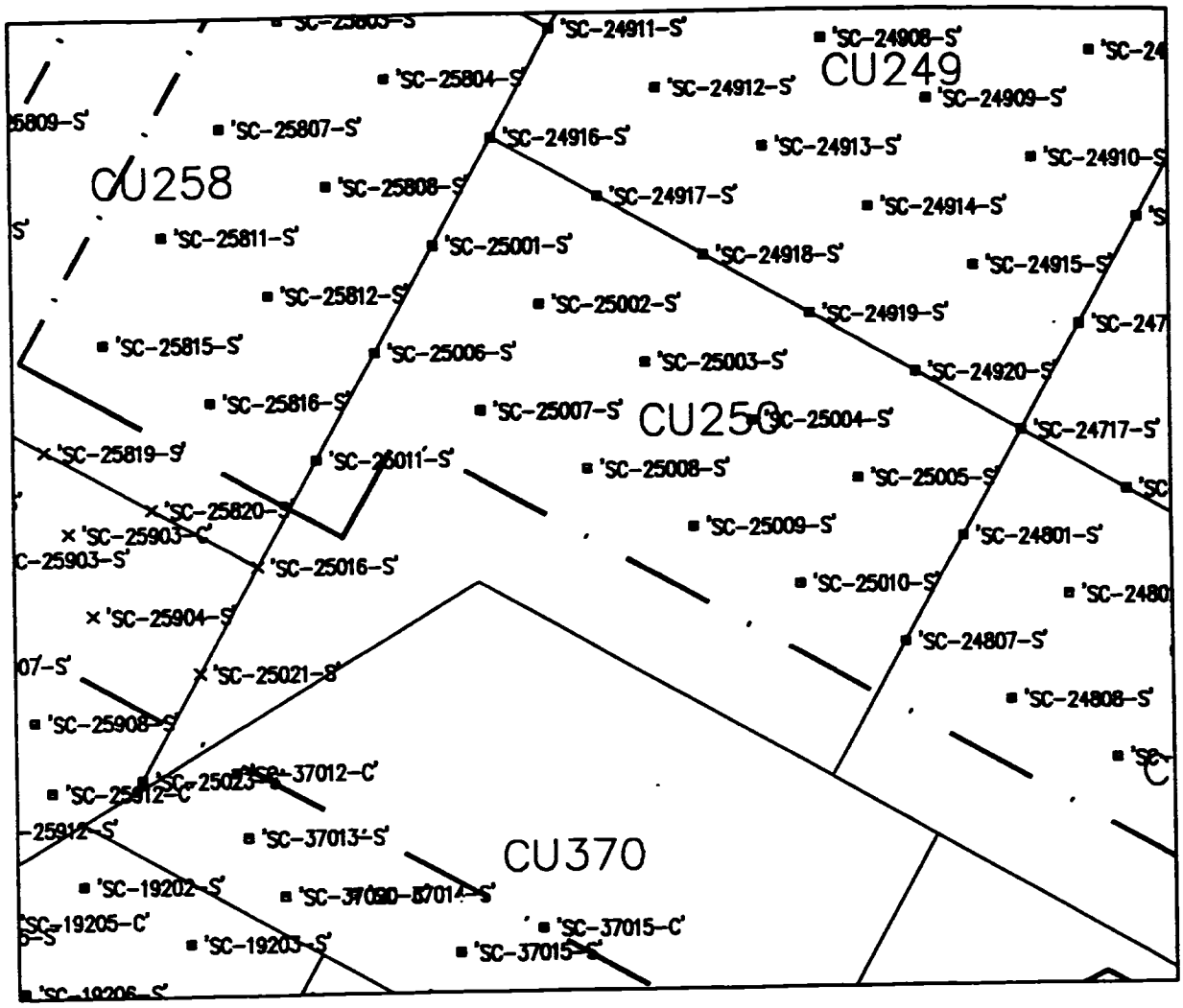
| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 L |
| Meter Serial #: | 125435 | Detector Serial #: | 130763 |
| Calibration Date: | 12-20-99 | Calibration Date: | 8-11-99 |
| Survey Date / Time: | 6-2-99/PM | Field Bkg.: | 9,000 cpm |
| Surveyor(s): | J RANKINS / T BROWER | | |
| Comments: | ALL READINGS < 1.5 x BKG | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




## LEGEND

- ▪ 'SC-32606-S' SAMPLE POINTS NOT PINNED
- × 'SC-32606-S' SAMPLE POINTS PINNED
- — · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 250

DBO CAD

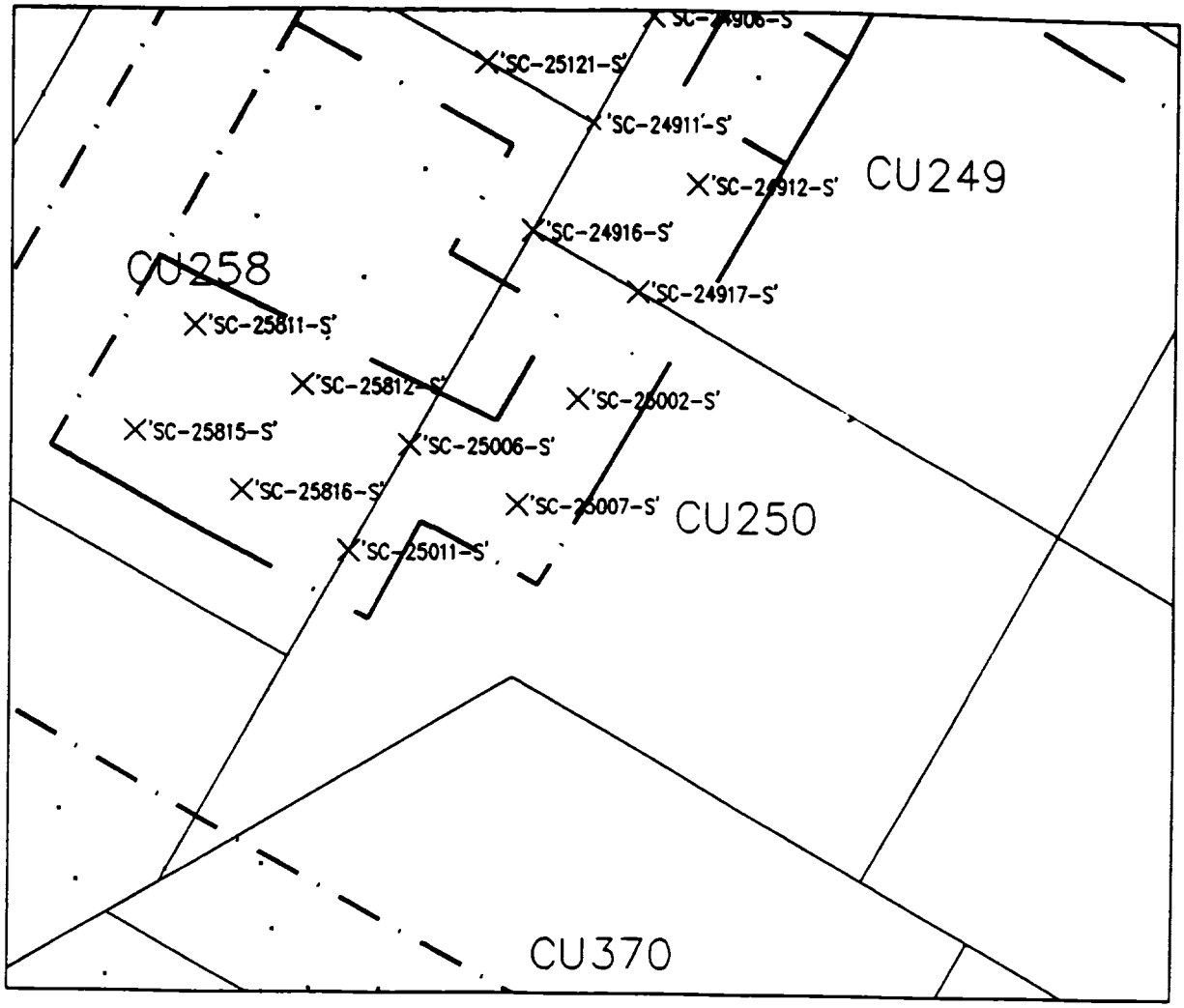
| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2L |
| Meter Serial #: | 125435 | Detector Serial #: | 130763 |
| Calibration Due: | 12/20/99 | Calibration Date: | 8/11/99 |
| Survey Date / Time: | 6/4/99 | Field Bkg.: | 6,000 CPM |
| Surveyor(s): | T. Brown | | |
| Comments: | All readings <1.5 times BKg | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

▫ 'SC-32606-S' SAMPLE POINTS NOT PINNED
× 'SC-32606-S' SAMPLE POINTS PINNED
— · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 250

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 |
| Meter Serial #: | 127252 | Detector Serial #: | F |
| Calibration Due: | 8/27/99 | Calibration Due: | 8/11/99 |
| Survey Date Time: | 6/11/99 | Field Bkg.: | 10,000 CPM |
| Surveyor(s): | T. Brower | | |
| Comments: | All readings <1.5 BKG | | |

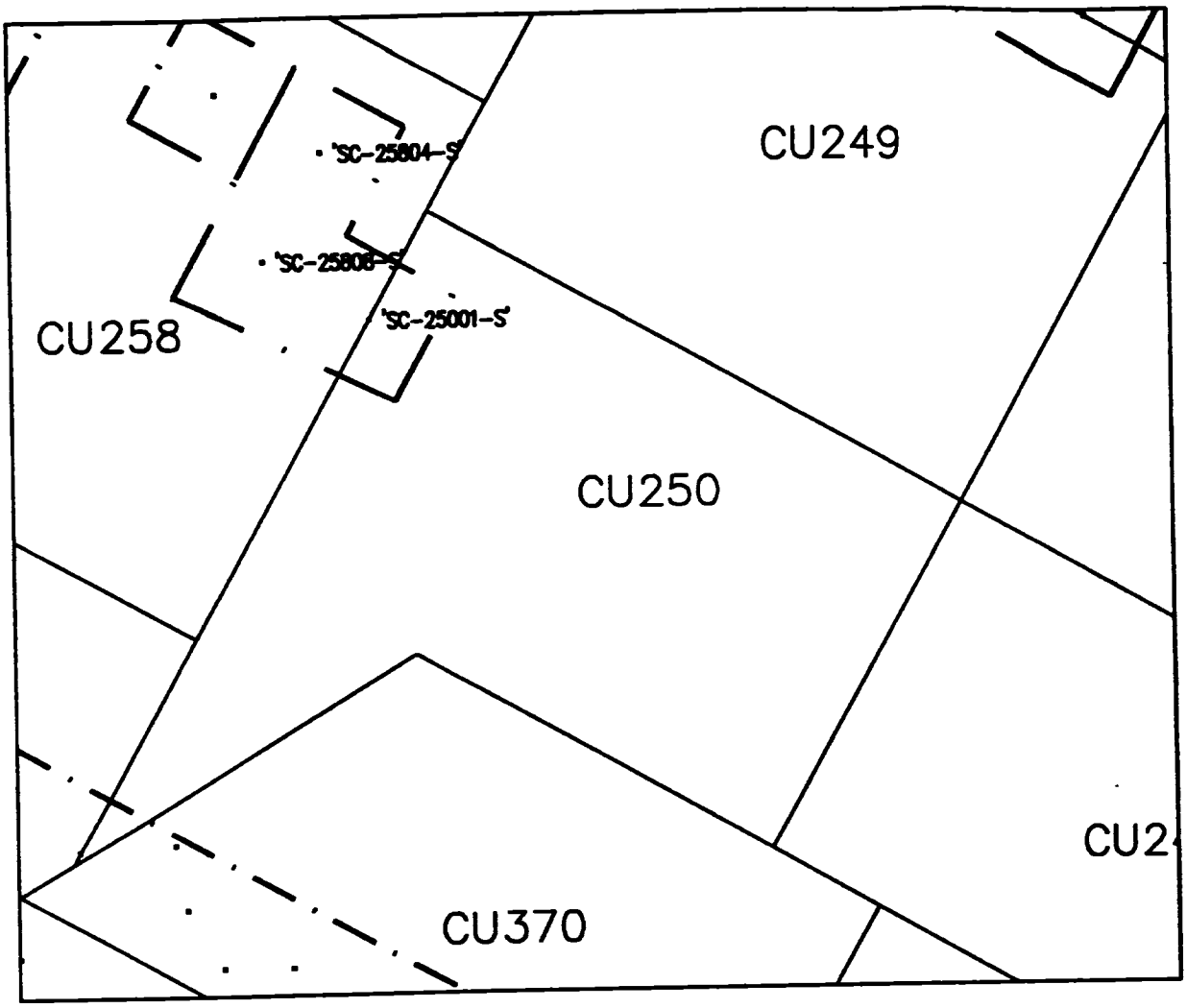
*revised map

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

- ▪ 'SC-32606-S' SAMPLE POINTS NOT PINNED
- × 'SC-32606-S' SAMPLE POINTS PINNED
- — · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 250

DED CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2"6" |
| Meter Serial #: | 127247 | Detector Serial #: | 122192 |
| Calibration Due: | 9/25/99 | Calibration Due: | 1/24/00 |
| Survey Date / Time: | 4/17/99 | Field Bkg.: | 10,000 CPM |
| Surveyor(s): | T Brewer | | |
| Comments: | All readings w/5 Bkg | | |

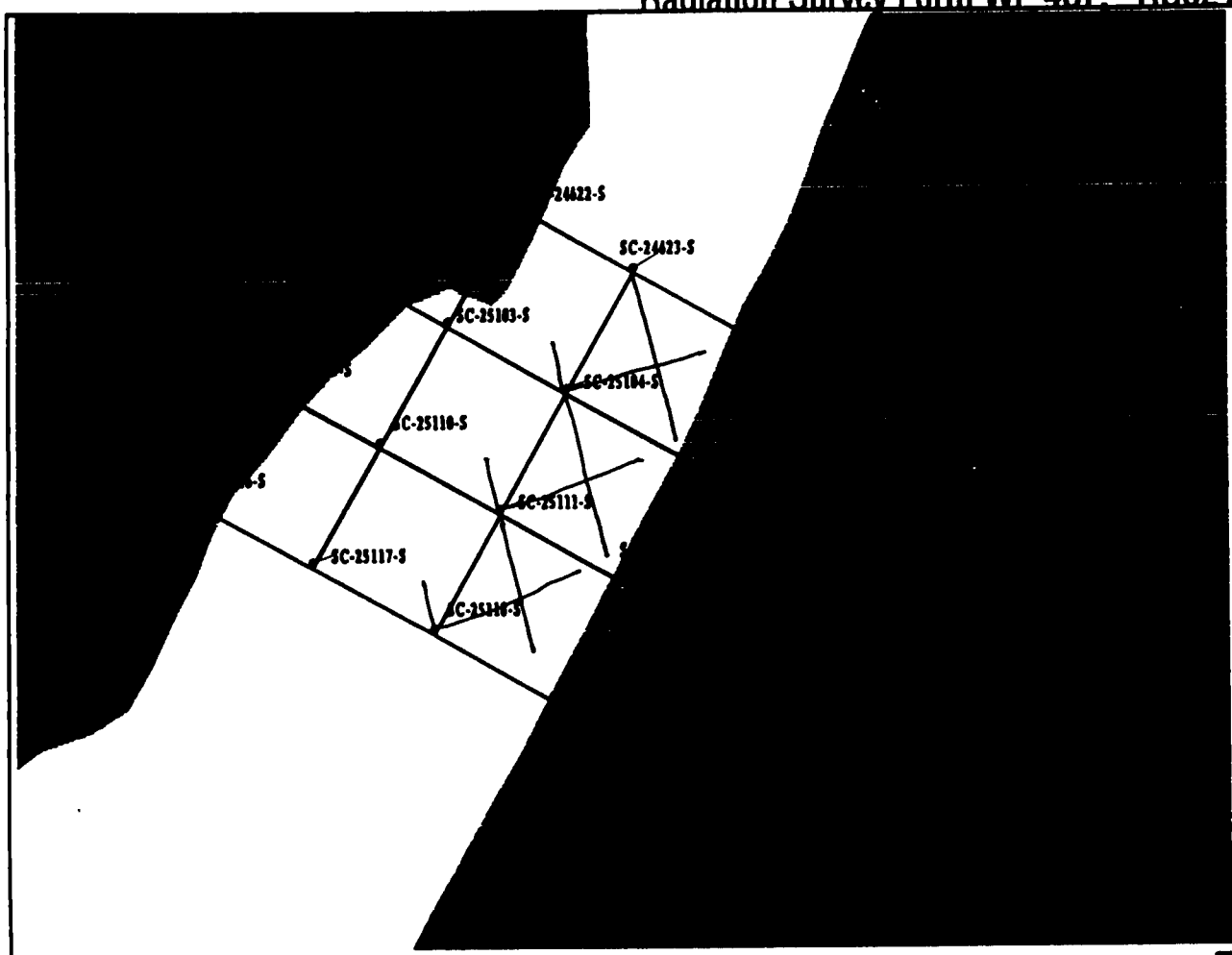
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.

# Radiation Survey Form WP 437_ RU021CU251




WSSRAP GIS

15 7.5 0 15 METERS

45 22.5 0 45 FEET

N W E S

Meter Model#: 2221 / 2221 Detector Model#: NaI 2x2"

Meter Serial#: 106696 / 117607 Detector Serial#: 130764 / 1602582

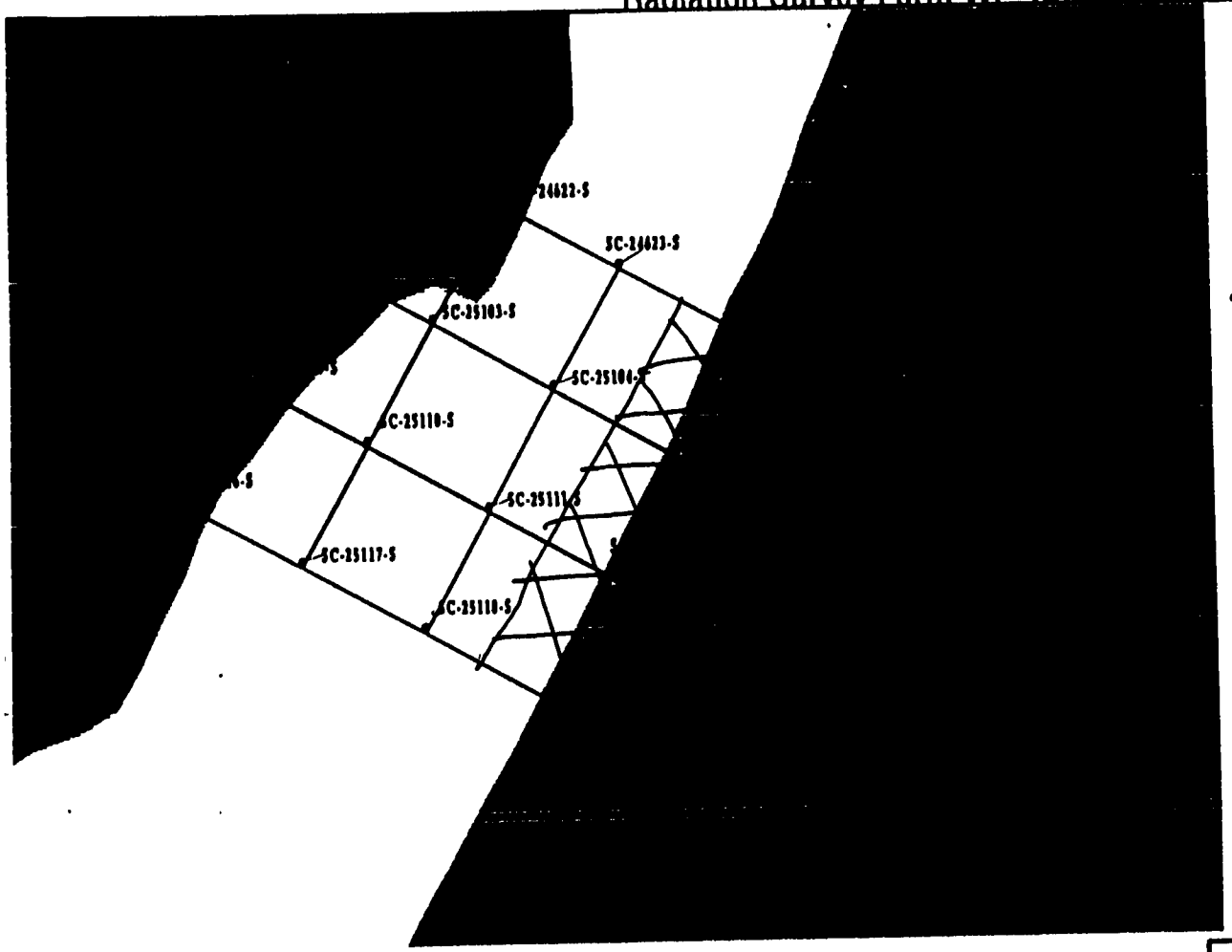
Calibration Due: 12-1-99 / 12-18-99 Calibration Due: 7-21-99 / 5-6-99

Survey Date/Time: 01-29-99 Field Bkg.: 17K / 23K

Surveyor(s): Chris Hamner / J. Rankins

Comments: Area was surveyed and found to be below 1.5 times background

# Radiation Survey Form WP 437 RU021CU251




WSSRAP GIS

15 7.5 0 15 METERS

45 22.5 0 45 FEET

N W E S

Meter Model#: 2221 Detector Model#: NaI 2x2

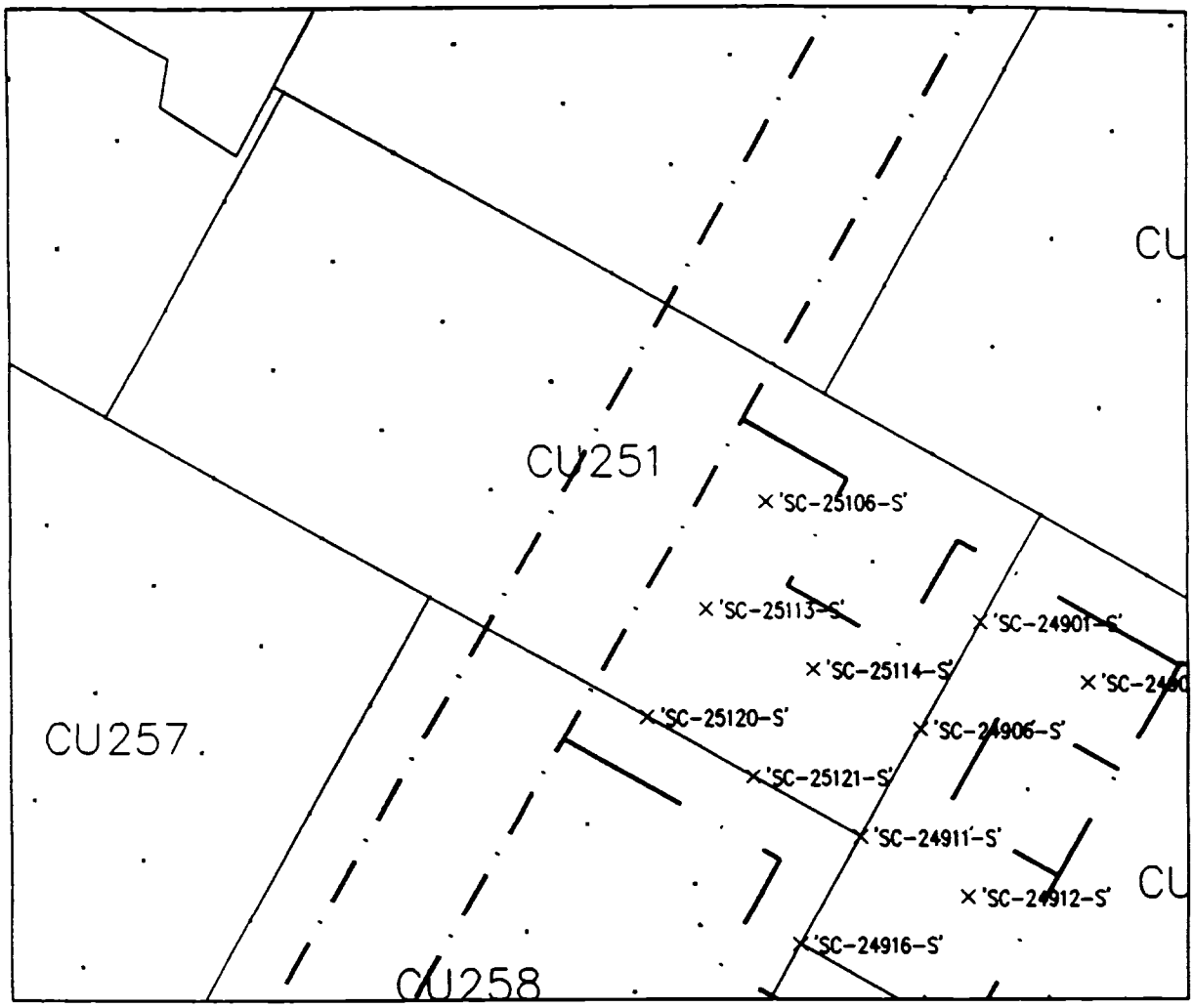
Meter Serial#: 127252 Detector Serial#: 122191

Calibration Due: 8-27-99 Calibration Due: 8-11-99

Survey Date/Time: 4-27-99 Field Bkg.: 5,000 CPM

Surveyor(s): T. Brown

Comments: All readings <1.5 times Bkg.




LEGEND

▫ 'SC-32606-S' SAMPLE POINTS NOT PINNED
× 'SC-32606-S' SAMPLE POINTS PINNED
— · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 251

DHO CAD

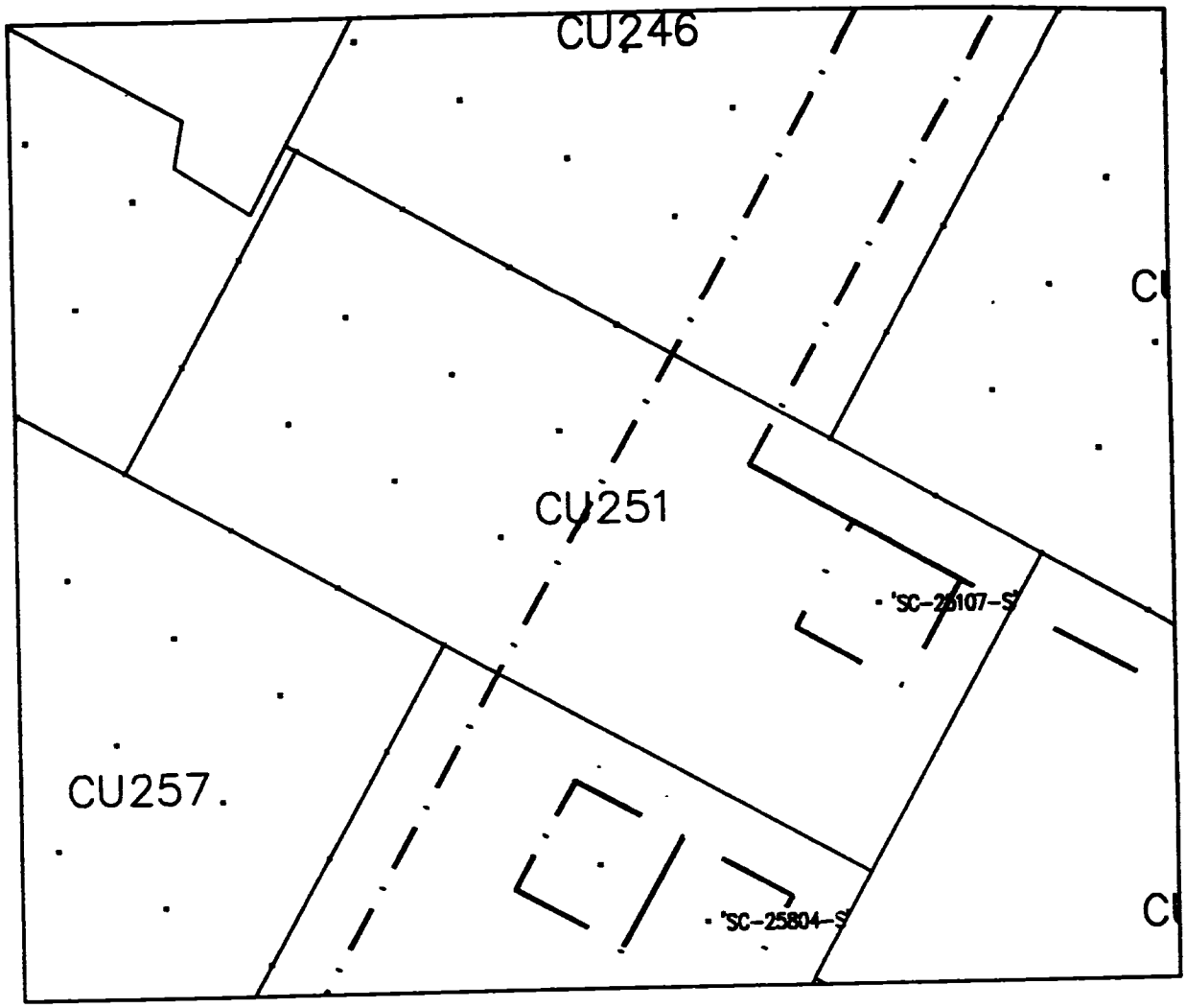
| | | | |
|---|---|---|---|
| Meter Model # | 2221 | Detector Model #: | 2x2 |
| Meter Serial # | 127252 | Detector Serial #: | F |
| Calibration Due: | 8/27/99 | Calibration Due: | 8/11/99 |
| Survey Date / Time: | 6/11/99 | Field Bkg. | 10,000 CPM |
| Surveyor(s). | T. Brower | | |
| Comments. | All readings <1.5 times Bkg | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

- ▪ 'SC-32606-S' SAMPLE POINTS NOT PINNED
- × 'SC-32606-S' SAMPLE POINTS PINNED
- — · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 251

DBD CAD

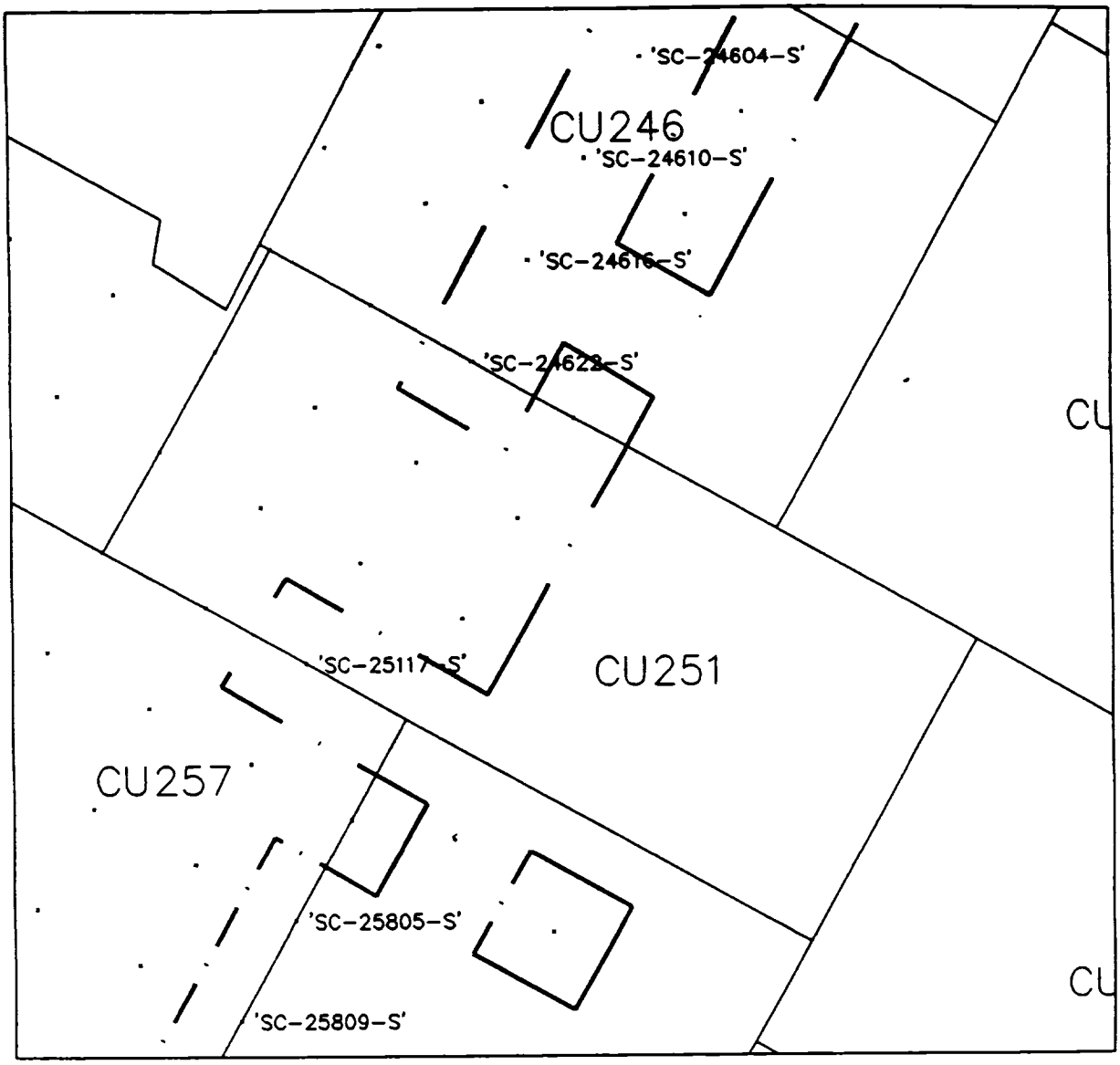
| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "6" |
| Meter Serial #: | 127297 | Detector Serial #: | 122192 |
| Calibration Date: | 9/25/99 | Calibration Date: | 1/29/00 |
| Survey Date / Time: | 6/17/99 | Field Bkg.: | 10,000CPM |
| Surveyor(s): | T. Brewer | | |
| Comments: | All readings < 1.5 Bkg. | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

| | |
|---|---|
| • • | SAMPLE POINTS NOT PINNED |
| ×'SC-32606-S' | SAMPLE POINTS PINNED |
| — · — · — | PINNING LIMITS |

Radiation Survey Form WP 437, RU 21 CU 251

8-3-99

DBD CAD

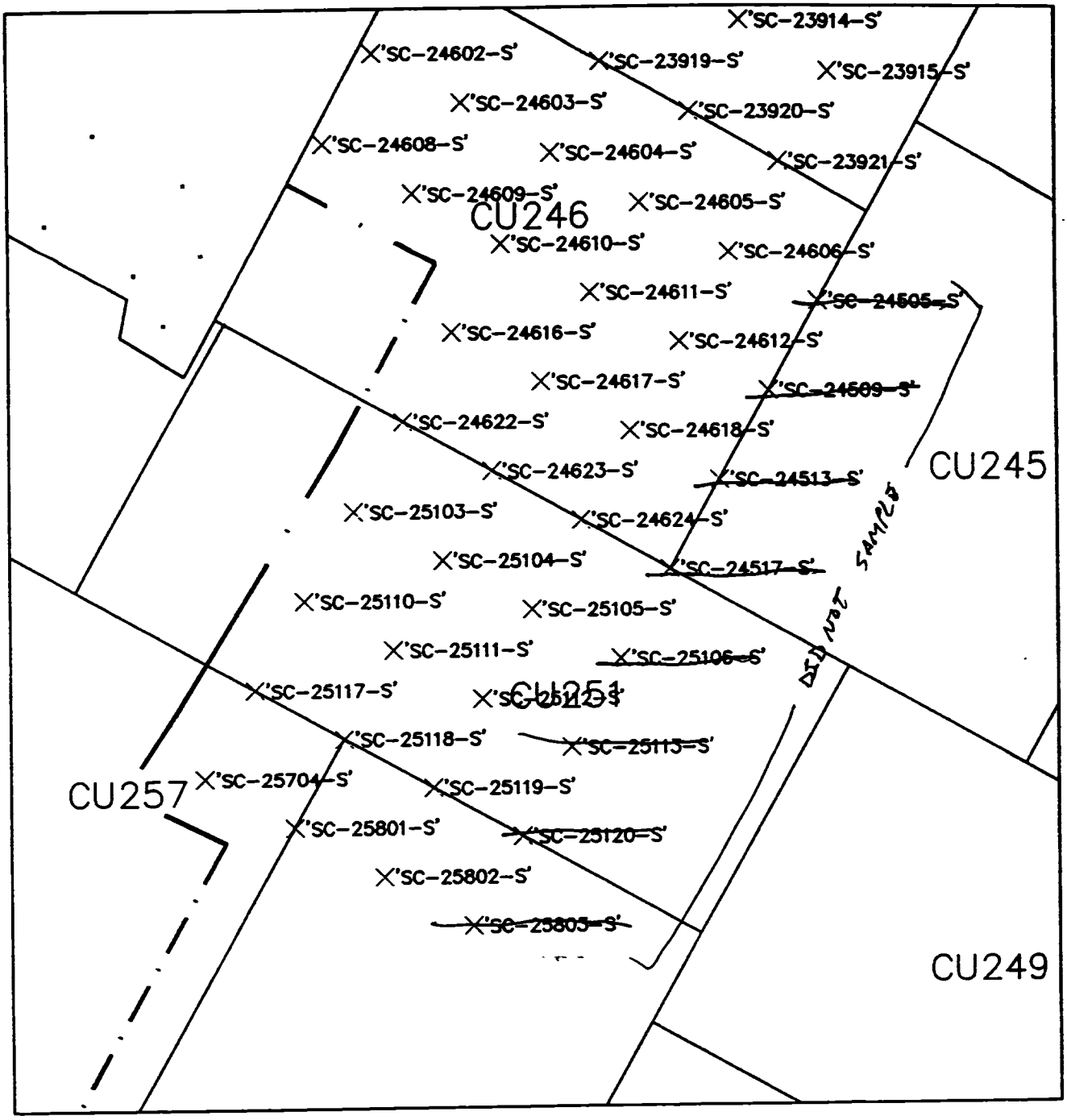
| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | NaI "2x2" |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Due: | 12-18-99 | Calibration Due: | 01-24-00 |
| Survey Date / Time: | 07-23-99 | Field Bkg.: | 12,000 cpm |
| Surveyor(s): | J. Rankin | | |
| Comments: | All areas surveyed < 1.5 BKG | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

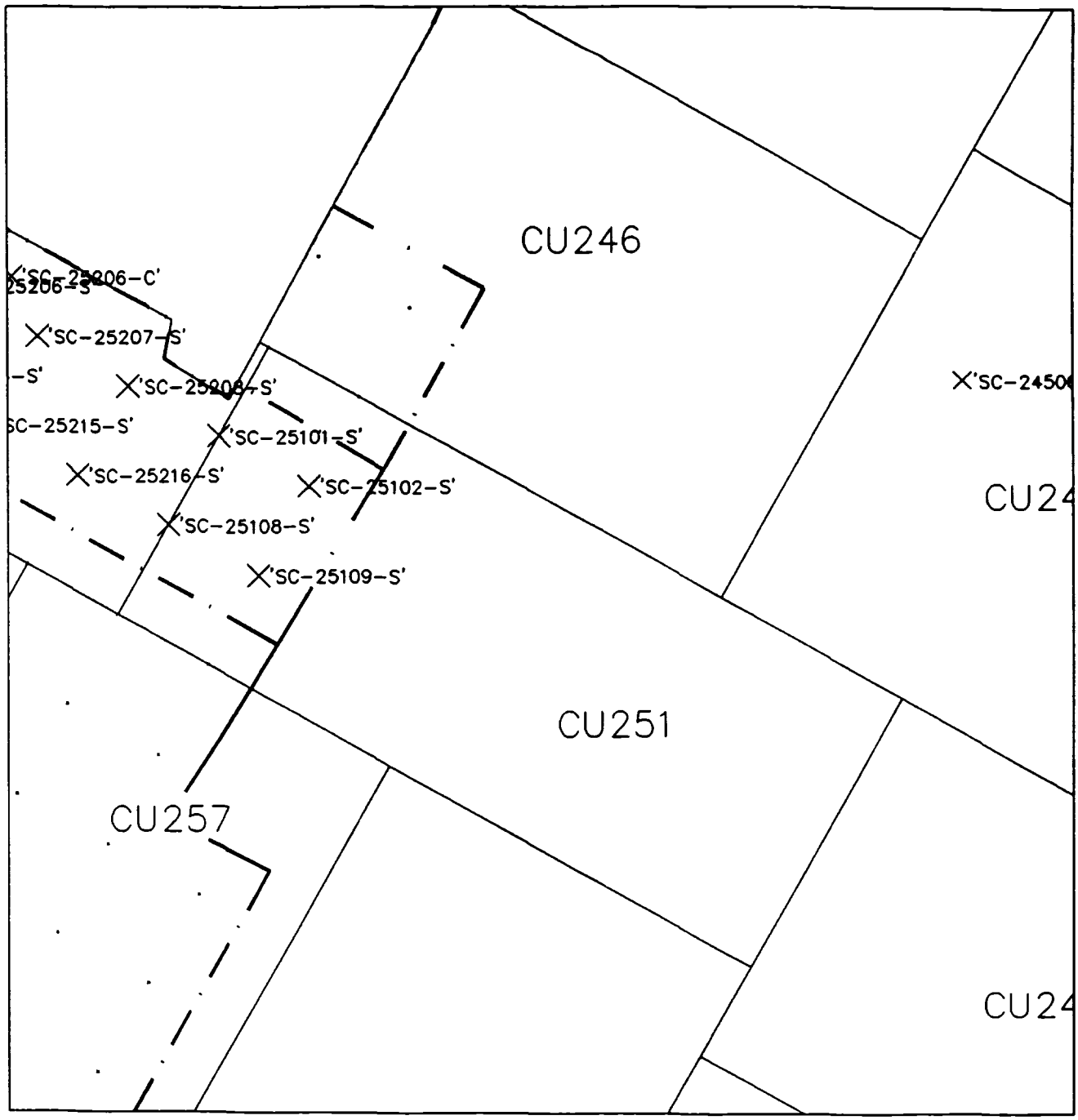
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 251

9/26/99

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 44-10-2 | Detector Model #: | 2221 |
| Meter Serial #: | 130774 N | Detector Serial #: | 106696 |
| Calibration Due: | 1-24-00 | Calibration Due: | 12-7-99 |
| Survey Date / Time: | 9-25-99 / 1600 | Field Bkg.: | 12,000 cpm |
| Surveyor(s): | D FLEMING | | |
| Comments: | ALL AREAS SURVEYED WERE < 1.5 x BKG | | |




LEGEND

SAMPLE POINTS NOT PINNED

×'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

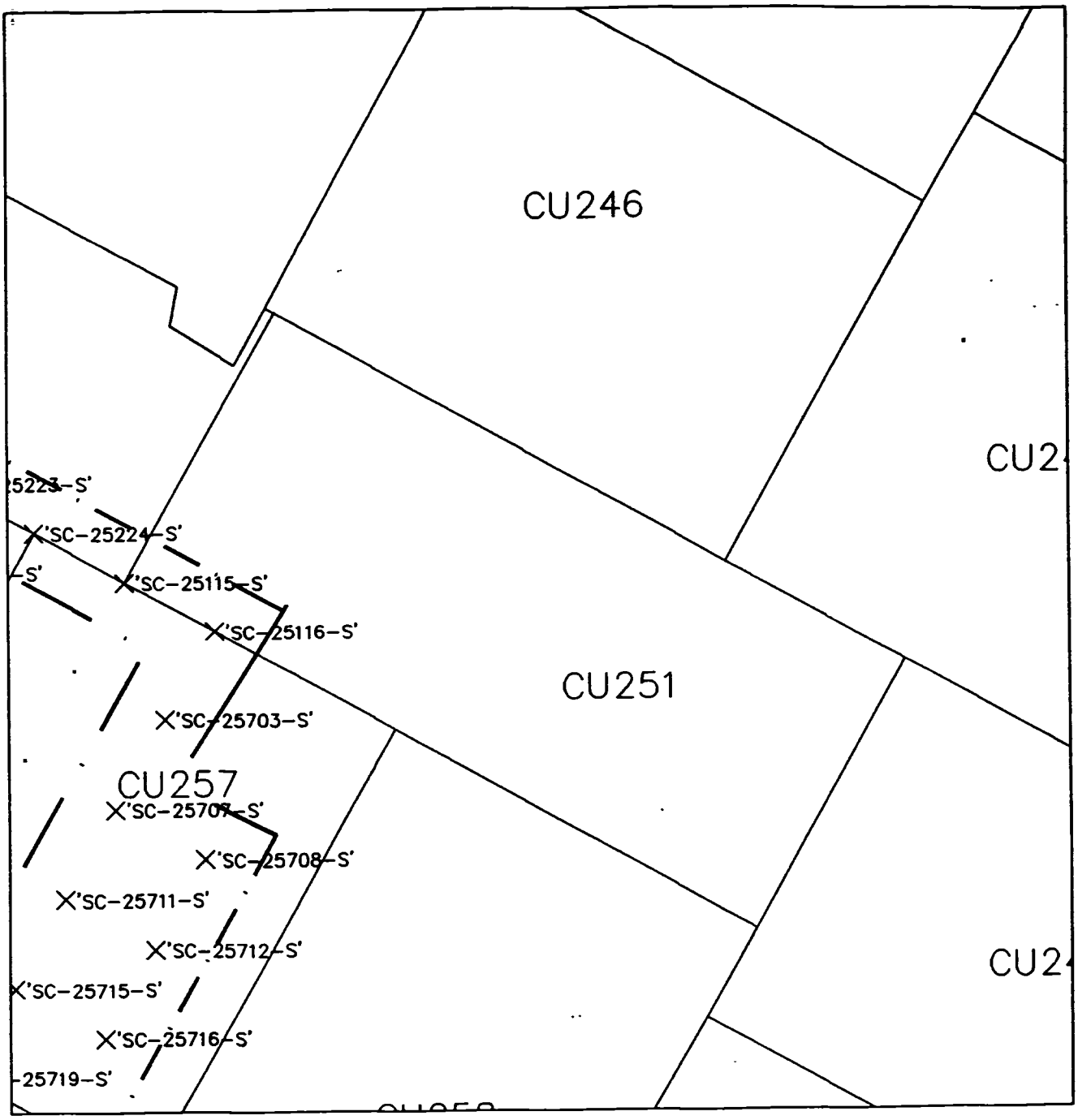
( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 251

9/27/99

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "Q" |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Due: | 12/18/99 | Calibration Due: | 1/24/00 |
| Survey Date / Time: | 9/25/99 | Field Bkg. | 11,000 |
| Surveyor(s): | T. Brown | | |
| Comments: | All readings < 1.5 BKg | | |




LEGEND

SAMPLE POINTS NOT PINNED

×'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

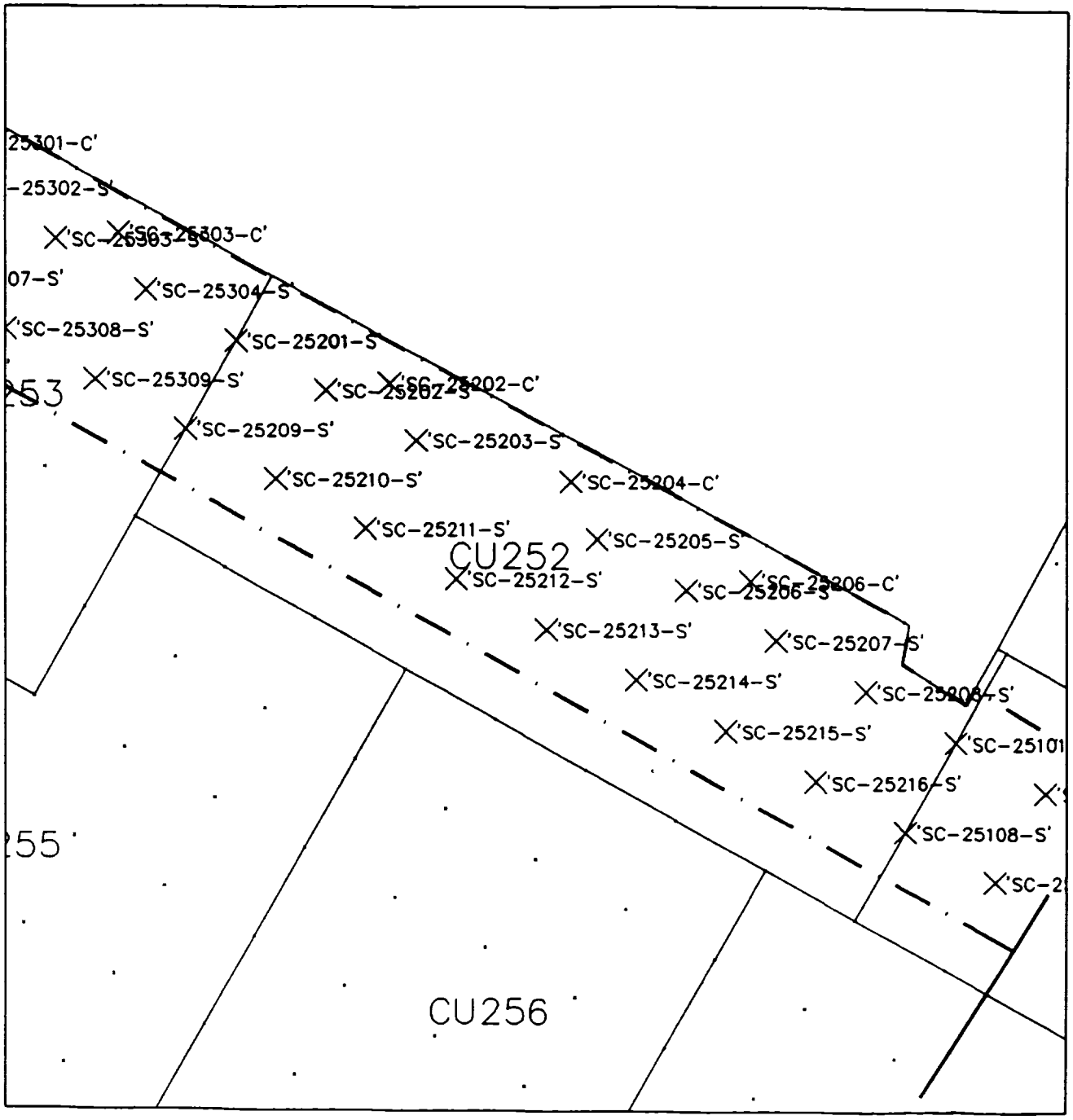
( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 251

9-30-99

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2.2 "Ø" |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Due: | 12-18-99 | Calibration Due: | 01-24-00 |
| Survey Date / Time: | 09-28-99 | Field Bkg.: | 12,000 cpm |
| Surveyor(s): | J. Hankins | | |
| Comments: | All meas < 1.5 BKG. | | |




LEGEND

SAMPLE POINTS NOT PINNED

×'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

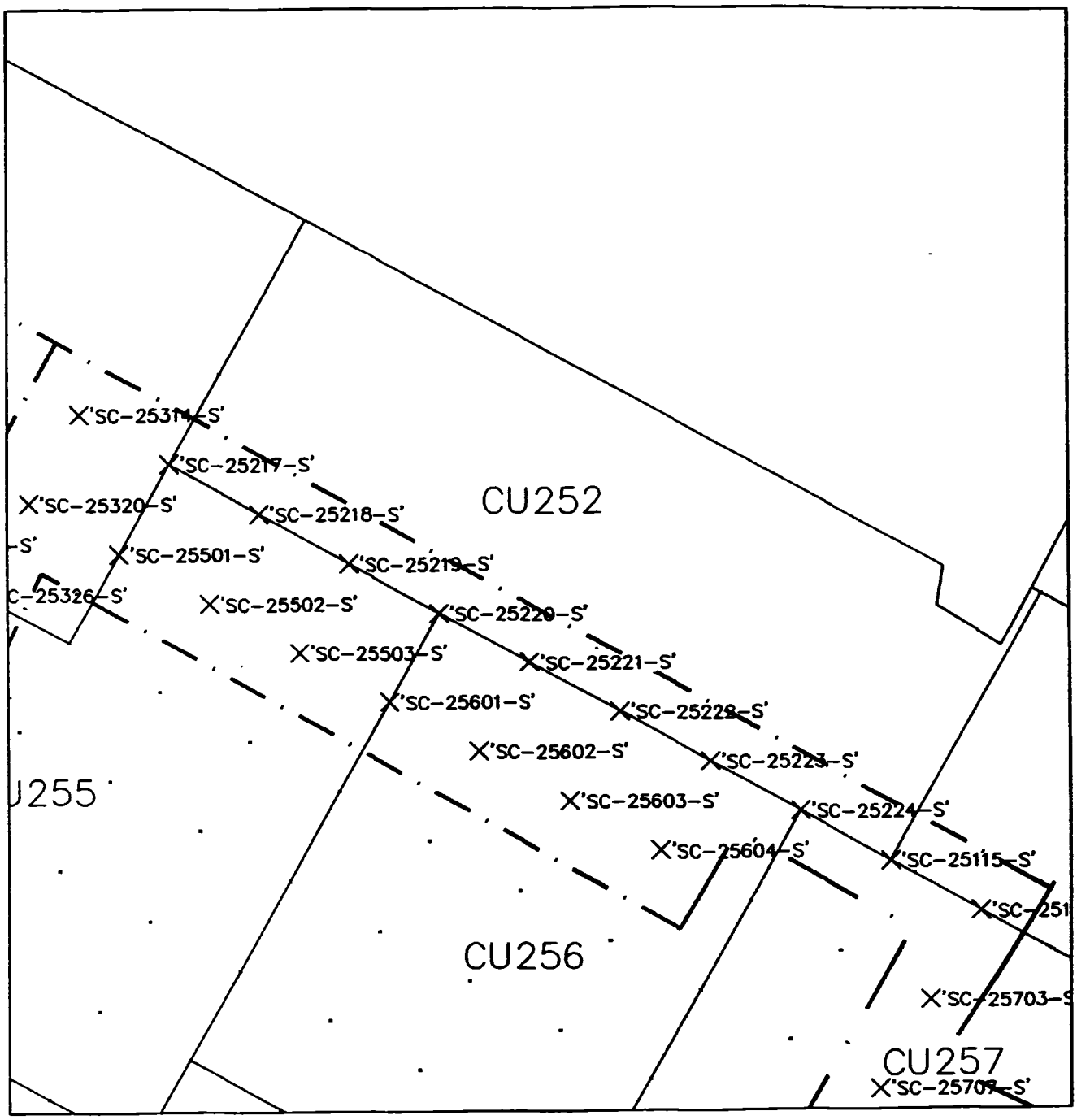
( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 252

9-27-99

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model #. | 2221 | Detector Model #: | 2x2 "Q" |
| Meter Serial #. | 117607 | Detector Serial #: | 25143 |
| Calibration Due | 12/18/99 | Calibration Due. | 1/24/00 |
| Survey Date / Time: | 9/25/99 | Field Bkg | 11,000 |
| Surveyor(s). | T. Brown | | |
| Comments: | All readings <1.5 Bkg | | |




LEGEND

SAMPLE POINTS NOT PINNED

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.

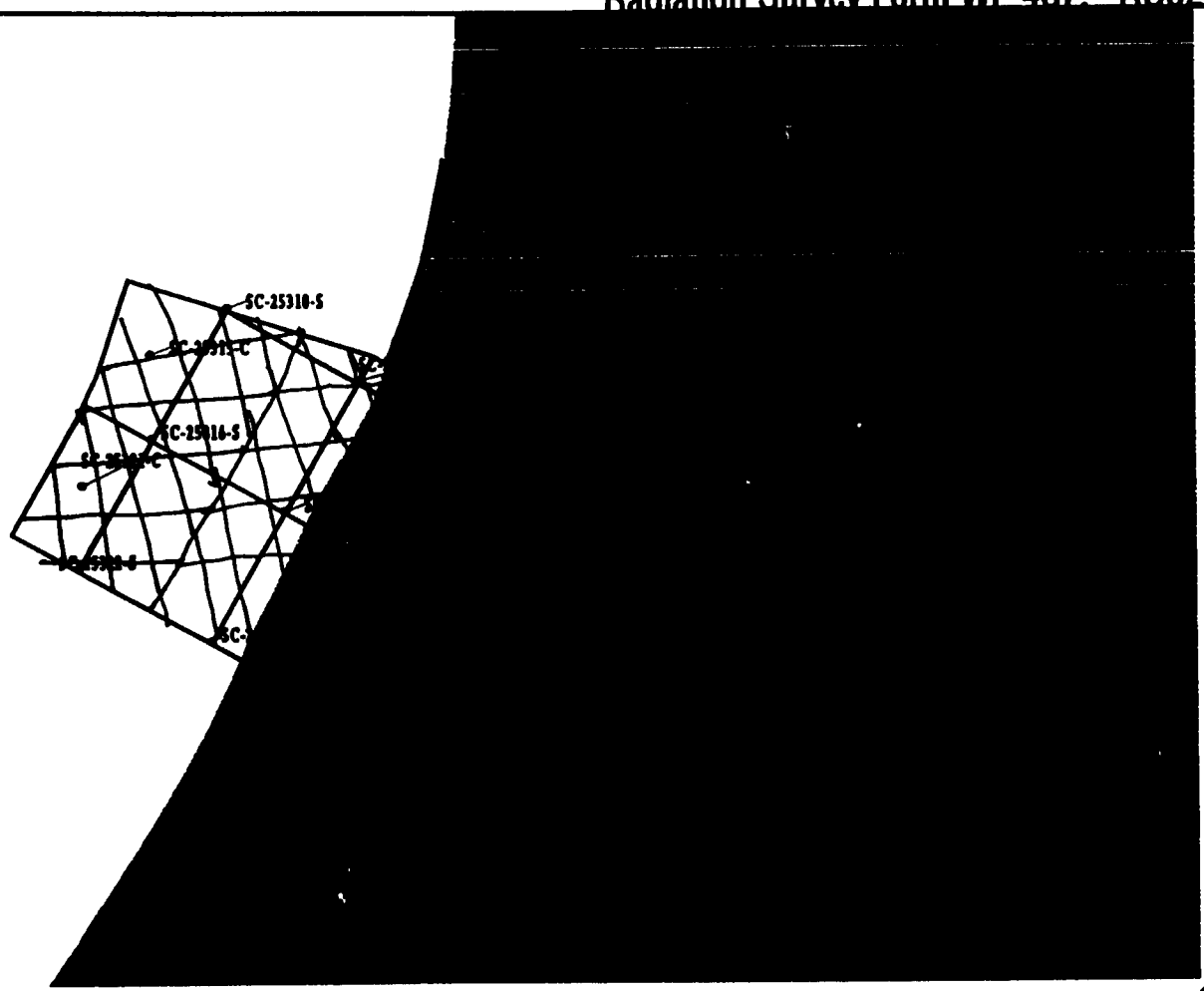
Radiation Survey Form WP 437, RU 21 CU 252

9-30-99

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2.2 "Q" |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Due: | 12-18-99 | Calibration Due: | 01-24-00 |
| Survey Date / Time: | 09-28-99 | Field Bkg.: | 12,000 cpm |
| Surveyor(s): | J. Rankin | | |
| Comments: | All meas < 1.5 BKG | | |

# Radiation Survey Form WP 437. RU021CU253




Surveyed Area

WBSRAP GIS

15 7.5 0 15 METERS

45 22.5 0 45 FEET

S

Meter Model#: 2221 Detector Model#: NaI 2x2

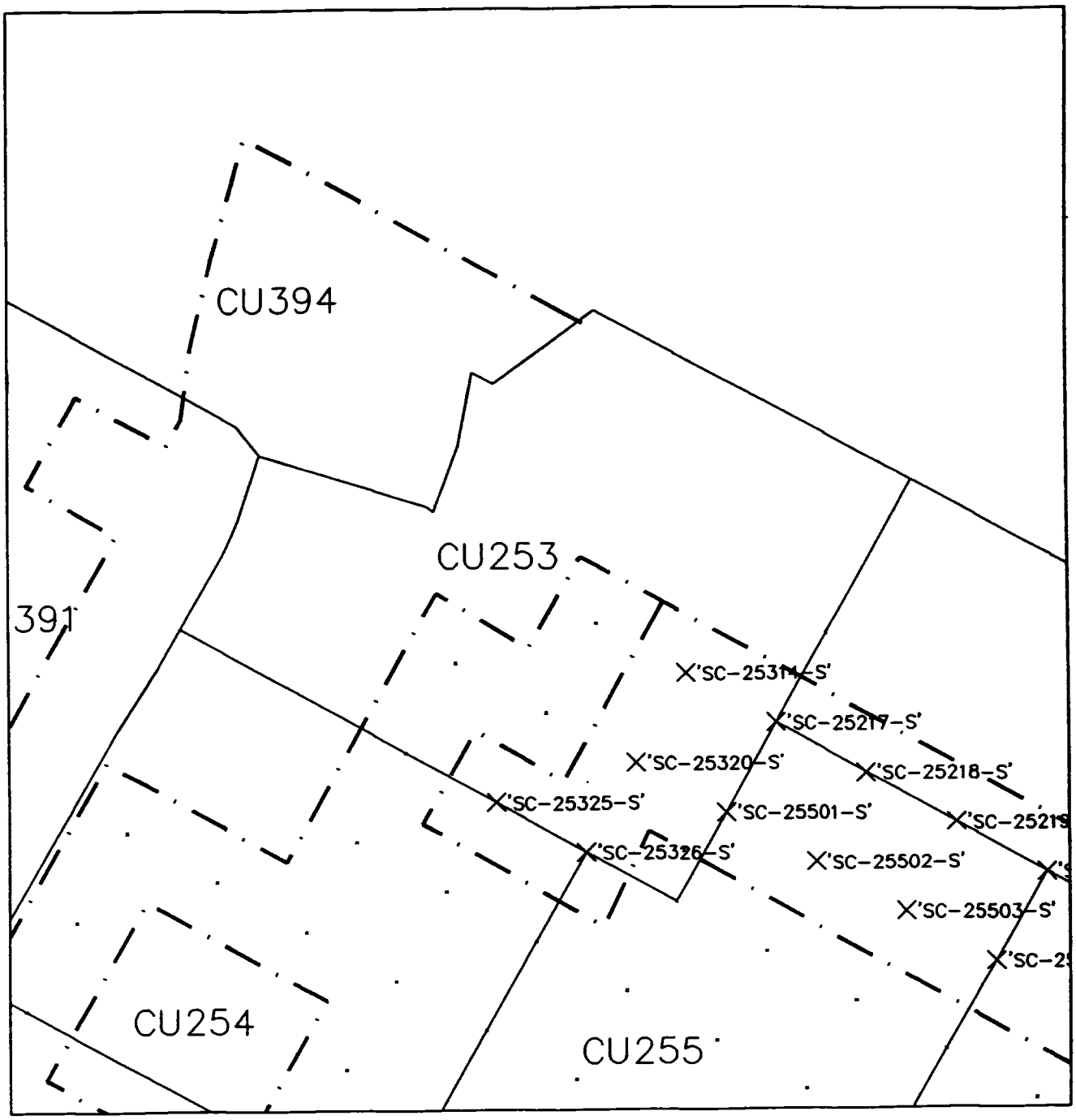
Meter Serial#: 2172 Detector Serial#: K

Calibration Due: 11.20.99 Calibration Due: 1.21.99

Survey Date/Time: 1400 10.2.98 Field Bkg.: 10K - 35K

Surveyor(s): J. Michel

Comments: Above area surveyed < 1.5X BKGD. BKGD varies due to exposed sludge in the area.




LEGEND

SAMPLE POINTS NOT PINNED

×'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

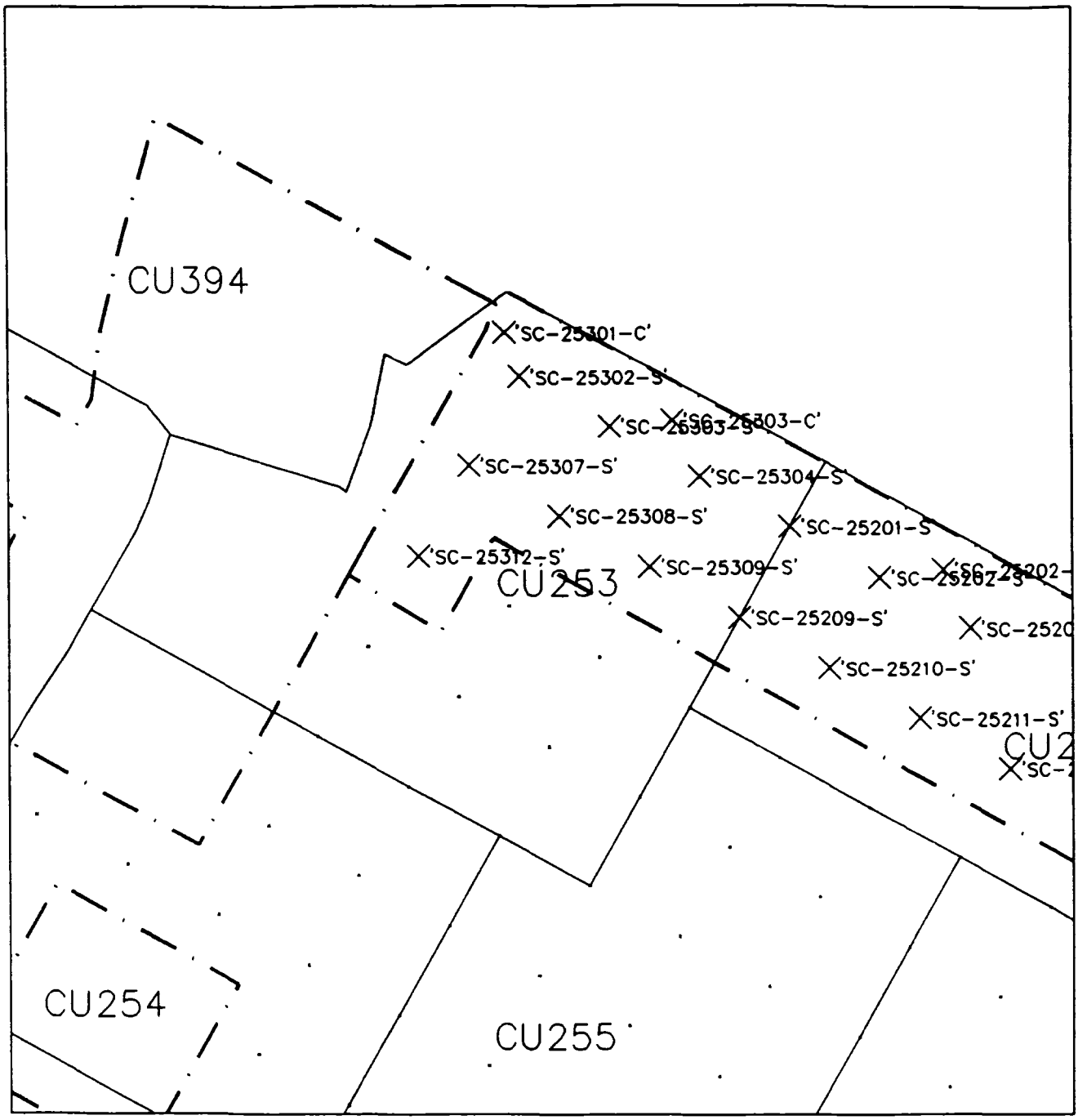
( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 253

9-30-99

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2,2 "Q" |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Due: | 12-18-99 | Calibration Due: | 01-24-00 |
| Survey Date / Time: | 09-25-99 | Field Bkg.: | 11,000 cpm |
| Surveyor(s): | J. Rankin | | |
| Comments: | All meas < 1.5 BKG | | |




LEGEND

SAMPLE POINTS NOT PINNED

×'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

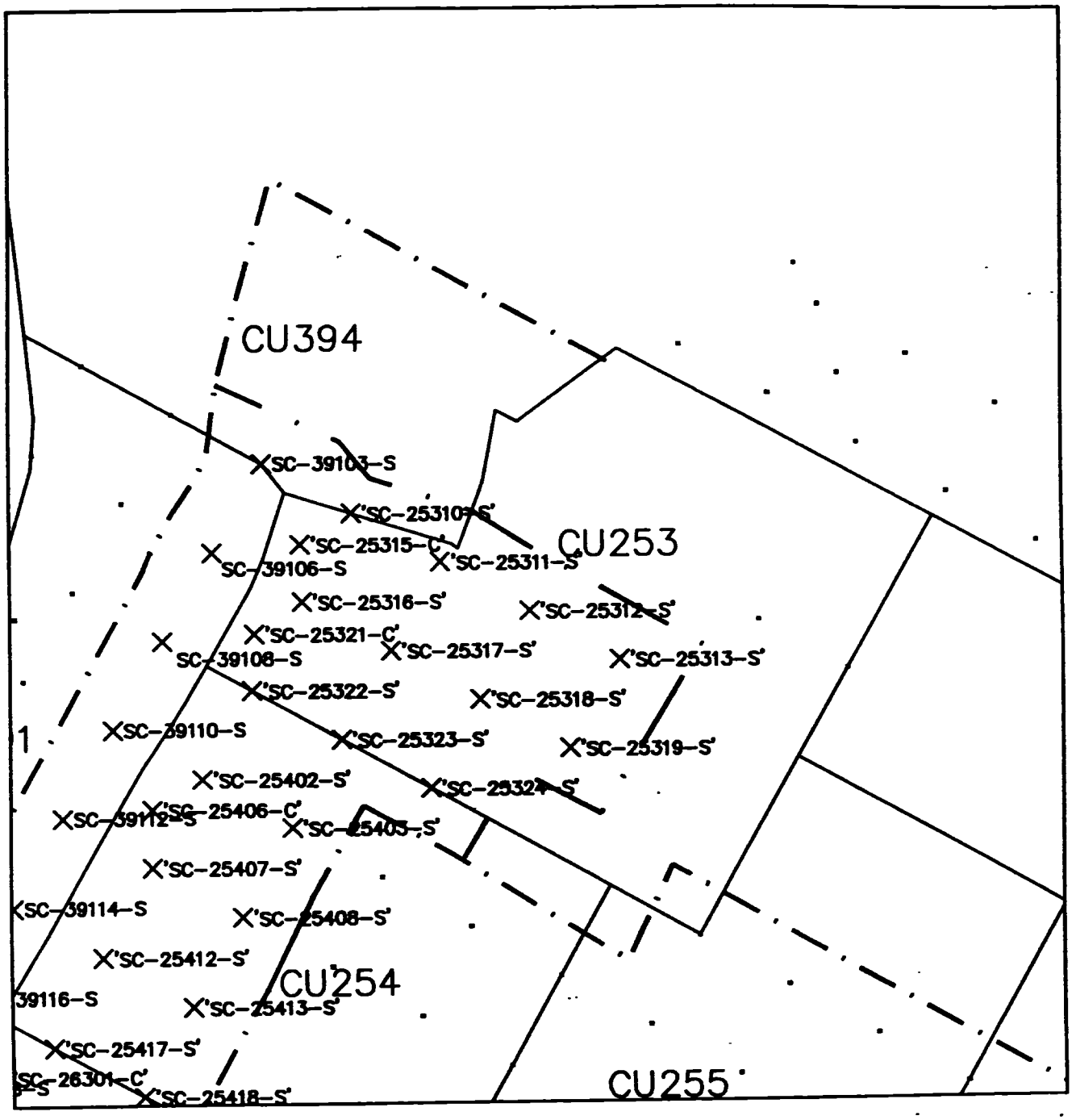
( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 253

9/27/99

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model # : | 2221 | Detector Model #:: | 2x2 "Q" |
| Meter Serial # . | 117607 | Detector Serial # | 25143 |
| Calibration Due | 12/18/99 | Calibration Due: | 1/24/00 |
| Survey Date / Time: | 9/25/99 | Field Bkg | 11,000 |
| Surveyor(s). | T. Brown | | |
| Comments: | All readings <1.5 BKg | | |




## LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.

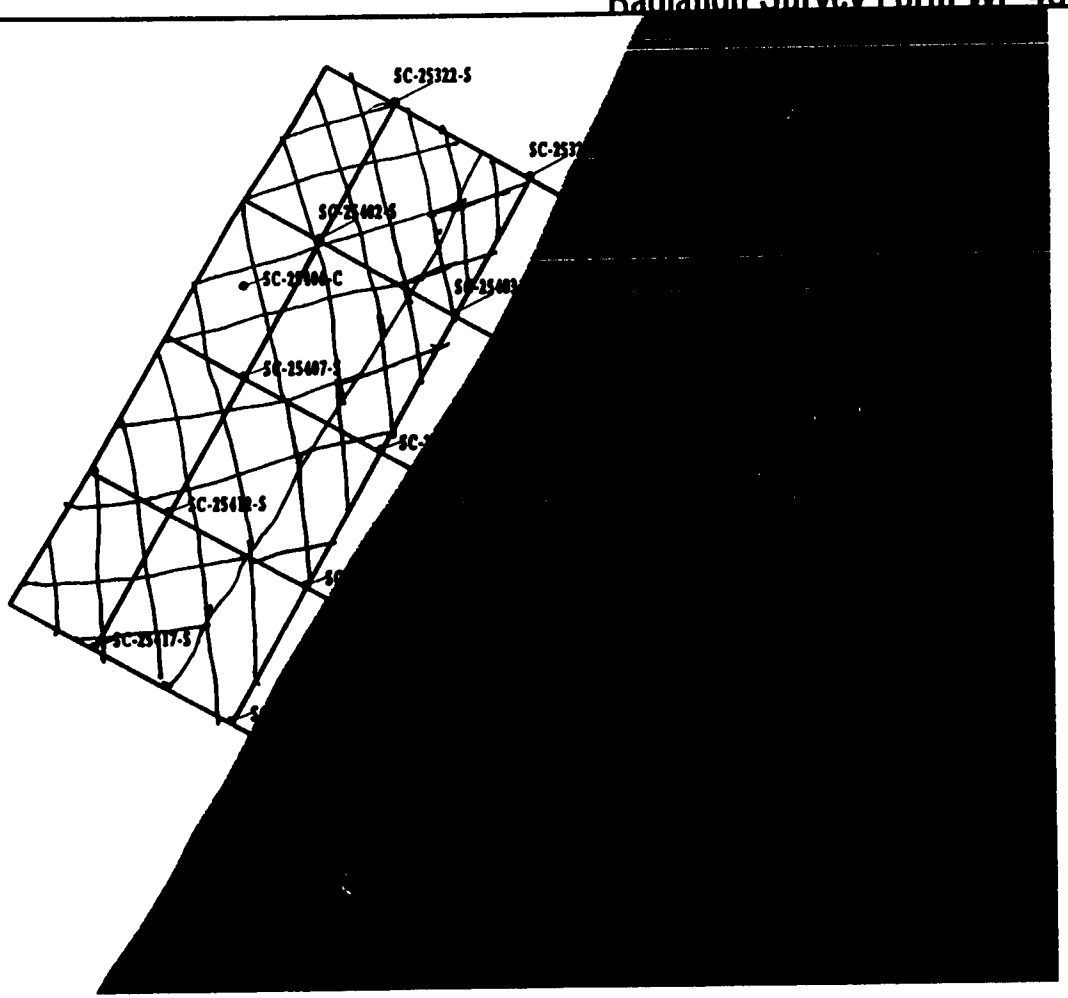
**Radiation Survey Form WP 437, RU** 21 **CU** 253

10-5-99

DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "a" |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Date: | 12/18/99 | Calibration Date: | 1/24/00 |
| Survey Date / Time: | 9/28/99 | Field Bkg.: | 12,000CPM |
| Surveyor(s): | T. Bromer | | |
| Comments: | All readings 41.5 BKg | | |

# Radiation Survey Form WP 437, RU021CU254




WSSRAP GIS

15 7.5 0 15 METERS

45 22.5 0 45 FEET

N E S

Meter Model#: 2221 Detector Model#: NaI 2x2

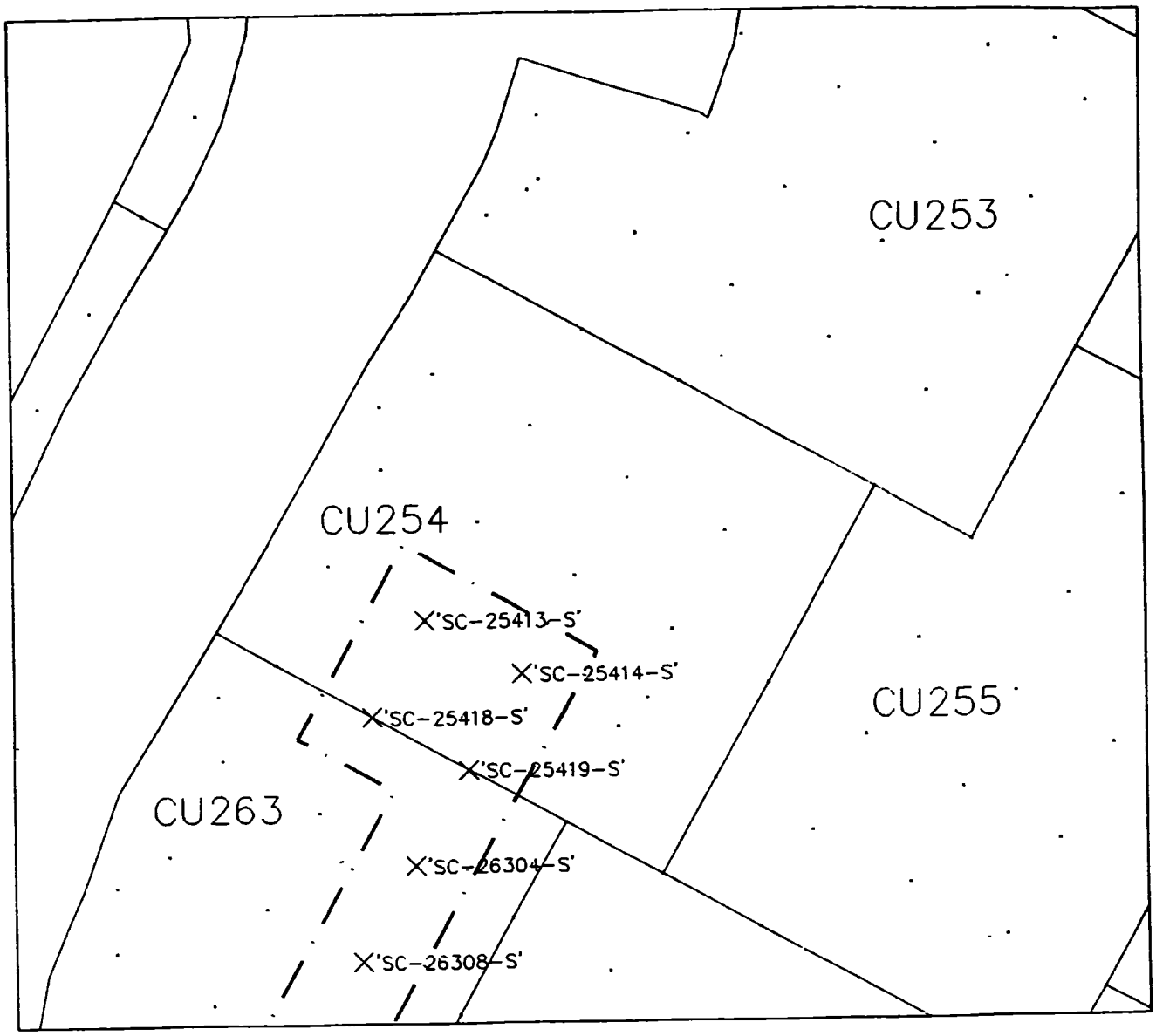
Meter Serial#: 2172 Detector Serial#: K

Calibration Due: 11.20.99 Calibration Due: 1.21.99

Survey Date/Time: 1500 10.2.98 Field Bkg.: 10K - 35K

Surveyor(s): J Michel

Comments: Area Surveyed < 1.5X Background. Background varies due to exposed sludge in the area.




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 254

9-15-99

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "Q" |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Due: | 12/18/99 | Calibration Due: | 1/24/00 |
| Survey Date Time: | 9/14/99 | Field Bkg.: | 12,000 |
| Surveyor(s): | T. Brower | | |
| Comments: | All readings <1.5 Bkg | | |

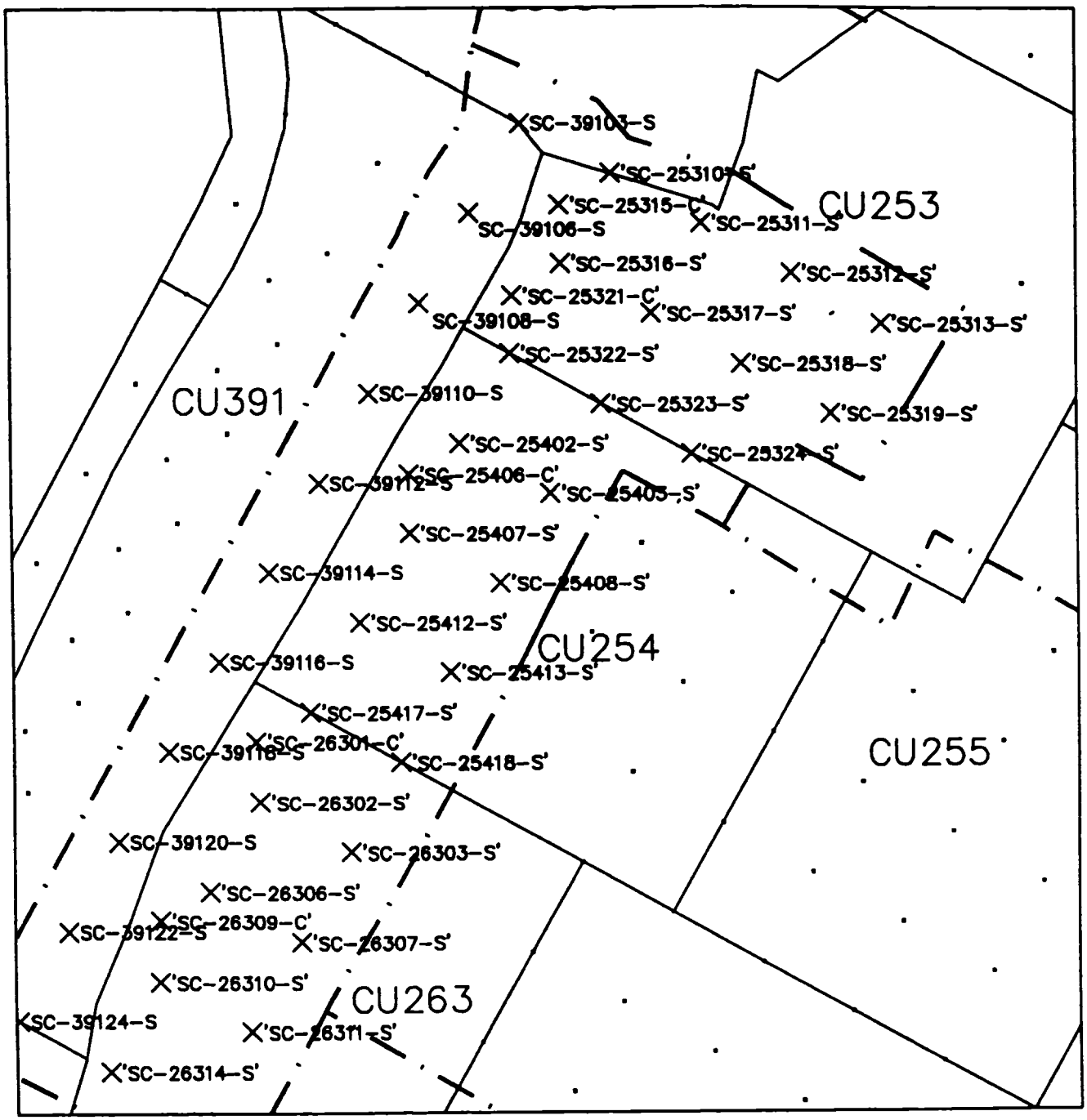
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

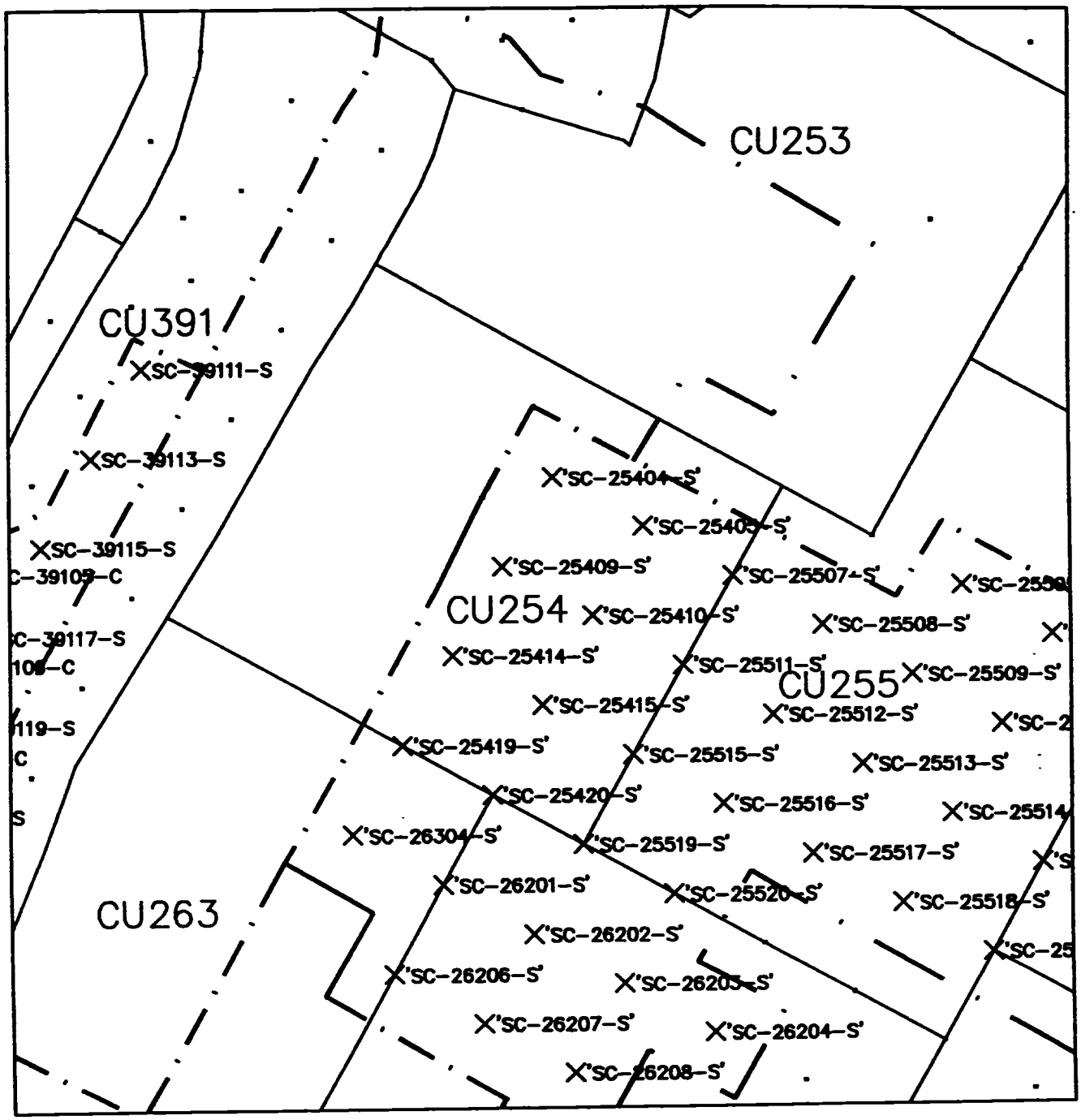
( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 254

10-5-99

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "Q" |
| Meter Serial #: | 117607 | Detector Serial #: | 25443 |
| Calibration Date: | 12/18/99 | Calibration Date: | 1/24/00 |
| Survey Date / Time: | 9/28/99 | Field Bkg.: | 12,000 cpm |
| Surveyor(s): | T. Brewer | | |
| Comments: | All readings ≤1.5 Bkg | | |




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

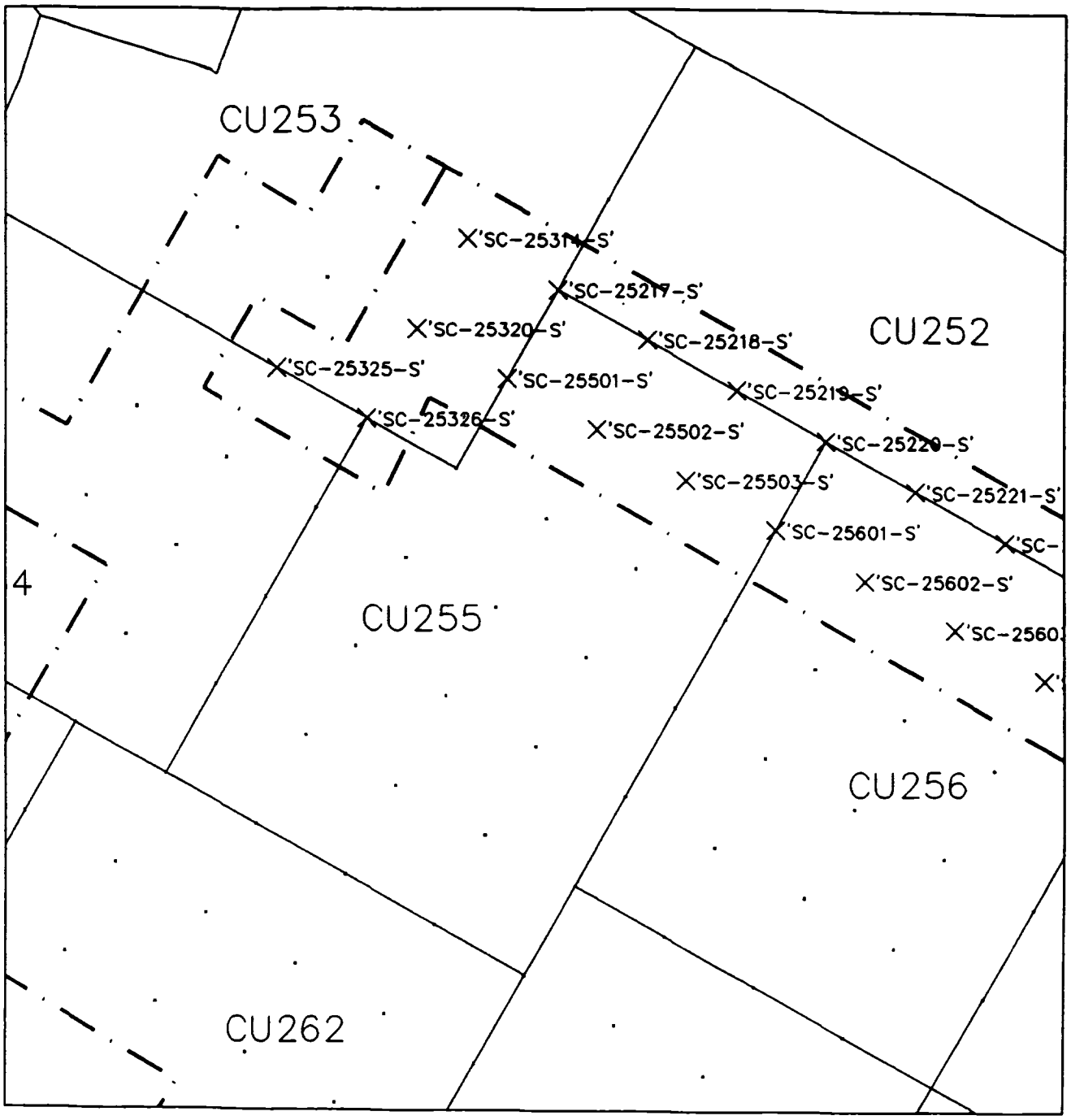
( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 254

10/11/99

DBD CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "6" |
| Meter Serial #: | 127252 | Detector Serial #: | 4241 |
| Calibration Due: | 9/2/00 | Calibration Date: | 1/24/00 |
| Survey Date / Time: | 10/7/99 | Field Bkg.: | 10,000 CPM |
| Surveyor(s): | T. Brower | | |
| Comments: | All readings <1.5 BKg | | |




LEGEND

SAMPLE POINTS NOT PINNED

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

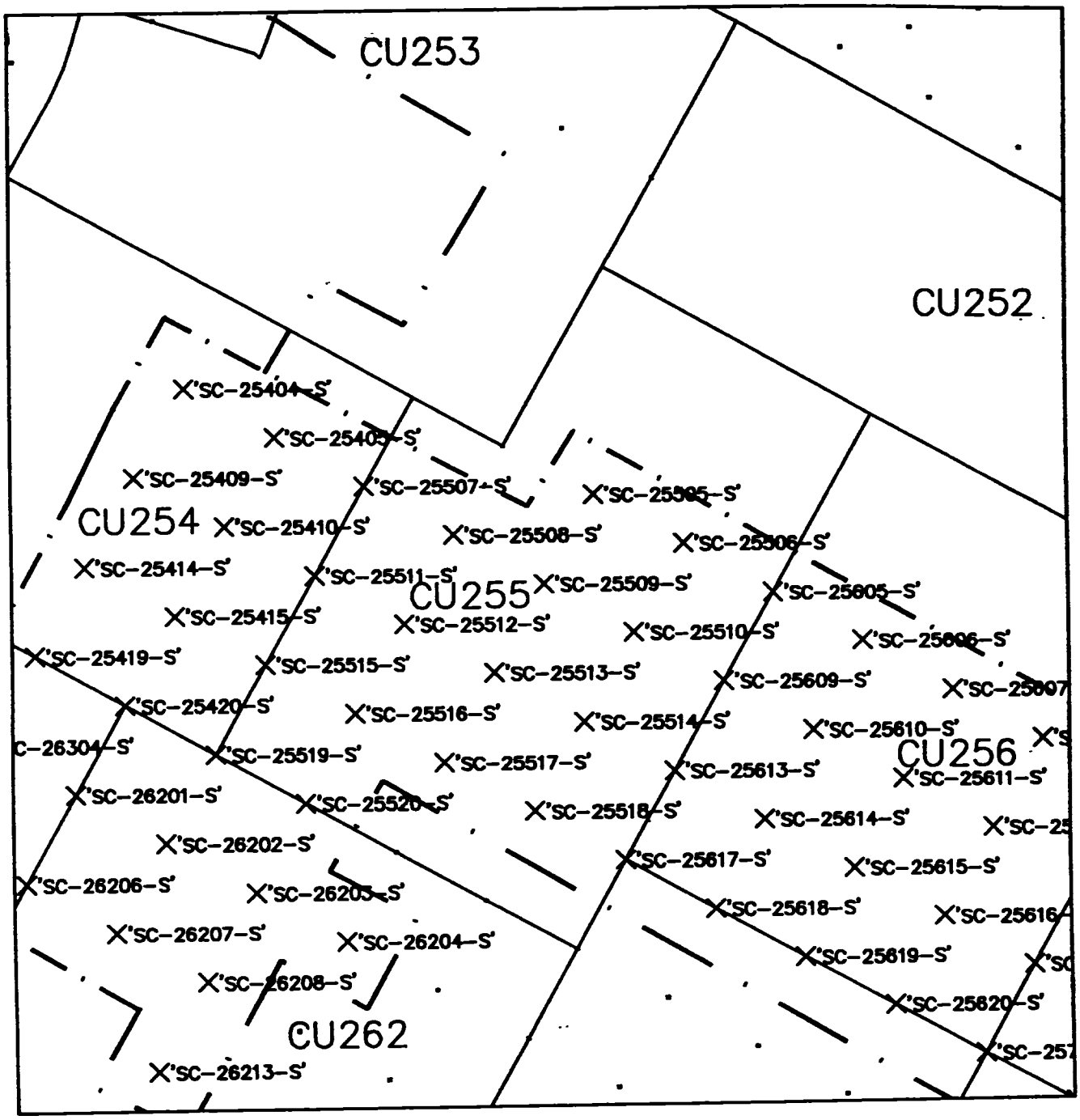
( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 255

9-30-99

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model # : | 2221 | Detector Model #: | 2x2 "Q" |
| Meter Serial # . | 117607 | Detector Serial #: | 25143 |
| Calibration Due. | 12-18-99 | Calibration Due: | 01-24-00 |
| Survey Date / Time: | 09-28-99 | Field Bkg.. | 12,000 cpm |
| Surveyor(s) | J. Rankin | | |
| Comments: | All areas < 1.5 BKG | | |




LEGEND

SAMPLE POINTS NOT PINNED

SC-32606-S SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

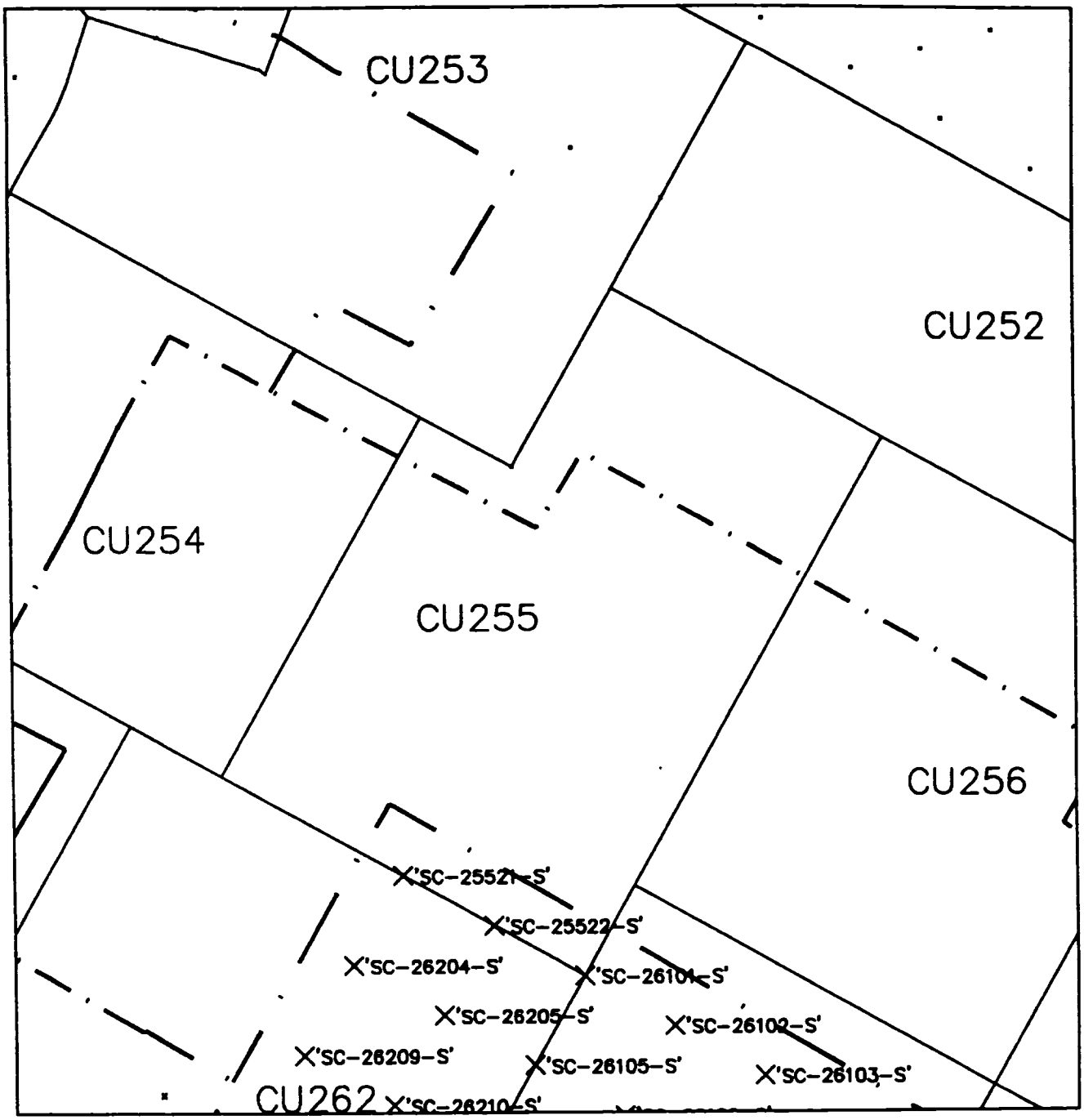
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 255

10/11/99

DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2"6" |
| Meter Serial #: | 127252 | Detector Serial #: | 4241 |
| Calibration Due: | 9/2/00 | Calibration Date: | 1/24/00 |
| Survey Date / Time: | 10/7/99 | Field Bkg.: | 10,000 CPM |
| Surveyor(s): | T. Brewer | | |
| Comments: | All readings <1.5 Bkg | | |




LEGEND

| | |
|---|---|
| • | SAMPLE POINTS NOT PINNED |
| X'SC-32606-S' | SAMPLE POINTS PINNED |
| — · — · — | PINNING LIMITS |

N

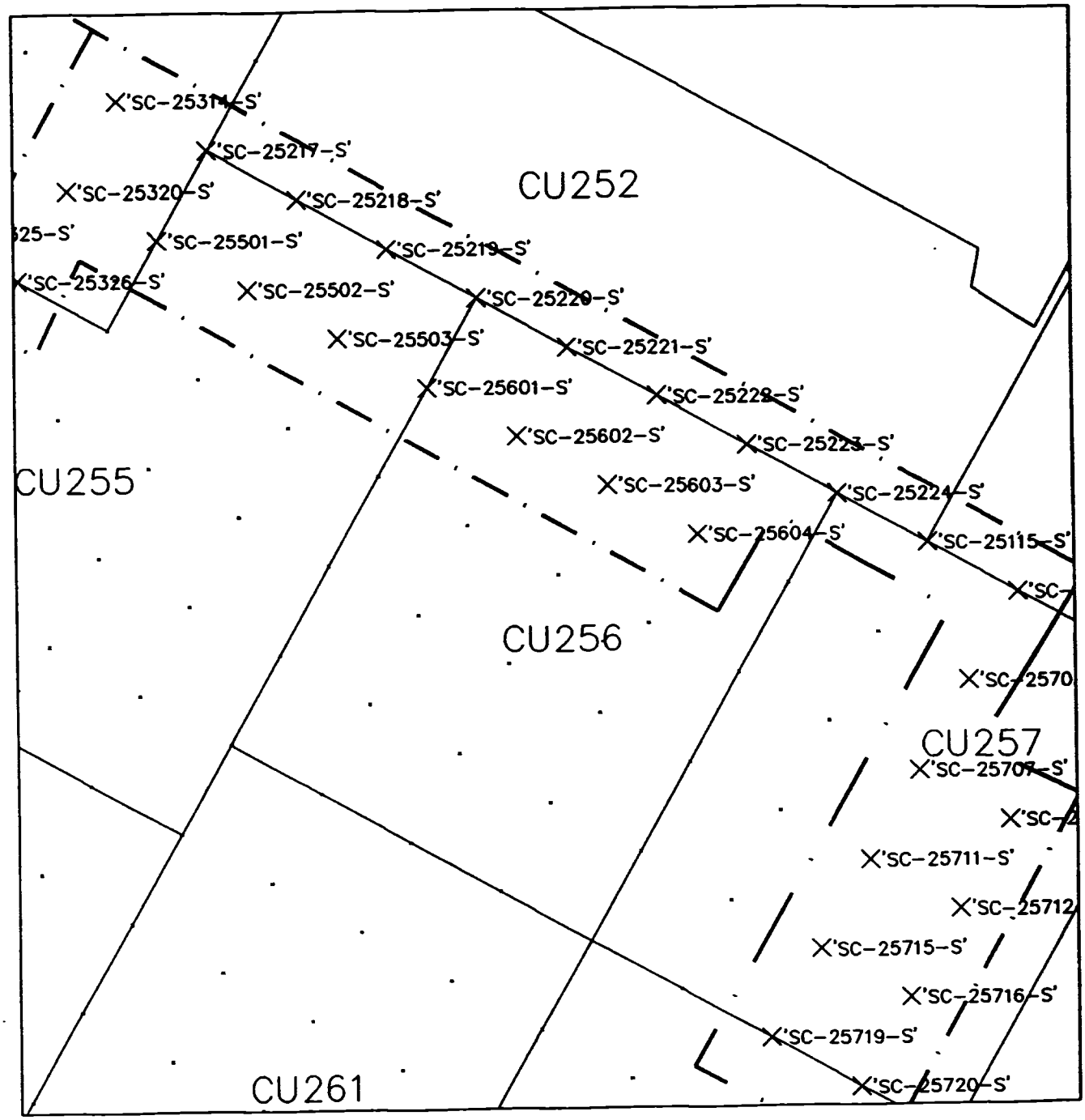
GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 255
10-13-99
DHO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 |
| Meter Serial #: | 127252 | Detector Serial #: | 4241 |
| Calibration Due: | 9-2-00 | Calibration Due: | 1-24-00 |
| Survey Date / Time: | 10/11/99 | Field Bkg.: | 10K cpm |
| Surveyor(s): | J. Jenkins, C. Hamer | | |
| Comments: | All readings Below 1.5 X BKGD | | |




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

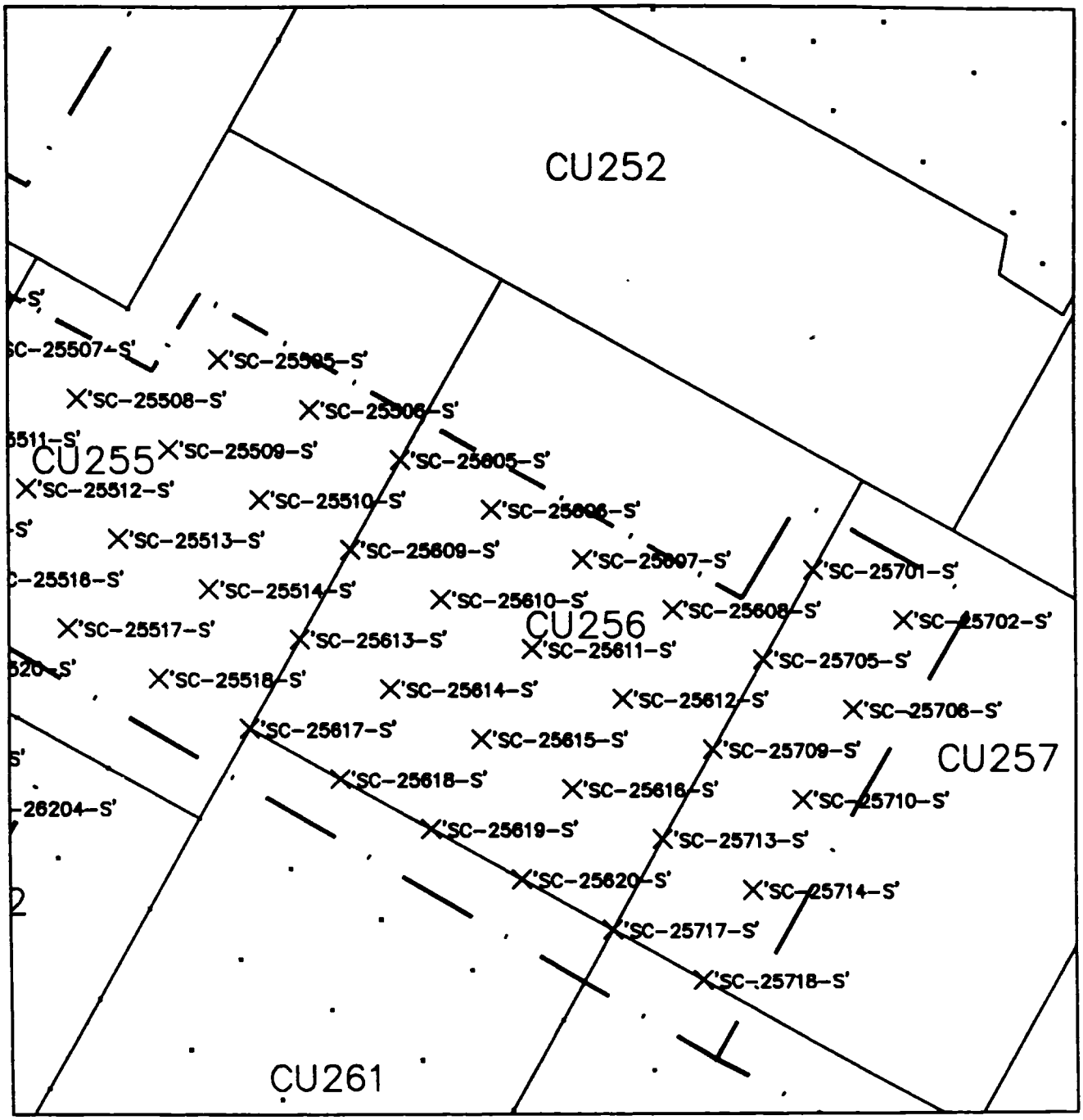
( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 256

9-30-99

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "Q" |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Due: | 12-18-99 | Calibration Due: | 01-24-00 |
| Survey Date / Time: | 09-25-99 | Field Bkg.: | 12,000 cpm |
| Surveyor(s): | J. Jenkins | | |
| Comments: | All mean < 1.5 BKG | | |




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.

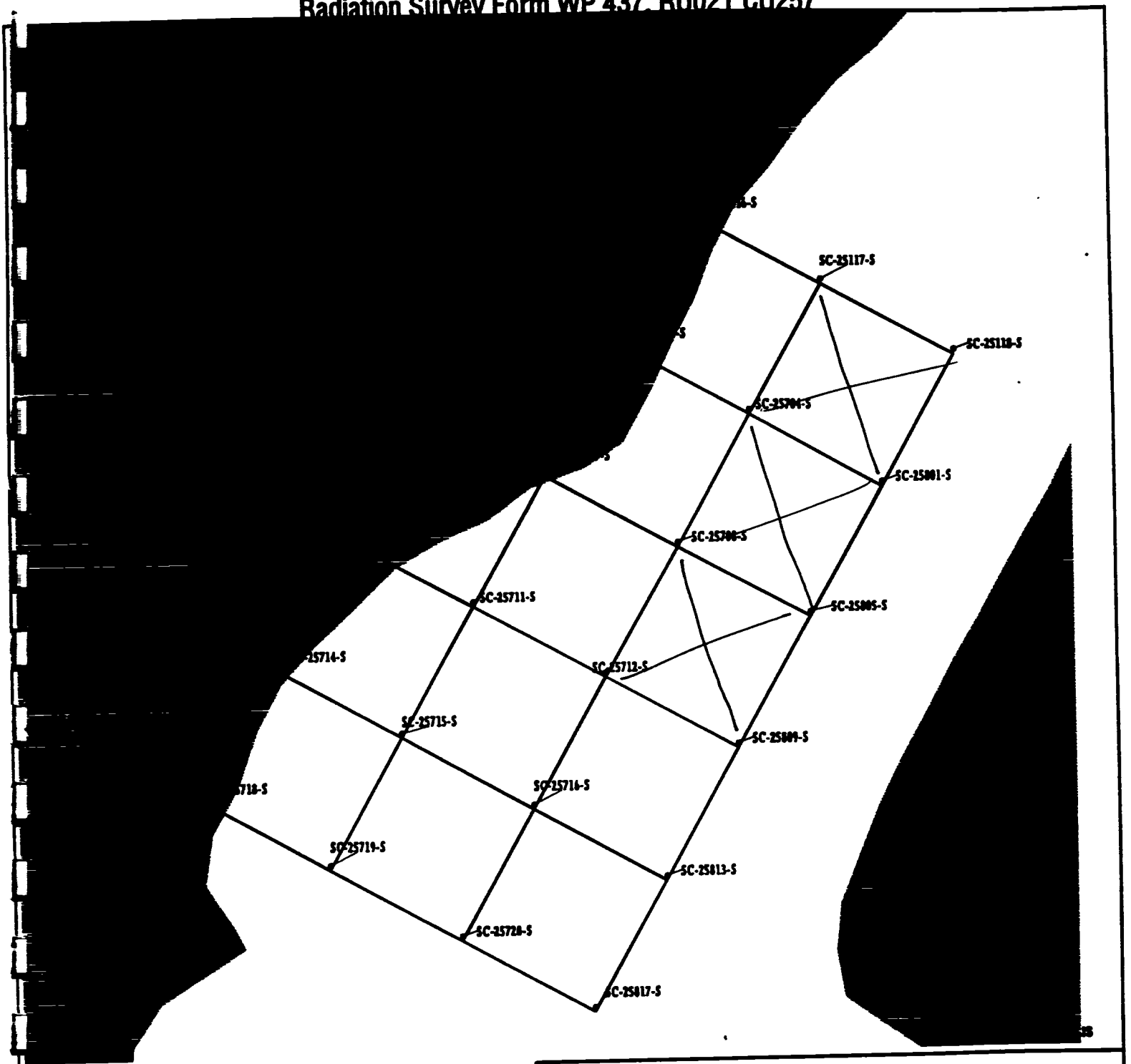
Radiation Survey Form WP 437, RU 21 CU 256

10/11/99

DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2"G" |
| Meter Serial #: | 127252 | Detector Serial #: | 4241 |
| Calibration Date: | 9/2/00 | Calibration Date: | 1/24/00 |
| Survey Date / Time: | 10/7/99 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | J. Brewer | | |
| Comments: | All readings w/.5 Bkg | | |

# Radiation Survey Form WP 437, RU021 CU257




15 7.5 0 METERS

45 22.5 0 FEET

Meter Model#: 2221 / 2221

Meter Serial#: 106696 / 117607

Calibration Due: 12-1-99 / 12-18-99

Survey Date/Time: 01-29-99

Surveyor(s): J. Rankin / Chris Hamner

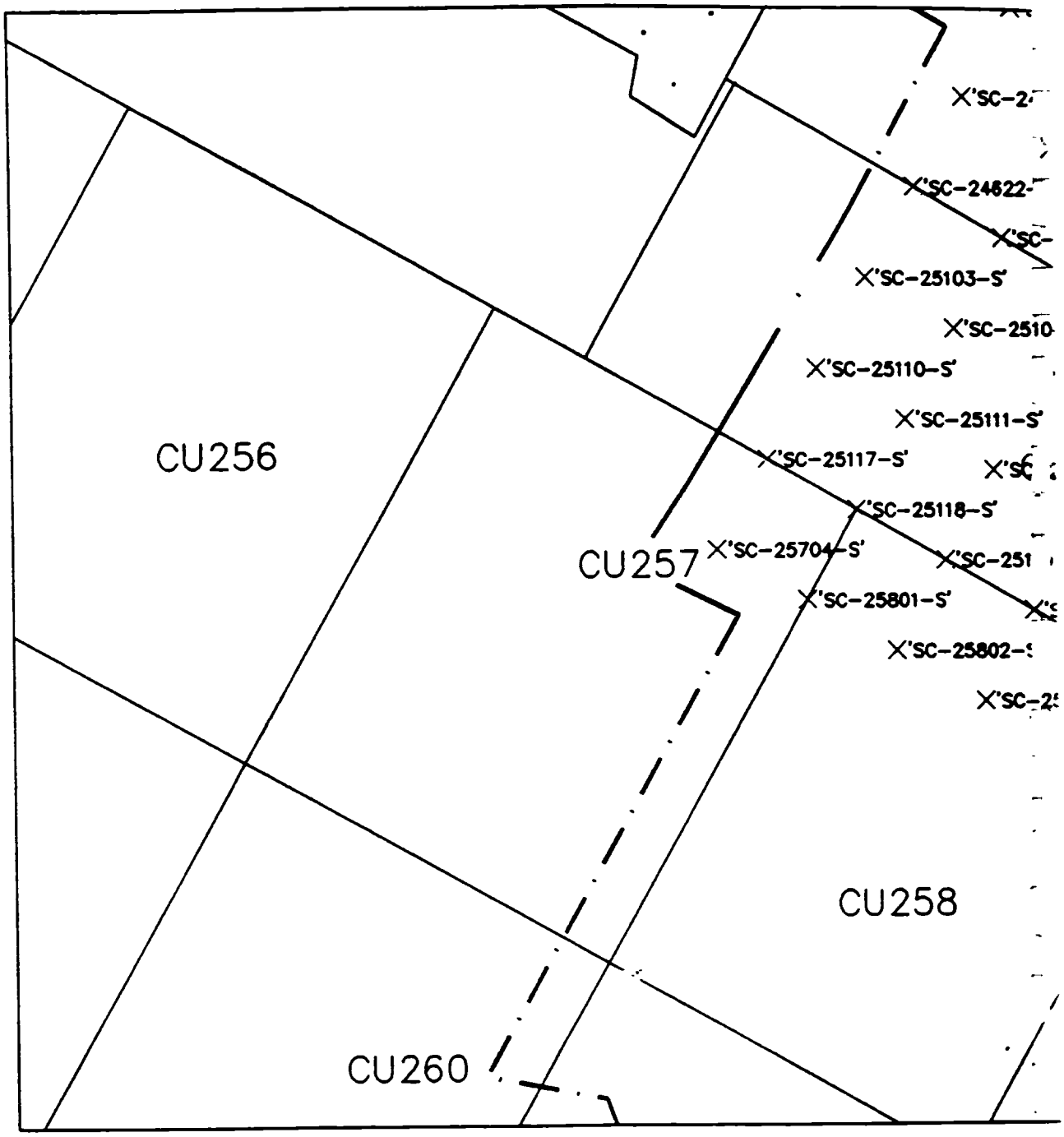
Detector Model#: NaI 2x2

Detector Serial#: 130764 / 1602582

Calibration Due: 7-21-99 / 5-6-99

Field Bkg.: 12 K / 23 K

Comments: Area was surveyed and found to be below 1.5 times background




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

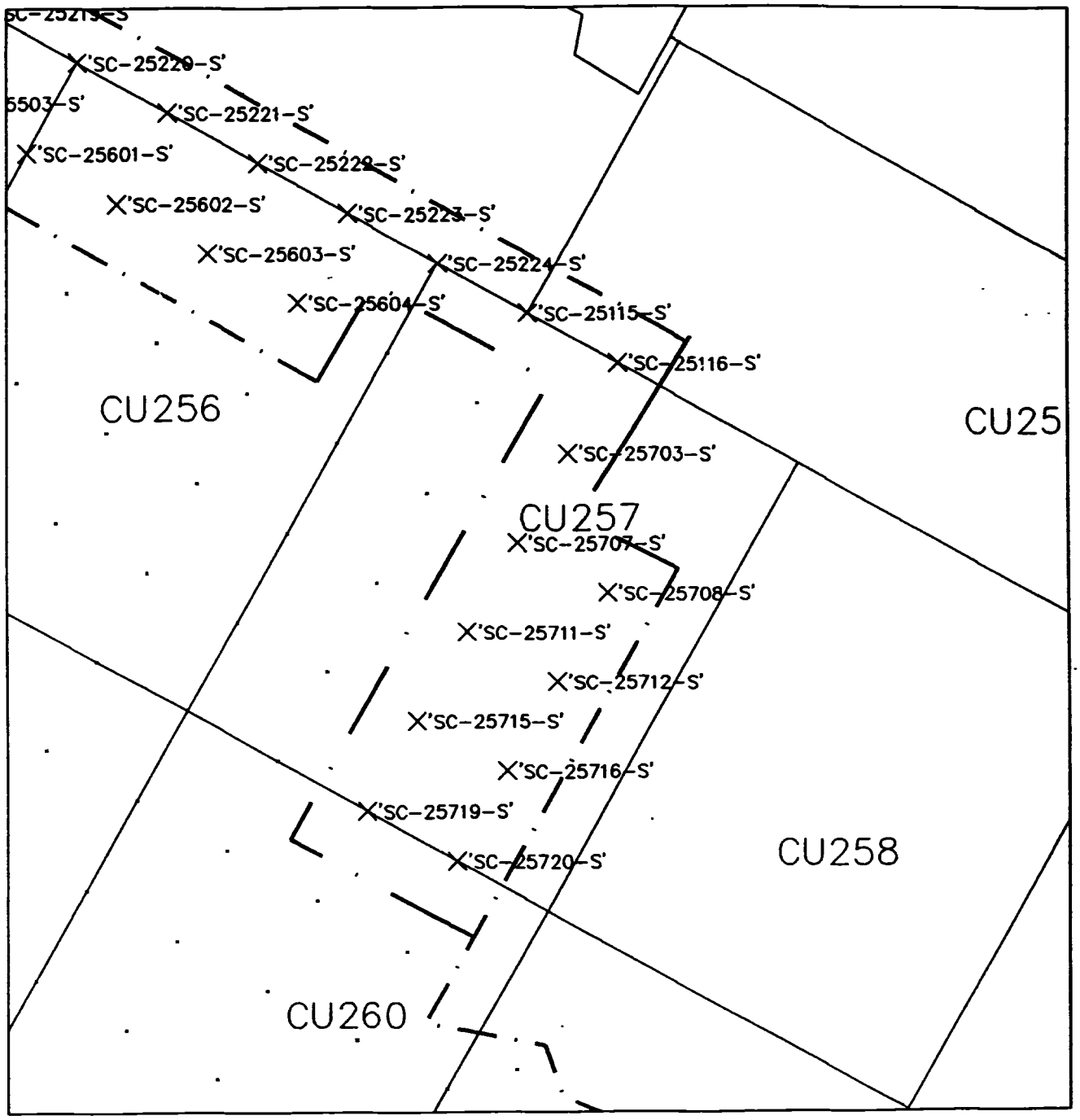
( IN FEET )

1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 257

9/26/99

| | | | |
|---|---|---|---|
| Meter Model #: | 44-10-2 | Detector Model #: | 22 |
| Meter Serial #: | 130774 N | Detector Serial #: | 106696 |
| Calibration Date: | 1-24-00 | Calibration Date: | 12-1- |
| Survey Date / Time: | 9-25-99/1600 | Field Bkg.: | 12 |
| Surveyor(s): | D FLEMING | | |
| Comments: | ALL AREAS SURVEYED WERE < 1.5 x BKG | | |




LEGEND

SAMPLE POINTS NOT PINNED

×'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

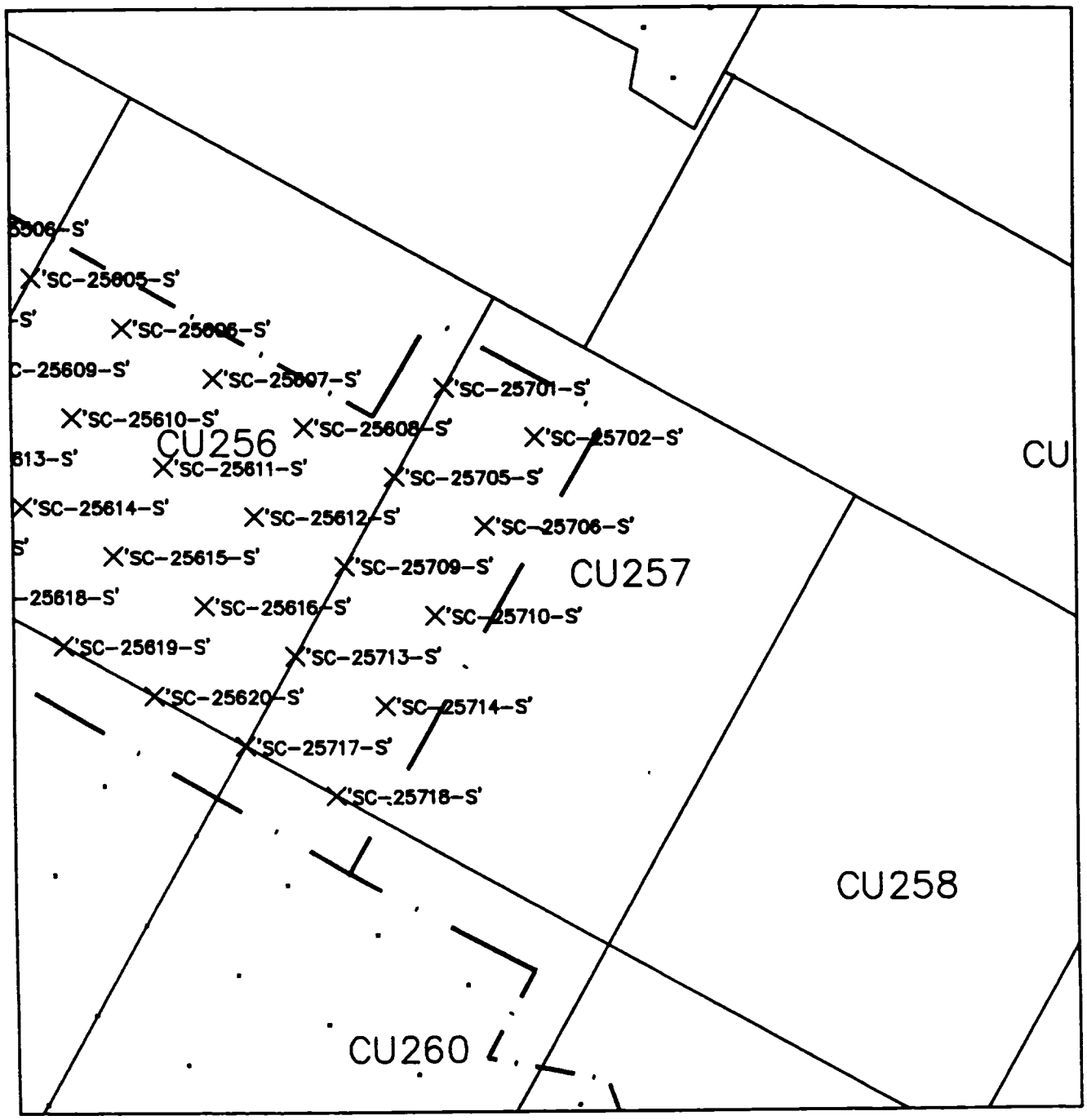
( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 257

9-30-99

DEHO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2+2 "Q" |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Due: | 12-18-99 | Calibration Due: | 01-24-00 |
| Survey Date / Time: | 09-25-99 | Field Bkg.: | 11,000 cpm |
| Surveyor(s): | [illegible] | | |
| Comments: | All areas < 1.5 BKG | | |




LEGEND

SAMPLE POINTS NOT PINNED

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

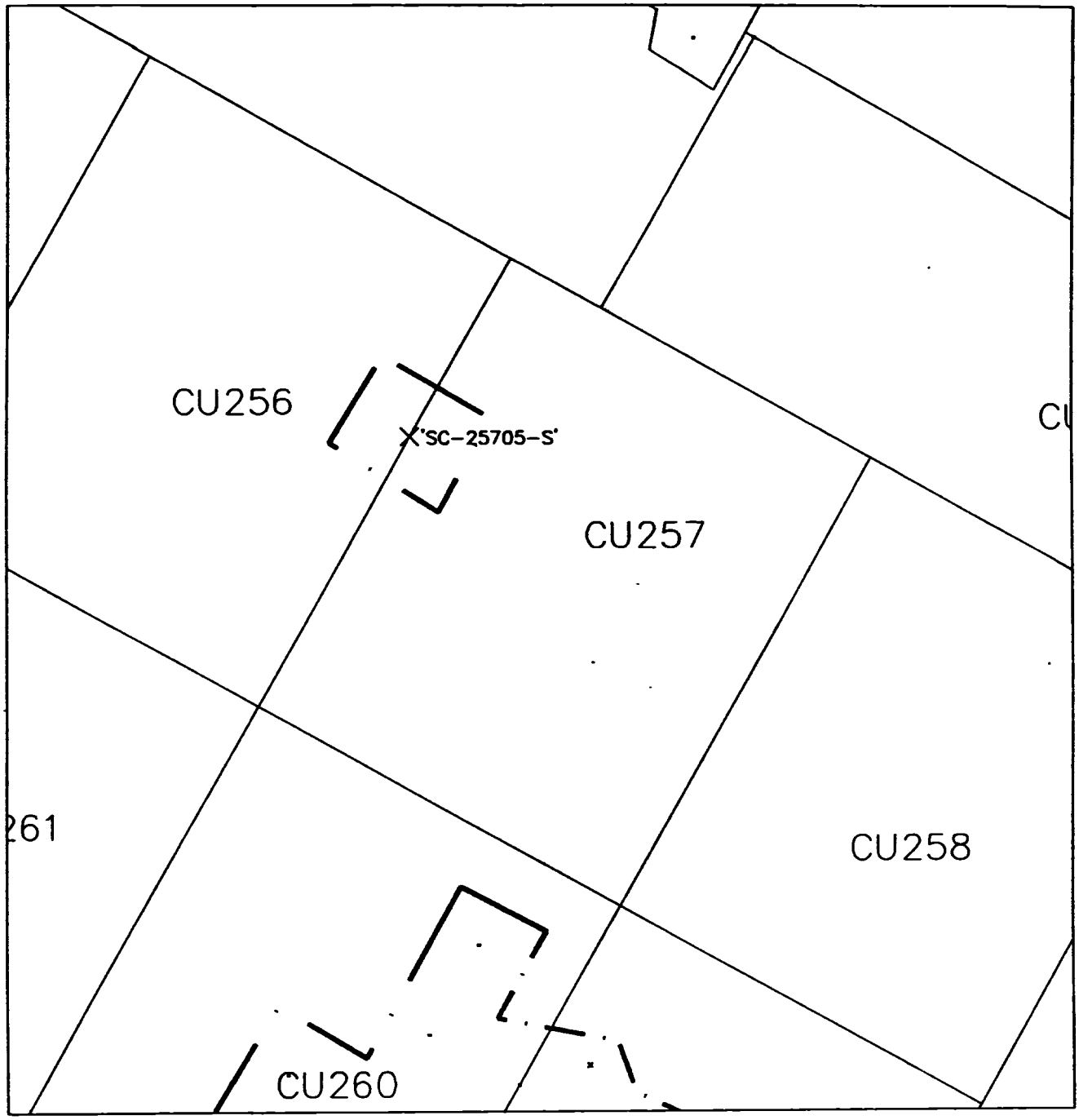
( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 257

10/11/99

DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "G" |
| Meter Serial #: | 127252 | Detector Serial #: | 4241 |
| Calibration Due: | 9/2/00 | Calibration Due: | 1/24/00 |
| Survey Date / Time: | 10/7/99 | Field Bkg.: | 10,000 |
| Surveyor(s): | T. Brown | | |
| Comments: | All readings <1.5 Bkg | | |




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.

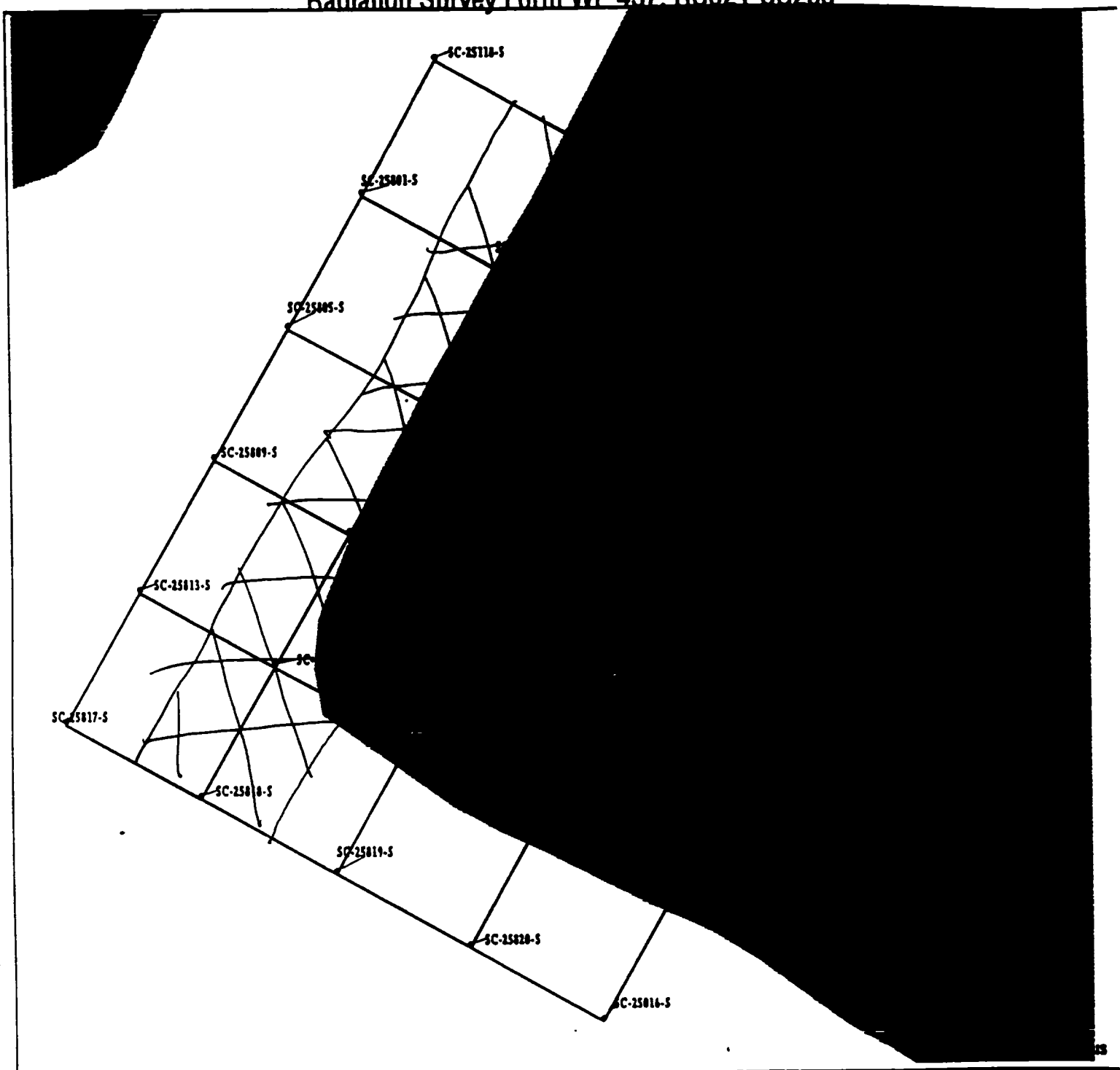
**Radiation Survey Form WP 437, RU** 21 **CU** 257

10-22-99

DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | NaI "2x2" |
| Meter Serial #: | 127252 | Detector Serial #: | DE-4241 |
| Calibration Due: | 9-2-00 | Calibration Due: | 01-24-00 |
| Survey Date / Time: | 10-18-99 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | J. Rank | | |
| Comments: | All areas < 1.5 BKG. | | |

# Radiation Survey Form WP 437, RU021 CU258




15 7.5 0 METERS

45 22.5 0 FEET

Meter Model#: 2221

Meter Serial#: 122252

Calibration Due: 8-27-99

Survey Date/Time: 4-27-99

Surveyor(s): T. Brower

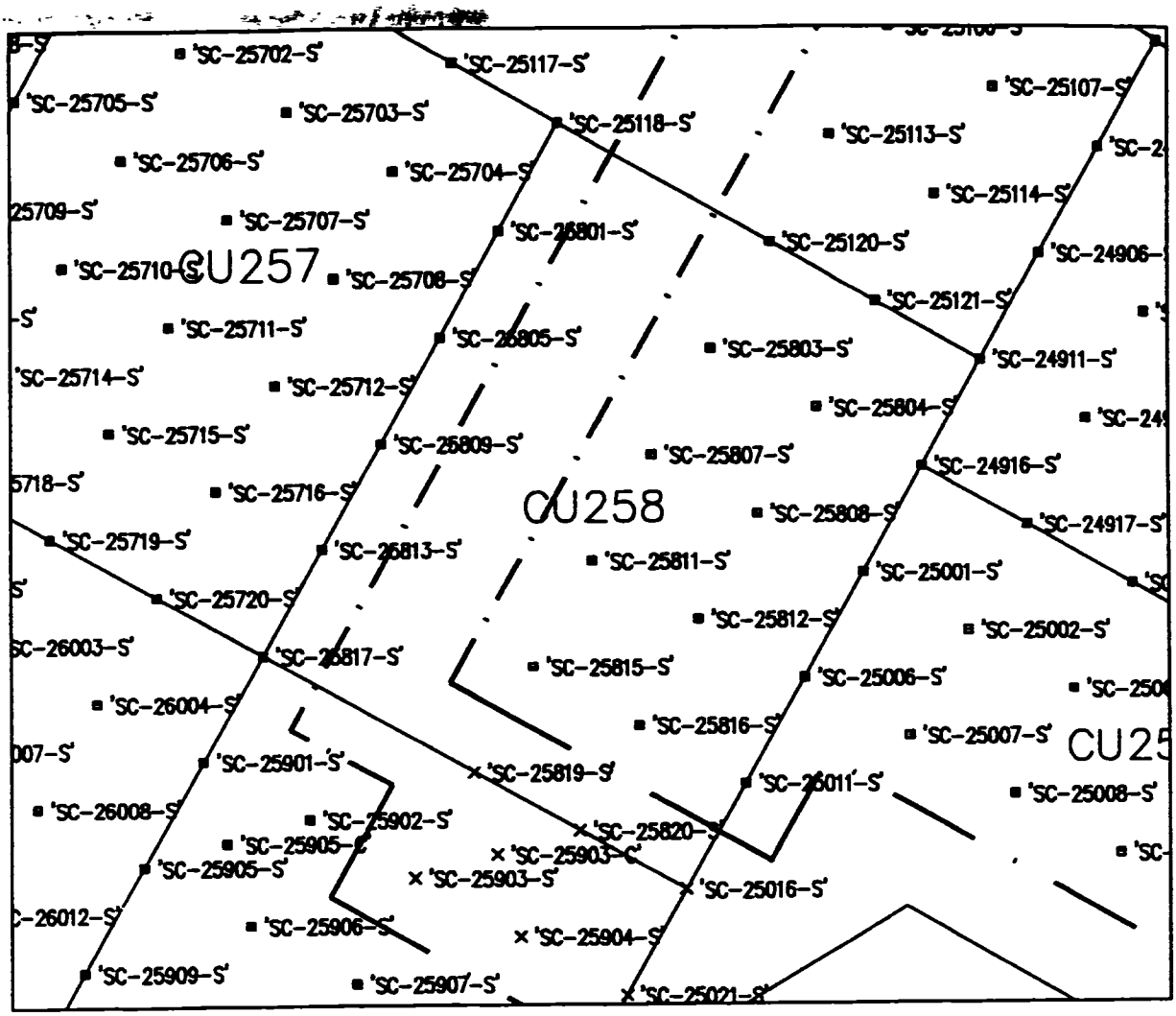
Comments: All readings < 1.5 times Bkg.

Detector Model#: NaI 2x2

Detector Serial#: 122191

Calibration Due: 8-11-99

Field Bkg.: 5,000 CPM




## LEGEND

- ■ 'SC-32606-S' SAMPLE POINTS NOT PINNED
- × 'SC-32606-S' SAMPLE POINTS PINNED
- — · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 258

DHO CAD

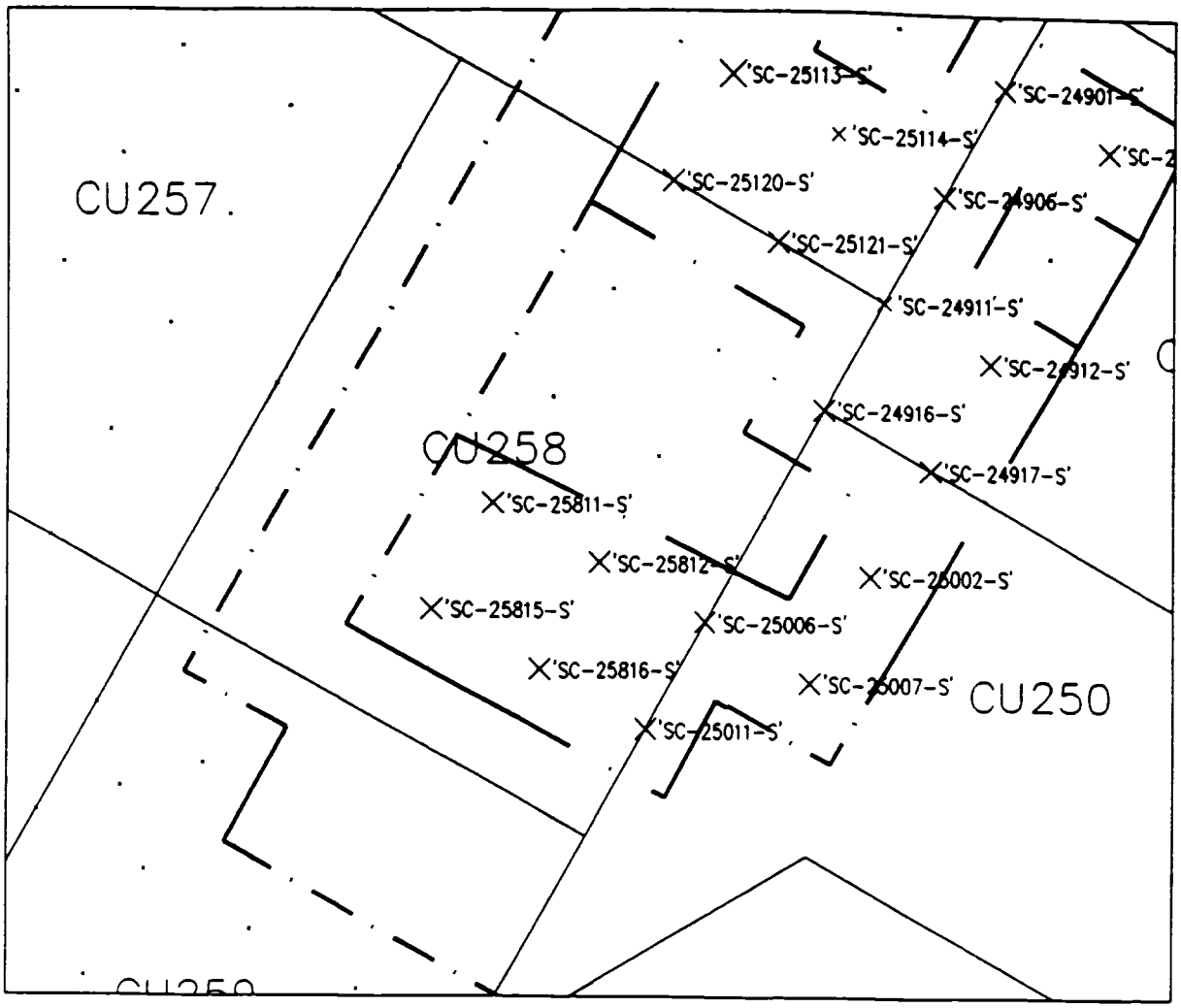
| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2L |
| Meter Serial #: | 125435 | Detector Serial #: | 130763 |
| Calibration Due: | 12/20/99 | Calibration Due: | 8/11/99 |
| Survey Date / Time: | 6/4/99 | Field Bkg.: | 6,000 CPM |
| Surveyor(s): | T. Brown | | |
| Comments: | All readings <1.5 times Bkg. | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

▫ 'SC-32606-S' SAMPLE POINTS NOT PINNED
× 'SC-32606-S' SAMPLE POINTS PINNED
— · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 258

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model = | 2221 | Detector Model = | 2x2 |
| Meter Serial = | 127252 | Detector Serial = | F |
| Calibration Due. | 8/27/99 | Calibration Due: | 8/11/99 |
| Survey Date Time. | 6/11/99 | Field Bkg. | 10,000 CPM |
| Surveyor(s) | J Brower | | |
| Comments | All readings < 1.5 Bkg | | |

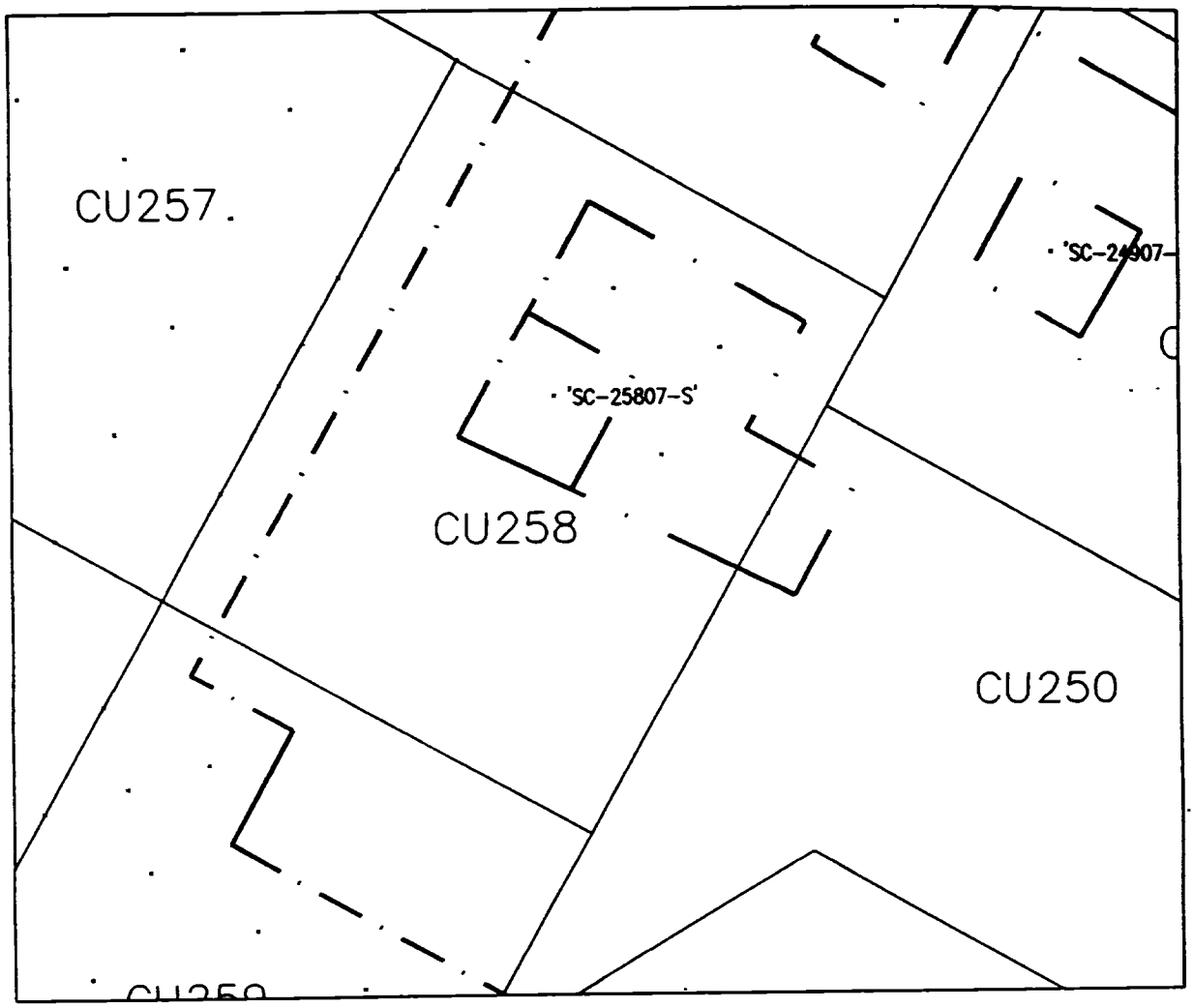
* revised map

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

- ▫ 'SC-32606-S' SAMPLE POINTS NOT PINNED
- × 'SC-32606-S' SAMPLE POINTS PINNED
- — · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 258

DHO CAD

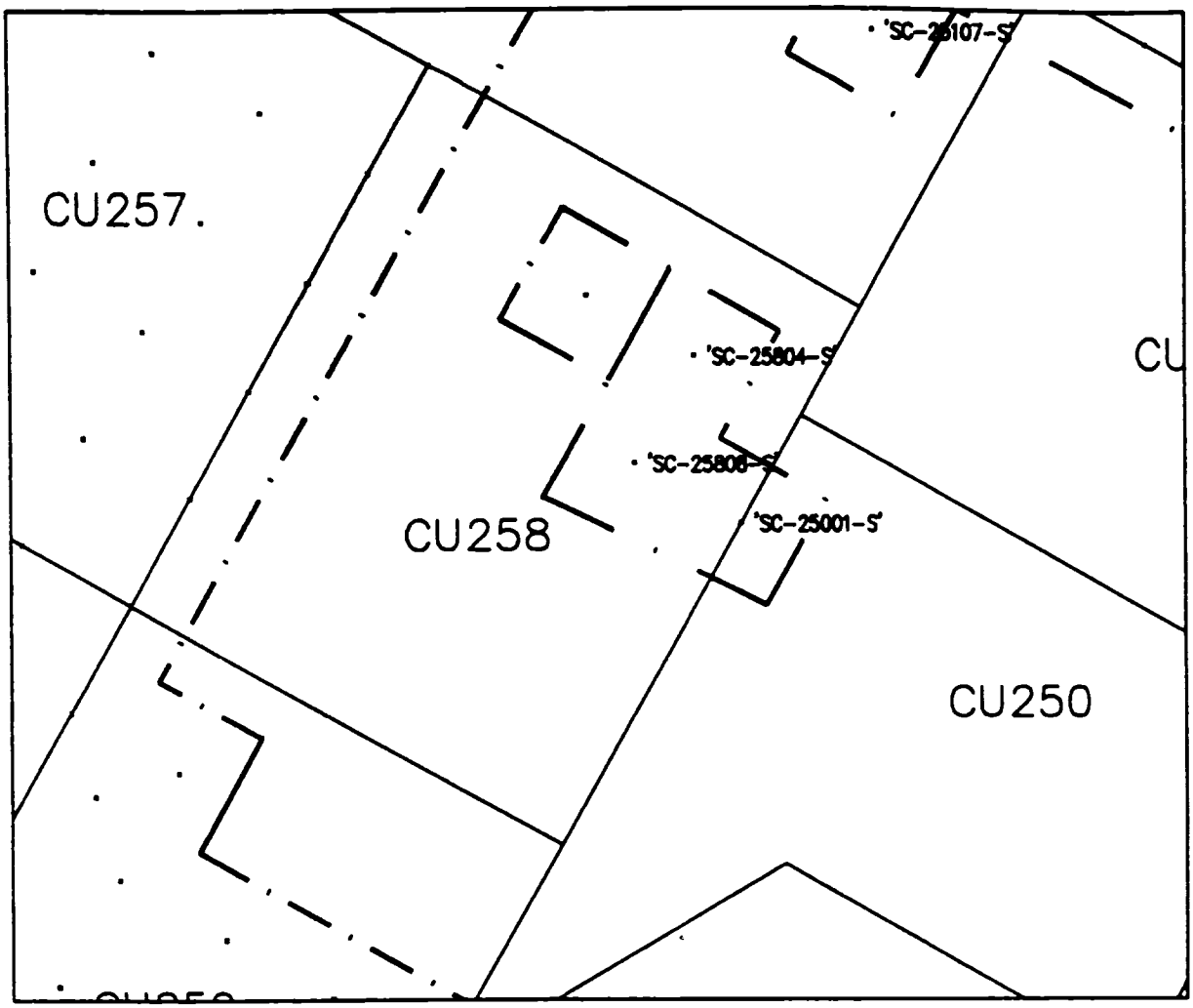
| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 |
| Meter Serial #: | 127252 | Detector Serial #: | F |
| Calibration Due: | 8/27/99 | Calibration Due: | 8/10/99 |
| Survey Date / Time: | 6/15/99 | Field Bkg.: | 10,000 CPM |
| Surveyor(s): | T. Brewer | | |
| Comments: | All readings <1.5 BKg | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

- ▪ 'SC-32606-S' SAMPLE POINTS NOT PINNED
- × 'SC-32606-S' SAMPLE POINTS PINNED
- — · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 258

DBO CAD

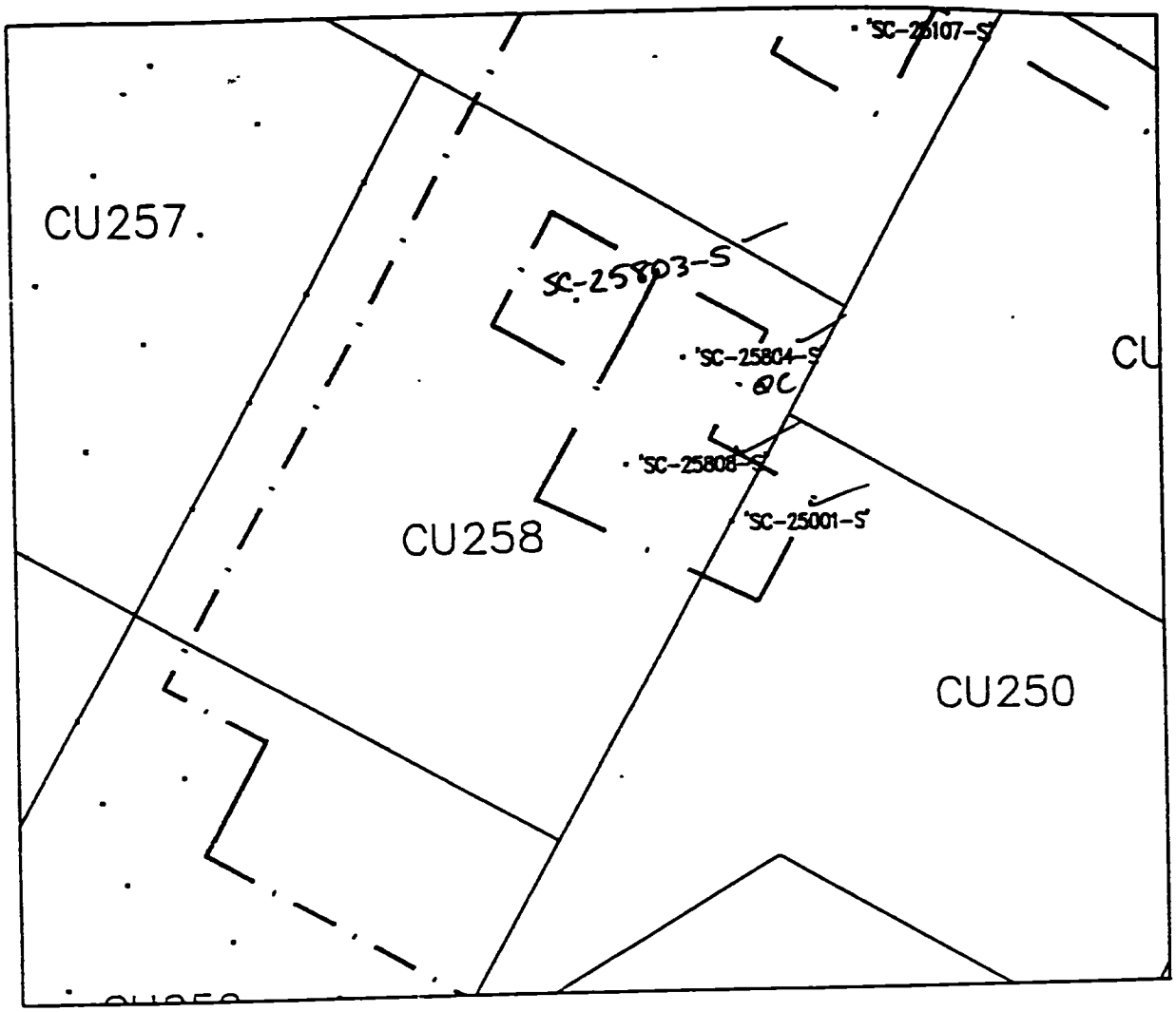
| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "G" |
| Meter Serial #: | 127247 | Detector Serial #: | 122192 |
| Calibration Date: | 9/25/99 | Calibration Date: | 1/24/00 |
| Survey Date / Time: | 4/17/99 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | T. Brown | | |
| Comments: | All readings w/c5 Bkg. | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




Rcvd 6/22/99
1045

LEGEND

- ▪ 'SC-32606-S' SAMPLE POINTS NOT PINNED
- × 'SC-32606-S' SAMPLE POINTS PINNED
- — · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 258

DBO CAD

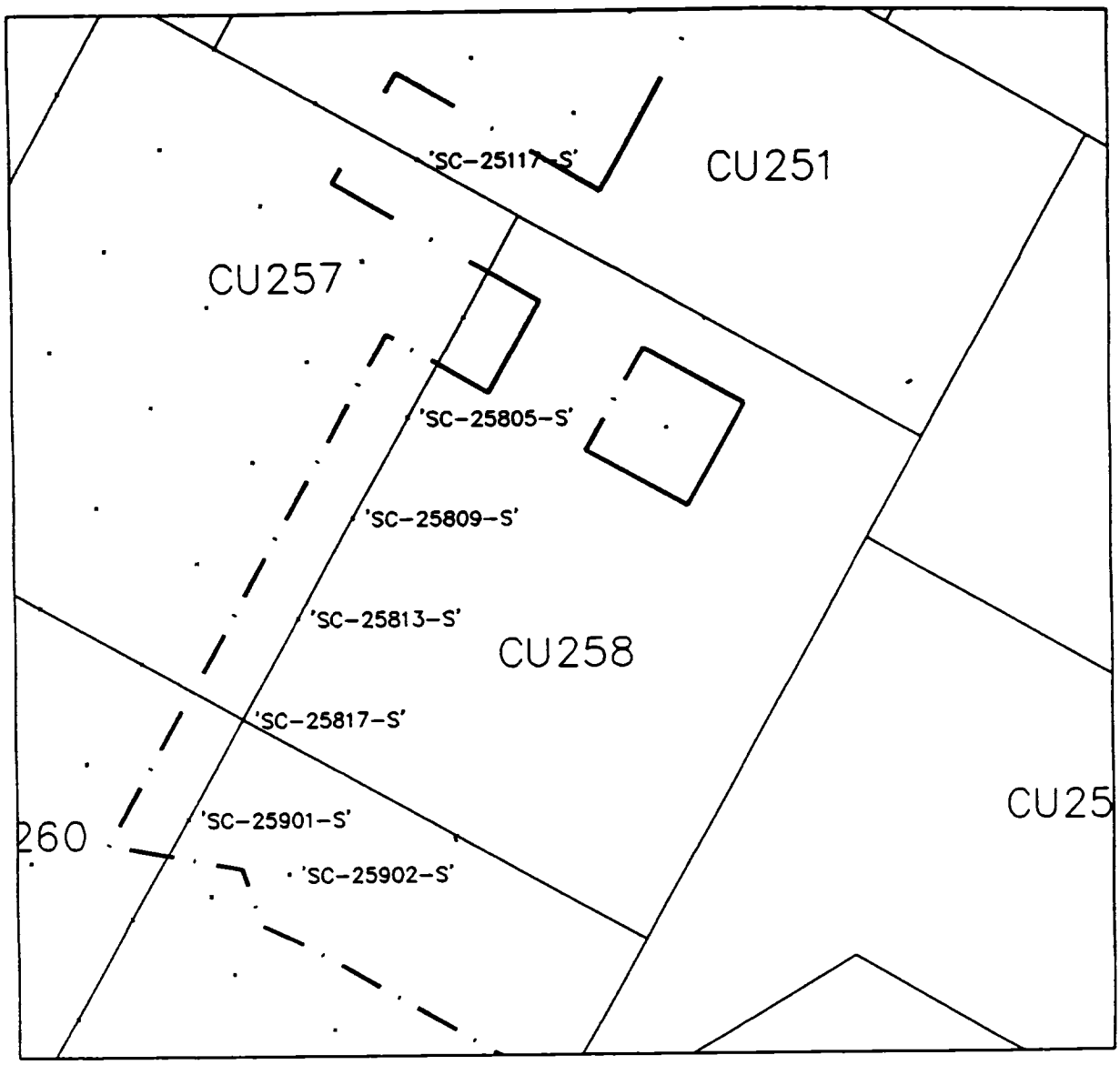
| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "6" |
| Meter Serial #: | 127247 | Detector Serial #: | 122192 |
| Calibration Date: | 9/25/99 | Calibration Date: | 1/24/00 |
| Survey Date / Time: | 6/17/99 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | T. Brown | | |
| Comments: | All readings <5 Bkg. | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

| | |
|---|---|
| . . | SAMPLE POINTS NOT PINNED |
| ×'SC-32606-S' | SAMPLE POINTS PINNED |
| — · — · — | PINNING LIMITS |

Radiation Survey Form WP 437, RU 21 CU 258

8-3-99

DBO CAD

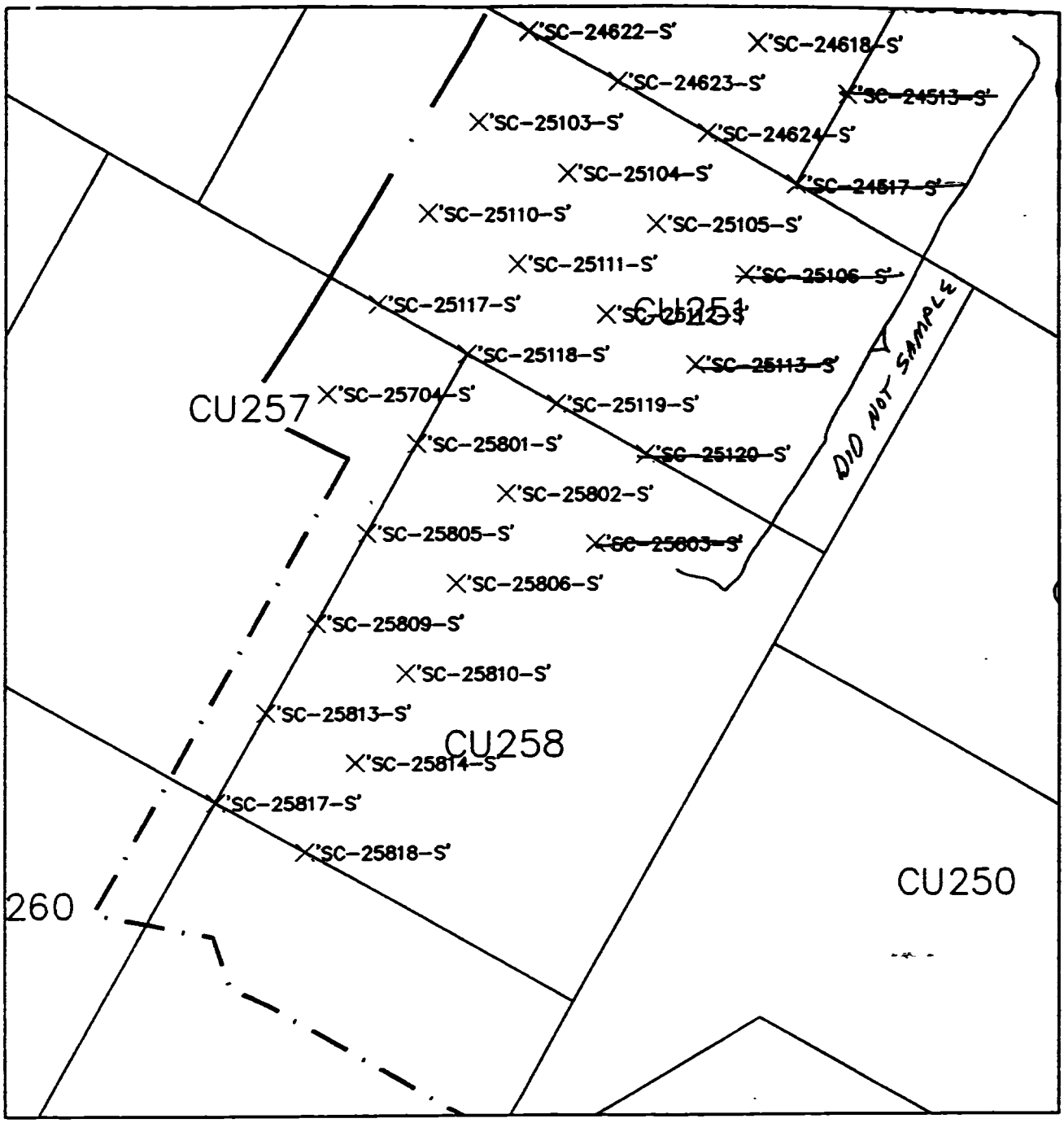
| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | NaI "2x2" |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Due: | 12-18-99 | Calibration Due: | 01-24-00 |
| Survey Date / Time: | 07-23-99 | Field Bkg.: | 12,000 cpm |
| Surveyor(s): | J. Rankins | | |
| Comments: | All areas surveyed < 1.5 BKG. | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

SAMPLE POINTS NOT PINNED

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

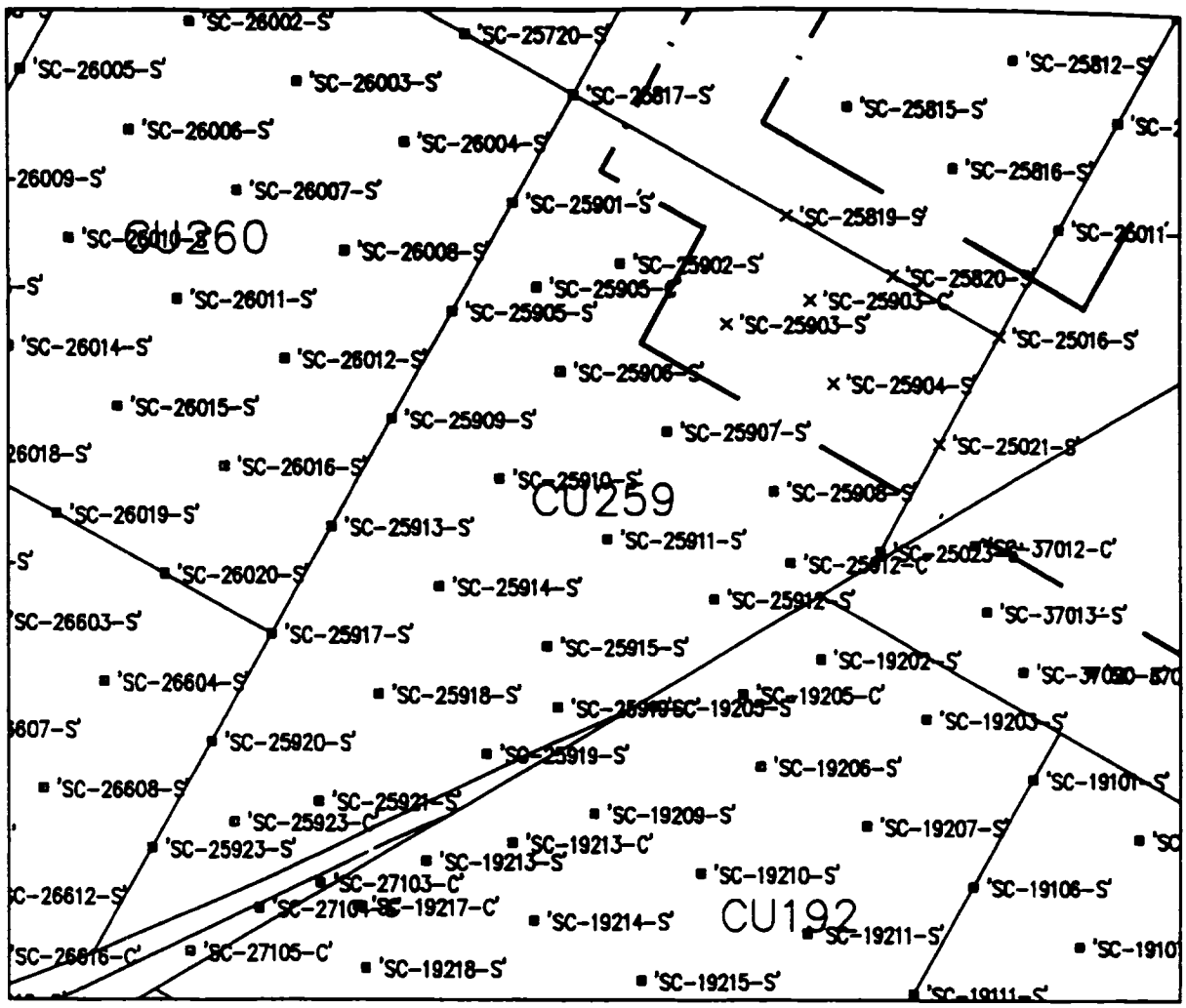
50 0 25 50

( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 258

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 4410-2 | Detector Model #: | 2221 |
| Meter Serial #: | 130774 & 127252 | Detector Serial #: | 122192 |
| Calibration Due: | 9-2-00 | Calibration Due: | 1-24-00 |
| Survey Date / Time: | 9-27-99/0900 | Field Bkg.: | 9,000cpm |
| Surveyor(s): | C. HANNER | | |
| Comments: | ALL AREAS SURVEYED WERE < 1.5x BKG | | |




LEGEND

- ▪ 'SC-32606-S' SAMPLE POINTS NOT PINNED
- × 'SC-32606-S' SAMPLE POINTS PINNED
- — · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU- 21 CU 259

DBO CAD

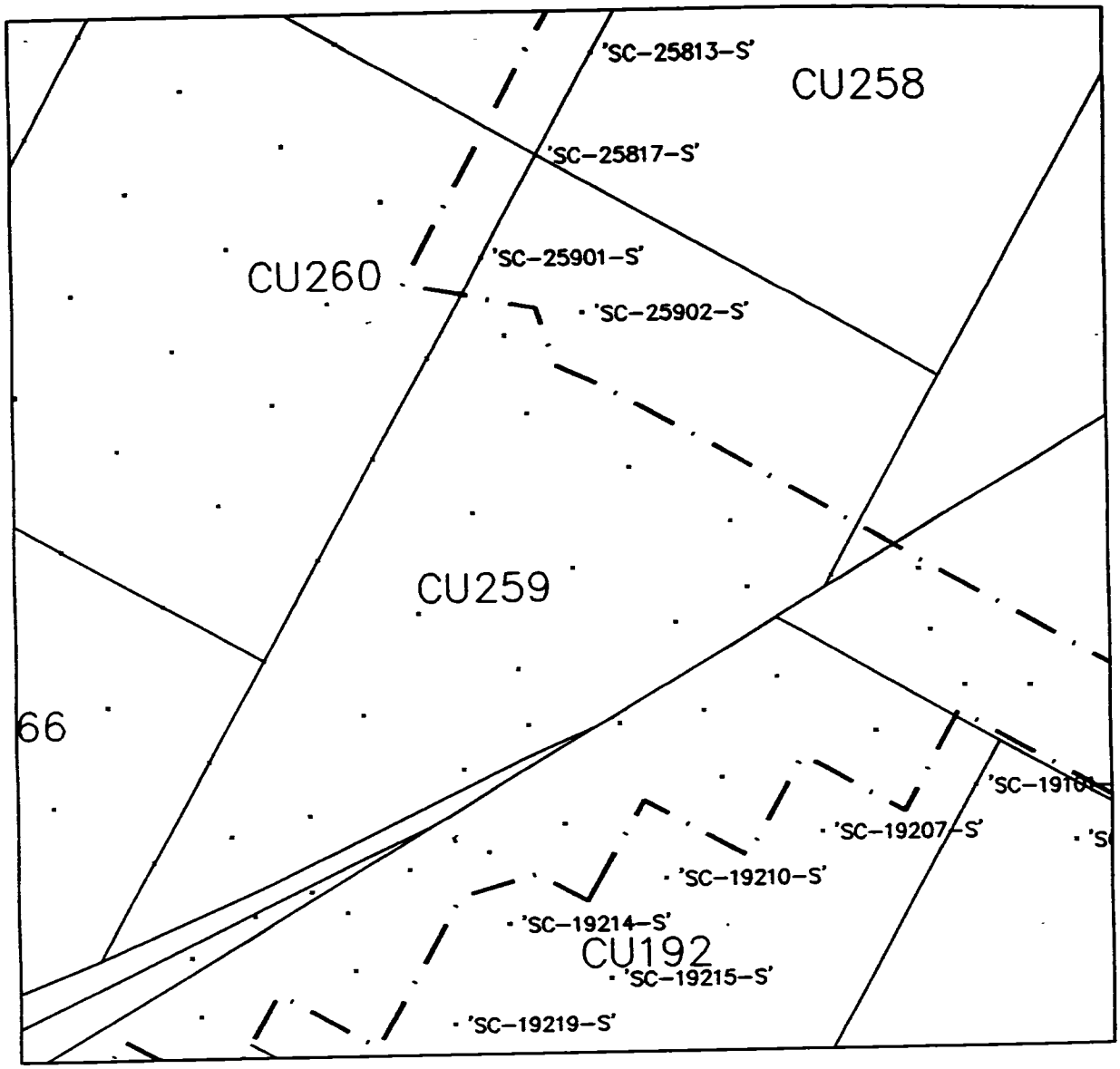
| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2L |
| Meter Serial #: | 125435 | Detector Serial #: | 130763 |
| Calibration Date: | 12/20/99 | Calibration Date: | 8/11/99 |
| Survey Date / Time: | 6/4/99 | Field Bkg.: | 6,000 CPM |
| Surveyor(s): | T. Brown | | |
| Comments: | All readings < 1.5 times Bkg | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

SAMPLE POINTS NOT PINNED

× 'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 259

8-3-99

DEIO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | NaI "2x2" |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Due: | 12-18-99 | Calibration Due: | 01-24-00 |
| Survey Date / Time: | 07-03-99 | Field Bkg.: | 12,000 cpm |
| Surveyor(s): | J. Rankin | | |
| Comments: | All areas surveyed < 1.5 BKG. | | |

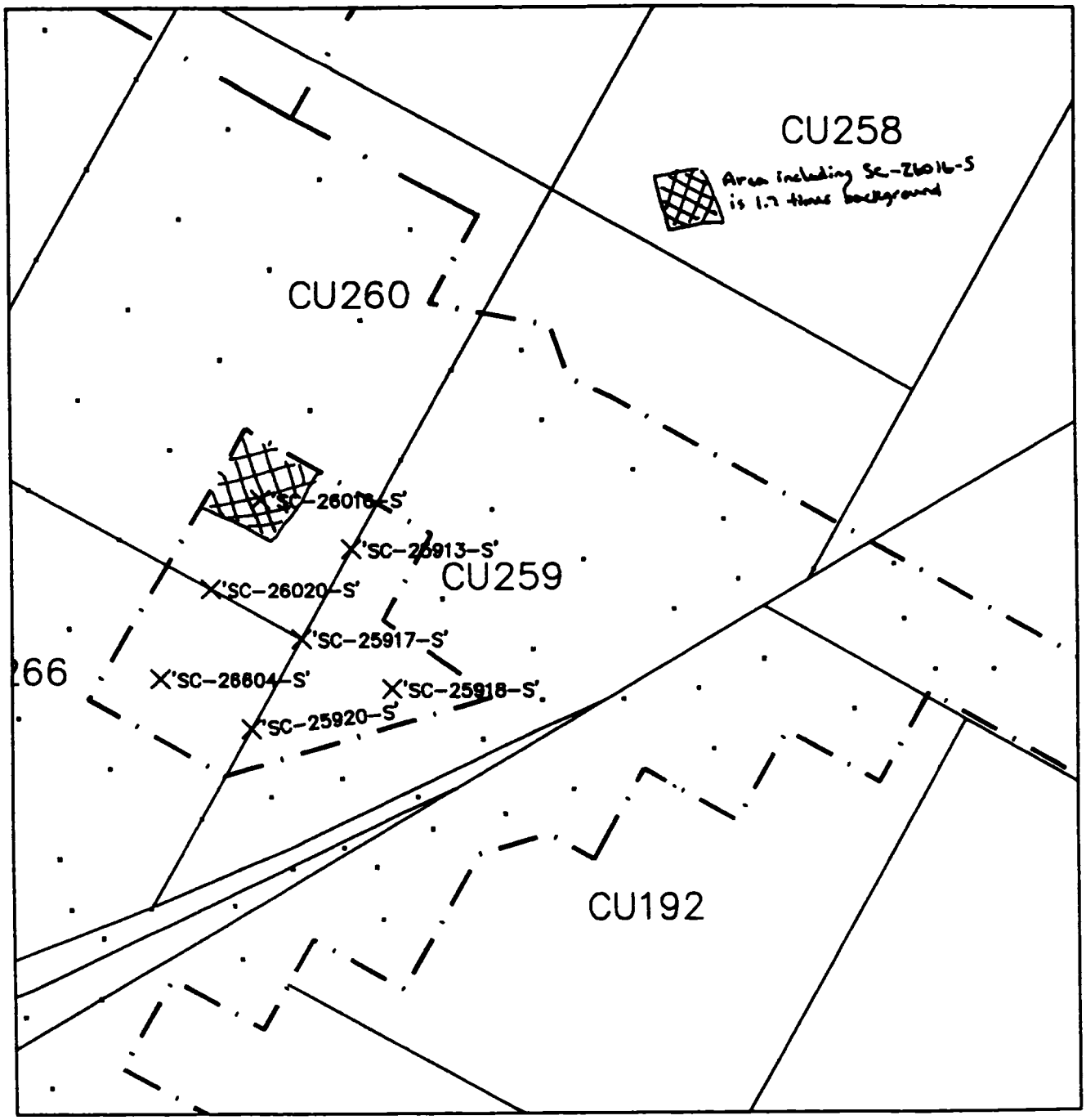
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

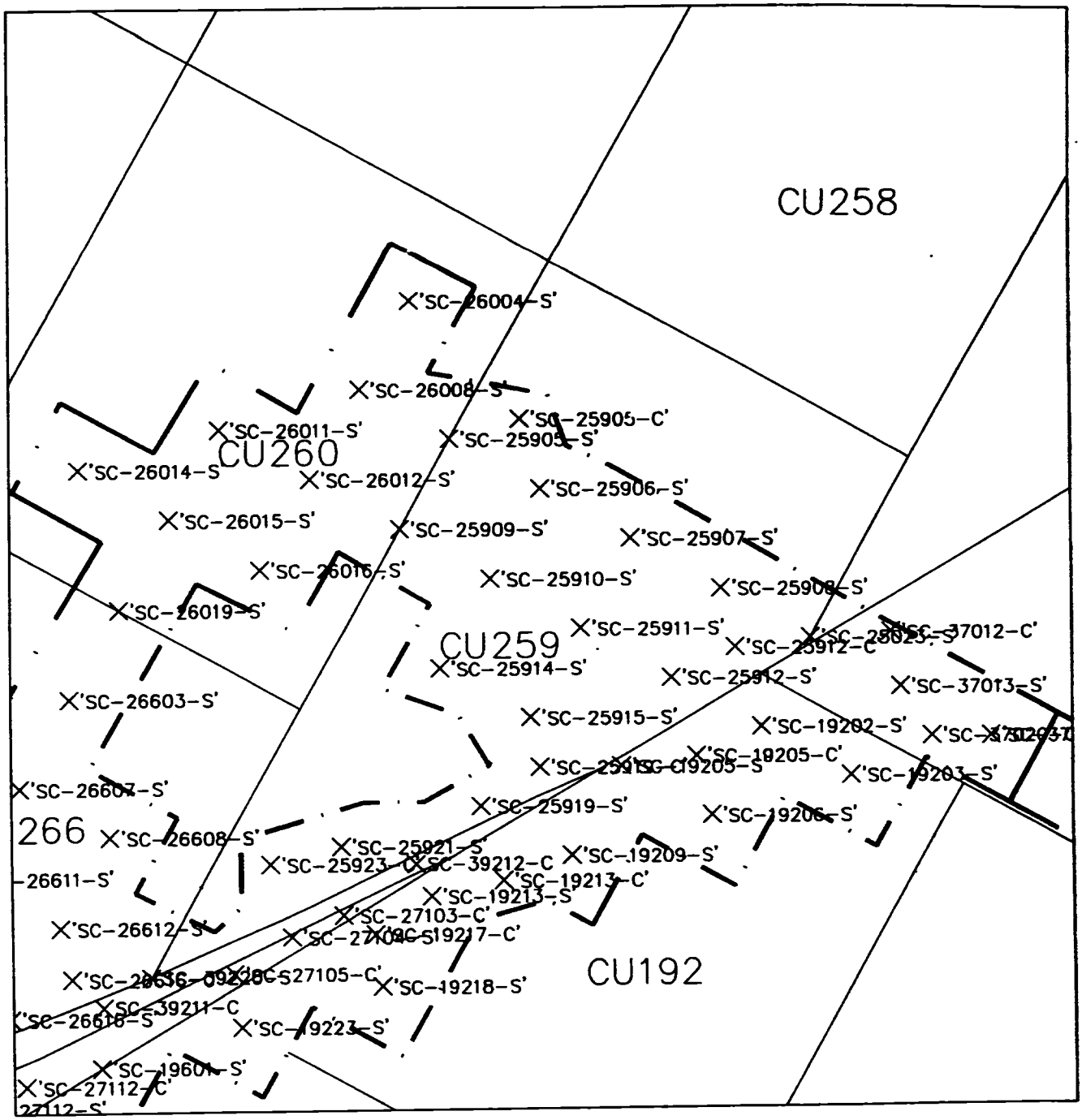
( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 259
10/12/99

DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "G" |
| Meter Serial #: | 127252 | Detector Serial #: | 4241 |
| Calibration Date: | 9-2-00 | Calibration Date: | 12-24-00 |
| Survey Date / Time: | 10/12/99 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | C. Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.

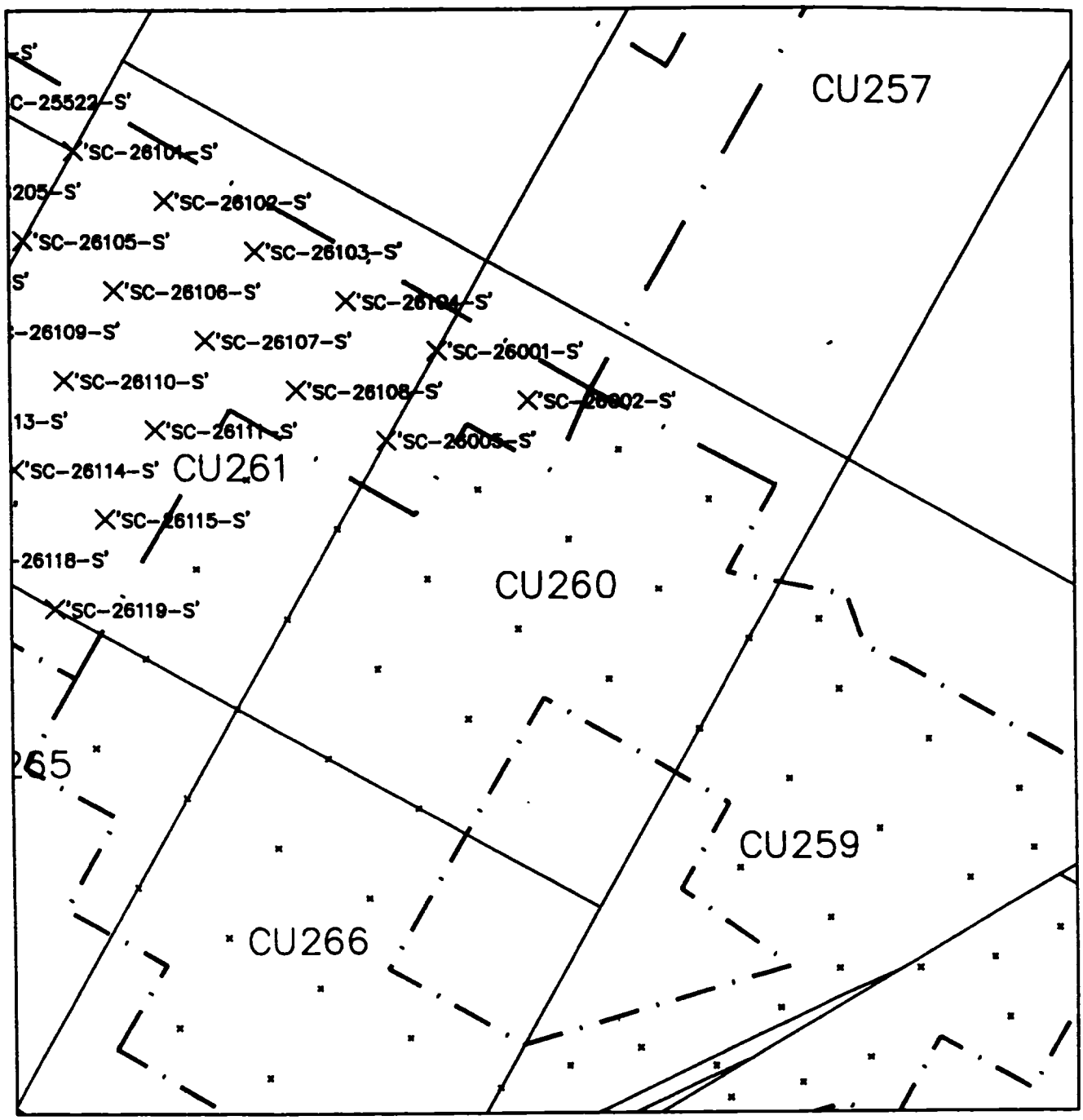
**Radiation Survey Form WP 437, RU** 21 **CU** 259

10/26/99

DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "G" |
| Meter Serial #: | 127252 | Detector Serial #: | 4241 |
| Calibration Due: | 9/2/00 | Calibration Due: | 1/24/00 |
| Survey Date / Time: | 10/25/99 | Field Bkg.: | 8,000 cpm |
| Surveyor(s): | C. Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background




LEGEND

SAMPLE POINTS NOT PINNED

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

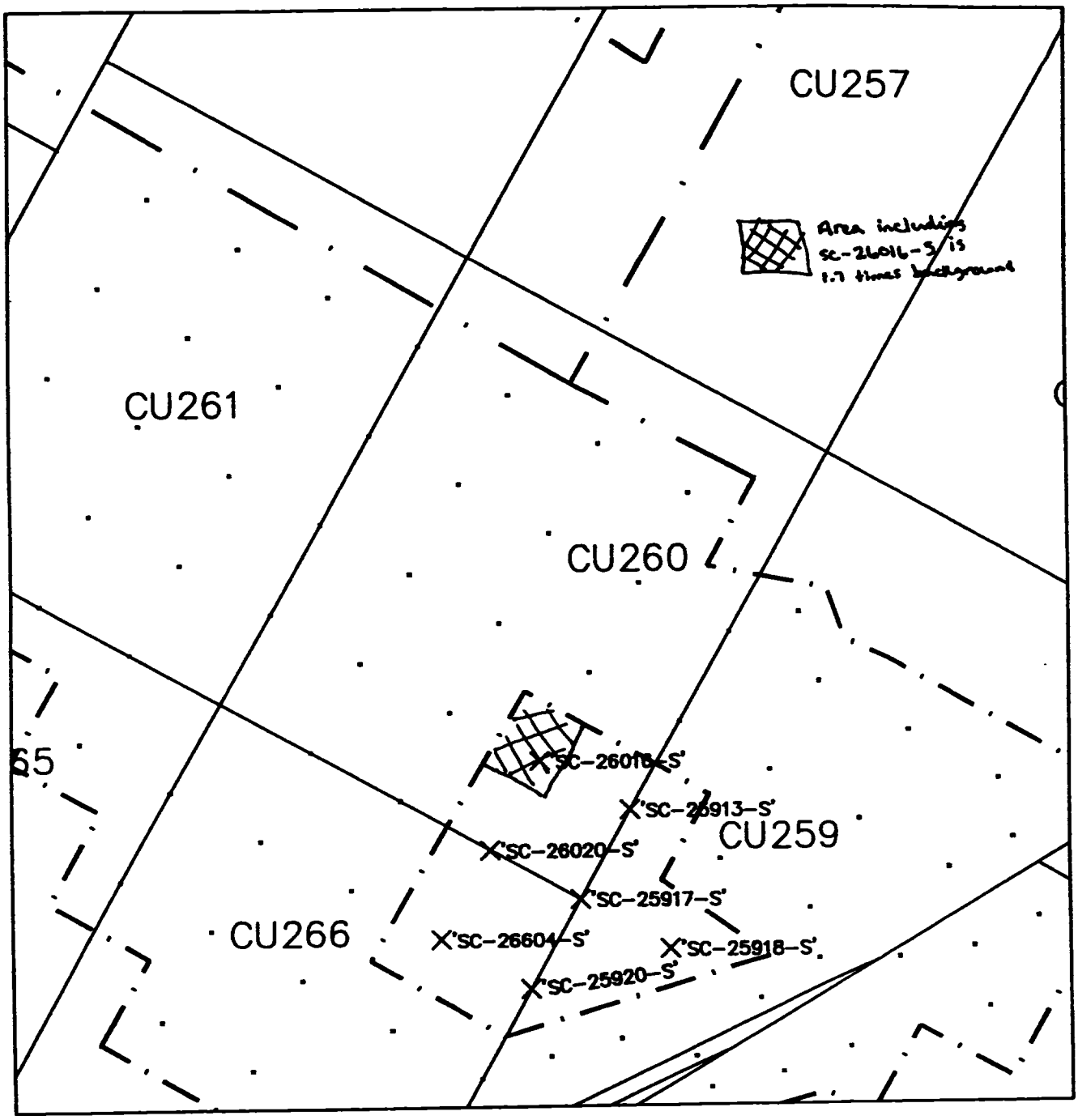
GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 260
10-13-99
DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2X2 |
| Meter Serial #: | 127251 | Detector Serial #: | 4241 |
| Calibration Due: | 9/2/00 | Calibration Date: | 1/24/00 |
| Survey Date / Time: | 10/14/99 | Field Bkg.: | 10 K cpm |
| Surveyor(s): | [illegible], C. Hammer | | |
| Comments: | All Readings Below 1.5 X BKGD | | |




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.

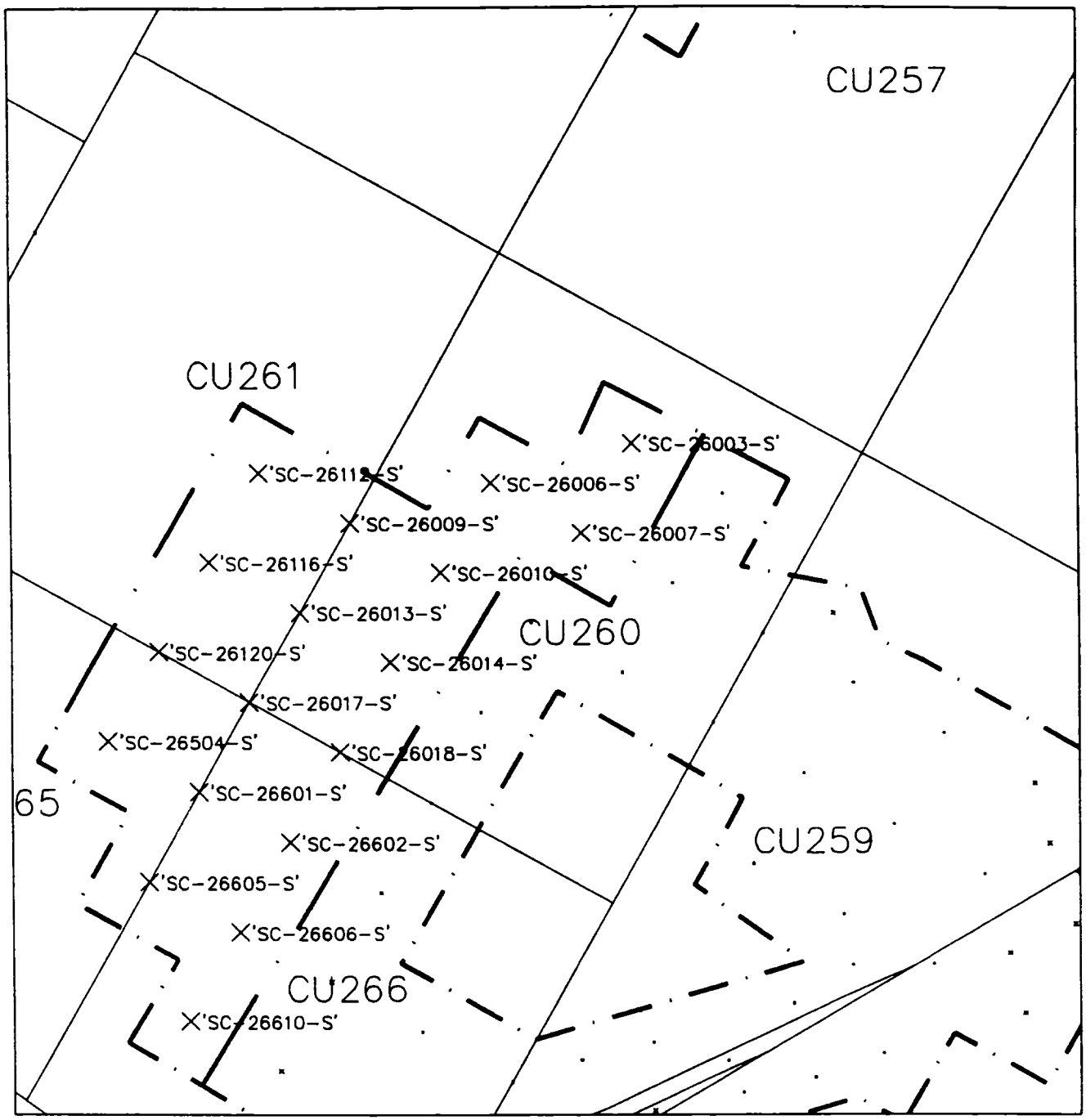
Radiation Survey Form WP 437, RU 21 CU 260

10-12-99

DBD CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "G" |
| Meter Serial #: | 127252 | Detector Serial #: | 4241 |
| Calibration Date: | 9-2-00 | Calibration Date: | 1-24-00 |
| Survey Date / Time: | 10/12/99 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | C. Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background




LEGEND

X'SC-32606-S' SAMPLE POINTS NOT PINNED

SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

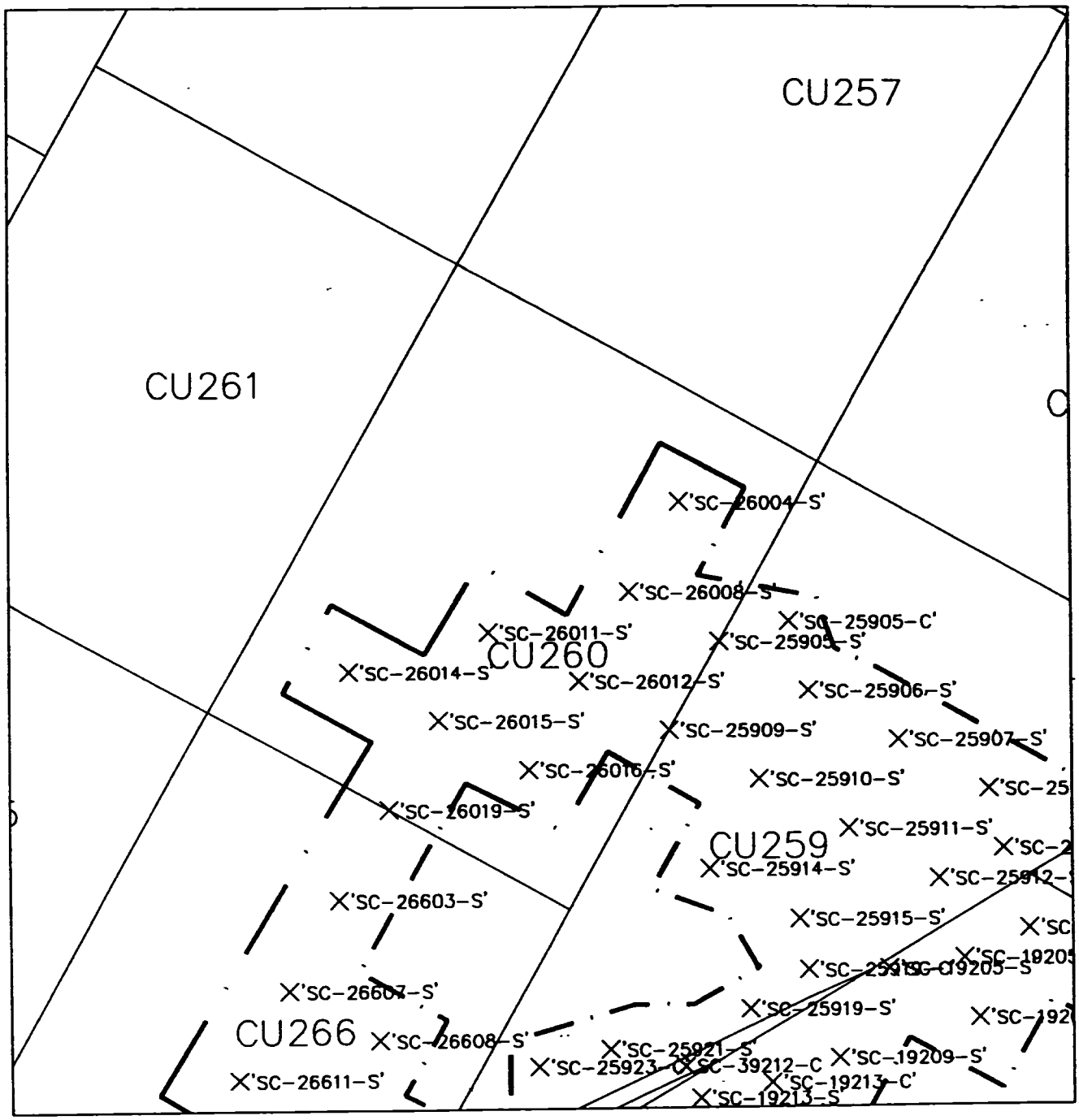
1 inch = 50 ft.

**Radiation Survey Form WP 437, RU** 21 **CU** 260

10-22-99

DBD CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 |
| Meter Serial #: | 127252 | Detector Serial #: | DOE #4241 |
| Calibration Date: | 9-7-00 | Calibration Date: | 01-24-00 |
| Survey Date / Time: | 10-19-99 | Field Bkg.: | 10K cpm |
| Surveyor(s): | J. Bank | | |
| Comments: | All meas <15 BKG | | |




LEGEND

X'SC-32606-S' SAMPLE POINTS NOT PINNED

SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.

**Radiation Survey Form WP 437, RU** 21 **CU** 260

10/26/99

DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "G" |
| Meter Serial #: | 127252 | Detector Serial #: | 4241 |
| Calibration Date: | 9/2/00 | Calibration Date: | 1/24/00 |
| Survey Date / Time: | 10/25/99 | Field Bkg.: | 8,000 cpm |
| Surveyor(s): | C. Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background

Tuesday 10-20-99 "Day Shift"

Prepping BZ's, setting up control points for today's field activities.
SWP Meeting held. Working at: cell, Pits #1 + #4, & North of Pit #3 area (Ash pond).
- BZ's issued out. Mike starting up GA monitors.
- Continuing decon on water tanker. Only a few items need to be done.
- John R. observing cut-off out of RAX-23 + 24 at Pit #4. Walkovers of these areas were <1.5 x bkg. At Pit #3, two small (< 1 m³) contaminated areas were found + removed. Other soil contamination which was tracked in from the excavation (haul trucks) was also removed on the way out.
- Laborers performing final rinse on water tanker at decon pad.

Lunch

Crew back to work.

Mike performing visual on water tanker. CAT 621 F water tanker unconditionally released. Can proceed with reassembly.

Eldon (DHO/mechanic) start initial reassembling of water tanker.

Leon/ collecting GA heads

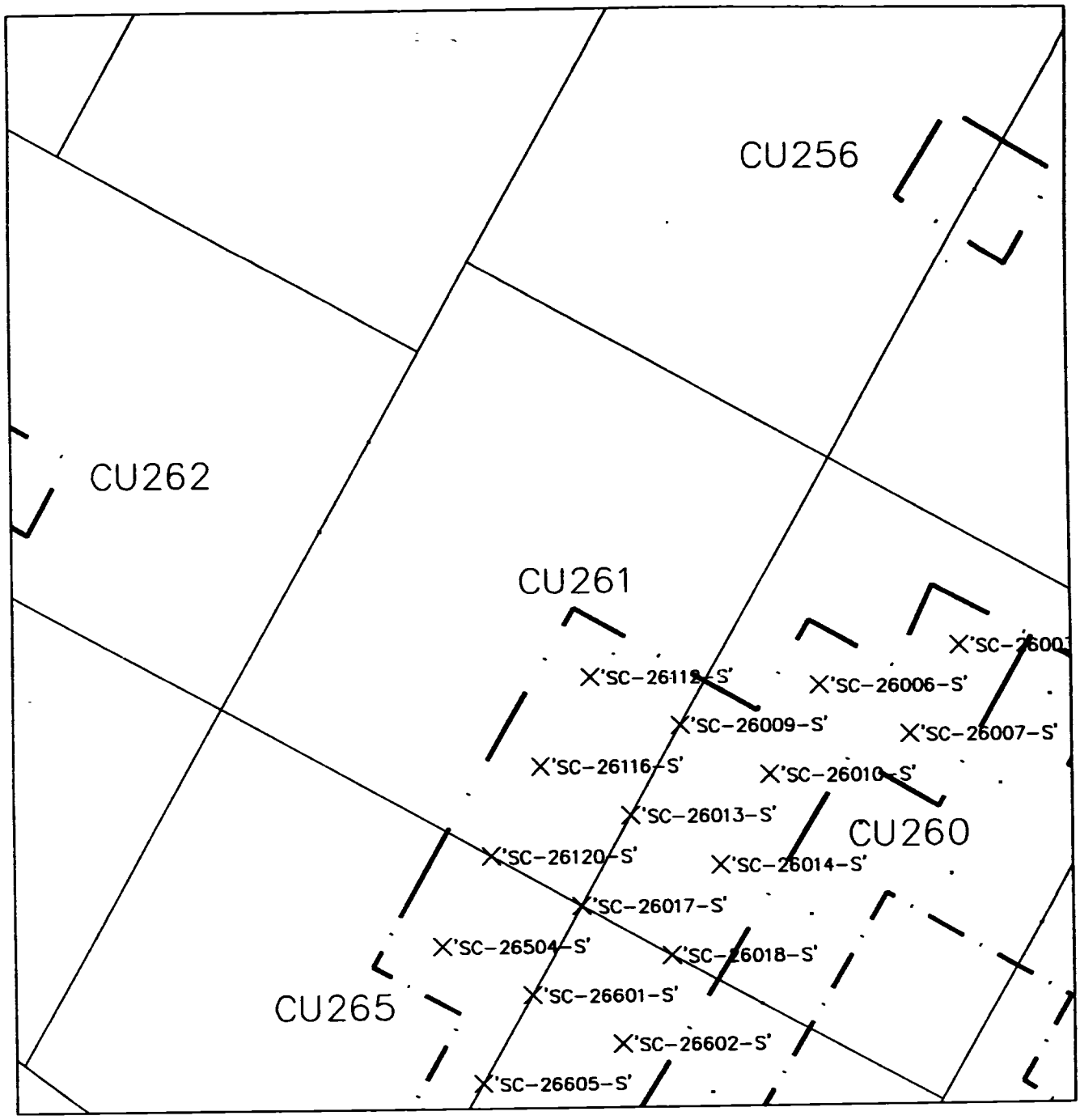
Eric's collecting BZ's, securing control points.

- BZ's calculated; complete. Done for today.

Continued on Page

Read and Understood By

Signed: [signature] Date: 10-21-99 Signed: Date:




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

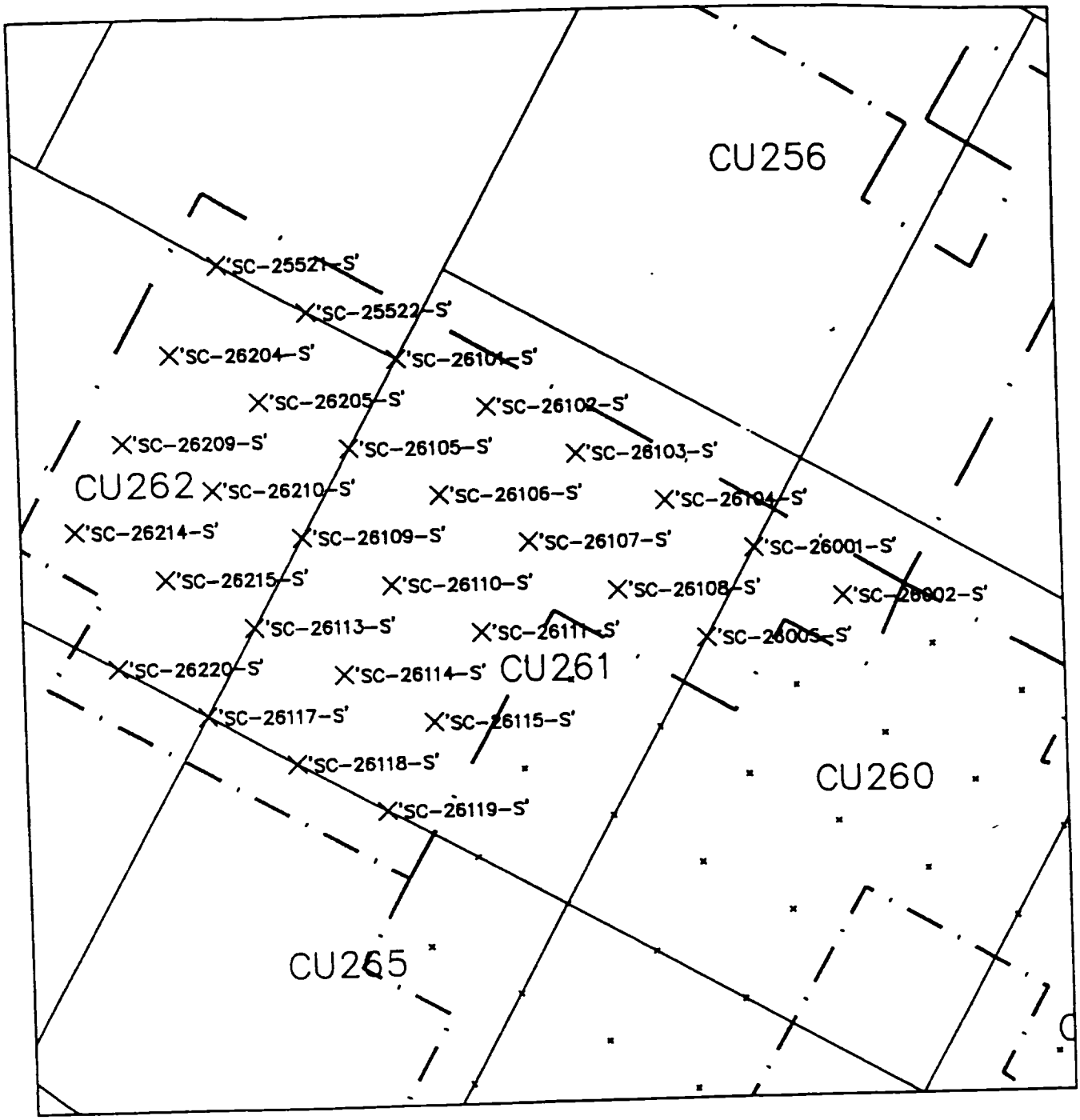
( IN FEET )
1 inch = 50 ft.

**Radiation Survey Form WP 437, RU** 21 **CU** 261

10-22-99

DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 |
| Meter Serial #: | 177252 | Detector Serial #: | DOE # 4741 |
| Calibration Due: | 9-2-00 | Calibration Due: | 01-24-00 |
| Survey Date / Time: | 10-19-99 | Field Bkg.: | 10K cpm |
| Surveyor(s): | J Rankin | | |
| Comments: | All areas <1.5 BKG | | |




LEGEND

SAMPLE POINTS NOT PINNED

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

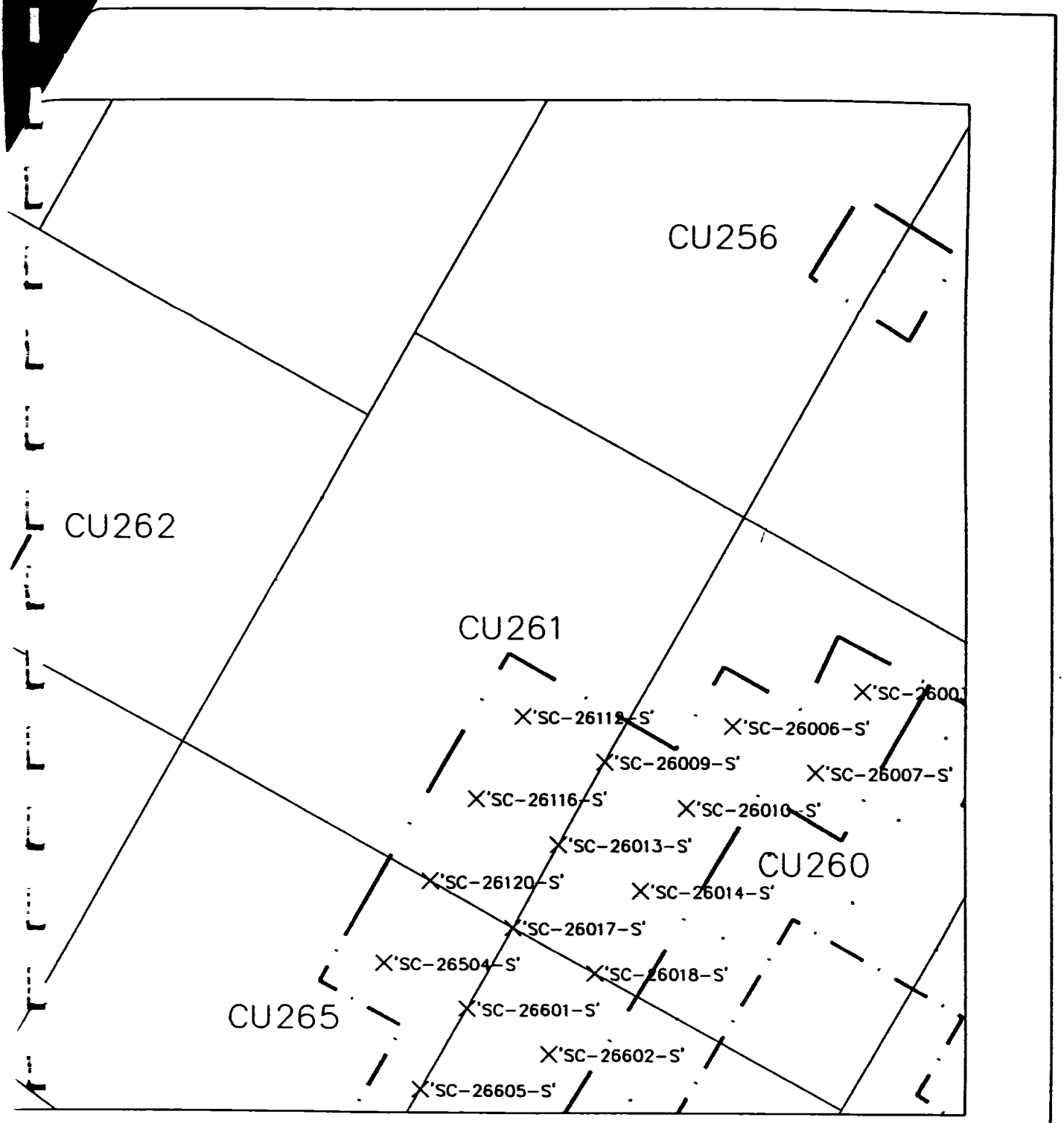
( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 261

10-13-99

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | AbT "2.2" "G" |
| Meter Serial #: | 127252 | Detector Serial #: | DOE "4741 |
| Calibration Date: | 09-07-99 | Calibration Date: | 01-28-00 |
| Survey Date / Time: | 10-13-99 | Field Bkg.: | 8, 40 cpm |
| Surveyor(s): | J. Rankin | | |
| Comments: | All meas 1.5 BKG | | |




LEGEND

SAMPLE POINTS NOT PINNED

-S' SAMPLE POINTS PINNED

PINNING LIMITS

GRAPHIC SCALE

50 0 25 50

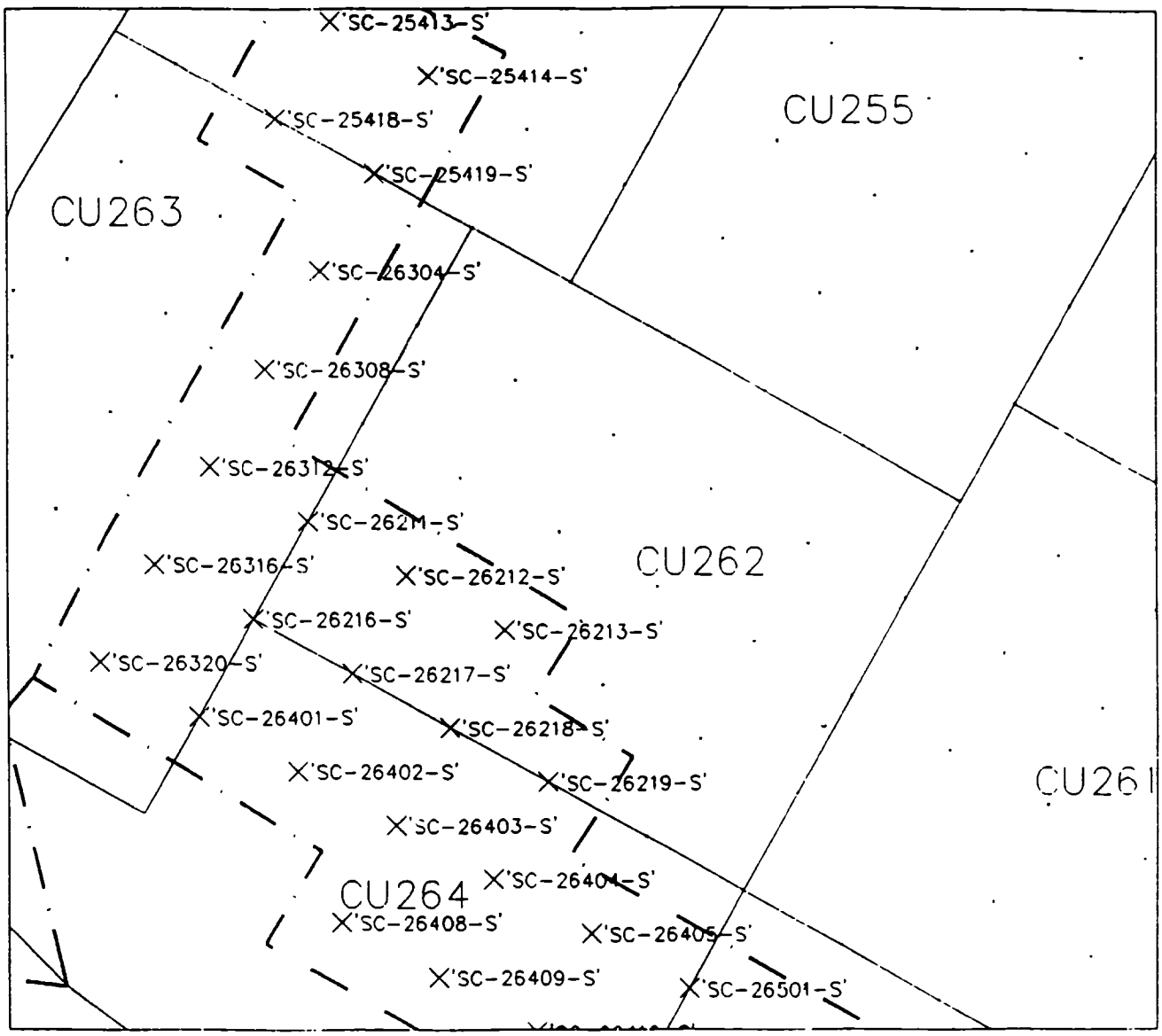
( IN FEET )
1 inch = 50 ft.

**Radiation Survey Form WP 437, RU** 21 **CU** 261

10-22-79

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | NaI "2-2" G |
| Meter Serial #: | 127252 | Detector Serial #: | DE #4291 |
| Calibration Due: | 04-02-00 | Calibration Due: | 01-29-00 |
| Survey Date / Time: | 10-28-99 | Field Bkg.: | B1400 cpm |
| Surveyor(s): | J Rankin | | |
| Comments: | All meas L1.5 BKG | | |




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 262

9-15-99 DHO CAD

| | | | |
|---|---|---|---|
| Meter Model # | 2221 | Detector Model # | 2x20 |
| Meter Serial # | 117607 | Detector Serial # | 25143 |
| Calibration Due | 12/18/99 | Calibration Due | 1/24/00 |
| Survey Date Time | 9/14/99 | Field Bkg | 12,000 |
| Surveyor(s) | T. Brower | | |
| Comments | All readings 41.5 Bkg | | |

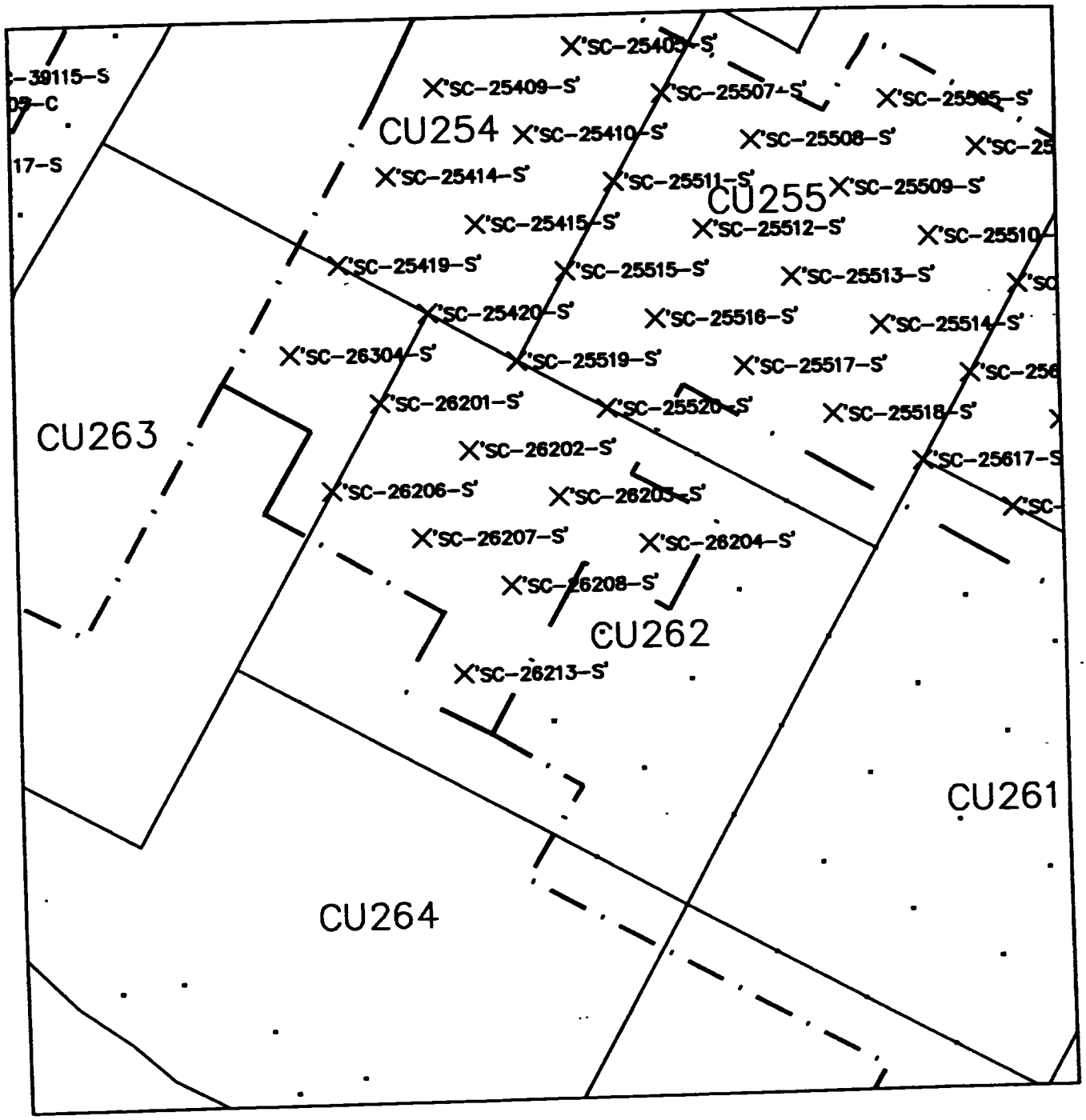
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

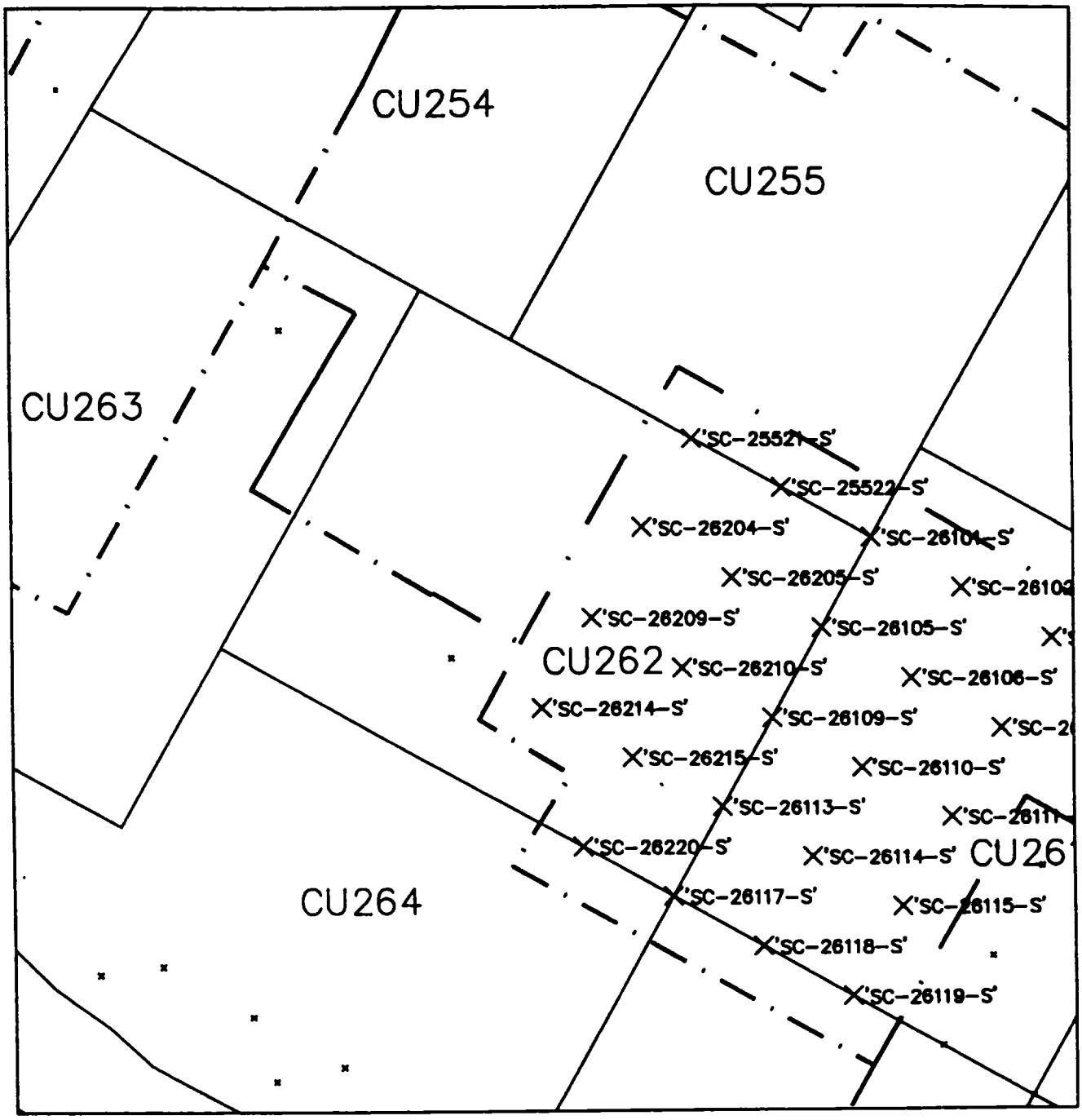
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 262

10/11/99

DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "6" |
| Meter Serial #: | 127252 | Detector Serial #: | 4241 |
| Calibration Due: | 9/2/00 | Calibration Due: | 1/24/00 |
| Survey Date / Time: | 10/7/99 | Field Bkg.: | 10,000 CPM |
| Surveyor(s): | T Brown | | |
| Comments: | All readings ≈1.5 Bkg | | |




LEGEND

SAMPLE POINTS NOT PINNED

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

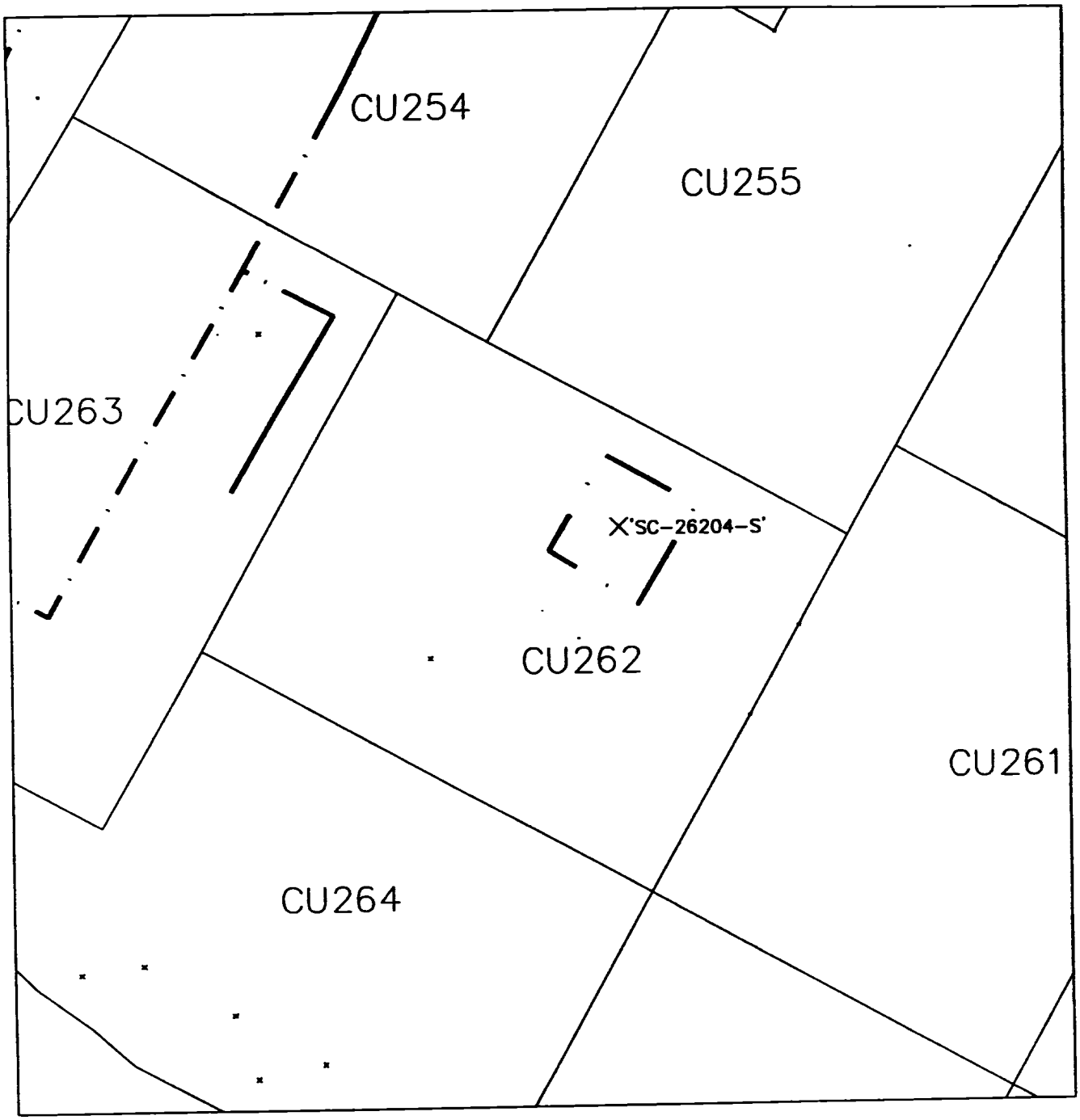
( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 262

10-13-99

DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 |
| Meter Serial #: | 127252 | Detector Serial #: | 4241 |
| Calibration Due: | 9/2/00 | Calibration Due: | 1/24/00 |
| Survey Date / Time: | 10/11/00 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | [illegible] (Hammi | | |
| Comments: | All Readings < 1.5X BKGD | | |




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.

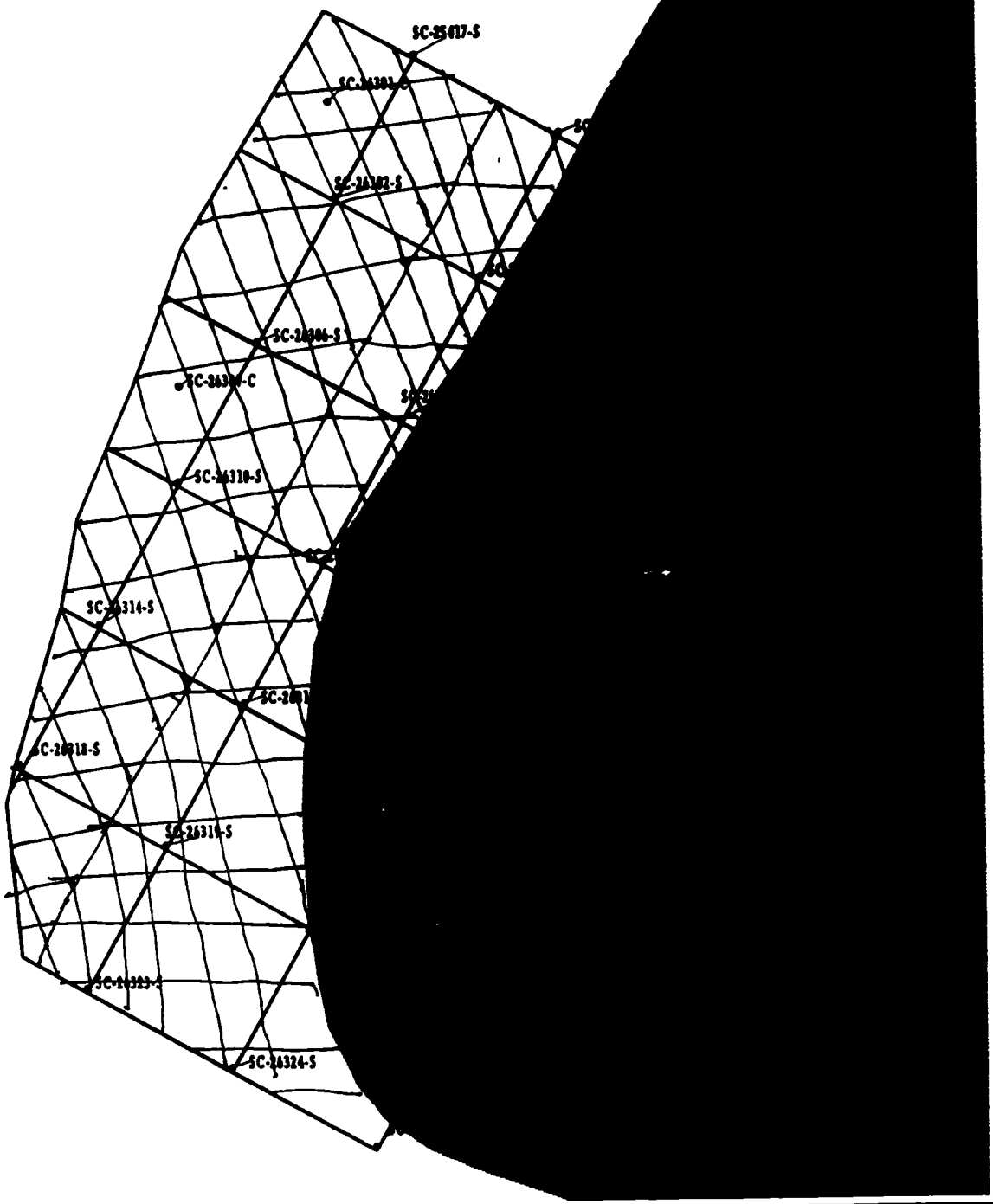
Radiation Survey Form WP 437, RU 21 CU 262

10-22-99

DHD CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 |
| Meter Serial #: | 127252 | Detector Serial #: | DOE # 4241 |
| Calibration Due: | 9-2-00 | Calibration Due: | 01-24-00 |
| Survey Date / Time: | 10-18-99 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | J. Ramirez | | |
| Comments: | All areas < 1.5 BKG | | |

# Radiation Survey Form WP 437, RU021 CU263




Surveyed AREA

WSSRAP GIS

15 7.5 0 METERS

45 22.5 0 FEET

N W E S

Meter Model#: 2221

Meter Serial#: 2172

Calibration Due: 11.20.99

Survey Date/Time: 1000 10/2/98

Surveyor(s): ~~C. Hanner~~ J. Michel

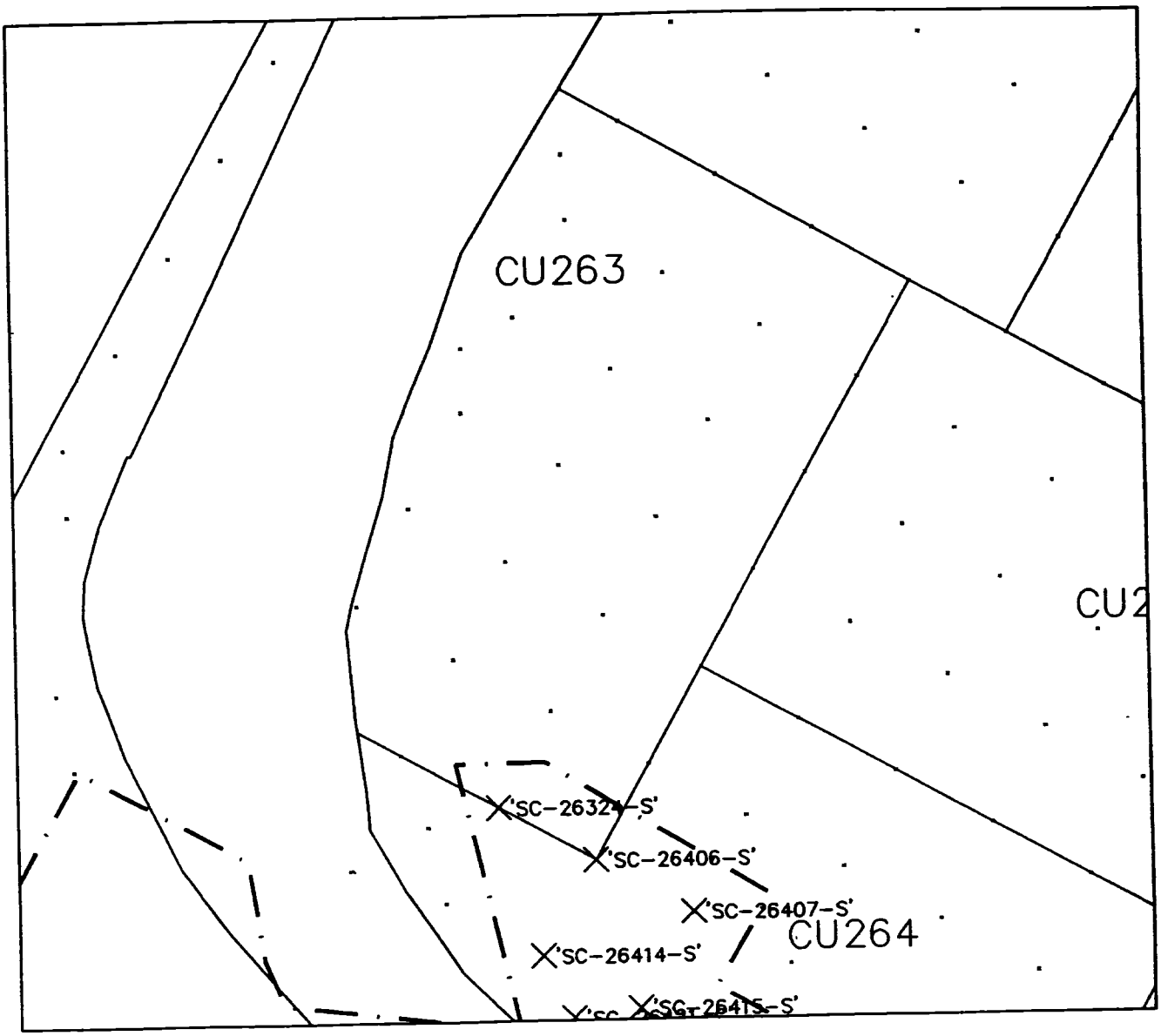
Detector Model#: NaI (2x2)

Detector Serial#: K

Calibration Due: 1/21/99

Field Bkg.: 10K – 35K

Comments: Above area surveyed < 1.5 x BKGd Background Fluctuates due to exposed sludge in area.




LEGEND

SAMPLE POINTS NOT PINNED

×'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 263

9/1/99

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "B" |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Due: | 12/18/99 | Calibration Due: | 1/24/00 |
| Survey Date / Time: | 8/30/99 | Field Bkg.: | 12,000 cpm (Shielded) |
| Surveyor(s): | C. Hanna | | |

Comments: Area was surveyed and found to be less than 1.5 times background

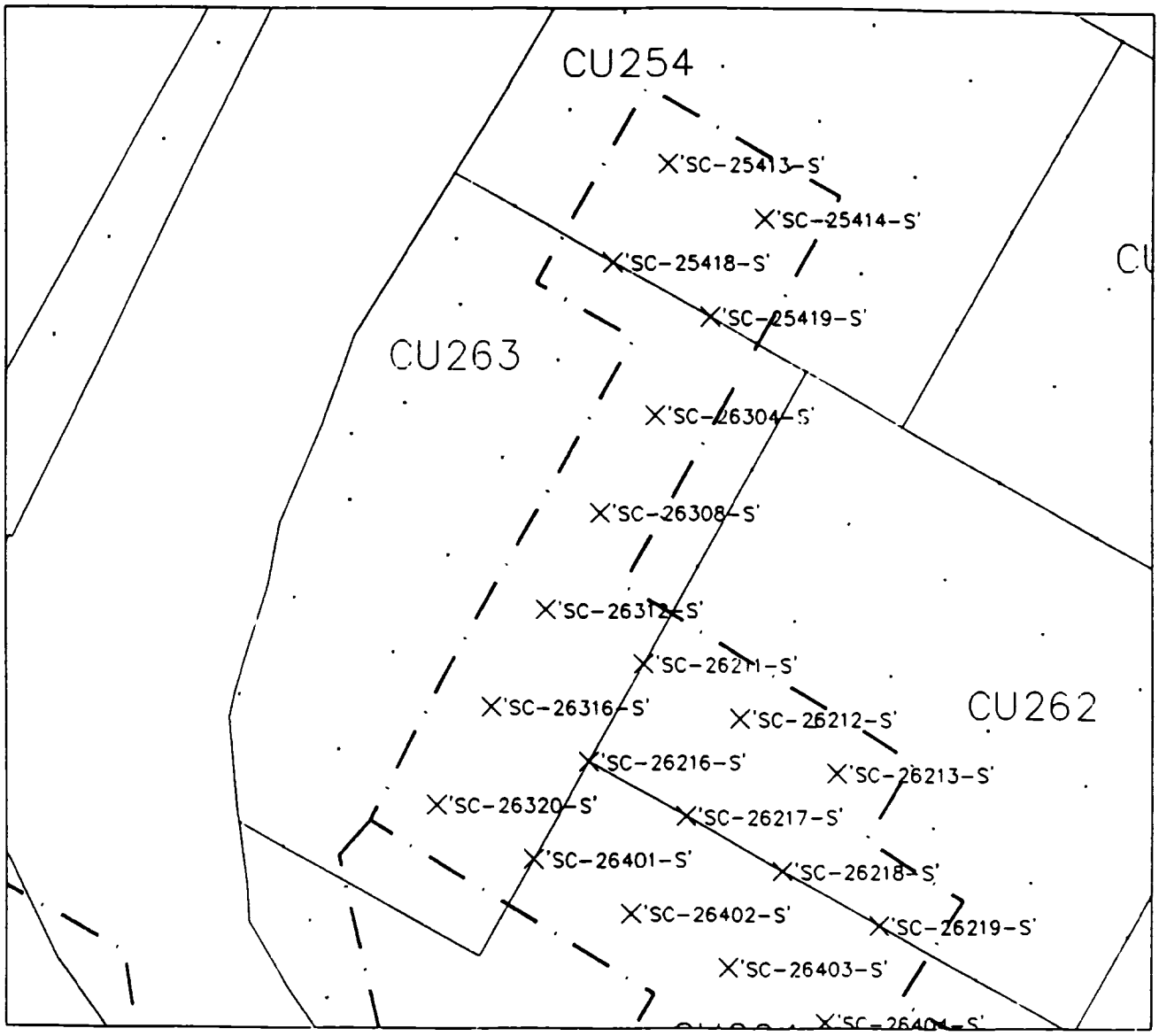
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.




LEGEND

| | |
|---|---|
| · | SAMPLE POINTS NOT PINNED |
| X'SC-32606-S' | SAMPLE POINTS PINNED |
| — · — · — | PINNING LIMITS |

Radiation Survey Form WP 437, RU 21 CU 263

9-15-99 DHO CAD

| | | | |
|---|---|---|---|
| Meter Model # | 2221 | Detector Model # | 2929 |
| Meter Serial # | 117607 | Detector Serial # | 25143 |
| Calibration Due | 12/18/99 | Calibration Due | 1/24/00 |
| Survey Date Time | 9/14/99 | Field Bkg | 12.000 |
| Surveyor(s) | T. Brown | | |
| Comments | All readings <1.5 Bkg | | |

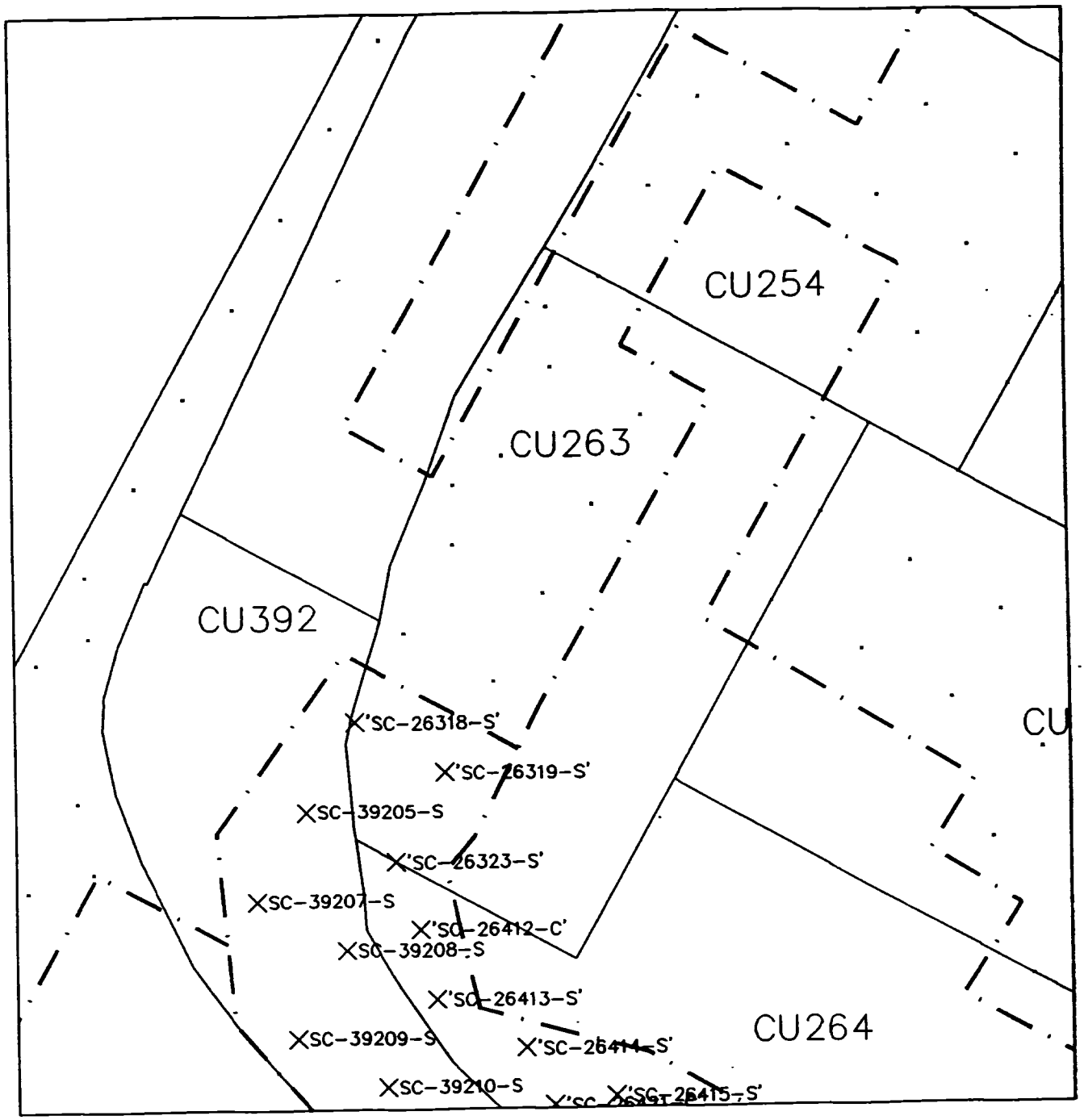
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

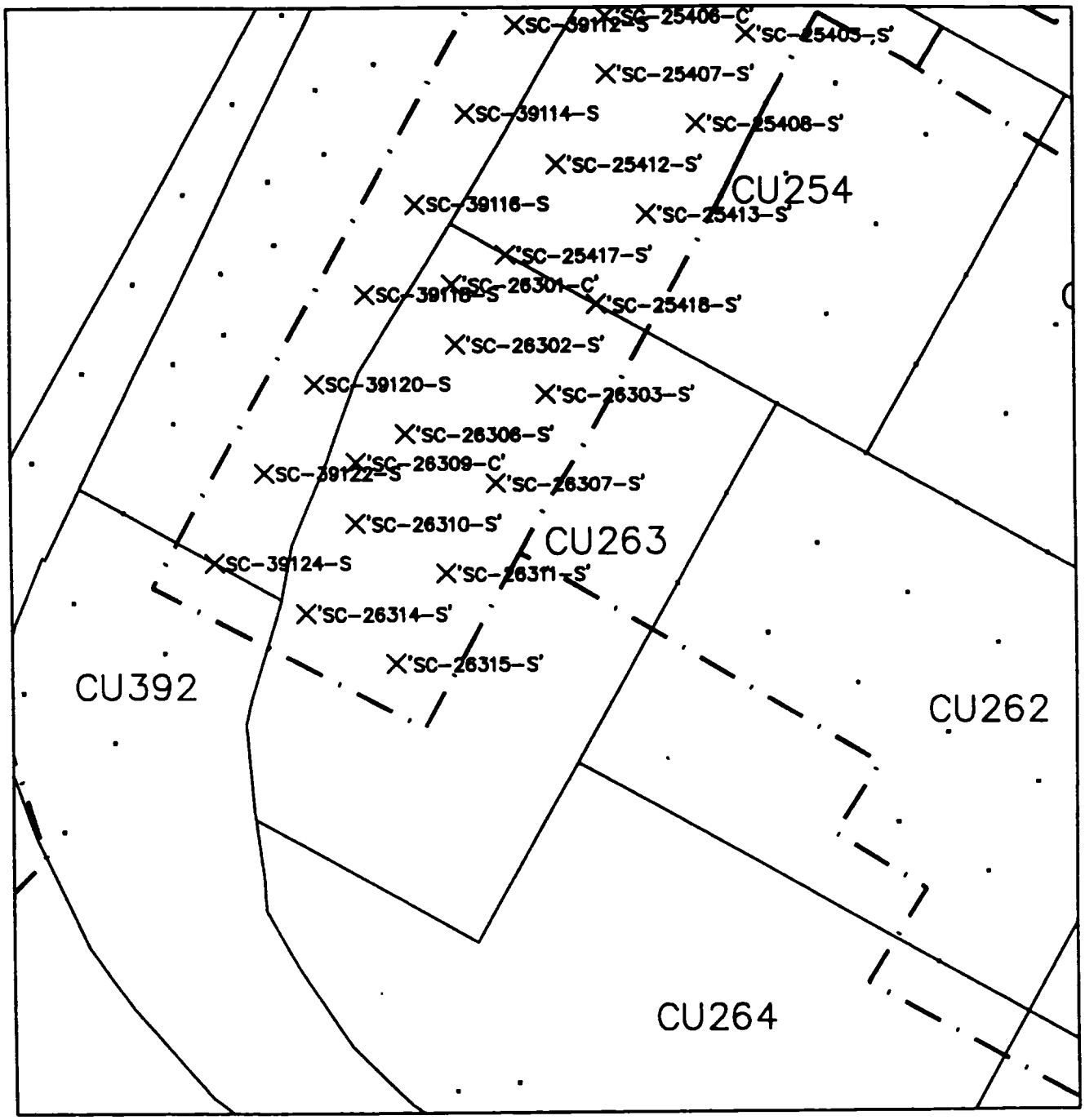
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 263

9-30-99

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2+2 "Q" |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Due: | 12-18-99 | Calibration Due: | 01-24-00 |
| Survey Date / Time: | 09-28-99 | Field Bkg.: | 12,000 cpm |
| Surveyor(s): | J. Franklin | | |
| Comments: | All meas <1.5 Bkg | | |




LEGEND

SAMPLE POINTS NOT PINNED

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

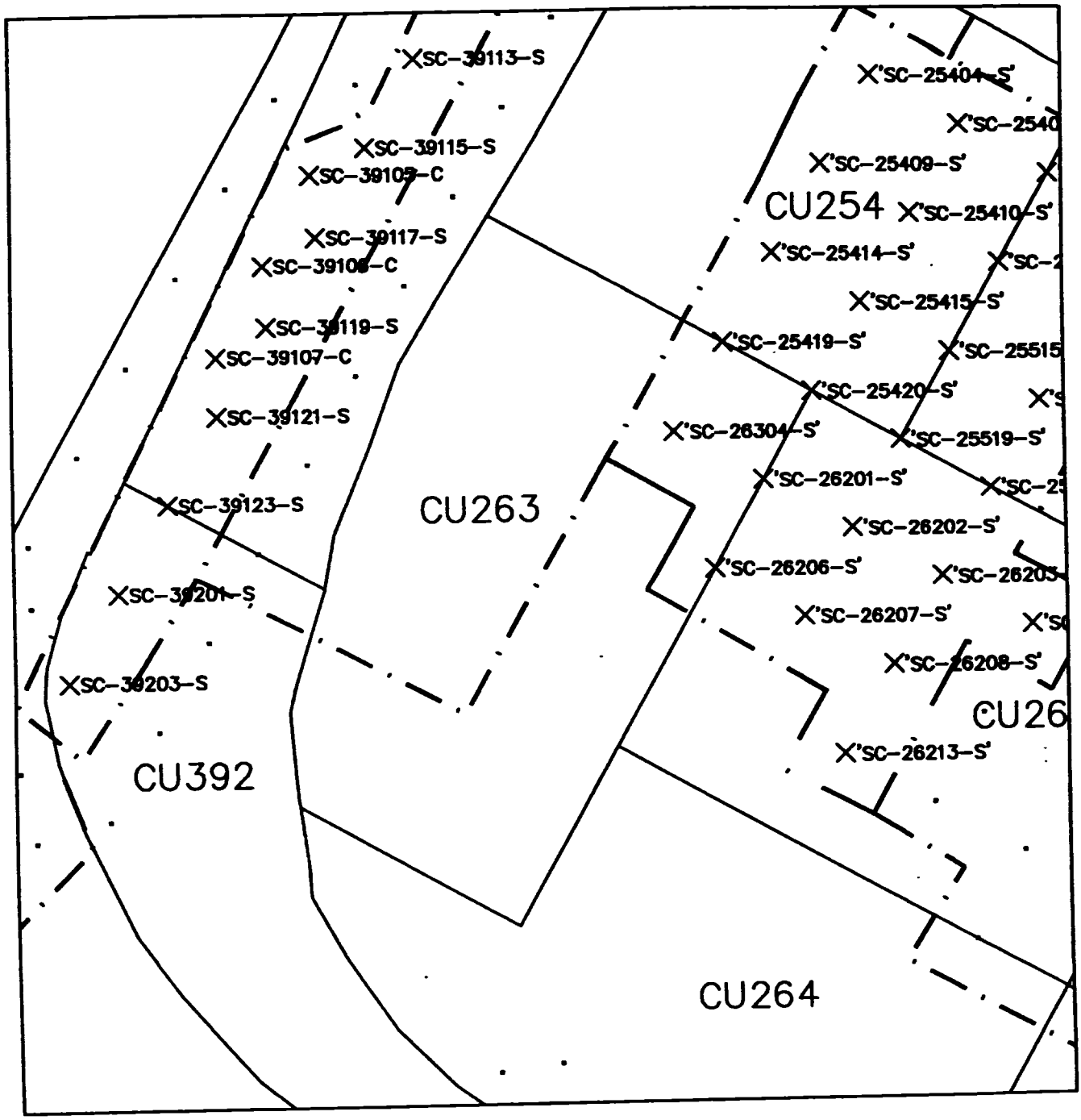
( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 263

10-5-99

DBD CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2"a" |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Date: | 12/18/99 | Calibration Date: | 11/29/00 |
| Survey Date / Time: | 9/28/99 | Field Bkg.: | 12,000c PM |
| Surveyor(s): | T. Brewer | | |
| Comments: | All readings 11.5 BKg | | |




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

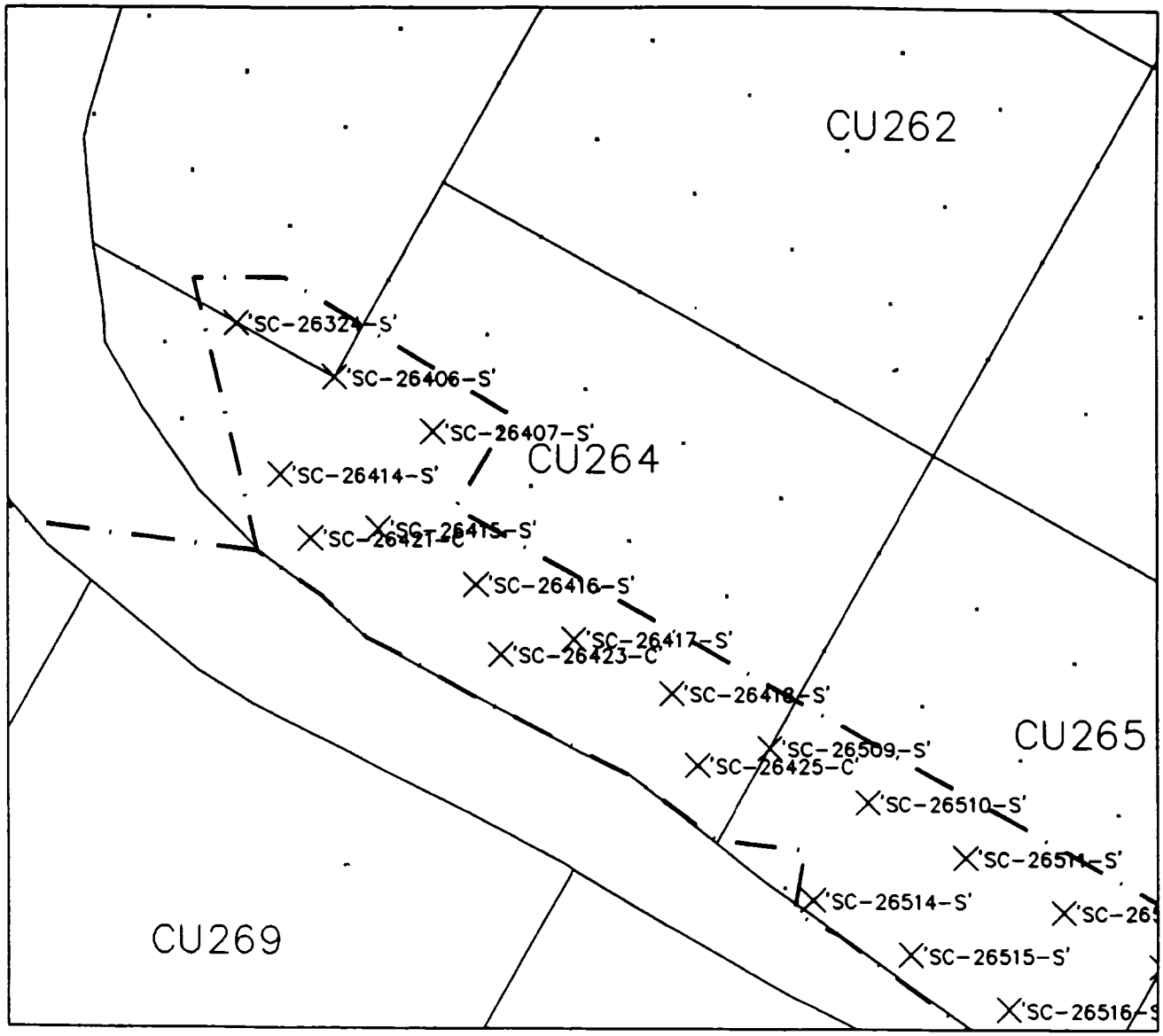
( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 263

10-11-99

DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 242 "6" |
| Meter Serial #: | 127252 | Detector Serial #: | 4241 |
| Calibration Due: | 9/2/00 | Calibration Due: | 1/24/00 |
| Survey Date / Time: | 10/7/99 | Field Bkg.: | 10,000 CPM |
| Surveyor(s): | J. Brewer | | |
| Comments: | All readings 4.5 BKg | | |




LEGEND

| | |
|---|---|
| · | SAMPLE POINTS NOT PINNED |
| ×'SC-32606-S' | SAMPLE POINTS PINNED |
| — · — · — | PINNING LIMITS |

Radiation Survey Form WP 437, RU 21 CU 264

9/1/99

DEIO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaC "G" |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Due | 12/18/99 | Calibration Due. | 1/24/00 |
| Survey Date / Time: | 8/30/99 | Field Bkg | 13,000 cpm (Shielded) |
| Surveyor(s). | C. Hamm | | |

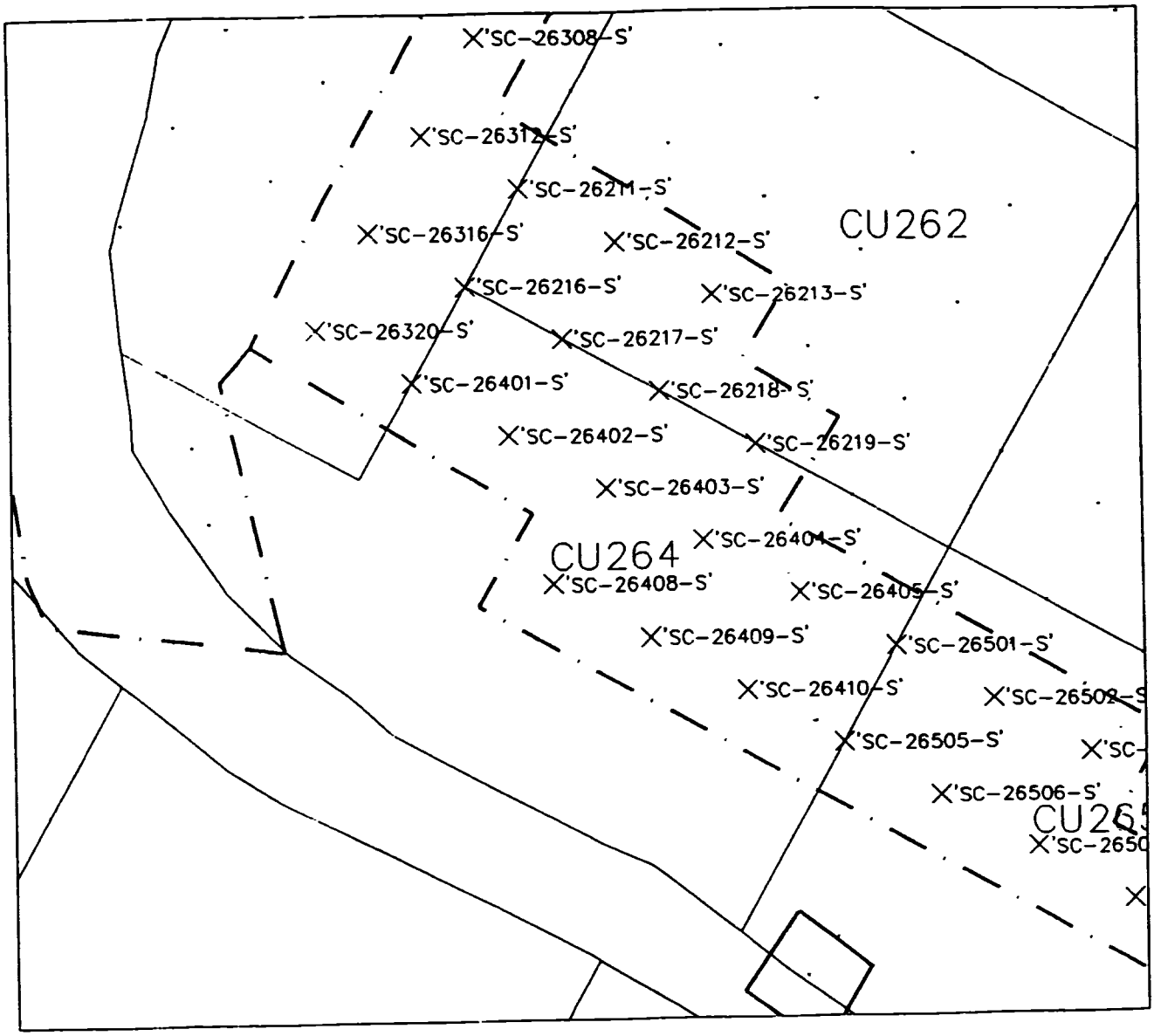
Comments: Area was surveyed and found to be less than 1.5 times background

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 264

9-15-99

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 Q |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Due: | 12/18/99 | Calibration Due: | 1/24/00 |
| Survey Date Time: | 9/14/99 | Field Bkg.: | 12,000 |
| Surveyor(s): | T. Brower | | |
| Comments: | All readings 81.5 Bkg | | |

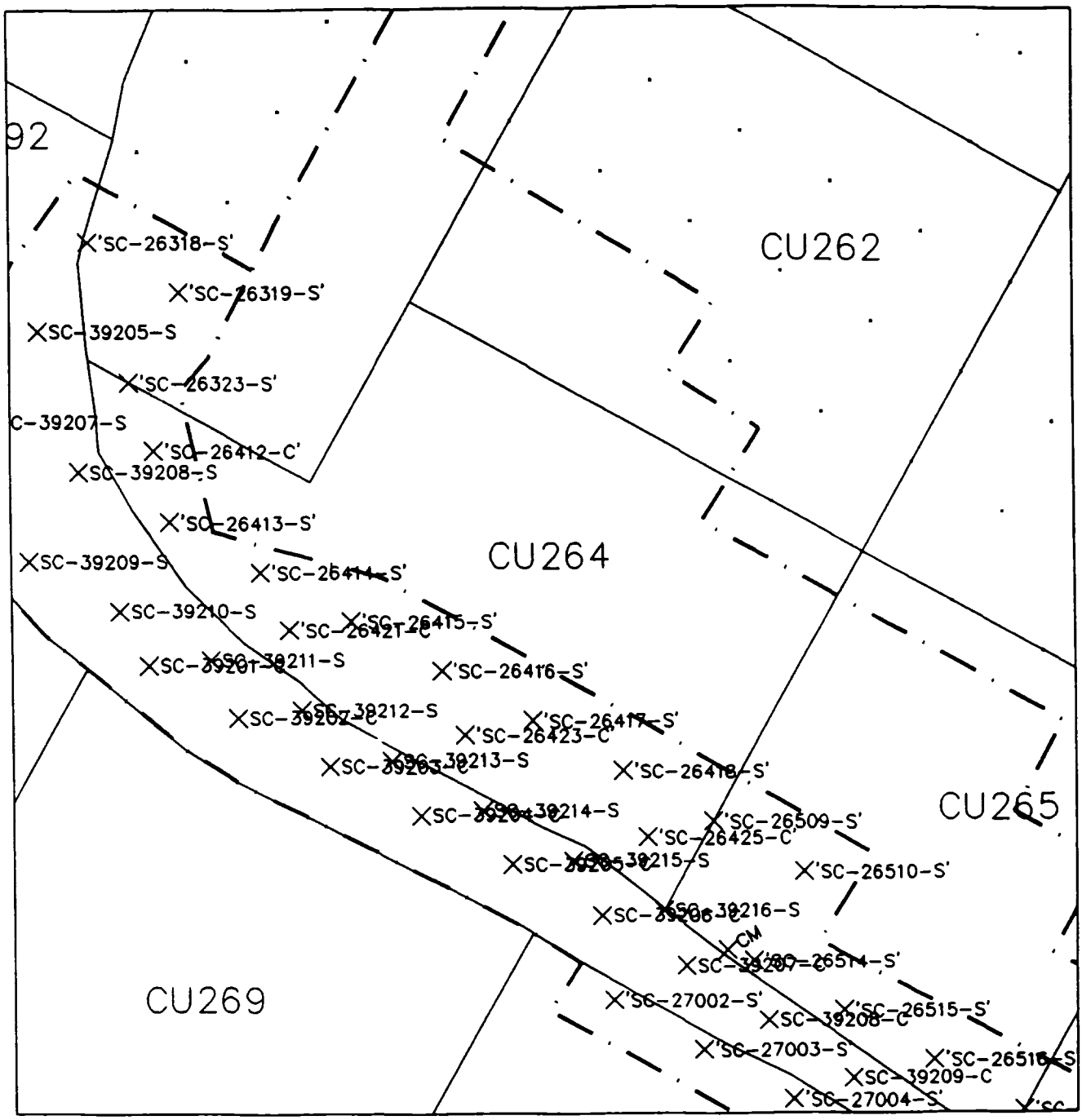
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

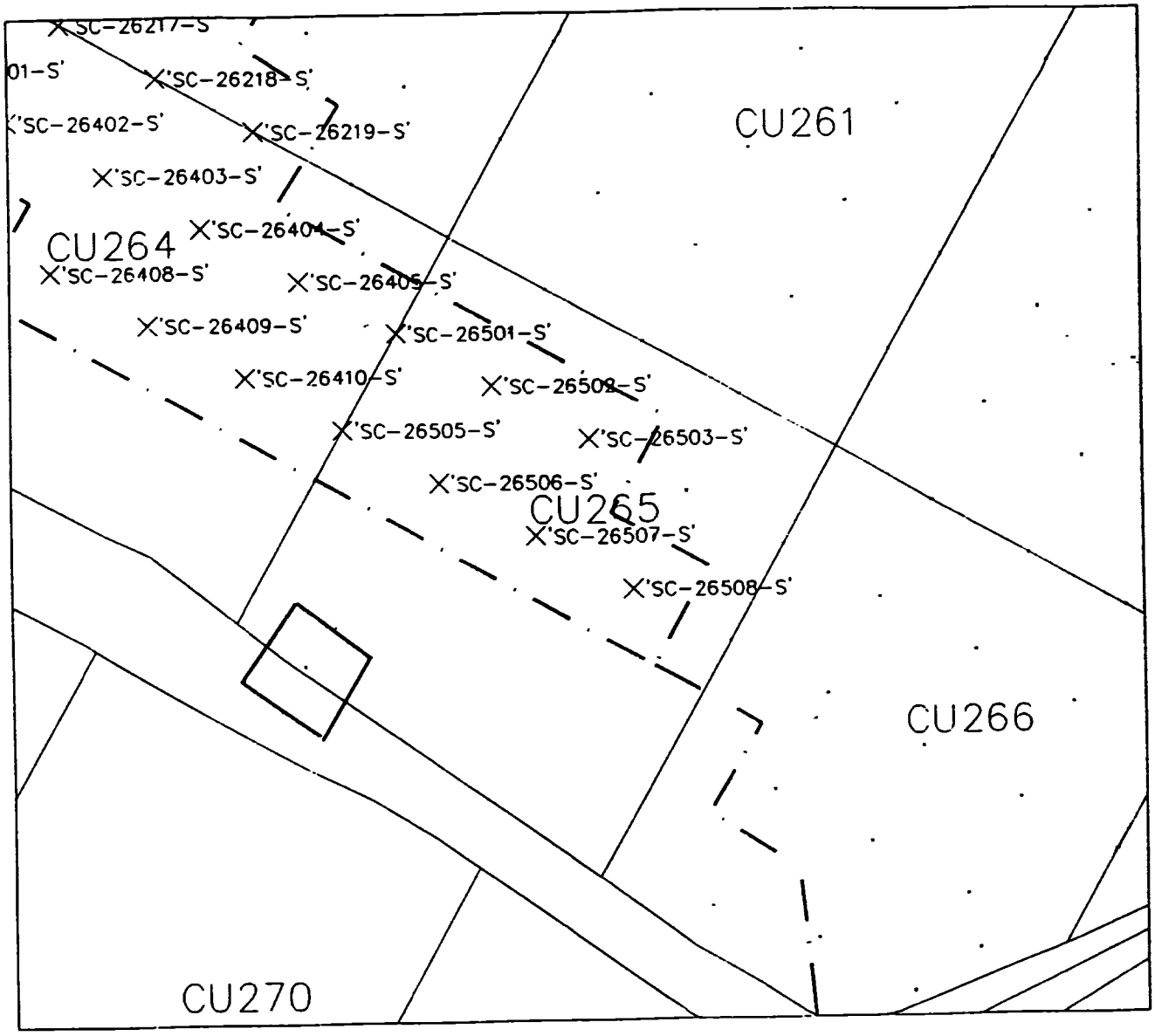
( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 264

9-30-99

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model # : | 2221 | Detector Model #: | 2.2 D |
| Meter Serial # : | 117607 | Detector Serial #: | 25143 |
| Calibration Due: | 12-18-99 | Calibration Due: | 01-24-00 |
| Survey Date / Time: | 09-28-99 | Field Bkg. | 17,000 cpm |
| Surveyor(s). | J. Rankin | | |
| Comments: | All areas < 1.5 BKG. | | |




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

— · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 265

9-15-99

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2Q |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Due: | 12/18/99 | Calibration Due: | 1/24/00 |
| Survey Date Time: | 12/TPA 9/14/99 | Field Bkg.: | 12,000 |
| Surveyor(s): | T. Brewer | | |
| Comments: | All readings <1.5 Bkg | | |

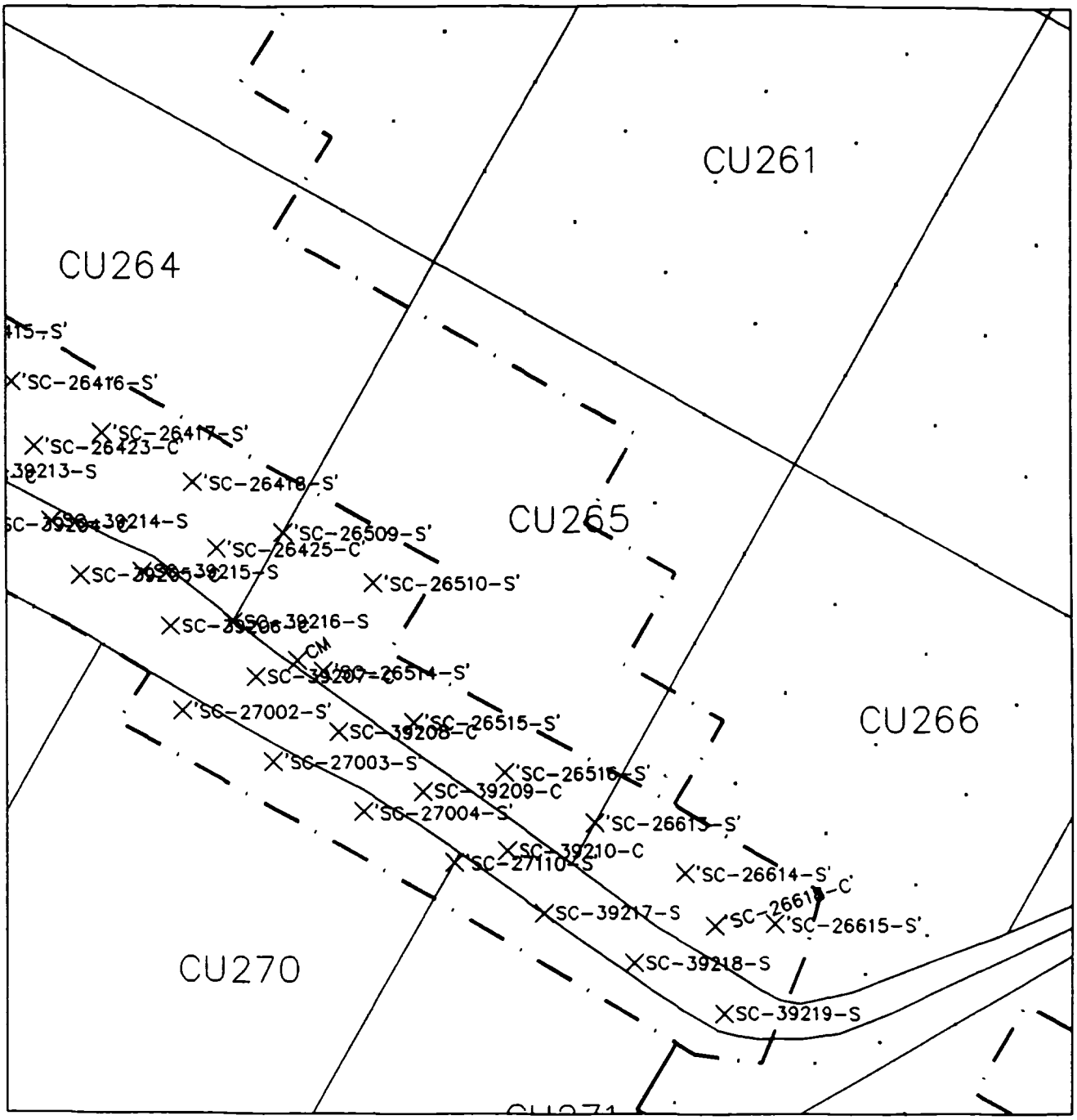
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.




LEGEND

SAMPLE POINTS NOT PINNED

× 'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

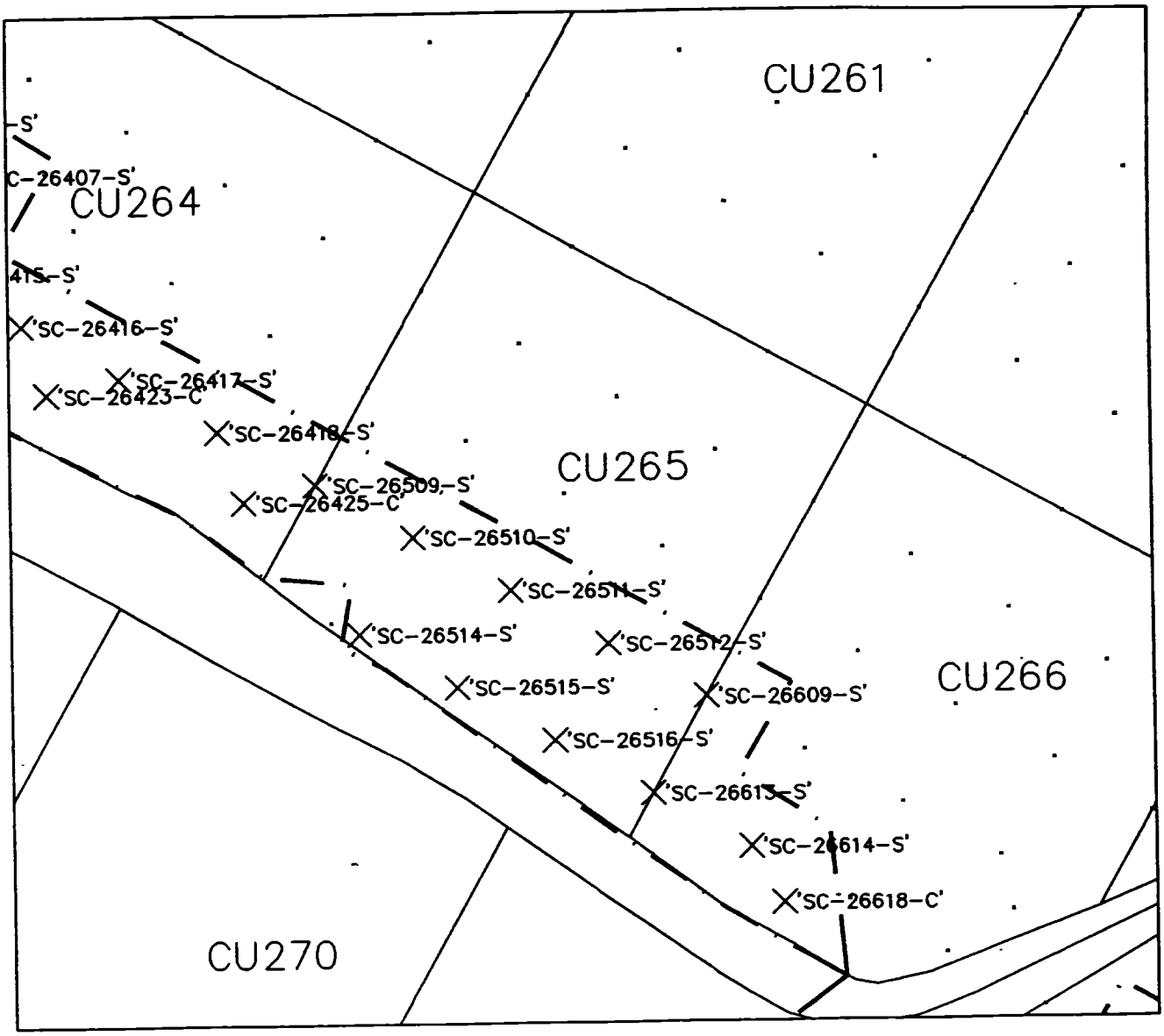
( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 265

9-30-99

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 9x2 "Q" |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Duc. | 12-18-99 | Calibration Duc: | 01-24-00 |
| Survey Date / Time: | 09-28-99 | Field Bkg.: | 12,000 cpm |
| Surveyor(s): | J. Frank | | |
| Comments: | All meas 41.5 BKG. | | |




LEGEND

SAMPLE POINTS NOT PINNED

×'SC-32606-S' SAMPLE POINTS PINNED

— · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 265

9/1/99

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "B" |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Due: | 12/15/99 | Calibration Due: | 1/24/00 |
| Survey Date / Time: | 8/30/99 | Field Bkg.: | 12,000 cpm (shielded) |
| Surveyor(s): | C. Hanson | | |

Comments: Area was surveyed and found to be less than 1.5 times background

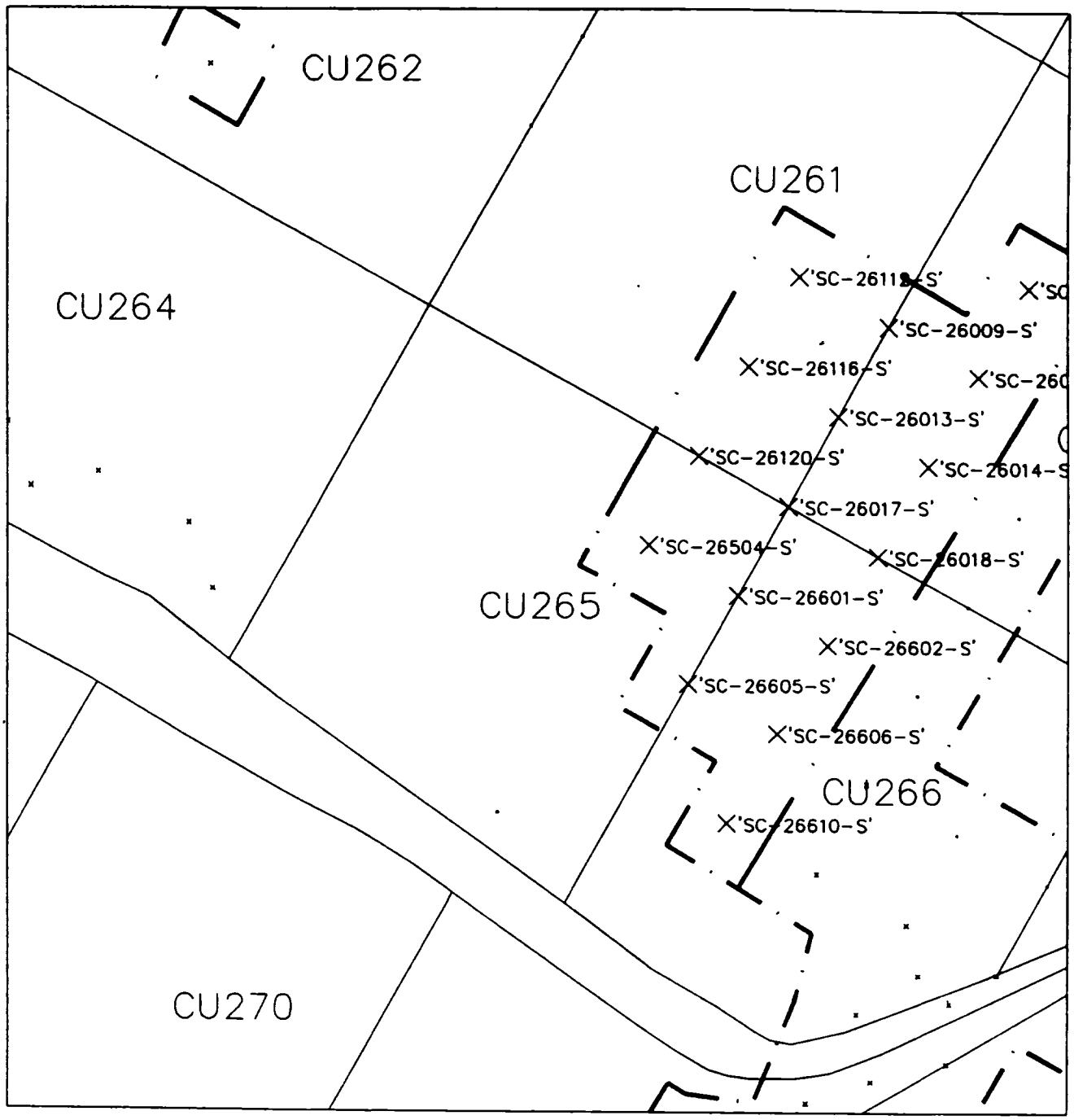
N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.




LEGEND

'SC-32606-S' — SAMPLE POINTS NOT PINNED

SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

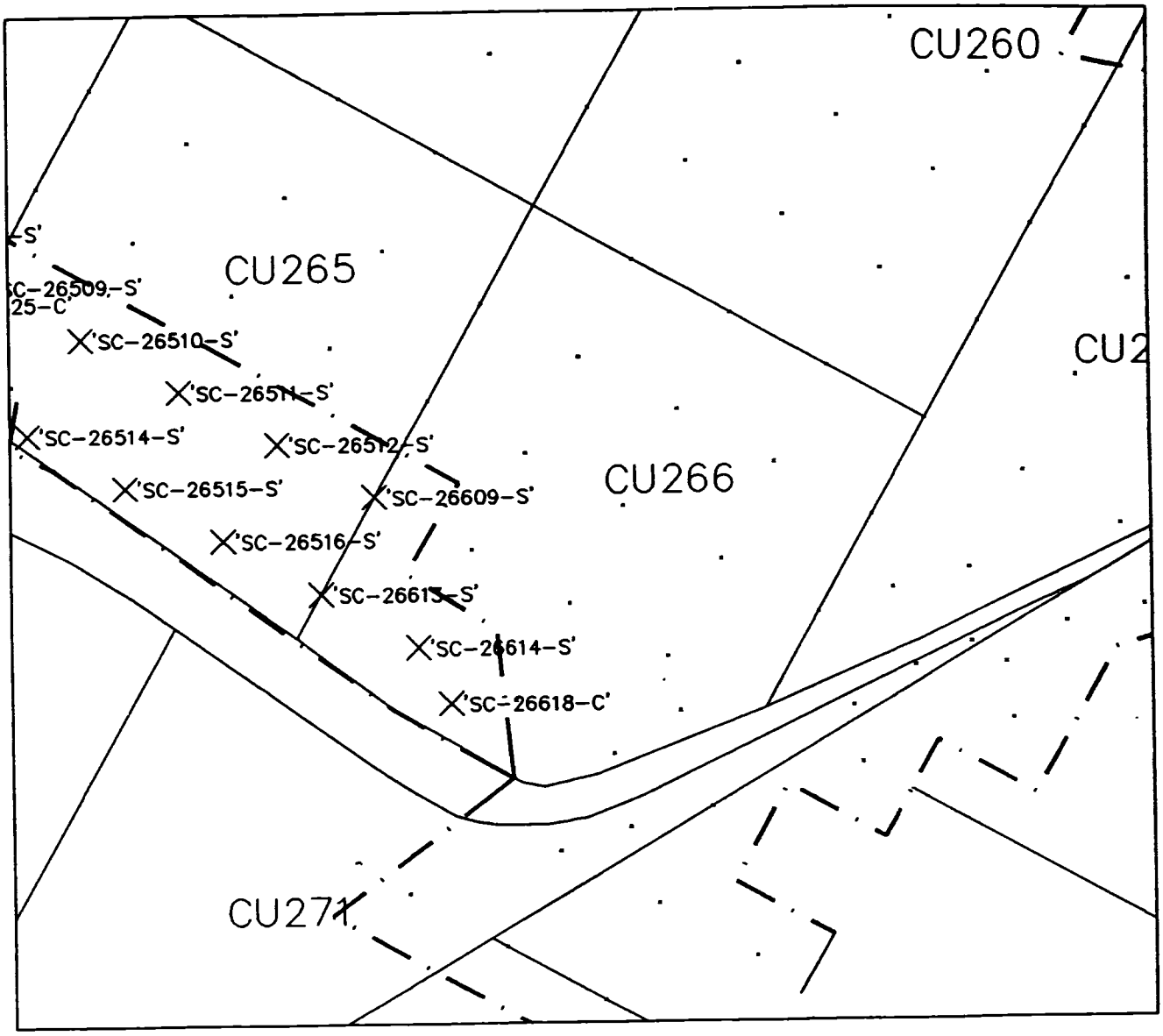
1 inch = 50 ft.

**Radiation Survey Form WP 437, RU** 21 **CU** 265

10-22-99

DEID CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 |
| Meter Serial #: | 127252 | Detector Serial #: | DOE # 4741 |
| Calibration Due: | 9-2-00 | Calibration Due: | 01-24-00 |
| Survey Date / Time: | 10-19-99 | Field Bkg.: | 10k cpm |
| Surveyor(s): | J. Rankin | | |
| Comments: | All areas < 1.5 BKG | | |




LEGEND

| | |
|---|---|
| . | SAMPLE POINTS NOT PINNED |
| ×'SC-32606-S' | SAMPLE POINTS PINNED |
| — · — · — | PINNING LIMITS |

Radiation Survey Form WP 437, RU 21 CU 266
9/1/99
DHO CAD

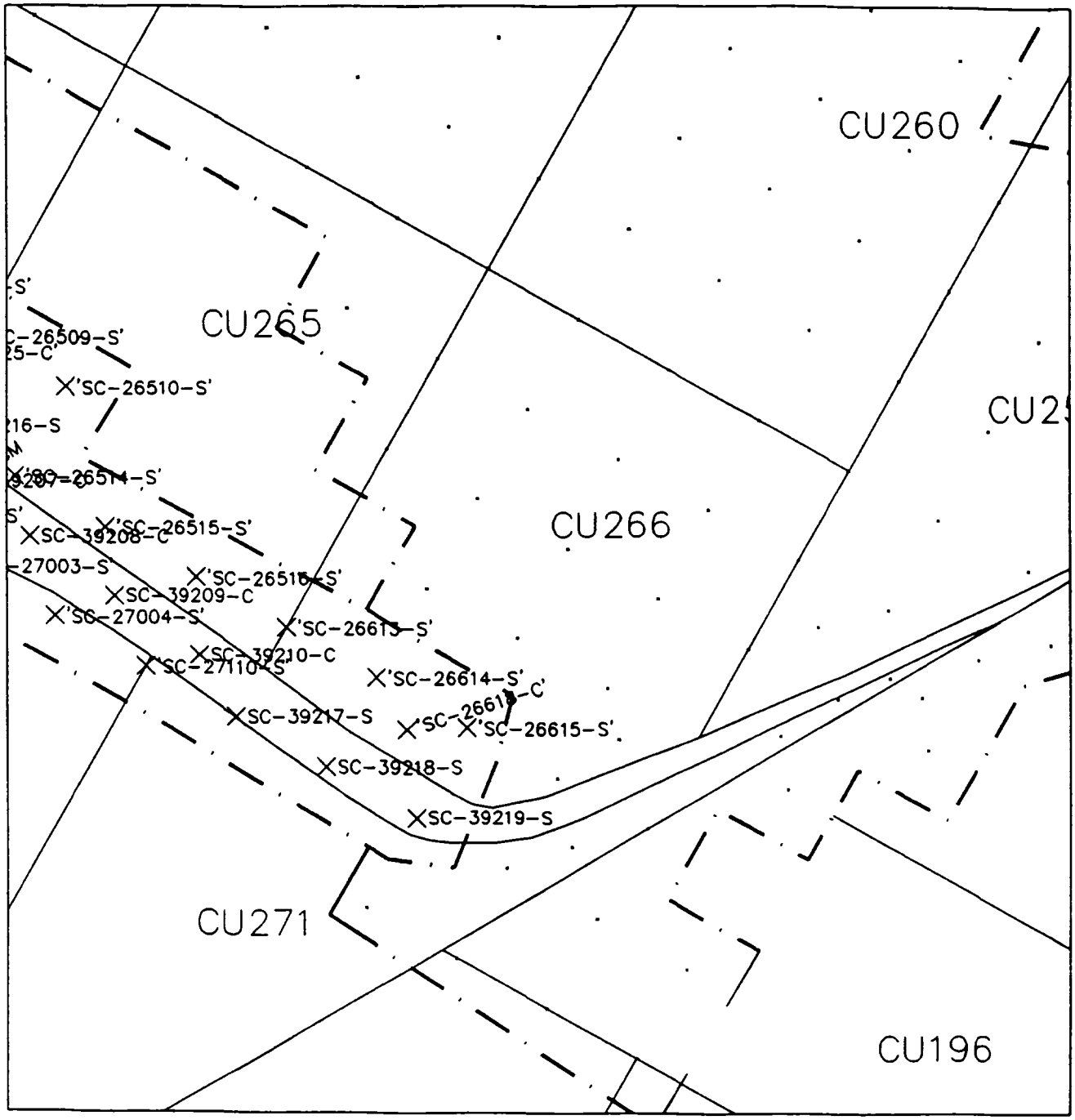
| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "Q" |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Due: | 12-18-99 | Calibration Due: | 1/24/00 |
| Survey Date / Time: | 8/30/99 | Field Bkg.: | 12,000 cpm (shielded) |
| Surveyor(s): | C. Hanner | | |
| Comments: | Area was surveyed and found to be less than 1.5 times background | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

SAMPLE POINTS NOT PINNED

× 'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

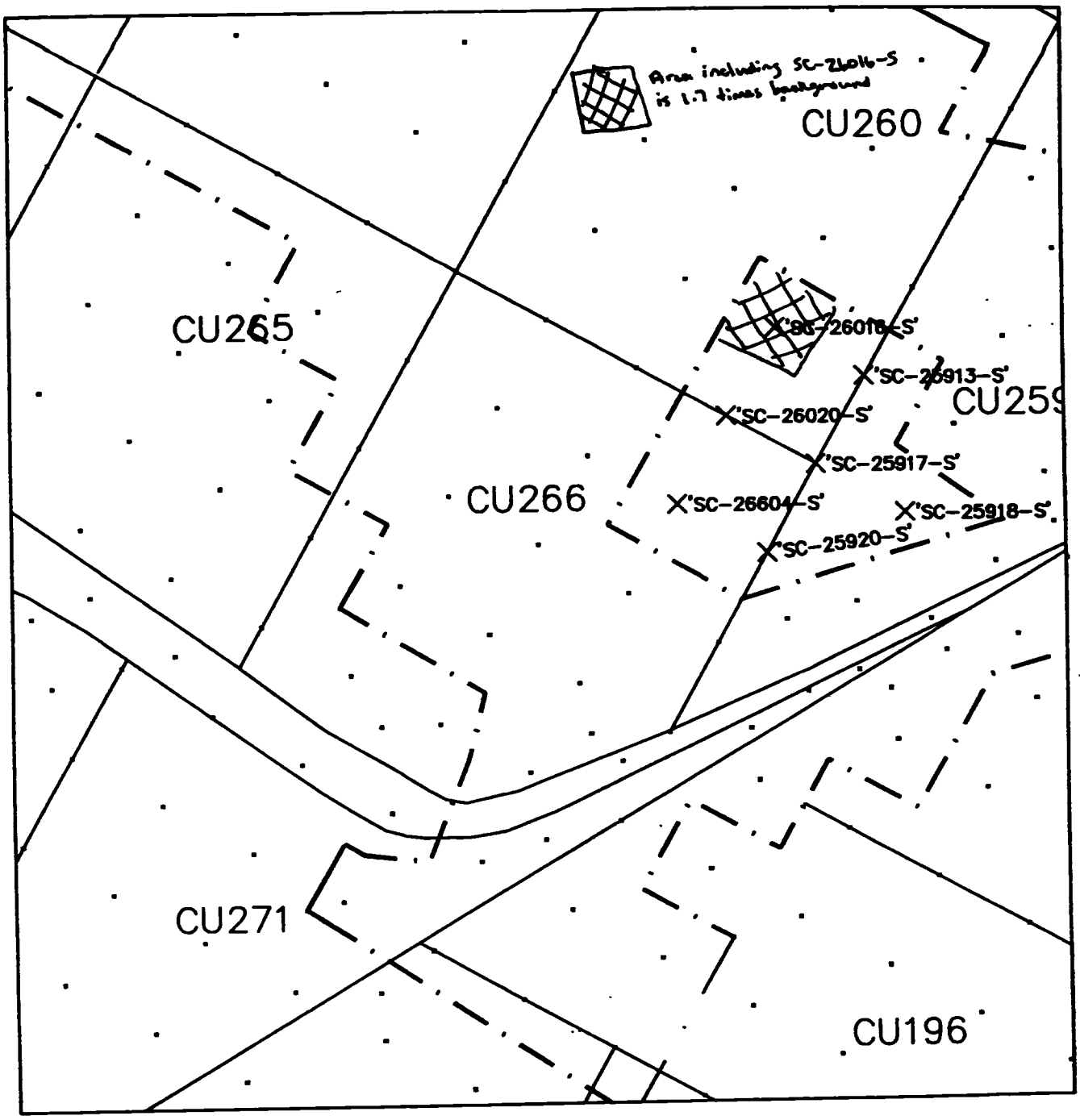
( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 266

9-30-99

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2224 | Detector Model #:: | 262 "Q" |
| Meter Serial # | 117607 | Detector Serial #: | 25143 |
| Calibration Due. | 12-18-99 | Calibration Due: | 01-24-00 |
| Survey Date / Time: | 09-28-99 | Field Bkg.. | 12,000 cpm |
| Surveyor(s). | [illegible] | | |
| Comments. | All meas < 1.5 BKG. | | |




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.

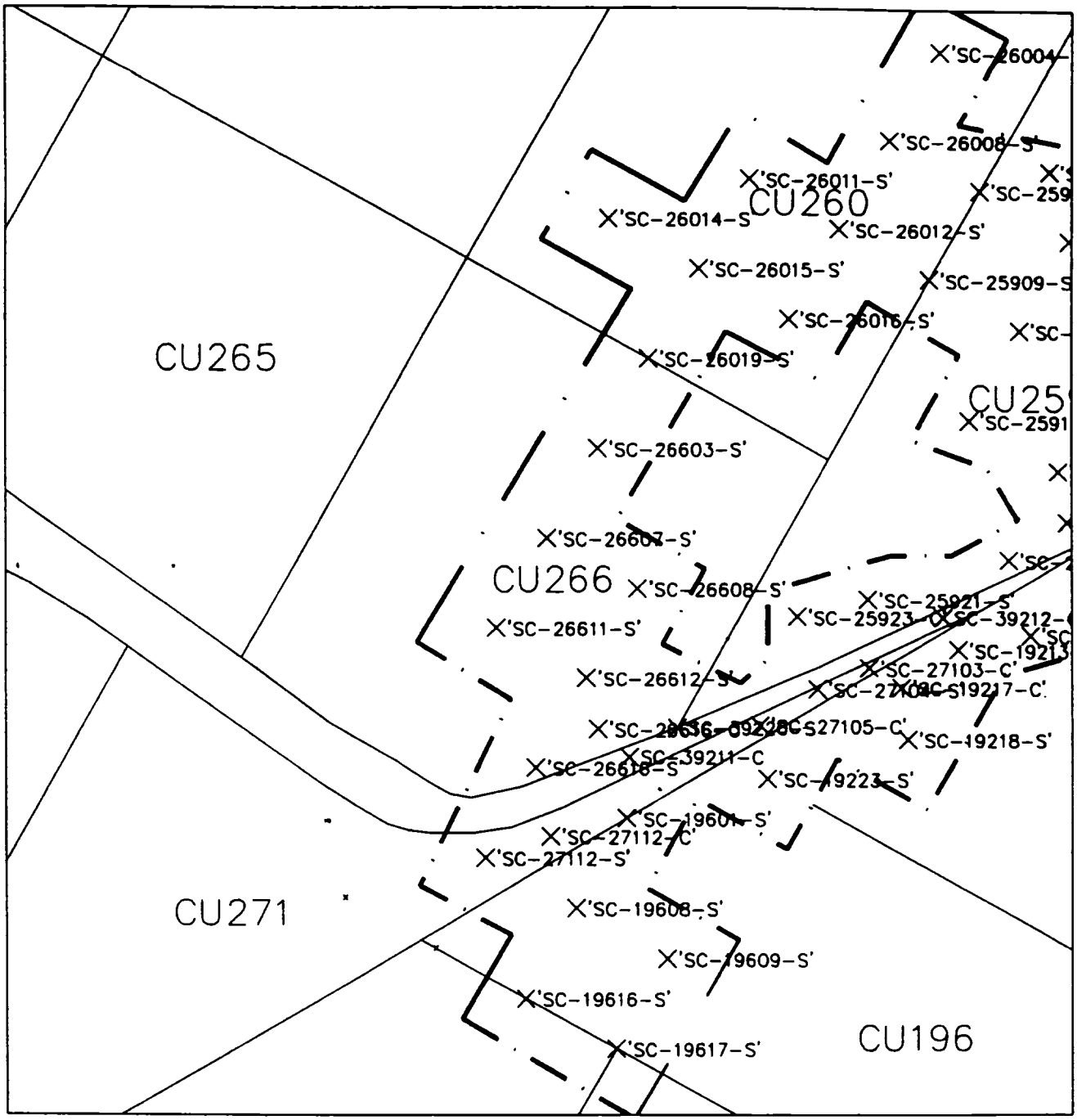
Radiation Survey Form WP 437, RU 21 CU 266

10-12-99

DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "G" |
| Meter Serial #: | 127252 | Detector Serial #: | 4241 |
| Calibration Due: | 9-2-00 | Calibration Date: | 1-24-00 |
| Survey Date / Time: | 10/12/99 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | C. Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.

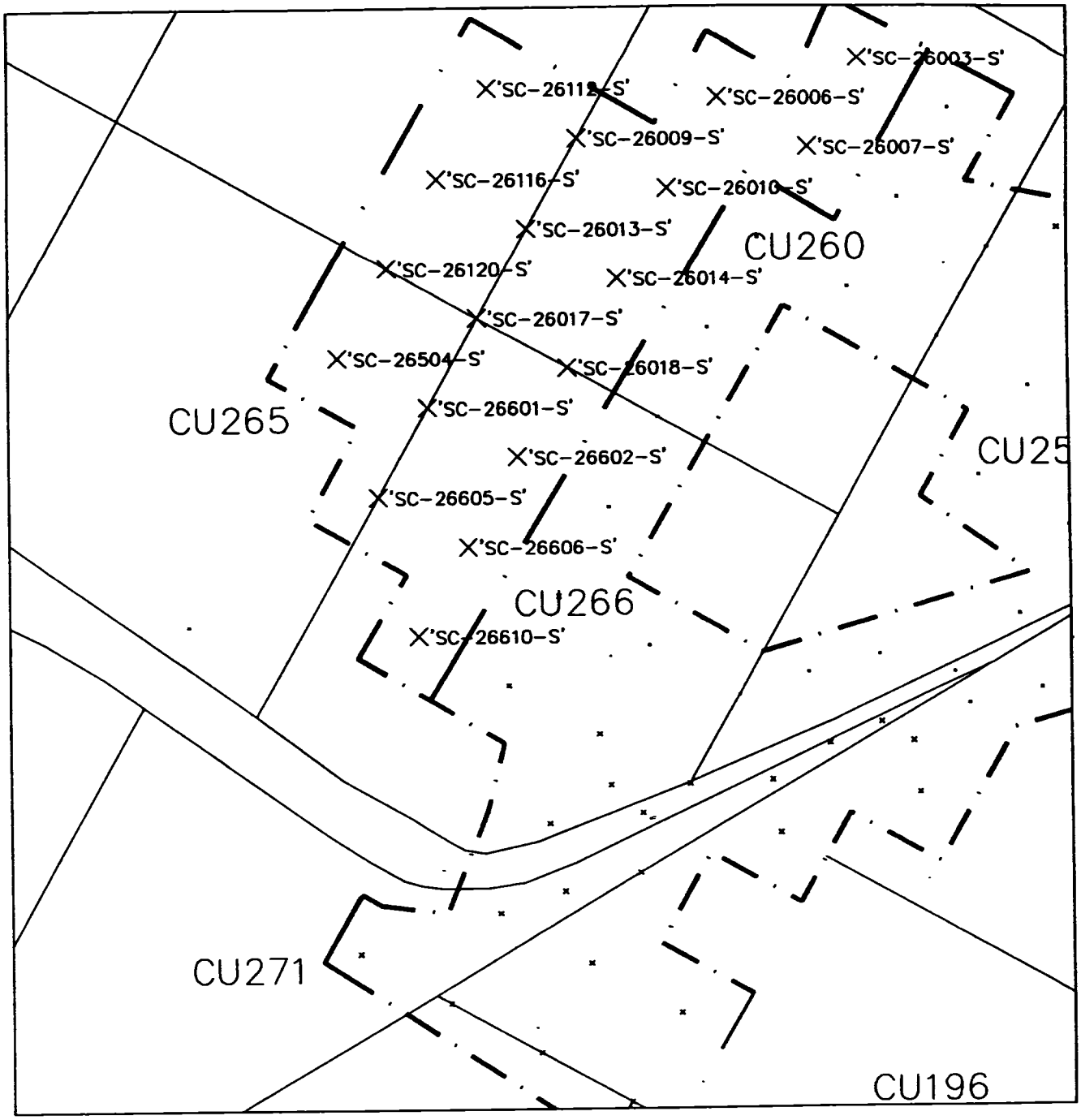
**Radiation Survey Form WP 437, RU** 21 **CU** 266

10/26/99

DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "G" |
| Meter Serial #: | 127252 | Detector Serial #: | 4641 |
| Calibration Due: | 9/2/00 | Calibration Due: | 1/24/00 |
| Survey Date / Time: | 10/25/99 | Field Bkg.: | 8,000 cpm |
| Surveyor(s): | C. Hanna | | |

Comments: Area was surveyed and found to be less than 1.5 times background




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

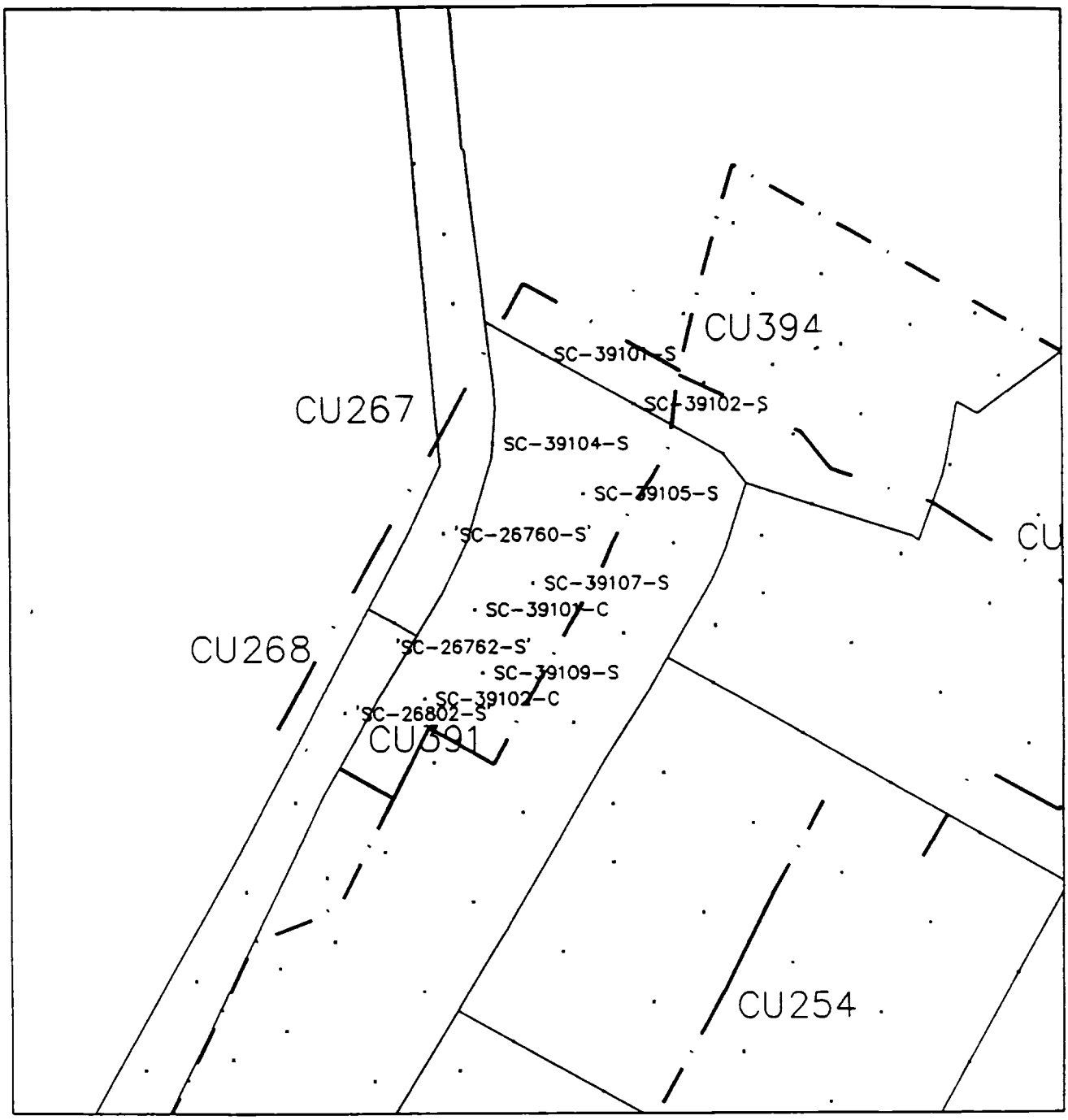
( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 266

10-22-99

DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2.2 |
| Meter Serial #: | 127252 | Detector Serial #: | DNE * 4241 |
| Calibration Date: | 9-2-00 | Calibration Date: | 01-24-00 |
| Survey Date / Time: | 10-19-99 | Field Bkg.: | 10K cp |
| Surveyor(s): | J. [illegible] | | |
| Comments: | All meas 21.5 BKG | | |




LEGEND

SAMPLE POINTS NOT PINNED

×'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

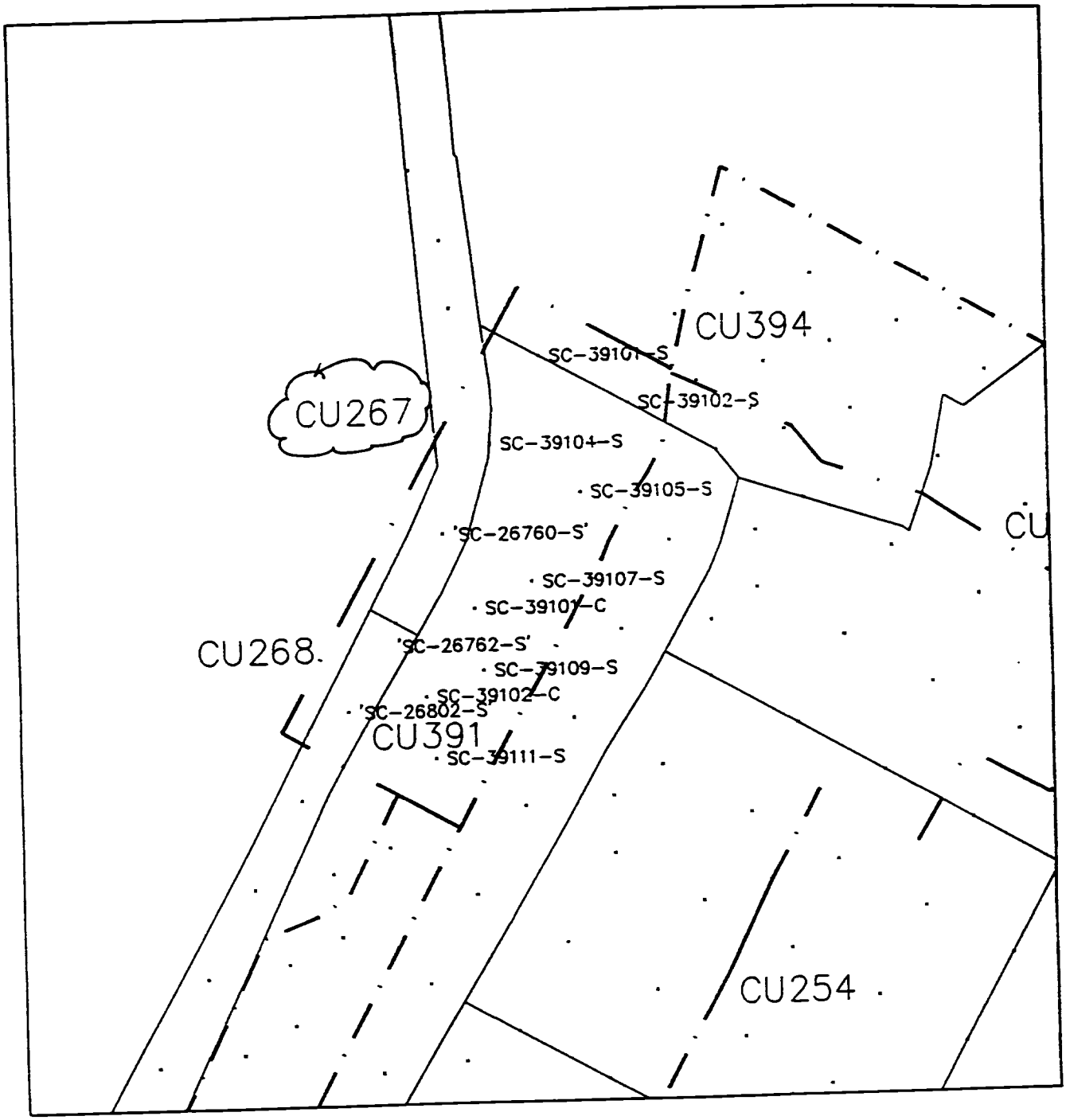
50 0 25 50

( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 267

REPLOT: 11/01/99 DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2.2 "6" |
| Meter Serial #: | 127252 | Detector Serial #: | BCE # 4241 |
| Calibration Due: | 09-02-00 | Calibration Due: | 01-24-00 |
| Survey Date / Time: | 10-28-99 | Field Bkg. | 8,000 cpm |
| Surveyor(s): | All areas < 1.5 BKG | | |
| Comments: | [illegible] | | |




LEGEND

SAMPLE POINTS NOT PINNED

× 'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.

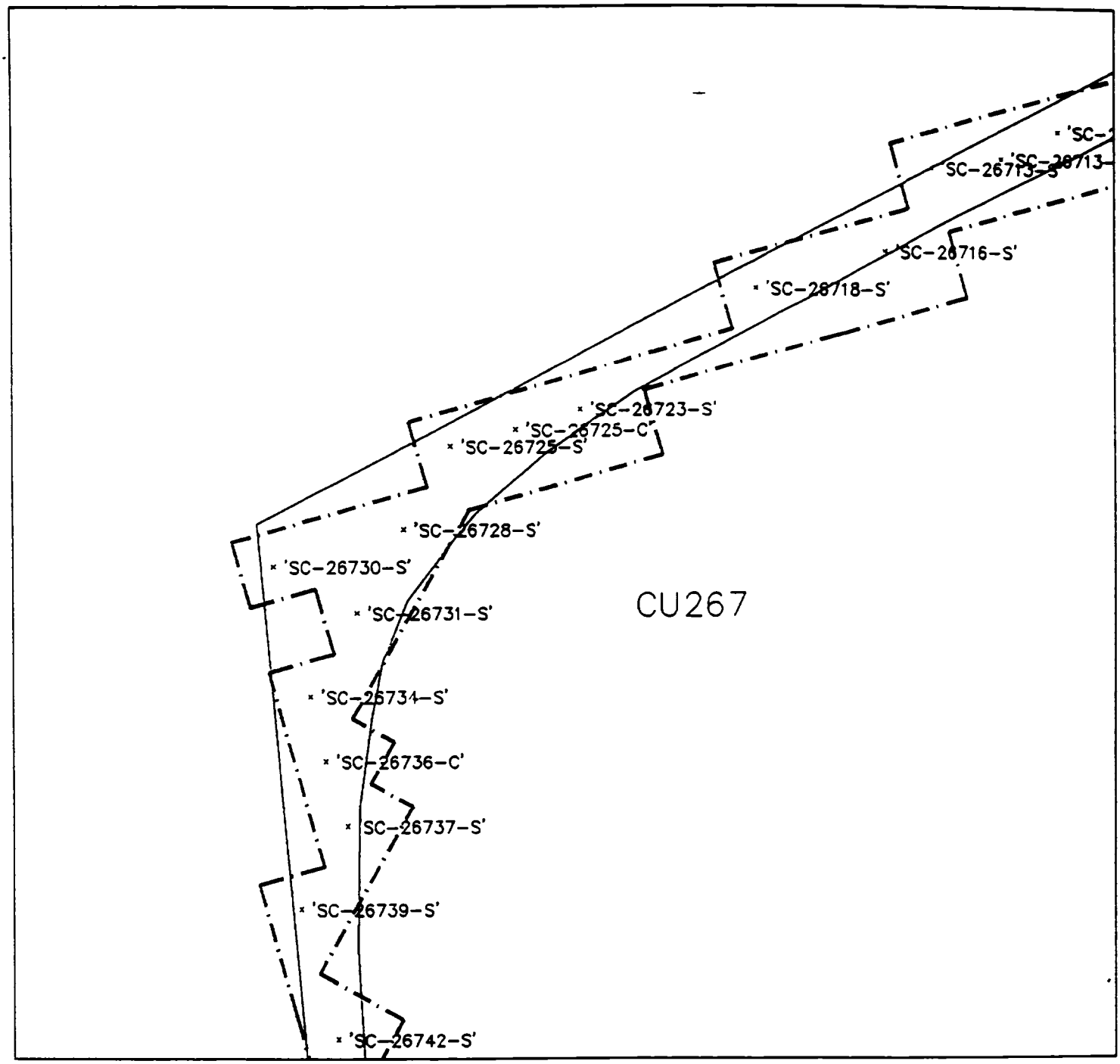
Radiation Survey Form WP 437, RU 21 CU 267

10/29/91

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "G |
| Meter Serial #: | 127252 | Detector Serial #: | 4241 |
| Calibration Due: | 9/2/00 | Calibration Due: | 1/4/00 |
| Survey Date / Time: | 10/27/99 | Field Bkg.: | 7000 cpm |
| Surveyor(s): | C Harmon | | |

Comments: Area was surveyed and found to be less than 1.5 times background




LEGEND

• 'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 50 100

( IN FEET )

1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 267

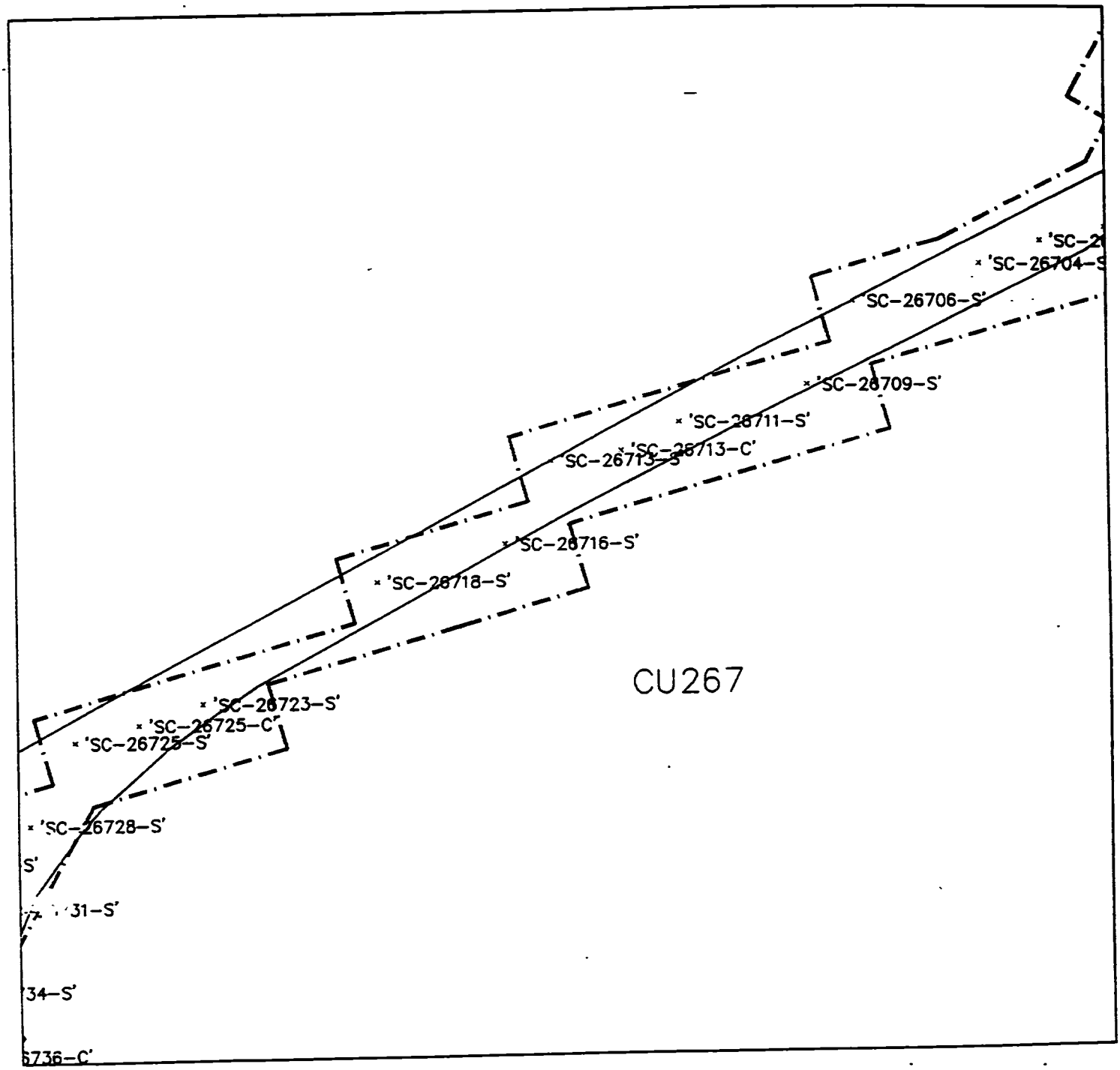
Date Plotted 7/14/00

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "P" |
| Meter Serial #: | 154199 | Detector Serial #: | 17606 |
| Calibration Due: | 2/9/01 | Calibration Due: | 1/21/01 |
| Survey Date / Time: | 7/13/00 | Field Stg. | 10,000CPM |
| Surveyor(s): | T. Brown | | |
| Comments: | All soil <1.5 Bkg | | |

tumbarec <CPD. 07/14/00 [11ML. 1.41 PM] /

\Eieio price\cdrive\sdsk\PROJ\CONUNIT\dwg\ conunits dwg




LEGEND

× 'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 50 100

( IN FEET )

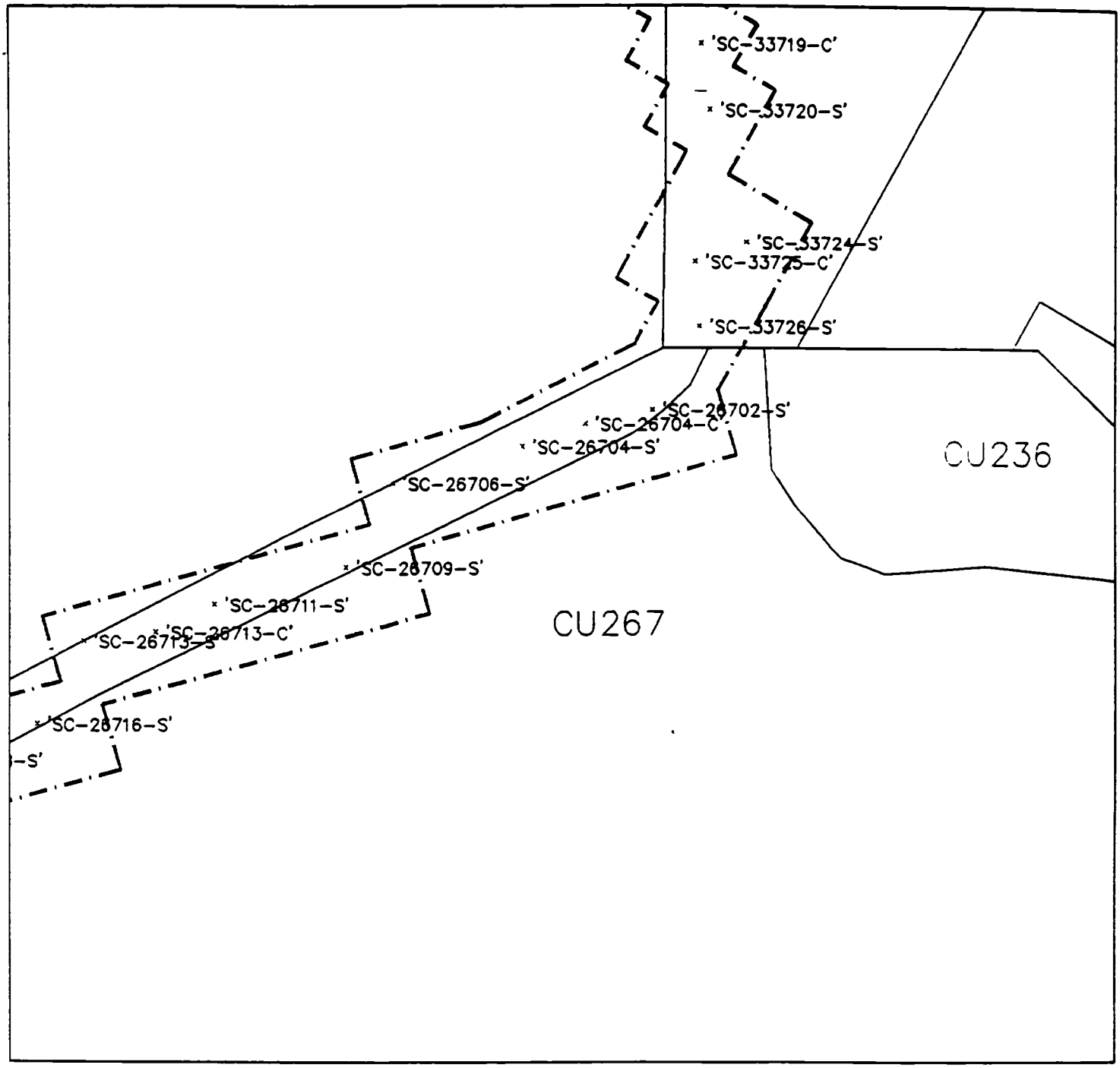
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 267

Date Plotted 7/14/00

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "P" |
| Meter Serial #: | 154199 | Detector Serial #: | 17606 |
| Calibration Due: | 2/9/01 | Calibration Due: | 1/31/01 |
| Survey Date Time: | 7/12/00 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | T. Brown | | |
| Comments: | All soil <1.5 Bkg | | |




LEGEND

• 'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 50 100

( IN FEET )
1 inch = 50 ft.

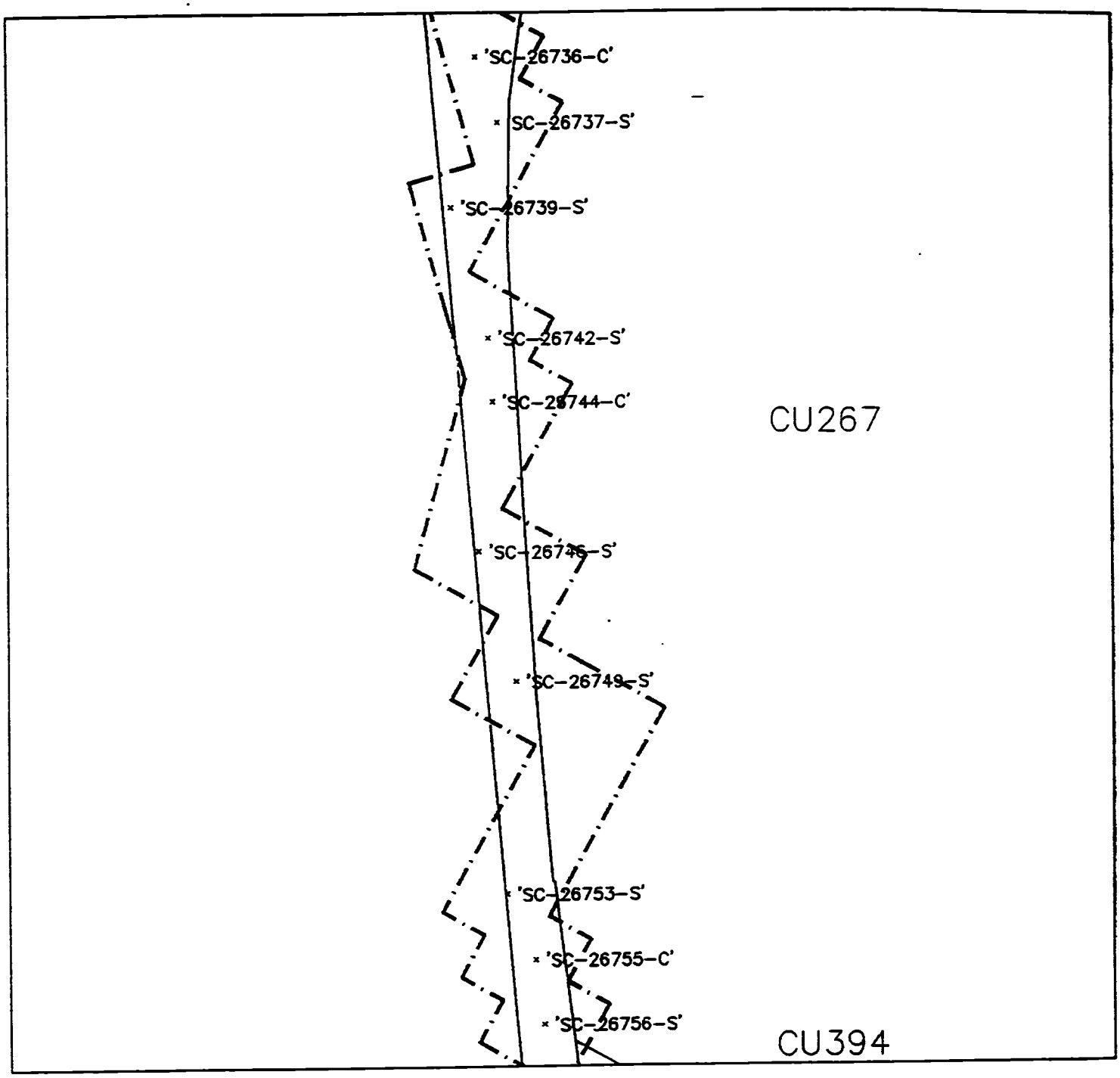
Radiation Survey Form WP 437, RU 21 CU 267

Date Plotted 7/14/00

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "P" |
| Meter Serial #: | 154199 | Detector Serial #: | 17606 |
| Calibration Due: | 2/9/01 | Calibration Due: | 1/21/01 |
| Survey Date / Time: | 7/13/00 | Field Bkg. | 10,000 CPM |
| Surveyor(s): | T. Brown | | |
| Comments: | All soil <1.5 Bkg | | |

\Eleio_price\cdrive\sdsk\PROJ\CONUNIT\dwg\ conunits.dwg




LEGEND

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 50 100

( IN FEET )

1 inch = 50 ft.

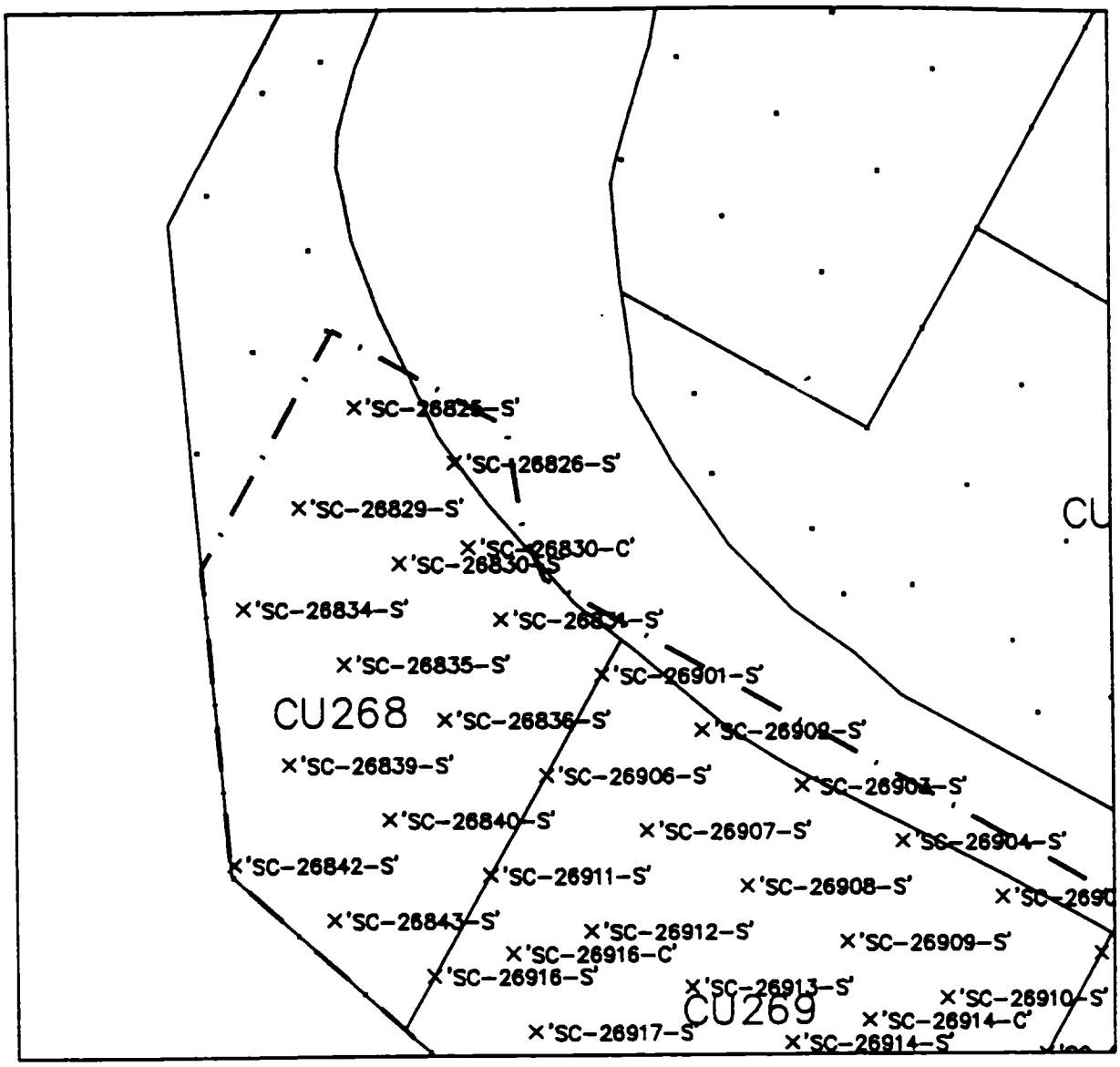
Radiation Survey Form WP 437, RU 21 CU 267

Date Plotted 7/14/00

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "p" |
| Meter Serial #: | 154199 | Detector Serial #: | 17606 |
| Calibration Due: | 2/9/01 | Calibration Due: | 1/21/01 |
| Survey Date / Time: | 7/13/00 | Field Bkg.: | 10,000 CPM |
| Surveyor(s): | T. Brower | | |
| Comments: | All soil readings <1.5 Bkg | | |

\Eleio price\cdrive\sdsk\PROJ\CONUNIT\dwg\ conunits.dwg




## LEGEND

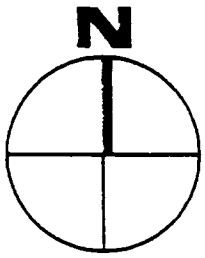
- · 'SC-32606-S' SAMPLE POINTS NOT PINNED
- × 'SC-32606-S' SAMPLE POINTS PINNED
- — · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 268

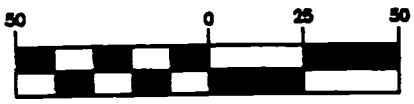
DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "G" |
| Meter Serial #: | 127247 | Detector Serial #: | 122191 |
| Calibration Due: | 9/25/99 | Calibration Due: | 11/24/00 |
| Survey Date / Time: | 6/24/99 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | C. Hamer | | |

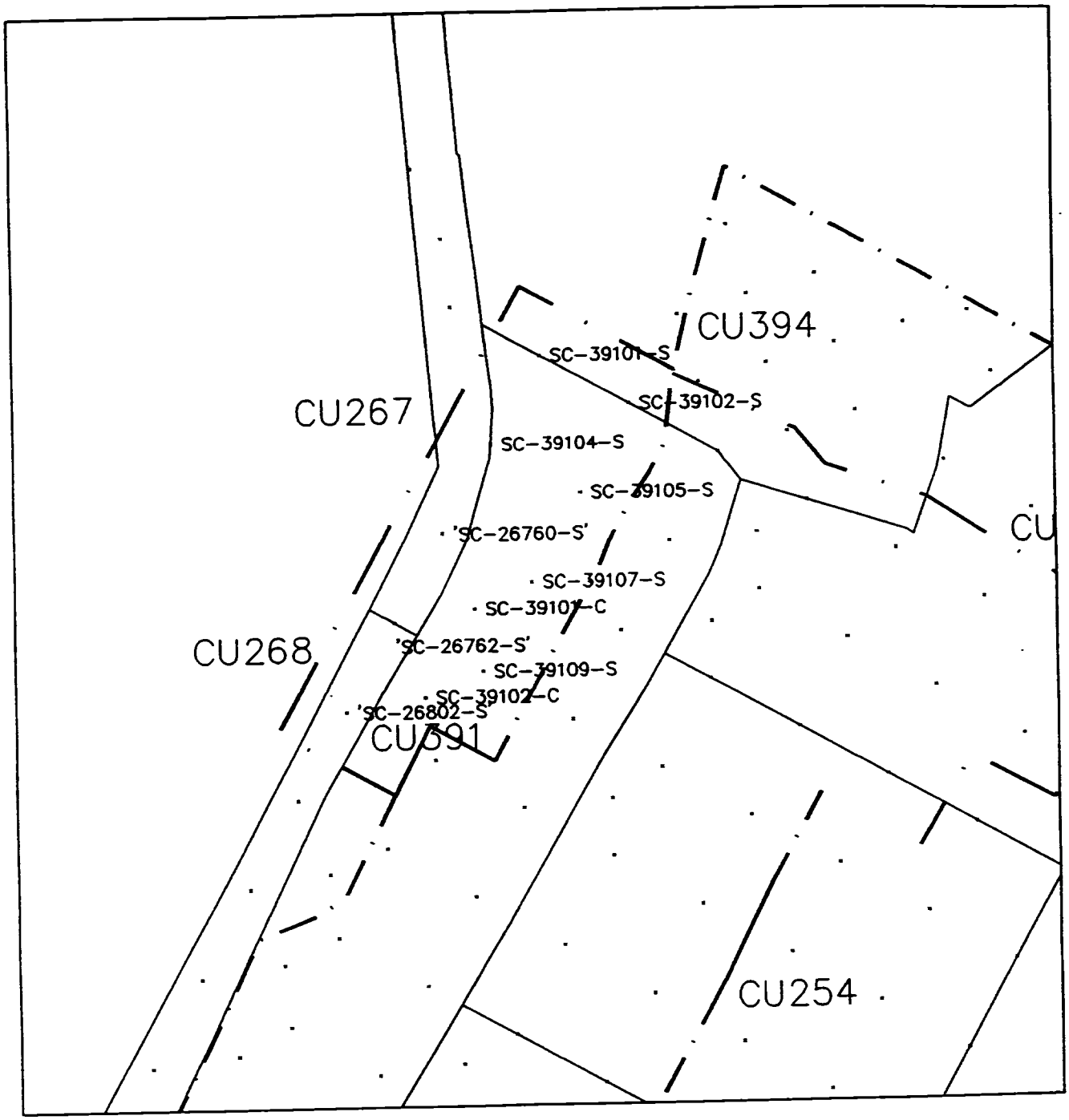
Comments: Area was surveyed and found to be less than 1.5 times background




GRAPHIC SCALE




( IN FEET )
1 inch = 50 ft.




LEGEND

SAMPLE POINTS NOT PINNED

× 'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

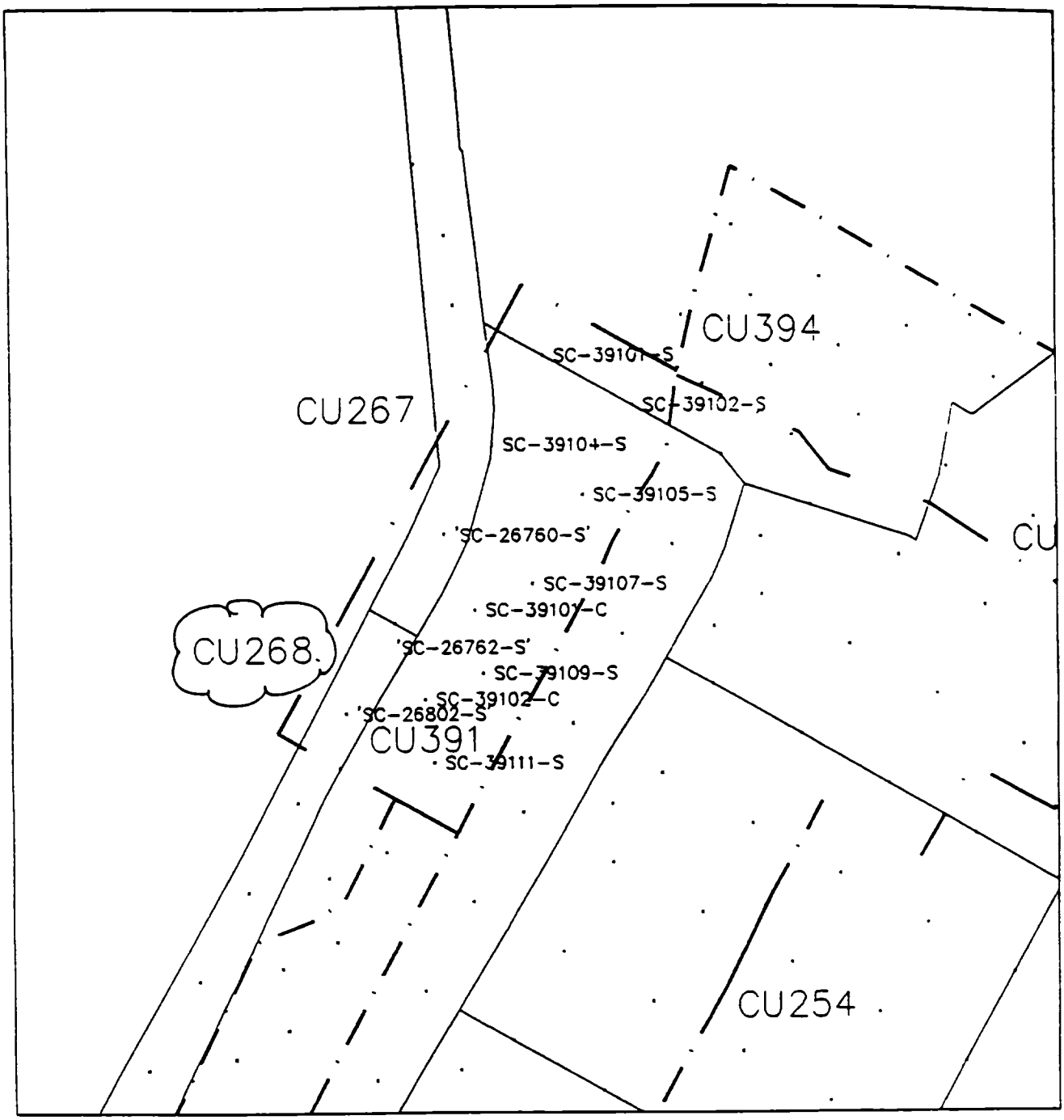
50 0 25 50

( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 268

REPLOT: 11/01/99 DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2-2 "G" |
| Meter Serial #: | 127252 | Detector Serial #: | BDE # 4241 |
| Calibration Due: | 09-02-00 | Calibration Due: | 01-24-00 |
| Survey Date / Time: | 10-28-99 | Field Bkg.: | 8,000 cpm |
| Surveyor(s): | J. Rank | | |
| Comments: | All areas < 1.5 BKG | | |




LEGEND

SAMPLE POINTS NOT PINNED

×'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

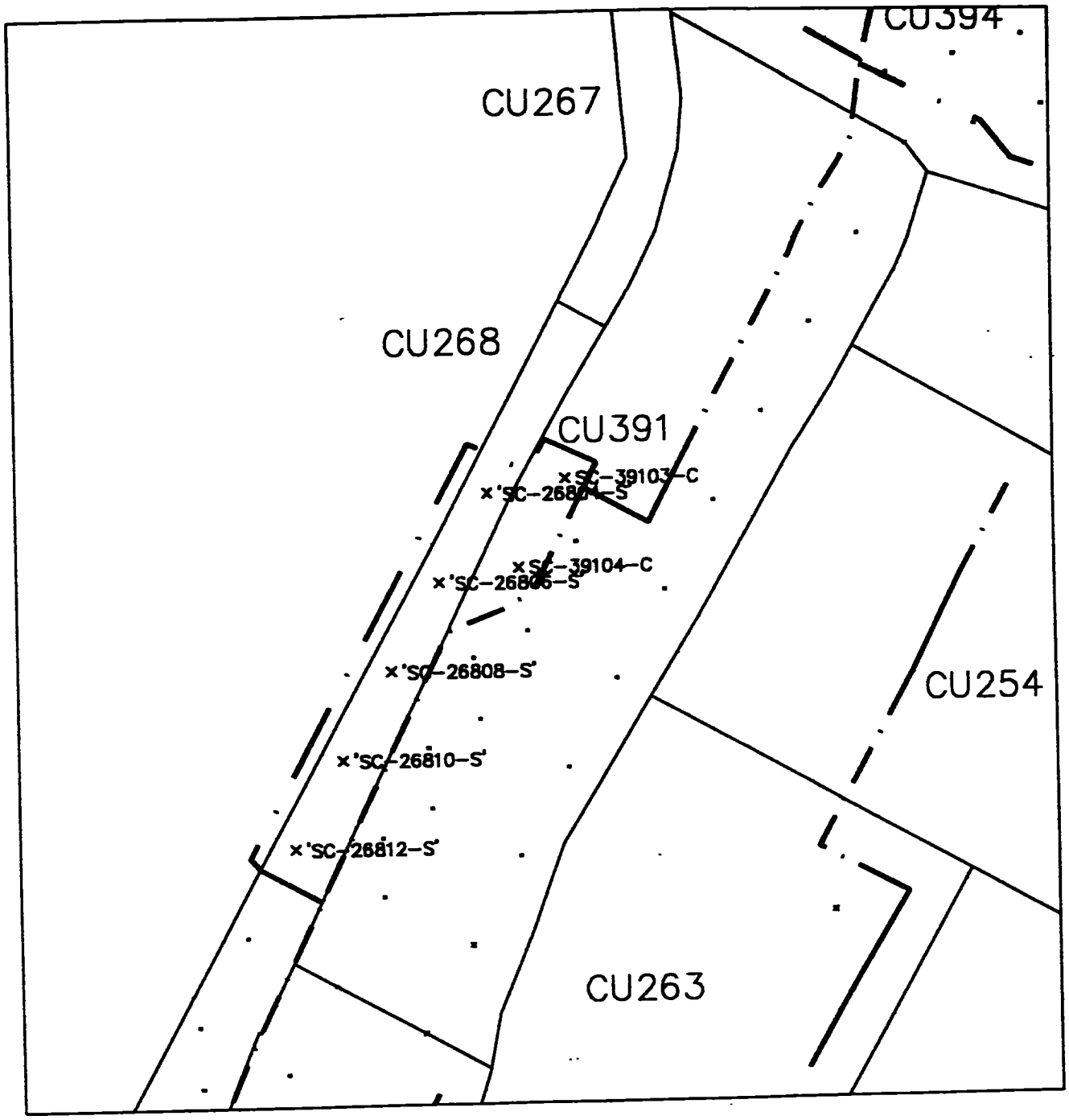
50 0 25 50

( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 268
10/29/99
DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2 x 2 NaI "G |
| Meter Serial #: | 127252 | Detector Serial #: | 4241 |
| Calibration Due: | 9/2/00 | Calibration Due: | 1/4/00 |
| Survey Date / Time: | 10/29/99 | Field Bkg.: | 7,000 cpm |
| Surveyor(s): | C. Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background




LEGEND

SAMPLE POINTS NOT PINNED

x'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

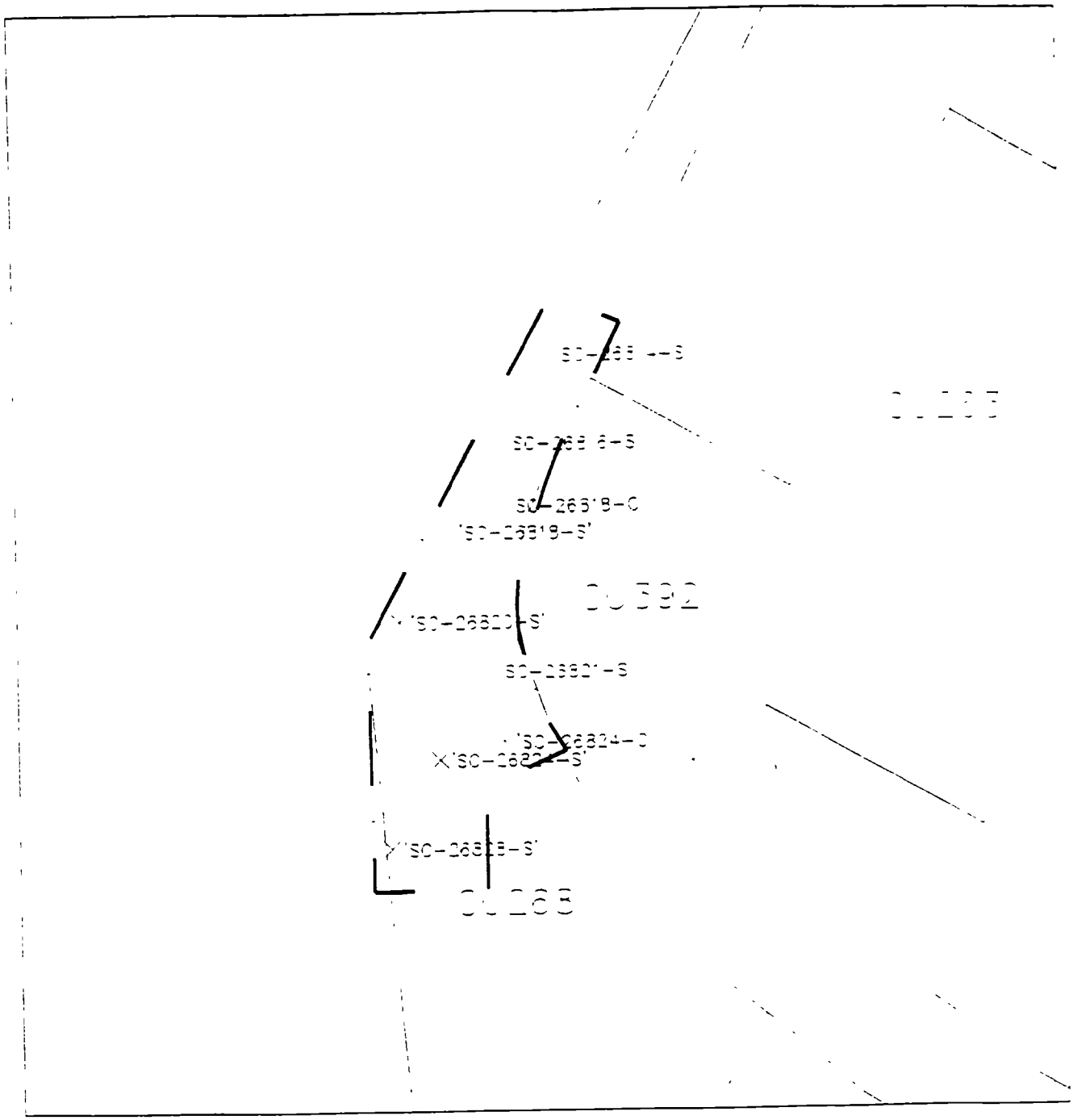
( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 268

11/01/99 DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2 x 2 NaI "G" |
| Meter Serial #: | 127252 | Detector Serial #: | 4241 |
| Calibration Date: | 9-2-00 | Calibration Date: | 1-4-00 |
| Survey Date/Time: | 11-1-99 | Field Bkg.: | 7,000 cpm |
| Surveyor(s): | C. Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background




LEGEND

SAMPLE POINTS NOT PINNED

'SO-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft

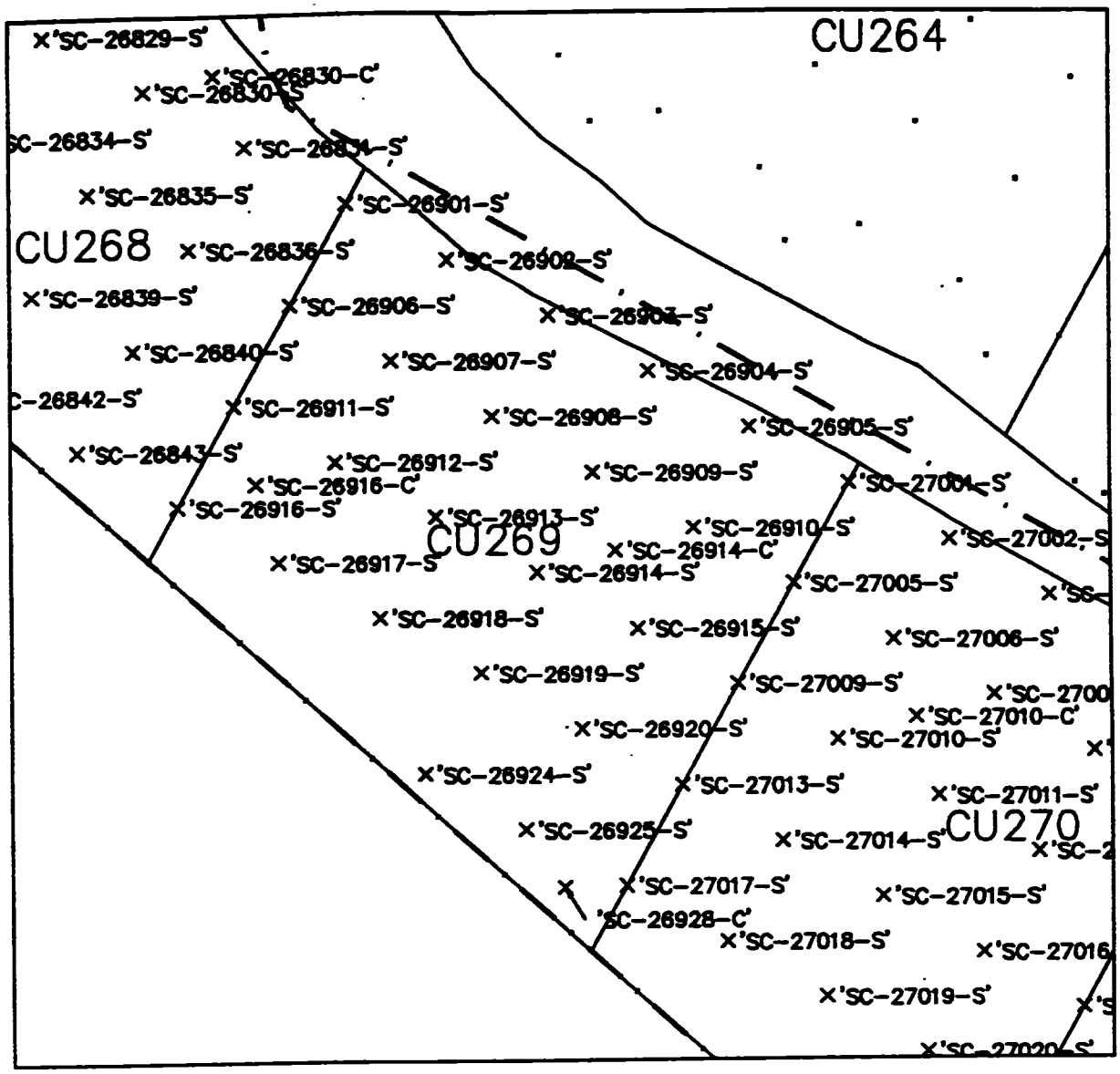
Radiation Survey Form WP 437, RU 21 CU 268

11-02-99

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "6" |
| Meter Serial # | 127252 | Detector Serial # | 4241 |
| Calibration Due | 9-2-00 | Calibration Due: | 1-4-00 |
| Survey Date Time: | 11-2-99 | Field Bkg. | 7,000 cpm |
| Surveyor(s): | C Hamm | | |

Comments: Area was surveyed and found to be less than 1.5 times background




## LEGEND

- · 'SC-32606-S' SAMPLE POINTS NOT PINNED
- × 'SC-32606-S' SAMPLE POINTS PINNED
- — · — · — PINNING LIMITS

Radiation Survey Form WP 437; RU 21 CU 269

DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI 6" 6" |
| Meter Serial #: | 127247 | Detector Serial #: | 122191 |
| Calibration Due: | 9/25/99 | Calibration Due: | 11/24/00 |
| Survey Date / Time: | 6/24/99 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | C. Hanner | | |

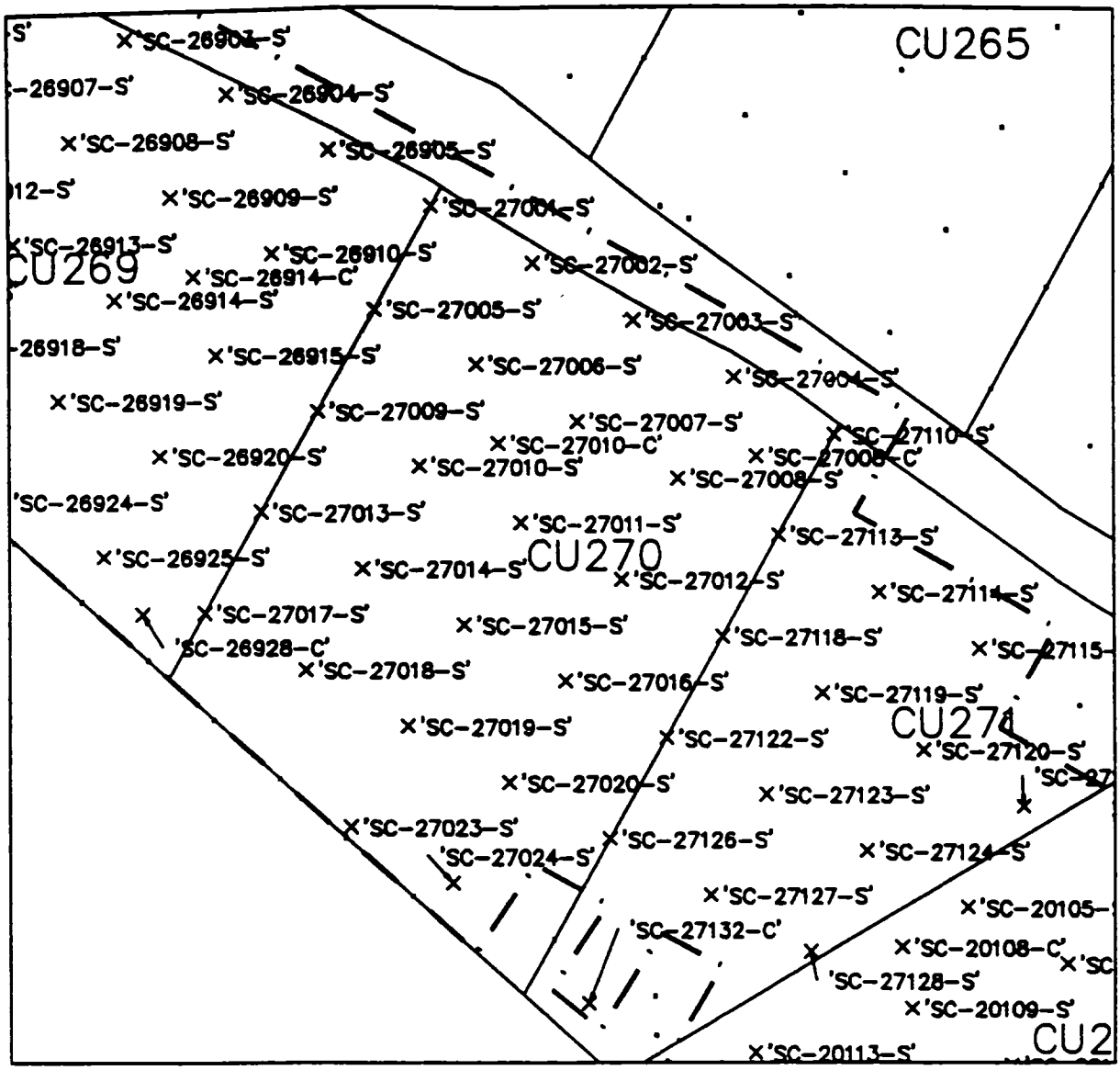
Comments: Area was surveyed and found to be less than 1.5 times background

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




## LEGEND

- · 'SC-32606-S' SAMPLE POINTS NOT PINNED
- × 'SC-32606-S' SAMPLE POINTS PINNED
- — · — · — PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 270

DBO CAD

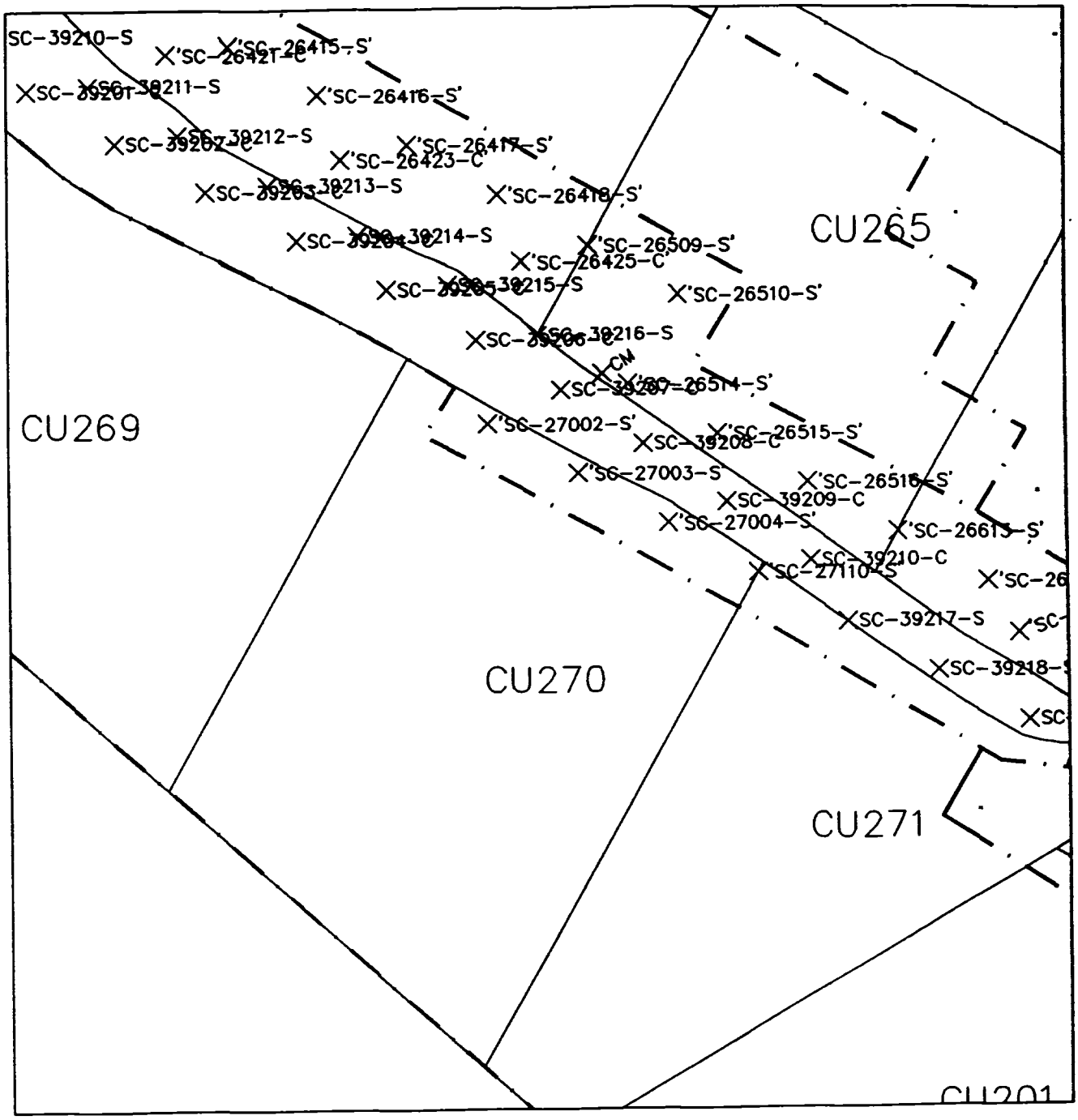
| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "G" |
| Meter Serial #: | 127247 | Detector Serial #: | 122191 |
| Calibration Date: | 9/25/99 | Calibration Date: | 1/24/00 |
| Survey Date / Time: | 6/24/99 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | C. Henner | | |
| Comments: | Area was surveyed and found to be less than 1.5 times background | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.




LEGEND

SAMPLE POINTS NOT PINNED

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

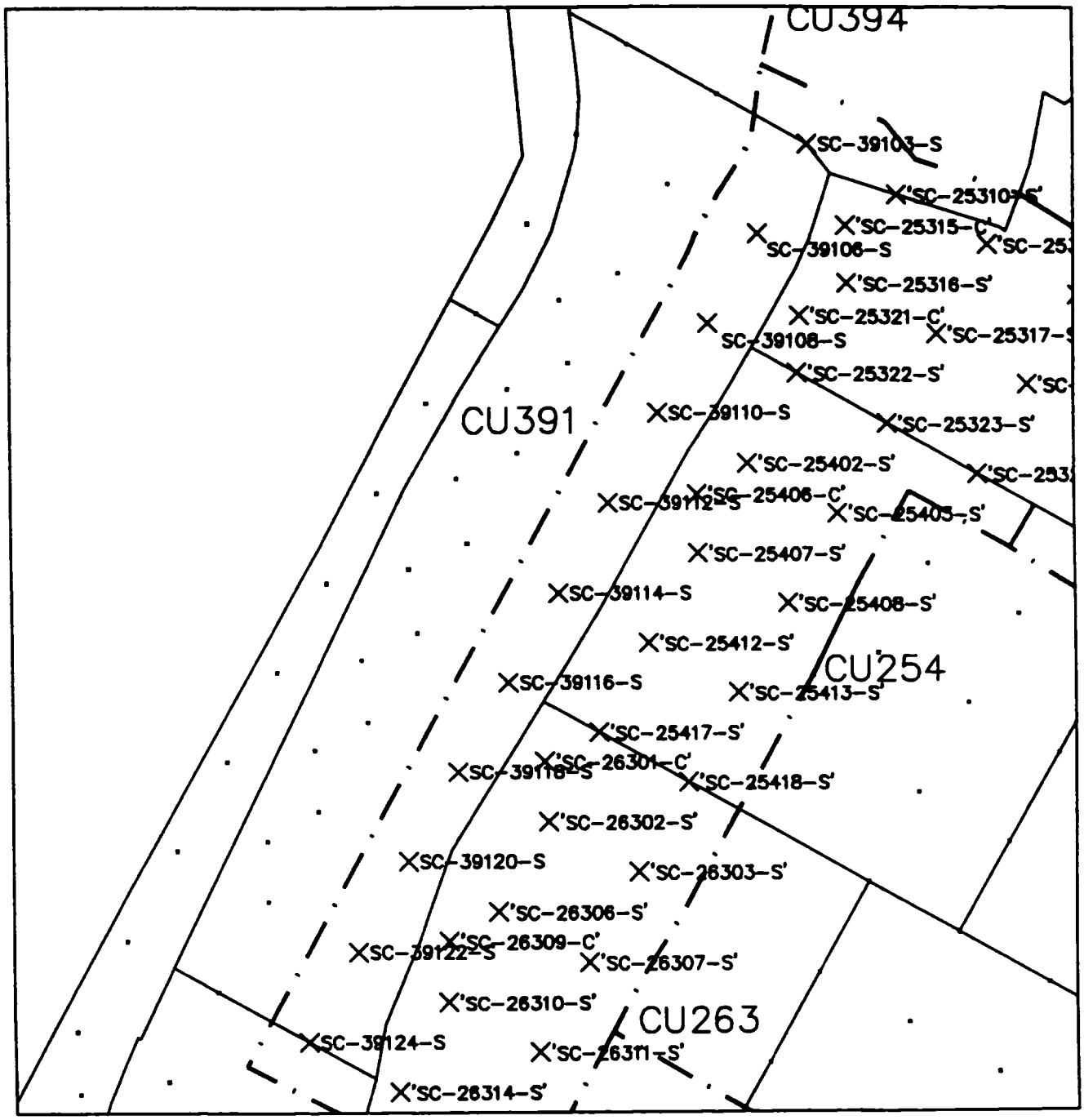
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 270

9-30-99

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "Q" |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Due: | 12-18-99 | Calibration Due: | 01-24-00 |
| Survey Date / Time: | 09-28-99 | Field Bkg.: | 12,000 cpm |
| Surveyor(s): | J. Rankin | | |
| Comments: | All meas < 1.5 BKG. | | |




LEGEND

SAMPLE POINTS NOT PINNED

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

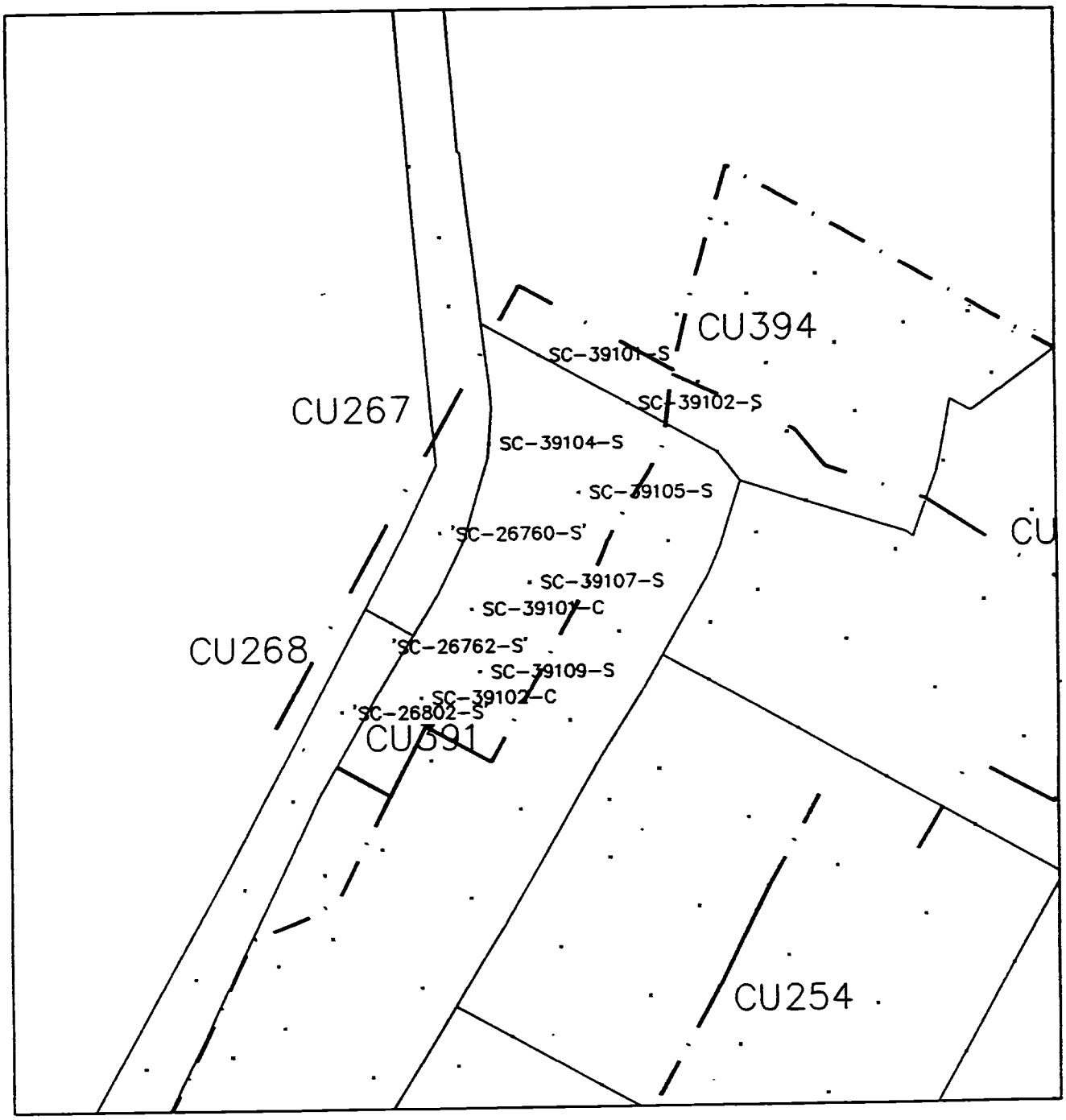
( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 391

10-5-99

DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 3 x 2"Q" |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Due: | 12/18/99 | Calibration Due: | 1/24/00 |
| Survey Date / Time: | 9/28/99 | Field Bkg.: | 12,000 CPM |
| Surveyor(s): | T. Brewer | | |
| Comments: | All readings w/o Bkg | | |




LEGEND

SAMPLE POINTS NOT PINNED

×'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

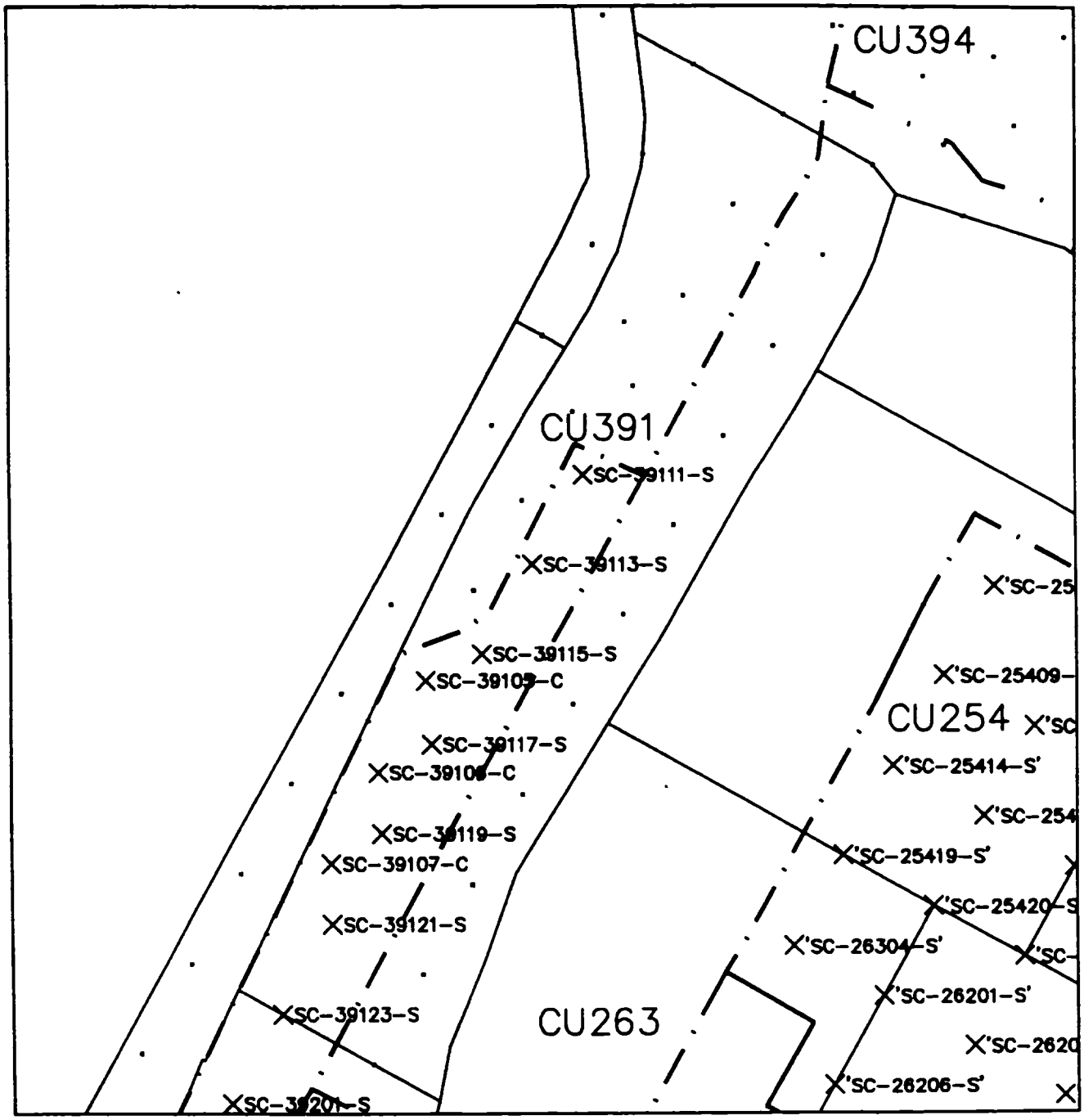
50 0 25 50

( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 391

REPLOT: 11/01/99 DBO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2-2 "G" |
| Meter Serial #: | 09-02-00 | Detector Serial #: | DOE # 4281 |
| Calibration Due: | 09-02-00 | Calibration Due: | 01-24-00 |
| Survey Date / Time: | 10-28-99 | Field Bkg.: | 8,000 cpm |
| Surveyor(s): | [illegible] | | |
| Comments: | All areas < 1.5 BEG | | |




LEGEND

SAMPLE POINTS NOT PINNED

×'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

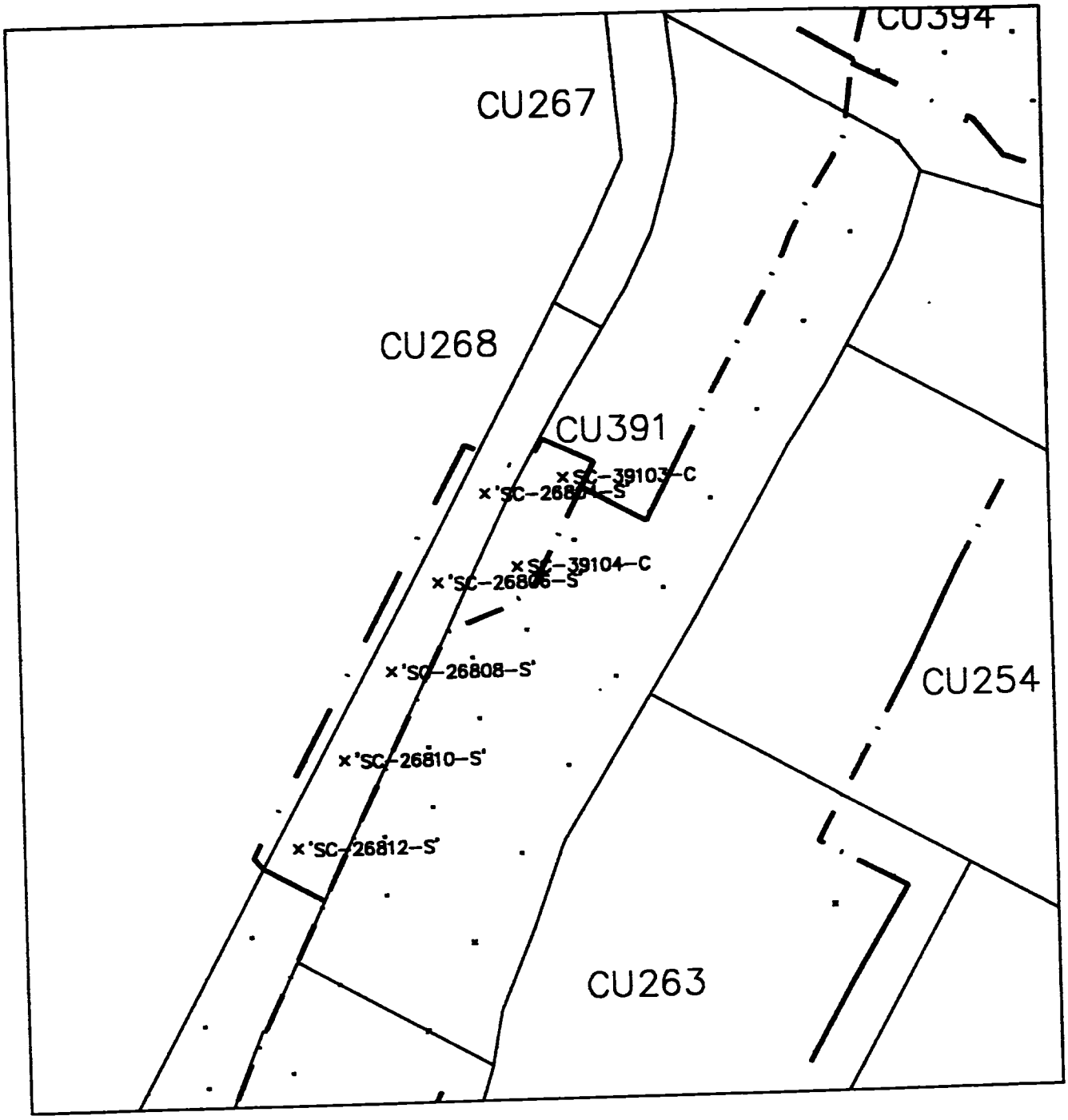
GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 391
10-11-99
DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "6" |
| Meter Serial #: | 127252 | Detector Serial #: | 4241 |
| Calibration Date: | 9/2/00 | Calibration Date: | 1/24/00 |
| Survey Date / Time: | 10/7/99 | Field Bkg.: | 10,000 cpm |
| Surveyor(s): | T. Brower | | |
| Comments: | All readings <1.5 Bkg | | |




LEGEND

SAMPLE POINTS NOT PINNED

x SC-32606-S SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

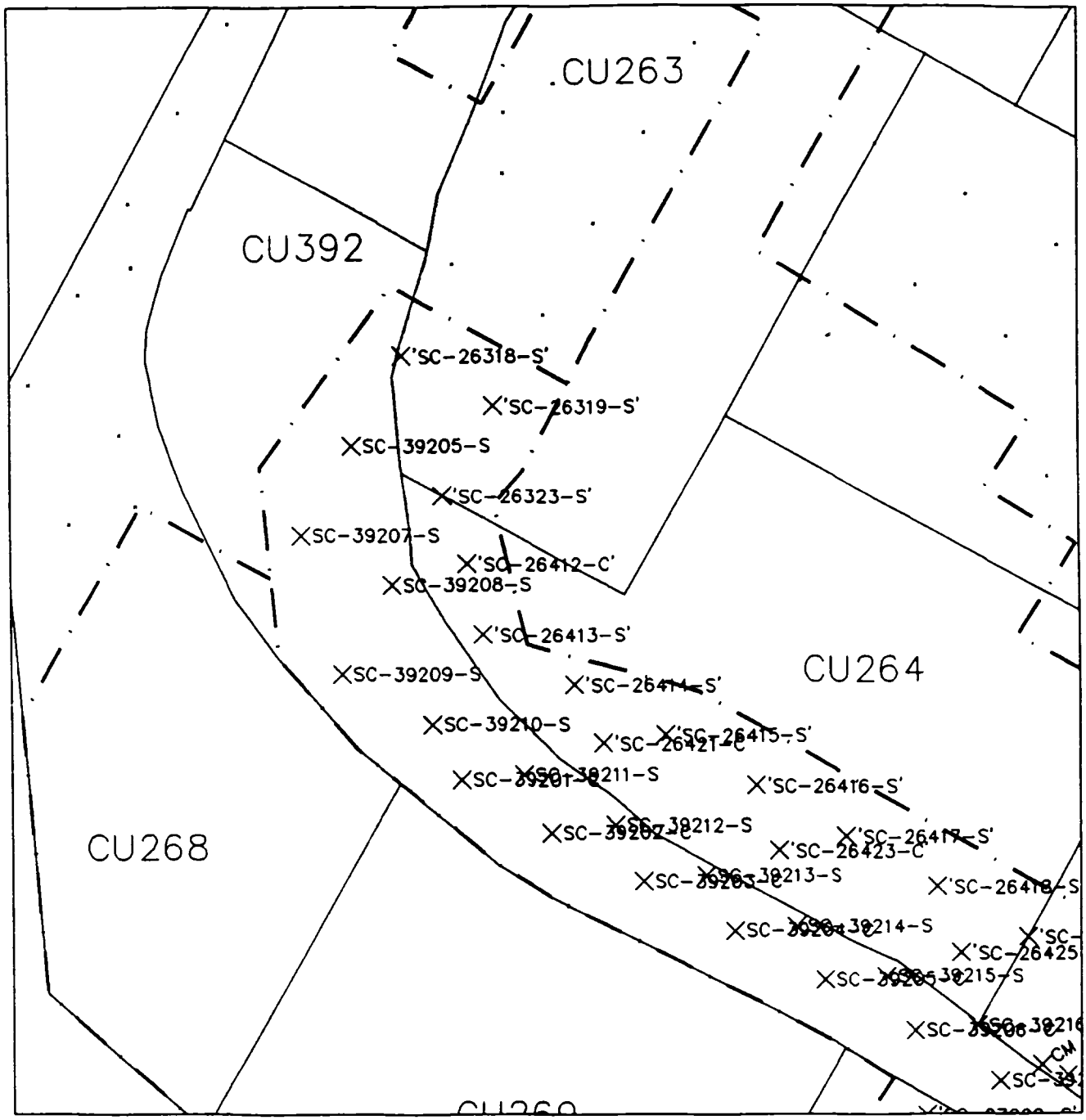
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 391

11/01/99 DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 NaI "G" |
| Meter Serial #: | 127252 | Detector Serial #: | 4241 |
| Calibration Date: | 9-2-00 | Calibration Date: | 1-4-00 |
| Survey Date / Time: | 11-1-99 | Field Mag: | 7000 cpm |
| Surveyor(s): | C. Hanes | | |

Comments: Area was surveyed and found to be less than 1.5 times background




LEGEND

SAMPLE POINTS NOT PINNED

'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

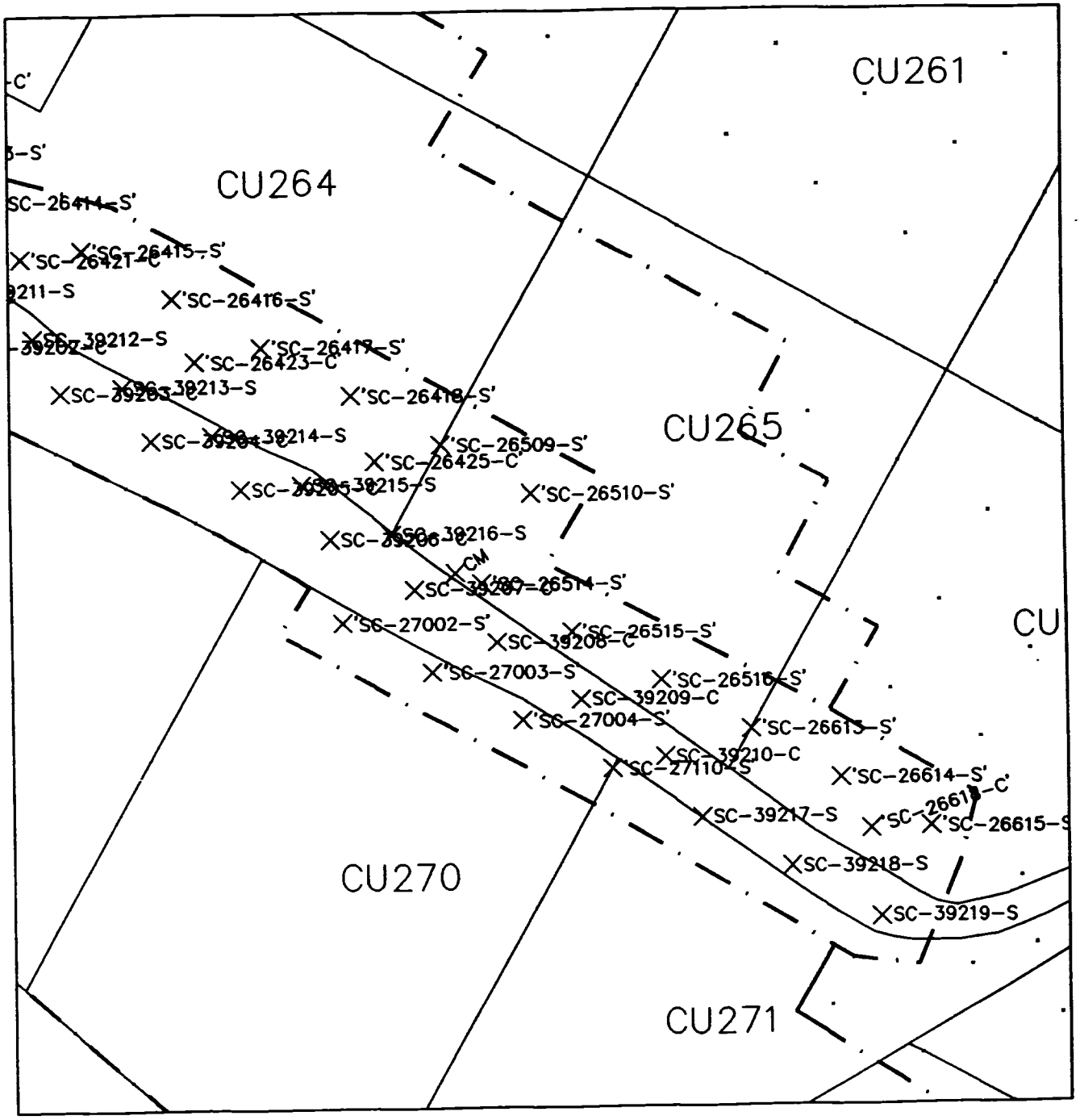
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 392

9-30-99

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model # | 2221 | Detector Model # | 2.2 "0" |
| Meter Serial # | 117607 | Detector Serial # | 75143 |
| Calibration Due. | 12-18-99 | Calibration Due: | 01-24-00 |
| Survey Date / Time: | 09-28-99 | Field Bkg. | 12,000 cpm |
| Surveyor(s). | J. Lambis | | |
| Comments: | All areas < 1.5 BKG. | | |




LEGEND

SAMPLE POINTS NOT PINNED

×'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

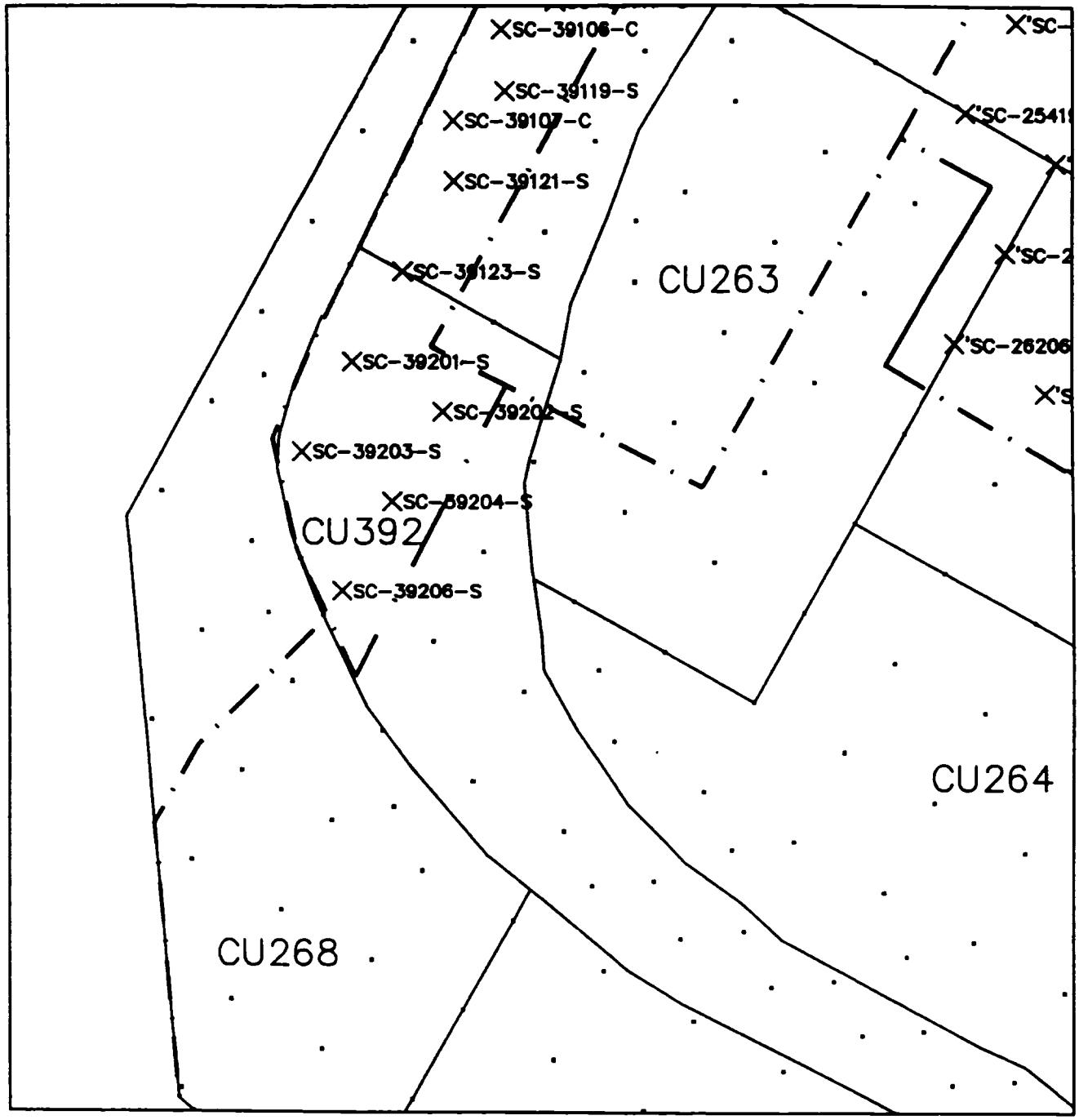
( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 392 cont

9-30-99

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2.2 "Q" |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Due: | 12-18-99 | Calibration Due: | 01-24-00 |
| Survey Date / Time: | 09-28-99 | Field Bkg.: | 12,000 cpm |
| Surveyor(s): | J. Banks | | |
| Comments: | All areas < 1.5 BKG. | | |




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )
1 inch = 50 ft.

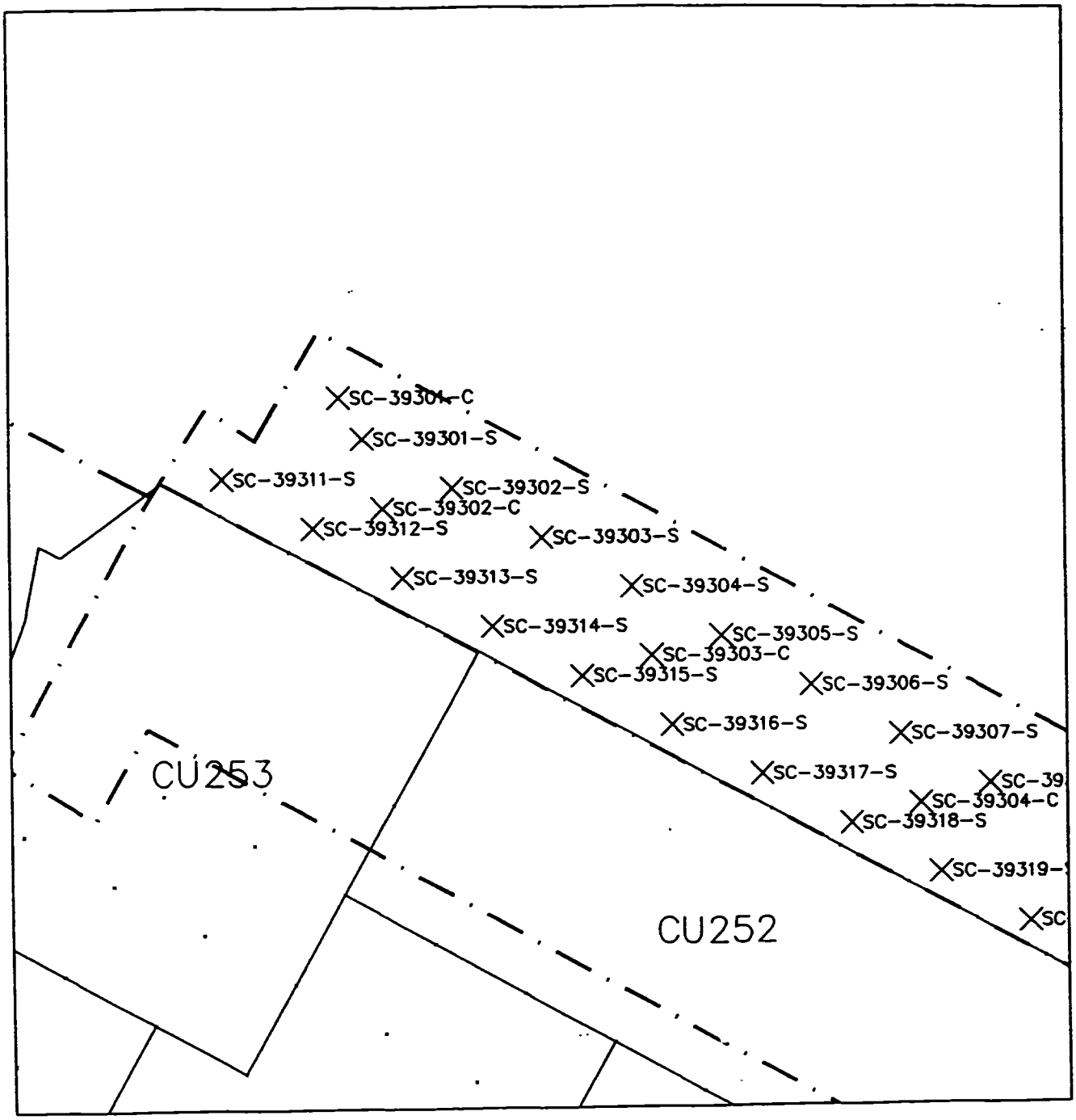
Radiation Survey Form WP 437, RU 21 CU 392

10-12-99

DEO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2-2 NaI "G" |
| Meter Serial #: | 127252 | Detector Serial #: | 4241 |
| Calibration Date: | 9-2-00 | Calibration Date: | 1-24-00 |
| Survey Date / Time: | 10/8/99 | Field Bkg.: | 8000 cpm |
| Surveyor(s): | C. Hanner | | |

Comments: Area was surveyed and found to be less than 1.5 times background




LEGEND

SAMPLE POINTS NOT PINNED

X SC-32606-S SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

50 0 25 50

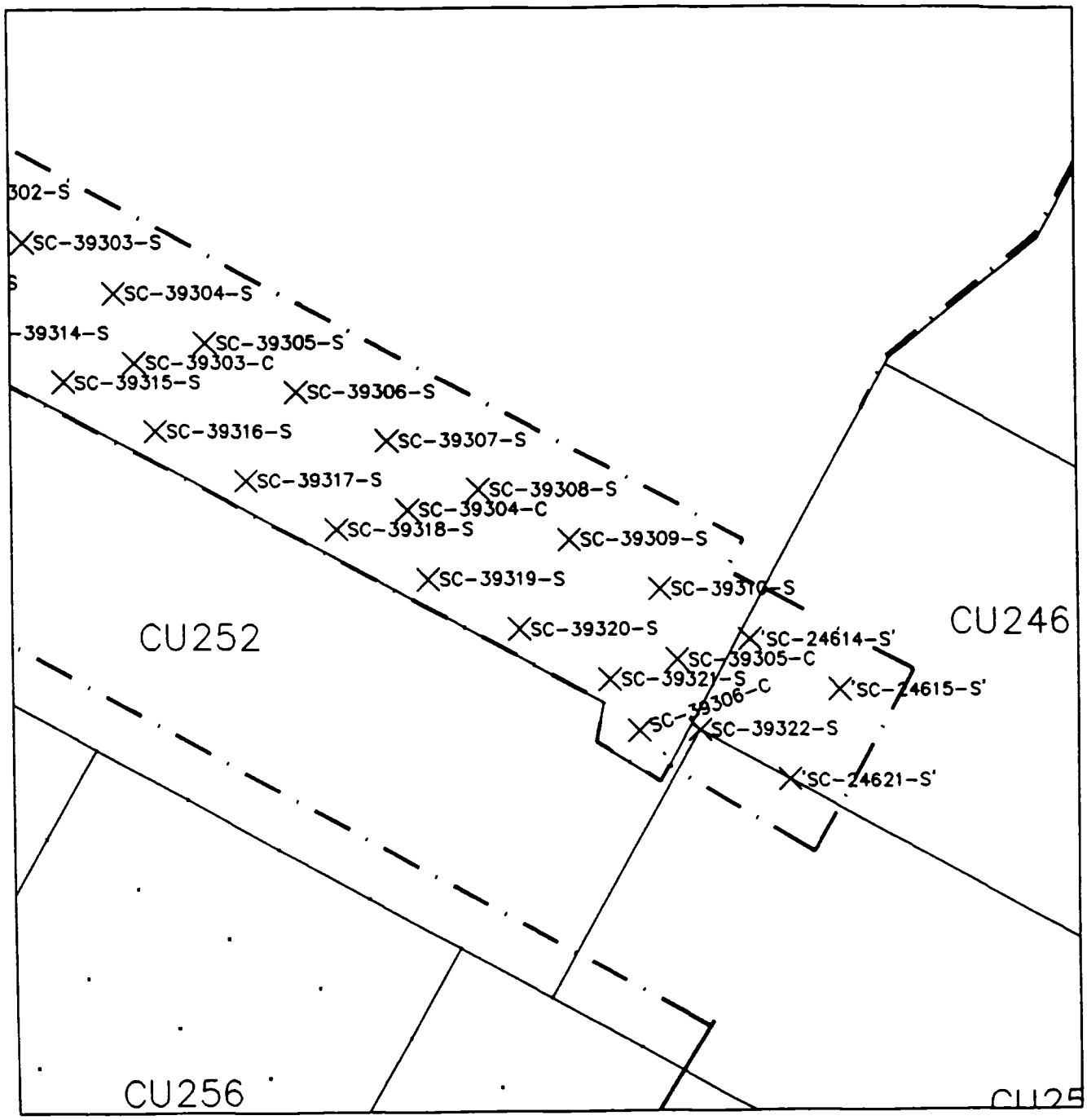
( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 393

9/28/99

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "Q" |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Due: | 12/18/99 | Calibration Due: | 1/24/00 |
| Survey Date / Time: | 9/27/99 | Field Bkg.: | 11,000 |
| Surveyor(s): | T. Brown | | |
| Comments: | All readings <1.5 Bkg | | |




LEGEND

SAMPLE POINTS NOT PINNED

X'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

N

GRAPHIC SCALE

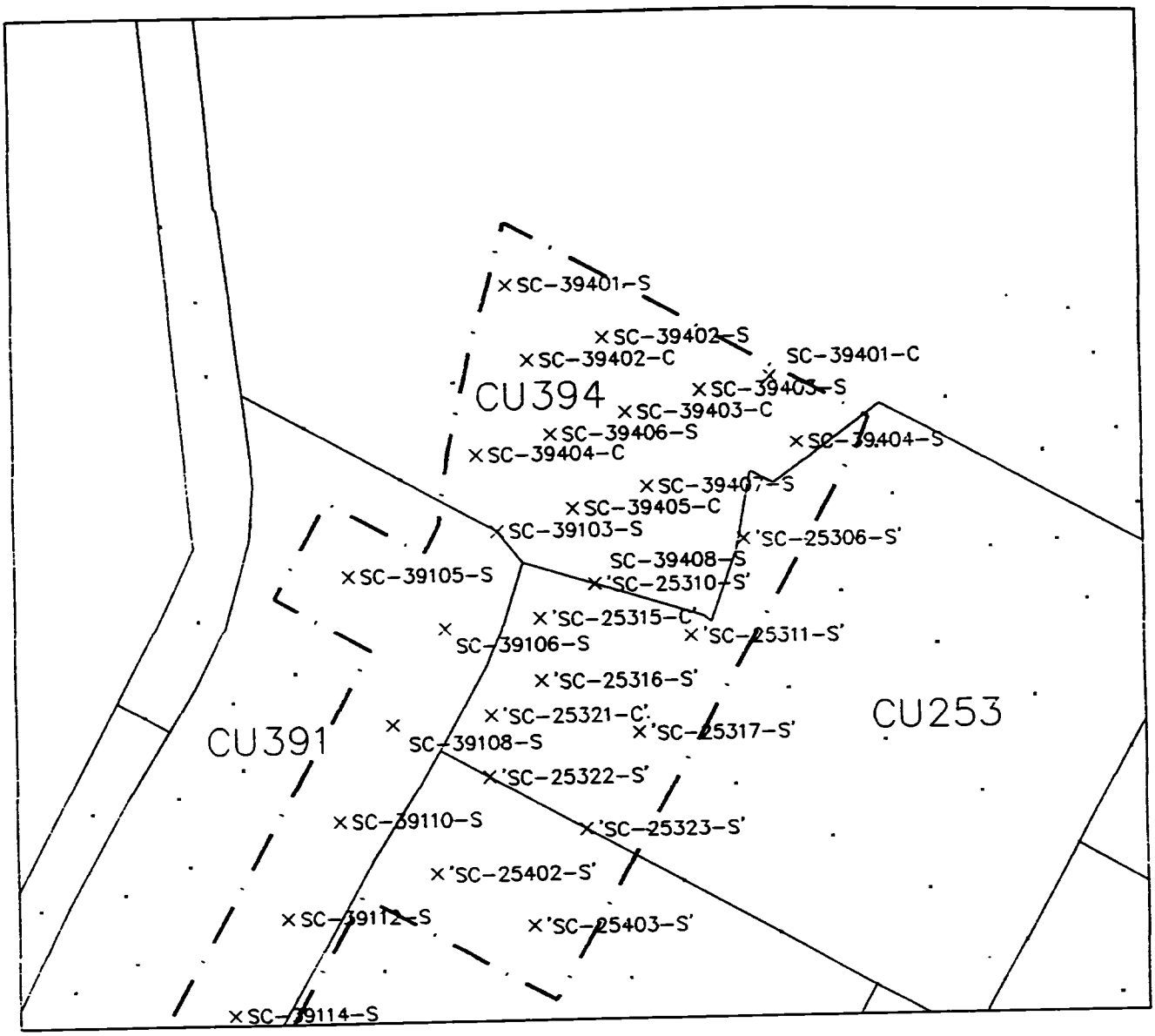
50 0 25 50

( IN FEET )
1 inch = 50 ft.

Radiation Survey Form WP 437, RU 21 CU 393

9/28/99 DHO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2"0" |
| Meter Serial #: | 117607 | Detector Serial #: | 35143 |
| Calibration Due: | 12/18/99 | Calibration Due: | 1/24/00 |
| Survey Date / Time: | 9/27/99 | Field Bkg. | 11,000 |
| Surveyor(s): | T. Brown | | |
| Comments: | All readings <1.5 BKg | | |




LEGEND

SAMPLE POINTS NOT PINNED

×'SC-32606-S' SAMPLE POINTS PINNED

PINNING LIMITS

Radiation Survey Form WP 437, RU 21 CU 394

9/24/99

DHO CAD

| | | | |
|---|---|---|---|
| Meter Model #: | 2221 | Detector Model #: | 2x2 "Q" |
| Meter Serial #: | 117607 | Detector Serial #: | 25143 |
| Calibration Due: | 12/18/99 | Calibration Due: | 1/24/00 |
| Survey Date / Time: | 9/25/99 | Field Bkg.: | 11,000 CPM |
| Surveyor(s): | T. Brower | | |
| Comments: | All reading <1.5 BKg | | |

N

GRAPHIC SCALE

50 0 25 50

( IN FEET )

1 inch = 50 ft.

# APPENDIX B
# WP437 RU021 Final Data

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-22101-S | 05/12/2000 | PAH | 0 | 19 | UG/KG |
| SC-22101-S | 05/12/2000 | RADIUM-226 | 0.75 | 0.25 | PCI/G |
| SC-22101-S | 05/12/2000 | RADIUM-228 | 0.91 | 0.35 | PCI/G |
| SC-22101-S | 05/12/2000 | THORIUM-230 | 1.15 | 0.62 | PCI/G |
| SC-22101-S | 05/12/2000 | URANIUM-238 | 5.33 | 1.91 | PCI/G |
| SC-22102-S | 05/22/2000 | RADIUM-226 | 0.75 | 0.22 | PCI/G |
| SC-22102-S | 05/22/2000 | RADIUM-228 | 1.11 | 0.38 | PCI/G |
| SC-22102-S | 05/22/2000 | THORIUM-230 | 1.35 | 0.64 | PCI/G |
| SC-22102-S | 05/22/2000 | URANIUM-238 | 1.11 | 2.22 | PCI/G |
| SC-22103-C | 05/22/2000 | PAH | 0 | 17 | UG/KG |
| SC-22103-C | 05/22/2000 | RADIUM-226 | 0.24 | 0.48 | PCI/G |
| SC-22103-C | 05/22/2000 | RADIUM-228 | 0.34 | 0.68 | PCI/G |
| SC-22103-C | 05/22/2000 | THORIUM-230 | 0.93 | 0.64 | PCI/G |
| SC-22103-C | 05/22/2000 | URANIUM-238 | 1.08 | 2.16 | PCI/G |
| SC-22103-S | 05/22/2000 | RADIUM-226 | 0.72 | 0.26 | PCI/G |
| SC-22103-S | 05/22/2000 | RADIUM-228 | 1.01 | 0.36 | PCI/G |
| SC-22103-S | 05/22/2000 | THORIUM-230 | 1.58 | 0.64 | PCI/G |
| SC-22103-S | 05/22/2000 | URANIUM-238 | 1.075 | 2.15 | PCI/G |
| SC-22104-S | 05/22/2000 | PAH | 0 | 18 | UG/KG |
| SC-22104-S | 05/22/2000 | RADIUM-226 | 0.6 | 0.22 | PCI/G |
| SC-22104-S | 05/22/2000 | RADIUM-228 | 0.355 | 0.71 | PCI/G |
| SC-22104-S | 05/22/2000 | THORIUM-230 | 0.84 | 0.64 | PCI/G |
| SC-22104-S | 05/22/2000 | URANIUM-238 | 1.035 | 2.07 | PCI/G |
| SC-22105-S | 05/22/2000 | RADIUM-226 | 0.72 | 0.23 | PCI/G |
| SC-22105-S | 05/22/2000 | RADIUM-228 | 0.99 | 0.31 | PCI/G |
| SC-22105-S | 05/22/2000 | THORIUM-230 | 1.16 | 0.64 | PCI/G |
| SC-22105-S | 05/22/2000 | URANIUM-238 | 1.2 | 1.84 | PCI/G |
| SC-22106-S | 05/22/2000 | RADIUM-226 | 0.24 | 0.48 | PCI/G |
| SC-22106-S | 05/22/2000 | RADIUM-228 | 0.84 | 0.42 | PCI/G |
| SC-22106-S | 05/22/2000 | THORIUM-230 | 0.79 | 0.64 | PCI/G |
| SC-22106-S | 05/22/2000 | URANIUM-238 | 1.07 | 2 14 | PCI/G |
| SC-22107-C | 05/11/2000 | RADIUM-226 | 0.59 | 0.27 | PCI/G |
| SC-22107-C | 05/11/2000 | RADIUM-228 | 0.365 | 0.73 | PCI/G |
| SC-22107-C | 05/11/2000 | THORIUM-230 | 0.69 | 0.64 | PCI/G |
| SC-22107-C | 05/11/2000 | URANIUM-238 | 1.12 | 2.24 | PCI/G |
| SC-22107-C-HS01 | 05/24/2000 | RADIUM-226 | 11.7 | 0.5 | PCI/G |
| SC-22107-C-HS01 | 05/24/2000 | RADIUM-228 | 0.505 | 1.01 | PCI/G |
| SC-22107-C-HS01 | 05/24/2000 | THORIUM-230 | 2.33 | 0.64 | PCI/G |
| SC-22107-C-HS01 | 05/24/2000 | URANIUM-238 | 1.69 | 3.38 | PCI/G |
| SC-22107-C-HS02 | 05/24/2000 | RADIUM-226 | 1.41 | 0.25 | PCI/G |
| SC-22107-C-HS02 | 05/24/2000 | RADIUM-228 | 1.14 | 0.4 | PCI/G |
| SC-22107-C-HS02 | 05/24/2000 | THORIUM-230 | 0.86 | 0.64 | PCI/G |
| SC-22107-C-HS02 | 05/24/2000 | URANIUM-238 | 1.19 | 2.38 | PCI/G |
| SC-22107-C-HS03 | 05/24/2000 | RADIUM-226 | 4.66 | 0.39 | PCI/G |
| SC-22107-C-HS03 | 05/24/2000 | RADIUM-228 | 1.25 | 0.54 | PCI/G |
| SC-22107-C-HS03 | 05/24/2000 | THORIUM-230 | 0.88 | 0.64 | PCI/G |
| SC-22107-C-HS03 | 05/24/2000 | URANIUM-238 | 1.26 | 2.52 | PCI/G |
| SC-22107-C-HS04 | 05/24/2000 | RADIUM-226 | 2.84 | 0.26 | PCI/G |
| SC-22107-C-HS04 | 05/24/2000 | RADIUM-228 | 1.3 | 0.42 | PCI/G |
| SC-22107-C-HS04 | 05/24/2000 | THORIUM-230 | 0.69 | 0.64 | PCI/G |
| SC-22107-C-HS04 | 05/24/2000 | URANIUM-238 | 1.3 | 2.6 | PCI/G |
| SC-22107-C-RS01 | 06/01/2000 | RADIUM-226 | 0.235 | 0.47 | PCI/G |
| SC-22107-C-RS01 | 06/01/2000 | RADIUM-228 | 1.09 | 0.4 | PCI/G |
| SC-22107-C-RS03 | 06/01/2000 | RADIUM-226 | 0.5 | 0.23 | PCI/G |
| SC-22107-C-RS03 | 06/01/2000 | RADIUM-228 | 1.05 | 0.34 | PCI/G |
| SC-22107-S | 05/11/2000 | RADIUM-226 | 1.02 | 0.25 | PCI/G |
| SC-22107-S | 05/11/2000 | RADIUM-228 | 1.1 | 0.36 | PCI/G |
| SC-22107-S | 05/11/2000 | THORIUM-230 | 0.69 | 0.64 | PCI/G |
| SC-22107-S | 05/11/2000 | URANIUM-238 | 1.165 | 2.33 | PCI/G |
| SC-22110-S | 05/12/2000 | PAH | 0 | 18 | UG/KG |
| SC-22110-S | 05/12/2000 | RADIUM-226 | 0.61 | 0.25 | PCI/G |
| SC-22110-S | 05/12/2000 | RADIUM-228 | 0.99 | 0.3 | PCI/G |
| SC-22110-S | 05/12/2000 | THORIUM-230 | 1.09 | 0.62 | PCI/G |
| SC-22110-S | 05/12/2000 | URANIUM-238 | 4.54 | 2.05 | PCI/G |
| SC-22111-S | 05/22/2000 | RADIUM-226 | 0.92 | 0.26 | PCI/G |
| SC-22111-S | 05/22/2000 | RADIUM-228 | 1.04 | 0.36 | PCI/G |
| SC-22111-S | 05/22/2000 | THORIUM-230 | 1.65 | 0.64 | PCI/G |
| SC-22111-S | 05/22/2000 | URANIUM-238 | 1.145 | 2.29 | PCI/G |
| SC-22112-S | 05/22/2000 | RADIUM-226 | 0.19 | 0.38 | PCI/G |
| SC-22112-S | 05/22/2000 | RADIUM-228 | 0.61 | 0.39 | PCI/G |
| SC-22112-S | 05/22/2000 | THORIUM-230 | 1.09 | 0.64 | PCI/G |
| SC-22112-S | 05/22/2000 | URANIUM-238 | 0.805 | 1.61 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-22113-S | 05/22/2000 | RADIUM-226 | 1 03 | 0.24 | PCI/G |
| SC-22113-S | 05/22/2000 | RADIUM-228 | 1 16 | 0 41 | PCI/G |
| SC-22113-S | 05/22/2000 | THORIUM-230 | 1.43 | 0 64 | PCI/G |
| SC-22113-S | 05/22/2000 | URANIUM-238 | 6 65 | 2 27 | PCI/G |
| SC-22114-S | 05/22/2000 | RADIUM-226 | 0 46 | 0 24 | PCI/G |
| SC-22114-S | 05/22/2000 | RADIUM-228 | 0 69 | 0 33 | PCI/G |
| SC-22114-S | 05/22/2000 | THORIUM-230 | 0 78 | 0 64 | PCI/G |
| SC-22114-S | 05/22/2000 | URANIUM-238 | 1 03 | 2 06 | PCI/G |
| SC-22115-S | 05/22/2000 | RADIUM-226 | 0 89 | 0 23 | PCI/G |
| SC-22115-S | 05/22/2000 | RADIUM-228 | 1 07 | 0 33 | PCI/G |
| SC-22115-S | 05/22/2000 | THORIUM-230 | 2 13 | 0 64 | PCI/G |
| SC-22115-S | 05/22/2000 | URANIUM-238 | 1.145 | 2 29 | PCI/G |
| SC-22116-C | 05/11/2000 | RADIUM-226 | 0.87 | 0 26 | PCI/G |
| SC-22116-C | 05/11/2000 | RADIUM-228 | 0 385 | 0 77 | PCI/G |
| SC-22116-C | 05/11/2000 | THORIUM-230 | 0 79 | 0 64 | PCI/G |
| SC-22116-C | 05/11/2000 | URANIUM-238 | 1 09 | 2 18 | PCI/G |
| SC-22116-S | 05/11/2000 | RADIUM-226 | 0 81 | 0 23 | PCI/G |
| SC-22116-S | 05/11/2000 | RADIUM-228 | 0 375 | 0 75 | PCI/G |
| SC-22116-S | 05/11/2000 | THORIUM-230 | 0 78 | 0 64 | PCI/G |
| SC-22116-S | 05/11/2000 | URANIUM-238 | 1 085 | 2 17 | PCI/G |
| SC-22117-S | 04/17/2000 | PAH | 0 | 18 | UG/KG |
| SC-22117-S | 04/17/2000 | RADIUM-226 | 0 84 | 0 25 | PCI/G |
| SC-22117-S | 04/17/2000 | RADIUM-228 | 1 1 | 0 34 | PCI/G |
| SC-22117-S | 04/17/2000 | THORIUM-230 | 2 89 | 0 64 | PCI/G |
| SC-22117-S | 04/17/2000 | URANIUM-238 | 1 14 | 2 28 | PCI/G |
| SC-22117-S-01 | 05/11/2000 | RADIUM-226 | 0 78 | 0 25 | PCI/G |
| SC-22117-S-01 | 05/11/2000 | RADIUM-228 | 0 96 | 0 5 | PCI/G |
| SC-22117-S-01 | 05/11/2000 | THORIUM-230 | 0 81 | 0 64 | PCI/G |
| SC-22117-S-01 | 05/11/2000 | URANIUM-238 | 1 035 | 2 07 | PCI/G |
| SC-22120-C | 05/06/2000 | PAH | 0 | 11 | UG/KG |
| SC-22120-C | 05/06/2000 | RADIUM-226 | 0 65 | 0 29 | PCI/G |
| SC-22120-C | 05/06/2000 | RADIUM-228 | 0 41 | 0 82 | PCI/G |
| SC-22120-C | 05/06/2000 | THORIUM-230 | 0 77 | 0 65 | PCI/G |
| SC-22120-C | 05/06/2000 | URANIUM-238 | 1 06 | 2 12 | PCI/G |
| SC-22201-S | 06/03/2000 | RADIUM-226 | 0 205 | 0 41 | PCI/G |
| SC-22201-S | 06/03/2000 | RADIUM-228 | 0 31 | 0 62 | PCI/G |
| SC-22201-S | 06/03/2000 | THORIUM-230 | 0 83 | 0 65 | PCI/G |
| SC-22201-S | 06/03/2000 | URANIUM-238 | 0 89 | 1 78 | PCI/G |
| SC-22202-S | 06/03/2000 | RADIUM-226 | 0 65 | 0 22 | PCI/G |
| SC-22202-S | 06/03/2000 | RADIUM-228 | 1 14 | 0 32 | PCI/G |
| SC-22202-S | 06/03/2000 | THORIUM-230 | 1 47 | 0 64 | PCI/G |
| SC-22202-S | 06/03/2000 | URANIUM-238 | 1 06 | 2 12 | PCI/G |
| SC-22203-S | 05/20/2000 | PAH | 0 | 18 | UG/KG |
| SC-22203-S | 05/20/2000 | RADIUM-226 | 0 99 | 0 19 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-22203-S | 05/20/2000 | RADIUM-228 | 0.385 | 0.77 | PCI/G |
| SC-22203-S | 05/20/2000 | THORIUM-230 | 2.29 | 0.64 | PCI/G |
| SC-22203-S | 05/20/2000 | URANIUM-238 | 1.24 | 2.48 | PCI/G |
| SC-22204-S | 05/24/2000 | RADIUM-226 | 0.76 | 0.25 | PCI/G |
| SC-22204-S | 05/24/2000 | RADIUM-228 | 0.4 | 0.8 | PCI/G |
| SC-22204-S | 05/24/2000 | THORIUM-230 | 0.89 | 0.64 | PCI/G |
| SC-22204-S | 05/24/2000 | URANIUM-238 | 1.02 | 2.04 | PCI/G |
| SC-22205-S | 05/24/2000 | RADIUM-226 | 0.55 | 0.26 | PCI/G |
| SC-22205-S | 05/24/2000 | RADIUM-228 | 1.19 | 0.31 | PCI/G |
| SC-22205-S | 05/24/2000 | THORIUM-230 | 1.1 | 0.64 | PCI/G |
| SC-22205-S | 05/24/2000 | URANIUM-238 | 1.49 | 1.93 | PCI/G |
| SC-22206-S | 05/20/2000 | PAH | 0 | 18 | UG/KG |
| SC-22206-S | 05/20/2000 | RADIUM-226 | 0.74 | 0.25 | PCI/G |
| SC-22206-S | 05/20/2000 | RADIUM-228 | 1.07 | 0.35 | PCI/G |
| SC-22206-S | 05/20/2000 | THORIUM-230 | 1.02 | 0.64 | PCI/G |
| SC-22206-S | 05/20/2000 | URANIUM-238 | 1.155 | 2.31 | PCI/G |
| SC-22207-S | 05/24/2000 | RADIUM-226 | 3.77 | 0.34 | PCI/G |
| SC-22207-S | 05/24/2000 | RADIUM-228 | 1.29 | 0.57 | PCI/G |
| SC-22207-S | 05/24/2000 | THORIUM-230 | 1.03 | 0.64 | PCI/G |
| SC-22207-S | 05/24/2000 | URANIUM-238 | 1.275 | 2.55 | PCI/G |
| SC-22207-S-RS | 06/01/2000 | RADIUM-226 | 0.62 | 0.26 | PCI/G |
| SC-22207-S-RS | 06/01/2000 | RADIUM-228 | 0.36 | 0.72 | PCI/G |
| SC-22208-S | 05/24/2000 | RADIUM-226 | 3.48 | 0.28 | PCI/G |
| SC-22208-S | 05/24/2000 | RADIUM-228 | 1.1 | 0.4 | PCI/G |
| SC-22208-S | 05/24/2000 | THORIUM-230 | 0.89 | 0.64 | PCI/G |
| SC-22208-S | 05/24/2000 | URANIUM-238 | 1.34 | 2.68 | PCI/G |
| SC-22208-S-RS | 06/01/2000 | RADIUM-226 | 0.51 | 0.22 | PCI/G |
| SC-22208-S-RS | 06/01/2000 | RADIUM-228 | 0.86 | 0.35 | PCI/G |
| SC-22209-S | 05/20/2000 | PAH | 0 | 17 | UG/KG |
| SC-22209-S | 05/20/2000 | RADIUM-226 | 0.245 | 0.49 | PCI/G |
| SC-22209-S | 05/20/2000 | RADIUM-228 | 1.24 | 0.36 | PCI/G |
| SC-22209-S | 05/20/2000 | THORIUM-230 | 0.89 | 0.64 | PCI/G |
| SC-22209-S | 05/20/2000 | URANIUM-238 | 1.095 | 2.19 | PCI/G |
| SC-22210-S | 05/24/2000 | RADIUM-226 | 0.85 | 0.24 | PCI/G |
| SC-22210-S | 05/24/2000 | RADIUM-228 | 0.355 | 0.71 | PCI/G |
| SC-22210-S | 05/24/2000 | THORIUM-230 | 0.8 | 0.64 | PCI/G |
| SC-22210-S | 05/24/2000 | URANIUM-238 | 1.05 | 2.1 | PCI/G |
| SC-22211-S | 05/24/2000 | PAH | 0 | 16 | UG/KG |
| SC-22211-S | 05/24/2000 | RADIUM-226 | 0.59 | 0.21 | PCI/G |
| SC-22211-S | 05/24/2000 | RADIUM-228 | 0.91 | 0.32 | PCI/G |
| SC-22211-S | 05/24/2000 | THORIUM-230 | 0.94 | 0.64 | PCI/G |
| SC-22211-S | 05/24/2000 | URANIUM-238 | 1 | 2 | PCI/G |
| SC-22212-S | 05/18/2000 | PAH | 0 | 17 | UG/KG |
| SC-22212-S | 05/18/2000 | RADIUM-226 | 0.55 | 0.25 | PCI/G |
| SC-22212-S | 05/18/2000 | RADIUM-228 | 1.27 | 0.35 | PCI/G |
| SC-22212-S | 05/18/2000 | THORIUM-230 | 1.02 | 0.64 | PCI/G |
| SC-22212-S | 05/18/2000 | URANIUM-238 | 1.03 | 2.06 | PCI/G |
| SC-22213-S | 05/18/2000 | PAH | 21 | 17 | UG/KG |
| SC-22213-S | 05/18/2000 | RADIUM-226 | 0.42 | 0.21 | PCI/G |
| SC-22213-S | 05/18/2000 | RADIUM-228 | 0.67 | 0.3 | PCI/G |
| SC-22213-S | 05/18/2000 | THORIUM-230 | 0.72 | 0.62 | PCI/G |
| SC-22213-S | 05/18/2000 | URANIUM-238 | 0.935 | 1.87 | PCI/G |
| SC-22214-S | 05/22/2000 | PAH | 0 | 18 | UG/KG |
| SC-22214-S | 05/22/2000 | RADIUM-226 | 0.72 | 0.23 | PCI/G |
| SC-22214-S | 05/22/2000 | RADIUM-228 | 0.425 | 0.85 | PCI/G |
| SC-22214-S | 05/22/2000 | THORIUM-230 | 1.16 | 0.64 | PCI/G |
| SC-22214-S | 05/22/2000 | URANIUM-238 | 1.01 | 2.02 | PCI/G |
| SC-22215-S | 05/22/2000 | PAH | 0 | 17 | UG/KG |
| SC-22215-S | 05/22/2000 | RADIUM-226 | 0.6 | 0.24 | PCI/G |
| SC-22215-S | 05/22/2000 | RADIUM-228 | 0.76 | 0.38 | PCI/G |
| SC-22215-S | 05/22/2000 | THORIUM-230 | 0.94 | 0.64 | PCI/G |
| SC-22215-S | 05/22/2000 | URANIUM-238 | 1.02 | 2.04 | PCI/G |
| SC-22216-S | 05/18/2000 | PAH | 0 | 17 | UG/KG |
| SC-22216-S | 05/18/2000 | RADIUM-226 | 0.52 | 0.24 | PCI/G |
| SC-22216-S | 05/18/2000 | RADIUM-228 | 0.365 | 0.73 | PCI/G |
| SC-22216-S | 05/18/2000 | THORIUM-230 | 0.9 | 0.64 | PCI/G |
| SC-22216-S | 05/18/2000 | URANIUM-238 | 0.945 | 1.89 | PCI/G |
| SC-22217-C | 05/18/2000 | PAH | 23 | 17 | UG/KG |
| SC-22217-C | 05/18/2000 | RADIUM-226 | 0.215 | 0.43 | PCI/G |
| SC-22217-C | 05/18/2000 | RADIUM-228 | 0.86 | 0.4 | PCI/G |
| SC-22217-C | 05/18/2000 | THORIUM-230 | 0.9 | 0.62 | PCI/G |
| SC-22217-C | 05/18/2000 | URANIUM-238 | 0.98 | 1.96 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-22217-S | 05/18/2000 | PAH | 0 | 17 | UG/KG |
| SC-22217-S | 05/18/2000 | RADIUM-226 | 0.67 | 0.25 | PCI/G |
| SC-22217-S | 05/18/2000 | RADIUM-228 | 0 95 | 0.47 | PCI/G |
| SC-22217-S | 05/18/2000 | THORIUM-230 | 0 72 | 0.64 | PCI/G |
| SC-22217-S | 05/18/2000 | URANIUM-238 | 1.1 | 2.2 | PCI/G |
| SC-22218-C | 05/22/2000 | RADIUM-226 | 0.66 | 0 3 | PCI/G |
| SC-22218-C | 05/22/2000 | RADIUM-228 | 0 87 | 0.45 | PCI/G |
| SC-22218-C | 05/22/2000 | THORIUM-230 | 1 23 | 0.64 | PCI/G |
| SC-22218-C | 05/22/2000 | URANIUM-238 | 1 15 | 2 3 | PCI/G |
| SC-22218-S | 05/22/2000 | PAH | 0 | 17 | UG/KG |
| SC-22218-S | 05/22/2000 | RADIUM-226 | 0 47 | 0.27 | PCI/G |
| SC-22218-S | 05/22/2000 | RADIUM-228 | 1.23 | 0.32 | PCI/G |
| SC-22218-S | 05/22/2000 | THORIUM-230 | 1.07 | 0.64 | PCI/G |
| SC-22218-S | 05/22/2000 | URANIUM-238 | 1.05 | 2.1 | PCI/G |
| SC-22219-S | 05/22/2000 | PAH | 0 | 18 | UG/KG |
| SC-22219-S | 05/22/2000 | RADIUM-226 | 0.225 | 0.45 | PCI/G |
| SC-22219-S | 05/22/2000 | RADIUM-228 | 1.05 | 0 38 | PCI/G |
| SC-22219-S | 05/22/2000 | THORIUM-230 | 0 91 | 0.64 | PCI/G |
| SC-22219-S | 05/22/2000 | URANIUM-238 | 1.095 | 2 19 | PCI/G |
| SC-22220-S | 05/18/2000 | PAH | 0 | 17 | UG/KG |
| SC-22220-S | 05/18/2000 | RADIUM-226 | 0 66 | 0 19 | PCI/G |
| SC-22220-S | 05/18/2000 | RADIUM-228 | 1 03 | 0.35 | PCI/G |
| SC-22220-S | 05/18/2000 | THORIUM-230 | 0 95 | 0 62 | PCI/G |
| SC-22220-S | 05/18/2000 | URANIUM-238 | 1.025 | 2 05 | PCI/G |
| SC-22221-C | 05/18/2000 | PAH | 0 | 18 | UG/KG |
| SC-22221-C | 05/18/2000 | RADIUM-226 | 0.56 | 0.28 | PCI/G |
| SC-22221-C | 05/18/2000 | RADIUM-228 | 1.26 | 0 37 | PCI/G |
| SC-22221-C | 05/18/2000 | THORIUM-230 | 1.06 | 0 64 | PCI/G |
| SC-22221-C | 05/18/2000 | URANIUM-238 | 1.08 | 2 16 | PCI/G |
| SC-22221-S | 05/18/2000 | PAH | 0 | 18 | UG/KG |
| SC-22221-S | 05/18/2000 | RADIUM-226 | 0.94 | 0 27 | PCI/G |
| SC-22221-S | 05/18/2000 | RADIUM-228 | 1.17 | 0 47 | PCI/G |
| SC-22221-S | 05/18/2000 | THORIUM-230 | 3.16 | 0.62 | PCI/G |
| SC-22221-S | 05/18/2000 | URANIUM-238 | 12.3 | 2.37 | PCI/G |
| SC-22222-S | 05/22/2000 | PAH | 0 | 17 | UG/KG |
| SC-22222-S | 05/22/2000 | RADIUM-226 | 0 91 | 0.23 | PCI/G |
| SC-22222-S | 05/22/2000 | RADIUM-228 | 0.9 | 0.42 | PCI/G |
| SC-22222-S | 05/22/2000 | THORIUM-230 | 1.4 | 0.64 | PCI/G |
| SC-22222-S | 05/22/2000 | URANIUM-238 | 1 145 | 2.29 | PCI/G |
| SC-22223-S | 05/22/2000 | RADIUM-226 | 0.43 | 0.28 | PCI/G |
| SC-22223-S | 05/22/2000 | RADIUM-228 | 0.35 | 0 7 | PCI/G |
| SC-22223-S | 05/22/2000 | THORIUM-230 | 1 06 | 0 64 | PCI/G |
| SC-22223-S | 05/22/2000 | URANIUM-238 | 1 | 2 | PCI/G |
| SC-22224-S | 05/11/2000 | RADIUM-226 | 0 52 | 0 23 | PCI/G |
| SC-22224-S | 05/11/2000 | RADIUM-228 | 1 03 | 0 32 | PCI/G |
| SC-22224-S | 05/11/2000 | THORIUM-230 | 0 94 | 0.65 | PCI/G |
| SC-22224-S | 05/11/2000 | URANIUM-238 | 1 065 | 2 13 | PCI/G |
| SC-22225-S | 04/17/2000 | PAH | 0 | 18 | UG/KG |
| SC-22225-S | 04/17/2000 | RADIUM-226 | 0 95 | 0 27 | PCI/G |
| SC-22225-S | 04/17/2000 | RADIUM-228 | 0.97 | 0.39 | PCI/G |
| SC-22225-S | 04/17/2000 | THORIUM-230 | 3 52 | 0 64 | PCI/G |
| SC-22225-S | 04/17/2000 | URANIUM-238 | 1.2 | 2.4 | PCI/G |
| SC-22225-S-01 | 05/11/2000 | RADIUM-226 | 0 76 | 0 24 | PCI/G |
| SC-22225-S-01 | 05/11/2000 | RADIUM-228 | 1 06 | 0.55 | PCI/G |
| SC-22225-S-01 | 05/11/2000 | THORIUM-230 | 0 99 | 0 64 | PCI/G |
| SC-22225-S-01 | 05/11/2000 | URANIUM-238 | 1 09 | 2.18 | PCI/G |
| SC-22301-C | 05/12/2000 | PAH | 0 | 17 | UG/KG |
| SC-22301-C | 05/12/2000 | RADIUM-226 | 0.98 | 0 23 | PCI/G |
| SC-22301-C | 05/12/2000 | RADIUM-228 | 1 17 | 0 39 | PCI/G |
| SC-22301-C | 05/12/2000 | THORIUM-230 | 1.22 | 0 62 | PCI/G |
| SC-22301-C | 05/12/2000 | URANIUM-238 | 1.19 | 2 38 | PCI/G |
| SC-22302-S | 05/12/2000 | PAH | 0 | 19 | UG/KG |
| SC-22302-S | 05/12/2000 | RADIUM-226 | 0.68 | 0.22 | PCI/G |
| SC-22302-S | 05/12/2000 | RADIUM-228 | 1 11 | 0.35 | PCI/G |
| SC-22302-S | 05/12/2000 | THORIUM-230 | 0.82 | 0.64 | PCI/G |
| SC-22302-S | 05/12/2000 | URANIUM-238 | 1 095 | 2 19 | PCI/G |
| SC-22303-S | 06/05/2000 | RADIUM-226 | 0.77 | 0.3 | PCI/G |
| SC-22303-S | 06/05/2000 | RADIUM-228 | 1 15 | 0.44 | PCI/G |
| SC-22303-S | 06/05/2000 | THORIUM-230 | 0.82 | 0 64 | PCI/G |
| SC-22303-S | 06/05/2000 | URANIUM-238 | 7 37 | 2 78 | PCI/G |
| SC-22305-S | 06/05/2000 | RADIUM-226 | 0.8 | 0.28 | PCI/G |
| SC-22305-S | 06/05/2000 | RADIUM-228 | 0 85 | 0 34 | PCI/G |

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| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-22305-S | 06/05/2000 | THORIUM-230 | 0.9 | 0.64 | PCI/G |
| SC-22305-S | 06/05/2000 | URANIUM-238 | 1.14 | 2.28 | PCI/G |
| SC-22306-S | 06/04/2000 | RADIUM-226 | 0.76 | 0.25 | PCI/G |
| SC-22306-S | 06/04/2000 | RADIUM-228 | 1.06 | 0.42 | PCI/G |
| SC-22306-S | 06/04/2000 | THORIUM-230 | 1.03 | 0.64 | PCI/G |
| SC-22306-S | 06/04/2000 | URANIUM-238 | 1.12 | 2.24 | PCI/G |
| SC-22307-S | 06/04/2000 | RADIUM-226 | 0.63 | 0.25 | PCI/G |
| SC-22307-S | 06/04/2000 | RADIUM-228 | 1.01 | 0.34 | PCI/G |
| SC-22307-S | 06/04/2000 | THORIUM-230 | 0.91 | 0.64 | PCI/G |
| SC-22307-S | 06/04/2000 | URANIUM-238 | 1.155 | 2.31 | PCI/G |
| SC-22308-S | 06/05/2000 | RADIUM-226 | 0.75 | 0.27 | PCI/G |
| SC-22308-S | 06/05/2000 | RADIUM-228 | 0.37 | 0.74 | PCI/G |
| SC-22308-S | 06/05/2000 | THORIUM-230 | 2.33 | 0.64 | PCI/G |
| SC-22308-S | 06/05/2000 | URANIUM-238 | 1.14 | 2.28 | PCI/G |
| SC-22310-S | 06/05/2000 | RADIUM-226 | 0.83 | 0.25 | PCI/G |
| SC-22310-S | 06/05/2000 | RADIUM-228 | 1.17 | 0.32 | PCI/G |
| SC-22310-S | 06/05/2000 | THORIUM-230 | 1.83 | 0.64 | PCI/G |
| SC-22310-S | 06/05/2000 | URANIUM-238 | 1.14 | 2.28 | PCI/G |
| SC-22311-C | 06/05/2000 | RADIUM-226 | 0.26 | 0.52 | PCI/G |
| SC-22311-C | 06/05/2000 | RADIUM-228 | 1.13 | 0.32 | PCI/G |
| SC-22311-C | 06/05/2000 | THORIUM-230 | 1.1 | 0.64 | PCI/G |
| SC-22311-C | 06/05/2000 | URANIUM-238 | 1.08 | 2.16 | PCI/G |
| SC-22311-S | 06/04/2000 | RADIUM-226 | 0.46 | 0.25 | PCI/G |
| SC-22311-S | 06/04/2000 | RADIUM-228 | 1.01 | 0.36 | PCI/G |
| SC-22311-S | 06/04/2000 | THORIUM-230 | 0.9 | 0.64 | PCI/G |
| SC-22311-S | 06/04/2000 | URANIUM-238 | 1.035 | 2.07 | PCI/G |
| SC-22312-S | 06/04/2000 | RADIUM-226 | 0.59 | 0.24 | PCI/G |
| SC-22312-S | 06/04/2000 | RADIUM-228 | 0.99 | 0.39 | PCI/G |
| SC-22312-S | 06/04/2000 | THORIUM-230 | 0.86 | 0.64 | PCI/G |
| SC-22312-S | 06/04/2000 | URANIUM-238 | 1 | 2 | PCI/G |
| SC-22313-S | 06/04/2000 | RADIUM-226 | 0.48 | 0.26 | PCI/G |
| SC-22313-S | 06/04/2000 | RADIUM-228 | 0.92 | 0.35 | PCI/G |
| SC-22313-S | 06/04/2000 | THORIUM-230 | 0.81 | 0.64 | PCI/G |
| SC-22313-S | 06/04/2000 | URANIUM-238 | 1.045 | 2.09 | PCI/G |
| SC-22315-C | 06/05/2000 | RADIUM-226 | 0.87 | 0.3 | PCI/G |
| SC-22315-C | 06/05/2000 | RADIUM-228 | 1.04 | 0.39 | PCI/G |
| SC-22315-C | 06/05/2000 | THORIUM-230 | 1.45 | 0.64 | PCI/G |
| SC-22315-C | 06/05/2000 | URANIUM-238 | 1.15 | 2.3 | PCI/G |
| SC-22315-S | 06/05/2000 | RADIUM-226 | 1.02 | 0.25 | PCI/G |
| SC-22315-S | 06/05/2000 | RADIUM-228 | 1.07 | 0.35 | PCI/G |
| SC-22315-S | 06/05/2000 | THORIUM-230 | 2.3 | 0.64 | PCI/G |
| SC-22315-S | 06/05/2000 | URANIUM-238 | 1.235 | 2.47 | PCI/G |
| SC-22316-C | 06/05/2000 | RADIUM-226 | 2.42 | 0.33 | PCI/G |
| SC-22316-C | 06/05/2000 | RADIUM-228 | 0.435 | 0.87 | PCI/G |
| SC-22316-C | 06/05/2000 | THORIUM-230 | 3.23 | 0.64 | PCI/G |
| SC-22316-C | 06/05/2000 | URANIUM-238 | 1.215 | 2.43 | PCI/G |
| SC-22316-S | 06/04/2000 | RADIUM-226 | 0.7 | 0.25 | PCI/G |
| SC-22316-S | 06/04/2000 | RADIUM-228 | 0.84 | 0.4 | PCI/G |
| SC-22316-S | 06/04/2000 | THORIUM-230 | 1.13 | 0.64 | PCI/G |
| SC-22316-S | 06/04/2000 | URANIUM-238 | 1.085 | 2.17 | PCI/G |
| SC-22317-S | 06/04/2000 | RADIUM-226 | 1.39 | 0.29 | PCI/G |
| SC-22317-S | 06/04/2000 | RADIUM-228 | 0.415 | 0.83 | PCI/G |
| SC-22317-S | 06/04/2000 | THORIUM-230 | 15.7 | 0.64 | PCI/G |
| SC-22317-S | 06/04/2000 | URANIUM-238 | 1.19 | 2.38 | PCI/G |
| SC-22317-S-RS | 06/10/2000 | THORIUM-230 | 0.81 | 0.64 | PCI/G |
| SC-22318-S | 05/22/2000 | PAH | 0 | 17 | UG/KG |
| SC-22318-S | 05/22/2000 | RADIUM-226 | 0.84 | 0.24 | PCI/G |
| SC-22318-S | 05/22/2000 | RADIUM-228 | 0.97 | 0.36 | PCI/G |
| SC-22318-S | 05/22/2000 | THORIUM-230 | 1.08 | 0.64 | PCI/G |
| SC-22318-S | 05/22/2000 | URANIUM-238 | 1.99 | 1.92 | PCI/G |
| SC-22320-S | 05/12/2000 | PAH | 0 | 18 | UG/KG |
| SC-22320-S | 05/12/2000 | RADIUM-226 | 0.81 | 0.3 | PCI/G |
| SC-22320-S | 05/12/2000 | RADIUM-228 | 1.13 | 0.45 | PCI/G |
| SC-22320-S | 05/12/2000 | THORIUM-230 | 0.94 | 0.62 | PCI/G |
| SC-22320-S | 05/12/2000 | URANIUM-238 | 1.115 | 2.23 | PCI/G |
| SC-22321-S | 05/22/2000 | RADIUM-226 | 0.59 | 0.25 | PCI/G |
| SC-22321-S | 05/22/2000 | RADIUM-228 | 0.94 | 0.42 | PCI/G |
| SC-22321-S | 05/22/2000 | THORIUM-230 | 0.84 | 0.64 | PCI/G |
| SC-22321-S | 05/22/2000 | URANIUM-238 | 1.01 | 2.02 | PCI/G |
| SC-22322-S | 05/22/2000 | PAH | 0 | 16 | UG/KG |
| SC-22322-S | 05/22/2000 | RADIUM-226 | 0.92 | 0.27 | PCI/G |
| SC-22322-S | 05/22/2000 | RADIUM-228 | 0.84 | 0.37 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-22322-S | 05/22/2000 | THORIUM-230 | 8 14 | 0 64 | PCI/G |
| SC-22322-S | 05/22/2000 | URANIUM-238 | 1.19 | 2.38 | PCI/G |
| SC-22322-S-RS | 06/01/2000 | THORIUM-230 | 1.21 | 0 65 | PCI/G |
| SC-22323-S | 05/22/2000 | PAH | 0 | 17 | UG/KG |
| SC-22323-S | 05/22/2000 | RADIUM-226 | 0.59 | 0.24 | PCI/G |
| SC-22323-S | 05/22/2000 | RADIUM-228 | 0.96 | 0.34 | PCI/G |
| SC-22323-S | 05/22/2000 | THORIUM-230 | 2 16 | 0.64 | PCI/G |
| SC-22323-S | 05/22/2000 | URANIUM-238 | 1.11 | 2 22 | PCI/G |
| SC-22401-C | 05/12/2000 | PAH | 0 | 18 | UG/KG |
| SC-22401-C | 05/12/2000 | RADIUM-226 | 0.94 | 0.23 | PCI/G |
| SC-22401-C | 05/12/2000 | RADIUM-228 | 1 13 | 0.31 | PCI/G |
| SC-22401-C | 05/12/2000 | THORIUM-230 | 1 | 0 64 | PCI/G |
| SC-22401-C | 05/12/2000 | URANIUM-238 | 1.06 | 2 12 | PCI/G |
| SC-22402-S | 05/23/2000 | RADIUM-226 | 0.86 | 0 31 | PCI/G |
| SC-22402-S | 05/23/2000 | RADIUM-228 | 0 37 | 0 74 | PCI/G |
| SC-22402-S | 05/23/2000 | THORIUM-230 | 5 86 | 0 64 | PCI/G |
| SC-22402-S | 05/23/2000 | URANIUM-238 | 1 175 | 2 35 | PCI/G |
| SC-22403-S | 06/03/2000 | RADIUM-226 | 0.44 | 0 25 | PCI/G |
| SC-22403-S | 06/03/2000 | RADIUM-228 | 1.13 | 0.33 | PCI/G |
| SC-22403-S | 06/03/2000 | THORIUM-230 | 0.95 | 0 64 | PCI/G |
| SC-22403-S | 06/03/2000 | URANIUM-238 | 1 | 2 | PCI/G |
| SC-22404-S | 06/03/2000 | RADIUM-226 | 0 245 | 0 49 | PCI/G |
| SC-22404-S | 06/03/2000 | RADIUM-228 | 1 02 | 0 43 | PCI/G |
| SC-22404-S | 06/03/2000 | THORIUM-230 | 1 05 | 0 65 | PCI/G |
| SC-22404-S | 06/03/2000 | URANIUM-238 | 1 035 | 2 07 | PCI/G |
| SC-22405-S | 06/03/2000 | RADIUM-226 | 0.72 | 0 25 | PCI/G |
| SC-22405-S | 06/03/2000 | RADIUM-228 | 0.94 | 0 39 | PCI/G |
| SC-22405-S | 06/03/2000 | THORIUM-230 | 0.92 | 0 64 | PCI/G |
| SC-22405-S | 06/03/2000 | URANIUM-238 | 1 07 | 2 14 | PCI/G |
| SC-22407-S | 05/23/2000 | RADIUM-226 | 0 71 | 0 24 | PCI/G |
| SC-22407-S | 05/23/2000 | RADIUM-228 | 1 09 | 0 35 | PCI/G |
| SC-22407-S | 05/23/2000 | THORIUM-230 | 3 12 | 0 64 | PCI/G |
| SC-22407-S | 05/23/2000 | URANIUM-238 | 1 14 | 2 28 | PCI/G |
| SC-22408-S | 06/03/2000 | RADIUM-226 | 0 57 | 0 2 | PCI/G |
| SC-22408-S | 06/03/2000 | RADIUM-228 | 1 21 | 0 32 | PCI/G |
| SC-22408-S | 06/03/2000 | THORIUM-230 | 0 86 | 0.64 | PCI/G |
| SC-22408-S | 06/03/2000 | URANIUM-238 | 1 065 | 2 13 | PCI/G |
| SC-22409-S | 06/03/2000 | RADIUM-226 | 0 53 | 0.28 | PCI/G |
| SC-22409-S | 06/03/2000 | RADIUM-228 | 1 13 | 0 45 | PCI/G |
| SC-22409-S | 06/03/2000 | THORIUM-230 | 1 61 | 0 64 | PCI/G |
| SC-22409-S | 06/03/2000 | URANIUM-238 | 1 045 | 2 09 | PCI/G |
| SC-22410-S | 06/03/2000 | RADIUM-226 | 0 57 | 0 2 | PCI/G |
| SC-22410-S | 06/03/2000 | RADIUM-228 | 0.94 | 0 31 | PCI/G |
| SC-22410-S | 06/03/2000 | THORIUM-230 | 1 17 | 0 64 | PCI/G |
| SC-22410-S | 06/03/2000 | URANIUM-238 | 1 02 | 2 04 | PCI/G |
| SC-22411-C | 05/12/2000 | PAH | 0 | 17 | UG/KG |
| SC-22411-C | 05/12/2000 | RADIUM-226 | 1 31 | 0.14 | PCI/G |
| SC-22411-C | 05/12/2000 | RADIUM-228 | 0 82 | 0.39 | PCI/G |
| SC-22411-C | 05/12/2000 | THORIUM-230 | 11 | 0.62 | PCI/G |
| SC-22411-C | 05/12/2000 | URANIUM-238 | 2 92 | 2.29 | PCI/G |
| SC-22411-C-RS | 05/22/2000 | THORIUM-230 | 1 03 | 0.64 | PCI/G |
| SC-22412-S | 05/23/2000 | RADIUM-226 | 0.275 | 0 55 | PCI/G |
| SC-22412-S | 05/23/2000 | RADIUM-228 | 0 87 | 0 46 | PCI/G |
| SC-22412-S | 05/23/2000 | THORIUM-230 | 4 21 | 0.64 | PCI/G |
| SC-22412-S | 05/23/2000 | URANIUM-238 | 1.01 | 2 02 | PCI/G |
| SC-22413-S | 06/03/2000 | RADIUM-226 | 0.53 | 0.27 | PCI/G |
| SC-22413-S | 06/03/2000 | RADIUM-228 | 1.02 | 0 35 | PCI/G |
| SC-22413-S | 06/03/2000 | THORIUM-230 | 0.95 | 0 65 | PCI/G |
| SC-22413-S | 06/03/2000 | URANIUM-238 | 1.08 | 2 16 | PCI/G |
| SC-22414-S | 06/03/2000 | RADIUM-226 | 0.5 | 0.24 | PCI/G |
| SC-22414-S | 06/03/2000 | RADIUM-228 | 0.99 | 0.36 | PCI/G |
| SC-22414-S | 06/03/2000 | THORIUM-230 | 0.99 | 0.64 | PCI/G |
| SC-22414-S | 06/03/2000 | URANIUM-238 | 1.095 | 2.19 | PCI/G |
| SC-22415-S | 06/03/2000 | RADIUM-226 | 0.61 | 0 24 | PCI/G |
| SC-22415-S | 06/03/2000 | RADIUM-228 | 0.38 | 0.76 | PCI/G |
| SC-22415-S | 06/03/2000 | THORIUM-230 | 1.33 | 0.64 | PCI/G |
| SC-22415-S | 06/03/2000 | URANIUM-238 | 1.78 | 2 4 | PCI/G |
| SC-22417-S | 05/12/2000 | PAH | 0 | 19 | UG/KG |
| SC-22417-S | 05/12/2000 | RADIUM-226 | 0 9 | 0.28 | PCI/G |
| SC-22417-S | 05/12/2000 | RADIUM-228 | 1.32 | 0 3 | PCI/G |
| SC-22417-S | 05/12/2000 | THORIUM-230 | 0 96 | 0 62 | PCI/G |
| SC-22417-S | 05/12/2000 | URANIUM-238 | 1 2 | 2 4 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-22418-S | 06/05/2000 | RADIUM-226 | 1.05 | 0.25 | PCI/G |
| SC-22418-S | 06/05/2000 | RADIUM-228 | 1.16 | 0.4 | PCI/G |
| SC-22418-S | 06/05/2000 | THORIUM-230 | 2.49 | 0.64 | PCI/G |
| SC-22418-S | 06/05/2000 | URANIUM-238 | 1.235 | 2.47 | PCI/G |
| SC-22419-S | 06/05/2000 | RADIUM-226 | 4 | 0.28 | PCI/G |
| SC-22419-S | 06/05/2000 | RADIUM-228 | 1.12 | 0.54 | PCI/G |
| SC-22419-S | 06/05/2000 | THORIUM-230 | 1.15 | 0.64 | PCI/G |
| SC-22419-S | 06/05/2000 | URANIUM-238 | 1.395 | 2.79 | PCI/G |
| SC-22419-S-HS01 | 06/09/2000 | RADIUM-226 | 0.79 | 0.25 | PCI/G |
| SC-22419-S-HS01 | 06/09/2000 | RADIUM-228 | 0.58 | 0.43 | PCI/G |
| SC-22419-S-HS02 | 06/09/2000 | RADIUM-226 | 0.74 | 0.24 | PCI/G |
| SC-22419-S-HS02 | 06/09/2000 | RADIUM-228 | 1.27 | 0.29 | PCI/G |
| SC-22419-S-HS03 | 06/09/2000 | RADIUM-226 | 0.79 | 0.26 | PCI/G |
| SC-22419-S-HS03 | 06/09/2000 | RADIUM-228 | 1.08 | 0.35 | PCI/G |
| SC-22419-S-HS04 | 06/09/2000 | RADIUM-226 | 0.64 | 0.19 | PCI/G |
| SC-22419-S-HS04 | 06/09/2000 | RADIUM-228 | 1.14 | 0.28 | PCI/G |
| SC-22420-S | 06/05/2000 | RADIUM-226 | 0.93 | 0.24 | PCI/G |
| SC-22420-S | 06/05/2000 | RADIUM-228 | 1.15 | 0.39 | PCI/G |
| SC-22420-S | 06/05/2000 | THORIUM-230 | 0.88 | 0.64 | PCI/G |
| SC-22420-S | 06/05/2000 | URANIUM-238 | 1.14 | 2.28 | PCI/G |
| SC-22421-S | 06/05/2000 | RADIUM-226 | 0.79 | 0.29 | PCI/G |
| SC-22421-S | 06/05/2000 | RADIUM-228 | 1.02 | 0.39 | PCI/G |
| SC-22421-S | 06/05/2000 | THORIUM-230 | 0.96 | 0.64 | PCI/G |
| SC-22421-S | 06/05/2000 | URANIUM-238 | 1.03 | 2.06 | PCI/G |
| SC-22422-S | 06/05/2000 | RADIUM-226 | 0.98 | 0.26 | PCI/G |
| SC-22422-S | 06/05/2000 | RADIUM-228 | 1.13 | 0.32 | PCI/G |
| SC-22422-S | 06/05/2000 | THORIUM-230 | 1.12 | 0.64 | PCI/G |
| SC-22422-S | 06/05/2000 | URANIUM-238 | 1.37 | 2.74 | PCI/G |
| SC-22501-C | 03/07/2000 | RADIUM-226 | 0.89 | 0.26 | PCI/G |
| SC-22501-C | 03/07/2000 | RADIUM-228 | 0.93 | 0.42 | PCI/G |
| SC-22501-C | 03/07/2000 | THORIUM-230 | 2.3 | 0.64 | PCI/G |
| SC-22501-C | 03/07/2000 | URANIUM-238 | 1.13 | 2.26 | PCI/G |
| SC-22501-S | 03/07/2000 | RADIUM-226 | 0.79 | 0.25 | PCI/G |
| SC-22501-S | 03/07/2000 | RADIUM-228 | 1.09 | 0.37 | PCI/G |
| SC-22501-S | 03/07/2000 | THORIUM-230 | 3.04 | 0.64 | PCI/G |
| SC-22501-S | 03/07/2000 | URANIUM-238 | 2.07 | 2.04 | PCI/G |
| SC-22501-U | 03/24/2000 | RADIUM-226 | 0.72 | 0.25 | PCI/G |
| SC-22501-U | 03/24/2000 | RADIUM-228 | 0.94 | 0.38 | PCI/G |
| SC-22501-U | 03/24/2000 | THORIUM-230 | 0.94 | 0.64 | PCI/G |
| SC-22501-U | 03/24/2000 | URANIUM-238 | 1.135 | 2.27 | PCI/G |
| SC-22502-S | 03/07/2000 | RADIUM-226 | 0.8 | 0.23 | PCI/G |
| SC-22502-S | 03/07/2000 | RADIUM-228 | 0.78 | 0.35 | PCI/G |
| SC-22502-S | 03/07/2000 | THORIUM-230 | 2.82 | 0.64 | PCI/G |
| SC-22502-S | 03/07/2000 | URANIUM-238 | 1.245 | 2.49 | PCI/G |
| SC-22502-U | 03/24/2000 | RADIUM-226 | 0.78 | 0.28 | PCI/G |
| SC-22502-U | 03/24/2000 | RADIUM-228 | 1.15 | 0.44 | PCI/G |
| SC-22502-U | 03/24/2000 | THORIUM-230 | 1.17 | 0.64 | PCI/G |
| SC-22502-U | 03/24/2000 | URANIUM-238 | 0.985 | 1.97 | PCI/G |
| SC-22503-C | 03/07/2000 | RADIUM-226 | 0.75 | 0.24 | PCI/G |
| SC-22503-C | 03/07/2000 | RADIUM-228 | 1.06 | 0.39 | PCI/G |
| SC-22503-C | 03/07/2000 | THORIUM-230 | 2.22 | 0.64 | PCI/G |
| SC-22503-C | 03/07/2000 | URANIUM-238 | 1.27 | 2.54 | PCI/G |
| SC-22503-S | 03/07/2000 | RADIUM-226 | 0.95 | 0.22 | PCI/G |
| SC-22503-S | 03/07/2000 | RADIUM-228 | 0.42 | 0.84 | PCI/G |
| SC-22503-S | 03/07/2000 | THORIUM-230 | 3.39 | 0.62 | PCI/G |
| SC-22503-S | 03/07/2000 | URANIUM-238 | 1.2 | 2.4 | PCI/G |
| SC-22503-U | 07/22/2000 | RADIUM-226 | 0.89 | 0.28 | PCI/G |
| SC-22503-U | 07/22/2000 | RADIUM-228 | 0.39 | 0.78 | PCI/G |
| SC-22503-U | 07/22/2000 | THORIUM-230 | 1.41 | 0.64 | PCI/G |
| SC-22503-U | 07/22/2000 | URANIUM-238 | 2.73 | 2.43 | PCI/G |
| SC-22504-S | 03/07/2000 | RADIUM-226 | 0.48 | 0.23 | PCI/G |
| SC-22504-S | 03/07/2000 | RADIUM-228 | 0.5 | 0.36 | PCI/G |
| SC-22504-S | 03/07/2000 | THORIUM-230 | 2.47 | 0.64 | PCI/G |
| SC-22504-S | 03/07/2000 | URANIUM-238 | 0.975 | 1.95 | PCI/G |
| SC-22504-U | 07/22/2000 | RADIUM-226 | 1.05 | 0.24 | PCI/G |
| SC-22504-U | 07/22/2000 | RADIUM-228 | 1.03 | 0.31 | PCI/G |
| SC-22504-U | 07/22/2000 | THORIUM-230 | 1.92 | 0.65 | PCI/G |
| SC-22504-U | 07/22/2000 | URANIUM-238 | 1.145 | 2.29 | PCI/G |
| SC-22505-S | 05/23/2000 | RADIUM-226 | 0.64 | 0.26 | PCI/G |
| SC-22505-S | 05/23/2000 | RADIUM-228 | 1.02 | 0.38 | PCI/G |
| SC-22505-S | 05/23/2000 | THORIUM-230 | 3.63 | 0.64 | PCI/G |
| SC-22505-S | 05/23/2000 | URANIUM-238 | 1.11 | 2.22 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-22506-S | 05/23/2000 | RADIUM-226 | 0 68 | 0 28 | PCI/G |
| SC-22506-S | 05/23/2000 | RADIUM-228 | 0 97 | 0 45 | PCI/G |
| SC-22506-S | 05/23/2000 | THORIUM-230 | 1.45 | 0 64 | PCI/G |
| SC-22506-S | 05/23/2000 | URANIUM-238 | 1.68 | 2 47 | PCI/G |
| SC-22506-U | 07/22/2000 | RADIUM-226 | 0 285 | 0.57 | PCI/G |
| SC-22506-U | 07/22/2000 | RADIUM-228 | 0.385 | 0 77 | PCI/G |
| SC-22506-U | 07/22/2000 | THORIUM-230 | 2.04 | 0 65 | PCI/G |
| SC-22506-U | 07/22/2000 | URANIUM-238 | 1.145 | 2.29 | PCI/G |
| SC-22507-S | 05/20/2000 | RADIUM-226 | 0 83 | 0 26 | PCI/G |
| SC-22507-S | 05/20/2000 | RADIUM-228 | 0 88 | 0 36 | PCI/G |
| SC-22507-S | 05/20/2000 | THORIUM-230 | 5.03 | 0 64 | PCI/G |
| SC-22507-S | 05/20/2000 | URANIUM-238 | 1 305 | 2 61 | PCI/G |
| SC-22508-S | 05/20/2000 | RADIUM-226 | 0.84 | 0 26 | PCI/G |
| SC-22508-S | 05/20/2000 | RADIUM-228 | 0.41 | 0 82 | PCI/G |
| SC-22508-S | 05/20/2000 | THORIUM-230 | 1.59 | 0.64 | PCI/G |
| SC-22508-S | 05/20/2000 | URANIUM-238 | 1.17 | 2 34 | PCI/G |
| SC-22509-S | 06/03/2000 | RADIUM-226 | 0.61 | 0.23 | PCI/G |
| SC-22509-S | 06/03/2000 | RADIUM-228 | 1 14 | 0 38 | PCI/G |
| SC-22509-S | 06/03/2000 | THORIUM-230 | 0.95 | 0 64 | PCI/G |
| SC-22509-S | 06/03/2000 | URANIUM-238 | 1.08 | 2.16 | PCI/G |
| SC-22510-S | 05/23/2000 | RADIUM-226 | 0.65 | 0 27 | PCI/G |
| SC-22510-S | 05/23/2000 | RADIUM-228 | 1 19 | 0 37 | PCI/G |
| SC-22510-S | 05/23/2000 | THORIUM-230 | 3 06 | 0 64 | PCI/G |
| SC-22510-S | 05/23/2000 | URANIUM-238 | 1 185 | 2 37 | PCI/G |
| SC-22511-S | 05/20/2000 | RADIUM-226 | 0.24 | 0 48 | PCI/G |
| SC-22511-S | 05/20/2000 | RADIUM-228 | 0 83 | 0 43 | PCI/G |
| SC-22511-S | 05/20/2000 | THORIUM-230 | 1.23 | 0 64 | PCI/G |
| SC-22511-S | 05/20/2000 | URANIUM-238 | 1 145 | 2 29 | PCI/G |
| SC-22512-S | 05/20/2000 | RADIUM-226 | 0 67 | 0 3 | PCI/G |
| SC-22512-S | 05/20/2000 | RADIUM-228 | 1 05 | 0 41 | PCI/G |
| SC-22512-S | 05/20/2000 | THORIUM-230 | 1 52 | 0 64 | PCI/G |
| SC-22512-S | 05/20/2000 | URANIUM-238 | 1 195 | 2 39 | PCI/G |
| SC-22513-S | 06/03/2000 | RADIUM-226 | 0 51 | 0 24 | PCI/G |
| SC-22513-S | 06/03/2000 | RADIUM-228 | 1 1 | 0 34 | PCI/G |
| SC-22513-S | 06/03/2000 | THORIUM-230 | 1 13 | 0 64 | PCI/G |
| SC-22513-S | 06/03/2000 | URANIUM-238 | 1 095 | 2 19 | PCI/G |
| SC-22514-S | 06/03/2000 | RADIUM-226 | 0 61 | 0 26 | PCI/G |
| SC-22514-S | 06/03/2000 | RADIUM-228 | 0 74 | 0 49 | PCI/G |
| SC-22514-S | 06/03/2000 | THORIUM-230 | 1 07 | 0 64 | PCI/G |
| SC-22514-S | 06/03/2000 | URANIUM-238 | 1 08 | 2 16 | PCI/G |
| SC-22515-S | 05/20/2000 | PAH | 0 | 18 | UG/KG |
| SC-22515-S | 05/20/2000 | RADIUM-226 | 0 59 | 0 24 | PCI/G |
| SC-22515-S | 05/20/2000 | RADIUM-228 | 1 23 | 0 36 | PCI/G |
| SC-22515-S | 05/20/2000 | THORIUM-230 | 1 03 | 0 64 | PCI/G |
| SC-22515-S | 05/20/2000 | URANIUM-238 | 1 075 | 2 15 | PCI/G |
| SC-22516-S | 05/20/2000 | RADIUM-226 | 0 24 | 0 48 | PCI/G |
| SC-22516-S | 05/20/2000 | RADIUM-228 | 0 98 | 0 45 | PCI/G |
| SC-22516-S | 05/20/2000 | THORIUM-230 | 0 64 | 0 64 | PCI/G |
| SC-22516-S | 05/20/2000 | URANIUM-238 | 1 12 | 2 24 | PCI/G |
| SC-22517-S | 06/03/2000 | RADIUM-226 | 0 66 | 0 24 | PCI/G |
| SC-22517-S | 06/03/2000 | RADIUM-228 | 1 24 | 0 31 | PCI/G |
| SC-22517-S | 06/03/2000 | THORIUM-230 | 0 95 | 0 64 | PCI/G |
| SC-22517-S | 06/03/2000 | URANIUM-238 | 1 095 | 2 19 | PCI/G |
| SC-22518-S | 06/03/2000 | RADIUM-226 | 0 56 | 0 26 | PCI/G |
| SC-22518-S | 06/03/2000 | RADIUM-228 | 1 3 | 0 37 | PCI/G |
| SC-22518-S | 06/03/2000 | THORIUM-230 | 1 09 | 0 64 | PCI/G |
| SC-22518-S | 06/03/2000 | URANIUM-238 | 1 015 | 2 03 | PCI/G |
| SC-22519-S | 05/20/2000 | PAH | 0 | 18 | UG/KG |
| SC-22519-S | 05/20/2000 | RADIUM-226 | 0 71 | 0 22 | PCI/G |
| SC-22519-S | 05/20/2000 | RADIUM-228 | 1 03 | 0 34 | PCI/G |
| SC-22519-S | 05/20/2000 | THORIUM-230 | 1 02 | 0 64 | PCI/G |
| SC-22519-S | 05/20/2000 | URANIUM-238 | 2 4 | 1 93 | PCI/G |
| SC-22521-S | 06/03/2000 | RADIUM-226 | 0 54 | 0 24 | PCI/G |
| SC-22521-S | 06/03/2000 | RADIUM-228 | 1 18 | 0 33 | PCI/G |
| SC-22521-S | 06/03/2000 | THORIUM-230 | 1 13 | 0 64 | PCI/G |
| SC-22521-S | 06/03/2000 | URANIUM-238 | 1 08 | 2 16 | PCI/G |
| SC-22522-S | 06/03/2000 | RADIUM-226 | 0 49 | 0 27 | PCI/G |
| SC-22522-S | 06/03/2000 | RADIUM-228 | 0 95 | 0 39 | PCI/G |
| SC-22522-S | 06/03/2000 | THORIUM-230 | 1 2 | 0 64 | PCI/G |
| SC-22522-S | 06/03/2000 | URANIUM-238 | 1 165 | 2 33 | PCI/G |
| SC-22523-S | 05/20/2000 | PAH | 0 | 19 | UG/KG |
| SC-22523-S | 05/20/2000 | RADIUM-226 | 0 26 | 0 52 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-22523-S | 05/20/2000 | RADIUM-228 | 1.18 | 0.41 | PCI/G |
| SC-22523-S | 05/20/2000 | THORIUM-230 | 1.23 | 0.64 | PCI/G |
| SC-22523-S | 05/20/2000 | URANIUM-238 | 1.02 | 2.04 | PCI/G |
| SC-22524-S | 06/03/2000 | RADIUM-226 | 0.48 | 0.23 | PCI/G |
| SC-22524-S | 06/03/2000 | RADIUM-228 | 1.07 | 0.3 | PCI/G |
| SC-22524-S | 06/03/2000 | THORIUM-230 | 0.96 | 0.64 | PCI/G |
| SC-22524-S | 06/03/2000 | URANIUM-238 | 1.07 | 2.14 | PCI/G |
| SC-22525-S | 06/03/2000 | RADIUM-226 | 0.47 | 0.24 | PCI/G |
| SC-22525-S | 06/03/2000 | RADIUM-228 | 0.98 | 0.34 | PCI/G |
| SC-22525-S | 06/03/2000 | THORIUM-230 | 0.7 | 0.64 | PCI/G |
| SC-22525-S | 06/03/2000 | URANIUM-238 | 1.04 | 2.08 | PCI/G |
| SC-22526-S | 05/20/2000 | PAH | 0 | 19 | UG/KG |
| SC-22526-S | 05/20/2000 | RADIUM-226 | 0.77 | 0.27 | PCI/G |
| SC-22526-S | 05/20/2000 | RADIUM-228 | 1.03 | 0.35 | PCI/G |
| SC-22526-S | 05/20/2000 | THORIUM-230 | 0.96 | 0.64 | PCI/G |
| SC-22526-S | 05/20/2000 | URANIUM-238 | 1.115 | 2.23 | PCI/G |
| SC-22601-S | 03/07/2000 | RADIUM-226 | 0.66 | 0.25 | PCI/G |
| SC-22601-S | 03/07/2000 | RADIUM-228 | 0.99 | 0.38 | PCI/G |
| SC-22601-S | 03/07/2000 | THORIUM-230 | 3.37 | 0.64 | PCI/G |
| SC-22601-S | 03/07/2000 | URANIUM-238 | 1.04 | 2.08 | PCI/G |
| SC-22601-U | 03/24/2000 | RADIUM-226 | 0.78 | 0.28 | PCI/G |
| SC-22601-U | 03/24/2000 | RADIUM-228 | 0.89 | 0.36 | PCI/G |
| SC-22601-U | 03/24/2000 | THORIUM-230 | 0.95 | 0.64 | PCI/G |
| SC-22601-U | 03/24/2000 | URANIUM-238 | 1.145 | 2.29 | PCI/G |
| SC-22602-C | 03/07/2000 | RADIUM-226 | 0.78 | 0.25 | PCI/G |
| SC-22602-C | 03/07/2000 | RADIUM-228 | 1.06 | 0.37 | PCI/G |
| SC-22602-C | 03/07/2000 | THORIUM-230 | 2.66 | 0.64 | PCI/G |
| SC-22602-C | 03/07/2000 | URANIUM-238 | 1.1 | 2.2 | PCI/G |
| SC-22602-S | 03/07/2000 | RADIUM-226 | 0.75 | 0.25 | PCI/G |
| SC-22602-S | 03/07/2000 | RADIUM-228 | 1.07 | 0.5 | PCI/G |
| SC-22602-S | 03/07/2000 | THORIUM-230 | 5.9 | 0.62 | PCI/G |
| SC-22602-S | 03/07/2000 | URANIUM-238 | 1.09 | 2.18 | PCI/G |
| SC-22602-U | 03/24/2000 | RADIUM-226 | 0.92 | 0.27 | PCI/G |
| SC-22602-U | 03/24/2000 | RADIUM-228 | 0.405 | 0.81 | PCI/G |
| SC-22602-U | 03/24/2000 | THORIUM-230 | 1.05 | 0.64 | PCI/G |
| SC-22602-U | 03/24/2000 | URANIUM-238 | 1.19 | 2.38 | PCI/G |
| SC-22603-S | 03/07/2000 | RADIUM-226 | 0.79 | 0.25 | PCI/G |
| SC-22603-S | 03/07/2000 | RADIUM-228 | 1.15 | 0.38 | PCI/G |
| SC-22603-S | 03/07/2000 | THORIUM-230 | 2.69 | 0.64 | PCI/G |
| SC-22603-S | 03/07/2000 | URANIUM-238 | 1.195 | 2.39 | PCI/G |
| SC-22603-U | 03/24/2000 | RADIUM-226 | 0.81 | 0.25 | PCI/G |
| SC-22603-U | 03/24/2000 | RADIUM-228 | 1.18 | 0.34 | PCI/G |
| SC-22603-U | 03/24/2000 | THORIUM-230 | 0.88 | 0.64 | PCI/G |
| SC-22603-U | 03/24/2000 | URANIUM-238 | 1.135 | 2.27 | PCI/G |
| SC-22604-C | 03/07/2000 | RADIUM-226 | 0.64 | 0.27 | PCI/G |
| SC-22604-C | 03/07/2000 | RADIUM-228 | 1.14 | 0.33 | PCI/G |
| SC-22604-C | 03/07/2000 | THORIUM-230 | 2.59 | 0.64 | PCI/G |
| SC-22604-C | 03/07/2000 | URANIUM-238 | 1.045 | 2.09 | PCI/G |
| SC-22604-S | 03/07/2000 | RADIUM-226 | 0.75 | 0.25 | PCI/G |
| SC-22604-S | 03/07/2000 | RADIUM-228 | 1.09 | 0.39 | PCI/G |
| SC-22604-S | 03/07/2000 | THORIUM-230 | 1.67 | 0.64 | PCI/G |
| SC-22604-S | 03/07/2000 | URANIUM-238 | 1.165 | 2.33 | PCI/G |
| SC-22604-U | 03/24/2000 | RADIUM-226 | 0.81 | 0.24 | PCI/G |
| SC-22604-U | 03/24/2000 | RADIUM-228 | 1.17 | 0.37 | PCI/G |
| SC-22604-U | 03/24/2000 | THORIUM-230 | 0.91 | 0.64 | PCI/G |
| SC-22604-U | 03/24/2000 | URANIUM-238 | 1.035 | 2.07 | PCI/G |
| SC-22605-S | 03/07/2000 | RADIUM-226 | 0.8 | 0.23 | PCI/G |
| SC-22605-S | 03/07/2000 | RADIUM-228 | 0.415 | 0.83 | PCI/G |
| SC-22605-S | 03/07/2000 | THORIUM-230 | 3.36 | 0.62 | PCI/G |
| SC-22605-S | 03/07/2000 | URANIUM-238 | 2.28 | 2.26 | PCI/G |
| SC-22605-U | 03/24/2000 | RADIUM-226 | 0.89 | 0.24 | PCI/G |
| SC-22605-U | 03/24/2000 | RADIUM-228 | 1 | 0.35 | PCI/G |
| SC-22605-U | 03/24/2000 | THORIUM-230 | 1.13 | 0.64 | PCI/G |
| SC-22605-U | 03/24/2000 | URANIUM-238 | 1.15 | 2.3 | PCI/G |
| SC-22606-S | 06/07/2000 | RADIUM-226 | 0.79 | 0.22 | PCI/G |
| SC-22606-S | 06/07/2000 | RADIUM-228 | 0.97 | 0.32 | PCI/G |
| SC-22606-S | 06/07/2000 | THORIUM-230 | 0.92 | 0.64 | PCI/G |
| SC-22606-S | 06/07/2000 | URANIUM-238 | 1.155 | 2.31 | PCI/G |
| SC-22607-S | 06/07/2000 | RADIUM-226 | 1.12 | 0.28 | PCI/G |
| SC-22607-S | 06/07/2000 | RADIUM-228 | 1.37 | 0.42 | PCI/G |
| SC-22607-S | 06/07/2000 | THORIUM-230 | 0.83 | 0.62 | PCI/G |
| SC-22607-S | 06/07/2000 | URANIUM-238 | 0.975 | 1.95 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-22608-S | 06/03/2000 | RADIUM-226 | 0.49 | 0 26 | PCI/G |
| SC-22608-S | 06/03/2000 | RADIUM-228 | 0.38 | 0 76 | PCI/G |
| SC-22608-S | 06/03/2000 | THORIUM-230 | 1 16 | 0.65 | PCI/G |
| SC-22608-S | 06/03/2000 | URANIUM-238 | 1 11 | 2 22 | PCI/G |
| SC-22609-S | 06/03/2000 | RADIUM-226 | 0.5 | 0.24 | PCI/G |
| SC-22609-S | 06/03/2000 | RADIUM-228 | 0.96 | 0.32 | PCI/G |
| SC-22609-S | 06/03/2000 | THORIUM-230 | 1.06 | 0 64 | PCI/G |
| SC-22609-S | 06/03/2000 | URANIUM-238 | 1 065 | 2 13 | PCI/G |
| SC-22610-S | 06/03/2000 | RADIUM-226 | 0.69 | 0 27 | PCI/G |
| SC-22610-S | 06/03/2000 | RADIUM-228 | 0.395 | 0 79 | PCI/G |
| SC-22610-S | 06/03/2000 | THORIUM-230 | 0.92 | 0 64 | PCI/G |
| SC-22610-S | 06/03/2000 | URANIUM-238 | 1.135 | 2.27 | PCI/G |
| SC-22611-S | 04/06/2000 | PAH | 0 | 19 | UG/KG |
| SC-22611-S | 04/06/2000 | RADIUM-226 | 0.81 | 0.3 | PCI/G |
| SC-22611-S | 04/06/2000 | RADIUM-228 | 1.02 | 0 4 | PCI/G |
| SC-22611-S | 04/06/2000 | THORIUM-230 | 1 68 | 0.64 | PCI/G |
| SC-22611-S | 04/06/2000 | URANIUM-238 | 1.08 | 2.16 | PCI/G |
| SC-22612-S | 05/23/2000 | RADIUM-226 | 0 71 | 0.22 | PCI/G |
| SC-22612-S | 05/23/2000 | RADIUM-228 | 1.02 | 0.35 | PCI/G |
| SC-22612-S | 05/23/2000 | THORIUM-230 | 1.07 | 0 64 | PCI/G |
| SC-22612-S | 05/23/2000 | URANIUM-238 | 1.105 | 2.21 | PCI/G |
| SC-22613-S | 06/03/2000 | RADIUM-226 | 0.68 | 0.21 | PCI/G |
| SC-22613-S | 06/03/2000 | RADIUM-228 | 1.29 | 0 34 | PCI/G |
| SC-22613-S | 06/03/2000 | THORIUM-230 | 0.98 | 0.64 | PCI/G |
| SC-22613-S | 06/03/2000 | URANIUM-238 | 1 09 | 2 18 | PCI/G |
| SC-22614-S | 06/03/2000 | RADIUM-226 | 0.61 | 0.27 | PCI/G |
| SC-22614-S | 06/03/2000 | RADIUM-228 | 1.22 | 0.41 | PCI/G |
| SC-22614-S | 06/03/2000 | THORIUM-230 | 0 94 | 0 65 | PCI/G |
| SC-22614-S | 06/03/2000 | URANIUM-238 | 1 11 | 2.22 | PCI/G |
| SC-22615-S | 06/03/2000 | RADIUM-226 | 0 63 | 0.23 | PCI/G |
| SC-22615-S | 06/03/2000 | RADIUM-228 | 1 23 | 0 35 | PCI/G |
| SC-22615-S | 06/03/2000 | THORIUM-230 | 1.2 | 0 64 | PCI/G |
| SC-22615-S | 06/03/2000 | URANIUM-238 | 1 045 | 2.09 | PCI/G |
| SC-22616-C | 05/23/2000 | RADIUM-226 | 0.9 | 0.14 | PCI/G |
| SC-22616-C | 05/23/2000 | RADIUM-228 | 1 19 | 0.34 | PCI/G |
| SC-22616-C | 05/23/2000 | THORIUM-230 | 0 98 | 0.64 | PCI/G |
| SC-22616-C | 05/23/2000 | URANIUM-238 | 1 17 | 2.34 | PCI/G |
| SC-22617-S | 05/23/2000 | RADIUM-226 | 0 83 | 0 27 | PCI/G |
| SC-22617-S | 05/23/2000 | RADIUM-228 | 1 14 | 0.43 | PCI/G |
| SC-22617-S | 05/23/2000 | THORIUM-230 | 1 22 | 0 64 | PCI/G |
| SC-22617-S | 05/23/2000 | URANIUM-238 | 1 05 | 2 1 | PCI/G |
| SC-22618-S | 06/03/2000 | RADIUM-226 | 0 6 | 0.25 | PCI/G |
| SC-22618-S | 06/03/2000 | RADIUM-228 | 1 04 | 0 35 | PCI/G |
| SC-22618-S | 06/03/2000 | THORIUM-230 | 1 28 | 0 64 | PCI/G |
| SC-22618-S | 06/03/2000 | URANIUM-238 | 1.105 | 2 21 | PCI/G |
| SC-22619-S | 06/03/2000 | RADIUM-226 | 0.64 | 0.22 | PCI/G |
| SC-22619-S | 06/03/2000 | RADIUM-228 | 1.08 | 0.35 | PCI/G |
| SC-22619-S | 06/03/2000 | THORIUM-230 | 1.3 | 0 64 | PCI/G |
| SC-22619-S | 06/03/2000 | URANIUM-238 | 1 075 | 2.15 | PCI/G |
| SC-22620-S | 06/03/2000 | RADIUM-226 | 0 54 | 0.27 | PCI/G |
| SC-22620-S | 06/03/2000 | RADIUM-228 | 0.81 | 0 45 | PCI/G |
| SC-22620-S | 06/03/2000 | THORIUM-230 | 0.85 | 0.65 | PCI/G |
| SC-22620-S | 06/03/2000 | URANIUM-238 | 1 02 | 2.04 | PCI/G |
| SC-22622-S | 05/23/2000 | RADIUM-226 | 0.89 | 0.24 | PCI/G |
| SC-22622-S | 05/23/2000 | RADIUM-228 | 1.23 | 0.33 | PCI/G |
| SC-22622-S | 05/23/2000 | THORIUM-230 | 1 06 | 0.64 | PCI/G |
| SC-22622-S | 05/23/2000 | URANIUM-238 | 1 15 | 2.3 | PCI/G |
| SC-22623-S | 06/03/2000 | RADIUM-226 | 0.44 | 0.25 | PCI/G |
| SC-22623-S | 06/03/2000 | RADIUM-228 | 1.01 | 0.31 | PCI/G |
| SC-22623-S | 06/03/2000 | THORIUM-230 | 1 07 | 0.64 | PCI/G |
| SC-22623-S | 06/03/2000 | URANIUM-238 | 1.05 | 2.1 | PCI/G |
| SC-22624-S | 06/03/2000 | RADIUM-226 | 0.5 | 0.24 | PCI/G |
| SC-22624-S | 06/03/2000 | RADIUM-228 | 0.96 | 0.33 | PCI/G |
| SC-22624-S | 06/03/2000 | THORIUM-230 | 1.09 | 0 64 | PCI/G |
| SC-22624-S | 06/03/2000 | URANIUM-238 | 1.035 | 2.07 | PCI/G |
| SC-22625-S | 06/03/2000 | RADIUM-226 | 0.85 | 0.22 | PCI/G |
| SC-22625-S | 06/03/2000 | RADIUM-228 | 1 17 | 0 27 | PCI/G |
| SC-22625-S | 06/03/2000 | THORIUM-230 | 1 14 | 0.64 | PCI/G |
| SC-22625-S | 06/03/2000 | URANIUM-238 | 1 16 | 2.32 | PCI/G |
| SC-22701-S | 03/29/1999 | RADIUM-226 | 1.36 | 0.22 | PCI/G |
| SC-22701-S | 03/29/1999 | RADIUM-228 | 1 18 | 0.51 | PCI/G |
| SC-22701-S | 03/29/1999 | THORIUM-230 | 0.99 | 0 62 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-22701-S | 03/29/1999 | URANIUM-238 | 1.34 | 2.68 | PCI/G |
| SC-22701-S-01 | 07/15/1999 | RADIUM-226 | 0.96 | 0.31 | PCI/G |
| SC-22701-S-01 | 07/15/1999 | RADIUM-228 | 0.405 | 0.81 | PCI/G |
| SC-22701-S-01 | 07/15/1999 | THORIUM-230 | 1.45 | 0.62 | PCI/G |
| SC-22701-S-01 | 07/15/1999 | URANIUM-238 | 1.34 | 2.68 | PCI/G |
| SC-22701-U | 03/30/2000 | RADIUM-226 | 0.86 | 0.32 | PCI/G |
| SC-22701-U | 03/30/2000 | RADIUM-228 | 0.42 | 0.84 | PCI/G |
| SC-22701-U | 03/30/2000 | THORIUM-230 | 0.82 | 0.64 | PCI/G |
| SC-22701-U | 03/30/2000 | URANIUM-238 | 1.035 | 2.07 | PCI/G |
| SC-22702-S | 03/29/1999 | RADIUM-226 | 1.23 | 0.33 | PCI/G |
| SC-22702-S | 03/29/1999 | RADIUM-228 | 1.2 | 0.47 | PCI/G |
| SC-22702-S | 03/29/1999 | THORIUM-230 | 1.9 | 0.62 | PCI/G |
| SC-22702-S | 03/29/1999 | URANIUM-238 | 1.41 | 2.82 | PCI/G |
| SC-22702-S-01 | 07/15/1999 | RADIUM-226 | 1.08 | 0.29 | PCI/G |
| SC-22702-S-01 | 07/15/1999 | RADIUM-228 | 1.01 | 0.42 | PCI/G |
| SC-22702-S-01 | 07/15/1999 | THORIUM-230 | 1.19 | 0.62 | PCI/G |
| SC-22702-S-01 | 07/15/1999 | URANIUM-238 | 1.345 | 2.69 | PCI/G |
| SC-22702-U | 03/30/2000 | RADIUM-226 | 0.88 | 0.24 | PCI/G |
| SC-22702-U | 03/30/2000 | RADIUM-228 | 0.95 | 0.31 | PCI/G |
| SC-22702-U | 03/30/2000 | THORIUM-230 | 0.64 | 0.64 | PCI/G |
| SC-22702-U | 03/30/2000 | URANIUM-238 | 1.16 | 2.32 | PCI/G |
| SC-22703-C | 03/31/1999 | RADIUM-226 | 1.26 | 0.32 | PCI/G |
| SC-22703-C | 03/31/1999 | RADIUM-228 | 0.475 | 0.95 | PCI/G |
| SC-22703-C | 03/31/1999 | THORIUM-230 | 2.55 | 0.62 | PCI/G |
| SC-22703-C | 03/31/1999 | URANIUM-238 | 1.4 | 2.8 | PCI/G |
| SC-22703-C-RS | 03/22/2000 | PAH | 21 | 15 | UG/KG |
| SC-22703-C-RS | 03/22/2000 | RADIUM-226 | 0.84 | 0.26 | PCI/G |
| SC-22703-C-RS | 03/22/2000 | RADIUM-228 | 0.69 | 0.52 | PCI/G |
| SC-22703-C-RS | 03/22/2000 | THORIUM-230 | 1.46 | 0.64 | PCI/G |
| SC-22703-C-RS | 03/22/2000 | URANIUM-238 | 2.76 | 2.55 | PCI/G |
| SC-22703-S | 03/31/1999 | RADIUM-226 | 1.31 | 0.31 | PCI/G |
| SC-22703-S | 03/31/1999 | RADIUM-228 | 1.12 | 0.46 | PCI/G |
| SC-22703-S | 03/31/1999 | THORIUM-230 | 2.84 | 0.62 | PCI/G |
| SC-22703-S | 03/31/1999 | URANIUM-238 | 1.465 | 2.93 | PCI/G |
| SC-22703-U | 03/30/2000 | RADIUM-226 | 1.02 | 0.23 | PCI/G |
| SC-22703-U | 03/30/2000 | RADIUM-228 | 1.16 | 0.38 | PCI/G |
| SC-22703-U | 03/30/2000 | THORIUM-230 | 1.09 | 0.64 | PCI/G |
| SC-22703-U | 03/30/2000 | URANIUM-238 | 1.21 | 2.42 | PCI/G |
| SC-22704-S | 03/22/2000 | PAH | 0 | 12 | UG/KG |
| SC-22704-S | 03/22/2000 | RADIUM-226 | 0.79 | 0.23 | PCI/G |
| SC-22704-S | 03/22/2000 | RADIUM-228 | 0.99 | 0.35 | PCI/G |
| SC-22704-S | 03/22/2000 | THORIUM-230 | 0.93 | 0.65 | PCI/G |
| SC-22704-S | 03/22/2000 | URANIUM-238 | 1.15 | 2.3 | PCI/G |
| SC-22704-U | 06/07/2000 | PAH | 0 | 19 | UG/KG |
| SC-22704-U | 06/07/2000 | RADIUM-226 | 1.14 | 0.22 | PCI/G |
| SC-22704-U | 06/07/2000 | RADIUM-228 | 1.13 | 0.32 | PCI/G |
| SC-22704-U | 06/07/2000 | THORIUM-230 | 1.3 | 0.64 | PCI/G |
| SC-22704-U | 06/07/2000 | URANIUM-238 | 1.18 | 2.36 | PCI/G |
| SC-22705-C | 03/07/2000 | RADIUM-226 | 0.7 | 0.25 | PCI/G |
| SC-22705-C | 03/07/2000 | RADIUM-228 | 1 | 0.36 | PCI/G |
| SC-22705-C | 03/07/2000 | THORIUM-230 | 2.67 | 0.64 | PCI/G |
| SC-22705-C | 03/07/2000 | URANIUM-238 | 1.115 | 2.23 | PCI/G |
| SC-22705-C-RS | 03/22/2000 | BENZO(A)ANTHRACENE | 11 | 12 | UG/KG |
| SC-22705-C-RS | 03/22/2000 | BENZO(A)PYRENE | 21 | 21 | UG/KG |
| SC-22705-C-RS | 03/22/2000 | BENZO(B)FLUORANTHENE | 35 | 14 | UG/KG |
| SC-22705-C-RS | 03/22/2000 | BENZO(K)FLUORANTHENE | 15 | 15 | UG/KG |
| SC-22705-C-RS | 03/22/2000 | CHRYSENE | 60 | 120 | UG/KG |
| SC-22705-C-RS | 03/22/2000 | INDENO(1,2,3-CD)PYRENE | 45 | 45 | UG/KG |
| SC-22705-C-RS | 03/22/2000 | RADIUM-226 | 0.7 | 0.29 | PCI/G |
| SC-22705-C-RS | 03/22/2000 | RADIUM-228 | 1 | 0.45 | PCI/G |
| SC-22705-C-RS | 03/22/2000 | THORIUM-230 | 1.81 | 0.64 | PCI/G |
| SC-22705-C-RS | 03/22/2000 | URANIUM-238 | 1.12 | 2.24 | PCI/G |
| SC-22705-S | 03/07/2000 | RADIUM-226 | 0.83 | 0.26 | PCI/G |
| SC-22705-S | 03/07/2000 | RADIUM-228 | 0.415 | 0.83 | PCI/G |
| SC-22705-S | 03/07/2000 | THORIUM-230 | 2.31 | 0.64 | PCI/G |
| SC-22705-S | 03/07/2000 | URANIUM-238 | 2.59 | 1.87 | PCI/G |
| SC-22705-S-RS | 03/22/2000 | PAH | 110 | 36 | UG/KG |
| SC-22705-S-RS | 03/22/2000 | RADIUM-226 | 0.76 | 0.24 | PCI/G |
| SC-22705-S-RS | 03/22/2000 | RADIUM-228 | 1 | 0.31 | PCI/G |
| SC-22705-S-RS | 03/22/2000 | THORIUM-230 | 1.89 | 0.62 | PCI/G |
| SC-22705-S-RS | 03/22/2000 | URANIUM-238 | 1.12 | 2.24 | PCI/G |
| SC-22705-U | 06/07/2000 | PAH | 0 | 19 | UG/KG |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-22705-U | 06/07/2000 | RADIUM-226 | 0.94 | 0 23 | PCI/G |
| SC-22705-U | 06/07/2000 | RADIUM-228 | 0.375 | 0.75 | PCI/G |
| SC-22705-U | 06/07/2000 | THORIUM-230 | 1 57 | 0 64 | PCI/G |
| SC-22705-U | 06/07/2000 | URANIUM-238 | 1.05 | 2 1 | PCI/G |
| SC-22706-S | 03/29/1999 | RADIUM-226 | 1 43 | 0 35 | PCI/G |
| SC-22706-S | 03/29/1999 | RADIUM-228 | 0.52 | 1 04 | PCI/G |
| SC-22706-S | 03/29/1999 | THORIUM-230 | 1 03 | 0 62 | PCI/G |
| SC-22706-S | 03/29/1999 | URANIUM-238 | 1 4 | 2 8 | PCI/G |
| SC-22706-S-01 | 05/24/1999 | RADIUM-226 | 0.94 | 0.29 | PCI/G |
| SC-22706-S-01 | 05/24/1999 | RADIUM-228 | 0 98 | 0.45 | PCI/G |
| SC-22706-S-01 | 05/24/1999 | THORIUM-230 | 1.12 | 0 66 | PCI/G |
| SC-22706-S-01 | 05/24/1999 | URANIUM-238 | 1.375 | 2 75 | PCI/G |
| SC-22706-S-01-RS | 07/15/1999 | RADIUM-226 | 1.06 | 0 34 | PCI/G |
| SC-22706-S-01-RS | 07/15/1999 | RADIUM-228 | 0 49 | 0 98 | PCI/G |
| SC-22706-S-01-RS | 07/15/1999 | THORIUM-230 | 1 76 | 0 65 | PCI/G |
| SC-22706-S-01-RS | 07/15/1999 | URANIUM-238 | 1.395 | 2 79 | PCI/G |
| SC-22707-S | 03/29/1999 | RADIUM-226 | 1.68 | 0.28 | PCI/G |
| SC-22707-S | 03/29/1999 | RADIUM-228 | 0.99 | 0 44 | PCI/G |
| SC-22707-S | 03/29/1999 | THORIUM-230 | 4.17 | 0 62 | PCI/G |
| SC-22707-S | 03/29/1999 | URANIUM-238 | 1 435 | 2 87 | PCI/G |
| SC-22707-S-01 | 07/15/1999 | RADIUM-226 | 0.97 | 0.29 | PCI/G |
| SC-22707-S-01 | 07/15/1999 | RADIUM-228 | 0.82 | 0 44 | PCI/G |
| SC-22707-S-01 | 07/15/1999 | THORIUM-230 | 3.06 | 0 64 | PCI/G |
| SC-22707-S-01 | 07/15/1999 | URANIUM-238 | 1 415 | 2.83 | PCI/G |
| SC-22708-S | 03/31/1999 | RADIUM-226 | 1 12 | 0 37 | PCI/G |
| SC-22708-S | 03/31/1999 | RADIUM-228 | 0.48 | 0 96 | PCI/G |
| SC-22708-S | 03/31/1999 | THORIUM-230 | 2.88 | 0 62 | PCI/G |
| SC-22708-S | 03/31/1999 | URANIUM-238 | 1.46 | 2.92 | PCI/G |
| SC-22709-S | 06/07/2000 | PAH | 0 | 18 | UG/KG |
| SC-22709-S | 06/07/2000 | RADIUM-226 | 1 2 | 0.24 | PCI/G |
| SC-22709-S | 06/07/2000 | RADIUM-228 | 1 1 | 0 35 | PCI/G |
| SC-22709-S | 06/07/2000 | THORIUM-230 | 1.31 | 0 64 | PCI/G |
| SC-22709-S | 06/07/2000 | URANIUM-238 | 1 175 | 2 35 | PCI/G |
| SC-22710-S | 06/07/2000 | PAH | 0 | 18 | UG/KG |
| SC-22710-S | 06/07/2000 | RADIUM-226 | 1.39 | 0 27 | PCI/G |
| SC-22710-S | 06/07/2000 | RADIUM-228 | 0.83 | 0 57 | PCI/G |
| SC-22710-S | 06/07/2000 | THORIUM-230 | 0.91 | 0 62 | PCI/G |
| SC-22710-S | 06/07/2000 | URANIUM-238 | 1 1 | 2 2 | PCI/G |
| SC-22711-S | 03/29/1999 | RADIUM-226 | 0.96 | 0 35 | PCI/G |
| SC-22711-S | 03/29/1999 | RADIUM-228 | 1.39 | 0 48 | PCI/G |
| SC-22711-S | 03/29/1999 | THORIUM-230 | 0 76 | 0 62 | PCI/G |
| SC-22711-S | 03/29/1999 | URANIUM-238 | 1 38 | 2 76 | PCI/G |
| SC-22711-S-01 | 05/24/1999 | RADIUM-226 | 0 77 | 0.29 | PCI/G |
| SC-22711-S-01 | 05/24/1999 | RADIUM-228 | 1 01 | 0 39 | PCI/G |
| SC-22711-S-01 | 05/24/1999 | THORIUM-230 | 3 66 | 0 64 | PCI/G |
| SC-22711-S-01 | 05/24/1999 | URANIUM-238 | 1.285 | 2.57 | PCI/G |
| SC-22712-S | 03/29/1999 | RADIUM-226 | 1 25 | 0 31 | PCI/G |
| SC-22712-S | 03/29/1999 | RADIUM-228 | 0 98 | 0.42 | PCI/G |
| SC-22712-S | 03/29/1999 | THORIUM-230 | 1 41 | 0.62 | PCI/G |
| SC-22712-S | 03/29/1999 | URANIUM-238 | 3 51 | 2.42 | PCI/G |
| SC-22712-S-01 | 05/24/1999 | RADIUM-226 | 0 81 | 0.25 | PCI/G |
| SC-22712-S-01 | 05/24/1999 | RADIUM-228 | 1 02 | 0.48 | PCI/G |
| SC-22712-S-01 | 05/24/1999 | THORIUM-230 | 3 18 | 0.62 | PCI/G |
| SC-22712-S-01 | 05/24/1999 | URANIUM-238 | 1.325 | 2.65 | PCI/G |
| SC-22713-S | 03/31/1999 | RADIUM-226 | 1 54 | 0.29 | PCI/G |
| SC-22713-S | 03/31/1999 | RADIUM-228 | 1.21 | 0.45 | PCI/G |
| SC-22713-S | 03/31/1999 | THORIUM-230 | 9 53 | 0.62 | PCI/G |
| SC-22713-S | 03/31/1999 | URANIUM-238 | 1.5 | 3 | PCI/G |
| SC-22713-S-HSO1 | 04/07/1999 | THORIUM-230 | 3 13 | 0.62 | PCI/G |
| SC-22713-S-HSO2 | 04/07/1999 | THORIUM-230 | 1 48 | 0.62 | PCI/G |
| SC-22713-S-HSO3 | 04/07/1999 | THORIUM-230 | 4.98 | 0.62 | PCI/G |
| SC-22713-S-HSO4 | 04/07/1999 | THORIUM-230 | 10 7 | 0 62 | PCI/G |
| SC-22713-S-RS | 05/21/1999 | THORIUM-230 | 1.52 | 0.64 | PCI/G |
| SC-22714-S | 06/07/2000 | RADIUM-226 | 0 89 | 0 27 | PCI/G |
| SC-22714-S | 06/07/2000 | RADIUM-228 | 0.94 | 0 35 | PCI/G |
| SC-22714-S | 06/07/2000 | THORIUM-230 | 1.3 | 0 64 | PCI/G |
| SC-22714-S | 06/07/2000 | URANIUM-238 | 1.205 | 2 41 | PCI/G |
| SC-22715-S | 06/07/2000 | RADIUM-226 | 1 11 | 0 27 | PCI/G |
| SC-22715-S | 06/07/2000 | RADIUM-228 | 0 405 | 0 81 | PCI/G |
| SC-22715-S | 06/07/2000 | THORIUM-230 | 8 12 | 0 64 | PCI/G |
| SC-22715-S | 06/07/2000 | URANIUM-238 | 1 155 | 2 31 | PCI/G |
| SC-22715-S-RS | 06/28/2000 | THORIUM-230 | 1 36 | 0 62 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-22716-S | 03/29/1999 | RADIUM-226 | 1.47 | 0.38 | PCI/G |
| SC-22716-S | 03/29/1999 | RADIUM-228 | 1.08 | 0.51 | PCI/G |
| SC-22716-S | 03/29/1999 | THORIUM-230 | 4.27 | 0.62 | PCI/G |
| SC-22716-S | 03/29/1999 | URANIUM-238 | 1.315 | 2.63 | PCI/G |
| SC-22716-S-01 | 05/24/1999 | RADIUM-226 | 0.73 | 0.31 | PCI/G |
| SC-22716-S-01 | 05/24/1999 | RADIUM-228 | 0.425 | 0.85 | PCI/G |
| SC-22716-S-01 | 05/24/1999 | THORIUM-230 | 1.19 | 0.64 | PCI/G |
| SC-22716-S-01 | 05/24/1999 | URANIUM-238 | 1.395 | 2.79 | PCI/G |
| SC-22717-S | 03/29/1999 | RADIUM-226 | 1.38 | 0.3 | PCI/G |
| SC-22717-S | 03/29/1999 | RADIUM-228 | 1.07 | 0.43 | PCI/G |
| SC-22717-S | 03/29/1999 | THORIUM-230 | 1.04 | 0.62 | PCI/G |
| SC-22717-S | 03/29/1999 | URANIUM-238 | 1.7 | 2.27 | PCI/G |
| SC-22718-S | 06/07/2000 | RADIUM-226 | 0.88 | 0.29 | PCI/G |
| SC-22718-S | 06/07/2000 | RADIUM-228 | 1.11 | 0.5 | PCI/G |
| SC-22718-S | 06/07/2000 | THORIUM-230 | 1.93 | 0.62 | PCI/G |
| SC-22718-S | 06/07/2000 | URANIUM-238 | 0.99 | 1.98 | PCI/G |
| SC-22721-S | 03/29/1999 | RADIUM-226 | 1.34 | 0.31 | PCI/G |
| SC-22721-S | 03/29/1999 | RADIUM-228 | 1.1 | 0.51 | PCI/G |
| SC-22721-S | 03/29/1999 | THORIUM-230 | 1.01 | 0.62 | PCI/G |
| SC-22721-S | 03/29/1999 | URANIUM-238 | 1.25 | 2.5 | PCI/G |
| SC-22722-S | 03/29/1999 | RADIUM-226 | 1.05 | 0.25 | PCI/G |
| SC-22722-S | 03/29/1999 | RADIUM-228 | 0.98 | 0.49 | PCI/G |
| SC-22722-S | 03/29/1999 | THORIUM-230 | 1.05 | 0.62 | PCI/G |
| SC-22722-S | 03/29/1999 | URANIUM-238 | 1.305 | 2.61 | PCI/G |
| SC-22723-S | 06/07/2000 | RADIUM-226 | 0.98 | 0.27 | PCI/G |
| SC-22723-S | 06/07/2000 | RADIUM-228 | 0.89 | 0.34 | PCI/G |
| SC-22723-S | 06/07/2000 | THORIUM-230 | 1 | 0.64 | PCI/G |
| SC-22723-S | 06/07/2000 | URANIUM-238 | 1.17 | 2.34 | PCI/G |
| SC-22801-S-01 | 07/15/1999 | RADIUM-226 | 0.94 | 0.32 | PCI/G |
| SC-22801-S-01 | 07/15/1999 | RADIUM-228 | 0.47 | 0.94 | PCI/G |
| SC-22801-S-01 | 07/15/1999 | THORIUM-230 | 1.14 | 0.62 | PCI/G |
| SC-22801-S-01 | 07/15/1999 | URANIUM-238 | 1.34 | 2.68 | PCI/G |
| SC-22802-S | 03/29/1999 | PAH | 0 | 43 | UG/KG |
| SC-22802-S | 03/29/1999 | RADIUM-226 | 1.1 | 0.32 | PCI/G |
| SC-22802-S | 03/29/1999 | RADIUM-228 | 0.5 | 1 | PCI/G |
| SC-22802-S | 03/29/1999 | THORIUM-230 | 0.92 | 0.62 | PCI/G |
| SC-22802-S | 03/29/1999 | URANIUM-238 | 1.4 | 2.8 | PCI/G |
| SC-22802-S-01 | 07/15/1999 | RADIUM-226 | 0.74 | 0.29 | PCI/G |
| SC-22802-S-01 | 07/15/1999 | RADIUM-228 | 1.06 | 0.44 | PCI/G |
| SC-22802-S-01 | 07/15/1999 | THORIUM-230 | 1.09 | 0.62 | PCI/G |
| SC-22802-S-01 | 07/15/1999 | URANIUM-238 | 1.3 | 2.6 | PCI/G |
| SC-22803-S | 03/31/1999 | RADIUM-226 | 2.7 | 0.4 | PCI/G |
| SC-22803-S | 03/31/1999 | RADIUM-228 | 1.36 | 0.57 | PCI/G |
| SC-22803-S | 03/31/1999 | THORIUM-230 | 29.2 | 0.62 | PCI/G |
| SC-22803-S | 03/31/1999 | URANIUM-238 | 1.715 | 3.43 | PCI/G |
| SC-22803-S-RS | 04/22/1999 | THORIUM-230 | 3.25 | 0.62 | PCI/G |
| SC-22804-S | 03/31/1999 | RADIUM-226 | 1.17 | 0.3 | PCI/G |
| SC-22804-S | 03/31/1999 | RADIUM-228 | 1.2 | 0.49 | PCI/G |
| SC-22804-S | 03/31/1999 | THORIUM-230 | 1.03 | 0.62 | PCI/G |
| SC-22804-S | 03/31/1999 | URANIUM-238 | 1.34 | 2.68 | PCI/G |
| SC-22805-S-01 | 07/15/1999 | RADIUM-226 | 1.13 | 0.33 | PCI/G |
| SC-22805-S-01 | 07/15/1999 | RADIUM-228 | 0.425 | 0.85 | PCI/G |
| SC-22805-S-01 | 07/15/1999 | THORIUM-230 | 2.45 | 0.65 | PCI/G |
| SC-22805-S-01 | 07/15/1999 | URANIUM-238 | 1.315 | 2.63 | PCI/G |
| SC-22806-S | 03/29/1999 | RADIUM-226 | 1.18 | 0.32 | PCI/G |
| SC-22806-S | 03/29/1999 | RADIUM-228 | 1.3 | 0.45 | PCI/G |
| SC-22806-S | 03/29/1999 | THORIUM-230 | 1.13 | 0.62 | PCI/G |
| SC-22806-S | 03/29/1999 | URANIUM-238 | 2.02 | 2.49 | PCI/G |
| SC-22806-S-01 | 07/15/1999 | RADIUM-226 | 0.97 | 0.31 | PCI/G |
| SC-22806-S-01 | 07/15/1999 | RADIUM-228 | 1.18 | 0.39 | PCI/G |
| SC-22806-S-01 | 07/15/1999 | THORIUM-230 | 1.16 | 0.64 | PCI/G |
| SC-22806-S-01 | 07/15/1999 | URANIUM-238 | 1.3 | 2.6 | PCI/G |
| SC-22807-S | 03/31/1999 | RADIUM-226 | 1.18 | 0.3 | PCI/G |
| SC-22807-S | 03/31/1999 | RADIUM-228 | 1.44 | 0.47 | PCI/G |
| SC-22807-S | 03/31/1999 | THORIUM-230 | 1.32 | 0.62 | PCI/G |
| SC-22807-S | 03/31/1999 | URANIUM-238 | 1.385 | 2.77 | PCI/G |
| SC-22808-S | 03/31/1999 | RADIUM-226 | 1.27 | 0.29 | PCI/G |
| SC-22808-S | 03/31/1999 | RADIUM-228 | 1.03 | 0.5 | PCI/G |
| SC-22808-S | 03/31/1999 | THORIUM-230 | 1.13 | 0.62 | PCI/G |
| SC-22808-S | 03/31/1999 | URANIUM-238 | 1.38 | 2.76 | PCI/G |
| SC-22809-S | 05/07/1999 | RADIUM-226 | 1 | 0.33 | PCI/G |
| SC-22809-S | 05/07/1999 | RADIUM-228 | 0.425 | 0.85 | PCI/G |

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| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-22809-S | 05/07/1999 | THORIUM-230 | 2.57 | 0 73 | PCI/G |
| SC-22809-S | 05/07/1999 | URANIUM-238 | 1.325 | 2 65 | PCI/G |
| SC-22809-S-01 | 07/15/1999 | RADIUM-226 | 0 8 | 0 29 | PCI/G |
| SC-22809-S-01 | 07/15/1999 | RADIUM-228 | 0.465 | 0.93 | PCI/G |
| SC-22809-S-01 | 07/15/1999 | THORIUM-230 | 1.07 | 0.65 | PCI/G |
| SC-22809-S-01 | 07/15/1999 | URANIUM-238 | 1.165 | 2.33 | PCI/G |
| SC-22810-S | 03/29/1999 | RADIUM-226 | 1.23 | 0.24 | PCI/G |
| SC-22810-S | 03/29/1999 | RADIUM-228 | 0.41 | 0.82 | PCI/G |
| SC-22810-S | 03/29/1999 | THORIUM-230 | 1.14 | 0.62 | PCI/G |
| SC-22810-S | 03/29/1999 | URANIUM-238 | 1 3 | 2.6 | PCI/G |
| SC-22810-S-01 | 07/15/1999 | RADIUM-226 | 0.94 | 0 3 | PCI/G |
| SC-22810-S-01 | 07/15/1999 | RADIUM-228 | 1 19 | 0.37 | PCI/G |
| SC-22810-S-01 | 07/15/1999 | THORIUM-230 | 1 | 0.64 | PCI/G |
| SC-22810-S-01 | 07/15/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-22811-S | 03/31/1999 | RADIUM-226 | 5.71 | 0.35 | PCI/G |
| SC-22811-S | 03/31/1999 | RADIUM-228 | 0.505 | 1.01 | PCI/G |
| SC-22811-S | 03/31/1999 | THORIUM-230 | 1.32 | 0.62 | PCI/G |
| SC-22811-S | 03/31/1999 | URANIUM-238 | 1.57 | 3.14 | PCI/G |
| SC-22811-S-HS01 | 04/08/1999 | RADIUM-226 | 1 6 | 0.38 | PCI/G |
| SC-22811-S-HS01 | 04/08/1999 | RADIUM-228 | 0.51 | 1.02 | PCI/G |
| SC-22811-S-HS02 | 04/08/1999 | RADIUM-226 | 1 52 | 0.26 | PCI/G |
| SC-22811-S-HS02 | 04/08/1999 | RADIUM-228 | 1.24 | 0 37 | PCI/G |
| SC-22811-S-HS03 | 04/08/1999 | RADIUM-226 | 1 47 | 0.28 | PCI/G |
| SC-22811-S-HS03 | 04/08/1999 | RADIUM-228 | 0.445 | 0 89 | PCI/G |
| SC-22811-S-HS04 | 04/08/1999 | RADIUM-226 | 1.68 | 0 31 | PCI/G |
| SC-22811-S-HS04 | 04/08/1999 | RADIUM-228 | 0 82 | 0.51 | PCI/G |
| SC-22812-C | 03/31/1999 | RADIUM-226 | 1.1 | 0 32 | PCI/G |
| SC-22812-C | 03/31/1999 | RADIUM-228 | 1 4 | 0 36 | PCI/G |
| SC-22812-C | 03/31/1999 | THORIUM-230 | 0 83 | 0.62 | PCI/G |
| SC-22812-C | 03/31/1999 | URANIUM-238 | 1.375 | 2 75 | PCI/G |
| SC-22812-S | 03/31/1999 | RADIUM-226 | 1.03 | 0 3 | PCI/G |
| SC-22812-S | 03/31/1999 | RADIUM-228 | 0.505 | 1.01 | PCI/G |
| SC-22812-S | 03/31/1999 | THORIUM-230 | 1 28 | 0 62 | PCI/G |
| SC-22812-S | 03/31/1999 | URANIUM-238 | 1 19 | 2 38 | PCI/G |
| SC-22813-S | 05/07/1999 | RADIUM-226 | 1 06 | 0.28 | PCI/G |
| SC-22813-S | 05/07/1999 | RADIUM-228 | 0 71 | 0 49 | PCI/G |
| SC-22813-S | 05/07/1999 | THORIUM-230 | 2 8 | 0 7 | PCI/G |
| SC-22813-S | 05/07/1999 | URANIUM-238 | 1 31 | 2 62 | PCI/G |
| SC-22813-S-01 | 07/15/1999 | RADIUM-226 | 0.335 | 0 67 | PCI/G |
| SC-22813-S-01 | 07/15/1999 | RADIUM-228 | 0.44 | 0 88 | PCI/G |
| SC-22813-S-01 | 07/15/1999 | THORIUM-230 | 1 1 | 0 62 | PCI/G |
| SC-22813-S-01 | 07/15/1999 | URANIUM-238 | 1 215 | 2 43 | PCI/G |
| SC-22814-S | 03/29/1999 | RADIUM-226 | 1.28 | 0 3 | PCI/G |
| SC-22814-S | 03/29/1999 | RADIUM-228 | 1.24 | 0 47 | PCI/G |
| SC-22814-S | 03/29/1999 | THORIUM-230 | 0.92 | 0 62 | PCI/G |
| SC-22814-S | 03/29/1999 | URANIUM-238 | 1.435 | 2.87 | PCI/G |
| SC-22814-S-01 | 07/15/1999 | RADIUM-226 | 0.94 | 0 27 | PCI/G |
| SC-22814-S-01 | 07/15/1999 | RADIUM-228 | 1 12 | 0 41 | PCI/G |
| SC-22814-S-01 | 07/15/1999 | THORIUM-230 | 1.07 | 0 62 | PCI/G |
| SC-22814-S-01 | 07/15/1999 | URANIUM-238 | 1 3 | 2.6 | PCI/G |
| SC-22815-S | 03/31/1999 | RADIUM-226 | 1 3 | 0 3 | PCI/G |
| SC-22815-S | 03/31/1999 | RADIUM-228 | 1.27 | 0.34 | PCI/G |
| SC-22815-S | 03/31/1999 | THORIUM-230 | 1.24 | 0.62 | PCI/G |
| SC-22815-S | 03/31/1999 | URANIUM-238 | 1.345 | 2.69 | PCI/G |
| SC-22816-S | 03/31/1999 | RADIUM-226 | 1.35 | 0.29 | PCI/G |
| SC-22816-S | 03/31/1999 | RADIUM-228 | 0.455 | 0.91 | PCI/G |
| SC-22816-S | 03/31/1999 | THORIUM-230 | 1.18 | 0.62 | PCI/G |
| SC-22816-S | 03/31/1999 | URANIUM-238 | 1.275 | 2.55 | PCI/G |
| SC-22817-S | 04/14/1999 | RADIUM-226 | 1.47 | 0.595 | PCI/G |
| SC-22817-S | 04/14/1999 | RADIUM-228 | 1.09 | 0 921 | PCI/G |
| SC-22817-S | 04/14/1999 | THORIUM-230 | 0.448 | 0 153 | PCI/G |
| SC-22817-S | 04/14/1999 | THORIUM-232 | 0 811 | 0 164 | PCI/G |
| SC-22817-S | 04/14/1999 | URANIUM-238 | 3.36 | 5.74 | PCI/G |
| SC-22817-S-01 | 07/15/1999 | RADIUM-226 | 1.28 | 0 35 | PCI/G |
| SC-22817-S-01 | 07/15/1999 | RADIUM-228 | 0.47 | 0.94 | PCI/G |
| SC-22817-S-01 | 07/15/1999 | THORIUM-230 | 1 28 | 0 65 | PCI/G |
| SC-22817-S-01 | 07/15/1999 | URANIUM-238 | 1.355 | 2 71 | PCI/G |
| SC-22818-S | 03/29/1999 | RADIUM-226 | 1 21 | 0 33 | PCI/G |
| SC-22818-S | 03/29/1999 | RADIUM-228 | 1 21 | 0 53 | PCI/G |
| SC-22818-S | 03/29/1999 | THORIUM-230 | 1 44 | 0 62 | PCI/G |
| SC-22818-S | 03/29/1999 | URANIUM-238 | 1 415 | 2 83 | PCI/G |
| SC-22818-S-01 | 07/15/1999 | RADIUM-226 | 0 79 | 0 3 | PCI/G |

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| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-22818-S-01 | 07/15/1999 | RADIUM-228 | 1.06 | 0.43 | PCI/G |
| SC-22818-S-01 | 07/15/1999 | THORIUM-230 | 1.27 | 0.64 | PCI/G |
| SC-22818-S-01 | 07/15/1999 | URANIUM-238 | 1.31 | 2.62 | PCI/G |
| SC-22819-S | 03/31/1999 | RADIUM-226 | 1.34 | 0.33 | PCI/G |
| SC-22819-S | 03/31/1999 | RADIUM-228 | 0.83 | 0.46 | PCI/G |
| SC-22819-S | 03/31/1999 | THORIUM-230 | 1.24 | 0.62 | PCI/G |
| SC-22819-S | 03/31/1999 | URANIUM-238 | 1.43 | 2.86 | PCI/G |
| SC-22820-C | 03/31/1999 | RADIUM-226 | 1.16 | 0.31 | PCI/G |
| SC-22820-C | 03/31/1999 | RADIUM-228 | 0.46 | 0.92 | PCI/G |
| SC-22820-C | 03/31/1999 | THORIUM-230 | 1.08 | 0.62 | PCI/G |
| SC-22820-C | 03/31/1999 | URANIUM-238 | 1.225 | 2.45 | PCI/G |
| SC-22820-S | 03/31/1999 | RADIUM-226 | 1.32 | 0.35 | PCI/G |
| SC-22820-S | 03/31/1999 | RADIUM-228 | 1.12 | 0.47 | PCI/G |
| SC-22820-S | 03/31/1999 | THORIUM-230 | 1.1 | 0.62 | PCI/G |
| SC-22820-S | 03/31/1999 | URANIUM-238 | 1.38 | 2.76 | PCI/G |
| SC-22821-S | 04/14/1999 | RADIUM-226 | 1.45 | 0.65 | PCI/G |
| SC-22821-S | 04/14/1999 | RADIUM-228 | 1.47 | 1.2 | PCI/G |
| SC-22821-S | 04/14/1999 | THORIUM-230 | 1.5 | 0.071 | PCI/G |
| SC-22821-S | 04/14/1999 | THORIUM-232 | 0.5 | 0.087 | PCI/G |
| SC-22821-S | 04/14/1999 | URANIUM-238 | 2.18 | 4.36 | PCI/G |
| SC-22821-S-01 | 07/15/1999 | RADIUM-226 | 1.06 | 0.4 | PCI/G |
| SC-22821-S-01 | 07/15/1999 | RADIUM-228 | 0.94 | 0.54 | PCI/G |
| SC-22821-S-01 | 07/15/1999 | THORIUM-230 | 1.28 | 0.62 | PCI/G |
| SC-22821-S-01 | 07/15/1999 | URANIUM-238 | 1.3 | 2.6 | PCI/G |
| SC-22822-S | 03/29/1999 | RADIUM-226 | 1.19 | 0.3 | PCI/G |
| SC-22822-S | 03/29/1999 | RADIUM-228 | 1.12 | 0.43 | PCI/G |
| SC-22822-S | 03/29/1999 | THORIUM-230 | 0.95 | 0.62 | PCI/G |
| SC-22822-S | 03/29/1999 | URANIUM-238 | 1.35 | 2.7 | PCI/G |
| SC-22822-S-01 | 07/15/1999 | RADIUM-226 | 1.12 | 0.3 | PCI/G |
| SC-22822-S-01 | 07/15/1999 | RADIUM-228 | 1.05 | 0.48 | PCI/G |
| SC-22822-S-01 | 07/15/1999 | THORIUM-230 | 2.02 | 0.62 | PCI/G |
| SC-22822-S-01 | 07/15/1999 | URANIUM-238 | 1.355 | 2.71 | PCI/G |
| SC-22823-S | 03/29/1999 | RADIUM-226 | 1.3 | 0.33 | PCI/G |
| SC-22823-S | 03/29/1999 | RADIUM-228 | 0.505 | 1.01 | PCI/G |
| SC-22823-S | 03/29/1999 | THORIUM-230 | 1.45 | 0.62 | PCI/G |
| SC-22823-S | 03/29/1999 | URANIUM-238 | 1.33 | 2.66 | PCI/G |
| SC-22824-S | 03/31/1999 | RADIUM-226 | 1.26 | 0.31 | PCI/G |
| SC-22824-S | 03/31/1999 | RADIUM-228 | 0.47 | 0.94 | PCI/G |
| SC-22824-S | 03/31/1999 | THORIUM-230 | 1.21 | 0.62 | PCI/G |
| SC-22824-S | 03/31/1999 | URANIUM-238 | 1.285 | 2.57 | PCI/G |
| SC-22901-S | 05/07/1999 | RADIUM-226 | 0.89 | 0.31 | PCI/G |
| SC-22901-S | 05/07/1999 | RADIUM-228 | 0.415 | 0.83 | PCI/G |
| SC-22901-S | 05/07/1999 | THORIUM-230 | 3.74 | 0.7 | PCI/G |
| SC-22901-S | 05/07/1999 | URANIUM-238 | 1.315 | 2.63 | PCI/G |
| SC-22901-S-01 | 07/16/1999 | RADIUM-226 | 1.02 | 0.31 | PCI/G |
| SC-22901-S-01 | 07/16/1999 | RADIUM-228 | 0.94 | 0.48 | PCI/G |
| SC-22901-S-01 | 07/16/1999 | THORIUM-230 | 1.48 | 0.62 | PCI/G |
| SC-22901-S-01 | 07/16/1999 | URANIUM-238 | 1.33 | 2.66 | PCI/G |
| SC-22902-S | 03/29/1999 | RADIUM-226 | 0.91 | 0.3 | PCI/G |
| SC-22902-S | 03/29/1999 | RADIUM-228 | 1.07 | 0.43 | PCI/G |
| SC-22902-S | 03/29/1999 | THORIUM-230 | 1.7 | 0.62 | PCI/G |
| SC-22902-S | 03/29/1999 | URANIUM-238 | 1.42 | 2.84 | PCI/G |
| SC-22902-S-01 | 07/16/1999 | RADIUM-226 | 0.9 | 0.29 | PCI/G |
| SC-22902-S-01 | 07/16/1999 | RADIUM-228 | 1.03 | 0.38 | PCI/G |
| SC-22902-S-01 | 07/16/1999 | THORIUM-230 | 1.74 | 0.62 | PCI/G |
| SC-22902-S-01 | 07/16/1999 | URANIUM-238 | 1.265 | 2.53 | PCI/G |
| SC-22903-S | 04/01/1999 | RADIUM-226 | 1.25 | 0.3 | PCI/G |
| SC-22903-S | 04/01/1999 | RADIUM-228 | 1.12 | 0.42 | PCI/G |
| SC-22903-S | 04/01/1999 | THORIUM-230 | 1.94 | 0.62 | PCI/G |
| SC-22903-S | 04/01/1999 | URANIUM-238 | 1.38 | 2.76 | PCI/G |
| SC-22904-S | 04/01/1999 | RADIUM-226 | 1.18 | 0.3 | PCI/G |
| SC-22904-S | 04/01/1999 | RADIUM-228 | 1.16 | 0.36 | PCI/G |
| SC-22904-S | 04/01/1999 | THORIUM-230 | 0.81 | 0.62 | PCI/G |
| SC-22904-S | 04/01/1999 | URANIUM-238 | 1.44 | 2.88 | PCI/G |
| SC-22905-S | 05/07/1999 | RADIUM-226 | 0.83 | 0.26 | PCI/G |
| SC-22905-S | 05/07/1999 | RADIUM-228 | 1.01 | 0.39 | PCI/G |
| SC-22905-S | 05/07/1999 | THORIUM-230 | 2.6 | 0.7 | PCI/G |
| SC-22905-S | 05/07/1999 | URANIUM-238 | 1.21 | 2.42 | PCI/G |
| SC-22905-S-01 | 07/15/1999 | RADIUM-226 | 0.98 | 0.34 | PCI/G |
| SC-22905-S-01 | 07/15/1999 | RADIUM-228 | 0.48 | 0.96 | PCI/G |
| SC-22905-S-01 | 07/15/1999 | THORIUM-230 | 2.29 | 0.62 | PCI/G |
| SC-22905-S-01 | 07/15/1999 | URANIUM-238 | 1.34 | 2.68 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-22906-S | 03/29/1999 | RADIUM-226 | 1.11 | 0 3 | PCI/G |
| SC-22906-S | 03/29/1999 | RADIUM-228 | 1 02 | 0.48 | PCI/G |
| SC-22906-S | 03/29/1999 | THORIUM-230 | 1 15 | 0.62 | PCI/G |
| SC-22906-S | 03/29/1999 | URANIUM-238 | 1.265 | 2.53 | PCI/G |
| SC-22906-S-01 | 07/15/1999 | RADIUM-226 | 1.1 | 0.3 | PCI/G |
| SC-22906-S-01 | 07/15/1999 | RADIUM-228 | 1.18 | 0.41 | PCI/G |
| SC-22906-S-01 | 07/15/1999 | THORIUM-230 | 1.37 | 0.64 | PCI/G |
| SC-22906-S-01 | 07/15/1999 | URANIUM-238 | 1.385 | 2.77 | PCI/G |
| SC-22907-S | 04/01/1999 | RADIUM-226 | 1.25 | 0 31 | PCI/G |
| SC-22907-S | 04/01/1999 | RADIUM-228 | 0.93 | 0 44 | PCI/G |
| SC-22907-S | 04/01/1999 | THORIUM-230 | 1.26 | 0 62 | PCI/G |
| SC-22907-S | 04/01/1999 | URANIUM-238 | 1.375 | 2.75 | PCI/G |
| SC-22907-S-01 | 07/13/1999 | RADIUM-226 | 0.305 | 0.61 | PCI/G |
| SC-22907-S-01 | 07/13/1999 | RADIUM-228 | 0.48 | 0 96 | PCI/G |
| SC-22907-S-01 | 07/13/1999 | THORIUM-230 | 1.69 | 0.62 | PCI/G |
| SC-22907-S-01 | 07/13/1999 | URANIUM-238 | 1.385 | 2 77 | PCI/G |
| SC-22908-S | 04/01/1999 | RADIUM-226 | 1.19 | 0.38 | PCI/G |
| SC-22908-S | 04/01/1999 | RADIUM-228 | 0 51 | 1.02 | PCI/G |
| SC-22908-S | 04/01/1999 | THORIUM-230 | 1 07 | 0.62 | PCI/G |
| SC-22908-S | 04/01/1999 | URANIUM-238 | 1.38 | 2.76 | PCI/G |
| SC-22909-S | 05/07/1999 | RADIUM-226 | 0.83 | 0.28 | PCI/G |
| SC-22909-S | 05/07/1999 | RADIUM-228 | 0.47 | 0.94 | PCI/G |
| SC-22909-S | 05/07/1999 | THORIUM-230 | 1.71 | 0.7 | PCI/G |
| SC-22909-S | 05/07/1999 | URANIUM-238 | 3.97 | 1 91 | PCI/G |
| SC-22909-S-01 | 07/15/1999 | RADIUM-226 | 0 7 | 0 36 | PCI/G |
| SC-22909-S-01 | 07/15/1999 | RADIUM-228 | 0.445 | 0.89 | PCI/G |
| SC-22909-S-01 | 07/15/1999 | THORIUM-230 | 1 46 | 0 62 | PCI/G |
| SC-22909-S-01 | 07/15/1999 | URANIUM-238 | 1 355 | 2.71 | PCI/G |
| SC-22910-S | 03/29/1999 | RADIUM-226 | 1 29 | 0.28 | PCI/G |
| SC-22910-S | 03/29/1999 | RADIUM-228 | 1 33 | 0.36 | PCI/G |
| SC-22910-S | 03/29/1999 | THORIUM-230 | 1 63 | 0 62 | PCI/G |
| SC-22910-S | 03/29/1999 | URANIUM-238 | 1.365 | 2 73 | PCI/G |
| SC-22910-S-01 | 07/15/1999 | RADIUM-226 | 1 | 0 31 | PCI/G |
| SC-22910-S-01 | 07/15/1999 | RADIUM-228 | 1 17 | 0 46 | PCI/G |
| SC-22910-S-01 | 07/15/1999 | THORIUM-230 | 0.93 | 0 62 | PCI/G |
| SC-22910-S-01 | 07/15/1999 | URANIUM-238 | 1.37 | 2 74 | PCI/G |
| SC-22911-S | 03/31/1999 | RADIUM-226 | 1 37 | 0 33 | PCI/G |
| SC-22911-S | 03/31/1999 | RADIUM-228 | 0.93 | 0 45 | PCI/G |
| SC-22911-S | 03/31/1999 | THORIUM-230 | 5 48 | 0 62 | PCI/G |
| SC-22911-S | 03/31/1999 | URANIUM-238 | 2.88 | 2 5 | PCI/G |
| SC-22912-S | 04/01/1999 | RADIUM-226 | 1 47 | 0 32 | PCI/G |
| SC-22912-S | 04/01/1999 | RADIUM-228 | 1.22 | 0 49 | PCI/G |
| SC-22912-S | 04/01/1999 | THORIUM-230 | 1 17 | 0 62 | PCI/G |
| SC-22912-S | 04/01/1999 | URANIUM-238 | 1 43 | 2 86 | PCI/G |
| SC-22913-S | 05/07/1999 | RADIUM-226 | 3 17 | 0 43 | PCI/G |
| SC-22913-S | 05/07/1999 | RADIUM-228 | 1 62 | 0.59 | PCI/G |
| SC-22913-S | 05/07/1999 | THORIUM-230 | 36.5 | 0 7 | PCI/G |
| SC-22913-S | 05/07/1999 | URANIUM-238 | 1 69 | 3 38 | PCI/G |
| SC-22913-S-01 | 07/15/1999 | RADIUM-226 | 0.99 | 0.39 | PCI/G |
| SC-22913-S-01 | 07/15/1999 | RADIUM-228 | 0.47 | 0 94 | PCI/G |
| SC-22913-S-01 | 07/15/1999 | THORIUM-230 | 1.07 | 0 65 | PCI/G |
| SC-22913-S-01 | 07/15/1999 | URANIUM-238 | 1.285 | 2 57 | PCI/G |
| SC-22913-S-RS | 05/18/1999 | THORIUM-230 | 14 1 | 0 7 | PCI/G |
| SC-22913-S-RS2 | 05/21/1999 | THORIUM-230 | 0 9 | 0.64 | PCI/G |
| SC-22914-S | 03/29/1999 | RADIUM-226 | 1 09 | 0 34 | PCI/G |
| SC-22914-S | 03/29/1999 | RADIUM-228 | 0 48 | 0.96 | PCI/G |
| SC-22914-S | 03/29/1999 | THORIUM-230 | 1.22 | 0.62 | PCI/G |
| SC-22914-S | 03/29/1999 | URANIUM-238 | 1.235 | 2.47 | PCI/G |
| SC-22914-S-01 | 07/15/1999 | RADIUM-226 | 0 74 | 0.31 | PCI/G |
| SC-22914-S-01 | 07/15/1999 | RADIUM-228 | 1.09 | 0.47 | PCI/G |
| SC-22914-S-01 | 07/15/1999 | THORIUM-230 | 1.22 | 0.64 | PCI/G |
| SC-22914-S-01 | 07/15/1999 | URANIUM-238 | 1 375 | 2 75 | PCI/G |
| SC-22915-S | 03/31/1999 | RADIUM-226 | 1 33 | 0.34 | PCI/G |
| SC-22915-S | 03/31/1999 | RADIUM-228 | 0 495 | 0.99 | PCI/G |
| SC-22915-S | 03/31/1999 | THORIUM-230 | 1.13 | 0.62 | PCI/G |
| SC-22915-S | 03/31/1999 | URANIUM-238 | 1 38 | 2.76 | PCI/G |
| SC-22916-S | 03/31/1999 | RADIUM-226 | 1 23 | 0 31 | PCI/G |
| SC-22916-S | 03/31/1999 | RADIUM-228 | 1 27 | 0 49 | PCI/G |
| SC-22916-S | 03/31/1999 | THORIUM-230 | 1 24 | 0 62 | PCI/G |
| SC-22916-S | 03/31/1999 | URANIUM-238 | 1 37 | 2 74 | PCI/G |
| SC-22917-S | 05/07/1999 | RADIUM-226 | 1 09 | 0 35 | PCI/G |
| SC-22917-S | 05/07/1999 | RADIUM-228 | 0.405 | 0 81 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-22917-S | 05/07/1999 | THORIUM-230 | 5.74 | 0.73 | PCI/G |
| SC-22917-S | 05/07/1999 | URANIUM-238 | 1.34 | 2.68 | PCI/G |
| SC-22917-S-01 | 07/15/1999 | RADIUM-226 | 0.96 | 0.31 | PCI/G |
| SC-22917-S-01 | 07/15/1999 | RADIUM-228 | 1.24 | 0.5 | PCI/G |
| SC-22917-S-01 | 07/15/1999 | THORIUM-230 | 2.61 | 0.62 | PCI/G |
| SC-22917-S-01 | 07/15/1999 | URANIUM-238 | 1.415 | 2.83 | PCI/G |
| SC-22918-S | 03/29/1999 | RADIUM-226 | 1.12 | 0.28 | PCI/G |
| SC-22918-S | 03/29/1999 | RADIUM-228 | 1.37 | 0.46 | PCI/G |
| SC-22918-S | 03/29/1999 | THORIUM-230 | 1.83 | 0.62 | PCI/G |
| SC-22918-S | 03/29/1999 | URANIUM-238 | 1.355 | 2.71 | PCI/G |
| SC-22918-S-01 | 07/15/1999 | RADIUM-226 | 0.87 | 0.3 | PCI/G |
| SC-22918-S-01 | 07/15/1999 | RADIUM-228 | 1.27 | 0.39 | PCI/G |
| SC-22918-S-01 | 07/15/1999 | THORIUM-230 | 1.08 | 0.62 | PCI/G |
| SC-22918-S-01 | 07/15/1999 | URANIUM-238 | 1.325 | 2.65 | PCI/G |
| SC-22919-S | 03/31/1999 | RADIUM-226 | 1.02 | 0.35 | PCI/G |
| SC-22919-S | 03/31/1999 | RADIUM-228 | 1.27 | 0.62 | PCI/G |
| SC-22919-S | 03/31/1999 | THORIUM-230 | 1.09 | 0.62 | PCI/G |
| SC-22919-S | 03/31/1999 | URANIUM-238 | 1.415 | 2.83 | PCI/G |
| SC-22920-S | 03/31/1999 | RADIUM-226 | 1.33 | 0.31 | PCI/G |
| SC-22920-S | 03/31/1999 | RADIUM-228 | 1 | 0.4 | PCI/G |
| SC-22920-S | 03/31/1999 | THORIUM-230 | 0.94 | 0.62 | PCI/G |
| SC-22920-S | 03/31/1999 | URANIUM-238 | 1.4 | 2.8 | PCI/G |
| SC-22921-S | 05/07/1999 | RADIUM-226 | 0.91 | 0.29 | PCI/G |
| SC-22921-S | 05/07/1999 | RADIUM-228 | 1.01 | 0.43 | PCI/G |
| SC-22921-S | 05/07/1999 | THORIUM-230 | 2.28 | 0.62 | PCI/G |
| SC-22921-S | 05/07/1999 | URANIUM-238 | 1.285 | 2.57 | PCI/G |
| SC-22921-S-01 | 07/15/1999 | RADIUM-226 | 0.88 | 0.28 | PCI/G |
| SC-22921-S-01 | 07/15/1999 | RADIUM-228 | 0.485 | 0.97 | PCI/G |
| SC-22921-S-01 | 07/15/1999 | THORIUM-230 | 1.35 | 0.73 | PCI/G |
| SC-22921-S-01 | 07/15/1999 | URANIUM-238 | 1.4 | 2.8 | PCI/G |
| SC-22922-S | 03/29/1999 | RADIUM-226 | 1.22 | 0.33 | PCI/G |
| SC-22922-S | 03/29/1999 | RADIUM-228 | 0.52 | 1.04 | PCI/G |
| SC-22922-S | 03/29/1999 | THORIUM-230 | 2.17 | 0.62 | PCI/G |
| SC-22922-S | 03/29/1999 | URANIUM-238 | 1.4 | 2.8 | PCI/G |
| SC-22922-S-01 | 07/15/1999 | RADIUM-226 | 0.83 | 0.31 | PCI/G |
| SC-22922-S-01 | 07/15/1999 | RADIUM-228 | 1.05 | 0.41 | PCI/G |
| SC-22922-S-01 | 07/15/1999 | THORIUM-230 | 1.79 | 0.64 | PCI/G |
| SC-22922-S-01 | 07/15/1999 | URANIUM-238 | 1.325 | 2.65 | PCI/G |
| SC-22923-S | 03/31/1999 | RADIUM-226 | 1.29 | 0.28 | PCI/G |
| SC-22923-S | 03/31/1999 | RADIUM-228 | 0.52 | 1.04 | PCI/G |
| SC-22923-S | 03/31/1999 | THORIUM-230 | 1.05 | 0.62 | PCI/G |
| SC-22923-S | 03/31/1999 | URANIUM-238 | 1.325 | 2.65 | PCI/G |
| SC-22924-S | 03/31/1999 | RADIUM-226 | 1.35 | 0.33 | PCI/G |
| SC-22924-S | 03/31/1999 | RADIUM-228 | 0.95 | 0.5 | PCI/G |
| SC-22924-S | 03/31/1999 | THORIUM-230 | 1.22 | 0.62 | PCI/G |
| SC-22924-S | 03/31/1999 | URANIUM-238 | 1.39 | 2.78 | PCI/G |
| SC-23001-S | 06/23/1999 | RADIUM-226 | 0.76 | 0.28 | PCI/G |
| SC-23001-S | 06/23/1999 | RADIUM-228 | 0.93 | 0.5 | PCI/G |
| SC-23001-S | 06/23/1999 | THORIUM-230 | 1.59 | 0.62 | PCI/G |
| SC-23001-S | 06/23/1999 | URANIUM-238 | 1.285 | 2.57 | PCI/G |
| SC-23002-S | 03/29/1999 | RADIUM-226 | 1.2 | 0.32 | PCI/G |
| SC-23002-S | 03/29/1999 | RADIUM-228 | 1.2 | 0.41 | PCI/G |
| SC-23002-S | 03/29/1999 | THORIUM-230 | 1.42 | 0.62 | PCI/G |
| SC-23002-S | 03/29/1999 | URANIUM-238 | 1.38 | 2.76 | PCI/G |
| SC-23002-S-01 | 06/23/1999 | RADIUM-226 | 0.67 | 0.33 | PCI/G |
| SC-23002-S-01 | 06/23/1999 | RADIUM-228 | 0.94 | 0.42 | PCI/G |
| SC-23002-S-01 | 06/23/1999 | THORIUM-230 | 2.54 | 0.64 | PCI/G |
| SC-23002-S-01 | 06/23/1999 | URANIUM-238 | 1.34 | 2.68 | PCI/G |
| SC-23003-S | 04/01/1999 | RADIUM-226 | 1.08 | 0.29 | PCI/G |
| SC-23003-S | 04/01/1999 | RADIUM-228 | 0.52 | 1.04 | PCI/G |
| SC-23003-S | 04/01/1999 | THORIUM-230 | 1.69 | 0.62 | PCI/G |
| SC-23003-S | 04/01/1999 | URANIUM-238 | 1.41 | 2.82 | PCI/G |
| SC-23004-S | 04/01/1999 | RADIUM-226 | 1.1 | 0.29 | PCI/G |
| SC-23004-S | 04/01/1999 | RADIUM-228 | 1.33 | 0.35 | PCI/G |
| SC-23004-S | 04/01/1999 | THORIUM-230 | 1.12 | 0.62 | PCI/G |
| SC-23004-S | 04/01/1999 | URANIUM-238 | 1.445 | 2.89 | PCI/G |
| SC-23005-S | 06/01/1999 | RADIUM-226 | 0.77 | 0.32 | PCI/G |
| SC-23005-S | 06/01/1999 | RADIUM-228 | 1.33 | 0.42 | PCI/G |
| SC-23005-S | 06/01/1999 | THORIUM-230 | 1.04 | 0.65 | PCI/G |
| SC-23005-S | 06/01/1999 | URANIUM-238 | 1.18 | 2.36 | PCI/G |
| SC-23005-S-01 | 06/23/1999 | RADIUM-226 | 1.03 | 0.34 | PCI/G |
| SC-23005-S-01 | 06/23/1999 | RADIUM-228 | 0.74 | 0.6 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-23005-S-01 | 06/23/1999 | THORIUM-230 | 1 66 | 0.64 | PCI/G |
| SC-23005-S-01 | 06/23/1999 | URANIUM-238 | 1.425 | 2 85 | PCI/G |
| SC-23006-S | 03/29/1999 | RADIUM-226 | 0 99 | 0 32 | PCI/G |
| SC-23006-S | 03/29/1999 | RADIUM-228 | 0.515 | 1 03 | PCI/G |
| SC-23006-S | 03/29/1999 | THORIUM-230 | 2.79 | 0 62 | PCI/G |
| SC-23006-S | 03/29/1999 | URANIUM-238 | 2.98 | 2 12 | PCI/G |
| SC-23006-S-01 | 06/23/1999 | RADIUM-226 | 0.82 | 0 26 | PCI/G |
| SC-23006-S-01 | 06/23/1999 | RADIUM-228 | 1.03 | 0 41 | PCI/G |
| SC-23006-S-01 | 06/23/1999 | THORIUM-230 | 1 43 | 0 65 | PCI/G |
| SC-23006-S-01 | 06/23/1999 | URANIUM-238 | 1 32 | 2.64 | PCI/G |
| SC-23007-S | 04/01/1999 | RADIUM-226 | 1 42 | 0.36 | PCI/G |
| SC-23007-S | 04/01/1999 | RADIUM-228 | 0.58 | 1.16 | PCI/G |
| SC-23007-S | 04/01/1999 | THORIUM-230 | 9 08 | 0 62 | PCI/G |
| SC-23007-S | 04/01/1999 | URANIUM-238 | 1 82 | 3 64 | PCI/G |
| SC-23007-S-HS01 | 04/09/1999 | THORIUM-230 | 4 93 | 0.7 | PCI/G |
| SC-23007-S-HS02 | 04/09/1999 | THORIUM-230 | 2 56 | 0.7 | PCI/G |
| SC-23007-S-HS03 | 04/09/1999 | THORIUM-230 | 5 22 | 0 73 | PCI/G |
| SC-23007-S-HS04 | 04/09/1999 | THORIUM-230 | 4 98 | 0 76 | PCI/G |
| SC-23008-S | 04/01/1999 | RADIUM-226 | 1 09 | 0 33 | PCI/G |
| SC-23008-S | 04/01/1999 | RADIUM-228 | 1 18 | 0 47 | PCI/G |
| SC-23008-S | 04/01/1999 | THORIUM-230 | 0.95 | 0 62 | PCI/G |
| SC-23008-S | 04/01/1999 | URANIUM-238 | 1.425 | 2.85 | PCI/G |
| SC-23009-S | 06/01/1999 | RADIUM-226 | 0 69 | 0 33 | PCI/G |
| SC-23009-S | 06/01/1999 | RADIUM-228 | 0 79 | 0 5 | PCI/G |
| SC-23009-S | 06/01/1999 | THORIUM-230 | 1 13 | 0 62 | PCI/G |
| SC-23009-S | 06/01/1999 | URANIUM-238 | 1.245 | 2 49 | PCI/G |
| SC-23009-S-01 | 06/23/1999 | RADIUM-226 | 0 77 | 0 36 | PCI/G |
| SC-23009-S-01 | 06/23/1999 | RADIUM-228 | 1 02 | 0 56 | PCI/G |
| SC-23009-S-01 | 06/23/1999 | THORIUM-230 | 2 41 | 0 62 | PCI/G |
| SC-23009-S-01 | 06/23/1999 | URANIUM-238 | 1 425 | 2 85 | PCI/G |
| SC-23010-S | 03/29/1999 | RADIUM-226 | 0 99 | 0 29 | PCI/G |
| SC-23010-S | 03/29/1999 | RADIUM-228 | 1 2 | 0 44 | PCI/G |
| SC-23010-S | 03/29/1999 | THORIUM-230 | 0 96 | 0 62 | PCI/G |
| SC-23010-S | 03/29/1999 | URANIUM-238 | 1.325 | 2 65 | PCI/G |
| SC-23010-S-01 | 06/23/1999 | RADIUM-226 | 0 77 | 0 27 | PCI/G |
| SC-23010-S-01 | 06/23/1999 | RADIUM-228 | 0.355 | 0.71 | PCI/G |
| SC-23010-S-01 | 06/23/1999 | THORIUM-230 | 1 85 | 0 65 | PCI/G |
| SC-23010-S-01 | 06/23/1995 | URANIUM-238 | 1 31 | 2 62 | PCI/G |
| SC-23011-S | 04/01/1999 | RADIUM-226 | 1 19 | 0 28 | PCI/G |
| SC-23011-S | 04/01/1999 | RADIUM-228 | 1 07 | 0 53 | PCI/G |
| SC-23011-S | 04/01/1999 | THORIUM-230 | 1 46 | 0 62 | PCI/G |
| SC-23011-S | 04/01/1999 | URANIUM-238 | 1 325 | 2 65 | PCI/G |
| SC-23012-S | 04/01/1999 | RADIUM-226 | 1 08 | 0 33 | PCI/G |
| SC-23012-S | 04/01/1999 | RADIUM-228 | 1 32 | 0 41 | PCI/G |
| SC-23012-S | 04/01/1999 | THORIUM-230 | 0 82 | 0 62 | PCI/G |
| SC-23012-S | 04/01/1999 | URANIUM-238 | 1 265 | 2 53 | PCI/G |
| SC-23013-S | 06/01/1999 | RADIUM-226 | 0.68 | 0 29 | PCI/G |
| SC-23013-S | 06/01/1999 | RADIUM-228 | 0 535 | 1 07 | PCI/G |
| SC-23013-S | 06/01/1999 | THORIUM-230 | 0.84 | 0 65 | PCI/G |
| SC-23013-S | 06/01/1999 | URANIUM-238 | 1.3 | 2.6 | PCI/G |
| SC-23013-S-01 | 07/19/1999 | RADIUM-226 | 0.96 | 0 27 | PCI/G |
| SC-23013-S-01 | 07/19/1999 | RADIUM-228 | 1 01 | 0.42 | PCI/G |
| SC-23013-S-01 | 07/19/1999 | THORIUM-230 | 1.62 | 0 65 | PCI/G |
| SC-23013-S-01 | 07/19/1999 | URANIUM-238 | 1 385 | 2 77 | PCI/G |
| SC-23014-S | 03/29/1999 | RADIUM-226 | 1.01 | 0 42 | PCI/G |
| SC-23014-S | 03/29/1999 | RADIUM-228 | 1.26 | 0.54 | PCI/G |
| SC-23014-S | 03/29/1999 | THORIUM-230 | 2 45 | 0 62 | PCI/G |
| SC-23014-S | 03/29/1999 | URANIUM-238 | 1.41 | 2.82 | PCI/G |
| SC-23014-S-01 | 07/19/1999 | RADIUM-226 | 0.78 | 0.32 | PCI/G |
| SC-23014-S-01 | 07/19/1999 | RADIUM-228 | 0 445 | 0 89 | PCI/G |
| SC-23014-S-01 | 07/19/1999 | THORIUM-230 | 1.08 | 0 62 | PCI/G |
| SC-23014-S-01 | 07/19/1999 | URANIUM-238 | 1.31 | 2 62 | PCI/G |
| SC-23015-S | 04/01/1999 | RADIUM-226 | 1.05 | 0 33 | PCI/G |
| SC-23015-S | 04/01/1999 | RADIUM-228 | 0 435 | 0 87 | PCI/G |
| SC-23015-S | 04/01/1999 | THORIUM-230 | 1.65 | 0 62 | PCI/G |
| SC-23015-S | 04/01/1999 | URANIUM-238 | 1.49 | 2 98 | PCI/G |
| SC-23016-S | 04/01/1999 | RADIUM-226 | 1 07 | 0 36 | PCI/G |
| SC-23016-S | 04/01/1999 | RADIUM-228 | 0 95 | 0 54 | PCI/G |
| SC-23016-S | 04/01/1999 | THORIUM-230 | 1 1 | 0 62 | PCI/G |
| SC-23016-S | 04/01/1999 | URANIUM-238 | 1 34 | 2 68 | PCI/G |
| SC-23017-S | 06/01/1999 | RADIUM-226 | 0 74 | 0 29 | PCI/G |
| SC-23017-S | 06/01/1999 | RADIUM-228 | 1 1 | 0 45 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-23017-S | 06/01/1999 | THORIUM-230 | 0.93 | 0.62 | PCI/G |
| SC-23017-S | 06/01/1999 | URANIUM-238 | 1.27 | 2.54 | PCI/G |
| SC-23017-S-01 | 07/19/1999 | RADIUM-226 | 0.95 | 0.26 | PCI/G |
| SC-23017-S-01 | 07/19/1999 | RADIUM-228 | 1.14 | 0.39 | PCI/G |
| SC-23017-S-01 | 07/19/1999 | THORIUM-230 | 1.29 | 0.65 | PCI/G |
| SC-23017-S-01 | 07/19/1999 | URANIUM-238 | 1.245 | 2.49 | PCI/G |
| SC-23018-S | 03/29/1999 | RADIUM-226 | 1.33 | 0.29 | PCI/G |
| SC-23018-S | 03/29/1999 | RADIUM-228 | 1.07 | 0.4 | PCI/G |
| SC-23018-S | 03/29/1999 | THORIUM-230 | 6.21 | 0.62 | PCI/G |
| SC-23018-S | 03/29/1999 | URANIUM-238 | 1.405 | 2.81 | PCI/G |
| SC-23018-S-01 | 07/19/1999 | RADIUM-226 | 0.85 | 0.3 | PCI/G |
| SC-23018-S-01 | 07/19/1999 | RADIUM-228 | 1.19 | 0.45 | PCI/G |
| SC-23018-S-01 | 07/19/1999 | THORIUM-230 | 1.39 | 0.62 | PCI/G |
| SC-23018-S-01 | 07/19/1999 | URANIUM-238 | 1.275 | 2.55 | PCI/G |
| SC-23018-S-HS01 | 04/06/1999 | THORIUM-230 | 3.25 | 0.62 | PCI/G |
| SC-23018-S-HS02 | 04/06/1999 | THORIUM-230 | 2.64 | 0.62 | PCI/G |
| SC-23018-S-HS03 | 04/06/1999 | THORIUM-230 | 2.24 | 0.62 | PCI/G |
| SC-23018-S-HS04 | 04/06/1999 | THORIUM-230 | 12.4 | 0.62 | PCI/G |
| SC-23018-S-RS | 04/20/1999 | THORIUM-230 | 1.28 | 0.62 | PCI/G |
| SC-23019-S | 04/01/1999 | RADIUM-226 | 1.22 | 0.35 | PCI/G |
| SC-23019-S | 04/01/1999 | RADIUM-228 | 1.16 | 0.49 | PCI/G |
| SC-23019-S | 04/01/1999 | THORIUM-230 | 2.29 | 0.62 | PCI/G |
| SC-23019-S | 04/01/1999 | URANIUM-238 | 1.365 | 2.73 | PCI/G |
| SC-23019-S-01 | 07/13/1999 | RADIUM-226 | 0.76 | 0.29 | PCI/G |
| SC-23019-S-01 | 07/13/1999 | RADIUM-228 | 1.11 | 0.42 | PCI/G |
| SC-23019-S-01 | 07/13/1999 | THORIUM-230 | 1.39 | 0.62 | PCI/G |
| SC-23019-S-01 | 07/13/1999 | URANIUM-238 | 1.305 | 2.61 | PCI/G |
| SC-23020-C | 04/01/1999 | RADIUM-226 | 1.41 | 0.29 | PCI/G |
| SC-23020-C | 04/01/1999 | RADIUM-228 | 1.14 | 0.51 | PCI/G |
| SC-23020-C | 04/01/1999 | THORIUM-230 | 1.07 | 0.62 | PCI/G |
| SC-23020-C | 04/01/1999 | URANIUM-238 | 4.97 | 2.65 | PCI/G |
| SC-23020-S | 04/09/1999 | RADIUM-226 | 1.28 | 0.35 | PCI/G |
| SC-23020-S | 04/09/1999 | RADIUM-228 | 0.49 | 0.98 | PCI/G |
| SC-23020-S | 04/09/1999 | THORIUM-230 | 2.41 | 0.7 | PCI/G |
| SC-23020-S | 04/09/1999 | URANIUM-238 | 1.34 | 2.68 | PCI/G |
| SC-23021-S | 06/01/1999 | RADIUM-226 | 0.7 | 0.29 | PCI/G |
| SC-23021-S | 06/01/1999 | RADIUM-228 | 1.03 | 0.31 | PCI/G |
| SC-23021-S | 06/01/1999 | THORIUM-230 | 1.18 | 0.65 | PCI/G |
| SC-23021-S | 06/01/1999 | URANIUM-238 | 1.285 | 2.57 | PCI/G |
| SC-23021-S-01 | 07/19/1999 | RADIUM-226 | 1.03 | 0.36 | PCI/G |
| SC-23021-S-01 | 07/19/1999 | RADIUM-228 | 0.49 | 0.98 | PCI/G |
| SC-23021-S-01 | 07/19/1999 | THORIUM-230 | 1.37 | 0.66 | PCI/G |
| SC-23021-S-01 | 07/19/1999 | URANIUM-238 | 1.455 | 2.91 | PCI/G |
| SC-23022-S | 03/29/1999 | RADIUM-226 | 1.08 | 0.32 | PCI/G |
| SC-23022-S | 03/29/1999 | RADIUM-228 | 0.445 | 0.89 | PCI/G |
| SC-23022-S | 03/29/1999 | THORIUM-230 | 1.42 | 0.62 | PCI/G |
| SC-23022-S | 03/29/1999 | URANIUM-238 | 1.41 | 2.82 | PCI/G |
| SC-23022-S-01 | 07/19/1999 | RADIUM-226 | 0.76 | 0.29 | PCI/G |
| SC-23022-S-01 | 07/19/1999 | RADIUM-228 | 1.24 | 0.43 | PCI/G |
| SC-23022-S-01 | 07/19/1999 | THORIUM-230 | 1.33 | 0.64 | PCI/G |
| SC-23022-S-01 | 07/19/1999 | URANIUM-238 | 1.28 | 2.56 | PCI/G |
| SC-23023-C | 04/01/1999 | RADIUM-226 | 1.24 | 0.34 | PCI/G |
| SC-23023-C | 04/01/1999 | RADIUM-228 | 0.93 | 0.55 | PCI/G |
| SC-23023-C | 04/01/1999 | THORIUM-230 | 1.65 | 0.62 | PCI/G |
| SC-23023-C | 04/01/1999 | URANIUM-238 | 4.17 | 3.11 | PCI/G |
| SC-23023-S | 04/01/1999 | RADIUM-226 | 1.15 | 0.32 | PCI/G |
| SC-23023-S | 04/01/1999 | RADIUM-228 | 0.91 | 0.4 | PCI/G |
| SC-23023-S | 04/01/1999 | THORIUM-230 | 1.48 | 0.62 | PCI/G |
| SC-23023-S | 04/01/1999 | URANIUM-238 | 1.46 | 2.92 | PCI/G |
| SC-23024-S | 04/01/1999 | RADIUM-226 | 1.15 | 0.38 | PCI/G |
| SC-23024-S | 04/01/1999 | RADIUM-228 | 0.52 | 1.04 | PCI/G |
| SC-23024-S | 04/01/1999 | THORIUM-230 | 1.27 | 0.62 | PCI/G |
| SC-23024-S | 04/01/1999 | URANIUM-238 | 1.37 | 2.74 | PCI/G |
| SC-23101-S | 03/29/1999 | RADIUM-226 | 1.11 | 0.33 | PCI/G |
| SC-23101-S | 03/29/1999 | RADIUM-228 | 0.98 | 0.49 | PCI/G |
| SC-23101-S | 03/29/1999 | THORIUM-230 | 1.31 | 0.62 | PCI/G |
| SC-23101-S | 03/29/1999 | URANIUM-238 | 1.425 | 2.85 | PCI/G |
| SC-23101-S-01 | 07/19/1999 | RADIUM-226 | 0.61 | 0.36 | PCI/G |
| SC-23101-S-01 | 07/19/1999 | RADIUM-228 | 1.31 | 0.46 | PCI/G |
| SC-23101-S-01 | 07/19/1999 | THORIUM-230 | 1.21 | 0.66 | PCI/G |
| SC-23101-S-01 | 07/19/1999 | URANIUM-238 | 1.395 | 2.79 | PCI/G |
| SC-23102-C | 03/29/1999 | RADIUM-226 | 1.34 | 0.32 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-23102-C | 03/29/1999 | RADIUM-228 | 0 475 | 0.95 | PCI/G |
| SC-23102-C | 03/29/1999 | THORIUM-230 | 1.2 | 0.62 | PCI/G |
| SC-23102-C | 03/29/1999 | URANIUM-238 | 1.315 | 2.63 | PCI/G |
| SC-23102-S | 03/29/1999 | RADIUM-226 | 1 35 | 0.29 | PCI/G |
| SC-23102-S | 03/29/1999 | RADIUM-228 | 1.11 | 0 48 | PCI/G |
| SC-23102-S | 03/29/1999 | THORIUM-230 | 1 03 | 0 62 | PCI/G |
| SC-23102-S | 03/29/1999 | URANIUM-238 | 1 4 | 2.8 | PCI/G |
| SC-23102-S-01 | 07/19/1999 | RADIUM-226 | 0 72 | 0.31 | PCI/G |
| SC-23102-S-01 | 07/19/1999 | RADIUM-228 | 1.02 | 0.43 | PCI/G |
| SC-23102-S-01 | 07/19/1999 | THORIUM-230 | 0.94 | 0.64 | PCI/G |
| SC-23102-S-01 | 07/19/1999 | URANIUM-238 | 1 335 | 2.67 | PCI/G |
| SC-23103-S | 03/29/1999 | RADIUM-226 | 1.21 | 0.33 | PCI/G |
| SC-23103-S | 03/29/1999 | RADIUM-228 | 0.51 | 1.02 | PCI/G |
| SC-23103-S | 03/29/1999 | THORIUM-230 | 1.92 | 0.62 | PCI/G |
| SC-23103-S | 03/29/1999 | URANIUM-238 | 1.505 | 3.01 | PCI/G |
| SC-23103-S-01 | 07/19/1999 | RADIUM-226 | 0 58 | 0.37 | PCI/G |
| SC-23103-S-01 | 07/19/1999 | RADIUM-228 | 0.52 | 1.04 | PCI/G |
| SC-23103-S-01 | 07/19/1999 | THORIUM-230 | 1 03 | 0.65 | PCI/G |
| SC-23103-S-01 | 07/19/1999 | URANIUM-238 | 1.25 | 2.5 | PCI/G |
| SC-23104-C | 03/29/1999 | RADIUM-226 | 1 28 | 0.25 | PCI/G |
| SC-23104-C | 03/29/1999 | RADIUM-228 | 1.3 | 0.42 | PCI/G |
| SC-23104-C | 03/29/1999 | THORIUM-230 | 0.94 | 0.62 | PCI/G |
| SC-23104-C | 03/29/1999 | URANIUM-238 | 2.58 | 2 7 | PCI/G |
| SC-23104-S | 03/29/1999 | RADIUM-226 | 1 37 | 0.29 | PCI/G |
| SC-23104-S | 03/29/1999 | RADIUM-228 | 1 03 | 0 46 | PCI/G |
| SC-23104-S | 03/29/1999 | THORIUM-230 | 1 69 | 0 62 | PCI/G |
| SC-23104-S | 03/29/1999 | URANIUM-238 | 1 37 | 2.74 | PCI/G |
| SC-23104-S-01 | 07/19/1999 | RADIUM-226 | 0 73 | 0 29 | PCI/G |
| SC-23104-S-01 | 07/19/1999 | RADIUM-228 | 1.02 | 0 47 | PCI/G |
| SC-23104-S-01 | 07/19/1999 | THORIUM-230 | 0.86 | 0 62 | PCI/G |
| SC-23104-S-01 | 07/19/1999 | URANIUM-238 | 1 275 | 2 55 | PCI/G |
| SC-23105-S | 03/29/1999 | RADIUM-226 | 1 11 | 0.3 | PCI/G |
| SC-23105-S | 03/29/1999 | RADIUM-228 | 1.1 | 0 44 | PCI/G |
| SC-23105-S | 03/29/1999 | THORIUM-230 | 1 83 | 0 62 | PCI/G |
| SC-23105-S | 03/29/1999 | URANIUM-238 | 1 42 | 2 84 | PCI/G |
| SC-23105-S-01 | 07/23/1999 | RADIUM-226 | 0.29 | 0 58 | PCI/G |
| SC-23105-S-01 | 07/23/1999 | RADIUM-228 | 0 46 | 0 92 | PCI/G |
| SC-23105-S-01 | 07/23/1999 | THORIUM-230 | 1.15 | 0.65 | PCI/G |
| SC-23105-S-01 | 07/23/1999 | URANIUM-238 | 1 365 | 2 73 | PCI/G |
| SC-23106-C | 03/29/1999 | RADIUM-226 | 4 02 | 0 46 | PCI/G |
| SC-23106-C | 03/29/1999 | RADIUM-228 | 0 59 | 1 18 | PCI/G |
| SC-23106-C | 03/29/1999 | THORIUM-230 | 65 | 0.62 | PCI/G |
| SC-23106-C | 03/29/1999 | URANIUM-238 | 2.065 | 4 13 | PCI/G |
| SC-23106-C-RS | 04/06/1999 | RADIUM-226 | 1.1 | 0.3 | PCI/G |
| SC-23106-C-RS | 04/06/1999 | RADIUM-228 | 1 08 | 0.39 | PCI/G |
| SC-23106-C-RS | 04/06/1999 | THORIUM-230 | 2.2 | 0.62 | PCI/G |
| SC-23106-C-RS | 04/06/1999 | URANIUM-238 | 1.365 | 2 73 | PCI/G |
| SC-23106-S | 03/29/1999 | RADIUM-226 | 1 28 | 0.29 | PCI/G |
| SC-23106-S | 03/29/1999 | RADIUM-228 | 1 34 | 0.45 | PCI/G |
| SC-23106-S | 03/29/1999 | THORIUM-230 | 1 78 | 0.62 | PCI/G |
| SC-23106-S | 03/29/1999 | URANIUM-238 | 1 385 | 2.77 | PCI/G |
| SC-23106-S-01 | 06/23/1999 | RADIUM-226 | 0 69 | 0.31 | PCI/G |
| SC-23106-S-01 | 06/23/1999 | RADIUM-228 | 1.28 | 0.53 | PCI/G |
| SC-23106-S-01 | 06/23/1999 | THORIUM-230 | 1 38 | 0.62 | PCI/G |
| SC-23106-S-01 | 06/23/1999 | URANIUM-238 | 1.225 | 2.45 | PCI/G |
| SC-23107-S | 03/29/1999 | RADIUM-226 | 1 32 | 0.34 | PCI/G |
| SC-23107-S | 03/29/1999 | RADIUM-228 | 0 445 | 0.89 | PCI/G |
| SC-23107-S | 03/29/1999 | THORIUM-230 | 2 18 | 0.62 | PCI/G |
| SC-23107-S | 03/29/1999 | URANIUM-238 | 1.415 | 2.83 | PCI/G |
| SC-23107-S-01 | 06/23/1999 | RADIUM-226 | 0 79 | 0.26 | PCI/G |
| SC-23107-S-01 | 06/23/1999 | RADIUM-228 | 1.19 | 0.35 | PCI/G |
| SC-23107-S-01 | 06/23/1999 | THORIUM-230 | 1 54 | 0.64 | PCI/G |
| SC-23107-S-01 | 06/23/1999 | URANIUM-238 | 1.295 | 2.59 | PCI/G |
| SC-23108-C | 04/01/1999 | RADIUM-226 | 0.91 | 0.35 | PCI/G |
| SC-23108-C | 04/01/1999 | RADIUM-228 | 0.98 | 0.45 | PCI/G |
| SC-23108-C | 04/01/1999 | THORIUM-230 | 1.05 | 0.62 | PCI/G |
| SC-23108-C | 04/01/1999 | URANIUM-238 | 1.39 | 2.78 | PCI/G |
| SC-23108-S | 04/01/1999 | RADIUM-226 | 1 11 | 0.31 | PCI/G |
| SC-23108-S | 04/01/1999 | RADIUM-228 | 0 49 | 0.98 | PCI/G |
| SC-23108-S | 04/01/1999 | THORIUM-230 | 2 68 | 0.62 | PCI/G |
| SC-23108-S | 04/01/1999 | URANIUM-238 | 1 455 | 2.91 | PCI/G |
| SC-23109-S | 04/01/1999 | RADIUM-226 | 1 28 | 0.31 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-23109-S | 04/01/1999 | RADIUM-228 | 1.3 | 0.39 | PCI/G |
| SC-23109-S | 04/01/1999 | THORIUM-230 | 2.02 | 0.62 | PCI/G |
| SC-23109-S | 04/01/1999 | URANIUM-238 | 1.46 | 2.92 | PCI/G |
| SC-23110-S | 03/29/1999 | RADIUM-226 | 1.44 | 0.34 | PCI/G |
| SC-23110-S | 03/29/1999 | RADIUM-228 | 1.21 | 0.41 | PCI/G |
| SC-23110-S | 03/29/1999 | THORIUM-230 | 10.5 | 0.62 | PCI/G |
| SC-23110-S | 03/29/1999 | URANIUM-238 | 1.55 | 3.1 | PCI/G |
| SC-23110-S-01 | 07/19/1999 | RADIUM-226 | 0.315 | 0.63 | PCI/G |
| SC-23110-S-01 | 07/19/1999 | RADIUM-228 | 0.88 | 0.57 | PCI/G |
| SC-23110-S-01 | 07/19/1999 | THORIUM-230 | 1.26 | 0.66 | PCI/G |
| SC-23110-S-01 | 07/19/1999 | URANIUM-238 | 1.38 | 2.76 | PCI/G |
| SC-23110-S-HS01 | 04/06/1999 | THORIUM-230 | 3.38 | 0.62 | PCI/G |
| SC-23110-S-HS02 | 04/06/1999 | THORIUM-230 | 1.71 | 0.62 | PCI/G |
| SC-23110-S-HS03 | 04/06/1999 | THORIUM-230 | 72.3 | 0.62 | PCI/G |
| SC-23110-S-HS04 | 04/06/1999 | THORIUM-230 | 8.86 | 0.62 | PCI/G |
| SC-23110-S-RS | 04/20/1999 | THORIUM-230 | 3.21 | 0.73 | PCI/G |
| SC-23111-S | 03/29/1999 | RADIUM-226 | 1.47 | 0.35 | PCI/G |
| SC-23111-S | 03/29/1999 | RADIUM-228 | 1.18 | 0.48 | PCI/G |
| SC-23111-S | 03/29/1999 | THORIUM-230 | 10.7 | 0.62 | PCI/G |
| SC-23111-S | 03/29/1999 | URANIUM-238 | 1.445 | 2.89 | PCI/G |
| SC-23111-S-01 | 07/19/1999 | RADIUM-226 | 0.83 | 0.29 | PCI/G |
| SC-23111-S-01 | 07/19/1999 | RADIUM-228 | 0.98 | 0.41 | PCI/G |
| SC-23111-S-01 | 07/19/1999 | THORIUM-230 | 1.1 | 0.64 | PCI/G |
| SC-23111-S-01 | 07/19/1999 | URANIUM-238 | 1.44 | 2.88 | PCI/G |
| SC-23111-S-HS01 | 04/06/1999 | THORIUM-230 | 2.14 | 0.62 | PCI/G |
| SC-23111-S-HS02 | 04/06/1999 | THORIUM-230 | 1.8 | 0.62 | PCI/G |
| SC-23111-S-HS03 | 04/06/1999 | THORIUM-230 | 443 | 0.62 | PCI/G |
| SC-23111-S-HS04 | 04/06/1999 | THORIUM-230 | 3.34 | 0.62 | PCI/G |
| SC-23111-S-RS | 04/20/1999 | THORIUM-230 | 7.17 | 0.62 | PCI/G |
| SC-23111-S-RS2 | 04/25/1999 | THORIUM-230 | 1.31 | 0.62 | PCI/G |
| SC-23112-S | 03/29/1999 | RADIUM-226 | 1.06 | 0.27 | PCI/G |
| SC-23112-S | 03/29/1999 | RADIUM-228 | 1.29 | 0.44 | PCI/G |
| SC-23112-S | 03/29/1999 | THORIUM-230 | 1.07 | 0.62 | PCI/G |
| SC-23112-S | 03/29/1999 | URANIUM-238 | 1.195 | 2.39 | PCI/G |
| SC-23112-S-01 | 07/19/1999 | RADIUM-226 | 0.66 | 0.3 | PCI/G |
| SC-23112-S-01 | 07/19/1999 | RADIUM-228 | 1.32 | 0.49 | PCI/G |
| SC-23112-S-01 | 07/19/1999 | THORIUM-230 | 1.05 | 0.65 | PCI/G |
| SC-23112-S-01 | 07/19/1999 | URANIUM-238 | 1.215 | 2.43 | PCI/G |
| SC-23113-S | 03/29/1999 | RADIUM-226 | 1.22 | 0.34 | PCI/G |
| SC-23113-S | 03/29/1999 | RADIUM-228 | 0.5 | 1 | PCI/G |
| SC-23113-S | 03/29/1999 | THORIUM-230 | 4.22 | 0.62 | PCI/G |
| SC-23113-S | 03/29/1999 | URANIUM-238 | 1.4 | 2.8 | PCI/G |
| SC-23113-S-01 | 07/19/1999 | RADIUM-226 | 0.65 | 0.3 | PCI/G |
| SC-23113-S-01 | 07/19/1999 | RADIUM-228 | 1.21 | 0.45 | PCI/G |
| SC-23113-S-01 | 07/19/1999 | THORIUM-230 | 0.99 | 0.62 | PCI/G |
| SC-23113-S-01 | 07/19/1999 | URANIUM-238 | 1.325 | 2.65 | PCI/G |
| SC-23114-S | 03/29/1999 | RADIUM-226 | 1.21 | 0.3 | PCI/G |
| SC-23114-S | 03/29/1999 | RADIUM-228 | 1.23 | 0.47 | PCI/G |
| SC-23114-S | 03/29/1999 | THORIUM-230 | 4.34 | 0.62 | PCI/G |
| SC-23114-S | 03/29/1999 | URANIUM-238 | 1.67 | 3.34 | PCI/G |
| SC-23114-S-01 | 07/19/1999 | RADIUM-226 | 0.8 | 0.34 | PCI/G |
| SC-23114-S-01 | 07/19/1999 | RADIUM-228 | 0.47 | 0.94 | PCI/G |
| SC-23114-S-01 | 07/19/1999 | THORIUM-230 | 0.76 | 0.66 | PCI/G |
| SC-23114-S-01 | 07/19/1999 | URANIUM-238 | 1.285 | 2.57 | PCI/G |
| SC-23115-S | 03/29/1999 | RADIUM-226 | 1 | 0.35 | PCI/G |
| SC-23115-S | 03/29/1999 | RADIUM-228 | 0.44 | 0.88 | PCI/G |
| SC-23115-S | 03/29/1999 | THORIUM-230 | 1.85 | 0.62 | PCI/G |
| SC-23115-S | 03/29/1999 | URANIUM-238 | 1.475 | 2.95 | PCI/G |
| SC-23115-S-01 | 06/23/1999 | RADIUM-226 | 0.79 | 0.28 | PCI/G |
| SC-23115-S-01 | 06/23/1999 | RADIUM-228 | 0.7 | 0.57 | PCI/G |
| SC-23115-S-01 | 06/23/1999 | THORIUM-230 | 1.09 | 0.64 | PCI/G |
| SC-23115-S-01 | 06/23/1999 | URANIUM-238 | 1.33 | 2.66 | PCI/G |
| SC-23116-S | 03/29/1999 | RADIUM-226 | 1.47 | 0.27 | PCI/G |
| SC-23116-S | 03/29/1999 | RADIUM-228 | 0.84 | 0.49 | PCI/G |
| SC-23116-S | 03/29/1999 | THORIUM-230 | 1.3 | 0.62 | PCI/G |
| SC-23116-S | 03/29/1999 | URANIUM-238 | 1.38 | 2.76 | PCI/G |
| SC-23116-S-01 | 06/23/1999 | RADIUM-226 | 0.79 | 0.25 | PCI/G |
| SC-23116-S-01 | 06/23/1999 | RADIUM-228 | 1.09 | 0.42 | PCI/G |
| SC-23116-S-01 | 06/23/1999 | THORIUM-230 | 3.03 | 0.65 | PCI/G |
| SC-23116-S-01 | 06/23/1999 | URANIUM-238 | 1.37 | 2.74 | PCI/G |
| SC-23117-S | 04/01/1999 | RADIUM-226 | 1.07 | 0.33 | PCI/G |
| SC-23117-S | 04/01/1999 | RADIUM-228 | 1.09 | 0.59 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-23117-S | 04/01/1999 | THORIUM-230 | 1 37 | 0.62 | PCI/G |
| SC-23117-S | 04/01/1999 | URANIUM-238 | 1.325 | 2.65 | PCI/G |
| SC-23118-S | 04/01/1999 | RADIUM-226 | 1.08 | 0 28 | PCI/G |
| SC-23118-S | 04/01/1999 | RADIUM-228 | 0.98 | 0 46 | PCI/G |
| SC-23118-S | 04/01/1999 | THORIUM-230 | 1.21 | 0.62 | PCI/G |
| SC-23118-S | 04/01/1999 | URANIUM-238 | 1.42 | 2.84 | PCI/G |
| SC-23119-S | 06/07/1999 | RADIUM-226 | 0.89 | 0.27 | PCI/G |
| SC-23119-S | 06/07/1999 | RADIUM-228 | 1.22 | 0 44 | PCI/G |
| SC-23119-S | 06/07/1999 | THORIUM-230 | 1.87 | 0.65 | PCI/G |
| SC-23119-S | 06/07/1999 | URANIUM-238 | 1.315 | 2.63 | PCI/G |
| SC-23119-S-01 | 07/19/1999 | RADIUM-226 | 0.65 | 0 31 | PCI/G |
| SC-23119-S-01 | 07/19/1999 | RADIUM-228 | 0 99 | 0 45 | PCI/G |
| SC-23119-S-01 | 07/19/1999 | THORIUM-230 | 0.94 | 0 64 | PCI/G |
| SC-23119-S-01 | 07/19/1999 | URANIUM-238 | 1.3 | 2 6 | PCI/G |
| SC-23120-S | 06/07/1999 | RADIUM-226 | 0.84 | 0.33 | PCI/G |
| SC-23120-S | 06/07/1999 | RADIUM-228 | 0 96 | 0.47 | PCI/G |
| SC-23120-S | 06/07/1999 | THORIUM-230 | 1.33 | 0.64 | PCI/G |
| SC-23120-S | 06/07/1999 | URANIUM-238 | 1.26 | 2.52 | PCI/G |
| SC-23120-S-01 | 07/19/1999 | RADIUM-226 | 0.8 | 0.3 | PCI/G |
| SC-23120-S-01 | 07/19/1999 | RADIUM-228 | 0 445 | 0 89 | PCI/G |
| SC-23120-S-01 | 07/19/1999 | THORIUM-230 | 1.26 | 0 65 | PCI/G |
| SC-23120-S-01 | 07/19/1999 | URANIUM-238 | 7.43 | 2.92 | PCI/G |
| SC-23121-S | 06/07/1999 | RADIUM-226 | 1 | 0.28 | PCI/G |
| SC-23121-S | 06/07/1999 | RADIUM-228 | 0.485 | 0.97 | PCI/G |
| SC-23121-S | 06/07/1999 | THORIUM-230 | 1.8 | 0.62 | PCI/G |
| SC-23121-S | 06/07/1999 | URANIUM-238 | 1.37 | 2 74 | PCI/G |
| SC-23121-S-01 | 07/19/1999 | RADIUM-226 | 0.81 | 0 29 | PCI/G |
| SC-23121-S-01 | 07/19/1999 | RADIUM-228 | 1 | 0 36 | PCI/G |
| SC-23121-S-01 | 07/19/1999 | THORIUM-230 | 1.18 | 0 62 | PCI/G |
| SC-23121-S-01 | 07/19/1999 | URANIUM-238 | 1.325 | 2 65 | PCI/G |
| SC-23122-S | 06/07/1999 | RADIUM-226 | 0.88 | 0 28 | PCI/G |
| SC-23122-S | 06/07/1999 | RADIUM-228 | 1 12 | 0 43 | PCI/G |
| SC-23122-S | 06/07/1999 | THORIUM-230 | 0.88 | 0.65 | PCI/G |
| SC-23122-S | 06/07/1999 | URANIUM-238 | 1.305 | 2.61 | PCI/G |
| SC-23122-S-01 | 07/19/1999 | RADIUM-226 | 0.92 | 0 24 | PCI/G |
| SC-23122-S-01 | 07/19/1999 | RADIUM-228 | 0 42 | 0 84 | PCI/G |
| SC-23122-S-01 | 07/19/1999 | THORIUM-230 | 1.08 | 0.66 | PCI/G |
| SC-23122-S-01 | 07/19/1999 | URANIUM-238 | 1 3 | 2 6 | PCI/G |
| SC-23123-S | 06/07/1999 | RADIUM-226 | 0 88 | 0 36 | PCI/G |
| SC-23123-S | 06/07/1999 | RADIUM-228 | 0 475 | 0.95 | PCI/G |
| SC-23123-S | 06/07/1999 | THORIUM-230 | 1 03 | 0 65 | PCI/G |
| SC-23123-S | 06/07/1999 | URANIUM-238 | 1.265 | 2 53 | PCI/G |
| SC-23123-S-01 | 07/19/1999 | RADIUM-226 | 0 67 | 0 32 | PCI/G |
| SC-23123-S-01 | 07/19/1999 | RADIUM-228 | 1 23 | 0 35 | PCI/G |
| SC-23123-S-01 | 07/19/1999 | THORIUM-230 | 1 24 | 0.64 | PCI/G |
| SC-23123-S-01 | 07/19/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-23201-S | 02/24/1999 | RADIUM-226 | 1.48 | 0.33 | PCI/G |
| SC-23201-S | 02/24/1999 | RADIUM-228 | 0.52 | 1 04 | PCI/G |
| SC-23201-S | 02/24/1999 | THORIUM-230 | 3 47 | 0 62 | PCI/G |
| SC-23201-S | 02/24/1999 | URANIUM-238 | 5 89 | 3 64 | PCI/G |
| SC-23201-S-RS | 06/15/1999 | RADIUM-226 | 0.335 | 0 67 | PCI/G |
| SC-23201-S-RS | 06/15/1999 | RADIUM-228 | 0.485 | 0 97 | PCI/G |
| SC-23201-S-RS | 06/15/1999 | THORIUM-230 | 10 2 | 0 64 | PCI/G |
| SC-23201-S-RS | 06/15/1999 | URANIUM-238 | 12 9 | 3.21 | PCI/G |
| SC-23201-S-RS2 | 06/17/1999 | THORIUM-230 | 1 38 | 0 65 | PCI/G |
| SC-23201-U | 09/10/1999 | RADIUM-226 | 0.95 | 0 31 | PCI/G |
| SC-23201-U | 09/10/1999 | RADIUM-228 | 0 5 | 1 | PCI/G |
| SC-23201-U | 09/10/1999 | THORIUM-230 | 1 02 | 0.62 | PCI/G |
| SC-23201-U | 09/10/1999 | URANIUM-238 | 1 41 | 2 82 | PCI/G |
| SC-23202-S | 02/24/1999 | RADIUM-226 | 1 24 | 0.33 | PCI/G |
| SC-23202-S | 02/24/1999 | RADIUM-228 | 0.94 | 0 43 | PCI/G |
| SC-23202-S | 02/24/1999 | THORIUM-230 | 1.87 | 0 62 | PCI/G |
| SC-23202-S | 02/24/1999 | URANIUM-238 | 5.06 | 2 51 | PCI/G |
| SC-23202-S-01 | 08/03/1999 | RADIUM-226 | 0.35 | 0 7 | PCI/G |
| SC-23202-S-01 | 08/03/1999 | RADIUM-228 | 0.5 | 1 | PCI/G |
| SC-23202-S-01 | 08/03/1999 | THORIUM-230 | 1 49 | 0.64 | PCI/G |
| SC-23202-S-01 | 08/03/1999 | URANIUM-238 | 1.43 | 2.86 | PCI/G |
| SC-23202-U | 09/13/1999 | RADIUM-226 | 0.61 | 0 3 | PCI/G |
| SC-23202-U | 09/13/1999 | RADIUM-228 | 0.45 | 0.9 | PCI/G |
| SC-23202-U | 09/13/1999 | THORIUM-230 | 0.84 | 0 62 | PCI/G |
| SC-23202-U | 09/13/1999 | URANIUM-238 | 1.24 | 2 48 | PCI/G |
| SC-23203-S | 03/29/1999 | RADIUM-226 | 1.46 | 0 41 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-23203-S | 03/29/1999 | RADIUM-228 | 0.46 | 0.92 | PCI/G |
| SC-23203-S | 03/29/1999 | THORIUM-230 | 8.08 | 0.62 | PCI/G |
| SC-23203-S | 03/29/1999 | URANIUM-238 | 1.34 | 2.68 | PCI/G |
| SC-23203-S-01 | 07/28/1999 | RADIUM-226 | 0.33 | 0.66 | PCI/G |
| SC-23203-S-01 | 07/28/1999 | RADIUM-228 | 0.45 | 0.9 | PCI/G |
| SC-23203-S-01 | 07/28/1999 | THORIUM-230 | 1.16 | 0.64 | PCI/G |
| SC-23203-S-01 | 07/28/1999 | URANIUM-238 | 1.7 | 3.4 | PCI/G |
| SC-23203-S-HS01 | 04/06/1999 | THORIUM-230 | 4.87 | 0.62 | PCI/G |
| SC-23203-S-HS02 | 04/06/1999 | THORIUM-230 | 9.2 | 0.62 | PCI/G |
| SC-23203-S-HS03 | 04/06/1999 | THORIUM-230 | 14.9 | 0.62 | PCI/G |
| SC-23203-S-HS04 | 04/06/1999 | THORIUM-230 | 2.06 | 0.62 | PCI/G |
| SC-23203-S-RS | 05/04/1999 | THORIUM-230 | 3.42 | 0.73 | PCI/G |
| SC-23204-C | 03/29/1999 | RADIUM-226 | 1.19 | 0.34 | PCI/G |
| SC-23204-C | 03/29/1999 | RADIUM-228 | 1.25 | 0.55 | PCI/G |
| SC-23204-C | 03/29/1999 | THORIUM-230 | 6.29 | 0.62 | PCI/G |
| SC-23204-C | 03/29/1999 | URANIUM-238 | 3.72 | 2.55 | PCI/G |
| SC-23204-C-01 | 07/28/1999 | RADIUM-226 | 0.81 | 0.31 | PCI/G |
| SC-23204-C-01 | 07/28/1999 | RADIUM-228 | 1.14 | 0.38 | PCI/G |
| SC-23204-C-01 | 07/28/1999 | THORIUM-230 | 1.99 | 0.62 | PCI/G |
| SC-23204-C-01 | 07/28/1999 | URANIUM-238 | 7.73 | 2.21 | PCI/G |
| SC-23204-C-HS01 | 04/06/1999 | THORIUM-230 | 2.89 | 0.62 | PCI/G |
| SC-23204-C-HS02 | 04/06/1999 | THORIUM-230 | 3.66 | 0.62 | PCI/G |
| SC-23204-C-HS03 | 04/06/1999 | THORIUM-230 | 13.9 | 0.62 | PCI/G |
| SC-23204-C-HS04 | 04/06/1999 | THORIUM-230 | 4.96 | 0.62 | PCI/G |
| SC-23204-C-RS | 05/04/1999 | THORIUM-230 | 10.8 | 0.62 | PCI/G |
| SC-23204-C-RS1 | 05/06/1999 | THORIUM-230 | 4.11 | 0.73 | PCI/G |
| SC-23204-S | 03/29/1999 | RADIUM-226 | 1.14 | 0.33 | PCI/G |
| SC-23204-S | 03/29/1999 | RADIUM-228 | 0.445 | 0.89 | PCI/G |
| SC-23204-S | 03/29/1999 | THORIUM-230 | 1.58 | 0.62 | PCI/G |
| SC-23204-S | 03/29/1999 | URANIUM-238 | 1.455 | 2.91 | PCI/G |
| SC-23204-S-01 | 07/28/1999 | RADIUM-226 | 0.33 | 0.66 | PCI/G |
| SC-23204-S-01 | 07/28/1999 | RADIUM-228 | 0.46 | 0.92 | PCI/G |
| SC-23204-S-01 | 07/28/1999 | THORIUM-230 | 1.19 | 0.62 | PCI/G |
| SC-23204-S-01 | 07/28/1999 | URANIUM-238 | 16 | 3.83 | PCI/G |
| SC-23204-S-HS01 | 05/07/1999 | THORIUM-230 | 2.6 | 0.7 | PCI/G |
| SC-23204-S-HS02 | 05/07/1999 | THORIUM-230 | 2.42 | 0.7 | PCI/G |
| SC-23204-S-HS03 | 05/07/1999 | THORIUM-230 | 1.4 | 0.73 | PCI/G |
| SC-23204-S-HS04 | 05/07/1999 | THORIUM-230 | 7.31 | 0.62 | PCI/G |
| SC-23204-S-RS | 05/18/1999 | THORIUM-230 | 1.04 | 0.7 | PCI/G |
| SC-23204-S-RS2 | 05/01/2000 | 2,4,6-TRINITROTOLUENE | 0.115 | 0.23 | UG/G |
| SC-23205-S | 03/29/1999 | RADIUM-226 | 1.18 | 0.32 | PCI/G |
| SC-23205-S | 03/29/1999 | RADIUM-228 | 1.05 | 0.39 | PCI/G |
| SC-23205-S | 03/29/1999 | THORIUM-230 | 1.9 | 0.62 | PCI/G |
| SC-23205-S | 03/29/1999 | URANIUM-238 | 1.315 | 2.63 | PCI/G |
| SC-23205-S-01 | 07/28/1999 | RADIUM-226 | 1.02 | 0.32 | PCI/G |
| SC-23205-S-01 | 07/28/1999 | RADIUM-228 | 1.04 | 0.49 | PCI/G |
| SC-23205-S-01 | 07/28/1999 | THORIUM-230 | 1.31 | 0.64 | PCI/G |
| SC-23205-S-01 | 07/28/1999 | URANIUM-238 | 19.4 | 3.14 | PCI/G |
| SC-23205-S-RS | 05/01/2000 | 2,4,6-TRINITROTOLUENE | 0.115 | 0.23 | UG/G |
| SC-23206-S | 03/29/1999 | RADIUM-226 | 1.22 | 0.35 | PCI/G |
| SC-23206-S | 03/29/1999 | RADIUM-228 | 1.22 | 0.42 | PCI/G |
| SC-23206-S | 03/29/1999 | THORIUM-230 | 1.6 | 0.62 | PCI/G |
| SC-23206-S | 03/29/1999 | URANIUM-238 | 1.475 | 2.95 | PCI/G |
| SC-23206-S-01 | 07/28/1999 | RADIUM-226 | 0.93 | 0.34 | PCI/G |
| SC-23206-S-01 | 07/28/1999 | RADIUM-228 | 0.475 | 0.95 | PCI/G |
| SC-23206-S-01 | 07/28/1999 | THORIUM-230 | 1.77 | 0.64 | PCI/G |
| SC-23206-S-01 | 07/28/1999 | URANIUM-238 | 3.84 | 2.72 | PCI/G |
| SC-23206-S-RS | 05/01/2000 | 2,4,6-TRINITROTOLUENE | 0.115 | 0.23 | UG/G |
| SC-23207-C | 03/29/1999 | RADIUM-226 | 0.98 | 0.32 | PCI/G |
| SC-23207-C | 03/29/1999 | RADIUM-228 | 1 | 0.41 | PCI/G |
| SC-23207-C | 03/29/1999 | THORIUM-230 | 1.42 | 0.62 | PCI/G |
| SC-23207-C | 03/29/1999 | URANIUM-238 | 1.385 | 2.77 | PCI/G |
| SC-23207-S | 03/29/1999 | RADIUM-226 | 1.09 | 0.38 | PCI/G |
| SC-23207-S | 03/29/1999 | RADIUM-228 | 0.475 | 0.95 | PCI/G |
| SC-23207-S | 03/29/1999 | THORIUM-230 | 1.35 | 0.62 | PCI/G |
| SC-23207-S | 03/29/1999 | URANIUM-238 | 1.495 | 2.99 | PCI/G |
| SC-23207-S-01 | 07/19/1999 | RADIUM-226 | 0.305 | 0.61 | PCI/G |
| SC-23207-S-01 | 07/19/1999 | RADIUM-228 | 0.455 | 0.91 | PCI/G |
| SC-23207-S-01 | 07/19/1999 | THORIUM-230 | 1.51 | 0.65 | PCI/G |
| SC-23207-S-01 | 07/19/1999 | URANIUM-238 | 1.55 | 3.1 | PCI/G |
| SC-23207-S-RS | 05/01/2000 | 2,4,6-TRINITROTOLUENE | 2.2 | 0.24 | UG/G |
| SC-23208-S | 03/29/1999 | RADIUM-226 | 1.24 | 0.28 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-23208-S | 03/29/1999 | RADIUM-228 | 1.06 | 0.41 | PCI/G |
| SC-23208-S | 03/29/1999 | THORIUM-230 | 1 07 | 0 62 | PCI/G |
| SC-23208-S | 03/29/1999 | URANIUM-238 | 1.42 | 2.84 | PCI/G |
| SC-23208-S-01 | 07/19/1999 | RADIUM-226 | 0.89 | 0 31 | PCI/G |
| SC-23208-S-01 | 07/19/1999 | RADIUM-228 | 1.09 | 0.48 | PCI/G |
| SC-23208-S-01 | 07/19/1999 | THORIUM-230 | 1.5 | 0.62 | PCI/G |
| SC-23208-S-01 | 07/19/1999 | URANIUM-238 | 1.425 | 2 85 | PCI/G |
| SC-23209-S | 02/24/1999 | RADIUM-226 | 1 41 | 0 38 | PCI/G |
| SC-23209-S | 02/24/1999 | RADIUM-228 | 1.36 | 0 45 | PCI/G |
| SC-23209-S | 02/24/1999 | THORIUM-230 | 2.44 | 0.62 | PCI/G |
| SC-23209-S | 02/24/1999 | URANIUM-238 | 5.1 | 3.38 | PCI/G |
| SC-23209-S-01 | 08/02/1999 | RADIUM-226 | 0.72 | 0.34 | PCI/G |
| SC-23209-S-01 | 08/02/1999 | RADIUM-228 | 0.42 | 0 84 | PCI/G |
| SC-23209-S-01 | 08/02/1999 | THORIUM-230 | 5 51 | 0.64 | PCI/G |
| SC-23209-S-01 | 08/02/1999 | URANIUM-238 | 1.41 | 2.82 | PCI/G |
| SC-23209-S-A | 02/24/1999 | RADIUM-226 | 1.12 | 0.31 | PCI/G |
| SC-23209-S-A | 02/24/1999 | RADIUM-228 | 1.03 | 0.43 | PCI/G |
| SC-23209-S-A | 02/24/1999 | THORIUM-230 | 0.92 | 0 62 | PCI/G |
| SC-23209-S-A | 02/24/1999 | URANIUM-238 | 1.325 | 2 65 | PCI/G |
| SC-23209-S-B | 03/01/1999 | RADIUM-226 | 1.39 | 0 25 | PCI/G |
| SC-23209-S-B | 03/01/1999 | RADIUM-228 | 1.07 | 0 51 | PCI/G |
| SC-23209-S-B | 03/01/1999 | THORIUM-230 | 0.86 | 0.62 | PCI/G |
| SC-23209-S-B | 03/01/1999 | URANIUM-238 | 3.99 | 3 2 | PCI/G |
| SC-23210-S | 02/24/1999 | RADIUM-226 | 1.22 | 0 34 | PCI/G |
| SC-23210-S | 02/24/1999 | RADIUM-228 | 1.03 | 0 56 | PCI/G |
| SC-23210-S | 02/24/1999 | THORIUM-230 | 4.22 | 0 62 | PCI/G |
| SC-23210-S | 02/24/1999 | URANIUM-238 | 1.395 | 2 79 | PCI/G |
| SC-23210-S-01 | 08/03/1999 | RADIUM-226 | 0.72 | 0 31 | PCI/G |
| SC-23210-S-01 | 08/03/1999 | RADIUM-228 | 1.22 | 0 33 | PCI/G |
| SC-23210-S-01 | 08/03/1999 | THORIUM-230 | 1 18 | 0.64 | PCI/G |
| SC-23210-S-01 | 08/03/1999 | URANIUM-238 | 1.625 | 3 25 | PCI/G |
| SC-23210-S-A | 02/24/1999 | RADIUM-226 | 1 28 | 0 31 | PCI/G |
| SC-23210-S-A | 02/24/1999 | RADIUM-228 | 0 97 | 0 44 | PCI/G |
| SC-23210-S-A | 02/24/1999 | THORIUM-230 | 3 94 | 0.62 | PCI/G |
| SC-23210-S-A | 02/24/1999 | URANIUM-238 | 1 45 | 2 9 | PCI/G |
| SC-23210-S-B | 03/01/1999 | RADIUM-226 | 1.03 | 0 33 | PCI/G |
| SC-23210-S-B | 03/01/1999 | RADIUM-228 | 1 09 | 0 38 | PCI/G |
| SC-23210-S-B | 03/01/1999 | THORIUM-230 | 0.95 | 0 62 | PCI/G |
| SC-23210-S-B | 03/01/1999 | URANIUM-238 | 5 19 | 2.5 | PCI/G |
| SC-23211-S | 02/24/1999 | RADIUM-226 | 1 14 | 0 33 | PCI/G |
| SC-23211-S | 02/24/1999 | RADIUM-228 | 1.08 | 0.42 | PCI/G |
| SC-23211-S | 02/24/1999 | THORIUM-230 | 2.23 | 0 62 | PCI/G |
| SC-23211-S | 02/24/1999 | URANIUM-238 | 1.415 | 2.83 | PCI/G |
| SC-23211-S-01 | 07/28/1999 | RADIUM-226 | 0.86 | 0 29 | PCI/G |
| SC-23211-S-01 | 07/28/1999 | RADIUM-228 | 1 12 | 0 38 | PCI/G |
| SC-23211-S-01 | 07/28/1999 | THORIUM-230 | 2.82 | 0 62 | PCI/G |
| SC-23211-S-01 | 07/28/1999 | URANIUM-238 | 1 44 | 2 88 | PCI/G |
| SC-23211-S-A | 02/24/1999 | RADIUM-226 | 1 54 | 0 27 | PCI/G |
| SC-23211-S-A | 02/24/1999 | RADIUM-228 | 1 23 | 0 44 | PCI/G |
| SC-23211-S-A | 02/24/1999 | THORIUM-230 | 12 6 | 0 62 | PCI/G |
| SC-23211-S-A | 02/24/1999 | URANIUM-238 | 1 455 | 2 91 | PCI/G |
| SC-23211-S-B | 03/01/1999 | RADIUM-226 | 1 09 | 0 36 | PCI/G |
| SC-23211-S-B | 03/01/1999 | RADIUM-228 | 0.485 | 0.97 | PCI/G |
| SC-23211-S-B | 03/01/1999 | THORIUM-230 | 0 79 | 0.62 | PCI/G |
| SC-23211-S-B | 03/01/1999 | URANIUM-238 | 8 4 | 3.56 | PCI/G |
| SC-23212-S | 03/29/1999 | RADIUM-226 | 1 4 | 0 39 | PCI/G |
| SC-23212-S | 03/29/1999 | RADIUM-228 | 0 535 | 1 07 | PCI/G |
| SC-23212-S | 03/29/1999 | THORIUM-230 | 7 79 | 0 62 | PCI/G |
| SC-23212-S | 03/29/1999 | URANIUM-238 | 1 46 | 2 92 | PCI/G |
| SC-23212-S-01 | 07/28/1999 | RADIUM-226 | 0 72 | 0 35 | PCI/G |
| SC-23212-S-01 | 07/28/1999 | RADIUM-228 | 0.5 | 1 | PCI/G |
| SC-23212-S-01 | 07/28/1999 | THORIUM-230 | 1 21 | 0.62 | PCI/G |
| SC-23212-S-01 | 07/28/1999 | URANIUM-238 | 2 18 | 2.65 | PCI/G |
| SC-23212-S-A | 02/24/1999 | RADIUM-226 | 1.22 | 0 32 | PCI/G |
| SC-23212-S-A | 02/24/1999 | RADIUM-228 | 1.24 | 0.49 | PCI/G |
| SC-23212-S-A | 02/24/1999 | THORIUM-230 | 5.68 | 0.62 | PCI/G |
| SC-23212-S-A | 02/24/1999 | URANIUM-238 | 1.385 | 2 77 | PCI/G |
| SC-23212-S-B | 03/01/1999 | RADIUM-226 | 1 32 | 0 28 | PCI/G |
| SC-23212-S-B | 03/01/1999 | RADIUM-228 | 1 33 | 0 4 | PCI/G |
| SC-23212-S-B | 03/01/1999 | THORIUM-230 | 2 82 | 0 62 | PCI/G |
| SC-23212-S-B | 03/01/1999 | URANIUM-238 | 1.41 | 2 82 | PCI/G |
| SC-23212-S-HS01 | 04/06/1999 | THORIUM-230 | 2.94 | 0 62 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-23212-S-HS02 | 04/06/1999 | THORIUM-230 | 2.37 | 0.62 | PCI/G |
| SC-23212-S-HS03 | 04/06/1999 | THORIUM-230 | 7.1 | 0.62 | PCI/G |
| SC-23212-S-HS04 | 04/06/1999 | THORIUM-230 | 6.62 | 0.62 | PCI/G |
| SC-23212-S-RS | 04/25/1999 | THORIUM-230 | 19.7 | 0.7 | PCI/G |
| SC-23212-S-RS2 | 05/04/1999 | THORIUM-230 | 3.05 | 0.7 | PCI/G |
| SC-23212-S-RS3 | 05/01/2000 | 2,4,6-TRINITROTOLUENE | 0.32 | 0.24 | UG/G |
| SC-23213-S | 03/29/1999 | RADIUM-226 | 1.79 | 0.31 | PCI/G |
| SC-23213-S | 03/29/1999 | RADIUM-228 | 0.87 | 0.47 | PCI/G |
| SC-23213-S | 03/29/1999 | THORIUM-230 | 9.84 | 0.62 | PCI/G |
| SC-23213-S | 03/29/1999 | URANIUM-238 | 1.56 | 3.12 | PCI/G |
| SC-23213-S-01 | 07/28/1999 | RADIUM-226 | 0.93 | 0.29 | PCI/G |
| SC-23213-S-01 | 07/28/1999 | RADIUM-228 | 1.18 | 0.43 | PCI/G |
| SC-23213-S-01 | 07/28/1999 | THORIUM-230 | 1.32 | 0.64 | PCI/G |
| SC-23213-S-01 | 07/28/1999 | URANIUM-238 | 1.32 | 2.64 | PCI/G |
| SC-23213-S-HS01 | 04/06/1999 | THORIUM-230 | 12.4 | 0.62 | PCI/G |
| SC-23213-S-HS02 | 04/06/1999 | THORIUM-230 | 1.97 | 0.62 | PCI/G |
| SC-23213-S-HS03 | 04/06/1999 | THORIUM-230 | 28.3 | 0.62 | PCI/G |
| SC-23213-S-HS04 | 04/06/1999 | THORIUM-230 | 4.26 | 0.62 | PCI/G |
| SC-23213-S-RS | 04/25/1999 | THORIUM-230 | 2.67 | 0.62 | PCI/G |
| SC-23213-S-RS2 | 05/01/2000 | 2,4,6-TRINITROTOLUENE | 0.71 | 0.24 | UG/G |
| SC-23214-S | 03/29/1999 | RADIUM-226 | 1 | 0.27 | PCI/G |
| SC-23214-S | 03/29/1999 | RADIUM-228 | 0.45 | 0.9 | PCI/G |
| SC-23214-S | 03/29/1999 | THORIUM-230 | 2.01 | 0.62 | PCI/G |
| SC-23214-S | 03/29/1999 | URANIUM-238 | 1.325 | 2.65 | PCI/G |
| SC-23214-S-01 | 07/27/1999 | RADIUM-226 | 1 | 0.37 | PCI/G |
| SC-23214-S-01 | 07/27/1999 | RADIUM-228 | 0.515 | 1.03 | PCI/G |
| SC-23214-S-01 | 07/27/1999 | THORIUM-230 | 1.45 | 0.64 | PCI/G |
| SC-23214-S-01 | 07/27/1999 | URANIUM-238 | 5.72 | 2.66 | PCI/G |
| SC-23214-S-RS | 05/01/2000 | 2,4,6-TRINITROTOLUENE | 280 | 24 | UG/G |
| SC-23214-S-RS2 | 07/06/2000 | 2,4,6-TRINITROTOLUENE | 0.145 | 0.29 | UG/G |
| SC-23215-S | 03/29/1999 | RADIUM-226 | 0.98 | 0.31 | PCI/G |
| SC-23215-S | 03/29/1999 | RADIUM-228 | 1.06 | 0.4 | PCI/G |
| SC-23215-S | 03/29/1999 | THORIUM-230 | 2.23 | 0.62 | PCI/G |
| SC-23215-S | 03/29/1999 | URANIUM-238 | 1.325 | 2.65 | PCI/G |
| SC-23215-S-01 | 07/19/1999 | RADIUM-226 | 0.345 | 0.69 | PCI/G |
| SC-23215-S-01 | 07/19/1999 | RADIUM-228 | 0.47 | 0.94 | PCI/G |
| SC-23215-S-01 | 07/19/1999 | THORIUM-230 | 1.35 | 0.66 | PCI/G |
| SC-23215-S-01 | 07/19/1999 | URANIUM-238 | 1.505 | 3.01 | PCI/G |
| SC-23215-S-RS | 05/01/2000 | 2,4,6-TRINITROTOLUENE | 3.4 | 0.23 | UG/G |
| SC-23216-S | 03/29/1999 | RADIUM-226 | 1.03 | 0.31 | PCI/G |
| SC-23216-S | 03/29/1999 | RADIUM-228 | 0.485 | 0.97 | PCI/G |
| SC-23216-S | 03/29/1999 | THORIUM-230 | 3.05 | 0.62 | PCI/G |
| SC-23216-S | 03/29/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-23216-S-01 | 07/19/1999 | RADIUM-226 | 0.87 | 0.3 | PCI/G |
| SC-23216-S-01 | 07/19/1999 | RADIUM-228 | 1.05 | 0.45 | PCI/G |
| SC-23216-S-01 | 07/19/1999 | THORIUM-230 | 1.34 | 0.64 | PCI/G |
| SC-23216-S-01 | 07/19/1999 | URANIUM-238 | 1.385 | 2.77 | PCI/G |
| SC-23217-S | 08/02/1999 | RADIUM-226 | 0.82 | 0.3 | PCI/G |
| SC-23217-S | 08/02/1999 | RADIUM-228 | 1.11 | 0.43 | PCI/G |
| SC-23217-S | 08/02/1999 | THORIUM-230 | 1.54 | 0.64 | PCI/G |
| SC-23217-S | 08/02/1999 | URANIUM-238 | 1.395 | 2.79 | PCI/G |
| SC-23218-S | 08/02/1999 | RADIUM-226 | 0.68 | 0.31 | PCI/G |
| SC-23218-S | 08/02/1999 | RADIUM-228 | 0.46 | 0.92 | PCI/G |
| SC-23218-S | 08/02/1999 | THORIUM-230 | 1.27 | 0.64 | PCI/G |
| SC-23218-S | 08/02/1999 | URANIUM-238 | 1.355 | 2.71 | PCI/G |
| SC-23219-S | 08/02/1999 | RADIUM-226 | 1.13 | 0.3 | PCI/G |
| SC-23219-S | 08/02/1999 | RADIUM-228 | 1.06 | 0.42 | PCI/G |
| SC-23219-S | 08/02/1999 | THORIUM-230 | 1.54 | 0.64 | PCI/G |
| SC-23219-S | 08/02/1999 | URANIUM-238 | 1.345 | 2.69 | PCI/G |
| SC-23220-S | 07/31/1999 | RADIUM-226 | 0.77 | 0.32 | PCI/G |
| SC-23220-S | 07/31/1999 | RADIUM-228 | 0.45 | 0.9 | PCI/G |
| SC-23220-S | 07/31/1999 | THORIUM-230 | 1.25 | 0.64 | PCI/G |
| SC-23220-S | 07/31/1999 | URANIUM-238 | 1.325 | 2.65 | PCI/G |
| SC-23220-S-RS | 05/01/2000 | 2,4,6-TRINITROTOLUENE | 1.1 | 0.24 | UG/G |
| SC-23221-S | 07/28/1999 | RADIUM-226 | 1.13 | 0.31 | PCI/G |
| SC-23221-S | 07/28/1999 | RADIUM-228 | 1.12 | 0.47 | PCI/G |
| SC-23221-S | 07/28/1999 | THORIUM-230 | 5.04 | 0.62 | PCI/G |
| SC-23221-S | 07/28/1999 | URANIUM-238 | 1.575 | 3.15 | PCI/G |
| SC-23221-S-RS | 05/01/2000 | 2,4,6-TRINITROTOLUENE | 0.115 | 0.23 | UG/G |
| SC-23222-S | 07/24/1999 | RADIUM-226 | 1.17 | 0.35 | PCI/G |
| SC-23222-S | 07/24/1999 | RADIUM-228 | 1 | 0.48 | PCI/G |
| SC-23222-S | 07/24/1999 | THORIUM-230 | 2.28 | 0.64 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-23222-S | 07/24/1999 | URANIUM-238 | 1.535 | 3 07 | PCI/G |
| SC-23222-S-RS | 05/01/2000 | 2,4,6-TRINITROTOLUENE | 1 3 | 0 24 | UG/G |
| SC-23223-S | 06/07/1999 | RADIUM-226 | 0 94 | 0.33 | PCI/G |
| SC-23223-S | 06/07/1999 | RADIUM-228 | 1 08 | 0 47 | PCI/G |
| SC-23223-S | 06/07/1999 | THORIUM-230 | 3.2 | 0 64 | PCI/G |
| SC-23223-S | 06/07/1999 | URANIUM-238 | 1.31 | 2.62 | PCI/G |
| SC-23223-S-01 | 07/28/1999 | RADIUM-226 | 1.08 | 0 37 | PCI/G |
| SC-23223-S-01 | 07/28/1999 | RADIUM-228 | 0.465 | 0.93 | PCI/G |
| SC-23223-S-01 | 07/28/1999 | THORIUM-230 | 2.8 | 0.62 | PCI/G |
| SC-23223-S-01 | 07/28/1999 | URANIUM-238 | 1.37 | 2 74 | PCI/G |
| SC-23223-S-RS | 05/01/2000 | 2,4,6-TRINITROTOLUENE | 0.4 | 0.24 | UG/G |
| SC-23224-S | 06/07/1999 | RADIUM-226 | 0.97 | 0 34 | PCI/G |
| SC-23224-S | 06/07/1999 | RADIUM-228 | 0 49 | 0 98 | PCI/G |
| SC-23224-S | 06/07/1999 | THORIUM-230 | 3 65 | 0.62 | PCI/G |
| SC-23224-S | 06/07/1999 | URANIUM-238 | 1 415 | 2.83 | PCI/G |
| SC-23224-S-01 | 07/19/1999 | RADIUM-226 | 0.61 | 0.39 | PCI/G |
| SC-23224-S-01 | 07/19/1999 | RADIUM-228 | 0 49 | 0.98 | PCI/G |
| SC-23224-S-01 | 07/19/1999 | THORIUM-230 | 1.5 | 0.65 | PCI/G |
| SC-23224-S-01 | 07/19/1999 | URANIUM-238 | 1 41 | 2.82 | PCI/G |
| SC-23301-C | 11/12/1999 | 2,4,6-TRINITROTOLUENE | 0.34 | 0 032 | UG/G |
| SC-23301-C | 11/12/1999 | 2,4-DINITROTOLUENE | 2.3 | 0 045 | UG/G |
| SC-23301-C | 11/12/1999 | 2,6-DINITROTOLUENE | 1.4 | 0 14 | UG/G |
| SC-23301-S | 07/24/1999 | RADIUM-226 | 0.73 | 0 35 | PCI/G |
| SC-23301-S | 07/24/1999 | RADIUM-228 | 1.35 | 0.45 | PCI/G |
| SC-23301-S | 07/24/1999 | THORIUM-230 | 1.47 | 0 62 | PCI/G |
| SC-23301-S | 07/24/1999 | URANIUM-238 | 1 425 | 2 85 | PCI/G |
| SC-23301-S-RS | 11/12/1999 | 2,4,6-TRINITROTOLUENE | 1 | 0 3 | UG/G |
| SC-23301-S-RS | 11/12/1999 | 2,4-DINITROTOLUENE | 15 | 0 43 | UG/G |
| SC-23301-S-RS | 11/12/1999 | 2,6-DINITROTOLUENE | 3.4 | 1 3 | UG/G |
| SC-23301-U | 11/12/1999 | 2,4,6-TRINITROTOLUENE | 3 5 | 0 3 | UG/G |
| SC-23301-U | 11/12/1999 | 2,4-DINITROTOLUENE | 13 | 0 43 | UG/G |
| SC-23301-U | 11/12/1999 | 2,6-DINITROTOLUENE | 6.8 | 1 3 | UG/G |
| SC-23302-S | 07/24/1999 | RADIUM-226 | 0.91 | 0 31 | PCI/G |
| SC-23302-S | 07/24/1999 | RADIUM-228 | 0.52 | 1 04 | PCI/G |
| SC-23302-S | 07/24/1999 | THORIUM-230 | 1 16 | 0 62 | PCI/G |
| SC-23302-S | 07/24/1999 | URANIUM-238 | 1.26 | 2 52 | PCI/G |
| SC-23303-S | 07/24/1999 | RADIUM-226 | 0.86 | 0 31 | PCI/G |
| SC-23303-S | 07/24/1999 | RADIUM-228 | 1.22 | 0 42 | PCI/G |
| SC-23303-S | 07/24/1999 | THORIUM-230 | 1.27 | 0.64 | PCI/G |
| SC-23303-S | 07/24/1999 | URANIUM-238 | 1.28 | 2 56 | PCI/G |
| SC-23304-S | 06/07/1999 | RADIUM-226 | 1 03 | 0 3 | PCI/G |
| SC-23304-S | 06/07/1999 | RADIUM-228 | 1 19 | 0 46 | PCI/G |
| SC-23304-S | 06/07/1999 | THORIUM-230 | 10.3 | 0 65 | PCI/G |
| SC-23304-S | 06/07/1999 | URANIUM-238 | 1 5 | 3 | PCI/G |
| SC-23304-S-01 | 07/19/1999 | RADIUM-226 | 0 96 | 0 31 | PCI/G |
| SC-23304-S-01 | 07/19/1999 | RADIUM-228 | 1 11 | 0 4 | PCI/G |
| SC-23304-S-01 | 07/19/1999 | THORIUM-230 | 3.5 | 0 62 | PCI/G |
| SC-23304-S-01 | 07/19/1999 | URANIUM-238 | 1 4 | 2 8 | PCI/G |
| SC-23305-S | 07/24/1999 | RADIUM-226 | 0 84 | 0 25 | PCI/G |
| SC-23305-S | 07/24/1999 | RADIUM-228 | 1 09 | 0 46 | PCI/G |
| SC-23305-S | 07/24/1999 | THORIUM-230 | 1 11 | 0 64 | PCI/G |
| SC-23305-S | 07/24/1999 | URANIUM-238 | 1 215 | 2 43 | PCI/G |
| SC-23306-S | 07/24/1999 | RADIUM-226 | 1 14 | 0.28 | PCI/G |
| SC-23306-S | 07/24/1999 | RADIUM-228 | 1.06 | 0 4 | PCI/G |
| SC-23306-S | 07/24/1999 | THORIUM-230 | 9.53 | 0.62 | PCI/G |
| SC-23306-S | 07/24/1999 | URANIUM-238 | 1 43 | 2.32 | PCI/G |
| SC-23307-S | 07/24/1999 | RADIUM-226 | 0.315 | 0.63 | PCI/G |
| SC-23307-S | 07/24/1999 | RADIUM-228 | 1.22 | 0 42 | PCI/G |
| SC-23307-S | 07/24/1999 | THORIUM-230 | 2.52 | 0.62 | PCI/G |
| SC-23307-S | 07/24/1999 | URANIUM-238 | 1 225 | 2 45 | PCI/G |
| SC-23308-S-01 | 07/19/1999 | RADIUM-226 | 0.98 | 0.29 | PCI/G |
| SC-23308-S-01 | 07/19/1999 | RADIUM-228 | 0.89 | 0 51 | PCI/G |
| SC-23308-S-01 | 07/19/1999 | THORIUM-230 | 1 41 | 0.66 | PCI/G |
| SC-23308-S-01 | 07/19/1999 | URANIUM-238 | 1.325 | 2.65 | PCI/G |
| SC-23309-S | 07/24/1999 | RADIUM-226 | 1.07 | 0 3 | PCI/G |
| SC-23309-S | 07/24/1999 | RADIUM-228 | 1 3 | 0.38 | PCI/G |
| SC-23309-S | 07/24/1999 | THORIUM-230 | 1 31 | 0 64 | PCI/G |
| SC-23309-S | 07/24/1999 | URANIUM-238 | 1.245 | 2 49 | PCI/G |
| SC-23310-S | 07/24/1999 | RADIUM-226 | 0.87 | 0 37 | PCI/G |
| SC-23310-S | 07/24/1999 | RADIUM-228 | 0.435 | 0 87 | PCI/G |
| SC-23310-S | 07/24/1999 | THORIUM-230 | 1.3 | 0 64 | PCI/G |
| SC-23310-S | 07/24/1999 | URANIUM-238 | 1 34 | 2 68 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-23311-S | 07/24/1999 | RADIUM-226 | | 0.9 | 0.28 PCI/G |
| SC-23311-S | 07/24/1999 | RADIUM-228 | | 0.95 | 0.44 PCI/G |
| SC-23311-S | 07/24/1999 | THORIUM-230 | | 1.26 | 0.62 PCI/G |
| SC-23311-S | 07/24/1999 | URANIUM-238 | | 1.23 | 2.46 PCI/G |
| SC-23312-S | 07/19/1999 | RADIUM-226 | | 1.13 | 0.29 PCI/G |
| SC-23312-S | 07/19/1999 | RADIUM-228 | | 1.11 | 0.47 PCI/G |
| SC-23312-S | 07/19/1999 | THORIUM-230 | | 1.24 | 0.64 PCI/G |
| SC-23312-S | 07/19/1999 | URANIUM-238 | | 1.3 | 2.6 PCI/G |
| SC-23313-S | 07/24/1999 | RADIUM-226 | | 0.75 | 0.21 PCI/G |
| SC-23313-S | 07/24/1999 | RADIUM-228 | | 1.25 | 0.34 PCI/G |
| SC-23313-S | 07/24/1999 | THORIUM-230 | | 3.1 | 0.62 PCI/G |
| SC-23313-S | 07/24/1999 | URANIUM-238 | | 0.97 | 1.94 PCI/G |
| SC-23314-S | 07/24/1999 | RADIUM-226 | | 0.82 | 0.29 PCI/G |
| SC-23314-S | 07/24/1999 | RADIUM-228 | | 1.02 | 0.41 PCI/G |
| SC-23314-S | 07/24/1999 | THORIUM-230 | | 2.08 | 0.64 PCI/G |
| SC-23314-S | 07/24/1999 | URANIUM-238 | | 1.34 | 2.68 PCI/G |
| SC-23315-S | 07/24/1999 | RADIUM-226 | | 1.24 | 0.34 PCI/G |
| SC-23315-S | 07/24/1999 | RADIUM-228 | | 0.45 | 0.9 PCI/G |
| SC-23315-S | 07/24/1999 | THORIUM-230 | | 1.4 | 0.64 PCI/G |
| SC-23315-S | 07/24/1999 | URANIUM-238 | | 1.275 | 2.55 PCI/G |
| SC-23316-S | 07/19/1999 | RADIUM-226 | | 1.76 | 0.28 PCI/G |
| SC-23316-S | 07/19/1999 | RADIUM-228 | | 0.94 | 0.47 PCI/G |
| SC-23316-S | 07/19/1999 | THORIUM-230 | | 1.2 | 0.65 PCI/G |
| SC-23316-S | 07/19/1999 | URANIUM-238 | | 1.35 | 2.7 PCI/G |
| SC-23317-S | 07/24/1999 | RADIUM-226 | | 3.23 | 0.35 PCI/G |
| SC-23317-S | 07/24/1999 | RADIUM-228 | | 1.2 | 0.52 PCI/G |
| SC-23317-S | 07/24/1999 | THORIUM-230 | | 2.1 | 0.62 PCI/G |
| SC-23317-S | 07/24/1999 | URANIUM-238 | | 1.51 | 3.02 PCI/G |
| SC-23318-S | 07/24/1999 | RADIUM-226 | | 0.64 | 0.28 PCI/G |
| SC-23318-S | 07/24/1999 | RADIUM-228 | | 0.97 | 0.4 PCI/G |
| SC-23318-S | 07/24/1999 | THORIUM-230 | | 1.04 | 0.62 PCI/G |
| SC-23318-S | 07/24/1999 | URANIUM-238 | | 1.295 | 2.59 PCI/G |
| SC-23319-S | 07/24/1999 | RADIUM-226 | | 0.97 | 0.25 PCI/G |
| SC-23319-S | 07/24/1999 | RADIUM-228 | | 1.14 | 0.35 PCI/G |
| SC-23319-S | 07/24/1999 | THORIUM-230 | | 1.03 | 0.64 PCI/G |
| SC-23319-S | 07/24/1999 | URANIUM-238 | | 1.305 | 2.61 PCI/G |
| SC-23320-S | 07/19/1999 | RADIUM-226 | | 4.88 | 0.48 PCI/G |
| SC-23320-S | 07/19/1999 | RADIUM-228 | | 0.595 | 1.19 PCI/G |
| SC-23320-S | 07/19/1999 | THORIUM-230 | | 104 | 0.62 PCI/G |
| SC-23320-S | 07/19/1999 | URANIUM-238 | | 7.21 | 5.04 PCI/G |
| SC-23320-S-RS | 07/22/1999 | RADIUM-226 | | 0.96 | 0.31 PCI/G |
| SC-23320-S-RS | 07/22/1999 | RADIUM-228 | | 0.475 | 0.95 PCI/G |
| SC-23320-S-RS | 07/22/1999 | THORIUM-230 | | 1.81 | 0.65 PCI/G |
| SC-23401-S | 07/24/1999 | RADIUM-226 | | 0.71 | 0.36 PCI/G |
| SC-23401-S | 07/24/1999 | RADIUM-228 | | 1.44 | 0.63 PCI/G |
| SC-23401-S | 07/24/1999 | THORIUM-230 | | 1.45 | 0.64 PCI/G |
| SC-23401-S | 07/24/1999 | URANIUM-238 | | 1.275 | 2.55 PCI/G |
| SC-23401-S-RS | 07/08/2000 | 2,4,6-TRINITROTOLUENE | | 0.15 | 0.3 UG/G |
| SC-23401-S-RS | 07/08/2000 | 2,4-DINITROTOLUENE | | 0.15 | 0.3 UG/G |
| SC-23402-S | 07/24/1999 | RADIUM-226 | | 0.91 | 0.28 PCI/G |
| SC-23402-S | 07/24/1999 | RADIUM-228 | | 1.13 | 0.41 PCI/G |
| SC-23402-S | 07/24/1999 | THORIUM-230 | | 5.44 | 0.62 PCI/G |
| SC-23402-S | 07/24/1999 | URANIUM-238 | | 1.355 | 2.71 PCI/G |
| SC-23402-S-RS | 07/08/2000 | 2,4,6-TRINITROTOLUENE | | 0.155 | 0.31 UG/G |
| SC-23402-S-RS | 07/08/2000 | 2,4-DINITROTOLUENE | | 0.155 | 0.31 UG/G |
| SC-23403-S | 07/24/1999 | RADIUM-226 | | 0.92 | 0.36 PCI/G |
| SC-23403-S | 07/24/1999 | RADIUM-228 | | 0.46 | 0.92 PCI/G |
| SC-23403-S | 07/24/1999 | THORIUM-230 | | 1.23 | 0.62 PCI/G |
| SC-23403-S | 07/24/1999 | URANIUM-238 | | 1.145 | 2.29 PCI/G |
| SC-23403-S-RS | 07/08/2000 | 2,4,6-TRINITROTOLUENE | | 0.16 | 0.32 UG/G |
| SC-23403-S-RS | 07/08/2000 | 2,4-DINITROTOLUENE | | 0.16 | 0.32 UG/G |
| SC-23404-S | 07/24/1999 | RADIUM-226 | | 0.83 | 0.32 PCI/G |
| SC-23404-S | 07/24/1999 | RADIUM-228 | | 1.12 | 0.46 PCI/G |
| SC-23404-S | 07/24/1999 | THORIUM-230 | | 1.15 | 0.64 PCI/G |
| SC-23404-S | 07/24/1999 | URANIUM-238 | | 1.265 | 2.53 PCI/G |
| SC-23405-S | 07/24/1999 | RADIUM-226 | | 0.78 | 0.32 PCI/G |
| SC-23405-S | 07/24/1999 | RADIUM-228 | | 0.455 | 0.91 PCI/G |
| SC-23405-S | 07/24/1999 | THORIUM-230 | | 1.07 | 0.64 PCI/G |
| SC-23405-S | 07/24/1999 | URANIUM-238 | | 1.315 | 2.63 PCI/G |
| SC-23405-S-RS | 06/10/2000 | 2,4,6-TRINITROTOLUENE | | 0.06 | 0.12 UG/G |
| SC-23405-S-RS | 06/10/2000 | 2,4-DINITROTOLUENE | | 0.06 | 0.12 UG/G |
| SC-23406-S | 07/24/1999 | RADIUM-226 | | 0.74 | 0.26 PCI/G |

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| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-23406-S | 07/24/1999 | RADIUM-228 | 1.07 | 0 39 | PCI/G |
| SC-23406-S | 07/24/1999 | THORIUM-230 | 1.57 | 0.62 | PCI/G |
| SC-23406-S | 07/24/1999 | URANIUM-238 | 1.305 | 2 61 | PCI/G |
| SC-23406-S-RS | 07/08/2000 | 2,4,6-TRINITROTOLUENE | 0.165 | 0 33 | UG/G |
| SC-23406-S-RS | 07/08/2000 | 2,4-DINITROTOLUENE | 0 165 | 0 33 | UG/G |
| SC-23407-S | 07/24/1999 | RADIUM-226 | 0 79 | 0.32 | PCI/G |
| SC-23407-S | 07/24/1999 | RADIUM-228 | 0.495 | 0.99 | PCI/G |
| SC-23407-S | 07/24/1999 | THORIUM-230 | 1 16 | 0 62 | PCI/G |
| SC-23407-S | 07/24/1999 | URANIUM-238 | 1.25 | 2.5 | PCI/G |
| SC-23407-S-RS | 07/08/2000 | 2,4,6-TRINITROTOLUENE | 0.17 | 0.34 | UG/G |
| SC-23407-S-RS | 07/08/2000 | 2,4-DINITROTOLUENE | 0.17 | 0.34 | UG/G |
| SC-23408-S | 07/24/1999 | RADIUM-226 | 0.82 | 0.22 | PCI/G |
| SC-23408-S | 07/24/1999 | RADIUM-228 | 1.25 | 0.38 | PCI/G |
| SC-23408-S | 07/24/1999 | THORIUM-230 | 1.19 | 0.64 | PCI/G |
| SC-23408-S | 07/24/1999 | URANIUM-238 | 1.345 | 2.69 | PCI/G |
| SC-23408-S-RS | 07/08/2000 | 2,4,6-TRINITROTOLUENE | 0.155 | 0.31 | UG/G |
| SC-23408-S-RS | 07/08/2000 | 2,4-DINITROTOLUENE | 0.155 | 0.31 | UG/G |
| SC-23409-S | 07/24/1999 | RADIUM-226 | 0.87 | 0.38 | PCI/G |
| SC-23409-S | 07/24/1999 | RADIUM-228 | 0.445 | 0.89 | PCI/G |
| SC-23409-S | 07/24/1999 | THORIUM-230 | 1.37 | 0.64 | PCI/G |
| SC-23409-S | 07/24/1999 | URANIUM-238 | 1.24 | 2 48 | PCI/G |
| SC-23409-S-RS | 06/10/2000 | 2,4,6-TRINITROTOLUENE | 0.06 | 0 12 | UG/G |
| SC-23409-S-RS | 06/10/2000 | 2,4-DINITROTOLUENE | 0.06 | 0 12 | UG/G |
| SC-23410-S | 07/24/1999 | RADIUM-226 | 0.73 | 0.26 | PCI/G |
| SC-23410-S | 07/24/1999 | RADIUM-228 | 0 97 | 0 45 | PCI/G |
| SC-23410-S | 07/24/1999 | THORIUM-230 | 2.15 | 0 62 | PCI/G |
| SC-23410-S | 07/24/1999 | URANIUM-238 | 1 305 | 2 61 | PCI/G |
| SC-23410-S-RS | 06/10/2000 | 2,4,6-TRINITROTOLUENE | 0 06 | 0.12 | UG/G |
| SC-23410-S-RS | 06/10/2000 | 2,4-DINITROTOLUENE | 0.06 | 0.12 | UG/G |
| SC-23411-S | 07/24/1999 | RADIUM-226 | 1 05 | 0 29 | PCI/G |
| SC-23411-S | 07/24/1999 | RADIUM-228 | 0 435 | 0 87 | PCI/G |
| SC-23411-S | 07/24/1999 | THORIUM-230 | 2.71 | 0 62 | PCI/G |
| SC-23411-S | 07/24/1999 | URANIUM-238 | 1 215 | 2 43 | PCI/G |
| SC-23411-S-RS | 07/08/2000 | 2,4,6-TRINITROTOLUENE | 0 155 | 0.31 | UG/G |
| SC-23411-S-RS | 07/08/2000 | 2,4-DINITROTOLUENE | 0.155 | 0 31 | UG/G |
| SC-23412-S | 07/24/1999 | RADIUM-226 | 0 85 | 0 32 | PCI/G |
| SC-23412-S | 07/24/1999 | RADIUM-228 | 0 38 | 0 76 | PCI/G |
| SC-23412-S | 07/24/1999 | THORIUM-230 | 0 96 | 0 64 | PCI/G |
| SC-23412-S | 07/24/1999 | URANIUM-238 | 1.28 | 2 56 | PCI/G |
| SC-23412-S-RS | 07/08/2000 | 2,4,6-TRINITROTOLUENE | 0 16 | 0 32 | UG/G |
| SC-23412-S-RS | 07/08/2000 | 2,4-DINITROTOLUENE | 0 16 | 0.32 | UG/G |
| SC-23413-S | 07/24/1999 | RADIUM-226 | 0 85 | 0 4 | PCI/G |
| SC-23413-S | 07/24/1999 | RADIUM-228 | 0 45 | 0 9 | PCI/G |
| SC-23413-S | 07/24/1999 | THORIUM-230 | 17 | 0 64 | PCI/G |
| SC-23413-S | 07/24/1999 | URANIUM-238 | 1 3 | 2 6 | PCI/G |
| SC-23413-S-RS | 07/31/1999 | THORIUM-230 | 0 83 | 0 62 | PCI/G |
| SC-23414-S | 07/24/1999 | RADIUM-226 | 0 92 | 0 29 | PCI/G |
| SC-23414-S | 07/24/1999 | RADIUM-228 | 1 02 | 0.42 | PCI/G |
| SC-23414-S | 07/24/1999 | THORIUM-230 | 4.46 | 0.64 | PCI/G |
| SC-23414-S | 07/24/1999 | URANIUM-238 | 1 305 | 2.61 | PCI/G |
| SC-23414-S-RS | 06/10/2000 | 2,4,6-TRINITROTOLUENE | 0.06 | 0 12 | UG/G |
| SC-23414-S-RS | 06/10/2000 | 2,4-DINITROTOLUENE | 0.06 | 0 12 | UG/G |
| SC-23415-S | 07/24/1999 | RADIUM-226 | 0.99 | 0.29 | PCI/G |
| SC-23415-S | 07/24/1999 | RADIUM-228 | 0.475 | 0.95 | PCI/G |
| SC-23415-S | 07/24/1999 | THORIUM-230 | 2 41 | 0 62 | PCI/G |
| SC-23415-S | 07/24/1999 | URANIUM-238 | 1.165 | 2 33 | PCI/G |
| SC-23415-S-RS | 06/10/2000 | 2,4,6-TRINITROTOLUENE | 0.06 | 0 12 | UG/G |
| SC-23415-S-RS | 06/10/2000 | 2,4-DINITROTOLUENE | 0.06 | 0 12 | UG/G |
| SC-23416-S | 07/24/1999 | RADIUM-226 | 0.75 | 0 26 | PCI/G |
| SC-23416-S | 07/24/1999 | RADIUM-228 | 1 16 | 0 45 | PCI/G |
| SC-23416-S | 07/24/1999 | THORIUM-230 | 1 01 | 0.64 | PCI/G |
| SC-23416-S | 07/24/1999 | URANIUM-238 | 1.26 | 2.52 | PCI/G |
| SC-23417-S | 07/24/1999 | RADIUM-226 | 0.93 | 0.34 | PCI/G |
| SC-23417-S | 07/24/1999 | RADIUM-228 | 1 18 | 0 47 | PCI/G |
| SC-23417-S | 07/24/1999 | THORIUM-230 | 2.84 | 0.64 | PCI/G |
| SC-23417-S | 07/24/1999 | URANIUM-238 | 1.215 | 2 43 | PCI/G |
| SC-23418-S | 07/24/1999 | RADIUM-226 | 0 74 | 0 31 | PCI/G |
| SC-23418-S | 07/24/1999 | RADIUM-228 | 1 4 | 0 42 | PCI/G |
| SC-23418-S | 07/24/1999 | THORIUM-230 | 9 09 | 0.62 | PCI/G |
| SC-23418-S | 07/24/1999 | URANIUM-238 | 1.3 | 2 6 | PCI/G |
| SC-23419-S | 07/24/1999 | RADIUM-226 | 1.07 | 0 29 | PCI/G |
| SC-23419-S | 07/24/1999 | RADIUM-228 | 0 445 | 0 89 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-23419-S | 07/24/1999 | THORIUM-230 | 5.87 | 0.62 | PCI/G |
| SC-23419-S | 07/24/1999 | URANIUM-238 | 1.4 | 2.8 | PCI/G |
| SC-23420-S | 07/24/1999 | RADIUM-226 | 0.95 | 0.28 | PCI/G |
| SC-23420-S | 07/24/1999 | RADIUM-228 | 1.22 | 0.39 | PCI/G |
| SC-23420-S | 07/24/1999 | THORIUM-230 | 7.94 | 0.64 | PCI/G |
| SC-23420-S | 07/24/1999 | URANIUM-238 | 1.305 | 2.61 | PCI/G |
| SC-23501-S | 08/02/1999 | RADIUM-226 | 0.315 | 0.63 | PCI/G |
| SC-23501-S | 08/02/1999 | RADIUM-228 | 0.455 | 0.91 | PCI/G |
| SC-23501-S | 08/02/1999 | THORIUM-230 | 1.13 | 0.64 | PCI/G |
| SC-23501-S | 08/02/1999 | URANIUM-238 | 1.155 | 2.31 | PCI/G |
| SC-23502-S | 08/02/1999 | RADIUM-226 | 0.82 | 0.26 | PCI/G |
| SC-23502-S | 08/02/1999 | RADIUM-228 | 0.97 | 0.42 | PCI/G |
| SC-23502-S | 08/02/1999 | THORIUM-230 | 1.54 | 0.64 | PCI/G |
| SC-23502-S | 08/02/1999 | URANIUM-238 | 1.28 | 2.56 | PCI/G |
| SC-23503-S | 08/02/1999 | RADIUM-226 | 1.66 | 0.32 | PCI/G |
| SC-23503-S | 08/02/1999 | RADIUM-228 | 1.06 | 0.48 | PCI/G |
| SC-23503-S | 08/02/1999 | THORIUM-230 | 53.7 | 0.64 | PCI/G |
| SC-23503-S | 08/02/1999 | URANIUM-238 | 3.12 | 2.87 | PCI/G |
| SC-23503-S-RS | 08/06/1999 | THORIUM-230 | 0.83 | 0.64 | PCI/G |
| SC-23504-S | 08/02/1999 | RADIUM-226 | 0.75 | 0.34 | PCI/G |
| SC-23504-S | 08/02/1999 | RADIUM-228 | 0.48 | 0.96 | PCI/G |
| SC-23504-S | 08/02/1999 | THORIUM-230 | 2.86 | 0.64 | PCI/G |
| SC-23504-S | 08/02/1999 | URANIUM-238 | 1.275 | 2.55 | PCI/G |
| SC-23505-S | 08/02/1999 | RADIUM-226 | 0.78 | 0.26 | PCI/G |
| SC-23505-S | 08/02/1999 | RADIUM-228 | 1.14 | 0.47 | PCI/G |
| SC-23505-S | 08/02/1999 | THORIUM-230 | 1.65 | 0.64 | PCI/G |
| SC-23505-S | 08/02/1999 | URANIUM-238 | 1.24 | 2.48 | PCI/G |
| SC-23506-S | 08/02/1999 | RADIUM-226 | 0.84 | 0.29 | PCI/G |
| SC-23506-S | 08/02/1999 | RADIUM-228 | 1.02 | 0.57 | PCI/G |
| SC-23506-S | 08/02/1999 | THORIUM-230 | 1.08 | 0.64 | PCI/G |
| SC-23506-S | 08/02/1999 | URANIUM-238 | 1.205 | 2.41 | PCI/G |
| SC-23507-S | 08/02/1999 | RADIUM-226 | 0.58 | 0.25 | PCI/G |
| SC-23507-S | 08/02/1999 | RADIUM-228 | 1 | 0.41 | PCI/G |
| SC-23507-S | 08/02/1999 | THORIUM-230 | 1.53 | 0.64 | PCI/G |
| SC-23507-S | 08/02/1999 | URANIUM-238 | 1.17 | 2.34 | PCI/G |
| SC-23508-S | 08/02/1999 | RADIUM-226 | 0.305 | 0.61 | PCI/G |
| SC-23508-S | 08/02/1999 | RADIUM-228 | 0.475 | 0.95 | PCI/G |
| SC-23508-S | 08/02/1999 | THORIUM-230 | 0.88 | 0.64 | PCI/G |
| SC-23508-S | 08/02/1999 | URANIUM-238 | 1.225 | 2.45 | PCI/G |
| SC-23508-S-RS | 06/10/2000 | 2,4,6-TRINITROTOLUENE | 0.06 | 0.12 | UG/G |
| SC-23508-S-RS | 06/10/2000 | 2,4-DINITROTOLUENE | 0.06 | 0.12 | UG/G |
| SC-23509-S | 07/24/1999 | RADIUM-226 | 0.295 | 0.59 | PCI/G |
| SC-23509-S | 07/24/1999 | RADIUM-228 | 0.49 | 0.98 | PCI/G |
| SC-23509-S | 07/24/1999 | THORIUM-230 | 4.76 | 0.64 | PCI/G |
| SC-23509-S | 07/24/1999 | URANIUM-238 | 1.285 | 2.57 | PCI/G |
| SC-23510-S | 07/24/1999 | RADIUM-226 | 0.69 | 0.28 | PCI/G |
| SC-23510-S | 07/24/1999 | RADIUM-228 | 1.09 | 0.37 | PCI/G |
| SC-23510-S | 07/24/1999 | THORIUM-230 | 1.06 | 0.62 | PCI/G |
| SC-23510-S | 07/24/1999 | URANIUM-238 | 1.28 | 2.56 | PCI/G |
| SC-23511-S | 07/24/1999 | RADIUM-226 | 0.88 | 0.29 | PCI/G |
| SC-23511-S | 07/24/1999 | RADIUM-228 | 1.24 | 0.57 | PCI/G |
| SC-23511-S | 07/24/1999 | THORIUM-230 | 0.88 | 0.62 | PCI/G |
| SC-23511-S | 07/24/1999 | URANIUM-238 | 1.26 | 2.52 | PCI/G |
| SC-23512-S | 07/24/1999 | RADIUM-226 | 0.64 | 0.24 | PCI/G |
| SC-23512-S | 07/24/1999 | RADIUM-228 | 1.04 | 0.42 | PCI/G |
| SC-23512-S | 07/24/1999 | THORIUM-230 | 1.08 | 0.64 | PCI/G |
| SC-23512-S | 07/24/1999 | URANIUM-238 | 1.285 | 2.57 | PCI/G |
| SC-23513-S | 07/24/1999 | RADIUM-226 | 0.65 | 0.34 | PCI/G |
| SC-23513-S | 07/24/1999 | RADIUM-228 | 0.435 | 0.87 | PCI/G |
| SC-23513-S | 07/24/1999 | THORIUM-230 | 2.08 | 0.64 | PCI/G |
| SC-23513-S | 07/24/1999 | URANIUM-238 | 1.355 | 2.71 | PCI/G |
| SC-23514-S | 07/24/1999 | RADIUM-226 | 0.73 | 0.29 | PCI/G |
| SC-23514-S | 07/24/1999 | RADIUM-228 | 1.26 | 0.4 | PCI/G |
| SC-23514-S | 07/24/1999 | THORIUM-230 | 1.02 | 0.62 | PCI/G |
| SC-23514-S | 07/24/1999 | URANIUM-238 | 1.32 | 2.64 | PCI/G |
| SC-23515-S | 07/24/1999 | RADIUM-226 | 0.68 | 0.28 | PCI/G |
| SC-23515-S | 07/24/1999 | RADIUM-228 | 0.485 | 0.97 | PCI/G |
| SC-23515-S | 07/24/1999 | THORIUM-230 | 1.96 | 0.62 | PCI/G |
| SC-23515-S | 07/24/1999 | URANIUM-238 | 1.275 | 2.55 | PCI/G |
| SC-23516-S | 07/24/1999 | RADIUM-226 | 0.81 | 0.25 | PCI/G |
| SC-23516-S | 07/24/1999 | RADIUM-228 | 1.24 | 0.42 | PCI/G |
| SC-23516-S | 07/24/1999 | THORIUM-230 | 1.04 | 0.64 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-23516-S | 07/24/1999 | URANIUM-238 | 1.23 | 2 46 | PCI/G |
| SC-23517-S | 07/24/1999 | RADIUM-226 | 0.99 | 0 32 | PCI/G |
| SC-23517-S | 07/24/1999 | RADIUM-228 | 1 51 | 0 46 | PCI/G |
| SC-23517-S | 07/24/1999 | THORIUM-230 | 8.79 | 0.64 | PCI/G |
| SC-23517-S | 07/24/1999 | URANIUM-238 | 1.265 | 2 53 | PCI/G |
| SC-23517-S-RS | 07/31/1999 | THORIUM-230 | 0.96 | 0 62 | PCI/G |
| SC-23518-S | 07/24/1999 | RADIUM-226 | 0.62 | 0.31 | PCI/G |
| SC-23518-S | 07/24/1999 | RADIUM-228 | 1.22 | 0.44 | PCI/G |
| SC-23518-S | 07/24/1999 | THORIUM-230 | 1.84 | 0.62 | PCI/G |
| SC-23518-S | 07/24/1999 | URANIUM-238 | 1.3 | 2 6 | PCI/G |
| SC-23519-S | 07/24/1999 | RADIUM-226 | 0.29 | 0.58 | PCI/G |
| SC-23519-S | 07/24/1999 | RADIUM-228 | 1.24 | 0 47 | PCI/G |
| SC-23519-S | 07/24/1999 | THORIUM-230 | 1.36 | 0 62 | PCI/G |
| SC-23519-S | 07/24/1999 | URANIUM-238 | 1 3 | 2 6 | PCI/G |
| SC-23520-S | 07/24/1999 | RADIUM-226 | 2.61 | 0 34 | PCI/G |
| SC-23520-S | 07/24/1999 | RADIUM-228 | 1.22 | 0.48 | PCI/G |
| SC-23520-S | 07/24/1999 | THORIUM-230 | 69 | 0.64 | PCI/G |
| SC-23520-S | 07/24/1999 | URANIUM-238 | 1.68 | 3.36 | PCI/G |
| SC-23520-S-RS | 07/31/1999 | THORIUM-230 | 1 | 0.64 | PCI/G |
| SC-23602-S | 03/31/1999 | 2,4,6-TRINITROTOLUENE | 0.0037 | 0 0074 | UG/G |
| SC-23602-S | 03/31/1999 | PCB | 0 | 40 | UG/KG |
| SC-23602-S | 03/31/1999 | ARSENIC | 7 | 0 45 | UG/G |
| SC-23602-S | 03/31/1999 | PAH | 0 | 43 | UG/KG |
| SC-23602-S | 03/31/1999 | CHROMIUM | 20.1 | 0 4 | UG/G |
| SC-23602-S | 03/31/1999 | LEAD | 10 9 | 0 3 | UG/G |
| SC-23602-S | 03/31/1999 | RADIUM-226 | 1 43 | 0 32 | PCI/G |
| SC-23602-S | 03/31/1999 | RADIUM-228 | 0 465 | 0 93 | PCI/G |
| SC-23602-S | 03/31/1999 | THALLIUM | 4 2 | 0.7 | UG/G |
| SC-23602-S | 03/31/1999 | THORIUM-230 | 1.51 | 0.62 | PCI/G |
| SC-23602-S | 03/31/1999 | URANIUM-238 | 5 41 | 3 58 | PCI/G |
| SC-23602-S-01 | 07/27/1999 | RADIUM-226 | 1.33 | 0.29 | PCI/G |
| SC-23602-S-01 | 07/27/1999 | RADIUM-228 | 0.51 | 1 02 | PCI/G |
| SC-23602-S-01 | 07/27/1999 | THORIUM-230 | 1 57 | 0.64 | PCI/G |
| SC-23602-S-01 | 07/27/1999 | URANIUM-238 | 6.62 | 3 57 | PCI/G |
| SC-23603-S | 03/31/1999 | 2,4,6-TRINITROTOLUENE | 0 0036 | 0 0072 | UG/G |
| SC-23603-S | 03/31/1999 | PCB | 0 | 40 | UG/KG |
| SC-23603-S | 03/31/1999 | ARSENIC | 7 4 | 0 44 | UG/G |
| SC-23603-S | 03/31/1999 | PAH | 0 | 43 | UG/KG |
| SC-23603-S | 03/31/1999 | CHROMIUM | 15 3 | 0 4 | UG/G |
| SC-23603-S | 03/31/1999 | LEAD | 10 7 | 0 3 | UG/G |
| SC-23603-S | 03/31/1999 | RADIUM-226 | 1.44 | 0 36 | PCI/G |
| SC-23603-S | 03/31/1999 | RADIUM-228 | 1.09 | 0 42 | PCI/G |
| SC-23603-S | 03/31/1999 | THALLIUM | 1.7 | 3 4 | UG/G |
| SC-23603-S | 03/31/1999 | THORIUM-230 | 1 61 | 0.62 | PCI/G |
| SC-23603-S | 03/31/1999 | URANIUM-238 | 4 57 | 2 49 | PCI/G |
| SC-23603-S-01 | 07/27/1999 | RADIUM-226 | 1 04 | 0 34 | PCI/G |
| SC-23603-S-01 | 07/27/1999 | RADIUM-228 | 1 04 | 0 4 | PCI/G |
| SC-23603-S-01 | 07/27/1999 | THORIUM-230 | 2 21 | 0 62 | PCI/G |
| SC-23603-S-01 | 07/27/1999 | URANIUM-238 | 7 99 | 2 52 | PCI/G |
| SC-23604-S | 02/22/1999 | 2,4,6-TRINITROTOLUENE | 0 00355 | 0.0071 | UG/G |
| SC-23604-S | 02/22/1999 | PCB | 120 | 40 | UG/KG |
| SC-23604-S | 02/22/1999 | ARSENIC | 8 | 0 6 | UG/G |
| SC-23604-S | 02/22/1999 | PAH | 0 | 42 | UG/KG |
| SC-23604-S | 02/22/1999 | CHROMIUM | 16 4 | 0 43 | UG/G |
| SC-23604-S | 02/22/1999 | LEAD | 21 5 | 0 39 | UG/G |
| SC-23604-S | 02/22/1999 | RADIUM-226 | 1.31 | 0 34 | PCI/G |
| SC-23604-S | 02/22/1999 | RADIUM-228 | 0 49 | 0 98 | PCI/G |
| SC-23604-S | 02/22/1999 | THORIUM-230 | 2.52 | 0.62 | PCI/G |
| SC-23604-S | 02/22/1999 | URANIUM-238 | 6.89 | 3.34 | PCI/G |
| SC-23604-S-01 | 07/27/1999 | RADIUM-226 | 1 42 | 0.35 | PCI/G |
| SC-23604-S-01 | 07/27/1999 | RADIUM-228 | 0.495 | 0.99 | PCI/G |
| SC-23604-S-01 | 07/27/1999 | THORIUM-230 | 2 31 | 0.62 | PCI/G |
| SC-23604-S-01 | 07/27/1999 | URANIUM-238 | 5 51 | 3 | PCI/G |
| SC-23606-C | 03/31/1999 | 2,4,6-TRINITROTOLUENE | 0.00375 | 0 0075 | UG/G |
| SC-23606-C | 03/31/1999 | PCB | 0 | 43 | UG/KG |
| SC-23606-C | 03/31/1999 | ARSENIC | 12.4 | 0 46 | UG/G |
| SC-23606-C | 03/31/1999 | PAH | 0 | 45 | UG/KG |
| SC-23606-C | 03/31/1999 | CHROMIUM | 26 4 | 0 41 | UG/G |
| SC-23606-C | 03/31/1999 | LEAD | 15 5 | 0 31 | UG/G |
| SC-23606-C | 03/31/1999 | RADIUM-226 | 1 27 | 0 35 | PCI/G |
| SC-23606-C | 03/31/1999 | RADIUM-228 | 1 27 | 0 53 | PCI/G |
| SC-23606-C | 03/31/1999 | THALLIUM | 6 6 | 0 72 | UG/G |

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| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-23606-C | 03/31/1999 | THORIUM-230 | 1.11 | 0.62 | PCI/G |
| SC-23606-C | 03/31/1999 | URANIUM-238 | 1.4 | 2.8 | PCI/G |
| SC-23606-C-01 | 07/27/1999 | RADIUM-226 | 0.86 | 0.32 | PCI/G |
| SC-23606-C-01 | 07/27/1999 | RADIUM-228 | 0.445 | 0.89 | PCI/G |
| SC-23606-C-01 | 07/27/1999 | THORIUM-230 | 2.18 | 0.64 | PCI/G |
| SC-23606-C-01 | 07/27/1999 | URANIUM-238 | 1.725 | 3.45 | PCI/G |
| SC-23606-S | 04/05/1999 | 2,4,6-TRINITROTOLUENE | 0.013 | 0.026 | UG/G |
| SC-23606-S | 04/05/1999 | PCB | 0 | 36 | UG/KG |
| SC-23606-S | 04/05/1999 | ARSENIC | 7.4 | 0.39 | UG/G |
| SC-23606-S | 04/05/1999 | PAH | 0 | 16 | UG/KG |
| SC-23606-S | 04/05/1999 | CHROMIUM | 7.5 | 0.35 | UG/G |
| SC-23606-S | 04/05/1999 | LEAD | 8.4 | 0.26 | UG/G |
| SC-23606-S | 04/05/1999 | RADIUM-226 | 1.15 | 0.32 | PCI/G |
| SC-23606-S | 04/05/1999 | RADIUM-228 | 0.445 | 0.89 | PCI/G |
| SC-23606-S | 04/05/1999 | THORIUM-230 | 1.3 | 0.62 | PCI/G |
| SC-23606-S | 04/05/1999 | URANIUM-238 | 1.31 | 2.62 | PCI/G |
| SC-23606-S-01 | 07/27/1999 | RADIUM-226 | 0.91 | 0.29 | PCI/G |
| SC-23606-S-01 | 07/27/1999 | RADIUM-228 | 0.92 | 0.41 | PCI/G |
| SC-23606-S-01 | 07/27/1999 | THORIUM-230 | 1.74 | 0.64 | PCI/G |
| SC-23606-S-01 | 07/27/1999 | URANIUM-238 | 3.34 | 2.23 | PCI/G |
| SC-23607-S | 03/31/1999 | 2,4,6-TRINITROTOLUENE | 0.00345 | 0.0069 | UG/G |
| SC-23607-S | 03/31/1999 | PCB | 0 | 39 | UG/KG |
| SC-23607-S | 03/31/1999 | ARSENIC | 11.7 | 0.43 | UG/G |
| SC-23607-S | 03/31/1999 | PAH | 0 | 41 | UG/KG |
| SC-23607-S | 03/31/1999 | CHROMIUM | 17.6 | 0.38 | UG/G |
| SC-23607-S | 03/31/1999 | LEAD | 17.5 | 0.28 | UG/G |
| SC-23607-S | 03/31/1999 | RADIUM-226 | 1.21 | 0.31 | PCI/G |
| SC-23607-S | 03/31/1999 | RADIUM-228 | 1.37 | 0.43 | PCI/G |
| SC-23607-S | 03/31/1999 | THALLIUM | 4.8 | 0.66 | UG/G |
| SC-23607-S | 03/31/1999 | THORIUM-230 | 1.24 | 0.62 | PCI/G |
| SC-23607-S | 03/31/1999 | URANIUM-238 | 1.335 | 2.67 | PCI/G |
| SC-23607-S-01 | 07/27/1999 | RADIUM-226 | 0.3 | 0.6 | PCI/G |
| SC-23607-S-01 | 07/27/1999 | RADIUM-228 | 0.385 | 0.77 | PCI/G |
| SC-23607-S-01 | 07/27/1999 | THORIUM-230 | 0.81 | 0.62 | PCI/G |
| SC-23607-S-01 | 07/27/1999 | URANIUM-238 | 1.365 | 2.73 | PCI/G |
| SC-23608-S | 03/31/1999 | 2,4,6-TRINITROTOLUENE | 0.00345 | 0.0069 | UG/G |
| SC-23608-S | 03/31/1999 | PCB | 0 | 40 | UG/KG |
| SC-23608-S | 03/31/1999 | ARSENIC | 7.9 | 0.43 | UG/G |
| SC-23608-S | 03/31/1999 | PAH | 0 | 42 | UG/KG |
| SC-23608-S | 03/31/1999 | CHROMIUM | 16.3 | 0.39 | UG/G |
| SC-23608-S | 03/31/1999 | LEAD | 13.1 | 0.29 | UG/G |
| SC-23608-S | 03/31/1999 | RADIUM-226 | 1.17 | 0.35 | PCI/G |
| SC-23608-S | 03/31/1999 | RADIUM-228 | 0.97 | 0.56 | PCI/G |
| SC-23608-S | 03/31/1999 | THALLIUM | 1.85 | 3.7 | UG/G |
| SC-23608-S | 03/31/1999 | THORIUM-230 | 1.34 | 0.62 | PCI/G |
| SC-23608-S | 03/31/1999 | URANIUM-238 | 1.455 | 2.91 | PCI/G |
| SC-23608-S-01 | 07/27/1999 | RADIUM-226 | 1.14 | 0.3 | PCI/G |
| SC-23608-S-01 | 07/27/1999 | RADIUM-228 | 1.05 | 0.39 | PCI/G |
| SC-23608-S-01 | 07/27/1999 | THORIUM-230 | 1.51 | 0.64 | PCI/G |
| SC-23608-S-01 | 07/27/1999 | URANIUM-238 | 3.34 | 2.29 | PCI/G |
| SC-23609-S | 03/31/1999 | 2,4,6-TRINITROTOLUENE | 0.00335 | 0.0067 | UG/G |
| SC-23609-S | 03/31/1999 | PCB | 0 | 39 | UG/KG |
| SC-23609-S | 03/31/1999 | ARSENIC | 8.7 | 0.42 | UG/G |
| SC-23609-S | 03/31/1999 | PAH | 0 | 41 | UG/KG |
| SC-23609-S | 03/31/1999 | CHROMIUM | 15.7 | 0.37 | UG/G |
| SC-23609-S | 03/31/1999 | LEAD | 15 | 0.28 | UG/G |
| SC-23609-S | 03/31/1999 | RADIUM-226 | 1.11 | 0.35 | PCI/G |
| SC-23609-S | 03/31/1999 | RADIUM-228 | 1.06 | 0.42 | PCI/G |
| SC-23609-S | 03/31/1999 | THALLIUM | 1.75 | 3.5 | UG/G |
| SC-23609-S | 03/31/1999 | THORIUM-230 | 1.46 | 0.62 | PCI/G |
| SC-23609-S | 03/31/1999 | URANIUM-238 | 1.51 | 3.02 | PCI/G |
| SC-23609-S-01 | 07/27/1999 | RADIUM-226 | 0.93 | 0.34 | PCI/G |
| SC-23609-S-01 | 07/27/1999 | RADIUM-228 | 1.21 | 0.59 | PCI/G |
| SC-23609-S-01 | 07/27/1999 | THORIUM-230 | 1.97 | 0.62 | PCI/G |
| SC-23609-S-01 | 07/27/1999 | URANIUM-238 | 1.37 | 2.74 | PCI/G |
| SC-23610-S | 02/22/1999 | 2,4,6-TRINITROTOLUENE | 0.0036 | 0.0072 | UG/G |
| SC-23610-S | 02/22/1999 | PCB | 200 | 40 | UG/KG |
| SC-23610-S | 02/22/1999 | ARSENIC | 8.2 | 0.61 | UG/G |
| SC-23610-S | 02/22/1999 | PAH | 0 | 42 | UG/KG |
| SC-23610-S | 02/22/1999 | CHROMIUM | 15.1 | 0.44 | UG/G |
| SC-23610-S | 02/22/1999 | LEAD | 15.2 | 0.39 | UG/G |
| SC-23610-S | 02/22/1999 | RADIUM-226 | 1.35 | 0.35 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-23610-S | 02/22/1999 | RADIUM-228 | 1.03 | 0.49 | PCI/G |
| SC-23610-S | 02/22/1999 | THORIUM-230 | 1.77 | 0 62 | PCI/G |
| SC-23610-S | 02/22/1999 | URANIUM-238 | 7 61 | 2.31 | PCI/G |
| SC-23610-S-01 | 07/27/1999 | RADIUM-226 | 0.86 | 0 33 | PCI/G |
| SC-23610-S-01 | 07/27/1999 | RADIUM-228 | 1.02 | 0 4 | PCI/G |
| SC-23610-S-01 | 07/27/1999 | THORIUM-230 | 1.61 | 0.62 | PCI/G |
| SC-23610-S-01 | 07/27/1999 | URANIUM-238 | 1.34 | 2.68 | PCI/G |
| SC-23611-C | 02/22/1999 | 2,4,6-TRINITROTOLUENE | 0.00365 | 0 0073 | UG/G |
| SC-23611-C | 02/22/1999 | PCB | 0 | 40 | UG/KG |
| SC-23611-C | 02/22/1999 | ARSENIC | 6.7 | 0.61 | UG/G |
| SC-23611-C | 02/22/1999 | PAH | 0 | 42 | UG/KG |
| SC-23611-C | 02/22/1999 | CHROMIUM | 17.9 | 0.44 | UG/G |
| SC-23611-C | 02/22/1999 | LEAD | 15.6 | 0 39 | UG/G |
| SC-23611-C | 02/22/1999 | RADIUM-226 | 1.39 | 0 31 | PCI/G |
| SC-23611-C | 02/22/1999 | RADIUM-228 | 0 45 | 0.9 | PCI/G |
| SC-23611-C | 02/22/1999 | THORIUM-230 | 1.02 | 0.62 | PCI/G |
| SC-23611-C | 02/22/1999 | URANIUM-238 | 1.37 | 2.74 | PCI/G |
| SC-23611-C-01 | 07/27/1999 | RADIUM-226 | 0.91 | 0 34 | PCI/G |
| SC-23611-C-01 | 07/27/1999 | RADIUM-228 | 0 445 | 0.89 | PCI/G |
| SC-23611-C-01 | 07/27/1999 | THORIUM-230 | 1.54 | 0.64 | PCI/G |
| SC-23611-C-01 | 07/27/1999 | URANIUM-238 | 1.135 | 2.27 | PCI/G |
| SC-23611-S | 02/22/1999 | 2,4,6-TRINITROTOLUENE | 0.0036 | 0.0072 | UG/G |
| SC-23611-S | 02/22/1999 | PCB | 92 | 40 | UG/KG |
| SC-23611-S | 02/22/1999 | ARSENIC | 6 2 | 0 6 | UG/G |
| SC-23611-S | 02/22/1999 | PAH | 0 | 42 | UG/KG |
| SC-23611-S | 02/22/1999 | CHROMIUM | 15 | 0 43 | UG/G |
| SC-23611-S | 02/22/1999 | LEAD | 14 7 | 0 39 | UG/G |
| SC-23611-S | 02/22/1999 | RADIUM-226 | 1 46 | 0 27 | PCI/G |
| SC-23611-S | 02/22/1999 | RADIUM-228 | 1 02 | 0.45 | PCI/G |
| SC-23611-S | 02/22/1999 | THORIUM-230 | 2 | 0.62 | PCI/G |
| SC-23611-S | 02/22/1999 | URANIUM-238 | 9 04 | 2.89 | PCI/G |
| SC-23611-S-01 | 07/27/1999 | RADIUM-226 | 0 91 | 0 3 | PCI/G |
| SC-23611-S-01 | 07/27/1999 | RADIUM-228 | 1 08 | 0 4 | PCI/G |
| SC-23611-S-01 | 07/27/1999 | THORIUM-230 | 1 11 | 0.64 | PCI/G |
| SC-23611-S-01 | 07/27/1999 | URANIUM-238 | 1 75 | 2 18 | PCI/G |
| SC-23612-S | 02/22/1999 | 2,4,6-TRINITROTOLUENE | 0 0037 | 0 0074 | UG/G |
| SC-23612-S | 02/22/1999 | PCB | 0 | 41 | UG/KG |
| SC-23612-S | 02/22/1999 | ARSENIC | 5 3 | 0 61 | UG/G |
| SC-23612-S | 02/22/1999 | PAH | 0 | 43 | UG/KG |
| SC-23612-S | 02/22/1999 | CHROMIUM | 17.1 | 0 44 | UG/G |
| SC-23612-S | 02/22/1999 | LEAD | 11 6 | 0.39 | UG/G |
| SC-23612-S | 02/22/1999 | RADIUM-226 | 1 39 | 0 28 | PCI/G |
| SC-23612-S | 02/22/1999 | RADIUM-228 | 0.85 | 0 49 | PCI/G |
| SC-23612-S | 02/22/1999 | THORIUM-230 | 0.87 | 0 62 | PCI/G |
| SC-23612-S | 02/22/1999 | URANIUM-238 | 1 395 | 2 79 | PCI/G |
| SC-23612-S-01 | 07/27/1999 | RADIUM-226 | 0 9 | 0 28 | PCI/G |
| SC-23612-S-01 | 07/27/1999 | RADIUM-228 | 0.53 | 1 06 | PCI/G |
| SC-23612-S-01 | 07/27/1999 | THORIUM-230 | 1 65 | 0.62 | PCI/G |
| SC-23612-S-01 | 07/27/1999 | URANIUM-238 | 1.34 | 2 68 | PCI/G |
| SC-23613-S | 02/22/1999 | 2,4,6-TRINITROTOLUENE | 0.0036 | 0 0072 | UG/G |
| SC-23613-S | 02/22/1999 | PCB | 0 | 40 | UG/KG |
| SC-23613-S | 02/22/1999 | ARSENIC | 4 4 | 0 61 | UG/G |
| SC-23613-S | 02/22/1999 | PAH | 0 | 42 | UG/KG |
| SC-23613-S | 02/22/1999 | CHROMIUM | 16 3 | 0 44 | UG/G |
| SC-23613-S | 02/22/1999 | LEAD | 8 4 | 0 39 | UG/G |
| SC-23613-S | 02/22/1999 | RADIUM-226 | 1.13 | 0 38 | PCI/G |
| SC-23613-S | 02/22/1999 | RADIUM-228 | 0 44 | 0 88 | PCI/G |
| SC-23613-S | 02/22/1999 | THORIUM-230 | 0 97 | 0.62 | PCI/G |
| SC-23613-S | 02/22/1999 | URANIUM-238 | 1 275 | 2.55 | PCI/G |
| SC-23613-S-01 | 07/27/1999 | RADIUM-226 | 1 01 | 0.3 | PCI/G |
| SC-23613-S-01 | 07/27/1999 | RADIUM-228 | 1 | 0 45 | PCI/G |
| SC-23613-S-01 | 07/27/1999 | THORIUM-230 | 1.11 | 0 62 | PCI/G |
| SC-23613-S-01 | 07/27/1999 | URANIUM-238 | 2.27 | 2.45 | PCI/G |
| SC-23614-S | 02/22/1999 | 2,4,6-TRINITROTOLUENE | 0 00365 | 0 0073 | UG/G |
| SC-23614-S | 02/22/1999 | PCB | 0 | 41 | UG/KG |
| SC-23614-S | 02/22/1999 | ARSENIC | 7.9 | 0 61 | UG/G |
| SC-23614-S | 02/22/1999 | PAH | 920 | 42 | UG/KG |
| SC-23614-S | 02/22/1999 | CHROMIUM | 15.9 | 0 44 | UG/G |
| SC-23614-S | 02/22/1999 | LEAD | 18.6 | 0 39 | UG/G |
| SC-23614-S | 02/22/1999 | RADIUM-226 | 1 16 | 0.33 | PCI/G |
| SC-23614-S | 02/22/1999 | RADIUM-228 | 1 05 | 0 55 | PCI/G |
| SC-23614-S | 02/22/1999 | THORIUM-230 | 2 71 | 0 62 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-23614-S | 02/22/1999 | URANIUM-238 | 18 | 3.42 | PCI/G |
| SC-23614-S-01 | 07/27/1999 | RADIUM-226 | 1 | 0.26 | PCI/G |
| SC-23614-S-01 | 07/27/1999 | RADIUM-228 | 0.53 | 1.06 | PCI/G |
| SC-23614-S-01 | 07/27/1999 | THORIUM-230 | 1.59 | 0.64 | PCI/G |
| SC-23614-S-01 | 07/27/1999 | URANIUM-238 | 1.425 | 2.85 | PCI/G |
| SC-23617-S | 02/22/1999 | 2,4,6-TRINITROTOLUENE | 0.0039 | 0.0078 | UG/G |
| SC-23617-S | 02/22/1999 | PCB | 0 | 44 | UG/KG |
| SC-23617-S | 02/22/1999 | ARSENIC | 9.7 | 0.66 | UG/G |
| SC-23617-S | 02/22/1999 | PAH | 0 | 46 | UG/KG |
| SC-23617-S | 02/22/1999 | CHROMIUM | 18.7 | 0.48 | UG/G |
| SC-23617-S | 02/22/1999 | LEAD | 22.8 | 0.42 | UG/G |
| SC-23617-S | 02/22/1999 | RADIUM-226 | 1.06 | 0.38 | PCI/G |
| SC-23617-S | 02/22/1999 | RADIUM-228 | 0.555 | 1.11 | PCI/G |
| SC-23617-S | 02/22/1999 | THORIUM-230 | 1.49 | 0.62 | PCI/G |
| SC-23617-S | 02/22/1999 | URANIUM-238 | 1.495 | 2.99 | PCI/G |
| SC-23617-S-01 | 07/27/1999 | RADIUM-226 | 0.98 | 0.27 | PCI/G |
| SC-23617-S-01 | 07/27/1999 | RADIUM-228 | 0.92 | 0.42 | PCI/G |
| SC-23617-S-01 | 07/27/1999 | THORIUM-230 | 1.49 | 0.64 | PCI/G |
| SC-23617-S-01 | 07/27/1999 | URANIUM-238 | 1.325 | 2.65 | PCI/G |
| SC-23618-S | 02/22/1999 | 2,4,6-TRINITROTOLUENE | 0.00375 | 0.0075 | UG/G |
| SC-23618-S | 02/22/1999 | PCB | 0 | 42 | UG/KG |
| SC-23618-S | 02/22/1999 | ARSENIC | 7.1 | 0.64 | UG/G |
| SC-23618-S | 02/22/1999 | PAH | 0 | 44 | UG/KG |
| SC-23618-S | 02/22/1999 | CHROMIUM | 17.2 | 0.46 | UG/G |
| SC-23618-S | 02/22/1999 | LEAD | 10.8 | 0.41 | UG/G |
| SC-23618-S | 02/22/1999 | RADIUM-226 | 0.95 | 0.28 | PCI/G |
| SC-23618-S | 02/22/1999 | RADIUM-228 | 1.05 | 0.41 | PCI/G |
| SC-23618-S | 02/22/1999 | THORIUM-230 | 1.06 | 0.62 | PCI/G |
| SC-23618-S | 02/22/1999 | URANIUM-238 | 1.37 | 2.74 | PCI/G |
| SC-23618-S-01 | 07/27/1999 | RADIUM-226 | 0.95 | 0.31 | PCI/G |
| SC-23618-S-01 | 07/27/1999 | RADIUM-228 | 0.445 | 0.89 | PCI/G |
| SC-23618-S-01 | 07/27/1999 | THORIUM-230 | 1.53 | 0.62 | PCI/G |
| SC-23618-S-01 | 07/27/1999 | URANIUM-238 | 1.205 | 2.41 | PCI/G |
| SC-23623-C | 02/22/1999 | 2,4,6-TRINITROTOLUENE | 0.0035 | 0.007 | UG/G |
| SC-23623-C | 02/22/1999 | PCB | 0 | 39 | UG/KG |
| SC-23623-C | 02/22/1999 | ARSENIC | 8 | 0.59 | UG/G |
| SC-23623-C | 02/22/1999 | PAH | 0 | 41 | UG/KG |
| SC-23623-C | 02/22/1999 | CHROMIUM | 18 | 0.42 | UG/G |
| SC-23623-C | 02/22/1999 | LEAD | 14.1 | 0.38 | UG/G |
| SC-23623-C | 02/22/1999 | RADIUM-226 | 1.17 | 0.29 | PCI/G |
| SC-23623-C | 02/22/1999 | RADIUM-228 | 0.495 | 0.99 | PCI/G |
| SC-23623-C | 02/22/1999 | THORIUM-230 | 0.83 | 0.62 | PCI/G |
| SC-23623-C | 02/22/1999 | URANIUM-238 | 1.37 | 2.74 | PCI/G |
| SC-23623-C-01 | 07/27/1999 | RADIUM-226 | 0.87 | 0.31 | PCI/G |
| SC-23623-C-01 | 07/27/1999 | RADIUM-228 | 1.15 | 0.44 | PCI/G |
| SC-23623-C-01 | 07/27/1999 | THORIUM-230 | 1.31 | 0.62 | PCI/G |
| SC-23623-C-01 | 07/27/1999 | URANIUM-238 | 1.28 | 2.56 | PCI/G |
| SC-23625-C | 02/18/1999 | 2,4,6-TRINITROTOLUENE | 0.115 | 0.23 | UG/G |
| SC-23625-C | 02/18/1999 | PCB | 0 | 42 | UG/KG |
| SC-23625-C | 02/18/1999 | ARSENIC | 8.5 | 0.75 | UG/G |
| SC-23625-C | 02/18/1999 | PAH | 0 | 11 | UG/KG |
| SC-23625-C | 02/18/1999 | CHROMIUM | 15.9 | 0.14 | UG/G |
| SC-23625-C | 02/18/1999 | LEAD | 14.6 | 0.41 | UG/G |
| SC-23625-C | 02/18/1999 | RADIUM-226 | 1.17 | 0.35 | PCI/G |
| SC-23625-C | 02/18/1999 | RADIUM-228 | 0.47 | 0.94 | PCI/G |
| SC-23625-C | 02/18/1999 | THORIUM-230 | 2.04 | 0.62 | PCI/G |
| SC-23625-C | 02/18/1999 | URANIUM-238 | 1.525 | 3.05 | PCI/G |
| SC-23625-C-01 | 07/27/1999 | RADIUM-226 | 1.03 | 0.32 | PCI/G |
| SC-23625-C-01 | 07/27/1999 | RADIUM-228 | 0.5 | 1 | PCI/G |
| SC-23625-C-01 | 07/27/1999 | THORIUM-230 | 1.34 | 0.64 | PCI/G |
| SC-23625-C-01 | 07/27/1999 | URANIUM-238 | 1.505 | 3.01 | PCI/G |
| SC-23625-S | 02/18/1999 | 2,4,6-TRINITROTOLUENE | 0.115 | 0.23 | UG/G |
| SC-23625-S | 02/18/1999 | PCB | 0 | 42 | UG/KG |
| SC-23625-S | 02/18/1999 | ARSENIC | 5.2 | 0.78 | UG/G |
| SC-23625-S | 02/18/1999 | PAH | 5.5 | 11 | UG/KG |
| SC-23625-S | 02/18/1999 | CHROMIUM | 13.8 | 0.14 | UG/G |
| SC-23625-S | 02/18/1999 | LEAD | 9.1 | 0.42 | UG/G |
| SC-23625-S | 02/18/1999 | RADIUM-226 | 1.21 | 0.35 | PCI/G |
| SC-23625-S | 02/18/1999 | RADIUM-228 | 1.13 | 0.44 | PCI/G |
| SC-23625-S | 02/18/1999 | THORIUM-230 | 1.01 | 0.62 | PCI/G |
| SC-23625-S | 02/18/1999 | URANIUM-238 | 1.34 | 2.68 | PCI/G |
| SC-23625-S-01 | 07/27/1999 | RADIUM-226 | 0.93 | 0.3 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-23625-S-01 | 07/27/1999 | RADIUM-228 | 1 08 | 0 5 | PCI/G |
| SC-23625-S-01 | 07/27/1999 | THORIUM-230 | 1 22 | 0.64 | PCI/G |
| SC-23625-S-01 | 07/27/1999 | URANIUM-238 | 2.29 | 2 58 | PCI/G |
| SC-23626-S | 02/18/1999 | 2,4,6-TRINITROTOLUENE | 0 12 | 0.24 | UG/G |
| SC-23626-S | 02/18/1999 | PCB | 2300 | 840 | UG/KG |
| SC-23626-S | 02/18/1999 | ARSENIC | 6.7 | 0 73 | UG/G |
| SC-23626-S | 02/18/1999 | PAH | 374 | 11 | UG/KG |
| SC-23626-S | 02/18/1999 | CHROMIUM | 11.1 | 0.13 | UG/G |
| SC-23626-S | 02/18/1999 | LEAD | 24 | 0.4 | UG/G |
| SC-23626-S | 02/18/1999 | RADIUM-226 | 15.7 | 0 64 | PCI/G |
| SC-23626-S | 02/18/1999 | RADIUM-228 | 0.59 | 1 18 | PCI/G |
| SC-23626-S | 02/18/1999 | THORIUM-230 | 18 | 0 62 | PCI/G |
| SC-23626-S | 02/18/1999 | URANIUM-238 | 23 7 | 6 69 | PCI/G |
| SC-23626-S-01 | 07/27/1999 | RADIUM-226 | 0 87 | 0 34 | PCI/G |
| SC-23626-S-01 | 07/27/1999 | RADIUM-228 | 1 16 | 0.43 | PCI/G |
| SC-23626-S-01 | 07/27/1999 | THORIUM-230 | 1 37 | 0.62 | PCI/G |
| SC-23626-S-01 | 07/27/1999 | URANIUM-238 | 3 3 | 3 72 | PCI/G |
| SC-23626-S-RS | 03/03/1999 | RADIUM-226 | 1 09 | 0 39 | PCI/G |
| SC-23626-S-RS | 03/03/1999 | RADIUM-228 | 0 48 | 0 96 | PCI/G |
| SC-23626-S-RS | 03/03/1999 | THORIUM-230 | 0.97 | 0.62 | PCI/G |
| SC-23626-S-RS | 03/03/1999 | URANIUM-238 | 1 33 | 2.66 | PCI/G |
| SC-23627-S | 02/18/1999 | 2,4,6-TRINITROTOLUENE | 0 115 | 0.23 | UG/G |
| SC-23627-S | 02/18/1999 | PCB | 0 | 42 | UG/KG |
| SC-23627-S | 02/18/1999 | ARSENIC | 14.3 | 0 75 | UG/G |
| SC-23627-S | 02/18/1999 | PAH | 0 | 11 | UG/KG |
| SC-23627-S | 02/18/1999 | CHROMIUM | 13 4 | 0 14 | UG/G |
| SC-23627-S | 02/18/1999 | LEAD | 28 4 | 0 41 | UG/G |
| SC-23627-S | 02/18/1999 | RADIUM-226 | 1.26 | 0 35 | PCI/G |
| SC-23627-S | 02/18/1999 | RADIUM-228 | 1.27 | 0 37 | PCI/G |
| SC-23627-S | 02/18/1999 | THORIUM-230 | 1 24 | 0.62 | PCI/G |
| SC-23627-S | 02/18/1999 | URANIUM-238 | 4 83 | 2 56 | PCI/G |
| SC-23627-S-01 | 07/27/1999 | RADIUM-226 | 1 07 | 0 3 | PCI/G |
| SC-23627-S-01 | 07/27/1999 | RADIUM-228 | 0 84 | 0 45 | PCI/G |
| SC-23627-S-01 | 07/27/1999 | THORIUM-230 | 0 84 | 0 62 | PCI/G |
| SC-23627-S-01 | 07/27/1999 | URANIUM-238 | 1 39 | 2 78 | PCI/G |
| SC-23628-S | 02/14/1999 | 2,4,6-TRINITROTOLUENE | 0.0036 | 0 0072 | UG/G |
| SC-23628-S | 02/14/1999 | PCB | 0 | 41 | UG/KG |
| SC-23628-S | 02/14/1999 | ARSENIC | 9 9 | 0 62 | UG/G |
| SC-23628-S | 02/14/1999 | CHROMIUM | 17 3 | 0 44 | UG/G |
| SC-23628-S | 02/14/1999 | PAH | 1500 | 430 | UG/KG |
| SC-23628-S | 02/14/1999 | LEAD | 15 6 | 0 39 | UG/G |
| SC-23628-S | 02/14/1999 | RADIUM-226 | 1 34 | 0 498 | PCI/G |
| SC-23628-S | 02/14/1999 | RADIUM-228 | 1 37 | 0 995 | PCI/G |
| SC-23628-S | 02/14/1999 | THORIUM-230 | 0 375 | 0 33 | PCI/G |
| SC-23628-S | 02/14/1999 | THORIUM-232 | 0 553 | 0 477 | PCI/G |
| SC-23628-S | 02/14/1999 | URANIUM-238 | 1 48 | 2 96 | PCI/G |
| SC-23640-C | 02/14/1999 | 2,4,6-TRINITROTOLUENE | 0 0036 | 0 0072 | UG/G |
| SC-23640-C | 02/14/1999 | PCB | 0 | 40 | UG/KG |
| SC-23640-C | 02/14/1999 | ARSENIC | 8 4 | 0 61 | UG/G |
| SC-23640-C | 02/14/1999 | CHROMIUM | 16 3 | 0 44 | UG/G |
| SC-23640-C | 02/14/1999 | PAH | 50 | 42 | UG/KG |
| SC-23640-C | 02/14/1999 | LEAD | 17 3 | 0 39 | UG/G |
| SC-23640-C | 02/14/1999 | RADIUM-226 | 1 5 | 0 62 | PCI/G |
| SC-23640-C | 02/14/1999 | RADIUM-228 | 1 95 | 0 864 | PCI/G |
| SC-23640-C | 02/14/1999 | THORIUM-230 | 0 327 | 0 177 | PCI/G |
| SC-23640-C | 02/14/1999 | THORIUM-232 | 0 376 | 0.2 | PCI/G |
| SC-23640-C | 02/14/1999 | URANIUM-238 | 7 72 | 3 16 | PCI/G |
| SC-23640-C-01 | 07/27/1999 | RADIUM-226 | 0 85 | 0 25 | PCI/G |
| SC-23640-C-01 | 07/27/1999 | RADIUM-228 | 1 03 | 0 33 | PCI/G |
| SC-23640-C-01 | 07/27/1999 | THORIUM-230 | 1 21 | 0.64 | PCI/G |
| SC-23640-C-01 | 07/27/1999 | URANIUM-238 | 0.965 | 1 93 | PCI/G |
| SC-23642-C | 02/14/1999 | 2,4,6-TRINITROTOLUENE | 0.00355 | 0 0071 | UG/G |
| SC-23642-C | 02/14/1999 | PCB | 0 | 39 | UG/KG |
| SC-23642-C | 02/14/1999 | ARSENIC | 8.2 | 0 6 | UG/G |
| SC-23642-C | 02/14/1999 | CHROMIUM | 16 4 | 0 43 | UG/G |
| SC-23642-C | 02/14/1999 | PAH | 130 | 41 | UG/KG |
| SC-23642-C | 02/14/1999 | LEAD | 21 5 | 0.38 | UG/G |
| SC-23642-C | 02/14/1999 | RADIUM-226 | 1 08 | 0.65 | PCI/G |
| SC-23642-C | 02/14/1999 | RADIUM-228 | 1 58 | 0.889 | PCI/G |
| SC-23642-C | 02/14/1999 | THORIUM-230 | 1 18 | 0 3 | PCI/G |
| SC-23642-C | 02/14/1999 | THORIUM-232 | 0 208 | 0 353 | PCI/G |
| SC-23642-C | 02/14/1999 | URANIUM-238 | 4.29 | 2 92 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-23642-C-01 | 07/27/1999 | RADIUM-226 | 0.95 | 0.27 | PCI/G |
| SC-23642-C-01 | 07/27/1999 | RADIUM-228 | 1.11 | 0.39 | PCI/G |
| SC-23642-C-01 | 07/27/1999 | THORIUM-230 | 1.03 | 0.62 | PCI/G |
| SC-23642-C-01 | 07/27/1999 | URANIUM-238 | 2.86 | 2.29 | PCI/G |
| SC-23642-S | 02/14/1999 | 2,4,6-TRINITROTOLUENE | 0.0035 | 0.007 | UG/G |
| SC-23642-S | 02/14/1999 | PCB | 0 | 39 | UG/KG |
| SC-23642-S | 02/14/1999 | ARSENIC | 6.6 | 0.59 | UG/G |
| SC-23642-S | 02/14/1999 | PAH | 0 | 41 | UG/KG |
| SC-23642-S | 02/14/1999 | CHROMIUM | 16 | 0.42 | UG/G |
| SC-23642-S | 02/14/1999 | LEAD | 12 | 0.38 | UG/G |
| SC-23642-S | 02/14/1999 | RADIUM-226 | 1.33 | 0.42 | PCI/G |
| SC-23642-S | 02/14/1999 | RADIUM-228 | 1.01 | 0.561 | PCI/G |
| SC-23642-S | 02/14/1999 | THORIUM-230 | 1.09 | 0.46 | PCI/G |
| SC-23642-S | 02/14/1999 | THORIUM-232 | 0.185 | 0.46 | PCI/G |
| SC-23642-S | 02/14/1999 | URANIUM-238 | 19.1 | 2.74 | PCI/G |
| SC-23642-S-01 | 07/27/1999 | RADIUM-226 | 0.87 | 0.33 | PCI/G |
| SC-23642-S-01 | 07/27/1999 | RADIUM-228 | 1.27 | 0.42 | PCI/G |
| SC-23642-S-01 | 07/27/1999 | THORIUM-230 | 1.24 | 0.62 | PCI/G |
| SC-23642-S-01 | 07/27/1999 | URANIUM-238 | 1.285 | 2.57 | PCI/G |
| SC-23643-S | 02/14/1999 | 2,4,6-TRINITROTOLUENE | 0.0038 | 0.0076 | UG/G |
| SC-23643-S | 02/14/1999 | PCB | 0 | 42 | UG/KG |
| SC-23643-S | 02/14/1999 | ARSENIC | 8.9 | 0.64 | UG/G |
| SC-23643-S | 02/14/1999 | CHROMIUM | 18.9 | 0.46 | UG/G |
| SC-23643-S | 02/14/1999 | PAH | 460 | 44 | UG/KG |
| SC-23643-S | 02/14/1999 | LEAD | 16.1 | 0.41 | UG/G |
| SC-23643-S | 02/14/1999 | RADIUM-226 | 2.54 | 0.784 | PCI/G |
| SC-23643-S | 02/14/1999 | RADIUM-228 | 1.61 | 0.856 | PCI/G |
| SC-23643-S | 02/14/1999 | THORIUM-230 | 2.53 | 0.136 | PCI/G |
| SC-23643-S | 02/14/1999 | THORIUM-232 | 0.347 | 0.136 | PCI/G |
| SC-23643-S | 02/14/1999 | URANIUM-238 | 9.99 | 3.61 | PCI/G |
| SC-23643-S-01 | 07/27/1999 | RADIUM-226 | 0.9 | 0.33 | PCI/G |
| SC-23643-S-01 | 07/27/1999 | RADIUM-228 | 1.26 | 0.5 | PCI/G |
| SC-23643-S-01 | 07/27/1999 | THORIUM-230 | 1.67 | 0.64 | PCI/G |
| SC-23643-S-01 | 07/27/1999 | URANIUM-238 | 1.365 | 2.73 | PCI/G |
| SC-23644-S | 02/14/1999 | 2,4,6-TRINITROTOLUENE | 0.0037 | 0.0074 | UG/G |
| SC-23644-S | 02/14/1999 | PCB | 0 | 41 | UG/KG |
| SC-23644-S | 02/14/1999 | ARSENIC | 11.9 | 0.61 | UG/G |
| SC-23644-S | 02/14/1999 | CHROMIUM | 15.9 | 0.44 | UG/G |
| SC-23644-S | 02/14/1999 | PAH | 58 | 43 | UG/KG |
| SC-23644-S | 02/14/1999 | LEAD | 16.5 | 0.39 | UG/G |
| SC-23644-S | 02/14/1999 | RADIUM-226 | 0.86 | 0.367 | PCI/G |
| SC-23644-S | 02/14/1999 | RADIUM-228 | 1.35 | 0.658 | PCI/G |
| SC-23644-S | 02/14/1999 | THORIUM-230 | 1.53 | 0.166 | PCI/G |
| SC-23644-S | 02/14/1999 | THORIUM-232 | 0.254 | 0.178 | PCI/G |
| SC-23644-S | 02/14/1999 | URANIUM-238 | 2.57 | 2.21 | PCI/G |
| SC-23645-S | 07/27/1999 | RADIUM-226 | 0.95 | 0.24 | PCI/G |
| SC-23645-S | 07/27/1999 | RADIUM-228 | 1.12 | 0.32 | PCI/G |
| SC-23645-S | 07/27/1999 | THORIUM-230 | 1.32 | 0.64 | PCI/G |
| SC-23645-S | 07/27/1999 | URANIUM-238 | 0.925 | 1.85 | PCI/G |
| SC-23646-C | 07/27/1999 | RADIUM-226 | 0.96 | 0.26 | PCI/G |
| SC-23646-C | 07/27/1999 | RADIUM-228 | 0.385 | 0.77 | PCI/G |
| SC-23646-C | 07/27/1999 | THORIUM-230 | 1.51 | 0.62 | PCI/G |
| SC-23646-C | 07/27/1999 | URANIUM-238 | 1.49 | 2.98 | PCI/G |
| SC-23646-S | 07/27/1999 | RADIUM-226 | 0.77 | 0.28 | PCI/G |
| SC-23646-S | 07/27/1999 | RADIUM-228 | 1.1 | 0.5 | PCI/G |
| SC-23646-S | 07/27/1999 | THORIUM-230 | 1.16 | 0.62 | PCI/G |
| SC-23646-S | 07/27/1999 | URANIUM-238 | 1.35 | 2.7 | PCI/G |
| SC-23647-S | 07/27/1999 | RADIUM-226 | 0.95 | 0.3 | PCI/G |
| SC-23647-S | 07/27/1999 | RADIUM-228 | 1.06 | 0.39 | PCI/G |
| SC-23647-S | 07/27/1999 | THORIUM-230 | 1.1 | 0.64 | PCI/G |
| SC-23647-S | 07/27/1999 | URANIUM-238 | 1.295 | 2.59 | PCI/G |
| SC-23648-S | 07/27/1999 | RADIUM-226 | 0.97 | 0.28 | PCI/G |
| SC-23648-S | 07/27/1999 | RADIUM-228 | 1.22 | 0.45 | PCI/G |
| SC-23648-S | 07/27/1999 | THORIUM-230 | 0.91 | 0.64 | PCI/G |
| SC-23648-S | 07/27/1999 | URANIUM-238 | 1.25 | 2.5 | PCI/G |
| SC-23649-S | 07/27/1999 | RADIUM-226 | 1.05 | 0.28 | PCI/G |
| SC-23649-S | 07/27/1999 | RADIUM-228 | 0.445 | 0.89 | PCI/G |
| SC-23649-S | 07/27/1999 | THORIUM-230 | 1.3 | 0.62 | PCI/G |
| SC-23649-S | 07/27/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-23650-S | 07/27/1999 | RADIUM-226 | 0.98 | 0.29 | PCI/G |
| SC-23650-S | 07/27/1999 | RADIUM-228 | 0.325 | 0.65 | PCI/G |
| SC-23650-S | 07/27/1999 | THORIUM-230 | 1.31 | 0.62 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-23650-S | 07/27/1999 | URANIUM-238 | 1.38 | 2 76 | PCI/G |
| SC-23651-C | 07/27/1999 | RADIUM-226 | 1.05 | 0 34 | PCI/G |
| SC-23651-C | 07/27/1999 | RADIUM-228 | 0.445 | 0 89 | PCI/G |
| SC-23651-C | 07/27/1999 | THORIUM-230 | 1.51 | 0.64 | PCI/G |
| SC-23651-C | 07/27/1999 | URANIUM-238 | 1.46 | 2.92 | PCI/G |
| SC-23652-C | 07/27/1999 | RADIUM-226 | 0.92 | 0.23 | PCI/G |
| SC-23652-C | 07/27/1999 | RADIUM-228 | 0.94 | 0.38 | PCI/G |
| SC-23652-C | 07/27/1999 | THORIUM-230 | 1.41 | 0.64 | PCI/G |
| SC-23652-C | 07/27/1999 | URANIUM-238 | 1.51 | 3.02 | PCI/G |
| SC-23653-S | 07/27/1999 | RADIUM-226 | 0.93 | 0.28 | PCI/G |
| SC-23653-S | 07/27/1999 | RADIUM-228 | 0.495 | 0.99 | PCI/G |
| SC-23653-S | 07/27/1999 | THORIUM-230 | 1 | 0.62 | PCI/G |
| SC-23653-S | 07/27/1999 | URANIUM-238 | 1.25 | 2 5 | PCI/G |
| SC-23654-S | 07/27/1999 | RADIUM-226 | 0.98 | 0 31 | PCI/G |
| SC-23654-S | 07/27/1999 | RADIUM-228 | 1 08 | 0 41 | PCI/G |
| SC-23654-S | 07/27/1999 | THORIUM-230 | 1 16 | 0 62 | PCI/G |
| SC-23654-S | 07/27/1999 | URANIUM-238 | 1.345 | 2 69 | PCI/G |
| SC-23655-S | 07/27/1999 | RADIUM-226 | 0.94 | 0 32 | PCI/G |
| SC-23655-S | 07/27/1999 | RADIUM-228 | 0.505 | 1 01 | PCI/G |
| SC-23655-S | 07/27/1999 | THORIUM-230 | 1.26 | 0 62 | PCI/G |
| SC-23655-S | 07/27/1999 | URANIUM-238 | 1 18 | 2 36 | PCI/G |
| SC-23656-S | 07/27/1999 | RADIUM-226 | 0.79 | 0 32 | PCI/G |
| SC-23656-S | 07/27/1999 | RADIUM-228 | 0.99 | 0 39 | PCI/G |
| SC-23656-S | 07/27/1999 | THORIUM-230 | 1.33 | 0 64 | PCI/G |
| SC-23656-S | 07/27/1999 | URANIUM-238 | 1 3 | 2 6 | PCI/G |
| SC-23657-C | 07/27/1999 | RADIUM-226 | 0.86 | 0.4 | PCI/G |
| SC-23657-C | 07/27/1999 | RADIUM-228 | 1 32 | 0 44 | PCI/G |
| SC-23657-C | 07/27/1999 | THORIUM-230 | 1 16 | 0 62 | PCI/G |
| SC-23657-C | 07/27/1999 | URANIUM-238 | 1 34 | 2 68 | PCI/G |
| SC-23658-S | 07/27/1999 | RADIUM-226 | 0.94 | 0 34 | PCI/G |
| SC-23658-S | 07/27/1999 | RADIUM-228 | 1 13 | 0 46 | PCI/G |
| SC-23658-S | 07/27/1999 | THORIUM-230 | 1.12 | 0 62 | PCI/G |
| SC-23658-S | 07/27/1999 | URANIUM-238 | 1.36 | 2.72 | PCI/G |
| SC-23659-S | 07/27/1999 | RADIUM-226 | 0 82 | 0.33 | PCI/G |
| SC-23659-S | 07/27/1999 | RADIUM-228 | 0 47 | 0.94 | PCI/G |
| SC-23659-S | 07/27/1999 | THORIUM-230 | 1 72 | 0.64 | PCI/G |
| SC-23659-S | 07/27/1999 | URANIUM-238 | 1 48 | 2.96 | PCI/G |
| SC-23701-C | 08/24/1999 | RADIUM-226 | 1 05 | 0 37 | PCI/G |
| SC-23701-C | 08/24/1999 | RADIUM-228 | 1 25 | 0.58 | PCI/G |
| SC-23701-C | 08/24/1999 | THORIUM-230 | 1 17 | 0 65 | PCI/G |
| SC-23701-C | 08/24/1999 | URANIUM-238 | 1 44 | 2.88 | PCI/G |
| SC-23701-S | 08/24/1999 | RADIUM-226 | 1 08 | 0 32 | PCI/G |
| SC-23701-S | 08/24/1999 | RADIUM-228 | 1 1 | 0.46 | PCI/G |
| SC-23701-S | 08/24/1999 | THORIUM-230 | 0 79 | 0 62 | PCI/G |
| SC-23701-S | 08/24/1999 | URANIUM-238 | 1.355 | 2 71 | PCI/G |
| SC-23702-S | 02/24/1999 | RADIUM-226 | 1 29 | 0.26 | PCI/G |
| SC-23702-S | 02/24/1999 | RADIUM-228 | 1 09 | 0 4 | PCI/G |
| SC-23702-S | 02/24/1999 | THORIUM-230 | 1 9 | 0 62 | PCI/G |
| SC-23702-S | 02/24/1999 | URANIUM-238 | 1 385 | 2 77 | PCI/G |
| SC-23702-S-RS | 08/25/1999 | RADIUM-226 | 1.11 | 0 29 | PCI/G |
| SC-23702-S-RS | 08/25/1999 | RADIUM-228 | 1.46 | 0 51 | PCI/G |
| SC-23702-S-RS | 08/25/1999 | THORIUM-230 | 1.11 | 0.64 | PCI/G |
| SC-23702-S-RS | 08/25/1999 | URANIUM-238 | 1 385 | 2.77 | PCI/G |
| SC-23703-S | 02/24/1999 | RADIUM-226 | 1.28 | 0 24 | PCI/G |
| SC-23703-S | 02/24/1999 | RADIUM-228 | 1.29 | 0 33 | PCI/G |
| SC-23703-S | 02/24/1999 | THORIUM-230 | 1.25 | 0 62 | PCI/G |
| SC-23703-S | 02/24/1999 | URANIUM-238 | 6.87 | 2.34 | PCI/G |
| SC-23703-S-RS | 06/15/1999 | RADIUM-226 | 0.325 | 0 65 | PCI/G |
| SC-23703-S-RS | 06/15/1999 | RADIUM-228 | 0.465 | 0 93 | PCI/G |
| SC-23703-S-RS | 06/15/1999 | THORIUM-230 | 1.93 | 0 62 | PCI/G |
| SC-23703-S-RS | 06/15/1999 | URANIUM-238 | 1 205 | 2.41 | PCI/G |
| SC-23705-S | 08/24/1999 | RADIUM-226 | 0.84 | 0 28 | PCI/G |
| SC-23705-S | 08/24/1999 | RADIUM-228 | 1.18 | 0.39 | PCI/G |
| SC-23705-S | 08/24/1999 | THORIUM-230 | 1.19 | 0 64 | PCI/G |
| SC-23705-S | 08/24/1999 | URANIUM-238 | 1.295 | 2.59 | PCI/G |
| SC-23706-S | 02/01/1999 | RADIUM-226 | 1.16 | 0 36 | PCI/G |
| SC-23706-S | 02/01/1999 | RADIUM-228 | 1.3 | 0 57 | PCI/G |
| SC-23706-S | 02/01/1999 | THORIUM-230 | 3 02 | 0 62 | PCI/G |
| SC-23706-S | 02/01/1999 | URANIUM-238 | 1.385 | 2 77 | PCI/G |
| SC-23706-S-01 | 02/24/1999 | RADIUM-226 | 1 41 | 0 34 | PCI/G |
| SC-23706-S-01 | 02/24/1999 | RADIUM-228 | 1 25 | 0 42 | PCI/G |
| SC-23706-S-01 | 02/24/1999 | THORIUM-230 | 1 76 | 0 62 | PCI/G |

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| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-23706-S-01 | 02/24/1999 | URANIUM-238 | 1.4 | 2.8 | PCI/G |
| SC-23706-S-RS | 08/25/1999 | RADIUM-226 | 0.94 | 0.3 | PCI/G |
| SC-23706-S-RS | 08/25/1999 | RADIUM-228 | 1.05 | 0.47 | PCI/G |
| SC-23706-S-RS | 08/25/1999 | THORIUM-230 | 1.06 | 0.65 | PCI/G |
| SC-23706-S-RS | 08/25/1999 | URANIUM-238 | 1.24 | 2.48 | PCI/G |
| SC-23707-S | 02/24/1999 | RADIUM-226 | 1.33 | 0.31 | PCI/G |
| SC-23707-S | 02/24/1999 | RADIUM-228 | 0.52 | 1.04 | PCI/G |
| SC-23707-S | 02/24/1999 | THORIUM-230 | 1.54 | 0.62 | PCI/G |
| SC-23707-S | 02/24/1999 | URANIUM-238 | 1.37 | 2.74 | PCI/G |
| SC-23707-S-01 | 08/02/1999 | RADIUM-226 | 0.67 | 0.3 | PCI/G |
| SC-23707-S-01 | 08/02/1999 | RADIUM-228 | 1.09 | 0.45 | PCI/G |
| SC-23707-S-01 | 08/02/1999 | THORIUM-230 | 1.34 | 0.64 | PCI/G |
| SC-23707-S-01 | 08/02/1999 | URANIUM-238 | 1.285 | 2.57 | PCI/G |
| SC-23708-C | 08/24/1999 | RADIUM-226 | 0.83 | 0.3 | PCI/G |
| SC-23708-C | 08/24/1999 | RADIUM-228 | 1.39 | 0.43 | PCI/G |
| SC-23708-C | 08/24/1999 | THORIUM-230 | 1.22 | 0.62 | PCI/G |
| SC-23708-C | 08/24/1999 | URANIUM-238 | 1.28 | 2.56 | PCI/G |
| SC-23709-S | 08/24/1999 | RADIUM-226 | 0.66 | 0.34 | PCI/G |
| SC-23709-S | 08/24/1999 | RADIUM-228 | 0.51 | 1.02 | PCI/G |
| SC-23709-S | 08/24/1999 | THORIUM-230 | 0.78 | 0.64 | PCI/G |
| SC-23709-S | 08/24/1999 | URANIUM-238 | 1.135 | 2.27 | PCI/G |
| SC-23710-S | 02/01/1999 | RADIUM-226 | 2.35 | 0.35 | PCI/G |
| SC-23710-S | 02/01/1999 | RADIUM-228 | 1.18 | 0.47 | PCI/G |
| SC-23710-S | 02/01/1999 | THORIUM-230 | 2.69 | 0.62 | PCI/G |
| SC-23710-S | 02/01/1999 | URANIUM-238 | 8.63 | 2.85 | PCI/G |
| SC-23710-S-01 | 02/24/1999 | RADIUM-226 | 3.69 | 0.32 | PCI/G |
| SC-23710-S-01 | 02/24/1999 | RADIUM-228 | 1.53 | 0.58 | PCI/G |
| SC-23710-S-01 | 02/24/1999 | THORIUM-230 | 3.92 | 0.62 | PCI/G |
| SC-23710-S-01 | 02/24/1999 | URANIUM-238 | 1.94 | 3.88 | PCI/G |
| SC-23710-S-02 | 08/02/1999 | RADIUM-226 | 0.74 | 0.34 | PCI/G |
| SC-23710-S-02 | 08/02/1999 | RADIUM-228 | 0.475 | 0.95 | PCI/G |
| SC-23710-S-02 | 08/02/1999 | THORIUM-230 | 2.47 | 0.64 | PCI/G |
| SC-23710-S-02 | 08/02/1999 | URANIUM-238 | 1.24 | 2.48 | PCI/G |
| SC-23710-S-RS | 08/24/1999 | ARSENIC | 6.1 | 0.45 | UG/G |
| SC-23710-S-RS | 08/24/1999 | CHROMIUM | 16.8 | 0.17 | UG/G |
| SC-23710-S-RS | 08/24/1999 | RADIUM-226 | 1.05 | 0.24 | PCI/G |
| SC-23710-S-RS | 08/24/1999 | RADIUM-228 | 1.04 | 0.45 | PCI/G |
| SC-23710-S-RS | 08/24/1999 | THORIUM-230 | 2.82 | 0.64 | PCI/G |
| SC-23710-S-RS | 08/24/1999 | URANIUM-238 | 1.33 | 2.66 | PCI/G |
| SC-23711-S | 02/01/1999 | RADIUM-226 | 1.42 | 0.4 | PCI/G |
| SC-23711-S | 02/01/1999 | RADIUM-228 | 1.93 | 0.6 | PCI/G |
| SC-23711-S | 02/01/1999 | THORIUM-230 | 3.57 | 0.62 | PCI/G |
| SC-23711-S | 02/01/1999 | URANIUM-238 | 3.13 | 3.5 | PCI/G |
| SC-23711-S-01 | 02/24/1999 | RADIUM-226 | 1.43 | 0.3 | PCI/G |
| SC-23711-S-01 | 02/24/1999 | RADIUM-228 | 1.17 | 0.44 | PCI/G |
| SC-23711-S-01 | 02/24/1999 | THORIUM-230 | 1.26 | 0.62 | PCI/G |
| SC-23711-S-01 | 02/24/1999 | URANIUM-238 | 1.305 | 2.61 | PCI/G |
| SC-23711-S-02 | 08/02/1999 | RADIUM-226 | 0.85 | 0.29 | PCI/G |
| SC-23711-S-02 | 08/02/1999 | RADIUM-228 | 1.11 | 0.38 | PCI/G |
| SC-23711-S-02 | 08/02/1999 | THORIUM-230 | 1.42 | 0.64 | PCI/G |
| SC-23711-S-02 | 08/02/1999 | URANIUM-238 | 1.295 | 2.59 | PCI/G |
| SC-23711-S-A | 02/24/1999 | RADIUM-226 | 1.25 | 0.32 | PCI/G |
| SC-23711-S-A | 02/24/1999 | RADIUM-228 | 1.32 | 0.45 | PCI/G |
| SC-23711-S-A | 02/24/1999 | THORIUM-230 | 2.02 | 0.62 | PCI/G |
| SC-23711-S-A | 02/24/1999 | URANIUM-238 | 1.405 | 2.81 | PCI/G |
| SC-23711-S-B | 03/01/1999 | RADIUM-226 | 1.06 | 0.34 | PCI/G |
| SC-23711-S-B | 03/01/1999 | RADIUM-228 | 0.515 | 1.03 | PCI/G |
| SC-23711-S-B | 03/01/1999 | THORIUM-230 | 1.18 | 0.62 | PCI/G |
| SC-23711-S-B | 03/01/1999 | URANIUM-238 | 2.46 | 2.79 | PCI/G |
| SC-23711-S-RS | 08/13/1999 | RADIUM-226 | 0.295 | 0.59 | PCI/G |
| SC-23711-S-RS | 08/13/1999 | RADIUM-228 | 1.16 | 0.4 | PCI/G |
| SC-23711-S-RS | 08/13/1999 | THORIUM-230 | 0.85 | 0.64 | PCI/G |
| SC-23711-S-RS | 08/13/1999 | URANIUM-238 | 1.225 | 2.45 | PCI/G |
| SC-23713-S | 08/24/1999 | RADIUM-226 | 0.28 | 0.56 | PCI/G |
| SC-23713-S | 08/24/1999 | RADIUM-228 | 1 | 0.49 | PCI/G |
| SC-23713-S | 08/24/1999 | THORIUM-230 | 1.08 | 0.62 | PCI/G |
| SC-23713-S | 08/24/1999 | URANIUM-238 | 1.19 | 2.38 | PCI/G |
| SC-23714-S | 02/01/1999 | RADIUM-226 | 1.19 | 0.3 | PCI/G |
| SC-23714-S | 02/01/1999 | RADIUM-228 | 0.99 | 0.42 | PCI/G |
| SC-23714-S | 02/01/1999 | THORIUM-230 | 1.18 | 0.62 | PCI/G |
| SC-23714-S | 02/01/1999 | URANIUM-238 | 1.345 | 2.69 | PCI/G |
| SC-23714-S-01 | 08/02/1999 | RADIUM-226 | 0.7 | 0.37 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-23714-S-01 | 08/02/1999 | RADIUM-228 | 0.455 | 0.91 | PCI/G |
| SC-23714-S-01 | 08/02/1999 | THORIUM-230 | 1 32 | 0.64 | PCI/G |
| SC-23714-S-01 | 08/02/1999 | URANIUM-238 | 1 31 | 2.62 | PCI/G |
| SC-23714-S-RS | 08/24/1999 | ARSENIC | 7 6 | 0.44 | UG/G |
| SC-23714-S-RS | 08/24/1999 | CHROMIUM | 26 1 | 0 16 | UG/G |
| SC-23714-S-RS | 08/24/1999 | RADIUM-226 | 0 335 | 0.67 | PCI/G |
| SC-23714-S-RS | 08/24/1999 | RADIUM-228 | 1.23 | 0.42 | PCI/G |
| SC-23714-S-RS | 08/24/1999 | THORIUM-230 | 1 06 | 0.64 | PCI/G |
| SC-23714-S-RS | 08/24/1999 | URANIUM-238 | 1.315 | 2 63 | PCI/G |
| SC-23715-S | 02/01/1999 | RADIUM-226 | 1 27 | 0 39 | PCI/G |
| SC-23715-S | 02/01/1999 | RADIUM-228 | 1 72 | 0 55 | PCI/G |
| SC-23715-S | 02/01/1999 | THORIUM-230 | 3.85 | 0.62 | PCI/G |
| SC-23715-S | 02/01/1999 | URANIUM-238 | 4.21 | 3 11 | PCI/G |
| SC-23715-S-01 | 02/24/1999 | RADIUM-226 | 1 11 | 0.34 | PCI/G |
| SC-23715-S-01 | 02/24/1999 | RADIUM-228 | 1 01 | 0 4 | PCI/G |
| SC-23715-S-01 | 02/24/1999 | THORIUM-230 | 0 94 | 0.62 | PCI/G |
| SC-23715-S-01 | 02/24/1999 | URANIUM-238 | 1.325 | 2.65 | PCI/G |
| SC-23715-S-02 | 08/02/1999 | RADIUM-226 | 0.9 | 0 3 | PCI/G |
| SC-23715-S-02 | 08/02/1999 | RADIUM-228 | 1.1 | 0.39 | PCI/G |
| SC-23715-S-02 | 08/02/1999 | THORIUM-230 | 1 11 | 0 64 | PCI/G |
| SC-23715-S-02 | 08/02/1999 | URANIUM-238 | 1 275 | 2.55 | PCI/G |
| SC-23715-S-A | 02/24/1999 | RADIUM-226 | 1 17 | 0 32 | PCI/G |
| SC-23715-S-A | 02/24/1999 | RADIUM-228 | 1.07 | 0 46 | PCI/G |
| SC-23715-S-A | 02/24/1999 | THORIUM-230 | 2.56 | 0 62 | PCI/G |
| SC-23715-S-A | 02/24/1999 | URANIUM-238 | 5 42 | 2.8 | PCI/G |
| SC-23715-S-B | 03/01/1999 | RADIUM-226 | 1 27 | 0.32 | PCI/G |
| SC-23715-S-B | 03/01/1999 | RADIUM-228 | 1.28 | 0.4 | PCI/G |
| SC-23715-S-B | 03/01/1999 | THORIUM-230 | 1 | 0.62 | PCI/G |
| SC-23715-S-B | 03/01/1999 | URANIUM-238 | 1 33 | 2.66 | PCI/G |
| SC-23716-S | 08/02/1999 | RADIUM-226 | 0 61 | 0.29 | PCI/G |
| SC-23716-S | 08/02/1999 | RADIUM-228 | 1 1 | 0 41 | PCI/G |
| SC-23716-S | 08/02/1999 | THORIUM-230 | 0 75 | 0.64 | PCI/G |
| SC-23716-S | 08/02/1999 | URANIUM-238 | 1.235 | 2 47 | PCI/G |
| SC-23717-C | 08/24/1999 | RADIUM-226 | 0 82 | 0.31 | PCI/G |
| SC-23717-C | 08/24/1999 | RADIUM-228 | 0 505 | 1 01 | PCI/G |
| SC-23717-C | 08/24/1999 | THORIUM-230 | 1 56 | 0.64 | PCI/G |
| SC-23717-C | 08/24/1999 | URANIUM-238 | 1.31 | 2.62 | PCI/G |
| SC-23718-S | 08/24/1999 | RADIUM-226 | 0 63 | 0 3 | PCI/G |
| SC-23718-S | 08/24/1999 | RADIUM-228 | 0.99 | 0.41 | PCI/G |
| SC-23718-S | 08/24/1999 | THORIUM-230 | 0.98 | 0 64 | PCI/G |
| SC-23718-S | 08/24/1999 | URANIUM-238 | 1 225 | 2 45 | PCI/G |
| SC-23719-S | 02/01/1999 | RADIUM-226 | 1 97 | 0 34 | PCI/G |
| SC-23719-S | 02/01/1999 | RADIUM-228 | 2 06 | 0 46 | PCI/G |
| SC-23719-S | 02/01/1999 | THORIUM-230 | 6 96 | 0 62 | PCI/G |
| SC-23719-S | 02/01/1999 | URANIUM-238 | 1 69 | 3 38 | PCI/G |
| SC-23719-S-HS01 | 02/10/1999 | THORIUM-230 | 2 45 | 0.62 | PCI/G |
| SC-23719-S-HS02 | 02/10/1999 | THORIUM-230 | 3 04 | 0.62 | PCI/G |
| SC-23719-S-HS03 | 02/10/1999 | THORIUM-230 | 9.82 | 0 62 | PCI/G |
| SC-23719-S-HS04 | 02/10/1999 | THORIUM-230 | 25 1 | 0 62 | PCI/G |
| SC-23719-S-RS | 08/13/1999 | THORIUM-230 | 0 86 | 0 64 | PCI/G |
| SC-23719-S-RS2 | 08/25/1999 | ARSENIC | 7 5 | 0 4 | UG/G |
| SC-23719-S-RS2 | 08/25/1999 | CHROMIUM | 16.8 | 0 15 | UG/G |
| SC-23719-S-RS2 | 08/25/1999 | RADIUM-226 | 0 88 | 0 38 | PCI/G |
| SC-23719-S-RS2 | 08/25/1999 | RADIUM-228 | 1 18 | 0 49 | PCI/G |
| SC-23719-S-RS2 | 08/25/1999 | THORIUM-230 | 1 07 | 0 65 | PCI/G |
| SC-23719-S-RS2 | 08/25/1999 | URANIUM-238 | 1.33 | 2 66 | PCI/G |
| SC-23720-S | 02/01/1999 | RADIUM-226 | 1 34 | 0 35 | PCI/G |
| SC-23720-S | 02/01/1999 | RADIUM-228 | 1.3 | 0 47 | PCI/G |
| SC-23720-S | 02/01/1999 | THORIUM-230 | 2.49 | 0 62 | PCI/G |
| SC-23720-S | 02/01/1999 | URANIUM-238 | 1 515 | 3 03 | PCI/G |
| SC-23720-S-A | 02/24/1999 | RADIUM-226 | 3 67 | 0.5 | PCI/G |
| SC-23720-S-A | 02/24/1999 | RADIUM-228 | 2.96 | 0 79 | PCI/G |
| SC-23720-S-A | 02/24/1999 | THORIUM-230 | 66 1 | 0 62 | PCI/G |
| SC-23720-S-A | 02/24/1999 | URANIUM-238 | 2 245 | 4 49 | PCI/G |
| SC-23720-S-RS | 05/11/1999 | RADIUM-226 | 0 63 | 0 33 | PCI/G |
| SC-23720-S-RS | 05/11/1999 | RADIUM-228 | 0.49 | 0 98 | PCI/G |
| SC-23720-S-RS | 05/11/1999 | THORIUM-230 | 1 66 | 0 76 | PCI/G |
| SC-23720-S-RS | 05/11/1999 | URANIUM-238 | 1 415 | 2 83 | PCI/G |
| SC-23721-S | 05/11/1999 | RADIUM-226 | 0 91 | 0 35 | PCI/G |
| SC-23721-S | 05/11/1999 | RADIUM-228 | 1 2 | 0 35 | PCI/G |
| SC-23721-S | 05/11/1999 | THORIUM-230 | 22 | 0 73 | PCI/G |
| SC-23721-S | 05/11/1999 | URANIUM-238 | 1 395 | 2 79 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-23721-S-RS | 05/18/1999 | THORIUM-230 | 8.42 | 0.7 | PCI/G |
| SC-23721-S-RS2 | 08/21/1999 | THORIUM-230 | 1.04 | 0.64 | PCI/G |
| SC-23802-S | 08/24/1999 | RADIUM-226 | 0.77 | 0.32 | PCI/G |
| SC-23802-S | 08/24/1999 | RADIUM-228 | 1.08 | 0.42 | PCI/G |
| SC-23802-S | 08/24/1999 | THORIUM-230 | 0.82 | 0.62 | PCI/G |
| SC-23802-S | 08/24/1999 | URANIUM-238 | 1.27 | 2.54 | PCI/G |
| SC-23803-S | 02/01/1999 | RADIUM-226 | 1.29 | 0.34 | PCI/G |
| SC-23803-S | 02/01/1999 | RADIUM-228 | 1.47 | 0.38 | PCI/G |
| SC-23803-S | 02/01/1999 | THORIUM-230 | 3.95 | 0.62 | PCI/G |
| SC-23803-S | 02/01/1999 | URANIUM-238 | 1.36 | 2.72 | PCI/G |
| SC-23803-S-RS | 08/25/1999 | ARSENIC | 7.8 | 0.42 | UG/G |
| SC-23803-S-RS | 08/25/1999 | CHROMIUM | 25.8 | 0.15 | UG/G |
| SC-23803-S-RS | 08/25/1999 | RADIUM-226 | 0.86 | 0.32 | PCI/G |
| SC-23803-S-RS | 08/25/1999 | RADIUM-228 | 1.09 | 0.42 | PCI/G |
| SC-23803-S-RS | 08/25/1999 | THORIUM-230 | 0.97 | 0.64 | PCI/G |
| SC-23803-S-RS | 08/25/1999 | URANIUM-238 | 1.395 | 2.79 | PCI/G |
| SC-23804-S | 02/01/1999 | RADIUM-226 | 1.51 | 0.36 | PCI/G |
| SC-23804-S | 02/01/1999 | RADIUM-228 | 1.05 | 0.62 | PCI/G |
| SC-23804-S | 02/01/1999 | THORIUM-230 | 4.59 | 0.62 | PCI/G |
| SC-23804-S | 02/01/1999 | URANIUM-238 | 1.535 | 3.07 | PCI/G |
| SC-23804-S-RS | 05/11/1999 | RADIUM-226 | 0.97 | 0.37 | PCI/G |
| SC-23804-S-RS | 05/11/1999 | RADIUM-228 | 0.51 | 1.02 | PCI/G |
| SC-23804-S-RS | 05/11/1999 | THORIUM-230 | 1.05 | 0.62 | PCI/G |
| SC-23804-S-RS | 05/11/1999 | URANIUM-238 | 1.26 | 2.52 | PCI/G |
| SC-23805-S | 05/11/1999 | RADIUM-226 | 0.82 | 0.26 | PCI/G |
| SC-23805-S | 05/11/1999 | RADIUM-228 | 1.21 | 0.42 | PCI/G |
| SC-23805-S | 05/11/1999 | THORIUM-230 | 2.89 | 0.7 | PCI/G |
| SC-23805-S | 05/11/1999 | URANIUM-238 | 1.3 | 2.6 | PCI/G |
| SC-23806-C | 08/24/1999 | RADIUM-226 | 0.62 | 0.32 | PCI/G |
| SC-23806-C | 08/24/1999 | RADIUM-228 | 1.21 | 0.39 | PCI/G |
| SC-23806-C | 08/24/1999 | THORIUM-230 | 1.11 | 0.64 | PCI/G |
| SC-23806-C | 08/24/1999 | URANIUM-238 | 1.28 | 2.56 | PCI/G |
| SC-23807-S | 08/24/1999 | RADIUM-226 | 0.8 | 0.28 | PCI/G |
| SC-23807-S | 08/24/1999 | RADIUM-228 | 1.07 | 0.47 | PCI/G |
| SC-23807-S | 08/24/1999 | THORIUM-230 | 0.75 | 0.65 | PCI/G |
| SC-23807-S | 08/24/1999 | URANIUM-238 | 1.315 | 2.63 | PCI/G |
| SC-23808-S | 02/01/1999 | RADIUM-226 | 2.18 | 0.34 | PCI/G |
| SC-23808-S | 02/01/1999 | RADIUM-228 | 2.83 | 0.54 | PCI/G |
| SC-23808-S | 02/01/1999 | THORIUM-230 | 17.6 | 0.62 | PCI/G |
| SC-23808-S | 02/01/1999 | URANIUM-238 | 6 | 3.54 | PCI/G |
| SC-23808-S-HS01 | 02/10/1999 | THORIUM-230 | 3.3 | 0.62 | PCI/G |
| SC-23808-S-HS02 | 02/10/1999 | THORIUM-230 | 14.2 | 0.62 | PCI/G |
| SC-23808-S-HS03 | 02/10/1999 | THORIUM-230 | 7.02 | 0.62 | PCI/G |
| SC-23808-S-HS04 | 02/10/1999 | THORIUM-230 | 12.8 | 0.62 | PCI/G |
| SC-23808-S-RS | 08/25/1999 | ARSENIC | 6.2 | 0.44 | UG/G |
| SC-23808-S-RS | 08/25/1999 | CHROMIUM | 20.4 | 0.16 | UG/G |
| SC-23808-S-RS | 08/25/1999 | RADIUM-226 | 0.85 | 0.3 | PCI/G |
| SC-23808-S-RS | 08/25/1999 | RADIUM-228 | 1.19 | 0.48 | PCI/G |
| SC-23808-S-RS | 08/25/1999 | THORIUM-230 | 1.05 | 0.62 | PCI/G |
| SC-23808-S-RS | 08/25/1999 | URANIUM-238 | 1.275 | 2.55 | PCI/G |
| SC-23809-S | 02/01/1999 | RADIUM-226 | 1.15 | 0.37 | PCI/G |
| SC-23809-S | 02/01/1999 | RADIUM-228 | 0.445 | 0.89 | PCI/G |
| SC-23809-S | 02/01/1999 | THORIUM-230 | 1.59 | 0.62 | PCI/G |
| SC-23809-S | 02/01/1999 | URANIUM-238 | 1.325 | 2.65 | PCI/G |
| SC-23809-S-RS | 05/11/1999 | RADIUM-226 | 0.85 | 0.23 | PCI/G |
| SC-23809-S-RS | 05/11/1999 | RADIUM-228 | 1.1 | 0.3 | PCI/G |
| SC-23809-S-RS | 05/11/1999 | THORIUM-230 | 2.12 | 0.76 | PCI/G |
| SC-23809-S-RS | 05/11/1999 | URANIUM-238 | 0.855 | 1.71 | PCI/G |
| SC-23810-S | 05/11/1999 | RADIUM-226 | 0.65 | 0.3 | PCI/G |
| SC-23810-S | 05/11/1999 | RADIUM-228 | 1.21 | 0.35 | PCI/G |
| SC-23810-S | 05/11/1999 | THORIUM-230 | 1.85 | 0.73 | PCI/G |
| SC-23810-S | 05/11/1999 | URANIUM-238 | 1.3 | 2.6 | PCI/G |
| SC-23812-S | 08/24/1999 | RADIUM-226 | 0.74 | 0.32 | PCI/G |
| SC-23812-S | 08/24/1999 | RADIUM-228 | 0.49 | 0.98 | PCI/G |
| SC-23812-S | 08/24/1999 | THORIUM-230 | 1.74 | 0.64 | PCI/G |
| SC-23812-S | 08/24/1999 | URANIUM-238 | 1.285 | 2.57 | PCI/G |
| SC-23813-S | 02/01/1999 | RADIUM-226 | 1.62 | 0.36 | PCI/G |
| SC-23813-S | 02/01/1999 | RADIUM-228 | 2.11 | 0.51 | PCI/G |
| SC-23813-S | 02/01/1999 | THORIUM-230 | 9.72 | 0.62 | PCI/G |
| SC-23813-S | 02/01/1999 | URANIUM-238 | 1.655 | 3.31 | PCI/G |
| SC-23813-S-HS01 | 02/10/1999 | THORIUM-230 | 0.84 | 0.62 | PCI/G |
| SC-23813-S-HS02 | 02/10/1999 | THORIUM-230 | 1.78 | 0.62 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-23813-S-HS03 | 02/10/1999 | THORIUM-230 | 1 03 | 0 62 | PCI/G |
| SC-23813-S-HS04 | 02/10/1999 | THORIUM-230 | 10.2 | 0 62 | PCI/G |
| SC-23813-S-RS | 08/24/1999 | RADIUM-226 | 0 85 | 0.28 | PCI/G |
| SC-23813-S-RS | 08/24/1999 | RADIUM-228 | 1.52 | 0 4 | PCI/G |
| SC-23813-S-RS | 08/24/1999 | THORIUM-230 | 1 05 | 0.64 | PCI/G |
| SC-23813-S-RS | 08/24/1999 | URANIUM-238 | 1.285 | 2.57 | PCI/G |
| SC-23814-S | 02/01/1999 | RADIUM-226 | 1 15 | 0.47 | PCI/G |
| SC-23814-S | 02/01/1999 | RADIUM-228 | 0 445 | 0 89 | PCI/G |
| SC-23814-S | 02/01/1999 | THORIUM-230 | 2.13 | 0.62 | PCI/G |
| SC-23814-S | 02/01/1999 | URANIUM-238 | 1 355 | 2.71 | PCI/G |
| SC-23814-S-RS | 05/11/1999 | RADIUM-226 | 0.63 | 0.32 | PCI/G |
| SC-23814-S-RS | 05/11/1999 | RADIUM-228 | 0 485 | 0.97 | PCI/G |
| SC-23814-S-RS | 05/11/1999 | THORIUM-230 | 1 71 | 0.76 | PCI/G |
| SC-23814-S-RS | 05/11/1999 | URANIUM-238 | 1.24 | 2.48 | PCI/G |
| SC-23815-S | 05/11/1999 | RADIUM-226 | 0 87 | 0.35 | PCI/G |
| SC-23815-S | 05/11/1999 | RADIUM-228 | 1 16 | 0.35 | PCI/G |
| SC-23815-S | 05/11/1999 | THORIUM-230 | 1 65 | 0 73 | PCI/G |
| SC-23815-S | 05/11/1999 | URANIUM-238 | 1.27 | 2.54 | PCI/G |
| SC-23816-C | 08/24/1999 | RADIUM-226 | 1 02 | 0.33 | PCI/G |
| SC-23816-C | 08/24/1999 | RADIUM-228 | 1.82 | 0 42 | PCI/G |
| SC-23816-C | 08/24/1999 | THORIUM-230 | 7 94 | 0.65 | PCI/G |
| SC-23816-C | 08/24/1999 | URANIUM-238 | 1 44 | 2 88 | PCI/G |
| SC-23816-C-HS01 | 09/01/1999 | THORIUM-230 | 1 1 | 0.64 | PCI/G |
| SC-23816-C-HS02 | 09/01/1999 | THORIUM-230 | 1.3 | 0.64 | PCI/G |
| SC-23816-C-HS03 | 09/01/1999 | THORIUM-230 | 0 74 | 0 65 | PCI/G |
| SC-23816-C-HS04 | 09/01/1999 | THORIUM-230 | 0 91 | 0.64 | PCI/G |
| SC-23817-S | 08/24/1999 | RADIUM-226 | 0 81 | 0 27 | PCI/G |
| SC-23817-S | 08/24/1999 | RADIUM-228 | 1 23 | 0 42 | PCI/G |
| SC-23817-S | 08/24/1999 | THORIUM-230 | 0.96 | 0 65 | PCI/G |
| SC-23817-S | 08/24/1999 | URANIUM-238 | 1 325 | 2 65 | PCI/G |
| SC-23818-S | 02/01/1999 | RADIUM-226 | 1.25 | 0 36 | PCI/G |
| SC-23818-S | 02/01/1999 | RADIUM-228 | 1.3 | 0 42 | PCI/G |
| SC-23818-S | 02/01/1999 | THORIUM-230 | 2.91 | 0.62 | PCI/G |
| SC-23818-S | 02/01/1999 | URANIUM-238 | 1.435 | 2.87 | PCI/G |
| SC-23819-S | 02/01/1999 | RADIUM-226 | 1 41 | 0 36 | PCI/G |
| SC-23819-S | 02/01/1999 | RADIUM-228 | 1 2 | 0 56 | PCI/G |
| SC-23819-S | 02/01/1999 | THORIUM-230 | 4 35 | 0 62 | PCI/G |
| SC-23819-S | 02/01/1999 | URANIUM-238 | 1 64 | 3 28 | PCI/G |
| SC-23819-S-RS | 05/11/1999 | RADIUM-226 | 0.81 | 0 33 | PCI/G |
| SC-23819-S-RS | 05/11/1999 | RADIUM-228 | 0 5 | 1 | PCI/G |
| SC-23819-S-RS | 05/11/1999 | THORIUM-230 | 1 94 | 0 62 | PCI/G |
| SC-23819-S-RS | 05/11/1999 | URANIUM-238 | 1 43 | 2 86 | PCI/G |
| SC-23820-S | 05/11/1999 | RADIUM-226 | 1 14 | 0 29 | PCI/G |
| SC-23820-S | 05/11/1999 | RADIUM-228 | 0 98 | 0 41 | PCI/G |
| SC-23820-S | 05/11/1999 | THORIUM-230 | 1 23 | 0 7 | PCI/G |
| SC-23820-S | 05/11/1999 | URANIUM-238 | 1 285 | 2.57 | PCI/G |
| SC-23821-S | 08/24/1999 | RADIUM-226 | 0 93 | 0 35 | PCI/G |
| SC-23821-S | 08/24/1999 | RADIUM-228 | 1 35 | 0 48 | PCI/G |
| SC-23821-S | 08/24/1999 | THORIUM-230 | 1 03 | 0 62 | PCI/G |
| SC-23821-S | 08/24/1999 | URANIUM-238 | 1 25 | 2 5 | PCI/G |
| SC-23822-S | 02/01/1999 | RADIUM-226 | 1 26 | 0 3 | PCI/G |
| SC-23822-S | 02/01/1999 | RADIUM-228 | 1 12 | 0 36 | PCI/G |
| SC-23822-S | 02/01/1999 | THORIUM-230 | 1.2 | 0.62 | PCI/G |
| SC-23822-S | 02/01/1999 | URANIUM-238 | 1.345 | 2.69 | PCI/G |
| SC-23823-S | 02/01/1999 | RADIUM-226 | 1.03 | 0.36 | PCI/G |
| SC-23823-S | 02/01/1999 | RADIUM-228 | 0 505 | 1.01 | PCI/G |
| SC-23823-S | 02/01/1999 | THORIUM-230 | 1 27 | 0.62 | PCI/G |
| SC-23823-S | 02/01/1999 | URANIUM-238 | 1.26 | 2.52 | PCI/G |
| SC-23823-S-RS | 05/11/1999 | RADIUM-226 | 0.7 | 0.33 | PCI/G |
| SC-23823-S-RS | 05/11/1999 | RADIUM-228 | 0 47 | 0.94 | PCI/G |
| SC-23823-S-RS | 05/11/1999 | THORIUM-230 | 1 57 | 0.76 | PCI/G |
| SC-23823-S-RS | 05/11/1999 | URANIUM-238 | 1 18 | 2.36 | PCI/G |
| SC-23824-S | 05/11/1999 | RADIUM-226 | 1.09 | 0.33 | PCI/G |
| SC-23824-S | 05/11/1999 | RADIUM-228 | 1 08 | 0.41 | PCI/G |
| SC-23824-S | 05/11/1999 | THORIUM-230 | 1 | 0.73 | PCI/G |
| SC-23824-S | 05/11/1999 | URANIUM-238 | 1 275 | 2.55 | PCI/G |
| SC-23901-U | 08/18/1999 | RADIUM-226 | 0 32 | 0.64 | PCI/G |
| SC-23901-U | 08/18/1999 | RADIUM-228 | 0 435 | 0.87 | PCI/G |
| SC-23901-U | 08/18/1999 | THORIUM-230 | 2.62 | 0 62 | PCI/G |
| SC-23901-U | 08/18/1999 | URANIUM-238 | 1 35 | 2 7 | PCI/G |
| SC-23902-S | 08/24/1999 | RADIUM-226 | 0 96 | 0 32 | PCI/G |
| SC-23902-S | 08/24/1999 | RADIUM-228 | 1 07 | 0 46 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-23902-S | 08/24/1999 | THORIUM-230 | 3.41 | 0.64 | PCI/G |
| SC-23902-S | 08/24/1999 | URANIUM-238 | 1.425 | 2.85 | PCI/G |
| SC-23902-U | 08/18/1999 | RADIUM-226 | 0.63 | 0.26 | PCI/G |
| SC-23902-U | 08/18/1999 | RADIUM-228 | 1 | 0.41 | PCI/G |
| SC-23902-U | 08/18/1999 | THORIUM-230 | 1.02 | 0.62 | PCI/G |
| SC-23902-U | 08/18/1999 | URANIUM-238 | 1.245 | 2.49 | PCI/G |
| SC-23903-S | 02/01/1999 | RADIUM-226 | 2.11 | 0.39 | PCI/G |
| SC-23903-S | 02/01/1999 | RADIUM-228 | 2.89 | 0.52 | PCI/G |
| SC-23903-S | 02/01/1999 | THORIUM-230 | 13.4 | 0.62 | PCI/G |
| SC-23903-S | 02/01/1999 | URANIUM-238 | 7.24 | 3.12 | PCI/G |
| SC-23903-S-01 | 09/26/1999 | RADIUM-226 | 0.66 | 0.27 | PCI/G |
| SC-23903-S-01 | 09/26/1999 | RADIUM-228 | 0.445 | 0.89 | PCI/G |
| SC-23903-S-01 | 09/26/1999 | THORIUM-230 | 0.8 | 0.62 | PCI/G |
| SC-23903-S-01 | 09/26/1999 | URANIUM-238 | 1.24 | 2.48 | PCI/G |
| SC-23903-S-RS | 08/04/1999 | RADIUM-226 | 0.97 | 0.29 | PCI/G |
| SC-23903-S-RS | 08/04/1999 | RADIUM-228 | 1.09 | 0.42 | PCI/G |
| SC-23903-S-RS | 08/04/1999 | THORIUM-230 | 0.93 | 0.64 | PCI/G |
| SC-23903-S-RS | 08/04/1999 | URANIUM-238 | 1.3 | 2.6 | PCI/G |
| SC-23903-U | 08/18/1999 | RADIUM-226 | 0.64 | 0.31 | PCI/G |
| SC-23903-U | 08/18/1999 | RADIUM-228 | 0.98 | 0.53 | PCI/G |
| SC-23903-U | 08/18/1999 | THORIUM-230 | 0.81 | 0.62 | PCI/G |
| SC-23903-U | 08/18/1999 | URANIUM-238 | 1.26 | 2.52 | PCI/G |
| SC-23904-S | 02/01/1999 | RADIUM-226 | 1.22 | 0.35 | PCI/G |
| SC-23904-S | 02/01/1999 | RADIUM-228 | 0.48 | 0.96 | PCI/G |
| SC-23904-S | 02/01/1999 | THORIUM-230 | 2.55 | 0.62 | PCI/G |
| SC-23904-S | 02/01/1999 | URANIUM-238 | 1.43 | 2.86 | PCI/G |
| SC-23904-S-01 | 09/26/1999 | RADIUM-226 | 0.84 | 0.29 | PCI/G |
| SC-23904-S-01 | 09/26/1999 | RADIUM-228 | 0.87 | 0.45 | PCI/G |
| SC-23904-S-01 | 09/26/1999 | THORIUM-230 | 9.14 | 0.64 | PCI/G |
| SC-23904-S-01 | 09/26/1999 | URANIUM-238 | 1.21 | 2.42 | PCI/G |
| SC-23904-S-01-HS01 | 09/30/1999 | THORIUM-230 | 0.92 | 0.62 | PCI/G |
| SC-23904-S-01-HS02 | 09/30/1999 | THORIUM-230 | 0.82 | 0.64 | PCI/G |
| SC-23904-S-01-HS03 | 09/30/1999 | THORIUM-230 | 1.1 | 0.65 | PCI/G |
| SC-23904-S-01-HS04 | 09/30/1999 | THORIUM-230 | 0.89 | 0.62 | PCI/G |
| SC-23904-S-RS | 05/11/1999 | RADIUM-226 | 0.85 | 0.33 | PCI/G |
| SC-23904-S-RS | 05/11/1999 | RADIUM-228 | 1.17 | 0.55 | PCI/G |
| SC-23904-S-RS | 05/11/1999 | THORIUM-230 | 1.93 | 0.62 | PCI/G |
| SC-23904-S-RS | 05/11/1999 | URANIUM-238 | 1.315 | 2.63 | PCI/G |
| SC-23904-U | 08/18/1999 | RADIUM-226 | 0.61 | 0.24 | PCI/G |
| SC-23904-U | 08/18/1999 | RADIUM-228 | 0.87 | 0.48 | PCI/G |
| SC-23904-U | 08/18/1999 | THORIUM-230 | 0.79 | 0.64 | PCI/G |
| SC-23904-U | 08/18/1999 | URANIUM-238 | 1.315 | 2.63 | PCI/G |
| SC-23905-S | 05/11/1999 | RADIUM-226 | 0.98 | 0.3 | PCI/G |
| SC-23905-S | 05/11/1999 | RADIUM-228 | 1.01 | 0.48 | PCI/G |
| SC-23905-S | 05/11/1999 | THORIUM-230 | 19.7 | 0.7 | PCI/G |
| SC-23905-S | 05/11/1999 | URANIUM-238 | 1.28 | 2.56 | PCI/G |
| SC-23905-S-01 | 09/26/1999 | RADIUM-226 | 0.78 | 0.31 | PCI/G |
| SC-23905-S-01 | 09/26/1999 | RADIUM-228 | 0.415 | 0.83 | PCI/G |
| SC-23905-S-01 | 09/26/1999 | THORIUM-230 | 1.14 | 0.65 | PCI/G |
| SC-23905-S-01 | 09/26/1999 | URANIUM-238 | 1.19 | 2.38 | PCI/G |
| SC-23905-S-RS | 05/19/1999 | THORIUM-230 | 2.34 | 0.7 | PCI/G |
| SC-23907-S | 08/24/1999 | RADIUM-226 | 0.9 | 0.29 | PCI/G |
| SC-23907-S | 08/24/1999 | RADIUM-228 | 0.465 | 0.93 | PCI/G |
| SC-23907-S | 08/24/1999 | THORIUM-230 | 1.14 | 0.64 | PCI/G |
| SC-23907-S | 08/24/1999 | URANIUM-238 | 1.285 | 2.57 | PCI/G |
| SC-23908-S | 02/01/1999 | RADIUM-226 | 2.81 | 0.42 | PCI/G |
| SC-23908-S | 02/01/1999 | RADIUM-228 | 3.87 | 0.55 | PCI/G |
| SC-23908-S | 02/01/1999 | THORIUM-230 | 26 | 0.62 | PCI/G |
| SC-23908-S | 02/01/1999 | URANIUM-238 | 6.3 | 3.17 | PCI/G |
| SC-23908-S-01 | 09/26/1999 | RADIUM-226 | 0.56 | 0.3 | PCI/G |
| SC-23908-S-01 | 09/26/1999 | RADIUM-228 | 0.9 | 0.39 | PCI/G |
| SC-23908-S-01 | 09/26/1999 | THORIUM-230 | 0.85 | 0.64 | PCI/G |
| SC-23908-S-01 | 09/26/1999 | URANIUM-238 | 1.285 | 2.57 | PCI/G |
| SC-23908-S-RS | 08/04/1999 | RADIUM-226 | 0.98 | 0.37 | PCI/G |
| SC-23908-S-RS | 08/04/1999 | RADIUM-228 | 0.98 | 0.49 | PCI/G |
| SC-23908-S-RS | 08/04/1999 | THORIUM-230 | 1.52 | 0.64 | PCI/G |
| SC-23908-S-RS | 08/04/1999 | URANIUM-238 | 1.365 | 2.73 | PCI/G |
| SC-23909-S | 02/01/1999 | RADIUM-226 | 0.89 | 0.33 | PCI/G |
| SC-23909-S | 02/01/1999 | RADIUM-228 | 0.49 | 0.98 | PCI/G |
| SC-23909-S | 02/01/1999 | THORIUM-230 | 1.17 | 0.62 | PCI/G |
| SC-23909-S | 02/01/1999 | URANIUM-238 | 1.235 | 2.47 | PCI/G |
| SC-23909-S-01 | 09/26/1999 | RADIUM-226 | 1.03 | 0.31 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-23909-S-01 | 09/26/1999 | RADIUM-228 | 0.465 | 0.93 | PCI/G |
| SC-23909-S-01 | 09/26/1999 | THORIUM-230 | 1.07 | 0.62 | PCI/G |
| SC-23909-S-01 | 09/26/1999 | URANIUM-238 | 1.285 | 2.57 | PCI/G |
| SC-23910-S | 05/07/1999 | RADIUM-226 | 0.9 | 0.34 | PCI/G |
| SC-23910-S | 05/07/1999 | RADIUM-228 | 0.445 | 0 89 | PCI/G |
| SC-23910-S | 05/07/1999 | THORIUM-230 | 5 15 | 0 73 | PCI/G |
| SC-23910-S | 05/07/1999 | URANIUM-238 | 5.69 | 2 91 | PCI/G |
| SC-23910-S-01 | 09/26/1999 | RADIUM-226 | 0.93 | 0.26 | PCI/G |
| SC-23910-S-01 | 09/26/1999 | RADIUM-228 | 1.01 | 0 42 | PCI/G |
| SC-23910-S-01 | 09/26/1999 | THORIUM-230 | 1.14 | 0 64 | PCI/G |
| SC-23910-S-01 | 09/26/1999 | URANIUM-238 | 1.305 | 2.61 | PCI/G |
| SC-23912-S | 08/24/1999 | RADIUM-226 | 0 93 | 0.28 | PCI/G |
| SC-23912-S | 08/24/1999 | RADIUM-228 | 1 38 | 0.36 | PCI/G |
| SC-23912-S | 08/24/1999 | THORIUM-230 | 0.93 | 0 65 | PCI/G |
| SC-23912-S | 08/24/1999 | URANIUM-238 | 1 285 | 2.57 | PCI/G |
| SC-23913-S | 02/01/1999 | RADIUM-226 | 1.84 | 0.37 | PCI/G |
| SC-23913-S | 02/01/1999 | RADIUM-228 | 2.54 | 0.45 | PCI/G |
| SC-23913-S | 02/01/1999 | THORIUM-230 | 10.6 | 0.62 | PCI/G |
| SC-23913-S | 02/01/1999 | URANIUM-238 | 6 59 | 3.11 | PCI/G |
| SC-23913-S-01 | 09/26/1999 | RADIUM-226 | 0 86 | 0.36 | PCI/G |
| SC-23913-S-01 | 09/26/1999 | RADIUM-228 | 0.475 | 0.95 | PCI/G |
| SC-23913-S-01 | 09/26/1999 | THORIUM-230 | 1 11 | 0.65 | PCI/G |
| SC-23913-S-01 | 09/26/1999 | URANIUM-238 | 1.34 | 2 68 | PCI/G |
| SC-23913-S-RS | 08/04/1999 | RADIUM-226 | 1.26 | 0.43 | PCI/G |
| SC-23913-S-RS | 08/04/1999 | RADIUM-228 | 1.92 | 0 51 | PCI/G |
| SC-23913-S-RS | 08/04/1999 | THORIUM-230 | 4.39 | 0 64 | PCI/G |
| SC-23913-S-RS | 08/04/1999 | URANIUM-238 | 6.04 | 3 23 | PCI/G |
| SC-23914-S | 02/01/1999 | RADIUM-226 | 1.15 | 0 28 | PCI/G |
| SC-23914-S | 02/01/1999 | RADIUM-228 | 0.49 | 0.98 | PCI/G |
| SC-23914-S | 02/01/1999 | THORIUM-230 | 1 25 | 0.62 | PCI/G |
| SC-23914-S | 02/01/1999 | URANIUM-238 | 1 43 | 2 86 | PCI/G |
| SC-23914-S-01 | 09/26/1999 | RADIUM-226 | 0 95 | 0 27 | PCI/G |
| SC-23914-S-01 | 09/26/1999 | RADIUM-228 | 0 97 | 0 5 | PCI/G |
| SC-23914-S-01 | 09/26/1999 | THORIUM-230 | 0.94 | 0 64 | PCI/G |
| SC-23914-S-01 | 09/26/1999 | URANIUM-238 | 1 24 | 2 48 | PCI/G |
| SC-23915-S | 05/07/1999 | RADIUM-226 | 0 97 | 0 29 | PCI/G |
| SC-23915-S | 05/07/1999 | RADIUM-228 | 1 07 | 0 45 | PCI/G |
| SC-23915-S | 05/07/1999 | THORIUM-230 | 1 23 | 0 62 | PCI/G |
| SC-23915-S | 05/07/1999 | URANIUM-238 | 1 27 | 2 54 | PCI/G |
| SC-23915-S-01 | 09/26/1999 | RADIUM-226 | 0 96 | 0 27 | PCI/G |
| SC-23915-S-01 | 09/26/1999 | RADIUM-228 | 1 15 | 0.37 | PCI/G |
| SC-23915-S-01 | 09/26/1999 | THORIUM-230 | 0.72 | 0 65 | PCI/G |
| SC-23915-S-01 | 09/26/1999 | URANIUM-238 | 1 325 | 2 65 | PCI/G |
| SC-23917-S | 08/24/1999 | RADIUM-226 | 0 245 | 0 49 | PCI/G |
| SC-23917-S | 08/24/1999 | RADIUM-228 | 0 47 | 0 94 | PCI/G |
| SC-23917-S | 08/24/1999 | THORIUM-230 | 1 06 | 0 62 | PCI/G |
| SC-23917-S | 08/24/1999 | URANIUM-238 | 1.355 | 2 71 | PCI/G |
| SC-23918-S | 08/24/1999 | RADIUM-226 | 1 11 | 0.23 | PCI/G |
| SC-23918-S | 08/24/1999 | RADIUM-228 | 1 04 | 0 48 | PCI/G |
| SC-23918-S | 08/24/1999 | THORIUM-230 | 1.16 | 0 64 | PCI/G |
| SC-23918-S | 08/24/1999 | URANIUM-238 | 1.29 | 2 58 | PCI/G |
| SC-23919-S | 02/01/1999 | RADIUM-226 | 2.42 | 0 47 | PCI/G |
| SC-23919-S | 02/01/1999 | RADIUM-228 | 3.32 | 0.55 | PCI/G |
| SC-23919-S | 02/01/1999 | THORIUM-230 | 21.5 | 0 62 | PCI/G |
| SC-23919-S | 02/01/1999 | URANIUM-238 | 2.115 | 4 23 | PCI/G |
| SC-23919-S-01 | 09/26/1999 | RADIUM-226 | 0 96 | 0 31 | PCI/G |
| SC-23919-S-01 | 09/26/1999 | RADIUM-228 | 0 39 | 0 78 | PCI/G |
| SC-23919-S-01 | 09/26/1999 | THORIUM-230 | 1.2 | 0 64 | PCI/G |
| SC-23919-S-01 | 09/26/1999 | URANIUM-238 | 1.26 | 2 52 | PCI/G |
| SC-23919-S-RS | 08/04/1999 | RADIUM-226 | 0.98 | 0 3 | PCI/G |
| SC-23919-S-RS | 08/04/1999 | RADIUM-228 | 1 31 | 0 44 | PCI/G |
| SC-23919-S-RS | 08/04/1999 | THORIUM-230 | 2.14 | 0.64 | PCI/G |
| SC-23919-S-RS | 08/04/1999 | URANIUM-238 | 3 82 | 2 16 | PCI/G |
| SC-23920-S | 02/01/1999 | PAH | 0 | 11 | UG/KG |
| SC-23920-S | 02/01/1999 | RADIUM-226 | 0.91 | 0 34 | PCI/G |
| SC-23920-S | 02/01/1999 | RADIUM-228 | 0.455 | 0.91 | PCI/G |
| SC-23920-S | 02/01/1999 | THORIUM-230 | 1 12 | 0 62 | PCI/G |
| SC-23920-S | 02/01/1999 | URANIUM-238 | 1 33 | 2 66 | PCI/G |
| SC-23920-S-01 | 09/26/1999 | RADIUM-226 | 0 98 | 0 26 | PCI/G |
| SC-23920-S-01 | 09/26/1999 | RADIUM-228 | 1.16 | 0 48 | PCI/G |
| SC-23920-S-01 | 09/26/1999 | THORIUM-230 | 0.68 | 0 62 | PCI/G |
| SC-23920-S-01 | 09/26/1999 | URANIUM-238 | 1 31 | 2.62 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-23921-S | 05/07/1999 | RADIUM-226 | 1 | 0.32 | PCI/G |
| SC-23921-S | 05/07/1999 | RADIUM-228 | 0.43 | 0.86 | PCI/G |
| SC-23921-S | 05/07/1999 | THORIUM-230 | 1.61 | 0.7 | PCI/G |
| SC-23921-S | 05/07/1999 | URANIUM-238 | 1.205 | 2.41 | PCI/G |
| SC-23921-S-01 | 09/26/1999 | RADIUM-226 | 0.77 | 0.31 | PCI/G |
| SC-23921-S-01 | 09/26/1999 | RADIUM-228 | 0.51 | 1.02 | PCI/G |
| SC-23921-S-01 | 09/26/1999 | THORIUM-230 | 0.85 | 0.64 | PCI/G |
| SC-23921-S-01 | 09/26/1999 | URANIUM-238 | 1.33 | 2.66 | PCI/G |
| SC-24001-S | 07/24/1999 | RADIUM-226 | 3.12 | 0.43 | PCI/G |
| SC-24001-S | 07/24/1999 | RADIUM-228 | 0.575 | 1.15 | PCI/G |
| SC-24001-S | 07/24/1999 | THORIUM-230 | 57.8 | 0.64 | PCI/G |
| SC-24001-S | 07/24/1999 | URANIUM-238 | 1.905 | 3.81 | PCI/G |
| SC-24001-S-RS | 07/31/1999 | THORIUM-230 | 1 | 0.64 | PCI/G |
| SC-24002-S | 07/24/1999 | RADIUM-226 | 0.65 | 0.29 | PCI/G |
| SC-24002-S | 07/24/1999 | RADIUM-228 | 1 | 0.38 | PCI/G |
| SC-24002-S | 07/24/1999 | THORIUM-230 | 2.11 | 0.62 | PCI/G |
| SC-24002-S | 07/24/1999 | URANIUM-238 | 1.295 | 2.59 | PCI/G |
| SC-24003-S | 07/24/1999 | RADIUM-226 | 1.2 | 0.3 | PCI/G |
| SC-24003-S | 07/24/1999 | RADIUM-228 | 1.15 | 0.44 | PCI/G |
| SC-24003-S | 07/24/1999 | THORIUM-230 | 18.3 | 0.62 | PCI/G |
| SC-24003-S | 07/24/1999 | URANIUM-238 | 1.415 | 2.83 | PCI/G |
| SC-24003-S-RS | 07/31/1999 | THORIUM-230 | 1.26 | 0.62 | PCI/G |
| SC-24004-S | 07/24/1999 | RADIUM-226 | 0.84 | 0.3 | PCI/G |
| SC-24004-S | 07/24/1999 | RADIUM-228 | 1.1 | 0.45 | PCI/G |
| SC-24004-S | 07/24/1999 | THORIUM-230 | 1.93 | 0.64 | PCI/G |
| SC-24004-S | 07/24/1999 | URANIUM-238 | 1.295 | 2.59 | PCI/G |
| SC-24005-S | 07/24/1999 | RADIUM-226 | 0.87 | 0.32 | PCI/G |
| SC-24005-S | 07/24/1999 | RADIUM-228 | 0.475 | 0.95 | PCI/G |
| SC-24005-S | 07/24/1999 | THORIUM-230 | 5.45 | 0.64 | PCI/G |
| SC-24005-S | 07/24/1999 | URANIUM-238 | 1.31 | 2.62 | PCI/G |
| SC-24006-S | 07/24/1999 | RADIUM-226 | 1.02 | 0.3 | PCI/G |
| SC-24006-S | 07/24/1999 | RADIUM-228 | 1.3 | 0.31 | PCI/G |
| SC-24006-S | 07/24/1999 | THORIUM-230 | 13.3 | 0.62 | PCI/G |
| SC-24006-S | 07/24/1999 | URANIUM-238 | 1.28 | 2.56 | PCI/G |
| SC-24006-S-RS | 07/31/1999 | THORIUM-230 | 1.04 | 0.62 | PCI/G |
| SC-24007-S | 07/24/1999 | RADIUM-226 | 0.315 | 0.63 | PCI/G |
| SC-24007-S | 07/24/1999 | RADIUM-228 | 1.02 | 0.56 | PCI/G |
| SC-24007-S | 07/24/1999 | THORIUM-230 | 1.12 | 0.62 | PCI/G |
| SC-24007-S | 07/24/1999 | URANIUM-238 | 1.285 | 2.57 | PCI/G |
| SC-24008-S | 07/24/1999 | RADIUM-226 | 2.45 | 0.31 | PCI/G |
| SC-24008-S | 07/24/1999 | RADIUM-228 | 1.6 | 0.42 | PCI/G |
| SC-24008-S | 07/24/1999 | THORIUM-230 | 34.4 | 0.64 | PCI/G |
| SC-24008-S | 07/24/1999 | URANIUM-238 | 1.585 | 3.17 | PCI/G |
| SC-24008-S-RS | 07/31/1999 | THORIUM-230 | 0.88 | 0.64 | PCI/G |
| SC-24009-S | 07/24/1999 | RADIUM-226 | 1.04 | 0.35 | PCI/G |
| SC-24009-S | 07/24/1999 | RADIUM-228 | 0.495 | 0.99 | PCI/G |
| SC-24009-S | 07/24/1999 | THORIUM-230 | 5.86 | 0.62 | PCI/G |
| SC-24009-S | 07/24/1999 | URANIUM-238 | 1.285 | 2.57 | PCI/G |
| SC-24010-S | 07/16/1999 | RADIUM-226 | 0.86 | 0.35 | PCI/G |
| SC-24010-S | 07/16/1999 | RADIUM-228 | 1.64 | 0.45 | PCI/G |
| SC-24010-S | 07/16/1999 | THORIUM-230 | 5.62 | 0.62 | PCI/G |
| SC-24010-S | 07/16/1999 | URANIUM-238 | 2.02 | 2.57 | PCI/G |
| SC-24011-S | 07/16/1999 | RADIUM-226 | 0.7 | 0.27 | PCI/G |
| SC-24011-S | 07/16/1999 | RADIUM-228 | 1.13 | 0.36 | PCI/G |
| SC-24011-S | 07/16/1999 | THORIUM-230 | 1.54 | 0.62 | PCI/G |
| SC-24011-S | 07/16/1999 | URANIUM-238 | 1.24 | 2.48 | PCI/G |
| SC-24012-S | 07/24/1999 | RADIUM-226 | 0.64 | 0.3 | PCI/G |
| SC-24012-S | 07/24/1999 | RADIUM-228 | 1.24 | 0.43 | PCI/G |
| SC-24012-S | 07/24/1999 | THORIUM-230 | 1.74 | 0.64 | PCI/G |
| SC-24012-S | 07/24/1999 | URANIUM-238 | 1.28 | 2.56 | PCI/G |
| SC-24013-S | 07/16/1999 | RADIUM-226 | 0.67 | 0.36 | PCI/G |
| SC-24013-S | 07/16/1999 | RADIUM-228 | 0.475 | 0.95 | PCI/G |
| SC-24013-S | 07/16/1999 | THORIUM-230 | 1.36 | 0.65 | PCI/G |
| SC-24013-S | 07/16/1999 | URANIUM-238 | 1.205 | 2.41 | PCI/G |
| SC-24014-S | 07/16/1999 | RADIUM-226 | 0.7 | 0.28 | PCI/G |
| SC-24014-S | 07/16/1999 | RADIUM-228 | 1.22 | 0.4 | PCI/G |
| SC-24014-S | 07/16/1999 | THORIUM-230 | 1.49 | 0.64 | PCI/G |
| SC-24014-S | 07/16/1999 | URANIUM-238 | 1.325 | 2.65 | PCI/G |
| SC-24015-S | 07/16/1999 | RADIUM-226 | 0.85 | 0.26 | PCI/G |
| SC-24015-S | 07/16/1999 | RADIUM-228 | 0.475 | 0.95 | PCI/G |
| SC-24015-S | 07/16/1999 | THORIUM-230 | 2.95 | 0.62 | PCI/G |
| SC-24015-S | 07/16/1999 | URANIUM-238 | 1.225 | 2.45 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-24016-S | 06/29/1999 | RADIUM-226 | 0 59 | 0.22 | PCI/G |
| SC-24016-S | 06/29/1999 | RADIUM-228 | 1 22 | 0.34 | PCI/G |
| SC-24016-S | 06/29/1999 | THORIUM-230 | 0.95 | 0 64 | PCI/G |
| SC-24016-S | 06/29/1999 | URANIUM-238 | 0 815 | 1 63 | PCI/G |
| SC-24017-S | 07/16/1999 | RADIUM-226 | 0 68 | 0 28 | PCI/G |
| SC-24017-S | 07/16/1999 | RADIUM-228 | 1.1 | 0 45 | PCI/G |
| SC-24017-S | 07/16/1999 | THORIUM-230 | 1 57 | 0.62 | PCI/G |
| SC-24017-S | 07/16/1999 | URANIUM-238 | 1 28 | 2 56 | PCI/G |
| SC-24018-S | 06/29/1999 | RADIUM-226 | 0.62 | 0 32 | PCI/G |
| SC-24018-S | 06/29/1999 | RADIUM-228 | 1.21 | 0 44 | PCI/G |
| SC-24018-S | 06/29/1999 | THORIUM-230 | 6.11 | 0 65 | PCI/G |
| SC-24018-S | 06/29/1999 | URANIUM-238 | 1 275 | 2.55 | PCI/G |
| SC-24019-S | 06/29/1999 | RADIUM-226 | 0.27 | 0.54 | PCI/G |
| SC-24019-S | 06/29/1999 | RADIUM-228 | 1 06 | 0 42 | PCI/G |
| SC-24019-S | 06/29/1999 | THORIUM-230 | 2.25 | 0.64 | PCI/G |
| SC-24019-S | 06/29/1999 | URANIUM-238 | 1.145 | 2.29 | PCI/G |
| SC-24020-S | 06/29/1999 | RADIUM-226 | 0.57 | 0.29 | PCI/G |
| SC-24020-S | 06/29/1999 | RADIUM-228 | 1 | 0.37 | PCI/G |
| SC-24020-S | 06/29/1999 | THORIUM-230 | 1.06 | 0.62 | PCI/G |
| SC-24020-S | 06/29/1999 | URANIUM-238 | 1 265 | 2.53 | PCI/G |
| SC-24101-S | 07/24/1999 | RADIUM-226 | 2 71 | 0 42 | PCI/G |
| SC-24101-S | 07/24/1999 | RADIUM-228 | 0 56 | 1 12 | PCI/G |
| SC-24101-S | 07/24/1999 | THORIUM-230 | 60 2 | 0 64 | PCI/G |
| SC-24101-S | 07/24/1999 | URANIUM-238 | 1.665 | 3 33 | PCI/G |
| SC-24101-S-RS | 07/31/1999 | THORIUM-230 | 0.91 | 0 64 | PCI/G |
| SC-24102-S | 07/24/1999 | RADIUM-226 | 0 83 | 0.29 | PCI/G |
| SC-24102-S | 07/24/1999 | RADIUM-228 | 1 17 | 0 44 | PCI/G |
| SC-24102-S | 07/24/1999 | THORIUM-230 | 5.83 | 0 62 | PCI/G |
| SC-24102-S | 07/24/1999 | URANIUM-238 | 2.32 | 2 2 | PCI/G |
| SC-24103-S | 07/24/1999 | RADIUM-226 | 0 28 | 0.56 | PCI/G |
| SC-24103-S | 07/24/1999 | RADIUM-228 | 1 42 | 0 46 | PCI/G |
| SC-24103-S | 07/24/1999 | THORIUM-230 | 2.66 | 0.62 | PCI/G |
| SC-24103-S | 07/24/1999 | URANIUM-238 | 1 35 | 2 7 | PCI/G |
| SC-24104-S | 07/24/1999 | RADIUM-226 | 0 87 | 0.28 | PCI/G |
| SC-24104-S | 07/24/1999 | RADIUM-228 | 1 07 | 0 47 | PCI/G |
| SC-24104-S | 07/24/1999 | THORIUM-230 | 3 77 | 0 64 | PCI/G |
| SC-24104-S | 07/24/1999 | URANIUM-238 | 1 33 | 2 66 | PCI/G |
| SC-24105-S | 07/24/1999 | RADIUM-226 | 0 77 | 0 31 | PCI/G |
| SC-24105-S | 07/24/1999 | RADIUM-228 | 0 5 | 1 | PCI/G |
| SC-24105-S | 07/24/1999 | THORIUM-230 | 1 5 | 0 64 | PCI/G |
| SC-24105-S | 07/24/1999 | URANIUM-238 | 1 19 | 2.38 | PCI/G |
| SC-24106-S | 07/24/1999 | RADIUM-226 | 0 64 | 0.32 | PCI/G |
| SC-24106-S | 07/24/1999 | RADIUM-228 | 1.26 | 0.37 | PCI/G |
| SC-24106-S | 07/24/1999 | THORIUM-230 | 1 52 | 0 64 | PCI/G |
| SC-24106-S | 07/24/1999 | URANIUM-238 | 1.315 | 2 63 | PCI/G |
| SC-24107-S | 07/24/1999 | RADIUM-226 | 0 73 | 0 31 | PCI/G |
| SC-24107-S | 07/24/1999 | RADIUM-228 | 1 2 | 0 52 | PCI/G |
| SC-24107-S | 07/24/1999 | THORIUM-230 | 5 93 | 0 62 | PCI/G |
| SC-24107-S | 07/24/1999 | URANIUM-238 | 1 2 | 2 4 | PCI/G |
| SC-24108-S | 07/24/1999 | RADIUM-226 | 0 81 | 0 31 | PCI/G |
| SC-24108-S | 07/24/1999 | RADIUM-228 | 1 35 | 0 35 | PCI/G |
| SC-24108-S | 07/24/1999 | THORIUM-230 | 4 3 | 0 62 | PCI/G |
| SC-24108-S | 07/24/1999 | URANIUM-238 | 1 365 | 2 73 | PCI/G |
| SC-24109-S | 06/29/1999 | RADIUM-226 | 0 31 | 0 62 | PCI/G |
| SC-24109-S | 06/29/1999 | RADIUM-228 | 0 445 | 0 89 | PCI/G |
| SC-24109-S | 06/29/1999 | THORIUM-230 | 1 31 | 0.64 | PCI/G |
| SC-24109-S | 06/29/1999 | URANIUM-238 | 1 19 | 2.38 | PCI/G |
| SC-24110-S | 06/29/1999 | RADIUM-226 | 0.66 | 0.3 | PCI/G |
| SC-24110-S | 06/29/1999 | RADIUM-228 | 1 01 | 0.37 | PCI/G |
| SC-24110-S | 06/29/1999 | THORIUM-230 | 7 91 | 0.65 | PCI/G |
| SC-24110-S | 06/29/1999 | URANIUM-238 | 1 215 | 2.43 | PCI/G |
| SC-24110-S-RS | 07/15/1999 | THORIUM-230 | 0.87 | 0 62 | PCI/G |
| SC-24111-S | 06/25/1999 | RADIUM-226 | 0.82 | 0 35 | PCI/G |
| SC-24111-S | 06/25/1999 | RADIUM-228 | 0 505 | 1 01 | PCI/G |
| SC-24111-S | 06/25/1999 | THORIUM-230 | 15 5 | 0 62 | PCI/G |
| SC-24111-S | 06/25/1999 | URANIUM-238 | 1.325 | 2 65 | PCI/G |
| SC-24111-S-RS | 07/15/1999 | THORIUM-230 | 0 87 | 0 62 | PCI/G |
| SC-24112-S | 07/24/1999 | RADIUM-226 | 0 305 | 0 61 | PCI/G |
| SC-24112-S | 07/24/1999 | RADIUM-228 | 0 45 | 0.9 | PCI/G |
| SC-24112-S | 07/24/1999 | THORIUM-230 | 1.63 | 0.62 | PCI/G |
| SC-24112-S | 07/24/1999 | URANIUM-238 | 1 17 | 2.34 | PCI/G |
| SC-24113-S | 06/29/1999 | RADIUM-226 | 0 55 | 0.31 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-24113-S | 06/29/1999 | RADIUM-228 | 0.44 | 0.88 | PCI/G |
| SC-24113-S | 06/29/1999 | THORIUM-230 | 1.2 | 0.64 | PCI/G |
| SC-24113-S | 06/29/1999 | URANIUM-238 | 1.35 | 2.7 | PCI/G |
| SC-24114-S | 06/29/1999 | RADIUM-226 | 0.63 | 0.3 | PCI/G |
| SC-24114-S | 06/29/1999 | RADIUM-228 | 1.13 | 0.43 | PCI/G |
| SC-24114-S | 06/29/1999 | THORIUM-230 | 1.36 | 0.62 | PCI/G |
| SC-24114-S | 06/29/1999 | URANIUM-238 | 1.275 | 2.55 | PCI/G |
| SC-24115-S | 06/25/1999 | RADIUM-226 | 0.54 | 0.3 | PCI/G |
| SC-24115-S | 06/25/1999 | RADIUM-228 | 0.81 | 0.42 | PCI/G |
| SC-24115-S | 06/25/1999 | THORIUM-230 | 1.75 | 0.64 | PCI/G |
| SC-24115-S | 06/25/1999 | URANIUM-238 | 1.21 | 2.42 | PCI/G |
| SC-24116-S | 06/25/1999 | RADIUM-226 | 0.62 | 0.31 | PCI/G |
| SC-24116-S | 06/25/1999 | RADIUM-228 | 1.18 | 0.56 | PCI/G |
| SC-24116-S | 06/25/1999 | THORIUM-230 | 1.39 | 0.64 | PCI/G |
| SC-24116-S | 06/25/1999 | URANIUM-238 | 1.26 | 2.52 | PCI/G |
| SC-24117-S | 06/29/1999 | RADIUM-226 | 0.74 | 0.33 | PCI/G |
| SC-24117-S | 06/29/1999 | RADIUM-228 | 0.505 | 1.01 | PCI/G |
| SC-24117-S | 06/29/1999 | THORIUM-230 | 1.39 | 0.64 | PCI/G |
| SC-24117-S | 06/29/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-24118-S | 06/29/1999 | RADIUM-226 | 0.76 | 0.27 | PCI/G |
| SC-24118-S | 06/29/1999 | RADIUM-228 | 1.12 | 0.38 | PCI/G |
| SC-24118-S | 06/29/1999 | THORIUM-230 | 1.15 | 0.62 | PCI/G |
| SC-24118-S | 06/29/1999 | URANIUM-238 | 1.24 | 2.48 | PCI/G |
| SC-24119-S | 06/25/1999 | RADIUM-226 | 0.77 | 0.29 | PCI/G |
| SC-24119-S | 06/25/1999 | RADIUM-228 | 1.26 | 0.43 | PCI/G |
| SC-24119-S | 06/25/1999 | THORIUM-230 | 4.5 | 0.65 | PCI/G |
| SC-24119-S | 06/25/1999 | URANIUM-238 | 1.315 | 2.63 | PCI/G |
| SC-24120-S | 06/25/1999 | RADIUM-226 | 0.74 | 0.27 | PCI/G |
| SC-24120-S | 06/25/1999 | RADIUM-228 | 0.99 | 0.64 | PCI/G |
| SC-24120-S | 06/25/1999 | THORIUM-230 | 3.73 | 0.64 | PCI/G |
| SC-24120-S | 06/25/1999 | URANIUM-238 | 1.325 | 2.65 | PCI/G |
| SC-24201-S | 07/24/1999 | RADIUM-226 | 0.82 | 0.27 | PCI/G |
| SC-24201-S | 07/24/1999 | RADIUM-228 | 1.15 | 0.43 | PCI/G |
| SC-24201-S | 07/24/1999 | THORIUM-230 | 11.1 | 0.62 | PCI/G |
| SC-24201-S | 07/24/1999 | URANIUM-238 | 1.32 | 2.64 | PCI/G |
| SC-24202-S | 07/24/1999 | RADIUM-226 | 0.96 | 0.3 | PCI/G |
| SC-24202-S | 07/24/1999 | RADIUM-228 | 0.95 | 0.56 | PCI/G |
| SC-24202-S | 07/24/1999 | THORIUM-230 | 2.94 | 0.64 | PCI/G |
| SC-24202-S | 07/24/1999 | URANIUM-238 | 1.25 | 2.5 | PCI/G |
| SC-24203-S | 07/24/1999 | RADIUM-226 | 0.88 | 0.27 | PCI/G |
| SC-24203-S | 07/24/1999 | RADIUM-228 | 1.11 | 0.4 | PCI/G |
| SC-24203-S | 07/24/1999 | THORIUM-230 | 1.01 | 0.64 | PCI/G |
| SC-24203-S | 07/24/1999 | URANIUM-238 | 1.305 | 2.61 | PCI/G |
| SC-24204-S | 07/24/1999 | RADIUM-226 | 0.87 | 0.34 | PCI/G |
| SC-24204-S | 07/24/1999 | RADIUM-228 | 1.08 | 0.51 | PCI/G |
| SC-24204-S | 07/24/1999 | THORIUM-230 | 1.25 | 0.62 | PCI/G |
| SC-24204-S | 07/24/1999 | URANIUM-238 | 1.25 | 2.5 | PCI/G |
| SC-24205-S | 07/24/1999 | RADIUM-226 | 1.03 | 0.33 | PCI/G |
| SC-24205-S | 07/24/1999 | RADIUM-228 | 1.37 | 0.36 | PCI/G |
| SC-24205-S | 07/24/1999 | THORIUM-230 | 20 | 0.62 | PCI/G |
| SC-24205-S | 07/24/1999 | URANIUM-238 | 1.445 | 2.89 | PCI/G |
| SC-24205-S-RS | 07/31/1999 | THORIUM-230 | 1.06 | 0.62 | PCI/G |
| SC-24206-S | 07/24/1999 | RADIUM-226 | 0.82 | 0.33 | PCI/G |
| SC-24206-S | 07/24/1999 | RADIUM-228 | 1.09 | 0.42 | PCI/G |
| SC-24206-S | 07/24/1999 | THORIUM-230 | 1.94 | 0.64 | PCI/G |
| SC-24206-S | 07/24/1999 | URANIUM-238 | 1.225 | 2.45 | PCI/G |
| SC-24207-S | 07/24/1999 | RADIUM-226 | 1.06 | 0.31 | PCI/G |
| SC-24207-S | 07/24/1999 | RADIUM-228 | 1.02 | 0.52 | PCI/G |
| SC-24207-S | 07/24/1999 | THORIUM-230 | 13 | 0.64 | PCI/G |
| SC-24207-S | 07/24/1999 | URANIUM-238 | 1.35 | 2.7 | PCI/G |
| SC-24208-S | 07/24/1999 | RADIUM-226 | 0.9 | 0.32 | PCI/G |
| SC-24208-S | 07/24/1999 | RADIUM-228 | 0.49 | 0.98 | PCI/G |
| SC-24208-S | 07/24/1999 | THORIUM-230 | 2 | 0.62 | PCI/G |
| SC-24208-S | 07/24/1999 | URANIUM-238 | 1.3 | 2.6 | PCI/G |
| SC-24209-S | 07/24/1999 | RADIUM-226 | 0.73 | 0.33 | PCI/G |
| SC-24209-S | 07/24/1999 | RADIUM-228 | 1.14 | 0.45 | PCI/G |
| SC-24209-S | 07/24/1999 | THORIUM-230 | 3.4 | 0.62 | PCI/G |
| SC-24209-S | 07/24/1999 | URANIUM-238 | 1.275 | 2.55 | PCI/G |
| SC-24210-S | 07/24/1999 | RADIUM-226 | 0.76 | 0.33 | PCI/G |
| SC-24210-S | 07/24/1999 | RADIUM-228 | 1.19 | 0.48 | PCI/G |
| SC-24210-S | 07/24/1999 | THORIUM-230 | 1.06 | 0.64 | PCI/G |
| SC-24210-S | 07/24/1999 | URANIUM-238 | 1.26 | 2.52 | PCI/G |

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| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-24211-S | 07/24/1999 | RADIUM-226 | 0.84 | 0 26 | PCI/G |
| SC-24211-S | 07/24/1999 | RADIUM-228 | 1.49 | 0 39 | PCI/G |
| SC-24211-S | 07/24/1999 | THORIUM-230 | 1.27 | 0.62 | PCI/G |
| SC-24211-S | 07/24/1999 | URANIUM-238 | 1.31 | 2.62 | PCI/G |
| SC-24212-S | 07/24/1999 | RADIUM-226 | 0 86 | 0.26 | PCI/G |
| SC-24212-S | 07/24/1999 | RADIUM-228 | 0.445 | 0 89 | PCI/G |
| SC-24212-S | 07/24/1999 | THORIUM-230 | 1.63 | 0 64 | PCI/G |
| SC-24212-S | 07/24/1999 | URANIUM-238 | 1.24 | 2 48 | PCI/G |
| SC-24213-S | 06/29/1999 | RADIUM-226 | 0.72 | 0.27 | PCI/G |
| SC-24213-S | 06/29/1999 | RADIUM-228 | 1.23 | 0 45 | PCI/G |
| SC-24213-S | 06/29/1999 | THORIUM-230 | 0.99 | 0 64 | PCI/G |
| SC-24213-S | 06/29/1999 | URANIUM-238 | 1 19 | 2.38 | PCI/G |
| SC-24214-S | 06/29/1999 | RADIUM-226 | 0.67 | 0 29 | PCI/G |
| SC-24214-S | 06/29/1999 | RADIUM-228 | 1 07 | 0 46 | PCI/G |
| SC-24214-S | 06/29/1999 | THORIUM-230 | 1 87 | 0 65 | PCI/G |
| SC-24214-S | 06/29/1999 | URANIUM-238 | 1 185 | 2.37 | PCI/G |
| SC-24215-S | 07/16/1999 | RADIUM-226 | 0 79 | 0.35 | PCI/G |
| SC-24215-S | 07/16/1999 | RADIUM-228 | 0.445 | 0.89 | PCI/G |
| SC-24215-S | 07/16/1999 | THORIUM-230 | 1.4 | 0 65 | PCI/G |
| SC-24215-S | 07/16/1999 | URANIUM-238 | 1 38 | 2 76 | PCI/G |
| SC-24216-S | 07/16/1999 | RADIUM-226 | 0 77 | 0.3 | PCI/G |
| SC-24216-S | 07/16/1999 | RADIUM-228 | 1 23 | 0 47 | PCI/G |
| SC-24216-S | 07/16/1999 | THORIUM-230 | 8 15 | 0 62 | PCI/G |
| SC-24216-S | 07/16/1999 | URANIUM-238 | 1 37 | 2 74 | PCI/G |
| SC-24216-S-RS | 07/20/1999 | THORIUM-230 | 1 08 | 0 65 | PCI/G |
| SC-24217-S | 06/29/1999 | RADIUM-226 | 0 49 | 0 31 | PCI/G |
| SC-24217-S | 06/29/1999 | RADIUM-228 | 0 94 | 0 55 | PCI/G |
| SC-24217-S | 06/29/1999 | THORIUM-230 | 1 24 | 0.64 | PCI/G |
| SC-24217-S | 06/29/1999 | URANIUM-238 | 1 155 | 2 31 | PCI/G |
| SC-24218-S | 06/29/1999 | RADIUM-226 | 0 58 | 0 29 | PCI/G |
| SC-24218-S | 06/29/1999 | RADIUM-228 | 1 23 | 0 37 | PCI/G |
| SC-24218-S | 06/29/1999 | THORIUM-230 | 1 11 | 0.62 | PCI/G |
| SC-24218-S | 06/29/1999 | URANIUM-238 | 1 265 | 2 53 | PCI/G |
| SC-24219-S | 07/16/1999 | RADIUM-226 | 0 3 | 0 6 | PCI/G |
| SC-24219-S | 07/16/1999 | RADIUM-228 | 0.475 | 0 95 | PCI/G |
| SC-24219-S | 07/16/1999 | THORIUM-230 | 0.99 | 0 65 | PCI/G |
| SC-24219-S | 07/16/1999 | URANIUM-238 | 1.275 | 2 55 | PCI/G |
| SC-24220-S | 07/16/1999 | RADIUM-226 | 0 69 | 0 31 | PCI/G |
| SC-24220-S | 07/16/1999 | RADIUM-228 | 1.14 | 0 5 | PCI/G |
| SC-24220-S | 07/16/1999 | THORIUM-230 | 2 09 | 0 64 | PCI/G |
| SC-24220-S | 07/16/1999 | URANIUM-238 | 1 255 | 2 51 | PCI/G |
| SC-24301-S | 06/29/1999 | RADIUM-226 | 0.29 | 0 58 | PCI/G |
| SC-24301-S | 06/29/1999 | RADIUM-228 | 0 415 | 0 83 | PCI/G |
| SC-24301-S | 06/29/1999 | THORIUM-230 | 1 | 0 64 | PCI/G |
| SC-24301-S | 06/29/1999 | URANIUM-238 | 1.205 | 2 41 | PCI/G |
| SC-24302-S | 06/29/1999 | RADIUM-226 | 0 55 | 0 24 | PCI/G |
| SC-24302-S | 06/29/1999 | RADIUM-228 | 1 19 | 0 43 | PCI/G |
| SC-24302-S | 06/29/1999 | THORIUM-230 | 1 35 | 0 62 | PCI/G |
| SC-24302-S | 06/29/1999 | URANIUM-238 | 1 27 | 2 54 | PCI/G |
| SC-24303-S | 07/16/1999 | RADIUM-226 | 4 78 | 0 34 | PCI/G |
| SC-24303-S | 07/16/1999 | RADIUM-228 | 0 565 | 1 13 | PCI/G |
| SC-24303-S | 07/16/1999 | THORIUM-230 | 64 | 0.62 | PCI/G |
| SC-24303-S | 07/16/1999 | URANIUM-238 | 1 915 | 3.83 | PCI/G |
| SC-24303-S-RS | 07/20/1999 | RADIUM-226 | 0.285 | 0 57 | PCI/G |
| SC-24303-S-RS | 07/20/1999 | RADIUM-228 | 0 98 | 0 41 | PCI/G |
| SC-24303-S-RS | 07/20/1999 | THORIUM-230 | 0.96 | 0 62 | PCI/G |
| SC-24304-S | 07/16/1999 | RADIUM-226 | 1.27 | 0 29 | PCI/G |
| SC-24304-S | 07/16/1999 | RADIUM-228 | 1.09 | 0 47 | PCI/G |
| SC-24304-S | 07/16/1999 | THORIUM-230 | 21 4 | 0.62 | PCI/G |
| SC-24304-S | 07/16/1999 | URANIUM-238 | 1 47 | 2.94 | PCI/G |
| SC-24304-S-RS | 07/20/1999 | THORIUM-230 | 1.03 | 0 66 | PCI/G |
| SC-24305-S | 06/29/1999 | RADIUM-226 | 0.33 | 0 66 | PCI/G |
| SC-24305-S | 06/29/1999 | RADIUM-228 | 1.09 | 0.52 | PCI/G |
| SC-24305-S | 06/29/1999 | THORIUM-230 | 1 06 | 0 64 | PCI/G |
| SC-24305-S | 06/29/1999 | URANIUM-238 | 1.315 | 2.63 | PCI/G |
| SC-24306-S | 06/29/1999 | RADIUM-226 | 0.71 | 0.26 | PCI/G |
| SC-24306-S | 06/29/1999 | RADIUM-228 | 1 29 | 0 34 | PCI/G |
| SC-24306-S | 06/29/1999 | THORIUM-230 | 1.35 | 0 62 | PCI/G |
| SC-24306-S | 06/29/1999 | URANIUM-238 | 1.265 | 2 53 | PCI/G |
| SC-24307-S | 07/16/1999 | RADIUM-226 | 3 95 | 0 38 | PCI/G |
| SC-24307-S | 07/16/1999 | RADIUM-228 | 1.53 | 0 52 | PCI/G |
| SC-24307-S | 07/16/1999 | THORIUM-230 | 81 4 | 0 65 | PCI/G |

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| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-24307-S | 07/16/1999 | URANIUM-238 | 1.915 | 3.83 | PCI/G |
| SC-24307-S-RS | 07/20/1999 | THORIUM-230 | 1.19 | 0.64 | PCI/G |
| SC-24308-S | 07/16/1999 | RADIUM-226 | 3.83 | 0.44 | PCI/G |
| SC-24308-S | 07/16/1999 | RADIUM-228 | 1.3 | 0.65 | PCI/G |
| SC-24308-S | 07/16/1999 | THORIUM-230 | 77.2 | 0.64 | PCI/G |
| SC-24308-S | 07/16/1999 | URANIUM-238 | 1.95 | 3.9 | PCI/G |
| SC-24308-S-RS | 07/20/1999 | RADIUM-226 | 0.85 | 0.26 | PCI/G |
| SC-24308-S-RS | 07/20/1999 | RADIUM-228 | 1.31 | 0.33 | PCI/G |
| SC-24308-S-RS | 07/20/1999 | THORIUM-230 | 1.47 | 0.65 | PCI/G |
| SC-24309-S | 06/25/1999 | RADIUM-226 | 0.75 | 0.27 | PCI/G |
| SC-24309-S | 06/25/1999 | RADIUM-228 | 1.06 | 0.39 | PCI/G |
| SC-24309-S | 06/25/1999 | THORIUM-230 | 1.13 | 0.65 | PCI/G |
| SC-24309-S | 06/25/1999 | URANIUM-238 | 1.3 | 2.6 | PCI/G |
| SC-24310-S | 06/25/1999 | RADIUM-226 | 0.3 | 0.6 | PCI/G |
| SC-24310-S | 06/25/1999 | RADIUM-228 | 0.46 | 0.92 | PCI/G |
| SC-24310-S | 06/25/1999 | THORIUM-230 | 1.32 | 0.62 | PCI/G |
| SC-24310-S | 06/25/1999 | URANIUM-238 | 1.225 | 2.45 | PCI/G |
| SC-24311-S | 07/16/1999 | RADIUM-226 | 0.27 | 0.54 | PCI/G |
| SC-24311-S | 07/16/1999 | RADIUM-228 | 0.545 | 1.09 | PCI/G |
| SC-24311-S | 07/16/1999 | THORIUM-230 | 2.16 | 0.62 | PCI/G |
| SC-24311-S | 07/16/1999 | URANIUM-238 | 1.155 | 2.31 | PCI/G |
| SC-24312-S | 07/16/1999 | RADIUM-226 | 0.86 | 0.28 | PCI/G |
| SC-24312-S | 07/16/1999 | RADIUM-228 | 1.01 | 0.38 | PCI/G |
| SC-24312-S | 07/16/1999 | THORIUM-230 | 1.39 | 0.62 | PCI/G |
| SC-24312-S | 07/16/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-24313-S | 06/18/1999 | RADIUM-226 | 0.75 | 0.33 | PCI/G |
| SC-24313-S | 06/18/1999 | RADIUM-228 | 0.485 | 0.97 | PCI/G |
| SC-24313-S | 06/18/1999 | THORIUM-230 | 1.5 | 0.65 | PCI/G |
| SC-24313-S | 06/18/1999 | URANIUM-238 | 1.325 | 2.65 | PCI/G |
| SC-24314-S | 06/18/1999 | RADIUM-226 | 0.7 | 0.27 | PCI/G |
| SC-24314-S | 06/18/1999 | RADIUM-228 | 0.99 | 0.48 | PCI/G |
| SC-24314-S | 06/18/1999 | THORIUM-230 | 1.68 | 0.64 | PCI/G |
| SC-24314-S | 06/18/1999 | URANIUM-238 | 1.235 | 2.47 | PCI/G |
| SC-24315-S | 06/18/1999 | RADIUM-226 | 0.65 | 0.3 | PCI/G |
| SC-24315-S | 06/18/1999 | RADIUM-228 | 1 | 0.45 | PCI/G |
| SC-24315-S | 06/18/1999 | THORIUM-230 | 1.49 | 0.64 | PCI/G |
| SC-24315-S | 06/18/1999 | URANIUM-238 | 1.31 | 2.62 | PCI/G |
| SC-24316-S | 06/18/1999 | RADIUM-226 | 0.68 | 0.29 | PCI/G |
| SC-24316-S | 06/18/1999 | RADIUM-228 | 1.32 | 0.41 | PCI/G |
| SC-24316-S | 06/18/1999 | THORIUM-230 | 1.6 | 0.62 | PCI/G |
| SC-24316-S | 06/18/1999 | URANIUM-238 | 1.255 | 2.51 | PCI/G |
| SC-24317-S | 06/18/1999 | RADIUM-226 | 0.76 | 0.34 | PCI/G |
| SC-24317-S | 06/18/1999 | RADIUM-228 | 0.45 | 0.9 | PCI/G |
| SC-24317-S | 06/18/1999 | THORIUM-230 | 2.09 | 0.65 | PCI/G |
| SC-24317-S | 06/18/1999 | URANIUM-238 | 1.285 | 2.57 | PCI/G |
| SC-24318-S | 06/18/1999 | RADIUM-226 | 0.68 | 0.31 | PCI/G |
| SC-24318-S | 06/18/1999 | RADIUM-228 | 1.17 | 0.43 | PCI/G |
| SC-24318-S | 06/18/1999 | THORIUM-230 | 2.09 | 0.64 | PCI/G |
| SC-24318-S | 06/18/1999 | URANIUM-238 | 1.27 | 2.54 | PCI/G |
| SC-24319-S | 06/18/1999 | RADIUM-226 | 0.74 | 0.28 | PCI/G |
| SC-24319-S | 06/18/1999 | RADIUM-228 | 0.425 | 0.85 | PCI/G |
| SC-24319-S | 06/18/1999 | THORIUM-230 | 0.89 | 0.64 | PCI/G |
| SC-24319-S | 06/18/1999 | URANIUM-238 | 1.26 | 2.52 | PCI/G |
| SC-24320-S | 06/18/1999 | RADIUM-226 | 0.5 | 0.3 | PCI/G |
| SC-24320-S | 06/18/1999 | RADIUM-228 | 1.03 | 0.51 | PCI/G |
| SC-24320-S | 06/18/1999 | THORIUM-230 | 1 | 0.62 | PCI/G |
| SC-24320-S | 06/18/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-24401-S | 06/29/1999 | RADIUM-226 | 0.83 | 0.31 | PCI/G |
| SC-24401-S | 06/29/1999 | RADIUM-228 | 0.545 | 1.09 | PCI/G |
| SC-24401-S | 06/29/1999 | THORIUM-230 | 1.42 | 0.64 | PCI/G |
| SC-24401-S | 06/29/1999 | URANIUM-238 | 1.34 | 2.68 | PCI/G |
| SC-24402-S | 06/29/1999 | RADIUM-226 | 0.88 | 0.31 | PCI/G |
| SC-24402-S | 06/29/1999 | RADIUM-228 | 1.11 | 0.43 | PCI/G |
| SC-24402-S | 06/29/1999 | THORIUM-230 | 1.39 | 0.62 | PCI/G |
| SC-24402-S | 06/29/1999 | URANIUM-238 | 1.28 | 2.56 | PCI/G |
| SC-24403-S | 06/25/1999 | RADIUM-226 | 0.69 | 0.28 | PCI/G |
| SC-24403-S | 06/25/1999 | RADIUM-228 | 0.98 | 0.44 | PCI/G |
| SC-24403-S | 06/25/1999 | THORIUM-230 | 1.33 | 0.64 | PCI/G |
| SC-24403-S | 06/25/1999 | URANIUM-238 | 1.225 | 2.45 | PCI/G |
| SC-24404-S | 06/25/1999 | RADIUM-226 | 0.6 | 0.33 | PCI/G |
| SC-24404-S | 06/25/1999 | RADIUM-228 | 1.37 | 0.44 | PCI/G |
| SC-24404-S | 06/25/1999 | THORIUM-230 | 1.3 | 0.64 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-24404-S | 06/25/1999 | URANIUM-238 | 1 135 | 2.27 | PCI/G |
| SC-24405-S | 06/29/1999 | RADIUM-226 | 0.67 | 0 33 | PCI/G |
| SC-24405-S | 06/29/1999 | RADIUM-228 | 0.475 | 0.95 | PCI/G |
| SC-24405-S | 06/29/1999 | THORIUM-230 | 1.21 | 0.64 | PCI/G |
| SC-24405-S | 06/29/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-24406-S | 06/29/1999 | RADIUM-226 | 0 73 | 0 32 | PCI/G |
| SC-24406-S | 06/29/1999 | RADIUM-228 | 1.35 | 0 32 | PCI/G |
| SC-24406-S | 06/29/1999 | THORIUM-230 | 1 7 | 0 65 | PCI/G |
| SC-24406-S | 06/29/1999 | URANIUM-238 | 1.31 | 2 62 | PCI/G |
| SC-24407-S | 06/25/1999 | RADIUM-226 | 0.8 | 0 3 | PCI/G |
| SC-24407-S | 06/25/1999 | RADIUM-228 | 1.06 | 0.38 | PCI/G |
| SC-24407-S | 06/25/1999 | THORIUM-230 | 1.35 | 0.65 | PCI/G |
| SC-24407-S | 06/25/1999 | URANIUM-238 | 1.28 | 2.56 | PCI/G |
| SC-24408-S | 06/25/1999 | RADIUM-226 | 0.73 | 0.33 | PCI/G |
| SC-24408-S | 06/25/1999 | RADIUM-228 | 1 01 | 0 57 | PCI/G |
| SC-24408-S | 06/25/1999 | THORIUM-230 | 1.05 | 0.62 | PCI/G |
| SC-24408-S | 06/25/1999 | URANIUM-238 | 1.18 | 2.36 | PCI/G |
| SC-24409-S | 06/25/1999 | RADIUM-226 | 0.66 | 0 27 | PCI/G |
| SC-24409-S | 06/25/1999 | RADIUM-228 | 0.96 | 0.37 | PCI/G |
| SC-24409-S | 06/25/1999 | THORIUM-230 | 0.92 | 0.64 | PCI/G |
| SC-24409-S | 06/25/1999 | URANIUM-238 | 1.26 | 2.52 | PCI/G |
| SC-24410-S | 06/25/1999 | RADIUM-226 | 0 71 | 0.32 | PCI/G |
| SC-24410-S | 06/25/1999 | RADIUM-228 | 0.83 | 0.51 | PCI/G |
| SC-24410-S | 06/25/1999 | THORIUM-230 | 2 56 | 0.64 | PCI/G |
| SC-24410-S | 06/25/1999 | URANIUM-238 | 1.235 | 2 47 | PCI/G |
| SC-24411-S | 06/25/1999 | RADIUM-226 | 0.78 | 0.28 | PCI/G |
| SC-24411-S | 06/25/1999 | RADIUM-228 | 1.32 | 0 32 | PCI/G |
| SC-24411-S | 06/25/1999 | THORIUM-230 | 4.85 | 0 65 | PCI/G |
| SC-24411-S | 06/25/1999 | URANIUM-238 | 1.305 | 2 61 | PCI/G |
| SC-24412-S | 06/25/1999 | RADIUM-226 | 0.64 | 0 2 | PCI/G |
| SC-24412-S | 06/25/1999 | RADIUM-228 | 1 16 | 0.32 | PCI/G |
| SC-24412-S | 06/25/1999 | THORIUM-230 | 1.6 | 0 62 | PCI/G |
| SC-24412-S | 06/25/1999 | URANIUM-238 | 0 82 | 1 64 | PCI/G |
| SC-24413-S | 06/25/1999 | RADIUM-226 | 0 74 | 0 27 | PCI/G |
| SC-24413-S | 06/25/1999 | RADIUM-228 | 1 05 | 0 43 | PCI/G |
| SC-24413-S | 06/25/1999 | THORIUM-230 | 1 3 | 0 64 | PCI/G |
| SC-24413-S | 06/25/1999 | URANIUM-238 | 1.275 | 2.55 | PCI/G |
| SC-24414-S | 06/25/1999 | RADIUM-226 | 0 77 | 0 32 | PCI/G |
| SC-24414-S | 06/25/1999 | RADIUM-228 | 1.28 | 0 45 | PCI/G |
| SC-24414-S | 06/25/1999 | THORIUM-230 | 2 92 | 0 64 | PCI/G |
| SC-24414-S | 06/25/1999 | URANIUM-238 | 1.29 | 2 58 | PCI/G |
| SC-24415-S | 06/25/1999 | RADIUM-226 | 0 77 | 0 25 | PCI/G |
| SC-24415-S | 06/25/1999 | RADIUM-228 | 1 19 | 0 3 | PCI/G |
| SC-24415-S | 06/25/1999 | THORIUM-230 | 4 13 | 0 65 | PCI/G |
| SC-24415-S | 06/25/1999 | URANIUM-238 | 1 29 | 2.58 | PCI/G |
| SC-24416-S | 06/18/1999 | RADIUM-226 | 0.29 | 0.58 | PCI/G |
| SC-24416-S | 06/18/1999 | RADIUM-228 | 0.425 | 0 85 | PCI/G |
| SC-24416-S | 06/18/1999 | THORIUM-230 | 1 82 | 0 64 | PCI/G |
| SC-24416-S | 06/18/1999 | URANIUM-238 | 1.215 | 2.43 | PCI/G |
| SC-24417-S | 06/25/1999 | RADIUM-226 | 0 76 | 0 27 | PCI/G |
| SC-24417-S | 06/25/1999 | RADIUM-228 | 1 13 | 0 41 | PCI/G |
| SC-24417-S | 06/25/1999 | THORIUM-230 | 1 54 | 0 62 | PCI/G |
| SC-24417-S | 06/25/1999 | URANIUM-238 | 1.23 | 2 46 | PCI/G |
| SC-24418-S | 06/25/1999 | RADIUM-226 | 0.68 | 0 27 | PCI/G |
| SC-24418-S | 06/25/1999 | RADIUM-228 | 1 05 | 0.4 | PCI/G |
| SC-24418-S | 06/25/1999 | THORIUM-230 | 3 36 | 0.64 | PCI/G |
| SC-24418-S | 06/25/1999 | URANIUM-238 | 1.215 | 2.43 | PCI/G |
| SC-24419-S | 06/25/1999 | RADIUM-226 | 1.05 | 0.27 | PCI/G |
| SC-24419-S | 06/25/1999 | RADIUM-228 | 0.42 | 0.84 | PCI/G |
| SC-24419-S | 06/25/1999 | THORIUM-230 | 9.94 | 0.64 | PCI/G |
| SC-24419-S | 06/25/1999 | URANIUM-238 | 1.25 | 2 5 | PCI/G |
| SC-24419-S-RS | 07/15/1999 | THORIUM-230 | 1 1 | 0 65 | PCI/G |
| SC-24420-S | 06/18/1999 | RADIUM-226 | 1.05 | 0.27 | PCI/G |
| SC-24420-S | 06/18/1999 | RADIUM-228 | 1 | 0 46 | PCI/G |
| SC-24420-S | 06/18/1999 | THORIUM-230 | 1.33 | 0.62 | PCI/G |
| SC-24420-S | 06/18/1999 | URANIUM-238 | 1.205 | 2 41 | PCI/G |
| SC-24501-S | 06/29/1999 | RADIUM-226 | 0.96 | 0 33 | PCI/G |
| SC-24501-S | 06/29/1999 | RADIUM-228 | 0 535 | 1 07 | PCI/G |
| SC-24501-S | 06/29/1999 | THORIUM-230 | 1 11 | 0 64 | PCI/G |
| SC-24501-S | 06/29/1999 | URANIUM-238 | 1.265 | 2.53 | PCI/G |
| SC-24502-S | 06/29/1999 | RADIUM-226 | 0.62 | 0 25 | PCI/G |
| SC-24502-S | 06/29/1999 | RADIUM-228 | 1 16 | 0 34 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-24502-S | 06/29/1999 | THORIUM-230 | 1.26 | 0.62 | PCI/G |
| SC-24502-S | 06/29/1999 | URANIUM-238 | 1.27 | 2.54 | PCI/G |
| SC-24503-S | 06/29/1999 | RADIUM-226 | 0.66 | 0.31 | PCI/G |
| SC-24503-S | 06/29/1999 | RADIUM-228 | 1.14 | 0.48 | PCI/G |
| SC-24503-S | 06/29/1999 | THORIUM-230 | 1.76 | 0.64 | PCI/G |
| SC-24503-S | 06/29/1999 | URANIUM-238 | 1.3 | 2.6 | PCI/G |
| SC-24504-S | 06/29/1999 | RADIUM-226 | 0.87 | 0.26 | PCI/G |
| SC-24504-S | 06/29/1999 | RADIUM-228 | 1.28 | 0.41 | PCI/G |
| SC-24504-S | 06/29/1999 | THORIUM-230 | 0.97 | 0.65 | PCI/G |
| SC-24504-S | 06/29/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-24505-S | 06/25/1999 | RADIUM-226 | 0.7 | 0.25 | PCI/G |
| SC-24505-S | 06/25/1999 | RADIUM-228 | 1.19 | 0.4 | PCI/G |
| SC-24505-S | 06/25/1999 | THORIUM-230 | 1.24 | 0.65 | PCI/G |
| SC-24505-S | 06/25/1999 | URANIUM-238 | 1.24 | 2.48 | PCI/G |
| SC-24506-S | 06/29/1999 | RADIUM-226 | 1.04 | 0.31 | PCI/G |
| SC-24506-S | 06/29/1999 | RADIUM-228 | 0.52 | 1.04 | PCI/G |
| SC-24506-S | 06/29/1999 | THORIUM-230 | 1.53 | 0.64 | PCI/G |
| SC-24506-S | 06/29/1999 | URANIUM-238 | 1.215 | 2.43 | PCI/G |
| SC-24506-S-RS | 07/27/1999 | RADIUM-226 | 0.8 | 0.32 | PCI/G |
| SC-24506-S-RS | 07/27/1999 | RADIUM-228 | 1.14 | 0.49 | PCI/G |
| SC-24506-S-RS | 07/27/1999 | THORIUM-230 | 1.39 | 0.64 | PCI/G |
| SC-24506-S-RS | 07/27/1999 | URANIUM-238 | 1.155 | 2.31 | PCI/G |
| SC-24507-S | 06/29/1999 | RADIUM-226 | 0.75 | 0.29 | PCI/G |
| SC-24507-S | 06/29/1999 | RADIUM-228 | 1.36 | 0.42 | PCI/G |
| SC-24507-S | 06/29/1999 | THORIUM-230 | 1.35 | 0.62 | PCI/G |
| SC-24507-S | 06/29/1999 | URANIUM-238 | 1.225 | 2.45 | PCI/G |
| SC-24508-S | 06/29/1999 | RADIUM-226 | 0.31 | 0.62 | PCI/G |
| SC-24508-S | 06/29/1999 | RADIUM-228 | 0.475 | 0.95 | PCI/G |
| SC-24508-S | 06/29/1999 | THORIUM-230 | 2.04 | 0.64 | PCI/G |
| SC-24508-S | 06/29/1999 | URANIUM-238 | 1.225 | 2.45 | PCI/G |
| SC-24509-S | 06/25/1999 | RADIUM-226 | 0.82 | 0.34 | PCI/G |
| SC-24509-S | 06/25/1999 | RADIUM-228 | 0.4 | 0.8 | PCI/G |
| SC-24509-S | 06/25/1999 | THORIUM-230 | 1.22 | 0.62 | PCI/G |
| SC-24509-S | 06/25/1999 | URANIUM-238 | 1.19 | 2.38 | PCI/G |
| SC-24510-S | 06/25/1999 | RADIUM-226 | 0.47 | 0.29 | PCI/G |
| SC-24510-S | 06/25/1999 | RADIUM-228 | 1.09 | 0.35 | PCI/G |
| SC-24510-S | 06/25/1999 | THORIUM-230 | 2 | 0.64 | PCI/G |
| SC-24510-S | 06/25/1999 | URANIUM-238 | 1.245 | 2.49 | PCI/G |
| SC-24511-S | 06/25/1999 | RADIUM-226 | 0.66 | 0.32 | PCI/G |
| SC-24511-S | 06/25/1999 | RADIUM-228 | 0.49 | 0.98 | PCI/G |
| SC-24511-S | 06/25/1999 | THORIUM-230 | 1.62 | 0.64 | PCI/G |
| SC-24511-S | 06/25/1999 | URANIUM-238 | 1.235 | 2.47 | PCI/G |
| SC-24512-S | 06/25/1999 | RADIUM-226 | 0.63 | 0.28 | PCI/G |
| SC-24512-S | 06/25/1999 | RADIUM-228 | 1.07 | 0.41 | PCI/G |
| SC-24512-S | 06/25/1999 | THORIUM-230 | 1.43 | 0.65 | PCI/G |
| SC-24512-S | 06/25/1999 | URANIUM-238 | 1.195 | 2.39 | PCI/G |
| SC-24513-S | 06/25/1999 | RADIUM-226 | 0.79 | 0.34 | PCI/G |
| SC-24513-S | 06/25/1999 | RADIUM-228 | 0.46 | 0.92 | PCI/G |
| SC-24513-S | 06/25/1999 | THORIUM-230 | 1.47 | 0.62 | PCI/G |
| SC-24513-S | 06/25/1999 | URANIUM-238 | 1.35 | 2.7 | PCI/G |
| SC-24514-S | 06/25/1999 | RADIUM-226 | 0.69 | 0.27 | PCI/G |
| SC-24514-S | 06/25/1999 | RADIUM-228 | 0.69 | 0.38 | PCI/G |
| SC-24514-S | 06/25/1999 | THORIUM-230 | 1.13 | 0.64 | PCI/G |
| SC-24514-S | 06/25/1999 | URANIUM-238 | 1.265 | 2.53 | PCI/G |
| SC-24515-S | 06/25/1999 | RADIUM-226 | 0.29 | 0.58 | PCI/G |
| SC-24515-S | 06/25/1999 | RADIUM-228 | 0.445 | 0.89 | PCI/G |
| SC-24515-S | 06/25/1999 | THORIUM-230 | 1.95 | 0.64 | PCI/G |
| SC-24515-S | 06/25/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-24516-S | 06/25/1999 | RADIUM-226 | 0.67 | 0.27 | PCI/G |
| SC-24516-S | 06/25/1999 | RADIUM-228 | 0.87 | 0.38 | PCI/G |
| SC-24516-S | 06/25/1999 | THORIUM-230 | 1.36 | 0.64 | PCI/G |
| SC-24516-S | 06/25/1999 | URANIUM-238 | 1.24 | 2.48 | PCI/G |
| SC-24517-S | 06/25/1999 | RADIUM-226 | 0.305 | 0.61 | PCI/G |
| SC-24517-S | 06/25/1999 | RADIUM-228 | 0.49 | 0.98 | PCI/G |
| SC-24517-S | 06/25/1999 | THORIUM-230 | 1.91 | 0.64 | PCI/G |
| SC-24517-S | 06/25/1999 | URANIUM-238 | 1.18 | 2.36 | PCI/G |
| SC-24518-S | 06/25/1999 | RADIUM-226 | 0.87 | 0.26 | PCI/G |
| SC-24518-S | 06/25/1999 | RADIUM-228 | 0.95 | 0.37 | PCI/G |
| SC-24518-S | 06/25/1999 | THORIUM-230 | 6.53 | 0.65 | PCI/G |
| SC-24518-S | 06/25/1999 | URANIUM-238 | 1.315 | 2.63 | PCI/G |
| SC-24518-S-RS | 07/15/1999 | THORIUM-230 | 1.18 | 0.64 | PCI/G |
| SC-24519-S | 06/25/1999 | RADIUM-226 | 0.59 | 0.34 | PCI/G |

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-24519-S | 06/25/1999 | RADIUM-228 | 0 45 | 0 9 | PCI/G |
| SC-24519-S | 06/25/1999 | THORIUM-230 | 1.44 | 0 62 | PCI/G |
| SC-24519-S | 06/25/1999 | URANIUM-238 | 1.24 | 2 48 | PCI/G |
| SC-24520-S | 06/25/1999 | RADIUM-226 | 0.75 | 0.26 | PCI/G |
| SC-24520-S | 06/25/1999 | RADIUM-228 | 1 12 | 0 44 | PCI/G |
| SC-24520-S | 06/25/1999 | THORIUM-230 | 2.17 | 0.64 | PCI/G |
| SC-24520-S | 06/25/1999 | URANIUM-238 | 1 245 | 2 49 | PCI/G |
| SC-24602-S | 11/18/1999 | RADIUM-226 | 0.76 | 0.3 | PCI/G |
| SC-24602-S | 11/18/1999 | RADIUM-228 | 1.23 | 0.45 | PCI/G |
| SC-24602-S | 11/18/1999 | THORIUM-230 | 1 62 | 0 64 | PCI/G |
| SC-24602-S | 11/18/1999 | URANIUM-238 | 1 32 | 2.64 | PCI/G |
| SC-24603-S | 09/26/1999 | RADIUM-226 | 0.89 | 0.28 | PCI/G |
| SC-24603-S | 09/26/1999 | RADIUM-228 | 1.22 | 0.43 | PCI/G |
| SC-24603-S | 09/26/1999 | THORIUM-230 | 1 01 | 0.65 | PCI/G |
| SC-24603-S | 09/26/1999 | URANIUM-238 | 1 31 | 2.62 | PCI/G |
| SC-24604-S | 02/01/1999 | RADIUM-226 | 1.99 | 0.37 | PCI/G |
| SC-24604-S | 02/01/1999 | RADIUM-228 | 2 57 | 0.47 | PCI/G |
| SC-24604-S | 02/01/1999 | THORIUM-230 | 13.2 | 0.62 | PCI/G |
| SC-24604-S | 02/01/1999 | URANIUM-238 | 4 02 | 3.21 | PCI/G |
| SC-24604-S-01 | 09/26/1999 | RADIUM-226 | 0 95 | 0 33 | PCI/G |
| SC-24604-S-01 | 09/26/1999 | RADIUM-228 | 0 515 | 1 03 | PCI/G |
| SC-24604-S-01 | 09/26/1999 | THORIUM-230 | 0 9 | 0 64 | PCI/G |
| SC-24604-S-01 | 09/26/1999 | URANIUM-238 | 1 235 | 2 47 | PCI/G |
| SC-24604-S-RS | 08/04/1999 | RADIUM-226 | 4 61 | 0 51 | PCI/G |
| SC-24604-S-RS | 08/04/1999 | RADIUM-228 | 1 99 | 0.7 | PCI/G |
| SC-24604-S-RS | 08/04/1999 | THORIUM-230 | 13.4 | 0 64 | PCI/G |
| SC-24604-S-RS | 08/04/1999 | URANIUM-238 | 3 51 | 4 49 | PCI/G |
| SC-24605-S | 02/01/1999 | RADIUM-226 | 1 09 | 0.34 | PCI/G |
| SC-24605-S | 02/01/1999 | RADIUM-228 | 1 46 | 0 76 | PCI/G |
| SC-24605-S | 02/01/1999 | THORIUM-230 | 1 39 | 0 62 | PCI/G |
| SC-24605-S | 02/01/1999 | URANIUM-238 | 1.3 | 2.6 | PCI/G |
| SC-24605-S-01 | 09/26/1999 | RADIUM-226 | 0 91 | 0 31 | PCI/G |
| SC-24605-S-01 | 09/26/1999 | RADIUM-228 | 1 24 | 0 38 | PCI/G |
| SC-24605-S-01 | 09/26/1999 | THORIUM-230 | 1 28 | 0.62 | PCI/G |
| SC-24605-S-01 | 09/26/1999 | URANIUM-238 | 1 375 | 2.75 | PCI/G |
| SC-24606-S | 05/07/1999 | RADIUM-226 | 0.84 | 0.33 | PCI/G |
| SC-24606-S | 05/07/1999 | RADIUM-228 | 1.07 | 0.42 | PCI/G |
| SC-24606-S | 05/07/1999 | THORIUM-230 | 2.37 | 0 7 | PCI/G |
| SC-24606-S | 05/07/1999 | URANIUM-238 | 4.56 | 2.27 | PCI/G |
| SC-24606-S-01 | 09/26/1999 | RADIUM-226 | 1 02 | 0 37 | PCI/G |
| SC-24606-S-01 | 09/26/1999 | RADIUM-228 | 0 425 | 0 85 | PCI/G |
| SC-24606-S-01 | 09/26/1999 | THORIUM-230 | 0.83 | 0.64 | PCI/G |
| SC-24606-S-01 | 09/26/1999 | URANIUM-238 | 1 31 | 2 62 | PCI/G |
| SC-24608-S | 11/18/1999 | RADIUM-226 | 0 75 | 0 35 | PCI/G |
| SC-24608-S | 11/18/1999 | RADIUM-228 | 0 52 | 1 04 | PCI/G |
| SC-24608-S | 11/18/1999 | THORIUM-230 | 1 63 | 0.64 | PCI/G |
| SC-24608-S | 11/18/1999 | URANIUM-238 | 1.235 | 2 47 | PCI/G |
| SC-24609-S | 09/26/1999 | RADIUM-226 | 1 02 | 0 31 | PCI/G |
| SC-24609-S | 09/26/1999 | RADIUM-228 | 0 92 | 0 39 | PCI/G |
| SC-24609-S | 09/26/1999 | THORIUM-230 | 0 95 | 0 65 | PCI/G |
| SC-24609-S | 09/26/1999 | URANIUM-238 | 1 295 | 2 59 | PCI/G |
| SC-24610-S | 02/01/1999 | RADIUM-226 | 2.11 | 0 44 | PCI/G |
| SC-24610-S | 02/01/1999 | RADIUM-228 | 2.93 | 0 49 | PCI/G |
| SC-24610-S | 02/01/1999 | THORIUM-230 | 20 2 | 0 62 | PCI/G |
| SC-24610-S | 02/01/1999 | URANIUM-238 | 6 51 | 3 44 | PCI/G |
| SC-24610-S-01 | 09/26/1999 | RADIUM-226 | 1 1 | 0 32 | PCI/G |
| SC-24610-S-01 | 09/26/1999 | RADIUM-228 | 0.435 | 0 87 | PCI/G |
| SC-24610-S-01 | 09/26/1999 | THORIUM-230 | 1.32 | 0 64 | PCI/G |
| SC-24610-S-01 | 09/26/1999 | URANIUM-238 | 1 275 | 2 55 | PCI/G |
| SC-24610-S-RS | 08/04/1999 | RADIUM-226 | 2 64 | 0 45 | PCI/G |
| SC-24610-S-RS | 08/04/1999 | RADIUM-228 | 4 03 | 0.66 | PCI/G |
| SC-24610-S-RS | 08/04/1999 | THORIUM-230 | 24.9 | 0 64 | PCI/G |
| SC-24610-S-RS | 08/04/1999 | URANIUM-238 | 8.51 | 3 98 | PCI/G |
| SC-24611-S | 02/01/1999 | RADIUM-226 | 1.29 | 0 38 | PCI/G |
| SC-24611-S | 02/01/1999 | RADIUM-228 | 1 5 | 0.51 | PCI/G |
| SC-24611-S | 02/01/1999 | THORIUM-230 | 3 99 | 0 62 | PCI/G |
| SC-24611-S | 02/01/1999 | URANIUM-238 | 1 515 | 3.03 | PCI/G |
| SC-24611-S-01 | 09/26/1999 | RADIUM-226 | 0.73 | 0 3 | PCI/G |
| SC-24611-S-01 | 09/26/1999 | RADIUM-228 | 1 19 | 0 43 | PCI/G |
| SC-24611-S-01 | 09/26/1999 | THORIUM-230 | 1 23 | 0 65 | PCI/G |
| SC-24611-S-01 | 09/26/1999 | URANIUM-238 | 1 275 | 2 55 | PCI/G |
| SC-24612-S | 05/07/1999 | RADIUM-226 | 0 3 | 0 6 | PCI/G |

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-24612-S | 05/07/1999 | RADIUM-228 | 1.2 | 0.49 | PCI/G |
| SC-24612-S | 05/07/1999 | THORIUM-230 | 2.17 | 0.73 | PCI/G |
| SC-24612-S | 05/07/1999 | URANIUM-238 | 1.285 | 2.57 | PCI/G |
| SC-24612-S-01 | 09/26/1999 | RADIUM-226 | 0.82 | 0.29 | PCI/G |
| SC-24612-S-01 | 09/26/1999 | RADIUM-228 | 0.505 | 1.01 | PCI/G |
| SC-24612-S-01 | 09/26/1999 | THORIUM-230 | 3.36 | 0.64 | PCI/G |
| SC-24612-S-01 | 09/26/1999 | URANIUM-238 | 2.9 | 2.89 | PCI/G |
| SC-24614-S | 09/28/1999 | RADIUM-226 | 0.9 | 0.29 | PCI/G |
| SC-24614-S | 09/28/1999 | RADIUM-228 | 1.36 | 0.4 | PCI/G |
| SC-24614-S | 09/28/1999 | THORIUM-230 | 1.92 | 0.62 | PCI/G |
| SC-24614-S | 09/28/1999 | URANIUM-238 | 1.215 | 2.43 | PCI/G |
| SC-24615-S | 09/28/1999 | RADIUM-226 | 0.95 | 0.35 | PCI/G |
| SC-24615-S | 09/28/1999 | RADIUM-228 | 0.49 | 0.98 | PCI/G |
| SC-24615-S | 09/28/1999 | THORIUM-230 | 3.53 | 0.64 | PCI/G |
| SC-24615-S | 09/28/1999 | URANIUM-238 | 1.48 | 2.96 | PCI/G |
| SC-24616-S | 02/01/1999 | RADIUM-226 | 1.49 | 0.32 | PCI/G |
| SC-24616-S | 02/01/1999 | RADIUM-228 | 1.4 | 0.53 | PCI/G |
| SC-24616-S | 02/01/1999 | THORIUM-230 | 6.52 | 0.62 | PCI/G |
| SC-24616-S | 02/01/1999 | URANIUM-238 | 3.15 | 2.83 | PCI/G |
| SC-24616-S-01 | 09/26/1999 | RADIUM-226 | 0.93 | 0.3 | PCI/G |
| SC-24616-S-01 | 09/26/1999 | RADIUM-228 | 1.24 | 0.36 | PCI/G |
| SC-24616-S-01 | 09/26/1999 | THORIUM-230 | 1.17 | 0.62 | PCI/G |
| SC-24616-S-01 | 09/26/1999 | URANIUM-238 | 1.36 | 2.72 | PCI/G |
| SC-24616-S-RS | 08/04/1999 | RADIUM-226 | 4.44 | 0.51 | PCI/G |
| SC-24616-S-RS | 08/04/1999 | RADIUM-228 | 4.17 | 0.82 | PCI/G |
| SC-24616-S-RS | 08/04/1999 | THORIUM-230 | 26.9 | 0.64 | PCI/G |
| SC-24616-S-RS | 08/04/1999 | URANIUM-238 | 12.5 | 4.95 | PCI/G |
| SC-24617-S | 02/01/1999 | RADIUM-226 | 1.62 | 0.36 | PCI/G |
| SC-24617-S | 02/01/1999 | RADIUM-228 | 0.565 | 1.13 | PCI/G |
| SC-24617-S | 02/01/1999 | THORIUM-230 | 8.35 | 0.62 | PCI/G |
| SC-24617-S | 02/01/1999 | URANIUM-238 | 1.665 | 3.33 | PCI/G |
| SC-24617-S-01 | 09/26/1999 | RADIUM-226 | 0.99 | 0.37 | PCI/G |
| SC-24617-S-01 | 09/26/1999 | RADIUM-228 | 0.495 | 0.99 | PCI/G |
| SC-24617-S-01 | 09/26/1999 | THORIUM-230 | 0.92 | 0.64 | PCI/G |
| SC-24617-S-01 | 09/26/1999 | URANIUM-238 | 1.315 | 2.63 | PCI/G |
| SC-24617-S-HS01 | 02/10/1999 | THORIUM-230 | 11.9 | 0.62 | PCI/G |
| SC-24617-S-HS02 | 02/10/1999 | THORIUM-230 | 7.39 | 0.62 | PCI/G |
| SC-24617-S-HS03 | 02/10/1999 | THORIUM-230 | 0.92 | 0.62 | PCI/G |
| SC-24617-S-HS04 | 02/10/1999 | THORIUM-230 | 3.4 | 0.62 | PCI/G |
| SC-24617-S-RS | 07/28/1999 | THORIUM-230 | 1.23 | 0.62 | PCI/G |
| SC-24618-S | 05/07/1999 | RADIUM-226 | 0.84 | 0.35 | PCI/G |
| SC-24618-S | 05/07/1999 | RADIUM-228 | 1.07 | 0.46 | PCI/G |
| SC-24618-S | 05/07/1999 | THORIUM-230 | 1.43 | 0.62 | PCI/G |
| SC-24618-S | 05/07/1999 | URANIUM-238 | 1.295 | 2.59 | PCI/G |
| SC-24618-S-01 | 09/26/1999 | RADIUM-226 | 0.97 | 0.29 | PCI/G |
| SC-24618-S-01 | 09/26/1999 | RADIUM-228 | 1.01 | 0.42 | PCI/G |
| SC-24618-S-01 | 09/26/1999 | THORIUM-230 | 1.21 | 0.65 | PCI/G |
| SC-24618-S-01 | 09/26/1999 | URANIUM-238 | 1.27 | 2.54 | PCI/G |
| SC-24621-S | 09/28/1999 | RADIUM-226 | 0.8 | 0.29 | PCI/G |
| SC-24621-S | 09/28/1999 | RADIUM-228 | 1.25 | 0.42 | PCI/G |
| SC-24621-S | 09/28/1999 | THORIUM-230 | 1.26 | 0.65 | PCI/G |
| SC-24621-S | 09/28/1999 | URANIUM-238 | 1.285 | 2.57 | PCI/G |
| SC-24622-S | 02/01/1999 | RADIUM-226 | 2.9 | 0.48 | PCI/G |
| SC-24622-S | 02/01/1999 | RADIUM-228 | 4.59 | 0.53 | PCI/G |
| SC-24622-S | 02/01/1999 | THORIUM-230 | 32.6 | 0.62 | PCI/G |
| SC-24622-S | 02/01/1999 | URANIUM-238 | 11.8 | 4.37 | PCI/G |
| SC-24622-S-01 | 09/26/1999 | RADIUM-226 | 0.9 | 0.38 | PCI/G |
| SC-24622-S-01 | 09/26/1999 | RADIUM-228 | 0.51 | 1.02 | PCI/G |
| SC-24622-S-01 | 09/26/1999 | THORIUM-230 | 4.1 | 0.64 | PCI/G |
| SC-24622-S-01 | 09/26/1999 | URANIUM-238 | 1.38 | 2.76 | PCI/G |
| SC-24622-S-RS | 08/04/1999 | RADIUM-226 | 3.85 | 0.42 | PCI/G |
| SC-24622-S-RS | 08/04/1999 | RADIUM-228 | 3.84 | 0.6 | PCI/G |
| SC-24622-S-RS | 08/04/1999 | THORIUM-230 | 26.2 | 0.64 | PCI/G |
| SC-24622-S-RS | 08/04/1999 | URANIUM-238 | 12.3 | 4.18 | PCI/G |
| SC-24623-S | 02/01/1999 | RADIUM-226 | 1.11 | 0.28 | PCI/G |
| SC-24623-S | 02/01/1999 | RADIUM-228 | 0.51 | 1.02 | PCI/G |
| SC-24623-S | 02/01/1999 | THORIUM-230 | 2.28 | 0.62 | PCI/G |
| SC-24623-S | 02/01/1999 | URANIUM-238 | 1.4 | 2.8 | PCI/G |
| SC-24623-S-01 | 09/26/1999 | RADIUM-226 | 0.78 | 0.33 | PCI/G |
| SC-24623-S-01 | 09/26/1999 | RADIUM-228 | 1.25 | 0.46 | PCI/G |
| SC-24623-S-01 | 09/26/1999 | THORIUM-230 | 1.06 | 0.62 | PCI/G |
| SC-24623-S-01 | 09/26/1999 | URANIUM-238 | 1.35 | 2.7 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-24624-S | 05/07/1999 | RADIUM-226 | 0.9 | 0.35 | PCI/G |
| SC-24624-S | 05/07/1999 | RADIUM-228 | 0 44 | 0.88 | PCI/G |
| SC-24624-S | 05/07/1999 | THORIUM-230 | 2 27 | 0 7 | PCI/G |
| SC-24624-S | 05/07/1999 | URANIUM-238 | 1 4 | 2.8 | PCI/G |
| SC-24624-S-01 | 09/26/1999 | RADIUM-226 | 0 295 | 0 59 | PCI/G |
| SC-24624-S-01 | 09/26/1999 | RADIUM-228 | 0 49 | 0 98 | PCI/G |
| SC-24624-S-01 | 09/26/1999 | THORIUM-230 | 1 02 | 0.64 | PCI/G |
| SC-24624-S-01 | 09/26/1999 | URANIUM-238 | 1 285 | 2 57 | PCI/G |
| SC-24624-S-RS01 | 09/21/1999 | RADIUM-226 | 0.91 | 0 34 | PCI/G |
| SC-24624-S-RS01 | 09/21/1999 | RADIUM-228 | 1.21 | 0 49 | PCI/G |
| SC-24624-S-RS01 | 09/21/1999 | THORIUM-230 | 0.82 | 0.64 | PCI/G |
| SC-24624-S-RS01 | 09/21/1999 | URANIUM-238 | 1 19 | 2.38 | PCI/G |
| SC-24701-S | 06/09/1999 | RADIUM-226 | 0.27 | 0.54 | PCI/G |
| SC-24701-S | 06/09/1999 | RADIUM-228 | 1 3 | 0 32 | PCI/G |
| SC-24701-S | 06/09/1999 | THORIUM-230 | 1 06 | 0 65 | PCI/G |
| SC-24701-S | 06/09/1999 | URANIUM-238 | 1.275 | 2 55 | PCI/G |
| SC-24702-S | 06/09/1999 | RADIUM-226 | 0 93 | 0 29 | PCI/G |
| SC-24702-S | 06/09/1999 | RADIUM-228 | 1 25 | 0 46 | PCI/G |
| SC-24702-S | 06/09/1999 | THORIUM-230 | 1.03 | 0 64 | PCI/G |
| SC-24702-S | 06/09/1999 | URANIUM-238 | 1 36 | 2 72 | PCI/G |
| SC-24703-S | 06/09/1999 | RADIUM-226 | 0.31 | 0 62 | PCI/G |
| SC-24703-S | 06/09/1999 | RADIUM-228 | 1.22 | 0 42 | PCI/G |
| SC-24703-S | 06/09/1999 | THORIUM-230 | 1 1 | 0 62 | PCI/G |
| SC-24703-S | 06/09/1999 | URANIUM-238 | 1 24 | 2 48 | PCI/G |
| SC-24704-S | 06/09/1999 | RADIUM-226 | 0 77 | 0.29 | PCI/G |
| SC-24704-S | 06/09/1999 | RADIUM-228 | 1 22 | 0.35 | PCI/G |
| SC-24704-S | 06/09/1999 | THORIUM-230 | 1 25 | 0 65 | PCI/G |
| SC-24704-S | 06/09/1999 | URANIUM-238 | 1 28 | 2.56 | PCI/G |
| SC-24705-S | 06/09/1999 | RADIUM-226 | 0 55 | 0.35 | PCI/G |
| SC-24705-S | 06/09/1999 | RADIUM-228 | 1 2 | 0 49 | PCI/G |
| SC-24705-S | 06/09/1999 | THORIUM-230 | 1 12 | 0 65 | PCI/G |
| SC-24705-S | 06/09/1999 | URANIUM-238 | 1 235 | 2 47 | PCI/G |
| SC-24705-S-RS01 | 06/17/1999 | RADIUM-226 | 0 52 | 0 32 | PCI/G |
| SC-24705-S-RS01 | 06/17/1999 | RADIUM-228 | 0 51 | 1 02 | PCI/G |
| SC-24705-S-RS01 | 06/17/1999 | THORIUM-230 | 0.88 | 0 64 | PCI/G |
| SC-24705-S-RS01 | 06/17/1999 | URANIUM-238 | 1 095 | 2.19 | PCI/G |
| SC-24706-S | 06/09/1999 | RADIUM-226 | 0 64 | 0.29 | PCI/G |
| SC-24706-S | 06/09/1999 | RADIUM-228 | 1 1 | 0 3 | PCI/G |
| SC-24706-S | 06/09/1999 | THORIUM-230 | 1 48 | 0 64 | PCI/G |
| SC-24706-S | 06/09/1999 | URANIUM-238 | 1 27 | 2 54 | PCI/G |
| SC-24707-S | 06/09/1999 | RADIUM-226 | 0 81 | 0 33 | PCI/G |
| SC-24707-S | 06/09/1999 | RADIUM-228 | 0 435 | 0 87 | PCI/G |
| SC-24707-S | 06/09/1999 | THORIUM-230 | 0.95 | 0.62 | PCI/G |
| SC-24707-S | 06/09/1999 | URANIUM-238 | 1 19 | 2 38 | PCI/G |
| SC-24708-S | 06/09/1999 | RADIUM-226 | 0 75 | 0 29 | PCI/G |
| SC-24708-S | 06/09/1999 | RADIUM-228 | 1 06 | 0 47 | PCI/G |
| SC-24708-S | 06/09/1999 | THORIUM-230 | 1 1 | 0 65 | PCI/G |
| SC-24708-S | 06/09/1999 | URANIUM-238 | 1.31 | 2.62 | PCI/G |
| SC-24709-S | 06/09/1999 | RADIUM-226 | 0 57 | 0 31 | PCI/G |
| SC-24709-S | 06/09/1999 | RADIUM-228 | 1 03 | 0 61 | PCI/G |
| SC-24709-S | 06/09/1999 | THORIUM-230 | 1 1 | 0 65 | PCI/G |
| SC-24709-S | 06/09/1999 | URANIUM-238 | 1.275 | 2 55 | PCI/G |
| SC-24710-S | 06/09/1999 | RADIUM-226 | 1 29 | 0 26 | PCI/G |
| SC-24710-S | 06/09/1999 | RADIUM-228 | 1 27 | 0 43 | PCI/G |
| SC-24710-S | 06/09/1999 | THORIUM-230 | 9 12 | 0 64 | PCI/G |
| SC-24710-S | 06/09/1999 | URANIUM-238 | 1.42 | 2 84 | PCI/G |
| SC-24710-S-RS | 06/17/1999 | THORIUM-230 | 0 98 | 0 64 | PCI/G |
| SC-24711-S | 06/09/1999 | RADIUM-226 | 0.77 | 0.31 | PCI/G |
| SC-24711-S | 06/09/1999 | RADIUM-228 | 0 475 | 0 95 | PCI/G |
| SC-24711-S | 06/09/1999 | THORIUM-230 | 1 88 | 0.62 | PCI/G |
| SC-24711-S | 06/09/1999 | URANIUM-238 | 1 24 | 2.48 | PCI/G |
| SC-24712-S | 06/09/1999 | RADIUM-226 | 0 89 | 0.26 | PCI/G |
| SC-24712-S | 06/09/1999 | RADIUM-228 | 1 09 | 0.43 | PCI/G |
| SC-24712-S | 06/09/1999 | THORIUM-230 | 0.94 | 0 65 | PCI/G |
| SC-24712-S | 06/09/1999 | URANIUM-238 | 1.32 | 2.64 | PCI/G |
| SC-24713-S | 06/09/1999 | RADIUM-226 | 0 81 | 0.33 | PCI/G |
| SC-24713-S | 06/09/1999 | RADIUM-228 | 0 425 | 0 85 | PCI/G |
| SC-24713-S | 06/09/1999 | THORIUM-230 | 1 07 | 0 62 | PCI/G |
| SC-24713-S | 06/09/1999 | URANIUM-238 | 1 17 | 2 34 | PCI/G |
| SC-24714-S | 06/09/1999 | RADIUM-226 | 0 88 | 0 28 | PCI/G |
| SC-24714-S | 06/09/1999 | RADIUM-228 | 1 03 | 0 39 | PCI/G |
| SC-24714-S | 06/09/1999 | THORIUM-230 | 1 72 | 0 65 | PCI/G |

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-24714-S | 06/09/1999 | URANIUM-238 | 1.27 | 2.54 | PCI/G |
| SC-24715-S | 06/09/1999 | RADIUM-226 | 0.325 | 0.65 | PCI/G |
| SC-24715-S | 06/09/1999 | RADIUM-228 | 0.455 | 0.91 | PCI/G |
| SC-24715-S | 06/09/1999 | THORIUM-230 | 0.97 | 0.65 | PCI/G |
| SC-24715-S | 06/09/1999 | URANIUM-238 | 1.19 | 2.38 | PCI/G |
| SC-24715-S-RS01 | 06/17/1999 | RADIUM-226 | 0.75 | 0.27 | PCI/G |
| SC-24715-S-RS01 | 06/17/1999 | RADIUM-228 | 1.21 | 0.42 | PCI/G |
| SC-24715-S-RS01 | 06/17/1999 | THORIUM-230 | 1.45 | 0.62 | PCI/G |
| SC-24715-S-RS01 | 06/17/1999 | URANIUM-238 | 1.19 | 2.38 | PCI/G |
| SC-24716-S | 04/14/1999 | RADIUM-226 | 1.69 | 0.795 | PCI/G |
| SC-24716-S | 04/14/1999 | RADIUM-228 | 1.39 | 1.12 | PCI/G |
| SC-24716-S | 04/14/1999 | THORIUM-230 | 5.36 | 0.09 | PCI/G |
| SC-24716-S | 04/14/1999 | THORIUM-232 | 0.85 | 0.082 | PCI/G |
| SC-24716-S | 04/14/1999 | URANIUM-238 | 0.214 | 4.81 | PCI/G |
| SC-24716-S-01 | 07/15/1999 | RADIUM-226 | 1.24 | 0.37 | PCI/G |
| SC-24716-S-01 | 07/15/1999 | RADIUM-228 | 1.49 | 0.51 | PCI/G |
| SC-24716-S-01 | 07/15/1999 | THORIUM-230 | 1.37 | 0.62 | PCI/G |
| SC-24716-S-01 | 07/15/1999 | URANIUM-238 | 1.325 | 2.65 | PCI/G |
| SC-24716-S-RS01 | 06/17/1999 | RADIUM-226 | 1.26 | 0.42 | PCI/G |
| SC-24716-S-RS01 | 06/17/1999 | RADIUM-228 | 0.5 | 1 | PCI/G |
| SC-24716-S-RS01 | 06/17/1999 | THORIUM-230 | 18.4 | 0.65 | PCI/G |
| SC-24716-S-RS01 | 06/17/1999 | URANIUM-238 | 1.525 | 3.05 | PCI/G |
| SC-24716-S-RS01-RS | 06/24/1999 | THORIUM-230 | 1.14 | 0.62 | PCI/G |
| SC-24717-S | 06/09/1999 | RADIUM-226 | 0.52 | 0.32 | PCI/G |
| SC-24717-S | 06/09/1999 | RADIUM-228 | 0.92 | 0.42 | PCI/G |
| SC-24717-S | 06/09/1999 | THORIUM-230 | 0.99 | 0.64 | PCI/G |
| SC-24717-S | 06/09/1999 | URANIUM-238 | 1.3 | 2.6 | PCI/G |
| SC-24718-S | 06/09/1999 | RADIUM-226 | 0.75 | 0.33 | PCI/G |
| SC-24718-S | 06/09/1999 | RADIUM-228 | 1.35 | 0.47 | PCI/G |
| SC-24718-S | 06/09/1999 | THORIUM-230 | 1 | 0.62 | PCI/G |
| SC-24718-S | 06/09/1999 | URANIUM-238 | 1.275 | 2.55 | PCI/G |
| SC-24719-S | 06/09/1999 | RADIUM-226 | 0.88 | 0.26 | PCI/G |
| SC-24719-S | 06/09/1999 | RADIUM-228 | 1.45 | 0.42 | PCI/G |
| SC-24719-S | 06/09/1999 | THORIUM-230 | 0.96 | 0.65 | PCI/G |
| SC-24719-S | 06/09/1999 | URANIUM-238 | 1.31 | 2.62 | PCI/G |
| SC-24720-S | 06/09/1999 | RADIUM-226 | 0.8 | 0.34 | PCI/G |
| SC-24720-S | 06/09/1999 | RADIUM-228 | 0.415 | 0.83 | PCI/G |
| SC-24720-S | 06/09/1999 | THORIUM-230 | 1.46 | 0.65 | PCI/G |
| SC-24720-S | 06/09/1999 | URANIUM-238 | 1.275 | 2.55 | PCI/G |
| SC-24721-S | 06/09/1999 | RADIUM-226 | 0.74 | 0.28 | PCI/G |
| SC-24721-S | 06/09/1999 | RADIUM-228 | 1.17 | 0.5 | PCI/G |
| SC-24721-S | 06/09/1999 | THORIUM-230 | 1.07 | 0.64 | PCI/G |
| SC-24721-S | 06/09/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-24722-S | 04/14/1999 | RADIUM-226 | 1.11 | 0.475 | PCI/G |
| SC-24722-S | 04/14/1999 | RADIUM-228 | 1.48 | 0.911 | PCI/G |
| SC-24722-S | 04/14/1999 | THORIUM-230 | 0.808 | 0.076 | PCI/G |
| SC-24722-S | 04/14/1999 | THORIUM-232 | 0.47 | 0.076 | PCI/G |
| SC-24722-S | 04/14/1999 | URANIUM-238 | 1.91 | 3.23 | PCI/G |
| SC-24801-S | 06/09/1999 | RADIUM-226 | 0.67 | 0.36 | PCI/G |
| SC-24801-S | 06/09/1999 | RADIUM-228 | 0.495 | 0.99 | PCI/G |
| SC-24801-S | 06/09/1999 | THORIUM-230 | 1.03 | 0.62 | PCI/G |
| SC-24801-S | 06/09/1999 | URANIUM-238 | 1.19 | 2.38 | PCI/G |
| SC-24802-S | 06/09/1999 | RADIUM-226 | 0.78 | 0.28 | PCI/G |
| SC-24802-S | 06/09/1999 | RADIUM-228 | 0.87 | 0.47 | PCI/G |
| SC-24802-S | 06/09/1999 | THORIUM-230 | 1.22 | 0.65 | PCI/G |
| SC-24802-S | 06/09/1999 | URANIUM-238 | 1.27 | 2.54 | PCI/G |
| SC-24803-S | 06/09/1999 | RADIUM-226 | 0.84 | 0.32 | PCI/G |
| SC-24803-S | 06/09/1999 | RADIUM-228 | 1.01 | 0.5 | PCI/G |
| SC-24803-S | 06/09/1999 | THORIUM-230 | 1.19 | 0.65 | PCI/G |
| SC-24803-S | 06/09/1999 | URANIUM-238 | 1.055 | 2.11 | PCI/G |
| SC-24804-S | 06/09/1999 | RADIUM-226 | 0.88 | 0.29 | PCI/G |
| SC-24804-S | 06/09/1999 | RADIUM-228 | 1.16 | 0.48 | PCI/G |
| SC-24804-S | 06/09/1999 | THORIUM-230 | 1.07 | 0.64 | PCI/G |
| SC-24804-S | 06/09/1999 | URANIUM-238 | 1.325 | 2.65 | PCI/G |
| SC-24805-S | 06/09/1999 | RADIUM-226 | 0.31 | 0.62 | PCI/G |
| SC-24805-S | 06/09/1999 | RADIUM-228 | 0.42 | 0.84 | PCI/G |
| SC-24805-S | 06/09/1999 | THORIUM-230 | 1.05 | 0.62 | PCI/G |
| SC-24805-S | 06/09/1999 | URANIUM-238 | 1.165 | 2.33 | PCI/G |
| SC-24806-S | 04/14/1999 | RADIUM-226 | 1.15 | 1.01 | PCI/G |
| SC-24806-S | 04/14/1999 | RADIUM-228 | 1 | 2 | PCI/G |
| SC-24806-S | 04/14/1999 | THORIUM-230 | 1.7 | 0.091 | PCI/G |
| SC-24806-S | 04/14/1999 | THORIUM-232 | 0.602 | 0.091 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-24806-S | 04/14/1999 | URANIUM-238 | 0.88 | 3.05 | PCI/G |
| SC-24807-S | 06/09/1999 | RADIUM-226 | 0.83 | 0.3 | PCI/G |
| SC-24807-S | 06/09/1999 | RADIUM-228 | 1.19 | 0 4 | PCI/G |
| SC-24807-S | 06/09/1999 | THORIUM-230 | 1.02 | 0.65 | PCI/G |
| SC-24807-S | 06/09/1999 | URANIUM-238 | 1.27 | 2.54 | PCI/G |
| SC-24808-S | 06/09/1999 | RADIUM-226 | 0 86 | 0.33 | PCI/G |
| SC-24808-S | 06/09/1999 | RADIUM-228 | 1 35 | 0.43 | PCI/G |
| SC-24808-S | 06/09/1999 | THORIUM-230 | 1 1 | 0.65 | PCI/G |
| SC-24808-S | 06/09/1999 | URANIUM-238 | 1.265 | 2 53 | PCI/G |
| SC-24809-S | 06/09/1999 | RADIUM-226 | 0.84 | 0.23 | PCI/G |
| SC-24809-S | 06/09/1999 | RADIUM-228 | 1 16 | 0.51 | PCI/G |
| SC-24809-S | 06/09/1999 | THORIUM-230 | 0.92 | 0.65 | PCI/G |
| SC-24809-S | 06/09/1999 | URANIUM-238 | 1.215 | 2.43 | PCI/G |
| SC-24810-S | 06/09/1999 | RADIUM-226 | 0.97 | 0.28 | PCI/G |
| SC-24810-S | 06/09/1999 | RADIUM-228 | 0.465 | 0.93 | PCI/G |
| SC-24810-S | 06/09/1999 | THORIUM-230 | 1.27 | 0.64 | PCI/G |
| SC-24810-S | 06/09/1999 | URANIUM-238 | 1.26 | 2.52 | PCI/G |
| SC-24811-S | 06/09/1999 | RADIUM-226 | 0.68 | 0.27 | PCI/G |
| SC-24811-S | 06/09/1999 | RADIUM-228 | 1.22 | 0.4 | PCI/G |
| SC-24811-S | 06/09/1999 | THORIUM-230 | 0.93 | 0.64 | PCI/G |
| SC-24811-S | 06/09/1999 | URANIUM-238 | 1.225 | 2 45 | PCI/G |
| SC-24812-S | 04/14/1999 | RADIUM-226 | 1.06 | 0.496 | PCI/G |
| SC-24812-S | 04/14/1999 | RADIUM-228 | 1.65 | 0 922 | PCI/G |
| SC-24812-S | 04/14/1999 | THORIUM-230 | 0 944 | 0.058 | PCI/G |
| SC-24812-S | 04/14/1999 | THORIUM-232 | 0 468 | 0.058 | PCI/G |
| SC-24812-S | 04/14/1999 | URANIUM-238 | 2.44 | 4.08 | PCI/G |
| SC-24813-S | 06/04/1999 | RADIUM-226 | 0 82 | 0 35 | PCI/G |
| SC-24813-S | 06/04/1999 | RADIUM-228 | 0 45 | 0 9 | PCI/G |
| SC-24813-S | 06/04/1999 | THORIUM-230 | 1 01 | 0.65 | PCI/G |
| SC-24813-S | 06/04/1999 | URANIUM-238 | 1 455 | 2.91 | PCI/G |
| SC-24814-S | 06/04/1999 | RADIUM-226 | 0 97 | 0 31 | PCI/G |
| SC-24814-S | 06/04/1999 | RADIUM-228 | 1 41 | 0 34 | PCI/G |
| SC-24814-S | 06/04/1999 | THORIUM-230 | 1.05 | 0 64 | PCI/G |
| SC-24814-S | 06/04/1999 | URANIUM-238 | 1.31 | 2 62 | PCI/G |
| SC-24815-S | 06/04/1999 | RADIUM-226 | 0 77 | 0 32 | PCI/G |
| SC-24815-S | 06/04/1999 | RADIUM-228 | 0.495 | 0 99 | PCI/G |
| SC-24815-S | 06/04/1999 | THORIUM-230 | 1 06 | 0.62 | PCI/G |
| SC-24815-S | 06/04/1999 | URANIUM-238 | 1.16 | 2.32 | PCI/G |
| SC-24816-S | 06/04/1999 | RADIUM-226 | 0.69 | 0.31 | PCI/G |
| SC-24816-S | 06/04/1999 | RADIUM-228 | 0.92 | 0 39 | PCI/G |
| SC-24816-S | 06/04/1999 | THORIUM-230 | 2 23 | 0 65 | PCI/G |
| SC-24816-S | 06/04/1999 | URANIUM-238 | 1.325 | 2 65 | PCI/G |
| SC-24816-S-RS01 | 06/17/1999 | RADIUM-226 | 0 85 | 0 28 | PCI/G |
| SC-24816-S-RS01 | 06/17/1999 | RADIUM-228 | 0 99 | 0 43 | PCI/G |
| SC-24816-S-RS01 | 06/17/1999 | THORIUM-230 | 0 89 | 0 64 | PCI/G |
| SC-24816-S-RS01 | 06/17/1999 | URANIUM-238 | 1 2 | 2.4 | PCI/G |
| SC-24816-S-RS02 | 06/17/1999 | RADIUM-226 | 0 79 | 0 3 | PCI/G |
| SC-24816-S-RS02 | 06/17/1999 | RADIUM-228 | 0 44 | 0 88 | PCI/G |
| SC-24816-S-RS02 | 06/17/1999 | THORIUM-230 | 1 11 | 0 64 | PCI/G |
| SC-24816-S-RS02 | 06/17/1999 | URANIUM-238 | 1 265 | 2 53 | PCI/G |
| SC-24817-S | 06/04/1999 | RADIUM-226 | 0 98 | 0 31 | PCI/G |
| SC-24817-S | 06/04/1999 | RADIUM-228 | 1 31 | 0 46 | PCI/G |
| SC-24817-S | 06/04/1999 | THORIUM-230 | 1 33 | 0 65 | PCI/G |
| SC-24817-S | 06/04/1999 | URANIUM-238 | 1.25 | 2 5 | PCI/G |
| SC-24817-S-RS01 | 06/17/1999 | RADIUM-226 | 0.53 | 0 28 | PCI/G |
| SC-24817-S-RS01 | 06/17/1999 | RADIUM-228 | 1.25 | 0.4 | PCI/G |
| SC-24817-S-RS01 | 06/17/1999 | THORIUM-230 | 0 95 | 0.62 | PCI/G |
| SC-24817-S-RS01 | 06/17/1999 | URANIUM-238 | 1.285 | 2.57 | PCI/G |
| SC-24818-S | 04/14/1999 | RADIUM-226 | 1.37 | 0.79 | PCI/G |
| SC-24818-S | 04/14/1999 | RADIUM-228 | 1.18 | 0.932 | PCI/G |
| SC-24818-S | 04/14/1999 | THORIUM-230 | 2.51 | 0.174 | PCI/G |
| SC-24818-S | 04/14/1999 | THORIUM-232 | 0.367 | 0.158 | PCI/G |
| SC-24818-S | 04/14/1999 | URANIUM-238 | 0 796 | 3.52 | PCI/G |
| SC-24818-S-RS01 | 06/17/1999 | RADIUM-226 | 0.83 | 0.29 | PCI/G |
| SC-24818-S-RS01 | 06/17/1999 | RADIUM-228 | 0.435 | 0 87 | PCI/G |
| SC-24818-S-RS01 | 06/17/1999 | THORIUM-230 | 0.85 | 0.65 | PCI/G |
| SC-24818-S-RS01 | 06/17/1999 | URANIUM-238 | 1.215 | 2 43 | PCI/G |
| SC-24818-S-RS02 | 06/17/1999 | RADIUM-226 | 3.85 | 0 44 | PCI/G |
| SC-24818-S-RS02 | 06/17/1999 | RADIUM-228 | 0.535 | 1 07 | PCI/G |
| SC-24818-S-RS02 | 06/17/1999 | THORIUM-230 | 47.2 | 0 64 | PCI/G |
| SC-24818-S-RS02 | 06/17/1999 | URANIUM-238 | 1.665 | 3.33 | PCI/G |
| SC-24818-S-RS02-RS | 06/24/1999 | THORIUM-230 | 1 07 | 0.64 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-24901-S | 06/16/1999 | RADIUM-226 | 0.95 | 0.38 | PCI/G |
| SC-24901-S | 06/16/1999 | RADIUM-228 | 0.53 | 1.06 | PCI/G |
| SC-24901-S | 06/16/1999 | THORIUM-230 | 33.1 | 0.65 | PCI/G |
| SC-24901-S | 06/16/1999 | URANIUM-238 | 1.44 | 2.88 | PCI/G |
| SC-24901-S-RS | 06/23/1999 | THORIUM-230 | 1.06 | 0.62 | PCI/G |
| SC-24902-S | 06/16/1999 | RADIUM-226 | 0.75 | 0.27 | PCI/G |
| SC-24902-S | 06/16/1999 | RADIUM-228 | 1.31 | 0.36 | PCI/G |
| SC-24902-S | 06/16/1999 | THORIUM-230 | 1.18 | 0.64 | PCI/G |
| SC-24902-S | 06/16/1999 | URANIUM-238 | 1.275 | 2.55 | PCI/G |
| SC-24903-S | 06/09/1999 | RADIUM-226 | 0.285 | 0.57 | PCI/G |
| SC-24903-S | 06/09/1999 | RADIUM-228 | 0.475 | 0.95 | PCI/G |
| SC-24903-S | 06/09/1999 | THORIUM-230 | 0.7 | 0.65 | PCI/G |
| SC-24903-S | 06/09/1999 | URANIUM-238 | 1.425 | 2.85 | PCI/G |
| SC-24904-S | 06/09/1999 | RADIUM-226 | 4.24 | 0.51 | PCI/G |
| SC-24904-S | 06/09/1999 | RADIUM-228 | 0.57 | 1.14 | PCI/G |
| SC-24904-S | 06/09/1999 | THORIUM-230 | 86.2 | 0.64 | PCI/G |
| SC-24904-S | 06/09/1999 | URANIUM-238 | 1.89 | 3.78 | PCI/G |
| SC-24904-S-RS | 06/23/1999 | RADIUM-226 | 0.295 | 0.59 | PCI/G |
| SC-24904-S-RS | 06/23/1999 | RADIUM-228 | 0.52 | 1.04 | PCI/G |
| SC-24904-S-RS | 06/23/1999 | THORIUM-230 | 1.4 | 0.64 | PCI/G |
| SC-24905-S | 06/09/1999 | RADIUM-226 | 1.17 | 0.36 | PCI/G |
| SC-24905-S | 06/09/1999 | RADIUM-228 | 0.52 | 1.04 | PCI/G |
| SC-24905-S | 06/09/1999 | THORIUM-230 | 21.4 | 0.62 | PCI/G |
| SC-24905-S | 06/09/1999 | URANIUM-238 | 1.51 | 3.02 | PCI/G |
| SC-24905-S-RS | 06/23/1999 | THORIUM-230 | 1.08 | 0.64 | PCI/G |
| SC-24906-S | 06/16/1999 | RADIUM-226 | 0.75 | 0.31 | PCI/G |
| SC-24906-S | 06/16/1999 | RADIUM-228 | 0.4 | 0.8 | PCI/G |
| SC-24906-S | 06/16/1999 | THORIUM-230 | 2.53 | 0.64 | PCI/G |
| SC-24906-S | 06/16/1999 | URANIUM-238 | 1.225 | 2.45 | PCI/G |
| SC-24907-S | 06/18/1999 | RADIUM-226 | 0.73 | 0.26 | PCI/G |
| SC-24907-S | 06/18/1999 | RADIUM-228 | 1.13 | 0.39 | PCI/G |
| SC-24907-S | 06/18/1999 | THORIUM-230 | 2.55 | 0.64 | PCI/G |
| SC-24907-S | 06/18/1999 | URANIUM-238 | 1.26 | 2.52 | PCI/G |
| SC-24908-S | 06/09/1999 | RADIUM-226 | 0.7 | 0.28 | PCI/G |
| SC-24908-S | 06/09/1999 | RADIUM-228 | 1.06 | 0.38 | PCI/G |
| SC-24908-S | 06/09/1999 | THORIUM-230 | 1.88 | 0.64 | PCI/G |
| SC-24908-S | 06/09/1999 | URANIUM-238 | 1.335 | 2.67 | PCI/G |
| SC-24909-S | 06/09/1999 | RADIUM-226 | 3.04 | 0.38 | PCI/G |
| SC-24909-S | 06/09/1999 | RADIUM-228 | 1.37 | 0.51 | PCI/G |
| SC-24909-S | 06/09/1999 | THORIUM-230 | 45.1 | 0.62 | PCI/G |
| SC-24909-S | 06/09/1999 | URANIUM-238 | 1.795 | 3.59 | PCI/G |
| SC-24909-S-RS | 06/23/1999 | THORIUM-230 | 1.26 | 0.65 | PCI/G |
| SC-24910-S | 06/09/1999 | RADIUM-226 | 0.68 | 0.27 | PCI/G |
| SC-24910-S | 06/09/1999 | RADIUM-228 | 1.1 | 0.46 | PCI/G |
| SC-24910-S | 06/09/1999 | THORIUM-230 | 1.36 | 0.65 | PCI/G |
| SC-24910-S | 06/09/1999 | URANIUM-238 | 1.28 | 2.56 | PCI/G |
| SC-24911-S | 06/16/1999 | RADIUM-226 | 0.83 | 0.27 | PCI/G |
| SC-24911-S | 06/16/1999 | RADIUM-228 | 1.12 | 0.46 | PCI/G |
| SC-24911-S | 06/16/1999 | THORIUM-230 | 2.47 | 0.62 | PCI/G |
| SC-24911-S | 06/16/1999 | URANIUM-238 | 1.265 | 2.53 | PCI/G |
| SC-24912-S | 06/16/1999 | RADIUM-226 | 0.31 | 0.62 | PCI/G |
| SC-24912-S | 06/16/1999 | RADIUM-228 | 0.49 | 0.98 | PCI/G |
| SC-24912-S | 06/16/1999 | THORIUM-230 | 1.26 | 0.65 | PCI/G |
| SC-24912-S | 06/16/1999 | URANIUM-238 | 1.315 | 2.63 | PCI/G |
| SC-24913-S | 06/09/1999 | RADIUM-226 | 0.73 | 0.31 | PCI/G |
| SC-24913-S | 06/09/1999 | RADIUM-228 | 1.14 | 0.53 | PCI/G |
| SC-24913-S | 06/09/1999 | THORIUM-230 | 1.09 | 0.65 | PCI/G |
| SC-24913-S | 06/09/1999 | URANIUM-238 | 1.24 | 2.48 | PCI/G |
| SC-24914-S | 06/09/1999 | RADIUM-226 | 0.71 | 0.3 | PCI/G |
| SC-24914-S | 06/09/1999 | RADIUM-228 | 0.98 | 0.42 | PCI/G |
| SC-24914-S | 06/09/1999 | THORIUM-230 | 1.5 | 0.64 | PCI/G |
| SC-24914-S | 06/09/1999 | URANIUM-238 | 1.295 | 2.59 | PCI/G |
| SC-24915-S | 06/09/1999 | RADIUM-226 | 0.93 | 0.3 | PCI/G |
| SC-24915-S | 06/09/1999 | RADIUM-228 | 1.1 | 0.48 | PCI/G |
| SC-24915-S | 06/09/1999 | THORIUM-230 | 2.24 | 0.62 | PCI/G |
| SC-24915-S | 06/09/1999 | URANIUM-238 | 1.34 | 2.68 | PCI/G |
| SC-24916-S | 06/16/1999 | RADIUM-226 | 0.74 | 0.28 | PCI/G |
| SC-24916-S | 06/16/1999 | RADIUM-228 | 0.96 | 0.4 | PCI/G |
| SC-24916-S | 06/16/1999 | THORIUM-230 | 2.02 | 0.64 | PCI/G |
| SC-24916-S | 06/16/1999 | URANIUM-238 | 1.295 | 2.59 | PCI/G |
| SC-24917-S | 06/16/1999 | RADIUM-226 | 0.91 | 0.33 | PCI/G |
| SC-24917-S | 06/16/1999 | RADIUM-228 | 0.455 | 0.91 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-24917-S | 06/16/1999 | THORIUM-230 | 8 03 | 0.64 | PCI/G |
| SC-24917-S | 06/16/1999 | URANIUM-238 | 1.265 | 2 53 | PCI/G |
| SC-24917-S-RS | 06/23/1999 | THORIUM-230 | 0.93 | 0 62 | PCI/G |
| SC-24918-S | 06/09/1999 | RADIUM-226 | 1.02 | 0.3 | PCI/G |
| SC-24918-S | 06/09/1999 | RADIUM-228 | 1 41 | 0 44 | PCI/G |
| SC-24918-S | 06/09/1999 | THORIUM-230 | 0.95 | 0 65 | PCI/G |
| SC-24918-S | 06/09/1999 | URANIUM-238 | 1.36 | 2.72 | PCI/G |
| SC-24919-S | 06/09/1999 | RADIUM-226 | 3.34 | 0.34 | PCI/G |
| SC-24919-S | 06/09/1999 | RADIUM-228 | 1.6 | 0.49 | PCI/G |
| SC-24919-S | 06/09/1999 | THORIUM-230 | 42.9 | 0.65 | PCI/G |
| SC-24919-S | 06/09/1999 | URANIUM-238 | 1.77 | 3.54 | PCI/G |
| SC-24919-S-RS | 06/23/1999 | THORIUM-230 | 1.06 | 0.64 | PCI/G |
| SC-24920-S | 06/09/1999 | RADIUM-226 | 0.98 | 0.28 | PCI/G |
| SC-24920-S | 06/09/1999 | RADIUM-228 | 1.18 | 0.41 | PCI/G |
| SC-24920-S | 06/09/1999 | THORIUM-230 | 2.81 | 0.64 | PCI/G |
| SC-24920-S | 06/09/1999 | URANIUM-238 | 1.365 | 2.73 | PCI/G |
| SC-25001-S | 06/23/1999 | RADIUM-226 | 0.78 | 0.28 | PCI/G |
| SC-25001-S | 06/23/1999 | RADIUM-228 | 1.08 | 0 43 | PCI/G |
| SC-25001-S | 06/23/1999 | THORIUM-230 | 3 7 | 0.64 | PCI/G |
| SC-25001-S | 06/23/1999 | URANIUM-238 | 1.265 | 2.53 | PCI/G |
| SC-25002-S | 06/16/1999 | RADIUM-226 | 0.77 | 0.28 | PCI/G |
| SC-25002-S | 06/16/1999 | RADIUM-228 | 1.06 | 0.35 | PCI/G |
| SC-25002-S | 06/16/1999 | THORIUM-230 | 1 6 | 0.62 | PCI/G |
| SC-25002-S | 06/16/1999 | URANIUM-238 | 1.305 | 2.61 | PCI/G |
| SC-25003-S | 06/09/1999 | RADIUM-226 | 0 85 | 0.29 | PCI/G |
| SC-25003-S | 06/09/1999 | RADIUM-228 | 0.45 | 0 9 | PCI/G |
| SC-25003-S | 06/09/1999 | THORIUM-230 | 1.15 | 0.62 | PCI/G |
| SC-25003-S | 06/09/1999 | URANIUM-238 | 1.205 | 2 41 | PCI/G |
| SC-25004-S | 06/09/1999 | RADIUM-226 | 0 77 | 0.31 | PCI/G |
| SC-25004-S | 06/09/1999 | RADIUM-228 | 1 32 | 0 4 | PCI/G |
| SC-25004-S | 06/09/1999 | THORIUM-230 | 0 86 | 0.65 | PCI/G |
| SC-25004-S | 06/09/1999 | URANIUM-238 | 1 27 | 2.54 | PCI/G |
| SC-25005-S | 06/09/1999 | RADIUM-226 | 0.93 | 0 33 | PCI/G |
| SC-25005-S | 06/09/1999 | RADIUM-228 | 0.98 | 0 53 | PCI/G |
| SC-25005-S | 06/09/1999 | THORIUM-230 | 2 6 | 0 65 | PCI/G |
| SC-25005-S | 06/09/1999 | URANIUM-238 | 1.33 | 2 66 | PCI/G |
| SC-25006-S | 06/16/1999 | RADIUM-226 | 0.73 | 0 2 | PCI/G |
| SC-25006-S | 06/16/1999 | RADIUM-228 | 1.15 | 0 27 | PCI/G |
| SC-25006-S | 06/16/1999 | THORIUM-230 | 0.86 | 0 64 | PCI/G |
| SC-25006-S | 06/16/1999 | URANIUM-238 | 0 855 | 1 71 | PCI/G |
| SC-25007-S | 06/16/1999 | RADIUM-226 | 0.64 | 0 29 | PCI/G |
| SC-25007-S | 06/16/1999 | RADIUM-228 | 1 34 | 0 37 | PCI/G |
| SC-25007-S | 06/16/1999 | THORIUM-230 | 1 1 | 0.62 | PCI/G |
| SC-25007-S | 06/16/1999 | URANIUM-238 | 1.325 | 2 65 | PCI/G |
| SC-25008-S | 06/09/1999 | RADIUM-226 | 1 15 | 0.29 | PCI/G |
| SC-25008-S | 06/09/1999 | RADIUM-228 | 1 15 | 0 41 | PCI/G |
| SC-25008-S | 06/09/1999 | THORIUM-230 | 6 15 | 0 65 | PCI/G |
| SC-25008-S | 06/09/1999 | URANIUM-238 | 1.435 | 2 87 | PCI/G |
| SC-25009-S | 06/09/1999 | RADIUM-226 | 0.75 | 0 32 | PCI/G |
| SC-25009-S | 06/09/1999 | RADIUM-228 | 0.52 | 1 04 | PCI/G |
| SC-25009-S | 06/09/1999 | THORIUM-230 | 1.06 | 0 65 | PCI/G |
| SC-25009-S | 06/09/1999 | URANIUM-238 | 1.395 | 2 79 | PCI/G |
| SC-25010-S | 06/09/1999 | RADIUM-226 | 0.8 | 0.29 | PCI/G |
| SC-25010-S | 06/09/1999 | RADIUM-228 | 0.96 | 0.4 | PCI/G |
| SC-25010-S | 06/09/1999 | THORIUM-230 | 1 | 0.64 | PCI/G |
| SC-25010-S | 06/09/1999 | URANIUM-238 | 1 335 | 2.67 | PCI/G |
| SC-25011-S | 06/16/1999 | RADIUM-226 | 5.81 | 0.43 | PCI/G |
| SC-25011-S | 06/16/1999 | RADIUM-228 | 1.74 | 0.62 | PCI/G |
| SC-25011-S | 06/16/1999 | THORIUM-230 | 107 | 0 65 | PCI/G |
| SC-25011-S | 06/16/1999 | URANIUM-238 | 2.14 | 4 28 | PCI/G |
| SC-25011-S-RS | 06/23/1999 | RADIUM-226 | 0.73 | 0 32 | PCI/G |
| SC-25011-S-RS | 06/23/1999 | RADIUM-228 | 0.81 | 0 58 | PCI/G |
| SC-25011-S-RS | 06/23/1999 | THORIUM-230 | 1.07 | 0.65 | PCI/G |
| SC-25012-S | 06/04/1999 | RADIUM-226 | 0.74 | 0 32 | PCI/G |
| SC-25012-S | 06/04/1999 | RADIUM-228 | 1.27 | 0.48 | PCI/G |
| SC-25012-S | 06/04/1999 | THORIUM-230 | 1.13 | 0.64 | PCI/G |
| SC-25012-S | 06/04/1999 | URANIUM-238 | 1.255 | 2.51 | PCI/G |
| SC-25013-S | 06/04/1999 | RADIUM-226 | 0.33 | 0 66 | PCI/G |
| SC-25013-S | 06/04/1999 | RADIUM-228 | 0.45 | 0.9 | PCI/G |
| SC-25013-S | 06/04/1999 | THORIUM-230 | 0.75 | 0 62 | PCI/G |
| SC-25013-S | 06/04/1999 | URANIUM-238 | 1 285 | 2 57 | PCI/G |
| SC-25014-S | 06/04/1999 | RADIUM-226 | 0.71 | 0 29 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-25014-S | 06/04/1999 | RADIUM-228 | 1.21 | 0.4 | PCI/G |
| SC-25014-S | 06/04/1999 | THORIUM-230 | 1.02 | 0.65 | PCI/G |
| SC-25014-S | 06/04/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-25015-S | 06/04/1999 | RADIUM-226 | 0.72 | 0.32 | PCI/G |
| SC-25015-S | 06/04/1999 | RADIUM-228 | 0.48 | 0.96 | PCI/G |
| SC-25015-S | 06/04/1999 | THORIUM-230 | 0.94 | 0.65 | PCI/G |
| SC-25015-S | 06/04/1999 | URANIUM-238 | 1.38 | 2.76 | PCI/G |
| SC-25016-S | 06/08/1999 | RADIUM-226 | 0.92 | 0.32 | PCI/G |
| SC-25016-S | 06/08/1999 | RADIUM-228 | 0.48 | 0.96 | PCI/G |
| SC-25016-S | 06/08/1999 | THORIUM-230 | 1.53 | 0.65 | PCI/G |
| SC-25016-S | 06/08/1999 | URANIUM-238 | 1.395 | 2.79 | PCI/G |
| SC-25017-S | 06/04/1999 | RADIUM-226 | 1.06 | 0.31 | PCI/G |
| SC-25017-S | 06/04/1999 | RADIUM-228 | 1.04 | 0.49 | PCI/G |
| SC-25017-S | 06/04/1999 | THORIUM-230 | 1.37 | 0.64 | PCI/G |
| SC-25017-S | 06/04/1999 | URANIUM-238 | 1.36 | 2.72 | PCI/G |
| SC-25021-S | 06/08/1999 | RADIUM-226 | 0.71 | 0.35 | PCI/G |
| SC-25021-S | 06/08/1999 | RADIUM-228 | 1.01 | 0.4 | PCI/G |
| SC-25021-S | 06/08/1999 | THORIUM-230 | 4.84 | 0.64 | PCI/G |
| SC-25021-S | 06/08/1999 | URANIUM-238 | 1.43 | 2.86 | PCI/G |
| SC-25023-S | 10/26/1999 | RADIUM-226 | 0.92 | 0.25 | PCI/G |
| SC-25023-S | 10/26/1999 | RADIUM-228 | 0.89 | 0.4 | PCI/G |
| SC-25023-S | 10/26/1999 | THORIUM-230 | 1.15 | 0.64 | PCI/G |
| SC-25023-S | 10/26/1999 | URANIUM-238 | 1.32 | 2.64 | PCI/G |
| SC-25101-S | 09/27/1999 | 2,4,6-TRINITROTOLUENE | 0.0145 | 0.029 | UG/G |
| SC-25101-S | 09/27/1999 | PCB | 0 | 38 | UG/KG |
| SC-25101-S | 09/27/1999 | ARSENIC | 21.8 | 0.39 | UG/G |
| SC-25101-S | 09/27/1999 | PAH | 0 | 17 | UG/KG |
| SC-25101-S | 09/27/1999 | CHROMIUM | 14.7 | 0.19 | UG/G |
| SC-25101-S | 09/27/1999 | LEAD | 16.4 | 0.35 | UG/G |
| SC-25101-S | 09/27/1999 | RADIUM-226 | 1.01 | 0.29 | PCI/G |
| SC-25101-S | 09/27/1999 | RADIUM-228 | 0.5 | 1 | PCI/G |
| SC-25101-S | 09/27/1999 | THALLIUM | 1.1 | 0.63 | UG/G |
| SC-25101-S | 09/27/1999 | THORIUM-230 | 0.82 | 0.62 | PCI/G |
| SC-25101-S | 09/27/1999 | URANIUM-238 | 1.34 | 2.68 | PCI/G |
| SC-25102-S | 09/27/1999 | RADIUM-226 | 0.75 | 0.23 | PCI/G |
| SC-25102-S | 09/27/1999 | RADIUM-228 | 1.13 | 0.4 | PCI/G |
| SC-25102-S | 09/27/1999 | THORIUM-230 | 0.77 | 0.64 | PCI/G |
| SC-25102-S | 09/27/1999 | URANIUM-238 | 1.13 | 2.26 | PCI/G |
| SC-25103-S | 02/01/1999 | RADIUM-226 | 1.4 | 0.33 | PCI/G |
| SC-25103-S | 02/01/1999 | RADIUM-228 | 1.42 | 0.43 | PCI/G |
| SC-25103-S | 02/01/1999 | THORIUM-230 | 2.95 | 0.62 | PCI/G |
| SC-25103-S | 02/01/1999 | URANIUM-238 | 1.57 | 3.14 | PCI/G |
| SC-25103-S-01 | 09/26/1999 | RADIUM-226 | 0.96 | 0.28 | PCI/G |
| SC-25103-S-01 | 09/26/1999 | RADIUM-228 | 1.17 | 0.41 | PCI/G |
| SC-25103-S-01 | 09/26/1999 | THORIUM-230 | 0.88 | 0.65 | PCI/G |
| SC-25103-S-01 | 09/26/1999 | URANIUM-238 | 1.285 | 2.57 | PCI/G |
| SC-25104-S | 02/01/1999 | RADIUM-226 | 1.06 | 0.3 | PCI/G |
| SC-25104-S | 02/01/1999 | RADIUM-228 | 1.44 | 0.41 | PCI/G |
| SC-25104-S | 02/01/1999 | THORIUM-230 | 2.48 | 0.62 | PCI/G |
| SC-25104-S | 02/01/1999 | URANIUM-238 | 1.84 | 1.9 | PCI/G |
| SC-25104-S-01 | 09/26/1999 | RADIUM-226 | 0.315 | 0.63 | PCI/G |
| SC-25104-S-01 | 09/26/1999 | RADIUM-228 | 0.485 | 0.97 | PCI/G |
| SC-25104-S-01 | 09/26/1999 | THORIUM-230 | 0.94 | 0.64 | PCI/G |
| SC-25104-S-01 | 09/26/1999 | URANIUM-238 | 1.205 | 2.41 | PCI/G |
| SC-25105-S | 05/07/1999 | RADIUM-226 | 1.04 | 0.27 | PCI/G |
| SC-25105-S | 05/07/1999 | RADIUM-228 | 1.03 | 0.42 | PCI/G |
| SC-25105-S | 05/07/1999 | THORIUM-230 | 2.17 | 0.62 | PCI/G |
| SC-25105-S | 05/07/1999 | URANIUM-238 | 1.345 | 2.69 | PCI/G |
| SC-25105-S-01 | 09/26/1999 | RADIUM-226 | 0.98 | 0.27 | PCI/G |
| SC-25105-S-01 | 09/26/1999 | RADIUM-228 | 1.25 | 0.38 | PCI/G |
| SC-25105-S-01 | 09/26/1999 | THORIUM-230 | 2 | 0.62 | PCI/G |
| SC-25105-S-01 | 09/26/1999 | URANIUM-238 | 1.39 | 2.78 | PCI/G |
| SC-25106-S | 06/16/1999 | RADIUM-226 | 0.64 | 0.24 | PCI/G |
| SC-25106-S | 06/16/1999 | RADIUM-228 | 1.11 | 0.36 | PCI/G |
| SC-25106-S | 06/16/1999 | THORIUM-230 | 0.95 | 0.64 | PCI/G |
| SC-25106-S | 06/16/1999 | URANIUM-238 | 1.225 | 2.45 | PCI/G |
| SC-25107-S | 06/23/1999 | RADIUM-226 | 0.66 | 0.28 | PCI/G |
| SC-25107-S | 06/23/1999 | RADIUM-228 | 1.14 | 0.45 | PCI/G |
| SC-25107-S | 06/23/1999 | THORIUM-230 | 3.21 | 0.62 | PCI/G |
| SC-25107-S | 06/23/1999 | URANIUM-238 | 1.24 | 2.48 | PCI/G |
| SC-25108-S | 09/27/1999 | 2,4,6-TRINITROTOLUENE | 0.014 | 0.028 | UG/G |
| SC-25108-S | 09/27/1999 | PCB | 0 | 38 | UG/KG |

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-25108-S | 09/27/1999 | ARSENIC | 9.9 | 0.39 | UG/G |
| SC-25108-S | 09/27/1999 | PAH | 0 | 17 | UG/KG |
| SC-25108-S | 09/27/1999 | CHROMIUM | 18.5 | 0 19 | UG/G |
| SC-25108-S | 09/27/1999 | LEAD | 9.9 | 0.35 | UG/G |
| SC-25108-S | 09/27/1999 | RADIUM-226 | 0.76 | 0 31 | PCI/G |
| SC-25108-S | 09/27/1999 | RADIUM-228 | 0.49 | 0 98 | PCI/G |
| SC-25108-S | 09/27/1999 | THALLIUM | 1.5 | 0.63 | UG/G |
| SC-25108-S | 09/27/1999 | THORIUM-230 | 1.07 | 0.65 | PCI/G |
| SC-25108-S | 09/27/1999 | URANIUM-238 | 1 285 | 2.57 | PCI/G |
| SC-25109-S | 09/27/1999 | RADIUM-226 | 0.96 | 0.28 | PCI/G |
| SC-25109-S | 09/27/1999 | RADIUM-228 | 1.13 | 0.41 | PCI/G |
| SC-25109-S | 09/27/1999 | THORIUM-230 | 1 16 | 0.64 | PCI/G |
| SC-25109-S | 09/27/1999 | URANIUM-238 | 1.335 | 2.67 | PCI/G |
| SC-25110-S | 02/01/1999 | RADIUM-226 | 1.22 | 0 36 | PCI/G |
| SC-25110-S | 02/01/1999 | RADIUM-228 | 0.485 | 0 97 | PCI/G |
| SC-25110-S | 02/01/1999 | THORIUM-230 | 1.93 | 0 62 | PCI/G |
| SC-25110-S | 02/01/1999 | URANIUM-238 | 4 03 | 2 92 | PCI/G |
| SC-25110-S-01 | 09/26/1999 | RADIUM-226 | 0 91 | 0 36 | PCI/G |
| SC-25110-S-01 | 09/26/1999 | RADIUM-228 | 0 4 | 0.8 | PCI/G |
| SC-25110-S-01 | 09/26/1999 | THORIUM-230 | 1 07 | 0 64 | PCI/G |
| SC-25110-S-01 | 09/26/1999 | URANIUM-238 | 1.37 | 2 74 | PCI/G |
| SC-25111-S | 02/01/1999 | RADIUM-226 | 1.15 | 0 32 | PCI/G |
| SC-25111-S | 02/01/1999 | RADIUM-228 | 1.13 | 0 47 | PCI/G |
| SC-25111-S | 02/01/1999 | THORIUM-230 | 1 3 | 0.62 | PCI/G |
| SC-25111-S | 02/01/1999 | URANIUM-238 | 1 375 | 2 75 | PCI/G |
| SC-25111-S-01 | 09/26/1999 | RADIUM-226 | 1.28 | 0 32 | PCI/G |
| SC-25111-S-01 | 09/26/1999 | RADIUM-228 | 0.88 | 0 48 | PCI/G |
| SC-25111-S-01 | 09/26/1999 | THORIUM-230 | 3.23 | 0 65 | PCI/G |
| SC-25111-S-01 | 09/26/1999 | URANIUM-238 | 1.38 | 2 76 | PCI/G |
| SC-25112-S | 05/07/1999 | RADIUM-226 | 0 72 | 0 33 | PCI/G |
| SC-25112-S | 05/07/1999 | RADIUM-228 | 0.445 | 0 89 | PCI/G |
| SC-25112-S | 05/07/1999 | THORIUM-230 | 1.84 | 0 7 | PCI/G |
| SC-25112-S | 05/07/1999 | URANIUM-238 | 1 44 | 2 88 | PCI/G |
| SC-25112-S-01 | 09/26/1999 | RADIUM-226 | 0.31 | 0 62 | PCI/G |
| SC-25112-S-01 | 09/26/1999 | RADIUM-228 | 0.515 | 1 03 | PCI/G |
| SC-25112-S-01 | 09/26/1999 | THORIUM-230 | 1 07 | 0 64 | PCI/G |
| SC-25112-S-01 | 09/26/1999 | URANIUM-238 | 1.265 | 2 53 | PCI/G |
| SC-25113-S | 06/16/1999 | RADIUM-226 | 0.285 | 0 57 | PCI/G |
| SC-25113-S | 06/16/1999 | RADIUM-228 | 0 42 | 0 84 | PCI/G |
| SC-25113-S | 06/16/1999 | THORIUM-230 | 1 41 | 0 65 | PCI/G |
| SC-25113-S | 06/16/1999 | URANIUM-238 | 1.265 | 2 53 | PCI/G |
| SC-25114-S | 06/16/1999 | RADIUM-226 | 0 94 | 0 25 | PCI/G |
| SC-25114-S | 06/16/1999 | RADIUM-228 | 1 22 | 0 41 | PCI/G |
| SC-25114-S | 06/16/1999 | THORIUM-230 | 2 05 | 0 64 | PCI/G |
| SC-25114-S | 06/16/1999 | URANIUM-238 | 1 235 | 2 47 | PCI/G |
| SC-25115-S | 10/01/1999 | RADIUM-226 | 0.255 | 0 51 | PCI/G |
| SC-25115-S | 10/01/1999 | RADIUM-228 | 0 46 | 0 92 | PCI/G |
| SC-25115-S | 10/01/1999 | THORIUM-230 | 0 9 | 0 62 | PCI/G |
| SC-25115-S | 10/01/1999 | URANIUM-238 | 1 215 | 2 43 | PCI/G |
| SC-25116-S | 10/01/1999 | RADIUM-226 | 0 92 | 0 32 | PCI/G |
| SC-25116-S | 10/01/1999 | RADIUM-228 | 1 11 | 0 43 | PCI/G |
| SC-25116-S | 10/01/1999 | THORIUM-230 | 1 28 | 0 64 | PCI/G |
| SC-25116-S | 10/01/1999 | URANIUM-238 | 1.265 | 2 53 | PCI/G |
| SC-25117-S | 02/01/1999 | RADIUM-226 | 2 36 | 0 48 | PCI/G |
| SC-25117-S | 02/01/1999 | RADIUM-228 | 2 99 | 0 76 | PCI/G |
| SC-25117-S | 02/01/1999 | THORIUM-230 | 18 6 | 0 62 | PCI/G |
| SC-25117-S | 02/01/1999 | URANIUM-238 | 11 8 | 3 07 | PCI/G |
| SC-25117-S-01 | 09/26/1999 | RADIUM-226 | 0 83 | 0.3 | PCI/G |
| SC-25117-S-01 | 09/26/1999 | RADIUM-228 | 1.05 | 0 45 | PCI/G |
| SC-25117-S-01 | 09/26/1999 | THORIUM-230 | 0 97 | 0 62 | PCI/G |
| SC-25117-S-01 | 09/26/1999 | URANIUM-238 | 1 22 | 2 44 | PCI/G |
| SC-25117-S-RS | 08/04/1999 | RADIUM-226 | 1 11 | 0 38 | PCI/G |
| SC-25117-S-RS | 08/04/1999 | RADIUM-228 | 1 62 | 0.85 | PCI/G |
| SC-25117-S-RS | 08/04/1999 | THORIUM-230 | 3.7 | 0.64 | PCI/G |
| SC-25117-S-RS | 08/04/1999 | URANIUM-238 | 1 66 | 3.32 | PCI/G |
| SC-25118-S | 02/01/1999 | RADIUM-226 | 2.52 | 0.34 | PCI/G |
| SC-25118-S | 02/01/1999 | RADIUM-228 | 1.81 | 0 57 | PCI/G |
| SC-25118-S | 02/01/1999 | THORIUM-230 | 9 73 | 0.62 | PCI/G |
| SC-25118-S | 02/01/1999 | URANIUM-238 | 1 775 | 3 55 | PCI/G |
| SC-25118-S-01 | 09/26/1999 | RADIUM-226 | 0 82 | 0 32 | PCI/G |
| SC-25118-S-01 | 09/26/1999 | RADIUM-228 | 1 24 | 0 49 | PCI/G |
| SC-25118-S-01 | 09/26/1999 | THORIUM-230 | 1 09 | 0 64 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-25118-S-01 | 09/26/1999 | URANIUM-238 | 1.38 | 2.76 | PCI/G |
| SC-25118-S-HS01 | 02/10/1999 | RADIUM-226 | 1.03 | 0.34 | PCI/G |
| SC-25118-S-HS01 | 02/10/1999 | RADIUM-228 | 0.545 | 1.09 | PCI/G |
| SC-25118-S-HS01 | 02/10/1999 | THORIUM-230 | 1 | 0.62 | PCI/G |
| SC-25118-S-HS02 | 02/10/1999 | RADIUM-226 | 5.16 | 0.42 | PCI/G |
| SC-25118-S-HS02 | 02/10/1999 | RADIUM-228 | 2.68 | 0.54 | PCI/G |
| SC-25118-S-HS02 | 02/10/1999 | THORIUM-230 | 18.8 | 0.62 | PCI/G |
| SC-25118-S-HS03 | 02/10/1999 | RADIUM-226 | 0.89 | 0.31 | PCI/G |
| SC-25118-S-HS03 | 02/10/1999 | RADIUM-228 | 0.445 | 0.89 | PCI/G |
| SC-25118-S-HS03 | 02/10/1999 | THORIUM-230 | 0.88 | 0.62 | PCI/G |
| SC-25118-S-HS04 | 02/10/1999 | RADIUM-226 | 1.35 | 0.32 | PCI/G |
| SC-25118-S-HS04 | 02/10/1999 | RADIUM-228 | 1.28 | 0.45 | PCI/G |
| SC-25118-S-HS04 | 02/10/1999 | THORIUM-230 | 1.46 | 0.62 | PCI/G |
| SC-25118-S-RS | 07/28/1999 | RADIUM-226 | 0.85 | 0.29 | PCI/G |
| SC-25118-S-RS | 07/28/1999 | RADIUM-228 | 1.12 | 0.45 | PCI/G |
| SC-25118-S-RS | 07/28/1999 | THORIUM-230 | 1.22 | 0.62 | PCI/G |
| SC-25119-S | 05/07/1999 | RADIUM-226 | 0.89 | 0.31 | PCI/G |
| SC-25119-S | 05/07/1999 | RADIUM-228 | 1.11 | 0.35 | PCI/G |
| SC-25119-S | 05/07/1999 | THORIUM-230 | 1.73 | 0.7 | PCI/G |
| SC-25119-S | 05/07/1999 | URANIUM-238 | 1.32 | 2.64 | PCI/G |
| SC-25119-S-01 | 09/26/1999 | RADIUM-226 | 1.01 | 0.26 | PCI/G |
| SC-25119-S-01 | 09/26/1999 | RADIUM-228 | 1.32 | 0.39 | PCI/G |
| SC-25119-S-01 | 09/26/1999 | THORIUM-230 | 2.05 | 0.65 | PCI/G |
| SC-25119-S-01 | 09/26/1999 | URANIUM-238 | 1.315 | 2.63 | PCI/G |
| SC-25120-S | 06/16/1999 | RADIUM-226 | 0.57 | 0.31 | PCI/G |
| SC-25120-S | 06/16/1999 | RADIUM-228 | 1.17 | 0.4 | PCI/G |
| SC-25120-S | 06/16/1999 | THORIUM-230 | 0.93 | 0.64 | PCI/G |
| SC-25120-S | 06/16/1999 | URANIUM-238 | 1.23 | 2.46 | PCI/G |
| SC-25121-S | 06/16/1999 | RADIUM-226 | 0.93 | 0.25 | PCI/G |
| SC-25121-S | 06/16/1999 | RADIUM-228 | 1.09 | 0.48 | PCI/G |
| SC-25121-S | 06/16/1999 | THORIUM-230 | 1.8 | 0.62 | PCI/G |
| SC-25121-S | 06/16/1999 | URANIUM-238 | 1.27 | 2.54 | PCI/G |
| SC-25201-S | 09/27/1999 | 2,4,6-TRINITROTOLUENE | 0.015 | 0.03 | UG/G |
| SC-25201-S | 09/27/1999 | PCB | 0 | 41 | UG/KG |
| SC-25201-S | 09/27/1999 | ARSENIC | 14.3 | 0.42 | UG/G |
| SC-25201-S | 09/27/1999 | PAH | 0 | 18 | UG/KG |
| SC-25201-S | 09/27/1999 | CHROMIUM | 28.7 | 0.2 | UG/G |
| SC-25201-S | 09/27/1999 | LEAD | 24.3 | 0.37 | UG/G |
| SC-25201-S | 09/27/1999 | RADIUM-226 | 0.265 | 0.53 | PCI/G |
| SC-25201-S | 09/27/1999 | RADIUM-228 | 0.435 | 0.87 | PCI/G |
| SC-25201-S | 09/27/1999 | THALLIUM | 2 | 0.67 | UG/G |
| SC-25201-S | 09/27/1999 | THORIUM-230 | 0.86 | 0.62 | PCI/G |
| SC-25201-S | 09/27/1999 | URANIUM-238 | 2.89 | 3.29 | PCI/G |
| SC-25202-C | 09/27/1999 | 2,4,6-TRINITROTOLUENE | 0.015 | 0.03 | UG/G |
| SC-25202-C | 09/27/1999 | PCB | 0 | 41 | UG/KG |
| SC-25202-C | 09/27/1999 | ARSENIC | 9.3 | 0.42 | UG/G |
| SC-25202-C | 09/27/1999 | PAH | 0 | 18 | UG/KG |
| SC-25202-C | 09/27/1999 | CHROMIUM | 20 | 0.2 | UG/G |
| SC-25202-C | 09/27/1999 | LEAD | 14.8 | 0.37 | UG/G |
| SC-25202-C | 09/27/1999 | RADIUM-226 | 0.85 | 0.3 | PCI/G |
| SC-25202-C | 09/27/1999 | RADIUM-228 | 1.06 | 0.46 | PCI/G |
| SC-25202-C | 09/27/1999 | THALLIUM | 1.5 | 0.67 | UG/G |
| SC-25202-C | 09/27/1999 | THORIUM-230 | 1.1 | 0.64 | PCI/G |
| SC-25202-C | 09/27/1999 | URANIUM-238 | 1.24 | 2.48 | PCI/G |
| SC-25202-S | 09/27/1999 | 2,4,6-TRINITROTOLUENE | 0.0145 | 0.029 | UG/G |
| SC-25202-S | 09/27/1999 | PCB | 0 | 41 | UG/KG |
| SC-25202-S | 09/27/1999 | ARSENIC | 10.7 | 0.42 | UG/G |
| SC-25202-S | 09/27/1999 | PAH | 20 | 18 | UG/KG |
| SC-25202-S | 09/27/1999 | CHROMIUM | 18.6 | 0.2 | UG/G |
| SC-25202-S | 09/27/1999 | LEAD | 14.2 | 0.37 | UG/G |
| SC-25202-S | 09/27/1999 | RADIUM-226 | 0.96 | 0.32 | PCI/G |
| SC-25202-S | 09/27/1999 | RADIUM-228 | 0.475 | 0.95 | PCI/G |
| SC-25202-S | 09/27/1999 | THALLIUM | 1.6 | 0.67 | UG/G |
| SC-25202-S | 09/27/1999 | THORIUM-230 | 1.16 | 0.62 | PCI/G |
| SC-25202-S | 09/27/1999 | URANIUM-238 | 1.275 | 2.55 | PCI/G |
| SC-25203-S | 09/27/1999 | 2,4,6-TRINITROTOLUENE | 0.015 | 0.03 | UG/G |
| SC-25203-S | 09/27/1999 | PCB | 0 | 40 | UG/KG |
| SC-25203-S | 09/27/1999 | ARSENIC | 10.3 | 0.41 | UG/G |
| SC-25203-S | 09/27/1999 | PAH | 28 | 18 | UG/KG |
| SC-25203-S | 09/27/1999 | CHROMIUM | 17 | 0.19 | UG/G |
| SC-25203-S | 09/27/1999 | LEAD | 11.5 | 0.36 | UG/G |
| SC-25203-S | 09/27/1999 | RADIUM-226 | 0.54 | 0.26 | PCI/G |

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-25203-S | 09/27/1999 | RADIUM-228 | 1.08 | 0 3 | PCI/G |
| SC-25203-S | 09/27/1999 | THALLIUM | 1 2 | 0 65 | UG/G |
| SC-25203-S | 09/27/1999 | THORIUM-230 | 0.9 | 0.64 | PCI/G |
| SC-25203-S | 09/27/1999 | URANIUM-238 | 1.24 | 2.48 | PCI/G |
| SC-25204-C | 09/27/1999 | 2,4,6-TRINITROTOLUENE | 0.014 | 0.028 | UG/G |
| SC-25204-C | 09/27/1999 | PCB | 0 | 38 | UG/KG |
| SC-25204-C | 09/27/1999 | ARSENIC | 13.8 | 0 39 | UG/G |
| SC-25204-C | 09/27/1999 | PAH | 0 | 17 | UG/KG |
| SC-25204-C | 09/27/1999 | CHROMIUM | 18 8 | 0.18 | UG/G |
| SC-25204-C | 09/27/1999 | LEAD | 10 | 0 34 | UG/G |
| SC-25204-C | 09/27/1999 | RADIUM-226 | 0.285 | 0.57 | PCI/G |
| SC-25204-C | 09/27/1999 | RADIUM-228 | 0 445 | 0.89 | PCI/G |
| SC-25204-C | 09/27/1999 | THALLIUM | 1 6 | 0.62 | UG/G |
| SC-25204-C | 09/27/1999 | THORIUM-230 | 1.08 | 0 65 | PCI/G |
| SC-25204-C | 09/27/1999 | URANIUM-238 | 1.25 | 2 5 | PCI/G |
| SC-25204-S | 09/27/1999 | 2,4,6-TRINITROTOLUENE | 0 015 | 0.03 | UG/G |
| SC-25204-S | 09/27/1999 | PCB | 0 | 40 | UG/KG |
| SC-25204-S | 09/27/1999 | ARSENIC | 12 3 | 0 41 | UG/G |
| SC-25204-S | 09/27/1999 | PAH | 0 | 18 | UG/KG |
| SC-25204-S | 09/27/1999 | CHROMIUM | 17 2 | 0 19 | UG/G |
| SC-25204-S | 09/27/1999 | LEAD | 15 1 | 0 36 | UG/G |
| SC-25204-S | 09/27/1999 | RADIUM-226 | 0.64 | 0.29 | PCI/G |
| SC-25204-S | 09/27/1999 | RADIUM-228 | 0 82 | 0.38 | PCI/G |
| SC-25204-S | 09/27/1999 | THALLIUM | 1.9 | 0.65 | UG/G |
| SC-25204-S | 09/27/1999 | THORIUM-230 | 0 79 | 0.64 | PCI/G |
| SC-25204-S | 09/27/1999 | URANIUM-238 | 1 17 | 2.34 | PCI/G |
| SC-25205-S | 09/27/1999 | 2,4,6-TRINITROTOLUENE | 0 0145 | 0 029 | UG/G |
| SC-25205-S | 09/27/1999 | PCB | 0 | 38 | UG/KG |
| SC-25205-S | 09/27/1999 | ARSENIC | 7.4 | 0.39 | UG/G |
| SC-25205-S | 09/27/1999 | PAH | 0 | 17 | UG/KG |
| SC-25205-S | 09/27/1999 | CHROMIUM | 15 3 | 0.19 | UG/G |
| SC-25205-S | 09/27/1999 | LEAD | 9.9 | 0.35 | UG/G |
| SC-25205-S | 09/27/1999 | RADIUM-226 | 0 26 | 0.52 | PCI/G |
| SC-25205-S | 09/27/1999 | RADIUM-228 | 0 44 | 0.88 | PCI/G |
| SC-25205-S | 09/27/1999 | THALLIUM | 1 1 | 0 63 | UG/G |
| SC-25205-S | 09/27/1999 | THORIUM-230 | 0 79 | 0 62 | PCI/G |
| SC-25205-S | 09/27/1999 | URANIUM-238 | 1 115 | 2.23 | PCI/G |
| SC-25206-C | 09/27/1999 | 2,4,6-TRINITROTOLUENE | 0 0145 | 0 029 | UG/G |
| SC-25206-C | 09/27/1999 | PCB | 0 | 38 | UG/KG |
| SC-25206-C | 09/27/1999 | ARSENIC | 17 3 | 0 39 | UG/G |
| SC-25206-C | 09/27/1999 | PAH | 0 | 17 | UG/KG |
| SC-25206-C | 09/27/1999 | CHROMIUM | 28 | 0 18 | UG/G |
| SC-25206-C | 09/27/1999 | LEAD | 11 | 0.35 | UG/G |
| SC-25206-C | 09/27/1999 | RADIUM-226 | 0 23 | 0 46 | PCI/G |
| SC-25206-C | 09/27/1999 | RADIUM-228 | 1 01 | 0 4 | PCI/G |
| SC-25206-C | 09/27/1999 | THALLIUM | 1 5 | 0 62 | UG/G |
| SC-25206-C | 09/27/1999 | THORIUM-230 | 1 14 | 0 64 | PCI/G |
| SC-25206-C | 09/27/1999 | URANIUM-238 | 1.15 | 2.3 | PCI/G |
| SC-25206-S | 09/27/1999 | 2,4,6-TRINITROTOLUENE | 0 0145 | 0.029 | UG/G |
| SC-25206-S | 09/27/1999 | PCB | 0 | 39 | UG/KG |
| SC-25206-S | 09/27/1999 | ARSENIC | 6.9 | 0.4 | UG/G |
| SC-25206-S | 09/27/1999 | PAH | 0 | 18 | UG/KG |
| SC-25206-S | 09/27/1999 | CHROMIUM | 15.5 | 0 19 | UG/G |
| SC-25206-S | 09/27/1999 | LEAD | 10.7 | 0.35 | UG/G |
| SC-25206-S | 09/27/1999 | RADIUM-226 | 0 49 | 0.3 | PCI/G |
| SC-25206-S | 09/27/1999 | RADIUM-228 | 0.45 | 0.9 | PCI/G |
| SC-25206-S | 09/27/1999 | THALLIUM | 1.2 | 0.63 | UG/G |
| SC-25206-S | 09/27/1999 | THORIUM-230 | 0.69 | 0.65 | PCI/G |
| SC-25206-S | 09/27/1999 | URANIUM-238 | 1.2 | 2.4 | PCI/G |
| SC-25207-S | 09/27/1999 | 2,4,6-TRINITROTOLUENE | 0 0145 | 0.029 | UG/G |
| SC-25207-S | 09/27/1999 | PCB | 0 | 38 | UG/KG |
| SC-25207-S | 09/27/1999 | ARSENIC | 4 1 | 0 39 | UG/G |
| SC-25207-S | 09/27/1999 | PAH | 0 | 17 | UG/KG |
| SC-25207-S | 09/27/1999 | CHROMIUM | 15 | 0 19 | UG/G |
| SC-25207-S | 09/27/1999 | LEAD | 7 7 | 0 35 | UG/G |
| SC-25207-S | 09/27/1999 | RADIUM-226 | 0.55 | 0.27 | PCI/G |
| SC-25207-S | 09/27/1999 | RADIUM-228 | 1 02 | 0 33 | PCI/G |
| SC-25207-S | 09/27/1999 | THALLIUM | 0 315 | 0 63 | UG/G |
| SC-25207-S | 09/27/1999 | THORIUM-230 | 0 86 | 0 64 | PCI/G |
| SC-25207-S | 09/27/1999 | URANIUM-238 | 1 145 | 2 29 | PCI/G |
| SC-25208-S | 09/27/1999 | 2,4,6-TRINITROTOLUENE | 0 014 | 0 028 | UG/G |
| SC-25208-S | 09/27/1999 | PCB | 0 | 38 | UG/KG |

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-25208-S | 09/27/1999 | ARSENIC | 5.5 | 0.39 | UG/G |
| SC-25208-S | 09/27/1999 | PAH | 0 | 17 | UG/KG |
| SC-25208-S | 09/27/1999 | CHROMIUM | 15.5 | 0.19 | UG/G |
| SC-25208-S | 09/27/1999 | LEAD | 11.7 | 0.35 | UG/G |
| SC-25208-S | 09/27/1999 | RADIUM-226 | 0.255 | 0.51 | PCI/G |
| SC-25208-S | 09/27/1999 | RADIUM-228 | 0.465 | 0.93 | PCI/G |
| SC-25208-S | 09/27/1999 | THALLIUM | 0.315 | 0.63 | UG/G |
| SC-25208-S | 09/27/1999 | THORIUM-230 | 0.82 | 0.62 | PCI/G |
| SC-25208-S | 09/27/1999 | URANIUM-238 | 1.155 | 2.31 | PCI/G |
| SC-25209-S | 09/27/1999 | 2,4,6-TRINITROTOLUENE | 0.014 | 0.028 | UG/G |
| SC-25209-S | 09/27/1999 | PCB | 0 | 38 | UG/KG |
| SC-25209-S | 09/27/1999 | ARSENIC | 9.1 | 0.39 | UG/G |
| SC-25209-S | 09/27/1999 | PAH | 0 | 17 | UG/KG |
| SC-25209-S | 09/27/1999 | CHROMIUM | 15 | 0.19 | UG/G |
| SC-25209-S | 09/27/1999 | LEAD | 10.6 | 0.35 | UG/G |
| SC-25209-S | 09/27/1999 | RADIUM-226 | 0.57 | 0.28 | PCI/G |
| SC-25209-S | 09/27/1999 | RADIUM-228 | 1.29 | 0.32 | PCI/G |
| SC-25209-S | 09/27/1999 | THALLIUM | 1.5 | 0.63 | UG/G |
| SC-25209-S | 09/27/1999 | THORIUM-230 | 1.03 | 0.64 | PCI/G |
| SC-25209-S | 09/27/1999 | URANIUM-238 | 1.175 | 2.35 | PCI/G |
| SC-25210-S | 09/27/1999 | 2,4,6-TRINITROTOLUENE | 0.0145 | 0.029 | UG/G |
| SC-25210-S | 09/27/1999 | PCB | 0 | 38 | UG/KG |
| SC-25210-S | 09/27/1999 | ARSENIC | 6.9 | 0.4 | UG/G |
| SC-25210-S | 09/27/1999 | PAH | 0 | 17 | UG/KG |
| SC-25210-S | 09/27/1999 | CHROMIUM | 14.1 | 0.19 | UG/G |
| SC-25210-S | 09/27/1999 | LEAD | 22 | 0.35 | UG/G |
| SC-25210-S | 09/27/1999 | RADIUM-226 | 0.61 | 0.28 | PCI/G |
| SC-25210-S | 09/27/1999 | RADIUM-228 | 0.445 | 0.89 | PCI/G |
| SC-25210-S | 09/27/1999 | THALLIUM | 0.315 | 0.63 | UG/G |
| SC-25210-S | 09/27/1999 | THORIUM-230 | 0.9 | 0.65 | PCI/G |
| SC-25210-S | 09/27/1999 | URANIUM-238 | 1.215 | 2.43 | PCI/G |
| SC-25211-S | 09/27/1999 | 2,4,6-TRINITROTOLUENE | 0.0145 | 0.029 | UG/G |
| SC-25211-S | 09/27/1999 | PCB | 0 | 38 | UG/KG |
| SC-25211-S | 09/27/1999 | ARSENIC | 9.9 | 0.39 | UG/G |
| SC-25211-S | 09/27/1999 | PAH | 0 | 17 | UG/KG |
| SC-25211-S | 09/27/1999 | CHROMIUM | 14.9 | 0.19 | UG/G |
| SC-25211-S | 09/27/1999 | LEAD | 11.2 | 0.35 | UG/G |
| SC-25211-S | 09/27/1999 | RADIUM-226 | 0.35 | 0.3 | PCI/G |
| SC-25211-S | 09/27/1999 | RADIUM-228 | 1.02 | 0.37 | PCI/G |
| SC-25211-S | 09/27/1999 | THALLIUM | 1 | 0.63 | UG/G |
| SC-25211-S | 09/27/1999 | THORIUM-230 | 1.05 | 0.64 | PCI/G |
| SC-25211-S | 09/27/1999 | URANIUM-238 | 1.1 | 2.2 | PCI/G |
| SC-25212-S | 09/27/1999 | 2,4,6-TRINITROTOLUENE | 0.0135 | 0.027 | UG/G |
| SC-25212-S | 09/27/1999 | PCB | 0 | 39 | UG/KG |
| SC-25212-S | 09/27/1999 | ARSENIC | 2.5 | 0.4 | UG/G |
| SC-25212-S | 09/27/1999 | PAH | 22 | 17 | UG/KG |
| SC-25212-S | 09/27/1999 | CHROMIUM | 13.7 | 0.19 | UG/G |
| SC-25212-S | 09/27/1999 | LEAD | 9 | 0.35 | UG/G |
| SC-25212-S | 09/27/1999 | RADIUM-226 | 0.5 | 0.22 | PCI/G |
| SC-25212-S | 09/27/1999 | RADIUM-228 | 0.96 | 0.33 | PCI/G |
| SC-25212-S | 09/27/1999 | THALLIUM | 0.315 | 0.63 | UG/G |
| SC-25212-S | 09/27/1999 | THORIUM-230 | 0.89 | 0.62 | PCI/G |
| SC-25212-S | 09/27/1999 | URANIUM-238 | 0.73 | 1.46 | PCI/G |
| SC-25213-S | 09/27/1999 | 2,4,6-TRINITROTOLUENE | 0.0135 | 0.027 | UG/G |
| SC-25213-S | 09/27/1999 | PAB | 0 | 37 | UG/KG |
| SC-25213-S | 09/27/1999 | ARSENIC | 6.3 | 0.39 | UG/G |
| SC-25213-S | 09/27/1999 | PAH | 0 | 17 | UG/KG |
| SC-25213-S | 09/27/1999 | CHROMIUM | 22.4 | 0.18 | UG/G |
| SC-25213-S | 09/27/1999 | LEAD | 17.4 | 0.34 | UG/G |
| SC-25213-S | 09/27/1999 | RADIUM-226 | 0.76 | 0.29 | PCI/G |
| SC-25213-S | 09/27/1999 | RADIUM-228 | 1 | 0.48 | PCI/G |
| SC-25213-S | 09/27/1999 | THALLIUM | 0.305 | 0.61 | UG/G |
| SC-25213-S | 09/27/1999 | THORIUM-230 | 0.94 | 0.64 | PCI/G |
| SC-25213-S | 09/27/1999 | URANIUM-238 | 1.235 | 2.47 | PCI/G |
| SC-25214-S | 09/27/1999 | 2,4,6-TRINITROTOLUENE | 0.014 | 0.028 | UG/G |
| SC-25214-S | 09/27/1999 | PCB | 0 | 39 | UG/KG |
| SC-25214-S | 09/27/1999 | ARSENIC | 4.2 | 0.4 | UG/G |
| SC-25214-S | 09/27/1999 | PAH | 20 | 17 | UG/KG |
| SC-25214-S | 09/27/1999 | CHROMIUM | 14.9 | 0.19 | UG/G |
| SC-25214-S | 09/27/1999 | LEAD | 7.6 | 0.35 | UG/G |
| SC-25214-S | 09/27/1999 | RADIUM-226 | 0.305 | 0.61 | PCI/G |
| SC-25214-S | 09/27/1999 | RADIUM-228 | 1.18 | 0.46 | PCI/G |

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-25214-S | 09/27/1999 | THALLIUM | 0.315 | 0.63 | UG/G |
| SC-25214-S | 09/27/1999 | THORIUM-230 | 1 12 | 0.65 | PCI/G |
| SC-25214-S | 09/27/1999 | URANIUM-238 | 1.165 | 2.33 | PCI/G |
| SC-25215-S | 09/27/1999 | 2,4,6-TRINITROTOLUENE | 0.0135 | 0 027 | UG/G |
| SC-25215-S | 09/27/1999 | PCB | 0 | 38 | UG/KG |
| SC-25215-S | 09/27/1999 | ARSENIC | 4.5 | 0 44 | UG/G |
| SC-25215-S | 09/27/1999 | PAH | 0 | 17 | UG/KG |
| SC-25215-S | 09/27/1999 | CHROMIUM | 11.7 | 0.16 | UG/G |
| SC-25215-S | 09/27/1999 | LEAD | 6.1 | 0 3 | UG/G |
| SC-25215-S | 09/27/1999 | RADIUM-226 | 0 46 | 0.26 | PCI/G |
| SC-25215-S | 09/27/1999 | RADIUM-228 | 1.04 | 0.33 | PCI/G |
| SC-25215-S | 09/27/1999 | THALLIUM | 2 | 0.79 | UG/G |
| SC-25215-S | 09/27/1999 | THORIUM-230 | 0.76 | 0 64 | PCI/G |
| SC-25215-S | 09/27/1999 | URANIUM-238 | 1 24 | 2.48 | PCI/G |
| SC-25216-S | 09/27/1999 | 2,4,6-TRINITROTOLUENE | 0.014 | 0.028 | UG/G |
| SC-25216-S | 09/27/1999 | PCB | 0 | 37 | UG/KG |
| SC-25216-S | 09/27/1999 | ARSENIC | 7 3 | 0.43 | UG/G |
| SC-25216-S | 09/27/1999 | PAH | 33 | 17 | UG/KG |
| SC-25216-S | 09/27/1999 | CHROMIUM | 10.2 | 0.16 | UG/G |
| SC-25216-S | 09/27/1999 | LEAD | 9.7 | 0.29 | UG/G |
| SC-25216-S | 09/27/1999 | RADIUM-226 | 0 58 | 0.23 | PCI/G |
| SC-25216-S | 09/27/1999 | RADIUM-228 | 1.04 | 0.39 | PCI/G |
| SC-25216-S | 09/27/1999 | THALLIUM | 2.8 | 0 76 | UG/G |
| SC-25216-S | 09/27/1999 | THORIUM-230 | 0 92 | 0 62 | PCI/G |
| SC-25216-S | 09/27/1999 | URANIUM-238 | 1 17 | 2 34 | PCI/G |
| SC-25217-S | 10/01/1999 | RADIUM-226 | 0 275 | 0.55 | PCI/G |
| SC-25217-S | 10/01/1999 | RADIUM-228 | 0.51 | 1 02 | PCI/G |
| SC-25217-S | 10/01/1999 | THORIUM-230 | 0 74 | 0.64 | PCI/G |
| SC-25217-S | 10/01/1999 | URANIUM-238 | 1 3 | 2 6 | PCI/G |
| SC-25218-S | 10/01/1999 | RADIUM-226 | 0 215 | 0 43 | PCI/G |
| SC-25218-S | 10/01/1999 | RADIUM-228 | 0.84 | 0 38 | PCI/G |
| SC-25218-S | 10/01/1999 | THORIUM-230 | 0.88 | 0 62 | PCI/G |
| SC-25218-S | 10/01/1999 | URANIUM-238 | 1.23 | 2 46 | PCI/G |
| SC-25219-S | 10/01/1999 | RADIUM-226 | 0.26 | 0 52 | PCI/G |
| SC-25219-S | 10/01/1999 | RADIUM-228 | 0.445 | 0 89 | PCI/G |
| SC-25219-S | 10/01/1999 | THORIUM-230 | 0 87 | 0.62 | PCI/G |
| SC-25219-S | 10/01/1999 | URANIUM-238 | 1.155 | 2.31 | PCI/G |
| SC-25220-S | 10/01/1999 | RADIUM-226 | 0 5 | 0.28 | PCI/G |
| SC-25220-S | 10/01/1999 | RADIUM-228 | 1 01 | 0.43 | PCI/G |
| SC-25220-S | 10/01/1999 | THORIUM-230 | 1.03 | 0.64 | PCI/G |
| SC-25220-S | 10/01/1999 | URANIUM-238 | 6.17 | 2.3 | PCI/G |
| SC-25221-S | 10/01/1999 | RADIUM-226 | 0.275 | 0.55 | PCI/G |
| SC-25221-S | 10/01/1999 | RADIUM-228 | 0.375 | 0 75 | PCI/G |
| SC-25221-S | 10/01/1999 | THORIUM-230 | 1.24 | 0 64 | PCI/G |
| SC-25221-S | 10/01/1999 | URANIUM-238 | 4.18 | 2 66 | PCI/G |
| SC-25222-S | 10/01/1999 | RADIUM-226 | 0.49 | 0 31 | PCI/G |
| SC-25222-S | 10/01/1999 | RADIUM-228 | 1.04 | 0 41 | PCI/G |
| SC-25222-S | 10/01/1999 | THORIUM-230 | 0.99 | 0 62 | PCI/G |
| SC-25222-S | 10/01/1999 | URANIUM-238 | 6.66 | 2 57 | PCI/G |
| SC-25223-S | 10/01/1999 | RADIUM-226 | 1 74 | 0 37 | PCI/G |
| SC-25223-S | 10/01/1999 | RADIUM-228 | 0 445 | 0.89 | PCI/G |
| SC-25223-S | 10/01/1999 | THORIUM-230 | 1.02 | 0.62 | PCI/G |
| SC-25223-S | 10/01/1999 | URANIUM-238 | 7.88 | 3.65 | PCI/G |
| SC-25224-S | 10/01/1999 | RADIUM-226 | 0 5 | 0.29 | PCI/G |
| SC-25224-S | 10/01/1999 | RADIUM-228 | 1 04 | 0.42 | PCI/G |
| SC-25224-S | 10/01/1999 | THORIUM-230 | 1 06 | 0.64 | PCI/G |
| SC-25224-S | 10/01/1999 | URANIUM-238 | 1.65 | 2.05 | PCI/G |
| SC-25301-C | 09/27/1999 | 2,4,6-TRINITROTOLUENE | 0.014 | 0.028 | UG/G |
| SC-25301-C | 09/27/1999 | PCB | 0 | 38 | UG/KG |
| SC-25301-C | 09/27/1999 | ARSENIC | 4.2 | 0.44 | UG/G |
| SC-25301-C | 09/27/1999 | PAH | 0 | 17 | UG/KG |
| SC-25301-C | 09/27/1999 | CHROMIUM | 14.3 | 0.16 | UG/G |
| SC-25301-C | 09/27/1999 | LEAD | 7.4 | 0.3 | UG/G |
| SC-25301-C | 09/27/1999 | RADIUM-226 | 0.8 | 0 29 | PCI/G |
| SC-25301-C | 09/27/1999 | RADIUM-228 | 1.08 | 0 44 | PCI/G |
| SC-25301-C | 09/27/1999 | THALLIUM | 1.9 | 0.79 | UG/G |
| SC-25301-C | 09/27/1999 | THORIUM-230 | 1 12 | 0.64 | PCI/G |
| SC-25301-C | 09/27/1999 | URANIUM-238 | 1 35 | 2 7 | PCI/G |
| SC-25302-S | 09/27/1999 | 2,4,6-TRINITROTOLUENE | 0 0135 | 0 027 | UG/G |
| SC-25302-S | 09/27/1999 | PCB | 0 | 39 | UG/KG |
| SC-25302-S | 09/27/1999 | ARSENIC | 4 7 | 0 44 | UG/G |
| SC-25302-S | 09/27/1999 | PAH | 0 | 17 | UG/KG |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-25302-S | 09/27/1999 | CHROMIUM | 14.9 | 0.16 | UG/G |
| SC-25302-S | 09/27/1999 | LEAD | 9.1 | 0.3 | UG/G |
| SC-25302-S | 09/27/1999 | RADIUM-226 | 0.73 | 0.41 | PCI/G |
| SC-25302-S | 09/27/1999 | RADIUM-228 | 0.47 | 0.94 | PCI/G |
| SC-25302-S | 09/27/1999 | THALLIUM | 2.4 | 0.79 | UG/G |
| SC-25302-S | 09/27/1999 | THORIUM-230 | 0.97 | 0.65 | PCI/G |
| SC-25302-S | 09/27/1999 | URANIUM-238 | 1.425 | 2.85 | PCI/G |
| SC-25303-C | 09/27/1999 | 2,4,6-TRINITROTOLUENE | 0.014 | 0.028 | UG/G |
| SC-25303-C | 09/27/1999 | PCB | 0 | 38 | UG/KG |
| SC-25303-C | 09/27/1999 | ARSENIC | 7.1 | 0.43 | UG/G |
| SC-25303-C | 09/27/1999 | PAH | 0 | 17 | UG/KG |
| SC-25303-C | 09/27/1999 | CHROMIUM | 13.8 | 0.16 | UG/G |
| SC-25303-C | 09/27/1999 | LEAD | 7.8 | 0.29 | UG/G |
| SC-25303-C | 09/27/1999 | RADIUM-226 | 0.87 | 0.27 | PCI/G |
| SC-25303-C | 09/27/1999 | RADIUM-228 | 1.18 | 0.38 | PCI/G |
| SC-25303-C | 09/27/1999 | THALLIUM | 3 | 0.77 | UG/G |
| SC-25303-C | 09/27/1999 | THORIUM-230 | 1.01 | 0.64 | PCI/G |
| SC-25303-C | 09/27/1999 | URANIUM-238 | 1.295 | 2.59 | PCI/G |
| SC-25303-S | 09/27/1999 | 2,4,6-TRINITROTOLUENE | 0.014 | 0.028 | UG/G |
| SC-25303-S | 09/27/1999 | PCB | 0 | 38 | UG/KG |
| SC-25303-S | 09/27/1999 | ARSENIC | 2.4 | 0.44 | UG/G |
| SC-25303-S | 09/27/1999 | PAH | 0 | 17 | UG/KG |
| SC-25303-S | 09/27/1999 | CHROMIUM | 13.6 | 0.16 | UG/G |
| SC-25303-S | 09/27/1999 | LEAD | 5.6 | 0.3 | UG/G |
| SC-25303-S | 09/27/1999 | RADIUM-226 | 0.315 | 0.63 | PCI/G |
| SC-25303-S | 09/27/1999 | RADIUM-228 | 1.23 | 0.45 | PCI/G |
| SC-25303-S | 09/27/1999 | THALLIUM | 1.5 | 0.78 | UG/G |
| SC-25303-S | 09/27/1999 | THORIUM-230 | 0.86 | 0.62 | PCI/G |
| SC-25303-S | 09/27/1999 | URANIUM-238 | 1.37 | 2.74 | PCI/G |
| SC-25304-S | 09/27/1999 | 2,4,6-TRINITROTOLUENE | 0.0145 | 0.029 | UG/G |
| SC-25304-S | 09/27/1999 | PCB | 0 | 41 | UG/KG |
| SC-25304-S | 09/27/1999 | ARSENIC | 8.8 | 0.47 | UG/G |
| SC-25304-S | 09/27/1999 | PAH | 0 | 18 | UG/KG |
| SC-25304-S | 09/27/1999 | CHROMIUM | 19.6 | 0.17 | UG/G |
| SC-25304-S | 09/27/1999 | LEAD | 9.9 | 0.32 | UG/G |
| SC-25304-S | 09/27/1999 | RADIUM-226 | 0.67 | 0.25 | PCI/G |
| SC-25304-S | 09/27/1999 | RADIUM-228 | 1.26 | 0.35 | PCI/G |
| SC-25304-S | 09/27/1999 | THALLIUM | 3.4 | 0.84 | UG/G |
| SC-25304-S | 09/27/1999 | THORIUM-230 | 0.91 | 0.64 | PCI/G |
| SC-25304-S | 09/27/1999 | URANIUM-238 | 1.19 | 2.38 | PCI/G |
| SC-25306-S | 10/02/1998 | RADIUM-226 | 1.32 | 0.27 | PCI/G |
| SC-25306-S | 10/02/1998 | RADIUM-228 | 1.79 | 0.43 | PCI/G |
| SC-25306-S | 10/02/1998 | THORIUM-230 | 5.17 | 0.62 | PCI/G |
| SC-25306-S | 10/02/1998 | URANIUM-238 | 2.5 | 2.49 | PCI/G |
| SC-25307-S | 09/27/1999 | 2,4,6-TRINITROTOLUENE | 0.014 | 0.028 | UG/G |
| SC-25307-S | 09/27/1999 | PCB | 0 | 37 | UG/KG |
| SC-25307-S | 09/27/1999 | ARSENIC | 7.7 | 0.43 | UG/G |
| SC-25307-S | 09/27/1999 | PAH | 0 | 17 | UG/KG |
| SC-25307-S | 09/27/1999 | CHROMIUM | 15.2 | 0.16 | UG/G |
| SC-25307-S | 09/27/1999 | LEAD | 13.4 | 0.29 | UG/G |
| SC-25307-S | 09/27/1999 | RADIUM-226 | 1.03 | 0.33 | PCI/G |
| SC-25307-S | 09/27/1999 | RADIUM-228 | 0.545 | 1.09 | PCI/G |
| SC-25307-S | 09/27/1999 | THALLIUM | 2.2 | 0.76 | UG/G |
| SC-25307-S | 09/27/1999 | THORIUM-230 | 8.04 | 0.62 | PCI/G |
| SC-25307-S | 09/27/1999 | URANIUM-238 | 1.59 | 3.18 | PCI/G |
| SC-25307-S-RS | 10/02/1999 | THORIUM-230 | 1.49 | 0.62 | PCI/G |
| SC-25308-S | 09/27/1999 | 2,4,6-TRINITROTOLUENE | 0.0145 | 0.029 | UG/G |
| SC-25308-S | 09/27/1999 | PCB | 0 | 40 | UG/KG |
| SC-25308-S | 09/27/1999 | ARSENIC | 8.4 | 0.45 | UG/G |
| SC-25308-S | 09/27/1999 | PAH | 0 | 18 | UG/KG |
| SC-25308-S | 09/27/1999 | CHROMIUM | 14.6 | 0.17 | UG/G |
| SC-25308-S | 09/27/1999 | LEAD | 25.9 | 0.31 | UG/G |
| SC-25308-S | 09/27/1999 | RADIUM-226 | 0.85 | 0.29 | PCI/G |
| SC-25308-S | 09/27/1999 | RADIUM-228 | 1.41 | 0.45 | PCI/G |
| SC-25308-S | 09/27/1999 | THALLIUM | 2 | 0.81 | UG/G |
| SC-25308-S | 09/27/1999 | THORIUM-230 | 4.22 | 0.64 | PCI/G |
| SC-25308-S | 09/27/1999 | URANIUM-238 | 1.375 | 2.75 | PCI/G |
| SC-25309-S | 09/27/1999 | 2,4,6-TRINITROTOLUENE | 0.0135 | 0.027 | UG/G |
| SC-25309-S | 09/27/1999 | PCB | 0 | 38 | UG/KG |
| SC-25309-S | 09/27/1999 | ARSENIC | 9 | 0.44 | UG/G |
| SC-25309-S | 09/27/1999 | PAH | 0 | 17 | UG/KG |
| SC-25309-S | 09/27/1999 | CHROMIUM | 16 | 0.16 | UG/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-25309-S | 09/27/1999 | LEAD | 12.5 | 0.3 | UG/G |
| SC-25309-S | 09/27/1999 | RADIUM-226 | 0.28 | 0.56 | PCI/G |
| SC-25309-S | 09/27/1999 | RADIUM-228 | 0.465 | 0.93 | PCI/G |
| SC-25309-S | 09/27/1999 | THALLIUM | 2.6 | 0 79 | UG/G |
| SC-25309-S | 09/27/1999 | THORIUM-230 | 1.23 | 0.65 | PCI/G |
| SC-25309-S | 09/27/1999 | URANIUM-238 | 1 25 | 2 5 | PCI/G |
| SC-25310-S | 07/08/1998 | RADIUM-226 | 1.21 | 0.43 | PCI/G |
| SC-25310-S | 07/08/1998 | RADIUM-228 | 1 57 | 0 42 | PCI/G |
| SC-25310-S | 07/08/1998 | THORIUM-230 | 1.07 | 0.62 | PCI/G |
| SC-25310-S | 07/08/1998 | URANIUM-238 | 1 4 | 2.95 | PCI/G |
| SC-25310-S-01 | 10/06/1999 | PAH | 120 | 18 | UG/KG |
| SC-25310-S-01 | 10/06/1999 | RADIUM-226 | 0.74 | 0 29 | PCI/G |
| SC-25310-S-01 | 10/06/1999 | RADIUM-228 | 0.425 | 0.85 | PCI/G |
| SC-25310-S-01 | 10/06/1999 | THORIUM-230 | 1.05 | 0.64 | PCI/G |
| SC-25310-S-01 | 10/06/1999 | URANIUM-238 | 1.225 | 2.45 | PCI/G |
| SC-25311-S | 07/08/1998 | RADIUM-226 | 1.09 | 0.22 | PCI/G |
| SC-25311-S | 07/08/1998 | RADIUM-228 | 1.22 | 0.44 | PCI/G |
| SC-25311-S | 07/08/1998 | THORIUM-230 | 0.94 | 0.62 | PCI/G |
| SC-25311-S | 07/08/1998 | URANIUM-238 | 1.3 | 2.6 | PCI/G |
| SC-25311-S-01 | 10/06/1999 | PAH | 0 | 19 | UG/KG |
| SC-25311-S-01 | 10/06/1999 | RADIUM-226 | 1.04 | 0.26 | PCI/G |
| SC-25311-S-01 | 10/06/1999 | RADIUM-228 | 1.24 | 0.45 | PCI/G |
| SC-25311-S-01 | 10/06/1999 | THORIUM-230 | 0.95 | 0.64 | PCI/G |
| SC-25311-S-01 | 10/06/1999 | URANIUM-238 | 1.265 | 2.53 | PCI/G |
| SC-25311-S-02 | 10/02/1998 | RADIUM-226 | 1.26 | 0.25 | PCI/G |
| SC-25311-S-02 | 10/02/1998 | RADIUM-228 | 1.38 | 0.4 | PCI/G |
| SC-25311-S-02 | 10/02/1998 | THORIUM-230 | 0.77 | 0.62 | PCI/G |
| SC-25311-S-02 | 10/02/1998 | URANIUM-238 | 1 405 | 2.81 | PCI/G |
| SC-25312-S | 09/27/1999 | 2,4,6-TRINITROTOLUENE | 0.014 | 0 028 | UG/G |
| SC-25312-S | 09/27/1999 | PCB | 0 | 39 | UG/KG |
| SC-25312-S | 09/27/1999 | ARSENIC | 16.3 | 0.44 | UG/G |
| SC-25312-S | 09/27/1999 | PAH | 0 | 17 | UG/KG |
| SC-25312-S | 09/27/1999 | CHROMIUM | 26 | 0.16 | UG/G |
| SC-25312-S | 09/27/1999 | LEAD | 21.6 | 0 3 | UG/G |
| SC-25312-S | 09/27/1999 | RADIUM-226 | 0 77 | 0.28 | PCI/G |
| SC-25312-S | 09/27/1999 | RADIUM-228 | 1 27 | 0.37 | PCI/G |
| SC-25312-S | 09/27/1999 | THALLIUM | 5.5 | 0.79 | UG/G |
| SC-25312-S | 09/27/1999 | THORIUM-230 | 4 44 | 0.64 | PCI/G |
| SC-25312-S | 09/27/1999 | URANIUM-238 | 1.275 | 2.55 | PCI/G |
| SC-25312-S-01 | 10/06/1999 | PAH | 0 | 18 | UG/KG |
| SC-25312-S-01 | 10/06/1999 | RADIUM-226 | 4 2 | 0 35 | PCI/G |
| SC-25312-S-01 | 10/06/1999 | RADIUM-228 | 1 36 | 0.71 | PCI/G |
| SC-25312-S-01 | 10/06/1999 | THORIUM-230 | 1 06 | 0 62 | PCI/G |
| SC-25312-S-01 | 10/06/1999 | URANIUM-238 | 1 45 | 2.81 | PCI/G |
| SC-25313-S | 10/06/1999 | RADIUM-226 | 0.215 | 0 43 | PCI/G |
| SC-25313-S | 10/06/1999 | RADIUM-228 | 0 99 | 0 41 | PCI/G |
| SC-25313-S | 10/06/1999 | THORIUM-230 | 1.41 | 0.64 | PCI/G |
| SC-25313-S | 10/06/1999 | URANIUM-238 | 1.235 | 2 47 | PCI/G |
| SC-25314-S | 10/01/1999 | RADIUM-226 | 0.285 | 0 57 | PCI/G |
| SC-25314-S | 10/01/1999 | RADIUM-228 | 0.445 | 0 89 | PCI/G |
| SC-25314-S | 10/01/1999 | THORIUM-230 | 1.68 | 0 64 | PCI/G |
| SC-25314-S | 10/01/1999 | URANIUM-238 | 1.17 | 2.34 | PCI/G |
| SC-25315-C | 07/08/1998 | RADIUM-226 | 1.09 | 0.23 | PCI/G |
| SC-25315-C | 07/08/1998 | RADIUM-228 | 1.22 | 0.51 | PCI/G |
| SC-25315-C | 07/08/1998 | THORIUM-230 | 1.06 | 0.62 | PCI/G |
| SC-25315-C | 07/08/1998 | URANIUM-238 | 1.805 | 3.61 | PCI/G |
| SC-25315-C-01 | 10/06/1999 | PAH | 0 | 18 | UG/KG |
| SC-25315-C-01 | 10/06/1999 | RADIUM-226 | 0.325 | 0.65 | PCI/G |
| SC-25315-C-01 | 10/06/1999 | RADIUM-228 | 1 12 | 0 52 | PCI/G |
| SC-25315-C-01 | 10/06/1999 | THORIUM-230 | 1.42 | 0 64 | PCI/G |
| SC-25315-C-01 | 10/06/1999 | URANIUM-238 | 1.285 | 2 57 | PCI/G |
| SC-25315-C-02 | 10/02/1998 | PAH | 0 | 4 4 | UG/KG |
| SC-25315-C-02 | 10/02/1998 | RADIUM-226 | 1.2 | 0 37 | PCI/G |
| SC-25315-C-02 | 10/02/1998 | RADIUM-228 | 0.585 | 1 17 | PCI/G |
| SC-25315-C-02 | 10/02/1998 | THORIUM-230 | 1.86 | 0.62 | PCI/G |
| SC-25315-C-02 | 10/02/1998 | URANIUM-238 | 1.785 | 3.57 | PCI/G |
| SC-25316-S | 07/08/1998 | RADIUM-226 | 0.92 | 0.23 | PCI/G |
| SC-25316-S | 07/08/1998 | RADIUM-228 | 1.27 | 0 37 | PCI/G |
| SC-25316-S | 07/08/1998 | THORIUM-230 | 0.78 | 0 62 | PCI/G |
| SC-25316-S | 07/08/1998 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-25316-S-01 | 10/06/1999 | PAH | 0 | 18 | UG/KG |
| SC-25316-S-01 | 10/06/1999 | RADIUM-226 | 0.71 | 0 29 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-25316-S-01 | 10/06/1999 | RADIUM-228 | 1.22 | 0.46 | PCI/G |
| SC-25316-S-01 | 10/06/1999 | THORIUM-230 | 0.97 | 0.64 | PCI/G |
| SC-25316-S-01 | 10/06/1999 | URANIUM-238 | 1.325 | 2.65 | PCI/G |
| SC-25316-S-02 | 10/02/1998 | PAH | 0 | 4.5 | UG/KG |
| SC-25316-S-02 | 10/02/1998 | RADIUM-226 | 1.22 | 0.31 | PCI/G |
| SC-25316-S-02 | 10/02/1998 | RADIUM-228 | 1.13 | 0.38 | PCI/G |
| SC-25316-S-02 | 10/02/1998 | THORIUM-230 | 1.14 | 0.62 | PCI/G |
| SC-25316-S-02 | 10/02/1998 | URANIUM-238 | 1.39 | 2.78 | PCI/G |
| SC-25317-S | 07/08/1998 | RADIUM-226 | 3.08 | 0.52 | PCI/G |
| SC-25317-S | 07/08/1998 | RADIUM-228 | 1.35 | 0.64 | PCI/G |
| SC-25317-S | 07/08/1998 | THORIUM-230 | 1.1 | 0.62 | PCI/G |
| SC-25317-S | 07/08/1998 | URANIUM-238 | 2.075 | 4.15 | PCI/G |
| SC-25317-S-01 | 10/06/1999 | PAH | 800 | 18 | UG/KG |
| SC-25317-S-01 | 10/06/1999 | RADIUM-226 | 0.29 | 0.58 | PCI/G |
| SC-25317-S-01 | 10/06/1999 | RADIUM-228 | 0.42 | 0.84 | PCI/G |
| SC-25317-S-01 | 10/06/1999 | THORIUM-230 | 1.24 | 0.62 | PCI/G |
| SC-25317-S-01 | 10/06/1999 | URANIUM-238 | 1.2 | 2.4 | PCI/G |
| SC-25317-S-02 | 10/02/1998 | PAH | 0 | 4.1 | UG/KG |
| SC-25317-S-02 | 10/02/1998 | RADIUM-226 | 1.36 | 0.2 | PCI/G |
| SC-25317-S-02 | 10/02/1998 | RADIUM-228 | 1.18 | 0.64 | PCI/G |
| SC-25317-S-02 | 10/02/1998 | THORIUM-230 | 0.87 | 0.62 | PCI/G |
| SC-25317-S-02 | 10/02/1998 | URANIUM-238 | 1.975 | 3.95 | PCI/G |
| SC-25318-S | 10/06/1999 | PAH | 0 | 18 | UG/KG |
| SC-25318-S | 10/06/1999 | RADIUM-226 | 0.98 | 0.29 | PCI/G |
| SC-25318-S | 10/06/1999 | RADIUM-228 | 0.91 | 0.5 | PCI/G |
| SC-25318-S | 10/06/1999 | THORIUM-230 | 1.1 | 0.64 | PCI/G |
| SC-25318-S | 10/06/1999 | URANIUM-238 | 1.31 | 2.62 | PCI/G |
| SC-25319-S | 10/06/1999 | RADIUM-226 | 0.285 | 0.57 | PCI/G |
| SC-25319-S | 10/06/1999 | RADIUM-228 | 0.41 | 0.82 | PCI/G |
| SC-25319-S | 10/06/1999 | THORIUM-230 | 0.99 | 0.64 | PCI/G |
| SC-25319-S | 10/06/1999 | URANIUM-238 | 1.165 | 2.33 | PCI/G |
| SC-25320-S | 10/01/1999 | RADIUM-226 | 0.55 | 0.27 | PCI/G |
| SC-25320-S | 10/01/1999 | RADIUM-228 | 1.02 | 0.38 | PCI/G |
| SC-25320-S | 10/01/1999 | THORIUM-230 | 1.13 | 0.62 | PCI/G |
| SC-25320-S | 10/01/1999 | URANIUM-238 | 1.17 | 2.34 | PCI/G |
| SC-25320-S-RS | 10/20/1999 | RADIUM-226 | 1.08 | 0.32 | PCI/G |
| SC-25320-S-RS | 10/20/1999 | RADIUM-228 | 0.97 | 0.52 | PCI/G |
| SC-25320-S-RS | 10/20/1999 | THORIUM-230 | 1.68 | 0.64 | PCI/G |
| SC-25320-S-RS | 10/20/1999 | URANIUM-238 | 1.4 | 2.8 | PCI/G |
| SC-25321-C | 07/08/1998 | RADIUM-226 | 1.1 | 0.25 | PCI/G |
| SC-25321-C | 07/08/1998 | RADIUM-228 | 1.43 | 0.36 | PCI/G |
| SC-25321-C | 07/08/1998 | THORIUM-230 | 0.89 | 0.62 | PCI/G |
| SC-25321-C | 07/08/1998 | URANIUM-238 | 1.4 | 2.8 | PCI/G |
| SC-25321-C-01 | 10/06/1999 | PAH | 0 | 18 | UG/KG |
| SC-25321-C-01 | 10/06/1999 | RADIUM-226 | 0.7 | 0.32 | PCI/G |
| SC-25321-C-01 | 10/06/1999 | RADIUM-228 | 0.92 | 0.4 | PCI/G |
| SC-25321-C-01 | 10/06/1999 | THORIUM-230 | 0.91 | 0.64 | PCI/G |
| SC-25321-C-01 | 10/06/1999 | URANIUM-238 | 1.225 | 2.45 | PCI/G |
| SC-25321-C-02 | 10/02/1998 | PAH | 0 | 4.3 | UG/KG |
| SC-25321-C-02 | 10/02/1998 | RADIUM-226 | 1.04 | 0.25 | PCI/G |
| SC-25321-C-02 | 10/02/1998 | RADIUM-228 | 1.14 | 0.48 | PCI/G |
| SC-25321-C-02 | 10/02/1998 | THORIUM-230 | 1.15 | 0.62 | PCI/G |
| SC-25321-C-02 | 10/02/1998 | URANIUM-238 | 1.32 | 2.64 | PCI/G |
| SC-25322-S | 07/08/1998 | RADIUM-226 | 1.46 | 0.33 | PCI/G |
| SC-25322-S | 07/08/1998 | RADIUM-228 | 1.32 | 0.46 | PCI/G |
| SC-25322-S | 07/08/1998 | THORIUM-230 | 1 | 0.62 | PCI/G |
| SC-25322-S | 07/08/1998 | URANIUM-238 | 1.925 | 3.85 | PCI/G |
| SC-25322-S-01 | 10/06/1999 | PAH | 100 | 18 | UG/KG |
| SC-25322-S-01 | 10/06/1999 | RADIUM-226 | 0.295 | 0.59 | PCI/G |
| SC-25322-S-01 | 10/06/1999 | RADIUM-228 | 0.535 | 1.07 | PCI/G |
| SC-25322-S-01 | 10/06/1999 | THORIUM-230 | 0.98 | 0.62 | PCI/G |
| SC-25322-S-01 | 10/06/1999 | URANIUM-238 | 1.205 | 2.41 | PCI/G |
| SC-25322-S-02 | 10/02/1998 | PAH | 0 | 4.5 | UG/KG |
| SC-25322-S-02 | 10/02/1998 | RADIUM-226 | 1.41 | 0.42 | PCI/G |
| SC-25322-S-02 | 10/02/1998 | RADIUM-228 | 1.36 | 0.5 | PCI/G |
| SC-25322-S-02 | 10/02/1998 | THORIUM-230 | 0.88 | 0.62 | PCI/G |
| SC-25322-S-02 | 10/02/1998 | URANIUM-238 | 1.93 | 3.86 | PCI/G |
| SC-25323-S | 07/08/1998 | RADIUM-226 | 1.12 | 0.26 | PCI/G |
| SC-25323-S | 07/08/1998 | RADIUM-228 | 1.15 | 0.36 | PCI/G |
| SC-25323-S | 07/08/1998 | THORIUM-230 | 0.88 | 0.62 | PCI/G |
| SC-25323-S | 07/08/1998 | URANIUM-238 | 1.38 | 2.76 | PCI/G |
| SC-25323-S-01 | 10/06/1999 | PAH | 0 | 18 | UG/KG |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-25323-S-01 | 10/06/1999 | RADIUM-226 | 0.57 | 0.24 | PCI/G |
| SC-25323-S-01 | 10/06/1999 | RADIUM-228 | 1.1 | 0.41 | PCI/G |
| SC-25323-S-01 | 10/06/1999 | THORIUM-230 | 1.03 | 0.64 | PCI/G |
| SC-25323-S-01 | 10/06/1999 | URANIUM-238 | 1.26 | 2.52 | PCI/G |
| SC-25323-S-02 | 10/02/1998 | PAH | 0 | 4 3 | UG/KG |
| SC-25323-S-02 | 10/02/1998 | RADIUM-226 | 1.39 | 0.3 | PCI/G |
| SC-25323-S-02 | 10/02/1998 | RADIUM-228 | 1.29 | 0 4 | PCI/G |
| SC-25323-S-02 | 10/02/1998 | THORIUM-230 | 1 | 0 62 | PCI/G |
| SC-25323-S-02 | 10/02/1998 | URANIUM-238 | 1.37 | 2.74 | PCI/G |
| SC-25324-S | 10/06/1999 | PAH | 0 | 18 | UG/KG |
| SC-25324-S | 10/06/1999 | RADIUM-226 | 0.9 | 0 3 | PCI/G |
| SC-25324-S | 10/06/1999 | RADIUM-228 | 0.475 | 0.95 | PCI/G |
| SC-25324-S | 10/06/1999 | THORIUM-230 | 1.22 | 0 64 | PCI/G |
| SC-25324-S | 10/06/1999 | URANIUM-238 | 1.24 | 2 48 | PCI/G |
| SC-25325-C | 10/20/1999 | RADIUM-226 | 0.54 | 0.28 | PCI/G |
| SC-25325-C | 10/20/1999 | RADIUM-228 | 1.09 | 0 42 | PCI/G |
| SC-25325-C | 10/20/1999 | THORIUM-230 | 0.84 | 0.64 | PCI/G |
| SC-25325-C | 10/20/1999 | URANIUM-238 | 1.315 | 2 63 | PCI/G |
| SC-25325-S | 10/01/1999 | RADIUM-226 | 0.96 | 0.33 | PCI/G |
| SC-25325-S | 10/01/1999 | RADIUM-228 | 0.47 | 0.94 | PCI/G |
| SC-25325-S | 10/01/1999 | THORIUM-230 | 0 96 | 0 62 | PCI/G |
| SC-25325-S | 10/01/1999 | URANIUM-238 | 1.325 | 2 65 | PCI/G |
| SC-25326-S | 10/01/1999 | RADIUM-226 | 1 01 | 0.29 | PCI/G |
| SC-25326-S | 10/01/1999 | RADIUM-228 | 0 95 | 0 46 | PCI/G |
| SC-25326-S | 10/01/1999 | THORIUM-230 | 0 99 | 0 64 | PCI/G |
| SC-25326-S | 10/01/1999 | URANIUM-238 | 1.31 | 2 62 | PCI/G |
| SC-25401-C | 09/03/1999 | PAH | 0 | 18 | UG/KG |
| SC-25401-C | 09/03/1999 | RADIUM-226 | 0.64 | 0 33 | PCI/G |
| SC-25401-C | 09/03/1999 | RADIUM-228 | 0.48 | 0 96 | PCI/G |
| SC-25401-C | 09/03/1999 | THORIUM-230 | 1.04 | 0 62 | PCI/G |
| SC-25401-C | 09/03/1999 | URANIUM-238 | 1 2 | 2 4 | PCI/G |
| SC-25401-C-RS | 09/24/1999 | PAH | 0 | 17 | UG/KG |
| SC-25401-C-RS | 09/24/1999 | RADIUM-226 | 0 325 | 0 65 | PCI/G |
| SC-25401-C-RS | 09/24/1999 | RADIUM-228 | 1 03 | 0 45 | PCI/G |
| SC-25401-C-RS | 09/24/1999 | THORIUM-230 | 0 85 | 0 64 | PCI/G |
| SC-25401-C-RS | 09/24/1999 | URANIUM-238 | 2 54 | 2 1 | PCI/G |
| SC-25402-S | 07/08/1998 | RADIUM-226 | 0 98 | 0 3 | PCI/G |
| SC-25402-S | 07/08/1998 | RADIUM-228 | 1 55 | 0 53 | PCI/G |
| SC-25402-S | 07/08/1998 | THORIUM-230 | 0 84 | 0 62 | PCI/G |
| SC-25402-S | 07/08/1998 | URANIUM-238 | 1.825 | 3.65 | PCI/G |
| SC-25402-S-01 | 10/06/1999 | PAH | 1100 | 89 | UG/KG |
| SC-25402-S-01 | 10/06/1999 | RADIUM-226 | 0 6 | 0 31 | PCI/G |
| SC-25402-S-01 | 10/06/1999 | RADIUM-228 | 1 23 | 0 41 | PCI/G |
| SC-25402-S-01 | 10/06/1999 | THORIUM-230 | 1 34 | 0 64 | PCI/G |
| SC-25402-S-01 | 10/06/1999 | URANIUM-238 | 1 3 | 2 6 | PCI/G |
| SC-25402-S-02 | 10/02/1998 | PAH | 0 | 3 9 | UG/KG |
| SC-25402-S-02 | 10/02/1998 | RADIUM-226 | 1 1 | 0 41 | PCI/G |
| SC-25402-S-02 | 10/02/1998 | RADIUM-228 | 1 15 | 0 49 | PCI/G |
| SC-25402-S-02 | 10/02/1998 | THORIUM-230 | 1 07 | 0 62 | PCI/G |
| SC-25402-S-02 | 10/02/1998 | URANIUM-238 | 1 74 | 3 48 | PCI/G |
| SC-25403-S | 07/08/1998 | RADIUM-226 | 1 25 | 0.24 | PCI/G |
| SC-25403-S | 07/08/1998 | RADIUM-228 | 1 42 | 0 4 | PCI/G |
| SC-25403-S | 07/08/1998 | THORIUM-230 | 1 07 | 0 62 | PCI/G |
| SC-25403-S | 07/08/1998 | URANIUM-238 | 1.375 | 2 75 | PCI/G |
| SC-25403-S-01 | 10/06/1999 | PAH | 240 | 18 | UG/KG |
| SC-25403-S-01 | 10/06/1999 | RADIUM-226 | 0.31 | 0 62 | PCI/G |
| SC-25403-S-01 | 10/06/1999 | RADIUM-228 | 1.14 | 0 49 | PCI/G |
| SC-25403-S-01 | 10/06/1999 | THORIUM-230 | 1.47 | 0 62 | PCI/G |
| SC-25403-S-01 | 10/06/1999 | URANIUM-238 | 1 425 | 2 85 | PCI/G |
| SC-25403-S-02 | 10/02/1998 | PAH | 0 | 4.2 | UG/KG |
| SC-25403-S-02 | 10/02/1998 | RADIUM-226 | 1.26 | 0 26 | PCI/G |
| SC-25403-S-02 | 10/02/1998 | RADIUM-228 | 1.35 | 0 28 | PCI/G |
| SC-25403-S-02 | 10/02/1998 | THORIUM-230 | 1 07 | 0 62 | PCI/G |
| SC-25403-S-02 | 10/02/1998 | URANIUM-238 | 1.32 | 2 64 | PCI/G |
| SC-25404-S | 10/15/1999 | RADIUM-226 | 0.73 | 0 22 | PCI/G |
| SC-25404-S | 10/15/1999 | RADIUM-228 | 1.05 | 0 34 | PCI/G |
| SC-25404-S | 10/15/1999 | THORIUM-230 | 0 98 | 0 64 | PCI/G |
| SC-25404-S | 10/15/1999 | URANIUM-238 | 0 815 | 1 63 | PCI/G |
| SC-25405-S | 10/15/1999 | RADIUM-226 | 0 92 | 0 27 | PCI/G |
| SC-25405-S | 10/15/1999 | RADIUM-228 | 1 14 | 0 44 | PCI/G |
| SC-25405-S | 10/15/1999 | THORIUM-230 | 0 98 | 0 64 | PCI/G |
| SC-25405-S | 10/15/1999 | URANIUM-238 | 1.245 | 2 49 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-25406-C | 07/08/1998 | RADIUM-226 | 1.06 | 0.39 | PCI/G |
| SC-25406-C | 07/08/1998 | RADIUM-228 | 0.99 | 0.46 | PCI/G |
| SC-25406-C | 07/08/1998 | THORIUM-230 | 1.15 | 0.62 | PCI/G |
| SC-25406-C | 07/08/1998 | URANIUM-238 | 2.14 | 4.28 | PCI/G |
| SC-25406-C-01 | 10/06/1999 | PAH | 120 | 18 | UG/KG |
| SC-25406-C-01 | 10/06/1999 | RADIUM-226 | 0.25 | 0.5 | PCI/G |
| SC-25406-C-01 | 10/06/1999 | RADIUM-228 | 1.18 | 0.41 | PCI/G |
| SC-25406-C-01 | 10/06/1999 | THORIUM-230 | 1.24 | 0.64 | PCI/G |
| SC-25406-C-01 | 10/06/1999 | URANIUM-238 | 1.23 | 2.46 | PCI/G |
| SC-25406-C-02 | 10/02/1998 | PAH | 0 | 4.5 | UG/KG |
| SC-25406-C-02 | 10/02/1998 | RADIUM-226 | 0.95 | 0.34 | PCI/G |
| SC-25406-C-02 | 10/02/1998 | RADIUM-228 | 0.585 | 1.17 | PCI/G |
| SC-25406-C-02 | 10/02/1998 | THORIUM-230 | 1.24 | 0.62 | PCI/G |
| SC-25406-C-02 | 10/02/1998 | URANIUM-238 | 1.965 | 3.93 | PCI/G |
| SC-25407-S | 07/08/1998 | RADIUM-226 | 0.86 | 0.24 | PCI/G |
| SC-25407-S | 07/08/1998 | RADIUM-228 | 1.16 | 0.39 | PCI/G |
| SC-25407-S | 07/08/1998 | THORIUM-230 | 1.02 | 0.62 | PCI/G |
| SC-25407-S | 07/08/1998 | URANIUM-238 | 1.25 | 2.5 | PCI/G |
| SC-25407-S-01 | 10/06/1999 | PAH | 490 | 18 | UG/KG |
| SC-25407-S-01 | 10/06/1999 | RADIUM-226 | 0.86 | 0.36 | PCI/G |
| SC-25407-S-01 | 10/06/1999 | RADIUM-228 | 0.5 | 1 | PCI/G |
| SC-25407-S-01 | 10/06/1999 | THORIUM-230 | 1.19 | 0.62 | PCI/G |
| SC-25407-S-01 | 10/06/1999 | URANIUM-238 | 1.41 | 2.82 | PCI/G |
| SC-25408-S | 07/08/1998 | RADIUM-226 | 0.99 | 0.41 | PCI/G |
| SC-25408-S | 07/08/1998 | RADIUM-228 | 0.565 | 1.13 | PCI/G |
| SC-25408-S | 07/08/1998 | THORIUM-230 | 1.24 | 0.62 | PCI/G |
| SC-25408-S | 07/08/1998 | URANIUM-238 | 1.79 | 3.58 | PCI/G |
| SC-25408-S-01 | 10/06/1999 | PAH | 1000 | 88 | UG/KG |
| SC-25408-S-01 | 10/06/1999 | RADIUM-226 | 0.79 | 0.28 | PCI/G |
| SC-25408-S-01 | 10/06/1999 | RADIUM-228 | 0.89 | 0.47 | PCI/G |
| SC-25408-S-01 | 10/06/1999 | THORIUM-230 | 1.22 | 0.64 | PCI/G |
| SC-25408-S-01 | 10/06/1999 | URANIUM-238 | 1.3 | 2.6 | PCI/G |
| SC-25408-S-02 | 10/02/1998 | RADIUM-226 | 1.38 | 0.27 | PCI/G |
| SC-25408-S-02 | 10/02/1998 | RADIUM-228 | 1.36 | 0.4 | PCI/G |
| SC-25408-S-02 | 10/02/1998 | THORIUM-230 | 1.28 | 0.62 | PCI/G |
| SC-25408-S-02 | 10/02/1998 | URANIUM-238 | 3.17 | 2.7 | PCI/G |
| SC-25409-S | 10/15/1999 | RADIUM-226 | 0.94 | 0.28 | PCI/G |
| SC-25409-S | 10/15/1999 | RADIUM-228 | 1.26 | 0.34 | PCI/G |
| SC-25409-S | 10/15/1999 | THORIUM-230 | 1 | 0.64 | PCI/G |
| SC-25409-S | 10/15/1999 | URANIUM-238 | 1.34 | 2.68 | PCI/G |
| SC-25410-S | 10/15/1999 | RADIUM-226 | 0.87 | 0.32 | PCI/G |
| SC-25410-S | 10/15/1999 | RADIUM-228 | 1.32 | 0.39 | PCI/G |
| SC-25410-S | 10/15/1999 | THORIUM-230 | 1.18 | 0.64 | PCI/G |
| SC-25410-S | 10/15/1999 | URANIUM-238 | 1.3 | 2.6 | PCI/G |
| SC-25412-S | 07/08/1998 | RADIUM-226 | 1.06 | 0.24 | PCI/G |
| SC-25412-S | 07/08/1998 | RADIUM-228 | 1.24 | 0.36 | PCI/G |
| SC-25412-S | 07/08/1998 | THORIUM-230 | 0.74 | 0.62 | PCI/G |
| SC-25412-S | 07/08/1998 | URANIUM-238 | 1.33 | 2.66 | PCI/G |
| SC-25412-S-01 | 10/06/1999 | PAH | 35 | 18 | UG/KG |
| SC-25412-S-01 | 10/06/1999 | RADIUM-226 | 1 | 0.32 | PCI/G |
| SC-25412-S-01 | 10/06/1999 | RADIUM-228 | 1.11 | 0.4 | PCI/G |
| SC-25412-S-01 | 10/06/1999 | THORIUM-230 | 1.13 | 0.64 | PCI/G |
| SC-25412-S-01 | 10/06/1999 | URANIUM-238 | 1.215 | 2.43 | PCI/G |
| SC-25413-S | 07/08/1998 | RADIUM-226 | 0.84 | 0.38 | PCI/G |
| SC-25413-S | 07/08/1998 | RADIUM-228 | 1.25 | 0.14 | PCI/G |
| SC-25413-S | 07/08/1998 | THORIUM-230 | 1.08 | 0.62 | PCI/G |
| SC-25413-S | 07/08/1998 | URANIUM-238 | 1.87 | 3.74 | PCI/G |
| SC-25413-S-01 | 10/06/1999 | PAH | 64 | 18 | UG/KG |
| SC-25413-S-01 | 10/06/1999 | RADIUM-226 | 0.84 | 0.29 | PCI/G |
| SC-25413-S-01 | 10/06/1999 | RADIUM-228 | 1.12 | 0.37 | PCI/G |
| SC-25413-S-01 | 10/06/1999 | THORIUM-230 | 1.12 | 0.64 | PCI/G |
| SC-25413-S-01 | 10/06/1999 | URANIUM-238 | 1.28 | 2.56 | PCI/G |
| SC-25413-S-02 | 10/02/1998 | RADIUM-226 | 1.21 | 0.29 | PCI/G |
| SC-25413-S-02 | 10/02/1998 | RADIUM-228 | 0.625 | 1.25 | PCI/G |
| SC-25413-S-02 | 10/02/1998 | THORIUM-230 | 0.84 | 0.62 | PCI/G |
| SC-25413-S-02 | 10/02/1998 | URANIUM-238 | 2.015 | 4.03 | PCI/G |
| SC-25414-S | 09/15/1999 | RADIUM-226 | 0.88 | 0.3 | PCI/G |
| SC-25414-S | 09/15/1999 | RADIUM-228 | 1.03 | 0.55 | PCI/G |
| SC-25414-S | 09/15/1999 | THORIUM-230 | 2.11 | 0.64 | PCI/G |
| SC-25414-S | 09/15/1999 | URANIUM-238 | 1.165 | 2.33 | PCI/G |
| SC-25415-S | 10/14/1999 | RADIUM-226 | 0.235 | 0.47 | PCI/G |
| SC-25415-S | 10/14/1999 | RADIUM-228 | 1.11 | 0.55 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-25415-S | 10/14/1999 | THORIUM-230 | 0.71 | 0.64 | PCI/G |
| SC-25415-S | 10/14/1999 | URANIUM-238 | 1.285 | 2.57 | PCI/G |
| SC-25417-S | 07/08/1998 | RADIUM-226 | 0.91 | 0.23 | PCI/G |
| SC-25417-S | 07/08/1998 | RADIUM-228 | 1.08 | 0.43 | PCI/G |
| SC-25417-S | 07/08/1998 | THORIUM-230 | 0 97 | 0.62 | PCI/G |
| SC-25417-S | 07/08/1998 | URANIUM-238 | 1.375 | 2 75 | PCI/G |
| SC-25417-S-01 | 10/06/1999 | PAH | 380 | 18 | UG/KG |
| SC-25417-S-01 | 10/06/1999 | RADIUM-226 | 0 91 | 0.3 | PCI/G |
| SC-25417-S-01 | 10/06/1999 | RADIUM-228 | 0.445 | 0.89 | PCI/G |
| SC-25417-S-01 | 10/06/1999 | THORIUM-230 | 1 03 | 0 64 | PCI/G |
| SC-25417-S-01 | 10/06/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-25418-S | 07/08/1998 | RADIUM-226 | 1.17 | 0.42 | PCI/G |
| SC-25418-S | 07/08/1998 | RADIUM-228 | 0.59 | 1.18 | PCI/G |
| SC-25418-S | 07/08/1998 | THORIUM-230 | 0.88 | 0.62 | PCI/G |
| SC-25418-S | 07/08/1998 | URANIUM-238 | 2.04 | 4.08 | PCI/G |
| SC-25418-S-01 | 10/06/1999 | PAH | 150 | 18 | UG/KG |
| SC-25418-S-01 | 10/06/1999 | RADIUM-226 | 0 8 | 0.27 | PCI/G |
| SC-25418-S-01 | 10/06/1999 | RADIUM-228 | 1.18 | 0 4 | PCI/G |
| SC-25418-S-01 | 10/06/1999 | THORIUM-230 | 1.11 | 0 64 | PCI/G |
| SC-25418-S-01 | 10/06/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-25418-S-02 | 10/02/1998 | RADIUM-226 | 1.07 | 0.22 | PCI/G |
| SC-25418-S-02 | 10/02/1998 | RADIUM-228 | 1.31 | 0 41 | PCI/G |
| SC-25418-S-02 | 10/02/1998 | THORIUM-230 | 1 07 | 0.62 | PCI/G |
| SC-25418-S-02 | 10/02/1998 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-25419-S | 09/15/1999 | RADIUM-226 | 0.74 | 0.26 | PCI/G |
| SC-25419-S | 09/15/1999 | RADIUM-228 | 0.98 | 0.44 | PCI/G |
| SC-25419-S | 09/15/1999 | THORIUM-230 | 1.15 | 0.62 | PCI/G |
| SC-25419-S | 09/15/1999 | URANIUM-238 | 1.225 | 2 45 | PCI/G |
| SC-25420-S | 10/14/1999 | RADIUM-226 | 0.64 | 0.31 | PCI/G |
| SC-25420-S | 10/14/1999 | RADIUM-228 | 1 08 | 0.4 | PCI/G |
| SC-25420-S | 10/14/1999 | THORIUM-230 | 1.22 | 0 64 | PCI/G |
| SC-25420-S | 10/14/1999 | URANIUM-238 | 1.275 | 2 55 | PCI/G |
| SC-25501-S | 10/01/1999 | RADIUM-226 | 0.265 | 0 53 | PCI/G |
| SC-25501-S | 10/01/1999 | RADIUM-228 | 0.45 | 0 9 | PCI/G |
| SC-25501-S | 10/01/1999 | THORIUM-230 | 0.91 | 0 64 | PCI/G |
| SC-25501-S | 10/01/1999 | URANIUM-238 | 1 17 | 2 34 | PCI/G |
| SC-25502-S | 10/01/1999 | RADIUM-226 | 0 32 | 0 33 | PCI/G |
| SC-25502-S | 10/01/1999 | RADIUM-228 | 1 21 | 0 42 | PCI/G |
| SC-25502-S | 10/01/1999 | THORIUM-230 | 1 63 | 0 62 | PCI/G |
| SC-25502-S | 10/01/1999 | URANIUM-238 | 1 145 | 2 29 | PCI/G |
| SC-25503-S | 10/01/1999 | RADIUM-226 | 0 61 | 0 2 | PCI/G |
| SC-25503-S | 10/01/1999 | RADIUM-228 | 1 09 | 0 32 | PCI/G |
| SC-25503-S | 10/01/1999 | THORIUM-230 | 1.31 | 0 62 | PCI/G |
| SC-25503-S | 10/01/1999 | URANIUM-238 | 3 83 | 1 72 | PCI/G |
| SC-25504-S | 10/01/1999 | RADIUM-226 | 0.73 | 0.27 | PCI/G |
| SC-25504-S | 10/01/1999 | RADIUM-228 | 0.96 | 0 39 | PCI/G |
| SC-25504-S | 10/01/1999 | THORIUM-230 | 0 8 | 0 64 | PCI/G |
| SC-25504-S | 10/01/1999 | URANIUM-238 | 1.21 | 2 42 | PCI/G |
| SC-25505-S | 10/15/1999 | RADIUM-226 | 0.77 | 0.28 | PCI/G |
| SC-25505-S | 10/15/1999 | RADIUM-228 | 0.87 | 0 46 | PCI/G |
| SC-25505-S | 10/15/1999 | THORIUM-230 | 0.92 | 0.64 | PCI/G |
| SC-25505-S | 10/15/1999 | URANIUM-238 | 1.285 | 2 57 | PCI/G |
| SC-25506-S | 10/15/1999 | RADIUM-226 | 0.83 | 0 31 | PCI/G |
| SC-25506-S | 10/15/1999 | RADIUM-228 | 0.94 | 0 48 | PCI/G |
| SC-25506-S | 10/15/1999 | THORIUM-230 | 1 36 | 0 64 | PCI/G |
| SC-25506-S | 10/15/1999 | URANIUM-238 | 8 22 | 2 48 | PCI/G |
| SC-25507-S | 10/15/1999 | RADIUM-226 | 0.79 | 0.28 | PCI/G |
| SC-25507-S | 10/15/1999 | RADIUM-228 | 0.425 | 0.85 | PCI/G |
| SC-25507-S | 10/15/1999 | THORIUM-230 | 1.15 | 0 64 | PCI/G |
| SC-25507-S | 10/15/1999 | URANIUM-238 | 1.31 | 2 62 | PCI/G |
| SC-25508-S | 10/15/1999 | RADIUM-226 | 0.77 | 0.29 | PCI/G |
| SC-25508-S | 10/15/1999 | RADIUM-228 | 1.08 | 0.45 | PCI/G |
| SC-25508-S | 10/15/1999 | THORIUM-230 | 0.98 | 0.64 | PCI/G |
| SC-25508-S | 10/15/1999 | URANIUM-238 | 1.285 | 2.57 | PCI/G |
| SC-25509-S | 10/15/1999 | RADIUM-226 | 0.61 | 0.31 | PCI/G |
| SC-25509-S | 10/15/1999 | RADIUM-228 | 0.51 | 1.02 | PCI/G |
| SC-25509-S | 10/15/1999 | THORIUM-230 | 0.89 | 0 64 | PCI/G |
| SC-25509-S | 10/15/1999 | URANIUM-238 | 1 17 | 2.34 | PCI/G |
| SC-25510-S | 10/15/1999 | RADIUM-226 | 0.265 | 0.53 | PCI/G |
| SC-25510-S | 10/15/1999 | RADIUM-228 | 0 46 | 0 92 | PCI/G |
| SC-25510-S | 10/15/1999 | THORIUM-230 | 0 97 | 0 64 | PCI/G |
| SC-25510-S | 10/15/1999 | URANIUM-238 | 1 275 | 2 55 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-25511-S | 10/15/1999 | RADIUM-226 | 0.7 | 0.28 | PCI/G |
| SC-25511-S | 10/15/1999 | RADIUM-228 | 1.16 | 0.33 | PCI/G |
| SC-25511-S | 10/15/1999 | THORIUM-230 | 1.32 | 0.64 | PCI/G |
| SC-25511-S | 10/15/1999 | URANIUM-238 | 1.32 | 2.64 | PCI/G |
| SC-25512-S | 10/15/1999 | RADIUM-226 | 4.24 | 0.5 | PCI/G |
| SC-25512-S | 10/15/1999 | RADIUM-228 | 7.09 | 0.75 | PCI/G |
| SC-25512-S | 10/15/1999 | THORIUM-230 | 91.3 | 0.64 | PCI/G |
| SC-25512-S | 10/15/1999 | URANIUM-238 | 2.585 | 5.17 | PCI/G |
| SC-25512-S-RS | 10/23/1999 | RADIUM-226 | 0.48 | 0.28 | PCI/G |
| SC-25512-S-RS | 10/23/1999 | RADIUM-228 | 0.97 | 0.42 | PCI/G |
| SC-25512-S-RS | 10/23/1999 | THORIUM-230 | 0.77 | 0.64 | PCI/G |
| SC-25512-S-RS | 10/23/1999 | URANIUM-238 | 4.84 | 2.81 | PCI/G |
| SC-25513-S | 10/15/1999 | RADIUM-226 | 3.99 | 0.6 | PCI/G |
| SC-25513-S | 10/15/1999 | RADIUM-228 | 5.36 | 0.9 | PCI/G |
| SC-25513-S | 10/15/1999 | THORIUM-230 | 52.6 | 0.64 | PCI/G |
| SC-25513-S | 10/15/1999 | URANIUM-238 | 2.335 | 4.67 | PCI/G |
| SC-25513-S-RS | 10/23/1999 | RADIUM-226 | 0.46 | 0.29 | PCI/G |
| SC-25513-S-RS | 10/23/1999 | RADIUM-228 | 1.15 | 0.43 | PCI/G |
| SC-25513-S-RS | 10/23/1999 | THORIUM-230 | 1.2 | 0.64 | PCI/G |
| SC-25513-S-RS | 10/23/1999 | URANIUM-238 | 1.225 | 2.45 | PCI/G |
| SC-25514-S | 10/15/1999 | RADIUM-226 | 4.03 | 0.45 | PCI/G |
| SC-25514-S | 10/15/1999 | RADIUM-228 | 4.69 | 0.7 | PCI/G |
| SC-25514-S | 10/15/1999 | THORIUM-230 | 38.1 | 0.64 | PCI/G |
| SC-25514-S | 10/15/1999 | URANIUM-238 | 2.355 | 4.71 | PCI/G |
| SC-25514-S-RS | 10/23/1999 | RADIUM-226 | 0.81 | 0.29 | PCI/G |
| SC-25514-S-RS | 10/23/1999 | RADIUM-228 | 0.41 | 0.82 | PCI/G |
| SC-25514-S-RS | 10/23/1999 | THORIUM-230 | 0.9 | 0.64 | PCI/G |
| SC-25514-S-RS | 10/23/1999 | URANIUM-238 | 9.5 | 2.86 | PCI/G |
| SC-25515-S | 10/15/1999 | RADIUM-226 | 1.23 | 0.31 | PCI/G |
| SC-25515-S | 10/15/1999 | RADIUM-228 | 0.96 | 0.4 | PCI/G |
| SC-25515-S | 10/15/1999 | THORIUM-230 | 1.26 | 0.64 | PCI/G |
| SC-25515-S | 10/15/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-25516-S | 10/15/1999 | RADIUM-226 | 0.68 | 0.35 | PCI/G |
| SC-25516-S | 10/15/1999 | RADIUM-228 | 0.43 | 0.86 | PCI/G |
| SC-25516-S | 10/15/1999 | THORIUM-230 | 1.32 | 0.64 | PCI/G |
| SC-25516-S | 10/15/1999 | URANIUM-238 | 3.22 | 2.71 | PCI/G |
| SC-25517-S | 10/15/1999 | RADIUM-226 | 0.56 | 0.27 | PCI/G |
| SC-25517-S | 10/15/1999 | RADIUM-228 | 0.77 | 0.46 | PCI/G |
| SC-25517-S | 10/15/1999 | THORIUM-230 | 1.05 | 0.64 | PCI/G |
| SC-25517-S | 10/15/1999 | URANIUM-238 | 5.51 | 2.53 | PCI/G |
| SC-25518-S | 10/14/1999 | RADIUM-226 | 0.29 | 0.58 | PCI/G |
| SC-25518-S | 10/14/1999 | RADIUM-228 | 1.02 | 0.52 | PCI/G |
| SC-25518-S | 10/14/1999 | THORIUM-230 | 1.09 | 0.64 | PCI/G |
| SC-25518-S | 10/14/1999 | URANIUM-238 | 1.275 | 2.55 | PCI/G |
| SC-25519-S | 10/14/1999 | RADIUM-226 | 0.56 | 0.27 | PCI/G |
| SC-25519-S | 10/14/1999 | RADIUM-228 | 0.83 | 0.43 | PCI/G |
| SC-25519-S | 10/14/1999 | THORIUM-230 | 0.96 | 0.64 | PCI/G |
| SC-25519-S | 10/14/1999 | URANIUM-238 | 1.215 | 2.43 | PCI/G |
| SC-25520-S | 10/14/1999 | RADIUM-226 | 0.275 | 0.55 | PCI/G |
| SC-25520-S | 10/14/1999 | RADIUM-228 | 0.42 | 0.84 | PCI/G |
| SC-25520-S | 10/14/1999 | THORIUM-230 | 0.93 | 0.64 | PCI/G |
| SC-25520-S | 10/14/1999 | URANIUM-238 | 1.475 | 2.95 | PCI/G |
| SC-25521-S | 10/14/1999 | RADIUM-226 | 0.62 | 0.31 | PCI/G |
| SC-25521-S | 10/14/1999 | RADIUM-228 | 1.06 | 0.47 | PCI/G |
| SC-25521-S | 10/14/1999 | THORIUM-230 | 2.34 | 0.64 | PCI/G |
| SC-25521-S | 10/14/1999 | URANIUM-238 | 7.05 | 3.29 | PCI/G |
| SC-25522-S | 10/14/1999 | RADIUM-226 | 0.29 | 0.58 | PCI/G |
| SC-25522-S | 10/14/1999 | RADIUM-228 | 0.535 | 1.07 | PCI/G |
| SC-25522-S | 10/14/1999 | THORIUM-230 | 1.96 | 0.64 | PCI/G |
| SC-25522-S | 10/14/1999 | URANIUM-238 | 5.5 | 2.83 | PCI/G |
| SC-25601-S | 10/01/1999 | RADIUM-226 | 0.74 | 0.38 | PCI/G |
| SC-25601-S | 10/01/1999 | RADIUM-228 | 0.475 | 0.95 | PCI/G |
| SC-25601-S | 10/01/1999 | THORIUM-230 | 1.31 | 0.64 | PCI/G |
| SC-25601-S | 10/01/1999 | URANIUM-238 | 8.29 | 2.32 | PCI/G |
| SC-25602-S | 10/01/1999 | RADIUM-226 | 0.5 | 0.31 | PCI/G |
| SC-25602-S | 10/01/1999 | RADIUM-228 | 1.18 | 0.4 | PCI/G |
| SC-25602-S | 10/01/1999 | THORIUM-230 | 1.04 | 0.64 | PCI/G |
| SC-25602-S | 10/01/1999 | URANIUM-238 | 5.17 | 2.53 | PCI/G |
| SC-25603-S | 10/01/1999 | RADIUM-226 | 0.71 | 0.24 | PCI/G |
| SC-25603-S | 10/01/1999 | RADIUM-228 | 0.87 | 0.41 | PCI/G |
| SC-25603-S | 10/01/1999 | THORIUM-230 | 1.38 | 0.64 | PCI/G |
| SC-25603-S | 10/01/1999 | URANIUM-238 | 9.13 | 2.36 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-25604-S | 10/01/1999 | RADIUM-226 | 0 66 | 0 29 | PCI/G |
| SC-25604-S | 10/01/1999 | RADIUM-228 | 0 42 | 0 84 | PCI/G |
| SC-25604-S | 10/01/1999 | THORIUM-230 | 1 22 | 0 62 | PCI/G |
| SC-25604-S | 10/01/1999 | URANIUM-238 | 8.76 | 2 99 | PCI/G |
| SC-25605-S | 10/15/1999 | RADIUM-226 | 0.29 | 0.58 | PCI/G |
| SC-25605-S | 10/15/1999 | RADIUM-228 | 0.53 | 1.06 | PCI/G |
| SC-25605-S | 10/15/1999 | THORIUM-230 | 1.4 | 0.64 | PCI/G |
| SC-25605-S | 10/15/1999 | URANIUM-238 | 1.505 | 3 01 | PCI/G |
| SC-25606-S | 10/14/1999 | RADIUM-226 | 0 51 | 0 31 | PCI/G |
| SC-25606-S | 10/14/1999 | RADIUM-228 | 0 87 | 0.42 | PCI/G |
| SC-25606-S | 10/14/1999 | THORIUM-230 | 1.17 | 0.64 | PCI/G |
| SC-25606-S | 10/14/1999 | URANIUM-238 | 7.63 | 2.62 | PCI/G |
| SC-25607-S | 10/14/1999 | RADIUM-226 | 0.49 | 0.28 | PCI/G |
| SC-25607-S | 10/14/1999 | RADIUM-228 | 0.405 | 0.81 | PCI/G |
| SC-25607-S | 10/14/1999 | THORIUM-230 | 0 93 | 0.64 | PCI/G |
| SC-25607-S | 10/14/1999 | URANIUM-238 | 1.275 | 2.55 | PCI/G |
| SC-25608-S | 10/14/1999 | RADIUM-226 | 0 57 | 0.26 | PCI/G |
| SC-25608-S | 10/14/1999 | RADIUM-228 | 0 85 | 0 48 | PCI/G |
| SC-25608-S | 10/14/1999 | THORIUM-230 | 1.06 | 0 64 | PCI/G |
| SC-25608-S | 10/14/1999 | URANIUM-238 | 1.33 | 2 66 | PCI/G |
| SC-25609-S | 10/14/1999 | RADIUM-226 | 0 7 | 0 31 | PCI/G |
| SC-25609-S | 10/14/1999 | RADIUM-228 | 1.07 | 0.57 | PCI/G |
| SC-25609-S | 10/14/1999 | THORIUM-230 | 1.44 | 0.64 | PCI/G |
| SC-25609-S | 10/14/1999 | URANIUM-238 | 6.6 | 2.65 | PCI/G |
| SC-25610-S | 10/14/1999 | RADIUM-226 | 1 19 | 0 29 | PCI/G |
| SC-25610-S | 10/14/1999 | RADIUM-228 | 1 | 0 44 | PCI/G |
| SC-25610-S | 10/14/1999 | THORIUM-230 | 0.91 | 0.64 | PCI/G |
| SC-25610-S | 10/14/1999 | URANIUM-238 | 5 81 | 2 32 | PCI/G |
| SC-25611-S | 10/14/1999 | RADIUM-226 | 0.51 | 0.31 | PCI/G |
| SC-25611-S | 10/14/1999 | RADIUM-228 | 0.475 | 0.95 | PCI/G |
| SC-25611-S | 10/14/1999 | THORIUM-230 | 1 1 | 0.64 | PCI/G |
| SC-25611-S | 10/14/1999 | URANIUM-238 | 4 46 | 2 51 | PCI/G |
| SC-25612-S | 10/14/1999 | RADIUM-226 | 0 42 | 0 3 | PCI/G |
| SC-25612-S | 10/14/1999 | RADIUM-228 | 0 76 | 0 4 | PCI/G |
| SC-25612-S | 10/14/1999 | THORIUM-230 | 1 01 | 0 64 | PCI/G |
| SC-25612-S | 10/14/1999 | URANIUM-238 | 6 38 | 2 44 | PCI/G |
| SC-25613-S | 10/14/1999 | RADIUM-226 | 0 285 | 0 57 | PCI/G |
| SC-25613-S | 10/14/1999 | RADIUM-228 | 0 445 | 0 89 | PCI/G |
| SC-25613-S | 10/14/1999 | THORIUM-230 | 1.01 | 0 64 | PCI/G |
| SC-25613-S | 10/14/1999 | URANIUM-238 | 7 19 | 2.83 | PCI/G |
| SC-25614-S | 10/14/1999 | RADIUM-226 | 0 52 | 0 28 | PCI/G |
| SC-25614-S | 10/14/1999 | RADIUM-228 | 1 | 0 41 | PCI/G |
| SC-25614-S | 10/14/1999 | THORIUM-230 | 1 08 | 0.64 | PCI/G |
| SC-25614-S | 10/14/1999 | URANIUM-238 | 1 48 | 2 96 | PCI/G |
| SC-25615-S | 10/14/1999 | RADIUM-226 | 0 64 | 0.3 | PCI/G |
| SC-25615-S | 10/14/1999 | RADIUM-228 | 0 41 | 0 82 | PCI/G |
| SC-25615-S | 10/14/1999 | THORIUM-230 | 1 | 0 64 | PCI/G |
| SC-25615-S | 10/14/1999 | URANIUM-238 | 6 65 | 3.04 | PCI/G |
| SC-25616-S | 10/14/1999 | RADIUM-226 | 0 51 | 0.31 | PCI/G |
| SC-25616-S | 10/14/1999 | RADIUM-228 | 0 87 | 0 48 | PCI/G |
| SC-25616-S | 10/14/1999 | THORIUM-230 | 1 25 | 0.64 | PCI/G |
| SC-25616-S | 10/14/1999 | URANIUM-238 | 6 39 | 2.36 | PCI/G |
| SC-25617-S | 10/14/1999 | RADIUM-226 | 0 29 | 0 58 | PCI/G |
| SC-25617-S | 10/14/1999 | RADIUM-228 | 0.455 | 0 91 | PCI/G |
| SC-25617-S | 10/14/1999 | THORIUM-230 | 1 27 | 0 64 | PCI/G |
| SC-25617-S | 10/14/1999 | URANIUM-238 | 7 63 | 2 86 | PCI/G |
| SC-25618-S | 10/14/1999 | RADIUM-226 | 0.51 | 0 31 | PCI/G |
| SC-25618-S | 10/14/1999 | RADIUM-228 | 1.23 | 0 38 | PCI/G |
| SC-25618-S | 10/14/1999 | THORIUM-230 | 0.82 | 0 64 | PCI/G |
| SC-25618-S | 10/14/1999 | URANIUM-238 | 1 175 | 2 35 | PCI/G |
| SC-25619-S | 10/14/1999 | RADIUM-226 | 0.275 | 0 55 | PCI/G |
| SC-25619-S | 10/14/1999 | RADIUM-228 | 0.39 | 0 78 | PCI/G |
| SC-25619-S | 10/14/1999 | THORIUM-230 | 1.15 | 0 64 | PCI/G |
| SC-25619-S | 10/14/1999 | URANIUM-238 | 1 18 | 2 36 | PCI/G |
| SC-25620-S | 10/14/1999 | RADIUM-226 | 0 5 | 0 32 | PCI/G |
| SC-25620-S | 10/14/1999 | RADIUM-228 | 1.01 | 0 33 | PCI/G |
| SC-25620-S | 10/14/1999 | THORIUM-230 | 1.03 | 0 64 | PCI/G |
| SC-25620-S | 10/14/1999 | URANIUM-238 | 7.99 | 2 48 | PCI/G |
| SC-25701-S | 10/14/1999 | RADIUM-226 | 0.61 | 0.28 | PCI/G |
| SC-25701-S | 10/14/1999 | RADIUM-228 | 0 425 | 0 85 | PCI/G |
| SC-25701-S | 10/14/1999 | THORIUM-230 | 0.99 | 0 64 | PCI/G |
| SC-25701-S | 10/14/1999 | URANIUM-238 | 1 26 | 2 52 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-25702-S | 10/14/1999 | RADIUM-226 | 0.48 | 0.3 | PCI/G |
| SC-25702-S | 10/14/1999 | RADIUM-228 | 1.04 | 0.38 | PCI/G |
| SC-25702-S | 10/14/1999 | THORIUM-230 | 1.11 | 0.64 | PCI/G |
| SC-25702-S | 10/14/1999 | URANIUM-238 | 1.165 | 2.33 | PCI/G |
| SC-25703-S | 10/01/1999 | RADIUM-226 | 0.89 | 0.31 | PCI/G |
| SC-25703-S | 10/01/1999 | RADIUM-228 | 1.28 | 0.38 | PCI/G |
| SC-25703-S | 10/01/1999 | THORIUM-230 | 1.14 | 0.62 | PCI/G |
| SC-25703-S | 10/01/1999 | URANIUM-238 | 1.365 | 2.73 | PCI/G |
| SC-25704-S | 02/01/1999 | RADIUM-226 | 6.62 | 0.63 | PCI/G |
| SC-25704-S | 02/01/1999 | RADIUM-228 | 4.69 | 0.92 | PCI/G |
| SC-25704-S | 02/01/1999 | THORIUM-230 | 36.8 | 0.62 | PCI/G |
| SC-25704-S | 02/01/1999 | URANIUM-238 | 10.5 | 6.04 | PCI/G |
| SC-25704-S-01 | 09/26/1999 | RADIUM-226 | 0.335 | 0.67 | PCI/G |
| SC-25704-S-01 | 09/26/1999 | RADIUM-228 | 0.445 | 0.89 | PCI/G |
| SC-25704-S-01 | 09/26/1999 | THORIUM-230 | 1.12 | 0.64 | PCI/G |
| SC-25704-S-01 | 09/26/1999 | URANIUM-238 | 1.44 | 2.88 | PCI/G |
| SC-25705-S | 10/22/1999 | RADIUM-226 | 0.93 | 0.26 | PCI/G |
| SC-25705-S | 10/22/1999 | RADIUM-228 | 1.14 | 0.42 | PCI/G |
| SC-25705-S | 10/22/1999 | THORIUM-230 | 0.97 | 0.64 | PCI/G |
| SC-25705-S | 10/22/1999 | URANIUM-238 | 1.23 | 2.46 | PCI/G |
| SC-25706-S | 10/14/1999 | RADIUM-226 | 0.7 | 0.29 | PCI/G |
| SC-25706-S | 10/14/1999 | RADIUM-228 | 1.17 | 0.39 | PCI/G |
| SC-25706-S | 10/14/1999 | THORIUM-230 | 1.36 | 0.64 | PCI/G |
| SC-25706-S | 10/14/1999 | URANIUM-238 | 5.38 | 2.56 | PCI/G |
| SC-25707-S | 10/01/1999 | RADIUM-226 | 1.02 | 0.36 | PCI/G |
| SC-25707-S | 10/01/1999 | RADIUM-228 | 1.21 | 0.45 | PCI/G |
| SC-25707-S | 10/01/1999 | THORIUM-230 | 2.28 | 0.64 | PCI/G |
| SC-25707-S | 10/01/1999 | URANIUM-238 | 1.38 | 2.76 | PCI/G |
| SC-25708-S | 10/01/1999 | RADIUM-226 | 1.07 | 0.29 | PCI/G |
| SC-25708-S | 10/01/1999 | RADIUM-228 | 1.01 | 0.46 | PCI/G |
| SC-25708-S | 10/01/1999 | THORIUM-230 | 1.33 | 0.64 | PCI/G |
| SC-25708-S | 10/01/1999 | URANIUM-238 | 1.235 | 2.47 | PCI/G |
| SC-25709-S | 10/14/1999 | RADIUM-226 | 0.62 | 0.28 | PCI/G |
| SC-25709-S | 10/14/1999 | RADIUM-228 | 0.95 | 0.4 | PCI/G |
| SC-25709-S | 10/14/1999 | THORIUM-230 | 0.96 | 0.64 | PCI/G |
| SC-25709-S | 10/14/1999 | URANIUM-238 | 4.88 | 2.39 | PCI/G |
| SC-25710-S | 10/14/1999 | RADIUM-226 | 0.275 | 0.55 | PCI/G |
| SC-25710-S | 10/14/1999 | RADIUM-228 | 0.505 | 1.01 | PCI/G |
| SC-25710-S | 10/14/1999 | THORIUM-230 | 1.14 | 0.64 | PCI/G |
| SC-25710-S | 10/14/1999 | URANIUM-238 | 14.9 | 3.16 | PCI/G |
| SC-25711-S | 10/01/1999 | RADIUM-226 | 0.86 | 0.27 | PCI/G |
| SC-25711-S | 10/01/1999 | RADIUM-228 | 1.21 | 0.52 | PCI/G |
| SC-25711-S | 10/01/1999 | THORIUM-230 | 1.36 | 0.62 | PCI/G |
| SC-25711-S | 10/01/1999 | URANIUM-238 | 1.37 | 2.74 | PCI/G |
| SC-25712-S | 10/01/1999 | RADIUM-226 | 0.85 | 0.28 | PCI/G |
| SC-25712-S | 10/01/1999 | RADIUM-228 | 1.24 | 0.39 | PCI/G |
| SC-25712-S | 10/01/1999 | THORIUM-230 | 0.99 | 0.62 | PCI/G |
| SC-25712-S | 10/01/1999 | URANIUM-238 | 1.245 | 2.49 | PCI/G |
| SC-25713-S | 10/14/1999 | RADIUM-226 | 0.51 | 0.29 | PCI/G |
| SC-25713-S | 10/14/1999 | RADIUM-228 | 0.93 | 0.45 | PCI/G |
| SC-25713-S | 10/14/1999 | THORIUM-230 | 0.88 | 0.64 | PCI/G |
| SC-25713-S | 10/14/1999 | URANIUM-238 | 7.24 | 3.41 | PCI/G |
| SC-25714-S | 10/14/1999 | RADIUM-226 | 0.59 | 0.3 | PCI/G |
| SC-25714-S | 10/14/1999 | RADIUM-228 | 1.03 | 0.46 | PCI/G |
| SC-25714-S | 10/14/1999 | THORIUM-230 | 1.15 | 0.64 | PCI/G |
| SC-25714-S | 10/14/1999 | URANIUM-238 | 8.29 | 2.74 | PCI/G |
| SC-25715-S | 10/01/1999 | RADIUM-226 | 0.86 | 0.35 | PCI/G |
| SC-25715-S | 10/01/1999 | RADIUM-228 | 0.445 | 0.89 | PCI/G |
| SC-25715-S | 10/01/1999 | THORIUM-230 | 1.05 | 0.64 | PCI/G |
| SC-25715-S | 10/01/1999 | URANIUM-238 | 1.325 | 2.65 | PCI/G |
| SC-25716-S | 10/01/1999 | RADIUM-226 | 0.84 | 0.29 | PCI/G |
| SC-25716-S | 10/01/1999 | RADIUM-228 | 0.93 | 0.43 | PCI/G |
| SC-25716-S | 10/01/1999 | THORIUM-230 | 1.72 | 0.62 | PCI/G |
| SC-25716-S | 10/01/1999 | URANIUM-238 | 1.275 | 2.55 | PCI/G |
| SC-25717-S | 10/14/1999 | RADIUM-226 | 0.55 | 0.29 | PCI/G |
| SC-25717-S | 10/14/1999 | RADIUM-228 | 1.19 | 0.39 | PCI/G |
| SC-25717-S | 10/14/1999 | THORIUM-230 | 1.09 | 0.64 | PCI/G |
| SC-25717-S | 10/14/1999 | URANIUM-238 | 9.12 | 2.49 | PCI/G |
| SC-25718-S | 10/14/1999 | RADIUM-226 | 0.26 | 0.52 | PCI/G |
| SC-25718-S | 10/14/1999 | RADIUM-228 | 0.475 | 0.95 | PCI/G |
| SC-25718-S | 10/14/1999 | THORIUM-230 | 0.99 | 0.64 | PCI/G |
| SC-25718-S | 10/14/1999 | URANIUM-238 | 64.8 | 4.83 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-25719-S | 10/01/1999 | RADIUM-226 | 0.82 | 0 31 | PCI/G |
| SC-25719-S | 10/01/1999 | RADIUM-228 | 1.03 | 0 54 | PCI/G |
| SC-25719-S | 10/01/1999 | THORIUM-230 | 1.44 | 0 64 | PCI/G |
| SC-25719-S | 10/01/1999 | URANIUM-238 | 1 25 | 2 5 | PCI/G |
| SC-25720-S | 10/01/1999 | RADIUM-226 | 0.98 | 0.28 | PCI/G |
| SC-25720-S | 10/01/1999 | RADIUM-228 | 1 16 | 0 39 | PCI/G |
| SC-25720-S | 10/01/1999 | THORIUM-230 | 1 4 | 0.64 | PCI/G |
| SC-25720-S | 10/01/1999 | URANIUM-238 | 1 375 | 2 75 | PCI/G |
| SC-25801-S | 02/01/1999 | RADIUM-226 | 0.94 | 0 32 | PCI/G |
| SC-25801-S | 02/01/1999 | RADIUM-228 | 1 18 | 0 42 | PCI/G |
| SC-25801-S | 02/01/1999 | THORIUM-230 | 1.37 | 0 62 | PCI/G |
| SC-25801-S | 02/01/1999 | URANIUM-238 | 1.375 | 2 75 | PCI/G |
| SC-25801-S-01 | 09/26/1999 | RADIUM-226 | 0.9 | 0.26 | PCI/G |
| SC-25801-S-01 | 09/26/1999 | RADIUM-228 | 1.17 | 0 43 | PCI/G |
| SC-25801-S-01 | 09/26/1999 | THORIUM-230 | 0.99 | 0.62 | PCI/G |
| SC-25801-S-01 | 09/26/1999 | URANIUM-238 | 1.295 | 2.59 | PCI/G |
| SC-25802-S | 05/07/1999 | RADIUM-226 | 0.31 | 0.62 | PCI/G |
| SC-25802-S | 05/07/1999 | RADIUM-228 | 0 46 | 0 92 | PCI/G |
| SC-25802-S | 05/07/1999 | THORIUM-230 | 1 1 | 0 73 | PCI/G |
| SC-25802-S | 05/07/1999 | URANIUM-238 | 1.25 | 2.5 | PCI/G |
| SC-25802-S-01 | 09/26/1999 | RADIUM-226 | 0 79 | 0 31 | PCI/G |
| SC-25802-S-01 | 09/26/1999 | RADIUM-228 | 0.445 | 0 89 | PCI/G |
| SC-25802-S-01 | 09/26/1999 | THORIUM-230 | 1 5 | 0 64 | PCI/G |
| SC-25802-S-01 | 09/26/1999 | URANIUM-238 | 4 76 | 2.86 | PCI/G |
| SC-25803-S | 06/23/1999 | RADIUM-226 | 1 14 | 0 3 | PCI/G |
| SC-25803-S | 06/23/1999 | RADIUM-228 | 0 51 | 1 02 | PCI/G |
| SC-25803-S | 06/23/1999 | THORIUM-230 | 1 19 | 0.64 | PCI/G |
| SC-25803-S | 06/23/1999 | URANIUM-238 | 1.33 | 2 66 | PCI/G |
| SC-25804-S | 06/23/1999 | RADIUM-226 | 0 76 | 0.29 | PCI/G |
| SC-25804-S | 06/23/1999 | RADIUM-228 | 1.03 | 0 4 | PCI/G |
| SC-25804-S | 06/23/1999 | THORIUM-230 | 3 41 | 0 64 | PCI/G |
| SC-25804-S | 06/23/1999 | URANIUM-238 | 1.255 | 2.51 | PCI/G |
| SC-25805-S | 08/04/1999 | RADIUM-226 | 0.89 | 0 32 | PCI/G |
| SC-25805-S | 08/04/1999 | RADIUM-228 | 1.08 | 0.46 | PCI/G |
| SC-25805-S | 08/04/1999 | THORIUM-230 | 0.76 | 0 64 | PCI/G |
| SC-25805-S | 08/04/1999 | URANIUM-238 | 1 34 | 2 68 | PCI/G |
| SC-25805-S-01 | 09/27/1999 | RADIUM-226 | 0.96 | 0.38 | PCI/G |
| SC-25805-S-01 | 09/27/1999 | RADIUM-228 | 0.475 | 0.95 | PCI/G |
| SC-25805-S-01 | 09/27/1999 | THORIUM-230 | 0 99 | 0.62 | PCI/G |
| SC-25805-S-01 | 09/27/1999 | URANIUM-238 | 1 25 | 2 5 | PCI/G |
| SC-25806-S | 05/07/1999 | RADIUM-226 | 0 71 | 0.32 | PCI/G |
| SC-25806-S | 05/07/1999 | RADIUM-228 | 1 12 | 0.53 | PCI/G |
| SC-25806-S | 05/07/1999 | THORIUM-230 | 2 38 | 0.62 | PCI/G |
| SC-25806-S | 05/07/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-25806-S-01 | 09/27/1999 | RADIUM-226 | 0 79 | 0.28 | PCI/G |
| SC-25806-S-01 | 09/27/1999 | RADIUM-228 | 0 95 | 0.39 | PCI/G |
| SC-25806-S-01 | 09/27/1999 | THORIUM-230 | 1 01 | 0.65 | PCI/G |
| SC-25806-S-01 | 09/27/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-25807-S | 06/18/1999 | RADIUM-226 | 0.67 | 0.32 | PCI/G |
| SC-25807-S | 06/18/1999 | RADIUM-228 | 0 535 | 1.07 | PCI/G |
| SC-25807-S | 06/18/1999 | THORIUM-230 | 2.48 | 0.62 | PCI/G |
| SC-25807-S | 06/18/1999 | URANIUM-238 | 1.325 | 2.65 | PCI/G |
| SC-25808-S | 06/23/1999 | RADIUM-226 | 0.89 | 0.23 | PCI/G |
| SC-25808-S | 06/23/1999 | RADIUM-228 | 1.15 | 0 37 | PCI/G |
| SC-25808-S | 06/23/1999 | THORIUM-230 | 2.03 | 0 64 | PCI/G |
| SC-25808-S | 06/23/1999 | URANIUM-238 | 1 235 | 2 47 | PCI/G |
| SC-25809-S | 08/04/1999 | RADIUM-226 | 0 33 | 0 66 | PCI/G |
| SC-25809-S | 08/04/1999 | RADIUM-228 | 1.1 | 0 49 | PCI/G |
| SC-25809-S | 08/04/1999 | THORIUM-230 | 1 97 | 0 64 | PCI/G |
| SC-25809-S | 08/04/1999 | URANIUM-238 | 1.445 | 2 89 | PCI/G |
| SC-25809-S-01 | 09/27/1999 | RADIUM-226 | 0 94 | 0.29 | PCI/G |
| SC-25809-S-01 | 09/27/1999 | RADIUM-228 | 0 79 | 0.5 | PCI/G |
| SC-25809-S-01 | 09/27/1999 | THORIUM-230 | 1 13 | 0.64 | PCI/G |
| SC-25809-S-01 | 09/27/1999 | URANIUM-238 | 1.31 | 2 62 | PCI/G |
| SC-25810-S | 05/07/1999 | RADIUM-226 | 1.07 | 0 28 | PCI/G |
| SC-25810-S | 05/07/1999 | RADIUM-228 | 0.87 | 0 44 | PCI/G |
| SC-25810-S | 05/07/1999 | THORIUM-230 | 1 61 | 0 7 | PCI/G |
| SC-25810-S | 05/07/1999 | URANIUM-238 | 1 33 | 2 66 | PCI/G |
| SC-25810-S-01 | 09/27/1999 | RADIUM-226 | 0.8 | 0 35 | PCI/G |
| SC-25810-S-01 | 09/27/1999 | RADIUM-228 | 0.475 | 0 95 | PCI/G |
| SC-25810-S-01 | 09/27/1999 | THORIUM-230 | 0.97 | 0.62 | PCI/G |
| SC-25810-S-01 | 09/27/1999 | URANIUM-238 | 1.19 | 2 38 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-25811-S | 06/16/1999 | RADIUM-226 | 0.72 | 0.26 | PCI/G |
| SC-25811-S | 06/16/1999 | RADIUM-228 | 0.49 | 0.98 | PCI/G |
| SC-25811-S | 06/16/1999 | THORIUM-230 | 0.93 | 0.65 | PCI/G |
| SC-25811-S | 06/16/1999 | URANIUM-238 | 1.3 | 2.6 | PCI/G |
| SC-25812-S | 06/16/1999 | RADIUM-226 | 0.44 | 0.34 | PCI/G |
| SC-25812-S | 06/16/1999 | RADIUM-228 | 0.98 | 0.4 | PCI/G |
| SC-25812-S | 06/16/1999 | THORIUM-230 | 1.43 | 0.64 | PCI/G |
| SC-25812-S | 06/16/1999 | URANIUM-238 | 1.215 | 2.43 | PCI/G |
| SC-25813-S | 08/04/1999 | RADIUM-226 | 0.93 | 0.32 | PCI/G |
| SC-25813-S | 08/04/1999 | RADIUM-228 | 1.41 | 0.41 | PCI/G |
| SC-25813-S | 08/04/1999 | THORIUM-230 | 0.93 | 0.64 | PCI/G |
| SC-25813-S | 08/04/1999 | URANIUM-238 | 1.395 | 2.79 | PCI/G |
| SC-25813-S-01 | 09/27/1999 | RADIUM-226 | 0.77 | 0.34 | PCI/G |
| SC-25813-S-01 | 09/27/1999 | RADIUM-228 | 1.1 | 0.43 | PCI/G |
| SC-25813-S-01 | 09/27/1999 | THORIUM-230 | 1.27 | 0.64 | PCI/G |
| SC-25813-S-01 | 09/27/1999 | URANIUM-238 | 1.315 | 2.63 | PCI/G |
| SC-25814-S | 05/07/1999 | RADIUM-226 | 0.77 | 0.39 | PCI/G |
| SC-25814-S | 05/07/1999 | RADIUM-228 | 1.21 | 0.49 | PCI/G |
| SC-25814-S | 05/07/1999 | THORIUM-230 | 1.81 | 0.7 | PCI/G |
| SC-25814-S | 05/07/1999 | URANIUM-238 | 1.275 | 2.55 | PCI/G |
| SC-25814-S-01 | 09/27/1999 | RADIUM-226 | 0.84 | 0.33 | PCI/G |
| SC-25814-S-01 | 09/27/1999 | RADIUM-228 | 0.44 | 0.88 | PCI/G |
| SC-25814-S-01 | 09/27/1999 | THORIUM-230 | 0.83 | 0.65 | PCI/G |
| SC-25814-S-01 | 09/27/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-25815-S | 06/16/1999 | RADIUM-226 | 0.28 | 0.56 | PCI/G |
| SC-25815-S | 06/16/1999 | RADIUM-228 | 1.26 | 0.48 | PCI/G |
| SC-25815-S | 06/16/1999 | THORIUM-230 | 1.53 | 0.64 | PCI/G |
| SC-25815-S | 06/16/1999 | URANIUM-238 | 1.225 | 2.45 | PCI/G |
| SC-25816-S | 06/16/1999 | RADIUM-226 | 0.56 | 0.28 | PCI/G |
| SC-25816-S | 06/16/1999 | RADIUM-228 | 1.01 | 0.41 | PCI/G |
| SC-25816-S | 06/16/1999 | THORIUM-230 | 1.3 | 0.62 | PCI/G |
| SC-25816-S | 06/16/1999 | URANIUM-238 | 1.265 | 2.53 | PCI/G |
| SC-25817-S | 08/04/1999 | RADIUM-226 | 0.31 | 0.62 | PCI/G |
| SC-25817-S | 08/04/1999 | RADIUM-228 | 0.455 | 0.91 | PCI/G |
| SC-25817-S | 08/04/1999 | THORIUM-230 | 0.82 | 0.64 | PCI/G |
| SC-25817-S | 08/04/1999 | URANIUM-238 | 1.225 | 2.45 | PCI/G |
| SC-25817-S-01 | 09/27/1999 | RADIUM-226 | 0.84 | 0.31 | PCI/G |
| SC-25817-S-01 | 09/27/1999 | RADIUM-228 | 0.84 | 0.45 | PCI/G |
| SC-25817-S-01 | 09/27/1999 | THORIUM-230 | 1.12 | 0.64 | PCI/G |
| SC-25817-S-01 | 09/27/1999 | URANIUM-238 | 1.325 | 2.65 | PCI/G |
| SC-25818-S | 05/07/1999 | RADIUM-226 | 0.86 | 0.28 | PCI/G |
| SC-25818-S | 05/07/1999 | RADIUM-228 | 1.02 | 0.38 | PCI/G |
| SC-25818-S | 05/07/1999 | THORIUM-230 | 1.76 | 0.73 | PCI/G |
| SC-25818-S | 05/07/1999 | URANIUM-238 | 1.25 | 2.5 | PCI/G |
| SC-25818-S-01 | 09/27/1999 | RADIUM-226 | 0.87 | 0.26 | PCI/G |
| SC-25818-S-01 | 09/27/1999 | RADIUM-228 | 0.85 | 0.42 | PCI/G |
| SC-25818-S-01 | 09/27/1999 | THORIUM-230 | 1.16 | 0.62 | PCI/G |
| SC-25818-S-01 | 09/27/1999 | URANIUM-238 | 1.335 | 2.67 | PCI/G |
| SC-25819-S | 06/08/1999 | RADIUM-226 | 0.51 | 0.28 | PCI/G |
| SC-25819-S | 06/08/1999 | RADIUM-228 | 0.485 | 0.97 | PCI/G |
| SC-25819-S | 06/08/1999 | THORIUM-230 | 0.86 | 0.65 | PCI/G |
| SC-25819-S | 06/08/1999 | URANIUM-238 | 1.225 | 2.45 | PCI/G |
| SC-25820-S | 06/08/1999 | RADIUM-226 | 0.8 | 0.27 | PCI/G |
| SC-25820-S | 06/08/1999 | RADIUM-228 | 1.01 | 0.39 | PCI/G |
| SC-25820-S | 06/08/1999 | THORIUM-230 | 5.56 | 0.64 | PCI/G |
| SC-25820-S | 06/08/1999 | URANIUM-238 | 1.345 | 2.69 | PCI/G |
| SC-25901-S-RS | 08/04/1999 | RADIUM-226 | 0.84 | 0.31 | PCI/G |
| SC-25901-S-RS | 08/04/1999 | RADIUM-228 | 1.21 | 0.45 | PCI/G |
| SC-25901-S-RS | 08/04/1999 | THORIUM-230 | 1.22 | 0.64 | PCI/G |
| SC-25901-S-RS | 08/04/1999 | URANIUM-238 | 1.26 | 2.52 | PCI/G |
| SC-25902-S-RS | 08/04/1999 | RADIUM-226 | 0.88 | 0.39 | PCI/G |
| SC-25902-S-RS | 08/04/1999 | RADIUM-228 | 0.445 | 0.89 | PCI/G |
| SC-25902-S-RS | 08/04/1999 | THORIUM-230 | 0.94 | 0.64 | PCI/G |
| SC-25902-S-RS | 08/04/1999 | URANIUM-238 | 1.315 | 2.63 | PCI/G |
| SC-25903-C | 06/08/1999 | RADIUM-226 | 0.26 | 0.52 | PCI/G |
| SC-25903-C | 06/08/1999 | RADIUM-228 | 0.435 | 0.87 | PCI/G |
| SC-25903-C | 06/08/1999 | THORIUM-230 | 0.93 | 0.62 | PCI/G |
| SC-25903-C | 06/08/1999 | URANIUM-238 | 1.3 | 2.6 | PCI/G |
| SC-25903-S | 06/08/1999 | RADIUM-226 | 0.79 | 0.26 | PCI/G |
| SC-25903-S | 06/08/1999 | RADIUM-228 | 1 | 0.44 | PCI/G |
| SC-25903-S | 06/08/1999 | THORIUM-230 | 1.9 | 0.65 | PCI/G |
| SC-25903-S | 06/08/1999 | URANIUM-238 | 1.32 | 2.64 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-25904-S | 06/08/1999 | RADIUM-226 | 0 82 | 0 35 | PCI/G |
| SC-25904-S | 06/08/1999 | RADIUM-228 | 1.39 | 0.56 | PCI/G |
| SC-25904-S | 06/08/1999 | THORIUM-230 | 7 76 | 0 65 | PCI/G |
| SC-25904-S | 06/08/1999 | URANIUM-238 | 1.585 | 3 17 | PCI/G |
| SC-25904-S-RS | 06/15/1999 | THORIUM-230 | 1 02 | 0.65 | PCI/G |
| SC-25905-C | 10/26/1999 | RADIUM-226 | 0 78 | 0.28 | PCI/G |
| SC-25905-C | 10/26/1999 | RADIUM-228 | 1 09 | 0.53 | PCI/G |
| SC-25905-C | 10/26/1999 | THORIUM-230 | 1 8 | 0.64 | PCI/G |
| SC-25905-C | 10/26/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-25905-S | 10/26/1999 | RADIUM-226 | 0.78 | 0.28 | PCI/G |
| SC-25905-S | 10/26/1999 | RADIUM-228 | 0.99 | 0 44 | PCI/G |
| SC-25905-S | 10/26/1999 | THORIUM-230 | 1.03 | 0 64 | PCI/G |
| SC-25905-S | 10/26/1999 | URANIUM-238 | 1.315 | 2.63 | PCI/G |
| SC-25906-S | 10/26/1999 | RADIUM-226 | 0.92 | 0.28 | PCI/G |
| SC-25906-S | 10/26/1999 | RADIUM-228 | 0.455 | 0 91 | PCI/G |
| SC-25906-S | 10/26/1999 | THORIUM-230 | 1 11 | 0.64 | PCI/G |
| SC-25906-S | 10/26/1999 | URANIUM-238 | 1.325 | 2.65 | PCI/G |
| SC-25907-S | 10/26/1999 | RADIUM-226 | 0.77 | 0.29 | PCI/G |
| SC-25907-S | 10/26/1999 | RADIUM-228 | 1.07 | 0.39 | PCI/G |
| SC-25907-S | 10/26/1999 | THORIUM-230 | 1.15 | 0.64 | PCI/G |
| SC-25907-S | 10/26/1999 | URANIUM-238 | 1 295 | 2 59 | PCI/G |
| SC-25908-S | 10/26/1999 | RADIUM-226 | 0.94 | 0.26 | PCI/G |
| SC-25908-S | 10/26/1999 | RADIUM-228 | 1 01 | 0.57 | PCI/G |
| SC-25908-S | 10/26/1999 | THORIUM-230 | 1 02 | 0.64 | PCI/G |
| SC-25908-S | 10/26/1999 | URANIUM-238 | 1 29 | 2.58 | PCI/G |
| SC-25909-S | 10/26/1999 | RADIUM-226 | 0 91 | 0.27 | PCI/G |
| SC-25909-S | 10/26/1999 | RADIUM-228 | 0.9 | 0.45 | PCI/G |
| SC-25909-S | 10/26/1999 | THORIUM-230 | 11 68 | 0.64 | PCI/G |
| SC-25909-S | 10/26/1999 | URANIUM-238 | 1.56 | 2.25 | PCI/G |
| SC-25909-S-RS | 11/03/1999 | THORIUM-230 | 1 77 | 0 65 | PCI/G |
| SC-25910-S | 10/26/1999 | RADIUM-226 | 1 1 | 0 36 | PCI/G |
| SC-25910-S | 10/26/1999 | RADIUM-228 | 0 46 | 0 92 | PCI/G |
| SC-25910-S | 10/26/1999 | THORIUM-230 | 15 77 | 0 64 | PCI/G |
| SC-25910-S | 10/26/1999 | URANIUM-238 | 1.575 | 3 15 | PCI/G |
| SC-25910-S-RS | 11/03/1999 | THORIUM-230 | 0 74 | 0.64 | PCI/G |
| SC-25911-S | 10/26/1999 | RADIUM-226 | 0 78 | 0 32 | PCI/G |
| SC-25911-S | 10/26/1999 | RADIUM-228 | 1 4 | 0 39 | PCI/G |
| SC-25911-S | 10/26/1999 | THORIUM-230 | 1 53 | 0 64 | PCI/G |
| SC-25911-S | 10/26/1999 | URANIUM-238 | 1.305 | 2.61 | PCI/G |
| SC-25912-C | 10/26/1999 | RADIUM-226 | 0 61 | 0 32 | PCI/G |
| SC-25912-C | 10/26/1999 | RADIUM-228 | 0 91 | 0 43 | PCI/G |
| SC-25912-C | 10/26/1999 | THORIUM-230 | 0 84 | 0.64 | PCI/G |
| SC-25912-C | 10/26/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-25912-S | 10/26/1999 | RADIUM-226 | 1.23 | 0 38 | PCI/G |
| SC-25912-S | 10/26/1999 | RADIUM-228 | 0 595 | 1 19 | PCI/G |
| SC-25912-S | 10/26/1999 | THORIUM-230 | 22.57 | 0 64 | PCI/G |
| SC-25912-S | 10/26/1999 | URANIUM-238 | 1 535 | 3 07 | PCI/G |
| SC-25912-S-RS | 11/03/1999 | THORIUM-230 | 1.24 | 0.62 | PCI/G |
| SC-25913-S | 10/13/1999 | PCB | 0 | 41 | UG/KG |
| SC-25913-S | 10/13/1999 | RADIUM-226 | 0 325 | 0 65 | PCI/G |
| SC-25913-S | 10/13/1999 | RADIUM-228 | 0 47 | 0.94 | PCI/G |
| SC-25913-S | 10/13/1999 | THORIUM-230 | 1 97 | 0.65 | PCI/G |
| SC-25913-S | 10/13/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-25914-S | 10/26/1999 | RADIUM-226 | 1.03 | 0.31 | PCI/G |
| SC-25914-S | 10/26/1999 | RADIUM-228 | 1.23 | 0 35 | PCI/G |
| SC-25914-S | 10/26/1999 | THORIUM-230 | 1.2 | 0 64 | PCI/G |
| SC-25914-S | 10/26/1999 | URANIUM-238 | 1 355 | 2 71 | PCI/G |
| SC-25915-S | 10/26/1999 | RADIUM-226 | 0.78 | 0.31 | PCI/G |
| SC-25915-S | 10/26/1999 | RADIUM-228 | 1 08 | 0.43 | PCI/G |
| SC-25915-S | 10/26/1999 | THORIUM-230 | 2 02 | 0.64 | PCI/G |
| SC-25915-S | 10/26/1999 | URANIUM-238 | 1.31 | 2.62 | PCI/G |
| SC-25917-S | 10/13/1999 | PCB | 0 | 39 | UG/KG |
| SC-25917-S | 10/13/1999 | RADIUM-226 | 1 09 | 0 3 | PCI/G |
| SC-25917-S | 10/13/1999 | RADIUM-228 | 1.2 | 0.41 | PCI/G |
| SC-25917-S | 10/13/1999 | THORIUM-230 | 1.27 | 0.64 | PCI/G |
| SC-25917-S | 10/13/1999 | URANIUM-238 | 1.32 | 2 64 | PCI/G |
| SC-25918-S | 10/13/1999 | PCB | 0 | 39 | UG/KG |
| SC-25918-S | 10/13/1999 | RADIUM-226 | 0 97 | 0.33 | PCI/G |
| SC-25918-S | 10/13/1999 | RADIUM-228 | 1 17 | 0 48 | PCI/G |
| SC-25918-S | 10/13/1999 | THORIUM-230 | 0 77 | 0.65 | PCI/G |
| SC-25918-S | 10/13/1999 | URANIUM-238 | 1 34 | 2 68 | PCI/G |
| SC-25919-C | 10/26/1999 | RADIUM-226 | 0 86 | 0 26 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-25919-C | 10/26/1999 | RADIUM-228 | 1.01 | 0.38 | PCI/G |
| SC-25919-C | 10/26/1999 | THORIUM-230 | 0.97 | 0.64 | PCI/G |
| SC-25919-C | 10/26/1999 | URANIUM-238 | 1.3 | 2.6 | PCI/G |
| SC-25919-S | 10/26/1999 | RADIUM-226 | 0.75 | 0.31 | PCI/G |
| SC-25919-S | 10/26/1999 | RADIUM-228 | 0.455 | 0.91 | PCI/G |
| SC-25919-S | 10/26/1999 | THORIUM-230 | 1.7 | 0.64 | PCI/G |
| SC-25919-S | 10/26/1999 | URANIUM-238 | 1.34 | 2.68 | PCI/G |
| SC-25920-S | 10/13/1999 | PCB | 0 | 37 | UG/KG |
| SC-25920-S | 10/13/1999 | RADIUM-226 | 0.91 | 0.3 | PCI/G |
| SC-25920-S | 10/13/1999 | RADIUM-228 | 0.99 | 0.41 | PCI/G |
| SC-25920-S | 10/13/1999 | THORIUM-230 | 0.96 | 0.62 | PCI/G |
| SC-25920-S | 10/13/1999 | URANIUM-238 | 1.365 | 2.73 | PCI/G |
| SC-25921-S | 10/26/1999 | RADIUM-226 | 0.71 | 0.31 | PCI/G |
| SC-25921-S | 10/26/1999 | RADIUM-228 | 0.445 | 0.89 | PCI/G |
| SC-25921-S | 10/26/1999 | THORIUM-230 | 1 | 0.64 | PCI/G |
| SC-25921-S | 10/26/1999 | URANIUM-238 | 1.235 | 2.47 | PCI/G |
| SC-25923-C | 10/26/1999 | RADIUM-226 | 0.85 | 0.29 | PCI/G |
| SC-25923-C | 10/26/1999 | RADIUM-228 | 0.99 | 0.43 | PCI/G |
| SC-25923-C | 10/26/1999 | THORIUM-230 | 1.76 | 0.64 | PCI/G |
| SC-25923-C | 10/26/1999 | URANIUM-238 | 1.285 | 2.57 | PCI/G |
| SC-25923-S | 10/26/1999 | RADIUM-226 | 0.75 | 0.29 | PCI/G |
| SC-25923-S | 10/26/1999 | RADIUM-228 | 0.46 | 0.92 | PCI/G |
| SC-25923-S | 10/26/1999 | THORIUM-230 | 1.02 | 0.64 | PCI/G |
| SC-25923-S | 10/26/1999 | URANIUM-238 | 1.265 | 2.53 | PCI/G |
| SC-26001-S | 10/14/1999 | RADIUM-226 | 0.5 | 0.26 | PCI/G |
| SC-26001-S | 10/14/1999 | RADIUM-228 | 0.99 | 0.45 | PCI/G |
| SC-26001-S | 10/14/1999 | THORIUM-230 | 1.15 | 0.64 | PCI/G |
| SC-26001-S | 10/14/1999 | URANIUM-238 | 1.22 | 2.44 | PCI/G |
| SC-26002-S | 10/14/1999 | RADIUM-226 | 0.6 | 0.31 | PCI/G |
| SC-26002-S | 10/14/1999 | RADIUM-228 | 0.49 | 0.98 | PCI/G |
| SC-26002-S | 10/14/1999 | THORIUM-230 | 1.75 | 0.64 | PCI/G |
| SC-26002-S | 10/14/1999 | URANIUM-238 | 1.285 | 2.57 | PCI/G |
| SC-26003-S | 10/22/1999 | RADIUM-226 | 0.75 | 0.31 | PCI/G |
| SC-26003-S | 10/22/1999 | RADIUM-228 | 1.36 | 0.53 | PCI/G |
| SC-26003-S | 10/22/1999 | THORIUM-230 | 3.16 | 0.64 | PCI/G |
| SC-26003-S | 10/22/1999 | URANIUM-238 | 1.38 | 2.76 | PCI/G |
| SC-26004-S | 10/26/1999 | RADIUM-226 | 0.57 | 0.27 | PCI/G |
| SC-26004-S | 10/26/1999 | RADIUM-228 | 1.29 | 0.38 | PCI/G |
| SC-26004-S | 10/26/1999 | THORIUM-230 | 0.85 | 0.64 | PCI/G |
| SC-26004-S | 10/26/1999 | URANIUM-238 | 1.235 | 2.47 | PCI/G |
| SC-26005-S | 10/14/1999 | RADIUM-226 | 0.5 | 0.28 | PCI/G |
| SC-26005-S | 10/14/1999 | RADIUM-228 | 1.23 | 0.36 | PCI/G |
| SC-26005-S | 10/14/1999 | THORIUM-230 | 1.79 | 0.64 | PCI/G |
| SC-26005-S | 10/14/1999 | URANIUM-238 | 5.89 | 2.4 | PCI/G |
| SC-26006-S | 10/22/1999 | RADIUM-226 | 0.51 | 0.28 | PCI/G |
| SC-26006-S | 10/22/1999 | RADIUM-228 | 1.02 | 0.37 | PCI/G |
| SC-26006-S | 10/22/1999 | THORIUM-230 | 0.78 | 0.64 | PCI/G |
| SC-26006-S | 10/22/1999 | URANIUM-238 | 1.215 | 2.43 | PCI/G |
| SC-26007-S | 10/22/1999 | RADIUM-226 | 0.26 | 0.52 | PCI/G |
| SC-26007-S | 10/22/1999 | RADIUM-228 | 1.03 | 0.43 | PCI/G |
| SC-26007-S | 10/22/1999 | THORIUM-230 | 0.72 | 0.64 | PCI/G |
| SC-26007-S | 10/22/1999 | URANIUM-238 | 1.215 | 2.43 | PCI/G |
| SC-26008-S | 10/26/1999 | RADIUM-226 | 0.67 | 0.3 | PCI/G |
| SC-26008-S | 10/26/1999 | RADIUM-228 | 1.19 | 0.47 | PCI/G |
| SC-26008-S | 10/26/1999 | THORIUM-230 | 1.21 | 0.64 | PCI/G |
| SC-26008-S | 10/26/1999 | URANIUM-238 | 1.135 | 2.27 | PCI/G |
| SC-26009-S | 10/22/1999 | RADIUM-226 | 0.58 | 0.28 | PCI/G |
| SC-26009-S | 10/22/1999 | RADIUM-228 | 0.97 | 0.54 | PCI/G |
| SC-26009-S | 10/22/1999 | THORIUM-230 | 0.97 | 0.64 | PCI/G |
| SC-26009-S | 10/22/1999 | URANIUM-238 | 1.235 | 2.47 | PCI/G |
| SC-26010-S | 10/22/1999 | RADIUM-226 | 0.27 | 0.54 | PCI/G |
| SC-26010-S | 10/22/1999 | RADIUM-228 | 0.415 | 0.83 | PCI/G |
| SC-26010-S | 10/22/1999 | THORIUM-230 | 0.85 | 0.64 | PCI/G |
| SC-26010-S | 10/22/1999 | URANIUM-238 | 1.19 | 2.38 | PCI/G |
| SC-26011-S | 10/26/1999 | RADIUM-226 | 0.75 | 0.28 | PCI/G |
| SC-26011-S | 10/26/1999 | RADIUM-228 | 1.07 | 0.45 | PCI/G |
| SC-26011-S | 10/26/1999 | THORIUM-230 | 3.49 | 0.64 | PCI/G |
| SC-26011-S | 10/26/1999 | URANIUM-238 | 1.37 | 2.74 | PCI/G |
| SC-26012-S | 10/26/1999 | RADIUM-226 | 0.73 | 0.35 | PCI/G |
| SC-26012-S | 10/26/1999 | RADIUM-228 | 1.3 | 0.45 | PCI/G |
| SC-26012-S | 10/26/1999 | THORIUM-230 | 2.24 | 0.64 | PCI/G |
| SC-26012-S | 10/26/1999 | URANIUM-238 | 1.25 | 2.5 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-26013-S | 10/22/1999 | RADIUM-226 | 0.57 | 0 31 | PCI/G |
| SC-26013-S | 10/22/1999 | RADIUM-228 | 0.96 | 0 34 | PCI/G |
| SC-26013-S | 10/22/1999 | THORIUM-230 | 1.35 | 0 64 | PCI/G |
| SC-26013-S | 10/22/1999 | URANIUM-238 | 1 15 | 2.3 | PCI/G |
| SC-26014-S | 10/22/1999 | RADIUM-226 | 0.86 | 0.3 | PCI/G |
| SC-26014-S | 10/22/1999 | RADIUM-228 | 0.445 | 0 89 | PCI/G |
| SC-26014-S | 10/22/1999 | THORIUM-230 | 0.87 | 0.64 | PCI/G |
| SC-26014-S | 10/22/1999 | URANIUM-238 | 1.235 | 2 47 | PCI/G |
| SC-26015-S | 10/26/1999 | RADIUM-226 | 1.32 | 0.37 | PCI/G |
| SC-26015-S | 10/26/1999 | RADIUM-228 | 1.96 | 0.57 | PCI/G |
| SC-26015-S | 10/26/1999 | THORIUM-230 | 8.04 | 0 64 | PCI/G |
| SC-26015-S | 10/26/1999 | URANIUM-238 | 1.66 | 3.32 | PCI/G |
| SC-26015-S-RS | 11/03/1999 | THORIUM-230 | 1.17 | 0.64 | PCI/G |
| SC-26016-S | 10/13/1999 | PCB | 540 | 40 | UG/KG |
| SC-26016-S | 10/13/1999 | RADIUM-226 | 0.87 | 0.27 | PCI/G |
| SC-26016-S | 10/13/1999 | RADIUM-228 | 1.13 | 0 45 | PCI/G |
| SC-26016-S | 10/13/1999 | THORIUM-230 | 2.26 | 0 64 | PCI/G |
| SC-26016-S | 10/13/1999 | URANIUM-238 | 1.275 | 2.55 | PCI/G |
| SC-26017-S | 10/22/1999 | RADIUM-226 | 0.94 | 0.28 | PCI/G |
| SC-26017-S | 10/22/1999 | RADIUM-228 | 1.05 | 0.45 | PCI/G |
| SC-26017-S | 10/22/1999 | THORIUM-230 | 0.89 | 0.64 | PCI/G |
| SC-26017-S | 10/22/1999 | URANIUM-238 | 1.34 | 2.68 | PCI/G |
| SC-26018-S | 10/22/1999 | RADIUM-226 | 0.59 | 0 34 | PCI/G |
| SC-26018-S | 10/22/1999 | RADIUM-228 | 1 46 | 0 41 | PCI/G |
| SC-26018-S | 10/22/1999 | THORIUM-230 | 3.75 | 0.64 | PCI/G |
| SC-26018-S | 10/22/1999 | URANIUM-238 | 1 59 | 3 18 | PCI/G |
| SC-26019-S | 10/26/1999 | RADIUM-226 | 1 09 | 0 34 | PCI/G |
| SC-26019-S | 10/26/1999 | RADIUM-228 | 0 46 | 0 92 | PCI/G |
| SC-26019-S | 10/26/1999 | THORIUM-230 | 1 1 | 0 64 | PCI/G |
| SC-26019-S | 10/26/1999 | URANIUM-238 | 1.325 | 2 65 | PCI/G |
| SC-26020-S | 10/13/1999 | PCB | 0 | 40 | UG/KG |
| SC-26020-S | 10/13/1999 | RADIUM-226 | 0 315 | 0 63 | PCI/G |
| SC-26020-S | 10/13/1999 | RADIUM-228 | 1 44 | 0 44 | PCI/G |
| SC-26020-S | 10/13/1999 | THORIUM-230 | 0.98 | 0 65 | PCI/G |
| SC-26020-S | 10/13/1999 | URANIUM-238 | 1.24 | 2 48 | PCI/G |
| SC-26101-S | 10/15/1999 | RADIUM-226 | 0.62 | 0 26 | PCI/G |
| SC-26101-S | 10/15/1999 | RADIUM-228 | 0.88 | 0 32 | PCI/G |
| SC-26101-S | 10/15/1999 | THORIUM-230 | 1.2 | 0 64 | PCI/G |
| SC-26101-S | 10/15/1999 | URANIUM-238 | 4 17 | 2 37 | PCI/G |
| SC-26102-S | 10/14/1999 | RADIUM-226 | 0.265 | 0 53 | PCI/G |
| SC-26102-S | 10/14/1999 | RADIUM-228 | 1 04 | 0 55 | PCI/G |
| SC-26102-S | 10/14/1999 | THORIUM-230 | 1 23 | 0.64 | PCI/G |
| SC-26102-S | 10/14/1999 | URANIUM-238 | 1 37 | 2 74 | PCI/G |
| SC-26103-S | 10/14/1999 | RADIUM-226 | 0.48 | 0.3 | PCI/G |
| SC-26103-S | 10/14/1999 | RADIUM-228 | 0.95 | 0.39 | PCI/G |
| SC-26103-S | 10/14/1999 | THORIUM-230 | 1.02 | 0.64 | PCI/G |
| SC-26103-S | 10/14/1999 | URANIUM-238 | 1.265 | 2 53 | PCI/G |
| SC-26104-S | 10/14/1999 | RADIUM-226 | 0 39 | 0 27 | PCI/G |
| SC-26104-S | 10/14/1999 | RADIUM-228 | 0 43 | 0 86 | PCI/G |
| SC-26104-S | 10/14/1999 | THORIUM-230 | 1 32 | 0 64 | PCI/G |
| SC-26104-S | 10/14/1999 | URANIUM-238 | 1 395 | 2 79 | PCI/G |
| SC-26105-S | 10/14/1999 | RADIUM-226 | 0 51 | 0.28 | PCI/G |
| SC-26105-S | 10/14/1999 | RADIUM-228 | 0 87 | 0 33 | PCI/G |
| SC-26105-S | 10/14/1999 | THORIUM-230 | 0 88 | 0.64 | PCI/G |
| SC-26105-S | 10/14/1999 | URANIUM-238 | 5 53 | 2 17 | PCI/G |
| SC-26106-S | 10/14/1999 | RADIUM-226 | 0 43 | 0.34 | PCI/G |
| SC-26106-S | 10/14/1999 | RADIUM-228 | 1 07 | 0 48 | PCI/G |
| SC-26106-S | 10/14/1999 | THORIUM-230 | 0.89 | 0 64 | PCI/G |
| SC-26106-S | 10/14/1999 | URANIUM-238 | 1 155 | 2 31 | PCI/G |
| SC-26107-S | 10/14/1999 | RADIUM-226 | 0.43 | 0 27 | PCI/G |
| SC-26107-S | 10/14/1999 | RADIUM-228 | 0 9 | 0 4 | PCI/G |
| SC-26107-S | 10/14/1999 | THORIUM-230 | 0 88 | 0.64 | PCI/G |
| SC-26107-S | 10/14/1999 | URANIUM-238 | 1 15 | 2 3 | PCI/G |
| SC-26108-S | 10/14/1999 | RADIUM-226 | 0.26 | 0.52 | PCI/G |
| SC-26108-S | 10/14/1999 | RADIUM-228 | 0.39 | 0 78 | PCI/G |
| SC-26108-S | 10/14/1999 | THORIUM-230 | 1 01 | 0.64 | PCI/G |
| SC-26108-S | 10/14/1999 | URANIUM-238 | 6 72 | 2.97 | PCI/G |
| SC-26109-S | 10/14/1999 | RADIUM-226 | 0 42 | 0.29 | PCI/G |
| SC-26109-S | 10/14/1999 | RADIUM-228 | 0.94 | 0 42 | PCI/G |
| SC-26109-S | 10/14/1999 | THORIUM-230 | 0 81 | 0 64 | PCI/G |
| SC-26109-S | 10/14/1999 | URANIUM-238 | 5 33 | 2 48 | PCI/G |
| SC-26110-S | 10/14/1999 | RADIUM-226 | 0.235 | 0 47 | PCI/G |

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-26110-S | 10/14/1999 | RADIUM-228 | 0.455 | 0.91 | PCI/G |
| SC-26110-S | 10/14/1999 | THORIUM-230 | 1.08 | 0.64 | PCI/G |
| SC-26110-S | 10/14/1999 | URANIUM-238 | 1.415 | 2.83 | PCI/G |
| SC-26111-S | 10/14/1999 | RADIUM-226 | 0.55 | 0.3 | PCI/G |
| SC-26111-S | 10/14/1999 | RADIUM-228 | 0.95 | 0.37 | PCI/G |
| SC-26111-S | 10/14/1999 | THORIUM-230 | 0.82 | 0.64 | PCI/G |
| SC-26111-S | 10/14/1999 | URANIUM-238 | 6.07 | 2.27 | PCI/G |
| SC-26112-S | 10/22/1999 | RADIUM-226 | 0.82 | 0.26 | PCI/G |
| SC-26112-S | 10/22/1999 | RADIUM-228 | 1.19 | 0.41 | PCI/G |
| SC-26112-S | 10/22/1999 | THORIUM-230 | 1.96 | 0.64 | PCI/G |
| SC-26112-S | 10/22/1999 | URANIUM-238 | 1.53 | 3.06 | PCI/G |
| SC-26113-S | 10/14/1999 | RADIUM-226 | 0.59 | 0.33 | PCI/G |
| SC-26113-S | 10/14/1999 | RADIUM-228 | 1.16 | 0.52 | PCI/G |
| SC-26113-S | 10/14/1999 | THORIUM-230 | 0.84 | 0.64 | PCI/G |
| SC-26113-S | 10/14/1999 | URANIUM-238 | 1.125 | 2.25 | PCI/G |
| SC-26114-S | 10/14/1999 | RADIUM-226 | 0.47 | 0.31 | PCI/G |
| SC-26114-S | 10/14/1999 | RADIUM-228 | 0.88 | 0.37 | PCI/G |
| SC-26114-S | 10/14/1999 | THORIUM-230 | 1.35 | 0.64 | PCI/G |
| SC-26114-S | 10/14/1999 | URANIUM-238 | 4.34 | 2.53 | PCI/G |
| SC-26115-S | 10/14/1999 | RADIUM-226 | 0.58 | 0.28 | PCI/G |
| SC-26115-S | 10/14/1999 | RADIUM-228 | 0.485 | 0.97 | PCI/G |
| SC-26115-S | 10/14/1999 | THORIUM-230 | 0.73 | 0.64 | PCI/G |
| SC-26115-S | 10/14/1999 | URANIUM-238 | 2.92 | 2.92 | PCI/G |
| SC-26116-S | 10/22/1999 | RADIUM-226 | 0.255 | 0.51 | PCI/G |
| SC-26116-S | 10/22/1999 | RADIUM-228 | 0.455 | 0.91 | PCI/G |
| SC-26116-S | 10/22/1999 | THORIUM-230 | 0.85 | 0.64 | PCI/G |
| SC-26116-S | 10/22/1999 | URANIUM-238 | 1.25 | 2.5 | PCI/G |
| SC-26117-S | 10/14/1999 | RADIUM-226 | 0.61 | 0.29 | PCI/G |
| SC-26117-S | 10/14/1999 | RADIUM-228 | 1.03 | 0.43 | PCI/G |
| SC-26117-S | 10/14/1999 | THORIUM-230 | 0.79 | 0.64 | PCI/G |
| SC-26117-S | 10/14/1999 | URANIUM-238 | 5.66 | 2.43 | PCI/G |
| SC-26118-S | 10/14/1999 | RADIUM-226 | 0.295 | 0.59 | PCI/G |
| SC-26118-S | 10/14/1999 | RADIUM-228 | 0.96 | 0.77 | PCI/G |
| SC-26118-S | 10/14/1999 | THORIUM-230 | 1.02 | 0.64 | PCI/G |
| SC-26118-S | 10/14/1999 | URANIUM-238 | 5.1 | 3.81 | PCI/G |
| SC-26119-S | 10/14/1999 | RADIUM-226 | 0.87 | 0.34 | PCI/G |
| SC-26119-S | 10/14/1999 | RADIUM-228 | 1.02 | 0.47 | PCI/G |
| SC-26119-S | 10/14/1999 | THORIUM-230 | 1.4 | 0.64 | PCI/G |
| SC-26119-S | 10/14/1999 | URANIUM-238 | 5.11 | 2.48 | PCI/G |
| SC-26120-S | 10/22/1999 | RADIUM-226 | 0.49 | 0.31 | PCI/G |
| SC-26120-S | 10/22/1999 | RADIUM-228 | 0.465 | 0.93 | PCI/G |
| SC-26120-S | 10/22/1999 | THORIUM-230 | 1.23 | 0.64 | PCI/G |
| SC-26120-S | 10/22/1999 | URANIUM-238 | 1.19 | 2.38 | PCI/G |
| SC-26201-S | 10/14/1999 | RADIUM-226 | 0.63 | 0.36 | PCI/G |
| SC-26201-S | 10/14/1999 | RADIUM-228 | 0.465 | 0.93 | PCI/G |
| SC-26201-S | 10/14/1999 | THORIUM-230 | 0.93 | 0.64 | PCI/G |
| SC-26201-S | 10/14/1999 | URANIUM-238 | 1.455 | 2.91 | PCI/G |
| SC-26202-S | 10/14/1999 | RADIUM-226 | 0.61 | 0.31 | PCI/G |
| SC-26202-S | 10/14/1999 | RADIUM-228 | 0.99 | 0.43 | PCI/G |
| SC-26202-S | 10/14/1999 | THORIUM-230 | 1.44 | 0.64 | PCI/G |
| SC-26202-S | 10/14/1999 | URANIUM-238 | 14.5 | 3.08 | PCI/G |
| SC-26203-S | 10/14/1999 | RADIUM-226 | 0.79 | 0.28 | PCI/G |
| SC-26203-S | 10/14/1999 | RADIUM-228 | 0.47 | 0.94 | PCI/G |
| SC-26203-S | 10/14/1999 | THORIUM-230 | 1.55 | 0.64 | PCI/G |
| SC-26203-S | 10/14/1999 | URANIUM-238 | 7.41 | 2.81 | PCI/G |
| SC-26204-S | 10/22/1999 | RADIUM-226 | 0.72 | 0.26 | PCI/G |
| SC-26204-S | 10/22/1999 | RADIUM-228 | 1.07 | 0.37 | PCI/G |
| SC-26204-S | 10/22/1999 | THORIUM-230 | 0.65 | 0.64 | PCI/G |
| SC-26204-S | 10/22/1999 | URANIUM-238 | 1.335 | 2.67 | PCI/G |
| SC-26205-S | 10/14/1999 | RADIUM-226 | 0.64 | 0.29 | PCI/G |
| SC-26205-S | 10/14/1999 | RADIUM-228 | 1.1 | 0.44 | PCI/G |
| SC-26205-S | 10/14/1999 | THORIUM-230 | 1.18 | 0.64 | PCI/G |
| SC-26205-S | 10/14/1999 | URANIUM-238 | 1.32 | 2.64 | PCI/G |
| SC-26206-S | 10/14/1999 | RADIUM-226 | 0.275 | 0.55 | PCI/G |
| SC-26206-S | 10/14/1999 | RADIUM-228 | 0.525 | 1.05 | PCI/G |
| SC-26206-S | 10/14/1999 | THORIUM-230 | 0.99 | 0.64 | PCI/G |
| SC-26206-S | 10/14/1999 | URANIUM-238 | 1.3 | 2.6 | PCI/G |
| SC-26207-S | 10/14/1999 | RADIUM-226 | 0.63 | 0.28 | PCI/G |
| SC-26207-S | 10/14/1999 | RADIUM-228 | 1.04 | 0.44 | PCI/G |
| SC-26207-S | 10/14/1999 | THORIUM-230 | 1.01 | 0.64 | PCI/G |
| SC-26207-S | 10/14/1999 | URANIUM-238 | 1.49 | 2.98 | PCI/G |
| SC-26208-S | 10/14/1999 | RADIUM-226 | 0.27 | 0.54 | PCI/G |

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-26208-S | 10/14/1999 | RADIUM-228 | 0 45 | 0.9 | PCI/G |
| SC-26208-S | 10/14/1999 | THORIUM-230 | 0 87 | 0.64 | PCI/G |
| SC-26208-S | 10/14/1999 | URANIUM-238 | 1.355 | 2.71 | PCI/G |
| SC-26209-S | 10/14/1999 | RADIUM-226 | 0 57 | 0.29 | PCI/G |
| SC-26209-S | 10/14/1999 | RADIUM-228 | 1.05 | 0.35 | PCI/G |
| SC-26209-S | 10/14/1999 | THORIUM-230 | 1 41 | 0.64 | PCI/G |
| SC-26209-S | 10/14/1999 | URANIUM-238 | 1.175 | 2.35 | PCI/G |
| SC-26210-S | 10/14/1999 | RADIUM-226 | 0 58 | 0.28 | PCI/G |
| SC-26210-S | 10/14/1999 | RADIUM-228 | 0.455 | 0.91 | PCI/G |
| SC-26210-S | 10/14/1999 | THORIUM-230 | 1 | 0.64 | PCI/G |
| SC-26210-S | 10/14/1999 | URANIUM-238 | 1.085 | 2.17 | PCI/G |
| SC-26211-S | 09/15/1999 | RADIUM-226 | 0 275 | 0.55 | PCI/G |
| SC-26211-S | 09/15/1999 | RADIUM-228 | 1 13 | 0.52 | PCI/G |
| SC-26211-S | 09/15/1999 | THORIUM-230 | 1 16 | 0.64 | PCI/G |
| SC-26211-S | 09/15/1999 | URANIUM-238 | 1 19 | 2.38 | PCI/G |
| SC-26212-S | 09/15/1999 | RADIUM-226 | 0.84 | 0 3 | PCI/G |
| SC-26212-S | 09/15/1999 | RADIUM-228 | 1 03 | 0.46 | PCI/G |
| SC-26212-S | 09/15/1999 | THORIUM-230 | 3 45 | 0.62 | PCI/G |
| SC-26212-S | 09/15/1999 | URANIUM-238 | 1 245 | 2.49 | PCI/G |
| SC-26213-S | 09/15/1999 | RADIUM-226 | 0.255 | 0.51 | PCI/G |
| SC-26213-S | 09/15/1999 | RADIUM-228 | 0 475 | 0.95 | PCI/G |
| SC-26213-S | 09/15/1999 | THORIUM-230 | 1 35 | 0 64 | PCI/G |
| SC-26213-S | 09/15/1999 | URANIUM-238 | 1 61 | 3.22 | PCI/G |
| SC-26214-S | 10/14/1999 | RADIUM-226 | 0.4 | 0 3 | PCI/G |
| SC-26214-S | 10/14/1999 | RADIUM-228 | 1 02 | 0 42 | PCI/G |
| SC-26214-S | 10/14/1999 | THORIUM-230 | 0.95 | 0.64 | PCI/G |
| SC-26214-S | 10/14/1999 | URANIUM-238 | 1.375 | 2.75 | PCI/G |
| SC-26215-C | 10/20/1999 | RADIUM-226 | 0.5 | 0.28 | PCI/G |
| SC-26215-C | 10/20/1999 | RADIUM-228 | 0 93 | 0.44 | PCI/G |
| SC-26215-C | 10/20/1999 | THORIUM-230 | 0 89 | 0.64 | PCI/G |
| SC-26215-C | 10/20/1999 | URANIUM-238 | 4 22 | 2.53 | PCI/G |
| SC-26215-S | 10/14/1999 | RADIUM-226 | 0.285 | 0.57 | PCI/G |
| SC-26215-S | 10/14/1999 | RADIUM-228 | 0 415 | 0.83 | PCI/G |
| SC-26215-S | 10/14/1999 | THORIUM-230 | 1 02 | 0 64 | PCI/G |
| SC-26215-S | 10/14/1999 | URANIUM-238 | 1 895 | 3 79 | PCI/G |
| SC-26216-S | 09/15/1999 | RADIUM-226 | 0.73 | 0 26 | PCI/G |
| SC-26216-S | 09/15/1999 | RADIUM-228 | 1 03 | 0 4 | PCI/G |
| SC-26216-S | 09/15/1999 | THORIUM-230 | 0 94 | 0.62 | PCI/G |
| SC-26216-S | 09/15/1999 | URANIUM-238 | 1.325 | 2 65 | PCI/G |
| SC-26217-S | 09/15/1999 | RADIUM-226 | 0 84 | 0 32 | PCI/G |
| SC-26217-S | 09/15/1999 | RADIUM-228 | 1 1 | 0 48 | PCI/G |
| SC-26217-S | 09/15/1999 | THORIUM-230 | 1 68 | 0 64 | PCI/G |
| SC-26217-S | 09/15/1999 | URANIUM-238 | 1.415 | 2.83 | PCI/G |
| SC-26217-S-HS01 | 10/02/1999 | RADIUM-226 | 4 33 | 0 64 | PCI/G |
| SC-26217-S-HS01 | 10/02/1999 | RADIUM-228 | 8.38 | 0.94 | PCI/G |
| SC-26217-S-HS01 | 10/02/1999 | THORIUM-230 | 33.1 | 0 64 | PCI/G |
| SC-26217-S-HS01 | 10/02/1999 | URANIUM-238 | 2.98 | 5 96 | PCI/G |
| SC-26217-S-RS01 | 10/13/1999 | RADIUM-226 | 0.51 | 0 33 | PCI/G |
| SC-26217-S-RS01 | 10/13/1999 | RADIUM-228 | 1.09 | 0.44 | PCI/G |
| SC-26217-S-RS01 | 10/13/1999 | THORIUM-230 | 0 75 | 0 64 | PCI/G |
| SC-26217-S-RS01 | 10/13/1999 | URANIUM-238 | 1 29 | 2 58 | PCI/G |
| SC-26218-S | 09/15/1999 | RADIUM-226 | 0 96 | 0 32 | PCI/G |
| SC-26218-S | 09/15/1999 | RADIUM-228 | 1.1 | 0.44 | PCI/G |
| SC-26218-S | 09/15/1999 | THORIUM-230 | 3 21 | 0 62 | PCI/G |
| SC-26218-S | 09/15/1999 | URANIUM-238 | 1 34 | 2.68 | PCI/G |
| SC-26218-S-HS01 | 10/02/1999 | RADIUM-226 | 0.54 | 0.28 | PCI/G |
| SC-26218-S-HS01 | 10/02/1999 | RADIUM-228 | 1 33 | 0 4 | PCI/G |
| SC-26218-S-HS01 | 10/02/1999 | THORIUM-230 | 0.91 | 0.64 | PCI/G |
| SC-26218-S-HS01 | 10/02/1999 | URANIUM-238 | 1.275 | 2.55 | PCI/G |
| SC-26218-S-HS02 | 10/02/1999 | RADIUM-226 | 0.285 | 0.57 | PCI/G |
| SC-26218-S-HS02 | 10/02/1999 | RADIUM-228 | 0 52 | 1.04 | PCI/G |
| SC-26218-S-HS02 | 10/02/1999 | THORIUM-230 | 1 18 | 0 62 | PCI/G |
| SC-26218-S-HS02 | 10/02/1999 | URANIUM-238 | 1 3 | 2.6 | PCI/G |
| SC-26218-S-RS02 | 10/13/1999 | RADIUM-226 | 0 285 | 0 57 | PCI/G |
| SC-26218-S-RS02 | 10/13/1999 | RADIUM-228 | 0.99 | 0 42 | PCI/G |
| SC-26218-S-RS02 | 10/13/1999 | THORIUM-230 | 0.73 | 0.65 | PCI/G |
| SC-26218-S-RS02 | 10/13/1999 | URANIUM-238 | 1 2 | 2.4 | PCI/G |
| SC-26219-S | 09/15/1999 | RADIUM-226 | 0 73 | 0 36 | PCI/G |
| SC-26219-S | 09/15/1999 | RADIUM-228 | 1 11 | 0 47 | PCI/G |
| SC-26219-S | 09/15/1999 | THORIUM-230 | 1 36 | 0 64 | PCI/G |
| SC-26219-S | 09/15/1999 | URANIUM-238 | 1 165 | 2 33 | PCI/G |
| SC-26219-S-HS01 | 10/02/1999 | RADIUM-226 | 5 47 | 0 67 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-26219-S-HS01 | 10/02/1999 | RADIUM-228 | 10.1 | 0.86 | PCI/G |
| SC-26219-S-HS01 | 10/02/1999 | THORIUM-230 | 78 | 0.62 | PCI/G |
| SC-26219-S-HS01 | 10/02/1999 | URANIUM-238 | 15.6 | 6.5 | PCI/G |
| SC-26219-S-RS01 | 10/13/1999 | RADIUM-226 | 0.39 | 0.24 | PCI/G |
| SC-26219-S-RS01 | 10/13/1999 | RADIUM-228 | 1.15 | 0.38 | PCI/G |
| SC-26219-S-RS01 | 10/13/1999 | THORIUM-230 | 1.28 | 0.62 | PCI/G |
| SC-26219-S-RS01 | 10/13/1999 | URANIUM-238 | 1.225 | 2.45 | PCI/G |
| SC-26220-S | 10/14/1999 | RADIUM-226 | 0.54 | 0.28 | PCI/G |
| SC-26220-S | 10/14/1999 | RADIUM-228 | 0.85 | 0.4 | PCI/G |
| SC-26220-S | 10/14/1999 | THORIUM-230 | 1.07 | 0.64 | PCI/G |
| SC-26220-S | 10/14/1999 | URANIUM-238 | 5.24 | 2.36 | PCI/G |
| SC-26301-C | 07/08/1998 | RADIUM-226 | 1.24 | 0.31 | PCI/G |
| SC-26301-C | 07/08/1998 | RADIUM-228 | 1.17 | 0.37 | PCI/G |
| SC-26301-C | 07/08/1998 | THORIUM-230 | 0.92 | 0.62 | PCI/G |
| SC-26301-C | 07/08/1998 | URANIUM-238 | 1.3 | 2.6 | PCI/G |
| SC-26301-C-01 | 10/06/1999 | PAH | 0 | 18 | UG/KG |
| SC-26301-C-01 | 10/06/1999 | RADIUM-226 | 0.89 | 0.32 | PCI/G |
| SC-26301-C-01 | 10/06/1999 | RADIUM-228 | 1.26 | 0.44 | PCI/G |
| SC-26301-C-01 | 10/06/1999 | THORIUM-230 | 1.03 | 0.62 | PCI/G |
| SC-26301-C-01 | 10/06/1999 | URANIUM-238 | 1.18 | 2.36 | PCI/G |
| SC-26302-S | 07/08/1998 | RADIUM-226 | 1.08 | 0.33 | PCI/G |
| SC-26302-S | 07/08/1998 | RADIUM-228 | 1.26 | 0.3 | PCI/G |
| SC-26302-S | 07/08/1998 | THORIUM-230 | 0.91 | 0.62 | PCI/G |
| SC-26302-S | 07/08/1998 | URANIUM-238 | 1.895 | 3.79 | PCI/G |
| SC-26302-S-01 | 10/06/1999 | PAH | 0 | 19 | UG/KG |
| SC-26302-S-01 | 10/06/1999 | RADIUM-226 | 0.91 | 0.26 | PCI/G |
| SC-26302-S-01 | 10/06/1999 | RADIUM-228 | 0.96 | 0.47 | PCI/G |
| SC-26302-S-01 | 10/06/1999 | THORIUM-230 | 1.13 | 0.64 | PCI/G |
| SC-26302-S-01 | 10/06/1999 | URANIUM-238 | 1.305 | 2.61 | PCI/G |
| SC-26303-S | 07/08/1998 | RADIUM-226 | 1.27 | 0.25 | PCI/G |
| SC-26303-S | 07/08/1998 | RADIUM-228 | 1.35 | 0.35 | PCI/G |
| SC-26303-S | 07/08/1998 | THORIUM-230 | 0.87 | 0.62 | PCI/G |
| SC-26303-S | 07/08/1998 | URANIUM-238 | 1.395 | 2.79 | PCI/G |
| SC-26303-S-01 | 10/06/1999 | PAH | 0 | 18 | UG/KG |
| SC-26303-S-01 | 10/06/1999 | RADIUM-226 | 0.78 | 0.28 | PCI/G |
| SC-26303-S-01 | 10/06/1999 | RADIUM-228 | 0.44 | 0.88 | PCI/G |
| SC-26303-S-01 | 10/06/1999 | THORIUM-230 | 0.99 | 0.64 | PCI/G |
| SC-26303-S-01 | 10/06/1999 | URANIUM-238 | 1.25 | 2.5 | PCI/G |
| SC-26303-S-02 | 10/02/1998 | RADIUM-226 | 1.11 | 0.39 | PCI/G |
| SC-26303-S-02 | 10/02/1998 | RADIUM-228 | 1.08 | 0.57 | PCI/G |
| SC-26303-S-02 | 10/02/1998 | THORIUM-230 | 0.9 | 0.62 | PCI/G |
| SC-26303-S-02 | 10/02/1998 | URANIUM-238 | 1.975 | 3.95 | PCI/G |
| SC-26304-S | 09/15/1999 | RADIUM-226 | 0.88 | 0.27 | PCI/G |
| SC-26304-S | 09/15/1999 | RADIUM-228 | 1.03 | 0.38 | PCI/G |
| SC-26304-S | 09/15/1999 | THORIUM-230 | 1.14 | 0.62 | PCI/G |
| SC-26304-S | 09/15/1999 | URANIUM-238 | 1.265 | 2.53 | PCI/G |
| SC-26306-S | 07/08/1998 | RADIUM-226 | 0.89 | 0.42 | PCI/G |
| SC-26306-S | 07/08/1998 | RADIUM-228 | 1.21 | 0.65 | PCI/G |
| SC-26306-S | 07/08/1998 | THORIUM-230 | 0.95 | 0.62 | PCI/G |
| SC-26306-S | 07/08/1998 | URANIUM-238 | 1.805 | 3.61 | PCI/G |
| SC-26306-S-01 | 10/06/1999 | PAH | 760 | 18 | UG/KG |
| SC-26306-S-01 | 10/06/1999 | RADIUM-226 | 0.7 | 0.31 | PCI/G |
| SC-26306-S-01 | 10/06/1999 | RADIUM-228 | 1.36 | 0.4 | PCI/G |
| SC-26306-S-01 | 10/06/1999 | THORIUM-230 | 1.12 | 0.64 | PCI/G |
| SC-26306-S-01 | 10/06/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-26307-S | 07/08/1998 | RADIUM-226 | 1.4 | 0.31 | PCI/G |
| SC-26307-S | 07/08/1998 | RADIUM-228 | 1.41 | 0.32 | PCI/G |
| SC-26307-S | 07/08/1998 | THORIUM-230 | 1.07 | 0.62 | PCI/G |
| SC-26307-S | 07/08/1998 | URANIUM-238 | 1.355 | 2.71 | PCI/G |
| SC-26307-S-01 | 10/06/1999 | PAH | 0 | 18 | UG/KG |
| SC-26307-S-01 | 10/06/1999 | RADIUM-226 | 0.89 | 0.36 | PCI/G |
| SC-26307-S-01 | 10/06/1999 | RADIUM-228 | 1.09 | 0.52 | PCI/G |
| SC-26307-S-01 | 10/06/1999 | THORIUM-230 | 1 | 0.62 | PCI/G |
| SC-26307-S-01 | 10/06/1999 | URANIUM-238 | 1.24 | 2.48 | PCI/G |
| SC-26307-S-02 | 10/02/1998 | RADIUM-226 | 0.97 | 0.26 | PCI/G |
| SC-26307-S-02 | 10/02/1998 | RADIUM-228 | 1.3 | 0.39 | PCI/G |
| SC-26307-S-02 | 10/02/1998 | THORIUM-230 | 1.1 | 0.62 | PCI/G |
| SC-26307-S-02 | 10/02/1998 | URANIUM-238 | 1.37 | 2.74 | PCI/G |
| SC-26308-S | 09/15/1999 | RADIUM-226 | 0.9 | 0.29 | PCI/G |
| SC-26308-S | 09/15/1999 | RADIUM-228 | 0.445 | 0.89 | PCI/G |
| SC-26308-S | 09/15/1999 | THORIUM-230 | 0.96 | 0.64 | PCI/G |
| SC-26308-S | 09/15/1999 | URANIUM-238 | 1.2 | 2.4 | PCI/G |

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-26309-C-01 | 10/06/1999 | PAH | 450 | 18 | UG/KG |
| SC-26309-C-01 | 10/06/1999 | RADIUM-226 | 0.77 | 0 3 | PCI/G |
| SC-26309-C-01 | 10/06/1999 | RADIUM-228 | 1.22 | 0 39 | PCI/G |
| SC-26309-C-01 | 10/06/1999 | THORIUM-230 | 1.38 | 0.64 | PCI/G |
| SC-26309-C-01 | 10/06/1999 | URANIUM-238 | 1.33 | 2.66 | PCI/G |
| SC-26310-S | 07/08/1998 | RADIUM-226 | 0.9 | 0.29 | PCI/G |
| SC-26310-S | 07/08/1998 | RADIUM-228 | 1.81 | 0 5 | PCI/G |
| SC-26310-S | 07/08/1998 | THORIUM-230 | 0.69 | 0.62 | PCI/G |
| SC-26310-S | 07/08/1998 | URANIUM-238 | 1.91 | 3.82 | PCI/G |
| SC-26310-S-01 | 10/06/1999 | PAH | 1600 | 91 | UG/KG |
| SC-26310-S-01 | 10/06/1999 | RADIUM-226 | 0.73 | 0.3 | PCI/G |
| SC-26310-S-01 | 10/06/1999 | RADIUM-228 | 0.455 | 0.91 | PCI/G |
| SC-26310-S-01 | 10/06/1999 | THORIUM-230 | 1.12 | 0.64 | PCI/G |
| SC-26310-S-01 | 10/06/1999 | URANIUM-238 | 1.225 | 2.45 | PCI/G |
| SC-26311-S | 07/08/1998 | RADIUM-226 | 1.13 | 0.26 | PCI/G |
| SC-26311-S | 07/08/1998 | RADIUM-228 | 1.47 | 0.34 | PCI/G |
| SC-26311-S | 07/08/1998 | THORIUM-230 | 0.95 | 0.62 | PCI/G |
| SC-26311-S | 07/08/1998 | URANIUM-238 | 2.12 | 1.64 | PCI/G |
| SC-26311-S-01 | 10/06/1999 | PAH | 0 | 18 | UG/KG |
| SC-26311-S-01 | 10/06/1999 | RADIUM-226 | 0.76 | 0.29 | PCI/G |
| SC-26311-S-01 | 10/06/1999 | RADIUM-228 | 1.12 | 0 43 | PCI/G |
| SC-26311-S-01 | 10/06/1999 | THORIUM-230 | 0.98 | 0.64 | PCI/G |
| SC-26311-S-01 | 10/06/1999 | URANIUM-238 | 1.21 | 2.42 | PCI/G |
| SC-26311-S-02 | 10/02/1998 | RADIUM-226 | 1 09 | 0.29 | PCI/G |
| SC-26311-S-02 | 10/02/1998 | RADIUM-228 | 1 23 | 0.42 | PCI/G |
| SC-26311-S-02 | 10/02/1998 | THORIUM-230 | 1 07 | 0.62 | PCI/G |
| SC-26311-S-02 | 10/02/1998 | URANIUM-238 | 1.915 | 3.83 | PCI/G |
| SC-26312-S | 09/15/1999 | RADIUM-226 | 0 71 | 0 33 | PCI/G |
| SC-26312-S | 09/15/1999 | RADIUM-228 | 0 415 | 0.83 | PCI/G |
| SC-26312-S | 09/15/1999 | THORIUM-230 | 1.15 | 0 64 | PCI/G |
| SC-26312-S | 09/15/1999 | URANIUM-238 | 1.33 | 2 66 | PCI/G |
| SC-26312-S-HS01 | 10/02/1999 | RADIUM-226 | 2.09 | 0 48 | PCI/G |
| SC-26312-S-HS01 | 10/02/1999 | RADIUM-228 | 3 1 | 0 82 | PCI/G |
| SC-26312-S-HS01 | 10/02/1999 | THORIUM-230 | 26.6 | 0.64 | PCI/G |
| SC-26312-S-HS01 | 10/02/1999 | URANIUM-238 | 2.245 | 4 49 | PCI/G |
| SC-26312-S-RS01 | 10/13/1999 | RADIUM-226 | 0 78 | 0 37 | PCI/G |
| SC-26312-S-RS01 | 10/13/1999 | RADIUM-228 | 0 46 | 0.92 | PCI/G |
| SC-26312-S-RS01 | 10/13/1999 | THORIUM-230 | 1 05 | 0.65 | PCI/G |
| SC-26312-S-RS01 | 10/13/1999 | URANIUM-238 | 1.275 | 2 55 | PCI/G |
| SC-26314-S | 07/08/1998 | RADIUM-226 | 0 83 | 0 41 | PCI/G |
| SC-26314-S | 07/08/1998 | RADIUM-228 | 0 57 | 1 14 | PCI/G |
| SC-26314-S | 07/08/1998 | THORIUM-230 | 0.94 | 0 62 | PCI/G |
| SC-26314-S | 07/08/1998 | URANIUM-238 | 1.655 | 3 31 | PCI/G |
| SC-26314-S-01 | 10/06/1999 | PAH | 420 | 18 | UG/KG |
| SC-26314-S-01 | 10/06/1999 | RADIUM-226 | 0 75 | 0 34 | PCI/G |
| SC-26314-S-01 | 10/06/1999 | RADIUM-228 | 0.445 | 0 89 | PCI/G |
| SC-26314-S-01 | 10/06/1999 | THORIUM-230 | 0.99 | 0 62 | PCI/G |
| SC-26314-S-01 | 10/06/1999 | URANIUM-238 | 1.19 | 2 38 | PCI/G |
| SC-26315-S | 07/08/1998 | RADIUM-226 | 1 58 | 0 39 | PCI/G |
| SC-26315-S | 07/08/1998 | RADIUM-228 | 1.32 | 0 57 | PCI/G |
| SC-26315-S | 07/08/1998 | THORIUM-230 | 1 2 | 0 62 | PCI/G |
| SC-26315-S | 07/08/1998 | URANIUM-238 | 1 76 | 3 52 | PCI/G |
| SC-26315-S-01 | 10/06/1999 | PAH | 240 | 18 | UG/KG |
| SC-26315-S-01 | 10/06/1999 | RADIUM-226 | 0 89 | 0.31 | PCI/G |
| SC-26315-S-01 | 10/06/1999 | RADIUM-228 | 1 | 0 45 | PCI/G |
| SC-26315-S-01 | 10/06/1999 | THORIUM-230 | 1 13 | 0.64 | PCI/G |
| SC-26315-S-01 | 10/06/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-26315-S-02 | 10/02/1998 | RADIUM-226 | 1.25 | 0.32 | PCI/G |
| SC-26315-S-02 | 10/02/1998 | RADIUM-228 | 1.27 | 0.32 | PCI/G |
| SC-26315-S-02 | 10/02/1998 | THORIUM-230 | 1.27 | 0.62 | PCI/G |
| SC-26315-S-02 | 10/02/1998 | URANIUM-238 | 1.39 | 2.78 | PCI/G |
| SC-26316-S | 09/15/1999 | RADIUM-226 | 0.84 | 0.33 | PCI/G |
| SC-26316-S | 09/15/1999 | RADIUM-228 | 1.21 | 0.45 | PCI/G |
| SC-26316-S | 09/15/1999 | THORIUM-230 | 2.55 | 0.62 | PCI/G |
| SC-26316-S | 09/15/1999 | URANIUM-238 | 1.305 | 2.61 | PCI/G |
| SC-26318-S | 09/30/1999 | PAH | 34 | 18 | UG/KG |
| SC-26318-S | 09/30/1999 | RADIUM-226 | 0.77 | 0.28 | PCI/G |
| SC-26318-S | 09/30/1999 | RADIUM-228 | 0.475 | 0 95 | PCI/G |
| SC-26318-S | 09/30/1999 | THORIUM-230 | 1 16 | 0 62 | PCI/G |
| SC-26318-S | 09/30/1999 | URANIUM-238 | 1.2 | 2 4 | PCI/G |
| SC-26319-S | 07/08/1998 | RADIUM-226 | 1.59 | 0 29 | PCI/G |
| SC-26319-S | 07/08/1998 | RADIUM-228 | 1 35 | 0 42 | PCI/G |

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-26319-S | 07/08/1998 | THORIUM-230 | 1.32 | 0.62 | PCI/G |
| SC-26319-S | 07/08/1998 | URANIUM-238 | 1.56 | 2.05 | PCI/G |
| SC-26319-S-01 | 09/30/1999 | PAH | 0 | 18 | UG/KG |
| SC-26319-S-01 | 09/30/1999 | RADIUM-226 | 0.72 | 0.28 | PCI/G |
| SC-26319-S-01 | 09/30/1999 | RADIUM-228 | 1.13 | 0.46 | PCI/G |
| SC-26319-S-01 | 09/30/1999 | THORIUM-230 | 1.26 | 0.64 | PCI/G |
| SC-26319-S-01 | 09/30/1999 | URANIUM-238 | 1.265 | 2.53 | PCI/G |
| SC-26320-S | 09/15/1999 | RADIUM-226 | 0.315 | 0.63 | PCI/G |
| SC-26320-S | 09/15/1999 | RADIUM-228 | 0.475 | 0.95 | PCI/G |
| SC-26320-S | 09/15/1999 | THORIUM-230 | 0.95 | 0.64 | PCI/G |
| SC-26320-S | 09/15/1999 | URANIUM-238 | 1.3 | 2.6 | PCI/G |
| SC-26320-S-RS | 11/12/1999 | PAH | 29 | 17 | UG/KG |
| SC-26321-S-HS01 | 10/02/1999 | RADIUM-226 | 8.18 | 0.72 | PCI/G |
| SC-26321-S-HS01 | 10/02/1999 | RADIUM-228 | 15.5 | 0.94 | PCI/G |
| SC-26321-S-HS01 | 10/02/1999 | THORIUM-230 | 163 | 0.64 | PCI/G |
| SC-26321-S-HS01 | 10/02/1999 | URANIUM-238 | 29 | 6.23 | PCI/G |
| SC-26321-S-HS02 | 10/02/1999 | RADIUM-226 | 3.96 | 0.76 | PCI/G |
| SC-26321-S-HS02 | 10/02/1999 | RADIUM-228 | 10.2 | 1.04 | PCI/G |
| SC-26321-S-HS02 | 10/02/1999 | THORIUM-230 | 65.3 | 0.62 | PCI/G |
| SC-26321-S-HS02 | 10/02/1999 | URANIUM-238 | 16.1 | 6.36 | PCI/G |
| SC-26321-S-RS01 | 10/13/1999 | RADIUM-226 | 0.96 | 0.32 | PCI/G |
| SC-26321-S-RS01 | 10/13/1999 | RADIUM-228 | 1.01 | 0.45 | PCI/G |
| SC-26321-S-RS01 | 10/13/1999 | THORIUM-230 | 1.11 | 0.64 | PCI/G |
| SC-26321-S-RS01 | 10/13/1999 | URANIUM-238 | 1.345 | 2.69 | PCI/G |
| SC-26321-S-RS02 | 10/15/1999 | RADIUM-226 | 2.84 | 0.53 | PCI/G |
| SC-26321-S-RS02 | 10/15/1999 | RADIUM-228 | 3.7 | 0.62 | PCI/G |
| SC-26321-S-RS02 | 10/15/1999 | THORIUM-230 | 15.7 | 0.64 | PCI/G |
| SC-26321-S-RS02 | 10/15/1999 | URANIUM-238 | 1.915 | 3.83 | PCI/G |
| SC-26321-S-RS02-RS | 10/23/1999 | RADIUM-226 | 0.305 | 0.61 | PCI/G |
| SC-26321-S-RS02-RS | 10/23/1999 | RADIUM-228 | 1.34 | 0.43 | PCI/G |
| SC-26321-S-RS02-RS | 10/23/1999 | THORIUM-230 | 1.06 | 0.64 | PCI/G |
| SC-26321-S-RS02-RS | 10/23/1999 | URANIUM-238 | 1.165 | 2.33 | PCI/G |
| SC-26323-S | 07/08/1998 | RADIUM-226 | 1.52 | 0.4 | PCI/G |
| SC-26323-S | 07/08/1998 | RADIUM-228 | 1.32 | 0.51 | PCI/G |
| SC-26323-S | 07/08/1998 | THORIUM-230 | 1.1 | 0.62 | PCI/G |
| SC-26323-S | 07/08/1998 | URANIUM-238 | 1.93 | 3.86 | PCI/G |
| SC-26323-S-01 | 09/30/1999 | PAH | 0 | 18 | UG/KG |
| SC-26323-S-01 | 09/30/1999 | RADIUM-226 | 0.76 | 0.32 | PCI/G |
| SC-26323-S-01 | 09/30/1999 | RADIUM-228 | 1.03 | 0.53 | PCI/G |
| SC-26323-S-01 | 09/30/1999 | THORIUM-230 | 0.99 | 0.64 | PCI/G |
| SC-26323-S-01 | 09/30/1999 | URANIUM-238 | 1.26 | 2.52 | PCI/G |
| SC-26324-S | 07/08/1998 | RADIUM-226 | 1.54 | 0.24 | PCI/G |
| SC-26324-S | 07/08/1998 | RADIUM-228 | 1.23 | 0.42 | PCI/G |
| SC-26324-S | 07/08/1998 | THORIUM-230 | 1.21 | 0.62 | PCI/G |
| SC-26324-S | 07/08/1998 | URANIUM-238 | 2.24 | 2.02 | PCI/G |
| SC-26324-S-RS | 09/02/1999 | PAH | 0 | 16 | UG/KG |
| SC-26324-S-RS | 09/02/1999 | RADIUM-226 | 0.29 | 0.58 | PCI/G |
| SC-26324-S-RS | 09/02/1999 | RADIUM-228 | 0.455 | 0.91 | PCI/G |
| SC-26324-S-RS | 09/02/1999 | THORIUM-230 | 0.99 | 0.62 | PCI/G |
| SC-26324-S-RS | 09/02/1999 | URANIUM-238 | 1.125 | 2.25 | PCI/G |
| SC-26401-S | 09/15/1999 | RADIUM-226 | 0.76 | 0.26 | PCI/G |
| SC-26401-S | 09/15/1999 | RADIUM-228 | 0.72 | 0.45 | PCI/G |
| SC-26401-S | 09/15/1999 | THORIUM-230 | 0.99 | 0.62 | PCI/G |
| SC-26401-S | 09/15/1999 | URANIUM-238 | 1.275 | 2.55 | PCI/G |
| SC-26401-S-HS01 | 10/02/1999 | RADIUM-226 | 4.14 | 0.64 | PCI/G |
| SC-26401-S-HS01 | 10/02/1999 | RADIUM-228 | 9.04 | 0.88 | PCI/G |
| SC-26401-S-HS01 | 10/02/1999 | THORIUM-230 | 81.5 | 0.62 | PCI/G |
| SC-26401-S-HS01 | 10/02/1999 | URANIUM-238 | 12.8 | 5.89 | PCI/G |
| SC-26401-S-RS01 | 10/13/1999 | RADIUM-226 | 0.32 | 0.64 | PCI/G |
| SC-26401-S-RS01 | 10/13/1999 | RADIUM-228 | 1.28 | 0.45 | PCI/G |
| SC-26401-S-RS01 | 10/13/1999 | THORIUM-230 | 1.19 | 0.65 | PCI/G |
| SC-26401-S-RS01 | 10/13/1999 | URANIUM-238 | 1.3 | 2.6 | PCI/G |
| SC-26402-S | 09/15/1999 | RADIUM-226 | 0.71 | 0.32 | PCI/G |
| SC-26402-S | 09/15/1999 | RADIUM-228 | 0.475 | 0.95 | PCI/G |
| SC-26402-S | 09/15/1999 | THORIUM-230 | 1.05 | 0.64 | PCI/G |
| SC-26402-S | 09/15/1999 | URANIUM-238 | 1.225 | 2.45 | PCI/G |
| SC-26402-S-HS01 | 10/02/1999 | RADIUM-226 | 7.48 | 1.19 | PCI/G |
| SC-26402-S-HS01 | 10/02/1999 | RADIUM-228 | 32.4 | 1.59 | PCI/G |
| SC-26402-S-HS01 | 10/02/1999 | THORIUM-230 | 187.6 | 0.64 | PCI/G |
| SC-26402-S-HS01 | 10/02/1999 | URANIUM-238 | 39.2 | 10.1 | PCI/G |
| SC-26402-S-RS01 | 10/15/1999 | RADIUM-226 | 2.68 | 0.37 | PCI/G |
| SC-26402-S-RS01 | 10/15/1999 | RADIUM-228 | 3.38 | 0.59 | PCI/G |

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| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-26402-S-RS01 | 10/15/1999 | THORIUM-230 | 32 8 | 0 64 | PCI/G |
| SC-26402-S-RS01 | 10/15/1999 | URANIUM-238 | 2.065 | 4 13 | PCI/G |
| SC-26402-S-RS02 | 10/23/1999 | RADIUM-226 | 0.6 | 0 3 | PCI/G |
| SC-26402-S-RS02 | 10/23/1999 | RADIUM-228 | 1 1 | 0 38 | PCI/G |
| SC-26402-S-RS02 | 10/23/1999 | THORIUM-230 | 1 37 | 0 64 | PCI/G |
| SC-26402-S-RS02 | 10/23/1999 | URANIUM-238 | 1.305 | 2 61 | PCI/G |
| SC-26403-S | 09/15/1999 | RADIUM-226 | 0 84 | 0.32 | PCI/G |
| SC-26403-S | 09/15/1999 | RADIUM-228 | 0.98 | 0 41 | PCI/G |
| SC-26403-S | 09/15/1999 | THORIUM-230 | 1.32 | 0.62 | PCI/G |
| SC-26403-S | 09/15/1999 | URANIUM-238 | 1.245 | 2.49 | PCI/G |
| SC-26403-S-HS01 | 10/02/1999 | RADIUM-226 | 5.89 | 0.61 | PCI/G |
| SC-26403-S-HS01 | 10/02/1999 | RADIUM-228 | 9.08 | 0.86 | PCI/G |
| SC-26403-S-HS01 | 10/02/1999 | THORIUM-230 | 89.6 | 0.64 | PCI/G |
| SC-26403-S-HS01 | 10/02/1999 | URANIUM-238 | 3.2 | 6 4 | PCI/G |
| SC-26403-S-HS02 | 10/02/1999 | RADIUM-226 | 0.91 | 0.47 | PCI/G |
| SC-26403-S-HS02 | 10/02/1999 | RADIUM-228 | 2.63 | 0.54 | PCI/G |
| SC-26403-S-HS02 | 10/02/1999 | THORIUM-230 | 12.4 | 0.62 | PCI/G |
| SC-26403-S-HS02 | 10/02/1999 | URANIUM-238 | 1 775 | 3.55 | PCI/G |
| SC-26403-S-HS02-HS01 | 10/08/1999 | THORIUM-230 | 2.12 | 0.64 | PCI/G |
| SC-26403-S-HS02-HS02 | 10/08/1999 | THORIUM-230 | 1 6 | 0 64 | PCI/G |
| SC-26403-S-HS02-HS03 | 10/08/1999 | THORIUM-230 | 1 4 | 0 62 | PCI/G |
| SC-26403-S-HS02-HS04 | 10/08/1999 | THORIUM-230 | 2.8 | 0 64 | PCI/G |
| SC-26403-S-RS01 | 10/13/1999 | RADIUM-226 | 0 49 | 0.29 | PCI/G |
| SC-26403-S-RS01 | 10/13/1999 | RADIUM-228 | 1 08 | 0.42 | PCI/G |
| SC-26403-S-RS01 | 10/13/1999 | THORIUM-230 | 0 85 | 0.62 | PCI/G |
| SC-26403-S-RS01 | 10/13/1999 | URANIUM-238 | 1 145 | 2.29 | PCI/G |
| SC-26404-S | 09/15/1999 | RADIUM-226 | 0 58 | 0.28 | PCI/G |
| SC-26404-S | 09/15/1999 | RADIUM-228 | 0 47 | 0 94 | PCI/G |
| SC-26404-S | 09/15/1999 | THORIUM-230 | 1 39 | 0.64 | PCI/G |
| SC-26404-S | 09/15/1999 | URANIUM-238 | 1 31 | 2.62 | PCI/G |
| SC-26405-S | 09/15/1999 | RADIUM-226 | 0 82 | 0.27 | PCI/G |
| SC-26405-S | 09/15/1999 | RADIUM-228 | 1.01 | 0.44 | PCI/G |
| SC-26405-S | 09/15/1999 | THORIUM-230 | 1.04 | 0.62 | PCI/G |
| SC-26405-S | 09/15/1999 | URANIUM-238 | 1 295 | 2 59 | PCI/G |
| SC-26405-S-HS01 | 10/02/1999 | RADIUM-226 | 1 91 | 0 45 | PCI/G |
| SC-26405-S-HS01 | 10/02/1999 | RADIUM-228 | 2 89 | 0 63 | PCI/G |
| SC-26405-S-HS01 | 10/02/1999 | THORIUM-230 | 31 9 | 0 62 | PCI/G |
| SC-26405-S-HS01 | 10/02/1999 | URANIUM-238 | 6 16 | 4 16 | PCI/G |
| SC-26405-S-RS01 | 10/15/1999 | RADIUM-226 | 0.285 | 0 57 | PCI/G |
| SC-26405-S-RS01 | 10/15/1999 | RADIUM-228 | 0 47 | 0 94 | PCI/G |
| SC-26405-S-RS01 | 10/15/1999 | THORIUM-230 | 6 68 | 0 64 | PCI/G |
| SC-26405-S-RS01 | 10/15/1999 | URANIUM-238 | 5 16 | 2 99 | PCI/G |
| SC-26405-S-RS02 | 10/23/1999 | RADIUM-226 | 0 76 | 0 25 | PCI/G |
| SC-26405-S-RS02 | 10/23/1999 | RADIUM-228 | 1 12 | 0 33 | PCI/G |
| SC-26405-S-RS02 | 10/23/1999 | THORIUM-230 | 0 97 | 0 64 | PCI/G |
| SC-26405-S-RS02 | 10/23/1999 | URANIUM-238 | 1 28 | 2 56 | PCI/G |
| SC-26406-S | 07/08/1998 | RADIUM-226 | 1 23 | 0 39 | PCI/G |
| SC-26406-S | 07/08/1998 | RADIUM-228 | 1 56 | 0 55 | PCI/G |
| SC-26406-S | 07/08/1998 | THORIUM-230 | 1 06 | 0 62 | PCI/G |
| SC-26406-S | 07/08/1998 | URANIUM-238 | 4 94 | 3 84 | PCI/G |
| SC-26406-S-RS | 09/02/1999 | PAH | 0 | 16 | UG/KG |
| SC-26406-S-RS | 09/02/1999 | RADIUM-226 | 0 91 | 0 33 | PCI/G |
| SC-26406-S-RS | 09/02/1999 | RADIUM-228 | 1 12 | 0 43 | PCI/G |
| SC-26406-S-RS | 09/02/1999 | THORIUM-230 | 1 29 | 0 64 | PCI/G |
| SC-26406-S-RS | 09/02/1999 | URANIUM-238 | 1.66 | 2 28 | PCI/G |
| SC-26407-C-HS01 | 10/02/1999 | RADIUM-226 | 1 98 | 0.44 | PCI/G |
| SC-26407-C-HS01 | 10/02/1999 | RADIUM-228 | 4.42 | 0.65 | PCI/G |
| SC-26407-C-HS01 | 10/02/1999 | THORIUM-230 | 313 | 0.64 | PCI/G |
| SC-26407-C-HS01 | 10/02/1999 | URANIUM-238 | 2.24 | 4.48 | PCI/G |
| SC-26407-C-RS01 | 10/15/1999 | RADIUM-226 | 0 73 | 0.32 | PCI/G |
| SC-26407-C-RS01 | 10/15/1999 | RADIUM-228 | 0.93 | 0 44 | PCI/G |
| SC-26407-C-RS01 | 10/15/1999 | THORIUM-230 | 2 1 | 0 64 | PCI/G |
| SC-26407-C-RS01 | 10/15/1999 | URANIUM-238 | 1.395 | 2 79 | PCI/G |
| SC-26407-S | 09/02/1999 | PAH | 0 | 18 | UG/KG |
| SC-26407-S | 09/02/1999 | RADIUM-226 | 0.325 | 0.65 | PCI/G |
| SC-26407-S | 09/02/1999 | RADIUM-228 | 1 15 | 0 51 | PCI/G |
| SC-26407-S | 09/02/1999 | THORIUM-230 | 0 97 | 0 64 | PCI/G |
| SC-26407-S | 09/02/1999 | URANIUM-238 | 1 205 | 2 41 | PCI/G |
| SC-26407-S-HS01 | 10/02/1999 | RADIUM-226 | 10.2 | 1 19 | PCI/G |
| SC-26407-S-HS01 | 10/02/1999 | RADIUM-228 | 30 6 | 1.65 | PCI/G |
| SC-26407-S-HS01 | 10/02/1999 | THORIUM-230 | 21 4 | 0 64 | PCI/G |
| SC-26407-S-HS01 | 10/02/1999 | URANIUM-238 | 42 5 | 10 5 | PCI/G |

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| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-26407-S-RS01 | 10/15/1999 | RADIUM-226 | 0.84 | 0.35 | PCI/G |
| SC-26407-S-RS01 | 10/15/1999 | RADIUM-228 | 1.39 | 0.48 | PCI/G |
| SC-26407-S-RS01 | 10/15/1999 | THORIUM-230 | 1.93 | 0.64 | PCI/G |
| SC-26407-S-RS01 | 10/15/1999 | URANIUM-238 | 8.18 | 3.36 | PCI/G |
| SC-26408-S | 09/15/1999 | RADIUM-226 | 0.66 | 0.32 | PCI/G |
| SC-26408-S | 09/15/1999 | RADIUM-228 | 0.495 | 0.99 | PCI/G |
| SC-26408-S | 09/15/1999 | THORIUM-230 | 1.26 | 0.64 | PCI/G |
| SC-26408-S | 09/15/1999 | URANIUM-238 | 1.2 | 2.4 | PCI/G |
| SC-26408-S-HS01 | 10/02/1999 | RADIUM-226 | 3.12 | 0.55 | PCI/G |
| SC-26408-S-HS01 | 10/02/1999 | RADIUM-228 | 5.47 | 0.65 | PCI/G |
| SC-26408-S-HS01 | 10/02/1999 | THORIUM-230 | 68.6 | 0.62 | PCI/G |
| SC-26408-S-HS01 | 10/02/1999 | URANIUM-238 | 2.69 | 5.38 | PCI/G |
| SC-26408-S-RS01 | 10/15/1999 | RADIUM-226 | 0.66 | 0.3 | PCI/G |
| SC-26408-S-RS01 | 10/15/1999 | RADIUM-228 | 1.51 | 0.27 | PCI/G |
| SC-26408-S-RS01 | 10/15/1999 | THORIUM-230 | 1.17 | 0.64 | PCI/G |
| SC-26408-S-RS01 | 10/15/1999 | URANIUM-238 | 1.275 | 2.55 | PCI/G |
| SC-26409-S | 09/15/1999 | RADIUM-226 | 0.77 | 0.3 | PCI/G |
| SC-26409-S | 09/15/1999 | RADIUM-228 | 1.11 | 0.45 | PCI/G |
| SC-26409-S | 09/15/1999 | THORIUM-230 | 0.92 | 0.62 | PCI/G |
| SC-26409-S | 09/15/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-26410-S | 09/15/1999 | RADIUM-226 | 0.7 | 0.32 | PCI/G |
| SC-26410-S | 09/15/1999 | RADIUM-228 | 0.97 | 0.46 | PCI/G |
| SC-26410-S | 09/15/1999 | THORIUM-230 | 1.22 | 0.64 | PCI/G |
| SC-26410-S | 09/15/1999 | URANIUM-238 | 1.17 | 2.34 | PCI/G |
| SC-26412-C | 07/09/1998 | RADIUM-226 | 0.91 | 0.39 | PCI/G |
| SC-26412-C | 07/09/1998 | RADIUM-228 | 0.605 | 1.21 | PCI/G |
| SC-26412-C | 07/09/1998 | THORIUM-230 | 1.58 | 0.62 | PCI/G |
| SC-26412-C | 07/09/1998 | URANIUM-238 | 1.95 | 3.9 | PCI/G |
| SC-26412-C-01 | 09/30/1999 | PAH | 0 | 18 | UG/KG |
| SC-26412-C-01 | 09/30/1999 | RADIUM-226 | 0.53 | 0.32 | PCI/G |
| SC-26412-C-01 | 09/30/1999 | RADIUM-228 | 1.21 | 0.36 | PCI/G |
| SC-26412-C-01 | 09/30/1999 | THORIUM-230 | 1.31 | 0.62 | PCI/G |
| SC-26412-C-01 | 09/30/1999 | URANIUM-238 | 1.34 | 2.68 | PCI/G |
| SC-26413-S | 07/09/1998 | RADIUM-226 | 1.26 | 0.31 | PCI/G |
| SC-26413-S | 07/09/1998 | RADIUM-228 | 1.12 | 0.38 | PCI/G |
| SC-26413-S | 07/09/1998 | THORIUM-230 | 1.54 | 0.62 | PCI/G |
| SC-26413-S | 07/09/1998 | URANIUM-238 | 1.36 | 2.72 | PCI/G |
| SC-26413-S-01 | 09/30/1999 | PAH | 0 | 18 | UG/KG |
| SC-26413-S-01 | 09/30/1999 | RADIUM-226 | 0.85 | 0.29 | PCI/G |
| SC-26413-S-01 | 09/30/1999 | RADIUM-228 | 0.445 | 0.89 | PCI/G |
| SC-26413-S-01 | 09/30/1999 | THORIUM-230 | 1.04 | 0.62 | PCI/G |
| SC-26413-S-01 | 09/30/1999 | URANIUM-238 | 1.165 | 2.33 | PCI/G |
| SC-26414-S | 07/09/1998 | RADIUM-226 | 1.6 | 0.42 | PCI/G |
| SC-26414-S | 07/09/1998 | RADIUM-228 | 1.08 | 0.72 | PCI/G |
| SC-26414-S | 07/09/1998 | THORIUM-230 | 1.3 | 0.62 | PCI/G |
| SC-26414-S | 07/09/1998 | URANIUM-238 | 2.005 | 4.01 | PCI/G |
| SC-26414-S-01 | 09/30/1999 | PAH | 0 | 17 | UG/KG |
| SC-26414-S-01 | 09/30/1999 | RADIUM-226 | 0.97 | 0.3 | PCI/G |
| SC-26414-S-01 | 09/30/1999 | RADIUM-228 | 1.19 | 0.46 | PCI/G |
| SC-26414-S-01 | 09/30/1999 | THORIUM-230 | 1.09 | 0.64 | PCI/G |
| SC-26414-S-01 | 09/30/1999 | URANIUM-238 | 1.33 | 2.66 | PCI/G |
| SC-26414-S-RS | 09/02/1999 | PAH | 0 | 16 | UG/KG |
| SC-26414-S-RS | 09/02/1999 | RADIUM-226 | 0.88 | 0.31 | PCI/G |
| SC-26414-S-RS | 09/02/1999 | RADIUM-228 | 0.365 | 0.73 | PCI/G |
| SC-26414-S-RS | 09/02/1999 | THORIUM-230 | 1.21 | 0.62 | PCI/G |
| SC-26414-S-RS | 09/02/1999 | URANIUM-238 | 1.35 | 2.7 | PCI/G |
| SC-26415-S | 07/09/1998 | RADIUM-226 | 1.43 | 0.27 | PCI/G |
| SC-26415-S | 07/09/1998 | RADIUM-228 | 1.18 | 0.47 | PCI/G |
| SC-26415-S | 07/09/1998 | THORIUM-230 | 1.22 | 0.62 | PCI/G |
| SC-26415-S | 07/09/1998 | URANIUM-238 | 1.5 | 3 | PCI/G |
| SC-26415-S-01 | 09/30/1999 | PAH | 0 | 18 | UG/KG |
| SC-26415-S-01 | 09/30/1999 | RADIUM-226 | 0.32 | 0.64 | PCI/G |
| SC-26415-S-01 | 09/30/1999 | RADIUM-228 | 0.47 | 0.94 | PCI/G |
| SC-26415-S-01 | 09/30/1999 | THORIUM-230 | 1.31 | 0.64 | PCI/G |
| SC-26415-S-01 | 09/30/1999 | URANIUM-238 | 1.275 | 2.55 | PCI/G |
| SC-26415-S-RS | 09/02/1999 | PAH | 0 | 16 | UG/KG |
| SC-26415-S-RS | 09/02/1999 | RADIUM-226 | 0.83 | 0.33 | PCI/G |
| SC-26415-S-RS | 09/02/1999 | RADIUM-228 | 0.42 | 0.84 | PCI/G |
| SC-26415-S-RS | 09/02/1999 | THORIUM-230 | 1.07 | 0.62 | PCI/G |
| SC-26415-S-RS | 09/02/1999 | URANIUM-238 | 1.38 | 2.76 | PCI/G |
| SC-26416-S | 07/09/1998 | RADIUM-226 | 1.11 | 0.27 | PCI/G |
| SC-26416-S | 07/09/1998 | RADIUM-228 | 1.11 | 0.37 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-26416-S | 07/09/1998 | THORIUM-230 | 1.34 | 0.62 | PCI/G |
| SC-26416-S | 07/09/1998 | URANIUM-238 | 1.32 | 2.64 | PCI/G |
| SC-26416-S-01 | 09/30/1999 | PAH | 0 | 19 | UG/KG |
| SC-26416-S-01 | 09/30/1999 | RADIUM-226 | 0.76 | 0.3 | PCI/G |
| SC-26416-S-01 | 09/30/1999 | RADIUM-228 | 1.18 | 0 45 | PCI/G |
| SC-26416-S-01 | 09/30/1999 | THORIUM-230 | 1.3 | 0.62 | PCI/G |
| SC-26416-S-01 | 09/30/1999 | URANIUM-238 | 1.36 | 2.72 | PCI/G |
| SC-26416-S-RS | 09/02/1999 | PAH | 0 | 17 | UG/KG |
| SC-26416-S-RS | 09/02/1999 | RADIUM-226 | 0.76 | 0.28 | PCI/G |
| SC-26416-S-RS | 09/02/1999 | RADIUM-228 | 1.01 | 0.42 | PCI/G |
| SC-26416-S-RS | 09/02/1999 | THORIUM-230 | 0.99 | 0.64 | PCI/G |
| SC-26416-S-RS | 09/02/1999 | URANIUM-238 | 1.225 | 2.45 | PCI/G |
| SC-26417-S | 09/02/1999 | PAH | 0 | 16 | UG/KG |
| SC-26417-S | 09/02/1999 | RADIUM-226 | 0 71 | 0.32 | PCI/G |
| SC-26417-S | 09/02/1999 | RADIUM-228 | 0.44 | 0.88 | PCI/G |
| SC-26417-S | 09/02/1999 | THORIUM-230 | 0.99 | 0.64 | PCI/G |
| SC-26417-S | 09/02/1999 | URANIUM-238 | 1.17 | 2.34 | PCI/G |
| SC-26417-S-01 | 09/30/1999 | PAH | 0 | 19 | UG/KG |
| SC-26417-S-01 | 09/30/1999 | RADIUM-226 | 0.66 | 0.32 | PCI/G |
| SC-26417-S-01 | 09/30/1999 | RADIUM-228 | 0.405 | 0.81 | PCI/G |
| SC-26417-S-01 | 09/30/1999 | THORIUM-230 | 1.21 | 0.62 | PCI/G |
| SC-26417-S-01 | 09/30/1999 | URANIUM-238 | 1.215 | 2.43 | PCI/G |
| SC-26418-S | 09/02/1999 | PAH | 0 | 17 | UG/KG |
| SC-26418-S | 09/02/1999 | RADIUM-226 | 0.85 | 0.29 | PCI/G |
| SC-26418-S | 09/02/1999 | RADIUM-228 | 0.325 | 0.65 | PCI/G |
| SC-26418-S | 09/02/1999 | THORIUM-230 | 0.93 | 0.62 | PCI/G |
| SC-26418-S | 09/02/1999 | URANIUM-238 | 1.255 | 2 51 | PCI/G |
| SC-26418-S-01 | 09/30/1999 | PAH | 0 | 18 | UG/KG |
| SC-26418-S-01 | 09/30/1999 | RADIUM-226 | 0 89 | 0 32 | PCI/G |
| SC-26418-S-01 | 09/30/1999 | RADIUM-228 | 1 07 | 0 49 | PCI/G |
| SC-26418-S-01 | 09/30/1999 | THORIUM-230 | 1.03 | 0 64 | PCI/G |
| SC-26418-S-01 | 09/30/1999 | URANIUM-238 | 1 345 | 2 69 | PCI/G |
| SC-26421-C | 07/09/1998 | RADIUM-226 | 1 06 | 0.27 | PCI/G |
| SC-26421-C | 07/09/1998 | RADIUM-228 | 0 535 | 1 07 | PCI/G |
| SC-26421-C | 07/09/1998 | THORIUM-230 | 1 31 | 0 62 | PCI/G |
| SC-26421-C | 07/09/1998 | URANIUM-238 | 1.86 | 3 72 | PCI/G |
| SC-26421-C-01 | 09/30/1999 | PAH | 0 | 18 | UG/KG |
| SC-26421-C-01 | 09/30/1999 | RADIUM-226 | 0 73 | 0 37 | PCI/G |
| SC-26421-C-01 | 09/30/1999 | RADIUM-228 | 1 42 | 0.48 | PCI/G |
| SC-26421-C-01 | 09/30/1999 | THORIUM-230 | 0 87 | 0.64 | PCI/G |
| SC-26421-C-01 | 09/30/1999 | URANIUM-238 | 1 235 | 2 47 | PCI/G |
| SC-26421-C-RS | 09/02/1999 | PAH | 0 | 16 | UG/KG |
| SC-26421-C-RS | 09/02/1999 | RADIUM-226 | 0.72 | 0 28 | PCI/G |
| SC-26421-C-RS | 09/02/1999 | RADIUM-228 | 0.89 | 0 53 | PCI/G |
| SC-26421-C-RS | 09/02/1999 | THORIUM-230 | 1 53 | 0 62 | PCI/G |
| SC-26421-C-RS | 09/02/1999 | URANIUM-238 | 1 31 | 2 62 | PCI/G |
| SC-26423-C | 09/02/1999 | PAH | 0 | 18 | UG/KG |
| SC-26423-C | 09/02/1999 | RADIUM-226 | 0.82 | 0 26 | PCI/G |
| SC-26423-C | 09/02/1999 | RADIUM-228 | 0.345 | 0 69 | PCI/G |
| SC-26423-C | 09/02/1999 | THORIUM-230 | 0 97 | 0 64 | PCI/G |
| SC-26423-C | 09/02/1999 | URANIUM-238 | 1.245 | 2 49 | PCI/G |
| SC-26423-C-01 | 09/30/1999 | PAH | 0 | 19 | UG/KG |
| SC-26423-C-01 | 09/30/1999 | RADIUM-226 | 0.79 | 0.31 | PCI/G |
| SC-26423-C-01 | 09/30/1999 | RADIUM-228 | 1.29 | 0.41 | PCI/G |
| SC-26423-C-01 | 09/30/1999 | THORIUM-230 | 1.33 | 0.62 | PCI/G |
| SC-26423-C-01 | 09/30/1999 | URANIUM-238 | 1.32 | 2.64 | PCI/G |
| SC-26425-C | 09/02/1999 | PAH | 0 | 18 | UG/KG |
| SC-26425-C | 09/02/1999 | RADIUM-226 | 0.72 | 0.31 | PCI/G |
| SC-26425-C | 09/02/1999 | RADIUM-228 | 0.46 | 0.92 | PCI/G |
| SC-26425-C | 09/02/1999 | THORIUM-230 | 1 74 | 0.64 | PCI/G |
| SC-26425-C | 09/02/1999 | URANIUM-238 | 1.315 | 2.63 | PCI/G |
| SC-26425-C-01 | 09/30/1999 | PAH | 0 | 19 | UG/KG |
| SC-26425-C-01 | 09/30/1999 | RADIUM-226 | 0.89 | 0.33 | PCI/G |
| SC-26425-C-01 | 09/30/1999 | RADIUM-228 | 0 93 | 0.59 | PCI/G |
| SC-26425-C-01 | 09/30/1999 | THORIUM-230 | 1.43 | 0.62 | PCI/G |
| SC-26425-C-01 | 09/30/1999 | URANIUM-238 | 1.415 | 2.83 | PCI/G |
| SC-26501-S | 09/15/1999 | RADIUM-226 | 0.64 | 0.33 | PCI/G |
| SC-26501-S | 09/15/1999 | RADIUM-228 | 1.11 | 0.38 | PCI/G |
| SC-26501-S | 09/15/1999 | THORIUM-230 | 1 16 | 0.62 | PCI/G |
| SC-26501-S | 09/15/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-26502-S | 09/15/1999 | RADIUM-226 | 0 72 | 0 25 | PCI/G |
| SC-26502-S | 09/15/1999 | RADIUM-228 | 0.475 | 0 95 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-26502-S | 09/15/1999 | THORIUM-230 | 1.42 | 0.64 | PCI/G |
| SC-26502-S | 09/15/1999 | URANIUM-238 | 1.165 | 2.33 | PCI/G |
| SC-26503-S | 09/15/1999 | RADIUM-226 | 0.22 | 0.44 | PCI/G |
| SC-26503-S | 09/15/1999 | RADIUM-228 | 1.01 | 0.43 | PCI/G |
| SC-26503-S | 09/15/1999 | THORIUM-230 | 1.53 | 0.62 | PCI/G |
| SC-26503-S | 09/15/1999 | URANIUM-238 | 2.055 | 4.11 | PCI/G |
| SC-26504-S | 10/22/1999 | RADIUM-226 | 1.19 | 0.34 | PCI/G |
| SC-26504-S | 10/22/1999 | RADIUM-228 | 0.555 | 1.11 | PCI/G |
| SC-26504-S | 10/22/1999 | THORIUM-230 | 6.07 | 0.64 | PCI/G |
| SC-26504-S | 10/22/1999 | URANIUM-238 | 1.61 | 3.22 | PCI/G |
| SC-26505-S | 09/15/1999 | RADIUM-226 | 0.275 | 0.55 | PCI/G |
| SC-26505-S | 09/15/1999 | RADIUM-228 | 1.4 | 0.67 | PCI/G |
| SC-26505-S | 09/15/1999 | THORIUM-230 | 1.14 | 0.64 | PCI/G |
| SC-26505-S | 09/15/1999 | URANIUM-238 | 1.225 | 2.45 | PCI/G |
| SC-26506-S | 09/15/1999 | RADIUM-226 | 0.76 | 0.32 | PCI/G |
| SC-26506-S | 09/15/1999 | RADIUM-228 | 0.93 | 0.47 | PCI/G |
| SC-26506-S | 09/15/1999 | THORIUM-230 | 1.12 | 0.62 | PCI/G |
| SC-26506-S | 09/15/1999 | URANIUM-238 | 1.32 | 2.64 | PCI/G |
| SC-26507-S | 09/15/1999 | RADIUM-226 | 0.83 | 0.32 | PCI/G |
| SC-26507-S | 09/15/1999 | RADIUM-228 | 0.44 | 0.88 | PCI/G |
| SC-26507-S | 09/15/1999 | THORIUM-230 | 1.33 | 0.64 | PCI/G |
| SC-26507-S | 09/15/1999 | URANIUM-238 | 1.275 | 2.55 | PCI/G |
| SC-26508-S | 09/15/1999 | RADIUM-226 | 0.82 | 0.28 | PCI/G |
| SC-26508-S | 09/15/1999 | RADIUM-228 | 1.36 | 0.34 | PCI/G |
| SC-26508-S | 09/15/1999 | THORIUM-230 | 2.6 | 0.62 | PCI/G |
| SC-26508-S | 09/15/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-26509-S | 09/02/1999 | PAH | 0 | 17 | UG/KG |
| SC-26509-S | 09/02/1999 | RADIUM-226 | 0.83 | 0.26 | PCI/G |
| SC-26509-S | 09/02/1999 | RADIUM-228 | 1.03 | 0.35 | PCI/G |
| SC-26509-S | 09/02/1999 | THORIUM-230 | 1.76 | 0.62 | PCI/G |
| SC-26509-S | 09/02/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-26509-S-01 | 09/30/1999 | PAH | 0 | 19 | UG/KG |
| SC-26509-S-01 | 09/30/1999 | RADIUM-226 | 0.72 | 0.29 | PCI/G |
| SC-26509-S-01 | 09/30/1999 | RADIUM-228 | 1.18 | 0.45 | PCI/G |
| SC-26509-S-01 | 09/30/1999 | THORIUM-230 | 1.11 | 0.64 | PCI/G |
| SC-26509-S-01 | 09/30/1999 | URANIUM-238 | 1.33 | 2.66 | PCI/G |
| SC-26510-S | 09/02/1999 | PAH | 33 | 17 | UG/KG |
| SC-26510-S | 09/02/1999 | RADIUM-226 | 0.71 | 0.33 | PCI/G |
| SC-26510-S | 09/02/1999 | RADIUM-228 | 1.01 | 0.55 | PCI/G |
| SC-26510-S | 09/02/1999 | THORIUM-230 | 1.07 | 0.62 | PCI/G |
| SC-26510-S | 09/02/1999 | URANIUM-238 | 1.205 | 2.41 | PCI/G |
| SC-26510-S-01 | 09/30/1999 | PAH | 0 | 19 | UG/KG |
| SC-26510-S-01 | 09/30/1999 | RADIUM-226 | 1.03 | 0.33 | PCI/G |
| SC-26510-S-01 | 09/30/1999 | RADIUM-228 | 0.89 | 0.52 | PCI/G |
| SC-26510-S-01 | 09/30/1999 | THORIUM-230 | 1.15 | 0.64 | PCI/G |
| SC-26510-S-01 | 09/30/1999 | URANIUM-238 | 1.265 | 2.53 | PCI/G |
| SC-26511-S | 09/02/1999 | PAH | 0 | 18 | UG/KG |
| SC-26511-S | 09/02/1999 | RADIUM-226 | 0.67 | 0.31 | PCI/G |
| SC-26511-S | 09/02/1999 | RADIUM-228 | 0.97 | 0.48 | PCI/G |
| SC-26511-S | 09/02/1999 | THORIUM-230 | 1.89 | 0.62 | PCI/G |
| SC-26511-S | 09/02/1999 | URANIUM-238 | 1.275 | 2.55 | PCI/G |
| SC-26512-S | 09/02/1999 | PAH | 760 | 18 | UG/KG |
| SC-26512-S | 09/02/1999 | RADIUM-226 | 0.81 | 0.22 | PCI/G |
| SC-26512-S | 09/02/1999 | RADIUM-228 | 1.09 | 0.33 | PCI/G |
| SC-26512-S | 09/02/1999 | THORIUM-230 | 1.17 | 0.62 | PCI/G |
| SC-26512-S | 09/02/1999 | URANIUM-238 | 0.85 | 1.7 | PCI/G |
| SC-26514-S | 09/02/1999 | PAH | 0 | 16 | UG/KG |
| SC-26514-S | 09/02/1999 | RADIUM-226 | 0.79 | 0.28 | PCI/G |
| SC-26514-S | 09/02/1999 | RADIUM-228 | 1.23 | 0.35 | PCI/G |
| SC-26514-S | 09/02/1999 | THORIUM-230 | 1.15 | 0.64 | PCI/G |
| SC-26514-S | 09/02/1999 | URANIUM-238 | 1.295 | 2.59 | PCI/G |
| SC-26514-S-01 | 09/30/1999 | PAH | 333 | 19 | UG/KG |
| SC-26514-S-01 | 09/30/1999 | RADIUM-226 | 0.65 | 0.31 | PCI/G |
| SC-26514-S-01 | 09/30/1999 | RADIUM-228 | 0.98 | 0.5 | PCI/G |
| SC-26514-S-01 | 09/30/1999 | THORIUM-230 | 1.13 | 0.62 | PCI/G |
| SC-26514-S-01 | 09/30/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-26515-S | 09/02/1999 | PAH | 0 | 17 | UG/KG |
| SC-26515-S | 09/02/1999 | RADIUM-226 | 0.79 | 0.3 | PCI/G |
| SC-26515-S | 09/02/1999 | RADIUM-228 | 0.435 | 0.87 | PCI/G |
| SC-26515-S | 09/02/1999 | THORIUM-230 | 1 | 0.64 | PCI/G |
| SC-26515-S | 09/02/1999 | URANIUM-238 | 1.34 | 2.68 | PCI/G |
| SC-26515-S-01 | 09/30/1999 | PAH | 0 | 18 | UG/KG |

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| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-26515-S-01 | 09/30/1999 | RADIUM-226 | 0.325 | 0.65 | PCI/G |
| SC-26515-S-01 | 09/30/1999 | RADIUM-228 | 0.455 | 0.91 | PCI/G |
| SC-26515-S-01 | 09/30/1999 | THORIUM-230 | 1 1 | 0.62 | PCI/G |
| SC-26515-S-01 | 09/30/1999 | URANIUM-238 | 1.355 | 2.71 | PCI/G |
| SC-26515-S-RS | 07/07/2000 | PAH | 38 | 18 | UG/KG |
| SC-26515-S-RS | 07/07/2000 | RADIUM-226 | 1 06 | 0 23 | PCI/G |
| SC-26515-S-RS | 07/07/2000 | RADIUM-228 | 1.28 | 0 35 | PCI/G |
| SC-26515-S-RS | 07/07/2000 | THORIUM-230 | 1.07 | 0.64 | PCI/G |
| SC-26515-S-RS | 07/07/2000 | URANIUM-238 | 1.16 | 2.32 | PCI/G |
| SC-26516-S | 09/02/1999 | PAH | 0 | 16 | UG/KG |
| SC-26516-S | 09/02/1999 | RADIUM-226 | 0 72 | 0 3 | PCI/G |
| SC-26516-S | 09/02/1999 | RADIUM-228 | 0.87 | 0.37 | PCI/G |
| SC-26516-S | 09/02/1999 | THORIUM-230 | 0.88 | 0.62 | PCI/G |
| SC-26516-S | 09/02/1999 | URANIUM-238 | 1 26 | 2.52 | PCI/G |
| SC-26516-S-01 | 09/30/1999 | PAH | 20 | 19 | UG/KG |
| SC-26516-S-01 | 09/30/1999 | RADIUM-226 | 0.82 | 0.28 | PCI/G |
| SC-26516-S-01 | 09/30/1999 | RADIUM-228 | 1 11 | 0.4 | PCI/G |
| SC-26516-S-01 | 09/30/1999 | THORIUM-230 | 1 6 | 0.64 | PCI/G |
| SC-26516-S-01 | 09/30/1999 | URANIUM-238 | 1.285 | 2 57 | PCI/G |
| SC-26601-S | 10/22/1999 | RADIUM-226 | 0 86 | 0 31 | PCI/G |
| SC-26601-S | 10/22/1999 | RADIUM-228 | 1 19 | 0 36 | PCI/G |
| SC-26601-S | 10/22/1999 | THORIUM-230 | 1.46 | 0 64 | PCI/G |
| SC-26601-S | 10/22/1999 | URANIUM-238 | 1.305 | 2 61 | PCI/G |
| SC-26602-S | 10/22/1999 | RADIUM-226 | 0.285 | 0 57 | PCI/G |
| SC-26602-S | 10/22/1999 | RADIUM-228 | 0.53 | 1.06 | PCI/G |
| SC-26602-S | 10/22/1999 | THORIUM-230 | 2.29 | 0.64 | PCI/G |
| SC-26602-S | 10/22/1999 | URANIUM-238 | 1 325 | 2.65 | PCI/G |
| SC-26603-S | 10/26/1999 | RADIUM-226 | 1.05 | 0.32 | PCI/G |
| SC-26603-S | 10/26/1999 | RADIUM-228 | 1 29 | 0 36 | PCI/G |
| SC-26603-S | 10/26/1999 | THORIUM-230 | 7 3 | 0 64 | PCI/G |
| SC-26603-S | 10/26/1999 | URANIUM-238 | 1 36 | 2 72 | PCI/G |
| SC-26603-S-RS | 11/03/1999 | THORIUM-230 | 0 99 | 0.65 | PCI/G |
| SC-26604-S | 10/13/1999 | PCB | 0 | 44 | UG/KG |
| SC-26604-S | 10/13/1999 | RADIUM-226 | 0.285 | 0.57 | PCI/G |
| SC-26604-S | 10/13/1999 | RADIUM-228 | 0 9 | 0 5 | PCI/G |
| SC-26604-S | 10/13/1999 | THORIUM-230 | 0 96 | 0.65 | PCI/G |
| SC-26604-S | 10/13/1999 | URANIUM-238 | 1.235 | 2.47 | PCI/G |
| SC-26605-S | 10/22/1999 | RADIUM-226 | 1 23 | 0 31 | PCI/G |
| SC-26605-S | 10/22/1999 | RADIUM-228 | 1 13 | 0 4 | PCI/G |
| SC-26605-S | 10/22/1999 | THORIUM-230 | 3 34 | 0.64 | PCI/G |
| SC-26605-S | 10/22/1999 | URANIUM-238 | 1 32 | 2.64 | PCI/G |
| SC-26606-S | 10/22/1999 | RADIUM-226 | 0 315 | 0.63 | PCI/G |
| SC-26606-S | 10/22/1999 | RADIUM-228 | 1 16 | 0.45 | PCI/G |
| SC-26606-S | 10/22/1999 | THORIUM-230 | 1 07 | 0 64 | PCI/G |
| SC-26606-S | 10/22/1999 | URANIUM-238 | 1 17 | 2 34 | PCI/G |
| SC-26607-S | 10/26/1999 | RADIUM-226 | 1 | 0 26 | PCI/G |
| SC-26607-S | 10/26/1999 | RADIUM-228 | 0 455 | 0 91 | PCI/G |
| SC-26607-S | 10/26/1999 | THORIUM-230 | 0 85 | 0 64 | PCI/G |
| SC-26607-S | 10/26/1999 | URANIUM-238 | 1 29 | 2 58 | PCI/G |
| SC-26608-S | 10/26/1999 | RADIUM-226 | 1 05 | 0 26 | PCI/G |
| SC-26608-S | 10/26/1999 | RADIUM-228 | 0 95 | 0 42 | PCI/G |
| SC-26608-S | 10/26/1999 | THORIUM-230 | 0 96 | 0 64 | PCI/G |
| SC-26608-S | 10/26/1999 | URANIUM-238 | 1 315 | 2 63 | PCI/G |
| SC-26609-S | 09/02/1999 | RADIUM-226 | 0.98 | 0 28 | PCI/G |
| SC-26609-S | 09/02/1999 | RADIUM-228 | 0 97 | 0 46 | PCI/G |
| SC-26609-S | 09/02/1999 | THORIUM-230 | 1 08 | 0.62 | PCI/G |
| SC-26609-S | 09/02/1999 | URANIUM-238 | 1 25 | 2.5 | PCI/G |
| SC-26610-S | 10/22/1999 | RADIUM-226 | 1.09 | 0.27 | PCI/G |
| SC-26610-S | 10/22/1999 | RADIUM-228 | 1 39 | 0.43 | PCI/G |
| SC-26610-S | 10/22/1999 | THORIUM-230 | 5.37 | 0.64 | PCI/G |
| SC-26610-S | 10/22/1999 | URANIUM-238 | 1 37 | 2 74 | PCI/G |
| SC-26611-S | 10/26/1999 | RADIUM-226 | 1 24 | 0 33 | PCI/G |
| SC-26611-S | 10/26/1999 | RADIUM-228 | 0.425 | 0 85 | PCI/G |
| SC-26611-S | 10/26/1999 | THORIUM-230 | 0 95 | 0.64 | PCI/G |
| SC-26611-S | 10/26/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-26612-S | 10/26/1999 | RADIUM-226 | 0 94 | 0.24 | PCI/G |
| SC-26612-S | 10/26/1999 | RADIUM-228 | 1 03 | 0.47 | PCI/G |
| SC-26612-S | 10/26/1999 | THORIUM-230 | 1 35 | 0 64 | PCI/G |
| SC-26612-S | 10/26/1999 | URANIUM-238 | 1 34 | 2 68 | PCI/G |
| SC-26613-S | 09/02/1999 | PAH | 0 | 17 | UG/KG |
| SC-26613-S | 09/02/1999 | RADIUM-226 | 0 87 | 0 3 | PCI/G |
| SC-26613-S | 09/02/1999 | RADIUM-228 | 0 99 | 0.45 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-26613-S | 09/02/1999 | THORIUM-230 | 1.38 | 0.64 | PCI/G |
| SC-26613-S | 09/02/1999 | URANIUM-238 | 1.355 | 2.71 | PCI/G |
| SC-26613-S-01 | 09/30/1999 | PAH | 0 | 18 | UG/KG |
| SC-26613-S-01 | 09/30/1999 | RADIUM-226 | 0.85 | 0.37 | PCI/G |
| SC-26613-S-01 | 09/30/1999 | RADIUM-228 | 0.41 | 0.82 | PCI/G |
| SC-26613-S-01 | 09/30/1999 | THORIUM-230 | 1.12 | 0.64 | PCI/G |
| SC-26613-S-01 | 09/30/1999 | URANIUM-238 | 1.35 | 2.7 | PCI/G |
| SC-26614-S | 09/02/1999 | PAH | 0 | 16 | UG/KG |
| SC-26614-S | 09/02/1999 | RADIUM-226 | 0.88 | 0.28 | PCI/G |
| SC-26614-S | 09/02/1999 | RADIUM-228 | 1.24 | 0.4 | PCI/G |
| SC-26614-S | 09/02/1999 | THORIUM-230 | 0.95 | 0.64 | PCI/G |
| SC-26614-S | 09/02/1999 | URANIUM-238 | 1.235 | 2.47 | PCI/G |
| SC-26614-S-01 | 09/30/1999 | PAH | 0 | 17 | UG/KG |
| SC-26614-S-01 | 09/30/1999 | RADIUM-226 | 1 | 0.31 | PCI/G |
| SC-26614-S-01 | 09/30/1999 | RADIUM-228 | 1.11 | 0.33 | PCI/G |
| SC-26614-S-01 | 09/30/1999 | THORIUM-230 | 1.01 | 0.62 | PCI/G |
| SC-26614-S-01 | 09/30/1999 | URANIUM-238 | 1.44 | 1.74 | PCI/G |
| SC-26615-S | 09/30/1999 | PAH | 0 | 18 | UG/KG |
| SC-26615-S | 09/30/1999 | RADIUM-226 | 0.87 | 0.24 | PCI/G |
| SC-26615-S | 09/30/1999 | RADIUM-228 | 0.455 | 0.91 | PCI/G |
| SC-26615-S | 09/30/1999 | THORIUM-230 | 1.39 | 0.62 | PCI/G |
| SC-26615-S | 09/30/1999 | URANIUM-238 | 1.25 | 2.5 | PCI/G |
| SC-26616-C | 10/26/1999 | RADIUM-226 | 0.69 | 0.3 | PCI/G |
| SC-26616-C | 10/26/1999 | RADIUM-228 | 1.19 | 0.43 | PCI/G |
| SC-26616-C | 10/26/1999 | THORIUM-230 | 1.52 | 0.64 | PCI/G |
| SC-26616-C | 10/26/1999 | URANIUM-238 | 1.36 | 2.72 | PCI/G |
| SC-26616-S | 10/26/1999 | RADIUM-226 | 0.91 | 0.27 | PCI/G |
| SC-26616-S | 10/26/1999 | RADIUM-228 | 1.26 | 0.38 | PCI/G |
| SC-26616-S | 10/26/1999 | THORIUM-230 | 1.3 | 0.64 | PCI/G |
| SC-26616-S | 10/26/1999 | URANIUM-238 | 1.32 | 2.64 | PCI/G |
| SC-26618-C | 09/02/1999 | PAH | 810 | 84 | UG/KG |
| SC-26618-C | 09/02/1999 | RADIUM-226 | 0.84 | 0.3 | PCI/G |
| SC-26618-C | 09/02/1999 | RADIUM-228 | 1.22 | 0.37 | PCI/G |
| SC-26618-C | 09/02/1999 | THORIUM-230 | 1.12 | 0.62 | PCI/G |
| SC-26618-C | 09/02/1999 | URANIUM-238 | 1.335 | 2.67 | PCI/G |
| SC-26618-C-01 | 09/30/1999 | PAH | 0 | 18 | UG/KG |
| SC-26618-C-01 | 09/30/1999 | RADIUM-226 | 0.81 | 0.32 | PCI/G |
| SC-26618-C-01 | 09/30/1999 | RADIUM-228 | 1.2 | 0.42 | PCI/G |
| SC-26618-C-01 | 09/30/1999 | THORIUM-230 | 1.15 | 0.64 | PCI/G |
| SC-26618-C-01 | 09/30/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-26702-S | 07/16/2000 | RADIUM-226 | 0.265 | 0.53 | PCI/G |
| SC-26702-S | 07/16/2000 | RADIUM-228 | 0.37 | 0.74 | PCI/G |
| SC-26702-S | 07/16/2000 | THORIUM-230 | 1.1 | 0.65 | PCI/G |
| SC-26702-S | 07/16/2000 | URANIUM-238 | 1.03 | 2.06 | PCI/G |
| SC-26704-C | 07/16/2000 | RADIUM-226 | 0.78 | 0.24 | PCI/G |
| SC-26704-C | 07/16/2000 | RADIUM-228 | 1.06 | 0.31 | PCI/G |
| SC-26704-C | 07/16/2000 | THORIUM-230 | 1.22 | 0.62 | PCI/G |
| SC-26704-C | 07/16/2000 | URANIUM-238 | 1.085 | 2.17 | PCI/G |
| SC-26704-S | 07/16/2000 | RADIUM-226 | 0.27 | 0.54 | PCI/G |
| SC-26704-S | 07/16/2000 | RADIUM-228 | 0.425 | 0.85 | PCI/G |
| SC-26704-S | 07/16/2000 | THORIUM-230 | 1.86 | 0.64 | PCI/G |
| SC-26704-S | 07/16/2000 | URANIUM-238 | 1.19 | 2.38 | PCI/G |
| SC-26706-S | 07/16/2000 | RADIUM-226 | 0.89 | 0.26 | PCI/G |
| SC-26706-S | 07/16/2000 | RADIUM-228 | 1.04 | 0.37 | PCI/G |
| SC-26706-S | 07/16/2000 | THORIUM-230 | 2.76 | 0.64 | PCI/G |
| SC-26706-S | 07/16/2000 | URANIUM-238 | 1.18 | 2.36 | PCI/G |
| SC-26709-S | 07/16/2000 | RADIUM-226 | 0.86 | 0.26 | PCI/G |
| SC-26709-S | 07/16/2000 | RADIUM-228 | 0.425 | 0.85 | PCI/G |
| SC-26709-S | 07/16/2000 | THORIUM-230 | 1.2 | 0.65 | PCI/G |
| SC-26709-S | 07/16/2000 | URANIUM-238 | 1.13 | 2.26 | PCI/G |
| SC-26711-S | 07/16/2000 | RADIUM-226 | 0.82 | 0.25 | PCI/G |
| SC-26711-S | 07/16/2000 | RADIUM-228 | 1.03 | 0.34 | PCI/G |
| SC-26711-S | 07/16/2000 | THORIUM-230 | 1.32 | 0.62 | PCI/G |
| SC-26711-S | 07/16/2000 | URANIUM-238 | 1.15 | 2.3 | PCI/G |
| SC-26713-C | 07/16/2000 | RADIUM-226 | 0.71 | 0.27 | PCI/G |
| SC-26713-C | 07/16/2000 | RADIUM-228 | 0.395 | 0.79 | PCI/G |
| SC-26713-C | 07/16/2000 | THORIUM-230 | 1.38 | 0.64 | PCI/G |
| SC-26713-C | 07/16/2000 | URANIUM-238 | 1.135 | 2.27 | PCI/G |
| SC-26713-S | 07/16/2000 | RADIUM-226 | 0.68 | 0.21 | PCI/G |
| SC-26713-S | 07/16/2000 | RADIUM-228 | 0.285 | 0.57 | PCI/G |
| SC-26713-S | 07/16/2000 | THORIUM-230 | 1.21 | 0.64 | PCI/G |
| SC-26713-S | 07/16/2000 | URANIUM-238 | 1.82 | 1.59 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-26716-S | 07/16/2000 | RADIUM-226 | 0.73 | 0.25 | PCI/G |
| SC-26716-S | 07/16/2000 | RADIUM-228 | 0 34 | 0.68 | PCI/G |
| SC-26716-S | 07/16/2000 | THORIUM-230 | 1 57 | 0 65 | PCI/G |
| SC-26716-S | 07/16/2000 | URANIUM-238 | 1.01 | 2.02 | PCI/G |
| SC-26718-S | 07/16/2000 | RADIUM-226 | 0.97 | 0 27 | PCI/G |
| SC-26718-S | 07/16/2000 | RADIUM-228 | 1 14 | 0 32 | PCI/G |
| SC-26718-S | 07/16/2000 | THORIUM-230 | 0 98 | 0 62 | PCI/G |
| SC-26718-S | 07/16/2000 | URANIUM-238 | 1.87 | 2 05 | PCI/G |
| SC-26723-S | 07/16/2000 | RADIUM-226 | 0.87 | 0 35 | PCI/G |
| SC-26723-S | 07/16/2000 | RADIUM-228 | 0.41 | 0.82 | PCI/G |
| SC-26723-S | 07/16/2000 | THORIUM-230 | 1.3 | 0.65 | PCI/G |
| SC-26723-S | 07/16/2000 | URANIUM-238 | 1.01 | 2.02 | PCI/G |
| SC-26725-C | 07/16/2000 | RADIUM-226 | 0.92 | 0.3 | PCI/G |
| SC-26725-C | 07/16/2000 | RADIUM-228 | 0 42 | 0.84 | PCI/G |
| SC-26725-C | 07/16/2000 | THORIUM-230 | 1.18 | 0.62 | PCI/G |
| SC-26725-C | 07/16/2000 | URANIUM-238 | 1.15 | 2.3 | PCI/G |
| SC-26725-S | 07/16/2000 | RADIUM-226 | 0.71 | 0.26 | PCI/G |
| SC-26725-S | 07/16/2000 | RADIUM-228 | 0.93 | 0.41 | PCI/G |
| SC-26725-S | 07/16/2000 | THORIUM-230 | 1.22 | 0.64 | PCI/G |
| SC-26725-S | 07/16/2000 | URANIUM-238 | 1 005 | 2 01 | PCI/G |
| SC-26728-S | 07/16/2000 | RADIUM-226 | 0.79 | 0 25 | PCI/G |
| SC-26728-S | 07/16/2000 | RADIUM-228 | 1.05 | 0 29 | PCI/G |
| SC-26728-S | 07/16/2000 | THORIUM-230 | 1.76 | 0 64 | PCI/G |
| SC-26728-S | 07/16/2000 | URANIUM-238 | 1 045 | 2 09 | PCI/G |
| SC-26730-S | 07/16/2000 | RADIUM-226 | 0.265 | 0.53 | PCI/G |
| SC-26730-S | 07/16/2000 | RADIUM-228 | 0 37 | 0.74 | PCI/G |
| SC-26730-S | 07/16/2000 | THORIUM-230 | 1 43 | 0.65 | PCI/G |
| SC-26730-S | 07/16/2000 | URANIUM-238 | 1.245 | 2 49 | PCI/G |
| SC-26731-S | 07/16/2000 | RADIUM-226 | 0 93 | 0 24 | PCI/G |
| SC-26731-S | 07/16/2000 | RADIUM-228 | 1 07 | 0 35 | PCI/G |
| SC-26731-S | 07/16/2000 | THORIUM-230 | 1 27 | 0 62 | PCI/G |
| SC-26731-S | 07/16/2000 | URANIUM-238 | 1.15 | 2 3 | PCI/G |
| SC-26734-S | 07/16/2000 | RADIUM-226 | 0 8 | 0 26 | PCI/G |
| SC-26734-S | 07/16/2000 | RADIUM-228 | 0 36 | 0 72 | PCI/G |
| SC-26734-S | 07/16/2000 | THORIUM-230 | 0 87 | 0 64 | PCI/G |
| SC-26734-S | 07/16/2000 | URANIUM-238 | 1 06 | 2 12 | PCI/G |
| SC-26736-C | 07/16/2000 | RADIUM-226 | 0.71 | 0 24 | PCI/G |
| SC-26736-C | 07/16/2000 | RADIUM-228 | 0.78 | 0 33 | PCI/G |
| SC-26736-C | 07/16/2000 | THORIUM-230 | 1 19 | 0 64 | PCI/G |
| SC-26736-C | 07/16/2000 | URANIUM-238 | 1 105 | 2 21 | PCI/G |
| SC-26737-S | 07/16/2000 | RADIUM-226 | 0.92 | 0 23 | PCI/G |
| SC-26737-S | 07/16/2000 | RADIUM-228 | 1.14 | 0 45 | PCI/G |
| SC-26737-S | 07/16/2000 | THORIUM-230 | 1 25 | 0 65 | PCI/G |
| SC-26737-S | 07/16/2000 | URANIUM-238 | 1 11 | 2 22 | PCI/G |
| SC-26739-S | 07/16/2000 | RADIUM-226 | 0 66 | 0 26 | PCI/G |
| SC-26739-S | 07/16/2000 | RADIUM-228 | 0 79 | 0 32 | PCI/G |
| SC-26739-S | 07/16/2000 | THORIUM-230 | 1 32 | 0 62 | PCI/G |
| SC-26739-S | 07/16/2000 | URANIUM-238 | 1 15 | 2 3 | PCI/G |
| SC-26742-S | 07/16/2000 | RADIUM-226 | 0.275 | 0 55 | PCI/G |
| SC-26742-S | 07/16/2000 | RADIUM-228 | 0 89 | 0 5 | PCI/G |
| SC-26742-S | 07/16/2000 | THORIUM-230 | 1 57 | 0 65 | PCI/G |
| SC-26742-S | 07/16/2000 | URANIUM-238 | 1 05 | 2 1 | PCI/G |
| SC-26744-C | 07/16/2000 | RADIUM-226 | 0.92 | 0 23 | PCI/G |
| SC-26744-C | 07/16/2000 | RADIUM-228 | 0 37 | 0 74 | PCI/G |
| SC-26744-C | 07/16/2000 | THORIUM-230 | 0.99 | 0.62 | PCI/G |
| SC-26744-C | 07/16/2000 | URANIUM-238 | 1.035 | 2 07 | PCI/G |
| SC-26746-S | 07/16/2000 | RADIUM-226 | 0.7 | 0 22 | PCI/G |
| SC-26746-S | 07/16/2000 | RADIUM-228 | 0.33 | 0 66 | PCI/G |
| SC-26746-S | 07/16/2000 | THORIUM-230 | 0.96 | 0 64 | PCI/G |
| SC-26746-S | 07/16/2000 | URANIUM-238 | 1 01 | 2 02 | PCI/G |
| SC-26749-S | 07/16/2000 | RADIUM-226 | 0 6 | 0 23 | PCI/G |
| SC-26749-S | 07/16/2000 | RADIUM-228 | 0 6 | 0 3 | PCI/G |
| SC-26749-S | 07/16/2000 | THORIUM-230 | 1.68 | 0 64 | PCI/G |
| SC-26749-S | 07/16/2000 | URANIUM-238 | 0.995 | 1 99 | PCI/G |
| SC-26753-S | 07/16/2000 | RADIUM-226 | 0.82 | 0.28 | PCI/G |
| SC-26753-S | 07/16/2000 | RADIUM-228 | 0.385 | 0 77 | PCI/G |
| SC-26753-S | 07/16/2000 | THORIUM-230 | 1.39 | 0.65 | PCI/G |
| SC-26753-S | 07/16/2000 | URANIUM-238 | 1 085 | 2 17 | PCI/G |
| SC-26755-C | 07/16/2000 | RADIUM-226 | 0.92 | 0.26 | PCI/G |
| SC-26755-C | 07/16/2000 | RADIUM-228 | 0 92 | 0.39 | PCI/G |
| SC-26755-C | 07/16/2000 | THORIUM-230 | 1 08 | 0 62 | PCI/G |
| SC-26755-C | 07/16/2000 | URANIUM-238 | 1 15 | 2 3 | PCI/G |

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| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-26756-S | 07/16/2000 | RADIUM-226 | 0.26 | 0.52 | PCI/G |
| SC-26756-S | 07/16/2000 | RADIUM-228 | 0.335 | 0.67 | PCI/G |
| SC-26756-S | 07/16/2000 | THORIUM-230 | 1.02 | 0.64 | PCI/G |
| SC-26756-S | 07/16/2000 | URANIUM-238 | 1.225 | 2.45 | PCI/G |
| SC-26760-S | 10/29/1999 | PAH | 240 | 20 | UG/KG |
| SC-26760-S | 10/29/1999 | RADIUM-226 | 0.27 | 0.54 | PCI/G |
| SC-26760-S | 10/29/1999 | RADIUM-228 | 1.12 | 0.56 | PCI/G |
| SC-26760-S | 10/29/1999 | THORIUM-230 | 1.29 | 0.64 | PCI/G |
| SC-26760-S | 10/29/1999 | URANIUM-238 | 1.2 | 2.4 | PCI/G |
| SC-26762-S | 10/29/1999 | PAH | 1200 | 180 | UG/KG |
| SC-26762-S | 10/29/1999 | RADIUM-226 | 0.7 | 0.28 | PCI/G |
| SC-26762-S | 10/29/1999 | RADIUM-228 | 0.67 | 0.42 | PCI/G |
| SC-26762-S | 10/29/1999 | THORIUM-230 | 1.63 | 0.64 | PCI/G |
| SC-26762-S | 10/29/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-26802-S | 10/29/1999 | PAH | 700 | 18 | UG/KG |
| SC-26802-S | 10/29/1999 | RADIUM-226 | 0.67 | 0.28 | PCI/G |
| SC-26802-S | 10/29/1999 | RADIUM-228 | 0.46 | 0.92 | PCI/G |
| SC-26802-S | 10/29/1999 | THORIUM-230 | 1.19 | 0.64 | PCI/G |
| SC-26802-S | 10/29/1999 | URANIUM-238 | 1.285 | 2.57 | PCI/G |
| SC-26804-S | 11/02/1999 | PAH | 180 | 18 | UG/KG |
| SC-26804-S | 11/02/1999 | RADIUM-226 | 0.8 | 0.26 | PCI/G |
| SC-26804-S | 11/02/1999 | RADIUM-228 | 0.35 | 0.7 | PCI/G |
| SC-26804-S | 11/02/1999 | THORIUM-230 | 1.65 | 0.65 | PCI/G |
| SC-26804-S | 11/02/1999 | URANIUM-238 | 1.395 | 2.79 | PCI/G |
| SC-26806-S | 11/02/1999 | PAH | 0 | 18 | UG/KG |
| SC-26806-S | 11/02/1999 | RADIUM-226 | 0.9 | 0.29 | PCI/G |
| SC-26806-S | 11/02/1999 | RADIUM-228 | 0.465 | 0.93 | PCI/G |
| SC-26806-S | 11/02/1999 | THORIUM-230 | 1.17 | 0.64 | PCI/G |
| SC-26806-S | 11/02/1999 | URANIUM-238 | 1.26 | 2.52 | PCI/G |
| SC-26808-S | 11/02/1999 | PAH | 0 | 18 | UG/KG |
| SC-26808-S | 11/02/1999 | RADIUM-226 | 1.04 | 0.29 | PCI/G |
| SC-26808-S | 11/02/1999 | RADIUM-228 | 1.14 | 0.41 | PCI/G |
| SC-26808-S | 11/02/1999 | THORIUM-230 | 1.35 | 0.62 | PCI/G |
| SC-26808-S | 11/02/1999 | URANIUM-238 | 1.275 | 2.55 | PCI/G |
| SC-26810-S | 11/02/1999 | PAH | 18 | 16 | UG/KG |
| SC-26810-S | 11/02/1999 | RADIUM-226 | 0.36 | 0.14 | PCI/G |
| SC-26810-S | 11/02/1999 | RADIUM-228 | 0.155 | 0.31 | PCI/G |
| SC-26810-S | 11/02/1999 | THORIUM-230 | 1.44 | 0.64 | PCI/G |
| SC-26810-S | 11/02/1999 | URANIUM-238 | 0.53 | 1.06 | PCI/G |
| SC-26812-S | 11/02/1999 | PAH | 47 | 17 | UG/KG |
| SC-26812-S | 11/02/1999 | RADIUM-226 | 0.55 | 0.24 | PCI/G |
| SC-26812-S | 11/02/1999 | RADIUM-228 | 0.53 | 0.4 | PCI/G |
| SC-26812-S | 11/02/1999 | THORIUM-230 | 1.15 | 0.65 | PCI/G |
| SC-26812-S | 11/02/1999 | URANIUM-238 | 1.155 | 2.31 | PCI/G |
| SC-26814-S | 11/03/1999 | RADIUM-226 | 0.43 | 0.27 | PCI/G |
| SC-26814-S | 11/03/1999 | RADIUM-228 | 0.345 | 0.69 | PCI/G |
| SC-26814-S | 11/03/1999 | THORIUM-230 | 1.4 | 0.64 | PCI/G |
| SC-26814-S | 11/03/1999 | URANIUM-238 | 0.855 | 1.71 | PCI/G |
| SC-26814-S-RS | 11/09/1999 | PAH | 0 | 16 | UG/KG |
| SC-26816-S | 11/03/1999 | RADIUM-226 | 0.64 | 0.28 | PCI/G |
| SC-26816-S | 11/03/1999 | RADIUM-228 | 0.71 | 0.37 | PCI/G |
| SC-26816-S | 11/03/1999 | THORIUM-230 | 1.06 | 0.64 | PCI/G |
| SC-26816-S | 11/03/1999 | URANIUM-238 | 1.215 | 2.43 | PCI/G |
| SC-26816-S-RS | 11/09/1999 | PAH | 0 | 16 | UG/KG |
| SC-26818-C | 11/03/1999 | RADIUM-226 | 0.44 | 0.18 | PCI/G |
| SC-26818-C | 11/03/1999 | RADIUM-228 | 0.225 | 0.45 | PCI/G |
| SC-26818-C | 11/03/1999 | THORIUM-230 | 0.96 | 0.65 | PCI/G |
| SC-26818-C | 11/03/1999 | URANIUM-238 | 0.925 | 1.85 | PCI/G |
| SC-26818-C-RS | 11/09/1999 | PAH | 0 | 16 | UG/KG |
| SC-26818-S | 11/03/1999 | RADIUM-226 | 0.28 | 0.56 | PCI/G |
| SC-26818-S | 11/03/1999 | RADIUM-228 | 0.36 | 0.72 | PCI/G |
| SC-26818-S | 11/03/1999 | THORIUM-230 | 0.79 | 0.64 | PCI/G |
| SC-26818-S | 11/03/1999 | URANIUM-238 | 1.105 | 2.21 | PCI/G |
| SC-26818-S-RS | 11/09/1999 | PAH | 0 | 17 | UG/KG |
| SC-26820-S | 11/03/1999 | RADIUM-226 | 0.84 | 0.25 | PCI/G |
| SC-26820-S | 11/03/1999 | RADIUM-228 | 0.78 | 0.42 | PCI/G |
| SC-26820-S | 11/03/1999 | THORIUM-230 | 1.51 | 0.62 | PCI/G |
| SC-26820-S | 11/03/1999 | URANIUM-238 | 1.115 | 2.23 | PCI/G |
| SC-26821-S | 11/03/1999 | RADIUM-226 | 0.23 | 0.46 | PCI/G |
| SC-26821-S | 11/03/1999 | RADIUM-228 | 0.31 | 0.62 | PCI/G |
| SC-26821-S | 11/03/1999 | THORIUM-230 | 1.12 | 0.64 | PCI/G |
| SC-26821-S | 11/03/1999 | URANIUM-238 | 0.8 | 1.6 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-26824-C | 11/03/1999 | RADIUM-226 | 0.195 | 0 39 | PCI/G |
| SC-26824-C | 11/03/1999 | RADIUM-228 | 0.255 | 0 51 | PCI/G |
| SC-26824-C | 11/03/1999 | THORIUM-230 | 0 74 | 0 65 | PCI/G |
| SC-26824-C | 11/03/1999 | URANIUM-238 | 1.065 | 2 13 | PCI/G |
| SC-26824-S | 11/03/1999 | RADIUM-226 | 0.78 | 0 3 | PCI/G |
| SC-26824-S | 11/03/1999 | RADIUM-228 | 0.445 | 0.89 | PCI/G |
| SC-26824-S | 11/03/1999 | THORIUM-230 | 1 2 | 0 64 | PCI/G |
| SC-26824-S | 11/03/1999 | URANIUM-238 | 1.265 | 2 53 | PCI/G |
| SC-26825-S | 07/02/1999 | RADIUM-226 | 0 31 | 0 62 | PCI/G |
| SC-26825-S | 07/02/1999 | RADIUM-228 | 0 42 | 0 84 | PCI/G |
| SC-26825-S | 07/02/1999 | THORIUM-230 | 1.53 | 0 65 | PCI/G |
| SC-26825-S | 07/02/1999 | URANIUM-238 | 1.315 | 2 63 | PCI/G |
| SC-26826-S | 07/02/1999 | RADIUM-226 | 0.81 | 0.29 | PCI/G |
| SC-26826-S | 07/02/1999 | RADIUM-228 | 0 8 | 0.4 | PCI/G |
| SC-26826-S | 07/02/1999 | THORIUM-230 | 1 54 | 0 62 | PCI/G |
| SC-26826-S | 07/02/1999 | URANIUM-238 | 1 305 | 2 61 | PCI/G |
| SC-26828-S | 11/03/1999 | RADIUM-226 | 0 63 | 0 25 | PCI/G |
| SC-26828-S | 11/03/1999 | RADIUM-228 | 0 98 | 0 44 | PCI/G |
| SC-26828-S | 11/03/1999 | THORIUM-230 | 0 92 | 0 62 | PCI/G |
| SC-26828-S | 11/03/1999 | URANIUM-238 | 1 33 | 2 66 | PCI/G |
| SC-26829-S | 07/02/1999 | RADIUM-226 | 0 8 | 0.27 | PCI/G |
| SC-26829-S | 07/02/1999 | RADIUM-228 | 0.9 | 0 45 | PCI/G |
| SC-26829-S | 07/02/1999 | THORIUM-230 | 1.86 | 0 64 | PCI/G |
| SC-26829-S | 07/02/1999 | URANIUM-238 | 1 31 | 2 62 | PCI/G |
| SC-26830-C | 07/02/1999 | RADIUM-226 | 0.84 | 0.29 | PCI/G |
| SC-26830-C | 07/02/1999 | RADIUM-228 | 1 09 | 0 42 | PCI/G |
| SC-26830-C | 07/02/1999 | THORIUM-230 | 1.59 | 0.62 | PCI/G |
| SC-26830-C | 07/02/1999 | URANIUM-238 | 1.385 | 2 77 | PCI/G |
| SC-26830-S | 07/02/1999 | RADIUM-226 | 0 75 | 0.31 | PCI/G |
| SC-26830-S | 07/02/1999 | RADIUM-228 | 0 38 | 0 76 | PCI/G |
| SC-26830-S | 07/02/1999 | THORIUM-230 | 1.56 | 0 65 | PCI/G |
| SC-26830-S | 07/02/1999 | URANIUM-238 | 1 315 | 2 63 | PCI/G |
| SC-26831-S | 07/02/1999 | RADIUM-226 | 0.82 | 0 24 | PCI/G |
| SC-26831-S | 07/02/1999 | RADIUM-228 | 0 9 | 0 44 | PCI/G |
| SC-26831-S | 07/02/1999 | THORIUM-230 | 1.34 | 0 62 | PCI/G |
| SC-26831-S | 07/02/1999 | URANIUM-238 | 1 355 | 2 71 | PCI/G |
| SC-26834-S | 07/02/1999 | RADIUM-226 | 0.73 | 0 36 | PCI/G |
| SC-26834-S | 07/02/1999 | RADIUM-228 | 0 455 | 0 91 | PCI/G |
| SC-26834-S | 07/02/1999 | THORIUM-230 | 1.35 | 0 65 | PCI/G |
| SC-26834-S | 07/02/1999 | URANIUM-238 | 1 38 | 2 76 | PCI/G |
| SC-26835-S | 07/02/1999 | RADIUM-226 | 0 78 | 0 31 | PCI/G |
| SC-26835-S | 07/02/1999 | RADIUM-228 | 1 15 | 0 29 | PCI/G |
| SC-26835-S | 07/02/1999 | THORIUM-230 | 1 53 | 0 62 | PCI/G |
| SC-26835-S | 07/02/1999 | URANIUM-238 | 1 345 | 2.69 | PCI/G |
| SC-26836-S | 07/02/1999 | RADIUM-226 | 0.335 | 0 67 | PCI/G |
| SC-26836-S | 07/02/1999 | RADIUM-228 | 0 46 | 0 92 | PCI/G |
| SC-26836-S | 07/02/1999 | THORIUM-230 | 1 68 | 0 64 | PCI/G |
| SC-26836-S | 07/02/1999 | URANIUM-238 | 1 31 | 2 62 | PCI/G |
| SC-26839-S | 07/02/1999 | RADIUM-226 | 0 89 | 0.25 | PCI/G |
| SC-26839-S | 07/02/1999 | RADIUM-228 | 1 18 | 0 39 | PCI/G |
| SC-26839-S | 07/02/1999 | THORIUM-230 | 1 31 | 0 62 | PCI/G |
| SC-26839-S | 07/02/1999 | URANIUM-238 | 1.295 | 2.59 | PCI/G |
| SC-26840-S | 07/02/1999 | RADIUM-226 | 0 9 | 0.35 | PCI/G |
| SC-26840-S | 07/02/1999 | RADIUM-228 | 0 87 | 0.51 | PCI/G |
| SC-26840-S | 07/02/1999 | THORIUM-230 | 1 55 | 0 65 | PCI/G |
| SC-26840-S | 07/02/1999 | URANIUM-238 | 1 415 | 2.83 | PCI/G |
| SC-26842-S | 07/02/1999 | RADIUM-226 | 0.69 | 0.31 | PCI/G |
| SC-26842-S | 07/02/1999 | RADIUM-228 | 0.94 | 0.39 | PCI/G |
| SC-26842-S | 07/02/1999 | THORIUM-230 | 1 6 | 0 62 | PCI/G |
| SC-26842-S | 07/02/1999 | URANIUM-238 | 2 28 | 2 15 | PCI/G |
| SC-26843-S | 07/02/1999 | RADIUM-226 | 0 85 | 0.27 | PCI/G |
| SC-26843-S | 07/02/1999 | RADIUM-228 | 0.405 | 0.81 | PCI/G |
| SC-26843-S | 07/02/1999 | THORIUM-230 | 1 86 | 0 64 | PCI/G |
| SC-26843-S | 07/02/1999 | URANIUM-238 | 1.505 | 3 01 | PCI/G |
| SC-26901-S | 07/02/1999 | RADIUM-226 | 0.59 | 0 33 | PCI/G |
| SC-26901-S | 07/02/1999 | RADIUM-228 | 0 89 | 0 46 | PCI/G |
| SC-26901-S | 07/02/1999 | THORIUM-230 | 1 5 | 0.62 | PCI/G |
| SC-26901-S | 07/02/1999 | URANIUM-238 | 1.365 | 2 73 | PCI/G |
| SC-26902-S | 07/02/1999 | RADIUM-226 | 0 79 | 0 36 | PCI/G |
| SC-26902-S | 07/02/1999 | RADIUM-228 | 0.81 | 0 52 | PCI/G |
| SC-26902-S | 07/02/1999 | THORIUM-230 | 1.16 | 0 65 | PCI/G |
| SC-26902-S | 07/02/1999 | URANIUM-238 | 1 41 | 2 82 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-26903-S | 07/02/1999 | RADIUM-226 | 0.88 | 0.3 | PCI/G |
| SC-26903-S | 07/02/1999 | RADIUM-228 | 1.1 | 0.4 | PCI/G |
| SC-26903-S | 07/02/1999 | THORIUM-230 | 1.27 | 0.62 | PCI/G |
| SC-26903-S | 07/02/1999 | URANIUM-238 | 1.385 | 2.77 | PCI/G |
| SC-26904-S | 07/02/1999 | RADIUM-226 | 0.53 | 0.27 | PCI/G |
| SC-26904-S | 07/02/1999 | RADIUM-228 | 0.345 | 0.69 | PCI/G |
| SC-26904-S | 07/02/1999 | THORIUM-230 | 1.45 | 0.64 | PCI/G |
| SC-26904-S | 07/02/1999 | URANIUM-238 | 1.075 | 2.15 | PCI/G |
| SC-26905-S | 07/02/1999 | RADIUM-226 | 0.78 | 0.28 | PCI/G |
| SC-26905-S | 07/02/1999 | RADIUM-228 | 1.13 | 0.39 | PCI/G |
| SC-26905-S | 07/02/1999 | THORIUM-230 | 1.84 | 0.62 | PCI/G |
| SC-26905-S | 07/02/1999 | URANIUM-238 | 1.79 | 2.28 | PCI/G |
| SC-26906-S | 07/02/1999 | RADIUM-226 | 0.77 | 0.35 | PCI/G |
| SC-26906-S | 07/02/1999 | RADIUM-228 | 1.11 | 0.52 | PCI/G |
| SC-26906-S | 07/02/1999 | THORIUM-230 | 0.99 | 0.65 | PCI/G |
| SC-26906-S | 07/02/1999 | URANIUM-238 | 1.3 | 2.6 | PCI/G |
| SC-26907-S | 07/02/1999 | RADIUM-226 | 0.86 | 0.33 | PCI/G |
| SC-26907-S | 07/02/1999 | RADIUM-228 | 0.75 | 0.44 | PCI/G |
| SC-26907-S | 07/02/1999 | THORIUM-230 | 1.24 | 0.62 | PCI/G |
| SC-26907-S | 07/02/1999 | URANIUM-238 | 1.325 | 2.65 | PCI/G |
| SC-26908-S | 07/02/1999 | RADIUM-226 | 0.9 | 0.29 | PCI/G |
| SC-26908-S | 07/02/1999 | RADIUM-228 | 1.37 | 0.4 | PCI/G |
| SC-26908-S | 07/02/1999 | THORIUM-230 | 1.38 | 0.64 | PCI/G |
| SC-26908-S | 07/02/1999 | URANIUM-238 | 1.53 | 3.06 | PCI/G |
| SC-26909-S | 07/02/1999 | RADIUM-226 | 0.81 | 0.24 | PCI/G |
| SC-26909-S | 07/02/1999 | RADIUM-228 | 1.19 | 0.42 | PCI/G |
| SC-26909-S | 07/02/1999 | THORIUM-230 | 1.52 | 0.62 | PCI/G |
| SC-26909-S | 07/02/1999 | URANIUM-238 | 1.32 | 2.64 | PCI/G |
| SC-26910-S | 07/02/1999 | RADIUM-226 | 0.83 | 0.31 | PCI/G |
| SC-26910-S | 07/02/1999 | RADIUM-228 | 1.29 | 0.4 | PCI/G |
| SC-26910-S | 07/02/1999 | THORIUM-230 | 1.45 | 0.64 | PCI/G |
| SC-26910-S | 07/02/1999 | URANIUM-238 | 1.315 | 2.63 | PCI/G |
| SC-26911-S | 07/02/1999 | RADIUM-226 | 0.87 | 0.31 | PCI/G |
| SC-26911-S | 07/02/1999 | RADIUM-228 | 1.13 | 0.41 | PCI/G |
| SC-26911-S | 07/02/1999 | THORIUM-230 | 1.13 | 0.62 | PCI/G |
| SC-26911-S | 07/02/1999 | URANIUM-238 | 1.285 | 2.57 | PCI/G |
| SC-26912-S | 07/02/1999 | RADIUM-226 | 0.87 | 0.35 | PCI/G |
| SC-26912-S | 07/02/1999 | RADIUM-228 | 1.12 | 0.42 | PCI/G |
| SC-26912-S | 07/02/1999 | THORIUM-230 | 1.59 | 0.65 | PCI/G |
| SC-26912-S | 07/02/1999 | URANIUM-238 | 1.235 | 2.47 | PCI/G |
| SC-26913-S | 07/02/1999 | RADIUM-226 | 0.78 | 0.31 | PCI/G |
| SC-26913-S | 07/02/1999 | RADIUM-228 | 1.15 | 0.46 | PCI/G |
| SC-26913-S | 07/02/1999 | THORIUM-230 | 0.98 | 0.62 | PCI/G |
| SC-26913-S | 07/02/1999 | URANIUM-238 | 4.94 | 2.24 | PCI/G |
| SC-26914-C | 07/02/1999 | RADIUM-226 | 0.285 | 0.57 | PCI/G |
| SC-26914-C | 07/02/1999 | RADIUM-228 | 1.43 | 0.42 | PCI/G |
| SC-26914-C | 07/02/1999 | THORIUM-230 | 2.01 | 0.64 | PCI/G |
| SC-26914-C | 07/02/1999 | URANIUM-238 | 1.43 | 2.86 | PCI/G |
| SC-26914-S | 07/02/1999 | RADIUM-226 | 0.79 | 0.3 | PCI/G |
| SC-26914-S | 07/02/1999 | RADIUM-228 | 1 | 0.39 | PCI/G |
| SC-26914-S | 07/02/1999 | THORIUM-230 | 1.75 | 0.62 | PCI/G |
| SC-26914-S | 07/02/1999 | URANIUM-238 | 1.335 | 2.67 | PCI/G |
| SC-26915-S | 07/02/1999 | RADIUM-226 | 0.33 | 0.66 | PCI/G |
| SC-26915-S | 07/02/1999 | RADIUM-228 | 0.445 | 0.89 | PCI/G |
| SC-26915-S | 07/02/1999 | THORIUM-230 | 1.62 | 0.65 | PCI/G |
| SC-26915-S | 07/02/1999 | URANIUM-238 | 1.365 | 2.73 | PCI/G |
| SC-26916-C | 07/02/1999 | RADIUM-226 | 0.7 | 0.31 | PCI/G |
| SC-26916-C | 07/02/1999 | RADIUM-228 | 0.74 | 0.39 | PCI/G |
| SC-26916-C | 07/02/1999 | THORIUM-230 | 1.29 | 0.62 | PCI/G |
| SC-26916-C | 07/02/1999 | URANIUM-238 | 1.295 | 2.59 | PCI/G |
| SC-26916-S | 07/02/1999 | RADIUM-226 | 1.06 | 0.32 | PCI/G |
| SC-26916-S | 07/02/1999 | RADIUM-228 | 0.475 | 0.95 | PCI/G |
| SC-26916-S | 07/02/1999 | THORIUM-230 | 1.7 | 0.78 | PCI/G |
| SC-26916-S | 07/02/1999 | URANIUM-238 | 2.61 | 2.03 | PCI/G |
| SC-26917-S | 07/02/1999 | RADIUM-226 | 0.75 | 0.27 | PCI/G |
| SC-26917-S | 07/02/1999 | RADIUM-228 | 1.09 | 0.43 | PCI/G |
| SC-26917-S | 07/02/1999 | THORIUM-230 | 1.12 | 0.62 | PCI/G |
| SC-26917-S | 07/02/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-26918-S | 07/02/1999 | RADIUM-226 | 1.05 | 0.31 | PCI/G |
| SC-26918-S | 07/02/1999 | RADIUM-228 | 0.435 | 0.87 | PCI/G |
| SC-26918-S | 07/02/1999 | THORIUM-230 | 1.5 | 0.65 | PCI/G |
| SC-26918-S | 07/02/1999 | URANIUM-238 | 1.43 | 2.86 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-26919-S | 07/02/1999 | RADIUM-226 | 0.92 | 0 26 | PCI/G |
| SC-26919-S | 07/02/1999 | RADIUM-228 | 1 22 | 0 5 | PCI/G |
| SC-26919-S | 07/02/1999 | THORIUM-230 | 0 99 | 0.62 | PCI/G |
| SC-26919-S | 07/02/1999 | URANIUM-238 | 1.325 | 2.65 | PCI/G |
| SC-26920-S | 07/02/1999 | RADIUM-226 | 0 32 | 0 64 | PCI/G |
| SC-26920-S | 07/02/1999 | RADIUM-228 | 1.21 | 0 48 | PCI/G |
| SC-26920-S | 07/02/1999 | THORIUM-230 | 1 3 | 0 64 | PCI/G |
| SC-26920-S | 07/02/1999 | URANIUM-238 | 1.26 | 2 52 | PCI/G |
| SC-26924-S | 07/02/1999 | RADIUM-226 | 0.83 | 0 31 | PCI/G |
| SC-26924-S | 07/02/1999 | RADIUM-228 | 0 62 | 0 42 | PCI/G |
| SC-26924-S | 07/02/1999 | THORIUM-230 | 1 77 | 0 62 | PCI/G |
| SC-26924-S | 07/02/1999 | URANIUM-238 | 1.355 | 2 71 | PCI/G |
| SC-26925-S | 07/02/1999 | RADIUM-226 | 0 92 | 0.3 | PCI/G |
| SC-26925-S | 07/02/1999 | RADIUM-228 | 0.88 | 0 58 | PCI/G |
| SC-26925-S | 07/02/1999 | THORIUM-230 | 1.77 | 0 62 | PCI/G |
| SC-26925-S | 07/02/1999 | URANIUM-238 | 1.215 | 2 43 | PCI/G |
| SC-26928-C | 07/02/1999 | RADIUM-226 | 0.87 | 0 31 | PCI/G |
| SC-26928-C | 07/02/1999 | RADIUM-228 | 0.86 | 0 38 | PCI/G |
| SC-26928-C | 07/02/1999 | THORIUM-230 | 1.29 | 0 62 | PCI/G |
| SC-26928-C | 07/02/1999 | URANIUM-238 | 1.25 | 2 5 | PCI/G |
| SC-27001-S | 07/02/1999 | RADIUM-226 | 0.58 | 0 38 | PCI/G |
| SC-27001-S | 07/02/1999 | RADIUM-228 | 0.49 | 0.98 | PCI/G |
| SC-27001-S | 07/02/1999 | THORIUM-230 | 1.33 | 0.65 | PCI/G |
| SC-27001-S | 07/02/1999 | URANIUM-238 | 1 325 | 2.65 | PCI/G |
| SC-27002-S | 07/02/1999 | RADIUM-226 | 0.93 | 0 31 | PCI/G |
| SC-27002-S | 07/02/1999 | RADIUM-228 | 1 02 | 0 44 | PCI/G |
| SC-27002-S | 07/02/1999 | THORIUM-230 | 2 16 | 0 62 | PCI/G |
| SC-27002-S | 07/02/1999 | URANIUM-238 | 1 34 | 2 68 | PCI/G |
| SC-27002-S-01 | 09/30/1999 | PAH | 0 | 18 | UG/KG |
| SC-27002-S-01 | 09/30/1999 | RADIUM-226 | 1 02 | 0.34 | PCI/G |
| SC-27002-S-01 | 09/30/1999 | RADIUM-228 | 0 49 | 0 98 | PCI/G |
| SC-27002-S-01 | 09/30/1999 | THORIUM-230 | 1 09 | 0.64 | PCI/G |
| SC-27002-S-01 | 09/30/1999 | URANIUM-238 | 1 395 | 2.79 | PCI/G |
| SC-27003-S | 07/02/1999 | RADIUM-226 | 0 89 | 0 34 | PCI/G |
| SC-27003-S | 07/02/1999 | RADIUM-228 | 0 46 | 0 92 | PCI/G |
| SC-27003-S | 07/02/1999 | THORIUM-230 | 1.5 | 0 64 | PCI/G |
| SC-27003-S | 07/02/1999 | URANIUM-238 | 1 44 | 2 88 | PCI/G |
| SC-27003-S-01 | 09/30/1999 | PAH | 0 | 18 | UG/KG |
| SC-27003-S-01 | 09/30/1999 | RADIUM-226 | 1 1 | 0.31 | PCI/G |
| SC-27003-S-01 | 09/30/1999 | RADIUM-228 | 0 99 | 0.44 | PCI/G |
| SC-27003-S-01 | 09/30/1999 | THORIUM-230 | 1 27 | 0 62 | PCI/G |
| SC-27003-S-01 | 09/30/1999 | URANIUM-238 | 1.305 | 2 61 | PCI/G |
| SC-27004-S | 07/02/1999 | RADIUM-226 | 0.84 | 0 29 | PCI/G |
| SC-27004-S | 07/02/1999 | RADIUM-228 | 0 84 | 0 42 | PCI/G |
| SC-27004-S | 07/02/1999 | THORIUM-230 | 1 15 | 0 62 | PCI/G |
| SC-27004-S | 07/02/1999 | URANIUM-238 | 1 32 | 2 64 | PCI/G |
| SC-27004-S-01 | 09/30/1999 | PAH | 0 | 18 | UG/KG |
| SC-27004-S-01 | 09/30/1999 | RADIUM-226 | 0.8 | 0 33 | PCI/G |
| SC-27004-S-01 | 09/30/1999 | RADIUM-228 | 0 45 | 0.9 | PCI/G |
| SC-27004-S-01 | 09/30/1999 | THORIUM-230 | 1 21 | 0 62 | PCI/G |
| SC-27004-S-01 | 09/30/1999 | URANIUM-238 | 1.3 | 2 6 | PCI/G |
| SC-27005-S | 07/02/1999 | RADIUM-226 | 0.7 | 0 33 | PCI/G |
| SC-27005-S | 07/02/1999 | RADIUM-228 | 0.47 | 0 94 | PCI/G |
| SC-27005-S | 07/02/1999 | THORIUM-230 | 4.81 | 0.65 | PCI/G |
| SC-27005-S | 07/02/1999 | URANIUM-238 | 1 35 | 2.7 | PCI/G |
| SC-27006-S | 07/02/1999 | RADIUM-226 | 0.71 | 0 29 | PCI/G |
| SC-27006-S | 07/02/1999 | RADIUM-228 | 1 12 | 0 41 | PCI/G |
| SC-27006-S | 07/02/1999 | THORIUM-230 | 1 82 | 0.62 | PCI/G |
| SC-27006-S | 07/02/1999 | URANIUM-238 | 1 32 | 2.64 | PCI/G |
| SC-27007-S | 07/02/1999 | RADIUM-226 | 1 04 | 0.32 | PCI/G |
| SC-27007-S | 07/02/1999 | RADIUM-228 | 0 475 | 0.95 | PCI/G |
| SC-27007-S | 07/02/1999 | THORIUM-230 | 2 9 | 0 65 | PCI/G |
| SC-27007-S | 07/02/1999 | URANIUM-238 | 1.25 | 2 5 | PCI/G |
| SC-27008-C | 07/02/1999 | RADIUM-226 | 0 66 | 0 3 | PCI/G |
| SC-27008-C | 07/02/1999 | RADIUM-228 | 0.9 | 0.44 | PCI/G |
| SC-27008-C | 07/02/1999 | THORIUM-230 | 1 71 | 0.62 | PCI/G |
| SC-27008-C | 07/02/1999 | URANIUM-238 | 1 305 | 2 61 | PCI/G |
| SC-27008-S | 07/02/1999 | RADIUM-226 | 0 84 | 0.28 | PCI/G |
| SC-27008-S | 07/02/1999 | RADIUM-228 | 1 19 | 0 5 | PCI/G |
| SC-27008-S | 07/02/1999 | THORIUM-230 | 1 14 | 0 64 | PCI/G |
| SC-27008-S | 07/02/1999 | URANIUM-238 | 1 31 | 2 62 | PCI/G |
| SC-27009-S | 07/02/1999 | RADIUM-226 | 0 88 | 0 32 | PCI/G |

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-27009-S | 07/02/1999 | RADIUM-228 | 1.03 | 0.48 | PCI/G |
| SC-27009-S | 07/02/1999 | THORIUM-230 | 5.23 | 0.62 | PCI/G |
| SC-27009-S | 07/02/1999 | URANIUM-238 | 1.36 | 2.72 | PCI/G |
| SC-27010-C | 07/02/1999 | RADIUM-226 | 0.29 | 0.58 | PCI/G |
| SC-27010-C | 07/02/1999 | RADIUM-228 | 0.445 | 0.89 | PCI/G |
| SC-27010-C | 07/02/1999 | THORIUM-230 | 3.24 | 0.65 | PCI/G |
| SC-27010-C | 07/02/1999 | URANIUM-238 | 1.24 | 2.48 | PCI/G |
| SC-27010-S | 07/02/1999 | RADIUM-226 | 0.91 | 0.3 | PCI/G |
| SC-27010-S | 07/02/1999 | RADIUM-228 | 1.2 | 0.36 | PCI/G |
| SC-27010-S | 07/02/1999 | THORIUM-230 | 10.6 | 0.62 | PCI/G |
| SC-27010-S | 07/02/1999 | URANIUM-238 | 1.355 | 2.71 | PCI/G |
| SC-27010-S-RS | 07/09/1999 | THORIUM-230 | 0.98 | 0.64 | PCI/G |
| SC-27011-S | 07/02/1999 | RADIUM-226 | 0.305 | 0.61 | PCI/G |
| SC-27011-S | 07/02/1999 | RADIUM-228 | 0.445 | 0.89 | PCI/G |
| SC-27011-S | 07/02/1999 | THORIUM-230 | 3.23 | 0.64 | PCI/G |
| SC-27011-S | 07/02/1999 | URANIUM-238 | 1.35 | 2.7 | PCI/G |
| SC-27012-S | 07/02/1999 | RADIUM-226 | 0.54 | 0.27 | PCI/G |
| SC-27012-S | 07/02/1999 | RADIUM-228 | 1.11 | 0.39 | PCI/G |
| SC-27012-S | 07/02/1999 | THORIUM-230 | 6.19 | 0.62 | PCI/G |
| SC-27012-S | 07/02/1999 | URANIUM-238 | 1.285 | 2.57 | PCI/G |
| SC-27013-S | 07/02/1999 | RADIUM-226 | 0.71 | 0.3 | PCI/G |
| SC-27013-S | 07/02/1999 | RADIUM-228 | 0.49 | 0.98 | PCI/G |
| SC-27013-S | 07/02/1999 | THORIUM-230 | 1.29 | 0.65 | PCI/G |
| SC-27013-S | 07/02/1999 | URANIUM-238 | 1.37 | 2.74 | PCI/G |
| SC-27014-S | 07/02/1999 | RADIUM-226 | 0.69 | 0.26 | PCI/G |
| SC-27014-S | 07/02/1999 | RADIUM-228 | 1.22 | 0.45 | PCI/G |
| SC-27014-S | 07/02/1999 | THORIUM-230 | 1.28 | 0.62 | PCI/G |
| SC-27014-S | 07/02/1999 | URANIUM-238 | 1.31 | 2.62 | PCI/G |
| SC-27015-S | 07/02/1999 | RADIUM-226 | 0.69 | 0.35 | PCI/G |
| SC-27015-S | 07/02/1999 | RADIUM-228 | 0.435 | 0.87 | PCI/G |
| SC-27015-S | 07/02/1999 | THORIUM-230 | 6.23 | 0.64 | PCI/G |
| SC-27015-S | 07/02/1999 | URANIUM-238 | 1.24 | 2.48 | PCI/G |
| SC-27015-S-RS | 07/09/1999 | THORIUM-230 | 1 | 0.62 | PCI/G |
| SC-27016-S | 07/02/1999 | RADIUM-226 | 0.81 | 0.3 | PCI/G |
| SC-27016-S | 07/02/1999 | RADIUM-228 | 0.75 | 0.45 | PCI/G |
| SC-27016-S | 07/02/1999 | THORIUM-230 | 3.12 | 0.62 | PCI/G |
| SC-27016-S | 07/02/1999 | URANIUM-238 | 1.34 | 2.68 | PCI/G |
| SC-27017-S | 07/02/1999 | RADIUM-226 | 0.69 | 0.29 | PCI/G |
| SC-27017-S | 07/02/1999 | RADIUM-228 | 0.485 | 0.97 | PCI/G |
| SC-27017-S | 07/02/1999 | THORIUM-230 | 2.7 | 0.65 | PCI/G |
| SC-27017-S | 07/02/1999 | URANIUM-238 | 1.365 | 2.73 | PCI/G |
| SC-27018-S | 07/02/1999 | RADIUM-226 | 0.81 | 0.31 | PCI/G |
| SC-27018-S | 07/02/1999 | RADIUM-228 | 1.2 | 0.43 | PCI/G |
| SC-27018-S | 07/02/1999 | THORIUM-230 | 2.81 | 0.62 | PCI/G |
| SC-27018-S | 07/02/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-27019-S | 07/02/1999 | RADIUM-226 | 0.6 | 0.36 | PCI/G |
| SC-27019-S | 07/02/1999 | RADIUM-228 | 0.46 | 0.92 | PCI/G |
| SC-27019-S | 07/02/1999 | THORIUM-230 | 2.43 | 0.64 | PCI/G |
| SC-27019-S | 07/02/1999 | URANIUM-238 | 1.365 | 2.73 | PCI/G |
| SC-27020-S | 07/02/1999 | RADIUM-226 | 0.84 | 0.27 | PCI/G |
| SC-27020-S | 07/02/1999 | RADIUM-228 | 1.2 | 0.39 | PCI/G |
| SC-27020-S | 07/02/1999 | THORIUM-230 | 1.87 | 0.62 | PCI/G |
| SC-27020-S | 07/02/1999 | URANIUM-238 | 1.32 | 2.64 | PCI/G |
| SC-27023-S | 07/02/1999 | RADIUM-226 | 0.32 | 0.64 | PCI/G |
| SC-27023-S | 07/02/1999 | RADIUM-228 | 0.445 | 0.89 | PCI/G |
| SC-27023-S | 07/02/1999 | THORIUM-230 | 2.48 | 0.65 | PCI/G |
| SC-27023-S | 07/02/1999 | URANIUM-238 | 1.455 | 2.91 | PCI/G |
| SC-27024-S | 07/02/1999 | RADIUM-226 | 0.73 | 0.31 | PCI/G |
| SC-27024-S | 07/02/1999 | RADIUM-228 | 1 | 0.45 | PCI/G |
| SC-27024-S | 07/02/1999 | THORIUM-230 | 2.46 | 0.62 | PCI/G |
| SC-27024-S | 07/02/1999 | URANIUM-238 | 1.26 | 2.52 | PCI/G |
| SC-27103-C | 10/26/1999 | RADIUM-226 | 1 | 0.34 | PCI/G |
| SC-27103-C | 10/26/1999 | RADIUM-228 | 0.5 | 1 | PCI/G |
| SC-27103-C | 10/26/1999 | THORIUM-230 | 1.06 | 0.64 | PCI/G |
| SC-27103-C | 10/26/1999 | URANIUM-238 | 1.275 | 2.55 | PCI/G |
| SC-27104-S | 10/26/1999 | RADIUM-226 | 0.89 | 0.3 | PCI/G |
| SC-27104-S | 10/26/1999 | RADIUM-228 | 0.99 | 0.37 | PCI/G |
| SC-27104-S | 10/26/1999 | THORIUM-230 | 0.96 | 0.64 | PCI/G |
| SC-27104-S | 10/26/1999 | URANIUM-238 | 1.375 | 2.75 | PCI/G |
| SC-27105-C | 10/26/1999 | RADIUM-226 | 1.03 | 0.32 | PCI/G |
| SC-27105-C | 10/26/1999 | RADIUM-228 | 0.495 | 0.99 | PCI/G |
| SC-27105-C | 10/26/1999 | THORIUM-230 | 1.77 | 0.64 | PCI/G |

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-27105-C | 10/26/1999 | URANIUM-238 | 1.365 | 2 73 | PCI/G |
| SC-27110-S | 07/02/1999 | RADIUM-226 | 0.93 | 0.34 | PCI/G |
| SC-27110-S | 07/02/1999 | RADIUM-228 | 0.475 | 0.95 | PCI/G |
| SC-27110-S | 07/02/1999 | THORIUM-230 | 2.54 | 0 64 | PCI/G |
| SC-27110-S | 07/02/1999 | URANIUM-238 | 1.235 | 2 47 | PCI/G |
| SC-27110-S-01 | 09/30/1999 | PAH | 0 | 17 | UG/KG |
| SC-27110-S-01 | 09/30/1999 | RADIUM-226 | 1.08 | 0 33 | PCI/G |
| SC-27110-S-01 | 09/30/1999 | RADIUM-228 | 1.29 | 0 43 | PCI/G |
| SC-27110-S-01 | 09/30/1999 | THORIUM-230 | 1.24 | 0.62 | PCI/G |
| SC-27110-S-01 | 09/30/1999 | URANIUM-238 | 1.365 | 2.73 | PCI/G |
| SC-27112-C | 10/26/1999 | RADIUM-226 | 1.08 | 0.31 | PCI/G |
| SC-27112-C | 10/26/1999 | RADIUM-228 | 1.2 | 0.5 | PCI/G |
| SC-27112-C | 10/26/1999 | THORIUM-230 | 1 11 | 0.64 | PCI/G |
| SC-27112-C | 10/26/1999 | URANIUM-238 | 1 31 | 2 62 | PCI/G |
| SC-27112-S | 10/26/1999 | RADIUM-226 | 0 78 | 0 31 | PCI/G |
| SC-27112-S | 10/26/1999 | RADIUM-228 | 0 45 | 0 9 | PCI/G |
| SC-27112-S | 10/26/1999 | THORIUM-230 | 0 89 | 0.64 | PCI/G |
| SC-27112-S | 10/26/1999 | URANIUM-238 | 1 33 | 2 66 | PCI/G |
| SC-27113-S | 07/02/1999 | RADIUM-226 | 0 69 | 0 33 | PCI/G |
| SC-27113-S | 07/02/1999 | RADIUM-228 | 1 32 | 0 4 | PCI/G |
| SC-27113-S | 07/02/1999 | THORIUM-230 | 2 67 | 0 62 | PCI/G |
| SC-27113-S | 07/02/1999 | URANIUM-238 | 2 16 | 2 19 | PCI/G |
| SC-27114-S | 07/02/1999 | RADIUM-226 | 0.83 | 0 3 | PCI/G |
| SC-27114-S | 07/02/1999 | RADIUM-228 | 0.445 | 0.89 | PCI/G |
| SC-27114-S | 07/02/1999 | THORIUM-230 | 1 61 | 0 65 | PCI/G |
| SC-27114-S | 07/02/1999 | URANIUM-238 | 1.34 | 2 68 | PCI/G |
| SC-27115-S | 07/02/1999 | RADIUM-226 | 0.88 | 0 27 | PCI/G |
| SC-27115-S | 07/02/1999 | RADIUM-228 | 1 03 | 0 4 | PCI/G |
| SC-27115-S | 07/02/1999 | THORIUM-230 | 2 1 | 0.62 | PCI/G |
| SC-27115-S | 07/02/1999 | URANIUM-238 | 1 29 | 2 58 | PCI/G |
| SC-27116-S | 11/05/1999 | RADIUM-226 | 0 75 | 0 31 | PCI/G |
| SC-27116-S | 11/05/1999 | RADIUM-228 | 0 465 | 0 93 | PCI/G |
| SC-27116-S | 11/05/1999 | THORIUM-230 | 0.78 | 0 62 | PCI/G |
| SC-27116-S | 11/05/1999 | URANIUM-238 | 1.19 | 2.38 | PCI/G |
| SC-27118-S | 07/02/1999 | RADIUM-226 | 0 77 | 0 27 | PCI/G |
| SC-27118-S | 07/02/1999 | RADIUM-228 | 0 49 | 0.98 | PCI/G |
| SC-27118-S | 07/02/1999 | THORIUM-230 | 2 82 | 0 64 | PCI/G |
| SC-27118-S | 07/02/1999 | URANIUM-238 | 1 095 | 2 19 | PCI/G |
| SC-27119-S | 07/02/1999 | RADIUM-226 | 0 82 | 0 28 | PCI/G |
| SC-27119-S | 07/02/1999 | RADIUM-228 | 0 97 | 0 42 | PCI/G |
| SC-27119-S | 07/02/1999 | THORIUM-230 | 4 29 | 0 62 | PCI/G |
| SC-27119-S | 07/02/1999 | URANIUM-238 | 1.325 | 2 65 | PCI/G |
| SC-27120-S | 07/02/1999 | RADIUM-226 | 0.305 | 0 61 | PCI/G |
| SC-27120-S | 07/02/1999 | RADIUM-228 | 0 395 | 0 79 | PCI/G |
| SC-27120-S | 07/02/1999 | THORIUM-230 | 3 76 | 0 65 | PCI/G |
| SC-27120-S | 07/02/1999 | URANIUM-238 | 2 67 | 2 53 | PCI/G |
| SC-27121-S | 07/02/1999 | RADIUM-226 | 0 69 | 0.29 | PCI/G |
| SC-27121-S | 07/02/1999 | RADIUM-228 | 0 94 | 0.33 | PCI/G |
| SC-27121-S | 07/02/1999 | THORIUM-230 | 2 08 | 0.62 | PCI/G |
| SC-27121-S | 07/02/1999 | URANIUM-238 | 1 29 | 2.58 | PCI/G |
| SC-27122-S | 07/02/1999 | RADIUM-226 | 0 75 | 0 33 | PCI/G |
| SC-27122-S | 07/02/1999 | RADIUM-228 | 0.465 | 0 93 | PCI/G |
| SC-27122-S | 07/02/1999 | THORIUM-230 | 2 47 | 0 64 | PCI/G |
| SC-27122-S | 07/02/1999 | URANIUM-238 | 1 3 | 2 6 | PCI/G |
| SC-27123-S | 07/02/1999 | RADIUM-226 | 0 91 | 0 3 | PCI/G |
| SC-27123-S | 07/02/1999 | RADIUM-228 | 1.05 | 0 37 | PCI/G |
| SC-27123-S | 07/02/1999 | THORIUM-230 | 2 03 | 0 62 | PCI/G |
| SC-27123-S | 07/02/1999 | URANIUM-238 | 1.305 | 2.61 | PCI/G |
| SC-27124-S | 07/02/1999 | RADIUM-226 | 0 88 | 0 31 | PCI/G |
| SC-27124-S | 07/02/1999 | RADIUM-228 | 0 415 | 0 83 | PCI/G |
| SC-27124-S | 07/02/1999 | THORIUM-230 | 2 27 | 0.65 | PCI/G |
| SC-27124-S | 07/02/1999 | URANIUM-238 | 1.235 | 2 47 | PCI/G |
| SC-27126-S | 07/02/1999 | RADIUM-226 | 0.86 | 0.29 | PCI/G |
| SC-27126-S | 07/02/1999 | RADIUM-228 | 0.83 | 0.45 | PCI/G |
| SC-27126-S | 07/02/1999 | THORIUM-230 | 1.9 | 0.62 | PCI/G |
| SC-27126-S | 07/02/1999 | URANIUM-238 | 1 285 | 2 57 | PCI/G |
| SC-27127-S | 07/02/1999 | RADIUM-226 | 0 97 | 0 29 | PCI/G |
| SC-27127-S | 07/02/1999 | RADIUM-228 | 0.515 | 1 03 | PCI/G |
| SC-27127-S | 07/02/1999 | THORIUM-230 | 2.55 | 0 65 | PCI/G |
| SC-27127-S | 07/02/1999 | URANIUM-238 | 1 215 | 2 43 | PCI/G |
| SC-27128-S | 07/02/1999 | RADIUM-226 | 0 95 | 0 27 | PCI/G |
| SC-27128-S | 07/02/1999 | RADIUM-228 | 1 1 | 0 38 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-27128-S | 07/02/1999 | THORIUM-230 | 2.39 | 0.62 | PCI/G |
| SC-27128-S | 07/02/1999 | URANIUM-238 | 1.31 | 2.62 | PCI/G |
| SC-27129-S | 07/19/1999 | RADIUM-226 | 0.91 | 0.31 | PCI/G |
| SC-27129-S | 07/19/1999 | RADIUM-228 | 0.445 | 0.89 | PCI/G |
| SC-27129-S | 07/19/1999 | THORIUM-230 | 0.94 | 0.64 | PCI/G |
| SC-27129-S | 07/19/1999 | URANIUM-238 | 1.34 | 2.68 | PCI/G |
| SC-27130-S | 07/19/1999 | RADIUM-226 | 0.87 | 0.26 | PCI/G |
| SC-27130-S | 07/19/1999 | RADIUM-228 | 1.08 | 0.45 | PCI/G |
| SC-27130-S | 07/19/1999 | THORIUM-230 | 0.81 | 0.66 | PCI/G |
| SC-27130-S | 07/19/1999 | URANIUM-238 | 1.255 | 2.51 | PCI/G |
| SC-27132-C | 07/02/1999 | RADIUM-226 | 0.97 | 0.28 | PCI/G |
| SC-27132-C | 07/02/1999 | RADIUM-228 | 1.3 | 0.52 | PCI/G |
| SC-27132-C | 07/02/1999 | THORIUM-230 | 1.88 | 0.64 | PCI/G |
| SC-27132-C | 07/02/1999 | URANIUM-238 | 1.31 | 2.62 | PCI/G |
| SC-27133-C | 07/19/1999 | RADIUM-226 | 0.7 | 0.32 | PCI/G |
| SC-27133-C | 07/19/1999 | RADIUM-228 | 0.43 | 0.86 | PCI/G |
| SC-27133-C | 07/19/1999 | THORIUM-230 | 1.33 | 0.64 | PCI/G |
| SC-27133-C | 07/19/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-39101-C | 10/29/1999 | PAH | 2200 | 170 | UG/KG |
| SC-39101-C | 10/29/1999 | RADIUM-226 | 0.78 | 0.28 | PCI/G |
| SC-39101-C | 10/29/1999 | RADIUM-228 | 1.19 | 0.42 | PCI/G |
| SC-39101-C | 10/29/1999 | THORIUM-230 | 0.94 | 0.64 | PCI/G |
| SC-39101-C | 10/29/1999 | URANIUM-238 | 1.32 | 2.64 | PCI/G |
| SC-39101-S | 10/29/1999 | PAH | 1900 | 180 | UG/KG |
| SC-39101-S | 10/29/1999 | RADIUM-226 | 0.87 | 0.31 | PCI/G |
| SC-39101-S | 10/29/1999 | RADIUM-228 | 0.475 | 0.95 | PCI/G |
| SC-39101-S | 10/29/1999 | THORIUM-230 | 0.9 | 0.64 | PCI/G |
| SC-39101-S | 10/29/1999 | URANIUM-238 | 1.395 | 2.79 | PCI/G |
| SC-39102-C | 10/29/1999 | PAH | 190 | 18 | UG/KG |
| SC-39102-C | 10/29/1999 | RADIUM-226 | 0.68 | 0.32 | PCI/G |
| SC-39102-C | 10/29/1999 | RADIUM-228 | 0.9 | 0.46 | PCI/G |
| SC-39102-C | 10/29/1999 | THORIUM-230 | 1.14 | 0.64 | PCI/G |
| SC-39102-C | 10/29/1999 | URANIUM-238 | 1.28 | 2.56 | PCI/G |
| SC-39102-S | 10/29/1999 | PAH | 0 | 18 | UG/KG |
| SC-39102-S | 10/29/1999 | RADIUM-226 | 0.88 | 0.3 | PCI/G |
| SC-39102-S | 10/29/1999 | RADIUM-228 | 0.425 | 0.85 | PCI/G |
| SC-39102-S | 10/29/1999 | THORIUM-230 | 0.96 | 0.64 | PCI/G |
| SC-39102-S | 10/29/1999 | URANIUM-238 | 1.285 | 2.57 | PCI/G |
| SC-39103-C | 11/02/1999 | PAH | 860 | 170 | UG/KG |
| SC-39103-C | 11/02/1999 | RADIUM-226 | 0.78 | 0.32 | PCI/G |
| SC-39103-C | 11/02/1999 | RADIUM-228 | 0.48 | 0.96 | PCI/G |
| SC-39103-C | 11/02/1999 | THORIUM-230 | 1.54 | 0.62 | PCI/G |
| SC-39103-C | 11/02/1999 | URANIUM-238 | 1.285 | 2.57 | PCI/G |
| SC-39103-S | 10/06/1999 | PAH | 0 | 18 | UG/KG |
| SC-39103-S | 10/06/1999 | RADIUM-226 | 1.05 | 0.36 | PCI/G |
| SC-39103-S | 10/06/1999 | RADIUM-228 | 0.445 | 0.89 | PCI/G |
| SC-39103-S | 10/06/1999 | THORIUM-230 | 0.98 | 0.64 | PCI/G |
| SC-39103-S | 10/06/1999 | URANIUM-238 | 1.355 | 2.71 | PCI/G |
| SC-39104-C | 11/02/1999 | PAH | 0 | 18 | UG/KG |
| SC-39104-C | 11/02/1999 | RADIUM-226 | 0.91 | 0.34 | PCI/G |
| SC-39104-C | 11/02/1999 | RADIUM-228 | 0.83 | 0.44 | PCI/G |
| SC-39104-C | 11/02/1999 | THORIUM-230 | 0.76 | 0.64 | PCI/G |
| SC-39104-C | 11/02/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-39104-S | 10/29/1999 | PAH | 370 | 19 | UG/KG |
| SC-39104-S | 10/29/1999 | RADIUM-226 | 0.59 | 0.29 | PCI/G |
| SC-39104-S | 10/29/1999 | RADIUM-228 | 0.96 | 0.43 | PCI/G |
| SC-39104-S | 10/29/1999 | THORIUM-230 | 1.19 | 0.64 | PCI/G |
| SC-39104-S | 10/29/1999 | URANIUM-238 | 1.265 | 2.53 | PCI/G |
| SC-39105-C | 10/12/1999 | PAH | 130 | 19 | UG/KG |
| SC-39105-C | 10/12/1999 | RADIUM-226 | 0.315 | 0.63 | PCI/G |
| SC-39105-C | 10/12/1999 | RADIUM-228 | 0.425 | 0.85 | PCI/G |
| SC-39105-C | 10/12/1999 | THORIUM-230 | 1.48 | 0.65 | PCI/G |
| SC-39105-C | 10/12/1999 | URANIUM-238 | 1.38 | 2.76 | PCI/G |
| SC-39105-S | 10/29/1999 | PAH | 140 | 18 | UG/KG |
| SC-39105-S | 10/29/1999 | RADIUM-226 | 1.08 | 0.34 | PCI/G |
| SC-39105-S | 10/29/1999 | RADIUM-228 | 0.405 | 0.81 | PCI/G |
| SC-39105-S | 10/29/1999 | THORIUM-230 | 16.4 | 0.64 | PCI/G |
| SC-39105-S | 10/29/1999 | URANIUM-238 | 1.505 | 3.01 | PCI/G |
| SC-39105-S-HSO1 | 11/04/1999 | THORIUM-230 | 1.45 | 0.65 | PCI/G |
| SC-39105-S-HSO2 | 11/04/1999 | THORIUM-230 | 0.78 | 0.64 | PCI/G |
| SC-39105-S-HSO3 | 11/04/1999 | THORIUM-230 | 2.52 | 0.62 | PCI/G |
| SC-39105-S-HSO4 | 11/04/1999 | THORIUM-230 | 2.69 | 0.64 | PCI/G |

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| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-39106-C | 10/12/1999 | PAH | 87 | 19 | UG/KG |
| SC-39106-C | 10/12/1999 | RADIUM-226 | 0.67 | 0 31 | PCI/G |
| SC-39106-C | 10/12/1999 | RADIUM-228 | 0 93 | 0 41 | PCI/G |
| SC-39106-C | 10/12/1999 | THORIUM-230 | 1.34 | 0 64 | PCI/G |
| SC-39106-C | 10/12/1999 | URANIUM-238 | 1.295 | 2.59 | PCI/G |
| SC-39106-S | 10/06/1999 | PAH | 0 | 17 | UG/KG |
| SC-39106-S | 10/06/1999 | RADIUM-226 | 0 91 | 0.27 | PCI/G |
| SC-39106-S | 10/06/1999 | RADIUM-228 | 0.355 | 0 71 | PCI/G |
| SC-39106-S | 10/06/1999 | THORIUM-230 | 0.85 | 0.64 | PCI/G |
| SC-39106-S | 10/06/1999 | URANIUM-238 | 1.245 | 2 49 | PCI/G |
| SC-39107-C | 10/12/1999 | PAH | 1200 | 93 | UG/KG |
| SC-39107-C | 10/12/1999 | RADIUM-226 | 0.65 | 0.39 | PCI/G |
| SC-39107-C | 10/12/1999 | RADIUM-228 | 0.445 | 0.89 | PCI/G |
| SC-39107-C | 10/12/1999 | THORIUM-230 | 1.13 | 0.65 | PCI/G |
| SC-39107-C | 10/12/1999 | URANIUM-238 | 1.265 | 2 53 | PCI/G |
| SC-39107-S | 10/29/1999 | PAH | 340 | 18 | UG/KG |
| SC-39107-S | 10/29/1999 | RADIUM-226 | 0 73 | 0.29 | PCI/G |
| SC-39107-S | 10/29/1999 | RADIUM-228 | 1 02 | 0.41 | PCI/G |
| SC-39107-S | 10/29/1999 | THORIUM-230 | 1.34 | 0.64 | PCI/G |
| SC-39107-S | 10/29/1999 | URANIUM-238 | 1 31 | 2 62 | PCI/G |
| SC-39108-S | 10/06/1999 | PAH | 190 | 18 | UG/KG |
| SC-39108-S | 10/06/1999 | RADIUM-226 | 0.83 | 0.35 | PCI/G |
| SC-39108-S | 10/06/1999 | RADIUM-228 | 0.98 | 0 57 | PCI/G |
| SC-39108-S | 10/06/1999 | THORIUM-230 | 1.24 | 0 62 | PCI/G |
| SC-39108-S | 10/06/1999 | URANIUM-238 | 1.315 | 2.63 | PCI/G |
| SC-39109-S | 10/29/1999 | PAH | 820 | 18 | UG/KG |
| SC-39109-S | 10/29/1999 | RADIUM-226 | 0.76 | 0 31 | PCI/G |
| SC-39109-S | 10/29/1999 | RADIUM-228 | 0.455 | 0 91 | PCI/G |
| SC-39109-S | 10/29/1999 | THORIUM-230 | 0.95 | 0.64 | PCI/G |
| SC-39109-S | 10/29/1999 | URANIUM-238 | 1.475 | 2.95 | PCI/G |
| SC-39110-S | 10/06/1999 | PAH | 790 | 18 | UG/KG |
| SC-39110-S | 10/06/1999 | RADIUM-226 | 0 86 | 0.29 | PCI/G |
| SC-39110-S | 10/06/1999 | RADIUM-228 | 1.24 | 0 38 | PCI/G |
| SC-39110-S | 10/06/1999 | THORIUM-230 | 0.93 | 0 64 | PCI/G |
| SC-39110-S | 10/06/1999 | URANIUM-238 | 1.275 | 2.55 | PCI/G |
| SC-39111-S | 10/12/1999 | PAH | 250 | 18 | UG/KG |
| SC-39111-S | 10/12/1999 | RADIUM-226 | 0.61 | 0 31 | PCI/G |
| SC-39111-S | 10/12/1999 | RADIUM-228 | 1.12 | 0 5 | PCI/G |
| SC-39111-S | 10/12/1999 | THORIUM-230 | 1.1 | 0 62 | PCI/G |
| SC-39111-S | 10/12/1999 | URANIUM-238 | 1.31 | 2 62 | PCI/G |
| SC-39112-S | 10/06/1999 | PAH | 110 | 18 | UG/KG |
| SC-39112-S | 10/06/1999 | RADIUM-226 | 0.79 | 0 29 | PCI/G |
| SC-39112-S | 10/06/1999 | RADIUM-228 | 0 49 | 0 98 | PCI/G |
| SC-39112-S | 10/06/1999 | THORIUM-230 | 0.9 | 0.62 | PCI/G |
| SC-39112-S | 10/06/1999 | URANIUM-238 | 1 265 | 2.53 | PCI/G |
| SC-39113-S | 10/12/1999 | PAH | 480 | 18 | UG/KG |
| SC-39113-S | 10/12/1999 | RADIUM-226 | 0 77 | 0.28 | PCI/G |
| SC-39113-S | 10/12/1999 | RADIUM-228 | 0 78 | 0.49 | PCI/G |
| SC-39113-S | 10/12/1999 | THORIUM-230 | 1 31 | 0 65 | PCI/G |
| SC-39113-S | 10/12/1999 | URANIUM-238 | 1.265 | 2 53 | PCI/G |
| SC-39114-S | 10/06/1999 | PAH | 0 | 18 | UG/KG |
| SC-39114-S | 10/06/1999 | RADIUM-226 | 0 73 | 0.31 | PCI/G |
| SC-39114-S | 10/06/1999 | RADIUM-228 | 1.18 | 0 41 | PCI/G |
| SC-39114-S | 10/06/1999 | THORIUM-230 | 0.87 | 0 64 | PCI/G |
| SC-39114-S | 10/06/1999 | URANIUM-238 | 1.31 | 2 62 | PCI/G |
| SC-39115-S | 10/12/1999 | PAH | 0 | 19 | UG/KG |
| SC-39115-S | 10/12/1999 | RADIUM-226 | 0 91 | 0.31 | PCI/G |
| SC-39115-S | 10/12/1999 | RADIUM-228 | 1.07 | 0.4 | PCI/G |
| SC-39115-S | 10/12/1999 | THORIUM-230 | 1 17 | 0.64 | PCI/G |
| SC-39115-S | 10/12/1999 | URANIUM-238 | 1 305 | 2.61 | PCI/G |
| SC-39116-S | 10/06/1999 | PAH | 0 | 18 | UG/KG |
| SC-39116-S | 10/06/1999 | RADIUM-226 | 0.81 | 0.28 | PCI/G |
| SC-39116-S | 10/06/1999 | RADIUM-228 | 1 21 | 0 61 | PCI/G |
| SC-39116-S | 10/06/1999 | THORIUM-230 | 1.23 | 0 64 | PCI/G |
| SC-39116-S | 10/06/1999 | URANIUM-238 | 1.33 | 2.66 | PCI/G |
| SC-39117-S | 10/12/1999 | PAH | 0 | 18 | UG/KG |
| SC-39117-S | 10/12/1999 | RADIUM-226 | 0 79 | 0.31 | PCI/G |
| SC-39117-S | 10/12/1999 | RADIUM-228 | 1.09 | 0.53 | PCI/G |
| SC-39117-S | 10/12/1999 | THORIUM-230 | 1 | 0.65 | PCI/G |
| SC-39117-S | 10/12/1999 | URANIUM-238 | 1 43 | 2 86 | PCI/G |
| SC-39118-S | 10/06/1999 | PAH | 0 | 18 | UG/KG |
| SC-39118-S | 10/06/1999 | RADIUM-226 | 0 8 | 0 28 | PCI/G |

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|---|---|---|---|---|---|
| SC-39118-S | 10/06/1999 | RADIUM-228 | 1 | 0.45 | PCI/G |
| SC-39118-S | 10/06/1999 | THORIUM-230 | 0.94 | 0.64 | PCI/G |
| SC-39118-S | 10/06/1999 | URANIUM-238 | 1.275 | 2.55 | PCI/G |
| SC-39119-S | 10/12/1999 | PAH | 0 | 19 | UG/KG |
| SC-39119-S | 10/12/1999 | RADIUM-226 | 0.83 | 0.27 | PCI/G |
| SC-39119-S | 10/12/1999 | RADIUM-228 | 1.05 | 0.4 | PCI/G |
| SC-39119-S | 10/12/1999 | THORIUM-230 | 1.45 | 0.62 | PCI/G |
| SC-39119-S | 10/12/1999 | URANIUM-238 | 1.265 | 2.53 | PCI/G |
| SC-39120-S | 10/06/1999 | PAH | 750 | 18 | UG/KG |
| SC-39120-S | 10/06/1999 | RADIUM-226 | 0.305 | 0.61 | PCI/G |
| SC-39120-S | 10/06/1999 | RADIUM-228 | 0.505 | 1.01 | PCI/G |
| SC-39120-S | 10/06/1999 | THORIUM-230 | 1 | 0.62 | PCI/G |
| SC-39120-S | 10/06/1999 | URANIUM-238 | 1.105 | 2.21 | PCI/G |
| SC-39121-S | 10/12/1999 | PAH | 0 | 18 | UG/KG |
| SC-39121-S | 10/12/1999 | RADIUM-226 | 1.03 | 0.31 | PCI/G |
| SC-39121-S | 10/12/1999 | RADIUM-228 | 0.485 | 0.97 | PCI/G |
| SC-39121-S | 10/12/1999 | THORIUM-230 | 1.11 | 0.65 | PCI/G |
| SC-39121-S | 10/12/1999 | URANIUM-238 | 1.325 | 2.65 | PCI/G |
| SC-39122-S | 10/06/1999 | PAH | 340 | 18 | UG/KG |
| SC-39122-S | 10/06/1999 | RADIUM-226 | 0.88 | 0.31 | PCI/G |
| SC-39122-S | 10/06/1999 | RADIUM-228 | 1.33 | 0.43 | PCI/G |
| SC-39122-S | 10/06/1999 | THORIUM-230 | 1.24 | 0.64 | PCI/G |
| SC-39122-S | 10/06/1999 | URANIUM-238 | 1.335 | 2.67 | PCI/G |
| SC-39123-S | 10/12/1999 | PAH | 0 | 18 | UG/KG |
| SC-39123-S | 10/12/1999 | RADIUM-226 | 0.73 | 0.34 | PCI/G |
| SC-39123-S | 10/12/1999 | RADIUM-228 | 0.83 | 0.46 | PCI/G |
| SC-39123-S | 10/12/1999 | THORIUM-230 | 1.14 | 0.64 | PCI/G |
| SC-39123-S | 10/12/1999 | URANIUM-238 | 1.365 | 2.73 | PCI/G |
| SC-39124-S | 10/06/1999 | PAH | 130 | 18 | UG/KG |
| SC-39124-S | 10/06/1999 | RADIUM-226 | 0.95 | 0.29 | PCI/G |
| SC-39124-S | 10/06/1999 | RADIUM-228 | 1.05 | 0.31 | PCI/G |
| SC-39124-S | 10/06/1999 | THORIUM-230 | 0.92 | 0.64 | PCI/G |
| SC-39124-S | 10/06/1999 | URANIUM-238 | 1.325 | 2.65 | PCI/G |
| SC-39201-C | 09/30/1999 | PAH | 0 | 17 | UG/KG |
| SC-39201-C | 09/30/1999 | RADIUM-226 | 0.315 | 0.63 | PCI/G |
| SC-39201-C | 09/30/1999 | RADIUM-228 | 0.78 | 0.51 | PCI/G |
| SC-39201-C | 09/30/1999 | THORIUM-230 | 1.09 | 0.64 | PCI/G |
| SC-39201-C | 09/30/1999 | URANIUM-238 | 2.29 | 2.43 | PCI/G |
| SC-39201-S | 10/12/1999 | PAH | 51 | 15 | UG/KG |
| SC-39201-S | 10/12/1999 | RADIUM-226 | 0.65 | 0.33 | PCI/G |
| SC-39201-S | 10/12/1999 | RADIUM-228 | 0.475 | 0.95 | PCI/G |
| SC-39201-S | 10/12/1999 | THORIUM-230 | 1.01 | 0.65 | PCI/G |
| SC-39201-S | 10/12/1999 | URANIUM-238 | 1.33 | 2.66 | PCI/G |
| SC-39202-C | 09/30/1999 | PAH | 0 | 19 | UG/KG |
| SC-39202-C | 09/30/1999 | RADIUM-226 | 0.85 | 0.28 | PCI/G |
| SC-39202-C | 09/30/1999 | RADIUM-228 | 1.01 | 0.41 | PCI/G |
| SC-39202-C | 09/30/1999 | THORIUM-230 | 1.13 | 0.64 | PCI/G |
| SC-39202-C | 09/30/1999 | URANIUM-238 | 1.305 | 2.61 | PCI/G |
| SC-39202-S | 10/12/1999 | PAH | 28 | 19 | UG/KG |
| SC-39202-S | 10/12/1999 | RADIUM-226 | 0.89 | 0.27 | PCI/G |
| SC-39202-S | 10/12/1999 | RADIUM-228 | 1 | 0.44 | PCI/G |
| SC-39202-S | 10/12/1999 | THORIUM-230 | 1.09 | 0.64 | PCI/G |
| SC-39202-S | 10/12/1999 | URANIUM-238 | 1.255 | 2.51 | PCI/G |
| SC-39203-C | 09/30/1999 | PAH | 0 | 19 | UG/KG |
| SC-39203-C | 09/30/1999 | RADIUM-226 | 0.32 | 0.64 | PCI/G |
| SC-39203-C | 09/30/1999 | RADIUM-228 | 1.06 | 0.51 | PCI/G |
| SC-39203-C | 09/30/1999 | THORIUM-230 | 1.33 | 0.62 | PCI/G |
| SC-39203-C | 09/30/1999 | URANIUM-238 | 1.31 | 2.62 | PCI/G |
| SC-39203-S | 10/12/1999 | PAH | 0 | 18 | UG/KG |
| SC-39203-S | 10/12/1999 | RADIUM-226 | 0.83 | 0.28 | PCI/G |
| SC-39203-S | 10/12/1999 | RADIUM-228 | 0.5 | 1 | PCI/G |
| SC-39203-S | 10/12/1999 | THORIUM-230 | 1.08 | 0.65 | PCI/G |
| SC-39203-S | 10/12/1999 | URANIUM-238 | 1.265 | 2.53 | PCI/G |
| SC-39204-C | 09/30/1999 | PAH | 65 | 18 | UG/KG |
| SC-39204-C | 09/30/1999 | RADIUM-226 | 0.83 | 0.31 | PCI/G |
| SC-39204-C | 09/30/1999 | RADIUM-228 | 1.09 | 0.34 | PCI/G |
| SC-39204-C | 09/30/1999 | THORIUM-230 | 1.22 | 0.62 | PCI/G |
| SC-39204-C | 09/30/1999 | URANIUM-238 | 1.305 | 2.61 | PCI/G |
| SC-39204-S | 10/12/1999 | PAH | 0 | 18 | UG/KG |
| SC-39204-S | 10/12/1999 | RADIUM-226 | 0.77 | 0.29 | PCI/G |
| SC-39204-S | 10/12/1999 | RADIUM-228 | 1.06 | 0.44 | PCI/G |
| SC-39204-S | 10/12/1999 | THORIUM-230 | 0.91 | 0.62 | PCI/G |

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|---|---|---|---|---|---|
| SC-39204-S | 10/12/1999 | URANIUM-238 | 1.335 | 2.67 | PCI/G |
| SC-39205-C | 09/30/1999 | PAH | 0 | 19 | UG/KG |
| SC-39205-C | 09/30/1999 | RADIUM-226 | 0 36 | 0 72 | PCI/G |
| SC-39205-C | 09/30/1999 | RADIUM-228 | 1 15 | 0 57 | PCI/G |
| SC-39205-C | 09/30/1999 | THORIUM-230 | 1 08 | 0 64 | PCI/G |
| SC-39205-C | 09/30/1999 | URANIUM-238 | 1 425 | 2 85 | PCI/G |
| SC-39205-S | 09/30/1999 | PAH | 0 | 18 | UG/KG |
| SC-39205-S | 09/30/1999 | RADIUM-226 | 0 78 | 0 32 | PCI/G |
| SC-39205-S | 09/30/1999 | RADIUM-228 | 1 13 | 0 47 | PCI/G |
| SC-39205-S | 09/30/1999 | THORIUM-230 | 1 03 | 0 64 | PCI/G |
| SC-39205-S | 09/30/1999 | URANIUM-238 | 1.355 | 2 71 | PCI/G |
| SC-39206-C | 09/30/1999 | PAH | 0 | 19 | UG/KG |
| SC-39206-C | 09/30/1999 | RADIUM-226 | 0 34 | 0 68 | PCI/G |
| SC-39206-C | 09/30/1999 | RADIUM-228 | 0 49 | 0.98 | PCI/G |
| SC-39206-C | 09/30/1999 | THORIUM-230 | 1.27 | 0.62 | PCI/G |
| SC-39206-C | 09/30/1999 | URANIUM-238 | 1 325 | 2.65 | PCI/G |
| SC-39206-S | 09/30/1999 | PAH | 0 | 19 | UG/KG |
| SC-39206-S | 09/30/1999 | RADIUM-226 | 0 77 | 0 31 | PCI/G |
| SC-39206-S | 09/30/1999 | RADIUM-228 | 0 47 | 0 94 | PCI/G |
| SC-39206-S | 09/30/1999 | THORIUM-230 | 1 08 | 0.65 | PCI/G |
| SC-39206-S | 09/30/1999 | URANIUM-238 | 1 35 | 2.7 | PCI/G |
| SC-39207-C | 09/30/1999 | PAH | 0 | 18 | UG/KG |
| SC-39207-C | 09/30/1999 | RADIUM-226 | 0 83 | 0 32 | PCI/G |
| SC-39207-C | 09/30/1999 | RADIUM-228 | 1 14 | 0 39 | PCI/G |
| SC-39207-C | 09/30/1999 | THORIUM-230 | 1 07 | 0 62 | PCI/G |
| SC-39207-C | 09/30/1999 | URANIUM-238 | 1 28 | 2 56 | PCI/G |
| SC-39207-S | 09/30/1999 | PAH | 0 | 18 | UG/KG |
| SC-39207-S | 09/30/1999 | RADIUM-226 | 0.305 | 0 61 | PCI/G |
| SC-39207-S | 09/30/1999 | RADIUM-228 | 0 47 | 0 94 | PCI/G |
| SC-39207-S | 09/30/1999 | THORIUM-230 | 1 38 | 0 64 | PCI/G |
| SC-39207-S | 09/30/1999 | URANIUM-238 | 1.26 | 2 52 | PCI/G |
| SC-39208-C | 09/30/1999 | PAH | 0 | 18 | UG/KG |
| SC-39208-C | 09/30/1999 | RADIUM-226 | 1 07 | 0 3 | PCI/G |
| SC-39208-C | 09/30/1999 | RADIUM-228 | 0 96 | 0 49 | PCI/G |
| SC-39208-C | 09/30/1999 | THORIUM-230 | 1 12 | 0 62 | PCI/G |
| SC-39208-C | 09/30/1999 | URANIUM-238 | 1 31 | 2 62 | PCI/G |
| SC-39208-S | 09/30/1999 | PAH | 0 | 18 | UG/KG |
| SC-39208-S | 09/30/1999 | RADIUM-226 | 0.92 | 0 38 | PCI/G |
| SC-39208-S | 09/30/1999 | RADIUM-228 | 0 485 | 0 97 | PCI/G |
| SC-39208-S | 09/30/1999 | THORIUM-230 | 1 31 | 0.64 | PCI/G |
| SC-39208-S | 09/30/1999 | URANIUM-238 | 1 34 | 2 68 | PCI/G |
| SC-39209-C | 09/30/1999 | PAH | 0 | 18 | UG/KG |
| SC-39209-C | 09/30/1999 | RADIUM-226 | 0.89 | 0 32 | PCI/G |
| SC-39209-C | 09/30/1999 | RADIUM-228 | 1 3 | 0 44 | PCI/G |
| SC-39209-C | 09/30/1999 | THORIUM-230 | 1 01 | 0 64 | PCI/G |
| SC-39209-C | 09/30/1999 | URANIUM-238 | 1.275 | 2 55 | PCI/G |
| SC-39209-S | 09/30/1999 | PAH | 0 | 19 | UG/KG |
| SC-39209-S | 09/30/1999 | RADIUM-226 | 0 85 | 0 31 | PCI/G |
| SC-39209-S | 09/30/1999 | RADIUM-228 | 1 22 | 0 46 | PCI/G |
| SC-39209-S | 09/30/1999 | THORIUM-230 | 1 56 | 0 62 | PCI/G |
| SC-39209-S | 09/30/1999 | URANIUM-238 | 1 325 | 2 65 | PCI/G |
| SC-39210-C | 09/30/1999 | PAH | 0 | 17 | UG/KG |
| SC-39210-C | 09/30/1999 | RADIUM-226 | 1 | 0 32 | PCI/G |
| SC-39210-C | 09/30/1999 | RADIUM-228 | 1 1 | 0 4 | PCI/G |
| SC-39210-C | 09/30/1999 | THORIUM-230 | 1 32 | 0 62 | PCI/G |
| SC-39210-C | 09/30/1999 | URANIUM-238 | 1.375 | 2 75 | PCI/G |
| SC-39210-S | 09/30/1999 | PAH | 0 | 19 | UG/KG |
| SC-39210-S | 09/30/1999 | RADIUM-226 | 0.92 | 0 26 | PCI/G |
| SC-39210-S | 09/30/1999 | RADIUM-228 | 1.27 | 0 37 | PCI/G |
| SC-39210-S | 09/30/1999 | THORIUM-230 | 1 1 | 0 64 | PCI/G |
| SC-39210-S | 09/30/1999 | URANIUM-238 | 1 355 | 2 71 | PCI/G |
| SC-39211-C | 10/26/1999 | PAH | 0 | 18 | UG/KG |
| SC-39211-C | 10/26/1999 | RADIUM-226 | 1.03 | 0.29 | PCI/G |
| SC-39211-C | 10/26/1999 | RADIUM-228 | 0.48 | 0.96 | PCI/G |
| SC-39211-C | 10/26/1999 | THORIUM-230 | 1.16 | 0 64 | PCI/G |
| SC-39211-C | 10/26/1999 | URANIUM-238 | 1 33 | 2 66 | PCI/G |
| SC-39211-S | 09/30/1999 | PAH | 0 | 18 | UG/KG |
| SC-39211-S | 09/30/1999 | RADIUM-226 | 0 58 | 0 33 | PCI/G |
| SC-39211-S | 09/30/1999 | RADIUM-228 | 1 25 | 0 4 | PCI/G |
| SC-39211-S | 09/30/1999 | THORIUM-230 | 1 13 | 0 64 | PCI/G |
| SC-39211-S | 09/30/1999 | URANIUM-238 | 1.205 | 2 41 | PCI/G |
| SC-39212-C | 10/26/1999 | PAH | 0 | 18 | UG/KG |

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|---|---|---|---|---|---|
| SC-39212-C | 10/26/1999 | RADIUM-226 | 1.05 | 0.3 | PCI/G |
| SC-39212-C | 10/26/1999 | RADIUM-228 | 1.07 | 0.44 | PCI/G |
| SC-39212-C | 10/26/1999 | THORIUM-230 | 3.38 | 0.64 | PCI/G |
| SC-39212-C | 10/26/1999 | URANIUM-238 | 1.405 | 2.81 | PCI/G |
| SC-39212-S | 09/30/1999 | PAH | 0 | 17 | UG/KG |
| SC-39212-S | 09/30/1999 | RADIUM-226 | 0.88 | 0.34 | PCI/G |
| SC-39212-S | 09/30/1999 | RADIUM-228 | 0.44 | 0.88 | PCI/G |
| SC-39212-S | 09/30/1999 | THORIUM-230 | 1.46 | 0.62 | PCI/G |
| SC-39212-S | 09/30/1999 | URANIUM-238 | 1.205 | 2.41 | PCI/G |
| SC-39213-S | 09/30/1999 | PAH | 0 | 18 | UG/KG |
| SC-39213-S | 09/30/1999 | RADIUM-226 | 0.86 | 0.28 | PCI/G |
| SC-39213-S | 09/30/1999 | RADIUM-228 | 0.86 | 0.38 | PCI/G |
| SC-39213-S | 09/30/1999 | THORIUM-230 | 1.77 | 0.64 | PCI/G |
| SC-39213-S | 09/30/1999 | URANIUM-238 | 1.385 | 2.77 | PCI/G |
| SC-39214-S | 09/30/1999 | PAH | 0 | 19 | UG/KG |
| SC-39214-S | 09/30/1999 | RADIUM-226 | 0.64 | 0.29 | PCI/G |
| SC-39214-S | 09/30/1999 | RADIUM-228 | 1.17 | 0.57 | PCI/G |
| SC-39214-S | 09/30/1999 | THORIUM-230 | 1.47 | 0.62 | PCI/G |
| SC-39214-S | 09/30/1999 | URANIUM-238 | 1.26 | 2.52 | PCI/G |
| SC-39215-S | 09/30/1999 | PAH | 0 | 18 | UG/KG |
| SC-39215-S | 09/30/1999 | RADIUM-226 | 0.84 | 0.26 | PCI/G |
| SC-39215-S | 09/30/1999 | RADIUM-228 | 1.39 | 0.39 | PCI/G |
| SC-39215-S | 09/30/1999 | THORIUM-230 | 1.27 | 0.62 | PCI/G |
| SC-39215-S | 09/30/1999 | URANIUM-238 | 1.375 | 2.75 | PCI/G |
| SC-39216-S | 09/30/1999 | PAH | 0 | 18 | UG/KG |
| SC-39216-S | 09/30/1999 | RADIUM-226 | 0.32 | 0.64 | PCI/G |
| SC-39216-S | 09/30/1999 | RADIUM-228 | 1.09 | 0.44 | PCI/G |
| SC-39216-S | 09/30/1999 | THORIUM-230 | 0.92 | 0.64 | PCI/G |
| SC-39216-S | 09/30/1999 | URANIUM-238 | 1.17 | 2.34 | PCI/G |
| SC-39217-S | 09/30/1999 | PAH | 0 | 18 | UG/KG |
| SC-39217-S | 09/30/1999 | RADIUM-226 | 1.04 | 0.31 | PCI/G |
| SC-39217-S | 09/30/1999 | RADIUM-228 | 0.49 | 0.98 | PCI/G |
| SC-39217-S | 09/30/1999 | THORIUM-230 | 1.1 | 0.64 | PCI/G |
| SC-39217-S | 09/30/1999 | URANIUM-238 | 1.365 | 2.73 | PCI/G |
| SC-39218-S | 09/30/1999 | PAH | 0 | 18 | UG/KG |
| SC-39218-S | 09/30/1999 | RADIUM-226 | 0.91 | 0.28 | PCI/G |
| SC-39218-S | 09/30/1999 | RADIUM-228 | 1.24 | 0.32 | PCI/G |
| SC-39218-S | 09/30/1999 | THORIUM-230 | 2.65 | 0.62 | PCI/G |
| SC-39218-S | 09/30/1999 | URANIUM-238 | 1.375 | 2.75 | PCI/G |
| SC-39219-S | 09/30/1999 | PAH | 0 | 19 | UG/KG |
| SC-39219-S | 09/30/1999 | RADIUM-226 | 0.91 | 0.38 | PCI/G |
| SC-39219-S | 09/30/1999 | RADIUM-228 | 0.47 | 0.94 | PCI/G |
| SC-39219-S | 09/30/1999 | THORIUM-230 | 1 | 0.62 | PCI/G |
| SC-39219-S | 09/30/1999 | URANIUM-238 | 1.445 | 2.89 | PCI/G |
| SC-39220-S | 10/26/1999 | PAH | 0 | 18 | UG/KG |
| SC-39220-S | 10/26/1999 | RADIUM-226 | 0.95 | 0.32 | PCI/G |
| SC-39220-S | 10/26/1999 | RADIUM-228 | 1.07 | 0.59 | PCI/G |
| SC-39220-S | 10/26/1999 | THORIUM-230 | 1.19 | 0.64 | PCI/G |
| SC-39220-S | 10/26/1999 | URANIUM-238 | 1.33 | 2.66 | PCI/G |
| SC-39301-C | 09/28/1999 | 2,4,6-TRINITROTOLUENE | 0.0125 | 0.025 | UG/G |
| SC-39301-C | 09/28/1999 | PCB | 92 | 36 | UG/KG |
| SC-39301-C | 09/28/1999 | ARSENIC | 11.7 | 0.41 | UG/G |
| SC-39301-C | 09/28/1999 | PAH | 0 | 16 | UG/KG |
| SC-39301-C | 09/28/1999 | CHROMIUM | 20.8 | 0.15 | UG/G |
| SC-39301-C | 09/28/1999 | LEAD | 29.8 | 0.28 | UG/G |
| SC-39301-C | 09/28/1999 | RADIUM-226 | 0.67 | 0.38 | PCI/G |
| SC-39301-C | 09/28/1999 | RADIUM-228 | 1.16 | 0.47 | PCI/G |
| SC-39301-C | 09/28/1999 | THALLIUM | 3.2 | 0.73 | UG/G |
| SC-39301-C | 09/28/1999 | THORIUM-230 | 1.12 | 0.64 | PCI/G |
| SC-39301-C | 09/28/1999 | URANIUM-238 | 1.37 | 2.74 | PCI/G |
| SC-39301-S | 09/28/1999 | 2,4,6-TRINITROTOLUENE | 0.0135 | 0.027 | UG/G |
| SC-39301-S | 09/28/1999 | PCB | 0 | 37 | UG/KG |
| SC-39301-S | 09/28/1999 | ARSENIC | 7.9 | 0.42 | UG/G |
| SC-39301-S | 09/28/1999 | PAH | 0 | 16 | UG/KG |
| SC-39301-S | 09/28/1999 | CHROMIUM | 19.3 | 0.15 | UG/G |
| SC-39301-S | 09/28/1999 | LEAD | 13.9 | 0.29 | UG/G |
| SC-39301-S | 09/28/1999 | RADIUM-226 | 0.3 | 0.6 | PCI/G |
| SC-39301-S | 09/28/1999 | RADIUM-228 | 1.08 | 0.61 | PCI/G |
| SC-39301-S | 09/28/1999 | THALLIUM | 3 | 0.75 | UG/G |
| SC-39301-S | 09/28/1999 | THORIUM-230 | 1.57 | 0.62 | PCI/G |
| SC-39301-S | 09/28/1999 | URANIUM-238 | 1.31 | 2.62 | PCI/G |
| SC-39302-C | 09/28/1999 | 2,4,6-TRINITROTOLUENE | 0.0135 | 0.027 | UG/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-39302-C | 09/28/1999 | PCB | 0 | 37 | UG/KG |
| SC-39302-C | 09/28/1999 | ARSENIC | 7 | 0 43 | UG/G |
| SC-39302-C | 09/28/1999 | PAH | 0 | 17 | UG/KG |
| SC-39302-C | 09/28/1999 | CHROMIUM | 18 7 | 0 16 | UG/G |
| SC-39302-C | 09/28/1999 | LEAD | 13 | 0.29 | UG/G |
| SC-39302-C | 09/28/1999 | RADIUM-226 | 0.275 | 0 55 | PCI/G |
| SC-39302-C | 09/28/1999 | RADIUM-228 | 0.445 | 0 89 | PCI/G |
| SC-39302-C | 09/28/1999 | THALLIUM | 2 7 | 0.76 | UG/G |
| SC-39302-C | 09/28/1999 | THORIUM-230 | 1.25 | 0.64 | PCI/G |
| SC-39302-C | 09/28/1999 | URANIUM-238 | 1.275 | 2.55 | PCI/G |
| SC-39302-S | 09/28/1999 | 2,4,6-TRINITROTOLUENE | 0.013 | 0.026 | UG/G |
| SC-39302-S | 09/28/1999 | PCB | 0 | 35 | UG/KG |
| SC-39302-S | 09/28/1999 | ARSENIC | 12.9 | 0.4 | UG/G |
| SC-39302-S | 09/28/1999 | PAH | 0 | 16 | UG/KG |
| SC-39302-S | 09/28/1999 | CHROMIUM | 23 5 | 0.15 | UG/G |
| SC-39302-S | 09/28/1999 | LEAD | 31.4 | 0.27 | UG/G |
| SC-39302-S | 09/28/1999 | RADIUM-226 | 0.92 | 0.35 | PCI/G |
| SC-39302-S | 09/28/1999 | RADIUM-228 | 1 4 | 0.45 | PCI/G |
| SC-39302-S | 09/28/1999 | THALLIUM | 3.6 | 0 72 | UG/G |
| SC-39302-S | 09/28/1999 | THORIUM-230 | 1.39 | 0.65 | PCI/G |
| SC-39302-S | 09/28/1999 | URANIUM-238 | 1.325 | 2.65 | PCI/G |
| SC-39303-C | 09/28/1999 | 2,4,6-TRINITROTOLUENE | 0.013 | 0.026 | UG/G |
| SC-39303-C | 09/28/1999 | PCB | 0 | 36 | UG/KG |
| SC-39303-C | 09/28/1999 | ARSENIC | 10 | 0 41 | UG/G |
| SC-39303-C | 09/28/1999 | PAH | 0 | 16 | UG/KG |
| SC-39303-C | 09/28/1999 | CHROMIUM | 25.2 | 0 15 | UG/G |
| SC-39303-C | 09/28/1999 | LEAD | 16.5 | 0.28 | UG/G |
| SC-39303-C | 09/28/1999 | RADIUM-226 | 0.76 | 0.34 | PCI/G |
| SC-39303-C | 09/28/1999 | RADIUM-228 | 0.515 | 1 03 | PCI/G |
| SC-39303-C | 09/28/1999 | THALLIUM | 3 3 | 0 74 | UG/G |
| SC-39303-C | 09/28/1999 | THORIUM-230 | 4.11 | 0 64 | PCI/G |
| SC-39303-C | 09/28/1999 | URANIUM-238 | 1.415 | 2.83 | PCI/G |
| SC-39303-S | 09/28/1999 | 2,4,6-TRINITROTOLUENE | 0.0135 | 0.027 | UG/G |
| SC-39303-S | 09/28/1999 | PCB | 0 | 36 | UG/KG |
| SC-39303-S | 09/28/1999 | ARSENIC | 8.9 | 0.41 | UG/G |
| SC-39303-S | 09/28/1999 | PAH | 0 | 16 | UG/KG |
| SC-39303-S | 09/28/1999 | CHROMIUM | 17.7 | 0.15 | UG/G |
| SC-39303-S | 09/28/1999 | LEAD | 15 4 | 0 28 | UG/G |
| SC-39303-S | 09/28/1999 | RADIUM-226 | 0.57 | 0 36 | PCI/G |
| SC-39303-S | 09/28/1999 | RADIUM-228 | 1.37 | 0.45 | PCI/G |
| SC-39303-S | 09/28/1999 | THALLIUM | 2.5 | 0 73 | UG/G |
| SC-39303-S | 09/28/1999 | THORIUM-230 | 1.19 | 0.62 | PCI/G |
| SC-39303-S | 09/28/1999 | URANIUM-238 | 1.33 | 2.66 | PCI/G |
| SC-39304-C | 09/28/1999 | 2,4,6-TRINITROTOLUENE | 0 015 | 0.03 | UG/G |
| SC-39304-C | 09/28/1999 | PCB | 0 | 40 | UG/KG |
| SC-39304-C | 09/28/1999 | ARSENIC | 8 9 | 0 45 | UG/G |
| SC-39304-C | 09/28/1999 | PAH | 0 | 18 | UG/KG |
| SC-39304-C | 09/28/1999 | CHROMIUM | 16 7 | 0 17 | UG/G |
| SC-39304-C | 09/28/1999 | LEAD | 13 7 | 0 31 | UG/G |
| SC-39304-C | 09/28/1999 | RADIUM-226 | 0 3 | 0 6 | PCI/G |
| SC-39304-C | 09/28/1999 | RADIUM-228 | 1.18 | 0 4 | PCI/G |
| SC-39304-C | 09/28/1999 | THALLIUM | 2.5 | 0 81 | UG/G |
| SC-39304-C | 09/28/1999 | THORIUM-230 | 1.01 | 0 64 | PCI/G |
| SC-39304-C | 09/28/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-39304-S | 09/28/1999 | 2,4,6-TRINITROTOLUENE | 0.013 | 0.026 | UG/G |
| SC-39304-S | 09/28/1999 | PCB | 0 | 36 | UG/KG |
| SC-39304-S | 09/28/1999 | ARSENIC | 9.7 | 0 41 | UG/G |
| SC-39304-S | 09/28/1999 | PAH | 0 | 16 | UG/KG |
| SC-39304-S | 09/28/1999 | CHROMIUM | 21 | 0.15 | UG/G |
| SC-39304-S | 09/28/1999 | LEAD | 17 | 0.28 | UG/G |
| SC-39304-S | 09/28/1999 | RADIUM-226 | 0.32 | 0.64 | PCI/G |
| SC-39304-S | 09/28/1999 | RADIUM-228 | 0.49 | 0.98 | PCI/G |
| SC-39304-S | 09/28/1999 | THALLIUM | 3.1 | 0.73 | UG/G |
| SC-39304-S | 09/28/1999 | THORIUM-230 | 1.54 | 0.65 | PCI/G |
| SC-39304-S | 09/28/1999 | URANIUM-238 | 1.315 | 2.63 | PCI/G |
| SC-39305-C | 09/28/1999 | 2,4,6-TRINITROTOLUENE | 0 014 | 0 028 | UG/G |
| SC-39305-C | 09/28/1999 | PCB | 0 | 39 | UG/KG |
| SC-39305-C | 09/28/1999 | ARSENIC | 9.2 | 0.44 | UG/G |
| SC-39305-C | 09/28/1999 | PAH | 0 | 17 | UG/KG |
| SC-39305-C | 09/28/1999 | CHROMIUM | 18 1 | 0 16 | UG/G |
| SC-39305-C | 09/28/1999 | LEAD | 12.4 | 0.3 | UG/G |
| SC-39305-C | 09/28/1999 | RADIUM-226 | 0.235 | 0 47 | PCI/G |

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-39305-C | 09/28/1999 | RADIUM-228 | 1.33 | 0.4 | PCI/G |
| SC-39305-C | 09/28/1999 | THALLIUM | 3.4 | 0.79 | UG/G |
| SC-39305-C | 09/28/1999 | THORIUM-230 | 1.06 | 0.64 | PCI/G |
| SC-39305-C | 09/28/1999 | URANIUM-238 | 1.17 | 2.34 | PCI/G |
| SC-39305-S | 09/28/1999 | 2,4,6-TRINITROTOLUENE | 0.013 | 0.026 | UG/G |
| SC-39305-S | 09/28/1999 | PCB | 0 | 36 | UG/KG |
| SC-39305-S | 09/28/1999 | ARSENIC | 9.1 | 0.41 | UG/G |
| SC-39305-S | 09/28/1999 | PAH | 0 | 16 | UG/KG |
| SC-39305-S | 09/28/1999 | CHROMIUM | 17 | 0.15 | UG/G |
| SC-39305-S | 09/28/1999 | LEAD | 15.7 | 0.28 | UG/G |
| SC-39305-S | 09/28/1999 | RADIUM-226 | 0.71 | 0.33 | PCI/G |
| SC-39305-S | 09/28/1999 | RADIUM-228 | 0.45 | 0.9 | PCI/G |
| SC-39305-S | 09/28/1999 | THALLIUM | 2.6 | 0.74 | UG/G |
| SC-39305-S | 09/28/1999 | THORIUM-230 | 1.1 | 0.62 | PCI/G |
| SC-39305-S | 09/28/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-39306-C | 09/28/1999 | 2,4,6-TRINITROTOLUENE | 0.0145 | 0.029 | UG/G |
| SC-39306-C | 09/28/1999 | PCB | 0 | 38 | UG/KG |
| SC-39306-C | 09/28/1999 | ARSENIC | 10.8 | 0.44 | UG/G |
| SC-39306-C | 09/28/1999 | PAH | 0 | 17 | UG/KG |
| SC-39306-C | 09/28/1999 | CHROMIUM | 15.2 | 0.16 | UG/G |
| SC-39306-C | 09/28/1999 | LEAD | 13.9 | 0.3 | UG/G |
| SC-39306-C | 09/28/1999 | RADIUM-226 | 0.49 | 0.32 | PCI/G |
| SC-39306-C | 09/28/1999 | RADIUM-228 | 0.465 | 0.93 | PCI/G |
| SC-39306-C | 09/28/1999 | THALLIUM | 4.2 | 0.79 | UG/G |
| SC-39306-C | 09/28/1999 | THORIUM-230 | 0.97 | 0.64 | PCI/G |
| SC-39306-C | 09/28/1999 | URANIUM-238 | 1.275 | 2.55 | PCI/G |
| SC-39306-S | 09/28/1999 | 2,4,6-TRINITROTOLUENE | 0.0135 | 0.027 | UG/G |
| SC-39306-S | 09/28/1999 | PCB | 0 | 38 | UG/KG |
| SC-39306-S | 09/28/1999 | ARSENIC | 9.3 | 0.43 | UG/G |
| SC-39306-S | 09/28/1999 | PAH | 0 | 17 | UG/KG |
| SC-39306-S | 09/28/1999 | CHROMIUM | 19.2 | 0.16 | UG/G |
| SC-39306-S | 09/28/1999 | LEAD | 15.9 | 0.29 | UG/G |
| SC-39306-S | 09/28/1999 | RADIUM-226 | 0.84 | 0.3 | PCI/G |
| SC-39306-S | 09/28/1999 | RADIUM-228 | 0.44 | 0.88 | PCI/G |
| SC-39306-S | 09/28/1999 | THALLIUM | 3.7 | 0.77 | UG/G |
| SC-39306-S | 09/28/1999 | THORIUM-230 | 0.98 | 0.65 | PCI/G |
| SC-39306-S | 09/28/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-39307-S | 09/28/1999 | 2,4,6-TRINITROTOLUENE | 0.013 | 0.026 | UG/G |
| SC-39307-S | 09/28/1999 | PCB | 0 | 35 | UG/KG |
| SC-39307-S | 09/28/1999 | ARSENIC | 8.7 | 0.41 | UG/G |
| SC-39307-S | 09/28/1999 | PAH | 0 | 16 | UG/KG |
| SC-39307-S | 09/28/1999 | CHROMIUM | 19.1 | 0.15 | UG/G |
| SC-39307-S | 09/28/1999 | LEAD | 14.9 | 0.28 | UG/G |
| SC-39307-S | 09/28/1999 | RADIUM-226 | 0.81 | 0.33 | PCI/G |
| SC-39307-S | 09/28/1999 | RADIUM-228 | 0.88 | 0.51 | PCI/G |
| SC-39307-S | 09/28/1999 | THALLIUM | 2.3 | 0.72 | UG/G |
| SC-39307-S | 09/28/1999 | THORIUM-230 | 1.06 | 0.64 | PCI/G |
| SC-39307-S | 09/28/1999 | URANIUM-238 | 1.33 | 2.66 | PCI/G |
| SC-39308-S | 09/28/1999 | 2,4,6-TRINITROTOLUENE | 0.013 | 0.026 | UG/G |
| SC-39308-S | 09/28/1999 | PCB | 0 | 35 | UG/KG |
| SC-39308-S | 09/28/1999 | ARSENIC | 8.6 | 0.41 | UG/G |
| SC-39308-S | 09/28/1999 | PAH | 0 | 16 | UG/KG |
| SC-39308-S | 09/28/1999 | CHROMIUM | 16.8 | 0.15 | UG/G |
| SC-39308-S | 09/28/1999 | LEAD | 15.7 | 0.28 | UG/G |
| SC-39308-S | 09/28/1999 | RADIUM-226 | 0.31 | 0.62 | PCI/G |
| SC-39308-S | 09/28/1999 | RADIUM-228 | 1.03 | 0.4 | PCI/G |
| SC-39308-S | 09/28/1999 | THALLIUM | 2.9 | 0.73 | UG/G |
| SC-39308-S | 09/28/1999 | THORIUM-230 | 1.56 | 0.62 | PCI/G |
| SC-39308-S | 09/28/1999 | URANIUM-238 | 1.24 | 2.48 | PCI/G |
| SC-39309-S | 09/28/1999 | 2,4,6-TRINITROTOLUENE | 0.013 | 0.026 | UG/G |
| SC-39309-S | 09/28/1999 | PCB | 0 | 36 | UG/KG |
| SC-39309-S | 09/28/1999 | ARSENIC | 8.7 | 0.41 | UG/G |
| SC-39309-S | 09/28/1999 | PAH | 0 | 16 | UG/KG |
| SC-39309-S | 09/28/1999 | CHROMIUM | 17.5 | 0.15 | UG/G |
| SC-39309-S | 09/28/1999 | LEAD | 15.3 | 0.28 | UG/G |
| SC-39309-S | 09/28/1999 | RADIUM-226 | 0.3 | 0.6 | PCI/G |
| SC-39309-S | 09/28/1999 | RADIUM-228 | 0.455 | 0.91 | PCI/G |
| SC-39309-S | 09/28/1999 | THALLIUM | 3 | 0.73 | UG/G |
| SC-39309-S | 09/28/1999 | THORIUM-230 | 0.83 | 0.64 | PCI/G |
| SC-39309-S | 09/28/1999 | URANIUM-238 | 1.31 | 2.62 | PCI/G |
| SC-39310-S | 09/28/1999 | 2,4,6-TRINITROTOLUENE | 0.013 | 0.026 | UG/G |
| SC-39310-S | 09/28/1999 | PCB | 0 | 35 | UG/KG |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-39310-S | 09/28/1999 | ARSENIC | 8.1 | 0.4 | UG/G |
| SC-39310-S | 09/28/1999 | PAH | 0 | 16 | UG/KG |
| SC-39310-S | 09/28/1999 | CHROMIUM | 18.5 | 0.15 | UG/G |
| SC-39310-S | 09/28/1999 | LEAD | 14.3 | 0.28 | UG/G |
| SC-39310-S | 09/28/1999 | RADIUM-226 | 1 12 | 0 33 | PCI/G |
| SC-39310-S | 09/28/1999 | RADIUM-228 | 0.445 | 0.89 | PCI/G |
| SC-39310-S | 09/28/1999 | THALLIUM | 2.3 | 0 72 | UG/G |
| SC-39310-S | 09/28/1999 | THORIUM-230 | 1.25 | 0.62 | PCI/G |
| SC-39310-S | 09/28/1999 | URANIUM-238 | 1.29 | 2.58 | PCI/G |
| SC-39311-S | 09/28/1999 | 2,4,6-TRINITROTOLUENE | 0.015 | 0.03 | UG/G |
| SC-39311-S | 09/28/1999 | PCB | 0 | 40 | UG/KG |
| SC-39311-S | 09/28/1999 | ARSENIC | 10.7 | 0.46 | UG/G |
| SC-39311-S | 09/28/1999 | PAH | 0 | 18 | UG/KG |
| SC-39311-S | 09/28/1999 | CHROMIUM | 16 2 | 0 17 | UG/G |
| SC-39311-S | 09/28/1999 | LEAD | 12 | 0 31 | UG/G |
| SC-39311-S | 09/28/1999 | RADIUM-226 | 0.83 | 0.3 | PCI/G |
| SC-39311-S | 09/28/1999 | RADIUM-228 | 0.98 | 0.43 | PCI/G |
| SC-39311-S | 09/28/1999 | THALLIUM | 2.4 | 0.82 | UG/G |
| SC-39311-S | 09/28/1999 | THORIUM-230 | 1.12 | 0.64 | PCI/G |
| SC-39311-S | 09/28/1999 | URANIUM-238 | 1.29 | 2 58 | PCI/G |
| SC-39312-S | 09/28/1999 | 2,4,6-TRINITROTOLUENE | 0 014 | 0 028 | UG/G |
| SC-39312-S | 09/28/1999 | PCB | 0 | 37 | UG/KG |
| SC-39312-S | 09/28/1999 | ARSENIC | 8.3 | 0.43 | UG/G |
| SC-39312-S | 09/28/1999 | PAH | 0 | 17 | UG/KG |
| SC-39312-S | 09/28/1999 | CHROMIUM | 14 7 | 0 16 | UG/G |
| SC-39312-S | 09/28/1999 | LEAD | 20.4 | 0.29 | UG/G |
| SC-39312-S | 09/28/1999 | RADIUM-226 | 0 57 | 0.28 | PCI/G |
| SC-39312-S | 09/28/1999 | RADIUM-228 | 0 46 | 0 92 | PCI/G |
| SC-39312-S | 09/28/1999 | THALLIUM | 2.7 | 0 76 | UG/G |
| SC-39312-S | 09/28/1999 | THORIUM-230 | 0 99 | 0 65 | PCI/G |
| SC-39312-S | 09/28/1999 | URANIUM-238 | 1.275 | 2 55 | PCI/G |
| SC-39313-S | 09/28/1999 | 2,4,6-TRINITROTOLUENE | 0.015 | 0 03 | UG/G |
| SC-39313-S | 09/28/1999 | PCB | 0 | 40 | UG/KG |
| SC-39313-S | 09/28/1999 | ARSENIC | 9 8 | 0 46 | UG/G |
| SC-39313-S | 09/28/1999 | PAH | 0 | 18 | UG/KG |
| SC-39313-S | 09/28/1999 | CHROMIUM | 14 1 | 0 17 | UG/G |
| SC-39313-S | 09/28/1999 | LEAD | 12.8 | 0 31 | UG/G |
| SC-39313-S | 09/28/1999 | RADIUM-226 | 0.82 | 0 32 | PCI/G |
| SC-39313-S | 09/28/1999 | RADIUM-228 | 1.22 | 0 45 | PCI/G |
| SC-39313-S | 09/28/1999 | THALLIUM | 2 3 | 0 82 | UG/G |
| SC-39313-S | 09/28/1999 | THORIUM-230 | 1 11 | 0 64 | PCI/G |
| SC-39313-S | 09/28/1999 | URANIUM-238 | 1 265 | 2 53 | PCI/G |
| SC-39314-S | 09/28/1999 | 2,4,6-TRINITROTOLUENE | 0.015 | 0 03 | UG/G |
| SC-39314-S | 09/28/1999 | PCB | 0 | 40 | UG/KG |
| SC-39314-S | 09/28/1999 | ARSENIC | 10 2 | 0 46 | UG/G |
| SC-39314-S | 09/28/1999 | PAH | 0 | 18 | UG/KG |
| SC-39314-S | 09/28/1999 | CHROMIUM | 16.6 | 0 17 | UG/G |
| SC-39314-S | 09/28/1999 | LEAD | 12 8 | 0 32 | UG/G |
| SC-39314-S | 09/28/1999 | RADIUM-226 | 0 91 | 0 32 | PCI/G |
| SC-39314-S | 09/28/1999 | RADIUM-228 | 1 2 | 0 53 | PCI/G |
| SC-39314-S | 09/28/1999 | THALLIUM | 2 5 | 0 82 | UG/G |
| SC-39314-S | 09/28/1999 | THORIUM-230 | 1.41 | 0 62 | PCI/G |
| SC-39314-S | 09/28/1999 | URANIUM-238 | 1 385 | 2 77 | PCI/G |
| SC-39315-S | 09/28/1999 | 2,4,6-TRINITROTOLUENE | 0 015 | 0 03 | UG/G |
| SC-39315-S | 09/28/1999 | PCB | 0 | 40 | UG/KG |
| SC-39315-S | 09/28/1999 | ARSENIC | 5.6 | 0 46 | UG/G |
| SC-39315-S | 09/28/1999 | PAH | 63 | 18 | UG/KG |
| SC-39315-S | 09/28/1999 | CHROMIUM | 11.6 | 0 17 | UG/G |
| SC-39315-S | 09/28/1999 | LEAD | 10.7 | 0 32 | UG/G |
| SC-39315-S | 09/28/1999 | RADIUM-226 | 0.82 | 0 27 | PCI/G |
| SC-39315-S | 09/28/1999 | RADIUM-228 | 1 22 | 0.36 | PCI/G |
| SC-39315-S | 09/28/1999 | THALLIUM | 1.5 | 0 83 | UG/G |
| SC-39315-S | 09/28/1999 | THORIUM-230 | 1.47 | 0.64 | PCI/G |
| SC-39315-S | 09/28/1999 | URANIUM-238 | 1.28 | 2.56 | PCI/G |
| SC-39316-S | 09/28/1999 | 2,4,6-TRINITROTOLUENE | 0.014 | 0 028 | UG/G |
| SC-39316-S | 09/28/1999 | PCB | 0 | 38 | UG/KG |
| SC-39316-S | 09/28/1999 | ARSENIC | 8.7 | 0 44 | UG/G |
| SC-39316-S | 09/28/1999 | PAH | 0 | 17 | UG/KG |
| SC-39316-S | 09/28/1999 | CHROMIUM | 14.9 | 0 16 | UG/G |
| SC-39316-S | 09/28/1999 | LEAD | 13.6 | 0 3 | UG/G |
| SC-39316-S | 09/28/1999 | RADIUM-226 | 0 32 | 0.64 | PCI/G |
| SC-39316-S | 09/28/1999 | RADIUM-228 | 0 485 | 0.97 | PCI/G |

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-39316-S | 09/28/1999 | THALLIUM | 2 | 0.79 | UG/G |
| SC-39316-S | 09/28/1999 | THORIUM-230 | 2.33 | 0.65 | PCI/G |
| SC-39316-S | 09/28/1999 | URANIUM-238 | 1.595 | 3.19 | PCI/G |
| SC-39317-S | 09/28/1999 | 2,4,6-TRINITROTOLUENE | 0.015 | 0.03 | UG/G |
| SC-39317-S | 09/28/1999 | PCB | 0 | 42 | UG/KG |
| SC-39317-S | 09/28/1999 | ARSENIC | 7.7 | 0.48 | UG/G |
| SC-39317-S | 09/28/1999 | PAH | 0 | 19 | UG/KG |
| SC-39317-S | 09/28/1999 | CHROMIUM | 16.5 | 0.18 | UG/G |
| SC-39317-S | 09/28/1999 | LEAD | 10.8 | 0.33 | UG/G |
| SC-39317-S | 09/28/1999 | RADIUM-226 | 0.7 | 0.26 | PCI/G |
| SC-39317-S | 09/28/1999 | RADIUM-228 | 0.83 | 0.42 | PCI/G |
| SC-39317-S | 09/28/1999 | THALLIUM | 2 | 0.85 | UG/G |
| SC-39317-S | 09/28/1999 | THORIUM-230 | 0.97 | 0.64 | PCI/G |
| SC-39317-S | 09/28/1999 | URANIUM-238 | 2.49 | 2.15 | PCI/G |
| SC-39318-S | 09/28/1999 | 2,4,6-TRINITROTOLUENE | 0.016 | 0.032 | UG/G |
| SC-39318-S | 09/28/1999 | PCB | 0 | 43 | UG/KG |
| SC-39318-S | 09/28/1999 | ARSENIC | 8.6 | 0.49 | UG/G |
| SC-39318-S | 09/28/1999 | PAH | 0 | 19 | UG/KG |
| SC-39318-S | 09/28/1999 | CHROMIUM | 20.1 | 0.18 | UG/G |
| SC-39318-S | 09/28/1999 | LEAD | 13 | 0.34 | UG/G |
| SC-39318-S | 09/28/1999 | RADIUM-226 | 0.27 | 0.54 | PCI/G |
| SC-39318-S | 09/28/1999 | RADIUM-228 | 1.05 | 0.41 | PCI/G |
| SC-39318-S | 09/28/1999 | THALLIUM | 2.4 | 0.88 | UG/G |
| SC-39318-S | 09/28/1999 | THORIUM-230 | 0.63 | 0.65 | PCI/G |
| SC-39318-S | 09/28/1999 | URANIUM-238 | 1.3 | 2.6 | PCI/G |
| SC-39319-S | 09/28/1999 | 2,4,6-TRINITROTOLUENE | 0.015 | 0.03 | UG/G |
| SC-39319-S | 09/28/1999 | PCB | 0 | 41 | UG/KG |
| SC-39319-S | 09/28/1999 | ARSENIC | 12.5 | 0.47 | UG/G |
| SC-39319-S | 09/28/1999 | PAH | 0 | 18 | UG/KG |
| SC-39319-S | 09/28/1999 | CHROMIUM | 13.9 | 0.17 | UG/G |
| SC-39319-S | 09/28/1999 | LEAD | 18.4 | 0.32 | UG/G |
| SC-39319-S | 09/28/1999 | RADIUM-226 | 0.86 | 0.26 | PCI/G |
| SC-39319-S | 09/28/1999 | RADIUM-228 | 1.33 | 0.51 | PCI/G |
| SC-39319-S | 09/28/1999 | THALLIUM | 1.3 | 0.83 | UG/G |
| SC-39319-S | 09/28/1999 | THORIUM-230 | 2.99 | 0.64 | PCI/G |
| SC-39319-S | 09/28/1999 | URANIUM-238 | 1.765 | 3.53 | PCI/G |
| SC-39320-S | 09/28/1999 | 2,4,6-TRINITROTOLUENE | 0.0155 | 0.031 | UG/G |
| SC-39320-S | 09/28/1999 | PCB | 0 | 42 | UG/KG |
| SC-39320-S | 09/28/1999 | ARSENIC | 5.3 | 0.48 | UG/G |
| SC-39320-S | 09/28/1999 | PAH | 42 | 19 | UG/KG |
| SC-39320-S | 09/28/1999 | CHROMIUM | 12.1 | 0.18 | UG/G |
| SC-39320-S | 09/28/1999 | LEAD | 13.1 | 0.33 | UG/G |
| SC-39320-S | 09/28/1999 | RADIUM-226 | 1.03 | 0.35 | PCI/G |
| SC-39320-S | 09/28/1999 | RADIUM-228 | 0.52 | 1.04 | PCI/G |
| SC-39320-S | 09/28/1999 | THALLIUM | 0.98 | 0.86 | UG/G |
| SC-39320-S | 09/28/1999 | THORIUM-230 | 3.89 | 0.62 | PCI/G |
| SC-39320-S | 09/28/1999 | URANIUM-238 | 1.495 | 2.99 | PCI/G |
| SC-39321-S | 09/28/1999 | 2,4,6-TRINITROTOLUENE | 0.015 | 0.03 | UG/G |
| SC-39321-S | 09/28/1999 | PCB | 0 | 41 | UG/KG |
| SC-39321-S | 09/28/1999 | ARSENIC | 10.2 | 0.47 | UG/G |
| SC-39321-S | 09/28/1999 | PAH | 0 | 18 | UG/KG |
| SC-39321-S | 09/28/1999 | CHROMIUM | 11.9 | 0.17 | UG/G |
| SC-39321-S | 09/28/1999 | LEAD | 10.9 | 0.32 | UG/G |
| SC-39321-S | 09/28/1999 | RADIUM-226 | 0.59 | 0.29 | PCI/G |
| SC-39321-S | 09/28/1999 | RADIUM-228 | 1.18 | 0.41 | PCI/G |
| SC-39321-S | 09/28/1999 | THALLIUM | 1.8 | 0.83 | UG/G |
| SC-39321-S | 09/28/1999 | THORIUM-230 | 2.12 | 0.64 | PCI/G |
| SC-39321-S | 09/28/1999 | URANIUM-238 | 1.22 | 2.44 | PCI/G |
| SC-39322-S | 09/28/1999 | 2,4,6-TRINITROTOLUENE | 0.0145 | 0.029 | UG/G |
| SC-39322-S | 09/28/1999 | PCB | 0 | 39 | UG/KG |
| SC-39322-S | 09/28/1999 | ARSENIC | 10 | 0.45 | UG/G |
| SC-39322-S | 09/28/1999 | PAH | 0 | 18 | UG/KG |
| SC-39322-S | 09/28/1999 | CHROMIUM | 14.8 | 0.17 | UG/G |
| SC-39322-S | 09/28/1999 | LEAD | 12.9 | 0.31 | UG/G |
| SC-39322-S | 09/28/1999 | RADIUM-226 | 0.66 | 0.31 | PCI/G |
| SC-39322-S | 09/28/1999 | RADIUM-228 | 0.99 | 0.55 | PCI/G |
| SC-39322-S | 09/28/1999 | THALLIUM | 3 | 0.81 | UG/G |
| SC-39322-S | 09/28/1999 | THORIUM-230 | 1.37 | 0.65 | PCI/G |
| SC-39322-S | 09/28/1999 | URANIUM-238 | 1.46 | 2.92 | PCI/G |
| SC-39401-C | 09/24/1999 | RADIUM-226 | 0.41 | 0.25 | PCI/G |
| SC-39401-C | 09/24/1999 | RADIUM-228 | 1.08 | 0.45 | PCI/G |
| SC-39401-C | 09/24/1999 | THORIUM-230 | 0.97 | 0.64 | PCI/G |

# APPENDIX B WP-437 RU21 FINAL DATA

| WSSRAP_ID | DATE_SAM | PARAMETER | CONC | DL | UNITS |
|---|---|---|---|---|---|
| SC-39401-C | 09/24/1999 | URANIUM-238 | 1.195 | 2.39 | PCI/G |
| SC-39401-S | 09/24/1999 | RADIUM-226 | 0.68 | 0.29 | PCI/G |
| SC-39401-S | 09/24/1999 | RADIUM-228 | 1 12 | 0.42 | PCI/G |
| SC-39401-S | 09/24/1999 | THORIUM-230 | 1.26 | 0.64 | PCI/G |
| SC-39401-S | 09/24/1999 | URANIUM-238 | 1.165 | 2.33 | PCI/G |
| SC-39402-C | 09/24/1999 | RADIUM-226 | 0.54 | 0 3 | PCI/G |
| SC-39402-C | 09/24/1999 | RADIUM-228 | 0.9 | 0.48 | PCI/G |
| SC-39402-C | 09/24/1999 | THORIUM-230 | 0.84 | 0 64 | PCI/G |
| SC-39402-C | 09/24/1999 | URANIUM-238 | 1.24 | 2 48 | PCI/G |
| SC-39402-S | 09/24/1999 | RADIUM-226 | 0.69 | 0 32 | PCI/G |
| SC-39402-S | 09/24/1999 | RADIUM-228 | 0 455 | 0 91 | PCI/G |
| SC-39402-S | 09/24/1999 | THORIUM-230 | 0 87 | 0 64 | PCI/G |
| SC-39402-S | 09/24/1999 | URANIUM-238 | 1.2 | 2 4 | PCI/G |
| SC-39403-C | 09/24/1999 | RADIUM-226 | 0.65 | 0.27 | PCI/G |
| SC-39403-C | 09/24/1999 | RADIUM-228 | 1.2 | 0 36 | PCI/G |
| SC-39403-C | 09/24/1999 | THORIUM-230 | 1 | 0.64 | PCI/G |
| SC-39403-C | 09/24/1999 | URANIUM-238 | 1.15 | 2.3 | PCI/G |
| SC-39403-S | 09/24/1999 | RADIUM-226 | 0.275 | 0.55 | PCI/G |
| SC-39403-S | 09/24/1999 | RADIUM-228 | 1.06 | 0.5 | PCI/G |
| SC-39403-S | 09/24/1999 | THORIUM-230 | 0.86 | 0 64 | PCI/G |
| SC-39403-S | 09/24/1999 | URANIUM-238 | 1.105 | 2.21 | PCI/G |
| SC-39404-C | 09/24/1999 | RADIUM-226 | 0.65 | 0.28 | PCI/G |
| SC-39404-C | 09/24/1999 | RADIUM-228 | 0 83 | 0 4 | PCI/G |
| SC-39404-C | 09/24/1999 | THORIUM-230 | 11.3 | 0.64 | PCI/G |
| SC-39404-C | 09/24/1999 | URANIUM-238 | 1.25 | 2 5 | PCI/G |
| SC-39404-C-RS | 09/28/1999 | THORIUM-230 | 1 19 | 0.64 | PCI/G |
| SC-39404-S | 09/24/1999 | RADIUM-226 | 0.24 | 0 48 | PCI/G |
| SC-39404-S | 09/24/1999 | RADIUM-228 | 0 75 | 0 55 | PCI/G |
| SC-39404-S | 09/24/1999 | THORIUM-230 | 1 | 0 64 | PCI/G |
| SC-39404-S | 09/24/1999 | URANIUM-238 | 1.19 | 2 38 | PCI/G |
| SC-39405-C | 09/24/1999 | RADIUM-226 | 0.8 | 0 3 | PCI/G |
| SC-39405-C | 09/24/1999 | RADIUM-228 | 1.14 | 0 39 | PCI/G |
| SC-39405-C | 09/24/1999 | THORIUM-230 | 1.33 | 0 64 | PCI/G |
| SC-39405-C | 09/24/1999 | URANIUM-238 | 1.28 | 2 56 | PCI/G |
| SC-39406-S | 09/24/1999 | RADIUM-226 | 0.66 | 0 32 | PCI/G |
| SC-39406-S | 09/24/1999 | RADIUM-228 | 1 28 | 0 52 | PCI/G |
| SC-39406-S | 09/24/1999 | THORIUM-230 | 1.13 | 0 64 | PCI/G |
| SC-39406-S | 09/24/1999 | URANIUM-238 | 1 38 | 2 76 | PCI/G |
| SC-39407-S | 09/24/1999 | RADIUM-226 | 0.68 | 0 31 | PCI/G |
| SC-39407-S | 09/24/1999 | RADIUM-228 | 0.86 | 0 34 | PCI/G |
| SC-39407-S | 09/24/1999 | THORIUM-230 | 1.1 | 0 64 | PCI/G |
| SC-39407-S | 09/24/1999 | URANIUM-238 | 1.255 | 2 51 | PCI/G |

# APPENDIX C
## WP437 RU021 Sample Location Coordinates

| WSSRAP_ID | DATE_SAM | Northing | Easting | Elevation |
|---|---|---|---|---|
| SC-22101-S | 05/12/2000 | 1041935.53 | 754004.09 | 651.46 |
| SC-22102-S | 05/22/2000 | 1041919.63 | 754032.95 | 645.44 |
| SC-22103-C | 05/22/2000 | 1041909.90 | 754083.43 | 644.07 |
| SC-22103-S | 05/22/2000 | 1041903.78 | 754061.65 | 644.54 |
| SC-22104-S | 05/22/2000 | 1041887.25 | 754090.46 | 643.56 |
| SC-22105-S | 05/22/2000 | 1041871.41 | 754118.47 | 637.34 |
| SC-22106-S | 05/22/2000 | 1041855.24 | 754147.32 | 640.37 |
| SC-22107-C | 05/11/2000 | 1041846.12 | 754197.84 | 646.41 |
| SC-22107-C-HS01 | 05/24/2000 | 1041855.86 | 754208.00 | 644.65 |
| SC-22107-C-HS02 | 05/24/2000 | 1041856.86 | 754213.64 | 645.45 |
| SC-22107-C-HS03 | 05/24/2000 | 1041852.60 | 754212.72 | 645.66 |
| SC-22107-C-HS04 | 05/24/2000 | 1041848.81 | 754214.70 | 647.42 |
| SC-22107-C-RS01 | 06/01/2000 | 1041856.86 | 754211.48 | 643.29 |
| SC-22107-C-RS03 | 06/01/2000 | 1041852.13 | 754213.03 | 645.55 |
| SC-22107-S | 05/11/2000 | 1041839.43 | 754175.79 | 647.71 |
| SC-22110-S | 05/12/2000 | 1041907.11 | 753988.73 | 652.42 |
| SC-22111-S | 05/22/2000 | 1041890.82 | 754016.46 | 645.82 |
| SC-22112-S | 05/22/2000 | 1041874.32 | 754046.20 | 638.70 |
| SC-22113-S | 05/22/2000 | 1041858.47 | 754074.32 | 645.58 |
| SC-22114-S | 05/22/2000 | 1041842.85 | 754102.71 | 645.37 |
| SC-22115-S | 05/22/2000 | 1041826.57 | 754131.51 | 641.42 |
| SC-22116-C | 05/11/2000 | 1041816.93 | 754182.41 | 651.91 |
| SC-22116-S | 05/11/2000 | 1041811.03 | 754159.76 | 650.55 |
| SC-22117-S | 04/17/2000 | 1041794.46 | 754188.53 | 660.79 |
| SC-22117-S-01 | 05/11/2000 | 1041794.64 | 754188.51 | 651.32 |
| SC-22120-C | 05/06/2000 | 1041871.50 | 754024.80 | 654.82 |
| SC-22201-S | 06/03/2000 | 1042071.56 | 754230.89 | 637.08 |
| SC-22202-S | 06/03/2000 | 1042056.03 | 754260.03 | 638.59 |
| SC-22203-S | 05/20/2000 | 1042040.10 | 754288.46 | 644.64 |
| SC-22204-S | 05/24/2000 | 1042043.17 | 754214.93 | 643.87 |
| SC-22205-S | 05/24/2000 | 1042027.19 | 754243.77 | 643.67 |
| SC-22206-S | 05/20/2000 | 1042010.80 | 754271.95 | 646.05 |
| SC-22207-S | 05/24/2000 | 1042014.56 | 754199.15 | 645.88 |
| SC-22207-S-RS | 06/01/2000 | 1042014.37 | 754198.69 | 644.56 |
| SC-22208-S | 05/24/2000 | 1041998.51 | 754227.75 | 645.40 |
| SC-22208-S-RS | 06/01/2000 | 1041998.64 | 754227.84 | 643.97 |
| SC-22209-S | 05/20/2000 | 1041982.57 | 754256.13 | 643.90 |
| SC-22210-S | 05/24/2000 | 1041986.08 | 754182.73 | 645.25 |
| SC-22211-S | 05/24/2000 | 1041969.94 | 754211.64 | 644.10 |
| SC-22212-S | 05/18/2000 | 1041953.81 | 754240.03 | 643.86 |
| SC-22213-S | 05/18/2000 | 1041937.68 | 754268.88 | 643.99 |
| SC-22214-S | 05/22/2000 | 1041957.56 | 754166.72 | 643.93 |
| SC-22215-S | 05/22/2000 | 1041941.32 | 754195.07 | 643.97 |
| SC-22216-S | 05/18/2000 | 1041925.25 | 754224.08 | 641.85 |
| SC-22217-C | 05/18/2000 | 1041918.33 | 754269.11 | 644.00 |
| SC-22217-S | 05/18/2000 | 1041909.03 | 754252.29 | 643.99 |
| SC-22218-C | 05/22/2000 | 1041954.00 | 754179.00 | 641.98 |
| SC-22218-S | 05/22/2000 | 1041928.56 | 754151.12 | 643.81 |
| SC-22219-S | 05/22/2000 | 1041912.97 | 754179.36 | 643.83 |
| SC-22220-S | 05/18/2000 | 1041896.56 | 754208.16 | 643.94 |
| SC-22221-C | 05/18/2000 | 1041890.69 | 754253.86 | 643.76 |
| SC-22221-S | 05/18/2000 | 1041880.67 | 754236.49 | 643.90 |
| SC-22222-S | 05/22/2000 | 1041899.95 | 754134.99 | 641.75 |
| SC-22223-S | 05/22/2000 | 1041883.71 | 754163.55 | 638.64 |

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|---|---|---|---|---|
| SC-22224-S | 05/11/2000 | 1041867.84 | 754192.30 | 647.79 |
| SC-22225-S | 04/17/2000 | 1041851.51 | 754220.55 | 660.58 |
| SC-22225-S-01 | 05/11/2000 | 1041851.76 | 754220.73 | 648.34 |
| SC-22301-C | 05/12/2000 | 1042097.49 | 754084.50 | 660.31 |
| SC-22302-S | 05/12/2000 | 1042078.67 | 754084.38 | 652.78 |
| SC-22303-S | 06/05/2000 | 1042062.54 | 754113.26 | 647.79 |
| SC-22305-S | 06/05/2000 | 1042050.16 | 754068.39 | 648.56 |
| SC-22306-S | 06/04/2000 | 1042034.05 | 754096.94 | 644.13 |
| SC-22307-S | 06/04/2000 | 1042017.89 | 754125.60 | 640.41 |
| SC-22308-S | 06/05/2000 | 1042002.12 | 754154.41 | 644.88 |
| SC-22310-S | 06/05/2000 | 1042021.50 | 754052.28 | 648.39 |
| SC-22311-C | 06/05/2000 | 1041999.06 | 754109.06 | 627.45 |
| SC-22311-S | 06/04/2000 | 1042005.40 | 754081.07 | 638.43 |
| SC-22312-S | 06/04/2000 | 1041989.39 | 754109.36 | 629.57 |
| SC-22313-S | 06/04/2000 | 1041973.32 | 754138.24 | 641.23 |
| SC-22315-C | 06/05/2000 | 1042013.16 | 754041.68 | 649.13 |
| SC-22315-S | 06/05/2000 | 1041992.71 | 754036.62 | 646.26 |
| SC-22316-C | 06/05/2000 | 1041997.84 | 754103.64 | 627.35 |
| SC-22316-S | 06/04/2000 | 1041976.46 | 754064.88 | 641.78 |
| SC-22317-S | 06/04/2000 | 1041960.62 | 754093.53 | 641.74 |
| SC-22317-S-RS | 06/10/2000 | 1041960.30 | 754091.65 | 641.07 |
| SC-22318-S | 05/22/2000 | 1041945.23 | 754122.38 | 644.01 |
| SC-22320-S | 05/12/2000 | 1041964.18 | 754020.39 | 651.92 |
| SC-22321-S | 05/22/2000 | 1041948.13 | 754048.83 | 643.90 |
| SC-22322-S | 05/22/2000 | 1041932.65 | 754077.45 | 643.96 |
| SC-22322-S-RS | 06/01/2000 | 1041932.11 | 754077.57 | 642.33 |
| SC-22323-S | 05/22/2000 | 1041916.40 | 754106.39 | 643.81 |
| SC-22401-C | 05/12/2000 | 1042214.14 | 754145.19 | 656.29 |
| SC-22402-S | 05/23/2000 | 1042193.10 | 754148.56 | 649.90 |
| SC-22403-S | 06/03/2000 | 1042176.95 | 754177.35 | 638.76 |
| SC-22404-S | 06/03/2000 | 1042161.15 | 754205.90 | 634.54 |
| SC-22405-S | 06/03/2000 | 1042144.79 | 754234.65 | 619.55 |
| SC-22407-S | 05/23/2000 | 1042164.50 | 754133.02 | 649.16 |
| SC-22408-S | 06/03/2000 | 1042148.60 | 754161.40 | 637.21 |
| SC-22409-S | 06/03/2000 | 1042132.45 | 754189.97 | 631.36 |
| SC-22410-S | 06/03/2000 | 1042116.13 | 754218.73 | 631.41 |
| SC-22411-C | 05/12/2000 | 1042155.90 | 754114.73 | 655.50 |
| SC-22411-C-RS | 05/22/2000 | 1042155.84 | 754114.86 | 652.40 |
| SC-22412-S | 05/23/2000 | 1042136.04 | 754116.65 | 649.66 |
| SC-22413-S | 06/03/2000 | 1042119.66 | 754145.27 | 639.56 |
| SC-22414-S | 06/03/2000 | 1042103.89 | 754173.73 | 637.55 |
| SC-22415-S | 06/03/2000 | 1042087.72 | 754202.47 | 638.06 |
| SC-22417-S | 05/12/2000 | 1042107.26 | 754100.31 | 651.92 |
| SC-22418-S | 06/05/2000 | 1042091.22 | 754129.32 | 644.15 |
| SC-22419-S | 06/05/2000 | 1042075.34 | 754157.54 | 644.29 |
| SC-22419-S-HS01 | 06/09/2000 | 1042076.25 | 754155.69 | 644.29* |
| SC-22419-S-HS02 | 06/09/2000 | 1040074.12 | 754155.69 | 644.45* |
| SC-22419-S-HS03 | 06/09/2000 | 1042073.09 | 754157.68 | 644.36* |
| SC-22419-S-HS04 | 06/09/2000 | 1042073.98 | 754159.68 | 644.25* |
| SC-22420-S | 06/05/2000 | 1042059.27 | 754186.51 | 643.64 |
| SC-22421-S | 06/05/2000 | 1042046.60 | 754141.43 | 646.06 |
| SC-22422-S | 06/05/2000 | 1042030.54 | 754170.24 | 645.16 |
| SC-22501-C | 03/07/2000 | 1042271.44 | 754361.57 | 655.21* |
| SC-22501-S | 03/07/2000 | 1042272.26 | 754343.19 | 655.01* |
| SC-22501-U | 03/24/2000 | 1042262.76 | 754366.35 | 651.66 |

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|---|---|---|---|---|
| SC-22502-S | 03/07/2000 | 1042256.21 | 754371.88 | 655.79* |
| SC-22502-U | 03/24/2000 | 1042250.67 | 754388.31 | 652.57 |
| SC-22503-C | 03/07/2000 | 1042239.64 | 754418.99 | 659.48* |
| SC-22503-S | 03/07/2000 | 1042240.19 | 754400.44 | 658.41* |
| SC-22503-U | 07/22/2000 | 1042248.21 | 754327.80 | 646.42 |
| SC-22504-S | 03/07/2000 | 1042224.20 | 754429.08 | 659.72* |
| SC-22504-U | 07/22/2000 | 1042231.71 | 754355.82 | 647.68 |
| SC-22505-S | 05/23/2000 | 1042243.38 | 754327.42 | 646.99 |
| SC-22506-S | 05/23/2000 | 1042227.48 | 754355.84 | 655.91 |
| SC-22506-U | 07/22/2000 | 1042217.80 | 754385.24 | 647.06 |
| SC-22507-S | 05/20/2000 | 1042211.73 | 754384.15 | 659.76 |
| SC-22508-S | 05/20/2000 | 1042196.07 | 754412.41 | 660.68 |
| SC-22509-S | 06/03/2000 | 1042215.19 | 754311.57 | 642.72 |
| SC-22510-S | 05/23/2000 | 1042198.71 | 754339.55 | 644.24 |
| SC-22511-S | 05/20/2000 | 1042182.95 | 754368.24 | 653.33 |
| SC-22512-S | 05/20/2000 | 1042166.87 | 754396.91 | 661.42 |
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| SC-22618-S | 06/03/2000 | 1042234.09 | 754209.54 | 641.43 |
| SC-22619-S | 06/03/2000 | 1042218.21 | 754238.12 | 637.52 |

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| SC-22620-S | 06/03/2000 | 1042202.53 | 754266.42 | 634.56 |
| SC-22622-S | 05/23/2000 | 1042221.69 | 754164.57 | 649.22 |
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| SC-22713-S-HSO2 | 04/07/1999 | 1042342.11 | 754079.66 | 655 14* |
| SC-22713-S-HSO3 | 04/07/1999 | 1042341.08 | 754083.32 | 655.17* |
| SC-22713-S-HSO4 | 04/07/1999 | 1042343.86 | 754084.35 | 655.08* |
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| SC-22717-S | 03/29/1999 | 1042330.33 | 754037.37 | 655.42 |
| SC-22718-S | 06/07/2000 | 1042314.17 | 754066.16 | 657.06 |
| SC-22721-S | 03/29/1999 | 1042317.96 | 753992.83 | 661.38 |
| SC-22722-S | 03/29/1999 | 1042301.71 | 754021.33 | 656.62 |
| SC-22723-S | 06/07/2000 | 1042285.91 | 754050.08 | 658.94 |
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| SC-22803-S-RS | 04/22/1999 | 1042588.40 | 754181.56 | 646.73 |

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| SC-22804-S | 03/31/1999 | 1042572.32 | 754210.34 | 644.07 |
| SC-22805-S-01 | 07/15/1999 | 1042591.98 | 754108.74 | 646.91 |
| SC-22806-S | 03/29/1999 | 1042575.82 | 754137.12 | 660.95 |
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| SC-22807-S | 03/31/1999 | 1042559.99 | 754165.64 | 648.63 |
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| SC-22809-S | 05/07/1999 | 1042563.22 | 754092.49 | 653.14 |
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| SC-22811-S-HS01 | 04/08/1999 | 1042533.86 | 754148.62 | 647.90* |
| SC-22811-S-HS02 | 04/08/1999 | 1042529.66 | 754147.45 | 647.87* |
| SC-22811-S-HS03 | 04/08/1999 | 1042528.73 | 754151.19 | 648.10* |
| SC-22811-S-HS04 | 04/08/1999 | 1042532.46 | 754152.59 | 648.09* |
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| SC-22817-S | 04/14/1999 | 1042505.91 | 754060.20 | 651.27 |
| SC-22817-S-01 | 07/15/1999 | 1042505.73 | 754060.48 | 650.99 |
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| SC-22820-C | 03/31/1999 | 1042467.44 | 754162.24 | 643.68 |
| SC-22820-S | 03/31/1999 | 1042457.74 | 754146.19 | 648.44 |
| SC-22821-S | 04/14/1999 | 1042477.40 | 754044.30 | 652.47 |
| SC-22821-S-01 | 07/15/1999 | 1042477.39 | 754044.46 | 652.20 |
| SC-22822-S | 03/29/1999 | 1042461.02 | 754072.91 | 661.31 |
| SC-22822-S-01 | 07/15/1999 | 1042461.15 | 754072.98 | 650.68 |
| SC-22823-S | 03/29/1999 | 1042444.91 | 754101.51 | 651.38 |
| SC-22824-S | 03/31/1999 | 1042428.85 | 754130.27 | 650.05 |
| SC-22901-S | 05/07/1999 | 1042792.27 | 754220.59 | 653.81 |
| SC-22901-S-01 | 07/16/1999 | 1042792.03 | 754220.85 | 642.03 |
| SC-22902-S | 03/29/1999 | 1042776.03 | 754249.25 | 657.73 |
| SC-22902-S-01 | 07/16/1999 | 1042775.69 | 754249.19 | 641.70 |
| SC-22903-S | 04/01/1999 | 1042760.10 | 754277.87 | 650.94 |
| SC-22904-S | 04/01/1999 | 1042744.16 | 754306.54 | 635.24 |
| SC-22905-S | 05/07/1999 | 1042763.44 | 754204.56 | 652.64 |
| SC-22905-S-01 | 07/15/1999 | 1042763.55 | 754204.89 | 643.05 |
| SC-22906-S | 03/29/1999 | 1042747.33 | 754233.18 | 658.44 |
| SC-22906-S-01 | 07/15/1999 | 1042747.22 | 754233.41 | 641.36 |
| SC-22907-S | 04/01/1999 | 1042731.43 | 754261.83 | 649.76 |
| SC-22907-S-01 | 07/13/1999 | 1042731.28 | 754262.50 | 642.29 |
| SC-22908-S | 04/01/1999 | 1042715.15 | 754290.40 | 638.02 |
| SC-22909-S | 05/07/1999 | 1042734.94 | 754188.53 | 652.81 |
| SC-22909-S-01 | 07/15/1999 | 1042734.82 | 754188.71 | 643.63 |
| SC-22910-S | 03/29/1999 | 1042718.68 | 754217.16 | 658.91 |
| SC-22910-S-01 | 07/15/1999 | 1042718.95 | 754217.23 | 642.40 |
| SC-22911-S | 03/31/1999 | 1042702.61 | 754245.78 | 648.64 |
| SC-22912-S | 04/01/1999 | 1042686.89 | 754274.47 | 639.48 |

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| SC-22913-S | 05/07/1999 | 1042706.44 | 754172.44 | 653.03 |
| SC-22913-S-01 | 07/15/1999 | 1042706.25 | 754172.74 | 645.19 |
| SC-22913-S-RS | 05/18/1999 | 1042706.58 | 754172.21 | 651.56* |
| SC-22913-S-RS2 | 05/21/1999 | 1042706.39 | 754172.70 | 650.64 |
| SC-22914-S | 03/29/1999 | 1042690.42 | 754201.26 | 658.88 |
| SC-22914-S-01 | 07/15/1999 | 1042690.30 | 754201.18 | 644.15 |
| SC-22915-S | 03/31/1999 | 1042674.17 | 754229.78 | 648.80 |
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| SC-22918-S | 03/29/1999 | 1042661.44 | 754185.11 | 659.65 |
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| SC-22919-S | 03/31/1999 | 1042645.51 | 754213.75 | 644.95 |
| SC-22920-S | 03/31/1999 | 1042629.83 | 754242.44 | 640.52 |
| SC-22921-S | 05/07/1999 | 1042648.96 | 754140.69 | 652.70 |
| SC-22921-S-01 | 07/15/1999 | 1042648.73 | 754140.67 | 648.57 |
| SC-22922-S | 03/29/1999 | 1042632.52 | 754168.94 | 660.15 |
| SC-22922-S-01 | 07/15/1999 | 1042632.80 | 754169.40 | 646.82 |
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| SC-23001-S | 06/23/1999 | 1042963.77 | 754316.73 | 639.04* |
| SC-23002-S | 03/29/1999 | 1042947.85 | 754345.43 | 656.09 |
| SC-23002-S-01 | 06/23/1999 | 1042947.95 | 754345.42 | 639.28* |
| SC-23003-S | 04/01/1999 | 1042931.75 | 754374.02 | 649.11 |
| SC-23004-S | 04/01/1999 | 1042915.53 | 754402.57 | 635.33 |
| SC-23005-S | 06/01/1999 | 1042935.56 | 754300.86 | 654.73 |
| SC-23005-S-01 | 06/23/1999 | 1042935.16 | 754300.53 | 639.65* |
| SC-23006-S | 03/29/1999 | 1042918.88 | 754329.28 | 655.58 |
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| SC-23007-S | 04/01/1999 | 1042903.06 | 754357.98 | 649.36 |
| SC-23007-S-HS01 | 04/09/1999 | 1042905.39 | 754357.04 | 648.41* |
| SC-23007-S-HS02 | 04/09/1999 | 1042903.69 | 754360.24 | 647.28* |
| SC-23007-S-HS03 | 04/09/1999 | 1042900.97 | 754358.92 | 646.91* |
| SC-23007-S-HS04 | 04/09/1999 | 1042902.10 | 754355.91 | 647.86* |
| SC-23008-S | 04/01/1999 | 1042887.05 | 754386.61 | 635.43 |
| SC-23009-S | 06/01/1999 | 1042906.93 | 754285.07 | 653.70 |
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| SC-23010-S | 03/29/1999 | 1042890.23 | 754313.23 | 656.38 |
| SC-23010-S-01 | 06/23/1999 | 1042889.80 | 754313.28 | 640.41* |
| SC-23011-S | 04/01/1999 | 1042874.53 | 754341.97 | 649.33 |
| SC-23012-S | 04/01/1999 | 1042858.44 | 754370.58 | 635.31 |
| SC-23013-S | 06/01/1999 | 1042878.11 | 754268.88 | 655.11 |
| SC-23013-S-01 | 07/19/1999 | 1042877.84 | 754268.83 | 637.73 |
| SC-23014-S | 03/29/1999 | 1042861.82 | 754297.29 | 656.97 |
| SC-23014-S-01 | 07/19/1999 | 1042861.95 | 754297.27 | 638.64 |
| SC-23015-S | 04/01/1999 | 1042845.81 | 754325.93 | 649.95 |
| SC-23016-S | 04/01/1999 | 1042829.82 | 754354.56 | 635.52 |
| SC-23017-S | 06/01/1999 | 1042849.64 | 754252.68 | 655.02 |
| SC-23017-S-01 | 07/19/1999 | 1042849.60 | 754252.84 | 639.09 |
| SC-23018-S | 03/29/1999 | 1042833.50 | 754281.38 | 657.96 |
| SC-23018-S-01 | 07/19/1999 | 1042833.25 | 754281.43 | 639.61 |
| SC-23018-S-HS01 | 04/06/1999 | 1042835.71 | 754280.30 | 652.78* |
| SC-23018-S-HS02 | 04/06/1999 | 1042832.60 | 754278.75 | 652.81* |
| SC-23018-S-HS03 | 04/06/1999 | 1042830.85 | 754282.25 | 652.59* |
| SC-23018-S-HS04 | 04/06/1999 | 1042833.77 | 754283.62 | 652.54* |

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| SC-23018-S-RS | 04/20/1999 | 1042833.17 | 754281.28 | 655.85 |
| SC-23019-S | 04/01/1999 | 1042816.85 | 754309.81 | 649.93 |
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| SC-23020-S | 04/09/1999 | 1042801.15 | 754338.58 | 644.20* |
| SC-23021-S | 06/01/1999 | 1042821.16 | 754236.88 | 652.34 |
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| SC-23022-S | 03/29/1999 | 1042804.99 | 754265.41 | 657.19 |
| SC-23022-S-01 | 07/19/1999 | 1042804.94 | 754265.72 | 641.68 |
| SC-23023-C | 04/01/1999 | 1042794.83 | 754316.19 | 640.48 |
| SC-23023-S | 04/01/1999 | 1042788.56 | 754293.86 | 650.56 |
| SC-23024-S | 04/01/1999 | 1042772.87 | 754322.59 | 635.34 |
| SC-23101-S | 03/29/1999 | 1043101.38 | 754205.87 | 654.69 |
| SC-23101-S-01 | 07/19/1999 | 1043101.46 | 754205.76 | 645.84 |
| SC-23102-C | 03/29/1999 | 1043087.97 | 754254.82 | 652.94 |
| SC-23102-S | 03/29/1999 | 1043085.24 | 754234.38 | 654.99 |
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| SC-23103-S | 03/29/1999 | 1043069.23 | 754263.01 | 654.60 |
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| SC-23106-C | 03/29/1999 | 1043025.76 | 754370.39 | 646.28 |
| SC-23106-C-RS | 04/06/1999 | 1043027.44 | 754368.65 | 644.70 |
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| SC-23107-S | 03/29/1999 | 1043004.99 | 754377.44 | 652.66 |
| SC-23107-S-01 | 06/23/1999 | 1043004.93 | 754377.63 | 637.93* |
| SC-23108-C | 04/01/1999 | 1042995.06 | 754428.34 | 640.82 |
| SC-23108-S | 04/01/1999 | 1042989.03 | 754406.07 | 640.76 |
| SC-23109-S | 04/01/1999 | 1042972.63 | 754434.56 | 642.73 |
| SC-23110-S | 03/29/1999 | 1043072.49 | 754189.60 | 661.38 |
| SC-23110-S-01 | 07/19/1999 | 1043072.49 | 754189.67 | 644.11 |
| SC-23110-S-HS01 | 04/06/1999 | 1043074.70 | 754188.63 | 662.32* |
| SC-23110-S-HS02 | 04/06/1999 | 1043071.81 | 754187.46 | 662.35* |
| SC-23110-S-HS03 | 04/06/1999 | 1043070.28 | 754190.35 | 662.35* |
| SC-23110-S-HS04 | 04/06/1999 | 1043072.98 | 754191.97 | 662.32* |
| SC-23110-S-RS | 04/20/1999 | 1043072.68 | 754189.90 | 660.35 |
| SC-23111-S | 03/29/1999 | 1043056.29 | 754218.11 | 661.67 |
| SC-23111-S-01 | 07/19/1999 | 1043056.67 | 754218.58 | 644.11 |
| SC-23111-S-HS01 | 04/06/1999 | 1043058.70 | 754217.85 | 659.26* |
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| SC-23111-S-HS03 | 04/06/1999 | 1043054.47 | 754218.96 | 659.32* |
| SC-23111-S-HS04 | 04/06/1999 | 1043056.88 | 754220.57 | 659.25* |
| SC-23111-S-RS | 04/20/1999 | 1043056.36 | 754218.18 | 660.45 |
| SC-23111-S-RS2 | 04/25/1999 | 1043056.22 | 754218.68 | 659.22 |
| SC-23112-S | 03/29/1999 | 1043040.54 | 754246.92 | 661.35 |
| SC-23112-S-01 | 07/19/1999 | 1043040.59 | 754246.88 | 643.81 |
| SC-23113-S | 03/29/1999 | 1043024.51 | 754275.56 | 662.37 |
| SC-23113-S-01 | 07/19/1999 | 1043024.63 | 754275.95 | 643.46 |
| SC-23114-S | 03/29/1999 | 1043008.54 | 754304.20 | 661.91 |
| SC-23114-S-01 | 07/19/1999 | 1043008.63 | 754304.06 | 644.40 |
| SC-23115-S | 03/29/1999 | 1042992.52 | 754332.82 | 661.40 |

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| SC-23115-S-01 | 06/23/1999 | 1042992.23 | 754332.68 | 638.20* |
| SC-23116-S | 03/29/1999 | 1042976.32 | 754361.39 | 656.12 |
| SC-23116-S-01 | 06/23/1999 | 1042976.32 | 754361.06 | 639.09* |
| SC-23117-S | 04/01/1999 | 1042960.27 | 754390.02 | 648.73 |
| SC-23118-S | 04/01/1999 | 1042944.68 | 754418.33 | 635.67 |
| SC-23119-S | 06/07/1999 | 1043044.07 | 754173.74 | 644.21 |
| SC-23119-S-01 | 07/19/1999 | 1043043.94 | 754173.77 | 641.36 |
| SC-23120-S | 06/07/1999 | 1043028.18 | 754202.26 | 644.85 |
| SC-23120-S-01 | 07/19/1999 | 1043028.01 | 754202.57 | 640.90 |
| SC-23121-S | 06/07/1999 | 1043012.20 | 754231.08 | 646.34 |
| SC-23121-S-01 | 07/19/1999 | 1043011.95 | 754231.02 | 640.84 |
| SC-23122-S | 06/07/1999 | 1042996.24 | 754259.44 | 647.74 |
| SC-23122-S-01 | 07/19/1999 | 1042996.05 | 754259.71 | 641.44 |
| SC-23123-S | 06/07/1999 | 1042980.08 | 754287.91 | 651.67 |
| SC-23123-S-01 | 07/19/1999 | 1042980.02 | 754288.04 | 642.50 |
| SC-23201-S | 02/24/1999 | 1043229.39 | 753976.65 | 647.03 |
| SC-23201-S-RS | 06/15/1999 | 1043228.72 | 753977.85 | 644.31* |
| SC-23201-S-RS2 | 06/17/1999 | 1043229.62 | 753977.25 | 644.05 |
| SC-23201-U | 09/10/1999 | 1043194.90 | 754067.73 | 641.74 |
| SC-23202-S | 02/24/1999 | 1043213.29 | 754005.21 | 650.49 |
| SC-23202-S-01 | 08/03/1999 | 1043212.68 | 754003.38 | 649.19* |
| SC-23202-U | 09/13/1999 | 1043196.17 | 754069.88 | 641.18 |
| SC-23203-S | 03/29/1999 | 1043197.35 | 754033.97 | 655.54 |
| SC-23203-S-01 | 07/28/1999 | 1043197.56 | 754034.16 | 645.12 |
| SC-23203-S-HS01 | 04/06/1999 | 1043199.53 | 754032.41 | 651.72* |
| SC-23203-S-HS02 | 04/06/1999 | 1043196.86 | 754031.74 | 652.13* |
| SC-23203-S-HS03 | 04/06/1999 | 1043195.02 | 754034.58 | 652.51* |
| SC-23203-S-HS04 | 04/06/1999 | 1043197.69 | 754036.26 | 652.12* |
| SC-23203-S-RS | 05/04/1999 | 1043197.46 | 754033.85 | 654.13 |
| SC-23204-C | 03/29/1999 | 1043181.17 | 754081.54 | 654.49 |
| SC-23204-C-01 | 07/28/1999 | 1043181.11 | 754081.43 | 646.26 |
| SC-23204-C-HS01 | 04/06/1999 | 1043183.30 | 754061.10 | 654.80* |
| SC-23204-C-HS02 | 04/06/1999 | 1043182.23 | 754064.88 | 654.37* |
| SC-23204-C-HS03 | 04/06/1999 | 1043179.19 | 754063.64 | 654.34* |
| SC-23204-C-HS04 | 04/06/1999 | 1043180.59 | 754060.36 | 654 32* |
| SC-23204-C-RS | 05/04/1999 | 1043180.79 | 754080.89 | 653.46* |
| SC-23204-C-RS1 | 05/06/1999 | 1043180.10 | 754080.10 | 653.09* |
| SC-23204-S | 03/29/1999 | 1043181.37 | 754062.67 | 654.35 |
| SC-23204-S-01 | 07/28/1999 | 1043181.43 | 754062.75 | 645.48 |
| SC-23204-S-HS01 | 05/07/1999 | 1043183.30 | 754061.10 | 654.80* |
| SC-23204-S-HS02 | 05/07/1999 | 1043182.23 | 754064.88 | 654.37* |
| SC-23204-S-HS03 | 05/07/1999 | 1043179.19 | 754063.64 | 654.34* |
| SC-23204-S-HS04 | 05/07/1999 | 1043180.59 | 754060.36 | 654.32* |
| SC-23204-S-RS | 05/18/1999 | 1043182.81 | 754056.90 | 653.90 |
| SC-23204-S-RS2 | 05/01/2000 | 1043181.41 | 754062.67 | 643.33 |
| SC-23205-S | 03/29/1999 | 1043165.21 | 754091.07 | 654.95 |
| SC-23205-S-01 | 07/28/1999 | 1043165.38 | 754091.34 | 644.29 |
| SC-23205-S-RS | 05/01/2000 | 1043165.32 | 754091.16 | 642.72 |
| SC-23206-S | 03/29/1999 | 1043149.29 | 754119.85 | 654.64 |
| SC-23206-S-01 | 07/28/1999 | 1043149.07 | 754120.09 | 646.02 |
| SC-23206-S-RS | 05/01/2000 | 1043149.06 | 754119.73 | 643.68 |
| SC-23207-C | 03/29/1999 | 1043134.57 | 754168.17 | 654.11 |
| SC-23207-S | 03/29/1999 | 1043133.43 | 754148.65 | 655.22 |
| SC-23207-S-01 | 07/19/1999 | 1043133.37 | 754148.65 | 645.77 |
| SC-23207-S-RS | 05/01/2000 | 1043133.40 | 754148.36 | 644.60 |

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| SC-23208-S | 03/29/1999 | 1043117.37 | 754177.23 | 655.15 |
| SC-23208-S-01 | 07/19/1999 | 1043117.32 | 754177.31 | 645.87 |
| SC-23209-S | 02/24/1999 | 1043200.53 | 753960.35 | 658.03 |
| SC-23209-S-01 | 08/02/1999 | 1043201.07 | 753960.58 | 648.92 |
| SC-23209-S-A (K-4) | 02/24/1999 | 1043186.45 | 753952.61 | 655.01 |
| SC-23209-S-B (K-4) | 03/01/1999 | 1043186.69 | 753952.91 | 653.53 |
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| SC-23210-S-01 | 08/03/1999 | 1043184.76 | 753987.41 | 649.22* |
| SC-23210-S-A (K-3) | 02/24/1999 | 1043170.44 | 753981.26 | 654.77 |
| SC-23210-S-B (K-3) | 03/01/1999 | 1043170.45 | 753981.29 | 653.00 |
| SC-23211-S | 02/24/1999 | 1043168.57 | 754017.77 | 658.66 |
| SC-23211-S-01 | 07/28/1999 | 1043168.89 | 754017.89 | 645.31 |
| SC-23211-S-A (K-2) | 02/24/1999 | 1043154.61 | 754010.07 | 655.99 |
| SC-23211-S-B (K-2) | 03/01/1999 | 1043154.50 | 754009.99 | 653.06 |
| SC-23212-S | 03/29/1999 | 1043152.64 | 754046.46 | 661.19 |
| SC-23212-S-01 | 07/28/1999 | 1043152.97 | 754046.76 | 644.97 |
| SC-23212-S-A (K-1) | 02/24/1999 | 1043138.24 | 754038.41 | 655.17 |
| SC-23212-S-B (K-1) | 03/01/1999 | 1043138.32 | 754038.47 | 655.12 |
| SC-23212-S-HS01 | 04/06/1999 | 1043154.81 | 754045.81 | 659.62* |
| SC-23212-S-HS02 | 04/06/1999 | 1043152.19 | 754044.21 | 658.48* |
| SC-23212-S-HS03 | 04/06/1999 | 1043150.37 | 754046.84 | 658.30* |
| SC-23212-S-HS04 | 04/06/1999 | 1043152.64 | 754049.00 | 659.10* |
| SC-23212-S-RS | 04/25/1999 | 1043152.65 | 754046.61 | 659.87* |
| SC-23212-S-RS2 | 05/04/1999 | 1043152.63 | 754046.73 | 658.65 |
| SC-23212-S-RS3 | 05/01/2000 | 1043152.69 | 754046.43 | 643.08 |
| SC-23213-S | 03/29/1999 | 1043136.72 | 754075.24 | 661.73 |
| SC-23213-S-01 | 07/28/1999 | 1043136.69 | 754075.20 | 643.54 |
| SC-23213-S-HS01 | 04/06/1999 | 1043138.87 | 754073.97 | 661.64* |
| SC-23213-S-HS02 | 04/06/1999 | 1043136.02 | 754073.06 | 661.00* |
| SC-23213-S-HS03 | 04/06/1999 | 1043134.20 | 754075.57 | 661.18* |
| SC-23213-S-HS04 | 04/06/1999 | 1043137.39 | 754077.51 | 662.08* |
| SC-23213-S-RS | 04/25/1999 | 1043136.66 | 754074.91 | 660.64 |
| SC-23213-S-RS2 | 05/01/2000 | 1043136.72 | 754075.21 | 643.23 |
| SC-23214-S | 03/29/1999 | 1043120.64 | 754103.77 | 661.55 |
| SC-23214-S-01 | 07/27/1999 | 1043120.62 | 754104.20 | 644.59 |
| SC-23214-S-RS | 05/01/2000 | 1043120.68 | 754103.60 | 643.46 |
| SC-23214-S-RS2 | 07/06/2000 | 1043120.71 | 754103.72 | 642.27 |
| SC-23215-S | 03/29/1999 | 1043104.46 | 754132.25 | 661.72 |
| SC-23215-S-01 | 07/19/1999 | 1043104.71 | 754132.53 | 644.27 |
| SC-23215-S-RS | 05/01/2000 | 1043104.79 | 754132.86 | 644.18 |
| SC-23216-S | 03/29/1999 | 1043088.71 | 754161.16 | 661.08 |
| SC-23216-S-01 | 07/19/1999 | 1043088.57 | 754161.34 | 644.06 |
| SC-23217-S | 08/02/1999 | 1043172.56 | 753946.36 | 647.23 |
| SC-23218-S | 08/02/1999 | 1043156.24 | 753973.32 | 644.32 |
| SC-23219-S | 08/02/1999 | 1043140.34 | 754001.69 | 640.09 |
| SC-23220-S | 07/31/1999 | 1043124.01 | 754030.34 | 640.20 |
| SC-23220-S-RS | 05/01/2000 | 1043124.09 | 754030.65 | 643.13 |
| SC-23221-S | 07/28/1999 | 1043108.04 | 754059.60 | 641.28 |
| SC-23221-S-RS | 05/01/2000 | 1043107.98 | 754059.14 | 642.65 |
| SC-23222-S | 07/24/1999 | 1043092.53 | 754088.03 | 640.80 |
| SC-23222-S-RS | 05/01/2000 | 1043092.08 | 754087.84 | 644.02 |
| SC-23223-S | 06/07/1999 | 1043076.39 | 754116.32 | 642.32 |
| SC-23223-S-01 | 07/28/1999 | 1043076.51 | 754116.07 | 642.29 |
| SC-23223-S-RS | 05/01/2000 | 1043075.93 | 754116.27 | 644.41 |
| SC-23224-S | 06/07/1999 | 1043060.11 | 754144.98 | 644.11 |

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| SC-23224-S-01 | 07/19/1999 | 1043060.32 | 754145.62 | 642.57 |
| SC-23301-C | 11/12/1999 | 1043019.48 | 754177.97 | 633.26 |
| SC-23301-S | 07/24/1999 | 1042999.37 | 754186.29 | 636.86 |
| SC-23301-S-RS | 11/12/1999 | 1043012.50 | 754184.14 | 633.21 |
| SC-23301-U | 11/12/1999 | 1043017.14 | 754186.05 | 633.50 |
| SC-23302-S | 07/24/1999 | 1042983.71 | 754214.81 | 636.11 |
| SC-23303-S | 07/24/1999 | 1042967.72 | 754243.85 | 633.93 |
| SC-23304-S | 06/07/1999 | 1042951.40 | 754272.14 | 641.56 |
| SC-23304-S-01 | 07/19/1999 | 1042951.29 | 754272.15 | 637.59 |
| SC-23305-S | 07/24/1999 | 1042970.93 | 754170.35 | 636.74 |
| SC-23306-S | 07/24/1999 | 1042955.01 | 754198.84 | 635.51 |
| SC-23307-S | 07/24/1999 | 1042938.80 | 754228.14 | 634.67 |
| SC-23308-S-01 | 07/19/1999 | 1042922.82 | 754256.13 | 638.23 |
| SC-23309-S | 07/24/1999 | 1042942.16 | 754154.17 | 636.37 |
| SC-23310-S | 07/24/1999 | 1042926.48 | 754182.87 | 636.97 |
| SC-23311-S | 07/24/1999 | 1042910.46 | 754211.61 | 636.30 |
| SC-23312-S | 07/19/1999 | 1042893.82 | 754240.12 | 639.21 |
| SC-23313-S | 07/24/1999 | 1042913.49 | 754138.34 | 638.12 |
| SC-23314-S | 07/24/1999 | 1042897.54 | 754167.05 | 637.92 |
| SC-23315-S | 07/24/1999 | 1042881.90 | 754195.47 | 638.87 |
| SC-23316-S | 07/19/1999 | 1042865.53 | 754223.94 | 640.66 |
| SC-23317-S | 07/24/1999 | 1042884.92 | 754122.46 | 638.07 |
| SC-23318-S | 07/24/1999 | 1042868.81 | 754150.73 | 637.43 |
| SC-23319-S | 07/24/1999 | 1042852.79 | 754179.30 | 637.81 |
| SC-23320-S | 07/19/1999 | 1042837.00 | 754208.25 | 642.09 |
| SC-23320-S-RS | 07/22/1999 | 1042838.04 | 754211.27 | 640.00 |
| SC-23401-S | 07/24/1999 | 1043063.63 | 754071.81 | 639.10 |
| SC-23401-S-RS | 07/08/2000 | 1043063.53 | 754071.83 | 644.26 |
| SC-23402-S | 07/24/1999 | 1043047.56 | 754100.37 | 638.48 |
| SC-23402-S-RS | 07/08/2000 | 1043047.19 | 754100.19 | 644.77 |
| SC-23403-S | 07/24/1999 | 1043031.98 | 754129.12 | 636.92 |
| SC-23403-S-RS | 07/08/2000 | 1043031.37 | 754129.21 | 644.72 |
| SC-23404-S | 07/24/1999 | 1043015.49 | 754157.92 | 637.00 |
| SC-23405-S | 07/24/1999 | 1043034.90 | 754055.98 | 638.24 |
| SC-23405-S-RS | 06/10/2000 | 1043034.78 | 754055.56 | 644.25 |
| SC-23406-S | 07/24/1999 | 1043019.08 | 754084.73 | 637.70 |
| SC-23406-S-RS | 07/08/2000 | 1043018.71 | 754084.53 | 644.59 |
| SC-23407-S | 07/24/1999 | 1043002.78 | 754113.37 | 636.54 |
| SC-23407-S-RS | 07/08/2000 | 1043002.46 | 754112.91 | 645.00 |
| SC-23408-S | 07/24/1999 | 1042986.99 | 754141.80 | 636.86 |
| SC-23408-S-RS | 07/08/2000 | 1042986.86 | 754141.81 | 645.00 |
| SC-23409-S | 07/24/1999 | 1043006.37 | 754039.81 | 638.06 |
| SC-23409-S-RS | 06/10/2000 | 1043006.26 | 754039.57 | 644.96 |
| SC-23410-S | 07/24/1999 | 1042990.32 | 754068.29 | 636.61 |
| SC-23410-S-RS | 06/10/2000 | 1042990.09 | 754068.41 | 644.64 |
| SC-23411-S | 07/24/1999 | 1042974.47 | 754097.32 | 636.17 |
| SC-23411-S-RS | 07/08/2000 | 1042974.51 | 754097.50 | 645.56 |
| SC-23412-S | 07/24/1999 | 1042958.29 | 754125.65 | 635.99 |
| SC-23412-S-RS | 07/08/2000 | 1042957.88 | 754125.38 | 645.03 |
| SC-23413-S | 07/24/1999 | 1042977.91 | 754023.67 | 640.14 |
| SC-23413-S-RS | 07/31/1999 | 1042977.71 | 754023.33 | 638.94 |
| SC-23414-S | 07/24/1999 | 1042961.73 | 754052.47 | 638.46 |
| SC-23414-S-RS | 06/10/2000 | 1042961.49 | 754052.12 | 645.58 |
| SC-23415-S | 07/24/1999 | 1042945.47 | 754080.84 | 636.94 |
| SC-23415-S-RS | 06/10/2000 | 1042945.31 | 754080.66 | 645.86 |

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| SC-23416-S | 07/24/1999 | 1042929.60 | 754109.60 | 636.24 |
| SC-23417-S | 07/24/1999 | 1042949.20 | 754007.66 | 640.70 |
| SC-23418-S | 07/24/1999 | 1042933.07 | 754036.07 | 639.61 |
| SC-23419-S | 07/24/1999 | 1042916.99 | 754064.80 | 638.41 |
| SC-23420-S | 07/24/1999 | 1042901.20 | 754093.40 | 637.24 |
| SC-23501-S | 08/02/1999 | 1043127.56 | 753957.14 | 642.55 |
| SC-23502-S | 08/02/1999 | 1043111.87 | 753985.65 | 640.17 |
| SC-23503-S | 08/02/1999 | 1043095.78 | 754014.49 | 640.23 |
| SC-23503-S-RS | 08/06/1999 | 1043094.57 | 754014.95 | 636.55* |
| SC-23504-S | 08/02/1999 | 1043079.86 | 754043.18 | 639.54 |
| SC-23505-S | 08/02/1999 | 1043099.05 | 753941.01 | 642.47 |
| SC-23506-S | 08/02/1999 | 1043082.65 | 753970.16 | 641.55 |
| SC-23507-S | 08/02/1999 | 1043067.01 | 753998.28 | 639.26 |
| SC-23508-S | 08/02/1999 | 1043051.28 | 754026.99 | 638.23 |
| SC-23508-S-RS | 06/10/2000 | 1043051.09 | 754026.91 | 644.76 |
| SC-23509-S | 07/24/1999 | 1043070.56 | 753925.72 | 641.99 |
| SC-23510-S | 07/24/1999 | 1043054.43 | 753954.08 | 641.67 |
| SC-23511-S | 07/24/1999 | 1043038.39 | 753982.56 | 641.47 |
| SC-23512-S | 07/24/1999 | 1043022.41 | 754011.14 | 639.51 |
| SC-23513-S | 07/24/1999 | 1043041.95 | 753908.97 | 643.47 |
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| SC-23515-S | 07/24/1999 | 1043009.68 | 753966.27 | 642.95 |
| SC-23516-S | 07/24/1999 | 1042993.77 | 753994.89 | 640.56 |
| SC-23517-S | 07/24/1999 | 1043013.19 | 753893.02 | 643.43 |
| SC-23517-S-RS | 07/31/1999 | 1043013.27 | 753891.95 | 642.16 |
| SC-23518-S | 07/24/1999 | 1042997.05 | 753921.55 | 643.47 |
| SC-23519-S | 07/24/1999 | 1042980.97 | 753950.37 | 643.19 |
| SC-23520-S | 07/24/1999 | 1042965.07 | 753978.71 | 642.70 |
| SC-23520-S-RS | 07/31/1999 | 1042966.87 | 753979.67 | 640.99 |
| SC-23602-S | 03/31/1999 | 1043616.31 | 753554.12 | 647.53 |
| SC-23602-S-01 | 07/27/1999 | 1043616.56 | 753554.61 | 647.64 |
| SC-23603-S | 03/31/1999 | 1043600.42 | 753582.71 | 648.38 |
| SC-23603-S-01 | 07/27/1999 | 1043600.43 | 753583.16 | 646.48 |
| SC-23604-S | 02/22/1999 | 1043584.35 | 753611.68 | 646.37 |
| SC-23604-S-01 | 07/27/1999 | 1043584.35 | 753611.68 | 646.40 |
| SC-23606-C | 03/31/1999 | 1043619.38 | 753502.44 | 644.74 |
| SC-23606-C-01 | 07/27/1999 | 1043619.58 | 753502.66 | 646.79 |
| SC-23606-S | 04/05/1999 | 1043619.91 | 753480.55 | 645.92 |
| SC-23606-S-01 | 07/27/1999 | 1043620.37 | 753481.33 | 645.35 |
| SC-23607-S | 03/31/1999 | 1043603.86 | 753509.44 | 644.99 |
| SC-23607-S-01 | 07/27/1999 | 1043603.89 | 753510.00 | 646.78 |
| SC-23608-S | 03/31/1999 | 1043587.79 | 753538.07 | 650.15 |
| SC-23608-S-01 | 07/27/1999 | 1043587.70 | 753538.48 | 647.20 |
| SC-23609-S | 03/31/1999 | 1043571.45 | 753566.78 | 656.83 |
| SC-23609-S-01 | 07/27/1999 | 1043571.74 | 753567.11 | 647.48 |
| SC-23610-S | 02/22/1999 | 1043555.80 | 753595.30 | 659.55 |
| SC-23610-S-01 | 07/27/1999 | 1043555.72 | 753595.56 | 647.33 |
| SC-23611-C | 02/22/1999 | 1043542.13 | 753643.19 | 654.98 |
| SC-23611-C-01 | 07/27/1999 | 1043542.61 | 753643.53 | 646.33 |
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| SC-23614-S | 02/22/1999 | 1043491.69 | 753709.78 | 649.11 |
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| SC-23626-S | 02/18/1999 | 1043430.91 | 753751.16 | 654.96 |
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| SC-23626-S-RS | 03/03/1999 | 1043430.23 | 753751.67 | 653.30 |
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| SC-23650-S | 07/27/1999 | 1043462.83 | 753694.39 | 648.08 |
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| SC-23702-S | 02/24/1999 | 1043261.49 | 753919.49 | 647.16 |
| SC-23702-S-RS | 08/25/1999 | 1043261.68 | 753919.77 | 645.49 |
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| SC-23706-S-RS | 08/25/1999 | 1043233.26 | 753903.63 | 646.19 |
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| SC-23707-S-01 | 08/02/1999 | 1043217.13 | 753932.01 | 647.45 |

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| SC-23708-C | 08/24/1999 | 1043239.39 | 753858.66 | 646.97 |
| SC-23709-S | 08/24/1999 | 1043220.85 | 753859.23 | 646.63 |
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| SC-23710-S-01 | 02/24/1999 | 1043204.28 | 753887.50 | 651.30 |
| SC-23710-S-02 | 08/02/1999 | 1043204.69 | 753887.68 | 648.08 |
| SC-23710-S-RS | 08/24/1999 | 1043204.29 | 753887.63 | 648.20 |
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| SC-23711-S-01 | 02/24/1999 | 1043188.10 | 753915.91 | 658.25 |
| SC-23711-S-02 | 08/02/1999 | 1043188.74 | 753916.74 | 647.97 |
| SC-23711-S-A (K-7) | 02/24/1999 | 1043180.17 | 753930.32 | 653.20 |
| SC-23711-S-B (K-7) | 03/01/1999 | 1043180.36 | 753930.57 | 652.33 |
| SC-23711-S-RS | 08/13/1999 | 1043188.62 | 753913.25 | 648.31* |
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| SC-23714-S | 02/01/1999 | 1043175.57 | 753871.38 | 652.01 |
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| SC-23714-S-RS | 08/24/1999 | 1043175.81 | 753871.55 | 648.12 |
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| SC-23715-S-02 | 08/02/1999 | 1043159.72 | 753899.83 | 647.97 |
| SC-23715-S-A (K-6) | 02/24/1999 | 1043151.41 | 753914.17 | 651.44 |
| SC-23715-S-B (K-6) | 03/01/1999 | 1043151.55 | 753914.29 | 649.75 |
| SC-23716-S | 08/02/1999 | 1043144.43 | 753928.16 | 644.97 |
| SC-23717-C | 08/24/1999 | 1043181.60 | 753826.78 | 647.72 |
| SC-23718-S | 08/24/1999 | 1043162.86 | 753826.81 | 647.99 |
| SC-23719-S | 02/01/1999 | 1043146.91 | 753855.24 | 651.57 |
| SC-23719-S-HS01 | 02/10/1999 | 1043149.35 | 753854.86 | 651.36* |
| SC-23719-S-HS02 | 02/10/1999 | 1043147.93 | 753857.59 | 652.30* |
| SC-23719-S-HS03 | 02/10/1999 | 1043145.80 | 753853.44 | 651.48* |
| SC-23719-S-HS04 | 02/10/1999 | 1043145.32 | 753856.64 | 652.40* |
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| SC-23719-S-RS2 | 08/25/1999 | 1043146.77 | 753856.45 | 649.09* |
| SC-23720-S | 02/01/1999 | 1043130.93 | 753883.97 | 662.39 |
| SC-23720-S-A (K-5) | 02/24/1999 | 1043122.81 | 753898.14 | 655.49 |
| SC-23720-S-RS | 05/11/1999 | 1043131.12 | 753884.20 | 652.73 |
| SC-23721-S | 05/11/1999 | 1043114.89 | 753912.79 | 646.95 |
| SC-23721-S-RS | 05/18/1999 | 1043113.75 | 753912.81 | 646.19* |
| SC-23721-S-RS2 | 05/21/1999 | 1043115.07 | 753912.76 | 645.02 |
| SC-23802-S | 08/24/1999 | 1043134.53 | 753810.58 | 647.69 |
| SC-23803-S | 02/01/1999 | 1043118.31 | 753839.32 | 651.80 |
| SC-23803-S-RS | 08/25/1999 | 1043118.40 | 753839.36 | 649.80 |
| SC-23804-S | 02/01/1999 | 1043102.29 | 753867.92 | 662.67 |
| SC-23804-S-RS | 05/11/1999 | 1043102.49 | 753868.10 | 652.96 |
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| SC-23808-S-HS03 | 02/10/1999 | 1043087.15 | 753823.56 | 651.99* |
| SC-23808-S-HS04 | 02/10/1999 | 1043088.86 | 753820.97 | 651.05* |
| SC-23808-S-RS | 08/25/1999 | 1043089.82 | 753823.66 | 649.43 |
| SC-23809-S | 02/01/1999 | 1043073.63 | 753851.77 | 662.86 |
| SC-23809-S-RS | 05/11/1999 | 1043073.92 | 753851.92 | 654.06 |
| SC-23810-S | 05/11/1999 | 1043057.71 | 753880.76 | 649.79 |
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| SC-23813-S | 02/01/1999 | 1043061.06 | 753807.25 | 650.95 |
| SC-23813-S-HS01 | 02/10/1999 | 1043063.60 | 753806.95 | 650.71* |
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| SC-23813-S-HS03 | 02/10/1999 | 1043058.85 | 753807.66 | 651.63* |
| SC-23813-S-HS04 | 02/10/1999 | 1043060.17 | 753804.35 | 650.52* |
| SC-23813-S-RS | 08/24/1999 | 1043061.76 | 753807.06 | 649.46 |
| SC-23814-S | 02/01/1999 | 1043045.04 | 753835.87 | 662.64 |
| SC-23814-S-RS | 05/11/1999 | 1043045.29 | 753836.04 | 654.31 |
| SC-23815-S | 05/11/1999 | 1043029.23 | 753864.57 | 651.11 |
| SC-23816-C | 08/24/1999 | 1043067.05 | 753763.87 | 647.33 |
| SC-23816-C-HS01 | 09/01/1999 | 1043069.79 | 753765.61 | 647.40* |
| SC-23816-C-HS02 | 09/01/1999 | 1043066.72 | 753766.68 | 647.30* |
| SC-23816-C-HS03 | 09/01/1999 | 1043063.05 | 753765.30 | 647.25* |
| SC-23816-C-HS04 | 09/01/1999 | 1043063.51 | 753762.54 | 647.34* |
| SC-23817-S | 08/24/1999 | 1043048.86 | 753762.81 | 646.96 |
| SC-23818-S | 02/01/1999 | 1043032.41 | 753791.15 | 650.78 |
| SC-23819-S | 02/01/1999 | 1043016.41 | 753819.97 | 662.03 |
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| SC-23823-S | 02/01/1999 | 1042987.78 | 753803.80 | 660.99 |
| SC-23823-S-RS | 05/11/1999 | 1042987.94 | 753804.17 | 651.97 |
| SC-23824-S | 05/11/1999 | 1042971.77 | 753833.02 | 650.36 |
| SC-23901-U | 08/18/1999 | 1042884.63 | 753790.63 | 643.65 |
| SC-23902-S | 08/24/1999 | 1042991.27 | 753730.76 | 646.60 |
| SC-23902-U | 08/18/1999 | 1042913.78 | 753779.33 | 643.14 |
| SC-23903-S | 02/01/1999 | 1042975.18 | 753759.24 | 650.13 |
| SC-23903-S-01 | 09/26/1999 | 1042975.34 | 753759.41 | 647.71 |
| SC-23903-S-RS | 08/04/1999 | 1042975.32 | 753759.51 | 648.75 |
| SC-23903-U | 08/18/1999 | 1042943.63 | 753763.70 | 641.85 |
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| SC-23904-S-01-HS03 | 09/30/1999 | 1042956.39 | 753787.38 | 649 52* |
| SC-23904-S-01-HS04 | 09/30/1999 | 1042958.86 | 753784.40 | 649 72* |
| SC-23904-S-RS | 05/11/1999 | 1042959.41 | 753788.02 | 651.10 |
| SC-23904-U | 08/18/1999 | 1042961.57 | 753752.90 | 642.86 |
| SC-23905-S | 05/11/1999 | 1042943.53 | 753816.61 | 650.76 |
| SC-23905-S-01 | 09/26/1999 | 1042943.46 | 753816.53 | 648.83 |
| SC-23905-S-RS | 05/19/1999 | 1042945.05 | 753819.06 | 649.18 |
| SC-23907-S | 08/24/1999 | 1042963.08 | 753714.58 | 644.53 |
| SC-23908-S | 02/01/1999 | 1042946.55 | 753743.02 | 648.88 |
| SC-23908-S-01 | 09/26/1999 | 1042946.85 | 753743.20 | 646.54 |
| SC-23908-S-RS | 08/04/1999 | 1042946.49 | 753743.47 | 648.12 |
| SC-23909-S | 02/01/1999 | 1042930.51 | 753771.74 | 659.81 |
| SC-23909-S-01 | 09/26/1999 | 1042930.52 | 753772.18 | 642.55 |
| SC-23910-S | 05/07/1999 | 1042914.13 | 753800.63 | 651.72 |
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| SC-23912-S | 08/24/1999 | 1042934.57 | 753698.26 | 643.31 |
| SC-23913-S | 02/01/1999 | 1042917.91 | 753727.12 | 648.08 |
| SC-23913-S-01 | 09/26/1999 | 1042918.06 | 753727.21 | 646.42 |
| SC-23913-S-RS | 08/04/1999 | 1042918.03 | 753727.44 | 647.64 |
| SC-23914-S | 02/01/1999 | 1042901.90 | 753755.60 | 660 75 |

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| SC-23914-S-01 | 09/26/1999 | 1042902.42 | 753756.30 | 645.73 |
| SC-23915-S | 05/07/1999 | 1042885.84 | 753784.66 | 650.32 |
| SC-23915-S-01 | 09/26/1999 | 1042884.63 | 753790.63 | 643.65 |
| SC-23917-S | 08/24/1999 | 1042920.41 | 753656.06 | 642.46* |
| SC-23918-S | 08/24/1999 | 1042905.60 | 753681.98 | 642.54 |
| SC-23919-S | 02/01/1999 | 1042889.29 | 753711.11 | 648.03 |
| SC-23919-S-01 | 09/26/1999 | 1042889.60 | 753711.30 | 644.20 |
| SC-23919-S-RS | 08/04/1999 | 1042889.06 | 753711.35 | 647.40 |
| SC-23920-S | 02/01/1999 | 1042873.28 | 753739.55 | 659.90 |
| SC-23920-S-01 | 09/26/1999 | 1042873.55 | 753739.71 | 645.55 |
| SC-23921-S | 05/07/1999 | 1042857.26 | 753768.67 | 650.80 |
| SC-23921-S-01 | 09/26/1999 | 1042857.50 | 753767.57 | 646.34 |
| SC-24001-S | 07/24/1999 | 1042984.57 | 753877.10 | 643.28 |
| SC-24001-S-RS | 07/31/1999 | 1042986.77 | 753876.78 | 642.27 |
| SC-24002-S | 07/24/1999 | 1042968.50 | 753905.54 | 643.22 |
| SC-24003-S | 07/24/1999 | 1042952.42 | 753934.20 | 642.91 |
| SC-24003-S-RS | 07/31/1999 | 1042952.00 | 753935.41 | 641.86 |
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| SC-24006-S | 07/24/1999 | 1042940.10 | 753889.58 | 643.20 |
| SC-24006-S-RS | 07/31/1999 | 1042940.53 | 753889.81 | 641.99 |
| SC-24007-S | 07/24/1999 | 1042923.77 | 753918.34 | 643.08 |
| SC-24008-S | 07/24/1999 | 1042907.85 | 753946.81 | 643.08 |
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| SC-24011-S | 07/16/1999 | 1042895.41 | 753902.40 | 642.74 |
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| SC-24013-S | 07/16/1999 | 1042899.05 | 753829.15 | 643.46 |
| SC-24014-S | 07/16/1999 | 1042882.81 | 753857.67 | 643.18 |
| SC-24015-S | 07/16/1999 | 1042866.49 | 753886.22 | 643.47 |
| SC-24016-S | 06/29/1999 | 1042850.74 | 753914.87 | 642.28 |
| SC-24017-S | 07/16/1999 | 1042870.08 | 753813.19 | 643.46 |
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| SC-24101-S | 07/24/1999 | 1042920.37 | 753991.38 | 641.29 |
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| SC-24103-S | 07/24/1999 | 1042888.41 | 754048.72 | 639.83 |
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| SC-24108-S | 07/24/1999 | 1042843.91 | 754061.48 | 640.73 |
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| SC-24111-S | 06/25/1999 | 1042831.11 | 754016.76 | 641.85 |
| SC-24111-S-RS | 07/15/1999 | 1042830.27 | 754017.85 | 640.43 |
| SC-24112-S | 07/24/1999 | 1042815.14 | 754045.45 | 641.25 |
| SC-24113-S | 06/29/1999 | 1042834.68 | 753943.67 | 642.34 |
| SC-24114-S | 06/29/1999 | 1042819.00 | 753972.38 | 642.51 |
| SC-24115-S | 06/25/1999 | 1042802.77 | 754000.92 | 641.99 |
| SC-24116-S | 06/25/1999 | 1042786.35 | 754029.85 | 642.50 |

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| SC-24117-S | 06/29/1999 | 1042806.43 | 753927.46 | 642.33 |
| SC-24118-S | 06/29/1999 | 1042790.17 | 753956.27 | 642.40 |
| SC-24119-S | 06/25/1999 | 1042774.20 | 753985.29 | 641.87 |
| SC-24120-S | 06/25/1999 | 1042757.76 | 754013.15 | 642.33 |
| SC-24201-S | 07/24/1999 | 1042856.30 | 754106.23 | 637 06 |
| SC-24202-S | 07/24/1999 | 1042840.20 | 754134.57 | 637.04 |
| SC-24203-S | 07/24/1999 | 1042824.34 | 754163.32 | 638.05 |
| SC-24204-S | 07/24/1999 | 1042808.38 | 754192.04 | 638.79 |
| SC-24205-S | 07/24/1999 | 1042827.98 | 754090.38 | 637.82 |
| SC-24205-S-RS | 07/31/1999 | 1042826.29 | 754091.87 | 636.41 |
| SC-24206-S | 07/24/1999 | 1042811.61 | 754118.67 | 638.55 |
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| SC-24209-S | 07/24/1999 | 1042799.12 | 754073.90 | 641.64 |
| SC-24210-S | 07/24/1999 | 1042782.90 | 754102.55 | 641.26 |
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| SC-24212-S | 07/24/1999 | 1042751.30 | 754159.89 | 641 59 |
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| SC-24215-S | 07/16/1999 | 1042738.01 | 754115.48 | 641.72 |
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| SC-24216-S-RS | 07/20/1999 | 1042726.47 | 754140.60 | 641.38 |
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| SC-24303-S-RS | 07/20/1999 | 1042682.04 | 754084.05 | 641 64 |
| SC-24304-S | 07/16/1999 | 1042665.16 | 754112.09 | 643.94 |
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| SC-24308-S-RS | 07/20/1999 | 1042638.40 | 754095.52 | 642 94 |
| SC-24309-S | 06/25/1999 | 1042655.79 | 753993.73 | 642.68 |
| SC-24310-S | 06/25/1999 | 1042640.14 | 754022.52 | 642.84 |
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| SC-24319-S | 06/18/1999 | 1042566.76 | 754019.40 | 643.35 |
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| SC-24402-S | 06/29/1999 | 1042761.46 | 753940.08 | 642.36 |
| SC-24403-S | 06/25/1999 | 1042745.18 | 753969.03 | 642.34 |
| SC-24404-S | 06/25/1999 | 1042729.16 | 753997.51 | 642.36 |
| SC-24405-S | 06/29/1999 | 1042749.00 | 753895.36 | 642.71 |

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| SC-24406-S | 06/29/1999 | 1042732.34 | 753923.86 | 642.78 |
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| SC-24412-S | 06/25/1999 | 1042672.20 | 753965.58 | 643.09 |
| SC-24413-S | 06/25/1999 | 1042691.36 | 753863.47 | 642.07 |
| SC-24414-S | 06/25/1999 | 1042675.67 | 753891.77 | 641.63 |
| SC-24415-S | 06/25/1999 | 1042659.31 | 753921.05 | 641.98 |
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| SC-24420-S | 06/18/1999 | 1042615.07 | 753933.86 | 642.59 |
| SC-24501-S | 06/29/1999 | 1042841.38 | 753797.60 | 643.08 |
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| SC-24506-S | 06/29/1999 | 1042796.90 | 753809.66 | 642.38 |
| SC-24506-S-RS | 07/27/1999 | 1042796.59 | 753809.52 | 641.20* |
| SC-24507-S | 06/29/1999 | 1042781.05 | 753838.20 | 642.43 |
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| SC-24511-S | 06/25/1999 | 1042752.69 | 753822.21 | 642.57 |
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| SC-24513-S | 06/25/1999 | 1042755.79 | 753748.79 | 642.34 |
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| SC-24518-S | 06/25/1999 | 1042710.62 | 753761.65 | 642.65 |
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| SC-24602-S | 11/18/1999 | 1042892.77 | 753667.56 | 637.23 |
| SC-24603-S | 09/26/1999 | 1042877.21 | 753666.70 | 642.09 |
| SC-24604-S | 02/01/1999 | 1042860.65 | 753695.11 | 647.46 |
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| SC-24604-S-RS | 08/04/1999 | 1042860.75 | 753695.23 | 647.13 |
| SC-24605-S | 02/01/1999 | 1042844.66 | 753723.54 | 659.88 |
| SC-24605-S-01 | 09/26/1999 | 1042845.96 | 753723.52 | 644.11 |
| SC-24606-S | 05/07/1999 | 1042828.87 | 753752.53 | 651.06 |
| SC-24606-S-01 | 09/26/1999 | 1042829.02 | 753752.06 | 644.73 |
| SC-24608-S | 11/18/1999 | 1042864.20 | 753621.63 | 636.56 |
| SC-24609-S | 09/26/1999 | 1042848.36 | 753650.72 | 640.12 |
| SC-24610-S | 02/01/1999 | 1042832.04 | 753679.03 | 647.85 |
| SC-24610-S-01 | 09/26/1999 | 1042832.01 | 753679.55 | 641.69 |
| SC-24610-S-RS | 08/04/1999 | 1042831.87 | 753679.53 | 646.78 |
| SC-24611-S | 02/01/1999 | 1042815.96 | 753707.83 | 659.49 |
| SC-24611-S-01 | 09/26/1999 | 1042816.33 | 753707.53 | 643.26 |
| SC-24612-S | 05/07/1999 | 1042799.70 | 753736.54 | 651.04 |

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| SC-24612-S-01 | 09/26/1999 | 1042800.38 | 753736.61 | 644.61 |
| SC-24614-S | 09/28/1999 | 1042835.80 | 753605.60 | 635.00 |
| SC-24615-S | 09/28/1999 | 1042820.83 | 753633.43 | 639.78 |
| SC-24616-S | 02/01/1999 | 1042803.47 | 753662.76 | 647.51 |
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| SC-24617-S-HS01 | 02/10/1999 | 1042790.38 | 753691.01 | 659.80* |
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| SC-24617-S-RS | 07/28/1999 | 1042786.71 | 753692.32 | 659.84 |
| SC-24618-S | 05/07/1999 | 1042771.13 | 753720.66 | 651.90 |
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| SC-24621-S | 09/28/1999 | 1042790.91 | 753617.69 | 637.40 |
| SC-24622-S | 02/01/1999 | 1042774.76 | 753647.01 | 647.64 |
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| SC-24624-S | 05/07/1999 | 1042742.54 | 753704.42 | 652.17 |
| SC-24624-S-01 | 09/26/1999 | 1042742.37 | 753704.85 | 645.94 |
| SC-24624-S-RS01 | 09/21/1999 | 1042501.40 | 754029.67 | 642.86 |
| SC-24701-S | 06/09/1999 | 1042586.10 | 753917.58 | 642.40 |
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| SC-24703-S | 06/09/1999 | 1042553.52 | 753974.30 | 642.54 |
| SC-24704-S | 06/09/1999 | 1042537.58 | 754003.11 | 642.79 |
| SC-24705-S | 06/09/1999 | 1042521.85 | 754031.83 | 643.32 |
| SC-24705-S-RS01 | 06/17/1999 | 1042501.40 | 754029.67 | 642.86 |
| SC-24706-S | 06/09/1999 | 1042557.56 | 753901.34 | 641.69 |
| SC-24707-S | 06/09/1999 | 1042541.27 | 753929.69 | 642.67 |
| SC-24708-S | 06/09/1999 | 1042525.33 | 753958.49 | 642.13 |
| SC-24709-S | 06/09/1999 | 1042509.35 | 753987.07 | 642.47 |
| SC-24710-S | 06/09/1999 | 1042493.62 | 754015.99 | 642.88 |
| SC-24710-S-RS | 06/17/1999 | 1042493.43 | 754015.84 | 642.10 |
| SC-24711-S | 06/09/1999 | 1042529.23 | 753885.21 | 642.18 |
| SC-24712-S | 06/09/1999 | 1042512.95 | 753913.84 | 642.77 |
| SC-24713-S | 06/09/1999 | 1042496.81 | 753942.39 | 642.29 |
| SC-24714-S | 06/09/1999 | 1042480.81 | 753971.16 | 642.57 |
| SC-24715-S | 06/09/1999 | 1042464.96 | 753999.97 | 642.89 |
| SC-24715-S-RS01 | 06/17/1999 | 1042475.58 | 754006.90 | 642.09 |
| SC-24716-S | 04/14/1999 | 1042448.62 | 754028.14 | 653.90 |
| SC-24716-S-01 | 07/15/1999 | 1042447.65 | 754028.29 | 653.17 |
| SC-24716-S-RS01 | 06/17/1999 | 1042447.87 | 754016.19 | 647.12 |
| SC-24716-S-RS01-RS | 06/24/1999 | 1042447.66 | 754014.75 | 649.48 |
| SC-24717-S | 06/09/1999 | 1042500.62 | 753868.94 | 642.27 |
| SC-24718-S | 06/09/1999 | 1042484.65 | 753897.79 | 642.77 |
| SC-24719-S | 06/09/1999 | 1042468.43 | 753926.54 | 642.42 |
| SC-24720-S | 06/09/1999 | 1042452.38 | 753955.03 | 642.93 |
| SC-24721-S | 06/09/1999 | 1042436.21 | 753983.53 | 643.29 |
| SC-24722-S | 04/14/1999 | 1042419.84 | 754012.17 | 647.69 |
| SC-24801-S | 06/09/1999 | 1042471.89 | 753853.15 | 641.72 |
| SC-24802-S | 06/09/1999 | 1042455.86 | 753881.75 | 642.11 |
| SC-24803-S | 06/09/1999 | 1042439.95 | 753910.58 | 643.21 |

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| SC-24804-S | 06/09/1999 | 1042423.90 | 753939.25 | 643.44 |
| SC-24805-S | 06/09/1999 | 1042407.55 | 753967.53 | 643.92 |
| SC-24806-S | 04/14/1999 | 1042391.41 | 753996.01 | 652.28 |
| SC-24807-S | 06/09/1999 | 1042443.00 | 753837.14 | 642.82 |
| SC-24808-S | 06/09/1999 | 1042427.56 | 753865.52 | 642.55 |
| SC-24809-S | 06/09/1999 | 1042410.86 | 753894.24 | 643.98 |
| SC-24810-S | 06/09/1999 | 1042394.96 | 753922.58 | 644.40 |
| SC-24811-S | 06/09/1999 | 1042378.85 | 753951.44 | 644.56 |
| SC-24812-S | 04/14/1999 | 1042362.67 | 753980.09 | 651.42 |
| SC-24813-S | 06/04/1999 | 1042414.53 | 753821.12 | 651.84 |
| SC-24814-S | 06/04/1999 | 1042398.26 | 753849.66 | 651.77 |
| SC-24815-S | 06/04/1999 | 1042382.30 | 753878.13 | 651.09 |
| SC-24816-S | 06/04/1999 | 1042366.31 | 753907.05 | 651.35 |
| SC-24816-S-RS01 | 06/17/1999 | 1042385.24 | 753902.36 | 645.93 |
| SC-24816-S-RS02 | 06/17/1999 | 1042353.32 | 753909.69 | 656.08 |
| SC-24817-S | 06/04/1999 | 1042350.16 | 753935.55 | 651.35 |
| SC-24817-S-RS01 | 06/17/1999 | 1042353.15 | 753933.37 | 650.07 |
| SC-24818-S | 04/14/1999 | 1042334.18 | 753964.05 | 654.28 |
| SC-24818-S-RS01 | 06/17/1999 | 1042324.52 | 753966.84 | 657.61 |
| SC-24818-S-RS02 | 06/17/1999 | 1042334.36 | 753966.39 | 655.74 |
| SC-24818-S-RS02-RS | 06/24/1999 | 1042334.77 | 753966.97 | 654.11 |
| SC-24901-S | 06/16/1999 | 1042666.54 | 753774.06 | 642.56 |
| SC-24901-S-RS | 06/23/1999 | 1042663.48 | 753775.65 | 641.39 |
| SC-24902-S | 06/16/1999 | 1042649.97 | 753802.68 | 642.58* |
| SC-24903-S | 06/09/1999 | 1042633.94 | 753831.53 | 642.37 |
| SC-24904-S | 06/09/1999 | 1042618.39 | 753859.94 | 642.50 |
| SC-24904-S-RS | 06/23/1999 | 1042617.31 | 753858.34 | 641.22 |
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| SC-24905-S-RS | 06/23/1999 | 1042601.49 | 753887.31 | 641.44 |
| SC-24906-S | 06/16/1999 | 1042637.78 | 753757.93 | 642.16 |
| SC-24907-S | 06/18/1999 | 1042621.22 | 753786.39 | 641.88 |
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| SC-24909-S | 06/09/1999 | 1042589.40 | 753843.98 | 642.38 |
| SC-24909-S-RS | 06/23/1999 | 1042589.70 | 753843.38 | 641.41 |
| SC-24910-S | 06/09/1999 | 1042573.56 | 753872.57 | 642.14 |
| SC-24911-S | 06/16/1999 | 1042608.97 | 753742.05 | 642.21 |
| SC-24912-S | 06/16/1999 | 1042592.97 | 753770.44 | 642.51 |
| SC-24913-S | 06/09/1999 | 1042577.18 | 753799.15 | 642.26 |
| SC-24914-S | 06/09/1999 | 1042561.02 | 753828.02 | 642.05 |
| SC-24915-S | 06/09/1999 | 1042545.29 | 753856.66 | 641.67 |
| SC-24916-S | 06/16/1999 | 1042579.89 | 753726.29 | 642.81 |
| SC-24917-S | 06/16/1999 | 1042565.21 | 753754.77 | 642.97 |
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| SC-24918-S | 06/09/1999 | 1042548.38 | 753783.13 | 642.53 |
| SC-24919-S | 06/09/1999 | 1042532.65 | 753811.79 | 642.47 |
| SC-24919-S-RS | 06/23/1999 | 1042534.78 | 753812.53 | 641.08 |
| SC-24920-S | 06/09/1999 | 1042516.45 | 753840.54 | 642.52 |
| SC-25001-S | 06/23/1999 | 1042551.70 | 753710.59 | 641.15 |
| SC-25002-S | 06/16/1999 | 1042535.69 | 753738.59 | 643.25 |
| SC-25003-S | 06/09/1999 | 1042519.87 | 753767.34 | 642.96 |
| SC-25004-S | 06/09/1999 | 1042503.91 | 753795.79 | 642.92 |
| SC-25005-S | 06/09/1999 | 1042487.99 | 753824.38 | 642.41 |
| SC-25006-S | 06/16/1999 | 1042523.16 | 753694.68 | 641.80 |
| SC-25007-S | 06/16/1999 | 1042506.84 | 753722.78 | 641.49 |
| SC-25008-S | 06/09/1999 | 1042490.98 | 753751.18 | 643.33 |

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| SC-25009-S | 06/09/1999 | 1042474.95 | 753779.83 | 642.85 |
| SC-25010-S | 06/09/1999 | 1042458.86 | 753808.27 | 642.79 |
| SC-25011-S | 06/16/1999 | 1042494.24 | 753677.91 | 647.29* |
| SC-25011-S-RS | 06/23/1999 | 1042491.48 | 753676.88 | 647.69 |
| SC-25012-S | 06/04/1999 | 1042478.53 | 753706.43 | 650.35 |
| SC-25013-S | 06/04/1999 | 1042462.38 | 753735.09 | 650.12 |
| SC-25014-S | 06/04/1999 | 1042446.36 | 753763.80 | 650.11 |
| SC-25015-S | 06/04/1999 | 1042430.58 | 753792.62 | 648.29 |
| SC-25016-S | 06/08/1999 | 1042465.84 | 753661.85 | 659.26 |
| SC-25017-S | 06/04/1999 | 1042449.63 | 753690.50 | 661.14 |
| SC-25021-S | 06/08/1999 | 1042437.22 | 753645.96 | 657.03 |
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| SC-25101-S | 09/27/1999 | 1042778.70 | 753573.35 | 628.00 |
| SC-25102-S | 09/27/1999 | 1042762.91 | 753602.20 | 637.00 |
| SC-25103-S | 02/01/1999 | 1042746.12 | 753631.00 | 644.87 |
| SC-25103-S-01 | 09/26/1999 | 1042746.29 | 753630.80 | 643.97 |
| SC-25104-S | 02/01/1999 | 1042730.14 | 753659.51 | 660.97 |
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| SC-25105-S | 05/07/1999 | 1042714.19 | 753688.50 | 652.87 |
| SC-25105-S-01 | 09/26/1999 | 1042713.95 | 753688.66 | 646.74 |
| SC-25106-S | 06/16/1999 | 1042698.07 | 753716.80* | 642.69* |
| SC-25107-S | 06/23/1999 | 1042682.28 | 753745.81 | 641.37 |
| SC-25108-S | 09/27/1999 | 1042750.05 | 753557.84 | 630.91 |
| SC-25109-S | 09/27/1999 | 1042735.20 | 753585.45 | 642.76 |
| SC-25110-S | 02/01/1999 | 1042717.52 | 753614.91 | 646.42 |
| SC-25110-S-01 | 09/26/1999 | 1042717.68 | 753614.84 | 644.86 |
| SC-25111-S | 02/01/1999 | 1042701.48 | 753643.58 | 660.08 |
| SC-25111-S-01 | 09/26/1999 | 1042701.67 | 753643.48 | 646.73 |
| SC-25112-S | 05/07/1999 | 1042685.47 | 753672.57 | 652.34 |
| SC-25112-S-01 | 09/26/1999 | 1042685.58 | 753672.33 | 647.63 |
| SC-25113-S | 06/16/1999 | 1042669.74 | 753700.72 | 643.12 |
| SC-25114-S | 06/16/1999 | 1042653.57 | 753729.69 | 642.42 |
| SC-25115-S | 10/01/1999 | 1042720.79 | 753541.81 | 633.25 |
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| SC-25206-C | 09/27/1999 | 1042829.63 | 753507.67 | 627.50 |
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| SC-25316-S | 07/08/1998 | 1042900.79 | 753153.37 | 665.64 |
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| SC-25316-S-02 | 10/02/1998 | 1042900.60 | 753153.44 | 650.44 |
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| SC-25318-S | 10/06/1999 | 1042869.38 | 753211.05 | 628.46 |
| SC-25319-S | 10/06/1999 | 1042853.07 | 753239.11 | 621.66 |
| SC-25320-S | 10/01/1999 | 1042837.17 | 753267.65 | 625.01 |
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| SC-25321-C-01 | 10/06/1999 | 1042890.76 | 753138.01 | 628.87 |
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| SC-25322-S | 07/08/1998 | 1042871.93 | 753137.44 | 665.41 |
| SC-25322-S-01 | 10/06/1999 | 1042872.50 | 753137.49 | 629.58 |
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| SC-25323-S-01 | 10/06/1999 | 1042856.82 | 753166.79 | 630.25 |
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| SC-25325-C | 10/20/1999 | 1042833.36 | 753246.03 | 618.96* |
| SC-25325-S | 10/01/1999 | 1042824.92 | 753223.42 | 627.20 |
| SC-25326-S | 10/01/1999 | 1042808.25 | 753251.88 | 627.38 |
| SC-25401-C | 09/03/1999 | 1042861.19 | 753122.15 | 650.00* |
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| SC-25402-S | 07/08/1998 | 1042843.51 | 753121.43 | 666.44 |
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| SC-25404-S | 10/15/1999 | 1042811.90 | 753178.64 | 630.52 |
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| SC-25408-S | 07/08/1998 | 1042798.90 | 753134.01 | 650.10 |
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| SC-25410-S | 10/15/1999 | 1042767.29 | 753191.31 | 630.69 |
| SC-25412-S | 07/08/1998 | 1042786.17 | 753089.26 | 665.15 |
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| SC-25413-S | 07/08/1998 | 104277022.00 | 753117.72 | 648.57 |
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| SC-25414-S | 09/15/1999 | 1042754.66 | 753146.46 | 632.63 |
| SC-25415-S | 10/14/1999 | 1042738.47 | 753175.11 | 630.48 |
| SC-25417-S | 07/08/1998 | 1042757.34 | 753073.33 | 665.02 |
| SC-25417-S-01 | 10/06/1999 | 1042757.86 | 753073.21 | 635.32 |
| SC-25418-S | 07/08/1998 | 1042741.49 | 753101.92 | 651.40 |
| SC-25418-S-01 | 10/06/1999 | 1042741.82 | 753101.84 | 636.51 |
| SC-25418-S-02 | 10/02/1998 | 1042741.45 | 753101.93 | 649.20 |
| SC-25419-S | 09/15/1999 | 1042725.85 | 753130.27 | 635.85 |
| SC-25420-S | 10/14/1999 | 1042709.84 | 753159.05 | 631.29 |
| SC-25501-S | 10/01/1999 | 1042821.06 | 753296.53 | 625.68 |
| SC-25502-S | 10/01/1999 | 1042805.17 | 753325.50 | 629.25 |
| SC-25503-S | 10/01/1999 | 1042788.91 | 753353.78 | 629.43 |
| SC-25504-S | 10/01/1999 | 1042793.12 | 753281.72 | 627.52 |
| SC-25505-S | 10/15/1999 | 1042776.07 | 753309.20 | 629.26 |
| SC-25506-S | 10/15/1999 | 1042760.34 | 753337.88 | 629.40 |
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| SC-25508-S | 10/15/1999 | 1042763.64 | 753264.63 | 628.14 |
| SC-25509-S | 10/15/1999 | 1042747.77 | 753292.87 | 628.63 |
| SC-25510-S | 10/15/1999 | 1042731.64 | 753321.66 | 629.25 |
| SC-25511-S | 10/15/1999 | 1042750.51 | 753219.83 | 628.35 |

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| SC-25512-S | 10/15/1999 | 1042734.99 | 753248.43 | 627.74 |
| SC-25512-S-RS | 10/23/1999 | 1042735.95 | 753248.62 | 622.77 |
| SC-25513-S | 10/15/1999 | 1042719.02 | 753277.09 | 628.24 |
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| SC-25514-S | 10/15/1999 | 1042702.60 | 753305.70 | 628.66 |
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| SC-25515-S | 10/15/1999 | 1042722.62 | 753203.85 | 628.75 |
| SC-25516-S | 10/15/1999 | 1042706.38 | 753232.11 | 628.46 |
| SC-25517-S | 10/15/1999 | 1042690.05 | 753260.79 | 627.29 |
| SC-25518-S | 10/14/1999 | 1042674.41 | 753289.42 | 629.46 |
| SC-25519-S | 10/14/1999 | 1042694.04 | 753187.65 | 629.82 |
| SC-25520-S | 10/14/1999 | 1042677.87 | 753216.21 | 628.96 |
| SC-25521-S | 10/14/1999 | 1042661.80 | 753244.99 | 628.07 |
| SC-25522-S | 10/14/1999 | 1042645.60 | 753273.57 | 628.48 |
| SC-25601-S | 10/01/1999 | 1042773.14 | 753382.81 | 629.60 |
| SC-25602-S | 10/01/1999 | 1042757.32 | 753411.45 | 629.28 |
| SC-25603-S | 10/01/1999 | 1042740.69 | 753440.03 | 628.63 |
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| SC-25605-S | 10/15/1999 | 1042743.99 | 753366.27 | 629.15 |
| SC-25606-S | 10/14/1999 | 1042728.00 | 753395.01 | 629.89 |
| SC-25607-S | 10/14/1999 | 1042712.04 | 753423.58 | 630.22 |
| SC-25608-S | 10/14/1999 | 1042696.08 | 753452.44 | 629.99 |
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| SC-25610-S | 10/14/1999 | 1042699.31 | 753379.15 | 630.93 |
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| SC-25614-S | 10/14/1999 | 1042670.88 | 753362.88 | 632.24 |
| SC-25615-S | 10/14/1999 | 1042655.02 | 753391.30 | 631.41 |
| SC-25616-S | 10/14/1999 | 1042638.91 | 753420.15 | 631.63 |
| SC-25617-S | 10/14/1999 | 1042658.04 | 753318.42 | 630.92 |
| SC-25618-S | 10/14/1999 | 1042642.09 | 753346.95 | 632.62 |
| SC-25619-S | 10/14/1999 | 1042626.22 | 753375.42 | 632.79 |
| SC-25620-S | 10/14/1999 | 1042610.39 | 753404.16 | 632.14 |
| SC-25701-S | 10/14/1999 | 1042708.49 | 753497.05 | 630.23 |
| SC-25702-S | 10/14/1999 | 1042692.53 | 753525.51 | 633.01 |
| SC-25703-S | 10/01/1999 | 1042676.38 | 753554.97 | 645.90 |
| SC-25704-S | 02/01/1999 | 1042660.36 | 753582.70 | 648.24 |
| SC-25704-S-01 | 09/26/1999 | 1042660.52 | 753583.07 | 646.48 |
| SC-25705-S | 10/22/1999 | 1042679.67 | 753481.05 | 627.48 |
| SC-25706-S | 10/14/1999 | 1042663.94 | 753509.66 | 631.58 |
| SC-25707-S | 10/01/1999 | 1042648.00 | 753538.14 | 645.29 |
| SC-25708-S | 10/01/1999 | 1042631.70 | 753566.71 | 646.49 |
| SC-25709-S | 10/14/1999 | 1042651.32 | 753464.70 | 630.65 |
| SC-25710-S | 10/14/1999 | 1042636.01 | 753493.87 | 633.77 |
| SC-25711-S | 10/01/1999 | 1042618.90 | 753522.34 | 644.70 |
| SC-25712-S | 10/01/1999 | 1042603.37 | 753550.54 | 646.63 |
| SC-25713-S | 10/14/1999 | 1042622.98 | 753448.58 | 631.20 |
| SC-25714-S | 10/14/1999 | 1042606.78 | 753477.25 | 633.28 |
| SC-25715-S | 10/01/1999 | 1042591.19 | 753506.33 | 646.06 |
| SC-25716-S | 10/01/1999 | 1042574.64 | 753534.99 | 647.15 |
| SC-25717-S | 10/14/1999 | 1042594.02 | 753432.84 | 631.66 |
| SC-25718-S | 10/14/1999 | 1042578.09 | 753461.50 | 635.29 |
| SC-25719-S | 10/01/1999 | 1042562.31 | 753490.02 | 646.23 |
| SC-25720-S | 10/01/1999 | 1042546.17 | 753518.43 | 646.63 |

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| SC-25801-S | 02/01/1999 | 1042644.22 | 753611.52 | 660.25 |
| SC-25801-S-01 | 09/26/1999 | 1042644.34 | 753611.69 | 648.56 |
| SC-25802-S | 05/07/1999 | 1042628.12 | 753640.19 | 654.85 |
| SC-25802-S-01 | 09/26/1999 | 1042628.51 | 753639.95 | 649.47 |
| SC-25803-S | 06/23/1999 | 1042611.60 | 753669.52 | 641.59 |
| SC-25804-S | 06/23/1999 | 1042596.35 | 753697.37 | 641 55 |
| SC-25805-S | 08/04/1999 | 1042615.90 | 753595.76 | 655.23 |
| SC-25805-S-01 | 09/27/1999 | 1042615.94 | 753595.20 | 649.53 |
| SC-25806-S | 05/07/1999 | 1042599.65 | 753624.48 | 654.24 |
| SC-25806-S-01 | 09/27/1999 | 1042600.05 | 753623.70 | 650.52 |
| SC-25807-S | 06/18/1999 | 1042583.64 | 753652.68 | 642.71 |
| SC-25808-S | 06/23/1999 | 1042567.88 | 753681.10 | 641.28 |
| SC-25809-S | 08/04/1999 | 1042587.31 | 753579.65 | 659 11 |
| SC-25809-S-01 | 09/27/1999 | 1042586.75 | 753579.42 | 650 65 |
| SC-25810-S | 05/07/1999 | 1042570.61 | 753608.24 | 654.26 |
| SC-25810-S-01 | 09/27/1999 | 1042571.76 | 753607.48 | 653.62 |
| SC-25811-S | 06/16/1999 | 1042555.24 | 753636.95 | 644.04 |
| SC-25812-S | 06/16/1999 | 1042539.98 | 753665.84 | 643.01 |
| SC-25813-S | 08/04/1999 | 1042558.64 | 753563.79 | 659.09 |
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| SC-25814-S-01 | 09/27/1999 | 1042542.77 | 753591.84 | 654.44 |
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| SC-25816-S | 06/16/1999 | 1042510.25 | 753648.99 | 646.08 |
| SC-25817-S | 08/04/1999 | 1042529.92 | 753547.82 | 654.81 |
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| SC-25818-S | 05/07/1999 | 1042513.76 | 753575.97 | 652.14* |
| SC-25818-S-01 | 09/27/1999 | 1042513.83 | 753575.65 | 651.63 |
| SC-25819-S | 06/08/1999 | 1042497.70 | 753604.73 | 647.99 |
| SC-25820-S | 06/08/1999 | 1042481.89 | 753633.14 | 650.07 |
| SC-25901-S-RS | 08/04/1999 | 1042501.23 | 753531.50 | 648.22 |
| SC-25902-S-RS | 08/04/1999 | 1042485.65 | 753558.95 | 647.89* |
| SC-25903-C | 06/08/1999 | 1042475.39 | 753611.12 | 649.43 |
| SC-25903-S | 06/08/1999 | 1042469.11 | 753588.62 | 650.11 |
| SC-25904-S | 06/08/1999 | 1042453.13 | 753616.99 | 652.92 |
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| SC-25907-S | 10/26/1999 | 1042440.46 | 753572.59 | 651.45 |
| SC-25908-S | 10/26/1999 | 1042424.44 | 753601.17 | 653.72* |
| SC-25909-S | 10/26/1999 | 1042444.05 | 753499.43 | 646.62 |
| SC-25909-S-RS | 11/03/1999 | 1042444.59 | 753499.37 | 645.88 |
| SC-25910-S | 10/26/1999 | 1042427.89 | 753527.51 | 649.41 |
| SC-25910-S-RS | 11/03/1999 | 1042430.75 | 753526.25 | 647.13 |
| SC-25911-S | 10/26/1999 | 1042412.55 | 753556.40 | 653.06 |
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| SC-25912-S | 10/26/1999 | 1042396.07 | 753585.35 | 656.44 |
| SC-25912-S-RS | 11/03/1999 | 1042397.46 | 753585.10 | 655.08 |
| SC-25913-S | 10/13/1999 | 1042415.48 | 753483.33 | 649.16 |
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| SC-26410-S | 09/15/1999 | 1042474.05 | 753177.54 | 644.83 |
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| SC-26412-C-01 | 09/30/1999 | 1042548.89 | 753013.74 | 646.09 |
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| SC-26418-S | 09/02/1999 | 1042444.75 | 753161.89 | 651.80 |

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| SC-26512-S | 09/02/1999 | 1042381.10 | 753276.64 | 651.76 |
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| SC-26709-S | 07/16/2000 | 1043553.46 | 753330.97 | 643.29 |
| SC-26711-S | 07/16/2000 | 1043540.76 | 753285.97 | 642.75 |
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| SC-26736-C | 07/16/2000 | 1043325.24 | 753032.83 | 638.67 |
| SC-26737-S | 07/16/2000 | 1043302.26 | 753039.76 | 638.61 |
| SC-26739-S | 07/16/2000 | 1043273.73 | 753023.80 | 637.54 |
| SC-26742-S | 07/16/2000 | 1043229.08 | 753036.33 | 636.62 |
| SC-26744-C | 07/16/2000 | 1043207.49 | 753037.78 | 636.14 |
| SC-26746-S | 07/16/2000 | 1043156.17 | 753033.25 | 633.77 |
| SC-26749-S | 07/16/2000 | 1043111.26 | 753045.80 | 632.08 |
| SC-26753-S | 07/16/2000 | 1043038.09 | 753042.71 | 628.99 |
| SC-26755-C | 07/16/2000 | 1043015.44 | 753051.81 | 629.33 |
| SC-26756-S | 07/16/2000 | 1042993.44 | 753054.75 | 629.09 |
| SC-26760-S | 10/29/1999 | 1042920.54 | 753051.23 | 627.11 |
| SC-26762-S | 10/29/1999 | 1042891.84 | 753035.11 | 628.70 |
| SC-26802-S | 10/29/1999 | 1042863.36 | 753019.67 | 630.95 |
| SC-26804-S | 11/02/1999 | 1042834.82 | 753003.29 | 635.09 |
| SC-26806-S | 11/02/1999 | 1042805.87 | 752987.09 | 636.11 |
| SC-26808-S | 11/02/1999 | 1042777.39 | 752971.33 | 637.34 |
| SC-26810-S | 11/02/1999 | 1042748.81 | 752955.32 | 638.62 |
| SC-26812-S | 11/02/1999 | 1042720.05 | 752939.33 | 639.77 |
| SC-26814-S | 11/03/1999 | 1042691.71 | 752923.63 | 641.13 |
| SC-26814-S-RS | 11/09/1999 | 1042691.09 | 752923.30 | 639.44* |
| SC-26816-S | 11/03/1999 | 1042664.46 | 752906.94 | 642.39 |
| SC-26816-S-RS | 11/09/1999 | 1042662.61 | 752907.25 | 640.70* |
| SC-26818-C | 11/03/1999 | 1042641.05 | 752913.90 | 643.40 |
| SC-26818-C-RS | 11/09/1999 | 1042642.24 | 752907.44 | 641.52* |
| SC-26818-S | 11/03/1999 | 1042634.58 | 752891.12 | 643.02 |
| SC-26818-S-RS | 11/09/1999 | 1042633.79 | 752891.31 | 642.23* |
| SC-26820-S | 11/03/1999 | 1042605.66 | 752875.07 | 643.47 |
| SC-26821-S | 11/03/1999 | 1042590.11 | 752904.39 | 644.85 |
| SC-26824-C | 11/03/1999 | 1042566.40 | 752908.90 | 643.26* |
| SC-26824-S | 11/03/1999 | 1042561.05 | 752887.87 | 644.56 |
| SC-26825-S | 07/02/1999 | 1042544.29 | 752916.11 | 643.64 |
| SC-26826-S | 07/02/1999 | 1042527.88 | 752944.80 | 645.12 |
| SC-26828-S | 11/03/1999 | 1042532.41 | 752871.73 | 643.48 |
| SC-26829-S | 07/02/1999 | 1042515.75 | 752900.25 | 643.16 |
| SC-26830-C | 07/02/1999 | 1042503.97 | 752948.73 | 645.63 |
| SC-26830-S | 07/02/1999 | 1042499.39 | 752928.55 | 644.69 |
| SC-26831-S | 07/02/1999 | 1042483.63 | 752957.33 | 645.68 |
| SC-26834-S | 07/02/1999 | 1042486.57 | 752884.11 | 643.12 |
| SC-26835-S | 07/02/1999 | 1042470.98 | 752912.81 | 643.19 |
| SC-26836-S | 07/02/1999 | 1042454.99 | 752941.43 | 644.23 |
| SC-26839-S | 07/02/1999 | 1042442.14 | 752896.90 | 642.88 |
| SC-26840-S | 07/02/1999 | 1042426.05 | 752925.64 | 643.43 |

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| SC-26842-S | 07/02/1999 | 1042414.07 | 752880.96 | 642.16* |
| SC-26843-S | 07/02/1999 | 1042397.15 | 752909.28 | 643.44 |
| SC-26901-S | 07/02/1999 | 1042467.47 | 752985.89 | 646.56 |
| SC-26902-S | 07/02/1999 | 1042451.34 | 753014.60 | 647.79 |
| SC-26903-S | 07/02/1999 | 1042435.16 | 753043.22 | 649.08 |
| SC-26904-S | 07/02/1999 | 1042419.45 | 753071.92 | 650.27 |
| SC-26905-S | 07/02/1999 | 1042403.35 | 753100.61 | 651.43 |
| SC-26906-S | 07/02/1999 | 1042438.77 | 752969.94 | 645.70 |
| SC-26907-S | 07/02/1999 | 1042422.48 | 752998.66 | 647.14 |
| SC-26908-S | 07/02/1999 | 1042406.53 | 753027.24 | 648.36 |
| SC-26909-S | 07/02/1999 | 1042390.59 | 753056.11 | 648.91 |
| SC-26910-S | 07/02/1999 | 1042374.36 | 753084.97 | 649.25 |
| SC-26911-S | 07/02/1999 | 1042409.94 | 752954.58 | 644 43 |
| SC-26912-S | 07/02/1999 | 1042393.92 | 752982.94 | 645 98 |
| SC-26913-S | 07/02/1999 | 1042377.76 | 753011.03 | 647.06 |
| SC-26914-C | 07/02/1999 | 1042368.64 | 753062.33 | 648.50 |
| SC-26914-S | 07/02/1999 | 1042361.96 | 753040.27 | 647.92 |
| SC-26915-S | 07/02/1999 | 1042346.01 | 753068.70 | 648.42 |
| SC-26916-C | 07/02/1999 | 1042387.76 | 752960.65 | 645.28 |
| SC-26916-S | 07/02/1999 | 1042381.50 | 752938.38 | 643.86 |
| SC-26917-S | 07/02/1999 | 1042365.44 | 752966.73 | 645.25 |
| SC-26918-S | 07/02/1999 | 1042349.26 | 752995.23 | 646.23 |
| SC-26919-S | 07/02/1999 | 1042333.55 | 753024.48 | 647.50 |
| SC-26920-S | 07/02/1999 | 1042317.48 | 753052.74 | 648.38 |
| SC-26924-S | 07/02/1999 | 1042304.67 | 753007.76 | 647.73 |
| SC-26925-S | 07/02/1999 | 1042288.63 | 753036.50 | 647.89 |
| SC-26928-C | 07/02/1999 | 1042272.36 | 753047.42 | 648.99 |
| SC-27001-S | 07/02/1999 | 1042387.37 | 753129.53 | 652.41 |
| SC-27002-S | 07/02/1999 | 1042371.27 | 753157.92 | 653.33 |
| SC-27002-S-01 | 09/30/1999 | 1042372.06 | 753158.13 | 652.57 |
| SC-27003-S | 07/02/1999 | 1042355.23 | 753186.69 | 654.27 |
| SC-27003-S-01 | 09/30/1999 | 1042355.94 | 753186.81 | 652.80 |
| SC-27004-S | 07/02/1999 | 1042339.29 | 753215.23 | 654.95 |
| SC-27004-S-01 | 09/30/1999 | 1042339.89 | 753215.55 | 653.69 |
| SC-27005-S | 07/02/1999 | 1042358.81 | 753113.51 | 650.10 |
| SC-27006-S | 07/02/1999 | 1042342.57 | 753141.63 | 650.84 |
| SC-27007-S | 07/02/1999 | 1042326.84 | 753170.67 | 651.54 |
| SC-27008-C | 07/02/1999 | 1042316.92 | 753221.75 | 654.67 |
| SC-27008-S | 07/02/1999 | 1042310.79 | 753199.11 | 653.65 |
| SC-27009-S | 07/02/1999 | 1042329.93 | 753097.29 | 649.53 |
| SC-27010-C | 07/02/1999 | 1042320.29 | 753148.36 | 649.85 |
| SC-27010-S | 07/02/1999 | 1042314.13 | 753125.87 | 650.21* |
| SC-27010-S-RS | 07/09/1999 | 1042313.74 | 753125.89 | 649.95 |
| SC-27011-S | 07/02/1999 | 1042297.67 | 753154.48 | 650.48 |
| SC-27012-S | 07/02/1999 | 1042281.55 | 753183.28 | 650.03 |
| SC-27013-S | 07/02/1999 | 1042301.40 | 753081.33 | 649.29 |
| SC-27014-S | 07/02/1999 | 1042285.75 | 753110.15 | 650.21 |
| SC-27015-S | 07/02/1999 | 1042269.89 | 753138.50 | 649.90* |
| SC-27015-S-RS | 07/09/1999 | 1042270.01 | 753138.55 | 649.83 |
| SC-27016-S | 07/02/1999 | 1042253.65 | 753166.89 | 649.73 |
| SC-27017-S | 07/02/1999 | 1042272.79 | 753065.28 | 648.56 |
| SC-27018-S | 07/02/1999 | 1042257.33 | 753094.17 | 648.61 |
| SC-27019-S | 07/02/1999 | 1042240.66 | 753122.55 | 649.52 |
| SC-27020-S | 07/02/1999 | 1042224.86 | 753151 15 | 649.39 |
| SC-27023-S | 07/02/1999 | 1042212.59 | 753106.50 | 649.30* |

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| SC-27024-S | 07/02/1999 | 1042195.97 | 753135.11 | 649.58 |
| SC-27103-C | 10/26/1999 | 1042320.09 | 753480.35 | 656.56* |
| SC-27104-S | 10/26/1999 | 1042314.02 | 753463.66 | 655.58 |
| SC-27105-C | 10/26/1999 | 1042302.15 | 753445.36 | 655.82 |
| SC-27110-S | 07/02/1999 | 1042322.91 | 753244.07 | 655.25 |
| SC-27110-S-01 | 09/30/1999 | 1042323.97 | 753243.91 | 654.20 |
| SC-27112-C | 10/26/1999 | 1042266.30 | 753379.20 | 658.01* |
| SC-27112-S | 10/26/1999 | 1042259.73 | 753358.42 | 657.03 |
| SC-27113-S | 07/02/1999 | 1042294.47 | 753227.99 | 653.86 |
| SC-27114-S | 07/02/1999 | 1042278.69 | 753256.49 | 655.61 |
| SC-27115-S | 07/02/1999 | 1042262.54 | 753284.93 | 656.73 |
| SC-27116-S | 11/05/1999 | 1042246.88 | 753313.86 | 657.32* |
| SC-27118-S | 07/02/1999 | 1042265.64 | 753211.95 | 650.37 |
| SC-27119-S | 07/02/1999 | 1042249.92 | 753240.53 | 651.23 |
| SC-27120-S | 07/02/1999 | 1042233.63 | 753269.43 | 652.58 |
| SC-27121-S | 07/02/1999 | 1042217.71 | 753297.65 | 654.60 |
| SC-27122-S | 07/02/1999 | 1042237.37 | 753195.67 | 649.37 |
| SC-27123-S | 07/02/1999 | 1042221.16 | 753224.22 | 650.53 |
| SC-27124-S | 07/02/1999 | 1042205.42 | 753253.06 | 652.18 |
| SC-27126-S | 07/02/1999 | 1042208.79 | 753179.69 | 648.86 |
| SC-27127-S | 07/02/1999 | 1042193.09 | 753208.51 | 649.34 |
| SC-27128-S | 07/02/1999 | 1042176.74 | 753237.16 | 650.06 |
| SC-27129-S | 07/19/1999 | 1042180.40 | 753163.90 | 648.27* |
| SC-27130-S | 07/19/1999 | 1042164.38 | 753192.39 | 648.08* |
| SC-27132-C | 07/02/1999 | 1042162.01 | 753173.61 | 648.55 |
| SC-27133-C | 07/19/1999 | 1042153.49 | 753192.77 | 648.06* |
| SC-39101-C | 10/29/1999 | 1042896.36 | 753061.36 | 628.01 |
| SC-39101-S | 10/29/1999 | 1042977.71 | 753083.31 | 625.93 |
| SC-39102-C | 10/29/1999 | 1042867.76 | 753044.51 | 630.35 |
| SC-39102-S | 10/29/1999 | 1042961.64 | 753112.15 | 626.43 |
| SC-39103-C | 11/02/1999 | 1042839.17 | 753028.77 | 631.60 |
| SC-39103-S | 10/06/1999 | 1042945.36 | 753140.81 | 625.69* |
| SC-39104-C | 11/02/1999 | 1042811.26 | 753012.43 | 631.97 |
| SC-39104-S | 10/29/1999 | 1042949.45 | 753067.65 | 625.89 |
| SC-39105-C | 10/12/1999 | 1042781.01 | 752998.28 | 634.67* |
| SC-39105-S | 10/29/1999 | 1042933.19 | 753095.94 | 626.89 |
| SC-39105-S-HSO1 | 11/04/1999 | 1042935.05 | 753096.32 | 628.78* |
| SC-39105-S-HSO2 | 11/04/1999 | 1042932.19 | 753098.42 | 629.25* |
| SC-39105-S-HSO3 | 11/04/1999 | 1042930.51 | 753096.15 | 329.04* |
| SC-39105-S-HSO4 | 11/04/1999 | 1042932.61 | 753093.87 | 628.64* |
| SC-39106-C | 10/12/1999 | 1042751.90 | 752983.11 | 636.28* |
| SC-39106-S | 10/06/1999 | 1042916.76 | 753124.50 | 626.68 |
| SC-39107-C | 10/12/1999 | 1042722.82 | 752967.86 | 637.59* |
| SC-39107-S | 10/29/1999 | 1042904.87 | 753080.02 | 627.28 |
| SC-39108-S | 10/06/1999 | 1042888.40 | 753108.85 | 628.23 |
| SC-39109-S | 10/29/1999 | 1042876.09 | 753063.90 | 628.92 |
| SC-39110-S | 10/06/1999 | 1042859.83 | 753092.71 | 629.68 |
| SC-39111-S | 10/12/1999 | 1042848.79 | 753046.62 | 630.63 |
| SC-39112-S | 10/06/1999 | 1042831.19 | 753076.54 | 631.21 |
| SC-39113-S | 10/12/1999 | 1042819.54 | 753030.84 | 632.53 |
| SC-39114-S | 10/06/1999 | 1042802.65 | 753060.54 | 632.69 |
| SC-39115-S | 10/12/1999 | 1042790.56 | 753015.65 | 633.82 |
| SC-39116-S | 10/06/1999 | 1042773.75 | 753044.37 | 634.63 |
| SC-39117-S | 10/12/1999 | 1042761.28 | 753001.01 | 635.35 |
| SC-39118-S | 10/06/1999 | 1042745.22 | 753028.62 | 636.27 |

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| SC-39119-S | 10/12/1999 | 1042733.95 | 752983.89 | 637.39 |
| SC-39120-S | 10/06/1999 | 1042717.03 | 753012.55 | 638.09 |
| SC-39121-S | 10/12/1999 | 1042704.50 | 752966.95 | 638.86 |
| SC-39122-S | 10/06/1999 | 1042688.28 | 752997.17 | 639.81 |
| SC-39123-S | 10/12/1999 | 1042676.06 | 752950.57 | 639.51 |
| SC-39124-S | 10/06/1999 | 1042659.22 | 752981.03 | 640.03 |
| SC-39201-C | 09/30/1999 | 1042479.51 | 753011.19 | 647.40 |
| SC-39201-S | 10/12/1999 | 1042646.44 | 752935.88 | 640.61* |
| SC-39202-C | 09/30/1999 | 1042462.11 | 753039.43 | 648.04 |
| SC-39202-S | 10/12/1999 | 1042630.42 | 752964.50 | 641.18* |
| SC-39203-C | 09/30/1999 | 1042446.66 | 753068.36 | 649.05 |
| SC-39203-S | 10/12/1999 | 1042617.80 | 752919.81 | 641.80* |
| SC-39204-C | 09/30/1999 | 1042431.53 | 753097.38 | 649.71 |
| SC-39204-S | 10/12/1999 | 1042601.74 | 752948.56 | 642.37* |
| SC-39205-C | 09/30/1999 | 1042415.45 | 753126.01 | 651.24 |
| SC-39205-S | 09/30/1999 | 1042586.10 | 752977.07 | 643.74 |
| SC-39206-C | 09/30/1999 | 1042398.96 | 753154.36 | 651.93 |
| SC-39206-S | 09/30/1999 | 1042573.24 | 752932.41 | 643.31* |
| SC-39207-C | 09/30/1999 | 1042383.01 | 753181.58 | 652.68 |
| SC-39207-S | 09/30/1999 | 1042557.58 | 752961.01 | 644.42 |
| SC-39208-C | 09/30/1999 | 1042365.52 | 753207.48 | 653.07 |
| SC-39208-S | 09/30/1999 | 1042541.38 | 752989.89 | 645.43 |
| SC-39209-C | 09/30/1999 | 1042346.76 | 753234.24 | 653.55 |
| SC-39209-S | 09/30/1999 | 1042512.85 | 752973.88 | 645.66 |
| SC-39210-C | 09/30/1999 | 1042327.65 | 753260.80 | 653.96 |
| SC-39210-S | 09/30/1999 | 1042496.68 | 753002.11 | 646.79 |
| SC-39211-C | 10/26/1999 | 1042292.28 | 753404.19 | 656 52 |
| SC-39211-S | 09/30/1999 | 1042480.89 | 753031.34 | 648.02 |
| SC-39212-C | 10/26/1999 | 1042336.77 | 753503.51 | 657.00 |
| SC-39212-S | 09/30/1999 | 1042465.13 | 753059.49 | 649.03 |
| SC-39213-S | 09/30/1999 | 1042448.49 | 753088.82 | 649.71 |
| SC-39214-S | 09/30/1999 | 1042433.09 | 753116.75 | 650.56 |
| SC-39215-S | 09/30/1999 | 1042416.60 | 753145.33 | 651.55 |
| SC-39216-S | 09/30/1999 | 1042400.48 | 753173.70 | 652.57 |
| SC-39217-S | 09/30/1999 | 1042307.94 | 753272.83 | 654.76 |
| SC-39218-S | 09/30/1999 | 1042291.84 | 753301.17 | 654.91 |
| SC-39219-S | 09/30/1999 | 1042276.04 | 753329.82 | 655.35 |
| SC-39220-S | 10/26/1999 | 1042301.28 | 753419.36 | 655.70 |
| SC-39301-C | 09/28/1999 | 1043009.39 | 753311.99 | 633.71 |
| SC-39301-S | 09/28/1999 | 1042996.17 | 753319.40 | 633.11 |
| SC-39302-C | 09/28/1999 | 1042973.83 | 753325.56 | 633.79 |
| SC-39302-S | 09/28/1999 | 1042980.33 | 753347.84 | 632.55 |
| SC-39303-C | 09/28/1999 | 1042925.74 | 753411.80 | 633.22 |
| SC-39303-S | 09/28/1999 | 1042964.08 | 753376 45 | 632.62 |
| SC-39304-C | 09/28/1999 | 1042877.21 | 753497.56 | 634.20* |
| SC-39304-S | 09/28/1999 | 1042948.19 | 753405.11 | 633.01 |
| SC-39305-C | 09/28/1999 | 1042829.48 | 753582.90 | 630.46 |
| SC-39305-S | 09/28/1999 | 1042932.23 | 753433.79 | 633.37 |
| SC-39306-C | 09/28/1999 | 1042806.79 | 753569.95 | 625.99 |
| SC-39306-S | 09/28/1999 | 1042916.21 | 753462.48 | 633.79 |
| SC-39307-S | 09/28/1999 | 1042899.78 | 753491.18 | 634.12 |
| SC-39308-S | 09/28/1999 | 1042883.86 | 753520.10 | 634.77 |
| SC-39309-S | 09/28/1999 | 1042867.60 | 753548.52 | 635.42 |
| SC-39310-S | 09/28/1999 | 1042851.88 | 753577.61 | 636.19 |
| SC-39311-S | 09/28/1999 | 1042983.59 | 753274.61 | 629.65 |

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| SC-39312-S | 09/28/1999 | 1042967.54 | 753303.40 | 628.36 |
| SC-39313-S | 09/28/1999 | 1042951.57 | 753331.69 | 629.72 |
| SC-39314-S | 09/28/1999 | 1042935.76 | 753360.67 | 630.75 |
| SC-39315-S | 09/28/1999 | 1042919.66 | 753389.55 | 630.33 |
| SC-39316-S | 09/28/1999 | 1042903.46 | 753417.77 | 630.92 |
| SC-39317-S | 09/28/1999 | 1042887.61 | 753446.76 | 630.44 |
| SC-39318-S | 09/28/1999 | 1042871.28 | 753475.15 | 631.17 |
| SC-39319-S | 09/28/1999 | 1042855.49 | 753504.12 | 631.69 |
| SC-39320-S | 09/28/1999 | 1042839.04 | 753532.55 | 632.94 |
| SC-39321-S | 09/28/1999 | 1042823.51 | 753561.15 | 633.02 |
| SC-39322-S | 09/28/1999 | 1042807.54 | 753589.71 | 630.82 |
| SC-39401-C | 09/24/1999 | 1042990.88 | 753222.61 | 633.29 |
| SC-39401-S | 09/24/1999 | 1043018.64 | 753144.67 | 635.28 |
| SC-39402-C | 09/24/1999 | 1042996.41 | 753150.18 | 634.29 |
| SC-39402-S | 09/24/1999 | 1043003.08 | 753172.63 | 634.44 |
| SC-39403-C | 09/24/1999 | 1042980.41 | 753179.34 | 635.55 |
| SC-39403-S | 09/24/1999 | 1042987.05 | 753201.21 | 633.44 |
| SC-39404-C | 09/24/1999 | 1042968.41 | 753134.32 | 637.62* |
| SC-39404-C-RS | 09/28/1999 | 1042968.41 | 753134.32 | 636.35* |
| SC-39404-S | 09/24/1999 | 1042971.10 | 753229.99 | 633.71 |
| SC-39405-C | 09/24/1999 | 1042951.70 | 753163.31 | 634.91* |
| SC-39406-S | 09/24/1999 | 1042974.47 | 753156.66 | 636.28 |
| SC-39407-S | 09/24/1999 | 1042957.91 | 753185.27 | 633.61 |

* approximate elevation as determined by as-built topo.

# APPENDIX D
## Interoffice Correspondence

MORRISON KNUDSEN CORPORATION
MK-FERGUSON GROUP

INTER-OFFICE CORRESPONDENCE

DATE: September 27, 1999

TO: Soil Confirmation File

FROM: Eric Danielson

SUBJECT: **CHANGES TO RU021 DUE TO NEW CONTAMINATION AREAS**

1. **RPX-29**, a PAH in-situ area was created after the *Confirmation Sampling Plan Details for the Disposal Cell Facility (WP-437)* (hereafter "the sampling plan") was issued. This in-situ area covers areas on and near the Raffinate Pit 4 berm where prior to the development of RPX-29, confirmation was not necessary. RPX-29 also extends into existing confirmation units where PAH samples were not to be taken. Therefore, the following changes to the sampling plan are necessary:

   A. Creation of CU391 (Figure attached) to confirm that portion of RPX-29 on the west berm of raffinate pit 4 that was not previously covered by an existing confirmation unit. Parameters include uranium, radium-226/228, thorium-230/232, and PAHs.

   B. Creation of CU392 (Figure attached) to confirm that portion of RPX-29 on the south berm of raffinate pit 4 that was not previously covered by an existing confirmation unit. Parameters include uranium, radium-226/228, thorium-230/232, and PAHs.

   C. Addition of PAHs to existing sample points that fall within RPX-29. These points are shown on Attachment 1.

2. **RPX-35**: In-situ area RPX-35 was developed after the sampling plan was issued because of the placement of contaminated soils at the intermediate dike of raffinate pit 4. Once this dike is removed, the soils left behind RPX-35 will require confirmation. Therefore, the following changes to the sampling plan are necessary:

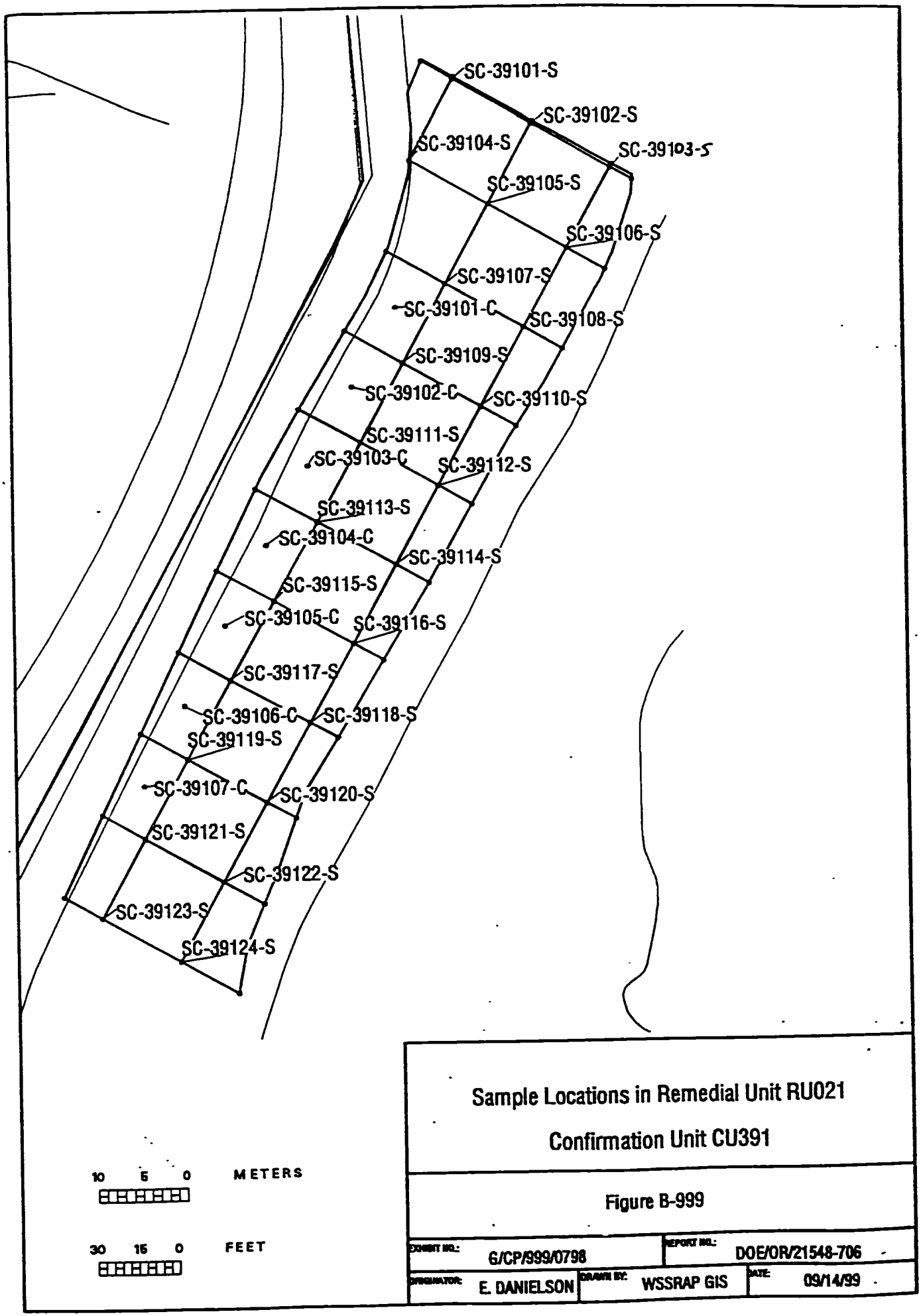
A. Creation of CU393 (Figure attached) to confirm that portion of RPX-35 that extends into the former WP471 work zone. Because the soil used to build the intermediate dike came from Ash Pond, confirmation parameters will include uranium, radium-226/228, thorium-230/232, arsenic, chromium, lead, thallium, TNT, PCBs and PAHs.

B. Addition of arsenic, chromium, lead, thallium, TNT, PCBs, and PAHs to existing points that fall within RPX-35. These points are shown on Attachment 2.

3. An area showing elevated radiological activity was discovered immediately west of the intermediate dike. This area was found while excavating soil that was previously confirmed during WP471. Excavation of this contaminated soil will be guided by radiological walkover surveys. Confirmation samples will then be taken. Therefore, creation of CU394 (figure attached) was necessary to confirm the successful removal of contaminated soil from the area. Parameters include uranium, radium226/228, and thorium-230/232.

ED/jn

Cc: M. Lutz
S. Warren
N. Twesten
K. Cullinan
T. Christopher
K. Hamilton

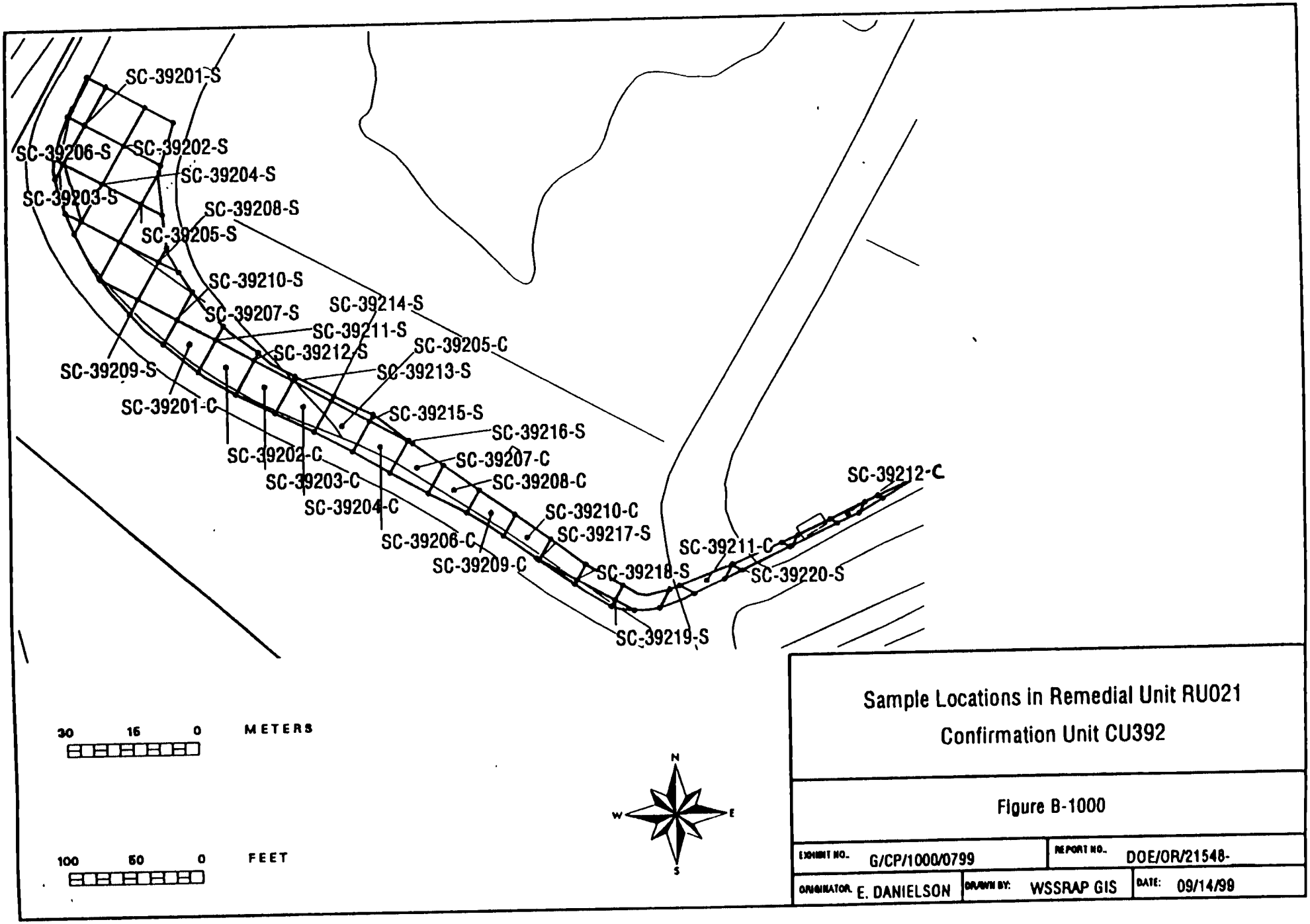



Sample Locations in Remedial Unit RU021

Confirmation Unit CU391

Figure B-999

| | | | |
|---|---|---|---|
| EXHIBIT NO.: G/CP/999/0798 | | REPORT NO.: DOE/OR/21548-706 | |
| ORIGINATOR: E. DANIELSON | DRAWN BY: WSSRAP GIS | DATE: 09/14/99 | |




Sample Locations in Remedial Unit RU021
Confirmation Unit CU392

Figure B-1000

| | | | |
|---|---|---|---|
| EXHIBIT NO. G/CP/1000/0799 | | REPORT NO. DOE/OR/21548- | |
| ORIGINATOR: E. DANIELSON | DRAWN BY: WSSRAP GIS | DATE: 09/14/99 | |

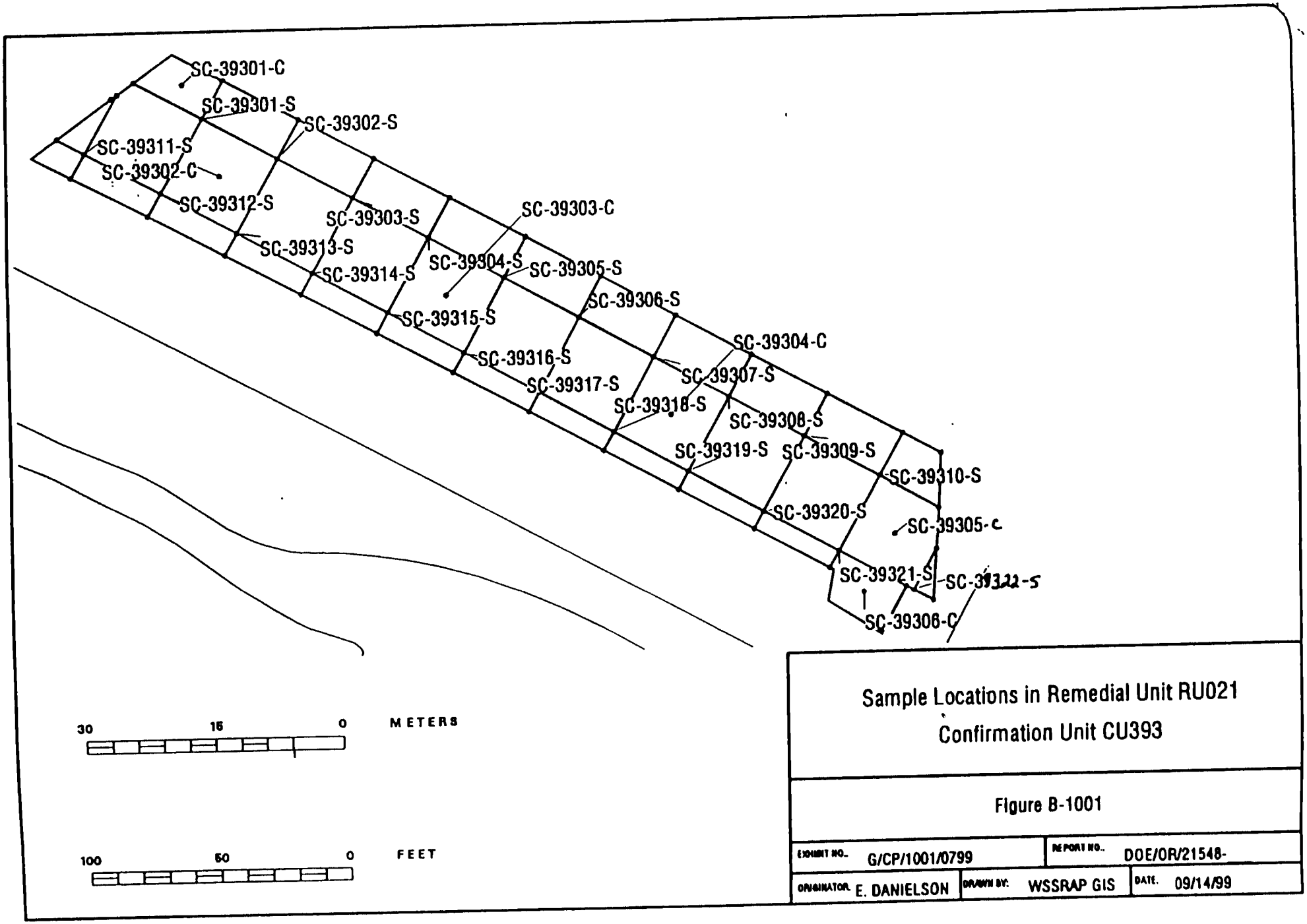
**Attachment 1**

PAHs are added to the analyte list for these existing sample points that fall within RPX-29.

| | | | | | |
|---|---|---|---|---|---|
| SC-25310-S | SC-25402-S | SC-26301-C | SC-26401-S | SC-26509-S | SC-26609-S |
| SC-25311-S | SC-25403-S | SC-26302-S | SC-26406-S | SC-26510-S | SC-26610-S |
| SC-25312-S | SC-25404-S | SC-26303-S | SC-26407-S | SC-26511-S | SC-26613-S |
| SC-25315-C | SC-25406-C | SC-26304-S | SC-26412-C | SC-26512-S | SC-26614-S |
| SC-25316-S | SC-25407-S | SC-26306-S | SC-26413-S | SC-26514-S | SC-26615-S |
| SC-25317-S | SC-25408-S | SC-26307-S | SC-26414-S | SC-26515-S | SC-26618-C |
| SC-25318-S | SC-25409-S | SC-26308-S | SC-26415-S | SC-26516-S | |
| SC-25321-C | SC-25412-S | SC-26309-C | SC-26416-S | | |
| SC-25322-S | SC-25413-S | SC-26310-S | SC-26417-S | | |
| SC-25323-S | SC-25414-S | SC-26311-S | SC-26418-S | | |
| SC-25324-S | SC-25417-S | SC-26312-S | SC-26421-C | | |
| | SC-25418-S | SC-26314-S | SC-26423-C | | |
| | SC-25419-S | SC-26315-S | SC-26425-C | | |
| | | SC-26316-S | | | |
| | | SC-26318-S | | | |
| | | SC-26319-S | | | |
| | | SC-26320-S | | | |
| | | SC-26323-S | | | |
| | | SC-26324-S | | | |

---

| | | | | |
|---|---|---|---|---|
| SC-26760-S | SC-26802-S | SC-26901-S | SC-27001-S | SC-27110-S |
| SC-26762-S | SC-26804-S | SC-26902-S | SC-27002-S | |
| | SC-26806-S | SC-26903-S | SC-27003-S | |
| | SC-26808-S | SC-26904-S | SC-27004-S | |
| | SC-26810-S | SC-26905-S | | |
| | SC-26812-S | | | |
| | SC-26814-S | | | |
| | SC-26816-S | | | |
| | SC-26818-S | | | |
| | SC-26818-C | | | |
| | SC-26826-S | | | |
| | SC-26830-C | | | |




Sample Locations in Remedial Unit RU021
Confirmation Unit CU393

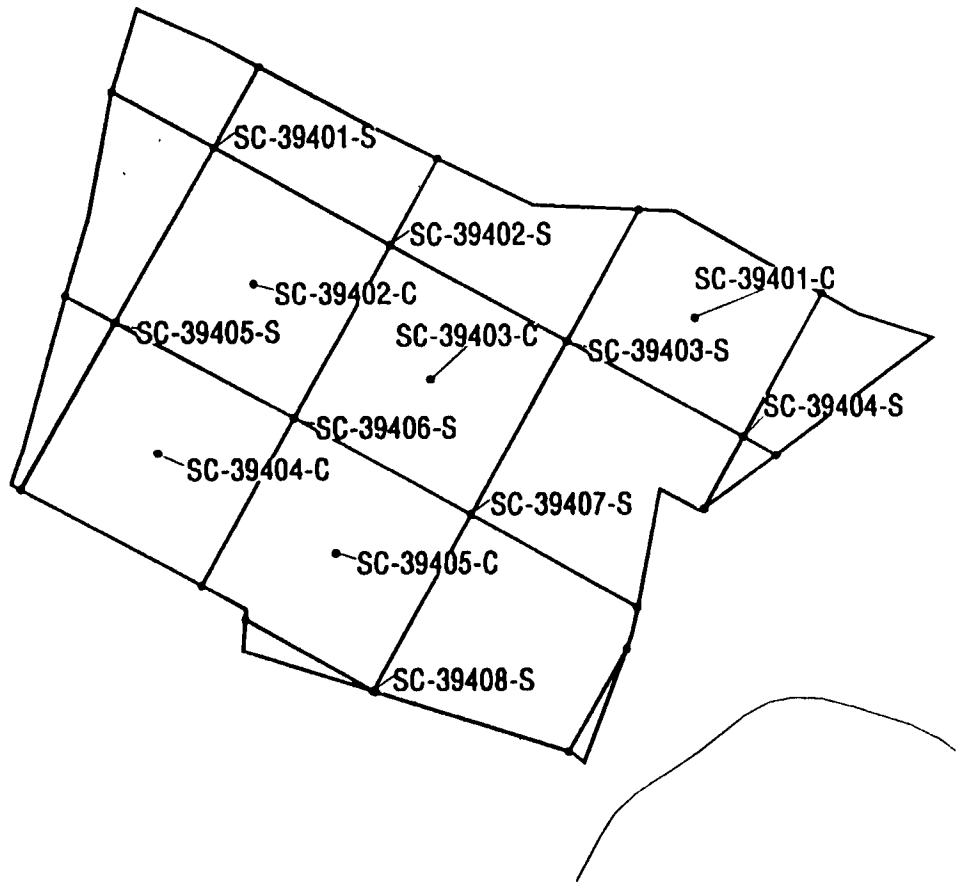
Figure B-1001

| | | | |
|---|---|---|---|
| EXHIBIT NO. G/CP/1001/0799 | | REPORT NO. DOE/OR/21548- | |
| ORIGINATOR E. DANIELSON | DRAWN BY: WSSRAP GIS | DATE 09/14/99 | |

**Attachment 2**

Arsenic, chromium, lead, thallium, TNT, PCBs and PAHs are added to the analyte list for these existing points that fall within RPX-35.

| | | | |
|---|---|---|---|
| SC-24620-S | SC-25101-S | SC-25201-S | SC-25301-C |
| | SC-25108-S | SC-25202-S | SC-25302-S |
| | SC-25115-S | SC-25202-C | SC-25303-S |
| | | SC-25203-S | SC-25303-C |
| | | SC-25204-S | SC-25304-S |
| | | SC-25204-C | SC-25306-S |
| | | SC-25205-S | SC-25307-S |
| | | SC-25206-S | SC-25308-S |
| | | SC-25206-C | SC-25309-S |
| | | SC-25207-S | SC-25312-S |
| | | SC-25208-S | SC-25313-S |
| | | SC-25209-S | SC-25314-S |
| | | SC-25210-S | |
| | | SC-25211-S | |
| | | SC-25212-S | |
| | | SC-25213-S | |
| | | SC-25214-S | |
| | | SC-25215-S | |
| | | SC-25216-S | |
| | | SC-25217-S | |
| | | SC-25218-S | |
| | | SC-25219-S | |
| | | SC-25220-S | |
| | | SC-25221-S | |
| | | SC-25222-S | |
| | | SC-25223-S | |
| | | SC-25224-S | |




30 15 0 METERS

100 50 0 FEET

Sample Locations in Remedial Unit RU021
Confirmation Unit CU394

Figure B-999

| | | | |
|---|---|---|---|
| EXHIBIT NO. G/CP/999/0799 | | REPORT NO. DOE/OR/21548- | |
| ORIGINATOR E. DANIELSON | DRAWN BY WSSRAP GIS | DATE: 09/23/99 | |

**MORRISON KNUDSEN CORPORATION**
Federal Programs Division

**INTER-OFFICE CORRESPONDENCE**

DATE: **November 11, 1999**

TO: **Soil Confirmation File**

FROM: **Melissa Lutz** ML

SUBJECT: **UPDATE TO THE IOC "CHANGES TO RU021 DUE TO NEW CONTAMINATION AREAS" DATED SEPTEMBER 27, 1999**

There were a number of sample locations in the above referenced IOC that were identified as falling within two in-situ areas: RPX-29 and RPX-35. At the time, this was a conservative estimate. Upon completing sampling activities in these areas, corrections need to be made concerning which sample locations were not actually located within the boundaries of either RPX.

The following sample locations were not sampled as part of RPX-29:

| | |
|---|---|
| SC-25404-S | SC-26609-S |
| SC-25409-S | SC-26610-S |
| SC-25414-S | SC-26826-S |
| SC-25419-S | SC-26830-C |
| SC-26304-S | SC-26901-S |
| SC-26308-S | SC-26902-S |
| SC-26312-S | SC-26903-S |
| SC-26316-S | SC-26904-S |
| SC-26401-S | SC-26905-S |
| | SC-27001-S |

The following sample locations were not sampled as part of RPX-35:

| | |
|---|---|
| SC-25115-S | SC-25222-S |
| SC-25217-S | SC-25223-S |
| SC-25218-S | SC-25224-S |
| SC-25219-S | SC-25306-S |
| SC-25220-S | SC-25313-S |
| SC-25221-S | SC-25314-S |

Figures showing the above sample locations and their relationship to the appropriate insitu area have been included for your reference. If there are any questions, please contact myself at extension 3544 or Linda Broody at extension 2937.

Attachments

cc: Linda Broody
Nick Twesten
Steve Warren (w/o attachments)
Jim Meier (w/o attachments)
Karen Cullinan
Tim Christopher
Karl Hamilton

ML/lac

MORRISON KNUDSEN CORPORATION
MK-FERGUSON GROUP

INTER-OFFICE CORRESPONDENCE

DATE: April 27, 1999

TO: Dan Hoffman

FROM: Dave Cowell DC

SUBJECT: RA-226 RECOUNTS

In an effort to eliminate repetitive work, the on-site lab performed a study to determine if recounts 30 days after sealing sample cans was necessary for samples that have background or near background Ra-226 concentrations. As a result of the study, the lab will now only perform Ra-226 recounts for samples that fail the Radium ALARA preliminary calculation.

This calculation will involve multiplying the Ra-226 result by a correction factor of 2.27 (established in an IOC dated 11/17/95) and adding it to the Ra-228 result. If this result is greater than 5 pCi/g then that sample will be held and recounted 30 days later with the intention of reducing the final reported value.

This approach is conservative because the correction factor of 2.27 was established using samples with concentrations of up to 8 pCi/g. Samples having near background concentrations of Ra-226 do not ingrow to that level. Additionally, the correction factor was intended identify samples with Ra-226 levels that could exceed 5 pCi/g and did not account for the contribution from Ra-228, which we will include in this new calculation.

The attached page is included to illustrate the results of the study.

DC/jn

Attachment

Cc: Jim Meier
Steve Warren
Dave Hixson
John Coniglio
Melissa Lutz
Randy Thompson

Form 220-A 03/92

MORRISON KNUDSEN CORPORATION

MK-FERGUSON GROUP

INTER-OFFICE CORRESPONDENCE

DATE: November 17, 1995

TO: ALARA Committee

FROM: Michelle French/Richard Machado

SUBJECT: RA-226 DETERMINATION FOR SITE CONFIRMATION SAMPLES

Background

The issue surrounding Ra-226 analysis via gamma spectroscopy arises due to the fact that the Ra-226 soil concentration is determined by using the following energy peaks: 295 keV and 352 keV for Pb-214; and 609 keV, 1120 keV, and 1764 keV for Bi-214. These radionuclides are both short-lived daughters of Rn-222. The drying and grinding processes are known to drive off Rn-222 that is trapped in the soil pores and moisture held in the soil. In order to quantitatively identify Ra-226 using gamma spectroscopy, Rn-222 and its short-lived progeny must be allowed to grow into secular equilibrium following such sample preparation techniques. The following alternatives were evaluated for estimating the Ra-226 concentration in soil given gamma spectroscopy analysis within five working days of sample collection.

Alternative 1

Send all samples requiring Ra-226 analysis to an offsite laboratory. At offsite facilities, Ra-226 is typically analyzed through alpha spectroscopy which does not rely on the Ra-222 daughter products to provide a quantitative result. The minimum turnaround time that can be provided for alpha spectroscopy analysis for Ra-226 is four days. At one and two day turnaround times, the method for analysis is modified to use Gas Flow Proportional Counting for total alpha counting yielding a total radium number with no separation of isotopic contributions. Given the four day turnaround time and an estimate of 750 samples (WP-253 and WP-420), the total analytical costs will be $95,250.

The major disadvantage in this approach is the tight schedule involved with sample collection, packaging, shipping, data receipt, data review, and ALARA committee action. It may be impossible to accomplish this within five working days given the four day turnaround requirement.



11-21-95

Alternative 2

As stated above, the drying and grinding processes are known to drive off radon that is trapped in the soil matrix. However, the amount of radon removed from these processes is not quantified. If you were to assume that all the radon is removed during these processes and the time of final preparation was recorded, a correction factor can be applied based upon the secular equilibrium condition equation. For example, the following table summarizes the ratio of activity of Rn-222 to the activity of Ra-226.

| A(Rn-222)/A(Ra-226) | Time Post Canning (Days) |
|---|---|
| 0.167 | 1 |
| 0.306 | 2 |
| 0.422 | 3 |
| 0.665 | 6 |
| 0.807 | 9 |
| 0.888 | 12 |
| 0.935 | 15 |
| 0.963 | 18 |
| 0.978 | 21 |
| 0.987 | 24 |
| 0.993 | 27 |
| 0.996 | 30 |

Thus, if the samples were counted three days post canning, a correction factor of 0.422 would be used to determine the estimated final Ra-226 concentration. Given this approach, any concentration determined three days post preparation would be divided by 0.422 to arrive at the final concentration. For a 5 pCi/g ALARA goal, any result above 2.1 pCi/g would be rejected.

The major limitation with this approach is the assumption that the drying and grinding processes remove 100% of the radon. Samples that have been analyzed within one day of preparation have never yielded results much below expected background concentrations (0.8-1.0 pCi/g).

Thus, the use of a correction factor on the order of 0.167 could result in a very conservative approach for estimating the final Ra-226 soil concentration in background soils (in fact all samples analyzed one day after canning would equal or exceed 5 pCi/g).

Alternative 3

All samples that are collected to support confirmation can be analyzed as wet samples to virtually eliminate the radon removal that occurs during sample preparation. However, there are numerous considerations, such as sample homogeneity, particle size, moisture content variability, etc., that can produce error in such analyses. If the samples are analyzed wet, they would also be prepared and analyzed to provide final concentrations for each radionuclide of interest for the sample. This dry evaluation would require an analysis within the confirmation cleanup turnaround period and a second analysis within 20-30 days later to finalize Ra-226 concentrations to an acceptable quality level. This approach would involve three analyses of every sample. The initial wet analysis can be used to estimate the final Ra-226 concentration. However, this estimate must be made on a case by case basis through moisture corrections, etc.

The major limitation for this approach is the reduction in lab productivity as an extra canning effort would be needed to generate a wet and a dry sample for each sample and count time for each sample would increase by a factor of three.

Alternative 4

Over the last several months, the onsite radiological laboratory has been recounting samples that were analyzed during the months of April - September 1995. These reanalyses were done in order to support final analyses of SE Drainage and Quarry characterization samples. The graph on the attached page illustrates a portion of the recount results versus the initial results. The graph includes those samples that had initial Ra-226 results < 5 pCi/g. As illustrated, the background - 2.2 pCi/g sample range had 100% of all sample recounts fall less than 5 pCi/g. For those in the range of 2.2 - 3.2 pCi/g, the likelihood of exceeding 5 pCi/g was approximately 50%. All of the samples with initial results greater than 3.2 pCi/g had final Ra-226 results > 5 pCi/g.

This information can be used to establish a criteria about which samples can be said to meet the ALARA goal of 5 pCi/g within the five working day turnaround window.

Given the current study findings, it is recommended that any sample with an initial Ra-226 result > 2.2 pCi/g be expected to exceed the ALARA goal of 5 pCi/g. In addition, the estimated final Ra-226 soil concentration should be found by multiplying the initial result by 2.27 (2.2 pCi/g x 2.27 = 5 pCi/g). This correction factor is very close to the maximum increase from initial results to recount results (e.g., 2.56) in the background to 2.2 pCi/g concentration range. The average increase from initial results to recount results for this range was 1.51. However, use of a value closer to the maximum value affords less risk in exceeding expected confirmation goals. The laboratory will work to refine these numbers to further minimize the risk as they continue to recount samples collected over the last few months. The major limitation with this alternative is the potential to over excavate, increasing disposal costs.

Alternative 5

This alternative involves a combination of alternatives 3 and 4. Samples that do not have elevated direct survey results via a 2x2 NaI or a 44-9 survey should be prepared and evaluated in accordance with alternative 4. Samples that do have above background survey results will be analyzed wet and evaluated accordingly to determine the estimated final Ra-226 concentration. The sample will then be prepared and analyzed a second time to provide quality level data for the other radionuclides of interest. In addition, each prepared sample would be analyzed within 30 days after preparation to finalize the Ra-226 concentration to an acceptable quality level.

The major limitation with this approach is the loss in productivity as a result of the double canning needs and increased count times for a portion of the samples.

Recommendation

The Onsite Radiological Laboratory recommends the use of alternative 4. This alternative minimizes risk of failing to meet expected cleanup ALARA goals and provides for maximum efficiency/productivity within the laboratory. The second favorable alternative is number 5. This alternative would increase the workload in the laboratory, but would further reduce the risk of over excavation and failure to meet desired cleanup objectives.

In all of the above alternatives, the estimated final Ra-226 concentration will be used in conjunction with the measured Ra-228 concentration as follows to determine if the mixture rule for the ALARA goals as described in the Record of Decision is achieved.

$$\frac{\text{Est. Final Ra-226 (pCi/g)}}{\text{5 pCi/g}} + \frac{\text{Ra-228 (pCi/g)}}{\text{5 pCi/g}} = \text{Mixture Ratio}$$

If mixture ratio <= 1, then the sample meets cleanup confirmation design. If mixture ratio > 1, then the sample must be considered by the ALARA committee.

MLF/RM/pr

Attachment

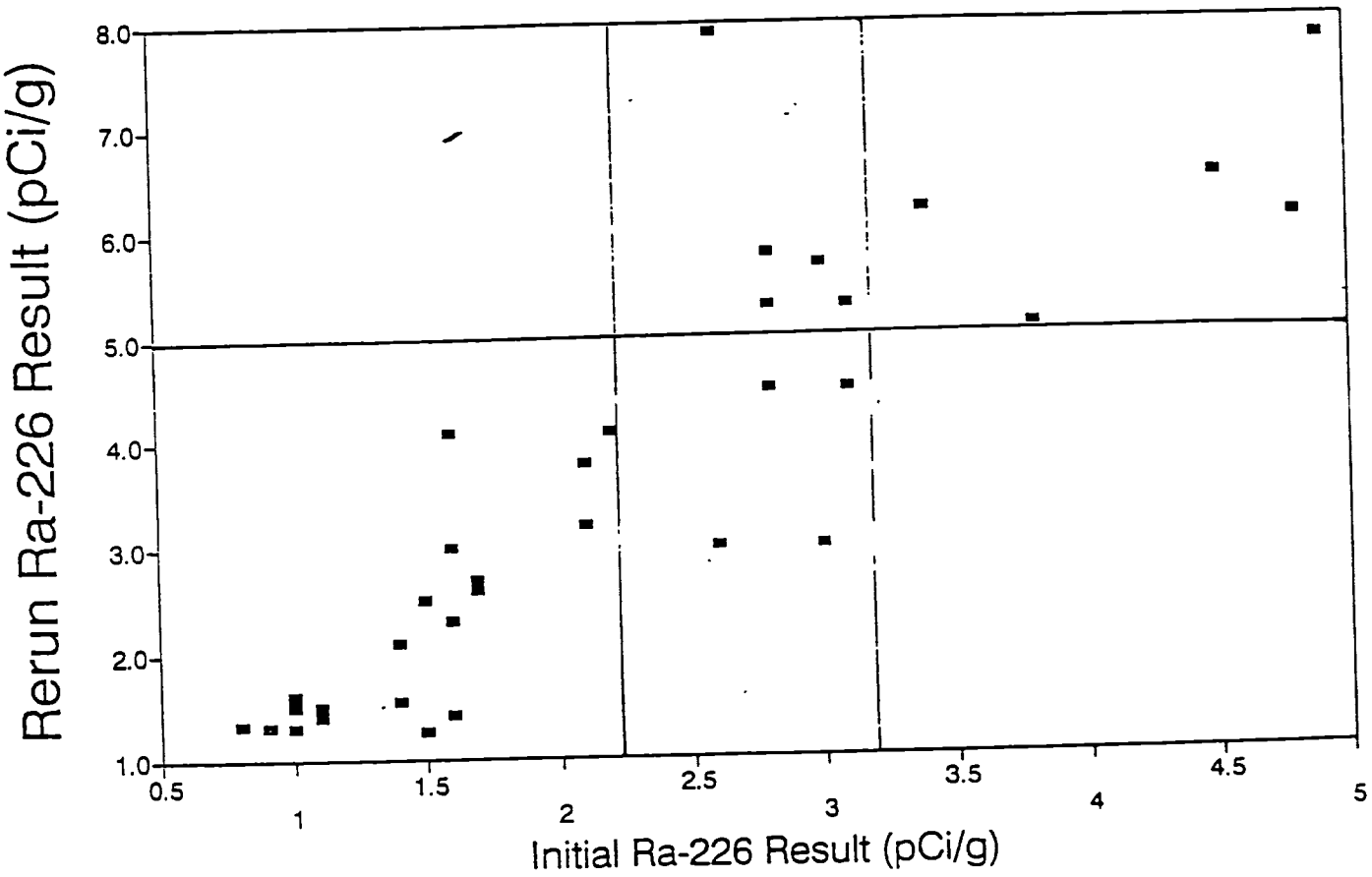
Distribution:

| | | |
|---|---|---|
| Ken Meyer | Alternates: | Marj Wesley |
| Steve Warren | | Jack Cooney |
| Ken Greenwell | | Dan Hoffman |
| Jim Meier | | |

cc: Melissa Lutz

# Ra226 Concentration Range

## Background - 5.0 pCi/g



MORRISON KNUDSEN CORPORATION
MK-FERGUSON GROUP

INTER-OFFICE CORRESPONDENCE

DATE: November 20, 1995

TO: ALARA Committee

FROM: Richard Machado/Michelle French MF

SUBJECT: TH232 DETERMINATION FOR SITE CONFIRMATION SAMPLES

Th232 can occur in two forms at the site: (1) naturally and (2) processed to purify Th232. Both of these forms are subject to the same transformation equation. Given a Th232 half life of 1.39 x $10^{10}$ years and a Ra228 half life of 5.75 years, a condition known as secular equilibrium occurs. Secular equilibrium occurs when the half life of the parent is very much greater than that of the daughter. If an initially pure parent (Th232) is formed, its radioactive transformation will result in accumulation of the daughter (Ra228). Since the daughter (Ra228) decays very much faster than the parent (Th232), a point is soon reached at which the amount of parent (Th232) present is equal to that of the daughter (Ra228).

The equation that represents this condition of secular equilibrium is:

$$Q_B = Q_A (1 - e^{-\lambda_B t})$$

where $Q_A$=parent (Th232) activity, $Q_B$=daughter (Ra228) activity, t=time since placement of material, and $\lambda_B$=decay constant for daughter (Ra228). Therefore, the fraction of daughter activity to parent activity

$$\left(\frac{A(RA\text{-}228)}{A(Th\text{-}232)}\right)$$

present at the WSSRAP in 1995 can be calculated.

Assume that production ceased at the site on January 1, 1965, and that all Th232 was produced on that very last day (t=30.9 years). Given a half life for Ra228 of 5.75 years, the decay constant would equal

$$(\lambda_B = 0.121\ Y^{-1})$$

11-30-95

Form 232-A 03/89m:\users\nvlini\document\alara.Rm

Given this information, the ratio of Ra228 activity to Th232 activity can be calculated as follows:

$$\frac{Q_B}{Q_A} = \frac{A\,(Ra\text{-}228)}{A\,(Th\text{-}232)} = 1 - e^{-\lambda_B t}$$

$$\frac{A\,(Ra228)}{A\,(Th232)} = 1 - e^{-(0.121Y^{-1})\,(30.9Y)} = 1 - 0.024 = 0.976$$

$$\therefore \frac{A\,(Ra\text{-}228)}{A\,(Th\text{-}232)} = 0.976 \quad or \quad A\,(Th\text{-}232) = 1.025\,A\,(Ra\text{-}228)$$

This representation will be true for both naturally occurring Th232 and processed Th232. The other situation to be addressed includes the circumstance when Ra228 and associated decay products were placed as a waste material after purification of Th232. In this situation, the amount of Ra228 present will be much greater than the Th232 present. This information is illustrated in a previous assessment of the ratio of Ra228 concentrations to that of Th232 in raffinate pit wastes. The average ratio was reported as 7.02 in the *Concentration Ratios of Radionuclides* in the U238, U235, and Th232 *Decay Series* (DOE/OR/21548-250), indicating that the average activity concentration for Th232 is 0.14 of the activity concentration for Ra228.

The Record of Decision states that if Th232 and Ra228 are present and not in secular equilibrium, the cleanup criteria apply for the radionuclide with the higher concentration. Thus, for determination of successful cleanup, the use of a Ra-228 ALARA goal of 4.88 pCi/g and a criteria of 6.05 pCi/g will result in removing Th232 to within 5 pCi/g (ALARA) and 6.2 pCi/g (criteria), respectively.

Given this practice, it is recommended that the on-site radiological analyses for Ra-228 concentrations in soil be used to determine attainment of Th-232 cleanup. It is also recommended that 2% of the samples (1 of every 50) that are independently analyzed via an off-site facility be used as a quality check for all radionuclides of interest (U238, Th230, Th232, Ra228, and Ra226). In addition, these numbers should be summarized in post remediation reports for each work package to support the decision to use Ra228 to determine successful cleanup of Th232.

RM/MF/jn

Distribution: ALARA Committee

Steve Warren
Ken Meyer
Ken Greenwell
Jim Meier

Alternates:
Marj Wesley
Jack Cooney
Dan Hoffman
Melissa Lutz

MORRISON KNUDSEN CORPORATION
MK-FERGUSON GROUP

INTER-OFFICE CORRESPONDENCE

DATE: April 27, 1999

TO: Dan Hoffman

FROM: Dave Cowell DC

SUBJECT: RA-226 RECOUNTS

In an effort to eliminate repetitive work, the on-site lab performed a study to determine if recounts 30 days after sealing sample cans was necessary for samples that have background or near background Ra-226 concentrations. As a result of the study, the lab will now only perform Ra-226 recounts for samples that fail the Radium ALARA preliminary calculation.

This calculation will involve multiplying the Ra-226 result by a correction factor of 2.27 (established in an IOC dated 11/17/95) and adding it to the Ra-228 result. If this result is greater than 5 pCi/g then that sample will be held and recounted 30 days later with the intention of reducing the final reported value.

This approach is conservative because the correction factor of 2.27 was established using samples with concentrations of up to 8 pCi/g. Samples having near background concentrations of Ra-226 do not ingrow to that level. Additionally, the correction factor was intended identify samples with Ra-226 levels that could exceed 5 pCi/g and did not account for the contribution from Ra-228, which we will include in this new calculation.

The attached page is included to illustrate the results of the study.

DC/jn

Attachment

Cc: Jim Meier
Steve Warren
Dave Hixson
John Coniglio
Melissa Lutz
Randy Thompson

# APPENDIX E
## Hot Spot Tables

Table E-1 Summary of Areas Identified by ORISE Having Elevated Readings[a]

| WSSRAP_ID | CU Number [b] | ORISE 1x1 Reading (Background reading) | Pre-remediation Results (pCi/g) [c] | Post-remediation Results |
|---|---|---|---|---|
| SC-22107-S-HS01/RS01 | 221 (Figure 4-2) | 6k (3k – 4k) | Total Radium > Criteria | Results < ALARA |
| SC-22107-S-HS02 | 221 (Figure 4-2) | 8k (3k – 4k) | All results < Criteria | N/A |
| SC-22107-S-HS03/RS03 | 221 (Figure 4-2) | 7k (3k – 4k) | Total Radium > Criteria | Results < ALARA |
| SC-22107-S-HS04 | 221 (Figure 4-2) | 6k (3k – 4k) | All results < Criteria | N/A |
| SC-24705-S-RS01 | 247 (Figure 4-28) | 8k (4k) | Area excavated without sampling | Results < ALARA |
| SC-24715-S-RS01 | 247 (Figure 4-28) | 20k (4k) | Area excavated without sampling | Results < ALARA |
| SC-24716-S-RS01 | 247 (Figure 4-28) | 20k (4k) | Area excavated without sampling | Results < ALARA |
| SC-24816-S-RS01 | 248 (Figure 4-29) | 24k (4k) | Area excavated without sampling | Results < ALARA |
| SC-24816-S-RS02 | 248 (Figure 4-29) | 12k (4k) | Area excavated without sampling | Results < ALARA |
| SC-24817-S-RS01 | 248 (Figure 4-29) | - (4k) | Area excavated without sampling | Results < ALARA |
| SC-24818-S-RS01 | 248 (Figure 4-29) | - (4k) | Area excavated without sampling | Results < ALARA |
| SC-24818-S-RS02 | 248 (Figure 4-29) | - (4k) | Area excavated without sampling | Results < ALARA |
| SC-26217-S-HS01/RS01 | 262 (Figure 4-43) | 10k (7k) | Total Radium & Th-230 > Criteria | Results < ALARA |
| SC-26218-S-HS01 | 262 (Figure 4-43) | 12k (7k) | All results < Criteria | N/A |
| SC-26218-S-HS02/RS02 | 262 (Figure 4-43) | 10k (7k) | All results < Criteria | N/A |
| SC-26219-S-HS01/RS01 | 262 (Figure 4-43) | 21k (7k) | Total Radium & Th-230 > Criteria | Results < ALARA |
| SC-26312-S-HS01/RS01 | 263 (Figure 4-44) | 14k (6k) | Th-230 > Criteria | Results < ALARA |
| SC-26321-S-HS01/RS01 | 263 (Figure 4-44) | 16k (6k) | Total Radium & Th-230 > Criteria | Results < ALARA |
| SC-26321-S-HS02/RS02 | 263 (Figure 4-44) | 20k (6k) | Total Radium & Th-230 > Criteria | Results < ALARA |
| SC-26401-S-HS01/RS01 | 264 (Figure 4-45) | 16k (7k) | Total Radium & Th-230 > Criteria | Results < ALARA |
| SC-26402-S-HS01/RS01 | 264 (Figure 4-45) | 26k (7k) | Total Radium & Th-230 > Criteria | Results < ALARA |
| SC-26403-S-HS01/RS01 | 264 (Figure 4-45) | 14k (7k) | Total Radium & Th-230 > Criteria | Results < ALARA |
| SC-26403-S-HS02 | 264 (Figure 4-45) | 10k (7k) | Th-230 > Criteria | Sampled around and met hotspot rule |
| SC-26405-S-HS01/RS01 | 264 (Figure 4-45) | 15k (7k) | Th-230 > Criteria | Results < ALARA |
| SC-26407-C-HS01/RS01 | 264 (Figure 4-45) | 20k (7k) | Total Radium & Th-230 > Criteria | Results < ALARA |
| SC-26407-S-HS01/RS01 | 264 (Figure 4-45) | 16k (7k) | Total Radium & Th-230 > Criteria | Results < ALARA |
| SC-26408-S-HS01/RS01 | 264 (Figure 4-45) | 10k (7k) | Total Radium & Th-230 > Criteria | Results < ALARA |

(a) These areas were identified by ORISE as having elevated readings during walkovers. Marked for PMC to further investigate.
(b) The Figures can be found in Section 4 of the text.
(c) Areas were identified as hotspots based upon preliminary data.
- Reading was not recorded.

# Appendix E
# Hotspot Calculations for left in place

## ORISE Hotspots

**SC-26403-S-HS02** **Th-230 concentration = 12.4 pCi/g**

Maximum Concentration = Criteria x $(100/A)^{1/2}$
$12.4 = 6.2 \times (100/A)^{1/2}$
$A = 25\ m^2$

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## PMC Hotspots

**SC-22811-S** **Radium concentration = 6.8 pCi/g**

Maximum Concentration = Criteria x $(100/A)^{1/2}$
$6.8 = 6.2 \times (100/A)^{1/2}$
$A = 83.13\ m^2 \rightarrow A = 25\ m^2$ (largest hotspot that can remain)

**SC-23007-S** **Th-230 concentration = 9.1 pCi/g**

Maximum Concentration = Criteria x $(100/A)^{1/2}$
$9.1 = 6.2 \times (100/A)^{1/2}$
$A = 46.4\ m^2 \rightarrow A = 25\ m^2$ (largest hotspot that can remain)

**SC-23904-S-01** **Th-230 concentration = 9.14 pCi/g**

Maximum Concentration = Criteria x $(100/A)^{1/2}$
$9.14 = 6.2 \times (100/A)^{1/2}$
$A = 46.01\ m^2 \rightarrow A = 25\ m^2$ (largest hotspot that can remain)

**SC-39105-S** **Th-230 concentration = 16.4 pCi/g**

Maximum Concentration = Criteria x $(100/A)^{1/2}$
$16.4 = 6.2 \times (100/A)^{1/2}$
$A = 14.3\ m^2$