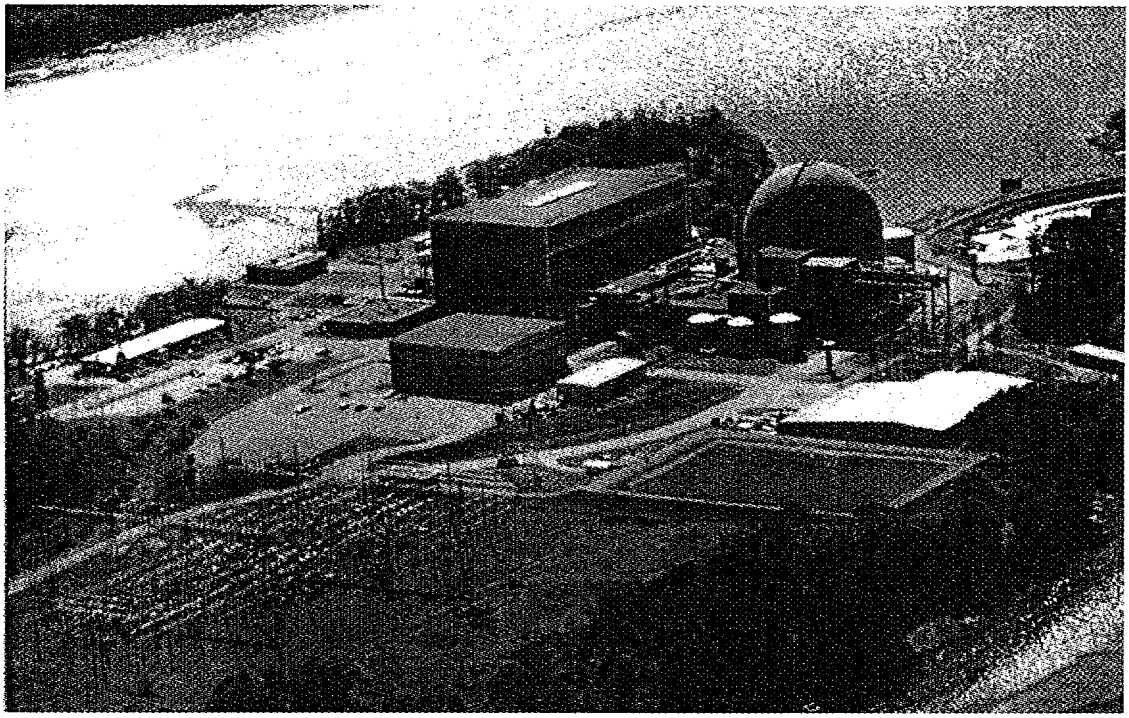
CHARACTERIZATION SURVEY REPORT
for the
MAINE YANKEE ATOMIC POWER PLANT

VOLUME 4
RADIOLOGICAL CHARACTERIZATION RESULTS FOR UNAFFECTED SYSTEMS



JUNE 1998
REVISION 2

Prepared By:

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GTS DURATEK

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VOLUME 4:
RADIOLOGICAL CHARACTERIZATION RESULTS FOR UNAFFECTED SYSTEMS

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1.0 BACKGROUND INFORMATION

GTS Duratek prepared this Characterization Survey Report for the Maine Yankee Atomic Power Company (MYAPCO) to document the results of the characterization survey of the Maine Yankee Atomic Power Plant (MYAPP). The Characterization Survey Report comprises the nine volumes listed in Table 1-1 below. Volume 1 of the Report provides the programmatic information relevant to volumes 2 through 7. This volume (4) provides the characterization results for Group D, Unaffected Systems.

Table 1-1
Characterization Survey Report Volumes

Volume No.	Description
1	Characterization Survey Description
2	Radiological Characterization Results for Unaffected Structures and Surfaces, including Structural Background Survey
3	Radiological Characterization Results for Affected Structures and Surfaces
4	Radiological Characterization Results for Unaffected Systems
5	Radiological Characterization Results for Affected Systems
6	Radiological Characterization Results for Affected and Unaffected Environs, including Environs Background Survey
7	Hazardous Material Characterization
8	Maine Yankee Reactor Vessel Activation Analysis to Support Site Characterization
9	Asbestos Quantity Survey

2.0 SITE INFORMATION

Volume 1, Section 2 of this Characterization Survey Report describes the Maine Yankee Atomic Power Plant site.

3.0 CHARACTERIZATION SURVEY OVERVIEW

Volume 1, Section 3 of this Characterization Survey Report provides an overview of the general survey process, including objectives, organization and responsibilities, instrumentation, planning, survey techniques, survey package implementation, sample analysis and quality control, characterization data review and reporting, and quality assurance. This section provides an overview of the survey of unaffected systems.

Project personnel used plant historical data, system walkdowns, previous GTS Duratek experience, and assistance from Maine Yankee operations staff to prepare survey packages for 34 plant systems presumed to be radiologically unaffected by plant operations. Each survey package described the system, its history and use, and the quantity and type of measurements and samples to be collected. For unaffected systems, the surveys normally included beta scans of accessible surfaces, direct beta and removable alpha and beta measurements of system internals, and smear, crud and debris samples from specified locations for gamma spectral analysis.

4.0 SURVEY FINDINGS AND RESULTS

Table 4-2 lists the unaffected systems survey packages. Of the 34 packages, 19 had levels of radioactivity below, at, or only slightly above minimum detectable activity. The results for the other 15 systems are summarized below.

The Water Treatment and Potable Water systems had elevated activity levels. However, smears and other samples from these systems analyzed by gamma spectroscopy showed only naturally occurring radionuclides.

Six systems showed slightly elevated activity levels in isolated locations. These were Condensate (2100 dpm/100 cm^2), Sanitary Sewer (6000 dpm/100 cm^2), Auxiliary Boiler (2800 dpm/100 cm^2), Main and Reheat Steam (4500 dpm/100 cm^2), and Turbine Building Sumps and Drains (5,800 dpm/100 cm^2). Secondary Sample and Chemical Addition System had measurements for removable beta activity above MDA with a maximum measurement result of 4,861 dpm/100cm^2. All the elevated measurements were from the Blow Down Sample Sink, which was posted as a Contamination Area.

Two systems with components contained in the Primary Auxiliary Building showed elevated activity levels. These were Steam Generation (2600 dpm/100 cm^2) and Auxiliary Steam (up to 11,000 dpm/100 cm^2). High local area background levels may have contributed to these elevated activity readings.

Three systems: Compressed Air, Component Cooling, and Service Building HVAC, had relatively high levels of radioactivity (in some cases greater than 100,000 dpm/100 cm^2). The Service Water system had high levels of activity where it mixes at the liquid waste discharge point. The Hydrogen and Nitrogen system had high levels of activity at pressure regulating valve N-P-43; otherwise, no elevated activity was detected in the system.

Appendix A contains a characterization report for each survey package listed in Table 4-2. The unaffected plant systems diagrams are located in Appendix B. Each report contains the following components:

- Characterization Summary,
- Summary of Survey Units,
- Statistical Summary and Graph for each measurement type,
- Results Listing Report for each measurement type, and
- Download File & Survey Instrumentation Calibration Summary for each measurement type.

The Characterization Summary contains the survey package description and general historical information on the survey area, including equipment, operating history, construction and coating materials, and past contamination incidents. The Characterization

Summary also contains a summary of characterization activities, characterization survey results and, if available, references (e.g., documents, interviews).

The Summary of Survey Units contains the survey package description (e.g., building, elevation and/or system), lists the survey units within each survey area (i.e., area, room, or equipment identification), the surfaces (i.e., equipment, component) within each unit, if applicable and the survey reason with code. The Summary of Survey Units also includes a list of materials in each survey area (e.g., metal) and the background values for each that were used to correct gross measurements.

The Survey Map or System Drawing is a representative diagram of the survey area with measurement locations noted. The unaffected plant systems diagrams are located in Appendix B.

The Statistical Summary and Graph presents statistics and a graph of results for each type of measurement (direct measurements for total beta activity, removable alpha and beta activity and exposure rate measurements) performed for the survey area. Statistics typically include: mean, maximum, minimum, standard deviation, minimum detectable activity calculated for the specified data set and measurement type, number of samples reported, and number of samples prescribed. Various tests were performed for each data set and measurement type reported.

A Results Listing Report is presented with each Statistical Summary and Graph for each applicable type of measurement (direct measurements for total beta activity, removable alpha and beta activity, and exposure rate). The Results Listing Report contains the corrected data and location information for each measurement. The results of direct measurements for total beta activity are reported in net dpm per 100 cm^2 after subtracting the background value for the material of construction. The results of the smear samples for removable alpha and beta activity are reported in net dpm/100 cm^2 from the low background alpha and beta counter instrument. The results of exposure rate measurements are reported in net μR/hr (micro R per hour). The exposure rates have not been corrected for background from materials of construction.

A Download File & Survey Instrumentation Calibration Summary is presented with each Statistical Summary and Graph for each type of measurement. The Download File & Survey Instrumentation Calibration Summary provides survey date, file number (Download #- Station #), detector model number, instrument and detector serial numbers and calibration due date(s) and technician's identification number for each instrument and detector combination used to collect data.

For the surveys prescribing tritium smear samples, a Removable Contamination - Tritium Activity results listing report is presented. The results listing report contains the corrected data, location information, Sample ID and Sample Type for each measurement. The results of the smear samples for removable tritium activity are reported in net dpm/100 cm^2 from the liquid scintillation counter instrument. An instrument calibration summary is presented with the results listing and provides survey date, instrument manufacturer, model number, serial number, calibration due date and technician's initials for the instrument used to analyze the sample.

For survey areas/packages where samples for gamma spectral analysis were prescribed, the characterization report contains a Gamma Spectral Analysis Results Listing. The results listing includes the sample survey location, Lab ID, Spectrum filename, sample mass, count time and the activity, MDA and associated error (counting uncertainty) for plant-derived radionuclides Mn-54, Co-57, Co-60, Cs-134, and Cs-137. For samples where the activity result is less than the MDA value, a "<" sign (less than) appears to the left of the value in the "Activity" column in units of pCi/g (picoCuries per gram) with a zero pCi/g value for the error. For samples with a positive (greater than MDA) activity pCi/g result, the report includes the associated counting error in units of $\pm$pCi/g. The activity of naturally-occurring K-40 with MDA and associated error is reported as a quality control check. Other naturally occurring radionuclides may be present, but are not reported. Table 4-1 describes the sample type and geometry as indicated by the three letter prefix of the sample Spectrum filename.

Table 4-1
Sample Type and Geometry for Gamma Spectral Analysis

Spectrum Filename Prefix	Sample Type	Sample Geometry	Sample Volume
BIO	Plant Life, Biomass	Marinelli Beaker	1 Liter
ENV	Soil	Marinelli Beaker	1 Liter
FAL	Debris	Petri Dish	40 - 60 ml
H2O	Water	Marinelli Beaker	1 Liter
HDL	Debris, Soil	Marinelli Beaker	0.25 Liter
PET	Filter	Petri Dish	NA

Table 4-2

PACKAGE NUMBER	GROUP "D" Unaffected Plant Systems Survey Packages
D0100	Condensate System
D0200	Water Treatment Plant Systems
D0300	Potable Water System
D0400	Sanitary Sewer System
D0500	Circulating Water and Screen Wash System
D0600	Service Water System
D0700	Fire Protection System
D0800	Lube Oil System
D0900	Compressed Air System
D1000	Auxiliary Boiler System
D1100	Steam Generator System
D1200	Main and Reheat Steam System
D1300	Auxiliary Steam System
D1400	Main Turbine and Turbine Control System
D1500	Steam Dump and Turbine Bypass System
D1600	Main Feedwater System
D1700	Emergency/Auxiliary Feedwater System
D1800	Heater Drain and Extraction Steam System
D1900	Component Cooling Water System
D2000	Vacuum Priming and Air Removal System
D2100	Amertap System
D2200	Secondary Plant Sealing System
D2300	Auxiliary Diesel Generator
D2400	Secondary Sample and Chemical Addition System
D2500	High Pressure Drains
D2600	Environmental Services Laboratory Systems
D2700	Administration Building HVAC System
D2800	Information Building HVAC System
D2900	Turbine Building Ventilation System
D3000	Staff Building HVAC System
D3100	Service Building HVAC System
D3200	Hydrogen and Nitrogen System

PACKAGE NUMBER	GROUP "D" Unaffected Plant Systems Survey Packages
D3300	Turbine Building Sumps and Drains
D3400	Low Level Radioactive Waste Storage Facility

APPENDIX A
CHARACTERIZATION REPORTS FOR UNAFFECTED SYSTEMS

APPENDIX B
UNAFFECTED PLANT SYSTEMS DIAGRAMS

D0100-1	D0900-4	D1800-2	D2700-2	D3400-1
D0200-1	D1000-1	D1800-3	D2800-1	
D0200-2	D1000-2	D1900-1	D2800-2	
D0200-3	D1100-1	D1900-2	D2900-1	
D0200-4	D1200-1	D1900-3	D2900-2	
D0300-1	D1200-2	D1900-4	D3000-1	
D0400-1	D1300-1	D1900-5	D3000-2	
D0500-1	D1300-2	D2000-1	D3000-3	
D0500-2	D1300-3	D2100-1	D3000-4	
D0600-1	D1400-1	D2100-2	D3000-5	
D0700-1	D1500-1	D2200-1	D3000-6	
D0700-2	D1600-1	D2300-1	D3100-1	
D0800-1	D1600-2	D2400-1	D3100-2	
D0800-2	D1600-3	D2400-2	D3200-1	
D0900-1	D1600-4	D2400-3	D3200-2	
D0900-2	D1700-1	D2500-1	D3300-1	
D0900-3	D1800-1	D2700-1	D3300-2	

04/01/98

CHARACTERIZATION SUMMARY

SURVEY PACKAGE NUMBER :D0100

SYSTEMS

PACKAGE DESCRIPTION

Condensate System

SURVEY AREA DESCRIPTION

Condensate System

GENERAL HISTORICAL INFORMATION (Operational history, etc.)

The condensate system: 1) transported condensate from the main condenser hotwells to the suction of the main feed pumps at a pressure to meet the net positive suction head requirements of the feed pumps. 2) Supplied condensate flow for cooling in the air ejector condensers and gland steam condenser. 3)Supplied flow through the 5th point heater drain coolers and extraction heaters. 4)Recirculated condensate through system filters as necessary during shutdown to remove particulate matter. 5)Provided sealing water to the main feed pumps, condensate pumps, heater drain pumps, and extraction steam non-return valves.

There is a history of the plant experiencing primary to secondary system leakage.
In June of 1989 it was determined that the auxiliary condensate system contained low levels of radioactivity. It is suspected that the radioactivity entered the system via small siphon heater leaks and entries to the secondary side of the Steam Generators during refueling for inspections and sludge lancing.

In December of 1990, a leak from Steam Generator E-1-1 caused the plant to shut down. The leak rate, at the time of the shut down, was approximately 60 gallons per hour. The leak had existed for several months.

SUMMARY OF CHARACTERIZATION ACTIVITIES

Survey units were established for the areas as shown in the following Summary of Survey Units. System diagrams with the survey measurement locations for this package are included in Appendix B, Unaffected Systems Diagrams.

Performed a scan of accessible surfaces up to a maximum area of one square meter at 91 survey measurement locations indicated on the survey diagram(s).

Collected direct measurements for total beta activity at 91 survey measurement locations at the highest location identified in the scan. If an elevated location was not observed, the measurement was collected at an arbitrary location, selected by the technician, within the scanned area.

Collected smear samples to analyze for removable alpha and beta activity at the same 91 survey locations as direct measurements for total beta activity.

Collected smear samples to analyze for removable tritium activity at 5 survey measurement locations indicated on the results listing report.

Collected exposure rate measurements at 10 survey locations indicated on the results listing report.

Collected 10 material samples (e.g., sludge, sediment, rust, etc.) from the sumps, drains for gamma spectral analysis.

The survey result statistical summaries, graphs and results listings are shown in the following individual reports including calibration summaries for the instruments used for each measurement type.

CHARACTERIZATION SURVEY RESULTS

o There were 5 direct measurements for total beta activity above MDA (1,239 dpm/100cm^2) and 1 result greater

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than 2000 dpm/100cm². The maximum measurement result was 2,185 dpm/100cm².

- o There was no measurements for removable beta activity above MDA (18 dpm/100cm²).
- o There were no measurements for removable alpha activity above MDA (7 dpm/100cm²).
- o There were no measurements for removable tritium activity above MDA (8 dpm/100cm²).
- o The average and maximum exposure rate measurement results were 1.9 µR/hr and 2.1µR/hr respectively.
- o The sample(s) gamma spectral analysis results indicated no plant-derived radionuclide activity above MDA.

REFERENCES (Documents, Interviews)

Maine Yankee Drawings 1150 - FM - 74 A
Operator Systems Training Manual, Chapter 26.

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SUMMARY OF SURVEY UNIT(S)

03/27/98 OUTPUT BATCH SN = 286

PACKAGE D0100 SYSTEMS

Condensate System

UNIT(S)	SURFACE(S)
01 - 21' Turbine Building Components	D01 (6" contaminated condensate drain line at valve CD-313 (south end, below E-5B)) H01 (Main Condenser E-10A) H02 (Main Condenser E-10B, including Hotwell) P01 (43" suction line to pump P-27C (condensate pit)) P02 (6" line at valve CD-103 (south end, below E-5B)) P03 (4" piping downstream of CD-228 (north of condenser by condensate clean up filter)) S01 (Oxygen analyzer filter FL-75 (north hallway, next to H2 analyzer)) S02 (Condensate filter FL-76A (northeast of condensate pit)) S03 (Condensate filter FL-76B (northeast of condensate pit)) S04 (Condensate filter FL-76C (northeast of condensate pit)) S05 (Condensate filter FL-76D (north of condenser)) T01 (Secondary side boration tank TK-112 (south of condensate pit)) V01 (20" check valve CD-5 (condensate pit)) V02 (20" check valve CD-15 (condensate pit)) V03 (12" gate valve CD-97 (north of condenser by condensate clean up filter))
02 - 39' Turbine Building Components	M01 (Air ejector EJ-1B (northeast)) M02 (Air ejector EJ-1A (northeast)) P01 (4" line at valve CD-93 (north of condenser)) V01 (10" gate valve CD-85 (north of condenser))
03 - Components outside across from equipment hatch	T01 (Condensate surge tank TK-122)

REASON(S) CHARACTERIZATION SURVEY (C01)

MATERIALS

MAT'L CODE	MATERIAL DESCRIPTION	BETA BKGD (dpm/100 cm²)
B0031	METAL - BARE	0.0
G0031	METAL - BARE (GAMMA)	0.0

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Maine Yankee Atomic Power Plant Site Characterization

03/30/98

Direct Measurements For Total Beta Activity

Survey Package D0100 SYSTEMS

Condensate System

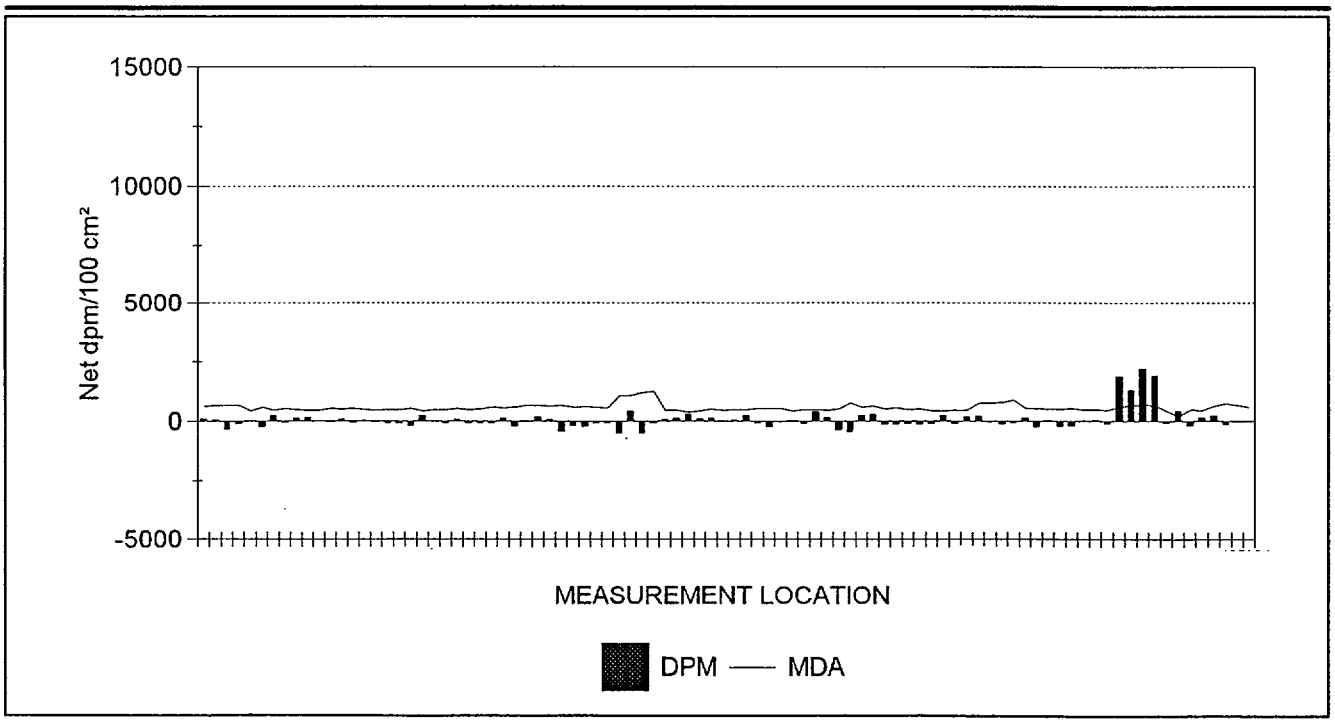
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	66.7
Maximum	2,184.5
Minimum	-500.9
Standard Deviation	425.2
MDA	1,238.7

Samples Reported	91
Samples Prescribed	91

TESTS PERFORMED

Samples reported satisfy samples prescribed	YES
MDA <2000 net dpm/100 cm²	YES
Results above 2000 net dpm/100 cm²	1
Number of results above MDA	5



91 RESULTS ARE GRAPHED

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Maine Yankee Atomic Power Plant Site Characterization

03/30/98

Direct Measurements For Total Beta Activity

Survey Package : D0100 SYSTEMS

Condensate System

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	MDA	RESULT
125 (2)	01	D01	B0031	C01	300	00001	619.0	98.4
125 (2)	01	D01	B0031	C01	300	00002	653.6	59.0
125 (2)	01	D01	B0031	C01	300	00003	658.8	-347.7
125 (2)	01	D01	B0031	C01	300	00004	657.3	-105.0
124 (2)	01	H01	B0031	C01	15	00001	413.7	30.3
124 (2)	01	H01	B0031	C01	15	00002	563.4	-242.2
124 (2)	01	H01	B0031	C01	15	00003	433.2	242.2
124 (2)	01	H01	B0031	C01	15	00004	518.7	-45.4
124 (2)	01	H01	B0031	C01	15	00005	475.2	136.2
124 (2)	01	H01	B0031	C01	15	00006	433.2	166.5
124 (2)	01	H01	B0031	C01	15	00007	451.7	30.3
124 (2)	01	H01	B0031	C01	15	00008	508.2	-30.3
124 (2)	01	H01	B0031	C01	15	00009	492.0	90.8
124 (2)	01	H01	B0031	C01	15	00010	518.7	-60.6
124 (2)	01	H02	B0031	C01	15	00001	463.6	30.3
124 (2)	01	H02	B0031	C01	15	00002	445.6	-30.3
124 (2)	01	H02	B0031	C01	15	00003	475.2	-90.8
124 (2)	01	H02	B0031	C01	15	00004	475.2	-75.7
124 (2)	01	H02	B0031	C01	15	00005	508.2	-181.7
124 (2)	01	H02	B0031	C01	15	00006	413.7	242.2
124 (2)	01	H02	B0031	C01	15	00007	480.9	0.0
124 (2)	01	H02	B0031	C01	15	00008	457.7	-75.7
124 (2)	01	H02	B0031	C01	15	00009	513.5	90.8
124 (2)	01	H02	B0031	C01	15	00010	463.6	-75.7
109 (2)	01	P01	B0031	C01	15	00001	497.5	-82.3
109 (2)	01	P01	B0031	C01	15	00002	569.4	-82.3
109 (2)	01	P01	B0031	C01	15	00003	534.8	131.6
109 (2)	01	P01	B0031	C01	15	00004	585.9	-197.4
125 (2)	01	P02	B0031	C01	300	00001	655.1	6.6
125 (2)	01	P02	B0031	C01	300	00002	658.0	170.6
125 (2)	01	P02	B0031	C01	300	00003	635.1	78.7
129 (2)	01	P02	B0031	C01	300	00004	649.1	-428.4
125 (2)	01	P03	B0031	C01	300	00001	562.1	-170.6
125 (2)	01	P03	B0031	C01	300	00002	591.2	-196.8
125 (2)	01	P03	B0031	C01	300	00003	573.1	-78.7
125 (2)	01	P03	B0031	C01	300	00004	556.9	-39.4
110 (2)	01	S01	B0031	C01	120	00001	1,062.7	-484.9
110 (2)	01	S01	B0031	C01	120	00002	1,076.8	408.4
130 (2)	01	S01	B0031	C01	120	00003	1,188.9	-500.9
110 (2)	01	S01	B0031	C01	120	00004	1,238.7	-76.6

NOTES: Activity reported in net dpm/100 cm². Count times are reported in seconds.
Underlined values exceed the MDA.
Bold values exceed 2000 dpm/100 cm².

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03/30/98

Direct Measurements For Total Beta Activity

Survey Package : D0100 SYSTEMS

Condensate System

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	MDA	RESULT
115 (2)	01	S02	B0031	C01	20	00001	450.2	65.7
115 (2)	01	S02	B0031	C01	20	00002	441.1	131.4
115 (2)	01	S02	B0031	C01	20	00003	375.9	275.9
115 (2)	01	S02	B0031	C01	20	00004	417.3	105.1
115 (2)	01	S03	B0031	C01	20	00001	501.1	118.2
115 (2)	01	S03	B0031	C01	20	00002	445.7	0.0
115 (2)	01	S03	B0031	C01	20	00003	463.5	52.6
115 (2)	01	S03	B0031	C01	20	00004	463.5	223.3
115 (2)	01	S04	B0031	C01	20	00001	520.8	-78.8
115 (2)	01	S04	B0031	C01	20	00002	513.0	-223.3
115 (2)	01	S04	B0031	C01	20	00003	520.8	-13.1
115 (2)	01	S04	B0031	C01	20	00004	427.0	26.3
115 (2)	01	S05	B0031	C01	20	00001	480.6	-105.1
115 (2)	01	S05	B0031	C01	20	00002	476.4	394.1
115 (2)	01	S05	B0031	C01	20	00003	445.7	157.7
115 (2)	01	S05	B0031	C01	20	00004	505.1	-354.7
109 (2)	01	T01	B0031	C01	15	00001	766.8	-444.3
109 (2)	01	T01	B0031	C01	15	00002	585.9	246.8
109 (2)	01	T01	B0031	C01	15	00003	617.5	296.2
115 (2)	01	V01	B0031	C01	20	00001	493.0	-131.4
115 (2)	01	V01	B0031	C01	20	00002	539.7	-131.4
115 (2)	01	V01	B0031	C01	20	00003	467.8	-105.1
115 (2)	01	V01	B0031	C01	20	00004	488.9	-131.4
115 (2)	01	V02	B0031	C01	20	00001	417.3	-105.1
115 (2)	01	V02	B0031	C01	20	00002	412.4	236.5
115 (2)	01	V02	B0031	C01	20	00003	454.7	-92.0
115 (2)	01	V02	B0031	C01	20	00004	436.4	170.8
110 (2)	01	V03	B0031	C01	120	00001	761.6	204.2
110 (2)	01	V03	B0031	C01	120	00002	761.6	-25.5
110 (2)	01	V03	B0031	C01	120	00003	781.7	-102.1
110 (2)	01	V03	B0031	C01	120	00004	874.6	-51.0
115 (2)	02	M01	B0031	C01	20	00001	513.0	131.4
115 (2)	02	M01	B0031	C01	20	00002	532.2	-223.3
115 (2)	02	M01	B0031	C01	20	00003	497.1	26.3
115 (2)	02	M01	B0031	C01	20	00004	484.8	-197.1
115 (2)	02	M02	B0031	C01	20	00001	524.6	-183.9
115 (2)	02	M02	B0031	C01	20	00002	467.8	13.1
115 (2)	02	M02	B0031	C01	20	00003	459.1	39.4
115 (2)	02	M02	B0031	C01	20	00004	454.7	-105.1
125 (2)	02	P01	B0031	C01	300	00001	608.1	1,876.2

NOTES: Activity reported in net dpm/100 cm². Count times are reported in seconds.
Underlined values exceed the MDA.
Bold values exceed 2000 dpm/100 cm².

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Maine Yankee Atomic Power Plant Site Characterization

03/30/98

Direct Measurements For Total Beta Activity

Survey Package : D0100 SYSTEMS

Condensate System

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	MDA	RESULT
125 (2)	02	P01	B0031	C01	300	00002	631.3	1,298.9
125 (2)	02	P01	B0031	C01	300	00003	676.0	***2,184.5***
125 (2)	02	P01	B0031	C01	300	00004	658.8	1,909.0
115 (2)	02	V01	B0031	C01	20	00001	407.4	-78.8
115 (2)	02	V01	B0031	C01	20	00002	185.3	407.3
115 (2)	02	V01	B0031	C01	20	00003	472.1	-170.8
115 (2)	02	V01	B0031	C01	20	00004	436.4	157.7
116 (2)	03	T01	B0031	C01	15	00001	629.9	238.4
116 (2)	03	T01	B0031	C01	15	00002	716.6	-143.0
116 (2)	03	T01	B0031	C01	15	00003	661.6	-31.8
116 (2)	03	T01	B0031	C01	15	00004	576.2	0.0

NOTES: Activity reported in net dpm/100 cm². Count times are reported in seconds.
Underlined values exceed the MDA.
Bold values exceed 2000 dpm/100 cm².
91 results are listed.

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DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

03/30/98 Direct Measurements For Total Beta Activity

Survey Package : D0100 SYSTEMS

Condensate System

SURVEY DATE	FILE #	M2350 INST S/N	M2350 CAL DUE	DETECTOR MODEL	DETECTOR S/N	DETECTOR CAL DUE	PRE EFF	TECHNICIAN
12/9/97	109 (2)	126197	3/22/98	43-68	075064	3/30/98	.19	DRL7343
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
12/9/97	110 (2)	126198	3/22/98	44-40	PR091089	3/23/98	.13	DRL7343
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
12/10/97	115 (2)	129414	3/22/98	43-106	PR133882	3/27/98	.18	DRL7343
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
12/10/97	116 (2)	126197	3/22/98	43-68	PR075064	3/30/98	.20	DRL7343
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
8/9/01	124 (2)	126197	3/22/98	43-68	PR075064	3/30/98	.21	DRL7343
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
12/11/97	125 (2)	129430	5/6/98	SP-175-3M	PR096141	6/2/98	.07	DRL7343
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
12/12/97	129 (2)	095348	3/20/98	SP-175-3M	PR096141	6/2/98	.07	DRL7343
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
12/12/97	130 (2)	126198	3/22/98	44-40	PR091089	3/23/98	.12	AOK2982
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		

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Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Removable Contamination - Gross Beta Activity

Survey Package D0100 SYSTEMS

Condensate System

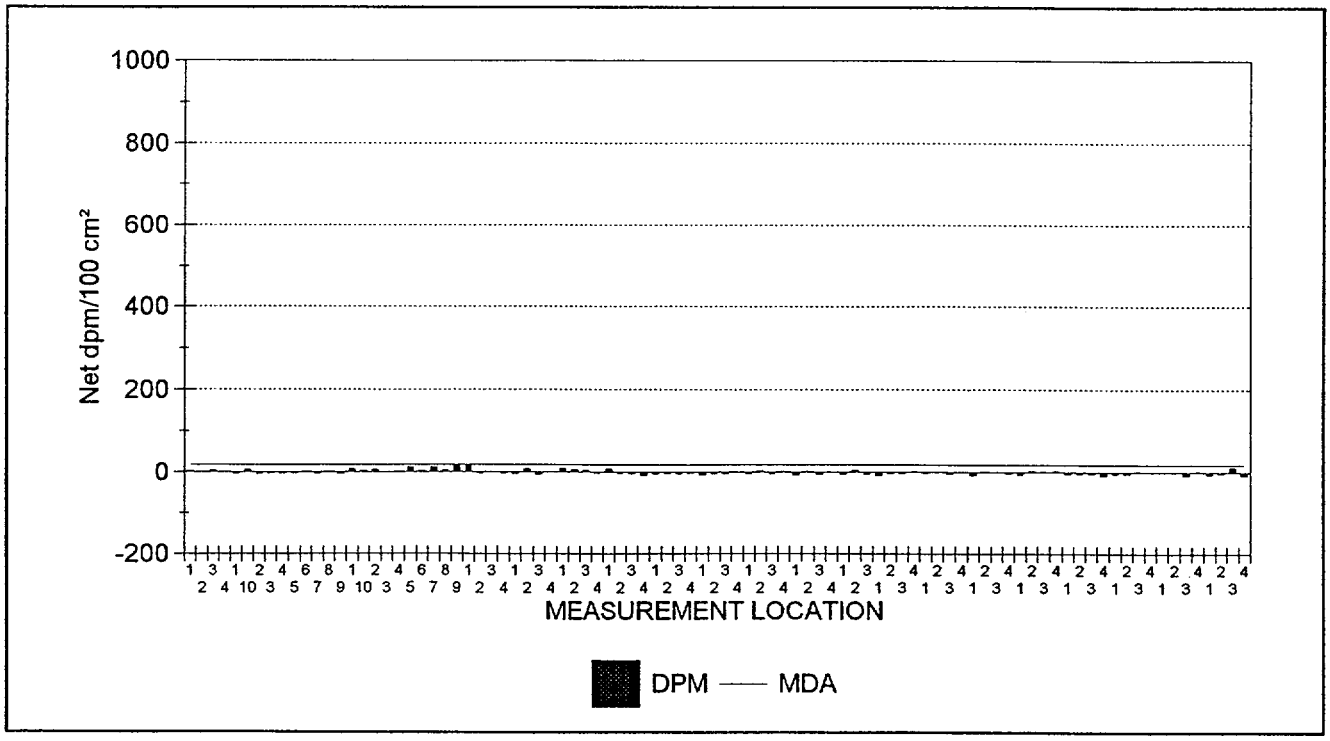
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	-0.5
Maximum	14.6
Minimum	-9.0
Standard Deviation	5.1
MDA	17.6

Samples Reported	91
Samples Prescribed	96

TESTS PERFORMED

MDA <100 net dpm/100 cm²	YES
Results above 100 net dpm/100 cm²	0
Number of results above MDA	0



91 RESULTS ARE GRAPHED

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Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Removable Contamination - Gross Alpha Activity

Survey Package D0100 SYSTEMS

Condensate System

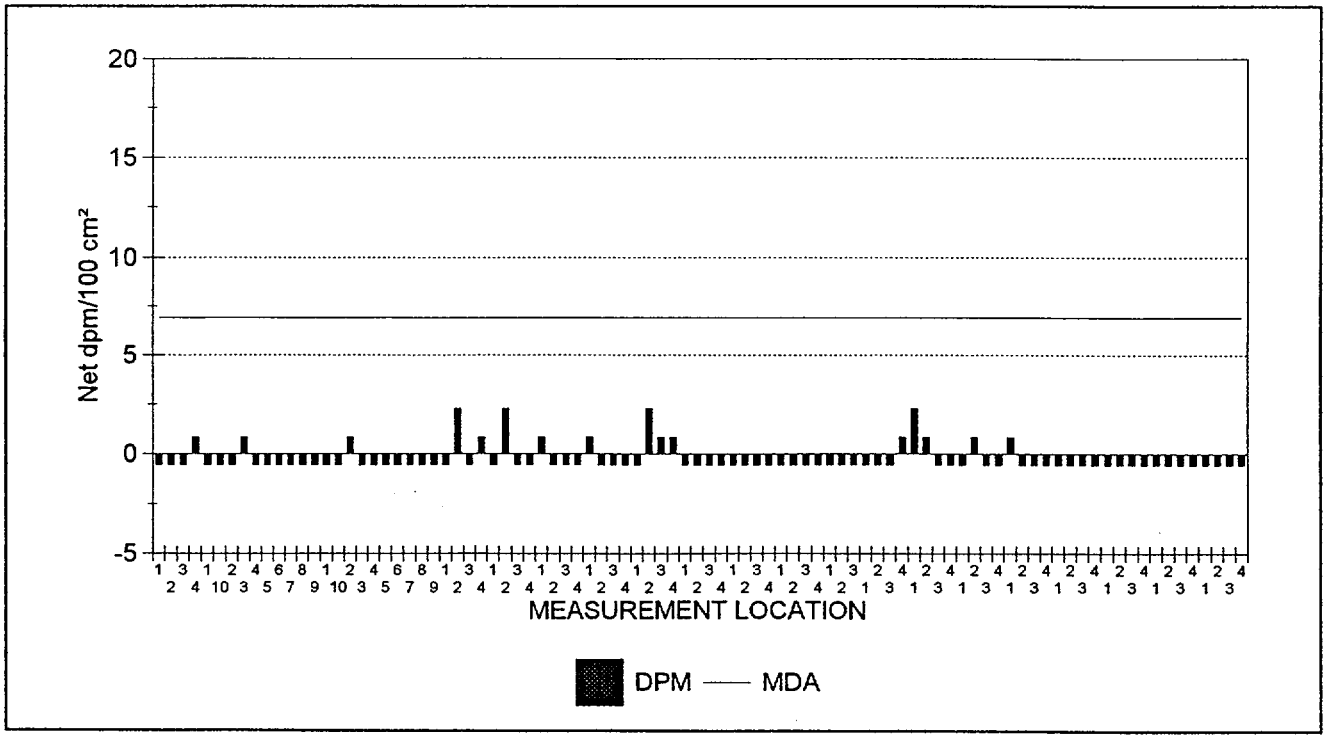
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	-0.3
Maximum	2.3
Minimum	-0.6
Standard Deviation	0.7
MDA	6.9

Samples Reported	91
Samples Prescribed	96

TESTS PERFORMED

MDA <10 net dpm/100 cm²	YES
Results above 20 net dpm/100 cm²	0
Number of results above MDA	0



91 RESULTS ARE GRAPHED

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Survey Package: D0100 SYSTEMS

Condensate System

RESULTS LISTING - SORTED BY SURFACE CODE

XLS FILE	UNIT	SURFACE	REASON	MSRMNT LOCATION	ALPHA	BETA
SME1D033.XLS	03	T01	C01	4	-0.6	-7.3
SME1D033.XLS	03	T01	C01	3	-0.6	11.2
SME1D033.XLS	03	T01	C01	2	-0.6	-2.2
SME1D033.XLS	03	T01	C01	1	-0.6	-5.6
SME1D033.XLS	02	V01	C01	4	-0.6	1.1
SME1D033.XLS	02	V01	C01	3	-0.6	-7.3
SME1D033.XLS	02	V01	C01	2	-0.6	-0.6
SME1D033.XLS	02	V01	C01	1	-0.6	-0.6
SME1D033.XLS	02	P01	C01	4	-0.6	-0.6
SME1D033.XLS	02	P01	C01	3	-0.6	1.1
SME1D033.XLS	02	P01	C01	2	-0.6	-3.9
SME1D033.XLS	02	P01	C01	1	-0.6	-3.9
SME1D033.XLS	02	M02	C01	4	-0.6	-9.0
SME1D033.XLS	02	M02	C01	3	-0.6	-3.9
SME1D033.XLS	02	M02	C01	2	-0.6	-3.9
SME1D033.XLS	02	M02	C01	1	-0.6	-3.9
SME1D033.XLS	02	M01	C01	4	-0.6	2.8
SME1D033.XLS	02	M01	C01	3	-0.6	1.1
SME1D033.XLS	02	M01	C01	2	-0.6	2.8
SME1D033.XLS	02	M01	C01	1	0.8	-5.6
SME1D033.XLS	01	V03	C01	4	-0.6	-2.2
SME1D033.XLS	01	V03	C01	3	-0.6	-0.6
SME1D033.XLS	01	V03	C01	2	0.8	1.1
SME1D033.XLS	01	V03	C01	1	-0.6	-7.3
SME1D033.XLS	01	V02	C01	4	-0.6	-0.6
SME1D033.XLS	01	V02	C01	3	-0.6	-3.9
SME1D033.XLS	01	V02	C01	2	0.8	-0.6
SME1D033.XLS	01	V02	C01	1	2.3	-2.2
SME1D033.XLS	01	V01	C01	4	0.8	1.1
SME1D033.XLS	01	V01	C01	3	-0.6	-2.2
SME1D033.XLS	01	V01	C01	2	-0.6	-2.2
SME1D033.XLS	01	V01	C01	1	-0.6	-9.0
SME1D033.XLS	01	T01	C01	3	-0.6	-5.6
SME1D033.XLS	01	T01	C01	2	-0.6	4.5
SME1D033.XLS	01	T01	C01	1	-0.6	-5.6
SME1D033.XLS	01	S05	C01	4	-0.6	-0.6
SME1D033.XLS	01	S05	C01	3	-0.6	-5.6
SME1D033.XLS	01	S05	C01	2	-0.6	1.1
SME1D033.XLS	01	S05	C01	1	-0.6	-7.3
SME1D033.XLS	01	S04	C01	4	-0.6	1.1

NOTES: Activity reported in net dpm/100 cm².
Underlined values exceed the associated MDA.
Bold values exceed 100.00 dpm/100 cm² (beta activity) and/or 20.00 dpm/100 cm² (alpha activity).

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Survey Package : D0100 SYSTEMS

Condensate System

RESULTS LISTING - SORTED BY SURFACE CODE

XLS FILE	UNIT	SURFACE	REASON	MSRMNT LOCATION	ALPHA	BETA
SME1D033.XLS	01	S04	C01	3	-0.6	-3.9
SME1D033.XLS	01	S04	C01	2	-0.6	2.8
SME1D033.XLS	01	S04	C01	1	-0.6	-3.9
SME1D033.XLS	01	S03	C01	4	-0.6	-0.6
SME1D033.XLS	01	S03	C01	3	-0.6	-3.9
SME1D033.XLS	01	S03	C01	2	-0.6	-3.9
SME1D033.XLS	01	S03	C01	1	-0.6	-7.3
SME1D033.XLS	01	S02	C01	4	0.8	-2.2
SME1D033.XLS	01	S02	C01	3	0.8	-3.9
SME1D033.XLS	01	S02	C01	2	2.3	-2.2
SME1D033.XLS	01	S02	C01	1	-0.6	-3.9
SME1D033.XLS	01	S01	C01	4	-0.6	-9.0
SME1D033.XLS	01	S01	C01	3	-0.6	-3.9
SME1D033.XLS	01	S01	C01	2	-0.6	-2.2
SME1D033.XLS	01	S01	C01	1	0.8	7.9
SME1D033.XLS	01	P03	C01	4	-0.6	-2.2
SME1D033.XLS	01	P03	C01	3	-0.6	4.5
SME1D033.XLS	01	P03	C01	2	-0.6	6.2
SME1D033.XLS	01	P03	C01	1	0.8	9.5
SME1D033.XLS	01	P02	C01	4	-0.6	-0.6
SME1D033.XLS	01	P02	C01	3	-0.6	-5.6
SME1D033.XLS	01	P02	C01	2	2.3	7.9
SME1D033.XLS	01	P02	C01	1	-0.6	-3.9
SME1D033.XLS	01	P01	C01	4	0.8	-2.2
SME1D033.XLS	01	P01	C01	3	-0.6	-0.6
SME1D033.XLS	01	P01	C01	2	2.3	-2.2
SME1D033.XLS	01	P01	C01	1	-0.6	14.6
SME1D033.XLS	01	H02	C01	9	-0.6	14.6
SME1D033.XLS	01	H02	C01	8	-0.6	4.5
SME1D033.XLS	01	H02	C01	7	-0.6	11.2
SME1D033.XLS	01	H02	C01	6	-0.6	2.8
SME1D033.XLS	01	H02	C01	5	-0.6	11.2
SME1D033.XLS	01	H02	C01	4	-0.6	1.1
SME1D033.XLS	01	H02	C01	3	-0.6	-0.6
SME1D033.XLS	01	H02	C01	2	0.8	6.2
SME1D033.XLS	01	H02	C01	10	-0.6	2.8
SME1D033.XLS	01	H02	C01	1	-0.6	7.9
SME1D033.XLS	01	H01	C01	9	-0.6	-3.9
SME1D033.XLS	01	H01	C01	8	-0.6	1.1
SME1D033.XLS	01	H01	C01	7	-0.6	-3.9

NOTES: Activity reported in net dpm/100 cm².
Underlined values exceed the associated MDA.
Bold values exceed 100.00 dpm/100 cm² (beta activity) and/or 20.00 dpm/100 cm² (alpha activity).

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03/27/98 Removable Contamination

Survey Package: D0100 SYSTEMS

Condensate System

RESULTS LISTING - SORTED BY SURFACE CODE

XLS FILE	UNIT	SURFACE	REASON	MSRMNT LOCATION	ALPHA	BETA
SME1D033.XLS	01	H01	C01	6	-0.6	1.1
SME1D033.XLS	01	H01	C01	5	-0.6	-2.2
SME1D033.XLS	01	H01	C01	4	-0.6	-2.2
SME1D033.XLS	01	H01	C01	3	0.8	-2.2
SME1D033.XLS	01	H01	C01	2	-0.6	-3.9
SME1D033.XLS	01	H01	C01	10	-0.6	6.2
SME1D033.XLS	01	H01	C01	1	-0.6	-3.9
SME1D033.XLS	01	D01	C01	4	0.8	1.1
SME1D033.XLS	01	D01	C01	3	-0.6	4.5
SME1D033.XLS	01	D01	C01	2	-0.6	1.1
SME1D033.XLS	01	D01	C01	1	-0.6	2.8

NOTES: Activity reported in net dpm/100 cm².
Underlined values exceed the associated MDA.
Bold values exceed 100.00 dpm/100 cm² (beta activity) and/or 20.00 dpm/100 cm² (alpha activity).
91 results are listed.

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Maine Yankee Atomic Power Plant Site Characterization

DATAFILE & TENNELEC CALIBRATION SUMMARY

03/27/98

Removable Contamination

Survey Package : D0100 SYSTEMS

Condensate System

SURVEYDATE	XLS FILE	INST ID	S/N	CAL DUE	LAB TECHNICIAN
2/12/98	SME1D033.XLS	1	14131	8/7/98	RWD
				CALIBRATION DATE VERIFIED AS ACCEPTABLE	

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03/27/98 Removable Contamination - Tritium Activity

Survey Package : D0100 SYSTEMS

Condensate System

RESULTS LISTING - SORTED BY SURFACE CODE

SAMPLE ID	SAMPLE TYPE	UNIT	SURF	REASN	MSRMNT LOCATION	MDA	TRITIUM ACTIVITY
H001	Whatman smear	O1	P01	C01	00001	8.0	3.0
H002	Whatman smear	02	V01	C01	00001	8.0	3.4
H003	Whatman smear	03	T01	C01	00001	8.0	5.1
H004	Whatman smear	01	H01	C01	00001	8.0	1.1
H005	Whatman smear	01	H02	C01	00001	8.0	1.8

NOTES: Activity reported in net dpm/100 cm².
Underlined values exceed the associated MDA.
Bold values exceed 25 dpm/100 cm²,
Italic values exceed 100 dpm/100 cm².

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LIQUID SCINTILLATION COUNTER CALIBRATION SUMMARY

03/27/98 Removable Contamination - Tritium Activity

Survey Package : D0100 SYSTEMS

Condensate System

SURVEYDATE	INSTRUMENT	MODEL	S/N	CAL DUE	LAB TECHNICIAN
2/1/98	Packard	2750	416221	6/16/98	LDT
				CALIBRATION DATE VERIFIED AS ACCEPTABLE	

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Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Exposure Rate Measurements

Survey Package D0100 SYSTEMS

Condensate System

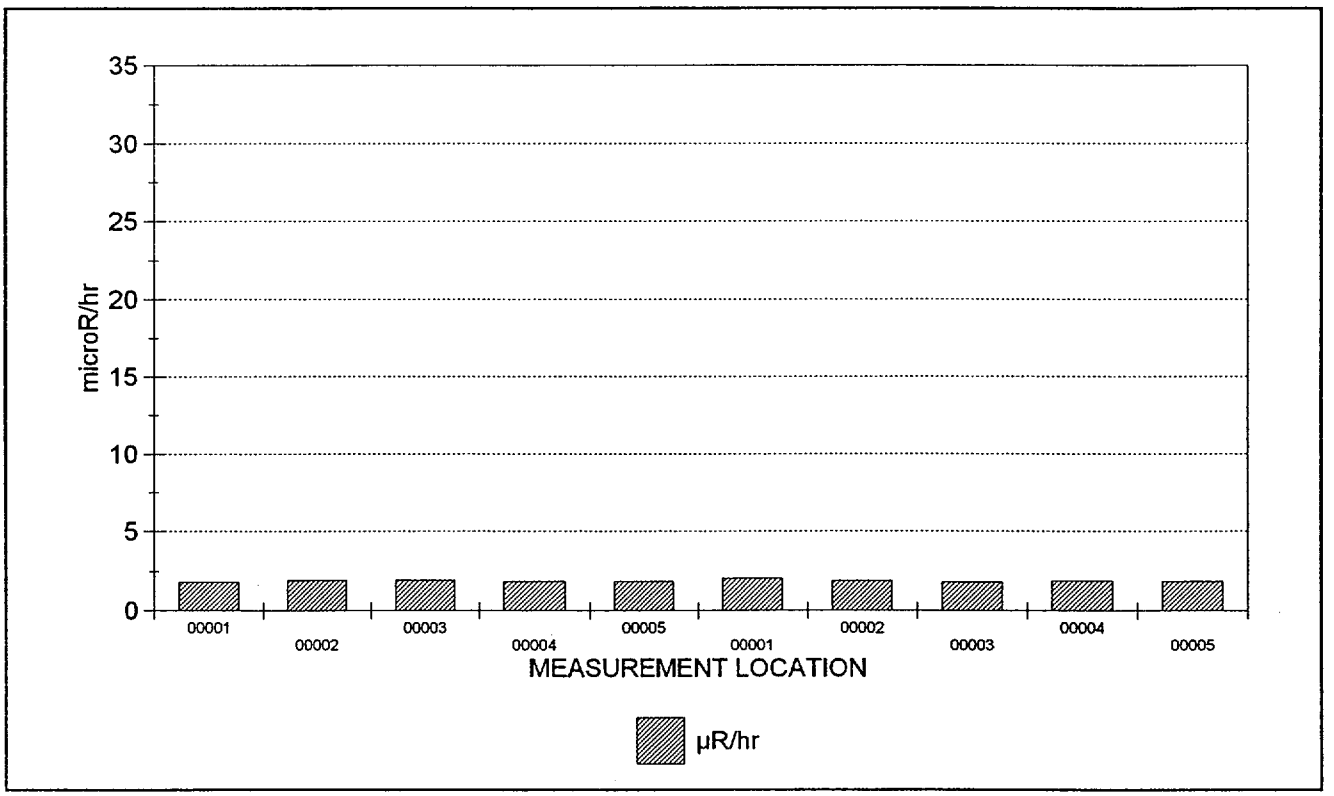
STATISTICAL SUMMARY

	µR/hr
Mean	1.9
Maximum	2.1
Minimum	1.8
Standard Deviation	0.1

Samples Reported	10
Samples Prescribed	10

TESTS PERFORMED

Samples reported satisfy samples prescribed	YES



10 RESULTS ARE GRAPHED

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Survey Package : D0100 SYSTEMS

Condensate System

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	RESULT
123 (2)	01	H01	G0031	C01	60.00	00001	1.8
123 (2)	01	H01	G0031	C01	60.00	00002	1.9
123 (2)	01	H01	G0031	C01	60.00	00003	1.9
123 (2)	01	H01	G0031	C01	60.00	00004	1.9
123 (2)	01	H01	G0031	C01	60.00	00005	1.8
123 (2)	01	H02	G0031	C01	60.00	00001	2.1
123 (2)	01	H02	G0031	C01	60.00	00002	1.9
123 (2)	01	H02	G0031	C01	60.00	00003	1.8
123 (2)	01	H02	G0031	C01	60.00	00004	1.9
123 (2)	01	H02	G0031	C01	60.00	00005	1.9

NOTES: Exposure rates reported in net µR/hr. Count times are reported in seconds.
Underlined results did not meet the minimum required count time.
Bold values exceed 15 µR/hr.
10 results are listed.

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DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

03/27/98

Exposure Rate Measurements

Survey Package : D0100 SYSTEMS

Condensate System

SURVEY DATE	FILE #	M2350 INST S/N	M2350 CAL DUE	DETECTOR MODEL	DETECTOR S/N	DETECTOR CAL DUE	TECHNICIAN
12/11/97	123 (2)	95349	4/15/98	44-2	PR126918	5/12/98	DRL7343

CALIBRATION DATES VERIFIED AS ACCEPTABLE

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Maine Yankee Atomic Power Plant Site Characterization

GAMMA SPECTRAL ANALYSIS RESULTS LISTING

03/28/98 OUTPUT BATCH SN = 202

Survey Package D0100 SYSTEMS

Condensate System

UNIT : 01 SURFACE : H01 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Heat Exchanger
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD21	FAL00017	3.1	1800	Co-57	< 19.3	19.3	0.0
				Co-60	< 23.7	23.7	0.0
				Cs-134	< 24.0	24.0	0.0
				Cs-137	< 20.3	20.3	0.0
				K-40	< 131.0	131.0	0.0
				Mn-54	< 26.7	26.7	0.0

SAMPLE TYPE OR SURFACE SAMPLED: Heat Exchanger
SAMPLE LOCATOR: 00002

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD22	FAL00015	8.8	1800	Co-57	< 6.3	6.3	0.0
				Co-60	< 7.1	7.1	0.0
				Cs-134	< 8.1	8.1	0.0
				Cs-137	< 8.4	8.4	0.0
				K-40	< 102.0	102.0	0.0
				Mn-54	< 7.2	7.2	0.0

SAMPLE TYPE OR SURFACE SAMPLED: Heat Exchanger
SAMPLE LOCATOR: 00003

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD23	FAL00018	11.4	1800	Co-57	< 4.9	4.9	0.0
				Co-60	< 4.8	4.8	0.0
				Cs-134	< 6.4	6.4	0.0
				Cs-137	< 5.2	5.3	0.0
				K-40	< 88.0	88.0	0.0
				Mn-54	< 7.8	7.8	0.0

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GAMMA SPECTRAL ANALYSIS RESULTS LISTING

03/28/98 OUTPUT BATCH SN = 202

Survey Package D0100 SYSTEMS

Condensate System

UNIT : 01 SURFACE : H02 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Heat Exchanger
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD24	FAL00016	12.3	1800	Co-57	< 5.1	5.1	0.0
				Co-60	< 5.8	5.9	0.0
				Cs-134	< 5.8	5.8	0.0
				Cs-137	< 6.7	6.7	0.0
				K-40	< 50.9	50.9	0.0
				Mn-54	< 7.0	7.0	0.0

SAMPLE TYPE OR SURFACE SAMPLED: Heat Exchanger
SAMPLE LOCATOR: 00002

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD25	FAL00017	25.5	1800	Co-57	< 2.1	2.1	0.0
				Co-60	< 3.4	3.4	0.0
				Cs-134	< 3.0	3.0	0.0
				Cs-137	< 2.8	2.8	0.0
				K-40	< 32.8	32.8	0.0
				Mn-54	< 3.1	3.1	0.0

SAMPLE TYPE OR SURFACE SAMPLED: Heat Exchanger
SAMPLE LOCATOR: 00003

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD26	FAL00019	31.2	1800	Co-57	< 1.8	1.8	0.0
				Co-60	< 2.3	2.3	0.0
				Cs-134	< 2.6	2.6	0.0
				Cs-137	< 2.4	2.4	0.0
				K-40	< 26.6	26.6	0.0
				Mn-54	< 2.0	2.0	0.0

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Survey Package D0100 SYSTEMS

Condensate System

UNIT : 01 SURFACE : P01 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Plant Piping (interior)
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD27	FAL00018	3.9	1800	Co-57	< 14.0	14.0	0.0
				Co-60	< 12.5	12.5	0.0
				Cs-134	< 20.3	20.3	0.0
				Cs-137	< 15.2	15.2	0.0
				K-40	< 222.0	222.0	0.0
				Mn-54	< 18.4	18.4	0.0

UNIT : 01 SURFACE : T01 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Tank
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD28	FAL00019	25.2	1800	Co-57	< 2.3	2.3	0.0
				Co-60	< 2.5	2.5	0.0
				Cs-134	< 2.7	2.7	0.0
				Cs-137	< 2.8	2.8	0.0
				K-40	< 32.0	32.0	0.0
				Mn-54	< 3.3	3.3	0.0

UNIT : 02 SURFACE : V01 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Valve
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD29	PET00017	0.2	1800	Co-57	< 222.0	222.0	0.0
				Co-60	< 271.0	271.0	0.0
				Cs-134	< 234.0	234.0	0.0
				Cs-137	< 214.0	214.0	0.0
				K-40	< 2030.0	2,030.0	0.0
				Mn-54	< 251.0	251.0	0.0

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GAMMA SPECTRAL ANALYSIS RESULTS LISTING

03/28/98 OUTPUT BATCH SN = 202

Survey Package D0100 SYSTEMS

Condensate System

UNIT : 03 SURFACE : T01 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Tank
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD30	PET00018	0.1	1800	Co-57	< 403.0	403.0	0.0
				Co-60	< 455.0	455.0	0.0
				Cs-134	< 575.0	575.0	0.0
				Cs-137	< 532.0	532.0	0.0
				K-40	< 5670.0	5,670.0	0.0
				Mn-54	< 503.0	503.0	0.0

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04/01/98

CHARACTERIZATION SUMMARY

SURVEY PACKAGE NUMBER :D0200 SYSTEMS

PACKAGE DESCRIPTION Water Treatment Plant Systems

SURVEY AREA DESCRIPTION
Water Treatment Plant Systems

GENERAL HISTORICAL INFORMATION (Operational history, etc.)

The Water Treatment Plant Systems clarified and demineralized water for use as makeup to the Reactor Coolant System and secondary plant.

In June of 1989 low levels of radioactivity found in every sump except the service water heat exchanger sump. It appeared that most of the activity originated in the auxiliary condensate system. It is suspected that the radioactivity entered the system via small siphon heater leaks and entries to the secondary side of the Steam Generators during refueling for inspections and sludge lancing.

SUMMARY OF CHARACTERIZATION ACTIVITIES

Survey units were established for the areas as shown in the following Summary of Survey Units. System diagrams with the survey measurement locations for this package are included in Appendix B, Unaffected Systems Diagrams.

Performed a scan of accessible surfaces up to a maximum area of one square meter at 59 survey measurement locations indicated on the appropriate survey diagram(s).

Collected direct measurements for total beta activity at 59 survey measurement locations at the highest location identified in the scan. If an elevated location was not observed, the measurement was collected at an arbitrary location, selected by the technician, within the scanned area.

Collected smear samples to analyze for removable alpha and beta activity at the same 59 survey locations as for direct measurements for total beta.

Collected smear samples to analyze for removable tritium activity at 3 survey measurement locations indicated on the results listing report.

Collected exposure rate measurements at 5 survey locations indicated on the results listing report.

Collected 9 material samples (e.g., sludge, sediment, rust, etc.) from the tanks, sumps, drains for gamma spectral analysis.

The survey result statistical summaries, graphs and results listings are shown in the following individual reports including calibration summaries for the instruments used for each measurement type.

CHARACTERIZATION SURVEY RESULTS

o There were 7 direct measurements for total beta activity above MDA (Maximum MDA was 1,937 dpm/100cm^2) and 6 results greater than 2000 dpm/100cm^2. The maximum measurement result was 26,046 dpm/100cm^2.

o There was 3 measurement for removable beta activity above MDA (15.7 dpm/100cm^2) and 3 result greater than 100 dpm/100cm^2. The maximum measurement result was 945 dpm/100cm^2.

o There were 3 measurements for removable alpha activity above MDA (7.6 dpm/100cm^2) and 3 result greater

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than 20 dpm/100cm². The maximum measurement result was 362 dpm/100cm².

o There was 1 measurement for removable tritium activity above MDA (8 dpm/100cm²) and 1 result greater than 100 dpm/100cm². The maximum measurement result was 618 dpm/100cm².

o The average and maximum exposure rate measurement results were 12.6 µR/hr and 44.2 µR/hr respectively.

o The sample(s) gamma spectral analysis results indicated no plant-derived radionuclide activity above MDA.

REFERENCES (Documents, Interviews)
Maine Yankee Drawing 1150 - FM - 82 A, 101A

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SUMMARY OF SURVEY UNIT(S)

03/27/98

OUTPUT BATCH SN = 191

PACKAGE D0200 SYSTEMS

Water Treatment Plant Systems

UNIT(S)	SURFACE(S)
01 - 21' Turbine Building Components	P01 (5" line from pump P-76B (south end)) P02 (1" drain line from the clarifier tank sample sink) P03 (2" discharge line for clarifier tank sludge) P04 (1.5" spoolpiece downstream from valve RW-168 (north wall, overhead)) P05 (1" hose connection downstream from valve RW-72 (north main walkway)) P06 (1" line between valve WT-112 & strainer (southwest corner)) P07 (6" spoolpiece above WT-87 (southwest corner)) T01 (Clarifier TK-58 (south end)) T02 (Clarifier blow down sump (south end)) T03 (Liquid alum storage tank TK-37 (southwest corner)) T04 (Alum feed tank TK-48 (southwest corner)) T05 (Caustic feed tank TK-71 (southwest corner)) V01 (6" check valve WT-42 (south end near ops desk))
02 - 61' Turbine Building Components	M01 (Raw water vacuum deaerator DA-2 (southwest corner)) P01 (6" spoolpiece between DA-4 & WT-4 (southwest corner))
03 - Fire Pump House Components	S01 (6" strainer STR-1A) S02 (6" strainer STR-1B) V01 (6" check valve RW-14) V02 (1" check valve RW-7)
04 - 11' Primary Auxiliary Building Components	P01 (3" line at valve PW-168 (northwest stairs))

REASON(S) CHARACTERIZATION SURVEY (C01)

MATERIALS

MAT'L CODE	MATERIAL DESCRIPTION	BETA BKGD (dpm/100 cm²)
B0031	METAL - BARE	0.0
G0031	METAL - BARE (GAMMA)	0.0

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Maine Yankee Atomic Power Plant Site Characterization

03/31/98

Direct Measurements For Total Beta Activity

Survey Package D0200 SYSTEMS

Water Treatment Plant Systems

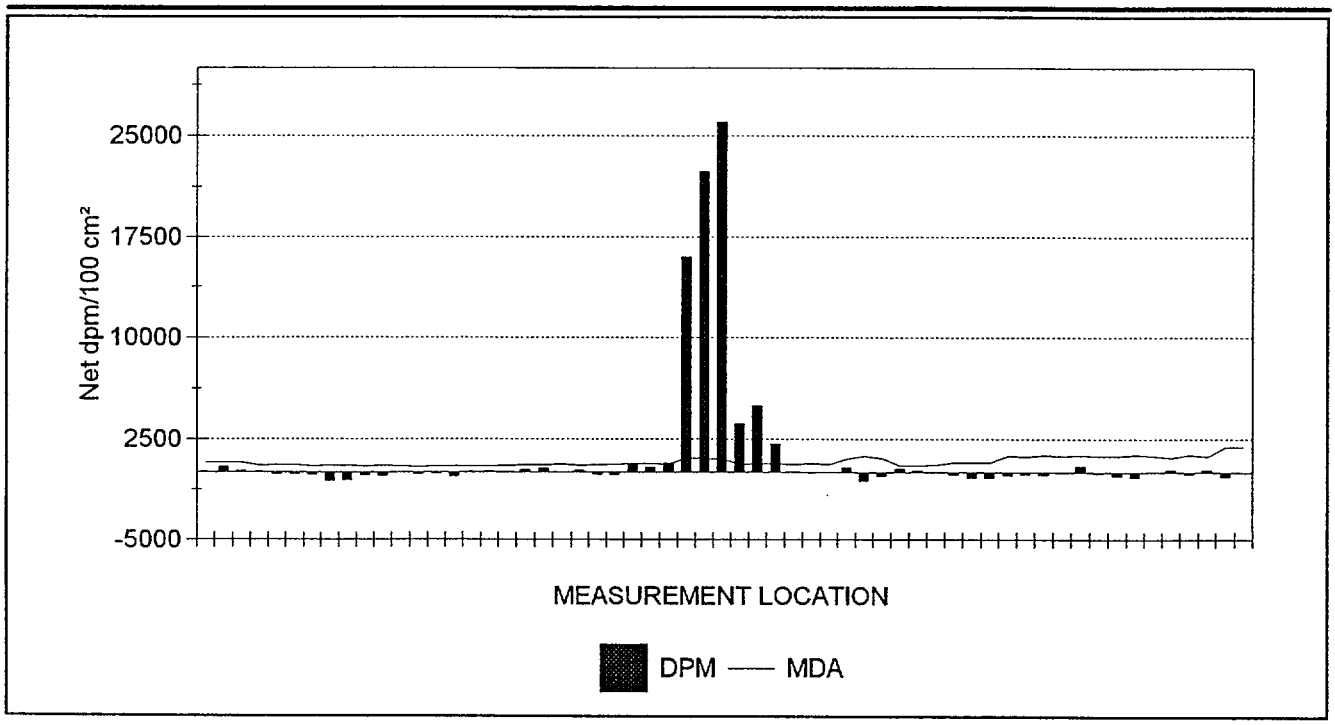
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	1,250.8
Maximum	26,046.3
Minimum	-628.0
Standard Deviation	4,898.1
MDA	1,936.7

Samples Reported	59
Samples Prescribed	59

TESTS PERFORMED

Samples reported satisfy samples prescribed	YES
MDA <2000 net dpm/100 cm²	YES
Results above 2000 net dpm/100 cm²	6
Number of results above MDA	7



59 RESULTS ARE GRAPHED

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Maine Yankee Atomic Power Plant Site Characterization

03/31/98

Direct Measurements For Total Beta Activity

Survey Package : D0200 SYSTEMS

Water Treatment Plant Systems

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	MDA	RESULT
526 (2)	01	P01	B0031	C01	300	00001	748.8	52.2
526 (2)	01	P01	B0031	C01	300	00002	758.6	428.1
526 (2)	01	P01	B0031	C01	300	00003	761.8	114.8
502 (2)	01	P02	B0031	C01	360	00001	520.7	39.3
502 (2)	01	P02	B0031	C01	360	00002	544.2	-133.5
502 (2)	01	P02	B0031	C01	360	00003	541.7	-133.5
502 (2)	01	P03	B0031	C01	360	00001	465.6	-188.4
502 (2)	01	P03	B0031	C01	360	00002	516.7	-628.0
502 (2)	01	P03	B0031	C01	360	00003	512.7	-580.9
502 (2)	01	P04	B0031	C01	360	00001	462.6	-219.8
502 (2)	01	P04	B0031	C01	360	00002	501.7	-266.9
502 (2)	01	P04	B0031	C01	360	00003	477.5	31.4
502 (2)	01	P05	B0031	C01	360	00001	436.1	-109.9
502 (2)	01	P05	B0031	C01	360	00002	477.5	-62.8
502 (2)	01	P05	B0031	C01	360	00003	484.7	-306.2
248 (2)	01	P06	B0031	C01	360	00001	482.7	55.2
248 (2)	01	P06	B0031	C01	360	00002	475.6	122.6
248 (2)	01	P06	B0031	C01	360	00003	493.0	49.0
224 (2)	01	P07	B0031	C01	300	00001	565.0	216.3
224 (2)	01	P07	B0031	C01	300	00002	573.4	340.8
224 (2)	01	P07	B0031	C01	300	00003	589.9	26.2
240 (2)	01	T01	B0031	C01	15	00001	508.3	140.1
240 (2)	01	T01	B0031	C01	15	00002	537.7	-171.3
240 (2)	01	T01	B0031	C01	15	00003	600.5	-186.8
498 (2)	01	T02	B0031	C01	15	00001	631.9	623.9
498 (2)	01	T02	B0031	C01	15	00002	662.3	389.9
498 (2)	01	T02	B0031	C01	15	00003	609.1	686.3
240 (2)	01	T03	B0031	C01	30	00001	1,088.4	***16,012.4***
240 (2)	01	T03	B0031	C01	30	00002	1,018.2	***22,403.3***
240 (2)	01	T03	B0031	C01	30	00003	998.3	***26,046.3***
240 (2)	01	T04	B0031	C01	15	00001	604.7	***3,674.2***
240 (2)	01	T04	B0031	C01	15	00002	672.0	***4,966.4***
240 (2)	01	T04	B0031	C01	15	00003	641.3	***2,164.0***
240 (2)	01	T05	B0031	C01	15	00001	613.0	62.3
240 (2)	01	T05	B0031	C01	15	00002	633.3	-46.7
240 (2)	01	T05	B0031	C01	15	00003	583.3	15.6
490 (2)	01	V01	B0031	C01	120	00001	1,030.9	357.5
490 (2)	01	V01	B0031	C01	120	00002	1,232.1	-625.6
490 (2)	01	V01	B0031	C01	120	00003	1,060.8	-238.3
229 (2)	02	M01	B0031	C01	15	00001	532.1	264.1

NOTES: Activity reported in net dpm/100 cm². Count times are reported in seconds.
Underlined values exceed the MDA.
Bold values exceed 2000 dpm/100 cm².

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Maine Yankee Atomic Power Plant Site Characterization

03/31/98

Direct Measurements For Total Beta Activity

Survey Package : D0200 SYSTEMS

Water Treatment Plant Systems

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	MDA	RESULT
229 (2)	02	M01	B0031	C01	15	00002	536.8	161.4
229 (2)	02	M01	B0031	C01	15	00003	555.2	14.7
224 (2)	02	P01	B0031	C01	300	00001	732.3	-177.0
224 (2)	02	P01	B0031	C01	300	00002	736.8	-406.4
224 (2)	02	P01	B0031	C01	300	00003	743.9	-412.9
490 (2)	03	S01	B0031	C01	120	00001	1,265.0	-208.5
490 (2)	03	S01	B0031	C01	120	00002	1,206.8	-119.2
490 (2)	03	S01	B0031	C01	120	00003	1,297.0	-148.9
483 (2)	03	S02	B0031	C01	120	00001	1,240.6	-29.2
483 (2)	03	S02	B0031	C01	120	00002	1,272.0	467.4
483 (2)	03	S02	B0031	C01	120	00003	1,240.6	-87.6
490 (2)	03	V01	B0031	C01	120	00001	1,248.6	-268.1
490 (2)	03	V01	B0031	C01	120	00002	1,335.8	-357.5
490 (2)	03	V01	B0031	C01	120	00003	1,248.6	59.6
483 (2)	03	V02	B0031	C01	120	00001	1,123.3	175.3
483 (2)	03	V02	B0031	C01	120	00002	1,339.7	-116.9
483 (2)	03	V02	B0031	C01	120	00003	1,191.8	204.5
503 (2)	04	P01	B0031	C01	600	00001	1,931.3	-284.0
503 (2)	04	P01	B0031	C01	600	00002	1,936.7	-51.2

NOTES: Activity reported in net dpm/100 cm². Count times are reported in seconds.
Underlined values exceed the MDA.
Bold values exceed 2000 dpm/100 cm².
59 results are listed.

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DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

03/31/98 Direct Measurements For Total Beta Activity

Survey Package : D0200 SYSTEMS

Water Treatment Plant Systems

SURVEY DATE	FILE #	M2350 INST S/N	M2350 CAL DUE	DETECTOR MODEL	DETECTOR S/N	DETECTOR CAL DUE	POST EFF	TECHNICIAN
12/30/97	224 (2)	095349	4/15/98	SP-175-3M	096135	4/28/98	.07	LKW7727
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
12/30/97	229 (2)	117014	4/16/98	43-106	PR126903	4/18/98	.22	DRL7343
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
12/31/97	240 (2)	117014	4/16/98	43-106	PR126903	4/18/98	.20	DRL7343
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
12/31/97	248 (2)	117573	4/14/98	43-94	PR124115	6/9/98	.03	DRL7343
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/26/98	483 (2)	126185	3/20/98	44-40	PR121903	3/22/98	.11	DRL7343
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/27/98	490 (2)	126182	3/22/98	44-40	PR095101	3/23/98	.11	DRL7343
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		

DETECTOR LISTING CONTINUED ON NEXT PAGE

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DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

03/31/98 Direct Measurements For Total Beta Activity

Survey Package : D0200 SYSTEMS

Water Treatment Plant Systems

SURVEY DATE	FILE #	M2350 INST S/N	M2350 CAL DUE	DETECTOR MODEL	DETECTOR S/N	DETECTOR CAL DUE	POST EFF	TECHNICIAN
1/28/98	498 (2)	129414	3/22/98	43-106	PR133882	3/27/98	.20	DRL7343
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/28/98	502 (2)	129430	5/6/98	43-94	124115	6/9/98	.02	MAP5535
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/28/98	502 (2)	129430	5/6/98	43-94	124115	6/9/98	.02	MAP5535
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/28/98	502 (2)	129430	5/6/98	43-94	124115	6/9/98	.02	MAP5535
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/28/98	503 (2)	126195	5/7/98	43-98	117961	6/10/98	.02	DRL7343
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
2/3/98	526 (2)	117573	4/14/98	SP-113-3M	PR096137	4/14/98	.10	LKW7727
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		

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Maine Yankee Atomic Power Plant Site Characterization

03/29/98

Removable Contamination - Gross Beta Activity

Survey Package D0200 SYSTEMS

Water Treatment Plant Systems

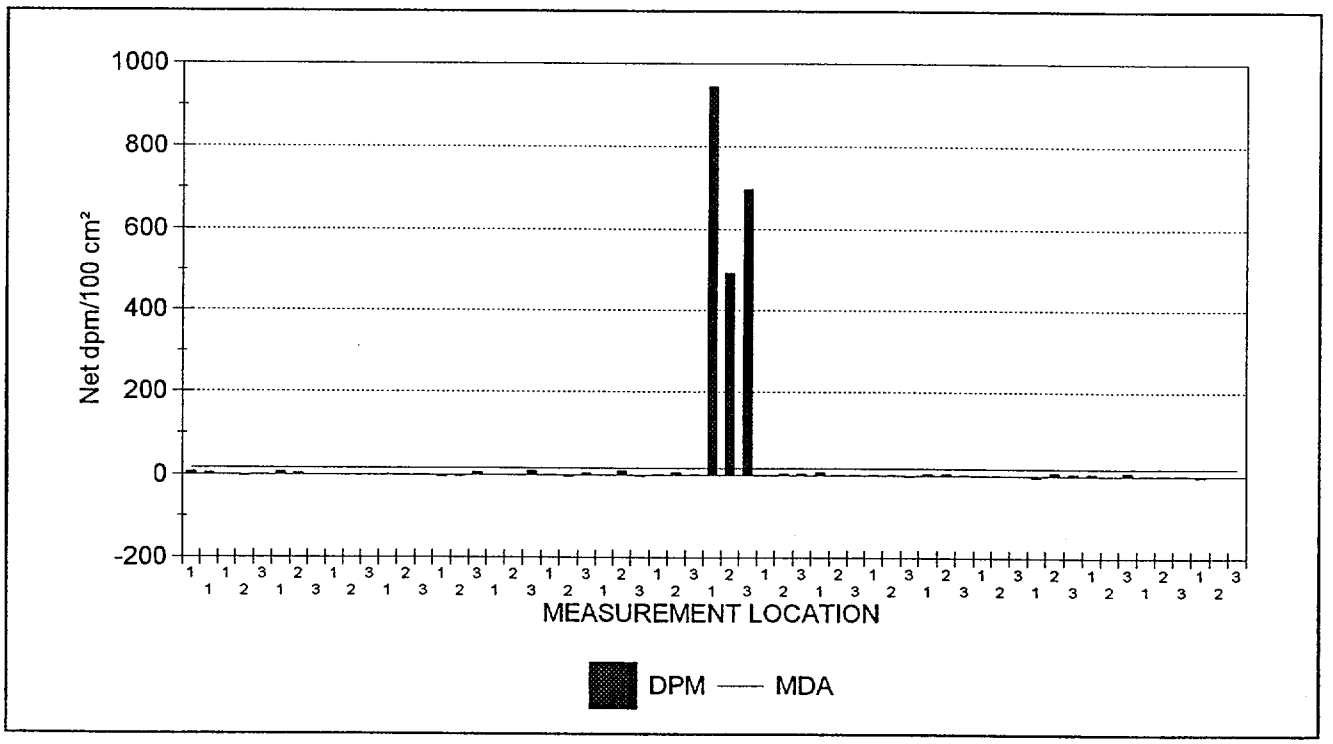
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	38.1
Maximum	945.1
Minimum	-4.3
Standard Deviation	162.8
MDA	15.7

Samples Reported	59
Samples Prescribed	60

TESTS PERFORMED

MDA <100 net dpm/100 cm²	YES
Results above 100 net dpm/100 cm²	3
Number of results above MDA	3



59 RESULTS ARE GRAPHED

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PAJ

DBACORR Documentation
:aProgDBACORR:F_0321.FSL
OUTPUT BATCH SN = 243

Maine Yankee Atomic Power Plant Site Characterization

03/29/98

Removable Contamination - Gross Alpha Activity

Survey Package D0200 SYSTEMS

Water Treatment Plant Systems

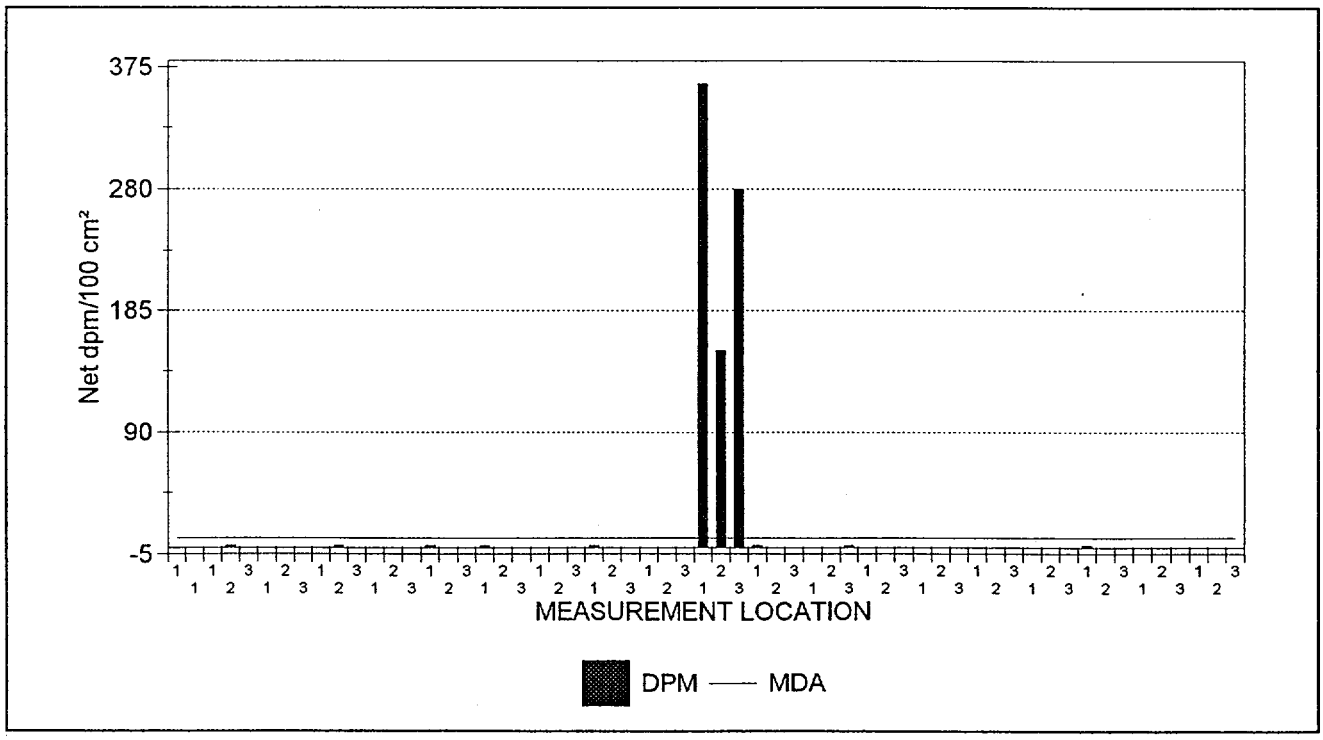
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	13.6
Maximum	362.2
Minimum	-0.2
Standard Deviation	61.9
MDA	7.6

Samples Reported	59
Samples Prescribed	60

TESTS PERFORMED

MDA <10 net dpm/100 cm²	YES
Results above 20 net dpm/100 cm²	3
Number of results above MDA	3



59 RESULTS ARE GRAPHED

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Version 3.0.7 - 3/24/98

PAJ

DBACORR Documentation
:aProgDBACORR:F_0321.FSL
OUTPUT BATCH SN = 243

Survey Package : D0200 SYSTEMS

Water Treatment Plant Systems

RESULTS LISTING - SORTED BY SURFACE CODE

XLS FILE	UNIT	SURFACE	REASON	MSRMNT LOCATION	ALPHA	BETA
SME1E000.XLS	03	V02	C01	3	-0.2	-0.2
SME1E000.XLS	03	V02	C01	2	-0.2	-0.2
SME1E000.XLS	03	V02	C01	1	-0.2	-2.3
SME1E000.XLS	03	V01	C01	3	-0.2	1.9
SME1E000.XLS	03	V01	C01	2	-0.2	1.9
SME1E000.XLS	03	V01	C01	1	-0.2	1.9
SME1E000.XLS	03	S02	C01	3	-0.2	8.1
SME1E000.XLS	03	S02	C01	2	-0.2	-0.2
SME1E000.XLS	03	S02	C01	1	1.8	3.9
SME1E000.XLS	03	S01	C01	3	-0.2	3.9
SME1E000.XLS	03	S01	C01	2	-0.2	8.1
SME1E000.XLS	03	S01	C01	1	-0.2	-4.3
SME1E000.XLS	02	P01	C01	3	-0.2	-0.2
SME1E000.XLS	02	P01	C01	2	-0.2	-0.2
SME1E000.XLS	02	P01	C01	1	-0.2	-0.2
SME1E000.XLS	02	M01	C01	3	-0.2	1.9
SME1E000.XLS	02	M01	C01	2	-0.2	3.9
SME1E000.XLS	02	M01	C01	1	-0.2	3.9
SME1E000.XLS	01	V01	C01	3	-0.2	-2.3
SME1E000.XLS	01	V01	C01	2	-0.2	1.9
SME1E000.XLS	01	V01	C01	1	-0.2	1.9
SME1E000.XLS	01	T05	C01	3	1.8	1.9
SME1E000.XLS	01	T05	C01	2	-0.2	1.9
SME1E000.XLS	01	T05	C01	1	-0.2	8.1
SME1E000.XLS	01	T04	C01	3	-0.2	3.9
SME1E000.XLS	01	T04	C01	2	-0.2	3.9
SME1E000.XLS	01	T04	C01	1	1.8	-0.2
SME1E000.XLS	01	T03	C01	3	***280.1***	***696.8***
SME1E000.XLS	01	T03	C01	2	***154.0***	***492.1***
SME1E000.XLS	01	T03	C01	1	***362.2***	***945.1***
SME1E000.XLS	01	T02	C01	3	-0.2	1.9
SME1E000.XLS	01	T02	C01	2	-0.2	6.0
SME1E000.XLS	01	T02	C01	1	-0.2	1.9
SME1E000.XLS	01	T01	C01	3	-0.2	-2.3
SME1E000.XLS	01	T01	C01	2	-0.2	10.1
SME1E000.XLS	01	T01	C01	1	1.8	-0.2
SME1E000.XLS	01	P07	C01	3	-0.2	3.9
SME1E000.XLS	01	P07	C01	2	-0.2	-2.3
SME1E000.XLS	01	P07	C01	1	-0.2	1.9
SME1E000.XLS	01	P06	C01	3	-0.2	10.1

NOTES: Activity reported in net dpm/100 cm².
Underlined values exceed the associated MDA.
Bold values exceed 100.00 dpm/100 cm² (beta activity) and/or 20.00 dpm/100 cm² (alpha activity).

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Survey Package : D0200 SYSTEMS

Water Treatment Plant Systems

RESULTS LISTING - SORTED BY SURFACE CODE

XLS FILE	UNIT	SURFACE	REASON	MSRMNT LOCATION	ALPHA	BETA
SME1E000.XLS	01	P06	C01	2	-0.2	-0.2
SME1E000.XLS	01	P06	C01	1	1.8	-0.2
SME1E000.XLS	01	P05	C01	3	-0.2	8.1
SME1E000.XLS	01	P05	C01	2	-0.2	-2.3
SME1E000.XLS	01	P05	C01	1	1.8	-4.3
SME1E000.XLS	01	P04	C01	3	-0.2	1.9
SME1E000.XLS	01	P04	C01	2	-0.2	-0.2
SME1E000.XLS	01	P04	C01	1	-0.2	1.9
SME1E000.XLS	01	P03	C01	3	-0.2	1.9
SME1E000.XLS	01	P03	C01	2	1.8	-0.2
SME1E000.XLS	01	P03	C01	1	-0.2	-0.2
SME1E000.XLS	01	P02	C01	3	-0.2	-0.2
SME1E000.XLS	01	P02	C01	2	-0.2	3.9
SME1E000.XLS	01	P02	C01	1	-0.2	8.1
SME1E000.XLS	01	P01	C01	3	-0.2	1.9
SME1E000.XLS	01	P01	C01	2	1.8	-2.3
SME1E000.XLS	01	P01	C01	1	-0.2	-0.2
SME1E000.XLS	01	P01	C01	1	-0.2	3.9
SME1E000.XLS	01	P01	C01	1	-0.2	8.1

NOTES: Activity reported in net dpm/100 cm².
Underlined values exceed the associated MDA.
Bold values exceed 100.00 dpm/100 cm² (beta activity) and/or 20.00 dpm/100 cm² (alpha activity).
59 results are listed.

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Maine Yankee Atomic Power Plant Site Characterization

DATAFILE & TENNELEC CALIBRATION SUMMARY

03/29/98

Removable Contamination

Survey Package : D0200 SYSTEMS

Water Treatment Plant Systems

SURVEYDATE	XLS FILE	INST ID	S/N	CAL DUE	LAB TECHNICIAN
2/11/98	SME1E000.XLS	1	15632	8/5/98	JWD
				CALIBRATION DATE VERIFIED AS ACCEPTABLE	

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Maine Yankee Atomic Power Plant Site Characterization

03/27/98 Removable Contamination - Tritium Activity

Survey Package : D0200 SYSTEMS

Water Treatment Plant Systems

RESULTS LISTING - SORTED BY SURFACE CODE

SAMPLE ID	SAMPLE TYPE	UNIT	SURF	REASN	MSRMNT LOCATION	MDA	TRITIUM ACTIVITY
H006	Whatman smear	01	T01	C01	00001	8.0	3.0
H007	Whatman smear	01	T03	C01	00001	8.0	***618.1***
H008	Whatman smear	01	T04	C01	00001	8.0	-3.6

NOTES: Activity reported in net dpm/100 cm².
Underlined values exceed the associated MDA.
Bold values exceed 25 dpm/100 cm²,
Italic values exceed 100 dpm/100 cm².

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Maine Yankee Atomic Power Plant Site Characterization

LIQUID SCINTILLATION COUNTER CALIBRATION SUMMARY

03/27/98 Removable Contamination - Tritium Activity

Survey Package : D0200 SYSTEMS

Water Treatment Plant Systems

SURVEYDATE	INSTRUMENT	MODEL	S/N	CAL DUE	LAB TECHNICIAN
2/1/98	Packard	2750	416221	6/16/98	LDT
				CALIBRATION DATE VERIFIED AS ACCEPTABLE	

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Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Exposure Rate Measurements

Survey Package D0200 SYSTEMS

Water Treatment Plant Systems

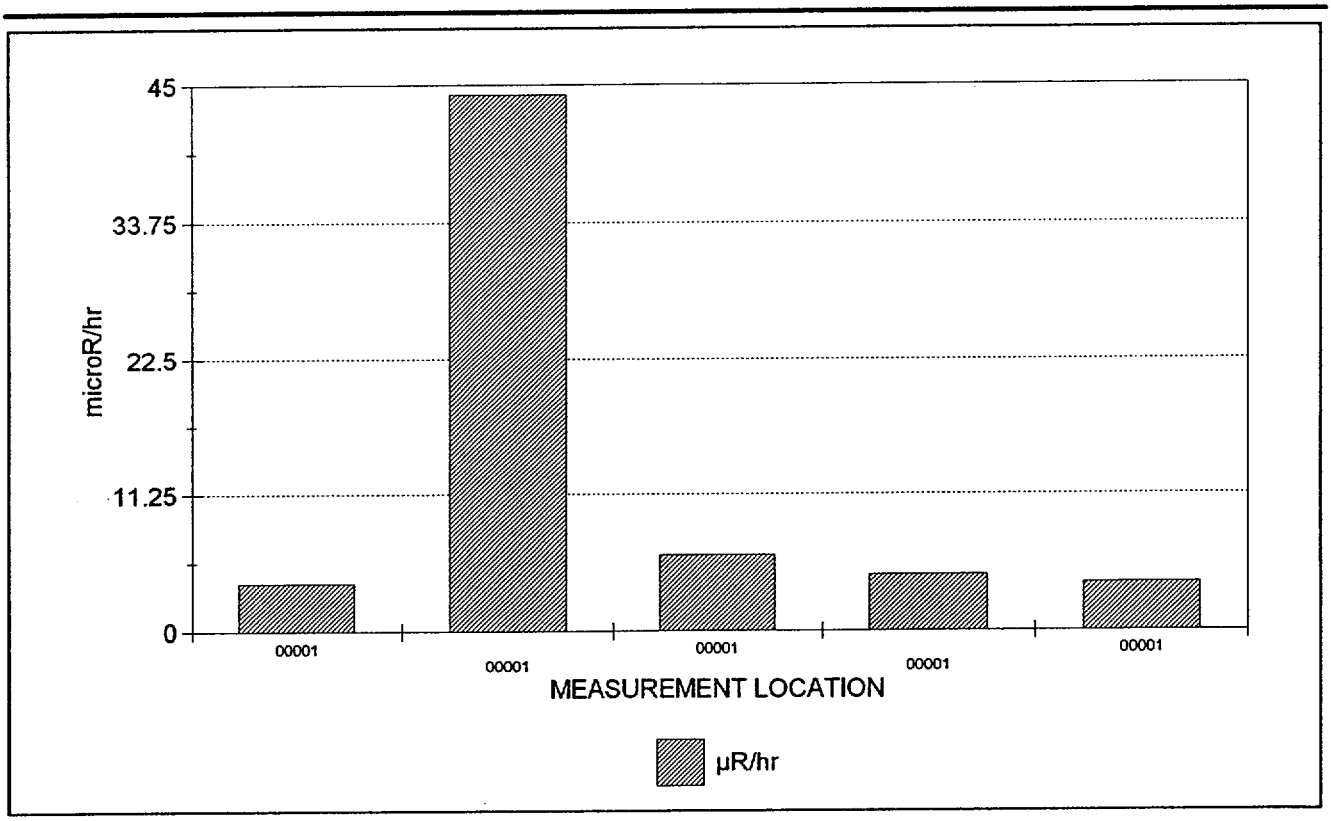
STATISTICAL SUMMARY

	µR/hr
Mean	12.6
Maximum	44.2
Minimum	4.0
Standard Deviation	17.7

Samples Reported	5
Samples Prescribed	5

TESTS PERFORMED

Samples reported satisfy samples prescribed	YES



5 RESULTS ARE GRAPHED

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Maine Yankee Atomic Power Plant Site Characterization

03/27/98 Exposure Rate Measurements

Survey Package : D0200 SYSTEMS

Water Treatment Plant Systems

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	RESULT
241 (2)	01	T01	G0031	C01	60.00	00001	3.9
241 (2)	01	T03	G0031	C01	60.00	00001	***44.2***
241 (2)	01	T04	G0031	C01	60.00	00001	6.2
241 (2)	01	T05	G0031	C01	60.00	00001	4.6
230 (2)	02	M01	G0031	C01	60.00	00001	4.0

NOTES: Exposure rates reported in net µR/hr. Count times are reported in seconds.
Underlined results did not meet the minimum required count time.
Bold values exceed 15 µR/hr.
5 results are listed.

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DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

03/27/98 Exposure Rate Measurements

Survey Package : D0200 SYSTEMS

Water Treatment Plant Systems

SURVEY DATE	FILE #	M2350 INST S/N	M2350 CAL DUE	DETECTOR MODEL	DETECTOR S/N	DETECTOR CAL DUE	TECHNICIAN
12/30/97	230 (2)	095348	3/20/98	44-2	PR091091	4/19/98	DRL7343
					CALIBRATION DATES VERIFIED AS ACCEPTABLE		
12/31/97	241 (2)	126182	3/22/98	44-2	128338	4/19/98	DRL7343
					CALIBRATION DATES VERIFIED AS ACCEPTABLE		

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Maine Yankee Atomic Power Plant Site Characterization

GAMMA SPECTRAL ANALYSIS RESULTS LISTING

03/28/98 OUTPUT BATCH SN = 203

Survey Package D0200 SYSTEMS

Water Treatment Plant Systems

UNIT : 01 SURFACE : T01 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Tank
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD73	FAL00028	12.6	1800	Co-57	< 5.1	5.1	0.0
				Co-60	< 5.8	5.8	0.0
				Cs-134	< 6.4	6.4	0.0
				Cs-137	< 6.9	6.9	0.0
				K-40	< 69.7	69.7	0.0
				Mn-54	< 7.0	7.0	0.0

UNIT : 01 SURFACE : T03 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Tank
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD74	FAL00044	14.2	1800	Co-57	< 4.4	4.5	0.0
				Co-60	< 4.2	4.2	0.0
				Cs-134	< 5.1	5.2	0.0
				Cs-137	< 4.0	4.0	0.0
				K-40	< 49.6	49.6	0.0
				Mn-54	< 5.1	5.2	0.0

SAMPLE TYPE OR SURFACE SAMPLED: Tank
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD76	PET00016	1.0	1200	Co-57	< 49.4	49.4	0.0
				Co-60	< 69.6	69.6	0.0
				Cs-134	< 68.5	68.5	0.0
				Cs-137	< 65.3	65.3	0.0
				K-40	< 1420.0	1,420.0	0.0
				Mn-54	< 72.4	72.4	0.0

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Survey Package D0200 SYSTEMS

Water Treatment Plant Systems

SAMPLE TYPE OR SURFACE SAMPLED: Tank
SAMPLE LOCATOR: 00002

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD77	PET00032	1.0	1200	Co-57	< 49.0	49.0	0.0
				Co-60	< 56.0	56.0	0.0
				Cs-134	< 70.1	70.1	0.0
				Cs-137	< 69.8	69.8	0.0
				K-40	< 799.0	799.0	0.0
				Mn-54	< 71.5	71.5	0.0

SAMPLE TYPE OR SURFACE SAMPLED: Tank
SAMPLE LOCATOR: 00003

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD78	PET00017	1.0	1200	Co-57	< 55.2	55.2	0.0
				Co-60	< 17.5	17.5	0.0
				Cs-134	< 77.1	77.1	0.0
				Cs-137	< 60.7	60.7	0.0
				K-40	< 1120.0	1,120.0	0.0
				Mn-54	< 82.9	82.9	0.0

UNIT : 01 SURFACE : T04 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Tank
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD75	FAL00045	3.1	1800	Co-57	< 17.6	17.6	0.0
				Co-60	< 22.2	22.2	0.0
				Cs-134	< 20.4	20.4	0.0
				Cs-137	< 20.5	20.5	0.0
				K-40	< 314.0	314.0	0.0
				Mn-54	< 21.3	21.3	0.0

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GAMMA SPECTRAL ANALYSIS RESULTS LISTING

03/28/98

OUTPUT BATCH SN = 203

Survey Package D0200 SYSTEMS

Water Treatment Plant Systems

UNIT : 02 SURFACE : M01 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Misc component
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD20	FAL00014	0.5	1800	Co-57	< 82.8	82.8	0.0
				Co-60	< 115.0	115.0	0.0
				Cs-134	< 126.0	126.0	0.0
				Cs-137	< 92.9	92.9	0.0
				K-40	< 1130.0	1,130.0	0.0
				Mn-54	< 119.0	119.0	0.0

SAMPLE TYPE OR SURFACE SAMPLED: Misc component
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD20D	PET00016	0.5	1800	Co-57	< 82.3	82.3	0.0
				Co-60	< 97.0	97.0	0.0
				Cs-134	< 86.1	86.1	0.0
				Cs-137	< 109.0	109.0	0.0
				K-40	< 1370.0	1,370.0	0.0
				Mn-54	< 108.0	108.0	0.0

UNIT : 03 SURFACE : S01 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Strainer / Filters
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD41	FAL00027	5.5	1800	Co-57	< 9.8	9.8	0.0
				Co-60	< 13.9	13.9	0.0
				Cs-134	< 11.2	11.2	0.0
				Cs-137	< 12.2	12.2	0.0
				K-40	< 114.0	114.0	0.0
				Mn-54	< 14.8	14.8	0.0

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Version 3.0.7 - 3/24/98

PAJ

DBACORR Documentation

:aProgDBACORR:R_GSPEC.RSL

04/01/98

CHARACTERIZATION SUMMARY

SURVEY PACKAGE NUMBER :D0300 — SYSTEMS

PACKAGE DESCRIPTION — Potable Water System

SURVEY AREA DESCRIPTION
Potable Water System

GENERAL HISTORICAL INFORMATION (Operational history, etc.)
The Potable Water System provides potable water for use in sinks, toilets, showers, etc. The source of water for the Potable Water System was the Monsweag Brook until 1994, at which time the system was tied in to the Wiscasset water system.

SUMMARY OF CHARACTERIZATION ACTIVITIES
Survey units were established for the areas as shown in the following Summary of Survey Units. System diagrams with the survey measurement locations for this package are included in Appendix B, Unaffected Systems Diagrams.

Performed a scan of accessible surfaces up to a maximum area of one square meter at 38 survey measurement locations indicated on the appropriate survey diagram(s).

Collected direct measurements for total beta activity at 38 survey measurement locations at the highest location identified in the scan. If an elevated location was not observed, the measurement was collected at an arbitrary location, selected by the technician, within the scanned area.

Collected smear samples to analyze for removable alpha and beta activity at the same 38 survey locations as for direct measurements for total beta activity.

Collected smear samples to analyze for removable tritium activity at 3 survey measurement locations indicated on the results listing report.

Collected exposure rate measurements at 5 survey locations indicated on the results listing report.

Collected 5 material samples (e.g., sludge, sediment, rust, etc.) from the sumps, drains for gamma spectral analysis.

The survey result statistical summaries, graphs and results listings are shown in the following individual reports including calibration summaries for the instruments used for each measurement type.

CHARACTERIZATION SURVEY RESULTS

o There were 13 direct measurements for total beta activity above MDA (Maximum MDA was 1089 dpm/100cm²) and 1 result greater than 2000 dpm/100cm². The maximum measurement result was 2,639 dpm/100cm² at location 01P04 (2.5" line at valves DW-71 & DW-74) survey measurement location 2. However, a high background was present at this location when the survey was performed.

o There was 4 measurements for removable beta activity above MDA (15.9 dpm/100cm²) and no results greater than 100 dpm/100cm². The maximum measurement result was 29.2 dpm/100cm².

o There were 2 measurements for removable alpha activity above MDA (7.6 dpm/100cm²) and no results greater than 20 dpm/100cm². The maximum measurement result was 9.1 dpm/100cm².

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CHARACTERIZATION SUMMARY

o There was 1 measurement for removable tritium activity above MDA (8 dpm/100cm²) and no results greater than 100 dpm/100cm². The maximum measurement result was 15 dpm/100cm² at location 01P01 (1.5" line at valve DW-169).

o The average and maximum one meter exposure rate measurement results were 4.5 µR/hr and 7.1 µR/hr respectively.

o The sample(s) gamma spectral analysis results indicated no plant-derived radionuclide activity above MDA.

REFERENCES (Documents, Interviews)

Maine Yankee Drawings 1150 - FM - 103 A

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SUMMARY OF SURVEY UNIT(S)

03/27/98 OUTPUT BATCH SN = 287

PACKAGE D0300 SYSTEMS

Potable Water System

UNIT(S)	SURFACE(S)
01 - 21' Turbine Building Components	P01 (1.5" line at valve DW-169 (northwest corner, overhead, above fire door 119)) P02 (2" line at valve DW-210 (overhead by southwest stairs)) P03 (1.5" line at valve WW-44 (southwest corner, TK-41, overhead)) P04 (2.5" line at valves DW-71 & DW-74 (south end, outside DG-1A)) P05 (2.5" line at DW-173 (south end, outside DG-1A))
02 - 31' Turbine Building Components	P01 (2" line at gate valve DW-34 (west side on catwalk)) V01 (Valve DW-92 (west wall on catwalk))
03 - 36' Turbine Building Components	P01 (2" line at valve WW-15 (southeast corner over handrail)) P02 (2" line at valve DW-156 (southeast corner over handrail)) P03 (3" line at valve DW-43 (southeast corner)) P04 (2" line at valve DW-64 (southeast corner)) P05 (2" line at valve WW-54 (southeast corner over handrail)) T01 (Domestic hot water tank TK-63 (southeast corner)) T02 (Well water storage tank TK-64 (southeast corner)) T03 (Well water hydro pneumatic tank TK-77 (southeast corner)) T04 (Tank TK-105 (southeast corner)) T05 (Domestic water hydro pneumatic tank TK-27 (southeast corner)) U01 (Pump P-39 (southeast corner))
04 - Staff Building Boiler Room	P01 (2" line at valve DW-67 (down stairs to left))

REASON(S) CHARACTERIZATION SURVEY (C01)

MATERIALS

MAT'L CODE	MATERIAL DESCRIPTION	BETA BKGD (dpm/100 cm²)
B0031	METAL - BARE	0.0
G0031	METAL - BARE (GAMMA)	0.0

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Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Direct Measurements For Total Beta Activity

Survey Package D0300 SYSTEMS

Potable Water System

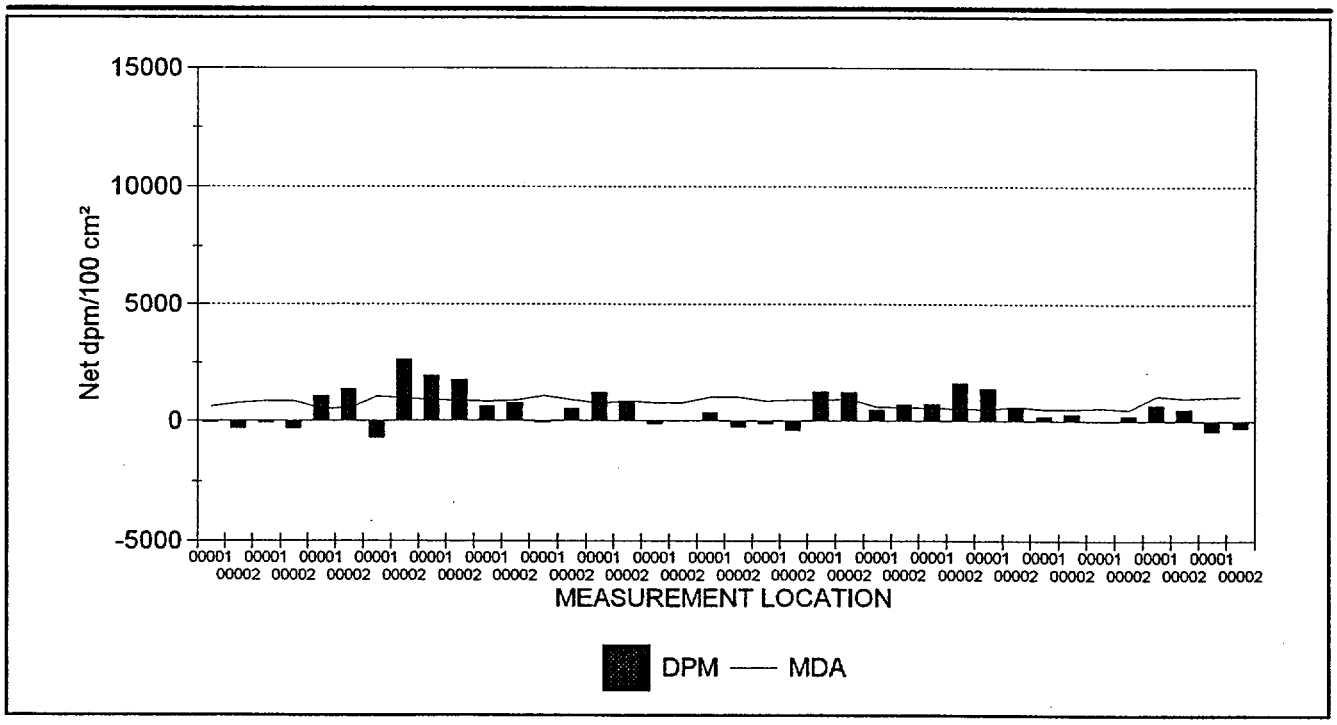
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	526.2
Maximum	2,638.6
Minimum	-697.2
Standard Deviation	767.7
MDA	1,089.2

Samples Reported	38
Samples Prescribed	38

TESTS PERFORMED

Samples reported satisfy samples prescribed	YES
MDA <2000 net dpm/100 cm²	YES
Results above 2000 net dpm/100 cm²	1
Number of results above MDA	13



38 RESULTS ARE GRAPHED

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Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Direct Measurements For Total Beta Activity

Survey Package: D0300 SYSTEMS

Potable Water System

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	MDA	RESULT
253 (2)	01	P01	B0031	C01	180	00001	632.0	-43.0
253 (2)	01	P01	B0031	C01	180	00002	775.3	-300.8
192 (2)	01	P02	B0031	C01	120	00001	850.9	-75.4
192 (2)	01	P02	B0031	C01	120	00002	849.3	-323.0
332 (2)	01	P03	B0031	C01	180	00001	532.6	1,090.0
332 (2)	01	P03	B0031	C01	180	00002	548.6	1,381.9
250 (2)	01	P04	B0031	C01	600	00001	1,074.5	-697.2
250 (2)	01	P04	B0031	C01	600	00002	988.3	***2,638.6***
250 (2)	01	P05	B0031	C01	600	00001	915.4	1,965.2
250 (2)	01	P05	B0031	C01	600	00002	875.3	1,777.3
194 (2)	02	P01	B0031	C01	120	00001	830.1	633.7
194 (2)	02	P01	B0031	C01	120	00002	875.5	781.6
187 (2)	02	V01	B0031	C01	120	00001	1,089.2	-83.0
187 (2)	02	V01	B0031	C01	120	00002	919.6	526.0
253 (2)	03	P01	B0031	C01	120	00001	761.6	1,246.3
253 (2)	03	P01	B0031	C01	120	00002	863.0	859.5
192 (2)	03	P02	B0031	C01	120	00001	782.3	-140.0
192 (2)	03	P02	B0031	C01	120	00002	772.3	10.8
193 (2)	03	P03	B0031	C01	240	00001	1,050.7	345.6
193 (2)	03	P03	B0031	C01	240	00002	1,036.4	-269.7
192 (2)	03	P04	B0031	C01	120	00001	869.0	-140.0
192 (2)	03	P04	B0031	C01	120	00002	904.1	-387.6
192 (2)	03	P05	B0031	C01	120	00001	899.8	1,281.3
192 (2)	03	P05	B0031	C01	120	00002	925.4	1,259.8
197 (2)	03	T01	B0031	C01	15	00001	607.3	470.2
197 (2)	03	T01	B0031	C01	15	00002	563.3	705.3
204 (2)	03	T02	B0031	C01	15	00001	551.1	728.2
204 (2)	03	T02	B0031	C01	15	00002	518.7	1,631.3
204 (2)	03	T03	B0031	C01	15	00001	494.1	1,412.8
204 (2)	03	T03	B0031	C01	15	00002	590.0	597.2
206 (2)	03	T04	B0031	C01	20	00001	494.3	177.2
206 (2)	03	T04	B0031	C01	20	00002	494.3	278.5
197 (2)	03	T05	B0031	C01	15	00001	542.4	0.0
197 (2)	03	T05	B0031	C01	15	00002	480.0	203.8
187 (2)	03	U01	B0031	C01	120	00001	1,081.0	664.4
187 (2)	03	U01	B0031	C01	120	00002	985.8	498.3
194 (2)	04	P01	B0031	C01	120	00001	1,030.9	-422.5
194 (2)	04	P01	B0031	C01	120	00002	1,076.8	-285.2

NOTES: Activity reported in net dpm/100 cm². Count times are reported in seconds.
Underlined values exceed the MDA.
Bold values exceed 2000 dpm/100 cm².
38 results are listed.

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DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

03/27/98 Direct Measurements For Total Beta Activity

Survey Package : D0300 SYSTEMS

Potable Water System

SURVEY DATE	FILE #	M2350 INST S/N	M2350 CAL DUE	DETECTOR MODEL	DETECTOR S/N	DETECTOR CAL DUE	PRE EFF	TECHNICIAN
12/19/97	187 (2)	095348	3/20/98	44-40	PR119456	3/22/98	.12	JWD4920
								CALIBRATION DATES VERIFIED AS ACCEPTABLE
12/19/97	192 (2)	129429	5/5/98	43-98	PR123601	5/5/98	.05	LCF0451
								CALIBRATION DATES VERIFIED AS ACCEPTABLE
12/19/97	193 (2)	126197	3/22/98	43-98	PR123606	6/10/98	.03	LCF0451
								CALIBRATION DATES VERIFIED AS ACCEPTABLE
12/19/97	194 (2)	117573	4/14/98	43-98	PR117961	6/10/98	.05	KFS5185
								CALIBRATION DATES VERIFIED AS ACCEPTABLE
12/19/97	197 (2)	129414	3/22/98	43-106	PR133882	3/27/98	.20	JFM0682
								CALIBRATION DATES VERIFIED AS ACCEPTABLE
12/29/97	204 (2)	126182	3/22/98	43-106	133859	3/30/98	.22	DRL7343
								CALIBRATION DATES VERIFIED AS ACCEPTABLE
12/29/97	206 (2)	129414	3/22/98	43-106	PR133882	3/27/98	.19	DRL7343
								CALIBRATION DATES VERIFIED AS ACCEPTABLE
12/31/97	250 (2)	129414	3/22/98	43-98	PR117961	6/10/98	.03	KFS5185
								CALIBRATION DATES VERIFIED AS ACCEPTABLE
1/1/98	253 (2)	129430	5/6/98	43-94	124115	6/9/98	.02	MAP5535
								CALIBRATION DATES VERIFIED AS ACCEPTABLE
1/8/98	332 (2)	129429	5/5/98	43-94	PR119461	5/5/98	.03	
								CALIBRATION DATES VERIFIED AS ACCEPTABLE

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Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Removable Contamination - Gross Beta Activity

Survey Package D0300 SYSTEMS

Potable Water System

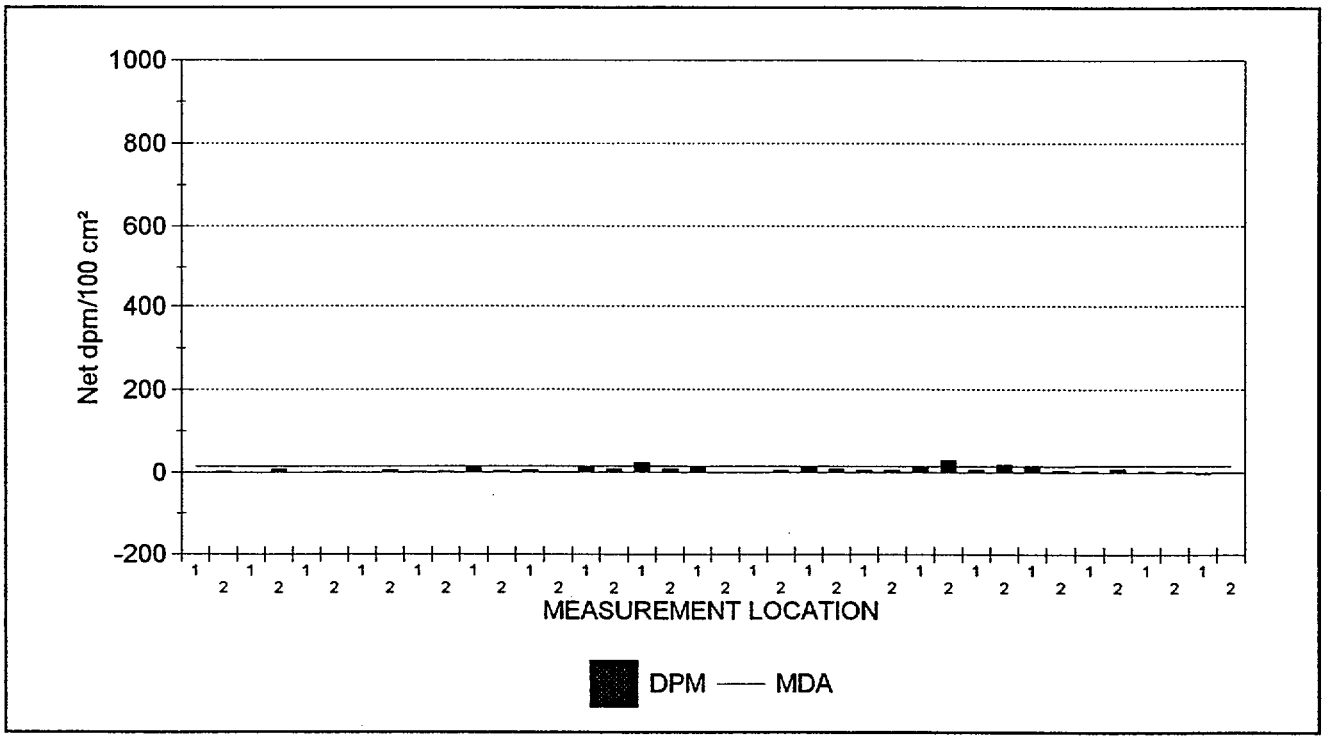
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	6.7
Maximum	29.2
Minimum	-3.3
Standard Deviation	6.9
MDA	15.9

Samples Reported	38
Samples Prescribed	41

TESTS PERFORMED

MDA <100 net dpm/100 cm²	YES
Results above 100 net dpm/100 cm²	0
Number of results above MDA	4



38 RESULTS ARE GRAPHED

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Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Removable Contamination - Gross Alpha Activity

Survey Package D0300 SYSTEMS

Potable Water System

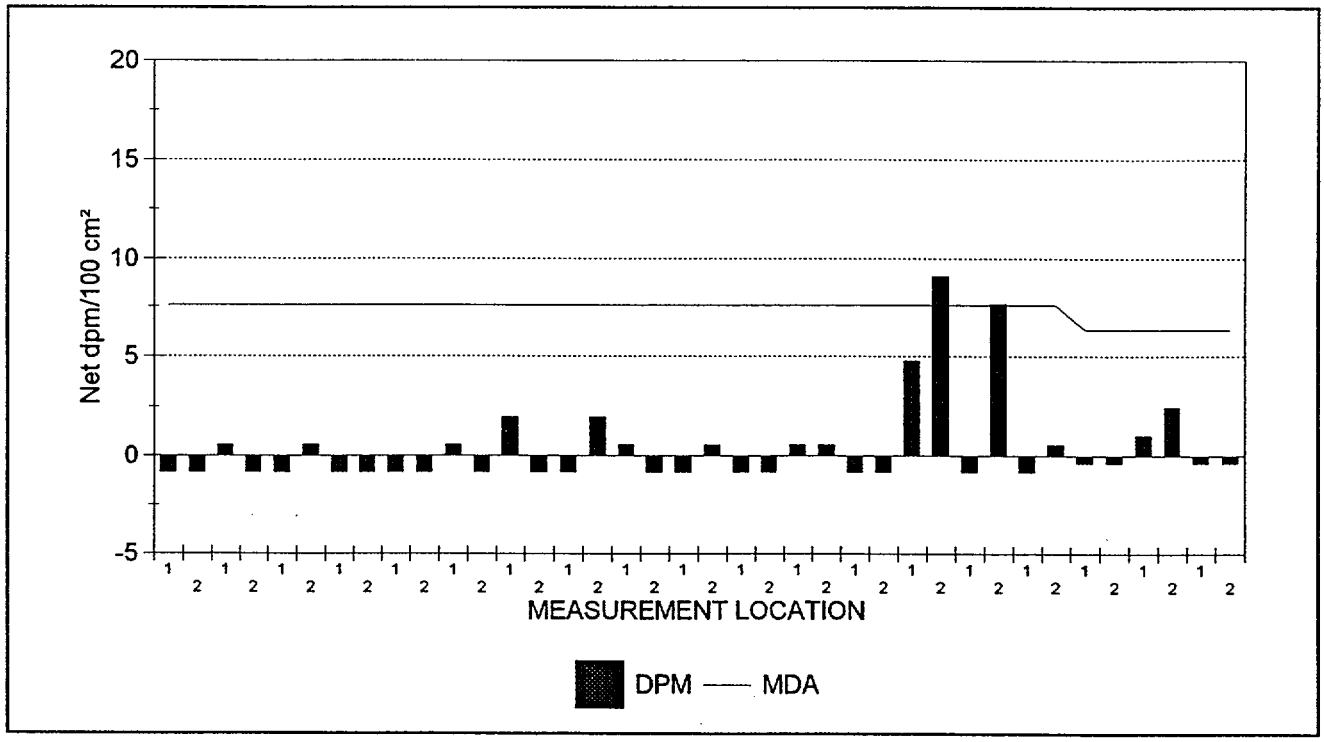
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	0.4
Maximum	9.1
Minimum	-0.9
Standard Deviation	2.3
MDA	7.6

Samples Reported	38
Samples Prescribed	41

TESTS PERFORMED

MDA <10 net dpm/100 cm²	YES
Results above 20 net dpm/100 cm²	0
Number of results above MDA	2



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Survey Package : D0300 SYSTEMS

Potable Water System

RESULTS LISTING - SORTED BY SURFACE CODE

XLS FILE	UNIT	SURFACE	REASON	MSRMNT LOCATION	ALPHA	BETA
SME1D035.XLS	04	P01	C01	2	-0.4	0.1
SME1D035.XLS	04	P01	C01	1	-0.4	-3.3
SME1D035.XLS	03	U01	C01	2	2.5	3.5
SME1D035.XLS	03	U01	C01	1	1.0	3.5
SME1D035.XLS	03	T05	C01	2	-0.4	8.5
SME1D035.XLS	03	T05	C01	1	-0.4	3.5
SME1D034.XLS	03	T04	C01	2	0.6	3.9
SME1D034.XLS	03	T04	C01	1	-0.8	15.7
SME1D034.XLS	03	T03	C01	2	7.6	19.1
SME1D034.XLS	03	T03	C01	1	-0.8	7.3
SME1D034.XLS	03	T02	C01	2	9.1	29.2
SME1D034.XLS	03	T02	C01	1	4.8	12.3
SME1D034.XLS	03	T01	C01	2	-0.8	5.6
SME1D034.XLS	03	T01	C01	1	-0.8	5.6
SME1D034.XLS	03	P05	C01	2	0.6	9.0
SME1D034.XLS	03	P05	C01	1	0.6	12.3
SME1D034.XLS	03	P04	C01	2	-0.8	5.6
SME1D034.XLS	03	P04	C01	1	-0.8	-1.1
SME1D034.XLS	03	P03	C01	2	0.6	0.6
SME1D034.XLS	03	P03	C01	1	-0.8	12.3
SME1D034.XLS	03	P02	C01	2	-0.8	9.0
SME1D034.XLS	03	P02	C01	1	0.6	24.1
SME1D034.XLS	03	P01	C01	2	2.0	9.0
SME1D034.XLS	03	P01	C01	1	-0.8	12.3
SME1D034.XLS	02	V01	C01	2	-0.8	0.6
SME1D034.XLS	02	V01	C01	1	2.0	5.6
SME1D034.XLS	02	P01	C01	2	-0.8	3.9
SME1D034.XLS	02	P01	C01	1	0.6	12.3
SME1D034.XLS	01	P05	C01	2	-0.8	2.2
SME1D034.XLS	01	P05	C01	1	-0.8	2.2
SME1D034.XLS	01	P04	C01	2	-0.8	5.6
SME1D034.XLS	01	P04	C01	1	-0.8	0.6
SME1D034.XLS	01	P03	C01	2	0.6	2.2
SME1D034.XLS	01	P03	C01	1	-0.8	0.6
SME1D034.XLS	01	P02	C01	2	-0.8	9.0
SME1D034.XLS	01	P02	C01	1	0.6	0.6
SME1D034.XLS	01	P01	C01	2	-0.8	2.2
SME1D034.XLS	01	P01	C01	1	-0.8	0.6

NOTES: Activity reported in net dpm/100 cm².
Underlined values exceed the associated MDA.
Bold values exceed 100.00 dpm/100 cm² (beta activity) and/or 20.00 dpm/100 cm² (alpha activity).
38 results are listed.

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DATAFILE & TENNELEC CALIBRATION SUMMARY

03/27/98

Removable Contamination

Survey Package : D0300 SYSTEMS

Potable Water System

SURVEYDATE	XLS FILE	INST ID	S/N	CAL DUE	LAB TECHNICIAN
2/13/98	SME1D034.XLS	1	14131	8/7/98	RWD
				CALIBRATION DATE VERIFIED AS ACCEPTABLE	
2/14/98	SME1D035.XLS	1	14131	8/7/98	RWD
				CALIBRATION DATE VERIFIED AS ACCEPTABLE	

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Maine Yankee Atomic Power Plant Site Characterization

03/27/98 Removable Contamination - Tritium Activity

Survey Package : D0300 SYSTEMS

Potable Water System

RESULTS LISTING - SORTED BY SURFACE CODE

SAMPLE ID	SAMPLE TYPE	UNIT	SURF	REASN	MSRMNT LOCATION	MDA	TRITIUM ACTIVITY
H009	Whatman smear	03	T01	C01	00001	8.0	3.8
H010	Whatman smear	01	P01	C01	00001	8.0	15.0
H011	Whatman smear	03	T02	C01	00001	8.0	1.6

NOTES: Activity reported in net dpm/100 cm².
Underlined values exceed the associated MDA.
Bold values exceed 25 dpm/100 cm²,
Italic values exceed 100 dpm/100 cm².

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Version 3.0.7 - 3/24/98

JLM

DBACORR Documentation
:aProgDBACORR:F_0530.FSL
OUTPUT BATCH SN = 287

LIQUID SCINTILLATION COUNTER CALIBRATION SUMMARY

03/27/98

Removable Contamination - Tritium Activity

Survey Package : D0300 SYSTEMS

Potable Water System

SURVEYDATE	INSTRUMENT	MODEL	S/N	CAL DUE	LAB TECHNICIAN
2/1/98	Packard	2750	416221	6/16/98	LDT
				CALIBRATION DATE VERIFIED AS ACCEPTABLE	

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Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Exposure Rate Measurements

Survey Package D0300 SYSTEMS

Potable Water System

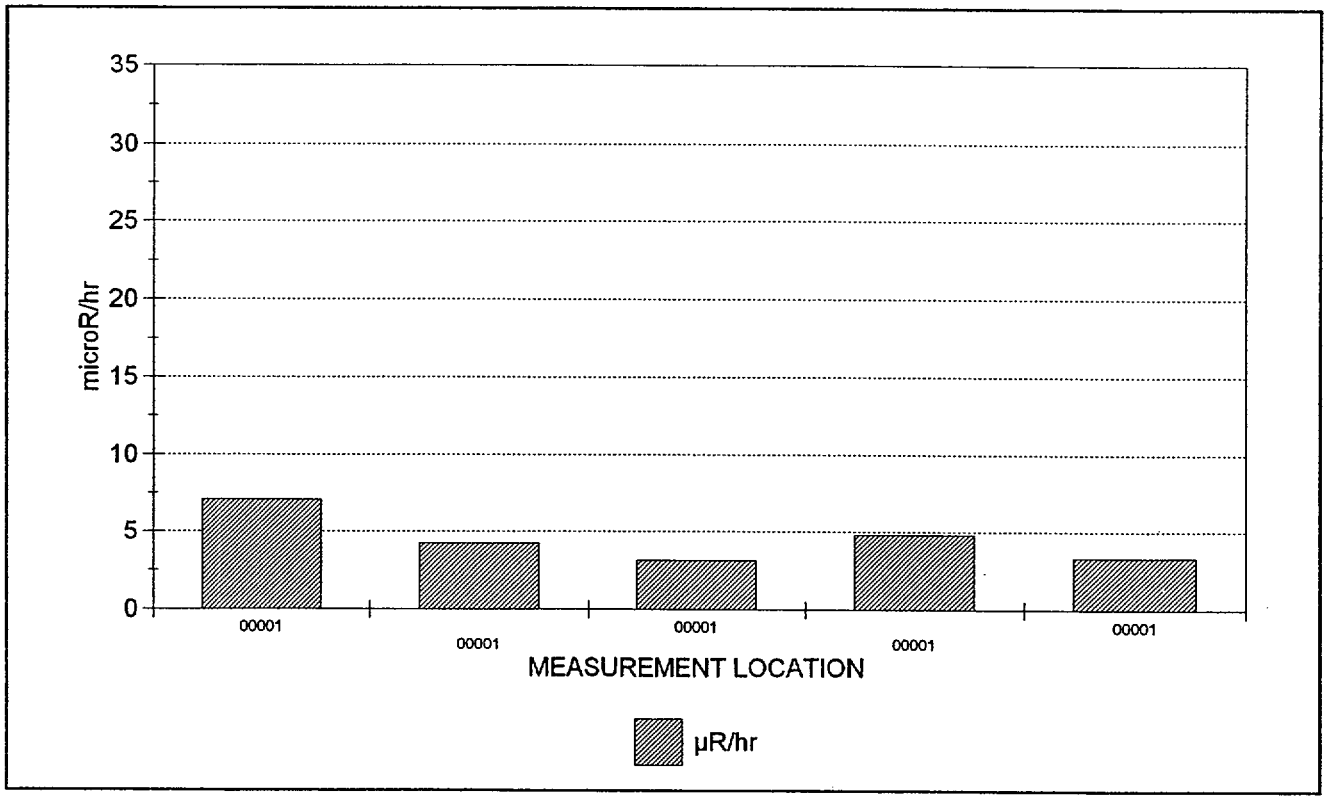
STATISTICAL SUMMARY

	µR/hr
Mean	4.5
Maximum	7.1
Minimum	3.1
Standard Deviation	1.6

Samples Reported	5
Samples Prescribed	5

TESTS PERFORMED

Samples reported satisfy samples prescribed	YES



5 RESULTS ARE GRAPHED

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03/27/98 Exposure Rate Measurements

Survey Package : D0300 SYSTEMS

Potable Water System

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	RESULT
198 (2)	03	T01	G0031	C01	60.00	00001	7.1
205 (2)	03	T02	G0031	C01	60.00	00001	4.2
205 (2)	03	T03	G0031	C01	60.00	00001	3.1
205 (2)	03	T04	G0031	C01	60.00	00001	4.8
198 (2)	03	T05	G0031	C01	60.00	00001	3.3

NOTES: Exposure rates reported in net µR/hr. Count times are reported in seconds.
Underlined results did not meet the minimum required count time.
Bold values exceed 15 µR/hr.
5 results are listed.

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DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

03/27/98

Exposure Rate Measurements

Survey Package : D0300 SYSTEMS

Potable Water System

SURVEY DATE	FILE #	M2350 INST S/N	M2350 CAL DUE	DETECTOR MODEL	DETECTOR S/N	DETECTOR CAL DUE	TECHNICIAN
12/19/97	198 (2)	117014	4/16/98	44-2	PR118257	4/19/98	JFM0682
					CALIBRATION DATES VERIFIED AS ACCEPTABLE		
12/29/97	205 (2)	126198	3/22/98	44-2	PR075004	4/19/98	DRL7343
					CALIBRATION DATES VERIFIED AS ACCEPTABLE		

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Maine Yankee Atomic Power Plant Site Characterization

GAMMA SPECTRAL ANALYSIS RESULTS LISTING

03/28/98 OUTPUT BATCH SN = 204

Survey Package D0300 SYSTEMS

Potable Water System

UNIT : 03 SURFACE : T01 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Tank
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD17	FAL00014	8.4	1800	Co-57	< 6.8	6.8	0.0
				Co-60	< 9.0	9.1	0.0
				Cs-134	< 9.0	9.0	0.0
				Cs-137	< 7.5	7.5	0.0
				K-40	< 98.9	98.9	0.0
				Mn-54	< 7.7	7.7	0.0

UNIT : 03 SURFACE : T02 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Tank
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD18	FAL00013	15.0	1800	Co-57	< 3.7	3.7	0.0
				Co-60	< 3.9	3.9	0.0
				Cs-134	< 4.6	4.6	0.0
				Cs-137	< 4.3	4.4	0.0
				K-40	< 38.8	38.8	0.0
				Mn-54	< 5.1	5.1	0.0

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Survey Package D0300 SYSTEMS

Potable Water System

UNIT : 03 SURFACE : T03 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Tank
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD19	FAL00015	12.7	1800	Co-57	< 4.1	4.1	0.0
				Co-60	< 4.7	4.7	0.0
				Cs-134	< 4.6	4.6	0.0
				Cs-137	< 5.6	5.6	0.0
				K-40	< 65.4	65.4	0.0
				Mn-54	< 5.8	5.8	0.0

SAMPLE TYPE OR SURFACE SAMPLED: Tank
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD19D	FAL00016	12.7	1800	Co-57	< 4.2	4.2	0.0
				Co-60	< 4.3	4.3	0.0
				Cs-134	< 6.2	6.2	0.0
				Cs-137	< 5.2	5.2	0.0
				K-40	< 46.9	46.9	0.0
				Mn-54	< 5.6	5.6	0.0

UNIT : 03 SURFACE : T05 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Tank
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD16	FAL00012	1.3	1800	Co-57	< 4.2	4.2	0.0
				Co-60	< 5.6	5.6	0.0
				Cs-134	< 5.1	5.1	0.0
				Cs-137	< 4.5	4.5	0.0
				K-40	< 60.6	60.6	0.0
				Mn-54	< 4.9	4.9	0.0

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04/01/98

CHARACTERIZATION SUMMARY

SURVEY PACKAGE NUMBER :D0400 — SYSTEMS

PACKAGE DESCRIPTION — Sanitary Sewer System

SURVEY AREA DESCRIPTION
Sanitary Sewer System

GENERAL HISTORICAL INFORMATION (Operational history, etc.)

The Sanitary Sewer System transports raw sewage from the Maine Yankee Site to the City of Wiscassett sewage system. Prior to 1985 the raw sewage was processed in the sewage treatment plant located on the east side of the Maine Yankee Site. Up until the early 1980's, sewage drains from the Radiological Controlled Area were directed to the site sewage treatment plant.

SUMMARY OF CHARACTERIZATION ACTIVITIES

Survey units were established for the areas as shown in the following Summary of Survey Units. System diagrams with the survey measurement locations for this package are included in Appendix B, Unaffected Systems Diagrams.

Performed a scan of accessible surfaces up to a maximum area of one square meter at 37 survey measurement locations indicated on the appropriate survey diagram(s).

Collected direct measurements for total beta activity at 37 survey measurement locations at the highest location identified in the scan. If an elevated location was not observed, the measurement was collected at an arbitrary location, selected by the technician, within the scanned area.

Collected smear samples to analyze for removable alpha and beta activity at the same 37 survey locations as for direct measurements for total beta activity.

Collected smear samples to analyze for removable tritium activity at 2 survey measurement locations indicated on the results listing report.

Collected exposure rate measurements at 3 survey locations indicated on the results listing report.

Collected 2 material samples (e.g., sludge, sediment, rust, etc.) from the sumps, drains for gamma spectral analysis.

The survey result statistical summaries, graphs and results listings are shown in the following individual reports including calibration summaries for the instruments used for each measurement type.

CHARACTERIZATION SURVEY RESULTS

- o There were 7 direct measurements for total beta activity above MDA (Maximum MDA was 1088 dpm/100cm^2) and 2 results greater than 2000 dpm/100cm^2. The maximum measurement result was 5,657 dpm/100cm^2 at location 05P08 (2" P-2 drain in the decon shower next to the respirator room) survey measurement location number 1.
- o There was no measurements for removable beta activity above MDA (36 dpm/100cm^2).
- o There were no measurements for removable alpha activity above MDA (8.2 dpm/100cm^2).
- o There were no measurements for removable tritium activity above MDA (1.1 dpm/100cm^2).

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- The average and maximum exposure rate measurement results were 11.3 µR/hr and 16.2 µR/hr respectively.
- The sample(s) gamma spectral analysis results indicated no plant-derived radionuclide activity above MDA.

REFERENCES (Documents, Interviews)
Maine Yankee Drawings 1150 - FB - 1 A

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SUMMARY OF SURVEY UNIT(S)

03/27/98

OUTPUT BATCH SN = 192

PACKAGE D0400 SYSTEMS

Sanitary Sewer System

UNIT(S)	SURFACE(S)
01 - Sewage Treatment Plant Components	P01 (Effluent Discharge to Bay (east of sewage treatment plant on bank)) T01 (Surge Tank TK-130) T02 (Aeration Tank TK-131B) T03 (Sludge Holding Tank TK-132) T04 (Clarifier Tank TK-129)
02 - Yard Area Components	P01 (8" Temporary Sanitary Sewer (northeast of office building, between security fences next to tunnel))
03 - Staff Building Components	K01 (Staff Building Utility Pit Sump (ground level, south side. access through double doors. receptionist has key)) P01 (Shower Floor Drain (1st floor, men's bathroom shower stall)) P02 (Floor Drain (1st floor, women's bathroom))
04 - Information Building Components	P01 (Information Center Clean Out (men's bathroom)) P02 (Information Center Deep Sink Drain Line (storage room))
05 - Service Building Components	P01 (3" waste line clean out) P02 (Mezzanine floor drain (behind AC-1B)) P03 (Mezzanine floor drain (below FW-F-307)) P05 (2" floor drain (respirator wash room)) P06 (2" cleanout (21' clean wash room, overhead)) P07 (2" cleanout (women's wash room in shower stall floor drain)) P08 (2" P-2 drain (decon shower, next to respirator room)) P09 (2" clean out (secondary lab))

REASON(S) CHARACTERIZATION SURVEY (C01)

MATERIALS

MAT'L CODE	MATERIAL DESCRIPTION	BETA BKGD (dpm/100 cm²)
B0031	METAL - BARE	0.0
G0031	METAL - BARE (GAMMA)	0.0

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Maine Yankee Atomic Power Plant Site Characterization

04/01/98

Direct Measurements For Total Beta Activity

Survey Package D0400 SYSTEMS

Sanitary Sewer System

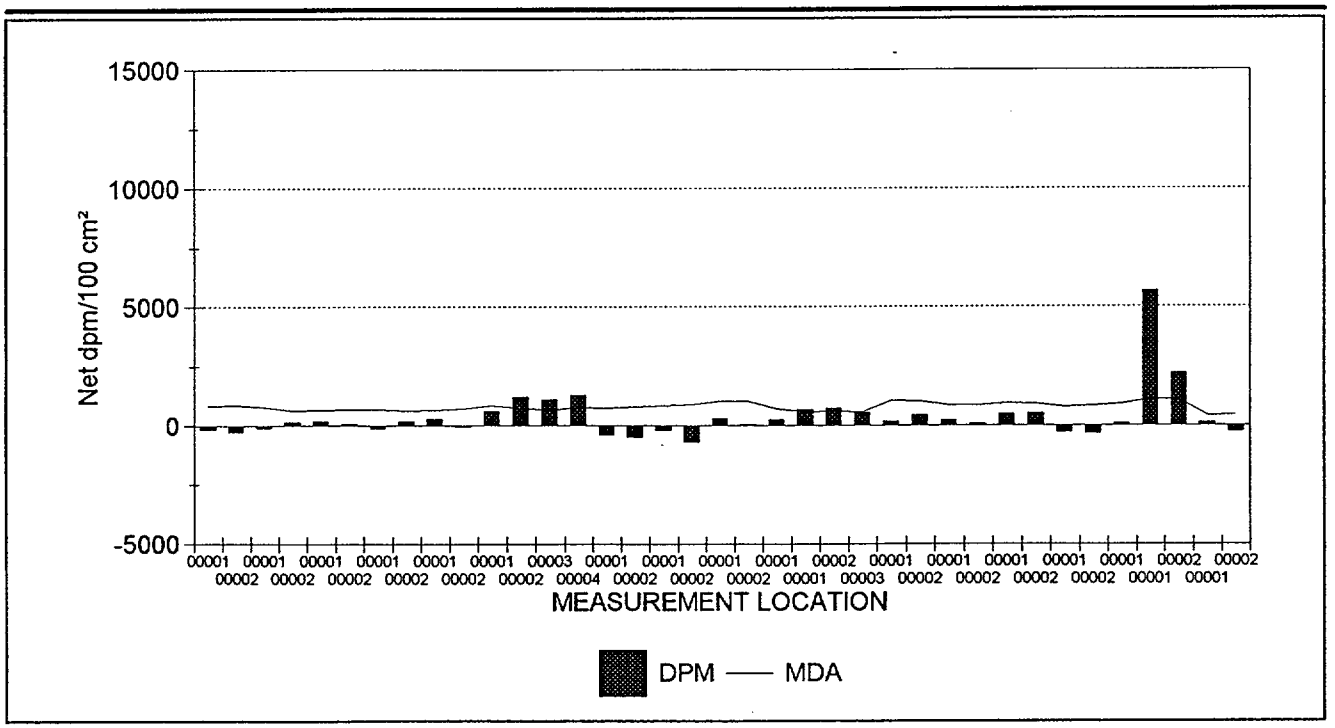
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	384.8
Maximum	5,657.1
Minimum	-710.5
Standard Deviation	1,051.5
MDA	1,087.7

Samples Reported	37
Samples Prescribed	37

TESTS PERFORMED

Samples reported satisfy samples prescribed	YES
MDA <2000 net dpm/100 cm²	YES
Results above 2000 net dpm/100 cm²	2
Number of results above MDA	7



37 RESULTS ARE GRAPHED

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Maine Yankee Atomic Power Plant Site Characterization

04/01/98

Direct Measurements For Total Beta Activity

Survey Package : D0400 SYSTEMS

Sanitary Sewer System

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	MDA	RESULT
362 (2)	01	P01	B0031	C01	300	00001	835.2	-150.9
362 (2)	01	P01	B0031	C01	300	00002	856.6	-251.5
356 (2)	01	T01	B0031	C01	15	00001	773.0	-95.6
356 (2)	01	T01	B0031	C01	15	00002	631.3	143.3
356 (2)	01	T02	B0031	C01	15	00001	640.6	175.2
356 (2)	01	T02	B0031	C01	15	00002	689.2	79.6
356 (2)	01	T03	B0031	C01	15	00001	680.6	-127.4
356 (2)	01	T03	B0031	C01	15	00002	636.0	191.1
356 (2)	01	T04	B0031	C01	15	00001	658.7	286.7
356 (2)	01	T04	B0031	C01	15	00002	697.6	-47.8
404 (2)	03	K01	B0031	C01	15	00001	833.4	593.8
404 (2)	03	K01	B0031	C01	15	00002	720.8	1,202.9
404 (2)	03	K01	B0031	C01	15	00003	650.7	1,081.1
404 (2)	03	K01	B0031	C01	15	00004	749.7	1,263.8
397 (2)	03	P01	B0031	C01	180	00001	719.4	-401.2
397 (2)	03	P01	B0031	C01	180	00002	782.8	-501.5
397 (2)	03	P02	B0031	C01	180	00001	830.0	-209.0
397 (2)	03	P02	B0031	C01	180	00002	884.4	-710.5
397 (2)	04	P01	B0031	C01	180	00001	1,007.3	317.6
397 (2)	04	P01	B0031	C01	180	00002	1,027.1	41.8
410 (2)	04	P02	B0031	C01	180	00001	690.5	251.8
388 (2)	05	P01	B0031	C01	360	00001	569.7	680.8
388 (2)	05	P01	B0031	C01	360	00002	586.8	729.9
388 (2)	05	P01	B0031	C01	360	00003	580.3	554.5
389 (2)	05	P02	B0031	C01	240	00001	1,053.7	180.7
389 (2)	05	P02	B0031	C01	240	00002	1,004.0	451.8
389 (2)	05	P03	B0031	C01	240	00001	854.9	240.9
389 (2)	05	P03	B0031	C01	240	00002	848.8	75.3
388 (2)	05	P05	B0031	C01	300	00001	928.6	496.9
388 (2)	05	P05	B0031	C01	300	00002	919.1	509.6
388 (2)	05	P06	B0031	C01	180	00001	787.7	-294.8
388 (2)	05	P06	B0031	C01	180	00002	827.6	-350.9
388 (2)	05	P07	B0031	C01	180	00001	918.7	91.2
388 (2)	05	P08	B0031	C01	180	00001	1,083.7	***5,657.1***
388 (2)	05	P08	B0031	C01	180	00002	1,087.7	***2,210.9***
410 (2)	05	P09	B0031	C01	360	00001	413.8	120.6
410 (2)	05	P09	B0031	C01	360	00002	452.8	-251.8

NOTES: Activity reported in net dpm/100 cm². Count times are reported in seconds.
Underlined values exceed the MDA.
Bold values exceed 2000 dpm/100 cm².
37 results are listed.

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DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

04/01/98 Direct Measurements For Total Beta Activity

Survey Package : D0400 SYSTEMS

Sanitary Sewer System

SURVEY DATE	FILE #	M2350 INST S/N	M2350 CAL DUE	DETECTOR MODEL	DETECTOR S/N	DETECTOR CAL DUE	PRE EFF	TECHNICIAN
1/12/98	356 (2)	095348	3/20/98	43-106	PR126906	3/30/98	.20	LCF0451
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/12/98	362 (2)	117573	4/14/98	SP-113-3M	PR096137	4/14/98	.10	LKW7727
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/14/98	388 (2)	126195	5/7/98	43-98	117961	6/10/98	.05	LCF0451
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/14/98	389 (2)	126182	3/22/98	44-40	PR095101	3/23/98	.11	AOK2982
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/14/98	397 (2)	129429	5/5/98	43-98	PR123601	5/5/98	.04	DRL7343
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/15/98	404 (2)	095348	3/20/98	43-106	PR126906	3/30/98	.21	LKW7727
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/15/98	410 (2)	129429	5/5/98	43-94	PR119461	5/5/98	.03	LCF0451
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		

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Maine Yankee Atomic Power Plant Site Characterization

03/30/98

Removable Contamination - Gross Beta Activity

Survey Package D0400 SYSTEMS

Sanitary Sewer System

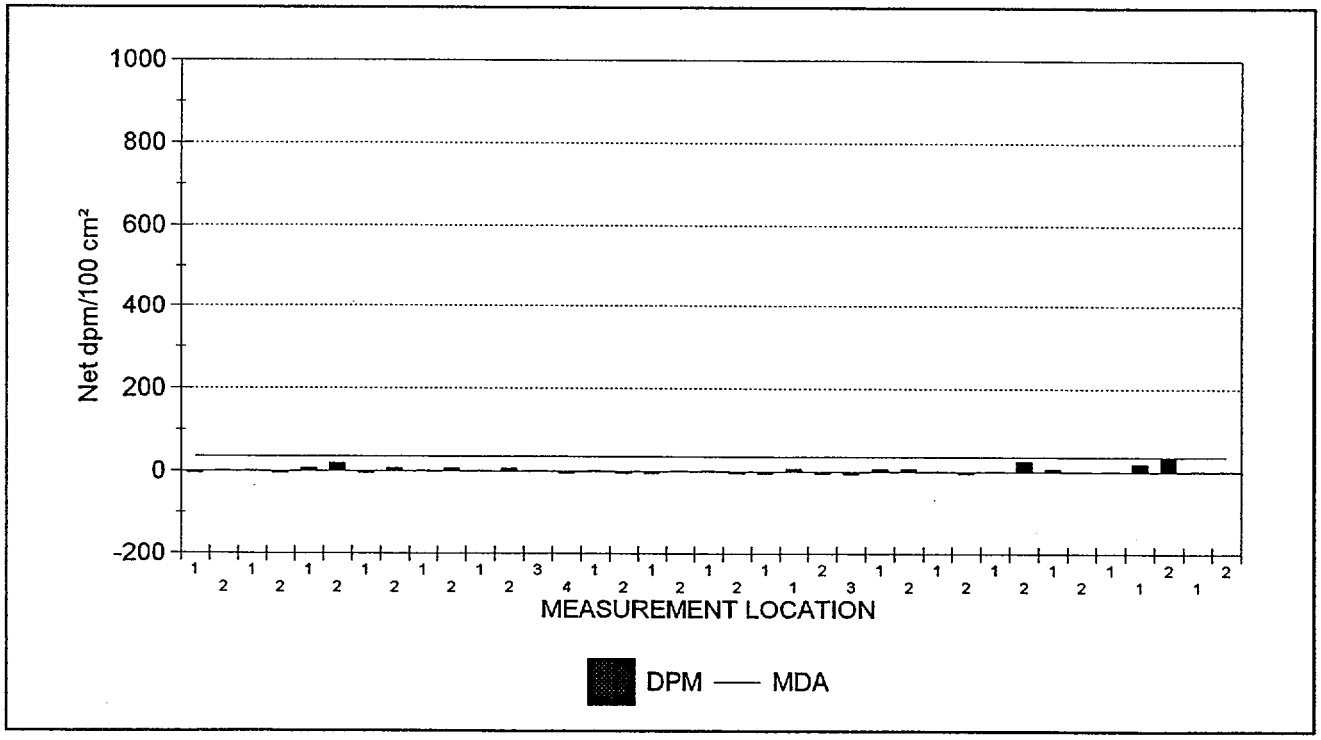
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	3.2
Maximum	32.2
Minimum	-5.8
Standard Deviation	8.9
MDA	36.1

Samples Reported	37
Samples Prescribed	39

TESTS PERFORMED

MDA <100 net dpm/100 cm²	YES
Results above 100 net dpm/100 cm²	0
Number of results above MDA	0



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Maine Yankee Atomic Power Plant Site Characterization

03/30/98

Removable Contamination - Gross Alpha Activity

Survey Package D0400 SYSTEMS

Sanitary Sewer System

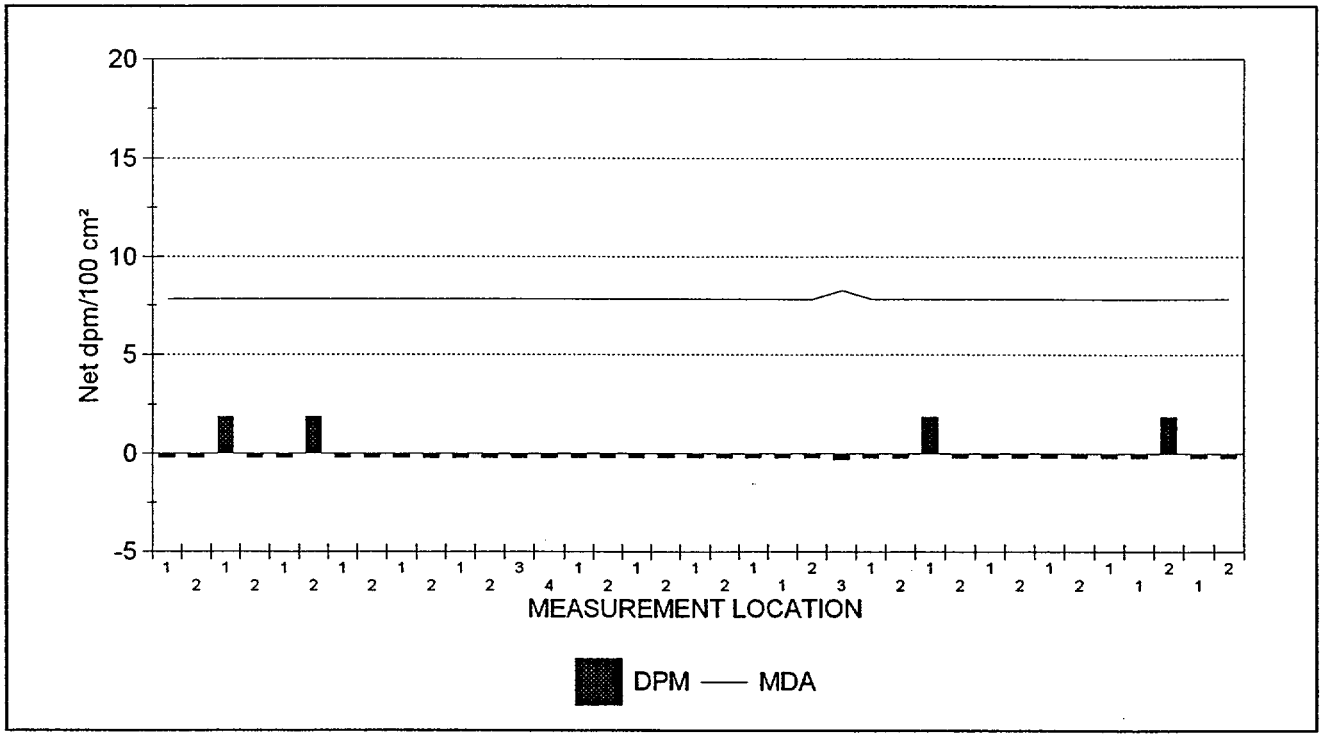
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	0.0
Maximum	1.9
Minimum	-0.3
Standard Deviation	0.6
MDA	8.2

Samples Reported	37
Samples Prescribed	39

TESTS PERFORMED

MDA <10 net dpm/100 cm²	YES
Results above 20 net dpm/100 cm²	0
Number of results above MDA	0



37 RESULTS ARE GRAPHED

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Survey Package : D0400 SYSTEMS

Sanitary Sewer System

RESULTS LISTING - SORTED BY SURFACE CODE

XLS FILE	UNIT	SURFACE	REASON	MSRMNT LOCATION	ALPHA	BETA
SME1E057.XLS	05	P09	C01	2	-0.2	1.2
SME1E057.XLS	05	P09	C01	1	-0.2	1.2
SME1E057.XLS	05	P08	C01	2	1.9	32.2
SME1E057.XLS	05	P08	C01	1	-0.2	19.8
SME1E057.XLS	05	P07	C01	1	-0.2	1.2
SME1E057.XLS	05	P06	C01	2	-0.2	1.2
SME1E057.XLS	05	P06	C01	1	-0.2	7.4
SME1E057.XLS	05	P05	C01	2	-0.2	26.0
SME1E057.XLS	05	P05	C01	1	-0.2	1.2
SME1E057.XLS	05	P03	C01	2	-0.2	-5.0
SME1E057.XLS	05	P03	C01	1	1.9	1.2
SME1E057.XLS	05	P02	C01	2	-0.2	7.4
SME1E057.XLS	05	P02	C01	1	-0.2	7.4
SME1E077.XLS	05	P01	C01	3	-0.3	-5.8
SME1E057.XLS	05	P01	C01	2	-0.2	-5.0
SME1E057.XLS	05	P01	C01	1	-0.2	7.4
SME1E057.XLS	04	P02	C01	1	-0.2	-5.0
SME1E057.XLS	04	P01	C01	2	-0.2	-5.0
SME1E057.XLS	04	P01	C01	1	-0.2	1.2
SME1E057.XLS	03	P02	C01	2	-0.2	1.2
SME1E057.XLS	03	P02	C01	1	-0.2	-5.0
SME1E057.XLS	03	P01	C01	2	-0.2	-5.0
SME1E057.XLS	03	P01	C01	1	-0.2	1.2
SME1E057.XLS	03	K01	C01	4	-0.2	-5.0
SME1E057.XLS	03	K01	C01	3	-0.2	1.2
SME1E057.XLS	03	K01	C01	2	-0.2	7.4
SME1E057.XLS	03	K01	C01	1	-0.2	1.2
SME1E057.XLS	01	T04	C01	2	-0.2	7.4
SME1E057.XLS	01	T04	C01	1	-0.2	1.2
SME1E057.XLS	01	T03	C01	2	-0.2	7.4
SME1E057.XLS	01	T03	C01	1	-0.2	-5.0
SME1E057.XLS	01	T02	C01	2	1.9	19.8
SME1E057.XLS	01	T02	C01	1	-0.2	7.4
SME1E057.XLS	01	T01	C01	2	-0.2	-5.0
SME1E057.XLS	01	T01	C01	1	1.9	1.2
SME1E057.XLS	01	P01	C01	2	-0.2	1.2
SME1E057.XLS	01	P01	C01	1	-0.2	-5.0

NOTES: Activity reported in net dpm/100 cm².
Underlined values exceed the associated MDA.
Bold values exceed 100.00 dpm/100 cm² (beta activity) and/or 20.00 dpm/100 cm² (alpha activity).
37 results are listed.

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DATAFILE & TENNELEC CALIBRATION SUMMARY

03/30/98

Removable Contamination

Survey Package : D0400 SYSTEMS

Sanitary Sewer System

SURVEYDATE	XLS FILE	INST ID	S/N	CAL DUE	LAB TECHNICIAN
3/6/98	SME1E057.XLS	1	15632	8/5/98	JWD
				CALIBRATION DATE VERIFIED AS ACCEPTABLE	
3/9/98	SME1E077.XLS	1	15632	8/5/98	JWD
				CALIBRATION DATE VERIFIED AS ACCEPTABLE	

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Maine Yankee Atomic Power Plant Site Characterization

03/27/98 Removable Contamination - Tritium Activity

Survey Package : D0400 SYSTEMS

Sanitary Sewer System

RESULTS LISTING - SORTED BY SURFACE CODE

SAMPLE ID	SAMPLE TYPE	UNIT	SURF	REASN	MSRMNT LOCATION	MDA	TRITIUM ACTIVITY
D20	Hoppes patch	01	T01	C01	00001	1.1	0.0
D21	Hoppes patch	01	P01	C01	00001	0.1	0.0

NOTES: Activity reported in net dpm/100 cm².
Underlined values exceed the associated MDA.
Bold values exceed 25 dpm/100 cm²,
Italic values exceed 100 dpm/100 cm².

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Maine Yankee Atomic Power Plant Site Characterization

LIQUID SCINTILLATION COUNTER CALIBRATION SUMMARY

03/27/98 Removable Contamination - Tritium Activity

Survey Package : D0400 SYSTEMS

Sanitary Sewer System

SURVEYDATE	INSTRUMENT	MODEL	S/N	CAL DUE	LAB TECHNICIAN
2/1/98	Packard	2750	416221	6/16/98	LDT
				CALIBRATION DATE VERIFIED AS ACCEPTABLE	

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Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Exposure Rate Measurements

Survey Package D0400 SYSTEMS

Sanitary Sewer System

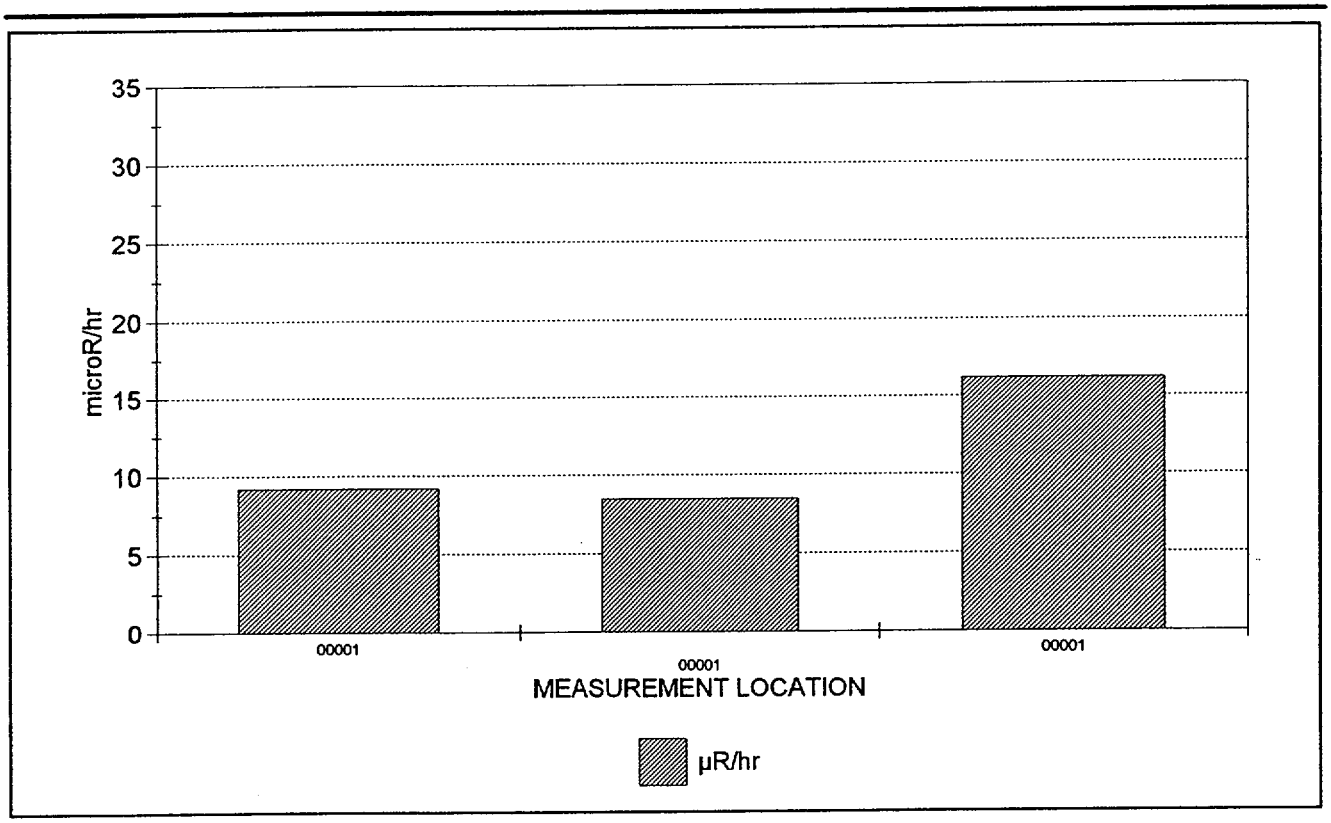
STATISTICAL SUMMARY

	µR/hr
Mean	11.3
Maximum	16.2
Minimum	8.5
Standard Deviation	4.3

Samples Reported	3
Samples Prescribed	3

TESTS PERFORMED

Samples reported satisfy samples prescribed	YES



3 RESULTS ARE GRAPHED

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Survey Package : D0400 SYSTEMS

Sanitary Sewer System

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	RESULT
357 (2)	01	T02	G0031	C01	60.00	00001	9.2
357 (2)	01	T04	G0031	C01	60.00	00001	8.5
405 (2)	03	K01	G0031	C01	60.00	00001	***16.2***

NOTES: Exposure rates reported in net µR/hr. Count times are reported in seconds.
Underlined results did not meet the minimum required count time.
Bold values exceed 15 µR/hr.
3 results are listed.

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DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

03/27/98

Exposure Rate Measurements

Survey Package : D0400 SYSTEMS

Sanitary Sewer System

SURVEY DATE	FILE #	M2350 INST S/N	M2350 CAL DUE	DETECTOR MODEL	DETECTOR S/N	DETECTOR CAL DUE	TECHNICIAN
1/12/98	357 (2)	126182	3/22/98	44-2	128338	4/19/98	AOK2982
					CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/15/98	405 (2)	126182	3/22/98	44-2	128338	4/19/98	AOK2982
					CALIBRATION DATES VERIFIED AS ACCEPTABLE		

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Maine Yankee Atomic Power Plant Site Characterization

GAMMA SPECTRAL ANALYSIS RESULTS LISTING

03/28/98 OUTPUT BATCH SN = 205

Survey Package D0400 SYSTEMS

Sanitary Sewer System

UNIT : 03 SURFACE : KO1 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Surface Code description not located
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD63	FAL00022	26.5	1800	Co-57	< 1.9	1.9	0.0
				Co-60	< 2.0	2.0	0.0
				Cs-134	< 2.4	2.4	0.0
				Cs-137	< 2.8	2.8	0.0
				K-40	< 33.2	33.2	0.0
				Mn-54	< 2.7	2.7	0.0

UNIT : 05 SURFACE : D03 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Drains / Traps
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD64	FAL00023	5.1	1800	Co-57	< 10.0	10.0	0.0
				Co-60	< 9.2	9.2	0.0
				Cs-134	< 16.0	16.0	0.0
				Cs-137	< 15.9	15.9	0.0
				K-40	< 165.0	165.0	0.0
				Mn-54	< 13.0	13.0	0.0

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04/01/98

CHARACTERIZATION SUMMARY

SURVEY PACKAGE NUMBER :D0500 SYSTEMS

PACKAGE DESCRIPTION Circulating Water and Screen Wash System

SURVEY AREA DESCRIPTION

Circulating Water and Screen Wash System

GENERAL HISTORICAL INFORMATION (Operational history, etc.)

The Circulating Water and Screen Wash System supplied cooling water to the main condenser tube bundles and supplied water to the Traveling Water Screen spray nozzles for washing fish and debris from the filter screens.

SUMMARY OF CHARACTERIZATION ACTIVITIES

Survey units were established for the areas as shown in the following Summary of Survey Units. System diagrams with the survey measurement locations for this package are included in Appendix B, Unaffected Systems Diagrams.

Performed a scan of accessible surfaces up to a maximum area of one square meter at 108 survey measurement locations indicated on the appropriate survey diagram(s).

Collected direct measurements for total beta activity at 108 survey measurement locations at the highest location identified in the scan. If an elevated location was not observed, the measurement was collected at an arbitrary location, selected by the technician, within the scanned area.

Collected smear samples to analyze for removable alpha and beta activity at the same 108 survey locations as for direct measurements for total beta activity.

Collected smear samples to analyze for removable tritium activity at 4 survey measurement locations indicated on the results listing report.

Collected exposure rate measurements at 20 survey locations indicated on the results listing report.

Collected 4 material samples (e.g., sludge, sediment, rust, etc.) from the sumps, drains for gamma spectral analysis.

The survey result statistical summaries, graphs and results listings are shown in the following individual reports including calibration summaries for the instruments used for each measurement type.

CHARACTERIZATION SURVEY RESULTS

- o There were 18 direct measurements for total beta activity above MDA (Maximum MDA was 587 dpm/100cm²) and no results greater than 2000 dpm/100cm². The maximum measurement result was 811 dpm/100cm².
- o There were no measurements for removable beta activity above MDA (15 dpm/100cm²).
- o There were no measurements for removable alpha activity above MDA (7 dpm/100cm²).
- o There were 2 measurements for removable tritium activity above MDA (8 dpm/100cm²) and no result greater than 100 dpm/100cm². The maximum measurement result was 8.7 dpm/100cm².
- o The average and maximum exposure rate measurement results were 3.7 µR/hr and 17.2 µR/hr respectively.

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o The sample(s) gamma spectral analysis results indicated no plant-derived radionuclide activity above MDA.

REFERENCES (Documents, Interviews)

Maine Yankee, Drawing Numbers 11550-FM-5A, Arrgt. Circ. Water Pump House Sheet 1
Maine Yankee, Drawing Numbers 11550-FM-16B, Flow Diagram Circulating Water Piping
Maine Yankee System Training Manual, Section 2.0, Major Component Description

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SUMMARY OF SURVEY UNIT(S)

03/31/98 OUTPUT BATCH SN = 338

PACKAGE D0500 SYSTEMS

Circulating Water and Screen Wash System

UNIT(S)	SURFACE(S)
01 - Travel Water Screen Housing	S01 (Travel Water Screen Housing SR-1A - located in circulating water pump house) S02 (Travel Water Screen Housing SR-1B - located in circulating water pump house) S03 (Travel Water Screen Housing SR-1C - located in circulating water pump house) S04 (Travel Water Screen Housing SR-1D - located in circulating water pump house)
02 - 72" Circulating Water Inlet, P-26	P01 (72" CW Inlet Pump P-26A - located in circulating water pump house) P02 (72" CW Inlet Pump P-26B - located in circulating water pump house) P03 (72" CW Inlet Pump P-26C - located in circulating water pump house) P04 (72" CW Inlet pump P-26D - located in circulating water pump house)
03 - Condenser Water Inlet Box	H01 (Condenser Inlet Water Box A -located east of condenser unit) H02 (Condenser Inlet Water Box B -located east of condenser unit) H03 (Condenser Inlet Water Box C -located east of condenser unit) H04 (Condenser Inlet Water Box D -located east of condenser unit)
04 - Water Outlet Box	H01 (Outlet Water Box A - located west of condenser unit) H02 (Outlet Water Box B - located west of condenser unit) H03 (Outlet Water Box D -located west of condenser unit) H04 (Outlet Water Box D -located west of condenser unit)
05 - 102" Discharge Line	P01 (102" Discharge Line in turbine building near outlet water) P02 (102" Discharge Line in turbine building near outlet water)

REASON(S) CHARACTERIZATION SURVEY (C01)

MATERIALS

MAT'L CODE	MATERIAL DESCRIPTION	BETA BKGD (dpm/100 cm²)
B0002	CONCRETE - BARE (INTERIOR)	665.0
B0031	METAL - BARE	0.0
G0031	METAL - BARE (GAMMA)	0.0

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Maine Yankee Atomic Power Plant Site Characterization

03/31/98

Direct Measurements For Total Beta Activity

Survey Package D0500 SYSTEMS

Circulating Water and Screen Wash System

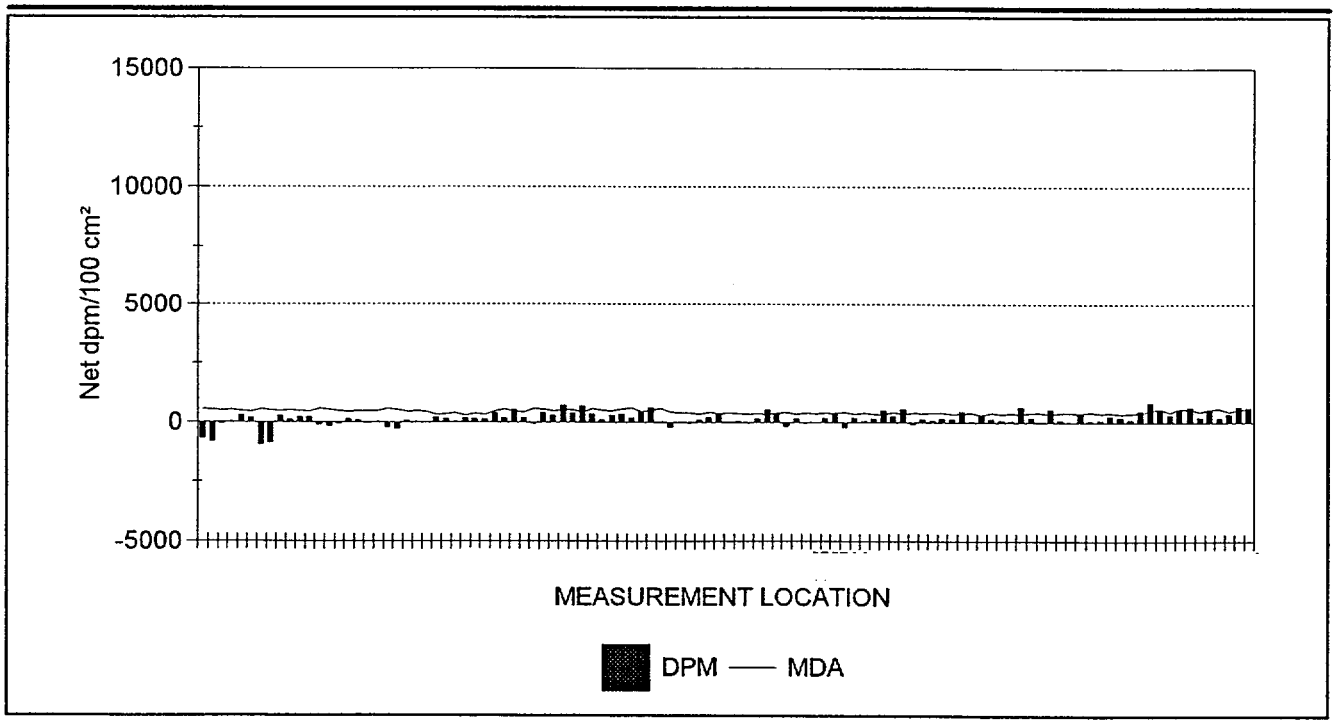
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	162.0
Maximum	811.8
Minimum	-930.4
Standard Deviation	295.1
MDA	587.3

Samples Reported	108
Samples Prescribed	108

TESTS PERFORMED

Samples reported satisfy samples prescribed	YES
MDA <2000 net dpm/100 cm²	YES
Results above 2000 net dpm/100 cm²	0
Number of results above MDA	18



108 RESULTS ARE GRAPHED

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Version 3.0.7a - 3/30/98

PAJ

DBACORR Documentation
:aProgDBACORR:F_0111.FSL
OUTPUT BATCH SN = 338

03/31/98

Direct Measurements For Total Beta Activity

Survey Package : D0500 SYSTEMS

Circulating Water and Screen Wash System

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	MDA	RESULT
304 (2)	01	S01	B0002	C01	20	00003	549.6	-687.1
304 (2)	01	S01	B0002	C01	20	00006	515.4	-819.8
304 (2)	01	S01	B0031	C01	20	00001	490.2	-55.3
304 (2)	01	S01	B0031	C01	20	00002	512.6	33.2
304 (2)	01	S01	B0031	C01	20	00004	469.6	287.5
304 (2)	01	S01	B0031	C01	20	00005	441.6	176.9
304 (2)	01	S02	B0002	C01	20	00003	554.7	-930.4
304 (2)	01	S02	B0002	C01	20	00006	498.7	-853.0
304 (2)	01	S02	B0031	C01	20	00001	469.6	254.3
304 (2)	01	S02	B0031	C01	20	00002	490.2	99.5
304 (2)	01	S02	B0031	C01	20	00004	478.5	221.2
304 (2)	01	S02	B0031	C01	20	00005	444.8	221.2
304 (2)	01	S03	B0002	C01	20	00003	576.9	-101.0
304 (2)	01	S03	B0002	C01	20	00006	520.8	-156.3
304 (2)	01	S03	B0031	C01	20	00001	469.6	-55.3
304 (2)	01	S03	B0031	C01	20	00002	438.4	132.7
304 (2)	01	S03	B0031	C01	20	00004	457.4	66.4
304 (2)	01	S03	B0031	C01	20	00005	478.5	-22.1
304 (2)	01	S04	B0002	C01	20	00003	475.6	20.6
304 (2)	01	S04	B0002	C01	20	00006	562.2	-200.5
304 (2)	01	S04	B0031	C01	20	00001	531.5	-254.3
304 (2)	01	S04	B0031	C01	20	00002	454.3	88.5
304 (2)	01	S04	B0031	C01	20	00004	478.5	33.2
304 (2)	01	S04	B0031	C01	20	00005	448.0	-11.1
334 (2)	02	P01	B0031	C01	20	00001	303.9	211.3
334 (2)	02	P01	B0031	C01	20	00002	340.6	144.6
334 (2)	02	P01	B0031	C01	20	00003	403.3	22.2
334 (2)	02	P01	B0031	C01	20	00004	288.9	177.9
334 (2)	02	P01	B0031	C01	20	00005	353.3	144.6
334 (2)	02	P01	B0031	C01	20	00006	318.2	133.5
324 (2)	02	P02	B0031	C01	20	00001	478.5	386.3
324 (2)	02	P02	B0031	C01	20	00002	535.8	193.2
324 (2)	02	P02	B0031	C01	20	00003	467.2	525.8
324 (2)	02	P02	B0031	C01	20	00004	428.5	182.4
324 (2)	02	P02	B0031	C01	20	00005	566.8	-64.4
324 (2)	02	P02	B0031	C01	20	00006	538.3	386.3
324 (2)	02	P03	B0031	C01	20	00001	481.2	289.7
324 (2)	02	P03	B0031	C01	20	00002	520.8	697.5
324 (2)	02	P03	B0031	C01	20	00003	525.9	397.1
324 (2)	02	P03	B0031	C01	20	00004	409.3	665.3

NOTES: Activity reported in net dpm/100 cm². Count times are reported in seconds.
Underlined values exceed the MDA.
Bold values exceed 2000 dpm/100 cm².

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Maine Yankee Atomic Power Plant Site Characterization

03/31/98

Direct Measurements For Total Beta Activity

Survey Package : D0500 SYSTEMS

Circulating Water and Screen Wash System

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	MDA	RESULT
324 (2)	02	P03	B0031	C01	20	00005	573.8	332.7
324 (2)	02	P03	B0031	C01	20	00006	505.4	96.6
324 (2)	02	P04	B0031	C01	20	00001	475.7	289.7
324 (2)	02	P04	B0031	C01	20	00002	535.8	332.7
324 (2)	02	P04	B0031	C01	20	00003	587.3	171.7
324 (2)	02	P04	B0031	C01	20	00004	434.7	407.8
324 (2)	02	P04	B0031	C01	20	00005	505.4	611.7
324 (2)	02	P04	B0031	C01	20	00006	580.6	21.5
304 (2)	03	H01	B0031	C01	20	00001	411.6	-199.1
304 (2)	03	H01	B0031	C01	20	00002	390.1	-11.1
304 (2)	03	H01	B0031	C01	20	00003	393.8	-22.1
304 (2)	03	H01	B0031	C01	20	00004	347.1	110.6
304 (2)	03	H01	B0031	C01	20	00005	415.0	199.1
304 (2)	03	H01	B0031	C01	20	00006	375.1	364.9
304 (2)	03	H02	B0031	C01	20	00001	386.4	22.1
304 (2)	03	H02	B0031	C01	20	00002	375.1	44.2
304 (2)	03	H02	B0031	C01	20	00003	351.3	-22.1
304 (2)	03	H02	B0031	C01	20	00004	363.4	143.8
304 (2)	03	H02	B0031	C01	20	00005	325.5	508.7
304 (2)	03	H02	B0031	C01	20	00006	386.4	353.9
304 (2)	03	H03	B0031	C01	20	00001	411.6	-154.8
304 (2)	03	H03	B0031	C01	20	00002	330.0	154.8
304 (2)	03	H03	B0031	C01	20	00003	401.0	-33.2
304 (2)	03	H03	B0031	C01	20	00004	359.4	-11.1
304 (2)	03	H03	B0031	C01	20	00005	390.1	188.0
304 (2)	03	H03	B0031	C01	20	00006	375.1	387.0
304 (2)	03	H04	B0031	C01	20	00001	428.5	-199.1
304 (2)	03	H04	B0031	C01	20	00002	351.3	188.0
304 (2)	03	H04	B0031	C01	20	00003	386.4	44.2
304 (2)	03	H04	B0031	C01	20	00004	325.5	165.9
304 (2)	03	H04	B0031	C01	20	00005	338.7	497.6
304 (2)	03	H04	B0031	C01	20	00006	425.2	265.4
290 (2)	04	H01	B0031	C01	20	00001	338.2	552.1
290 (2)	04	H01	B0031	C01	20	00002	393.2	-77.3
290 (2)	04	H01	B0031	C01	20	00003	370.7	132.5
290 (2)	04	H01	B0031	C01	20	00004	389.6	77.3
290 (2)	04	H01	B0031	C01	20	00005	382.2	165.6
290 (2)	04	H01	B0031	C01	20	00006	342.4	121.5
290 (2)	04	H02	B0031	C01	20	00001	354.9	430.7
290 (2)	04	H02	B0031	C01	20	00002	378.4	22.1

NOTES: Activity reported in net dpm/100 cm². Count times are reported in seconds.
Underlined values exceed the MDA.
Bold values exceed 2000 dpm/100 cm².

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Maine Yankee Atomic Power Plant Site Characterization

03/31/98

Direct Measurements For Total Beta Activity

Survey Package : D0500 SYSTEMS

Circulating Water and Screen Wash System

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	MDA	RESULT
290 (2)	04	H02	B0031	C01	20	00003	291.9	309.2
290 (2)	04	H02	B0031	C01	20	00004	385.9	121.5
290 (2)	04	H02	B0031	C01	20	00005	346.6	88.3
290 (2)	04	H02	B0031	C01	20	00006	370.7	44.2
290 (2)	04	H03	B0031	C01	20	00001	342.4	618.4
290 (2)	04	H03	B0031	C01	20	00002	389.6	176.7
290 (2)	04	H03	B0031	C01	20	00003	396.8	22.1
290 (2)	04	H03	B0031	C01	20	00004	350.8	530.0
290 (2)	04	H03	B0031	C01	20	00005	378.4	66.3
290 (2)	04	H03	B0031	C01	20	00006	385.9	11.0
290 (2)	04	H04	B0031	C01	20	00001	370.7	364.4
290 (2)	04	H04	B0031	C01	20	00002	424.6	55.2
290 (2)	04	H04	B0031	C01	20	00003	370.7	77.3
290 (2)	04	H04	B0031	C01	20	00004	400.4	265.0
290 (2)	04	H04	B0031	C01	20	00005	350.8	220.8
290 (2)	04	H04	B0031	C01	20	00006	362.9	110.4
334 (2)	05	P01	B0031	C01	20	00001	399.7	456.0
334 (2)	05	P01	B0031	C01	20	00002	490.0	811.8
334 (2)	05	P01	B0031	C01	20	00003	537.1	544.9
334 (2)	05	P01	B0031	C01	20	00004	410.4	300.3
334 (2)	05	P01	B0031	C01	20	00005	575.3	544.9
334 (2)	05	P01	B0031	C01	20	00006	542.4	622.8
334 (2)	05	P02	B0031	C01	20	00001	437.6	211.3
334 (2)	05	P02	B0031	C01	20	00002	542.4	489.3
334 (2)	05	P02	B0031	C01	20	00003	580.2	177.9
334 (2)	05	P02	B0031	C01	20	00004	434.3	344.8
334 (2)	05	P02	B0031	C01	20	00005	550.2	645.0
334 (2)	05	P02	B0031	C01	20	00006	555.3	611.7

NOTES: Activity reported in net dpm/100 cm². Count times are reported in seconds.
Underlined values exceed the MDA.
Bold values exceed 2000 dpm/100 cm².
108 results are listed.

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DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

03/31/98 Direct Measurements For Total Beta Activity

Survey Package : D0500 SYSTEMS

Circulating Water and Screen Wash System

SURVEY DATE	FILE #	M2350 INST S/N	M2350 CAL DUE	DETECTOR MODEL	DETECTOR S/N	DETECTOR CAL DUE	PRE EFF	TECHNICIAN
1/5/98	290 (2)	095348	3/20/98	43-106	PR126906	3/30/98	.22	KFS5185
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/6/98	304 (2)	095348	3/20/98	43-106	PR126906	3/30/98	.22	KFS5185
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/7/98	324 (2)	095348	3/20/98	43-106	PR126906	3/30/98	.22	KFS5185
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/8/98	334 (2)	117014	4/16/98	43-106	PR126903	4/18/98	.21	KFS5185
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		

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Maine Yankee Atomic Power Plant Site Characterization

03/31/98

Removable Contamination - Gross Beta Activity

Survey Package D0500 SYSTEMS

Circulating Water and Screen Wash System

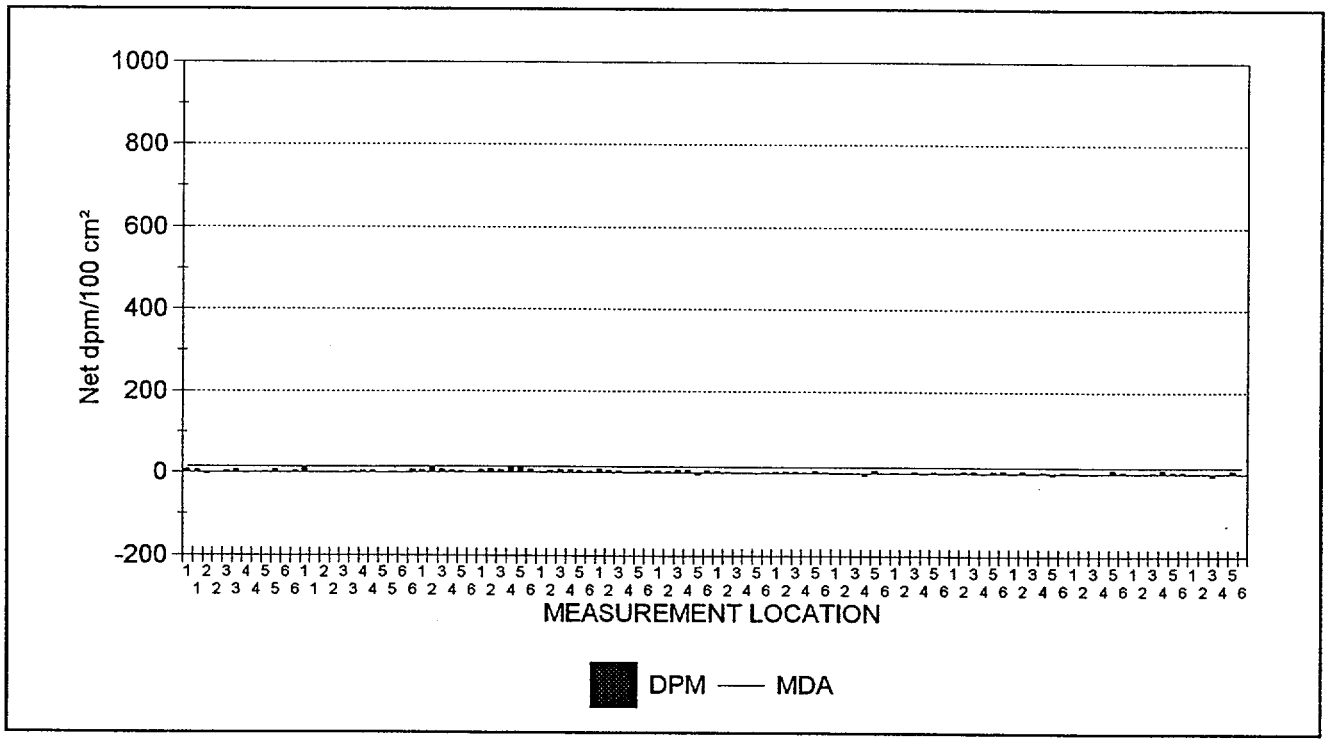
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	3.1
Maximum	14.7
Minimum	-5.5
Standard Deviation	4.2
MDA	14.9

Samples Reported	108
Samples Prescribed	112

TESTS PERFORMED

MDA <100 net dpm/100 cm²	YES
Results above 100 net dpm/100 cm²	0
Number of results above MDA	0



108 RESULTS ARE GRAPHED

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Maine Yankee Atomic Power Plant Site Characterization

03/31/98

Removable Contamination - Gross Alpha Activity

Survey Package D0500 SYSTEMS

Circulating Water and Screen Wash System

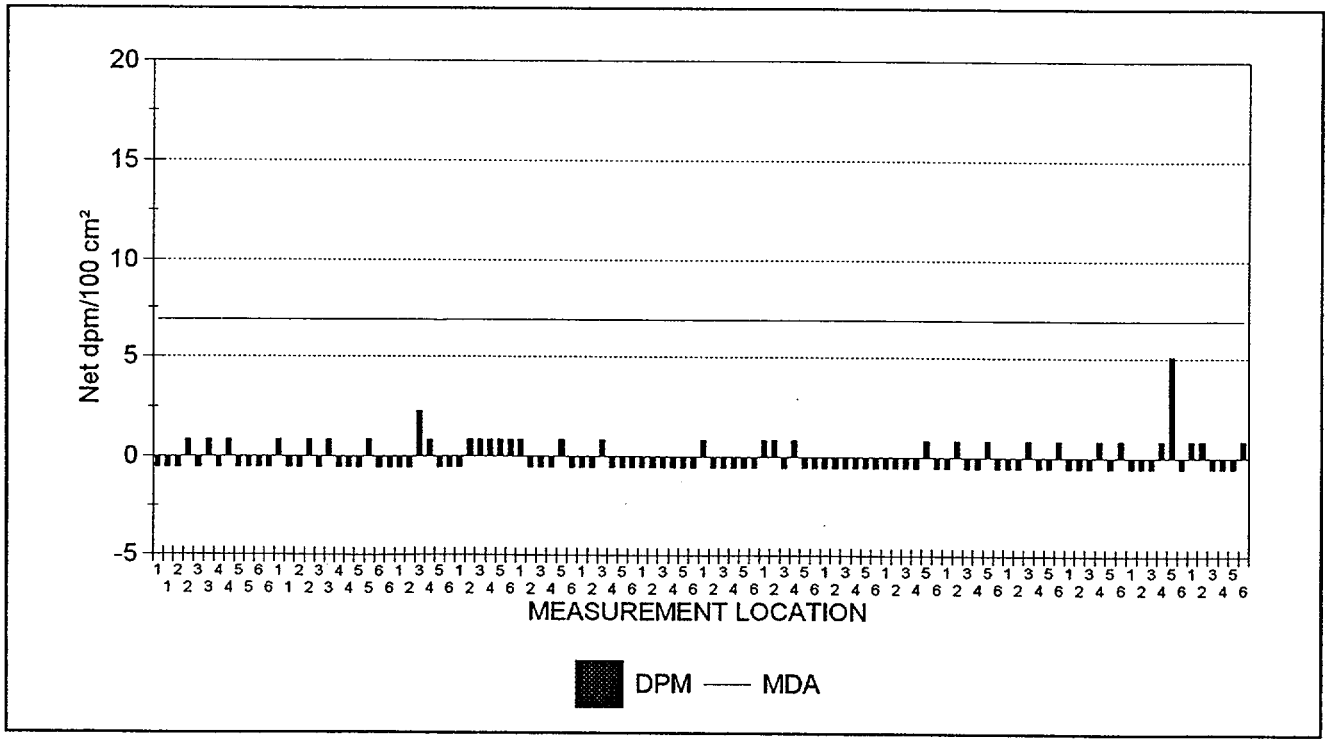
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	-0.1
Maximum	5.1
Minimum	-0.6
Standard Deviation	0.9
MDA	6.9

Samples Reported	108
Samples Prescribed	112

TESTS PERFORMED

MDA <10 net dpm/100 cm²	YES
Results above 20 net dpm/100 cm²	0
Number of results above MDA	0



108 RESULTS ARE GRAPHED

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Survey Package : D0500 SYSTEMS

Circulating Water and Screen Wash System

RESULTS LISTING - SORTED BY SURFACE CODE

XLS FILE	UNIT	SURFACE	REASON	MSRMNT LOCATION	ALPHA	BETA
SME1D036.XLS	04	H04	C01	6	0.8	-2.1
SME1D036.XLS	04	H04	C01	5	-0.6	8.0
SME1D036.XLS	04	H04	C01	4	-0.6	-0.4
SME1D036.XLS	04	H04	C01	3	-0.6	-5.5
SME1D036.XLS	04	H04	C01	2	0.8	1.2
SME1D036.XLS	04	H04	C01	1	0.8	-0.4
SME1D036.XLS	04	H03	C01	6	-0.6	4.6
SME1D036.XLS	04	H03	C01	5	5.1	4.6
SME1D036.XLS	04	H03	C01	4	0.8	9.6
SME1D036.XLS	04	H03	C01	3	-0.6	2.9
SME1D036.XLS	04	H03	C01	2	-0.6	1.2
SME1D036.XLS	04	H03	C01	1	-0.6	1.2
SME1D036.XLS	04	H02	C01	6	0.8	4.6
SME1D036.XLS	04	H02	C01	5	-0.6	9.6
SME1D036.XLS	04	H02	C01	4	0.8	-0.4
SME1D036.XLS	04	H02	C01	3	-0.6	-2.1
SME1D036.XLS	04	H02	C01	2	-0.6	-2.1
SME1D036.XLS	04	H02	C01	1	-0.6	1.2
SME1D036.XLS	04	H01	C01	6	0.8	2.9
SME1D036.XLS	04	H01	C01	5	-0.6	-3.8
SME1D036.XLS	04	H01	C01	4	-0.6	2.9
SME1D036.XLS	04	H01	C01	3	0.8	-0.4
SME1D036.XLS	04	H01	C01	2	-0.6	6.3
SME1D036.XLS	04	H01	C01	1	-0.6	-2.1
SME1D036.XLS	03	H04	C01	6	-0.6	6.3
SME1D036.XLS	03	H04	C01	5	0.8	4.6
SME1D036.XLS	03	H04	C01	4	-0.6	-2.1
SME1D036.XLS	03	H04	C01	3	-0.6	4.6
SME1D036.XLS	03	H04	C01	2	0.8	4.6
SME1D036.XLS	03	H04	C01	1	-0.6	1.2
SME1D036.XLS	03	H03	C01	6	-0.6	-2.1
SME1D036.XLS	03	H03	C01	5	0.8	2.9
SME1D036.XLS	03	H03	C01	4	-0.6	-2.1
SME1D036.XLS	03	H03	C01	3	-0.6	2.9
SME1D036.XLS	03	H03	C01	2	-0.6	-0.4
SME1D036.XLS	03	H03	C01	1	-0.6	1.2
SME1D036.XLS	03	H02	C01	6	-0.6	-0.4
SME1D036.XLS	03	H02	C01	5	-0.6	8.0
SME1D036.XLS	03	H02	C01	4	-0.6	-5.5
SME1D036.XLS	03	H02	C01	3	-0.6	-2.1

NOTES: Activity reported in net dpm/100 cm².
Underlined values exceed the associated MDA.
Bold values exceed 100.00 dpm/100 cm² (beta activity) and/or 20.00 dpm/100 cm² (alpha activity).

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Survey Package : D0500 SYSTEMS

Circulating Water and Screen Wash System

RESULTS LISTING - SORTED BY SURFACE CODE

XLS FILE	UNIT	SURFACE	REASON	MSRMNT LOCATION	ALPHA	BETA
SME1D036.XLS	03	H02	C01	2	-0.6	-2.1
SME1D036.XLS	03	H02	C01	1	-0.6	-2.1
SME1D036.XLS	03	H01	C01	6	-0.6	2.9
SME1D036.XLS	03	H01	C01	5	-0.6	6.3
SME1D036.XLS	03	H01	C01	4	0.8	1.2
SME1D036.XLS	03	H01	C01	3	-0.6	2.9
SME1D036.XLS	03	H01	C01	2	0.8	4.6
SME1D036.XLS	03	H01	C01	1	0.8	2.9
SME1D036.XLS	02	P04	C01	6	-0.6	1.2
SME1D036.XLS	02	P04	C01	5	-0.6	-2.1
SME1D036.XLS	02	P04	C01	4	-0.6	1.2
SME1D036.XLS	02	P04	C01	3	-0.6	1.2
SME1D036.XLS	02	P04	C01	2	-0.6	2.9
SME1D036.XLS	02	P04	C01	1	0.8	4.6
SME1D036.XLS	02	P03	C01	6	-0.6	6.3
SME1D036.XLS	02	P03	C01	5	-0.6	-3.8
SME1D036.XLS	02	P03	C01	4	-0.6	8.0
SME1D036.XLS	02	P03	C01	3	-0.6	8.0
SME1D036.XLS	02	P03	C01	2	-0.6	2.9
SME1D036.XLS	02	P03	C01	1	-0.6	4.6
SME1D036.XLS	02	P02	C01	6	-0.6	4.6
SME1D036.XLS	02	P02	C01	5	-0.6	1.2
SME1D036.XLS	02	P02	C01	4	-0.6	-2.1
SME1D036.XLS	02	P02	C01	3	0.8	4.6
SME1D036.XLS	02	P02	C01	2	-0.6	6.3
SME1D036.XLS	02	P02	C01	1	-0.6	9.6
SME1D036.XLS	02	P01	C01	6	-0.6	2.9
SME1D036.XLS	02	P01	C01	5	0.8	4.6
SME1D036.XLS	02	P01	C01	4	-0.6	8.0
SME1D036.XLS	02	P01	C01	3	-0.6	8.0
SME1D036.XLS	02	P01	C01	2	-0.6	4.6
SME1D036.XLS	02	P01	C01	1	0.8	1.2
SME1D036.XLS	01	S04	C01	6	0.8	8.0
SME1D036.XLS	01	S04	C01	5	0.8	11.3
SME1D036.XLS	01	S04	C01	4	0.8	14.7
SME1D036.XLS	01	S04	C01	3	0.8	6.3
SME1D036.XLS	01	S04	C01	2	0.8	9.6
SME1D036.XLS	01	S04	C01	1	-0.6	6.3
SME1D036.XLS	01	S03	C01	6	-0.6	-0.4
SME1D036.XLS	01	S03	C01	5	-0.6	2.9

NOTES: Activity reported in net dpm/100 cm².
Underlined values exceed the associated MDA.
Bold values exceed 100.00 dpm/100 cm² (beta activity) and/or 20.00 dpm/100 cm² (alpha activity).

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Survey Package : D0500 SYSTEMS

Circulating Water and Screen Wash System

RESULTS LISTING - SORTED BY SURFACE CODE

XLS FILE	UNIT	SURFACE	REASON	MSRMNT LOCATION	ALPHA	BETA
SME1D036.XLS	01	S03	C01	4	0.8	4.6
SME1D036.XLS	01	S03	C01	3	2.3	8.0
SME1D036.XLS	01	S03	C01	2	-0.6	14.7
SME1D036.XLS	01	S03	C01	1	-0.6	6.3
SME1D036.XLS	01	S02	C01	6	-0.6	8.0
SME1D036.XLS	01	S02	C01	6	-0.6	-2.1
SME1D036.XLS	01	S02	C01	5	0.8	1.2
SME1D036.XLS	01	S02	C01	5	-0.6	-0.4
SME1D036.XLS	01	S02	C01	4	-0.6	4.6
SME1D036.XLS	01	S02	C01	4	-0.6	4.6
SME1D036.XLS	01	S02	C01	3	0.8	-0.4
SME1D036.XLS	01	S02	C01	3	-0.6	2.9
SME1D036.XLS	01	S02	C01	2	0.8	-0.4
SME1D036.XLS	01	S02	C01	2	-0.6	1.2
SME1D036.XLS	01	S02	C01	1	0.8	1.2
SME1D036.XLS	01	S02	C01	1	-0.6	11.3
SME1D036.XLS	01	S01	C01	6	-0.6	4.6
SME1D036.XLS	01	S01	C01	6	-0.6	1.2
SME1D036.XLS	01	S01	C01	5	-0.6	8.0
SME1D036.XLS	01	S01	C01	5	-0.6	2.9
SME1D036.XLS	01	S01	C01	4	0.8	1.2
SME1D036.XLS	01	S01	C01	4	-0.6	-2.1
SME1D036.XLS	01	S01	C01	3	0.8	8.0
SME1D036.XLS	01	S01	C01	3	-0.6	4.6
SME1D036.XLS	01	S01	C01	2	0.8	-0.4
SME1D036.XLS	01	S01	C01	2	-0.6	-3.8
SME1D036.XLS	01	S01	C01	1	-0.6	8.0
SME1D036.XLS	01	S01	C01	1	-0.6	6.3

NOTES: Activity reported in net dpm/100 cm².
Underlined values exceed the associated MDA.
Bold values exceed 100.00 dpm/100 cm² (beta activity) and/or 20.00 dpm/100 cm² (alpha activity).
108 results are listed.

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Maine Yankee Atomic Power Plant Site Characterization

DATAFILE & TENNELEC CALIBRATION SUMMARY

03/31/98

Removable Contamination

Survey Package : D0500 SYSTEMS

Circulating Water and Screen Wash System

SURVEYDATE	XLS FILE	INST ID	S/N	CAL DUE	LAB TECHNICIAN
2/16/98	SME1D036.XLS	1	14131	8/7/98	SMM
				CALIBRATION DATE VERIFIED AS ACCEPTABLE	

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Maine Yankee Atomic Power Plant Site Characterization

03/31/98 Removable Contamination - Tritium Activity

Survey Package : D0500 SYSTEMS

Circulating Water and Screen Wash System

RESULTS LISTING - SORTED BY SURFACE CODE

SAMPLE ID	SAMPLE TYPE	UNIT	SURF	REASN	MSRMNT LOCATION	MDA	TRITIUM ACTIVITY
H012	Whatman smear	04	H02	C01	00001	8.0	8.7
H013	Whatman smear	04	H04	C01	00001	8.0	-6.7
H014	Whatman smear	04	H03	C01	00001	8.0	0.0
H015	Whatman smear	04	H01	C01	00001	8.0	8.7

NOTES: Activity reported in net dpm/100 cm².
Underlined values exceed the associated MDA.
Bold values exceed 25 dpm/100 cm²,
Italic values exceed 100 dpm/100 cm².

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Maine Yankee Atomic Power Plant Site Characterization

LIQUID SCINTILLATION COUNTER CALIBRATION SUMMARY

03/31/98

Removable Contamination - Tritium Activity

Survey Package : D0500 SYSTEMS

Circulating Water and Screen Wash System

SURVEYDATE	INSTRUMENT	MODEL	S/N	CAL DUE	LAB TECHNICIAN
2/1/98	Packard	2750	416221	6/16/98	LDT
				CALIBRATION DATE VERIFIED AS ACCEPTABLE	

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Maine Yankee Atomic Power Plant Site Characterization

03/31/98

Exposure Rate Measurements

Survey Package D0500 SYSTEMS

Circulating Water and Screen Wash System

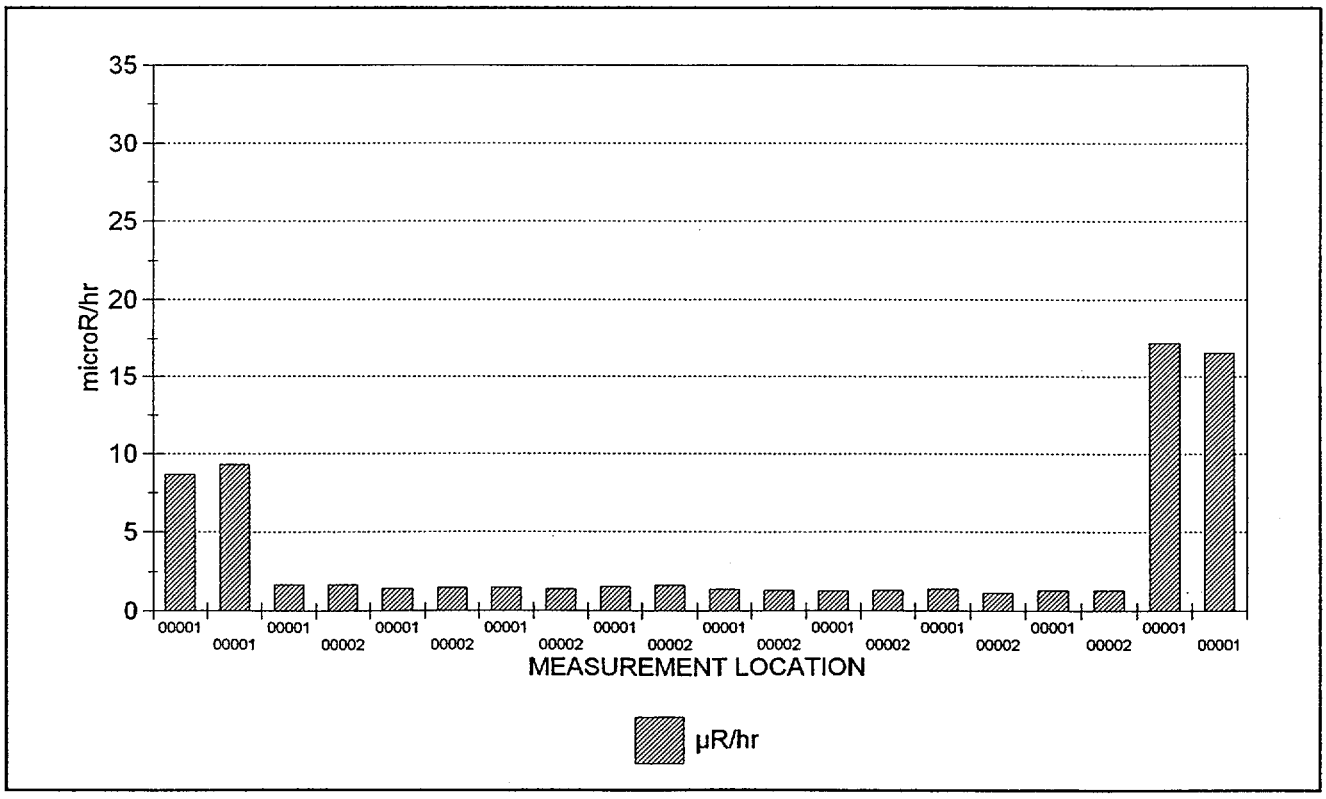
STATISTICAL SUMMARY

	µR/hr
Mean	3.7
Maximum	17.2
Minimum	1.2
Standard Deviation	5.1

Samples Reported	20
Samples Prescribed	12

TESTS PERFORMED

Samples reported satisfy samples prescribed	YES



20 RESULTS ARE GRAPHED

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Survey Package : D0500 SYSTEMS

Circulating Water and Screen Wash System

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	RESULT
333 (2)	02	P01	B0031	C01	60.00	00001	8.7
323 (2)	02	P03	B0031	C01	60.00	00001	9.3
291 (2)	03	H01	G0031	C01	60.00	00001	1.7
291 (2)	03	H01	G0031	C01	60.00	00002	1.7
291 (2)	03	H02	G0031	C01	60.00	00001	1.4
291 (2)	03	H02	G0031	C01	60.00	00002	1.5
291 (2)	03	H03	G0031	C01	60.00	00001	1.4
291 (2)	03	H03	G0031	C01	60.00	00002	1.4
291 (2)	03	H04	G0031	C01	60.00	00001	1.5
291 (2)	03	H04	G0031	C01	60.00	00002	1.6
291 (2)	04	H01	G0031	C01	60.00	00001	1.4
291 (2)	04	H01	G0031	C01	60.00	00002	1.3
291 (2)	04	H02	G0031	C01	60.00	00001	1.3
291 (2)	04	H02	G0031	C01	60.00	00002	1.3
291 (2)	04	H03	G0031	C01	60.00	00001	1.4
291 (2)	04	H03	G0031	C01	60.00	00002	1.2
291 (2)	04	H04	G0031	C01	60.00	00001	1.3
291 (2)	04	H04	G0031	C01	60.00	00002	1.3
333 (2)	05	P01	B0031	C01	60.00	00001	***17.2***
333 (2)	05	P02	B0031	C01	60.00	00001	***16.6***

NOTES: Exposure rates reported in net µR/hr. Count times are reported in seconds.
Underlined results did not meet the minimum required count time.
Bold values exceed 15 µR/hr.
20 results are listed.

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DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

03/31/98

Exposure Rate Measurements

Survey Package : D0500 SYSTEMS

Circulating Water and Screen Wash System

SURVEY DATE	FILE #	M2350 INST S/N	M2350 CAL DUE	DETECTOR MODEL	DETECTOR S/N	DETECTOR CAL DUE	TECHNICIAN
1/5/98	291 (2)	095349	4/15/98	44-2	PR126918	5/12/98	KFS5185
					CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/7/98	323 (2)	129414	3/22/98	44-2	PR126916	4/19/98	KFS5185
					CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/8/98	333 (2)	126182	3/22/98	44-2	128338	4/19/98	KFS5185
					CALIBRATION DATES VERIFIED AS ACCEPTABLE		

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Maine Yankee Atomic Power Plant Site Characterization

GAMMA SPECTRAL ANALYSIS RESULTS LISTING

03/31/98 OUTPUT BATCH SN = 338

Survey Package D0500 SYSTEMS

Circulating Water and Screen Wash System

UNIT : 01 SURFACE : S01 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Strainer / Filters
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD12	FAL00010	2.0	1800	Co-57	< 22.4	22.4	0.0
				Co-60	< 28.6	28.6	0.0
				Cs-134	< 27.5	27.5	0.0
				Cs-137	< 27.3	27.3	0.0
				K-40	< 315.0	315.0	0.0
				Mn-54	< 30.9	30.9	0.0

UNIT : 01 SURFACE : S03 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Strainer / Filters
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD13	FAL00012	2.0	1800	Co-57	< 18.0	18.0	0.0
				Co-60	< 35.6	35.6	0.0
				Cs-134	< 26.1	26.1	0.0
				Cs-137	< 30.0	30.0	0.0
				K-40	< 374.0	374.0	0.0
				Mn-54	< 33.7	33.7	0.0

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Survey Package D0500 SYSTEMS

Circulating Water and Screen Wash System

UNIT : 02 SURFACE : P01 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Plant Piping (interior)
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD15	FAL00013	8.5	1800	Co-57	< 5.5	5.5	0.0
				Co-60	< 7.8	7.8	0.0
				Cs-134	< 8.7	8.7	0.0
				Cs-137	< 7.7	7.7	0.0
				K-40	< 108.0	108.0	0.0
				Mn-54	< 8.1	8.1	0.0

UNIT : 02 SURFACE : P03 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Plant Piping (interior)
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD14	FAL00011	7.2	1800	Co-57	< 8.2	8.2	0.0
				Co-60	< 8.5	8.5	0.0
				Cs-134	< 8.9	8.9	0.0
				Cs-137	< 7.3	7.3	0.0
				K-40	< 116.0	116.0	0.0
				Mn-54	< 9.9	9.9	0.0

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04/01/98

CHARACTERIZATION SUMMARY

SURVEY PACKAGE NUMBER :D0600 — SYSTEMS

PACKAGE DESCRIPTION — Service Water System

SURVEY AREA DESCRIPTION
Service Water System

GENERAL HISTORICAL INFORMATION (Operational history, etc.)

The Service Water System supplied cooling water to the primary and secondary Component Cooling Water Heat Exchangers.

In June of 1989 low levels of radioactivity were found in every sump except the service water heat exchanger sump. It appeared that most of the activity originated in the auxiliary condensate system. It is suspected that the radioactivity entered the system via small siphon heater leaks and entries to the secondary side of the S/G s.

SUMMARY OF CHARACTERIZATION ACTIVITIES

Survey units were established for the areas as shown in the following Summary of Survey Units. System diagrams with the survey measurement locations for this package are included in Appendix B, Unaffected Systems Diagrams.

Performed a scan of accessible surfaces up to a maximum area of one square meter at 79 survey measurement locations indicated on the appropriate survey diagram(s).

Collected direct measurements for total beta activity at 79 survey measurement locations at the highest location identified in the scan. If an elevated location was not observed, the measurement was collected at an arbitrary location, selected by the technician, within the scanned area.

Collected smear samples to analyze for removable alpha and beta activity at 88 survey locations as for direct measurements for total beta activity.

Collected smear samples to analyze for removable tritium activity at 3 survey measurement locations indicated on the results listing report.

Collected no exposure rate measurements.

Collected 9 material samples (e.g., sludge, sediment, rust, etc.) from the sumps, drains for gamma spectral analysis.

The survey result statistical summaries, graphs and results listings are shown in the following individual reports including calibration summaries for the instruments used for each measurement type.

CHARACTERIZATION SURVEY RESULTS

o There were no direct measurements for total beta activity above MDA (Maximum MDA was 1687 dpm/100cm^2).

o There was 9 measurements for removable beta activity above MDA (37 dpm/100cm^2) and 9 results greater than 100 dpm/100cm^2. The maximum measurement result was 3,134 dpm/100cm^2.

o There were no measurements for removable alpha activity above MDA (8.6 dpm/100cm^2).

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o There were no measurements for removable tritium activity above MDA (38.4 dpm/100cm²).

o The gamma spectral analysis results indicated 2 samples with plant-derived radionuclide activity for Co-60 above 700 pCi/g.

Positive findings and special conditions are listed below.

1. Removable contamination at location 02M01 (Liquid Waste Radiation Monitor) ranged from 943 dpm/100cm² to 3134 dpm/100cm². Gamma spectroscopy analysis of the highest activity smear sample indicated the presence of Co-60.

2. Removable contamination at location 02P02 (2.5" line at valve SW-42) ranged from 1129 dpm/100cm² to 3,084 dpm/100cm². Gamma spectroscopy analysis of the highest activity smear sample indicated the presence of Co-60.

REFERENCES (Documents, Interviews)

Maine Yankee Drawings 1150 - FM - 77 A
Operator Systems Training Manual, Chapter 48
AI-89-49-1

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SUMMARY OF SURVEY UNIT(S)

03/27/98

OUTPUT BATCH SN = 193

PACKAGE D0600 SYSTEMS

Service Water System

UNIT(S)	SURFACE(S)
01 - Circulating Water Pump House Components	S01 (Screen Wash Pump Suction Strainer STR-2C (lower level, north end)) S02 (Screen Wash Pump Suction Strainer STR-2D (lower level, north end)) S03 (Service Water Strainer STR-64A (lower level, south end)) S04 (Screen Wash Pump Suction Strainer STR-2A (lower level, south end)) S05 (Screen Wash Pump Suction Strainer STR-2B (lower level, south end)) S06 (Strainer STR-46B (21')) S07 (Strainer STR-46A (21')) S08 (Strainer STR-46C (21')) S09 (Strainer STR-46D (21')) S10 (Strainer STR-64D (lower level, north end)) T01 (Sample Head Tank TK-99 (south well, lower level)) V01 (3/4" Valve SW-117 (lower level))
02 - Turbine Building 21' Components	H01 (Primary Component Cooler E-4A (north hall)) H02 (Primary Component Cooler E-5A (north hall)) M01 (Liquid Waste Radiation Monitor (north, under E-5A & E-4B)) P01 (2" line at valve SW-134 (south end of E-4A)) P02 (2.5" line at valve SW-42 (across from ops door)) S01 (Primary Component Cooler Suction Strainer STR-74 (north hall)) S02 (Secondary Component Cooler Suction Strainer STR-51(north hall)) U01 (Turbine Building Sump Pump P-126 (east wall by access door))
03 - Hot Shop Components	U01 (Service Water Sample Pump P-38 (northwest cage under bench))

REASON(S) CHARACTERIZATION SURVEY (C01)

MATERIALS

MAT'L CODE	MATERIAL DESCRIPTION	BETA BKGD (dpm/100 cm²)
B0031	METAL - BARE	0.0

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Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Direct Measurements For Total Beta Activity

Survey Package D0600 SYSTEMS

Service Water System

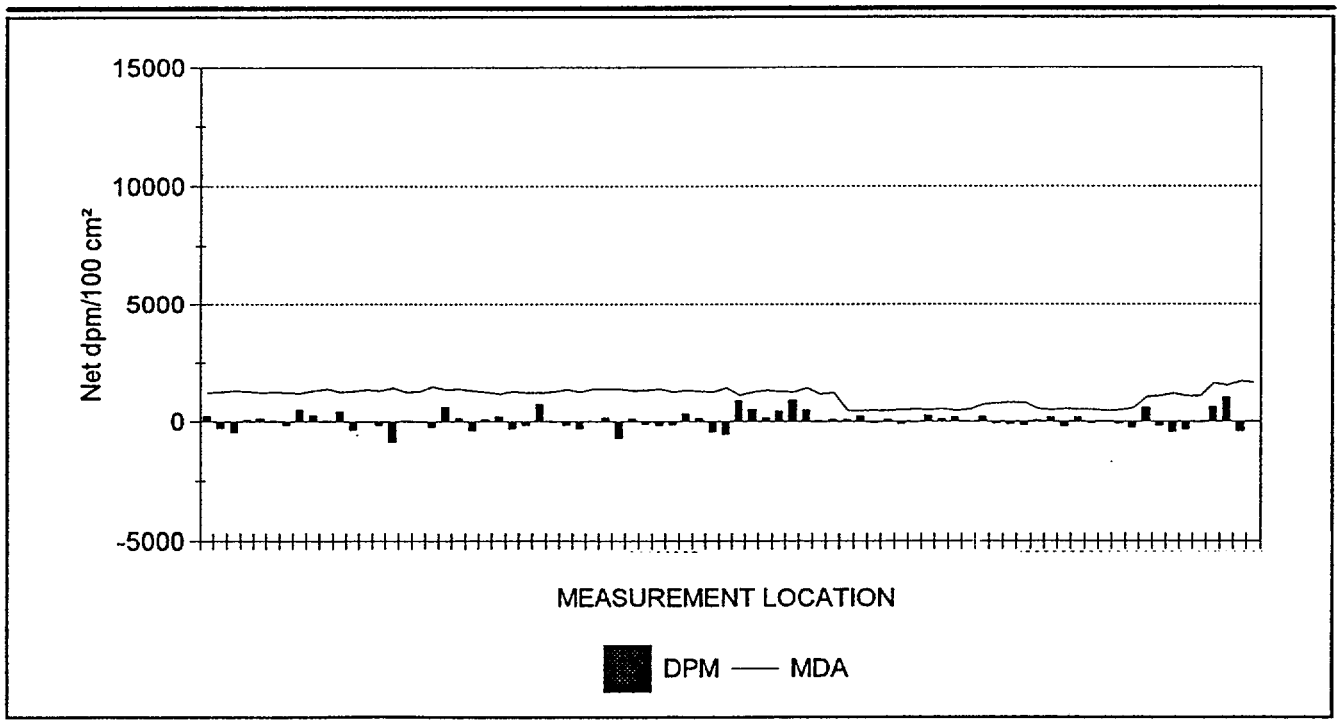
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	38.0
Maximum	1,013.9
Minimum	-865.3
Standard Deviation	347.9
MDA	1,686.9

Samples Reported	79
Samples Prescribed	79

TESTS PERFORMED

Samples reported satisfy samples prescribed	YES
MDA <2000 net dpm/100 cm²	YES
Results above 2000 net dpm/100 cm²	0
Number of results above MDA	0



79 RESULTS ARE GRAPHED

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Version 3.0.7 - 3/24/98

JLM

DBACORR Documentation
:aProgDBACORR:F_0111.FSL
OUTPUT BATCH SN = 193

Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Direct Measurements For Total Beta Activity

Survey Package : D0600 SYSTEMS

Service Water System

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	MDA	RESULT
432 (2)	01	S01	B0031	C01	120	00001	1,205.0	224.2
432 (2)	01	S01	B0031	C01	120	00002	1,234.7	-280.2
432 (2)	01	S01	B0031	C01	120	00003	1,277.9	-476.4
432 (2)	01	S01	B0031	C01	120	00004	1,242.0	56.0
432 (2)	01	S02	B0031	C01	120	00001	1,189.9	140.1
432 (2)	01	S02	B0031	C01	120	00002	1,227.4	28.0
432 (2)	01	S02	B0031	C01	120	00003	1,197.5	-168.1
432 (2)	01	S02	B0031	C01	120	00004	1,182.2	504.4
396 (2)	01	S03	B0031	C01	120	00001	1,266.3	268.4
396 (2)	01	S03	B0031	C01	120	00002	1,344.9	29.8
396 (2)	01	S03	B0031	C01	120	00003	1,225.0	417.5
396 (2)	01	S03	B0031	C01	120	00004	1,249.9	-357.8
408 (2)	01	S04	B0031	C01	120	00001	1,334.8	-27.9
408 (2)	01	S04	B0031	C01	120	00002	1,265.9	-167.5
408 (2)	01	S04	B0031	C01	120	00003	1,419.0	-865.3
408 (2)	01	S04	B0031	C01	120	00004	1,222.6	27.9
408 (2)	01	S05	B0031	C01	120	00001	1,237.2	0.0
408 (2)	01	S05	B0031	C01	120	00002	1,462.3	-223.3
408 (2)	01	S05	B0031	C01	120	00003	1,321.3	614.1
408 (2)	01	S05	B0031	C01	120	00004	1,361.3	139.6
408 (2)	01	S06	B0031	C01	120	00001	1,265.9	-390.8
408 (2)	01	S06	B0031	C01	120	00002	1,215.3	83.7
408 (2)	01	S06	B0031	C01	120	00003	1,138.7	195.4
408 (2)	01	S06	B0031	C01	120	00004	1,237.2	-307.0
408 (2)	01	S07	B0031	C01	120	00001	1,200.4	-167.5
408 (2)	01	S07	B0031	C01	120	00002	1,207.8	725.7
408 (2)	01	S07	B0031	C01	120	00003	1,215.3	-27.9
408 (2)	01	S07	B0031	C01	120	00004	1,321.3	-167.5
432 (2)	01	S08	B0031	C01	120	00001	1,220.0	-308.2
432 (2)	01	S08	B0031	C01	120	00002	1,353.3	0.0
432 (2)	01	S08	B0031	C01	120	00003	1,346.7	168.1
432 (2)	01	S08	B0031	C01	120	00004	1,346.7	-700.5
432 (2)	01	S09	B0031	C01	120	00001	1,277.9	112.1
432 (2)	01	S09	B0031	C01	120	00002	1,312.8	-112.1
432 (2)	01	S09	B0031	C01	120	00003	1,353.3	-168.1
432 (2)	01	S09	B0031	C01	120	00004	1,227.4	-140.1
396 (2)	01	S10	B0031	C01	120	00001	1,290.4	328.0
396 (2)	01	S10	B0031	C01	120	00002	1,258.1	119.3
396 (2)	01	S10	B0031	C01	120	00003	1,233.3	-447.3
396 (2)	01	S10	B0031	C01	120	00004	1,404.4	-536.8

NOTES: Activity reported in net dpm/100 cm². Count times are reported in seconds.
Underlined values exceed the MDA.
Bold values exceed 2000 dpm/100 cm².

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Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Direct Measurements For Total Beta Activity

Survey Package : D0600 SYSTEMS

Service Water System

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	MDA	RESULT
442 (2)	01	T01	B0031	C01	120	00001	1,087.8	877.8
442 (2)	01	T01	B0031	C01	120	00002	1,226.2	514.6
442 (2)	01	T01	B0031	C01	120	00003	1,301.7	151.3
442 (2)	01	T01	B0031	C01	120	00004	1,243.4	454.0
442 (2)	01	T01	B0031	C01	120	00005	1,234.8	908.1
442 (2)	01	T01	B0031	C01	120	00006	1,395.7	484.3
442 (2)	01	V01	B0031	C01	120	00001	1,136.0	30.3
442 (2)	01	V01	B0031	C01	120	00002	1,191.0	90.8
277 (2)	02	H01	B0031	C01	20	00001	460.4	74.2
277 (2)	02	H01	B0031	C01	20	00002	460.4	222.7
277 (2)	02	H01	B0031	C01	20	00003	479.3	-61.8
277 (2)	02	H01	B0031	C01	20	00004	479.3	86.6
277 (2)	02	H01	B0031	C01	20	00005	490.3	-99.0
325 (2)	02	H02	B0031	C01	15	00001	515.7	-15.2
325 (2)	02	H02	B0031	C01	15	00002	494.1	258.4
325 (2)	02	H02	B0031	C01	15	00003	556.1	106.4
325 (2)	02	H02	B0031	C01	15	00004	459.7	182.4
325 (2)	02	H02	B0031	C01	15	00005	510.4	0.0
355 (2)	02	P01	B0031	C01	180	00001	741.0	221.0
355 (2)	02	P01	B0031	C01	180	00002	775.6	-78.0
355 (2)	02	P01	B0031	C01	180	00003	806.3	-97.5
355 (2)	02	P01	B0031	C01	180	00004	817.3	-162.5
294 (2)	02	S01	B0031	C01	20	00001	555.9	41.2
294 (2)	02	S01	B0031	C01	20	00002	493.2	192.1
294 (2)	02	S01	B0031	C01	20	00003	552.0	-205.8
294 (2)	02	S01	B0031	C01	20	00004	515.0	192.1
312 (2)	02	S02	B0031	C01	20	00001	529.9	-54.3
312 (2)	02	S02	B0031	C01	20	00002	460.3	27.1
312 (2)	02	S02	B0031	C01	20	00003	505.0	-67.8
312 (2)	02	S02	B0031	C01	20	00004	568.8	-271.4
353 (2)	02	U01	B0031	C01	120	00001	1,033.2	604.0
353 (2)	02	U01	B0031	C01	120	00002	1,078.7	-183.8
353 (2)	02	U01	B0031	C01	120	00003	1,170.8	-446.4
353 (2)	02	U01	B0031	C01	120	00004	1,056.2	-341.4
353 (2)	02	U01	B0031	C01	120	00005	1,056.2	-26.3
396 (2)	03	U01	B0031	C01	120	00001	1,613.3	626.2
396 (2)	03	U01	B0031	C01	120	00002	1,516.0	1,013.9
396 (2)	03	U01	B0031	C01	120	00003	1,686.9	-417.5
396 (2)	03	U01	B0031	C01	120	00004	1,632.1	29.8

NOTES: Activity reported in net dpm/100 cm². Count times are reported in seconds.
Underlined values exceed the MDA.
Bold values exceed 2000 dpm/100 cm².
79 results are listed.

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DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

03/27/98 Direct Measurements For Total Beta Activity

Survey Package : D0600 SYSTEMS

Service Water System

SURVEY DATE	FILE #	M2350 INST S/N	M2350 CAL DUE	DETECTOR MODEL	DETECTOR S/N	DETECTOR CAL DUE	PRE EFF	TECHNICIAN
1/5/98	277 (2)	126198	3/22/98	43-106	PR128914	3/30/98	.19	LCF0451
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/6/98	294 (2)	126198	3/22/98	43-106	PR128914	3/30/98	.17	LCF0451
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/7/98	312 (2)	126198	3/22/98	43-106	PR128914	3/30/98	.18	LCF0451
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/8/98	325 (2)	126198	3/22/98	43-106	PR128914	3/30/98	.21	LCF0451
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/12/98	353 (2)	126198	3/22/98	44-40	PR091089	3/23/98	.12	KFS5185
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/12/98	355 (2)	129430	5/6/98	43-98	PR123606	6/10/98	.05	KFS5185
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/14/98	396 (2)	126185	3/20/98	44-40	PR121903	3/22/98	.11	KFS5185
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/15/98	408 (2)	126185	3/20/98	44-40	PR121903	3/22/98	.12	KFS5185
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/19/98	432 (2)	126185	3/20/98	44-40	PR121903	3/22/98	.12	KFS5185
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/20/98	442 (2)	126182	3/22/98	44-40	PR095101	3/23/98	.11	KFS5185
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		

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Maine Yankee Atomic Power Plant Site Characterization

03/29/98

Removable Contamination - Gross Beta Activity

Survey Package D0600 SYSTEMS

Service Water System

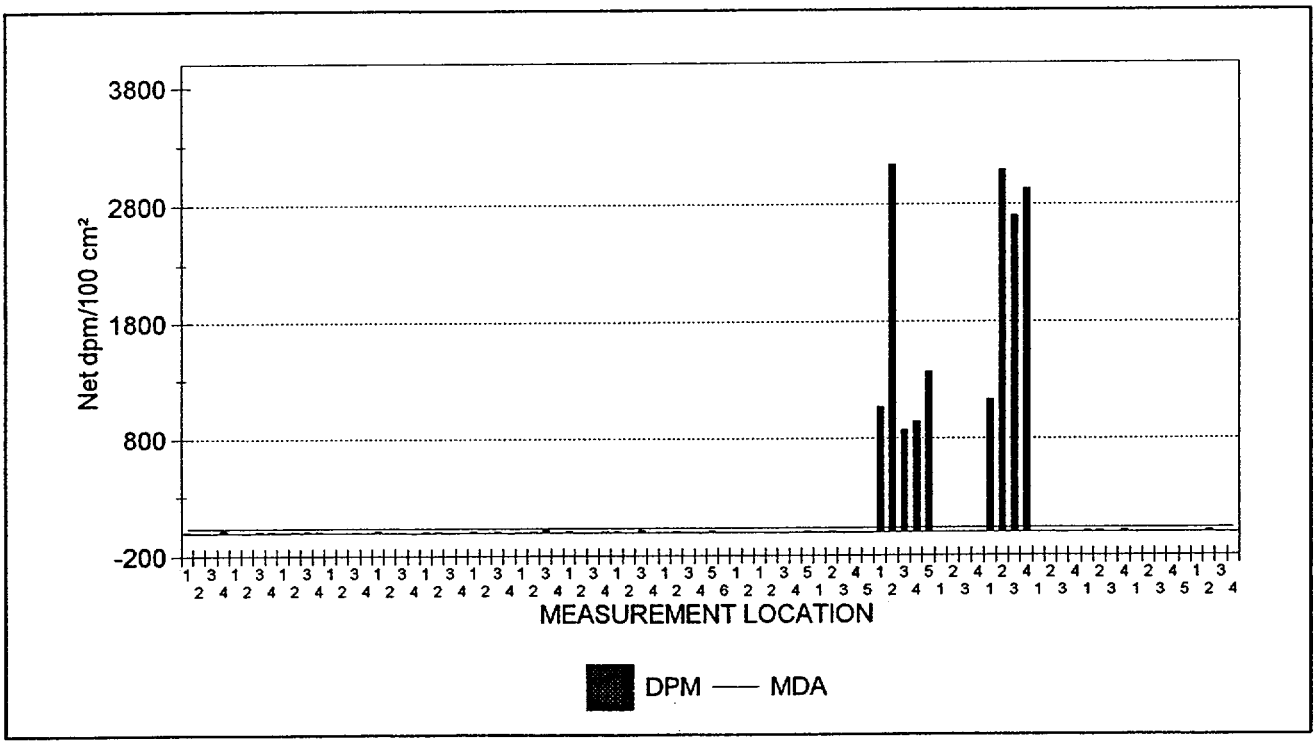
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	197.5
Maximum	3,133.7
Minimum	-6.0
Standard Deviation	658.5
MDA	37.0

Samples Reported	88
Samples Prescribed	91

TESTS PERFORMED

MDA <100 net dpm/100 cm²	YES
Results above 100 net dpm/100 cm²	9
Number of results above MDA	9



88 RESULTS ARE GRAPHED

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Maine Yankee Atomic Power Plant Site Characterization

03/29/98

Removable Contamination - Gross Alpha Activity

Survey Package D0600 SYSTEMS

Service Water System

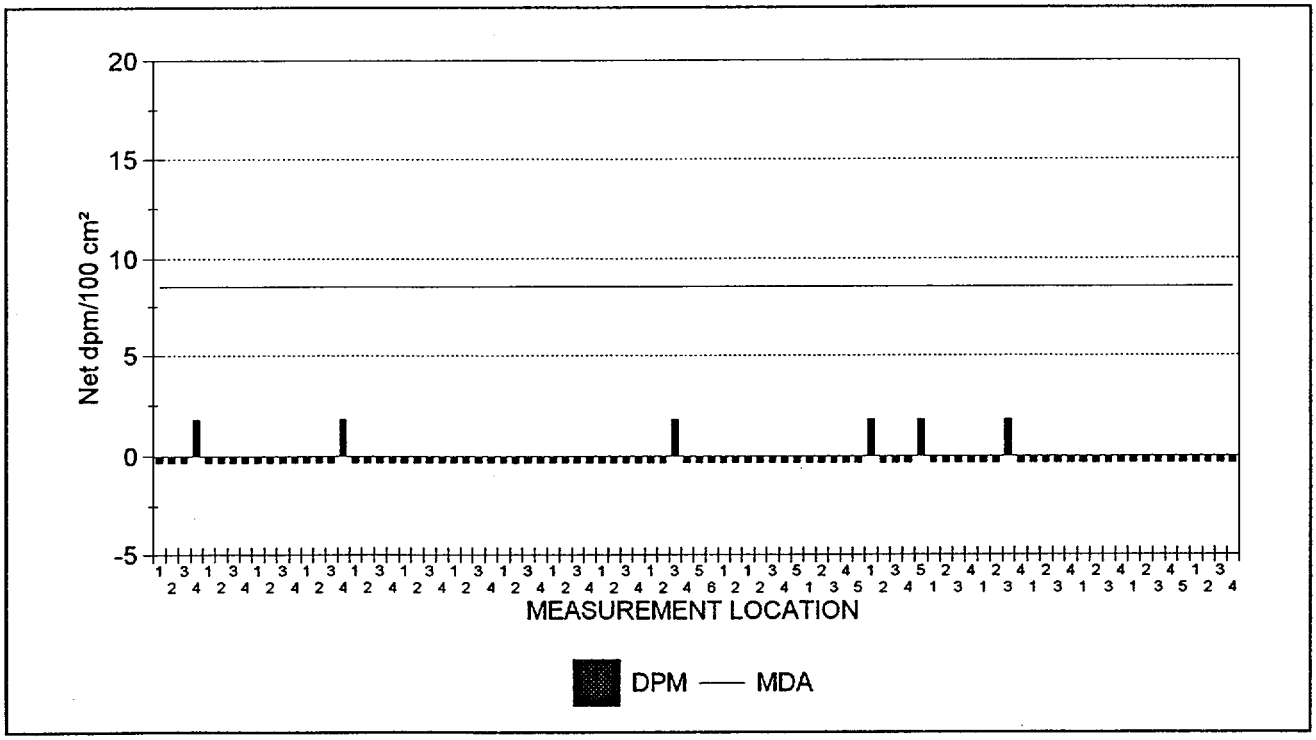
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	-0.2
Maximum	1.8
Minimum	-0.3
Standard Deviation	0.5
MDA	8.6

Samples Reported	88
Samples Prescribed	91

TESTS PERFORMED

MDA <10 net dpm/100 cm²	YES
Results above 20 net dpm/100 cm²	0
Number of results above MDA	0



88 RESULTS ARE GRAPHED

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Survey Package : D0600 SYSTEMS

Service Water System

RESULTS LISTING - SORTED BY SURFACE CODE

XLS FILE	UNIT	SURFACE	REASON	MSRMNT LOCATION	ALPHA	BETA
SME1E046.XLS	03	U01	C01	4	-0.3	-6.0
SME1E046.XLS	03	U01	C01	3	-0.3	-6.0
SME1E046.XLS	03	U01	C01	2	-0.3	12.6
SME1E046.XLS	03	U01	C01	1	-0.3	0.2
SME1E046.XLS	02	U01	C01	5	-0.3	0.2
SME1E046.XLS	02	U01	C01	4	-0.3	0.2
SME1E046.XLS	02	U01	C01	3	-0.3	-6.0
SME1E046.XLS	02	U01	C01	2	-0.3	0.2
SME1E046.XLS	02	U01	C01	1	-0.3	-6.0
SME1E046.XLS	02	S02	C01	4	-0.3	12.6
SME1E046.XLS	02	S02	C01	3	-0.3	0.2
SME1E046.XLS	02	S02	C01	2	-0.3	6.4
SME1E046.XLS	02	S02	C01	1	-0.3	6.4
SME1E046.XLS	02	S01	C01	4	-0.3	0.2
SME1E046.XLS	02	S01	C01	3	-0.3	-6.0
SME1E046.XLS	02	S01	C01	2	-0.3	0.2
SME1E046.XLS	02	S01	C01	1	-0.3	0.2
SME1E046.XLS	02	P02	C01	4	-0.3	***2,928.9***
SME1E046.XLS	02	P02	C01	3	1.8	***2,705.6***
SME1E046.XLS	02	P02	C01	2	-0.3	***3,084.1***
SME1E046.XLS	02	P02	C01	1	-0.3	***1,129.5***
SME1E046.XLS	02	P01	C01	4	-0.3	0.2
SME1E046.XLS	02	P01	C01	3	-0.3	0.2
SME1E046.XLS	02	P01	C01	2	-0.3	0.2
SME1E046.XLS	02	P01	C01	1	-0.3	0.2
SME1E046.XLS	02	M01	C01	5	1.8	***1,365.3***
SME1E046.XLS	02	M01	C01	4	-0.3	***943.4***
SME1E046.XLS	02	M01	C01	3	-0.3	***868.9***
SME1E046.XLS	02	M01	C01	2	-0.3	***3,133.7***
SME1E046.XLS	02	M01	C01	1	1.8	***1,067.5***
SME1E046.XLS	02	H02	C01	5	-0.3	-6.0
SME1E046.XLS	02	H02	C01	4	-0.3	0.2
SME1E046.XLS	02	H02	C01	3	-0.3	-6.0
SME1E046.XLS	02	H02	C01	2	-0.3	6.4
SME1E046.XLS	02	H02	C01	1	-0.3	0.2
SME1E046.XLS	02	H01	C01	5	-0.3	6.4
SME1E046.XLS	02	H01	C01	4	-0.3	0.2
SME1E046.XLS	02	H01	C01	3	-0.3	-6.0
SME1E046.XLS	02	H01	C01	2	-0.3	-6.0
SME1E046.XLS	02	H01	C01	1	-0.3	0.2

NOTES: Activity reported in net dpm/100 cm².
Underlined values exceed the associated MDA.
Bold values exceed 100.00 dpm/100 cm² (beta activity) and/or 20.00 dpm/100 cm² (alpha activity).

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Survey Package : D0600 SYSTEMS

Service Water System

RESULTS LISTING - SORTED BY SURFACE CODE

XLS FILE	UNIT	SURFACE	REASON	MSRMNT LOCATION	ALPHA	BETA
SME1E046.XLS	01	V01	C01	2	-0.3	0.2
SME1E046.XLS	01	V01	C01	1	-0.3	0.2
SME1E046.XLS	01	T01	C01	6	-0.3	0.2
SME1E046.XLS	01	T01	C01	5	-0.3	12.6
SME1E046.XLS	01	T01	C01	4	-0.3	-6.0
SME1E046.XLS	01	T01	C01	3	1.8	0.2
SME1E046.XLS	01	T01	C01	2	-0.3	6.4
SME1E046.XLS	01	T01	C01	1	-0.3	0.2
SME1E046.XLS	01	S10	C01	4	-0.3	0.2
SME1E046.XLS	01	S10	C01	3	-0.3	18.8
SME1E046.XLS	01	S10	C01	2	-0.3	0.2
SME1E046.XLS	01	S10	C01	1	-0.3	6.4
SME1E046.XLS	01	S09	C01	4	-0.3	6.4
SME1E046.XLS	01	S09	C01	3	-0.3	0.2
SME1E046.XLS	01	S09	C01	2	-0.3	-6.0
SME1E046.XLS	01	S09	C01	1	-0.3	12.6
SME1E046.XLS	01	S08	C01	4	-0.3	0.2
SME1E046.XLS	01	S08	C01	3	-0.3	25.0
SME1E046.XLS	01	S08	C01	2	-0.3	6.4
SME1E046.XLS	01	S08	C01	1	-0.3	0.2
SME1E046.XLS	01	S07	C01	4	-0.3	-6.0
SME1E046.XLS	01	S07	C01	3	-0.3	6.4
SME1E046.XLS	01	S07	C01	2	-0.3	0.2
SME1E046.XLS	01	S07	C01	1	-0.3	6.4

REMAINING RESULTS PRINTED ON NEXT PAGE

NOTES: Activity reported in net dpm/100 cm².
Underlined values exceed the associated MDA.
Bold values exceed 100.00 dpm/100 cm² (beta activity) and/or 20.00 dpm/100 cm² (alpha activity).

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Survey Package : D0600 SYSTEMS

Service Water System

RESULTS LISTING - SORTED BY SURFACE CODE

XLS FILE	UNIT	SURFACE	REASON	MSRMNT LOCATION	ALPHA	BETA
SME1E046.XLS	01	S06	C01	4	-0.3	0.2
SME1E046.XLS	01	S06	C01	3	-0.3	-6.0
SME1E046.XLS	01	S06	C01	2	-0.3	6.4
SME1E046.XLS	01	S06	C01	1	-0.3	6.4
SME1E046.XLS	01	S05	C01	4	-0.3	-6.0
SME1E046.XLS	01	S05	C01	3	-0.3	0.2
SME1E046.XLS	01	S05	C01	2	-0.3	0.2
SME1E046.XLS	01	S05	C01	1	-0.3	12.6
SME1E046.XLS	01	S04	C01	4	1.8	0.2
SME1E046.XLS	01	S04	C01	3	-0.3	0.2
SME1E046.XLS	01	S04	C01	2	-0.3	0.2
SME1E046.XLS	01	S04	C01	1	-0.3	0.2
SME1E046.XLS	01	S03	C01	4	-0.3	6.4
SME1E046.XLS	01	S03	C01	3	-0.3	6.4
SME1E046.XLS	01	S03	C01	2	-0.3	6.4
SME1E046.XLS	01	S03	C01	1	-0.3	0.2
SME1E046.XLS	01	S02	C01	4	-0.3	6.4
SME1E046.XLS	01	S02	C01	3	-0.3	6.4
SME1E046.XLS	01	S02	C01	2	-0.3	-6.0
SME1E046.XLS	01	S02	C01	1	-0.3	0.2
SME1E046.XLS	01	S01	C01	4	1.8	18.8
SME1E046.XLS	01	S01	C01	3	-0.3	-6.0
SME1E046.XLS	01	S01	C01	2	-0.3	0.2
SME1E046.XLS	01	S01	C01	1	-0.3	6.4

NOTES: Activity reported in net dpm/100 cm².
Underlined values exceed the associated MDA.
Bold values exceed 100.00 dpm/100 cm² (beta activity) and/or 20.00 dpm/100 cm² (alpha activity).
88 results are listed.

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DATAFILE & TENNELEC CALIBRATION SUMMARY

03/29/98

Removable Contamination

Survey Package : D0600 SYSTEMS

Service Water System

SURVEYDATE	XLS FILE	INST ID	S/N	CAL DUE	LAB TECHNICIAN
3/4/98	SME1E046.XLS	1	15632	8/5/98	JWD
				CALIBRATION DATE VERIFIED AS ACCEPTABLE	

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Maine Yankee Atomic Power Plant Site Characterization

03/27/98 Removable Contamination - Tritium Activity

Survey Package : D0600 SYSTEMS

Service Water System

RESULTS LISTING - SORTED BY SURFACE CODE

SAMPLE ID	SAMPLE TYPE	UNIT	SURF	REASN	MSRMNT LOCATION	MDA	TRITIUM ACTIVITY
D1	Hoppes patch	01	T01	C01	00001	38.4	9.1
D2	Hoppes patch	01	S08	C01	00001	38.4	-0.5
H016	Whatman smear	02	S02	C01	00001	8.0	-4.3

NOTES: Activity reported in net dpm/100 cm².
Underlined values exceed the associated MDA.
Bold values exceed 25 dpm/100 cm²,
Italic values exceed 100 dpm/100 cm².

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LIQUID SCINTILLATION COUNTER CALIBRATION SUMMARY

03/27/98 Removable Contamination - Tritium Activity

Survey Package : D0600 SYSTEMS

Service Water System

SURVEYDATE	INSTRUMENT	MODEL	S/N	CAL DUE	LAB TECHNICIAN
2/1/98	Packard	2750	416221	6/16/98	LDT
				CALIBRATION DATE VERIFIED AS ACCEPTABLE	

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Maine Yankee Atomic Power Plant Site Characterization

GAMMA SPECTRAL ANALYSIS RESULTS LISTING

03/28/98 OUTPUT BATCH SN = 207

Survey Package D0600 SYSTEMS

Service Water System

UNIT : 01 SURFACE : S04 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Strainer / Filters
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD45	PET00023	0.1	1800	Co-57	< 391.0	391.0	0.0
				Co-60	< 569.0	569.0	0.0
				Cs-134	< 605.0	605.0	0.0
				Cs-137	< 653.0	653.0	0.0
				K-40	< 6850.0	6,850.0	0.0
				Mn-54	< 507.0	507.0	0.0

UNIT : 01 SURFACE : S08 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Strainer / Filters
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD62	PET00013	1.4	1200	Co-57	< 28.0	28.0	0.0
				Co-60	< 37.2	37.2	0.0
				Cs-134	< 55.1	55.1	0.0
				Cs-137	< 66.3	66.3	0.0
				K-40	< 758.0	758.0	0.0
				Mn-54	< 51.5	51.5	0.0

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Survey Package D0600 SYSTEMS

Service Water System

UNIT : 01 SURFACE : T01 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Tank
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD46	FAL00031	9.7	1800	Co-57	< 5.7	5.7	0.0
				Co-60	< 5.5	5.5	0.0
				Cs-134	< 7.1	7.1	0.0
				Cs-137	< 6.7	6.7	0.0
				K-40	< 76.3	76.3	0.0
				Mn-54	< 4.9	4.9	0.0

UNIT : 02 SURFACE : 0H2 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Surface Code description not located
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD11	FAL00011	6.5	1800	Co-57	< 8.8	8.8	0.0
				Co-60	< 10.9	10.9	0.0
				Cs-134	< 10.4	10.4	0.0
				Cs-137	< 12.3	12.3	0.0
				K-40	< 112.0	112.0	0.0
				Mn-54	< 13.9	13.9	0.0

UNIT : 02 SURFACE : 0S2 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Surface Code description not located
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD10	FAL00008	8.5	1800	Co-57	< 7.0	7.0	0.0
				Co-60	< 6.3	6.3	0.0
				Cs-134	< 8.8	8.8	0.0
				Cs-137	< 6.2	6.2	0.0
				K-40	< 91.0	91.0	0.0
				Mn-54	< 8.6	8.6	0.0

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Survey Package D0600 SYSTEMS

Service Water System

UNIT : 02 SURFACE : H01 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Heat Exchanger
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD09	FAL00009	8.1	1800	Co-57	< 6.5	6.6	0.0
				Co-60	< 7.5	7.5	0.0
				Cs-134	< 9.8	9.8	0.0
				Cs-137	< 8.1	8.1	0.0
				K-40	< 114.0	114.0	0.0
				Mn-54	< 8.2	8.2	0.0

SAMPLE TYPE OR SURFACE SAMPLED: Heat Exchanger
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD09D	FAL00010	8.1	1800	Co-57	< 6.4	6.4	0.0
				Co-60	< 8.1	8.1	0.0
				Cs-134	< 7.2	7.2	0.0
				Cs-137	< 8.4	8.4	0.0
				K-40	< 96.4	96.4	0.0
				Mn-54	< 7.7	7.7	0.0

UNIT : 02 SURFACE : M01 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Misc component
SAMPLE LOCATOR: 00002

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD81	PET00018	1.0	1200	Co-57	< 52.7	52.7	0.0
				Co-60	702.00	101.0	107.0
				Cs-134	< 113.0	113.0	0.0
				Cs-137	< 87.0	87.0	0.0
				K-40	< 927.0	927.0	0.0
				Mn-54	< 108.0	108.0	0.0

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GAMMA SPECTRAL ANALYSIS RESULTS LISTING

03/28/98 OUTPUT BATCH SN = 207

Survey Package D0600 SYSTEMS

Service Water System

UNIT : 02 SURFACE : P02 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Plant Piping (interior)
SAMPLE LOCATOR: 00002

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD80	PET00033	1.0	1200	Co-57	< 63.7	63.7	0.0
				Co-60	773.00	71.1	99.6
				Cs-134	< 106.0	106.0	0.0
				Cs-137	< 81.9	81.9	0.0
				K-40	< 945.0	945.0	0.0
				Mn-54	< 101.0	101.0	0.0

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DBACORR Documentation
:aProgDBACORR:R_GSPEC.RSL

04/01/98

CHARACTERIZATION SUMMARY

SURVEY PACKAGE NUMBER :D0700 SYSTEMS

PACKAGE DESCRIPTION Fire Protection System

SURVEY AREA DESCRIPTION
Fire Protection System

GENERAL HISTORICAL INFORMATION (Operational history, etc.)
The Fire Protection System provides pressurized water for extinguishing fires, a pressurized foam-water mixture for extinguishing oil fires, carbon dioxide for extinguishing fires and purging the main generator, and Halon for extinguishing fires.

SUMMARY OF CHARACTERIZATION ACTIVITIES
Survey units were established for the areas as shown in the following Summary of Survey Units. System diagrams with the survey measurement locations for this package are included in Appendix B, Unaffected Systems Diagrams.

Performed a scan of accessible surfaces up to a maximum area of one square meter at 49 survey measurement locations indicated on the appropriate survey diagram(s).

Collected direct measurements for total beta activity at 49 survey measurement locations at the highest location identified in the scan. If an elevated location was not observed, the measurement was collected at an arbitrary location, selected by the technician, within the scanned area.

Collected smear samples to analyze for removable alpha and beta activity at 50 survey locations including those for direct measurements for total beta activity.

Collected smear samples to analyze for removable tritium activity at 3 survey measurement locations indicated on the results listing report.

Collected 4 material samples (e.g., sludge, sediment, rust, etc.) from the sumps, drains for gamma spectral analysis.

The survey result statistical summaries, graphs and results listings are shown in the following individual reports including calibration summaries for the instruments used for each measurement type.

CHARACTERIZATION SURVEY RESULTS
- o There were 1 direct measurements for total beta activity above MDA (Maximum MDA was 1257 dpm/100cm²) and no results greater than 2000 dpm/100cm². The maximum measurement result was 1,115 dpm/100cm².
- o There was 1 measurement for removable beta activity above MDA (17 dpm/100cm²) and no result greater than 100 dpm/100cm². The maximum measurement result was 20.6 dpm/100cm².
- o There were no measurements for removable alpha activity above MDA (6 dpm/100cm²).
- o There were no measurements for removable tritium activity above MDA (38.4 dpm/100cm²).
- o The sample(s) gamma spectral analysis results indicated no plant-derived radionuclide activity above MDA.

REFERENCES (Documents, Interviews)
Maine Yankee Drawings 1150 - FM - 89 B

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SUMMARY OF SURVEY UNIT(S)

03/27/98 OUTPUT BATCH SN = 290

PACKAGE D0700 SYSTEMS

Fire Protection System

UNIT(S)	SURFACE(S)
01 - Fuel Building Components	P01 (1" line at valve FS-127 (21' HS-49)) P02 (1" line at valve FS-125 (21' HS-50, near roll up door.)) P03 (1" line at valve FS-126 (40' top of stairs))
02 - Turbine Building Components	P01 (5" line (21' southeast overhead, by stairs)) P02 (1" line at valve FS-275 (21' northwest corner)) P03 (1" line at valve FS-137 (36' hose station next to elevator)) P04 (1.5" line at valve FS-77 (61' southeast, HS-22)) P05 (1" line at valve FS-274 (21' southwest wall, HS-4)) P06 (2" line at valve FS-202 (21' southeast, against wall)) S01 (18" strainer STR-106 (sits over sump drain, crane bay east wall))
03 - Containment Spray Building Components	P01 (1" line at valve FS-132 (39' hose station HS-34)) P02 (1" line at valve FS-133 (39' hose station HS-33))
04 - Mechanical Penetration Room Components	P01 (1" line at valve FS-134 (21' HS-35 hose station))
05 - Yard Components	M01 (Fire hydrant at valve FS-92 (beside DWST)) M02 (Fire hydrant at valve FS-44 (in front of Admin building)) M03 (Fire hydrant at valve FS-31 (RWST area, alley, outside of missile shield))
06 - Service Building Components	P01 (2" line at valve FS-64 (stock room, hose station 2))
07 - Fire Pump House Components	K01 (Fire pump house sump) S01 (18" strainer STR-4A) S02 (18" strainer STR-4B)
08 - RCA Building Components	P01 (1.5" line at valve FS-128 (21' , HS-51 hose station, Duratek drumming room))
09 - Primary Auxiliary Building Components	P01 (1" line at valve FS-120 (36' northwest, HS-43 hose station)) P02 (1" line at valve FS-116 (at stairway to 11' elev.)) P03 (1.5" line at valve FS-198 (11' , pipe tunnel entrance, HS-40 hose station))

REASON(S) CHARACTERIZATION SURVEY (C01)

MATERIALS

MAT'L CODE	MATERIAL DESCRIPTION	BETA BKGD (dpm/100 cm²)
B0002	CONCRETE - BARE (INTERIOR)	665.0
B0031	METAL - BARE	0.0

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Maine Yankee Atomic Power Plant Site Characterization

04/01/98

Direct Measurements For Total Beta Activity

Survey Package D0700 SYSTEMS

Fire Protection System

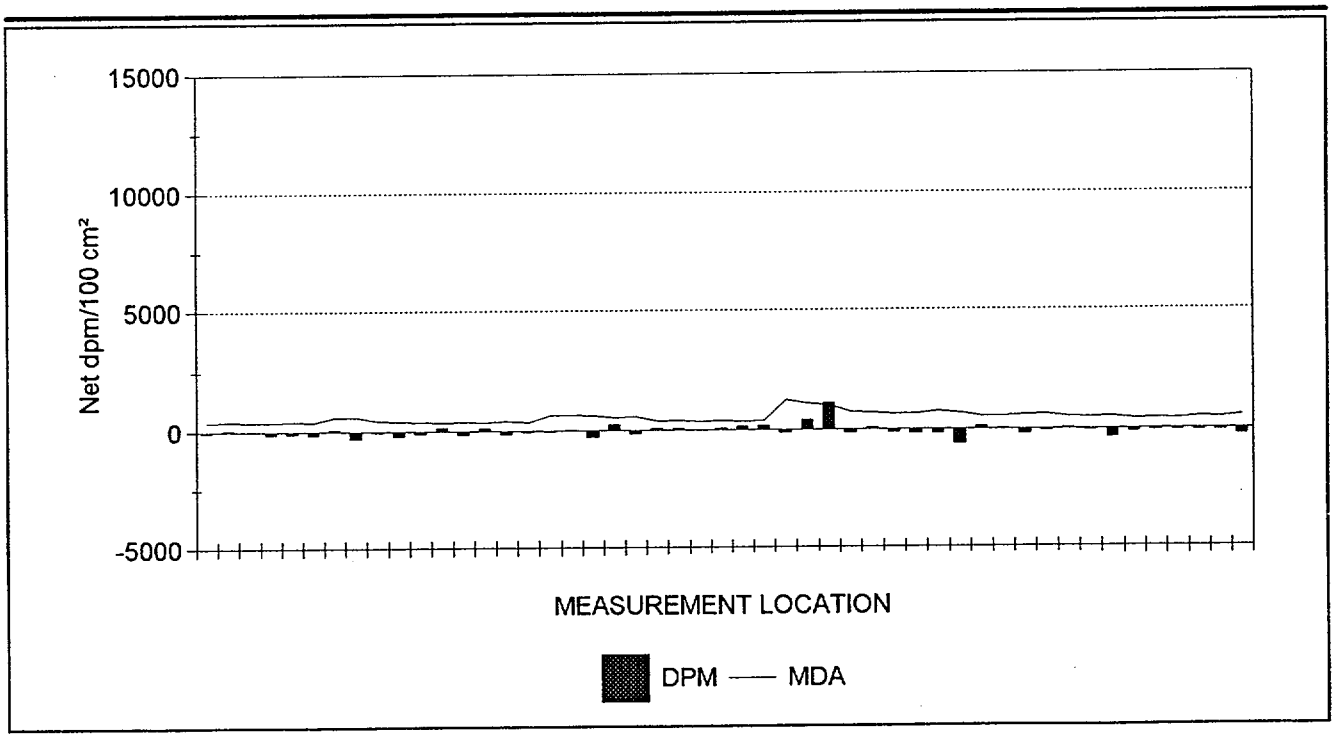
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	-35.6
Maximum	1,114.7
Minimum	-635.1
Standard Deviation	240.2
MDA	1,257.2

Samples Reported	49
Samples Prescribed	49

TESTS PERFORMED

Samples reported satisfy samples prescribed	YES
MDA <2000 net dpm/100 cm²	YES
Results above 2000 net dpm/100 cm²	0
Number of results above MDA	1



49 RESULTS ARE GRAPHED

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Survey Package : D0700 SYSTEMS

Fire Protection System

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	MDA	RESULT
376 (2)	01	P01	B0031	C01	180	00001	380.6	-51.2
376 (2)	01	P01	B0031	C01	180	00002	405.4	51.2
376 (2)	01	P02	B0031	C01	180	00001	384.3	-6.4
376 (2)	01	P02	B0031	C01	180	00002	398.5	-127.9
376 (2)	01	P03	B0031	C01	180	00001	426.5	-96.0
376 (2)	01	P03	B0031	C01	180	00002	396.2	-153.5
390 (2)	02	P01	B0031	C01	300	00001	588.0	65.4
390 (2)	02	P01	B0031	C01	300	00002	592.7	-314.9
407 (2)	02	P02	B0031	C01	180	00001	429.8	-51.2
407 (2)	02	P02	B0031	C01	180	00002	414.0	-213.3
402 (2)	02	P03	B0031	C01	360	00001	403.2	-104.9
402 (2)	02	P03	B0031	C01	360	00002	372.9	162.6
402 (2)	02	P04	B0031	C01	360	00001	377.9	-162.6
402 (2)	02	P04	B0031	C01	360	00002	366.2	120.6
407 (2)	02	P05	B0031	C01	180	00001	418.0	-153.5
407 (2)	02	P05	B0031	C01	180	00002	371.4	-51.2
391 (2)	02	P06	B0031	C01	180	00001	646.6	-60.3
391 (2)	02	P06	B0031	C01	180	00002	640.4	20.1
391 (2)	02	P06	B0031	C01	180	00003	637.3	-281.2
387 (2)	02	S01	B0031	C01	20	00001	541.0	258.1
387 (2)	02	S01	B0031	C01	20	00002	582.1	-154.9
364 (2)	03	P01	B0031	C01	180	00001	389.5	89.9
364 (2)	03	P01	B0031	C01	180	00002	403.8	72.0
364 (2)	03	P02	B0031	C01	180	00001	373.5	12.0

REMAINING RESULTS PRINTED ON NEXT PAGE

NOTES: Activity reported in net dpm/100 cm². Count times are reported in seconds.
Underlined values exceed the MDA.
Bold values exceed 2000 dpm/100 cm².

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Survey Package : D0700 SYSTEMS

Fire Protection System

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	MDA	RESULT
364 (2)	03	P02	B0031	C01	180	00002	394.7	83.9
364 (2)	04	P01	B0031	C01	180	00001	375.7	149.9
364 (2)	04	P01	B0031	C01	180	00002	398.8	179.9
354 (2)	05	M01	B0031	C01	300	00001	1,257.2	-142.3
354 (2)	05	M02	B0031	C01	120	00001	1,103.3	415.0
354 (2)	05	M03	B0031	C01	300	00001	1,014.5	1,114.7
400 (2)	06	P01	B0031	C01	180	00001	725.9	-154.0
400 (2)	06	P01	B0031	C01	180	00002	707.6	84.0
384 (2)	07	K01	B0002	C01	15	00001	646.9	-126.8
384 (2)	07	K01	B0002	C01	15	00002	638.9	-171.6
384 (2)	07	K01	B0002	C01	15	00003	749.9	-186.6
384 (2)	07	K01	B0002	C01	15	00004	685.6	-635.1
387 (2)	07	S01	B0031	C01	20	00001	551.6	129.1
387 (2)	07	S01	B0031	C01	20	00002	541.0	38.7
406 (2)	07	S02	B0031	C01	20	00001	599.8	-217.8
406 (2)	07	S02	B0031	C01	20	00002	624.2	-81.7
406 (2)	07	S02	B0031	C01	20	00003	531.5	40.8
377 (2)	08	P01	B0031	C01	360	00001	490.1	-62.5
377 (2)	08	P01	B0031	C01	360	00002	527.4	-360.9
376 (2)	09	P01	B0031	C01	180	00001	424.3	-127.9
376 (2)	09	P01	B0031	C01	180	00002	452.7	-76.8
376 (2)	09	P02	B0031	C01	180	00001	428.7	-70.4
376 (2)	09	P02	B0031	C01	180	00002	499.1	-89.6
377 (2)	09	P03	B0031	C01	360	00001	478.9	-76.3
377 (2)	09	P03	B0031	C01	360	00002	537.5	-270.7

NOTES: Activity reported in net dpm/100 cm². Count times are reported in seconds.
Underlined values exceed the MDA.
Bold values exceed 2000 dpm/100 cm².
49 results are listed.

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DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

04/01/98 Direct Measurements For Total Beta Activity

Survey Package : D0700 SYSTEMS

Fire Protection System

SURVEY DATE	FILE #	M2350 INST S/N	M2350 CAL DUE	DETECTOR MODEL	DETECTOR S/N	DETECTOR CAL DUE	PRE EFF	TECHNICIAN
1/12/98	354 (2)	117014	4/16/98	44-40	PR125868	4/18/98	.11	DRL7343
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/12/98	364 (2)	129429	5/5/98	43-94	PR119461	5/5/98	.06	JFM0682
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/13/98	376 (2)	129429	5/5/98	43-94	PR119461	5/5/98	.05	JFM0682
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/13/98	377 (2)	129430	5/6/98	43-94	124115	6/9/98	.02	JFM0682
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/14/98	384 (2)	095348	3/20/98	43-106	PR126906	3/30/98	.21	LKW7727
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/14/98	387 (2)	126198	3/22/98	43-106	PR128914	3/30/98	.18	LKW7727
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		

DETECTOR LISTING CONTINUED ON NEXT PAGE

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DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

04/01/98 Direct Measurements For Total Beta Activity

Survey Package : D0700 SYSTEMS

Fire Protection System

SURVEY DATE	FILE #	M2350 INST S/N	M2350 CAL DUE	DETECTOR MODEL	DETECTOR S/N	DETECTOR CAL DUE	PRE EFF	TECHNICIAN
1/14/98	390 (2)	095349	4/15/98	SP-175-3M	096135	4/28/98	.07	JFM0682
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/14/98	391 (2)	129430	5/6/98	43-98	PR123604	5/5/98	.05	JFM0682
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/15/98	400 (2)	129430	5/6/98	43-98	PR123604	5/5/98	.05	JFM0682
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/15/98	402 (2)	129429	5/5/98	43-94	PR119461	5/5/98	.03	DRL7343
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/15/98	406 (2)	126198	3/22/98	43-106	PR128914	3/30/98	.17	DRL7343
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/15/98	407 (2)	117014	4/16/98	43-94	119460	6/9/98	.04	JFM0682
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		

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Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Removable Contamination - Gross Beta Activity

Survey Package D0700 SYSTEMS

Fire Protection System

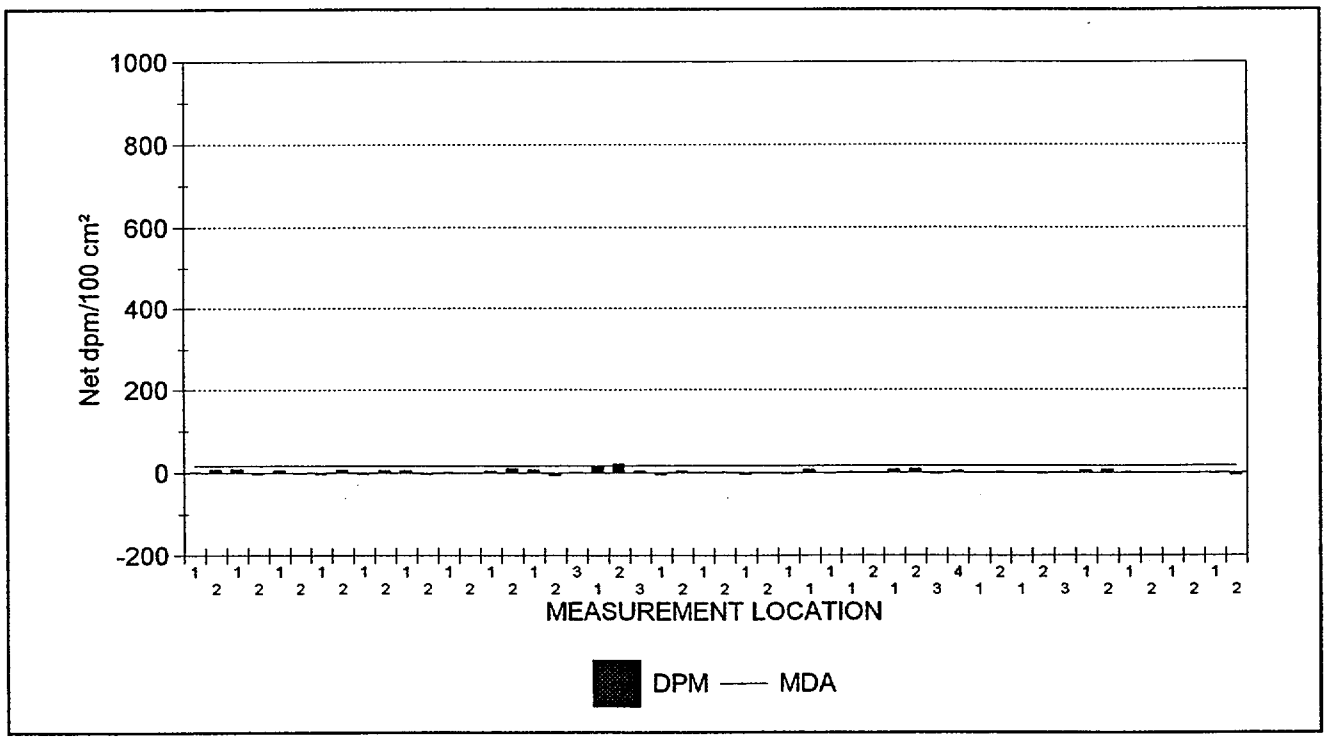
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	2.4
Maximum	20.6
Minimum	-6.3
Standard Deviation	5.2
MDA	17.0

Samples Reported	50
Samples Prescribed	53

TESTS PERFORMED

MDA <100 net dpm/100 cm²	YES
Results above 100 net dpm/100 cm²	0
Number of results above MDA	1



50 RESULTS ARE GRAPHED

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Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Removable Contamination - Gross Alpha Activity

Survey Package D0700 SYSTEMS

Fire Protection System

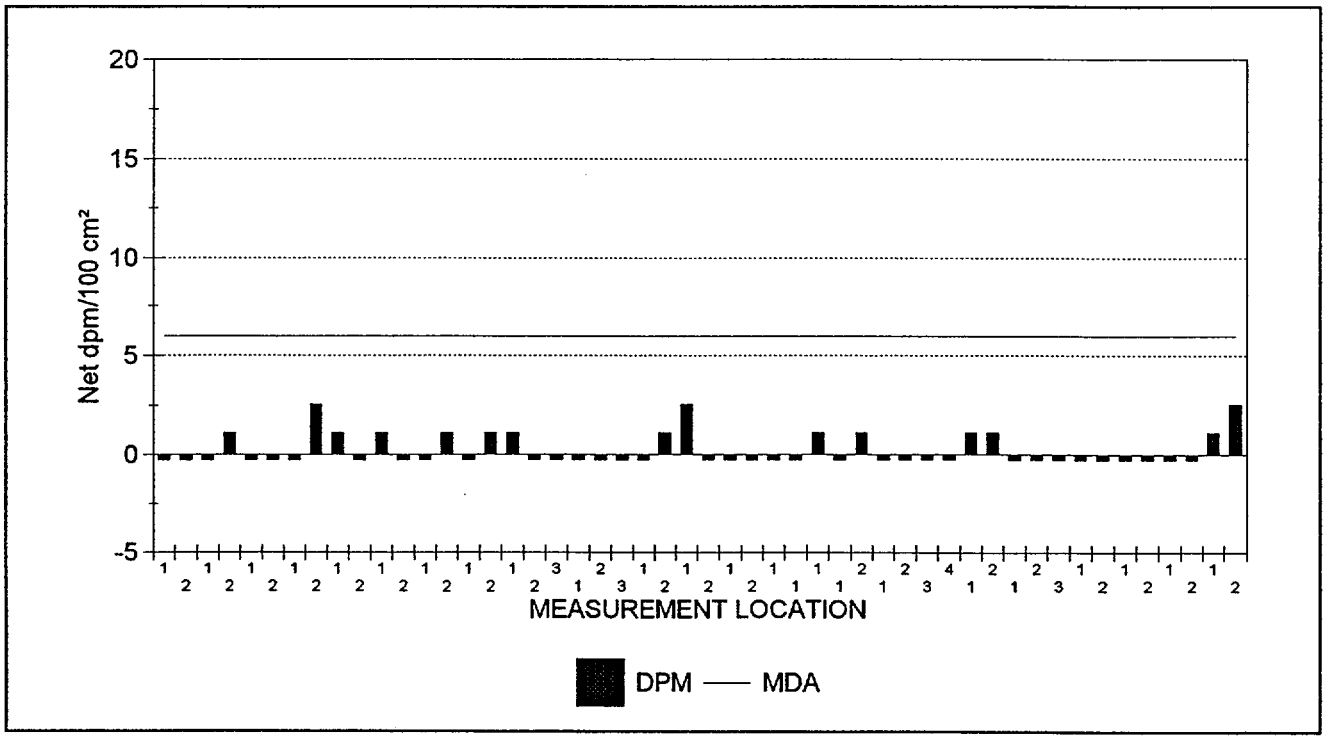
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	0.2
Maximum	2.5
Minimum	-0.3
Standard Deviation	0.9
MDA	6.0

Samples Reported	50
Samples Prescribed	53

TESTS PERFORMED

MDA <10 net dpm/100 cm²	YES
Results above 20 net dpm/100 cm²	0
Number of results above MDA	0



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Survey Package : D0700 SYSTEMS

Fire Protection System

RESULTS LISTING - SORTED BY SURFACE CODE

XLS FILE	UNIT	SURFACE	REASON	MSRMNT LOCATION	ALPHA	BETA
SME1D037.XLS	09	P03	C01	2	2.5	-6.3
SME1D037.XLS	09	P03	C01	1	1.1	-1.2
SME1D037.XLS	09	P02	C01	2	-0.3	-1.2
SME1D037.XLS	09	P02	C01	1	-0.3	-1.2
SME1D037.XLS	09	P01	C01	2	-0.3	0.4
SME1D037.XLS	09	P01	C01	1	-0.3	2.1
SME1D037.XLS	08	P01	C01	2	-0.3	7.2
SME1D037.XLS	08	P01	C01	1	-0.3	5.5
SME1D037.XLS	07	S02	C01	3	-0.3	2.1
SME1D037.XLS	07	S02	C01	2	-0.3	-1.2
SME1D037.XLS	07	S02	C01	1	-0.3	0.4
SME1D037.XLS	07	S01	C01	2	1.1	2.1
SME1D037.XLS	07	S01	C01	1	1.1	0.4
SME1D037.XLS	07	K01	C01	4	-0.3	3.8
SME1D037.XLS	07	K01	C01	3	-0.3	-2.9
SME1D037.XLS	07	K01	C01	2	-0.3	8.9
SME1D037.XLS	07	K01	C01	1	-0.3	7.2
SME1D037.XLS	06	P01	C01	2	1.1	0.4
SME1D037.XLS	06	P01	C01	1	-0.3	2.1
SME1D037.XLS	05	M03	C01	1	1.1	-1.2
SME1D037.XLS	05	M02	C01	1	-0.3	7.2
SME1D037.XLS	05	M01	C01	1	-0.3	-2.9
SME1D037.XLS	04	P01	C01	2	-0.3	0.4
SME1D037.XLS	04	P01	C01	1	-0.3	-4.6
SME1D037.XLS	03	P02	C01	2	-0.3	2.1
SME1D037.XLS	03	P02	C01	1	2.5	2.1
SME1D037.XLS	03	P01	C01	2	1.1	3.8
SME1D037.XLS	03	P01	C01	1	-0.3	-4.6
SME1D037.XLS	02	S01	C01	3	-0.3	3.8
SME1D037.XLS	02	S01	C01	2	-0.3	20.6
SME1D037.XLS	02	S01	C01	1	-0.3	13.9
SME1D037.XLS	02	P06	C01	3	-0.3	2.1
SME1D037.XLS	02	P06	C01	2	-0.3	-6.3
SME1D037.XLS	02	P06	C01	1	1.1	7.2
SME1D037.XLS	02	P05	C01	2	1.1	10.5
SME1D037.XLS	02	P05	C01	1	-0.3	3.8
SME1D037.XLS	02	P04	C01	2	1.1	0.4
SME1D037.XLS	02	P04	C01	1	-0.3	2.1
SME1D037.XLS	02	P03	C01	2	-0.3	-2.9
SME1D037.XLS	02	P03	C01	1	1.1	5.5

NOTES: Activity reported in net dpm/100 cm².
Underlined values exceed the associated MDA.
Bold values exceed 100.00 dpm/100 cm² (beta activity) and/or 20.00 dpm/100 cm² (alpha activity).

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Survey Package : D0700 SYSTEMS

Fire Protection System

RESULTS LISTING - SORTED BY SURFACE CODE

XLS FILE	UNIT	SURFACE	REASON	MSRMNT LOCATION	ALPHA	BETA
SME1D037.XLS	02	P02	C01	2	-0.3	5.5
SME1D037.XLS	02	P02	C01	1	1.1	-2.9
SME1D037.XLS	02	P01	C01	2	2.5	7.2
SME1D037.XLS	02	P01	C01	1	-0.3	-2.9
SME1D037.XLS	01	P03	C01	2	-0.3	-1.2
SME1D037.XLS	01	P03	C01	1	-0.3	5.5
SME1D037.XLS	01	P02	C01	2	1.1	-2.9
SME1D037.XLS	01	P02	C01	1	-0.3	8.9
SME1D037.XLS	01	P01	C01	2	-0.3	7.2
SME1D037.XLS	01	P01	C01	1	-0.3	2.1

NOTES: Activity reported in net dpm/100 cm².
Underlined values exceed the associated MDA.
Bold values exceed 100.00 dpm/100 cm² (beta activity) and/or 20.00 dpm/100 cm² (alpha activity).
50 results are listed.

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DATAFILE & TENNELEC CALIBRATION SUMMARY

03/27/98

Removable Contamination

Survey Package : D0700 SYSTEMS

Fire Protection System

SURVEYDATE	XLS FILE	INST ID	S/N	CAL DUE	LAB TECHNICIAN
2/17/98	SME1D037.XLS	1	14131	8/7/98	SMM
				CALIBRATION DATE VERIFIED AS ACCEPTABLE	

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03/27/98 Removable Contamination - Tritium Activity

Survey Package : D0700 SYSTEMS

Fire Protection System

RESULTS LISTING - SORTED BY SURFACE CODE

SAMPLE ID	SAMPLE TYPE	UNIT	SURF	REASN	MSRMNT LOCATION	MDA	TRITIUM ACTIVITY
D3	Hoppes patch	05	M01	C01	00001	38.4	8.9
D4	Hoppes patch	02	P06	C01	00001	38.4	8.2
D5	Hoppes patch	02	P02	C01	00001	38.4	-0.4

NOTES: Activity reported in net dpm/100 cm².
Underlined values exceed the associated MDA.
Bold values exceed 25 dpm/100 cm²,
Italic values exceed 100 dpm/100 cm².

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LIQUID SCINTILLATION COUNTER CALIBRATION SUMMARY

03/27/98 Removable Contamination - Tritium Activity

Survey Package : D0700 SYSTEMS

Fire Protection System

SURVEYDATE	INSTRUMENT	MODEL	S/N	CAL DUE	LAB TECHNICIAN
2/1/98	Packard	2750	416221	6/16/98	LDT
				CALIBRATION DATE VERIFIED AS ACCEPTABLE	

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Maine Yankee Atomic Power Plant Site Characterization

GAMMA SPECTRAL ANALYSIS RESULTS LISTING

03/28/98 OUTPUT BATCH SN = 208

Survey Package D0700 SYSTEMS

Fire Protection System

UNIT : 02 SURFACE : S01 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Strainer / Filters
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD37	FAL00023	23.1	1800	Co-57	< 2.2	2.2	0.0
				Co-60	< 3.8	3.8	0.0
				Cs-134	< 2.5	2.5	0.0
				Cs-137	< 3.3	3.3	0.0
				K-40	< 33.5	33.5	0.0
				Mn-54	< 3.1	3.1	0.0

UNIT : 03 SURFACE : P01 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Plant Piping (interior)
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD38	FAL00024	32.9	1800	Co-57	< 1.8	1.8	0.0
				Co-60	< 2.1	2.1	0.0
				Cs-134	< 2.1	2.1	0.0
				Cs-137	< 2.7	2.7	0.0
				K-40	< 25.4	25.4	0.0
				Mn-54	< 2.2	2.2	0.0

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Survey Package D0700 SYSTEMS

Fire Protection System

UNIT : 07 SURFACE : K01 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Surface Code description not located
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD39	FAL00025	8.7	1800	Co-57	< 6.3	6.3	0.0
				Co-60	< 8.2	8.2	0.0
				Cs-134	< 7.9	7.9	0.0
				Cs-137	< 8.1	8.1	0.0
				K-40	< 76.6	76.6	0.0
				Mn-54	< 5.9	5.9	0.0

UNIT : 07 SURFACE : S01 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Strainer / Filters
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD40	FAL00026	22.1	1800	Co-57	< 2.4	2.4	0.0
				Co-60	< 3.2	3.2	0.0
				Cs-134	< 3.2	3.2	0.0
				Cs-137	< 3.0	3.0	0.0
				K-40	< 39.1	39.1	0.0
				Mn-54	< 2.4	2.4	0.0

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04/01/98

CHARACTERIZATION SUMMARY

SURVEY PACKAGE NUMBER :D0800 — SYSTEMS

PACKAGE DESCRIPTION — Lube Oil System

SURVEY AREA DESCRIPTION
Lube Oil System

GENERAL HISTORICAL INFORMATION (Operational history, etc.)

The Lubricating Oil System provided lubricating oil to the turbine and generator bearings, operating oil to various turbine protective trip devices, and backup seal oil to the generator seal oil system. It also received, stored, transferred and purified oil used in the turbine oil systems and stored and transferred waste oil.

In June of 1989 it was determined that the auxiliary condensate system contained low levels of radioactivity. It is suspected that the radioactivity entered the system via small siphon heater leaks and entries to the secondary side of the Steam Generators during refueling for inspections and sludge lancing. Leakage from the auxiliary condensate system had the potential to enter various sumps located throughout the Turbine Building including the Lube Oil Sump.

SUMMARY OF CHARACTERIZATION ACTIVITIES

Survey units were established for the areas as shown in the following Summary of Survey Units. System diagrams with the survey measurement locations for this package are included in Appendix B, Unaffected Systems Diagrams.

Performed a scan of accessible surfaces up to a maximum area of one square meter at 30 survey measurement locations indicated on the appropriate survey diagram(s).

Collected direct measurements for total beta activity at 30 survey measurement locations at the highest location identified in the scan. If an elevated location was not observed, the measurement was collected at an arbitrary location, selected by the technician, within the scanned area.

Collected smear samples to analyze for removable alpha and beta activity at the same 30 survey locations as for direct measurements for total beta activity.

Collected smear samples to analyze for removable tritium activity at 3 survey measurement locations indicated on the results listing report.

Collected exposure rate measurements at 3 survey locations indicated on the results listing report.

Collected 5 material samples (e.g., sludge, sediment, rust, etc.) from the sumps, drains for gamma spectral analysis.

The survey result statistical summaries, graphs and results listings are shown in the following individual reports including calibration summaries for the instruments used for each measurement type.

CHARACTERIZATION SURVEY RESULTS

o There were 2 direct measurements for total beta activity above MDA (Maximum MDA was 1681 dpm/100cm^2) and no results greater than 2000 dpm/100cm^2.

o There was 1 measurement for removable beta activity above MDA (17 dpm/100cm^2) and no result greater than 100 dpm/100cm^2. The maximum measurement result was 22.3 dpm/100cm^2.

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CHARACTERIZATION SUMMARY

- o There were no measurements for removable alpha activity above MDA (6 dpm/100cm²).
- o There were no measurements for removable tritium activity above MDA (8 dpm/100cm²).
- o The average and maximum exposure rate measurement results were 6 µR/hr and 12.3 µR/hr respectively.
- o The gamma spectral analysis results indicated 1 sample with plant-derived radionuclide activity above MDA. Gamma spectroscopy analysis of a one-liter oil sample from location 01T03, (Sump Waste Collecting Tank TK-75) indicated the presence of Co-60 and Cs-137.

REFERENCES (Documents, Interviews)

Maine Yankee Drawings 1150 - FM - 80 A, B
Operator Systems Training Manual, Chapter 43.

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SUMMARY OF SURVEY UNIT(S)

03/27/98 OUTPUT BATCH SN = 302

PACKAGE D0800 SYSTEMS

Lube Oil System

UNIT(S)	SURFACE(S)
01 - Turbine Building 21' Components	M01 (Centrifuge SE-1) M02 (EHC Reservoir) P01 (2" outlet spoolpiece from receiver tank TK-108) T01 (Waste Oil Sump Tank) T02 (Lube Oil Storage Tank TK-22) T03 (Sump Waste Collecting Tank TK-75)
02 - Turbine Building 39' Components	M01 (Ejector EJ-4) P01 (3/4" pipe at valve LO-38) P02 (3/4" pipe at valve LO-39) T01 (Turbine Oil Reservoir TK-57)

REASON(S) CHARACTERIZATION SURVEY (C01)

MATERIALS

MAT'L CODE	MATERIAL DESCRIPTION	BETA BKGD (dpm/100 cm²)
B0031	METAL - BARE	0.0
G0031	METAL - BARE (GAMMA)	0.0

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Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Direct Measurements For Total Beta Activity

Survey Package D0800 SYSTEMS

Lube Oil System

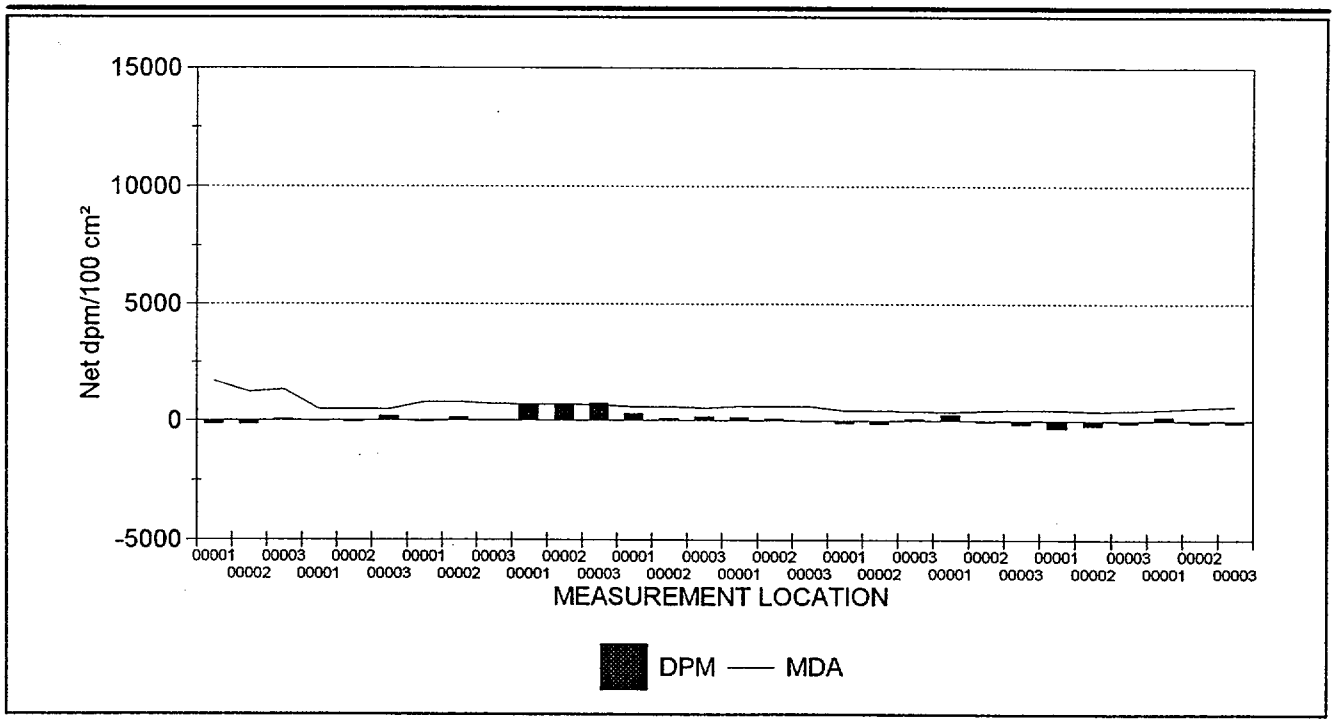
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	66.0
Maximum	723.4
Minimum	-320.9
Standard Deviation	253.6
MDA	1,680.7

Samples Reported	30
Samples Prescribed	30

TESTS PERFORMED

Samples reported satisfy samples prescribed	YES
MDA <2000 net dpm/100 cm²	YES
Results above 2000 net dpm/100 cm²	0
Number of results above MDA	2



30 RESULTS ARE GRAPHED

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03/27/98

Direct Measurements For Total Beta Activity

Survey Package : D0800 SYSTEMS

Lube Oil System

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	MDA	RESULT
139 (2)	01	M01	B0031	C01	60	00001	1,680.7	-153.4
139 (2)	01	M01	B0031	C01	60	00002	1,229.0	-153.4
139 (2)	01	M01	B0031	C01	60	00003	1,328.4	51.1
141 (2)	01	M02	B0031	C01	15	00001	470.0	-15.8
141 (2)	01	M02	B0031	C01	15	00002	470.0	-47.3
141 (2)	01	M02	B0031	C01	15	00003	476.3	173.3
166 (2)	01	P01	B0031	C01	120	00001	776.6	-39.7
166 (2)	01	P01	B0031	C01	120	00002	779.5	119.0
166 (2)	01	P01	B0031	C01	120	00003	716.0	-9.9
174 (2)	01	T01	B0031	C01	15	00001	674.2	631.1
174 (2)	01	T01	B0031	C01	15	00002	682.3	708.1
174 (2)	01	T01	B0031	C01	15	00003	649.4	723.4
186 (2)	01	T02	B0031	C01	15	00001	566.2	299.4
186 (2)	01	T02	B0031	C01	15	00002	561.1	78.8
186 (2)	01	T02	B0031	C01	15	00003	512.1	157.6
174 (2)	01	T03	B0031	C01	15	00001	596.5	138.5
174 (2)	01	T03	B0031	C01	15	00002	596.5	77.0
174 (2)	01	T03	B0031	C01	15	00003	605.6	-30.8
138 (2)	02	M01	B0031	C01	300	00001	427.7	-94.1
138 (2)	02	M01	B0031	C01	300	00002	409.5	-139.0
138 (2)	02	M01	B0031	C01	300	00003	393.3	89.7
180 (2)	02	P01	B0031	C01	120	00001	365.2	269.1
180 (2)	02	P01	B0031	C01	120	00002	416.3	-41.4
180 (2)	02	P01	B0031	C01	120	00003	433.8	-144.9
180 (2)	02	P02	B0031	C01	120	00001	453.4	-320.9
180 (2)	02	P02	B0031	C01	120	00002	398.0	-196.7
180 (2)	02	P02	B0031	C01	120	00003	407.2	-103.5
174 (2)	02	T01	B0031	C01	15	00001	465.4	153.9
174 (2)	02	T01	B0031	C01	15	00002	548.1	-107.7
174 (2)	02	T01	B0031	C01	15	00003	596.5	-92.4

NOTES: Activity reported in net dpm/100 cm². Count times are reported in seconds.
Underlined values exceed the MDA.
Bold values exceed 2000 dpm/100 cm².
30 results are listed.

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DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

03/27/98 Direct Measurements For Total Beta Activity

Survey Package : D0800 SYSTEMS

Lube Oil System

SURVEY DATE	FILE #	M2350 INST S/N	M2350 CAL DUE	DETECTOR MODEL	DETECTOR S/N	DETECTOR CAL DUE	PRE EFF	TECHNICIAN
12/15/97	138 (2)	117573	4/14/98	SP-175-3M	PR024349	5/4/98	.10	JFM0682
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
12/15/97	139 (2)	126198	3/22/98	44-40	PR091089	3/23/98	.13	JFM0682
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
12/15/97	141 (2)	126197	3/22/98	43-68	PR075064	3/30/98	.20	MAP5535
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
12/17/97	166 (2)	129407	5/4/98	43-98	PR123604	5/5/98	.05	JWD4920
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
12/17/97	174 (2)	129414	3/22/98	43-106	PR133882	3/27/98	.21	JFM0682
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
12/18/97	180 (2)	129430	5/6/98	43-94	124115	6/9/98	.05	JFM0682
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
12/18/97	186 (2)	129414	3/22/98	43-106	PR133882	3/27/98	.20	JFM0682
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		

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Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Removable Contamination - Gross Beta Activity

Survey Package D0800 SYSTEMS

Lube Oil System

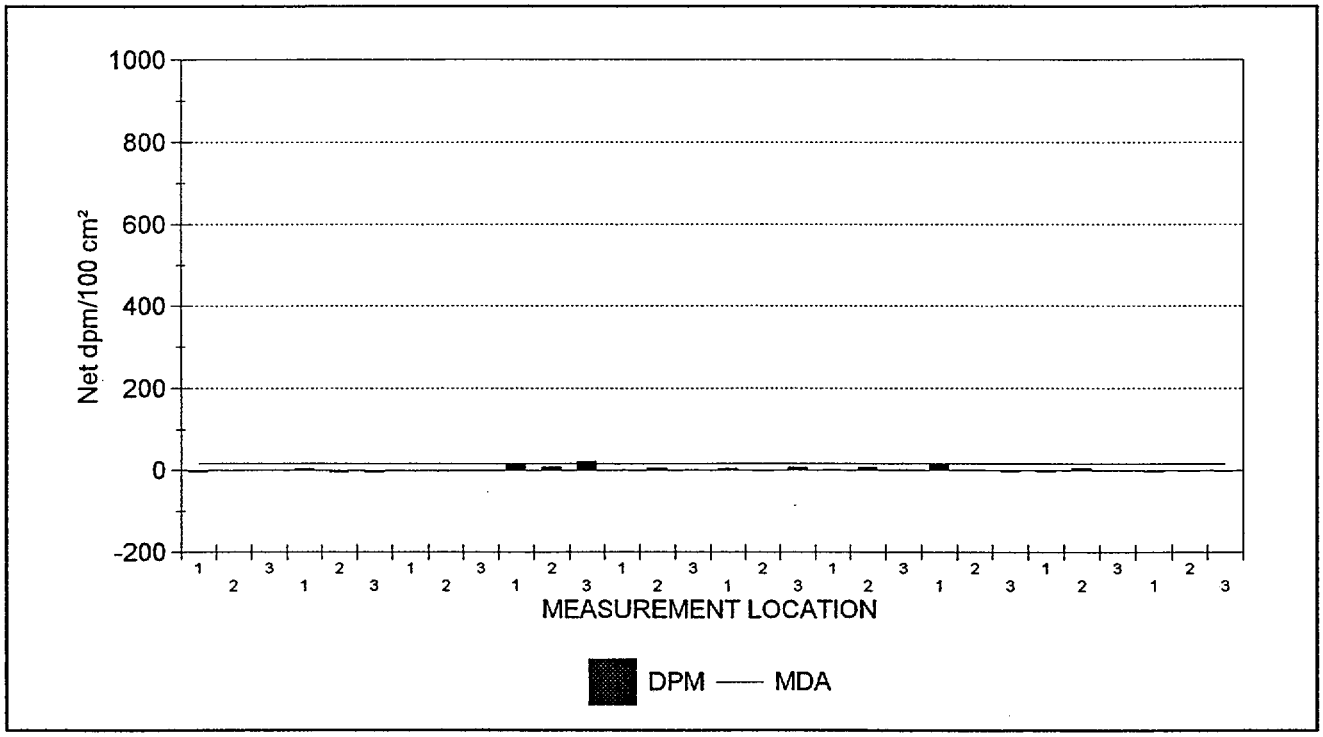
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	2.5
Maximum	22.3
Minimum	-4.6
Standard Deviation	6.1
MDA	17.0

Samples Reported	30
Samples Prescribed	33

TESTS PERFORMED

MDA <100 net dpm/100 cm²	YES
Results above 100 net dpm/100 cm²	0
Number of results above MDA	1



30 RESULTS ARE GRAPHED

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Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Removable Contamination - Gross Alpha Activity

Survey Package D0800 SYSTEMS

Lube Oil System

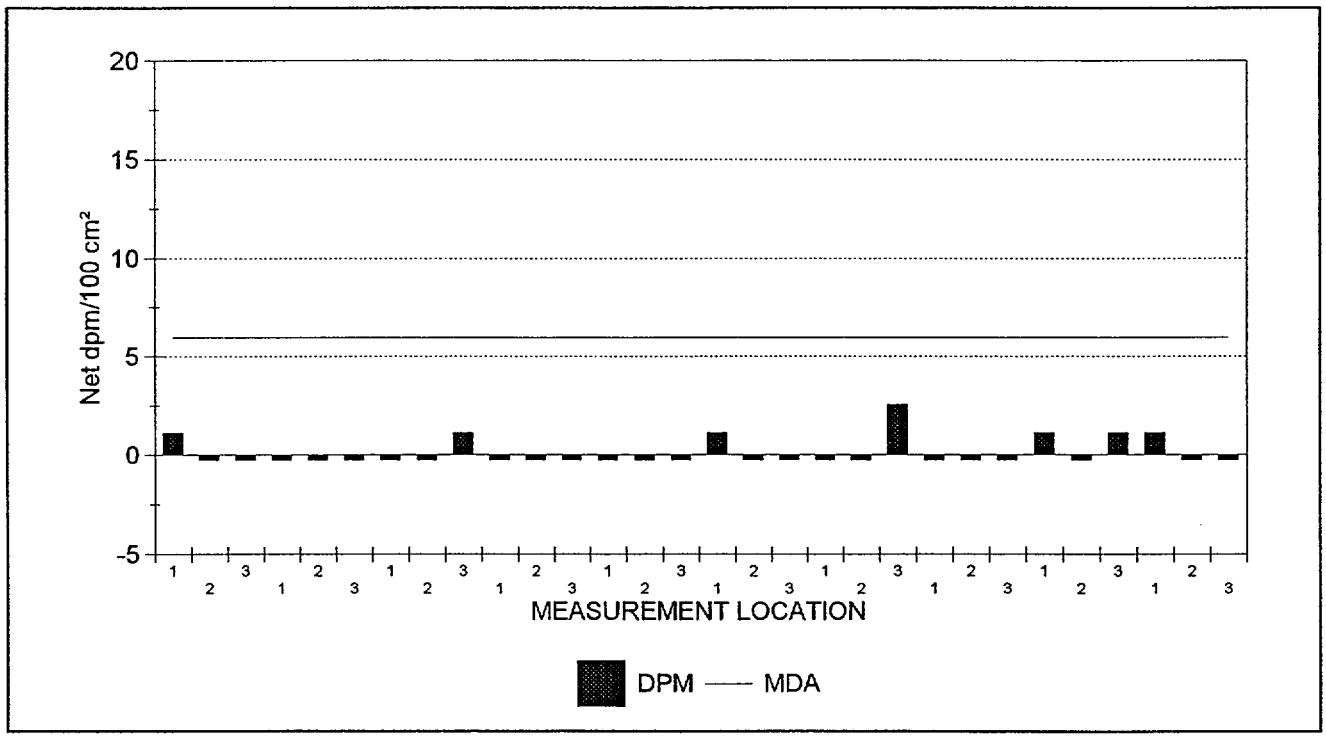
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	0.1
Maximum	2.5
Minimum	-0.3
Standard Deviation	0.7
MDA	6.0

Samples Reported	30
Samples Prescribed	33

TESTS PERFORMED

MDA <10 net dpm/100 cm²	YES
Results above 20 net dpm/100 cm²	0
Number of results above MDA	0



30 RESULTS ARE GRAPHED

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Survey Package : D0800 SYSTEMS

Lube Oil System

RESULTS LISTING - SORTED BY SURFACE CODE

XLS FILE	UNIT	SURFACE	REASON	MSRMNT LOCATION	ALPHA	BETA
SME1D038.XLS	02	T01	C01	3	-0.3	-1.2
SME1D038.XLS	02	T01	C01	2	-0.3	-1.2
SME1D038.XLS	02	T01	C01	1	1.1	-2.9
SME1D038.XLS	02	P02	C01	3	1.1	0.4
SME1D038.XLS	02	P02	C01	2	-0.3	5.5
SME1D038.XLS	02	P02	C01	1	1.1	-2.9
SME1D038.XLS	02	P01	C01	3	-0.3	-2.9
SME1D038.XLS	02	P01	C01	2	-0.3	2.1
SME1D038.XLS	02	P01	C01	1	-0.3	13.9
SME1D038.XLS	02	M01	C01	3	2.5	2.1
SME1D038.XLS	02	M01	C01	2	-0.3	7.2
SME1D038.XLS	02	M01	C01	1	-0.3	2.1
SME1D038.XLS	01	T03	C01	3	-0.3	7.2
SME1D038.XLS	01	T03	C01	2	-0.3	-1.2
SME1D038.XLS	01	T03	C01	1	1.1	3.8
SME1D038.XLS	01	T02	C01	3	-0.3	2.1
SME1D038.XLS	01	T02	C01	2	-0.3	5.5
SME1D038.XLS	01	T02	C01	1	-0.3	2.1
SME1D038.XLS	01	T01	C01	3	-0.3	22.3
SME1D038.XLS	01	T01	C01	2	-0.3	8.9
SME1D038.XLS	01	T01	C01	1	-0.3	13.9
SME1D038.XLS	01	P01	C01	3	1.1	0.4
SME1D038.XLS	01	P01	C01	2	-0.3	-1.2
SME1D038.XLS	01	P01	C01	1	-0.3	-1.2
SME1D038.XLS	01	M02	C01	3	-0.3	-4.6
SME1D038.XLS	01	M02	C01	2	-0.3	-4.6
SME1D038.XLS	01	M02	C01	1	-0.3	3.8
SME1D038.XLS	01	M01	C01	3	-0.3	2.1
SME1D038.XLS	01	M01	C01	2	-0.3	-1.2
SME1D038.XLS	01	M01	C01	1	1.1	-4.6

NOTES: Activity reported in net dpm/100 cm².
Underlined values exceed the associated MDA.
Bold values exceed 100.00 dpm/100 cm² (beta activity) and/or 20.00 dpm/100 cm² (alpha activity).
30 results are listed.

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DATAFILE & TENNELEC CALIBRATION SUMMARY

03/27/98 Removable Contamination

Survey Package : D0800 SYSTEMS

Lube Oil System

SURVEYDATE	XLS FILE	INST ID	S/N	CAL DUE	LAB TECHNICIAN
2/17/98	SME1D038.XLS	1	14131	8/7/98	SMM
				CALIBRATION DATE VERIFIED AS ACCEPTABLE	

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03/27/98 Removable Contamination - Tritium Activity

Survey Package : D0800 SYSTEMS

Lube Oil System

RESULTS LISTING - SORTED BY SURFACE CODE

SAMPLE ID	SAMPLE TYPE	UNIT	SURF	REASN	MSRMNT LOCATION	MDA	TRITIUM ACTIVITY
H017	Whatman smear	02	M01	C01	00001	8.0	-2.9
H018	Whatman smear	01	T04	C01	00001	8.0	-4.3
H019	Whatman smear	02	T01	C01	00001	8.0	-7.5

NOTES: Activity reported in net dpm/100 cm².
Underlined values exceed the associated MDA.
Bold values exceed 25 dpm/100 cm²,
Italic values exceed 100 dpm/100 cm².

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Maine Yankee Atomic Power Plant Site Characterization

LIQUID SCINTILLATION COUNTER CALIBRATION SUMMARY

03/27/98 Removable Contamination - Tritium Activity

Survey Package : D0800 SYSTEMS

Lube Oil System

SURVEYDATE	INSTRUMENT	MODEL	S/N	CAL DUE	LAB TECHNICIAN
2/1/98	Packard	2750	416221	6/16/98	LDT
				CALIBRATION DATE VERIFIED AS ACCEPTABLE	

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Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Exposure Rate Measurements

Survey Package D0800 SYSTEMS

Lube Oil System

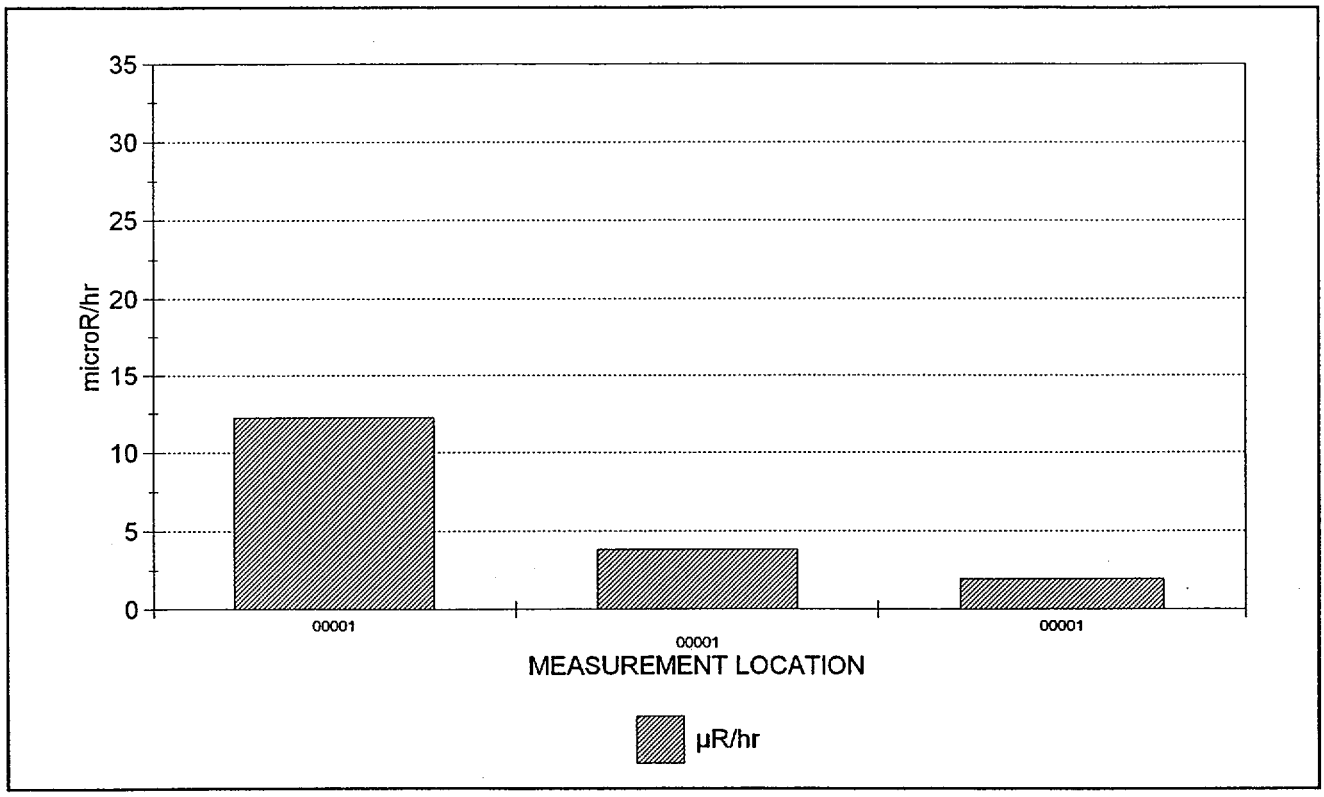
STATISTICAL SUMMARY

	µR/hr
Mean	6.0
Maximum	12.3
Minimum	1.9
Standard Deviation	5.5

Samples Reported	3
Samples Prescribed	3

TESTS PERFORMED

Samples reported satisfy samples prescribed	YES



3 RESULTS ARE GRAPHED

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03/27/98 Exposure Rate Measurements

Survey Package : D0800 SYSTEMS

Lube Oil System

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	RESULT
189 (2)	01	T01	G0031	C01	60.00	00001	12.2
189 (2)	01	T02	G0031	C01	60.00	00001	3.8
189 (2)	02	T01	G0031	C01	60.00	00001	1.9

NOTES: Exposure rates reported in net µR/hr. Count times are reported in seconds.
Underlined results did not meet the minimum required count time.
Bold values exceed 15 µR/hr.
3 results are listed.

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DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

03/27/98 Exposure Rate Measurements

Survey Package : D0800 SYSTEMS

Lube Oil System

SURVEY DATE	FILE #	M2350 INST S/N	M2350 CAL DUE	DETECTOR MODEL	DETECTOR S/N	DETECTOR CAL DUE	TECHNICIAN
12/18/97	189 (2)	117014	4/16/98	44-2	PR118257	4/19/98	JFM0682

CALIBRATION DATES VERIFIED AS ACCEPTABLE

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Maine Yankee Atomic Power Plant Site Characterization

GAMMA SPECTRAL ANALYSIS RESULTS LISTING

OUTPUT BATCH SN = 368

03/31/98

Survey Package D0800 SYSTEMS

Lube Oil System

UNIT : 01 SURFACE : M02 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Misc component
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYX06	H2O00155	973.00	1500	Co-57	< .02	0.02	0.00
				Co-60	< .03	0.03	0.00
				Cs-134	< .03	0.03	0.00
				Cs-137	< .03	0.03	0.00
				K-40	< .35	0.35	0.00
				Mn-54	< .04	0.04	0.00

SAMPLE TYPE OR SURFACE SAMPLED: Misc component
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYX06D	H2O00156	973.00	1500	Co-57	< .03	0.03	0.00
				Co-60	< .02	0.02	0.00
				Cs-134	< .03	0.03	0.00
				Cs-137	< .03	0.03	0.00
				K-40	< .41	0.41	0.00
				Mn-54	< .03	0.03	0.00

UNIT : 01 SURFACE : T02 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Tank
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYX04	H2O00153	568.00	1200	Co-57	< .04	0.04	0.00
				Co-60	< .06	0.06	0.00
				Cs-134	< .06	0.06	0.00
				Cs-137	< .06	0.06	0.00
				K-40	< .77	0.77	0.00
				Mn-54	< .05	0.05	0.00

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GAMMA SPECTRAL ANALYSIS RESULTS LISTING

OUTPUT BATCH SN = 368

03/31/98

Survey Package D0800 SYSTEMS

Lube Oil System

UNIT : 01 SURFACE : T03 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Tank
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYX07	H2O00157	938.00	1500	Co-57	< .13	0.13	0.00
				Co-60	.38	0.05	0.05
				Cs-134	< .07	0.07	0.00
				Cs-137	33.00	0.11	2.11
				K-40	< .76	0.76	0.00
				Mn-54	< .05	0.05	0.00

UNIT : 02 SURFACE : T01 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Tank
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYX05	H2O00154	653.00	1500	Co-57	< .04	0.04	0.00
				Co-60	< .04	0.04	0.00
				Cs-134	< .04	0.04	0.00
				Cs-137	< .04	0.04	0.00
				K-40	< .59	0.59	0.00
				Mn-54	< .05	0.05	0.00

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Version 3.0.7a - 3/30/98

JLM

DBACORR Documentation

:aProgDBACORR:R_GSPEC.RSL

04/01/98

CHARACTERIZATION SUMMARY

SURVEY PACKAGE NUMBER :D0900 — SYSTEMS

PACKAGE DESCRIPTION — Compressed Air System

SURVEY AREA DESCRIPTION
Compressed Air Systems

GENERAL HISTORICAL INFORMATION (Operational history, etc.)
The Compressed Air System provided air to general plant services, control systems, instrument air, containment leakage testing and atomizing air for the Auxiliary Boilers.

SUMMARY OF CHARACTERIZATION ACTIVITIES
Survey units were established for the areas as shown in the following Summary of Survey Units. System diagrams with the survey measurement locations for this package are included in Appendix B, Unaffected Systems Diagrams.

Performed a scan of accessible surfaces up to a maximum area of one square meter at 62 survey measurement locations indicated on the appropriate survey diagram(s).

Collected direct measurements for total beta activity at 62 survey measurement locations at the highest location identified in the scan. If an elevated location was not observed, the measurement was collected at an arbitrary location, selected by the technician, within the scanned area.

Collected smear samples to analyze for removable alpha and beta activity at the same 62 survey locations as for direct measurements for total beta activity.

Collected smear samples to analyze for removable tritium activity at 3 survey measurement locations indicated on the results listing report.

Collected no exposure rate measurements.

Collected 2 material samples (e.g., sludge, sediment, rust, etc.) from the sumps, drains for gamma spectral analysis.

The survey result statistical summaries, graphs and results listings are shown in the following individual reports including calibration summaries for the instruments used for each measurement type.

CHARACTERIZATION SURVEY RESULTS

o There were 19 direct measurements for total beta activity above MDA (Maximum MDA was 6,217 dpm/100cm²). The maximum measurement result was 112,307 dpm/100cm² at location 05P01 (4" line at valve ~~GB-93~~) survey measurement location number 1.
SA-169

o There were 15 measurements for removable beta activity above MDA (17 dpm/100cm²) and 2 results greater than 100 dpm/100cm². The maximum measurement result was 685 dpm/100cm².

o There were 2 measurements for removable alpha activity above MDA (6 dpm/100cm²) and no results greater than 20 dpm/100cm². The maximum measurement result was 6.8 dpm/100cm².

o There were no measurements for removable tritium activity above MDA (38.4 dpm/100cm²).

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- o The sample(s) gamma spectral analysis results indicated no plant-derived radionuclide activity above MDA.

The following locations had minimum detectable activity values ranging from 2027 dpm/100 cm² to 6224 dpm/100 cm² due to high background dose rates:

- o Prefilter FL-125B (03S02, Survey measurement location # 2)
- o Air Receiver TK-136A (03T01, Survey measurement location # 1, 2, 3, and 4)
- o 2" line at valve SA-245 (07P01, Survey measurement location # 2)

REFERENCES (Documents, Interviews)

Maine Yankee Drawing 1150 - FM - 81 A, B, C, F, G, H

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SUMMARY OF SURVEY UNIT(S)

06/04/98 OUTPUT BATCH SN = 233

PACKAGE D0900 SYSTEMS

Compressed Air System

UNIT(S)	SURFACE(S)
01 - 21' Turbine Building Components	P01 (3/4" line at air receiver tank TK-24B (south end)) P02 (6" line at after cooler E-21A (south end, by DG-1B door)) P03 (6" line at after cooler E-21B (south end, by DG-1B door)) S01 (Inlet filters for compressor C-1B (south end)) S02 (Inlet filters for compressor C-1A (south end)) S03 (Coalescing filter FL-106 (southwest near TK-40)) S04 (Inlet filters for compressor C-1D (south end))
02 - 39' Turbine Building Components	T01 (Instrument air tank TK-84 (south end))
03 - 21' Containment Components	P01 (1.5" line at after cooler E-22A (15' from personnel hatch)) P02 (1.5" line at after cooler E-22B (15' from personnel hatch)) P03 (2" line between valves CCA-36 & 38 (15' from personnel hatch)) S01 (Prefilter FL-125A (15' from perssonnel hatch)) S02 (Prefilter FL-125B (15' from personnel hatch)) T01 (Air receiver TK-136A (15' from personnel hatch)) T02 (Air receiver TK-136B (15' from personnel hatch))
04 - Yard Components	S01 (Filter air receiver FL-62 (near equipment hatch))
05 - 36' PAB Components	P01 (3/4" line at valve SA-169 (at BAST))
06 - 21' Valve House Components	T01 (Air Receiver TK-25)
07 - 21' Auxiliary Feed Pump Room Components	P01 (2" line at valve SA-245)

REASON(S) CHARACTERIZATION SURVEY (C01)

MATERIALS

MAT'L CODE	MATERIAL DESCRIPTION	BETA BKGD (dpm/100 cm²)
B0031	METAL - BARE	0.0

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Maine Yankee Atomic Power Plant Site Characterization

03/31/98

Direct Measurements For Total Beta Activity

Survey Package D0900 SYSTEMS

Compressed Air System

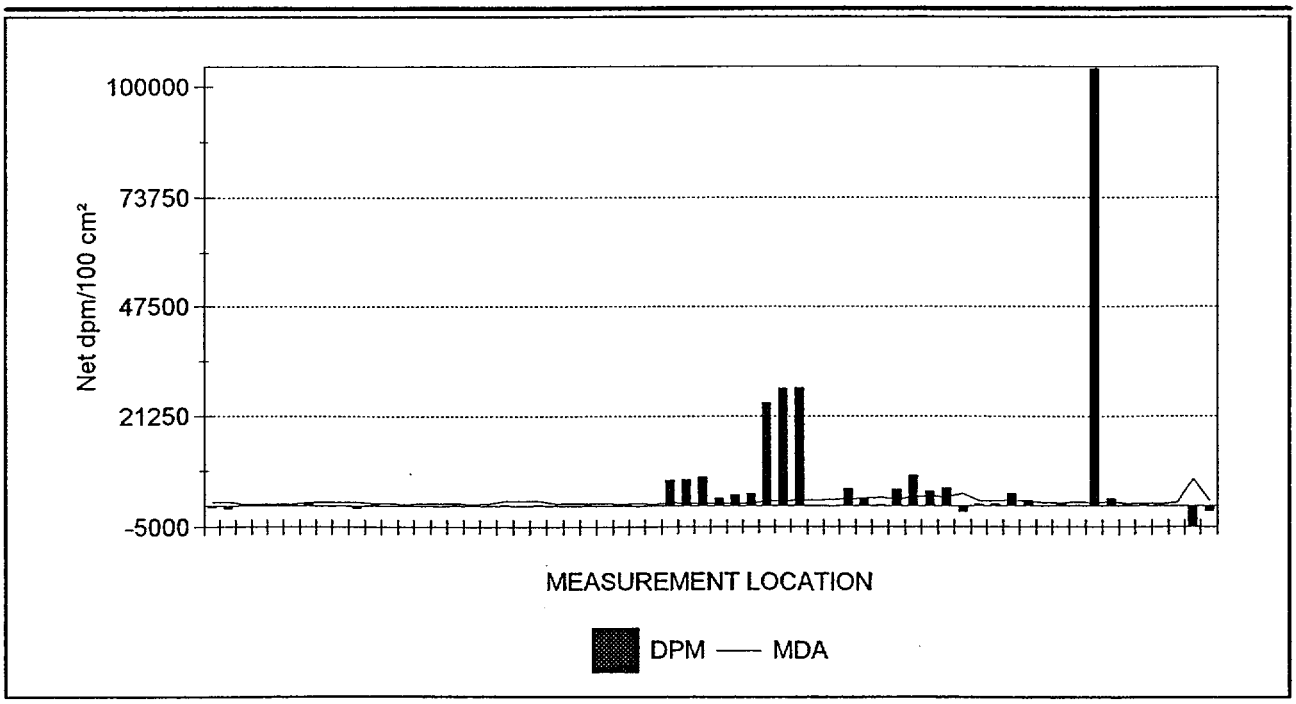
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	3,677.5
Maximum	104,588.8
Minimum	-15,157.6
Standard Deviation	14,456.3
MDA	6,324.1

Samples Reported	62
Samples Prescribed	62

TESTS PERFORMED

Samples reported satisfy samples prescribed	YES
MDA <2000 net dpm/100 cm²	NO
Results above 2000 net dpm/100 cm²	15
Number of results above MDA	19



62 RESULTS ARE GRAPHED

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Survey Package : D0900 SYSTEMS

Compressed Air System

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	MDA	RESULT
226 (2)	01	P01	B0031	C01	180	00001	810.8	-401.1
226 (2)	01	P01	B0031	C01	180	00002	901.3	-724.7
210 (2)	01	P02	B0031	C01	300	00001	471.7	258.6
210 (2)	01	P02	B0031	C01	300	00002	484.2	86.2
210 (2)	01	P02	B0031	C01	300	00003	491.8	241.4
210 (2)	01	P02	B0031	C01	300	00004	480.8	349.2
227 (2)	01	P03	B0031	C01	300	00001	880.2	745.5
227 (2)	01	P03	B0031	C01	300	00002	909.4	42.8
227 (2)	01	P03	B0031	C01	300	00003	911.2	94.3
227 (2)	01	P03	B0031	C01	300	00004	932.4	-617.0
220 (2)	01	S01	B0031	C01	15	00001	549.4	116.2
220 (2)	01	S01	B0031	C01	15	00002	526.5	58.1
220 (2)	01	S01	B0031	C01	15	00003	477.2	130.7
220 (2)	01	S01	B0031	C01	15	00004	526.5	43.6
211 (2)	01	S02	B0031	C01	15	00001	520.3	-109.6
211 (2)	01	S02	B0031	C01	15	00002	562.8	94.0
211 (2)	01	S02	B0031	C01	15	00003	479.7	187.9
211 (2)	01	S02	B0031	C01	15	00004	531.3	94.0
235 (2)	01	S03	B0031	C01	120	00001	1,131.0	362.9
235 (2)	01	S03	B0031	C01	120	00002	1,215.5	-195.4
235 (2)	01	S03	B0031	C01	120	00003	1,162.5	279.2
234 (2)	01	S04	B0031	C01	15	00001	631.2	125.5
234 (2)	01	S04	B0031	C01	15	00002	640.2	0.0
234 (2)	01	S04	B0031	C01	15	00003	635.7	125.5
234 (2)	01	S04	B0031	C01	15	00004	588.9	47.1
308 (2)	02	T01	B0031	C01	15	00001	429.4	218.9
308 (2)	02	T01	B0031	C01	15	00002	522.1	-84.2
308 (2)	02	T01	B0031	C01	15	00003	437.3	202.0
331 (2)	03	P01	B0031	C01	360	00001	667.8	***5,958.8***
331 (2)	03	P01	B0031	C01	360	00002	619.9	***6,149.9***
331 (2)	03	P01	B0031	C01	360	00003	601.7	***6,708.5***
331 (2)	03	P02	B0031	C01	360	00001	656.5	1,940.5
331 (2)	03	P02	B0031	C01	360	00002	607.4	***2,572.7***
331 (2)	03	P02	B0031	C01	360	00003	575.9	***2,910.8***
340 (2)	03	P03	B0031	C01	600	00001	1,194.5	***24,327.9***
340 (2)	03	P03	B0031	C01	600	00002	1,230.2	***27,844.1***
340 (2)	03	P03	B0031	C01	600	00003	1,258.5	***27,889.3***
339 (2)	03	S01	B0031	C01	600	00001	1,314.8	148.4
339 (2)	03	S01	B0031	C01	600	00002	1,377.4	-177.0
339 (2)	03	S01	B0031	C01	600	00003	1,581.0	***4,081.8***

NOTES: Activity reported in net dpm/100 cm². Count times are reported in seconds.
Underlined values exceed the MDA.
Bold values exceed 2000 dpm/100 cm².

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Maine Yankee Atomic Power Plant Site Characterization

03/31/98 Direct Measurements For Total Beta Activity

Survey Package : D0900 SYSTEMS

Compressed Air System

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	MDA	RESULT
339 (2)	03	S02	B0031	C01	600	00001	1,784.6	1,918.2
339 (2)	03	S02	B0031	C01	600	00002	2,026.8	245.5
339 (2)	03	S02	B0031	C01	600	00003	1,567.0	***3,893.4***
336 (2)	03	T01	B0031	C01	600	00001	2,125.0	***7,192.2***
336 (2)	03	T01	B0031	C01	600	00002	2,354.6	***3,442.9***
336 (2)	03	T01	B0031	C01	600	00003	2,220.5	***4,112.2***
336 (2)	03	T01	B0031	C01	600	00004	2,894.6	-1,395.3
339 (2)	03	T02	B0031	C01	600	00001	1,194.7	433.9
339 (2)	03	T02	B0031	C01	600	00002	1,186.0	525.2
339 (2)	03	T02	B0031	C01	600	00003	1,236.7	***2,894.4***
339 (2)	03	T02	B0031	C01	600	00004	1,074.9	1,273.1
301 (2)	04	S01	B0031	C01	15	00001	677.1	50.5
301 (2)	04	S01	B0031	C01	15	00002	741.8	437.7
301 (2)	04	S01	B0031	C01	15	00003	874.6	101.0
207 (2)	05	P01	B0031	C01	540	00001	795.0	***104,588.8***
207 (2)	05	P01	B0031	C01	540	00002	860.7	1,682.7
301 (2)	06	T01	B0031	C01	15	00001	588.3	353.5
301 (2)	06	T01	B0031	C01	15	00002	593.9	387.2
301 (2)	06	T01	B0031	C01	15	00003	610.5	151.5
215 (2)	07	P01	B0031	C01	360	00001	751.3	40.8
215 (2)	07	P01	B0031	C01	360	00002	6,324.1	-15,157.6
215 (2)	07	P01	B0031	C01	360	00003	1,165.9	-1,292.7

NOTES: Activity reported in net dpm/100 cm². Count times are reported in seconds.
Underlined values exceed the MDA.
Bold values exceed 2000 dpm/100 cm².
62 results are listed.

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DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

03/31/98 Direct Measurements For Total Beta Activity

Survey Package : D0900 SYSTEMS

Compressed Air System

SURVEY DATE	FILE #	M2350 INST S/N	M2350 CAL DUE	DETECTOR MODEL	DETECTOR S/N	DETECTOR CAL DUE	POST EFF	TECHNICIAN
12/29/97	207 (2)	117573	4/14/98	43-94	124115	6/9/98	.05	KFS5185
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
12/29/97	210 (2)	129407	5/4/98	SP-175-3M	PR119460	5/4/98	.10	DRL7343
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
12/29/97	211 (2)	117014	4/16/98	43-106	PR126903	4/18/98	.20	JFM0682
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
12/30/97	215 (2)	129430	5/6/98	43-94	124115	6/9/98	.03	MAP5535
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
12/30/97	220 (2)	129414	3/22/98	43-106	PR133882	3/27/98	.22	KFS5185
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
12/30/97	226 (2)	117573	4/14/98	43-94	124115	5/5/98	.03	KFS5185
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
12/30/97	227 (2)	126185	3/20/98	SP-113-3M	PR621311	5/4/98	.12	KFS5185
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
12/31/97	234 (2)	129414	3/22/98	43-106	PR133882	3/27/98	.20	KFS5185
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
12/31/97	235 (2)	095349	4/15/98	44-40	PR118268	4/29/98	.12	KFS5185
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/6/98	301 (2)	117014	4/16/98	43-106	PR126903	4/18/98	.19	JFM0682
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/6/98	308 (2)	117014	4/16/98	43-106	PR126903	4/18/98	.19	JFM0682
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		

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DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

03/31/98 Direct Measurements For Total Beta Activity

Survey Package : D0900 SYSTEMS

Compressed Air System

SURVEY DATE	FILE #	M2350 INST S/N	M2350 CAL DUE	DETECTOR MODEL	DETECTOR S/N	DETECTOR CAL DUE	POST EFF	TECHNICIAN
1/8/98	331 (2)	129429	5/5/98	43-94	PR119461	5/5/98	.03	JWD4920
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/8/98	336 (2)	129414	3/22/98	44-40	PR091020	3/26/98	.11	JFM0682
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/8/98	339 (2)	126195	5/7/98	44-40	PR121903	3/22/98	.11	JFM0682
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/8/98	340 (2)	126185	3/20/98	43-98	PR117961	6/10/98	.05	JFM0682
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		

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Maine Yankee Atomic Power Plant Site Characterization

03/31/98

Removable Contamination - Gross Beta Activity

Survey Package D0900 SYSTEMS

Compressed Air System

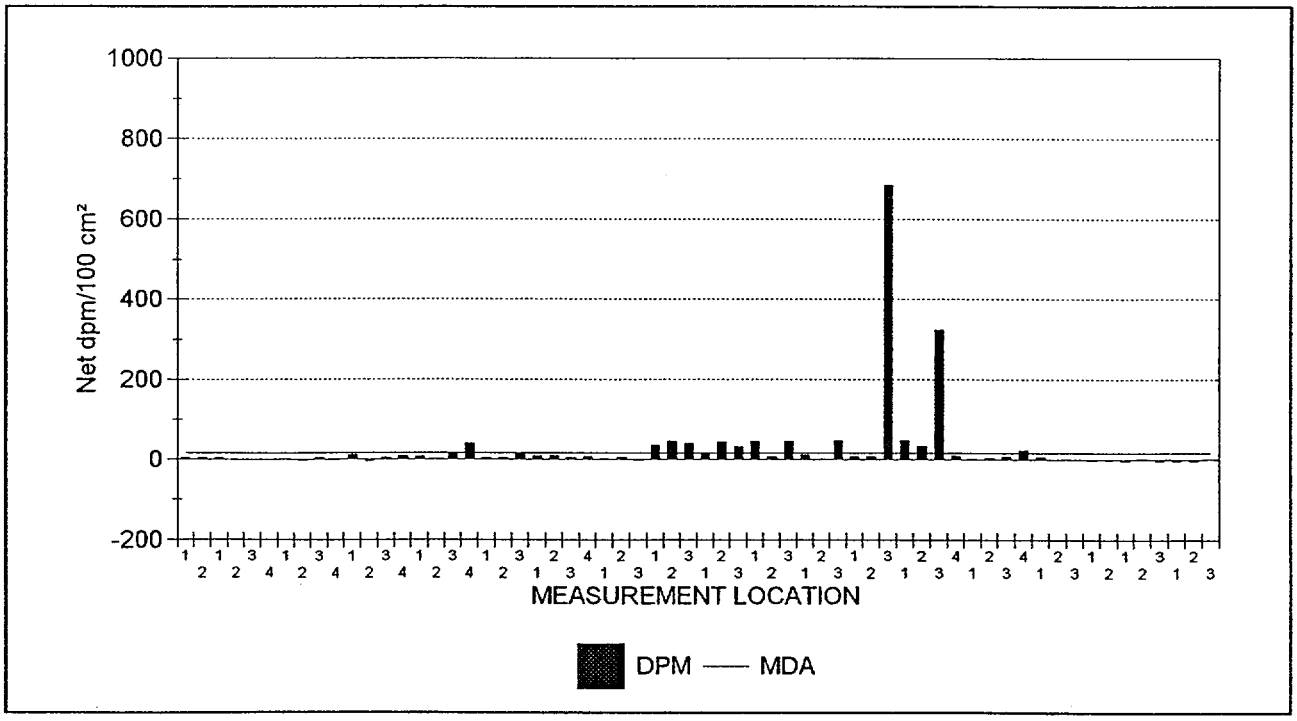
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	27.0
Maximum	685.2
Minimum	-4.6
Standard Deviation	95.1
MDA	17.0

Samples Reported	62
Samples Prescribed	65

TESTS PERFORMED

MDA <100 net dpm/100 cm²	YES
Results above 100 net dpm/100 cm²	2
Number of results above MDA	15



62 RESULTS ARE GRAPHED

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Maine Yankee Atomic Power Plant Site Characterization

03/31/98

Removable Contamination - Gross Alpha Activity

Survey Package D0900 SYSTEMS

Compressed Air System

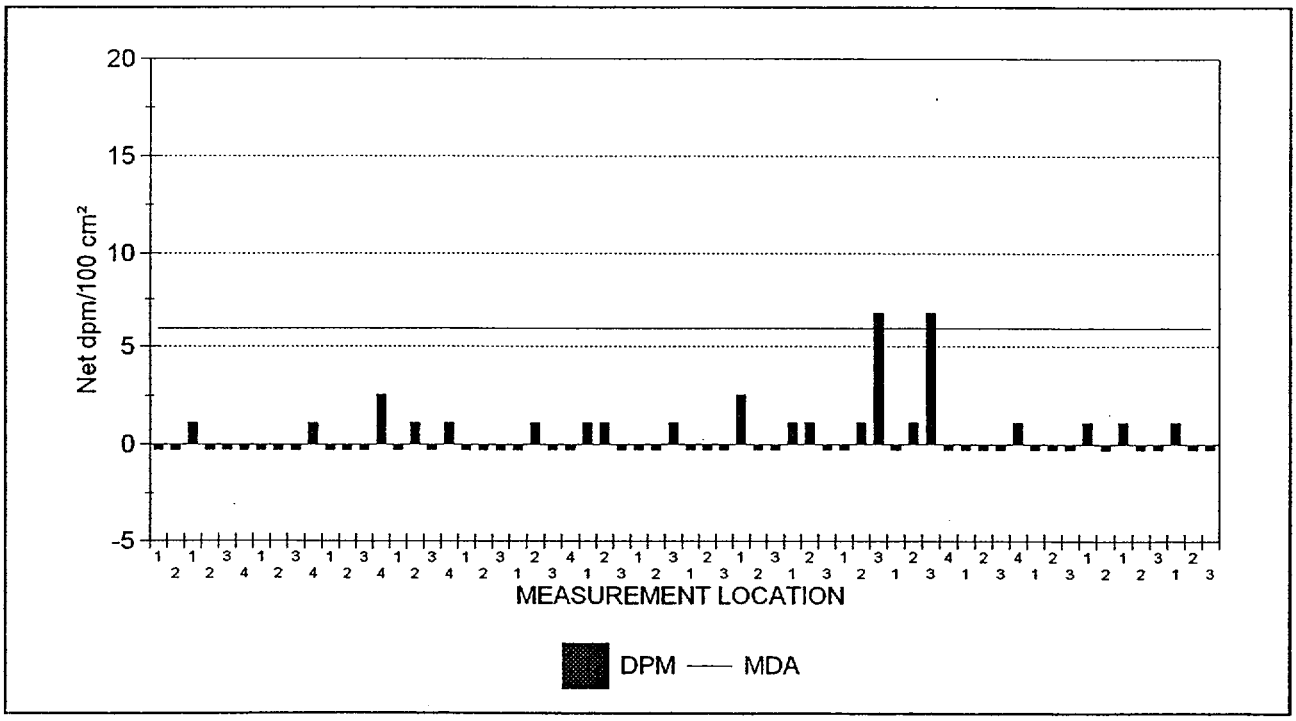
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	0.4
Maximum	6.8
Minimum	-0.3
Standard Deviation	1.4
MDA	6.0

Samples Reported	62
Samples Prescribed	65

TESTS PERFORMED

MDA <10 net dpm/100 cm²	YES
Results above 20 net dpm/100 cm²	0
Number of results above MDA	2



62 RESULTS ARE GRAPHED

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Survey Package: D0900 SYSTEMS

Compressed Air System

RESULTS LISTING - SORTED BY SURFACE CODE

XLS FILE	UNIT	SURFACE	REASON	MSRMNT LOCATION	ALPHA	BETA
SME1D039.XLS	07	P01	C01	3	-0.3	2.1
SME1D039.XLS	07	P01	C01	2	-0.3	-4.6
SME1D039.XLS	07	P01	C01	1	1.1	-4.6
SME1D039.XLS	06	T01	C01	3	-0.3	-4.6
SME1D039.XLS	06	T01	C01	2	-0.3	2.1
SME1D039.XLS	06	T01	C01	1	1.1	-4.6
SME1D039.XLS	05	P01	C01	2	-0.3	-1.2
SME1D039.XLS	05	P01	C01	1	1.1	-2.9
SME1D039.XLS	04	S01	C01	3	-0.3	0.4
SME1D039.XLS	04	S01	C01	2	-0.3	-1.2
SME1D039.XLS	04	S01	C01	1	-0.3	5.5
SME1D039.XLS	03	T02	C01	4	1.1	24.0
SME1D039.XLS	03	T02	C01	3	-0.3	7.2
SME1D039.XLS	03	T02	C01	2	-0.3	3.8
SME1D039.XLS	03	T02	C01	1	-0.3	2.1
SME1D039.XLS	03	T01	C01	4	-0.3	8.9
SME1D039.XLS	03	T01	C01	3	6.8	***323.5***
SME1D039.XLS	03	T01	C01	2	1.1	34.1
SME1D039.XLS	03	T01	C01	1	-0.3	47.6
SME1D039.XLS	03	S02	C01	3	6.8	***685.2***
SME1D039.XLS	03	S02	C01	2	1.1	7.2
SME1D039.XLS	03	S02	C01	1	-0.3	7.2
SME1D039.XLS	03	S01	C01	3	-0.3	47.6
SME1D039.XLS	03	S01	C01	2	1.1	2.1
SME1D039.XLS	03	S01	C01	1	1.1	12.2
SME1D039.XLS	03	P03	C01	3	-0.3	45.9
SME1D039.XLS	03	P03	C01	2	-0.3	7.2
SME1D039.XLS	03	P03	C01	1	2.5	45.9
SME1D039.XLS	03	P02	C01	3	-0.3	32.4
SME1D039.XLS	03	P02	C01	2	-0.3	44.2
SME1D039.XLS	03	P02	C01	1	-0.3	17.3
SME1D039.XLS	03	P01	C01	3	1.1	40.8
SME1D039.XLS	03	P01	C01	2	-0.3	45.9
SME1D039.XLS	03	P01	C01	1	-0.3	35.8
SME1D039.XLS	02	T01	C01	3	-0.3	-1.2
SME1D039.XLS	02	T01	C01	2	1.1	5.5
SME1D039.XLS	02	T01	C01	1	1.1	2.1
SME1D039.XLS	01	S04	C01	4	-0.3	7.2
SME1D039.XLS	01	S04	C01	3	-0.3	3.8
SME1D039.XLS	01	S04	C01	2	1.1	8.9

NOTES: Activity reported in net dpm/100 cm².
Underlined values exceed the associated MDA.
Bold values exceed 100.00 dpm/100 cm² (beta activity) and/or 20.00 dpm/100 cm² (alpha activity).

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Survey Package : D0900 SYSTEMS

Compressed Air System

RESULTS LISTING - SORTED BY SURFACE CODE

XLS FILE	UNIT	SURFACE	REASON	MSRMNT LOCATION	ALPHA	BETA
SME1D039.XLS	01	S04	C01	1	-0.3	8.9
SME1D039.XLS	01	S03	C01	3	-0.3	13.9
SME1D039.XLS	01	S03	C01	2	-0.3	3.8
SME1D039.XLS	01	S03	C01	1	-0.3	3.8
SME1D039.XLS	01	S02	C01	4	1.1	40.8
SME1D039.XLS	01	S02	C01	3	-0.3	13.9
SME1D039.XLS	01	S02	C01	2	1.1	2.1
SME1D039.XLS	01	S02	C01	1	-0.3	7.2
SME1D039.XLS	01	S01	C01	4	2.5	8.9
SME1D039.XLS	01	S01	C01	3	-0.3	3.8
SME1D039.XLS	01	S01	C01	2	-0.3	-4.6
SME1D039.XLS	01	S01	C01	1	-0.3	12.2
SME1D039.XLS	01	P03	C01	4	1.1	0.4
SME1D039.XLS	01	P03	C01	3	-0.3	3.8
SME1D039.XLS	01	P03	C01	2	-0.3	-2.9
SME1D039.XLS	01	P03	C01	1	-0.3	2.1
SME1D039.XLS	01	P02	C01	4	-0.3	0.4
SME1D039.XLS	01	P02	C01	3	-0.3	0.4
SME1D039.XLS	01	P02	C01	2	-0.3	0.4
SME1D039.XLS	01	P02	C01	1	1.1	3.8
SME1D039.XLS	01	P01	C01	2	-0.3	3.8
SME1D039.XLS	01	P01	C01	1	-0.3	3.8

NOTES: Activity reported in net dpm/100 cm².
Underlined values exceed the associated MDA.
Bold values exceed 100.00 dpm/100 cm² (beta activity) and/or 20.00 dpm/100 cm² (alpha activity).
62 results are listed.

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Maine Yankee Atomic Power Plant Site Characterization

DATAFILE & TENNELEC CALIBRATION SUMMARY

03/31/98 Removable Contamination

Survey Package : D0900 SYSTEMS

Compressed Air System

SURVEYDATE	XLS FILE	INST ID	S/N	CAL DUE	LAB TECHNICIAN
2/17/98	SME1D039.XLS	1	14131	8/7/98	SMM
				CALIBRATION DATE VERIFIED AS ACCEPTABLE	

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Version 3.0.7a - 3/30/98

JLM

DBACORR Documentation
:aProgDBACORR:F_0340.FSL
OUTPUT BATCH SN = 360

03/31/98 Removable Contamination - Tritium Activity

Survey Package : D0900 SYSTEMS

Compressed Air System

RESULTS LISTING - SORTED BY SURFACE CODE

SAMPLE ID	SAMPLE TYPE	UNIT	SURF	REASN	MSRMNT LOCATION	MDA	TRITIUM ACTIVITY
D6	Hoppes patch	03	T02	C01	00001	38.4	**27.1**
H020	Whatman smear	01	P02	C01	00001	8.0	9.1
H021	Whatman smear	02	T01	C01	00001	8.0	-5.1

NOTES: Activity reported in net dpm/100 cm².
Underlined values exceed the associated MDA.
Bold values exceed 25 dpm/100 cm²,
Italic values exceed 100 dpm/100 cm².

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LIQUID SCINTILLATION COUNTER CALIBRATION SUMMARY

03/31/98 Removable Contamination - Tritium Activity

Survey Package : D0900 SYSTEMS

Compressed Air System

SURVEYDATE	INSTRUMENT	MODEL	S/N	CAL DUE	LAB TECHNICIAN
2/1/98	Packard	2750	416221	6/16/98	LDT
				CALIBRATION DATE VERIFIED AS ACCEPTABLE	

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Maine Yankee Atomic Power Plant Site Characterization

GAMMA SPECTRAL ANALYSIS RESULTS LISTING

03/31/98

OUTPUT BATCH SN = 337

Survey Package D0900 SYSTEMS

Compressed Air System

UNIT : 01 SURFACE : P02 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Plant Piping (interior)
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD08	FAL00007	0.3	1800	Co-57	< 164.0	164.0	0.0
				Co-60	< 180.0	180.0	0.0
				Cs-134	< 200.0	200.0	0.0
				Cs-137	< 218.0	218.0	0.0
				K-40	< 2270.0	2,270.0	0.0
				Mn-54	< 208.0	208.0	0.0

UNIT : 01 SURFACE : S01 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Strainer / Filters
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD07	FAL00008	3.5	1800	Co-57	< 14.0	14.0	0.0
				Co-60	< 28.1	28.1	0.0
				Cs-134	< 20.6	20.6	0.0
				Cs-137	< 23.8	23.8	0.0
				K-40	< 254.0	254.0	0.0
				Mn-54	< 19.4	19.4	0.0

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