Maine Yankee Atomic Power Plant Site Characterization

DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

04/01/98 Direct Measurements For Total Beta Activity

Survey Package : D2200 SYSTEMS

Secondary Plant Sealing System

SURVEY		M2350		DETECTOR			PRE	
DATE	FILE #	INST S/N	CAL DUE	MODEL	S/N	CAL DUE	EFF	TECHNICIAN
1/5/98	278 (2)	129429	5/5/98	43-94	PR124110	5/5/98	.05	DRL7343
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/5/98	287 (2)	126195	5/7/98	43-98	117961	6/10/98	.02	DRL7343
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/6/98	293 (2)	117573	4/14/98	SP-175-3M	PR024349	5/4/98	.10	LKW7727
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/6/98	296 (2)	126198	3/22/98	43-106	PR128914	3/30/98	.21	LKW7727
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/6/98	297 (2)	129430	5/6/98	44-40	PR092401	4/29/98	.12	DRL7343
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/6/98	298 (2)	126195	5/7/98	43-98	117961	6/10/98	.04	DRL7343
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		

Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Removable Contamination - Gross Beta Activity

Survey Package D2200 SYSTEMS

Secondary Plant Sealing System

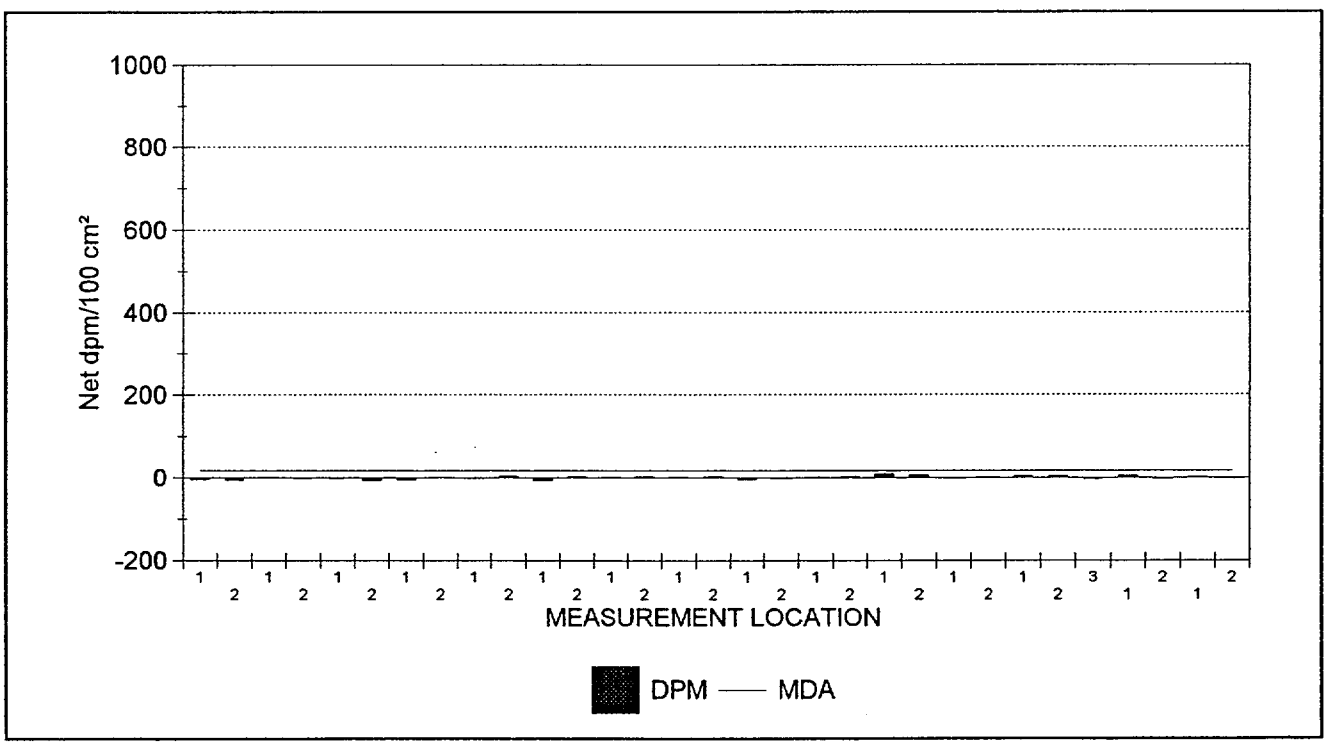
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	0.2
Maximum	10.9
Minimum	-7.6
Standard Deviation	4.2
MDA	18.0

Samples Reported	31
Samples Prescribed	34

TESTS PERFORMED

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



31 RESULTS ARE GRAPHED

Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Removable Contamination - Gross Alpha Activity

Survey Package D2200 SYSTEMS

Secondary Plant Sealing System

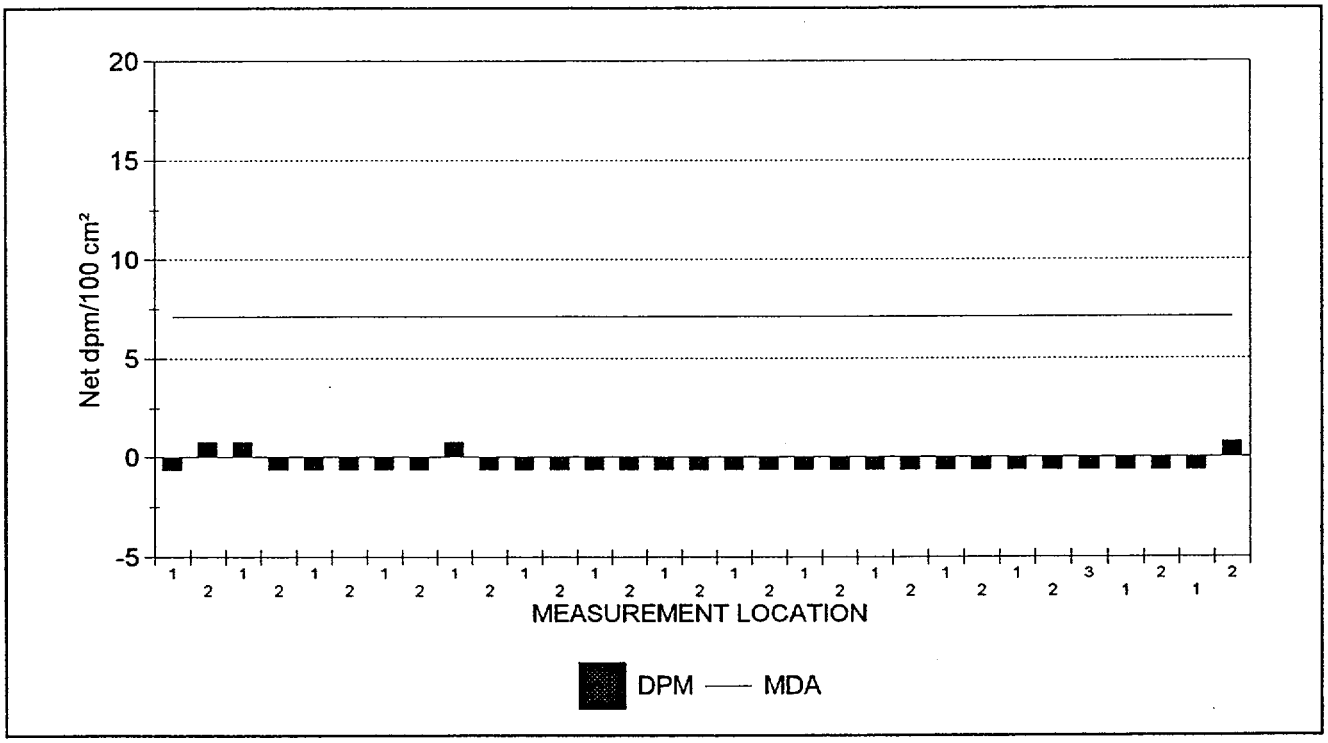
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	-0.5
Maximum	0.8
Minimum	-0.7
Standard Deviation	0.5
MDA	7.1

Samples Reported	31
Samples Prescribed	34

TESTS PERFORMED

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



31 RESULTS ARE GRAPHED

03/27/98 Removable Contamination

Survey Package : D2200 SYSTEMS

Secondary Plant Sealing System

RESULTS LISTING - SORTED BY SURFACE CODE

XLS FILE	UNIT	SURFACE	REASON	MSRMNT LOCATION	ALPHA	BETA
SME1D051.XLS	02	P01	C01	2	0.8	-0.9
SME1D051.XLS	02	P01	C01	1	-0.7	2.5
SME1D051.XLS	01	V01	C01	2	-0.7	-2.6
SME1D051.XLS	01	V01	C01	1	-0.7	5.8
SME1D051.XLS	01	T01	C01	3	-0.7	-2.6
SME1D051.XLS	01	T01	C01	2	-0.7	4.1
SME1D051.XLS	01	T01	C01	1	-0.7	4.1
SME1D051.XLS	01	S04	C01	2	-0.7	0.8
SME1D051.XLS	01	S04	C01	1	-0.7	-0.9
SME1D051.XLS	01	S03	C01	2	-0.7	7.5
SME1D051.XLS	01	S03	C01	1	-0.7	10.9
SME1D051.XLS	01	S02	C01	2	-0.7	2.5
SME1D051.XLS	01	S02	C01	1	-0.7	0.8
SME1D051.XLS	01	S01	C01	2	-0.7	-0.9
SME1D051.XLS	01	S01	C01	1	-0.7	-4.3
SME1D051.XLS	01	P08	C01	2	-0.7	2.5
SME1D051.XLS	01	P08	C01	1	-0.7	0.8
SME1D051.XLS	01	P07	C01	2	-0.7	2.5
SME1D051.XLS	01	P07	C01	1	-0.7	0.8
SME1D051.XLS	01	P06	C01	2	-0.7	2.5
SME1D051.XLS	01	P06	C01	1	-0.7	-7.6
SME1D051.XLS	01	P05	C01	2	-0.7	4.1
SME1D051.XLS	01	P05	C01	1	0.8	-0.9
SME1D051.XLS	01	P04	C01	2	-0.7	0.8
SME1D051.XLS	01	P04	C01	1	-0.7	-5.9
SME1D051.XLS	01	P03	C01	2	-0.7	-7.6
SME1D051.XLS	01	P03	C01	1	-0.7	-0.9
SME1D051.XLS	01	P02	C01	2	-0.7	-0.9
SME1D051.XLS	01	P02	C01	1	0.8	0.8
SME1D051.XLS	01	P01	C01	2	0.8	-5.9
SME1D051.XLS	01	P01	C01	1	-0.7	-4.3

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).
31 results are listed.

Maine Yankee Atomic Power Plant Site Characterization

DATAFILE & TENNELEC CALIBRATION SUMMARY

03/27/98 Removable Contamination

Survey Package : D2200 SYSTEMS

Secondary Plant Sealing System

SURVEYDATE	XLS FILE	INST ID	S/N	CAL DUE	LAB TECHNICIAN
2/19/98	SME1D051.XLS	1	14131	8/7/98	SMM
				CALIBRATION DATE VERIFIED AS ACCEPTABLE	

Maine Yankee Atomic Power Plant Site Characterization

03/27/98 Removable Contamination - Tritium Activity

Survey Package : D2200 SYSTEMS

Secondary Plant Sealing System

RESULTS LISTING - SORTED BY SURFACE CODE

SAMPLE ID	SAMPLE TYPE	UNIT	SURF	REASN	MSRMNT LOCATION	MDA	TRITIUM ACTIVITY
H046	Whatman smear	01	S01	C01	00001	8.0	-2.6
H047	Whatman smear	01	T01	C01	00001	8.0	8.7
H048	Whatman smear	01	S03	C01	00001	8.0	-1.2

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.

Maine Yankee Atomic Power Plant Site Characterization

LIQUID SCINTILLATION COUNTER CALIBRATION SUMMARY

03/27/98 Removable Contamination - Tritium Activity

Survey Package : D2200 SYSTEMS

Secondary Plant Sealing 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	

Maine Yankee Atomic Power Plant Site Characterization

GAMMA SPECTRAL ANALYSIS RESULTS LISTING

03/27/98 OUTPUT BATCH SN = 204

Survey Package D2200 SYSTEMS

Secondary Plant Sealing 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
MYD52	FAL00035	27	1800	Co-57	< 1.90	1.90	0.0
				Co-60	< 2.04	2.04	0.0
				Cs-134	< 2.66	2.66	0.0
				Cs-137	< 2.46	2.46	0.0
				K-40	< 29.20	29.20	0.0
				Mn-54	< 2.18	2.18	0.0

Maine Yankee Atomic Power Plant Site Characterization

04/01/98

CHARACTERIZATION SUMMARY

SURVEY PACKAGE NUMBER :D2300 SYSTEMS

PACKAGE DESCRIPTION Auxiliary Diesel Generator

SURVEY AREA DESCRIPTION
Auxiliary Diesel Generator

GENERAL HISTORICAL INFORMATION (Operational history, etc.)
The Auxiliary Diesel Generator provided electrical power to the plant emergency buses when normal power is not available.

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 34 survey measurement locations indicated on the appropriate survey diagram(s).

Collected direct measurements for total beta activity at 34 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 36 survey locations including those 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 1 material sample (e.g., sludge, sediment, rust, etc.) from the strainer, filter 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 645 dpm/100cm^2).
- o There were no measurements for removable beta activity above MDA (36 dpm/100cm^2).
- o There were no measurements for removable alpha activity above MDA (7 dpm/100cm^2).
- o There were no measurements for removable tritium activity above MDA (8 dpm/100cm^2).
- o The sample gamma spectral analysis results indicated no plant-derived radionuclide activity above MDA.

REFERENCES (Documents, Interviews)
Maine Yankee Drawing 1150 - FM - 80 D, 88 A
Operator System Training Manual, Chapter 34

SUMMARY OF SURVEY UNIT(S)

03/27/98 OUTPUT BATCH SN = 299

PACKAGE D2300 SYSTEMS

Auxiliary Diesel Generator

UNIT(S)	SURFACE(S)
01 - Diesel Generator DG-1A, 21' elevation	A01 (Turbo combustion air inlet duct) A02 (Air box inspection cover for cylinders 1 and 4) M01 (Crankcase inspection cover for cylinders 13 and 18) P01 (6" return line for engine jacket water) S01 (Air intake filter (lower 3)) S02 (Engine lube oil strainer)
02 - Diesel Generator DG-1B, 21' elevation	A01 (Turbo combustion air inlet duct) A02 (Air box inspection cover for cylinders 1 and 4) M01 (Crancase inspection cover for cylinders 13 and 18) P01 (6" return line for engine jacket water) S01 (Air intake filter (lower 3)) S02 (Engine lube oil strainer)

REASON(S) CHARACTERIZATION SURVEY (C01)

MATERIALS

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

Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Direct Measurements For Total Beta Activity

Survey Package D2300 SYSTEMS

Auxiliary Diesel Generator

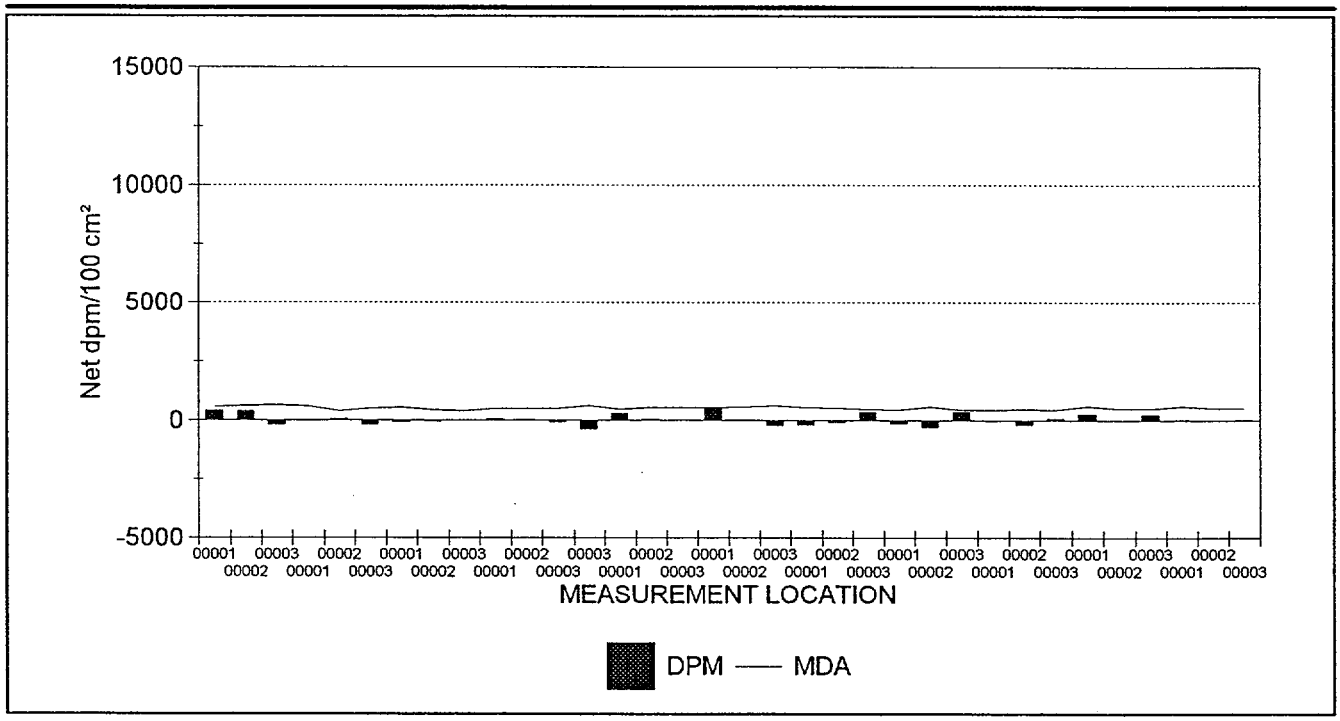
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	31.7
Maximum	535.3
Minimum	-359.7
Standard Deviation	210.8
MDA	645.3

Samples Reported	34
Samples Prescribed	34

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



34 RESULTS ARE GRAPHED

03/27/98

Direct Measurements For Total Beta Activity

Survey Package : D2300 SYSTEMS

Auxiliary Diesel Generator

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	MDA	RESULT
315 (2)	01	A01	B0031	C01	300	00001	574.0	419.7
315 (2)	01	A01	B0031	C01	300	00002	628.2	384.7
315 (2)	01	A01	B0031	C01	300	00003	645.3	-186.5
313 (2)	01	A02	B0031	C01	15	00001	601.2	-15.6
313 (2)	01	A02	B0031	C01	15	00002	391.3	62.5
313 (2)	01	A02	B0031	C01	15	00003	490.9	-187.6
313 (2)	01	M01	B0031	C01	15	00001	535.8	-78.2
313 (2)	01	M01	B0031	C01	15	00002	434.2	-46.9
313 (2)	01	M01	B0031	C01	15	00003	398.8	0.0
314 (2)	01	P01	B0031	C01	300	00001	490.0	47.4
314 (2)	01	P01	B0031	C01	300	00002	501.2	38.8
314 (2)	01	P01	B0031	C01	300	00003	492.1	-73.3
313 (2)	01	S01	B0031	C01	15	00003	615.3	-359.7
313 (2)	01	S02	B0031	C01	15	00001	466.6	281.5
313 (2)	01	S02	B0031	C01	15	00002	551.7	46.9
313 (2)	01	S02	B0031	C01	15	00003	535.8	31.3
53 (2)	02	A01	B0031	C01	720	00001	536.7	535.3
53 (2)	02	A01	B0031	C01	720	00002	567.8	0.0
53 (2)	02	A01	B0031	C01	720	00003	625.2	-215.4
51 (2)	02	A02	B0031	C01	15	00001	558.3	-193.4
51 (2)	02	A02	B0031	C01	15	00002	524.9	-89.3
51 (2)	02	A02	B0031	C01	15	00003	478.1	342.2
51 (2)	02	M01	B0031	C01	15	00001	431.9	-133.9
51 (2)	02	M01	B0031	C01	15	00002	585.4	-282.7
51 (2)	02	M01	B0031	C01	15	00003	455.7	357.1
52 (2)	02	P01	B0031	C01	300	00001	435.0	-19.9
52 (2)	02	P01	B0031	C01	300	00002	458.6	-179.2
52 (2)	02	P01	B0031	C01	300	00003	451.6	71.7
51 (2)	02	S01	B0031	C01	15	00001	611.1	252.9
51 (2)	02	S01	B0031	C01	15	00002	483.6	0.0
51 (2)	02	S01	B0031	C01	15	00003	499.5	223.2
51 (2)	02	S02	B0031	C01	15	00001	606.9	29.8
51 (2)	02	S02	B0031	C01	15	00002	529.8	0.0
51 (2)	02	S02	B0031	C01	15	00003	519.9	14.9

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.
34 results are listed.

Maine Yankee Atomic Power Plant Site Characterization

DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

03/27/98 Direct Measurements For Total Beta Activity

Survey Package : D2300 SYSTEMS

Auxiliary Diesel Generator

SURVEY		M2350		DETECTOR			PRE	
DATE	FILE #	INST S/N	CAL DUE	MODEL	S/N	CAL DUE	EFF	TECHNICIAN
12/1/97	51 (2)	129430	5/6/98	43-106	PR133886	5/7/98	.21	JFM0682
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
12/1/97	52 (2)	117573	4/14/98	SP-175-3M	024349	5/4/98	.11	JFM0682
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
12/1/97	53 (2)	095348	3/20/98	44-40	119456	3/22/98	.08	JFM0682
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/7/98	313 (2)	117014	4/16/98	43-106	PR126903	4/18/98	.20	JFM0682
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/7/98	314 (2)	117573	4/14/98	SP-175-3M	PR024349	5/4/98	.10	LKW7727
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
1/7/98	315 (2)	126185	3/20/98	44-40	PR121903	3/22/98	.11	DRL7343
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		

Maine Yankee Atomic Power Plant Site Characterization

03/29/98

Removable Contamination - Gross Beta Activity

Survey Package D2300 SYSTEMS

Auxiliary Diesel Generator

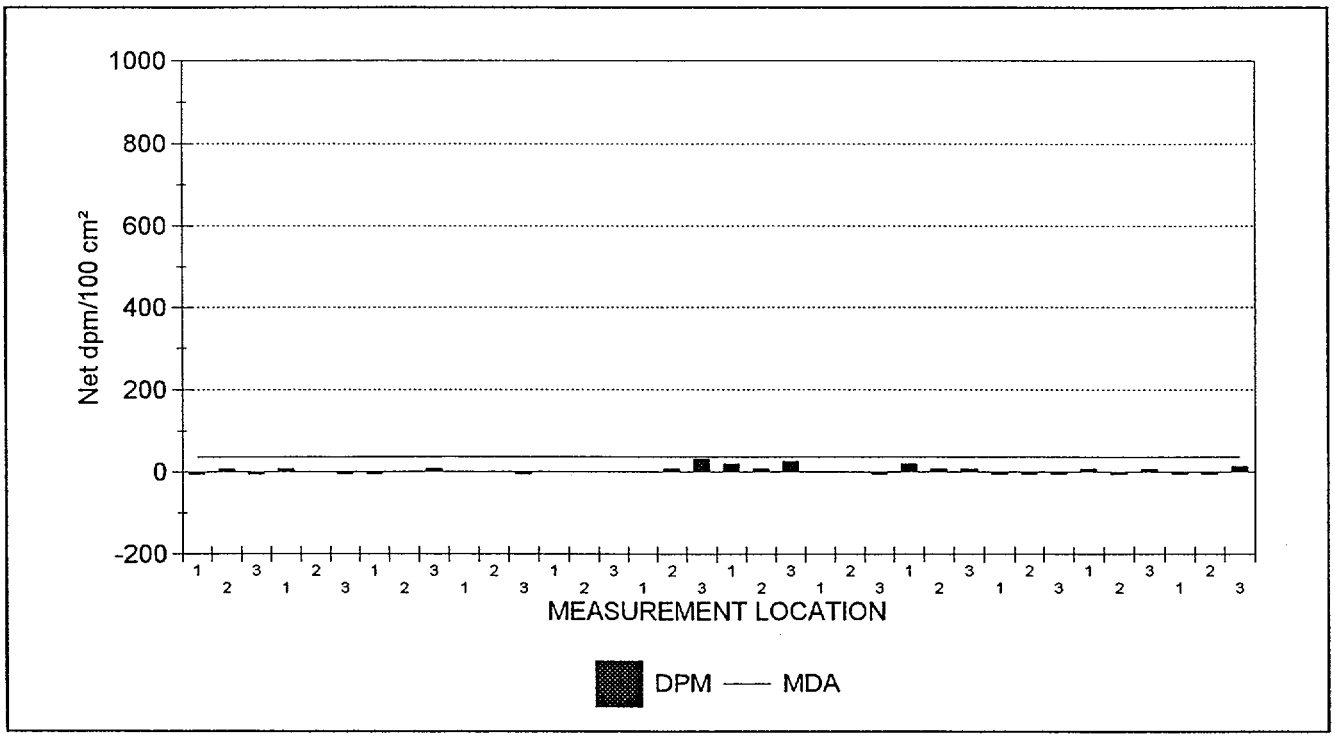
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	3.1
Maximum	31.8
Minimum	-5.5
Standard Deviation	9.3
MDA	36.2

Samples Reported	36
Samples Prescribed	38

TESTS PERFORMED

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



36 RESULTS ARE GRAPHED

Version 3.0.7 - 3/24/98

DBACORR Documentation

:aProgDBACORR:F_0321.FSL

PAJ

OUTPUT BATCH SN = 245

Maine Yankee Atomic Power Plant Site Characterization

03/29/98

Removable Contamination - Gross Alpha Activity

Survey Package D2300 SYSTEMS

Auxiliary Diesel Generator

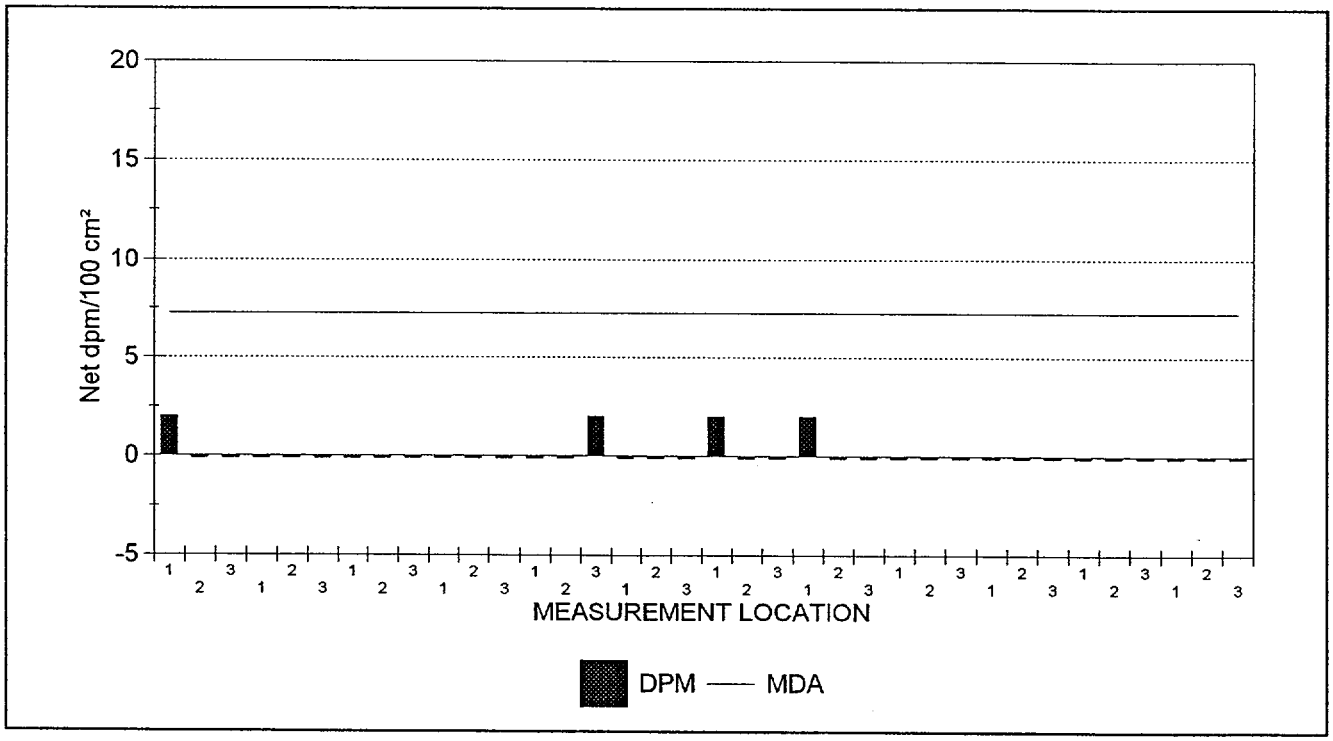
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	0.1
Maximum	2.0
Minimum	-0.1
Standard Deviation	0.7
MDA	7.2

Samples Reported	36
Samples Prescribed	38

TESTS PERFORMED

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



36 RESULTS ARE GRAPHED

Maine Yankee Atomic Power Plant Site Characterization

03/29/98 Removable Contamination

Survey Package : D2300 SYSTEMS

Auxiliary Diesel Generator

RESULTS LISTING - SORTED BY SURFACE CODE

XLS FILE	UNIT	SURFACE	REASON	MSRMNT LOCATION	ALPHA	BETA
SME1E053.XLS	02	S02	C01	3	-0.1	13.2
SME1E053.XLS	02	S02	C01	2	-0.1	-5.5
SME1E053.XLS	02	S02	C01	1	-0.1	-5.5
SME1E053.XLS	02	S01	C01	3	-0.1	6.9
SME1E053.XLS	02	S01	C01	2	-0.1	-5.5
SME1E053.XLS	02	S01	C01	1	-0.1	6.9
SME1E053.XLS	02	P01	C01	3	-0.1	-5.5
SME1E053.XLS	02	P01	C01	2	-0.1	-5.5
SME1E053.XLS	02	P01	C01	1	-0.1	-5.5
SME1E053.XLS	02	M01	C01	3	-0.1	6.9
SME1E053.XLS	02	M01	C01	2	-0.1	6.9
SME1E053.XLS	02	M01	C01	1	-0.1	19.4
SME1E053.XLS	02	A02	C01	3	-0.1	-5.5
SME1E053.XLS	02	A02	C01	2	-0.1	0.7
SME1E053.XLS	02	A02	C01	1	2.0	0.7
SME1E053.XLS	02	A01	C01	3	-0.1	25.6
SME1E053.XLS	02	A01	C01	2	-0.1	6.9
SME1E053.XLS	02	A01	C01	1	2.0	19.4
SME1E053.XLS	01	S02	C01	3	-0.1	31.8
SME1E053.XLS	01	S02	C01	2	-0.1	6.9
SME1E053.XLS	01	S02	C01	1	-0.1	0.7
SME1E053.XLS	01	S01	C01	3	2.0	0.7
SME1E053.XLS	01	S01	C01	2	-0.1	0.7
SME1E053.XLS	01	S01	C01	1	-0.1	0.7
SME1E053.XLS	01	P01	C01	3	-0.1	-5.5
SME1E053.XLS	01	P01	C01	2	-0.1	0.7
SME1E053.XLS	01	P01	C01	1	-0.1	0.7
SME1E053.XLS	01	M01	C01	3	-0.1	6.9
SME1E053.XLS	01	M01	C01	2	-0.1	0.7
SME1E053.XLS	01	M01	C01	1	-0.1	-5.5
SME1E053.XLS	01	A02	C01	3	-0.1	-5.5
SME1E053.XLS	01	A02	C01	2	-0.1	0.7
SME1E053.XLS	01	A02	C01	1	-0.1	6.9
SME1E053.XLS	01	A01	C01	3	-0.1	-5.5
SME1E053.XLS	01	A01	C01	2	-0.1	6.9
SME1E053.XLS	01	A01	C01	1	2.0	-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).
36 results are listed.

Maine Yankee Atomic Power Plant Site Characterization

DATAFILE & TENNELEC CALIBRATION SUMMARY

03/29/98

Removable Contamination

Survey Package : D2300 SYSTEMS

Auxiliary Diesel Generator

SURVEYDATE	XLS FILE	INST ID	S/N	CAL DUE	LAB TECHNICIAN
3/5/98	SME1E053.XLS	1	15632	8/5/98	JWD
				CALIBRATION DATE VERIFIED AS ACCEPTABLE	

03/27/98 Removable Contamination - Tritium Activity

Survey Package : D2300 SYSTEMS

Auxiliary Diesel Generator

RESULTS LISTING - SORTED BY SURFACE CODE

SAMPLE ID	SAMPLE TYPE	UNIT	SURF	REASN	MSRMNT LOCATION	MDA	TRITIUM ACTIVITY
H049	Whatman smear	01	S01	C01	00001	8.0	-5.0
H050	Whatman smear	01	A01	C01	00001	8.0	0.5

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.

Maine Yankee Atomic Power Plant Site Characterization

LIQUID SCINTILLATION COUNTER CALIBRATION SUMMARY

03/27/98 Removable Contamination - Tritium Activity

Survey Package : D2300 SYSTEMS

Auxiliary Diesel Generator

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

Maine Yankee Atomic Power Plant Site Characterization

GAMMA SPECTRAL ANALYSIS RESULTS LISTING

03/27/98 OUTPUT BATCH SN = 299

Survey Package D2300 SYSTEMS

Auxiliary Diesel Generator

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
MYX01	H2O00085	944	1200	Co-57	< .03	.03	0.0
				Co-60	< .03	.03	0.0
				Cs-134	< .03	.03	0.0
				Cs-137	< .03	.03	0.0
				K-40	< .36	.36	0.0
				Mn-54	< .02	.02	0.0

Version 3.0.7 - 3/24/98

JLM

DBACORR Documentation
:aProgDBACORR:R_GSPEC.RSL

04/01/98

CHARACTERIZATION SUMMARY

SURVEY PACKAGE NUMBER :D2400 SYSTEMS

PACKAGE DESCRIPTION Secondary Sample and Chemical Addition System

SURVEY AREA DESCRIPTION

Secondary Sampling and Chemical Addition System

GENERAL HISTORICAL INFORMATION (Operational history, etc.)

The Secondary Sampling and Chemical Addition System monitored the contaminants in various secondary systems and regulated the amount of chemical additives used in the secondary systems.

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 29 survey measurement locations indicated on the appropriate survey diagram(s).

Collected direct measurements for total beta activity at 29 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 33 survey locations including those 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.

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 1617 dpm/100cm^2).
- o There were 4 measurements for removable beta activity above MDA (35 dpm/100cm^2) and 4 results greater than 100 dpm/100cm^2. The maximum measurement result was 4,861 dpm/100cm^2 at location 03M01 (Blow Down Sample Sink). The sink is a posted Contamination Area.
- o There were no measurements for removable alpha activity above MDA (7.8 dpm/100cm^2).
- o There were no measurements for removable tritium activity above MDA (38.4 dpm/100cm^2).

REFERENCES (Documents, Interviews)

Maine Yankee Drawing 1150 - FM - 73 A, 83 A, 87 A
Operator System Training Manual, Chapter 16

Maine Yankee Atomic Power Plant Site Characterization

SUMMARY OF SURVEY UNIT(S)

03/27/98 OUTPUT BATCH SN = 307

PACKAGE D2400 SYSTEMS

Secondary Sample and Chemical Addition System

UNIT(S)	SURFACE(S)
01 - Auxiliary Feed Pump Room Components	T01 (Auxiliary chemical feed tank TK-89) U01 (Chemical feed tank pump P-115)
02 - 21' Turbine Building Components	M01 (Secondary sample sink (near break room door)) P01 (1.25" drain line from secondary sample sink (near break room door)) S01 (Strainer 59A (southwest by ops desk)) S02 (Strainer 58 (southwest by ops desk)) T01 (Hydrazine feed tank to water treatment TK-46B (southwest by ops desk)) T02 (Hydrazine / morpholine tank to auxiliary boiler TK-46A (southwest by ops desk)) T03 (Hydrazine / morpholine tank to S/G feed TK-45 (southwest by ops desk)) U01 (Hydrazine / morpholine pump P-44A (southwest by ops desk)) U02 (Hydrazine / morpholine pump P-44B (southwest by ops desk)) U03 (Hydrazine pump P-45 (southwest by ops desk))
03 - 36' Primary Auxiliary Building Components	M01 (Blow down sample sink (north hallway)) P01 (1" drain line from blow down sample sink (north hallway))

REASON(S) CHARACTERIZATION SURVEY (C01)

MATERIALS

MAT'L CODE	MATERIAL DESCRIPTION	BETA BKGD (dpm/100 cm²)
B0031	METAL - BARE	0.0
B0036	METAL - PAINTED	0.0

Maine Yankee Atomic Power Plant Site Characterization

04/01/98

Direct Measurements For Total Beta Activity

Survey Package D2400 SYSTEMS

Secondary Sample and Chemical Addition System

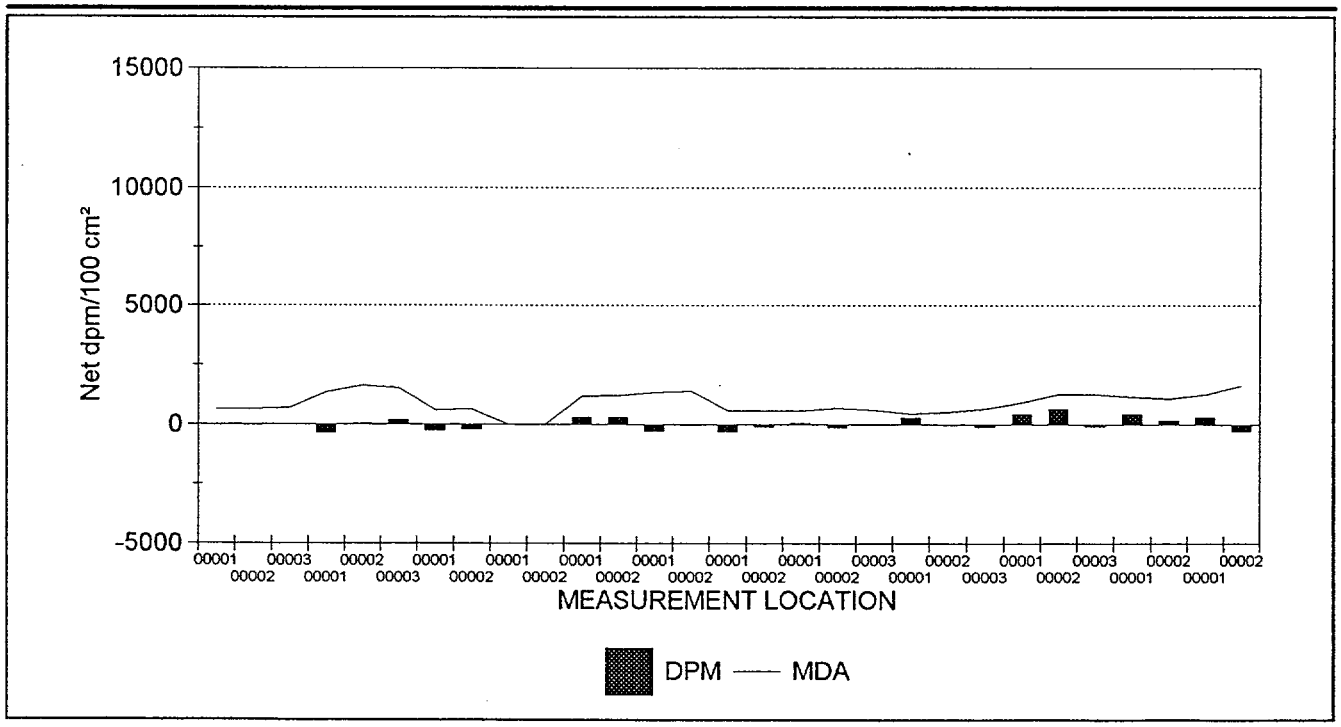
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	35.2
Maximum	645.5
Minimum	-353.0
Standard Deviation	251.2
MDA	1,617.2

Samples Reported	29
Samples Prescribed	29

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



29 RESULTS ARE GRAPHED

Maine Yankee Atomic Power Plant Site Characterization

04/01/98

Direct Measurements For Total Beta Activity

Survey Package : D2400 SYSTEMS

Secondary Sample and Chemical Addition System

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	MDA	RESULT
285 (2)	01	T01	B0031	C01	15	00001	624.1	-30.4
285 (2)	01	T01	B0031	C01	15	00002	624.1	-15.2
285 (2)	01	T01	B0031	C01	15	00003	673.4	0.0
286 (2)	01	U01	B0031	C01	120	00001	1,327.4	-353.0
286 (2)	01	U01	B0031	C01	120	00002	1,602.5	32.1
286 (2)	01	U01	B0031	C01	120	00003	1,503.6	192.6
285 (2)	02	M01	B0031	C01	15	00001	611.1	-258.3
285 (2)	02	M01	B0031	C01	15	00002	624.1	-197.5
474 (2)	02	P01	B0031	C01	360	00001	0.0	0.0
474 (2)	02	P01	B0031	C01	360	00002	0.0	0.0
456 (2)	02	S01	B0031	C01	120	00001	1,180.2	322.8
456 (2)	02	S01	B0031	C01	120	00002	1,205.3	322.8
511 (2)	02	S02	B0031	C01	120	00001	1,336.4	-276.3
511 (2)	02	S02	B0031	C01	120	00002	1,384.3	-30.7
285 (2)	02	T01	B0036	C01	15	00001	560.6	-303.8
285 (2)	02	T01	B0036	C01	15	00002	574.8	-106.3
457 (2)	02	T02	B0036	C01	15	00001	583.3	47.0
457 (2)	02	T02	B0036	C01	15	00002	669.8	-141.1
457 (2)	02	T02	B0036	C01	15	00003	593.1	0.0
509 (2)	02	T03	B0036	C01	15	00001	454.5	297.5
509 (2)	02	T03	B0036	C01	15	00002	531.1	-31.3
509 (2)	02	T03	B0036	C01	15	00003	647.5	-93.9
453 (2)	02	U01	B0031	C01	120	00001	898.7	440.1
453 (2)	02	U01	B0031	C01	120	00002	1,246.0	645.5
453 (2)	02	U01	B0031	C01	120	00003	1,261.8	-88.0
511 (2)	02	U02	B0031	C01	120	00001	1,151.9	429.7
511 (2)	02	U02	B0031	C01	120	00002	1,062.3	184.2
286 (2)	02	U03	B0031	C01	120	00001	1,253.3	320.9
286 (2)	02	U03	B0031	C01	120	00002	1,617.2	-288.9

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.
29 results are listed.

Maine Yankee Atomic Power Plant Site Characterization

DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

04/01/98 Direct Measurements For Total Beta Activity

Survey Package: D2400 SYSTEMS

Secondary Sample and Chemical Addition 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	285 (2)	117014	4/16/98	43-106	PR126903	4/18/98	.21	JWD4920
							CALIBRATION DATES VERIFIED AS ACCEPTABLE	
1/5/98	286 (2)	126197	3/22/98	44-40	PR117008	3/24/98	.10	JWD4920
							CALIBRATION DATES VERIFIED AS ACCEPTABLE	
1/21/98	453 (2)	126185	3/20/98	44-40	PR121903	3/22/98	.11	JFM0682
							CALIBRATION DATES VERIFIED AS ACCEPTABLE	
1/21/98	456 (2)	126185	3/20/98	44-40	PR121903	3/22/98	.11	JFM0682
							CALIBRATION DATES VERIFIED AS ACCEPTABLE	
1/21/98	457 (2)	126198	3/22/98	43-106	PR128914	3/30/98	.20	DRL7343
							CALIBRATION DATES VERIFIED AS ACCEPTABLE	
1/22/98	474 (2)	117014	4/16/98	43-94	119460	6/9/98		JFM0682
							CALIBRATION DATES VERIFIED AS ACCEPTABLE	
1/29/98	509 (2)	129414	3/22/98	43-106	PR133882	3/27/98	.20	JFM0682
							CALIBRATION DATES VERIFIED AS ACCEPTABLE	
1/29/98	511 (2)	126182	3/22/98	44-40	PR095101	3/23/98	.11	JFM0682
							CALIBRATION DATES VERIFIED AS ACCEPTABLE	

Maine Yankee Atomic Power Plant Site Characterization

03/29/98

Removable Contamination - Gross Beta Activity

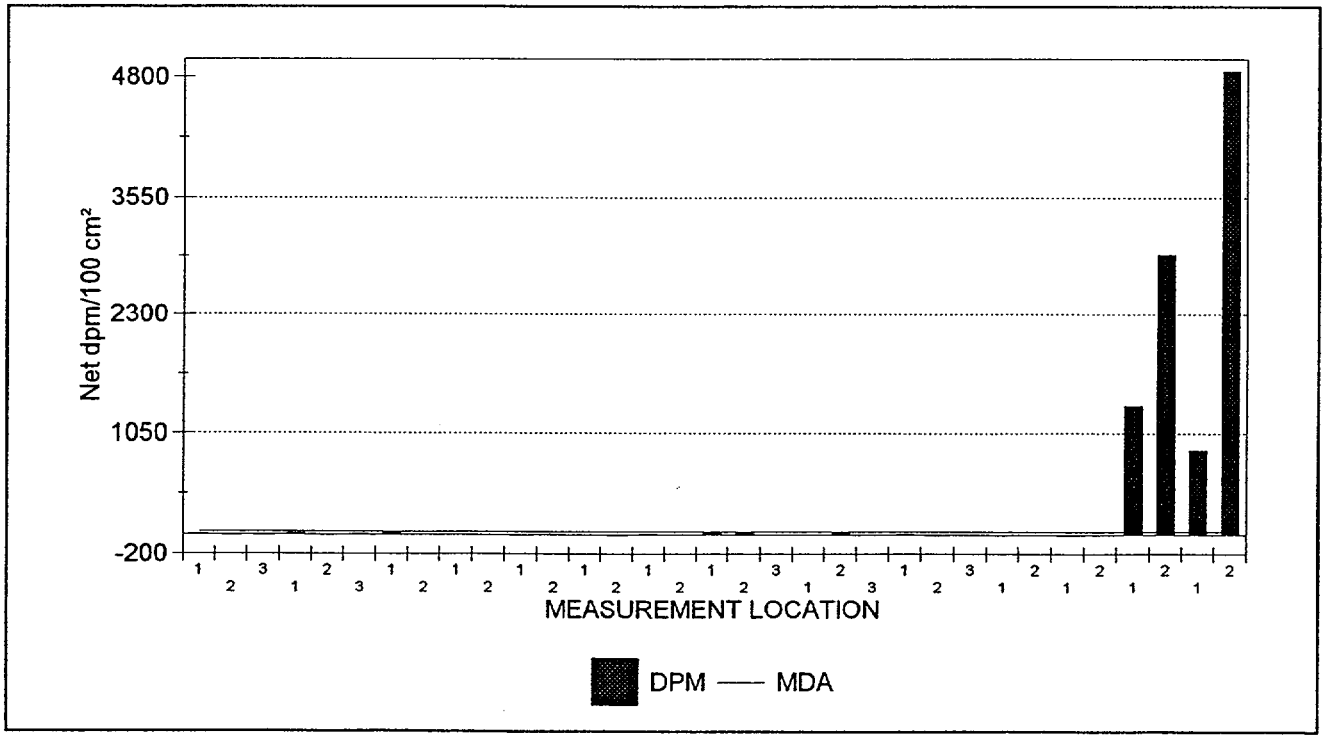
Survey Package D2400 SYSTEMS

Secondary Sample and Chemical Addition System

STATISTICAL SUMMARY	Net dpm/100 cm²
Mean	307.2
Maximum	4,861.3
Minimum	-4.9
Standard Deviation	995.8
MDA	35.1

Samples Reported	33
Samples Prescribed	37

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



33 RESULTS ARE GRAPHED

Maine Yankee Atomic Power Plant Site Characterization

03/29/98

Removable Contamination - Gross Alpha Activity

Survey Package D2400 SYSTEMS

Secondary Sample and Chemical Addition System

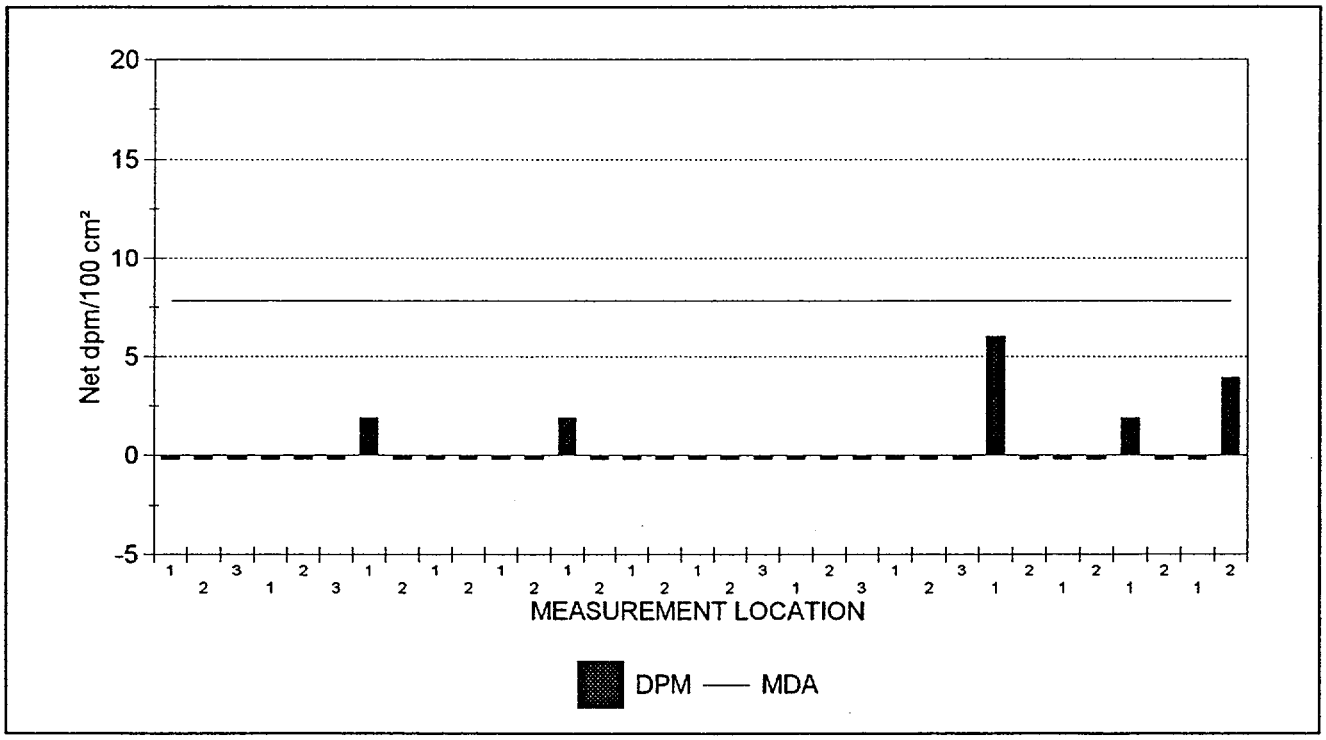
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	0.3
Maximum	6.0
Minimum	-0.2
Standard Deviation	1.4
MDA	7.8

Samples Reported	33
Samples Prescribed	37

TESTS PERFORMED

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



33 RESULTS ARE GRAPHED

Maine Yankee Atomic Power Plant Site Characterization

03/29/98 Removable Contamination

Survey Package : D2400 SYSTEMS

Secondary Sample and Chemical Addition System

RESULTS LISTING - SORTED BY SURFACE CODE

XLS FILE	UNIT	SURFACE	REASON	MSRMNT LOCATION	ALPHA	BETA
SME1E059.XLS	03	P01	C01	2	3.9	***4,861.3***
SME1E059.XLS	03	P01	C01	1	-0.2	***874.2***
SME1E059.XLS	03	M01	C01	2	-0.2	***2,942.0***
SME1E059.XLS	03	M01	C01	1	1.9	***1,338.5***
SME1E059.XLS	02	U03	C01	2	-0.2	1.2
SME1E059.XLS	02	U03	C01	1	-0.2	-5.0
SME1E059.XLS	02	U02	C01	2	-0.2	1.2
SME1E059.XLS	02	U02	C01	1	6.0	-5.0
SME1E059.XLS	02	U01	C01	3	-0.2	1.2
SME1E059.XLS	02	U01	C01	2	-0.2	-5.0
SME1E059.XLS	02	U01	C01	1	-0.2	7.4
SME1E059.XLS	02	T03	C01	3	-0.2	1.2
SME1E059.XLS	02	T03	C01	2	-0.2	19.8
SME1E059.XLS	02	T03	C01	1	-0.2	1.2
SME1E059.XLS	02	T02	C01	3	-0.2	1.2
SME1E059.XLS	02	T02	C01	2	-0.2	19.8
SME1E059.XLS	02	T02	C01	1	-0.2	32.2
SME1E059.XLS	02	T01	C01	2	-0.2	1.2
SME1E059.XLS	02	T01	C01	1	-0.2	7.4
SME1E059.XLS	02	S02	C01	2	-0.2	-5.0
SME1E059.XLS	02	S02	C01	1	1.9	1.2
SME1E059.XLS	02	S01	C01	2	-0.2	7.4
SME1E059.XLS	02	S01	C01	1	-0.2	-5.0
SME1E059.XLS	02	P01	C01	2	-0.2	1.2
SME1E059.XLS	02	P01	C01	1	-0.2	1.2
SME1E059.XLS	02	M01	C01	2	-0.2	7.4
SME1E059.XLS	02	M01	C01	1	1.9	19.8
SME1E059.XLS	01	U01	C01	3	-0.2	7.4
SME1E059.XLS	01	U01	C01	2	-0.2	-5.0
SME1E059.XLS	01	U01	C01	1	-0.2	13.6
SME1E059.XLS	01	T01	C01	3	-0.2	-5.0
SME1E059.XLS	01	T01	C01	2	-0.2	-5.0
SME1E059.XLS	01	T01	C01	1	-0.2	7.4

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).
33 results are listed.

Maine Yankee Atomic Power Plant Site Characterization

DATAFILE & TENNELEC CALIBRATION SUMMARY

03/29/98

Removable Contamination

Survey Package : D2400 SYSTEMS

Secondary Sample and Chemical Addition System

SURVEYDATE	XLS FILE	INST ID	S/N	CAL DUE	LAB TECHNICIAN
3/6/98	SME1E059.XLS	1	15632	8/5/98	JWD
				CALIBRATION DATE VERIFIED AS ACCEPTABLE	

03/27/98

Removable Contamination - Tritium Activity

Survey Package : D2400 SYSTEMS

Secondary Sample and Chemical Addition System

RESULTS LISTING - SORTED BY SURFACE CODE

SAMPLE ID	SAMPLE TYPE	UNIT	SURF	REASN	MSRMNT LOCATION	MDA	TRITIUM ACTIVITY
D13	Hoppes patch	02	T02	C01	00001	38.4	-4.2
D14	Hoppes patch	02	T03	C01	00001	38.4	18.5
H051	Whatman smear	02	T01	C01	00001	8.0	-0.8
H052	Whatman smear	01	T01	C01	00001	8.0	0.9

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.

Maine Yankee Atomic Power Plant Site Characterization

LIQUID SCINTILLATION COUNTER CALIBRATION SUMMARY

03/27/98 Removable Contamination - Tritium Activity

Survey Package : D2400 SYSTEMS

Secondary Sample and Chemical Addition 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	

Maine Yankee Atomic Power Plant Site Characterization

04/01/98

CHARACTERIZATION SUMMARY

SURVEY PACKAGE NUMBER :D2500

SYSTEMS

PACKAGE DESCRIPTION

High Pressure Drains

SURVEY AREA DESCRIPTION

High Pressure Drains System

GENERAL HISTORICAL INFORMATION (Operational history, etc.)

The High Pressure Drains System transported condensation from main steam system components to the main condenser.

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 18 survey measurement locations indicated on the appropriate survey diagram(s).

Collected direct measurements for total beta activity at 18 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 18 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.

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 1048 dpm/100cm^2).
- o There were no measurement for removable beta activity above MDA (18 dpm/100cm^2).
- o There were no measurements for removable alpha activity above MDA (7 dpm/100cm^2).
- o There was 1 measurement for removable tritium activity above MDA (8 dpm/100cm^2) and no result greater than 100 dpm/100cm^2. The maximum measurement result was 11.9 dpm/100cm^2.

REFERENCES (Documents, Interviews)

Maine Yankee Drawing 1150 - FM - 87 A

SUMMARY OF SURVEY UNIT(S)

03/27/98 OUTPUT BATCH SN = 300

PACKAGE D2500 SYSTEMS

High Pressure Drains

UNIT(S)	SURFACE(S)
01 - Turbine Building 21' Components	D01 (High Pressure Drain Trap TR-!4) D02 (High Pressure Drain Trap TR-19) D03 (High Pressure Drain Trap TR-15) V01 (Valve HPD-A-100)
02 - Turbine Building 36' Components	D01 (High Pressure Drain Trap TR-21)
03 - Mechanical Penetration Room 21' Components	D01 (High Pressure Drain Trap TR-1) D02 (High Pressure Drain Trap TR-3) D03 (High Pressure Drain Trap TR-32) D04 (High Pressure Drain Trap TR-23)

REASON(S) CHARACTERIZATION SURVEY (C01)

MATERIALS

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

Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Direct Measurements For Total Beta Activity

Survey Package D2500 SYSTEMS

High Pressure Drains

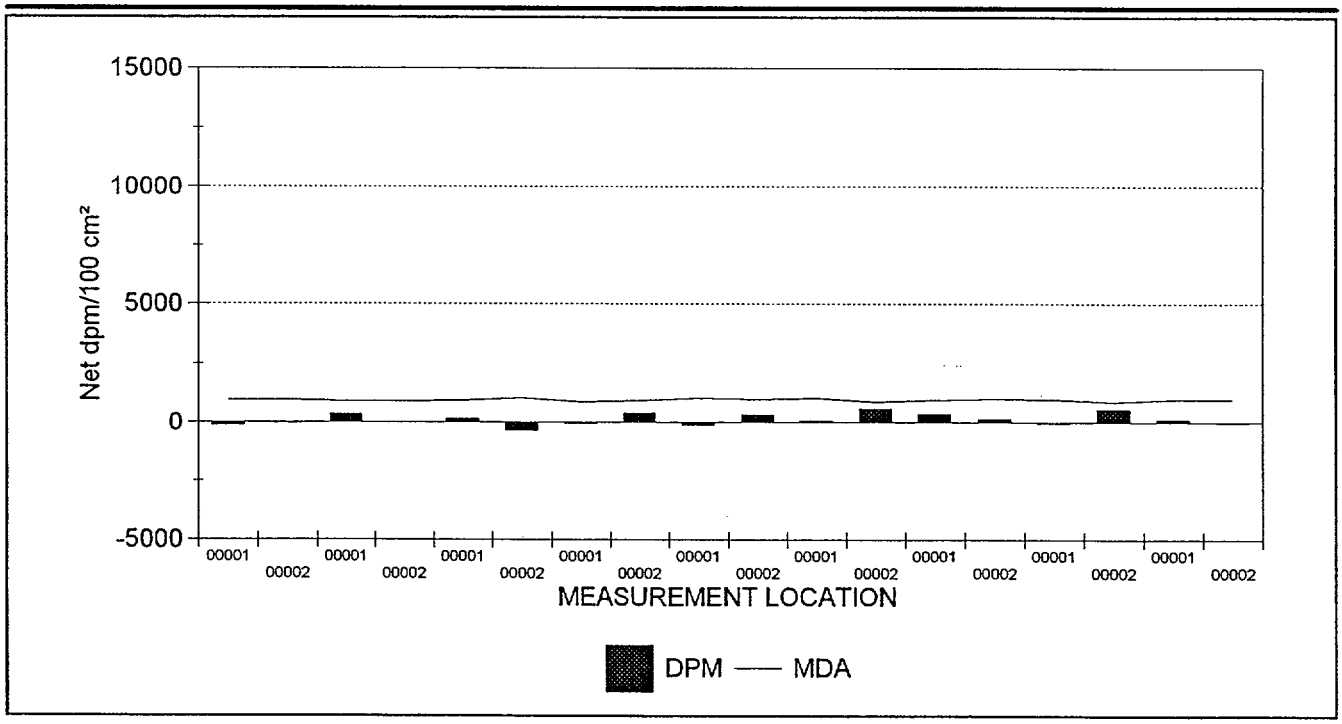
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	132.2
Maximum	594.8
Minimum	-362.1
Standard Deviation	260.3
MDA	1,047.6

Samples Reported	18
Samples Prescribed	18

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



18 RESULTS ARE GRAPHED

03/27/98

Direct Measurements For Total Beta Activity

Survey Package : D2500 SYSTEMS

High Pressure Drains

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	MDA	RESULT
59 (2)	01	D01	B0031	C01	120	00001	970.5	-129.3
59 (2)	01	D01	B0031	C01	120	00002	962.5	-25.9
59 (2)	01	D02	B0031	C01	120	00001	903.7	362.1
59 (2)	01	D02	B0031	C01	120	00002	912.4	0.0
59 (2)	01	D03	B0031	C01	120	00001	929.4	155.2
59 (2)	01	D03	B0031	C01	120	00002	1,047.6	-362.1
59 (2)	01	V01	B0031	C01	120	00001	886.2	-51.7
59 (2)	01	V01	B0031	C01	120	00002	946.1	413.8
59 (2)	02	D01	B0031	C01	120	00001	1,040.2	-129.3
59 (2)	02	D01	B0031	C01	120	00002	1,002.1	336.2
59 (2)	03	D01	B0031	C01	120	00001	1,032.7	77.6
59 (2)	03	D01	B0031	C01	120	00002	877.3	594.8
59 (2)	03	D02	B0031	C01	120	00001	962.5	362.1
59 (2)	03	D02	B0031	C01	120	00002	1,009.9	155.2
59 (2)	03	D03	B0031	C01	120	00001	978.5	-51.7
59 (2)	03	D03	B0031	C01	120	00002	877.3	568.9
64 (2)	03	D04	B0031	C01	120	00001	986.5	129.3
64 (2)	03	D04	B0031	C01	120	00002	1,002.1	-25.9

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.
18 results are listed.

DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

03/27/98 Direct Measurements For Total Beta Activity

Survey Package : D2500 SYSTEMS

High Pressure Drains

SURVEY DATE	FILE #	M2350 INST S/N	M2350 CAL DUE	DETECTOR MODEL	DETECTOR S/N	DETECTOR CAL DUE	PRE EFF	TECHNICIAN
12/2/97	59 (2)	095348	3/20/98	44-40	PR119456	3/22/98	.12	LCF0451
								CALIBRATION DATES VERIFIED AS ACCEPTABLE
12/2/97	64 (2)	095348	3/20/98	44-40	PR119456	3/22/98	.12	KFS5185
								CALIBRATION DATES VERIFIED AS ACCEPTABLE

Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Removable Contamination - Gross Beta Activity

Survey Package D2500 SYSTEMS

High Pressure Drains

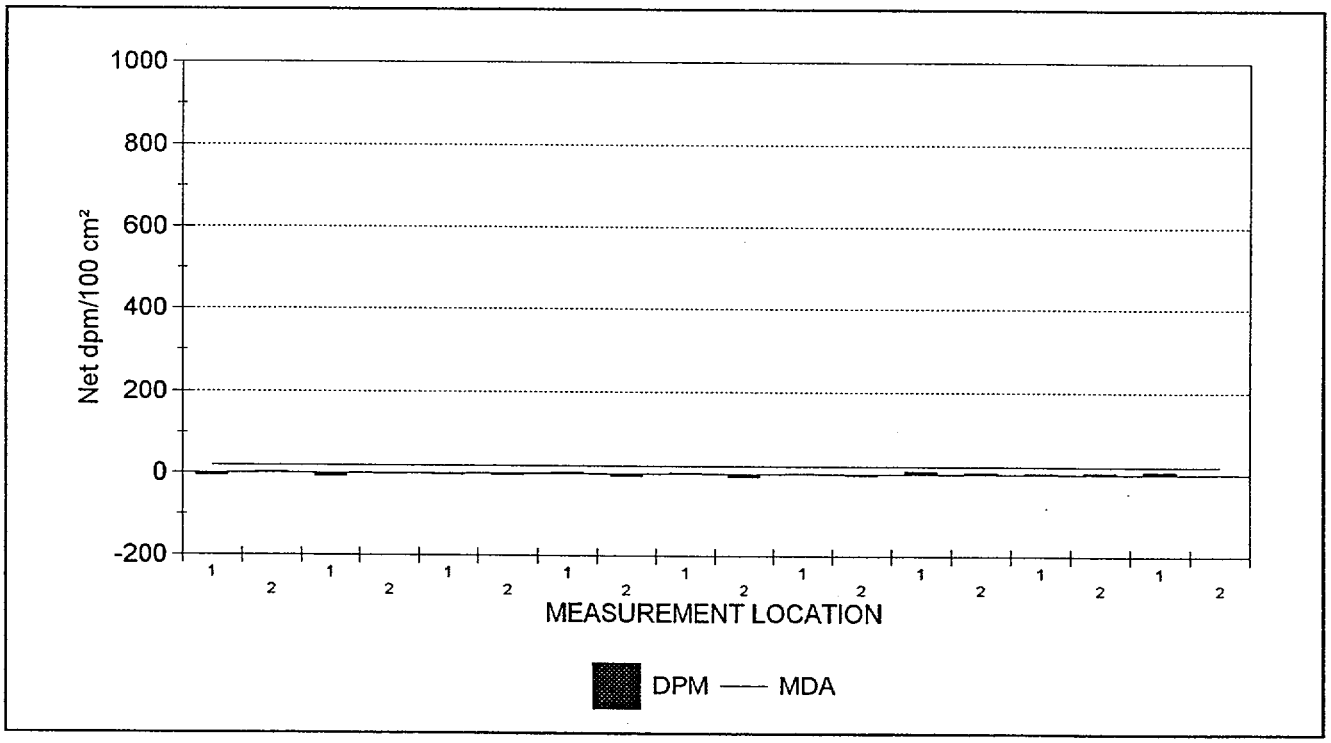
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	-0.1
Maximum	7.5
Minimum	-7.6
Standard Deviation	4.7
MDA	18.0

Samples Reported	18
Samples Prescribed	21

TESTS PERFORMED

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



18 RESULTS ARE GRAPHED

Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Removable Contamination - Gross Alpha Activity

Survey Package D2500 SYSTEMS

High Pressure Drains

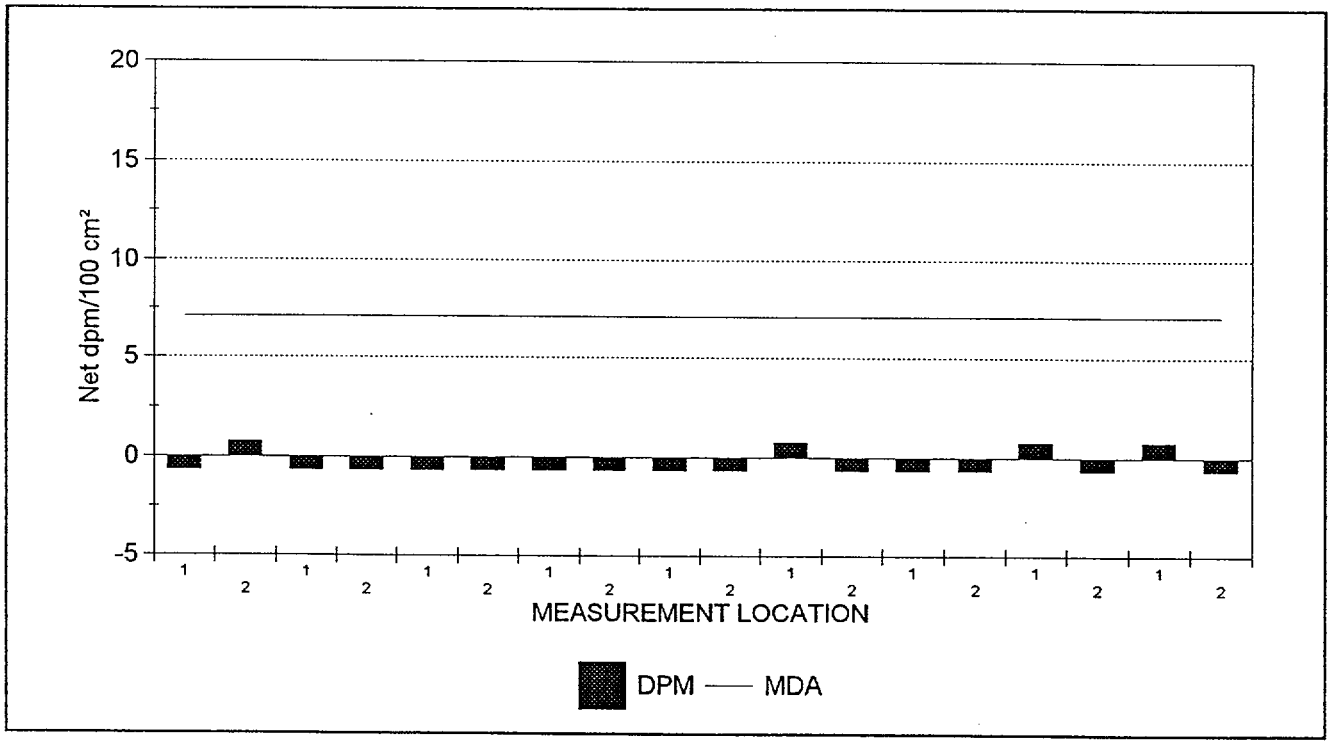
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	-0.4
Maximum	0.8
Minimum	-0.7
Standard Deviation	0.6
MDA	7.1

Samples Reported	18
Samples Prescribed	21

TESTS PERFORMED

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



18 RESULTS ARE GRAPHED

03/27/98 Removable Contamination

Survey Package : D2500 SYSTEMS

High Pressure Drains

RESULTS LISTING - SORTED BY SURFACE CODE

XLS FILE	UNIT	SURFACE	REASON	MSRMNT LOCATION	ALPHA	BETA
SME1D052.XLS	03	D04	C01	2	-0.7	0.8
SME1D052.XLS	03	D04	C01	1	0.8	7.5
SME1D052.XLS	03	D03	C01	2	-0.7	4.1
SME1D052.XLS	03	D03	C01	1	0.8	2.5
SME1D052.XLS	03	D02	C01	2	-0.7	4.1
SME1D052.XLS	03	D02	C01	1	-0.7	7.5
SME1D052.XLS	03	D01	C01	2	-0.7	-2.6
SME1D052.XLS	03	D01	C01	1	0.8	0.8
SME1D052.XLS	02	D01	C01	2	-0.7	-7.6
SME1D052.XLS	02	D01	C01	1	-0.7	2.5
SME1D052.XLS	01	V01	C01	2	-0.7	-5.9
SME1D052.XLS	01	V01	C01	1	-0.7	2.5
SME1D052.XLS	01	D03	C01	2	-0.7	-2.6
SME1D052.XLS	01	D03	C01	1	-0.7	-2.6
SME1D052.XLS	01	D02	C01	2	-0.7	-0.9
SME1D052.XLS	01	D02	C01	1	-0.7	-7.6
SME1D052.XLS	01	D01	C01	2	0.8	2.5
SME1D052.XLS	01	D01	C01	1	-0.7	-5.9

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).
18 results are listed.

Maine Yankee Atomic Power Plant Site Characterization

DATAFILE & TENNELEC CALIBRATION SUMMARY

03/27/98

Removable Contamination

Survey Package : D2500 SYSTEMS

High Pressure Drains

SURVEYDATE	XLS FILE	INST ID	S/N	CAL DUE	LAB TECHNICIAN
2/19/98	SME1D052.XLS	1	14131	8/7/98	SMM
				CALIBRATION DATE VERIFIED AS ACCEPTABLE	

Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Removable Contamination - Tritium Activity

Survey Package: D2500 SYSTEMS

High Pressure Drains

RESULTS LISTING - SORTED BY SURFACE CODE

SAMPLE ID	SAMPLE TYPE	UNIT	SURF	REASN	MSRMNT LOCATION	MDA	TRITIUM ACTIVITY
H053	Whatman smear	01	Y01	C01	00001	8.0	11.9
H054	Whatman smear	03	D01	C01	00001	8.0	4.5
H055	Whatman smear	03	D02	C01	00001	8.0	-3.1

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.

Maine Yankee Atomic Power Plant Site Characterization

LIQUID SCINTILLATION COUNTER CALIBRATION SUMMARY

03/27/98

Removable Contamination - Tritium Activity

Survey Package : D2500 SYSTEMS

High Pressure Drains

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

04/01/98

CHARACTERIZATION SUMMARY

SURVEY PACKAGE NUMBER :D2600 SYSTEMS

PACKAGE DESCRIPTION Environmental Services Laboratory Systems

SURVEY AREA DESCRIPTION

Environmental Services Laboratory System

GENERAL HISTORICAL INFORMATION (Operational history, etc.)

The Environmental Services Laboratory, formerly known as the Bailey Farm, was purchased by Maine Yankee in 1966 and converted into the Environmental Laboratory in 1968. The laboratory was initially used for baseline studies and is currently used for environmental monitoring. The Environmental Services Laboratory consists of the farm house which is used as staff offices and laboratory, and the Bailey barn which is primarily used for the storage of equipment and materials and contains no systems. The only systems at this facility are potable water (well), HVAC and sanitary sewer drains (septic system). There is no known history of radioactive materials being used at this facility with the exception of sealed sources for instrumentation checks.

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 24 survey measurement locations indicated on the appropriate survey diagram(s).

Collected direct measurements for total beta activity at 24 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 27 survey locations including those 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 4 material samples (e.g., sludge, sediment, rust, etc.) from the drains, traps 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 8 direct measurements for total beta activity above MDA (Maximum MDA was 547 dpm/100cm²) and no results greater than 2000 dpm/100cm². The maximum measurement result was 1,286 dpm/100cm².
- o There were no measurements for removable beta activity above MDA (14 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 (38.4dpm/100cm²).
- o The sample(s) gamma spectral analysis results indicated no plant-derived radionuclide activity above MDA.

REFERENCES (Documents, Interviews)

SUMMARY OF SURVEY UNIT(S)

03/27/98 OUTPUT BATCH SN = 206

PACKAGE D2600 SYSTEMS

Environmental Services Laboratory Systems

UNIT(S)	SURFACE(S)
01 - Environmental Services Laboratory Basement	D01 (1.5" drain line from bathroom, (middle of room, overhead)) D02 (1.5" drain line & trap from bathroom, (east, overhead)) D03 (1.5" drain line to septic tank, (middle & west, overhead)) D04 (1.5" alternate drain line, (south wall 3' above floor)) D05 (1.5" drain line from kitchen sink, (west, overhead)) D06 (4" drain line from kitchen, (southeast, overhead))
02 - Environmental Services Laboratory	D01 (1.5" drain line & trap, (under bathroom sink)) D02 (1.5" drain line and trap, (under kitchen sink))
03 - Environmental Services Laboratory Yard	D01 (4" alternate drain line, (75' from building))

REASON(S) CHARACTERIZATION SURVEY (C01)

MATERIALS

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

Maine Yankee Atomic Power Plant Site Characterization

03/31/98

Direct Measurements For Total Beta Activity

Survey Package D2600 SYSTEMS

Environmental Services Laboratory Systems

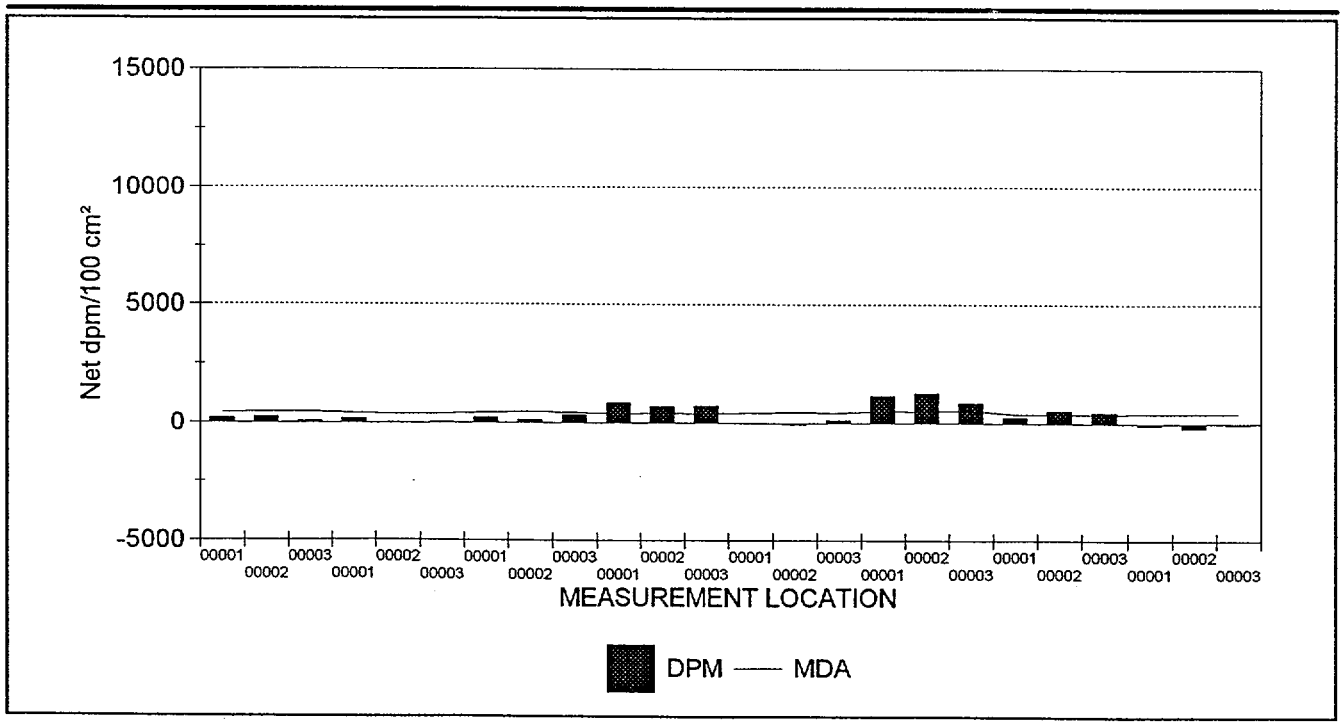
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	336.6
Maximum	1,257.1
Minimum	-205.1
Standard Deviation	400.1
MDA	534.8

Samples Reported	24
Samples Prescribed	24

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	8



24 RESULTS ARE GRAPHED

Maine Yankee Atomic Power Plant Site Characterization

03/31/98

Direct Measurements For Total Beta Activity

Survey Package : D2600 SYSTEMS

Environmental Services Laboratory Systems

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	MDA	RESULT
441 (2)	01	D01	B0031	C01	360	00001	453.2	205.1
441 (2)	01	D01	B0031	C01	360	00002	472.2	271.8
441 (2)	01	D01	B0031	C01	360	00003	465.9	82.0
441 (2)	01	D02	B0031	C01	360	00001	403.7	194.9
441 (2)	01	D02	B0031	C01	360	00002	403.0	15.4
441 (2)	01	D02	B0031	C01	360	00003	399.3	41.0
441 (2)	01	D03	B0031	C01	360	00001	455.1	225.6
441 (2)	01	D03	B0031	C01	360	00002	457.0	128.2
441 (2)	01	D03	B0031	C01	360	00003	432.6	328.2
441 (2)	01	D04	B0031	C01	360	00001	389.6	851.2
441 (2)	01	D04	B0031	C01	360	00002	413.8	702.5
441 (2)	01	D04	B0031	C01	360	00003	385.0	733.3
441 (2)	01	D05	B0031	C01	360	00001	455.1	0.0
441 (2)	01	D05	B0031	C01	360	00002	461.5	-61.5
441 (2)	01	D05	B0031	C01	360	00003	449.9	123.1
443 (2)	01	D06	B0031	C01	300	00001	512.6	1,152.4
443 (2)	01	D06	B0031	C01	300	00002	501.4	1,257.1
443 (2)	01	D06	B0031	C01	300	00003	534.8	868.6
441 (2)	02	D01	B0031	C01	360	00001	397.9	271.8
441 (2)	02	D01	B0031	C01	360	00002	385.8	543.5
441 (2)	02	D01	B0031	C01	360	00003	391.1	456.4
441 (2)	02	D02	B0031	C01	360	00001	418.1	-66.7
441 (2)	02	D02	B0031	C01	360	00002	412.4	-205.1
441 (2)	02	D02	B0031	C01	360	00003	412.4	-41.0

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.
24 results are listed.

Maine Yankee Atomic Power Plant Site Characterization

DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

03/31/98 Direct Measurements For Total Beta Activity

Survey Package : D2600 SYSTEMS

Environmental Services Laboratory Systems

SURVEY		M2350		DETECTOR			POST	
DATE	FILE #	INST S/N	CAL DUE	MODEL	S/N	CAL DUE	EFF	TECHNICIAN
1/19/98	441 (2)	129429	5/5/98	43-94	PR119461	5/5/98	.03	MAP3535
							CALIBRATION DATES VERIFIED AS ACCEPTABLE	
1/20/98	443 (2)	117573	4/14/98	SP-175-3M	PR024349	5/4/98	.10	DRL7343
							CALIBRATION DATES VERIFIED AS ACCEPTABLE	

Maine Yankee Atomic Power Plant Site Characterization

03/30/98

Removable Contamination - Gross Beta Activity

Survey Package D2600 SYSTEMS

Environmental Services Laboratory Systems

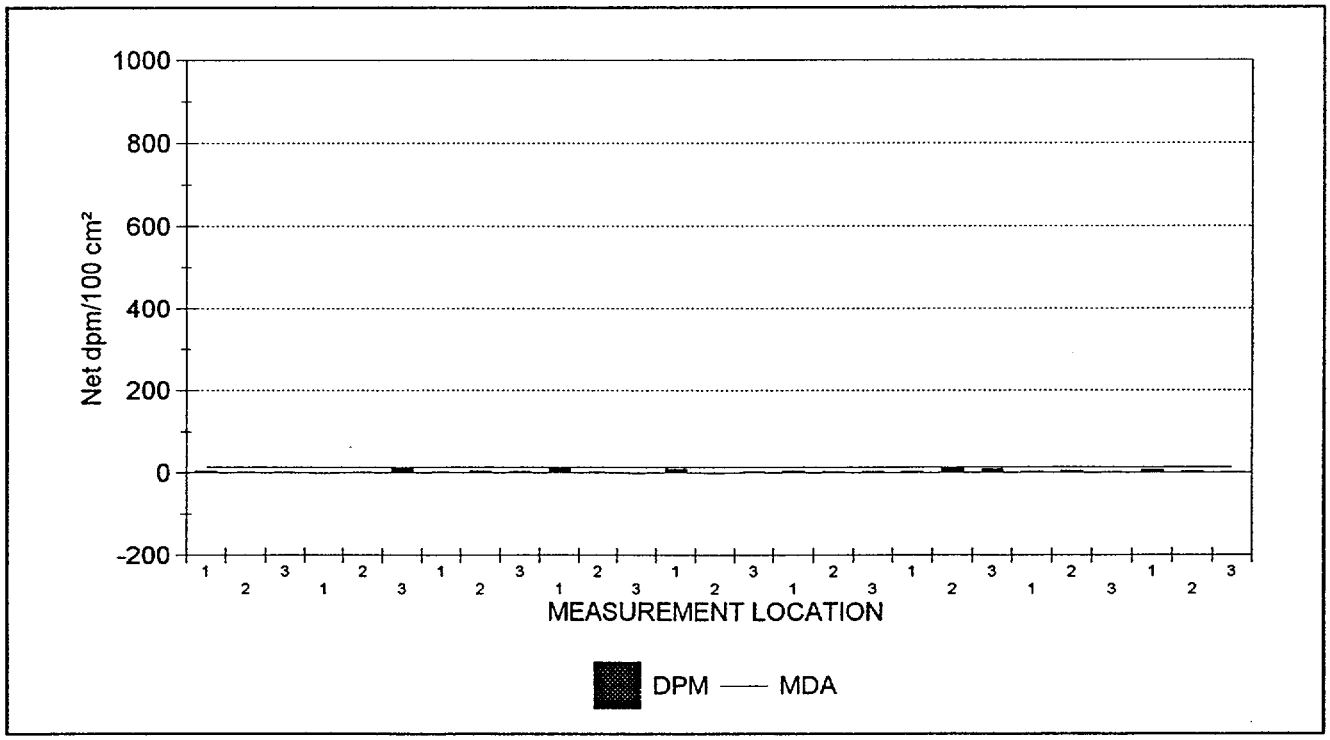
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	3.7
Maximum	12.9
Minimum	-1.2
Standard Deviation	3.9
MDA	14.1

Samples Reported	27
Samples Prescribed	30

TESTS PERFORMED

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



27 RESULTS ARE GRAPHED

Maine Yankee Atomic Power Plant Site Characterization

03/30/98

Removable Contamination - Gross Alpha Activity

Survey Package D2600 SYSTEMS

Environmental Services Laboratory Systems

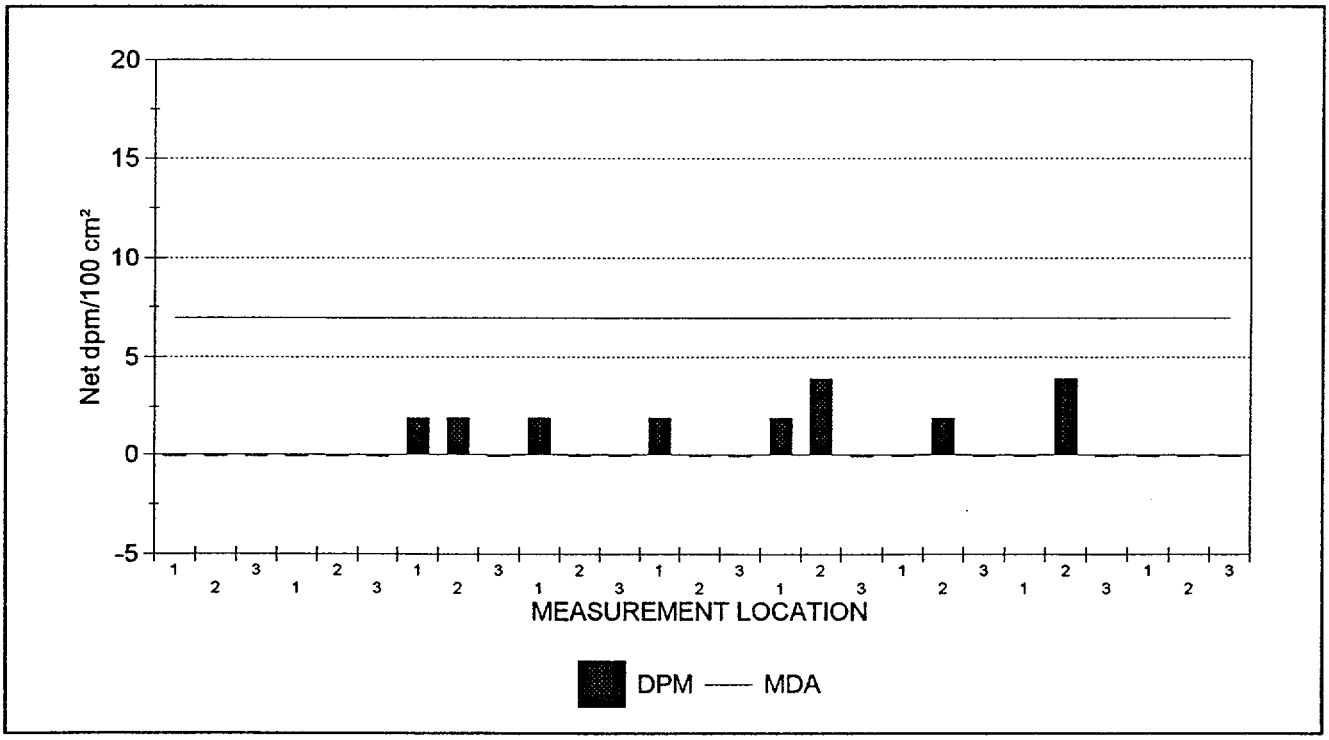
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	0.6
Maximum	3.9
Minimum	-0.1
Standard Deviation	1.3
MDA	6.9

Samples Reported	27
Samples Prescribed	30

TESTS PERFORMED

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



27 RESULTS ARE GRAPHED

Maine Yankee Atomic Power Plant Site Characterization

03/30/98 Removable Contamination

Survey Package : D2600 SYSTEMS

Environmental Services Laboratory Systems

RESULTS LISTING - SORTED BY SURFACE CODE

XLS FILE	UNIT	SURFACE	REASON	MSRMNT LOCATION	ALPHA	BETA
SME1E006.XLS	03	D01	C01	3	-0.1	0.8
SME1E006.XLS	03	D01	C01	2	-0.1	2.8
SME1E006.XLS	03	D01	C01	1	-0.1	6.9
SME1E006.XLS	02	D02	C01	3	-0.1	0.8
SME1E006.XLS	02	D02	C01	2	3.9	4.8
SME1E006.XLS	02	D02	C01	1	-0.1	2.8
SME1E006.XLS	02	D01	C01	3	-0.1	8.9
SME1E006.XLS	02	D01	C01	2	1.9	12.9
SME1E006.XLS	02	D01	C01	1	-0.1	2.8
SME1E006.XLS	01	D06	C01	3	-0.1	2.8
SME1E006.XLS	01	D06	C01	2	3.9	2.8
SME1E006.XLS	01	D06	C01	1	1.9	4.8
SME1E006.XLS	01	D05	C01	3	-0.1	2.8
SME1E006.XLS	01	D05	C01	2	-0.1	-1.2
SME1E006.XLS	01	D05	C01	1	1.9	8.9
SME1E006.XLS	01	D04	C01	3	-0.1	-1.2
SME1E006.XLS	01	D04	C01	2	-0.1	0.8
SME1E006.XLS	01	D04	C01	1	1.9	10.9
SME1E006.XLS	01	D03	C01	3	-0.1	2.8
SME1E006.XLS	01	D03	C01	2	1.9	4.8
SME1E006.XLS	01	D03	C01	1	1.9	0.8
SME1E006.XLS	01	D02	C01	3	-0.1	10.9
SME1E006.XLS	01	D02	C01	2	-0.1	0.8
SME1E006.XLS	01	D02	C01	1	-0.1	-1.2
SME1E006.XLS	01	D01	C01	3	-0.1	0.8
SME1E006.XLS	01	D01	C01	2	-0.1	0.8
SME1E006.XLS	01	D01	C01	1	-0.1	4.8

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).
27 results are listed.

Maine Yankee Atomic Power Plant Site Characterization

DATAFILE & TENNELEC CALIBRATION SUMMARY

03/30/98

Removable Contamination

Survey Package : D2600 SYSTEMS

Environmental Services Laboratory Systems

SURVEYDATE	XLS FILE	INST ID	S/N	CAL DUE	LAB TECHNICIAN
2/12/98	SME1E006.XLS	1	15632	8/5/98	JWD
				CALIBRATION DATE VERIFIED AS ACCEPTABLE	

Maine Yankee Atomic Power Plant Site Characterization

03/27/98 Removable Contamination - Tritium Activity

Survey Package : D2600 SYSTEMS

Environmental Services Laboratory Systems

RESULTS LISTING - SORTED BY SURFACE CODE

SAMPLE ID	SAMPLE TYPE	UNIT	SURF	REASN	MSRMNT LOCATION	MDA	TRITIUM ACTIVITY
D15	Hoppes patch	01	D06	C01	00001	38.4	**30.9**
D16	Hoppes patch	01	D04	C01	00001	38.4	-6.7
D17	Hoppes patch	03	D01	C01	00001	38.4	13.3
D18	Hoppes patch	01	D06	C01	00001	38.4	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.

Maine Yankee Atomic Power Plant Site Characterization

LIQUID SCINTILLATION COUNTER CALIBRATION SUMMARY

03/27/98

Removable Contamination - Tritium Activity

Survey Package : D2600 SYSTEMS

Environmental Services Laboratory 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	

Maine Yankee Atomic Power Plant Site Characterization

GAMMA SPECTRAL ANALYSIS RESULTS LISTING

03/28/98 OUTPUT BATCH SN = 222

Survey Package D2600 SYSTEMS

Environmental Services Laboratory Systems

UNIT : 01 SURFACE : D04 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)
MYD56	FAL00038	5.3	1800	Co-57	< 9.8	9.8	0.0
				Co-60	< 14.1	14.1	0.0
				Cs-134	< 14.5	14.5	0.0
				Cs-137	< 13.0	13.0	0.0
				K-40	< 193.0	193.0	0.0
				Mn-54	< 12.8	12.8	0.0

UNIT : 01 SURFACE : D06 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)
MYD42	FAL00028	10.5	1800	Co-57	< 5.4	5.4	0.0
				Co-60	< 7.1	7.1	0.0
				Cs-134	< 6.1	6.1	0.0
				Cs-137	< 6.0	6.0	0.0
				K-40	< 76.7	76.7	0.0
				Mn-54	< 5.8	5.8	0.0

Survey Package D2600 SYSTEMS

Environmental Services Laboratory Systems

UNIT : 03 SURFACE : D01 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)
MYD43	FAL00029	15.0	1800	Co-57	< 3.3	3.3	0.0
				Co-60	< 3.8	3.8	0.0
				Cs-134	< 4.1	4.1	0.0
				Cs-137	< 5.8	5.8	0.0
				K-40	< 64.8	64.8	0.0
				Mn-54	< 4.2	4.2	0.0

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)
MYD43D	FAL00030	15.0	1800	Co-57	< 3.5	3.5	0.0
				Co-60	< 4.2	4.2	0.0
				Cs-134	< 3.9	3.9	0.0
				Cs-137	< 4.6	4.6	0.0
				K-40	< 66.4	66.4	0.0
				Mn-54	< 4.7	4.7	0.0

04/01/98

CHARACTERIZATION SUMMARY

SURVEY PACKAGE NUMBER :D2700

SYSTEMS

PACKAGE DESCRIPTION

Administration Building HVAC System

SURVEY AREA DESCRIPTION

Administration Building HVAC System

GENERAL HISTORICAL INFORMATION (Operational history, etc.)

The Administration Building HVAC System provides heated or cooled recirculated air to spaces in the Administration Building.

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 20 survey measurement locations indicated on the appropriate survey diagram(s).

Collected direct measurements for total beta activity at 20 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 20 survey locations as for direct measurements for total beta activity.

Collected 1 smear sample to analyze for removable tritium activity.

Collected 1 exposure rate measurement.

Collected 2 material samples (e.g., sludge, sediment, rust, etc.) from the duct, plenum 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 was 1 direct measurements for total beta activity above MDA (Maximum MDA was 789 dpm/100cm²) and no results greater than 2000 dpm/100cm².
- o There was 1 measurement for removable beta activity above MDA (18 dpm/100cm²) and no result greater than 100 dpm/100cm². The maximum measurement result was 32.8 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 exposure rate measurement result was 8 µR/hr.
- o The sample(s) gamma spectral analysis results indicated no plant-derived radionuclide activity above MDA.

REFERENCES (Documents, Interviews)

Maine Yankee Drawings 1150 - FB - 29 C, SH - 1, 2

SUMMARY OF SURVEY UNIT(S)

03/27/98 OUTPUT BATCH SN = 301

PACKAGE D2700 SYSTEMS

Administration Building HVAC System

UNIT(S)	**SURFACE(S)**
01 - Administration Building	A01 (Filter mix box, (outside administration building)) A02 (Gatehouse supply duct, (over first exit portal monitor)) A03 (Gatehouse return duct, (near floor next to first exit portal monitor)) A04 (Clerical area supply duct) A05 (Guard area supply duct, (behind first door on 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

Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Direct Measurements For Total Beta Activity

Survey Package D2700 SYSTEMS

Administration Building HVAC System

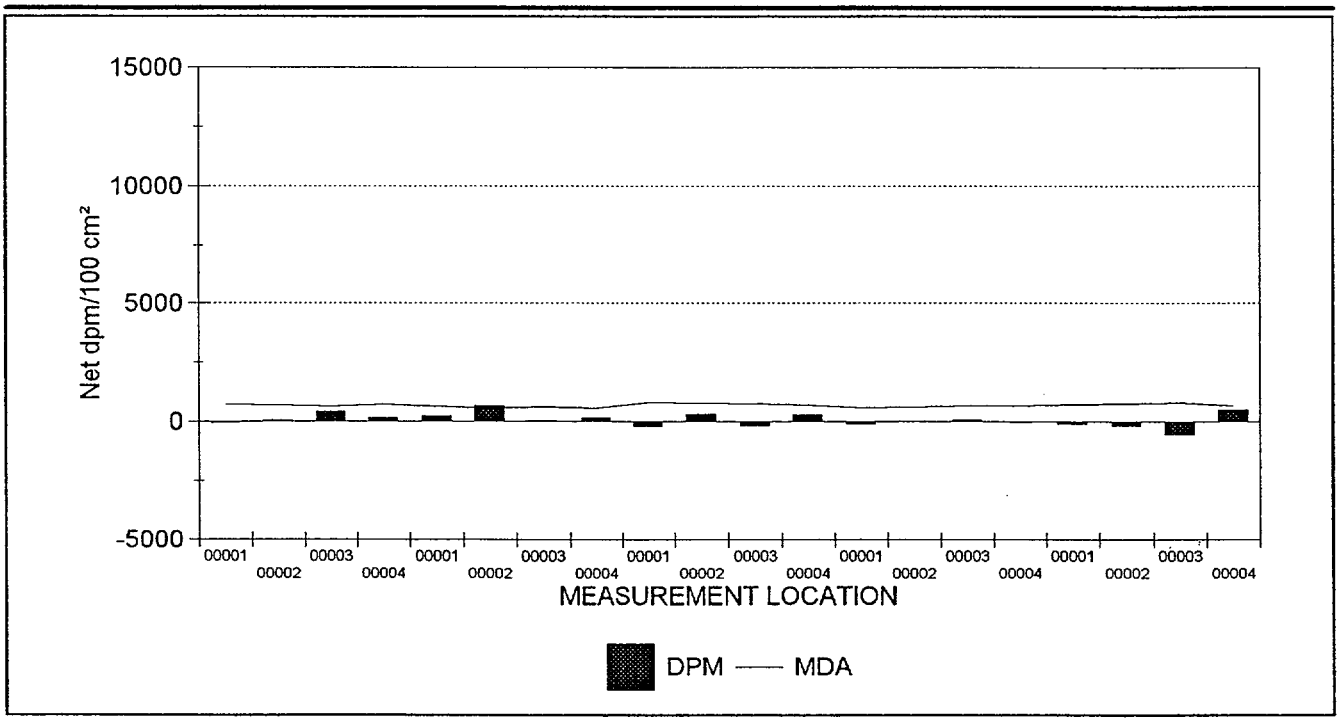
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	74.3
Maximum	643.3
Minimum	-536.1
Standard Deviation	276.3
MDA	788.9

Samples Reported	20
Samples Prescribed	20

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



20 RESULTS ARE GRAPHED

03/27/98

Direct Measurements For Total Beta Activity

Survey Package : D2700 SYSTEMS

Administration Building HVAC System

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	MDA	RESULT
150 (2)	01	A01	B0031	C01	15	00001	690.8	-45.9
150 (2)	01	A01	B0031	C01	15	00002	666.8	45.9
150 (2)	01	A01	B0031	C01	15	00003	616.1	428.9
150 (2)	01	A01	B0031	C01	15	00004	690.8	168.5
150 (2)	01	A02	B0031	C01	15	00001	616.1	229.7
150 (2)	01	A02	B0031	C01	15	00002	545.4	643.3
150 (2)	01	A02	B0031	C01	15	00003	588.9	15.3
150 (2)	01	A02	B0031	C01	15	00004	555.4	153.2
150 (2)	01	A03	B0031	C01	15	00001	771.7	-214.4
150 (2)	01	A03	B0031	C01	15	00002	743.4	306.3
150 (2)	01	A03	B0031	C01	15	00003	739.7	-183.8
150 (2)	01	A03	B0031	C01	15	00004	682.9	275.7
150 (2)	01	A04	B0031	C01	15	00001	570.0	-91.9
150 (2)	01	A04	B0031	C01	15	00002	598.1	30.6
150 (2)	01	A04	B0031	C01	15	00003	658.7	76.6
150 (2)	01	A04	B0031	C01	15	00004	658.7	-30.6
150 (2)	01	A05	B0031	C01	15	00001	713.8	-107.2
150 (2)	01	A05	B0031	C01	15	00002	736.1	-183.8
150 (2)	01	A05	B0031	C01	15	00003	788.9	-536.1
150 (2)	01	A05	B0031	C01	15	00004	662.8	505.4

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.
20 results are listed.

Maine Yankee Atomic Power Plant Site Characterization

DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

03/27/98 Direct Measurements For Total Beta Activity

Survey Package : D2700 SYSTEMS

Administration Building HVAC System

SURVEY		M2350		DETECTOR			PRE	
DATE	FILE #	INST S/N	CAL DUE	MODEL	S/N	CAL DUE	EFF	TECHNICIAN
12/16/97	150 (2)	129414	3/22/98	43-106	PR133882	3/27/98	.21	JFM0682

CALIBRATION DATES VERIFIED AS ACCEPTABLE

Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Removable Contamination - Gross Beta Activity

Survey Package D2700 SYSTEMS

Administration Building HVAC System

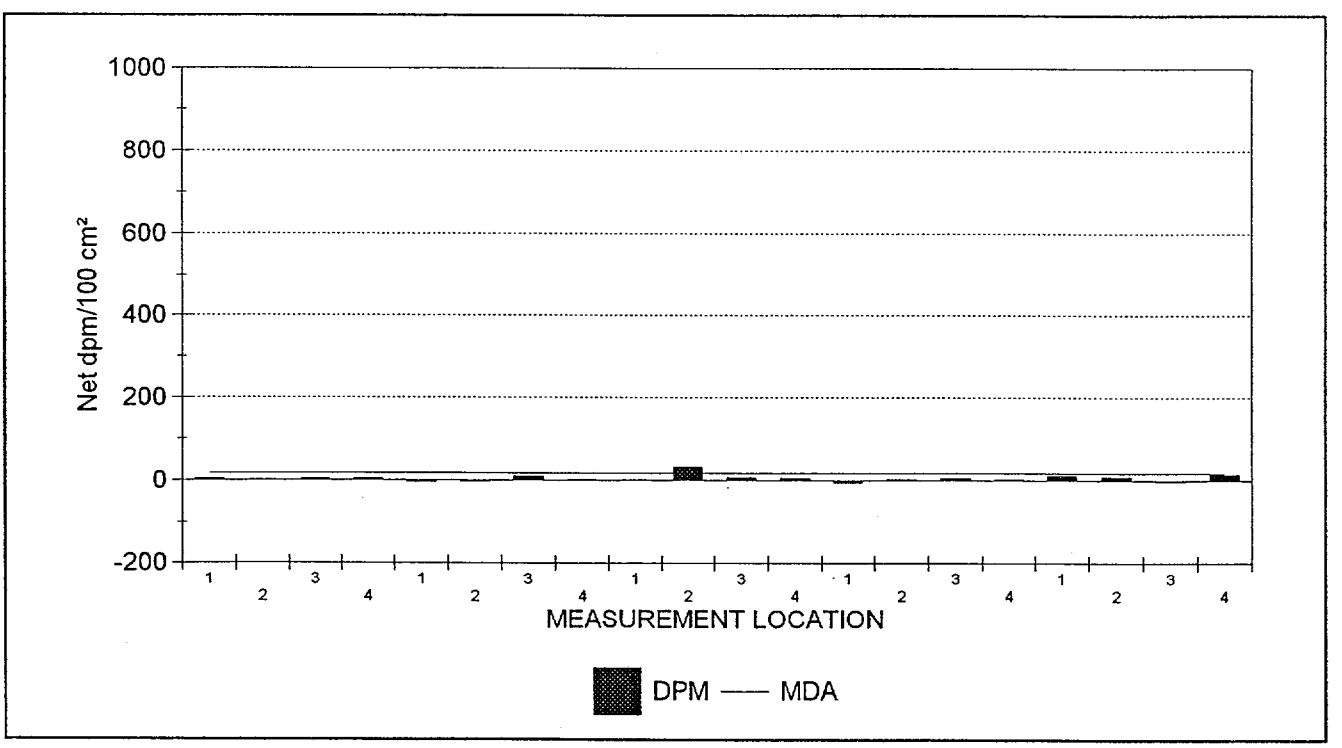
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	5.2
Maximum	32.8
Minimum	-5.9
Standard Deviation	8.5
MDA	18.0

Samples Reported	20
Samples Prescribed	21

TESTS PERFORMED

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



20 RESULTS ARE GRAPHED

Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Removable Contamination - Gross Alpha Activity

Survey Package D2700 SYSTEMS

Administration Building HVAC System

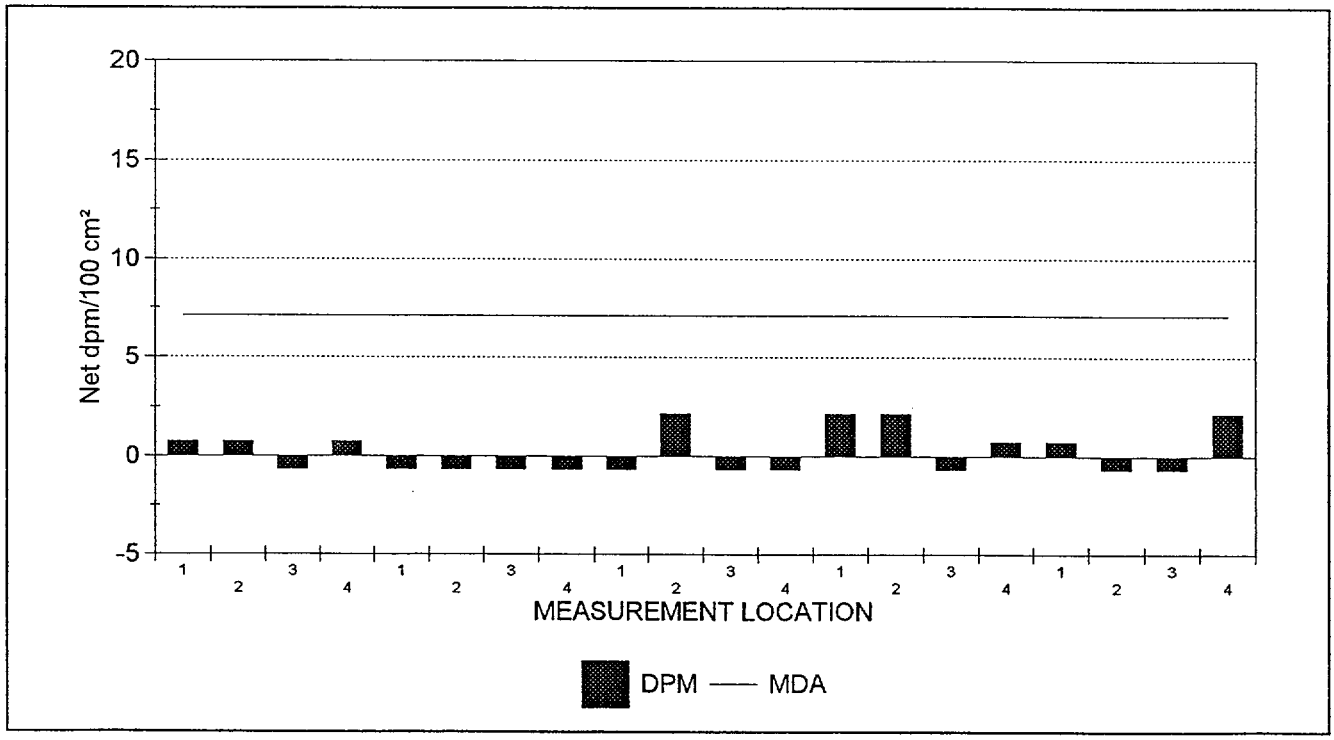
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	0.3
Maximum	2.2
Minimum	-0.7
Standard Deviation	1.1
MDA	7.1

Samples Reported	20
Samples Prescribed	21

TESTS PERFORMED

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



20 RESULTS ARE GRAPHED

03/27/98 Removable Contamination

Survey Package : D2700 SYSTEMS

Administration Building HVAC System

RESULTS LISTING - SORTED BY SURFACE CODE

XLS FILE	UNIT	SURFACE	REASON	MSRMNT LOCATION	ALPHA	BETA
SME1D053.XLS	01	A05	C01	4	2.2	14.2
SME1D053.XLS	01	A05	C01	3	-0.7	-2.6
SME1D053.XLS	01	A05	C01	2	-0.7	9.2
SME1D053.XLS	01	A05	C01	1	0.8	12.6
SME1D053.XLS	01	A04	C01	4	0.8	2.5
SME1D053.XLS	01	A04	C01	3	-0.7	5.8
SME1D053.XLS	01	A04	C01	2	2.2	2.5
SME1D053.XLS	01	A04	C01	1	2.2	-5.9
SME1D053.XLS	01	A03	C01	4	-0.7	5.8
SME1D053.XLS	01	A03	C01	3	-0.7	7.5
SME1D053.XLS	01	A03	C01	2	2.2	32.7
SME1D053.XLS	01	A03	C01	1	-0.7	0.8
SME1D053.XLS	01	A02	C01	4	-0.7	0.8
SME1D053.XLS	01	A02	C01	3	-0.7	10.9
SME1D053.XLS	01	A02	C01	2	-0.7	-2.6
SME1D053.XLS	01	A02	C01	1	-0.7	-4.3
SME1D053.XLS	01	A01	C01	4	0.8	4.1
SME1D053.XLS	01	A01	C01	3	-0.7	4.1
SME1D053.XLS	01	A01	C01	2	0.8	0.8
SME1D053.XLS	01	A01	C01	1	0.8	4.1

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).
20 results are listed.

Maine Yankee Atomic Power Plant Site Characterization

DATAFILE & TENNELEC CALIBRATION SUMMARY

03/27/98

Removable Contamination

Survey Package : D2700 SYSTEMS

Administration Building HVAC System

SURVEYDATE	XLS FILE	INST ID	S/N	CAL DUE	LAB TECHNICIAN
2/19/98	SME1D053.XLS	1	14131	8/7/98	SMM
				CALIBRATION DATE VERIFIED AS ACCEPTABLE	

03/27/98

Removable Contamination - Tritium Activity

Survey Package : D2700 SYSTEMS

Administration Building HVAC System

RESULTS LISTING - SORTED BY SURFACE CODE

SAMPLE ID	SAMPLE TYPE	UNIT	SURF	REASN	MSRMNT LOCATION	MDA	TRITIUM ACTIVITY
H056	Whatman smear	01	A01	C01	00001	8.0	3.3

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.

Maine Yankee Atomic Power Plant Site Characterization

LIQUID SCINTILLATION COUNTER CALIBRATION SUMMARY

03/27/98

Removable Contamination - Tritium Activity

Survey Package : D2700 SYSTEMS

Administration Building HVAC 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	

Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Exposure Rate Measurements

Survey Package D2700 SYSTEMS

Administration Building HVAC System

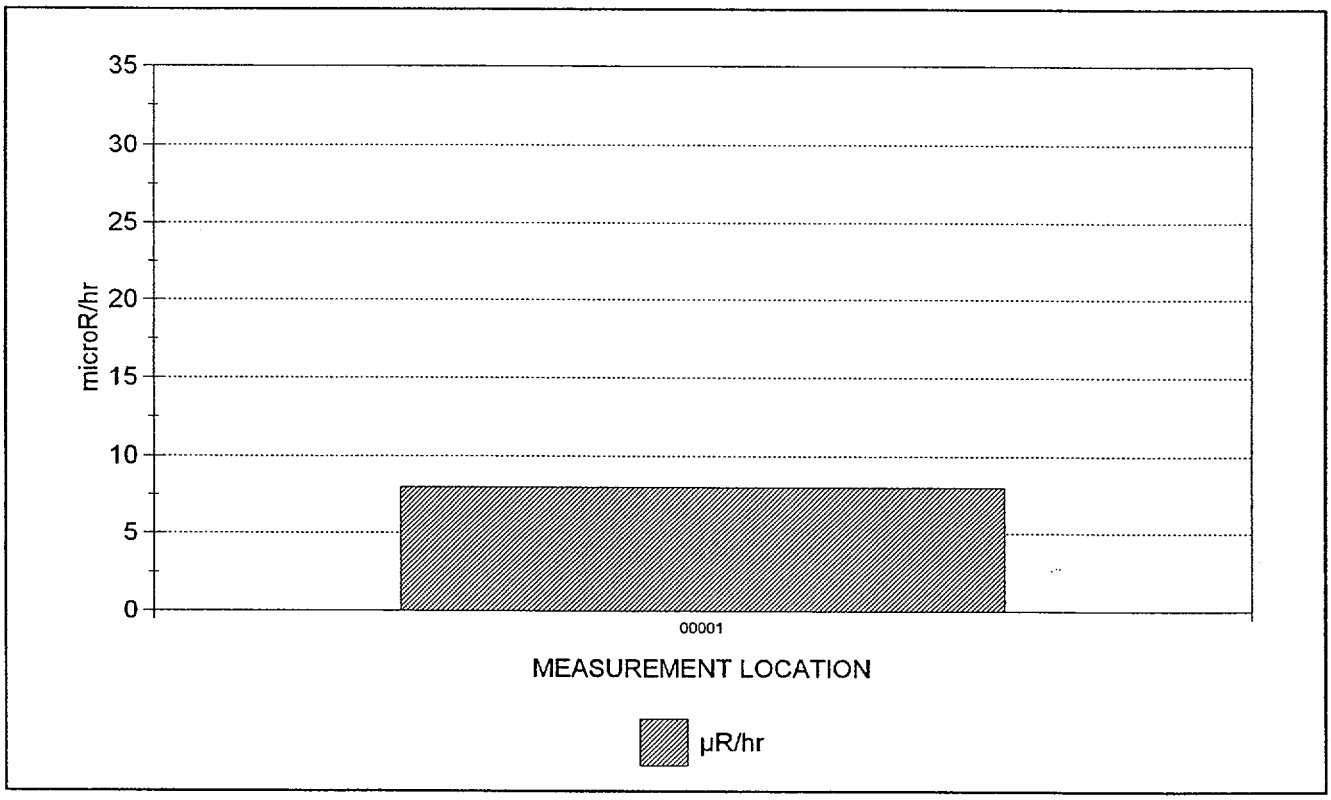
STATISTICAL SUMMARY

	µR/hr
Mean	8.0
Maximum	8.0
Minimum	8.0
Standard Deviation	0.0

Samples Reported	1
Samples Prescribed	1

TESTS PERFORMED

Samples reported satisfy samples prescribed	YES



1 RESULTS ARE GRAPHED

Survey Package : D2700 SYSTEMS

Administration Building HVAC System

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	RESULT
151 (2)	01	A01	G0031	C01	60.00	00001	8.0

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.
1 results are listed.

Maine Yankee Atomic Power Plant Site Characterization

DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

03/27/98 Exposure Rate Measurements

Survey Package : D2700 SYSTEMS

Administration Building HVAC System

SURVEY		M2350		DETECTOR			
DATE	FILE #	INST S/N	CAL DUE	MODEL	S/N	CAL DUE	TECHNICIAN
12/16/97	151 (2)	117014	4/16/98	44-2	PR118257	4/19/98	JFM0682

CALIBRATION DATES VERIFIED AS ACCEPTABLE

Maine Yankee Atomic Power Plant Site Characterization

GAMMA SPECTRAL ANALYSIS RESULTS LISTING

03/28/98 OUTPUT BATCH SN = 223

Survey Package D2700 SYSTEMS

Administration Building HVAC System

UNIT : 01 SURFACE : A01 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Duct / Plenum
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD51	FAL00033	3.1	1800	Co-57	< 16.6	16.6	0.0
				Co-60	< 23.2	23.2	0.0
				Cs-134	< 21.1	21.1	0.0
				Cs-137	< 24.4	24.4	0.0
				K-40	< 260.0	260.0	0.0
				Mn-54	< 25.7	25.7	0.0

SAMPLE TYPE OR SURFACE SAMPLED: Duct / Plenum
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD51D	FAL00034	3.1	1800	Co-57	< 18.5	18.5	0.0
				Co-60	< 24.2	24.2	0.0
				Cs-134	< 21.3	21.3	0.0
				Cs-137	< 22.8	22.8	0.0
				K-40	< 215.0	215.0	0.0
				Mn-54	< 25.7	25.7	0.0

04/01/98

CHARACTERIZATION SUMMARY

SURVEY PACKAGE NUMBER :D2800 SYSTEMS

PACKAGE DESCRIPTION Information Building HVAC System

SURVEY AREA DESCRIPTION

Information Building HVAC System

GENERAL HISTORICAL INFORMATION (Operational history, etc.)

The Information Building HVAC System provides heated or cooled recirculated air to living spaces in the Information Building. The Information Building was previously referred to as the Office Building.

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 20 survey measurement locations indicated on the appropriate survey diagram(s).

Collected direct measurements for total beta activity at 20 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 20 survey locations as for direct measurements for total beta activity.

Collected 1 material samples (e.g., sludge, sediment, rust, etc.) from the strainer, filter 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 702 dpm/100cm^2) and no results greater than 2000 dpm/100cm^2.
- o There was no measurement for removable beta activity above MDA (18 dpm/100cm^2).
- o There were no measurements for removable alpha activity above MDA (7 dpm/100cm^2).
- o The sample(s) gamma spectral analysis results indicated no plant-derived radionuclide activity above MDA.

REFERENCES (Documents, Interviews)

Miane Yankee Drawings 1150 - FM - 29 A, B

SUMMARY OF SURVEY UNIT(S)

03/27/98

OUTPUT BATCH SN = 207

PACKAGE D2800 SYSTEMS

Information Building HVAC System

UNIT(S)	**SURFACE(S)**
01 - Information Building	A01 (HVAC unit inlet plenum) A02 (24" x 8" return duct, (northwest side of conference room)) A03 (36" x 14" return duct, (corridor outside records room)) A04 (26" x 10" return duct, (corridor # 2)) S01 (HVAC unit outside air filter / filter compartment.)

REASON(S) CHARACTERIZATION SURVEY (C01)

MATERIALS

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

Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Direct Measurements For Total Beta Activity

Survey Package D2800 SYSTEMS

Information Building HVAC System

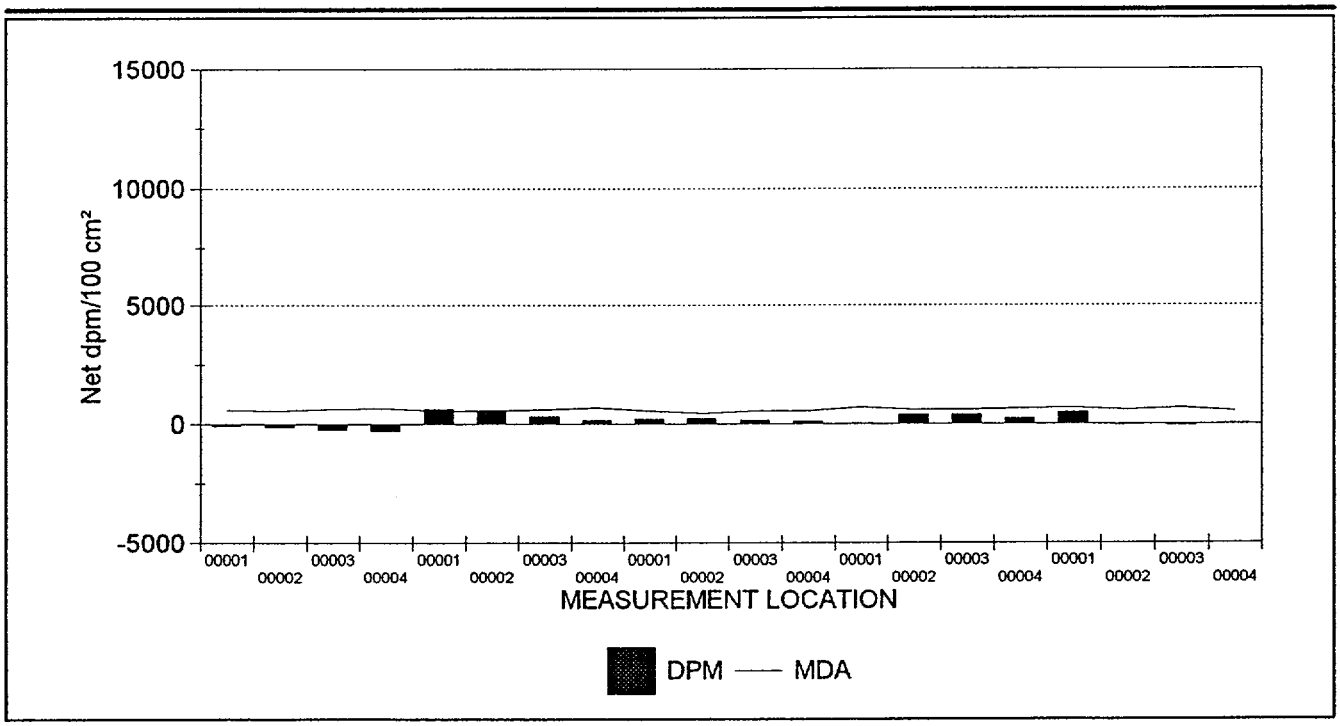
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	156.2
Maximum	627.8
Minimum	-290.9
Standard Deviation	256.9
MDA	702.2

Samples Reported	20
Samples Prescribed	20

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



20 RESULTS ARE GRAPHED

03/27/98

Direct Measurements For Total Beta Activity

Survey Package : D2800 SYSTEMS

Information Building HVAC System

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	MDA	RESULT
107 (2)	01	A01	B0031	C01	15	00001	569.9	-76.6
107 (2)	01	A01	B0031	C01	15	00002	545.3	-122.5
107 (2)	01	A01	B0031	C01	15	00003	637.6	-245.0
107 (2)	01	A01	B0031	C01	15	00004	641.8	-290.9
107 (2)	01	A02	B0031	C01	15	00001	540.2	627.8
107 (2)	01	A02	B0031	C01	15	00002	535.1	566.6
107 (2)	01	A02	B0031	C01	15	00003	607.0	321.6
107 (2)	01	A02	B0031	C01	15	00004	670.7	168.4
107 (2)	01	A03	B0031	C01	15	00001	550.3	199.1
107 (2)	01	A03	B0031	C01	15	00002	438.2	229.7
107 (2)	01	A03	B0031	C01	15	00003	545.3	153.1
107 (2)	01	A03	B0031	C01	15	00004	550.3	91.9
107 (2)	01	A04	B0031	C01	15	00001	702.2	30.6
107 (2)	01	A04	B0031	C01	15	00002	611.5	382.8
107 (2)	01	A04	B0031	C01	15	00003	588.7	382.8
107 (2)	01	A04	B0031	C01	15	00004	646.0	229.7
107 (2)	01	S01	B0031	C01	15	00001	682.7	505.3
107 (2)	01	S01	B0031	C01	15	00002	611.5	-15.3
107 (2)	01	S01	B0031	C01	15	00003	670.7	-45.9
107 (2)	01	S01	B0031	C01	15	00004	535.1	30.6

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.
20 results are listed.

Maine Yankee Atomic Power Plant Site Characterization

DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

03/27/98 Direct Measurements For Total Beta Activity

Survey Package : D2800 SYSTEMS

Information Building HVAC System

SURVEY		M2350		DETECTOR			PRE	
DATE	FILE #	INST S/N	CAL DUE	MODEL	S/N	CAL DUE	EFF	TECHNICIAN
12/9/97	107 (2)	129414	3/22/98	43-106	133882	3/27/98	.21	LCF0451

CALIBRATION DATES VERIFIED AS ACCEPTABLE

Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Removable Contamination - Gross Beta Activity

Survey Package D2800 SYSTEMS

Information Building HVAC System

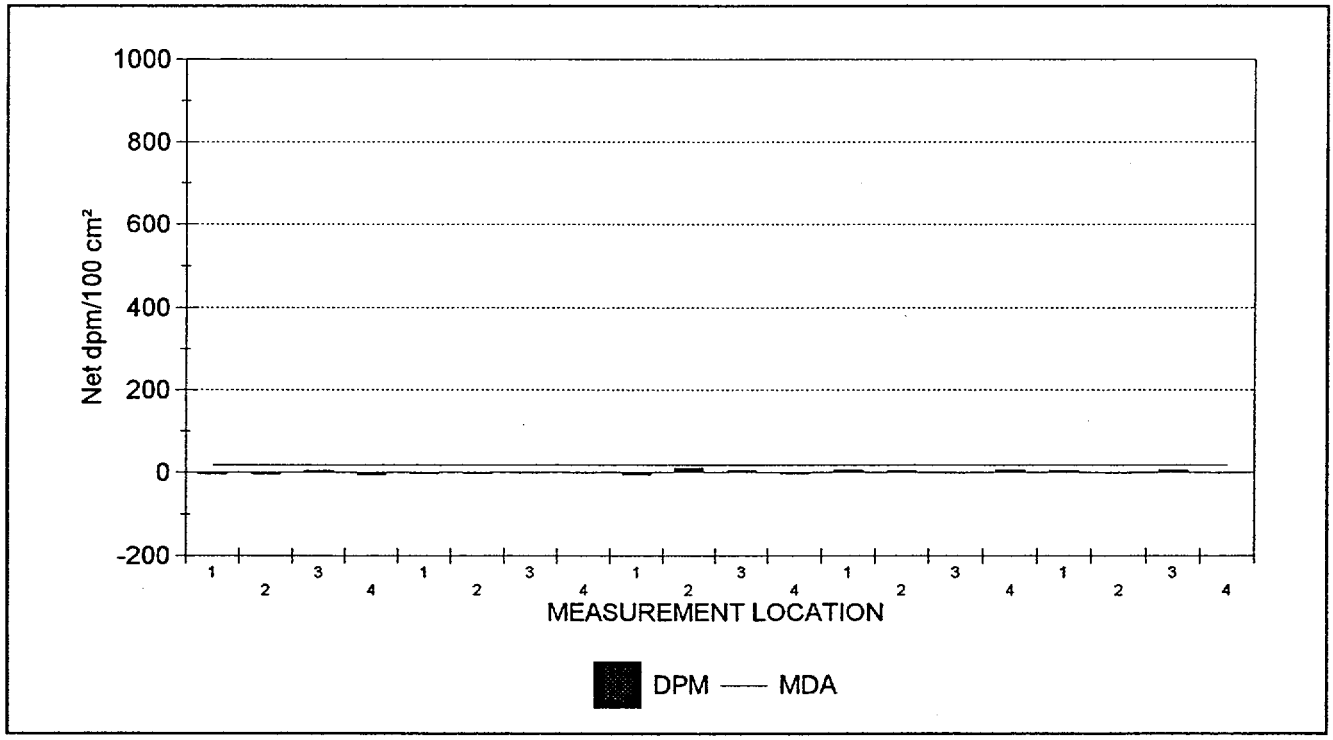
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	0.6
Maximum	10.9
Minimum	-5.9
Standard Deviation	4.7
MDA	18.0

Samples Reported	20
Samples Prescribed	20

TESTS PERFORMED

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



20 RESULTS ARE GRAPHED

Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Removable Contamination - Gross Alpha Activity

Survey Package D2800 SYSTEMS

Information Building HVAC System

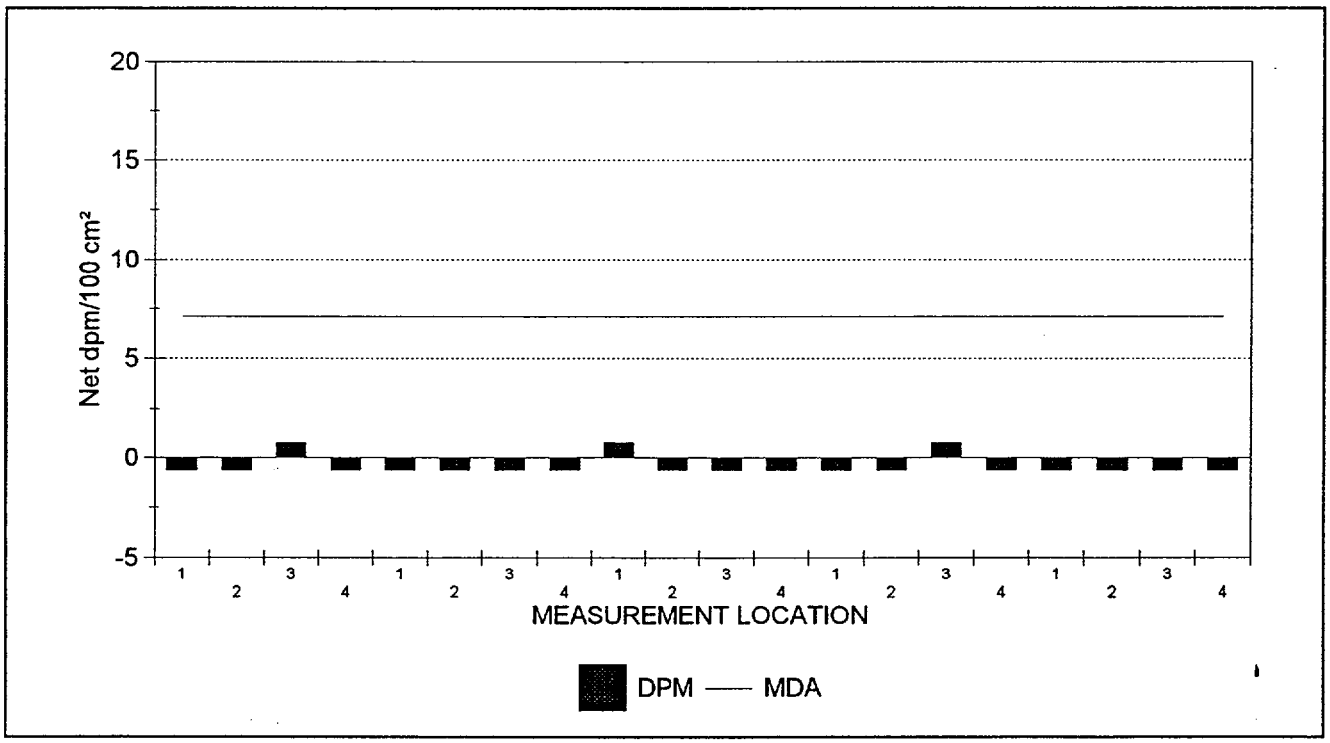
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	-0.5
Maximum	0.8
Minimum	-0.7
Standard Deviation	0.5
MDA	7.1

Samples Reported	20
Samples Prescribed	20

TESTS PERFORMED

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



20 RESULTS ARE GRAPHED

Maine Yankee Atomic Power Plant Site Characterization

03/27/98 Removable Contamination

Survey Package : D2800 SYSTEMS

Information Building HVAC System

RESULTS LISTING - SORTED BY SURFACE CODE

XLS FILE	UNIT	SURFACE	REASON	MSRMNT LOCATION	ALPHA	BETA
SME1D054.XLS	01	S01	C01	4	-0.7	-0.9
SME1D054.XLS	01	S01	C01	3	-0.7	5.8
SME1D054.XLS	01	S01	C01	2	-0.7	-0.9
SME1D054.XLS	01	S01	C01	1	-0.7	4.1
SME1D054.XLS	01	A04	C01	4	-0.7	5.8
SME1D054.XLS	01	A04	C01	3	0.8	-0.9
SME1D054.XLS	01	A04	C01	2	-0.7	4.1
SME1D054.XLS	01	A04	C01	1	-0.7	5.8
SME1D054.XLS	01	A03	C01	4	-0.7	-2.6
SME1D054.XLS	01	A03	C01	3	-0.7	4.1
SME1D054.XLS	01	A03	C01	2	-0.7	10.9
SME1D054.XLS	01	A03	C01	1	0.8	-5.9
SME1D054.XLS	01	A02	C01	4	-0.7	-0.9
SME1D054.XLS	01	A02	C01	3	-0.7	-0.9
SME1D054.XLS	01	A02	C01	2	-0.7	-2.6
SME1D054.XLS	01	A02	C01	1	-0.7	-2.6
SME1D054.XLS	01	A01	C01	4	-0.7	-5.9
SME1D054.XLS	01	A01	C01	3	0.8	4.1
SME1D054.XLS	01	A01	C01	2	-0.7	-4.3
SME1D054.XLS	01	A01	C01	1	-0.7	-4.3

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).
20 results are listed.

Maine Yankee Atomic Power Plant Site Characterization

DATAFILE & TENNELEC CALIBRATION SUMMARY

03/27/98

Removable Contamination

Survey Package : D2800 SYSTEMS

Information Building HVAC System

SURVEYDATE	XLS FILE	INST ID	S/N	CAL DUE	LAB TECHNICIAN
2/19/98	SME1D054.XLS	1	14131	8/7/98	SMM
				CALIBRATION DATE VERIFIED AS ACCEPTABLE	

Maine Yankee Atomic Power Plant Site Characterization

GAMMA SPECTRAL ANALYSIS RESULTS LISTING

03/28/98 OUTPUT BATCH SN = 224

Survey Package D2800 SYSTEMS

Information Building HVAC 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)
MYD50	PET00026	0.8	1800	Co-57	< 52.6	52.6	0.0
				Co-60	< 65.2	65.2	0.0
				Cs-134	< 55.1	55.1	0.0
				Cs-137	< 58.2	58.2	0.0
				K-40	< 823.0	823.0	0.0
				Mn-54	< 89.1	89.1	0.0

04/01/98

CHARACTERIZATION SUMMARY

SURVEY PACKAGE NUMBER :D2900 SYSTEMS

PACKAGE DESCRIPTION Turbine Building Ventilation System

SURVEY AREA DESCRIPTION

Turbine Building Ventilation System

GENERAL HISTORICAL INFORMATION (Operational history, etc.)

The Turbine Building was constructed in 1968. Heating and air ventilation system circulates controlled air throughout the Turbine Building for various levels at 21', 39, and 61'.

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 46 survey measurement locations indicated on the appropriate survey diagram(s).

Collected direct measurements for total beta activity at 46 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 46 survey locations as for direct measurements for total beta activity.

Collected 1 smear sample to analyze for removable tritium activity.

Collected 1 material sample (e.g., sludge, sediment, rust, etc.) from the duct, plenum 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 577 dpm/100cm^2).
- o There were 2 measurements for removable beta activity above MDA (14 dpm/100cm^2) and no result greater than 100 dpm/100cm^2. The maximum measurement result was 33.1 dpm/100cm^2.
- o There were no measurements for removable alpha activity above MDA (7 dpm/100cm^2).
- o There were no measurements for removable tritium activity above MDA (38.4 dpm/100cm^2).
- o The sample(s) gamma spectral analysis results indicated no plant-derived radionuclide activity above MDA.

REFERENCES (Documents, Interviews)

Maine Yankee, Drawing Numbers 11550-FB-21A, Ventilation Sheet 1 Turbine Area
Maine Yankee, Drawing Numbers 11550-FB-21B, Ventilation Sheet 2 Turbine Area
Maine Yankee, Drawing Numbers 11550-FB-20A, Ventilation Arrangement Turbine Area
Maine Yankee General Survey Record Form, Map#:TB1-001, 19.20.17.1
Maine Yankee General Survey Record Form, Map#:TB1-001, 19.20.17.2
Maine Yankee General Survey Record Form, Map#:TB1-001, 19.20.17.3

SUMMARY OF SURVEY UNIT(S)

03/27/98 OUTPUT BATCH SN = 303

PACKAGE D2900 SYSTEMS

Turbine Building Ventilation System

UNIT(S)	SURFACE(S)
01 - Turbine Building 21' -Air Duct/Plenum	A01 (Air Duct -located overhead on the southwest corner) A02 (Air Duct -located overhead on the southwest corner near the break room) A03 (Air Duct -located overhead on the northwest corner) A04 (Air Duct -located overhead on the northwest corner) A05 (Air Duct -located overhead, mid-west side, just below the GTS temp office)
02 - Turbine Building 39' -Air Duct/Plenum	A01 (Air Duct -located overhead, adjacent to the GTS temp office)
03 - Turbine Building 61' -Air Duct/Plenum	A01 (FN-3C Fan/Air Duct/Plenum -located on the northwest side) A02 (FN-3B Fan/Air Duct/Plenum -located on the mid-west side) A03 (FN-3A Fan/Air Duct/Plenum -located on the southwest side) A04 (FN-1C Fan Suction Plenum -located on the east side, on the floor)

REASON(S) CHARACTERIZATION SURVEY (C01)

MATERIALS

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

Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Direct Measurements For Total Beta Activity

Survey Package D2900 SYSTEMS

Turbine Building Ventilation System

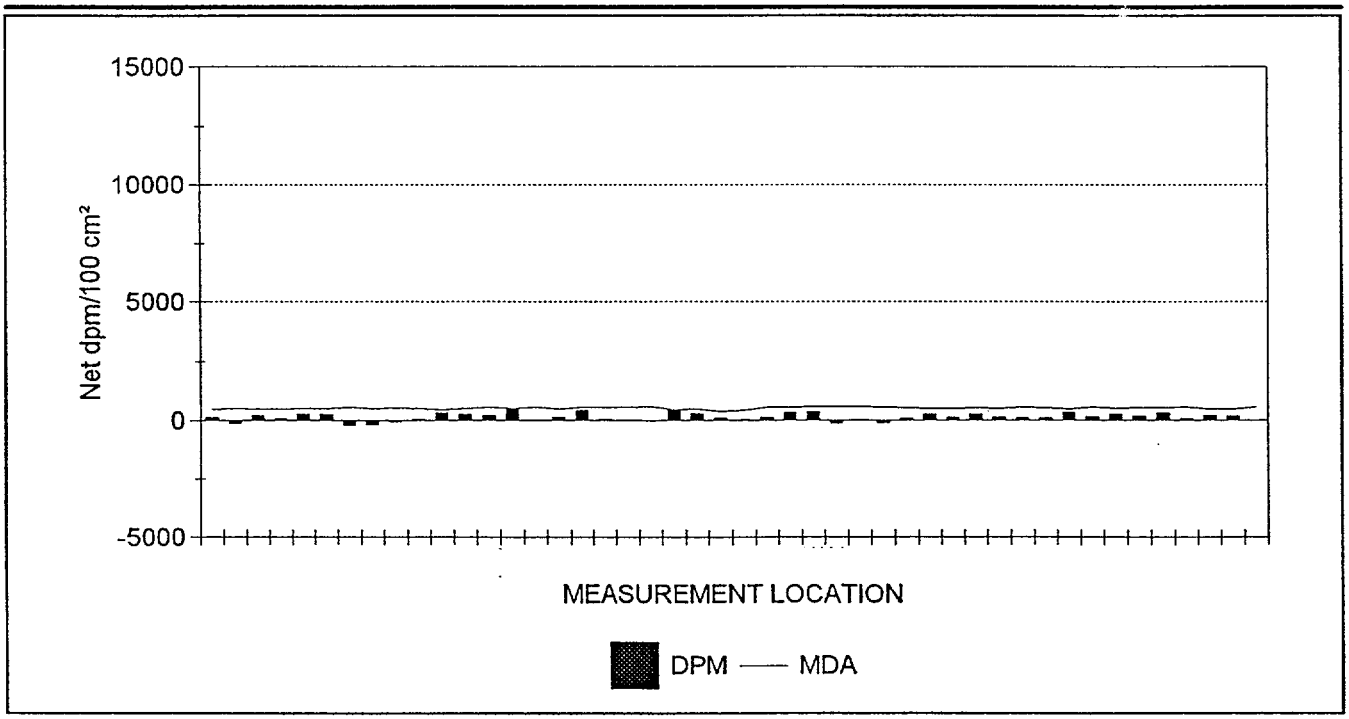
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	142.4
Maximum	445.4
Minimum	-199.3
Standard Deviation	161.5
MDA	577.2

Samples Reported	46
Samples Prescribed	46

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



46 RESULTS ARE GRAPHED

03/27/98

Direct Measurements For Total Beta Activity

Survey Package : D2900 SYSTEMS

Turbine Building Ventilation System

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	MDA	RESULT
482 (2)	01	A01	B0031	C01	20	00001	464.7	128.9
482 (2)	01	A01	B0031	C01	20	00002	507.2	-117.2
482 (2)	01	A01	B0031	C01	20	00003	461.2	211.0
482 (2)	01	A01	B0031	C01	20	00004	457.7	82.1
482 (2)	01	A02	B0031	C01	20	00001	497.8	269.6
482 (2)	01	A02	B0031	C01	20	00002	504.1	257.9
482 (2)	01	A02	B0031	C01	20	00003	546.3	-199.3
482 (2)	01	A02	B0031	C01	20	00004	491.3	-175.8
482 (2)	01	A03	B0031	C01	20	00001	531.6	-58.6
482 (2)	01	A03	B0031	C01	20	00002	507.2	46.9
482 (2)	01	A03	B0031	C01	20	00003	450.7	304.8
482 (2)	01	A03	B0031	C01	20	00004	507.2	257.9
482 (2)	01	A04	B0031	C01	20	00001	534.6	199.3
482 (2)	01	A04	B0031	C01	20	00002	494.6	445.4
482 (2)	01	A04	B0031	C01	20	00003	546.3	0.0
482 (2)	01	A04	B0031	C01	20	00004	461.2	140.7
482 (2)	01	A05	B0031	C01	20	00001	540.5	422.0
482 (2)	01	A05	B0031	C01	20	00002	543.4	58.6
482 (2)	01	A05	B0031	C01	20	00003	549.2	11.7
482 (2)	01	A05	B0031	C01	20	00004	577.2	-35.2
482 (2)	01	A05	B0031	C01	20	00005	454.2	445.4
482 (2)	01	A05	B0031	C01	20	00006	478.2	293.1
486 (2)	02	A01	B0031	C01	20	00001	375.2	114.2

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.

03/27/98

Direct Measurements For Total Beta Activity

Survey Package: D2900 SYSTEMS

Turbine Building Ventilation System

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	MDA	RESULT
486 (2)	02	A01	B0031	C01	20	00002	421.3	22.8
482 (2)	03	A01	B0031	C01	20	00001	540.5	140.7
482 (2)	03	A01	B0031	C01	20	00002	546.3	339.9
482 (2)	03	A01	B0031	C01	20	00003	566.2	363.4
482 (2)	03	A01	B0031	C01	20	00004	568.9	-117.2
482 (2)	03	A01	B0031	C01	20	00005	566.2	35.2
482 (2)	03	A01	B0031	C01	20	00006	537.6	-105.5
482 (2)	03	A02	B0031	C01	20	00001	528.7	82.1
482 (2)	03	A02	B0031	C01	20	00002	500.9	257.9
482 (2)	03	A02	B0031	C01	20	00003	484.8	140.7
482 (2)	03	A02	B0031	C01	20	00004	525.6	269.6
482 (2)	03	A02	B0031	C01	20	00005	494.6	128.9
482 (2)	03	A02	B0031	C01	20	00006	534.6	105.5
482 (2)	03	A03	B0031	C01	20	00001	531.6	93.8
482 (2)	03	A03	B0031	C01	20	00002	474.9	339.9
482 (2)	03	A03	B0031	C01	20	00003	557.7	152.4
482 (2)	03	A03	B0031	C01	20	00004	488.1	269.6
482 (2)	03	A03	B0031	C01	20	00005	513.5	175.8
482 (2)	03	A03	B0031	C01	20	00006	513.5	304.8
482 (2)	03	A04	B0031	C01	20	00001	552.0	70.3
482 (2)	03	A04	B0031	C01	20	00002	464.7	199.3
482 (2)	03	A04	B0031	C01	20	00003	481.5	187.6
482 (2)	03	A04	B0031	C01	20	00004	557.7	-11.7

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.
46 results are listed.

Maine Yankee Atomic Power Plant Site Characterization

DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

03/27/98 Direct Measurements For Total Beta Activity

Survey Package : D2900 SYSTEMS

Turbine Building Ventilation System

SURVEY		M2350		DETECTOR			PRE	
DATE	FILE #	INST S/N	CAL DUE	MODEL	S/N	CAL DUE	EFF	TECHNICIAN
1/26/98	482 (2)	129414	3/22/98	43-106	PR133882	3/27/98	.20	JFM0682
								CALIBRATION DATES VERIFIED AS ACCEPTABLE
1/27/98	486 (2)	129414	3/22/98	43-106	PR133882	3/27/98	.21	JFM0682
								CALIBRATION DATES VERIFIED AS ACCEPTABLE

Maine Yankee Atomic Power Plant Site Characterization

03/29/98

Removable Contamination - Gross Beta Activity

Survey Package D2900 SYSTEMS

Turbine Building Ventilation System

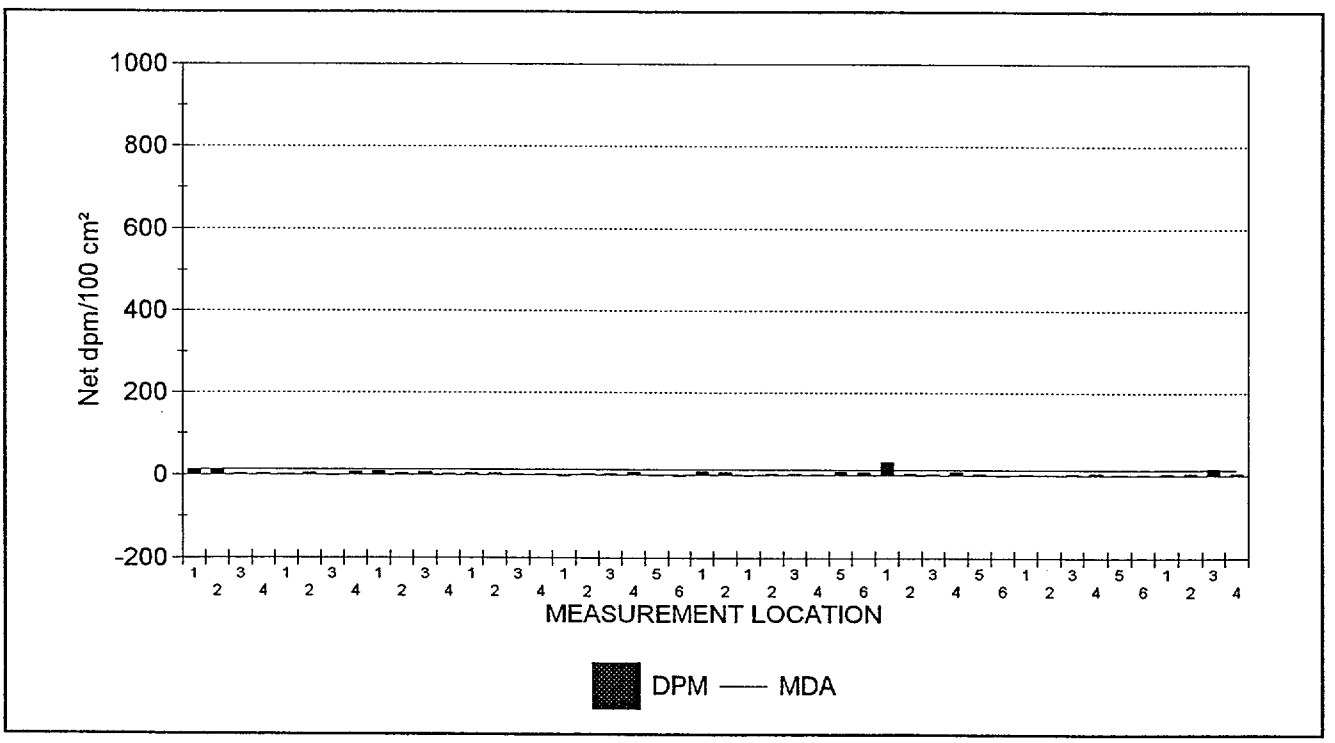
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	4.6
Maximum	33.1
Minimum	-3.2
Standard Deviation	5.9
MDA	14.1

Samples Reported	46
Samples Prescribed	47

TESTS PERFORMED

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



46 RESULTS ARE GRAPHED

Maine Yankee Atomic Power Plant Site Characterization

03/29/98

Removable Contamination - Gross Alpha Activity

Survey Package D2900 SYSTEMS

Turbine Building Ventilation System

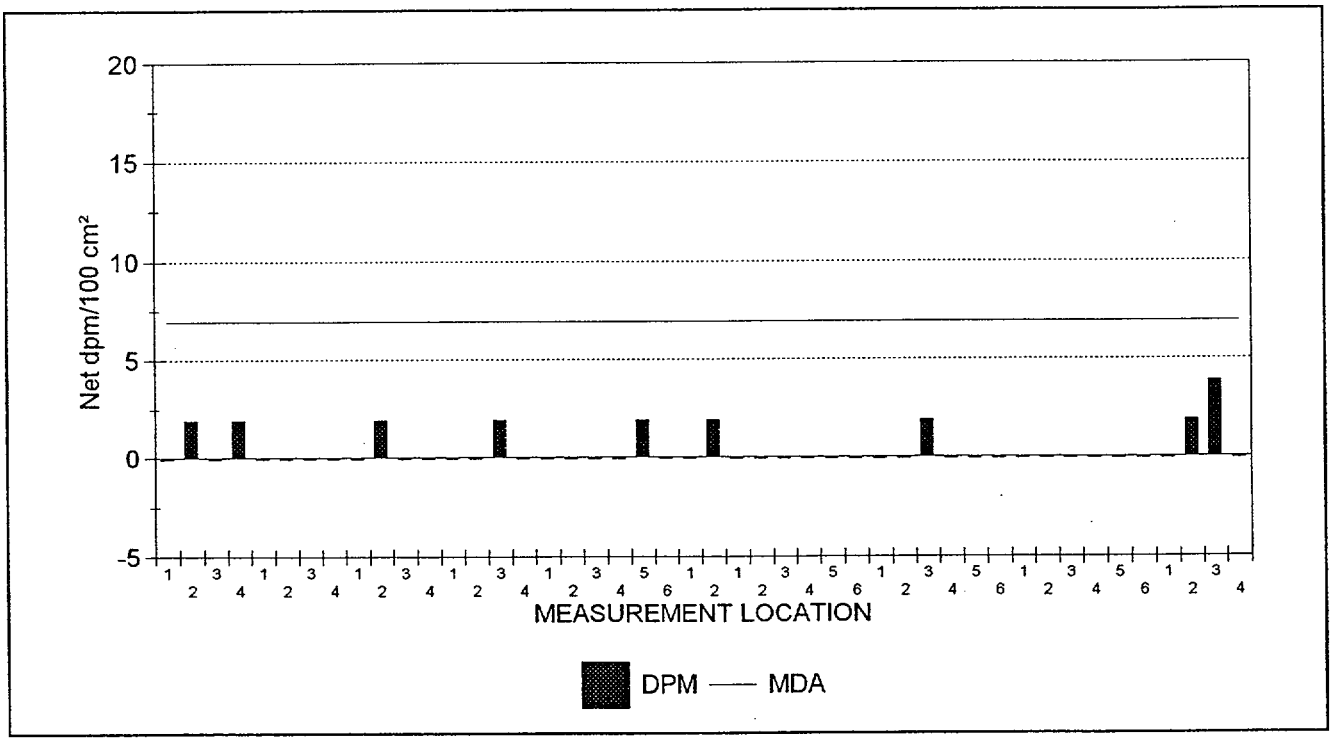
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	0.3
Maximum	3.9
Minimum	-0.1
Standard Deviation	0.9
MDA	6.9

Samples Reported	46
Samples Prescribed	47

TESTS PERFORMED

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



46 RESULTS ARE GRAPHED

03/29/98 Removable Contamination

Survey Package : D2900 SYSTEMS

Turbine Building Ventilation System

RESULTS LISTING - SORTED BY SURFACE CODE

XLS FILE	UNIT	SURFACE	REASON	MSRMNT LOCATION	ALPHA	BETA
SME1E007.XLS	03	A04	C01	4	-0.1	4.8
SME1E007.XLS	03	A04	C01	3	3.9	17.0
SME1E007.XLS	03	A04	C01	2	1.9	4.8
SME1E007.XLS	03	A04	C01	1	-0.1	2.8
SME1E007.XLS	03	A03	C01	6	-0.1	0.8
SME1E007.XLS	03	A03	C01	5	-0.1	0.8
SME1E007.XLS	03	A03	C01	4	-0.1	4.8
SME1E007.XLS	03	A03	C01	3	-0.1	2.8
SME1E007.XLS	03	A03	C01	2	-0.1	0.8
SME1E007.XLS	03	A03	C01	1	-0.1	2.8
SME1E007.XLS	03	A02	C01	6	-0.1	-1.2
SME1E007.XLS	03	A02	C01	5	-0.1	2.8
SME1E007.XLS	03	A02	C01	4	-0.1	8.9
SME1E007.XLS	03	A02	C01	3	1.9	2.8
SME1E007.XLS	03	A02	C01	2	-0.1	4.8
SME1E007.XLS	03	A02	C01	1	-0.1	33.1
SME1E007.XLS	03	A01	C01	6	-0.1	6.9
SME1E007.XLS	03	A01	C01	5	-0.1	8.9
SME1E007.XLS	03	A01	C01	4	-0.1	0.8
SME1E007.XLS	03	A01	C01	3	-0.1	2.8
SME1E007.XLS	03	A01	C01	2	-0.1	2.8
SME1E007.XLS	03	A01	C01	1	-0.1	-1.2
SME1E007.XLS	02	A01	C01	2	1.9	6.9

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).

03/29/98 Removable Contamination

Survey Package: D2900 SYSTEMS

Turbine Building Ventilation System

RESULTS LISTING - SORTED BY SURFACE CODE

XLS FILE	UNIT	SURFACE	REASON	MSRMNT LOCATION	ALPHA	BETA
SME1E007.XLS	02	A01	C01	1	-0.1	8.9
SME1E007.XLS	01	A05	C01	6	-0.1	-3.2
SME1E007.XLS	01	A05	C01	5	1.9	-1.2
SME1E007.XLS	01	A05	C01	4	-0.1	6.9
SME1E007.XLS	01	A05	C01	3	-0.1	2.8
SME1E007.XLS	01	A05	C01	2	-0.1	2.8
SME1E007.XLS	01	A05	C01	1	-0.1	-3.2
SME1E007.XLS	01	A04	C01	4	-0.1	0.8
SME1E007.XLS	01	A04	C01	3	1.9	0.8
SME1E007.XLS	01	A04	C01	2	-0.1	4.8
SME1E007.XLS	01	A04	C01	1	-0.1	4.8
SME1E007.XLS	01	A03	C01	4	-0.1	2.8
SME1E007.XLS	01	A03	C01	3	-0.1	6.9
SME1E007.XLS	01	A03	C01	2	1.9	4.8
SME1E007.XLS	01	A03	C01	1	-0.1	8.9
SME1E007.XLS	01	A02	C01	4	-0.1	6.9
SME1E007.XLS	01	A02	C01	3	-0.1	-1.2
SME1E007.XLS	01	A02	C01	2	-0.1	4.8
SME1E007.XLS	01	A02	C01	1	-0.1	0.8
SME1E007.XLS	01	A01	C01	4	1.9	2.8
SME1E007.XLS	01	A01	C01	3	-0.1	2.8
SME1E007.XLS	01	A01	C01	2	1.9	10.9
SME1E007.XLS	01	A01	C01	1	-0.1	12.9

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).
46 results are listed.

Maine Yankee Atomic Power Plant Site Characterization

DATAFILE & TENNELEC CALIBRATION SUMMARY

03/29/98

Removable Contamination

Survey Package : D2900 SYSTEMS

Turbine Building Ventilation System

SURVEYDATE	XLS FILE	INST ID	S/N	CAL DUE	LAB TECHNICIAN
2/12/98	SME1E007.XLS	1	15632	8/5/98	JWD
				CALIBRATION DATE VERIFIED AS ACCEPTABLE	

03/27/98 Removable Contamination - Tritium Activity

Survey Package : D2900 SYSTEMS

Turbine Building Ventilation System

RESULTS LISTING - SORTED BY SURFACE CODE

SAMPLE ID	SAMPLE TYPE	UNIT	SURF	REASN	MSRMNT LOCATION	MDA	TRITIUM ACTIVITY
D19	Hoppes patch	01	A04	C01	00001	38.4	2.6

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.

Maine Yankee Atomic Power Plant Site Characterization

LIQUID SCINTILLATION COUNTER CALIBRATION SUMMARY

03/27/98

Removable Contamination - Tritium Activity

Survey Package : D2900 SYSTEMS

Turbine Building Ventilation 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

Maine Yankee Atomic Power Plant Site Characterization

GAMMA SPECTRAL ANALYSIS RESULTS LISTING

03/28/98 OUTPUT BATCH SN = 225

Survey Package D2900 SYSTEMS

Turbine Building Ventilation System

UNIT : 01 SURFACE : A04 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Duct / Plenum
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD54	FAL00036	7.3	1800	Co-57	< 7.7	7.7	0.0
				Co-60	< 10.1	10.1	0.0
				Cs-134	< 9.3	9.3	0.0
				Cs-137	< 14.0	14.0	0.0
				K-40	< 126.0	126.0	0.0
				Mn-54	< 7.6	7.6	0.0

Maine Yankee Atomic Power Plant Site Characterization

04/01/98

CHARACTERIZATION SUMMARY

SURVEY PACKAGE NUMBER :D3000 SYSTEMS

PACKAGE DESCRIPTION Staff Building HVAC System

SURVEY AREA DESCRIPTION
Staff Building HVAC System

GENERAL HISTORICAL INFORMATION (Operational history, etc.)
The Staff Building HVAC System provides heated, cooled, and recirculated air to various spaces inside the staff building.

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 18 survey measurement locations indicated on the appropriate survey diagram(s).

Collected direct measurements for total beta activity at 18 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 20 survey locations as for direct measurements for total beta activity.

Collected 1 material sample (e.g., sludge, sediment, rust, etc.) from the duct, plenum 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. For surveys of HVAC Fan Units, particular attention was paid to high impingement areas such as fan blades, louvers, heating or cooling coils, etc.

CHARACTERIZATION SURVEY RESULTS

- o There were 2 direct measurements for total beta activity above MDA (Maximum MDA was 779 dpm/100cm^2) and no results greater than 2000 dpm/100cm^2.
- o There were no measurements for removable beta activity above MDA (18 dpm/100cm^2).
- o There were no measurements for removable alpha activity above MDA (7 dpm/100cm^2).
- o The sample(s) gamma spectral analysis results indicated no plant-derived radionuclide activity above MDA.

REFERENCES (Documents, Interviews)
Miane Yankee Drawings 1150 - FB - 30 D, E, F, H

Maine Yankee Atomic Power Plant Site Characterization

SUMMARY OF SURVEY UNIT(S)

03/27/98 OUTPUT BATCH SN = 208

PACKAGE D3000 SYSTEMS

Staff Building HVAC System

UNIT(S)	SURFACE(S)
01 - Staff Building First Floor Components	A01 (HTP-102 supply duct (hallway outside room 103)) S01 (Emergency ventilation supply filter unit (room 116)) S02 (Emergency ventilation recirculation filter unit (room 116))
02 - Staff Building Second Floor Components	A01 (Main lobby supply duct)
03 - Staff Building Third Floor Components	A01 (Return air vent (body count room)) A02 (Return air vent (outside room 334))
04 - Staff Building Fourth Floor Components	A01 (Return air vent (outside room 414)) A02 (Fan 56 ducting (room 409)) A03 (Emergency vent damper for Fan 52 (room 409)) S01 (Filter housing for Fan 52 (room 409))

REASON(S) CHARACTERIZATION SURVEY (C01)

MATERIALS

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

Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Direct Measurements For Total Beta Activity

Survey Package D3000 SYSTEMS

Staff Building HVAC System

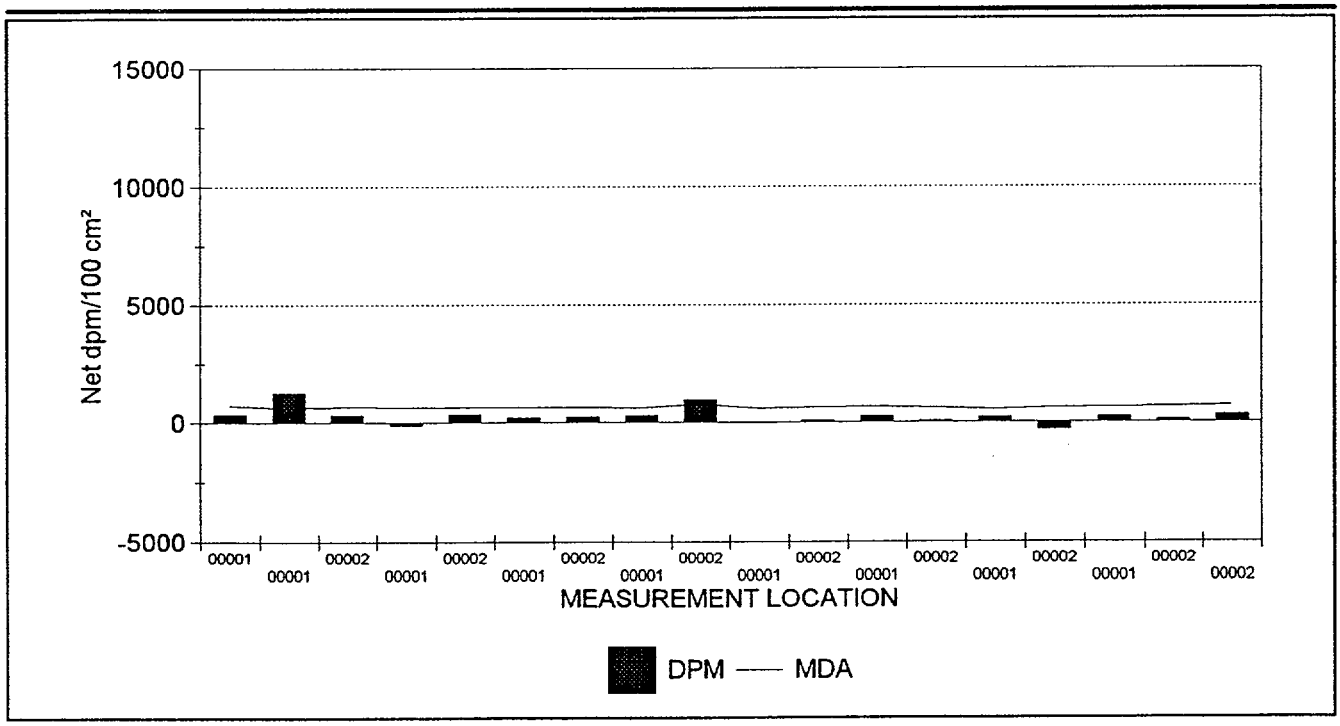
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	262.9
Maximum	1,286.3
Minimum	-306.3
Standard Deviation	366.0
MDA	778.5

Samples Reported	18
Samples Prescribed	18

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



18 RESULTS ARE GRAPHED

03/27/98

Direct Measurements For Total Beta Activity

Survey Package : D3000 SYSTEMS

Staff Building HVAC System

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	MDA	RESULT
111 (2)	01	A01	B0031	C01	15	00001	724.9	336.9
111 (2)	01	S01	B0031	C01	15	00001	633.3	1,286.3
111 (2)	01	S01	B0031	C01	15	00002	682.7	306.3
111 (2)	01	S02	B0031	C01	15	00001	662.6	-122.5
111 (2)	01	S02	B0031	C01	15	00002	654.4	336.9
111 (2)	02	A01	B0031	C01	15	00001	641.8	214.4
111 (2)	02	A01	B0031	C01	15	00002	650.2	229.7
111 (2)	03	A01	B0031	C01	15	00001	629.0	275.6
111 (2)	03	A01	B0031	C01	15	00002	778.5	995.3
111 (2)	03	A02	B0031	C01	15	00001	602.5	-30.6
111 (2)	03	A02	B0031	C01	15	00002	650.2	76.6
111 (2)	04	A01	B0031	C01	15	00001	670.7	260.3
111 (2)	04	A01	B0031	C01	15	00002	620.3	45.9
111 (2)	04	A02	B0031	C01	15	00001	550.3	199.1
111 (2)	04	A02	B0031	C01	15	00002	633.3	-306.3
111 (2)	04	A03	B0031	C01	15	00001	658.5	229.7
111 (2)	04	A03	B0031	C01	15	00002	670.7	91.9
111 (2)	04	S01	B0031	C01	15	00002	717.4	306.3

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.
18 results are listed.

Maine Yankee Atomic Power Plant Site Characterization

DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

03/27/98 Direct Measurements For Total Beta Activity

Survey Package : D3000 SYSTEMS

Staff Building HVAC System

SURVEY		M2350		DETECTOR			PRE	
DATE	FILE #	INST S/N	CAL DUE	MODEL	S/N	CAL DUE	EFF	TECHNICIAN
12/9/97	111 (2)	129414	3/22/98	43-106	133882	3/27/98	.21	LCF0451

CALIBRATION DATES VERIFIED AS ACCEPTABLE

Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Removable Contamination - Gross Beta Activity

Survey Package D3000 SYSTEMS

Staff Building HVAC System

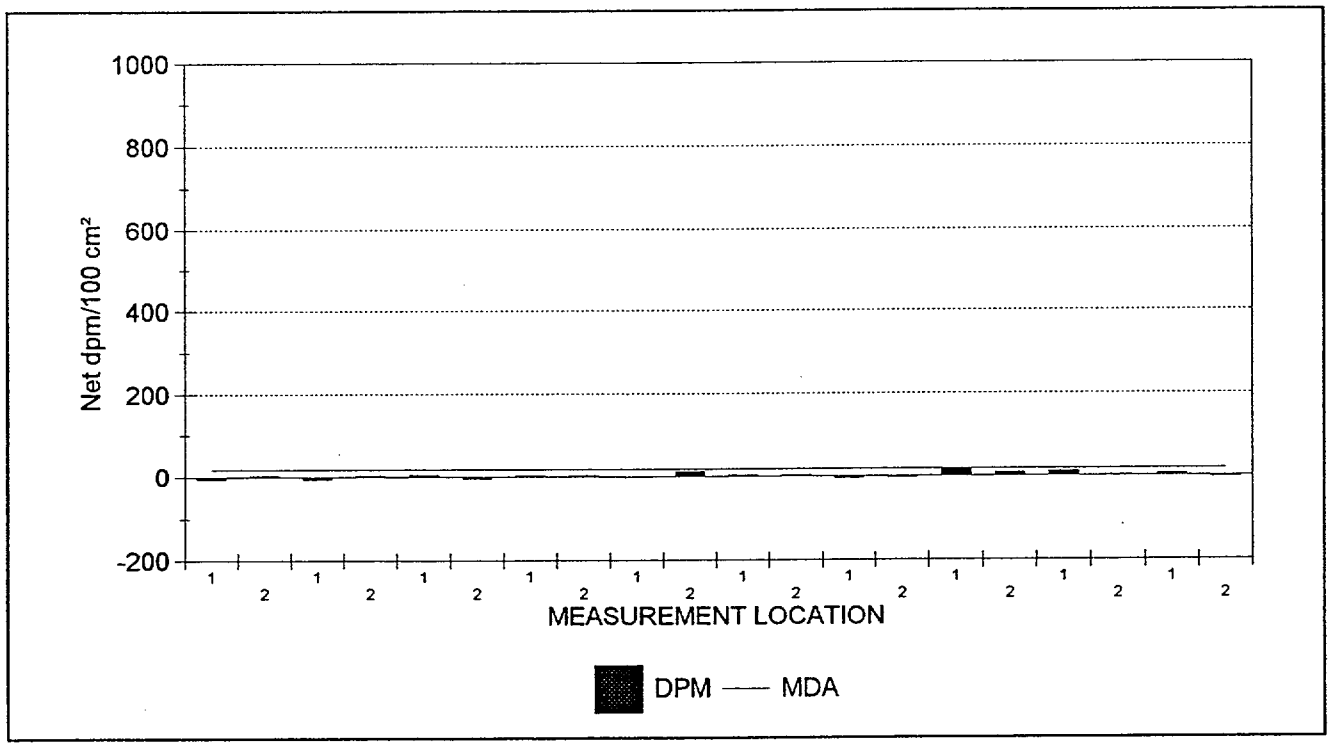
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	2.2
Maximum	15.9
Minimum	-5.9
Standard Deviation	6.0
MDA	18.0

Samples Reported	20
Samples Prescribed	20

TESTS PERFORMED

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



20 RESULTS ARE GRAPHED

Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Removable Contamination - Gross Alpha Activity

Survey Package D3000 SYSTEMS

Staff Building HVAC System

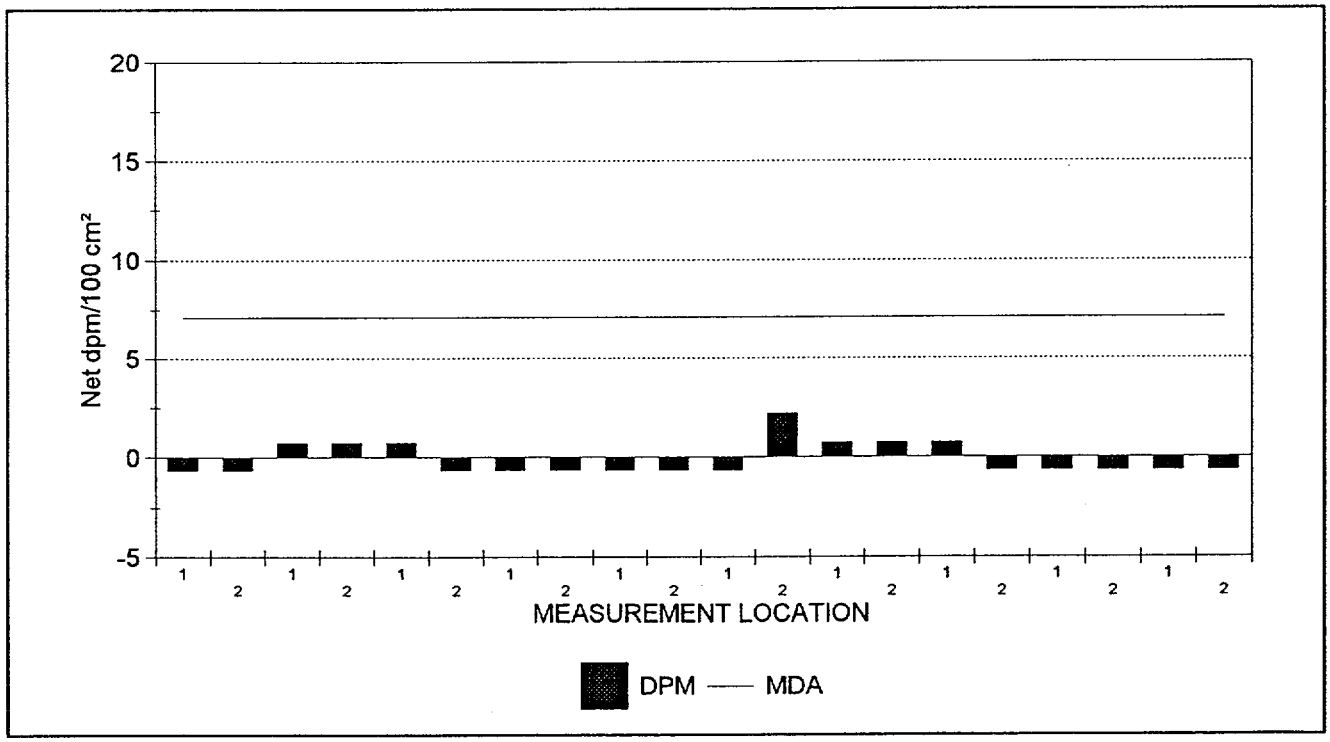
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	-0.1
Maximum	2.2
Minimum	-0.7
Standard Deviation	0.9
MDA	7.1

Samples Reported	20
Samples Prescribed	20

TESTS PERFORMED

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



20 RESULTS ARE GRAPHED

Maine Yankee Atomic Power Plant Site Characterization

03/27/98 Removable Contamination

Survey Package : D3000 SYSTEMS

Staff Building HVAC System

RESULTS LISTING - SORTED BY SURFACE CODE

XLS FILE	UNIT	SURFACE	REASON	MSRMNT LOCATION	ALPHA	BETA
SME1D055.XLS	04	S01	C01	2	-0.7	-2.6
SME1D055.XLS	04	S01	C01	1	-0.7	4.1
SME1D055.XLS	04	A03	C01	2	-0.7	0.8
SME1D055.XLS	04	A03	C01	1	-0.7	10.9
SME1D055.XLS	04	A02	C01	2	-0.7	7.5
SME1D055.XLS	04	A02	C01	1	0.8	15.9
SME1D055.XLS	04	A01	C01	2	0.8	-2.6
SME1D055.XLS	04	A01	C01	1	0.8	-4.3
SME1D055.XLS	03	A02	C01	2	2.2	2.5
SME1D055.XLS	03	A02	C01	1	-0.7	2.5
SME1D055.XLS	03	A01	C01	2	-0.7	12.6
SME1D055.XLS	03	A01	C01	1	-0.7	-0.9
SME1D055.XLS	02	A01	C01	2	-0.7	2.5
SME1D055.XLS	02	A01	C01	1	-0.7	2.5
SME1D055.XLS	01	S02	C01	2	-0.7	-4.3
SME1D055.XLS	01	S02	C01	1	0.8	4.1
SME1D055.XLS	01	S01	C01	2	0.8	2.5
SME1D055.XLS	01	S01	C01	1	0.8	-5.9
SME1D055.XLS	01	A01	C01	2	-0.7	2.5
SME1D055.XLS	01	A01	C01	1	-0.7	-5.9

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).
20 results are listed.

Maine Yankee Atomic Power Plant Site Characterization

DATAFILE & TENNELEC CALIBRATION SUMMARY

03/27/98

Removable Contamination

Survey Package : D3000 SYSTEMS

Staff Building HVAC System

SURVEYDATE	XLS FILE	INST ID	S/N	CAL DUE	LAB TECHNICIAN
2/19/98	SME1D055.XLS	1	14131	8/7/98	SMM
				CALIBRATION DATE VERIFIED AS ACCEPTABLE	

Maine Yankee Atomic Power Plant Site Characterization

GAMMA SPECTRAL ANALYSIS RESULTS LISTING

03/28/98 OUTPUT BATCH SN = 226

Survey Package D3000 SYSTEMS

Staff Building HVAC System

UNIT : 03 SURFACE : A02 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Duct / Plenum
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD49	PET00025	1.0	1800	Co-57	< 43.5	43.5	0.0
				Co-60	< 50.4	50.4	0.0
				Cs-134	< 52.1	52.1	0.0
				Cs-137	< 48.3	48.3	0.0
				K-40	< 827.0	827.0	0.0
				Mn-54	< 52.8	52.8	0.0

04/01/98

CHARACTERIZATION SUMMARY

SURVEY PACKAGE NUMBER :D3100

SYSTEMS

PACKAGE DESCRIPTION

Service Building HVAC System

SURVEY AREA DESCRIPTION

Service Building HVAC System

GENERAL HISTORICAL INFORMATION (Operational history, etc.)

The Service Building HVAC System provides heated, cooled, and recirculated air to various spaces inside the service building.

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 the same 79 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 1 material sample (e.g., sludge, sediment, rust, etc.) from the duct, plenum 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. For surveys of HVAC Fan Units, particular attention was paid to high impingement areas such as fan blades, louvers, heating or cooling coils, etc.

CHARACTERIZATION SURVEY RESULTS

o There were 39 direct measurements for total beta activity above MDA (Maximum MDA was 1082 dpm/100cm^2) and 13 results greater than 2000 dpm/100cm^2. The maximum measurement result was 87,566 dpm/100cm^2.

o There were 33 measurements for removable beta activity above MDA (14.1 dpm/100cm^2) and 7 results greater than 100 dpm/100cm^2. The maximum measurement result was 1,445 dpm/100cm^2.

o There were no measurements for removable alpha activity above MDA (8.5 dpm/100cm^2).

o There was 1 measurement for removable tritium activity above MDA (8 dpm/100cm^2). The maximum

measurement result was 107.7 dpm/100cm².

o The average and maximum exposure rate measurement results were 22.4 µR/hr and 51.4 µR/hr respectively.

o The gamma spectral analysis result indicated plant-derived radionuclide activity above MDA. The analysis of the material sample indicated the presence of Co-60 and Cs-137.

REFERENCES (Documents, Interviews)

Miane Yankee Drawings 1150 - FB - 23 A, B

SUMMARY OF SURVEY UNIT(S)

03/27/98 OUTPUT BATCH SN = 304

PACKAGE D3100 SYSTEMS

Service Building HVAC System

UNIT(S)	SURFACE(S)
01 - 21' Service Building	A01 (RCP shop exhaust hood) A02 (MOV room exhaust hood) A03 (RCA shop exhaust hood) A04 (RCA shop welding hood & duct) A05 (RCA PC changing area exhaust duct) A06 (Chemistry lab exhaust hood) A07 (Exhaust duct (auxiliary boiler room))
02 - 36' Service Building	A01 (Exhaust duct for fan FN-15 (behind survey room)) A02 (Exhaust duct and fan FN-5 (behind survey room)) A03 (Exhaust duct FL-57 (behind survey room)) A04 (Exhaust duct and fan FN-6 (behind survey room)) A05 (Exhaust duct for FL-53 (behind survey room)) A06 (Exhaust duct for 2nd floor planning office) A07 (Exhaust plenum for FL-19B) H01 (AC-1B cooling & heating coils) H02 (AC-1A heating & cooling coils) M01 (Exhaust fan FN-9A) M02 (Exhaust fan FN-22) S01 (Filter FL-28 and exhaust duct (behind survey room))

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

Maine Yankee Atomic Power Plant Site Characterization

04/01/98

Direct Measurements For Total Beta Activity

Survey Package D3100 SYSTEMS

Service Building HVAC System

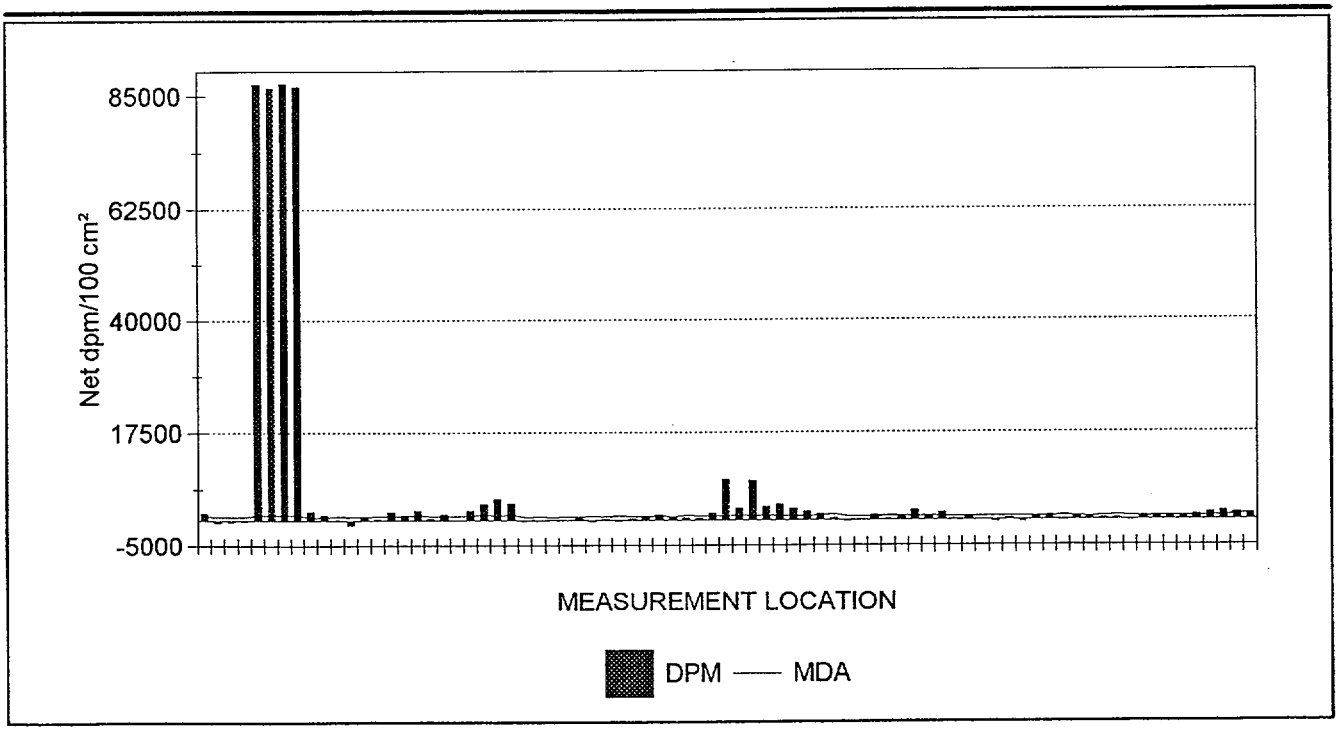
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	5,346.8
Maximum	87,565.8
Minimum	-958.6
Standard Deviation	19,067.0
MDA	1,081.9

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	13
Number of results above MDA	39



79 RESULTS ARE GRAPHED

04/01/98

Direct Measurements For Total Beta Activity

Survey Package : D3100 SYSTEMS

Service Building HVAC System

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	MDA	RESULT
221 (2)	01	A01	B0031	C01	60	00001	823.4	1,386.5
221 (2)	01	A01	B0031	C01	60	00002	684.2	-431.8
221 (2)	01	A01	B0031	C01	60	00003	680.9	-241.6
221 (2)	01	A01	B0031	C01	60	00004	667.0	-130.7
221 (2)	01	A02	B0031	C01	90	00001	1,055.2	***87,431.1***
221 (2)	01	A02	B0031	C01	90	00002	1,081.9	***86,681.1***
221 (2)	01	A02	B0031	C01	90	00003	1,066.6	***87,565.8***
221 (2)	01	A02	B0031	C01	90	00004	1,068.3	***86,850.1***
221 (2)	01	A03	B0031	C01	30	00001	621.5	1,838.0
221 (2)	01	A03	B0031	C01	30	00002	671.5	1,109.2
221 (2)	01	A03	B0031	C01	30	00003	768.8	63.4
221 (2)	01	A03	B0031	C01	30	00004	747.6	-958.6
221 (2)	01	A04	B0031	C01	30	00001	675.7	855.6
221 (2)	01	A04	B0031	C01	30	00002	812.1	174.3
221 (2)	01	A04	B0031	C01	30	00003	777.8	1,671.7
221 (2)	01	A04	B0031	C01	30	00004	771.5	911.1
221 (2)	01	A05	B0031	C01	30	00001	1,051.0	1,933.1
221 (2)	01	A05	B0031	C01	30	00002	824.9	348.6
221 (2)	01	A05	B0031	C01	30	00003	797.3	1,140.9
221 (2)	01	A05	B0031	C01	30	00004	821.5	-63.4
209 (2)	01	A06	B0031	C01	15	00001	954.7	1,897.9
209 (2)	01	A06	B0031	C01	15	00002	1,016.3	***3,288.7***
209 (2)	01	A06	B0031	C01	15	00003	982.9	***4,319.5***
209 (2)	01	A06	B0031	C01	15	00004	1,013.3	***3,468.7***
209 (2)	01	A07	B0031	C01	15	00001	582.6	-114.5
209 (2)	01	A07	B0031	C01	15	00002	643.8	-180.0
209 (2)	01	A07	B0031	C01	15	00003	593.3	98.2
209 (2)	01	A07	B0031	C01	15	00004	634.0	-65.4
209 (2)	02	A01	B0031	C01	15	00001	708.0	425.4
209 (2)	02	A01	B0031	C01	15	00002	790.2	-245.4
209 (2)	02	A01	B0031	C01	15	00003	662.8	229.1
209 (2)	02	A01	B0031	C01	15	00004	758.5	-229.1
233 (2)	02	A02	B0031	C01	15	00001	693.7	221.7
233 (2)	02	A02	B0031	C01	15	00002	646.0	871.0
233 (2)	02	A02	B0031	C01	15	00003	779.8	1,013.5
233 (2)	02	A02	B0031	C01	15	00004	702.0	649.3
221 (2)	02	A03	B0031	C01	15	00001	886.7	459.5
221 (2)	02	A03	B0031	C01	15	00002	870.5	380.3
221 (2)	02	A03	B0031	C01	15	00003	860.6	1,489.4
221 (2)	02	A03	B0031	C01	15	00004	783.9	***8,065.2***

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.

Maine Yankee Atomic Power Plant Site Characterization

04/01/98

Direct Measurements For Total Beta Activity

Survey Package : D3100 SYSTEMS

Service Building HVAC System

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	MDA	RESULT
221 (2)	02	A04	B0031	C01	15	00001	890.0	***2,471.9***
221 (2)	02	A04	B0031	C01	15	00002	791.2	***7,827.5***
221 (2)	02	A04	B0031	C01	15	00003	899.5	***2,662.0***
221 (2)	02	A04	B0031	C01	15	00004	812.6	***3,121.5***
209 (2)	02	A05	B0031	C01	15	00001	758.5	***2,290.6***
209 (2)	02	A05	B0031	C01	15	00002	842.8	1,734.3
209 (2)	02	A05	B0031	C01	15	00003	922.3	1,129.0
209 (2)	02	A05	B0031	C01	15	00004	1,071.3	376.3
209 (2)	02	A06	B0031	C01	15	00001	725.2	-294.5
209 (2)	02	A06	B0031	C01	15	00002	685.8	-81.8
209 (2)	02	A06	B0031	C01	15	00003	643.8	883.5
209 (2)	02	A06	B0031	C01	15	00004	754.4	32.7
221 (2)	02	A07	B0031	C01	15	00001	757.7	522.9
221 (2)	02	A07	B0031	C01	15	00002	738.5	1,980.6
221 (2)	02	A07	B0031	C01	15	00003	830.1	507.0
221 (2)	02	A07	B0031	C01	15	00004	738.5	1,457.8
221 (2)	02	H01	B0031	C01	15	00001	650.9	95.1
221 (2)	02	H01	B0031	C01	15	00002	655.3	570.4
221 (2)	02	H01	B0031	C01	15	00003	694.1	-31.7
221 (2)	02	H01	B0031	C01	15	00004	726.6	-380.3
221 (2)	02	H01	B0031	C01	15	00005	664.1	269.4
221 (2)	02	H01	B0031	C01	15	00006	689.9	-364.4
233 (2)	02	H02	B0031	C01	15	00001	650.5	681.0
233 (2)	02	H02	B0031	C01	15	00002	655.0	839.3
233 (2)	02	H02	B0031	C01	15	00003	772.4	-158.4
233 (2)	02	H02	B0031	C01	15	00004	632.4	649.3
233 (2)	02	H02	B0031	C01	15	00005	627.8	285.1
233 (2)	02	H02	B0031	C01	15	00006	710.2	221.7
221 (2)	02	M01	B0031	C01	15	00001	757.7	237.7
221 (2)	02	M01	B0031	C01	15	00002	706.5	-174.3
221 (2)	02	M01	B0031	C01	15	00003	599.5	697.2
209 (2)	02	M02	B0031	C01	15	00001	694.8	539.9
209 (2)	02	M02	B0031	C01	15	00002	694.8	507.2
209 (2)	02	M02	B0031	C01	15	00003	653.4	507.2
209 (2)	02	M02	B0031	C01	15	00004	624.1	932.6
221 (2)	02	S01	B0031	C01	15	00001	850.5	1,457.8
221 (2)	02	S01	B0031	C01	15	00002	750.1	1,727.1
221 (2)	02	S01	B0031	C01	15	00003	1,009.8	1,315.2
221 (2)	02	S01	B0031	C01	15	00004	1,009.8	1,172.5

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.

DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

04/01/98 Direct Measurements For Total Beta Activity

Survey Package : D3100 SYSTEMS

Service Building HVAC System

SURVEY DATE	FILE #	M2350 INST S/N	M2350 CAL DUE	DETECTOR MODEL	DETECTOR S/N	DETECTOR CAL DUE	PRE EFF	TECHNICIAN
12/29/97	209 (2)	126197	3/22/98	43-68	PR075064	3/30/98	.19	LCF0451
							CALIBRATION DATES VERIFIED AS ACCEPTABLE	
12/30/97	221 (2)	126197	3/22/98	43-68	PR075064	3/30/98	.20	LCF0451
							CALIBRATION DATES VERIFIED AS ACCEPTABLE	
12/31/97	233 (2)	126197	3/22/98	43-68	PR075064	3/30/98	.20	LCF0451
							CALIBRATION DATES VERIFIED AS ACCEPTABLE	

Maine Yankee Atomic Power Plant Site Characterization

03/29/98

Removable Contamination - Gross Beta Activity

Survey Package D3100 SYSTEMS

Service Building HVAC System

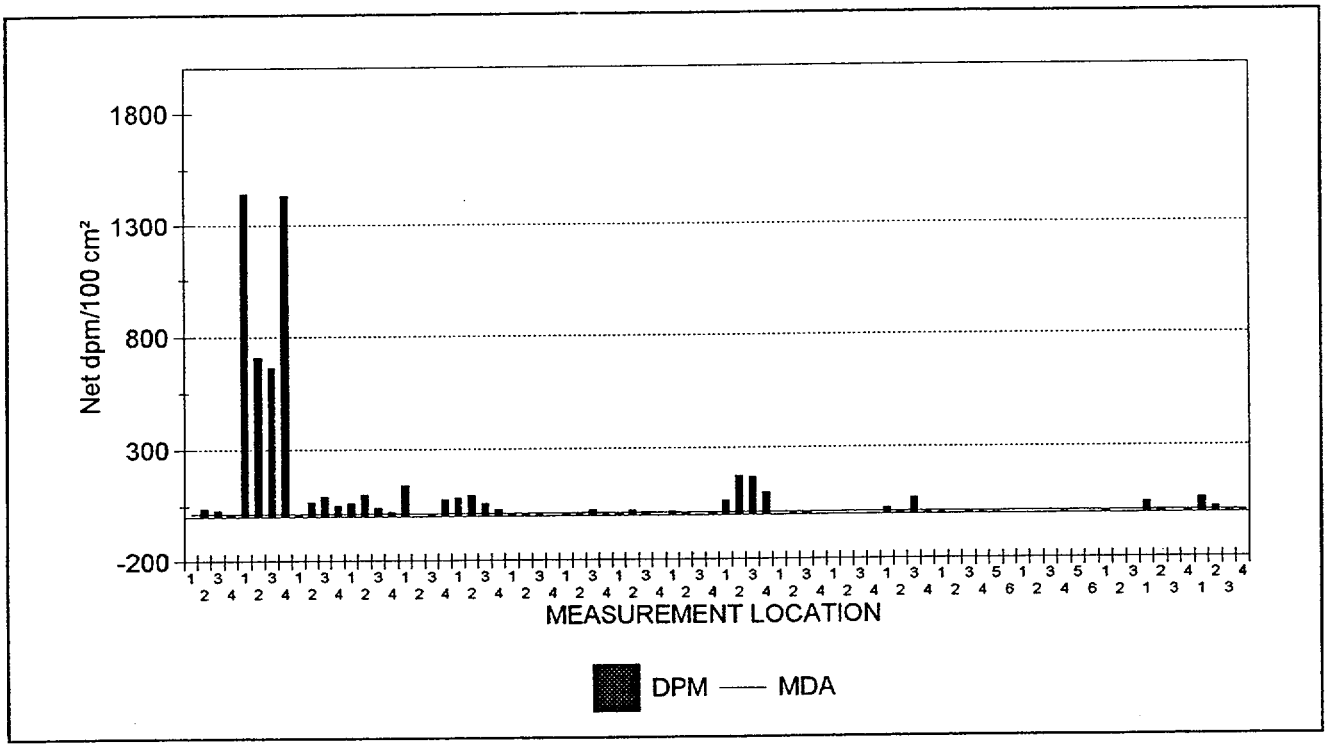
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	80.0
Maximum	1,445.0
Minimum	-1.2
Standard Deviation	247.1
MDA	14.1

Samples Reported	79
Samples Prescribed	81

TESTS PERFORMED

MDA <100 net dpm/100 cm²	YES
Results above 100 net dpm/100 cm²	7
Number of results above MDA	33



79 RESULTS ARE GRAPHED

Maine Yankee Atomic Power Plant Site Characterization

03/29/98

Removable Contamination - Gross Alpha Activity

Survey Package D3100 SYSTEMS

Service Building HVAC System

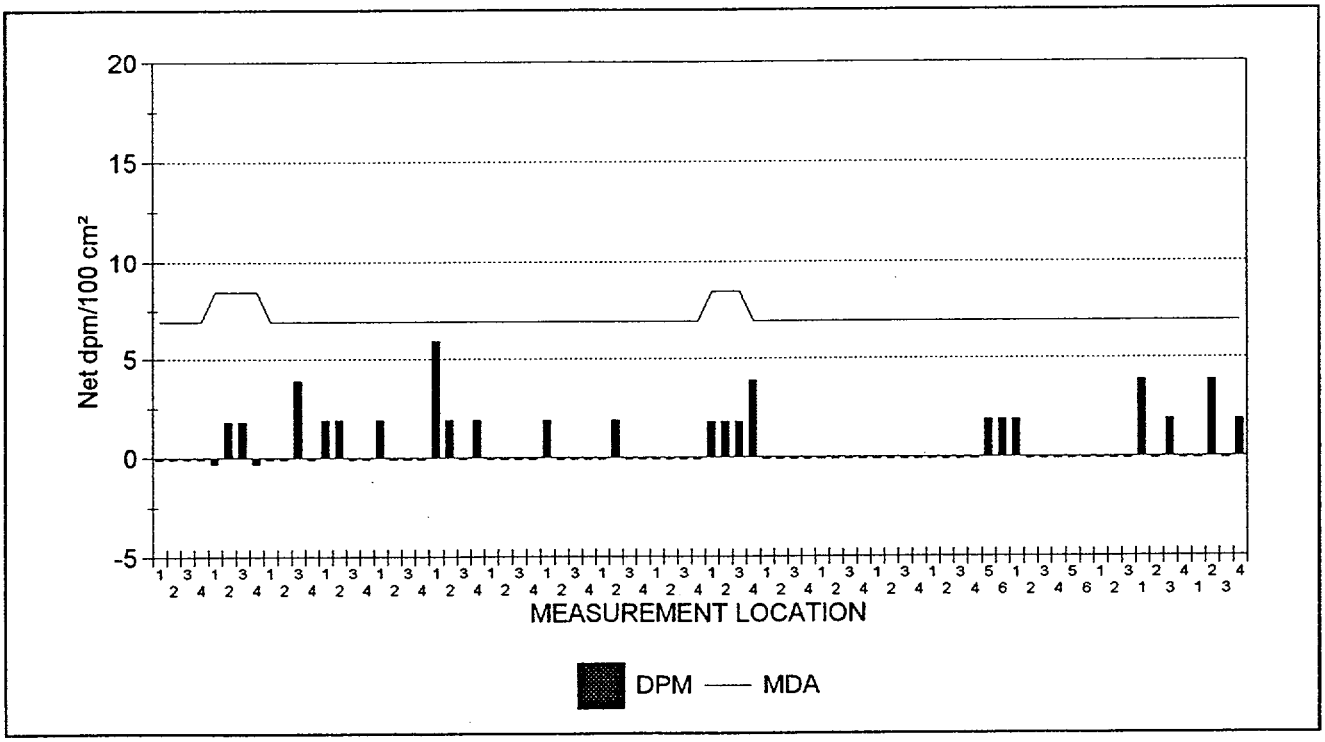
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	0.6
Maximum	5.9
Minimum	-0.3
Standard Deviation	1.3
MDA	8.5

Samples Reported	79
Samples Prescribed	81

TESTS PERFORMED

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



79 RESULTS ARE GRAPHED

03/29/98 Removable Contamination

Survey Package : D3100 SYSTEMS

Service Building HVAC System

RESULTS LISTING - SORTED BY SURFACE CODE

XLS FILE	UNIT	SURFACE	REASON	MSRMNT LOCATION	ALPHA	BETA
SME1E008.XLS	02	S01	C01	4	1.9	12.9
SME1E008.XLS	02	S01	C01	3	-0.1	4.8
SME1E008.XLS	02	S01	C01	2	3.9	31.1
SME1E008.XLS	02	S01	C01	1	-0.1	71.5
SME1E008.XLS	02	M02	C01	4	-0.1	10.9
SME1E008.XLS	02	M02	C01	3	1.9	-1.2
SME1E008.XLS	02	M02	C01	2	-0.1	14.9
SME1E008.XLS	02	M02	C01	1	3.9	51.3
SME1E008.XLS	02	M01	C01	3	-0.1	0.8
SME1E008.XLS	02	M01	C01	2	-0.1	-1.2
SME1E008.XLS	02	M01	C01	1	-0.1	6.9
SME1E008.XLS	02	H02	C01	6	-0.1	2.8
SME1E008.XLS	02	H02	C01	5	-0.1	0.8
SME1E008.XLS	02	H02	C01	4	-0.1	4.8
SME1E008.XLS	02	H02	C01	3	-0.1	0.8
SME1E008.XLS	02	H02	C01	2	-0.1	0.8
SME1E008.XLS	02	H02	C01	1	1.9	0.8
SME1E008.XLS	02	H01	C01	6	1.9	-1.2
SME1E008.XLS	02	H01	C01	5	1.9	4.8
SME1E008.XLS	02	H01	C01	4	-0.1	4.8
SME1E008.XLS	02	H01	C01	3	-0.1	6.9
SME1E008.XLS	02	H01	C01	2	-0.1	2.8
SME1E008.XLS	02	H01	C01	1	-0.1	4.8
SME1E008.XLS	02	A07	C01	4	-0.1	4.8
SME1E008.XLS	02	A07	C01	3	-0.1	77.6
SME1E008.XLS	02	A07	C01	2	-0.1	6.9
SME1E008.XLS	02	A07	C01	1	-0.1	31.1
SME1E008.XLS	02	A06	C01	4	-0.1	2.8
SME1E008.XLS	02	A06	C01	3	-0.1	0.8
SME1E008.XLS	02	A06	C01	2	-0.1	2.8
SME1E008.XLS	02	A06	C01	1	-0.1	2.8
SME1E008.XLS	02	A05	C01	4	-0.1	2.8
SME1E008.XLS	02	A05	C01	3	-0.1	10.9
SME1E008.XLS	02	A05	C01	2	-0.1	4.8
SME1E008.XLS	02	A05	C01	1	-0.1	-1.2
SME1E008.XLS	02	A04	C01	4	3.9	99.8
SME1E008.XLS	02	A04	C01	3	1.8	***166.4***
SME1E008.XLS	02	A04	C01	2	1.8	***172.5***
SME1E008.XLS	02	A04	C01	1	1.8	69.5
SME1E008.XLS	02	A03	C01	4	-0.1	6.9

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).

03/29/98 Removable Contamination

Survey Package: D3100 SYSTEMS

Service Building HVAC System

RESULTS LISTING - SORTED BY SURFACE CODE

XLS FILE	UNIT	SURFACE	REASON	MSRMNT LOCATION	ALPHA	BETA
SME1E008.XLS	02	A03	C01	3	-0.1	2.8
SME1E008.XLS	02	A03	C01	2	-0.1	6.9
SME1E008.XLS	02	A03	C01	1	-0.1	19.0
SME1E008.XLS	02	A02	C01	4	-0.1	-1.2
SME1E008.XLS	02	A02	C01	3	-0.1	14.9
SME1E008.XLS	02	A02	C01	2	1.9	23.0
SME1E008.XLS	02	A02	C01	1	-0.1	6.9
SME1E008.XLS	02	A01	C01	4	-0.1	4.8
SME1E008.XLS	02	A01	C01	3	-0.1	27.1
SME1E008.XLS	02	A01	C01	2	-0.1	4.8
SME1E008.XLS	02	A01	C01	1	1.9	6.9
SME1E008.XLS	01	A07	C01	4	-0.1	2.8
SME1E008.XLS	01	A07	C01	3	-0.1	4.8
SME1E008.XLS	01	A07	C01	2	-0.1	6.9
SME1E008.XLS	01	A07	C01	1	-0.1	6.9
SME1E008.XLS	01	A06	C01	4	1.9	33.1
SME1E008.XLS	01	A06	C01	3	-0.1	59.4
SME1E008.XLS	01	A06	C01	2	1.9	95.7
SME1E008.XLS	01	A06	C01	1	5.9	85.6
SME1E008.XLS	01	A05	C01	4	-0.1	79.6
SME1E008.XLS	01	A05	C01	3	-0.1	8.9
SME1E008.XLS	01	A05	C01	2	-0.1	2.8
SME1E008.XLS	01	A05	C01	1	1.9	***138.2***
SME1E008.XLS	01	A04	C01	4	-0.1	21.0
SME1E008.XLS	01	A04	C01	3	-0.1	41.2
SME1E008.XLS	01	A04	C01	2	1.9	99.8
SME1E008.XLS	01	A04	C01	1	1.9	63.4
SME1E008.XLS	01	A03	C01	4	-0.1	51.3
SME1E008.XLS	01	A03	C01	3	3.9	91.7
SME1E008.XLS	01	A03	C01	2	-0.1	67.5
SME1E008.XLS	01	A03	C01	1	-0.1	8.9
SME1E008.XLS	01	A02	C01	4	-0.3	***1,436.9***
SME1E008.XLS	01	A02	C01	3	1.8	***663.3***
SME1E008.XLS	01	A02	C01	2	1.8	***709.8***
SME1E008.XLS	01	A02	C01	1	-0.3	***1,445.0***
SME1E008.XLS	01	A01	C01	4	-0.1	12.9
SME1E008.XLS	01	A01	C01	3	-0.1	31.1
SME1E008.XLS	01	A01	C01	2	-0.1	37.2
SME1E008.XLS	01	A01	C01	1	-0.1	0.8

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).
79 results are listed.

Maine Yankee Atomic Power Plant Site Characterization

DATAFILE & TENNELEC CALIBRATION SUMMARY

03/29/98 Removable Contamination

Survey Package : D3100 SYSTEMS

Service Building HVAC System

SURVEYDATE	XLS FILE	INST ID	S/N	CAL DUE	LAB TECHNICIAN
2/12/98	SME1E008.XLS	1	15632	8/5/98	JWD
				CALIBRATION DATE VERIFIED AS ACCEPTABLE	

03/27/98 Removable Contamination - Tritium Activity

Survey Package : D3100 SYSTEMS

Service Building HVAC System

RESULTS LISTING - SORTED BY SURFACE CODE

SAMPLE ID	SAMPLE TYPE	UNIT	SURF	REASN	MSRMNT LOCATION	MDA	TRITIUM ACTIVITY
H057	Whatman smear	01	A04	C01	00001	8.0	***107.7***
H058	Whatman smear	01	A02	C01	00001	8.0	-2.1

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.

Maine Yankee Atomic Power Plant Site Characterization

LIQUID SCINTILLATION COUNTER CALIBRATION SUMMARY

03/27/98

Removable Contamination - Tritium Activity

Survey Package : D3100 SYSTEMS

Service Building HVAC 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	

Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Exposure Rate Measurements

Survey Package D3100 SYSTEMS

Service Building HVAC System

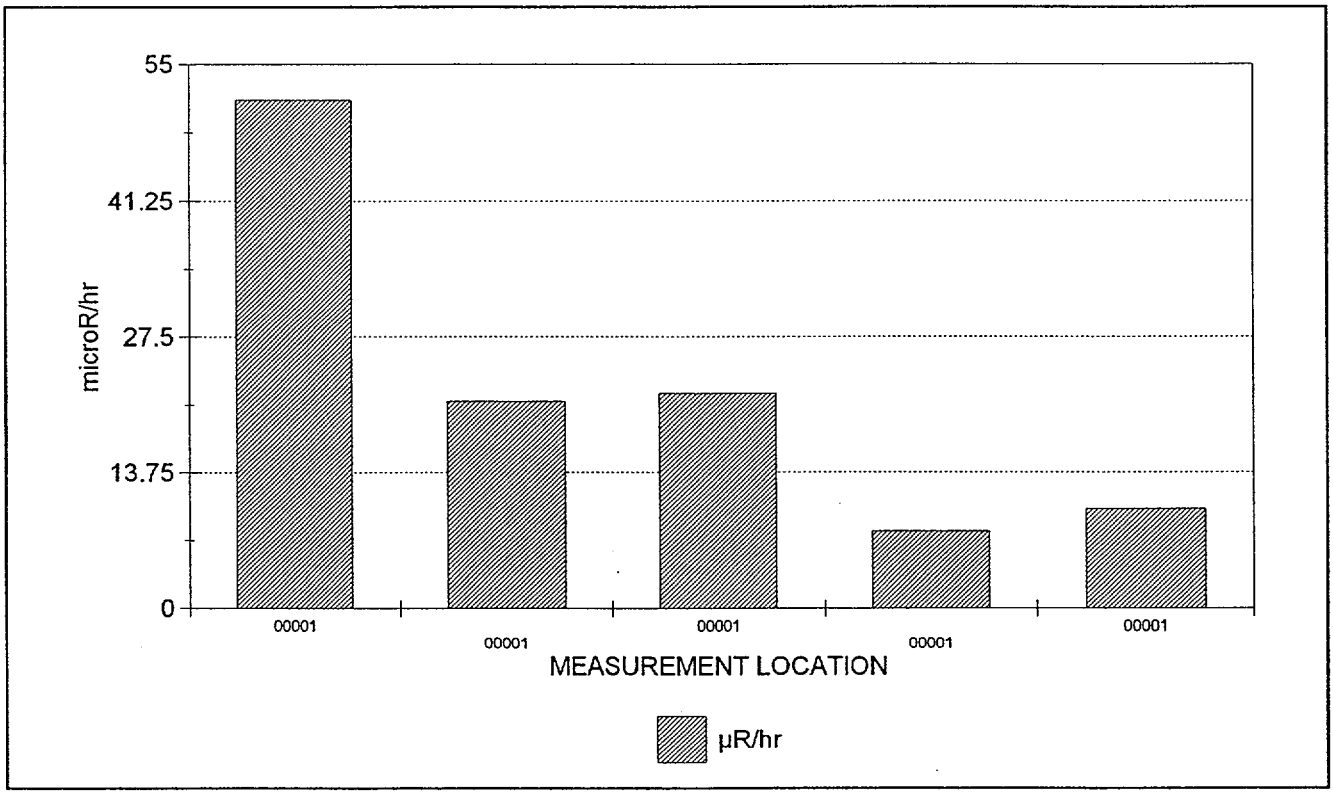
STATISTICAL SUMMARY

	µR/hr
Mean	22.4
Maximum	51.4
Minimum	7.8
Standard Deviation	17.4

Samples Reported	5
Samples Prescribed	5

TESTS PERFORMED

Samples reported satisfy samples prescribed	YES



5 RESULTS ARE GRAPHED

03/27/98 Exposure Rate Measurements

Survey Package : D3100 SYSTEMS

Service Building HVAC System

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	RESULT
232 (2)	01	A01	G0031	C01	60.00	00001	***51.4***
232 (2)	01	A03	G0031	C01	60.00	00001	***21.0***
212 (2)	01	A06	G0031	C01	60.00	00001	***21.8***
212 (2)	02	M02	G0031	C01	60.00	00001	7.8
232 (2)	02	S01	G0031	C01	60.00	00001	10.0

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.

Maine Yankee Atomic Power Plant Site Characterization

DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

03/27/98 Exposure Rate Measurements

Survey Package : D3100 SYSTEMS

Service Building HVAC System

SURVEY		M2350		DETECTOR			
DATE	FILE #	INST S/N	CAL DUE	MODEL	S/N	CAL DUE	TECHNICIAN
12/29/97	212 (2)	095349	4/15/98	44-2	PR126918	5/12/98	LKW7727
						CALIBRATION DATES VERIFIED AS ACCEPTABLE	
12/30/97	232 (2)	126198	3/22/98	44-2	PR075004	4/19/98	LKW7727
						CALIBRATION DATES VERIFIED AS ACCEPTABLE	

Maine Yankee Atomic Power Plant Site Characterization

GAMMA SPECTRAL ANALYSIS RESULTS LISTING

03/28/98 OUTPUT BATCH SN = 227

Survey Package D3100 SYSTEMS

Service Building HVAC System

UNIT : 01 SURFACE : A06 REASON : C01

SAMPLE TYPE OR SURFACE SAMPLED: Duct / Plenum
SAMPLE LOCATOR: 00001

LAB ID	SPECTRUM	MASS (grams)	COUNT TIME (seconds)	NUCLIDE	ACTIVITY (pCi/g)	MDA (pCi/g)	ERROR (± pCi/g)
MYD48	PET00024	2.0	1800	Co-57	< 25.2	25.2	0.0
				Co-60	642.00	36.1	56.3
				Cs-134	< 38.8	38.8	0.0
				Cs-137	834.00	50.8	87.5
				K-40	< 284.0	284.0	0.0
				Mn-54	< 44.4	44.4	0.0

04/01/98

CHARACTERIZATION SUMMARY

SURVEY PACKAGE NUMBER :D3200

SYSTEMS

PACKAGE DESCRIPTION

Hydrogen and Nitrogen

SURVEY AREA DESCRIPTION

Hydrogen & Nitrogen System

GENERAL HISTORICAL INFORMATION (Operational history, etc.)

The Hydrogen and Nitrogen System provided hydrogen for use in the main generator and nitrogen for blanketing and sparging various tanks, heat exchangers and components located throughout the 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 20 survey measurement locations indicated on the appropriate survey diagram(s).

Collected direct measurements for total beta activity at 20 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 24 survey locations including those 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 1 material sample (e.g., sludge, sediment, rust, etc.) from the plant piping 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 3 direct measurements for total beta activity above MDA (Maximum MDA was 3059 dpm/100cm²) and 3 results greater than 2000 dpm/100cm². The maximum measurement result was 125,317 dpm/100cm² at location 01V01 (Pressure regulating valve N-P-43).

o There were 8 measurement for removable beta activity above MDA (14 dpm/100cm²) and 4 results greater than 100 dpm/100cm². The maximum measurement result was 829 dpm/100cm² at location 01V01 (Pressure regulating valve N-P-43).

o There was 1 measurement for removable alpha activity above MDA (8.5 dpm/100cm²). The maximum measurement result was 9.9 dpm/100cm².

o There were no measurements for removable tritium activity above MDA (8 dpm/100cm²).

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 2,269 dpm/100cm² to 3,059 dpm/100cm² due to high backgrounds in the survey area. The components were already closed up and the system was operating before the data could be evaluated.

- o Pressure regulating valve N-P-43 (01V01, survey measurement location # 1 and 2)
- o 1.5" line at valve N-21 (04P01, survey measurement location # 1 and 2)

REFERENCES (Documents, Interviews)

Maine Yankee Drawing 1150 - FM - 89 A, 91 A

SUMMARY OF SURVEY UNIT(S)

03/27/98

OUTPUT BATCH SN = 209

PACKAGE D3200 SYSTEMS

Hydrogen and Nitrogen

UNIT(S)	SURFACE(S)
01 - 21' Primary Auxiliary Building Components	P01 (1" line at valve N-S-25 (south hallway, overhead)) V01 (Pressure Regulating Valve N-P-43 (south hallway)) V02 (Valve N-A-66 (High Pressure Safety Injection Room))
02 - 36' Primary Auxiliary Building Components	P01 (3/4" line at valve N-74 (next to tank TK-3)) P02 (3/4" line at valve FR-0500 (south wall))
03 - 21' Service Building Components	P01 (1" line at valve N-78 (outside PAB door, overhead))
04 - Gas House Components	P01 (1.5" line at valve N-21)
05 - 21' Turbine Building Components	P01 (1" line at valve H-22 (north side)) P02 (8" pipe at hydrogen dryer DH-6 (north side))
06 - 39' Turbine Building Components	M01 (Condensate collector MS-531A (north side)) M02 (Condensate collector MS-531B (north side)) M03 (Condensate collector MS-531C (north side))

REASON(S) CHARACTERIZATION SURVEY (C01)

MATERIALS

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

Maine Yankee Atomic Power Plant Site Characterization

04/01/98

Direct Measurements For Total Beta Activity

Survey Package D3200 SYSTEMS

Hydrogen and Nitrogen

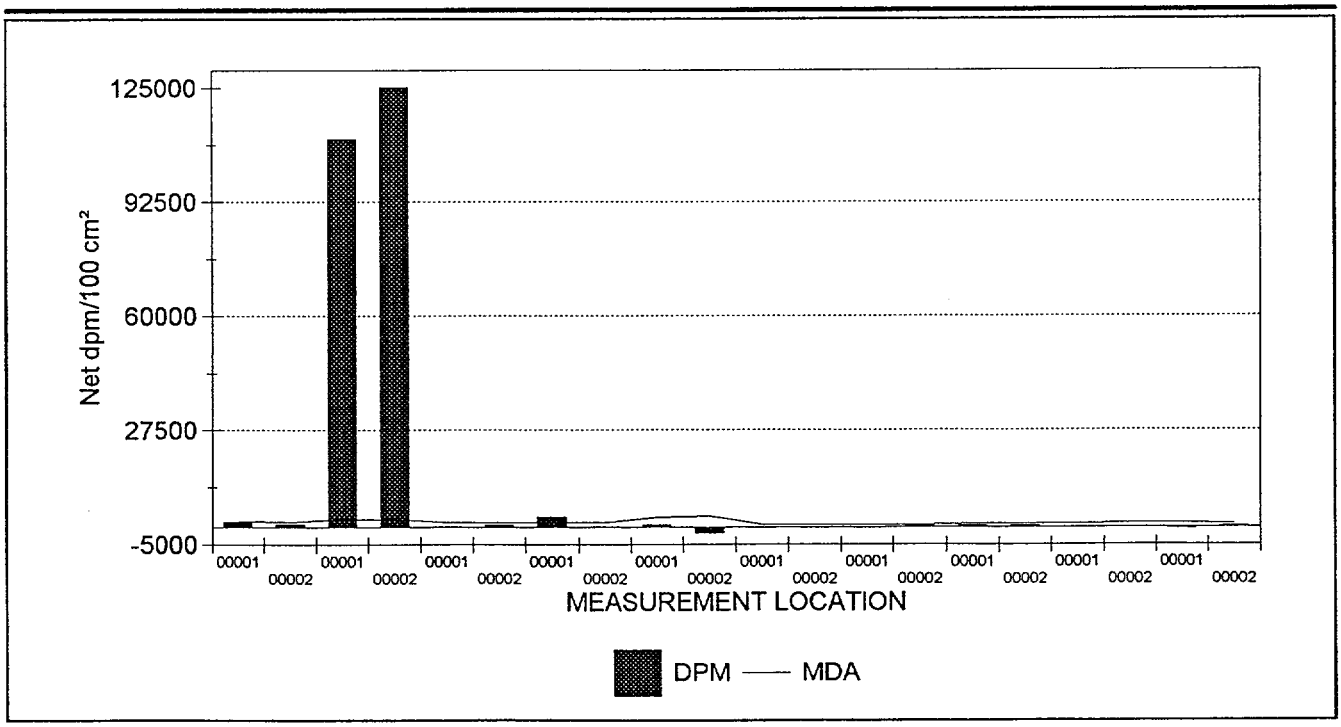
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	12,037.3
Maximum	125,317.3
Minimum	-1,784.8
Standard Deviation	36,307.5
MDA	3,059.2

Samples Reported	20
Samples Prescribed	20

TESTS PERFORMED

Samples reported satisfy samples prescribed	YES
MDA <2000 net dpm/100 cm²	NO
Results above 2000 net dpm/100 cm²	3
Number of results above MDA	3



20 RESULTS ARE GRAPHED

Maine Yankee Atomic Power Plant Site Characterization

04/01/98

Direct Measurements For Total Beta Activity

Survey Package : D3200 SYSTEMS

Hydrogen and Nitrogen

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	MDA	RESULT
120 (2)	01	P01	B0031	C01	180	00001	1,616.4	1,534.7
120 (2)	01	P01	B0031	C01	180	00002	1,563.7	793.8
113 (2)	01	V01	B0031	C01	120	00001	2,269.3	***110,562.4***
113 (2)	01	V01	B0031	C01	120	00002	2,281.4	***125,317.3***
108 (2)	01	V02	B0031	C01	120	00001	1,342.5	121.1
108 (2)	01	V02	B0031	C01	120	00002	1,334.6	666.3
120 (2)	02	P02	B0031	C01	180	00001	1,416.0	***2,830.1***
120 (2)	02	P02	B0031	C01	180	00002	1,341.3	37.4
128 (2)	04	P01	B0031	C01	60	00001	2,758.8	657.6
128 (2)	04	P01	B0031	C01	60	00002	3,059.2	-1,784.8
120 (2)	05	P01	B0031	C01	180	00001	631.2	-317.5
120 (2)	05	P01	B0031	C01	180	00002	644.9	-229.3
112 (2)	05	P02	B0031	C01	300	00001	639.5	-284.4
112 (2)	05	P02	B0031	C01	300	00002	608.1	221.2
113 (2)	06	M01	B0031	C01	120	00001	991.9	521.6
113 (2)	06	M01	B0031	C01	120	00002	1,034.3	397.4
113 (2)	06	M02	B0031	C01	120	00001	1,006.2	-74.5
113 (2)	06	M02	B0031	C01	120	00002	1,068.2	-74.5
113 (2)	06	M03	B0031	C01	120	00001	1,139.1	-372.6
113 (2)	06	M03	B0031	C01	120	00002	1,020.4	223.6

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.
20 results are listed.

DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

04/01/98 Direct Measurements For Total Beta Activity

Survey Package : D3200 SYSTEMS

Hydrogen and Nitrogen

SURVEY		M2350		DETECTOR			PRE	
DATE	FILE #	INST S/N	CAL DUE	MODEL	S/N	CAL DUE	EFF	TECHNICIAN
12/9/97	108 (2)	126182	3/22/98	44-40	PR095101	3/23/98	.11	MAP5535
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
12/10/97	112 (2)	129430	5/6/98	SP-175-3M	PR096141	6/2/98	.07	MAP5535
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
12/10/97	113 (2)	126198	3/22/98	44-40	PR091089	3/23/98	.13	JFM0682
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
12/11/97	120 (2)	129429	5/5/98	43-94	PR124110	5/5/98	.04	JFM0682
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
12/11/97	120 (2)	129429	5/5/98	43-94	PR124110	5/5/98	.04	JFM0682
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
12/12/97	128 (2)	129429	5/5/98	43-94	PR124110	5/5/98	.02	JFM0682
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		

Maine Yankee Atomic Power Plant Site Characterization

03/29/98

Removable Contamination - Gross Beta Activity

Survey Package D3200 SYSTEMS

Hydrogen and Nitrogen

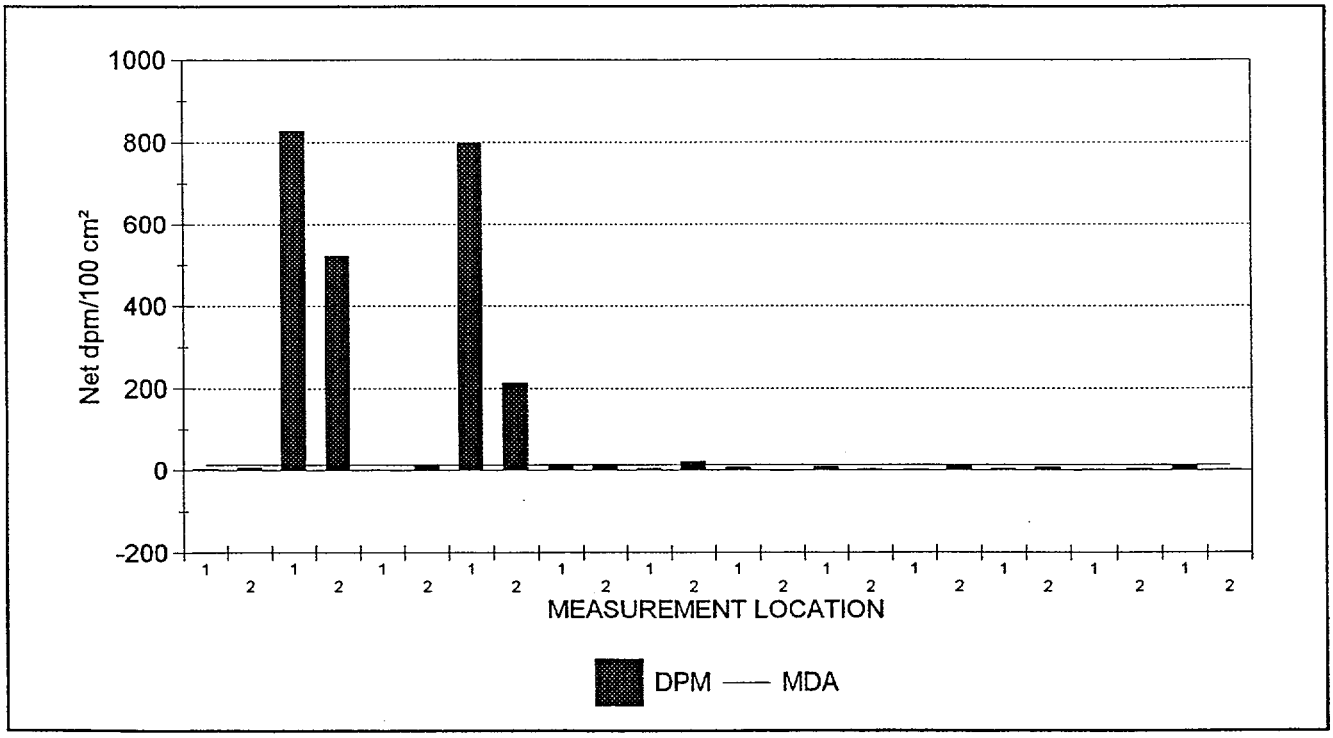
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	104.5
Maximum	828.9
Minimum	-1.2
Standard Deviation	245.4
MDA	14.1

Samples Reported	24
Samples Prescribed	26

TESTS PERFORMED

MDA <100 net dpm/100 cm²	YES
Results above 100 net dpm/100 cm²	4
Number of results above MDA	8



24 RESULTS ARE GRAPHED

Maine Yankee Atomic Power Plant Site Characterization

03/29/98

Removable Contamination - Gross Alpha Activity

Survey Package D3200 SYSTEMS

Hydrogen and Nitrogen

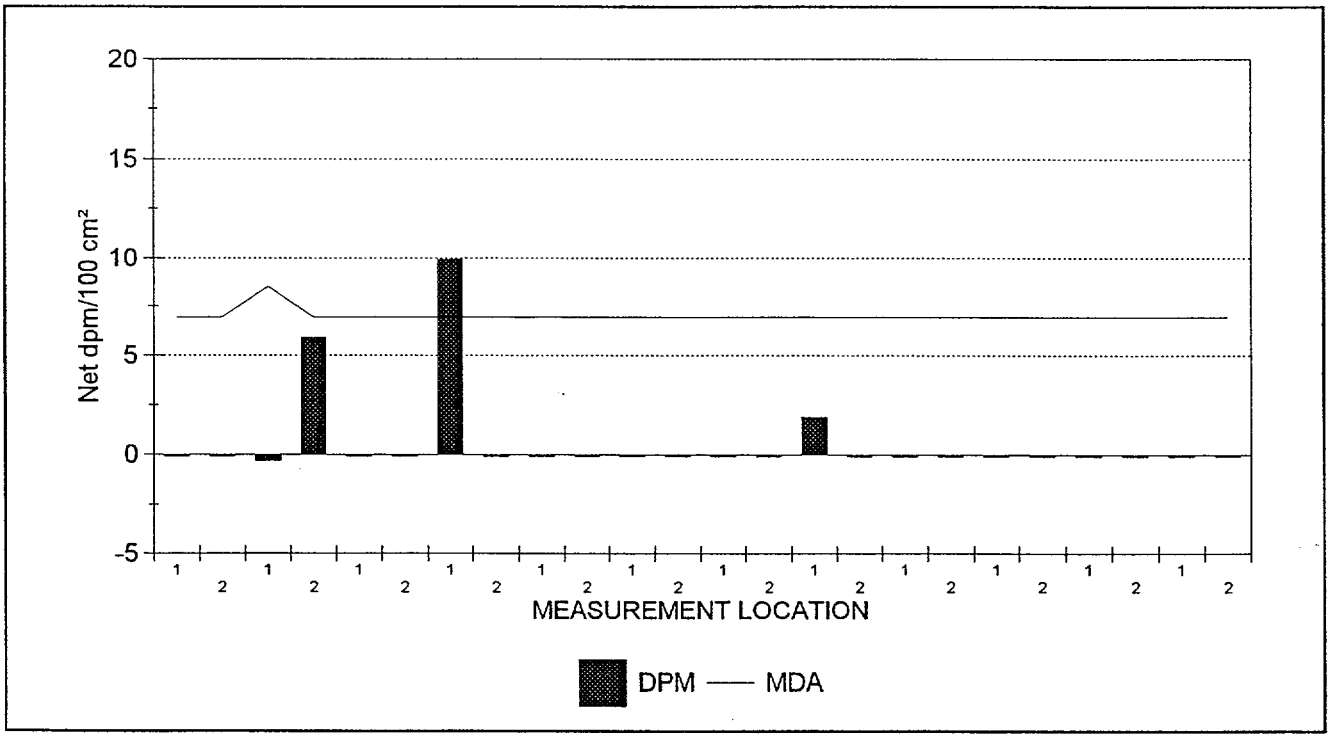
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	0.6
Maximum	9.9
Minimum	-0.3
Standard Deviation	2.3
MDA	8.5

Samples Reported	24
Samples Prescribed	26

TESTS PERFORMED

MDA <10 net dpm/100 cm²	YES
Results above 20 net dpm/100 cm²	0
Number of results above MDA	1



24 RESULTS ARE GRAPHED

Maine Yankee Atomic Power Plant Site Characterization

03/29/98 Removable Contamination

Survey Package : D3200 SYSTEMS

Hydrogen and Nitrogen

RESULTS LISTING - SORTED BY SURFACE CODE

XLS FILE	UNIT	SURFACE	REASON	MSRMNT LOCATION	ALPHA	BETA
SME1E009.XLS	06	M03	C01	2	-0.1	0.8
SME1E009.XLS	06	M03	C01	1	-0.1	12.9
SME1E009.XLS	06	M02	C01	2	-0.1	4.8
SME1E009.XLS	06	M02	C01	1	-0.1	0.8
SME1E009.XLS	06	M01	C01	2	-0.1	6.9
SME1E009.XLS	06	M01	C01	1	-0.1	4.8
SME1E009.XLS	05	P02	C01	2	-0.1	10.9
SME1E009.XLS	05	P02	C01	1	-0.1	0.8
SME1E009.XLS	05	P01	C01	2	-0.1	2.8
SME1E009.XLS	05	P01	C01	1	1.9	8.9
SME1E009.XLS	04	P01	C01	2	-0.1	-1.2
SME1E009.XLS	04	P01	C01	1	-0.1	6.9
SME1E009.XLS	03	P01	C01	2	-0.1	23.0
SME1E009.XLS	03	P01	C01	1	-0.1	4.8
SME1E009.XLS	02	P02	C01	2	-0.1	14.9
SME1E009.XLS	02	P02	C01	1	-0.1	14.9
SME1E009.XLS	02	P01	C01	2	-0.1	***212.9***
SME1E009.XLS	02	P01	C01	1	9.9	***798.6***
SME1E009.XLS	01	V02	C01	2	-0.1	14.9
SME1E009.XLS	01	V02	C01	1	-0.1	0.8
SME1E009.XLS	01	V01	C01	2	5.9	***523.9***
SME1E009.XLS	01	V01	C01	1	-0.3	***828.9***
SME1E009.XLS	01	P01	C01	2	-0.1	6.9
SME1E009.XLS	01	P01	C01	1	-0.1	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).
24 results are listed.

Maine Yankee Atomic Power Plant Site Characterization

DATAFILE & TENNELEC CALIBRATION SUMMARY

03/29/98

Removable Contamination

Survey Package : D3200 SYSTEMS

Hydrogen and Nitrogen

SURVEYDATE	XLS FILE	INST ID	S/N	CAL DUE	LAB TECHNICIAN
2/12/98	SME1E009.XLS	1	15632	8/5/98	JWD
				CALIBRATION DATE VERIFIED AS ACCEPTABLE	

Maine Yankee Atomic Power Plant Site Characterization

03/27/98 Removable Contamination - Tritium Activity

Survey Package : D3200 SYSTEMS

Hydrogen and Nitrogen

RESULTS LISTING - SORTED BY SURFACE CODE

SAMPLE ID	SAMPLE TYPE	UNIT	SURF	REASN	MSRMNT LOCATION	MDA	TRITIUM ACTIVITY
H059	Whatman smear	05	P02	C01	00001	8.0	-1.3
H060	Whatman smear	03	P01	C01	00001	8.0	-2.1

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.

Maine Yankee Atomic Power Plant Site Characterization

LIQUID SCINTILLATION COUNTER CALIBRATION SUMMARY

03/27/98 Removable Contamination - Tritium Activity

Survey Package: D3200 SYSTEMS

Hydrogen and Nitrogen

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

Maine Yankee Atomic Power Plant Site Characterization

GAMMA SPECTRAL ANALYSIS RESULTS LISTING

03/27/98

OUTPUT BATCH SN = 209

Survey Package D3200 SYSTEMS

Hydrogen and Nitrogen

UNIT : 05 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
MYD47	FAL00032	14	1800	Co-57	< 4.38	4.38	0.0
				Co-60	< 5.65	5.65	0.0
				Cs-134	< 5.02	5.02	0.0
				Cs-137	< 5.49	5.49	0.0
				K-40	< 58.40	58.40	0.0
				Mn-54	< 4.03	4.03	0.0

04/01/98

CHARACTERIZATION SUMMARY

SURVEY PACKAGE NUMBER :D3300 SYSTEMS

PACKAGE DESCRIPTION

SURVEY AREA DESCRIPTION
Turbine Building Sumps and Drains

GENERAL HISTORICAL INFORMATION (Operational history, etc.)

The Turbine Building Sumps and Drains system collects liquids from various components and floor drains located throughout the turbine building.

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.

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 40 survey measurement locations indicated on the appropriate survey diagram(s).

Collected direct measurements for total beta activity at 40 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 40 survey locations as for 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 5 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 4 direct measurements for total beta activity above MDA (Maximum MDA was 1091 dpm/100cm^2) and 2 results greater than 2000 dpm/100cm^2. The maximum measurement result was 5,801 dpm/100cm^2.

o There was 1 measurement for removable beta activity above MDA (32 dpm/100cm^2) and no result greater than 100 dpm/100cm^2. The maximum measurement result was 33.6 dpm/100cm^2.

o There were no measurements for removable alpha activity above MDA (8.4 dpm/100cm²).

o There was 1 measurement for removable tritium activity above MDA (7.5 dpm/100cm²). The maximum measurement result was 26.3 dpm/100cm².

o The average and maximum exposure rate measurement results were 10.8 µR/hr and 15.9 µR/hr respectively.

o The sample(s) gamma spectral analysis results indicated plant-derived radionuclide activity above MDA for Co-60, Cs-134, Cs-137 and Sb-125 were present.

Positive Sb-125 gamma spectral analysis sample results in pCi/g are as follows:

MY#	Activity	MDA	+/- Error
MYX08	0.8	0.2	0.1
MYX09	0.6	0.2	0.1
MYX10	0.9	0.2	0.1

REFERENCES (Documents, Interviews)

Maine Yankee Drawing 1150 - FB - 17 A, B, C

Maine Yankee Atomic Power Plant Site Characterization

SUMMARY OF SURVEY UNIT(S)

03/27/98 OUTPUT BATCH SN = 305

PACKAGE D3300 SYSTEMS

UNIT(S)	SURFACE(S)
01 - 21' Turbine Building Components	D01 (4" drain line (across from elevator)) D02 (4" drain line (next to "C" circ. waterbox outlet)) D03 (4" drain line (next to "A" circ. waterbox outlet)) D04 (4" drain line (behind tool cage)) D05 (4" drain line (next to access door)) K01 (Turbine building sump (next to access door)) K02 (Water treatment sump (southwest, near aux.boiler room door)) K03 (Vacuum Priming Pump Sump) K04 (SW HXT Pit sump (south end of component cooling HX's))
02 - 39' Turbine Building Components	D01 (3" drain line (northeast corner)) D02 (3" drain line (southeast corner)) T01 (Turbine building sump water settling tank TK-91 (next to elevator))

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
G0039	CONCRETE (BARE) - GAMMA	0.0

Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Direct Measurements For Total Beta Activity

Survey Package D3300 SYSTEMS

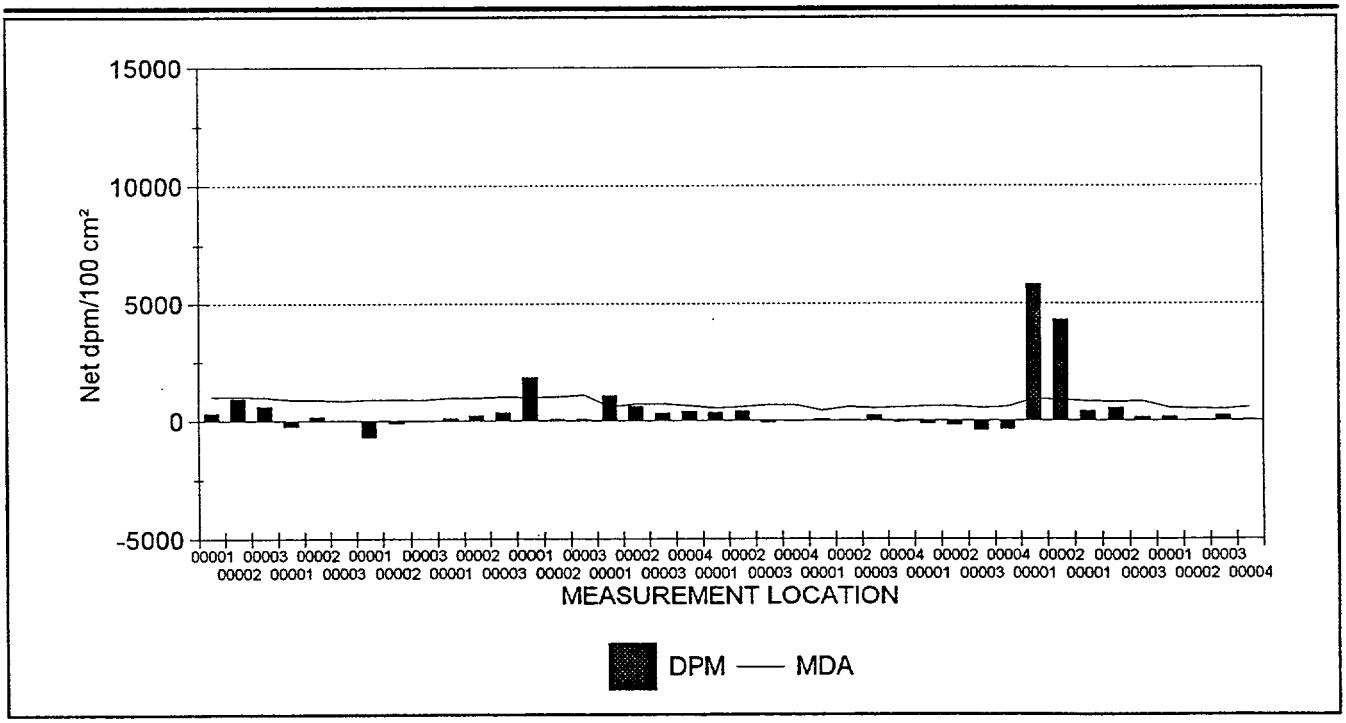
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	433.1
Maximum	5,800.9
Minimum	-696.1
Standard Deviation	1,166.9
MDA	1,090.8

Samples Reported	40
Samples Prescribed	40

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	4



40 RESULTS ARE GRAPHED

03/27/98

Direct Measurements For Total Beta Activity

Survey Package : D3300 SYSTEMS

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	MDA	RESULT
604 (2)	01	D01	B0031	C01	300	00001	1,025.5	315.6
604 (2)	01	D01	B0031	C01	300	00002	1,007.4	936.5
604 (2)	01	D01	B0031	C01	300	00003	990.1	610.7
614 (2)	01	D02	B0031	C01	300	00001	874.2	-232.0
614 (2)	01	D02	B0031	C01	300	00002	872.8	158.2
614 (2)	01	D02	B0031	C01	300	00003	833.4	-10.5
614 (2)	01	D03	B0031	C01	300	00001	892.6	-696.1
614 (2)	01	D03	B0031	C01	300	00002	874.2	-94.9
614 (2)	01	D03	B0031	C01	300	00003	874.2	0.0
607 (2)	01	D04	B0031	C01	180	00001	972.7	99.7
607 (2)	01	D04	B0031	C01	180	00002	972.7	199.4
607 (2)	01	D04	B0031	C01	180	00003	1,027.3	339.1
604 (2)	01	D05	B0031	C01	300	00001	994.7	1,842.4
604 (2)	01	D05	B0031	C01	300	00002	1,017.6	61.1
604 (2)	01	D05	B0031	C01	300	00003	1,090.8	40.7
617 (2)	01	K01	B0031	C01	15	00001	564.6	1,061.9
617 (2)	01	K01	B0031	C01	15	00002	710.7	606.8
617 (2)	01	K01	B0031	C01	15	00003	699.5	318.6
617 (2)	01	K01	B0031	C01	15	00004	627.4	379.3
612 (2)	01	K02	B0031	C01	15	00001	530.9	345.3
612 (2)	01	K02	B0031	C01	15	00002	578.7	402.8
612 (2)	01	K02	B0031	C01	15	00003	652.5	-71.9
612 (2)	01	K02	B0031	C01	15	00004	641.4	-14.4
612 (2)	01	K03	B0031	C01	15	00001	423.5	57.5
612 (2)	01	K03	B0031	C01	15	00002	566.1	14.4
612 (2)	01	K03	B0031	C01	15	00003	530.9	215.8
612 (2)	01	K03	B0031	C01	15	00004	553.2	-57.5
623 (2)	01	K04	B0002	C01	15	00001	587.7	-131.2
623 (2)	01	K04	B0002	C01	15	00002	587.7	-190.5
623 (2)	01	K04	B0002	C01	15	00003	523.1	-412.9
623 (2)	01	K04	B0002	C01	15	00004	583.4	-353.6
602 (2)	02	D01	B0031	C01	600	00001	918.4	***5,800.8***
602 (2)	02	D01	B0031	C01	600	00002	883.5	***4,303.0***
613 (2)	02	D02	B0031	C01	600	00001	809.0	402.5
613 (2)	02	D02	B0031	C01	600	00002	784.3	533.5
613 (2)	02	D02	B0031	C01	600	00003	796.8	135.8
617 (2)	02	T01	B0031	C01	15	00001	525.0	151.7
617 (2)	02	T01	B0031	C01	15	00002	487.5	30.3
617 (2)	02	T01	B0031	C01	15	00003	464.6	197.2
617 (2)	02	T01	B0031	C01	15	00004	535.2	30.3

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.
40 results are listed.

DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

03/27/98 Direct Measurements For Total Beta Activity

Survey Package : D3300 SYSTEMS

SURVEY DATE	FILE #	M2350 INST S/N	M2350 CAL DUE	DETECTOR MODEL	DETECTOR S/N	DETECTOR CAL DUE	PRE EFF	TECHNICIAN
2/16/98	602 (2)	126195	5/7/98	43-98	117961	6/10/98	.02	JFM0682
							CALIBRATION DATES VERIFIED AS ACCEPTABLE	
2/16/98	604 (2)	126182	3/22/98	SP-113-3M	621311	5/4/98	.10	LCF0451
							CALIBRATION DATES VERIFIED AS ACCEPTABLE	
2/17/98	607 (2)	126185	3/20/98	44-40	PR121903	3/22/98	.11	LCF0451
							CALIBRATION DATES VERIFIED AS ACCEPTABLE	
2/17/98	612 (2)	129430	5/6/98	43-106	PR133886	5/7/98	.22	JFM0682
							CALIBRATION DATES VERIFIED AS ACCEPTABLE	
2/17/98	613 (2)	126195	5/7/98	43-98	117961	6/10/98	.02	JFM0682
							CALIBRATION DATES VERIFIED AS ACCEPTABLE	
2/17/98	614 (2)	129429	5/5/98	SP-113-3M	PR096137	4/14/98	.10	JFM0682
							CALIBRATION DATES VERIFIED AS ACCEPTABLE	
2/18/98	617 (2)	129430	5/6/98	43-106	PR133886	5/7/98	.21	JFM0682
							CALIBRATION DATES VERIFIED AS ACCEPTABLE	
2/19/98	623 (2)	129430	5/6/98	43-106	PR133886	5/7/98	.21	JFM0682
							CALIBRATION DATES VERIFIED AS ACCEPTABLE	

Maine Yankee Atomic Power Plant Site Characterization

03/29/98

Removable Contamination - Gross Beta Activity

Survey Package D3300 SYSTEMS

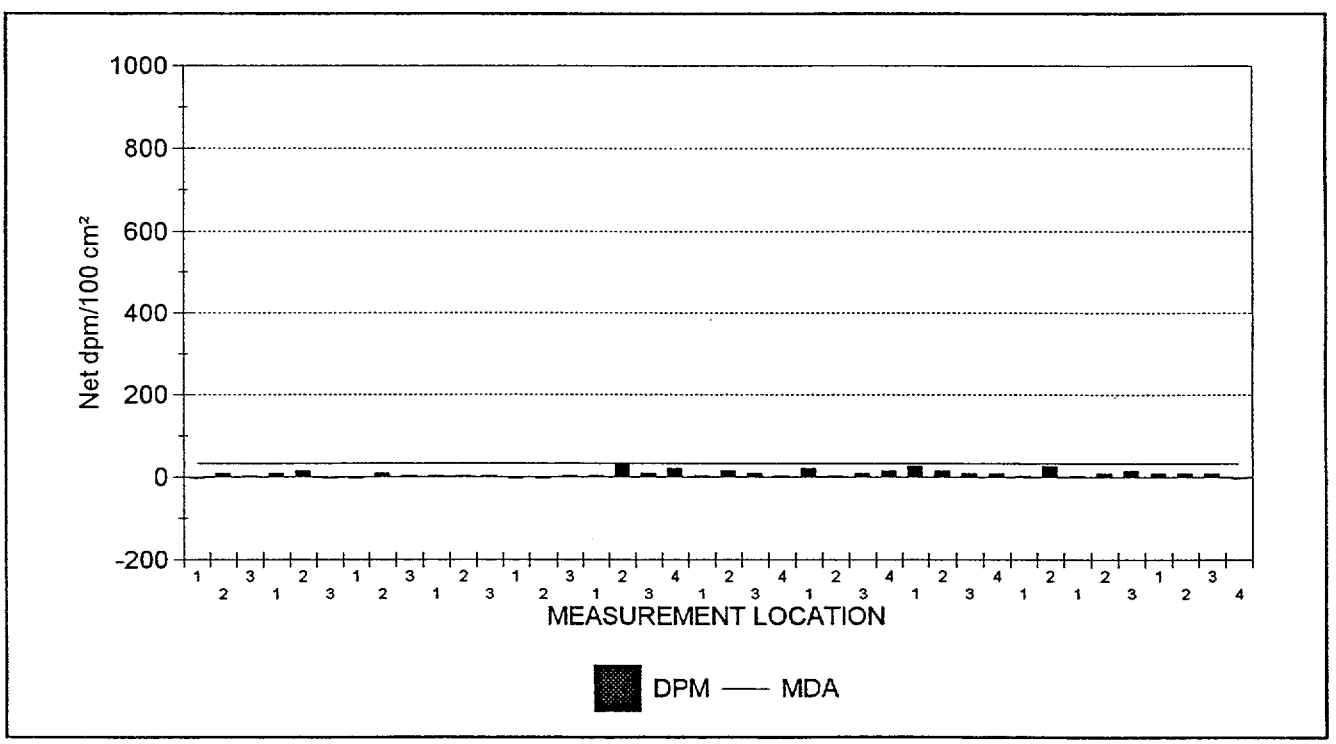
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	8.1
Maximum	33.6
Minimum	-3.5
Standard Deviation	9.0
MDA	32.2

Samples Reported	40
Samples Prescribed	45

TESTS PERFORMED

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



40 RESULTS ARE GRAPHED

Maine Yankee Atomic Power Plant Site Characterization

03/29/98

Removable Contamination - Gross Alpha Activity

Survey Package D3300 SYSTEMS

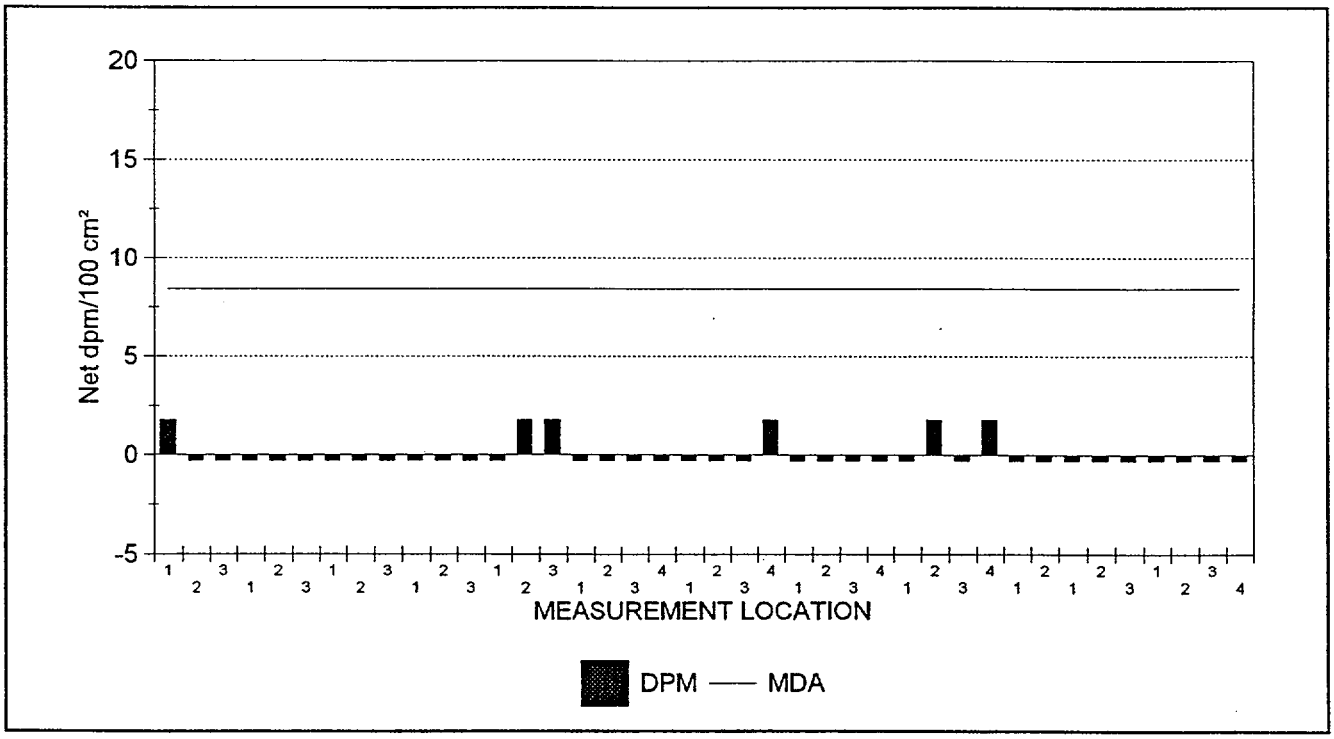
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	0.0
Maximum	1.8
Minimum	-0.3
Standard Deviation	0.8
MDA	8.4

Samples Reported	40
Samples Prescribed	45

TESTS PERFORMED

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



40 RESULTS ARE GRAPHED

Survey Package: D3300 SYSTEMS

RESULTS LISTING - SORTED BY SURFACE CODE

XLS FILE	UNIT	SURFACE	REASON	MSRMNT LOCATION	ALPHA	BETA
SME1E028.XLS	02	T01	C01	4	-0.3	-3.5
SME1E028.XLS	02	T01	C01	3	-0.3	8.9
SME1E028.XLS	02	T01	C01	2	-0.3	8.9
SME1E028.XLS	02	T01	C01	1	-0.3	8.9
SME1E028.XLS	02	D02	C01	3	-0.3	15.1
SME1E028.XLS	02	D02	C01	2	-0.3	8.9
SME1E028.XLS	02	D02	C01	1	-0.3	2.7
SME1E028.XLS	02	D01	C01	2	-0.3	27.4
SME1E028.XLS	02	D01	C01	1	-0.3	2.7
SME1E028.XLS	01	K04	C01	4	1.8	8.9
SME1E028.XLS	01	K04	C01	3	-0.3	8.9
SME1E028.XLS	01	K04	C01	2	1.8	15.1
SME1E028.XLS	01	K04	C01	1	-0.3	27.4
SME1E028.XLS	01	K03	C01	4	-0.3	15.1
SME1E028.XLS	01	K03	C01	3	-0.3	8.9
SME1E028.XLS	01	K03	C01	2	-0.3	2.7
SME1E028.XLS	01	K03	C01	1	-0.3	21.2
SME1E028.XLS	01	K02	C01	4	1.8	2.7
SME1E028.XLS	01	K02	C01	3	-0.3	8.9
SME1E028.XLS	01	K02	C01	2	-0.3	15.1
SME1E028.XLS	01	K02	C01	1	-0.3	2.7
SME1E028.XLS	01	K01	C01	4	-0.3	21.2
SME1E028.XLS	01	K01	C01	3	-0.3	8.9
SME1E028.XLS	01	K01	C01	2	-0.3	33.6
SME1E028.XLS	01	K01	C01	1	-0.3	2.7
SME1E028.XLS	01	D05	C01	3	1.8	2.7
SME1E028.XLS	01	D05	C01	2	1.8	-3.5
SME1E028.XLS	01	D05	C01	1	-0.3	-3.5
SME1E028.XLS	01	D04	C01	3	-0.3	2.7
SME1E028.XLS	01	D04	C01	2	-0.3	2.7
SME1E028.XLS	01	D04	C01	1	-0.3	2.7
SME1E028.XLS	01	D03	C01	3	-0.3	2.7
SME1E028.XLS	01	D03	C01	2	-0.3	8.9
SME1E028.XLS	01	D03	C01	1	-0.3	-3.5
SME1E028.XLS	01	D02	C01	3	-0.3	-3.5
SME1E028.XLS	01	D02	C01	2	-0.3	15.1
SME1E028.XLS	01	D02	C01	1	-0.3	8.9
SME1E028.XLS	01	D01	C01	3	-0.3	2.7
SME1E028.XLS	01	D01	C01	2	-0.3	8.9
SME1E028.XLS	01	D01	C01	1	1.8	-3.5

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).
40 results are listed.

Maine Yankee Atomic Power Plant Site Characterization

DATAFILE & TENNELEC CALIBRATION SUMMARY

03/29/98 Removable Contamination

Survey Package: D3300 SYSTEMS

SURVEYDATE	XLS FILE	INST ID	S/N	CAL DUE	LAB TECHNICIAN
2/25/98	SME1E028.XLS	1	15632	8/5/98	JWD
				CALIBRATION DATE VERIFIED AS ACCEPTABLE	

03/27/98 Removable Contamination - Tritium Activity

Survey Package: D3300 SYSTEMS

RESULTS LISTING - SORTED BY SURFACE CODE

SAMPLE ID	SAMPLE TYPE	UNIT	SURF	REASN	MSRMNT LOCATION	MDA	TRITIUM ACTIVITY
H064	Whatman smear	01	K03	C01	00001	7.5	3.2
H065	Whatman smear	01	K02	C01	00001	7.5	4.1
H066	Whatman smear	02	T01	C01	00001	7.5	**26.3**
H067	Whatman smear	01	K01	C01	00001	7.5	*7.7*
H068	Whatman smear	01	K04	C01	00001	7.5	4.0

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.

Maine Yankee Atomic Power Plant Site Characterization

LIQUID SCINTILLATION COUNTER CALIBRATION SUMMARY

03/27/98 Removable Contamination - Tritium Activity

Survey Package : D3300 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	

Maine Yankee Atomic Power Plant Site Characterization

03/27/98

Exposure Rate Measurements

Survey Package D3300 SYSTEMS

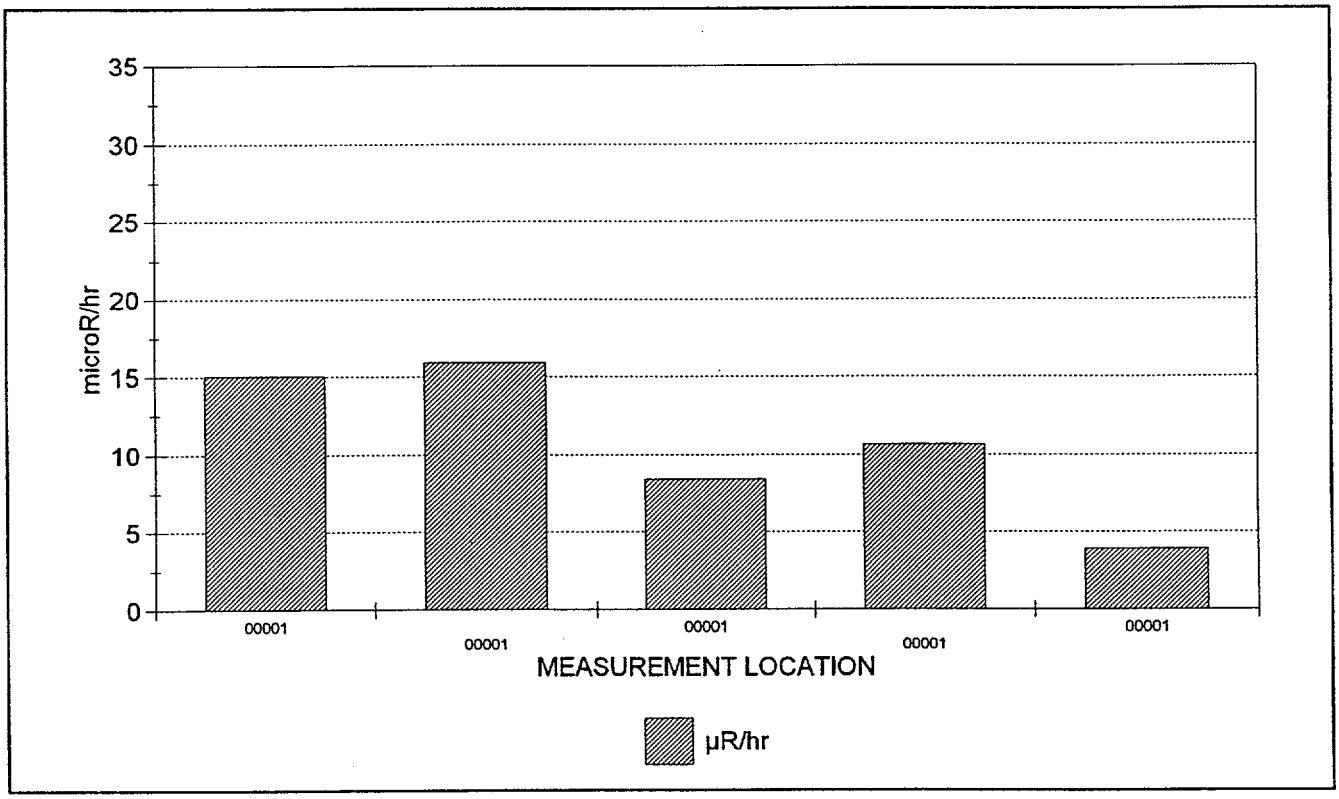
STATISTICAL SUMMARY

	µR/hr
Mean	10.8
Maximum	15.9
Minimum	3.9
Standard Deviation	4.9

Samples Reported	5
Samples Prescribed	5

TESTS PERFORMED

Samples reported satisfy samples prescribed	YES



5 RESULTS ARE GRAPHED

03/27/98

Exposure Rate Measurements

Survey Package : D3300 SYSTEMS

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	RESULT
616 (2)	01	K01	G0031	C01	60.00	00001	***15.0***
611 (2)	01	K02	G0031	C01	60.00	00001	***15.9***
611 (2)	01	K03	G0031	C01	60.00	00001	8.4
624 (2)	01	K04	G0039	C01	60.00	00001	10.6
616 (2)	02	T01	G0031	C01	60.00	00001	3.9

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.
5 results are listed.

DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

03/27/98 Exposure Rate Measurements

Survey Package : D3300 SYSTEMS

SURVEY DATE	FILE #	M2350 INST S/N	M2350 CAL DUE	DETECTOR MODEL	DETECTOR S/N	DETECTOR CAL DUE	TECHNICIAN
2/17/98	611 (2)	095348	3/20/98	44-2	PR091091	4/19/98	JFM0682
							CALIBRATION DATES VERIFIED AS ACCEPTABLE
2/18/98	616 (2)	95348	3/20/98	44-2	PR091091	4/19/98	LCF0451
							CALIBRATION DATES VERIFIED AS ACCEPTABLE
2/19/98	624 (2)	95348	3/20/98	44-2	PR091091	4/19/98	LCF0451
							CALIBRATION DATES VERIFIED AS ACCEPTABLE

Maine Yankee Atomic Power Plant Site Characterization

GAMMA SPECTRAL ANALYSIS RESULTS LISTING

OUTPUT BATCH SN = 369

04/01/98

Survey Package D3300 SYSTEMS

UNIT : 01 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)
MYX10	H2O00200	1,200.00	1200	Co-57	< .05	0.05	0.00
				Co-60	1.07	0.05	0.09
				Cs-134	.15	0.04	0.04
				Cs-137	1.58	0.06	0.15
				K-40	2.99	0.36	0.60
				Mn-54	< .07	0.07	0.00

UNIT : 01 SURFACE : K03 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)
MYX11	H2O00221	1,160.00	1200	Co-57	< .03	0.03	0.00
				Co-60	< .03	0.03	0.00
				Cs-134	< .04	0.04	0.00
				Cs-137	< .04	0.04	0.00
				K-40	.61	0.29	0.26
				Mn-54	< .03	0.03	0.00

Version 3.0.7a - 3/30/98

JLM

DBACORR Documentation
:aProgDBACORR:R_GSPEC.RSL

Survey Package D3300 SYSTEMS

UNIT : 01 SURFACE : K04 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)
MYX08	H2O00199	1,120.00	1200	Co-57	< .05	0.05	0.00
				Co-60	1.70	0.07	0.12
				Cs-134	< .09	0.09	0.00
				Cs-137	.56	0.08	0.08
				K-40	1.66	0.45	0.48
				Mn-54	< .08	0.08	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)
MYX09	H2O00220	1,120.00	1200	Co-57	< .06	0.06	0.00
				Co-60	1.13	0.06	0.09
				Cs-134	< .10	0.10	0.00
				Cs-137	1.08	0.08	0.11
				K-40	6.90	0.51	0.92
				Mn-54	< .07	0.07	0.00

Maine Yankee Atomic Power Plant Site Characterization

04/01/98

CHARACTERIZATION SUMMARY

SURVEY PACKAGE NUMBER :D3400 SYSTEMS

PACKAGE DESCRIPTION

SURVEY AREA DESCRIPTION

Low Level Waste Storage Facility Systems

GENERAL HISTORICAL INFORMATION (Operational history, etc.)

The Low Level Waste Storage Facility was constructed in 1985. It was used for temporary storage of radioactive waste, mainly for staging material prior to shipment. There is no history of radioactive contamination associated with the Low Level Waste Storage Facility.

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 28 survey measurement locations indicated on the appropriate survey diagram(s).

Collected direct measurements for total beta activity at 28 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 28 survey locations as for direct measurements for total beta activity.

Collected 2 material samples (e.g., sludge, sediment, rust, etc.) from the systems 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 11 direct measurements for total beta activity above MDA (Maximum MDA was 992 dpm/100cm^2) and 2 results greater than 2000 dpm/100cm^2. The maximum measurement result was 3,099 dpm/100cm^2 at location 01A01 (Northwest exhaust duct).
- o There were no measurements for removable beta activity above MDA (32 dpm/100cm^2).
- o There were no measurements for removable alpha activity above MDA (8.4 dpm/100cm^2).
- o The sample(s) gamma spectral analysis results indicated no plant-derived radionuclide activity above MDA.

REFERENCES (Documents, Interviews)

EDCR - 85 - 33 - 12

SUMMARY OF SURVEY UNIT(S)

03/27/98 OUTPUT BATCH SN = 306

PACKAGE D3400 SYSTEMS

UNIT(S)	SURFACE(S)
01 - Ventilation System Components	A01 (Northwest exhaust duct) A02 (Northeast intake duct) A03 (Southwest intake duct) A04 (Southeast intake duct) A05 (West center intake duct) A06 (East center intake duct)
02 - Drain System Components	D01 (4" drain line to sump) K01 (Low level waste storage facility sump)

REASON(S) CHARACTERIZATION SURVEY (C01)

MATERIALS

MAT'L CODE	MATERIAL DESCRIPTION	BETA BKGD (dpm/100 cm²)
B0001	CONCRETE - PAINTED (INTERIOR)	478.0
B0031	METAL - BARE	0.0

Maine Yankee Atomic Power Plant Site Characterization

04/01/98

Direct Measurements For Total Beta Activity

Survey Package D3400 SYSTEMS

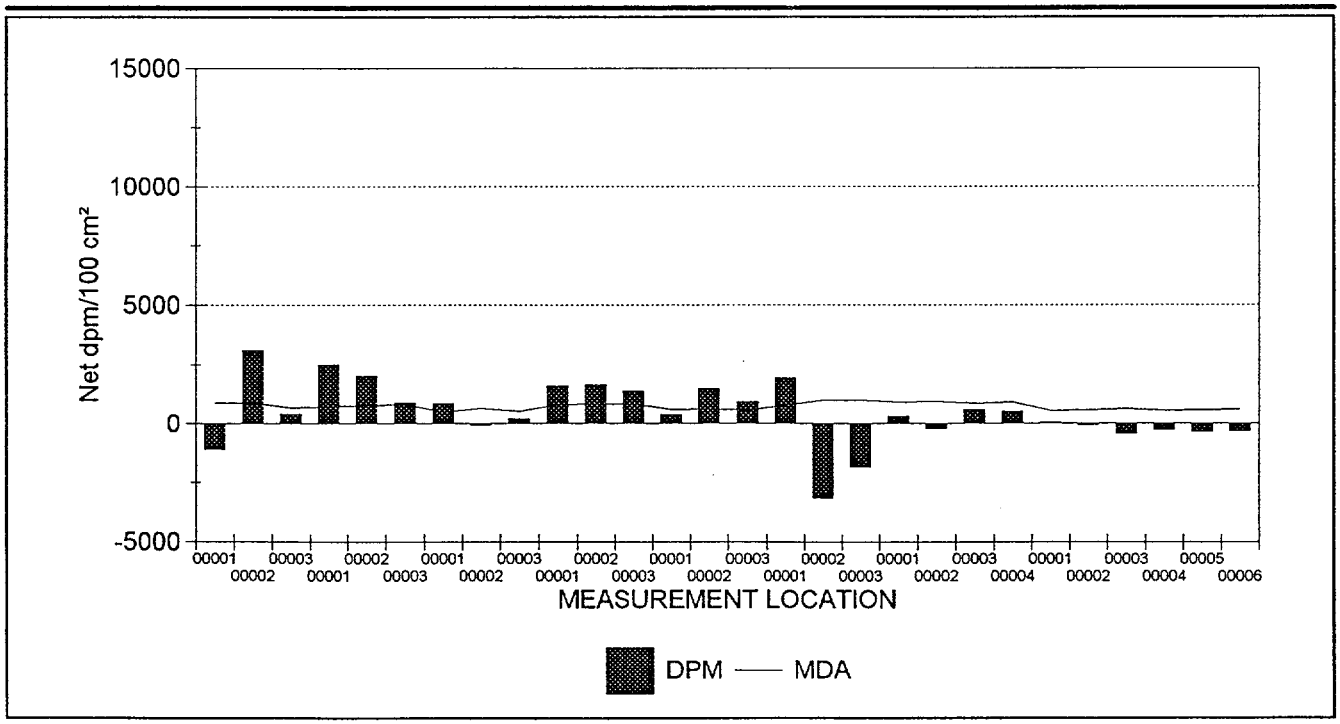
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	457.0
Maximum	3,099.3
Minimum	-3,156.0
Standard Deviation	1,300.0
MDA	991.6

Samples Reported	28
Samples Prescribed	28

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	11



28 RESULTS ARE GRAPHED

04/01/98

Direct Measurements For Total Beta Activity

Survey Package : D3400 SYSTEMS

RESULTS LISTING - SORTED BY SURFACE CODE

FILE #	UNIT	SURFACE	MATERIAL	REASON	COUNT TIME	MSRMNT LOCATION	MDA	RESULT
620 (2)	01	A01	B0031	C01	60	00001	891.5	-1,103.7
620 (2)	01	A01	B0031	C01	60	00002	874.6	***3,099.3***
620 (2)	01	A01	B0031	C01	60	00003	678.5	415.8
620 (2)	01	A02	B0031	C01	60	00001	729.3	***2,494.6***
620 (2)	01	A02	B0031	C01	60	00002	780.0	1,999.5
620 (2)	01	A02	B0031	C01	60	00003	817.1	876.9
637 (2)	01	A03	B0031	C01	60	00001	499.6	854.6
637 (2)	01	A03	B0031	C01	60	00002	662.4	-82.7
637 (2)	01	A03	B0031	C01	60	00003	521.7	200.8
620 (2)	01	A04	B0031	C01	60	00001	795.7	1,591.2
620 (2)	01	A04	B0031	C01	60	00002	824.5	1,629.0
620 (2)	01	A04	B0031	C01	60	00003	842.7	1,372.0
620 (2)	01	A05	B0031	C01	60	00001	586.0	396.9
620 (2)	01	A05	B0031	C01	60	00002	621.2	1,481.6
620 (2)	01	A05	B0031	C01	60	00003	569.1	926.0
620 (2)	01	A06	B0031	C01	60	00001	788.2	1,923.9
620 (2)	01	A06	B0031	C01	60	00002	991.6	-3,156.0
620 (2)	01	A06	B0031	C01	60	00003	990.2	-1,859.6
619 (2)	02	D01	B0031	C01	300	00001	914.3	314.9
619 (2)	02	D01	B0031	C01	300	00002	945.2	-233.6
619 (2)	02	D01	B0031	C01	300	00003	867.7	589.2
619 (2)	02	D01	B0031	C01	300	00004	918.1	528.2
620 (2)	02	K01	B0001	C01	20	00001	553.0	54.9
620 (2)	02	K01	B0001	C01	20	00002	573.9	-81.1
620 (2)	02	K01	B0001	C01	20	00003	632.3	-432.6
620 (2)	02	K01	B0001	C01	20	00004	555.7	-296.6
620 (2)	02	K01	B0001	C01	20	00005	576.5	-375.9
620 (2)	02	K01	B0001	C01	20	00006	601.4	-330.6

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.
28 results are listed.

Maine Yankee Atomic Power Plant Site Characterization

DOWNLOAD FILE & SURVEY INSTRUMENTATION CALIBRATION SUMMARY

04/01/98 Direct Measurements For Total Beta Activity

Survey Package : D3400 SYSTEMS

SURVEY		M2350		DETECTOR			PRE	
DATE	FILE #	INST S/N	CAL DUE	MODEL	S/N	CAL DUE	EFF	TECHNICIAN
2/18/98	619 (2)	129429	5/5/98	SP-113-3M	PR096137	4/14/98	.10	AOK2982
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
2/18/98	620 (2)	126182	3/22/98	43-106	133859	3/30/98	.21	AOK2982
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		
2/25/98	637 (2)	129430	5/6/98	43-106	PR133886	5/7/98	.20	JFM0682
						CALIBRATION DATES VERIFIED AS ACCEPTABLE		

Maine Yankee Atomic Power Plant Site Characterization

03/29/98

Removable Contamination - Gross Beta Activity

Survey Package D3400 SYSTEMS

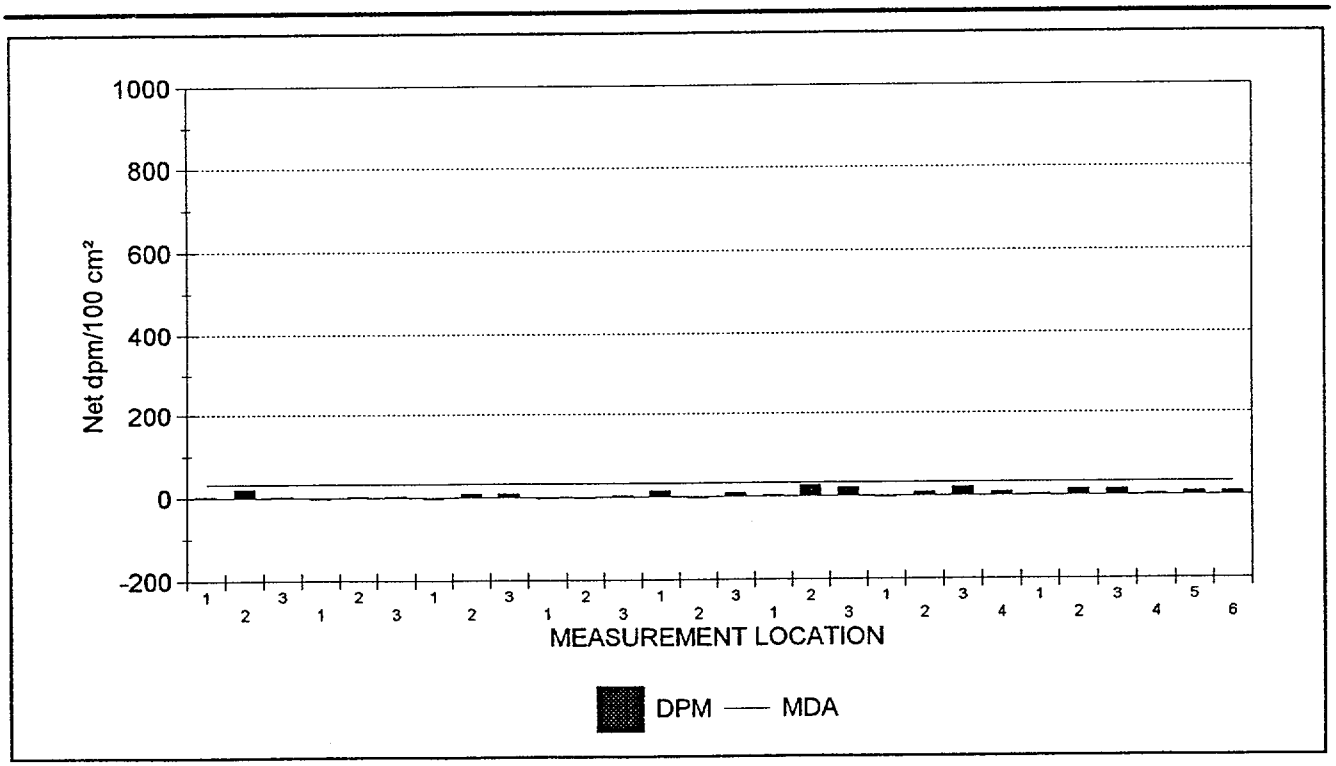
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	7.1
Maximum	27.4
Minimum	-3.5
Standard Deviation	8.7
MDA	32.2

Samples Reported	28
Samples Prescribed	28

TESTS PERFORMED

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



28 RESULTS ARE GRAPHED

Maine Yankee Atomic Power Plant Site Characterization

03/29/98

Removable Contamination - Gross Alpha Activity

Survey Package D3400 SYSTEMS

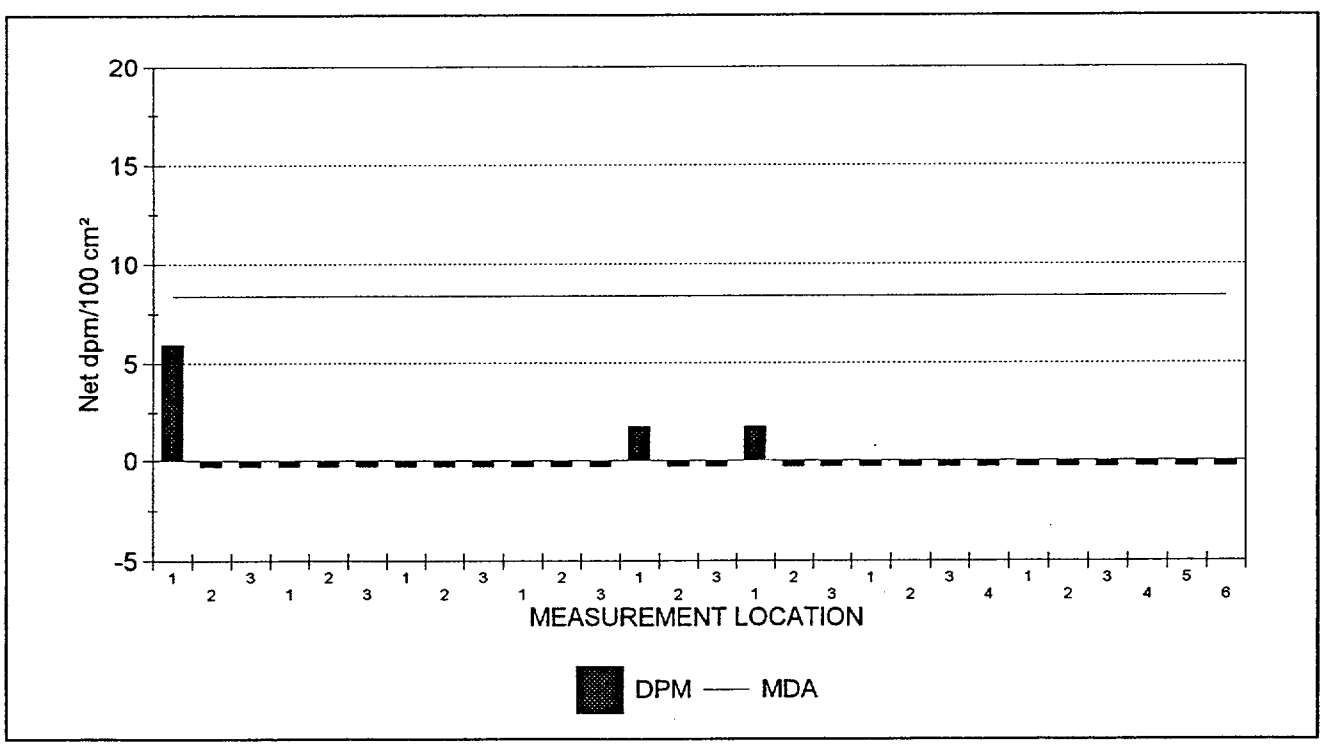
STATISTICAL SUMMARY

	Net dpm/100 cm²
Mean	0.1
Maximum	6.0
Minimum	-0.3
Standard Deviation	1.3
MDA	8.4

Samples Reported	28
Samples Prescribed	28

TESTS PERFORMED

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



28 RESULTS ARE GRAPHED

03/29/98 Removable Contamination

Survey Package : D3400 SYSTEMS

RESULTS LISTING - SORTED BY SURFACE CODE

XLS FILE	UNIT	SURFACE	REASON	MSRMNT LOCATION	ALPHA	BETA
SME1E030.XLS	02	K01	C01	6	-0.3	8.9
SME1E030.XLS	02	K01	C01	5	-0.3	8.9
SME1E030.XLS	02	K01	C01	4	-0.3	2.7
SME1E030.XLS	02	K01	C01	3	-0.3	15.1
SME1E030.XLS	02	K01	C01	2	-0.3	15.1
SME1E030.XLS	02	K01	C01	1	-0.3	2.7
SME1E030.XLS	02	D01	C01	4	-0.3	8.9
SME1E030.XLS	02	D01	C01	3	-0.3	21.2
SME1E030.XLS	02	D01	C01	2	-0.3	8.9
SME1E030.XLS	02	D01	C01	1	-0.3	-3.5
SME1E030.XLS	01	A06	C01	3	-0.3	21.2
SME1E030.XLS	01	A06	C01	2	-0.3	27.4
SME1E030.XLS	01	A06	C01	1	1.8	2.7
SME1E030.XLS	01	A05	C01	3	-0.3	8.9
SME1E030.XLS	01	A05	C01	2	-0.3	-3.5
SME1E030.XLS	01	A05	C01	1	1.8	15.1
SME1E030.XLS	01	A04	C01	3	-0.3	2.7
SME1E030.XLS	01	A04	C01	2	-0.3	-3.5
SME1E030.XLS	01	A04	C01	1	-0.3	-3.5
SME1E030.XLS	01	A03	C01	3	-0.3	8.9
SME1E030.XLS	01	A03	C01	2	-0.3	8.9
SME1E030.XLS	01	A03	C01	1	-0.3	-3.5
SME1E030.XLS	01	A02	C01	3	-0.3	2.7
SME1E030.XLS	01	A02	C01	2	-0.3	2.7
SME1E030.XLS	01	A02	C01	1	-0.3	-3.5
SME1E030.XLS	01	A01	C01	3	-0.3	2.7
SME1E030.XLS	01	A01	C01	2	-0.3	21.2
SME1E030.XLS	01	A01	C01	1	6.0	2.7

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).
28 results are listed.

Maine Yankee Atomic Power Plant Site Characterization

DATAFILE & TENNELEC CALIBRATION SUMMARY

03/29/98 Removable Contamination

Survey Package : D3400 SYSTEMS

SURVEYDATE	XLS FILE	INST ID	S/N	CAL DUE	LAB TECHNICIAN
2/25/98	SME1E030.XLS	1	15632	8/5/98	JWD
				CALIBRATION DATE VERIFIED AS ACCEPTABLE	

Maine Yankee Atomic Power Plant Site Characterization

GAMMA SPECTRAL ANALYSIS RESULTS LISTING

03/28/98 OUTPUT BATCH SN = 229

Survey Package D3400 SYSTEMS

UNIT : 02 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)
MYD61	FAL00020	12.3	1800	Co-57	< 4.2	4.2	0.0
				Co-60	< 4.9	4.9	0.0
				Cs-134	< 6.2	6.2	0.0
				Cs-137	< 5.1	5.1	0.0
				K-40	< 78.4	78.4	0.0
				Mn-54	< 5.4	5.4	0.0

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)
MYD61D	FAL00021	12.3	1800	Co-57	< 3.5	3.5	0.0
				Co-60	< 5.8	5.9	0.0
				Cs-134	< 4.2	4.2	0.0
				Cs-137	< 5.8	5.8	0.0
				K-40	< 78.4	78.4	0.0
				Mn-54	< 4.9	4.9	0.0