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NF-117

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Formerly Utilized Sites Remedial Action Program (FUSRAP)

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# ADMINISTRATIVE RECORD

for  
Niagara Falls Storage Site

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**FUSRAP TRANSMITTAL NOTICE**Date: June 12, 1996To: Jason DarbyFrom: Heather BaldySubject Code: 7520WBS: 118, 138, 158Comments: Jason -

Attached is the final Radon flux status letter for Region II. Please forward this to Loren Marz as requested in the attached Email.

Thanks - Heather

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PM's Initials

- Original hand carried; this is PDCC's copy.
- Disk forwarded/electronically transmitted directly to recipient.

ACTION REQ'D	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	DUE DATE	<u>6-28-96</u>
RESPONSE TO CHRON NO. _____				
<input type="checkbox"/> FFA <input type="checkbox"/> Permit <input type="checkbox"/> Milestone <input type="checkbox"/> DoR <input type="checkbox"/> CCN <input type="checkbox"/> CAR <input type="checkbox"/> Mid-Yr <input type="checkbox"/> Yr-End <input type="checkbox"/> Periodic Rpt				

Date: 5/15/96 3:55:51 PM  
From: Angie John  
Subject: Radon Flux Monitoring Resolution  
To: See Below

Bill Seay called this afternoon and indicated that he had reviewed our proposal to discontinue radon flux monitoring at all region II sites (based on justification provided in the final EPA/DOE memorandum of understanding). The letter should be revised to go to Giardina under Les Price's signature and should be sent to Loren Marz for initial review.

He offered the following specific guidance for finalizing the letter:

- 1.) He indicated that the letter should continue to emphasize strongly that technically this monitoring is not necessary at any site in EPA Region II (the draft letter presented historical data for each site indicating that in no instances since 1992 was the NESHAPs subpart Q limit exceeded).
- 2.) We will indicate that radon flux monitoring will continue at NFSS as part of performance monitoring of the clay pile cover. He asked also that we refer to the National Academy of Sciences study/concern regarding the K-65s.
- 3.) At MISS, the monitoring issue becomes moot at the end of the year since the pile will be gone (effectively, it is discontinued then).
- 4.) At MSP, monitoring will be discontinued. He asked that we emphasize that with a limited budget, these resources can be better used for remediation.

Angie

To: Heather Baldy  
CC: Jim McCague  
CC: Joseph Wood  
CC: Mike Redmon  
CC: Pat Griffin  
CC: Gerald Palau



## Department of Energy

Oak Ridge Operations Office  
P.O. Box 2001  
Oak Ridge, Tennessee 37831—

Mr. Paul A. Giardina  
Radiation Branch  
Environmental Protection Agency  
Region II  
Jacob K. Javits Federal Building  
New York, NY 10278

Dear Mr. Giardina:

### **STATUS OF RADON FLUX MONITORING (NESHAPs SUBPART Q) AT THREE DEPARTMENT OF ENERGY SITES IN EPA REGION II**

This letter provides the status of the radon flux monitoring activities implemented by the Department of Energy (DOE) at three Region II sites that are subject to requirements in the National Emission Standards for Hazardous Air Pollutants (NESHAPs) Subpart Q. To evaluate compliance with Subpart Q, DOE has monitored its storage piles at these sites according to an EPA-approved method modified from NESHAPs Appendix B, Method 115. The monitored sites are:

- Maywood Interim Storage Site (MISS), Maywood, New Jersey
- Middlesex Sampling Plant (MSP), Middlesex, New Jersey
- Niagara Falls Storage Site (NFSS), Lewiston, New York

Since 1992, radon flux monitoring results from these sites have been significantly less than 20 pCi/m<sup>2</sup>-s (see attachments), successfully demonstrating compliance with the NESHAPs Subpart Q standard.

The final Memorandum of Understanding between EPA and DOE concerning the Clean Air Act Emission Standards for Radionuclides, 40 CFR Part 61 including subparts H, I, Q, and T (signed April 1995), makes the following statement:

“Where flux measurements demonstrate compliance with the 20 pCi/m<sup>2</sup>-s standard, no further measurements are required so long as the storage or disposal site remains in the condition for which compliance was demonstrated.”

Consistent with the language in the Memorandum of Understanding, based on successful demonstration of compliance with the standard, it is technically justifiable to discontinue monitoring at all FUSRAP sites until alterations of site conditions necessitate reassessment of radon flux at the particular site. Detailed below is the description of DOE's planned implementation of this agreement at its Region II FUSRAP sites.

Niagara Falls Storage Site

Since 1992, radon flux results at NFSS have consistently been less than 3 percent of the Subpart Q standard. Nevertheless, DOE intends to continue conducting radon flux monitoring at NFSS on an annual basis as part of performance monitoring of the clay pile cover. The recent study by the National Academy of Sciences, and their voiced concerns over the presence of K-65 residues in the pile, further justify continued radon flux monitoring at this site. Formal reports will no longer be submitted to EPA, but data will be provided to you to the extent that you request.

Maywood Interim Storage Site

At MISS, pile removal will be completed by the end of the calendar year; therefore, the final pile radon flux monitoring activity will be conducted in the summer/early fall in 1996. No formal report will be submitted. Upon completion of pile removal, radon flux monitoring will be permanently discontinued.

Middlesex Sampling Plant

Given the consistently low radon flux results at MSP, the expense of conducting the monitoring activity, and the restrictive budget under which this site operates, the resources currently devoted to radon flux monitoring can more effectively be used for FUSRAP site remediation. Therefore, at MSP, monitoring will be discontinued until site alterations necessitate reassessment of radon flux. Specifically, such site alterations are those activities that significantly disrupt the storage pile, thereby affecting the source term:

- the addition, removal, or redistribution of waste material in the pile;
- major pile cover repair or replacement due to routine pile cover degradation or external factors (i.e., wind).

Reassessment of radon flux will be conducted either by performing calculations based on sampled or known conditions or by temporarily reinstating confirmatory radon flux monitoring. If reassessment of radon flux is deemed appropriate, the reassessment will be conducted after the activities that alter the site condition are completed for the working season. For example, if material is added to or removed from the pile throughout the construction season of a given year, confirmatory sampling or monitoring will be conducted one time after the pile is restored to a stable condition for the non-construction season, not intermittently during work. Unless results indicate that additional stabilization is necessary, no subsequent confirmatory monitoring, sampling, or calculations will be conducted.

If you have any questions regarding this strategy, please contact me at (423) 576-0730.

Sincerely,

Lester K. Price  
Director, Former Sites Restoration Division

Attachments:

Middlesex Sampling Plant

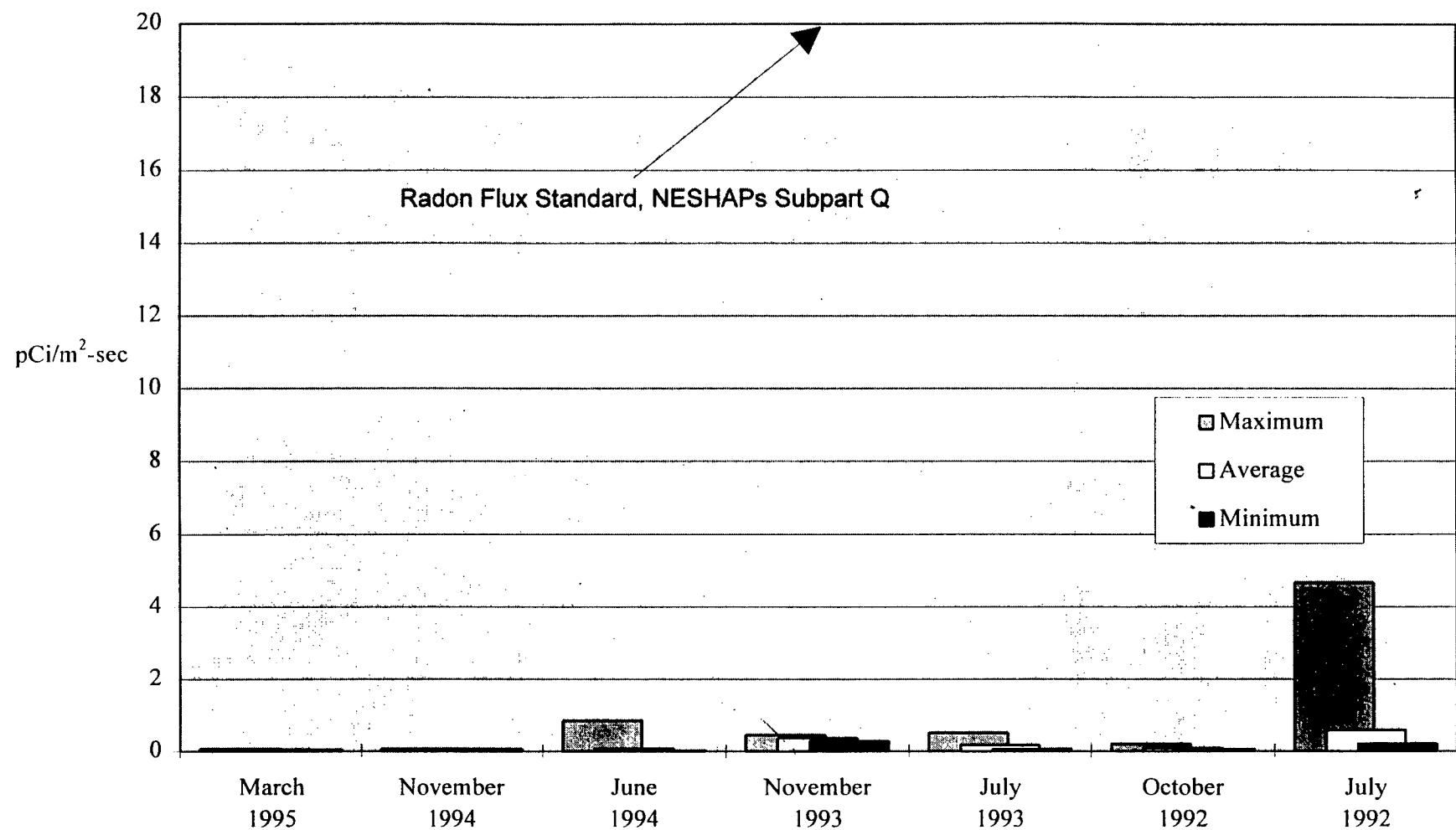
- Radon Flux Summary for the Middlesex Sampling Plant - Landfill (Figure)
- Radon Flux Summary for the Middlesex Sampling Plant - South Pile (Figure)
- Radon Flux Monitoring Locations (Figure)
- Radon Flux Monitoring Results (landfill)
- Radon Flux Monitoring Results (south pile)

Maywood Interim Storage Site

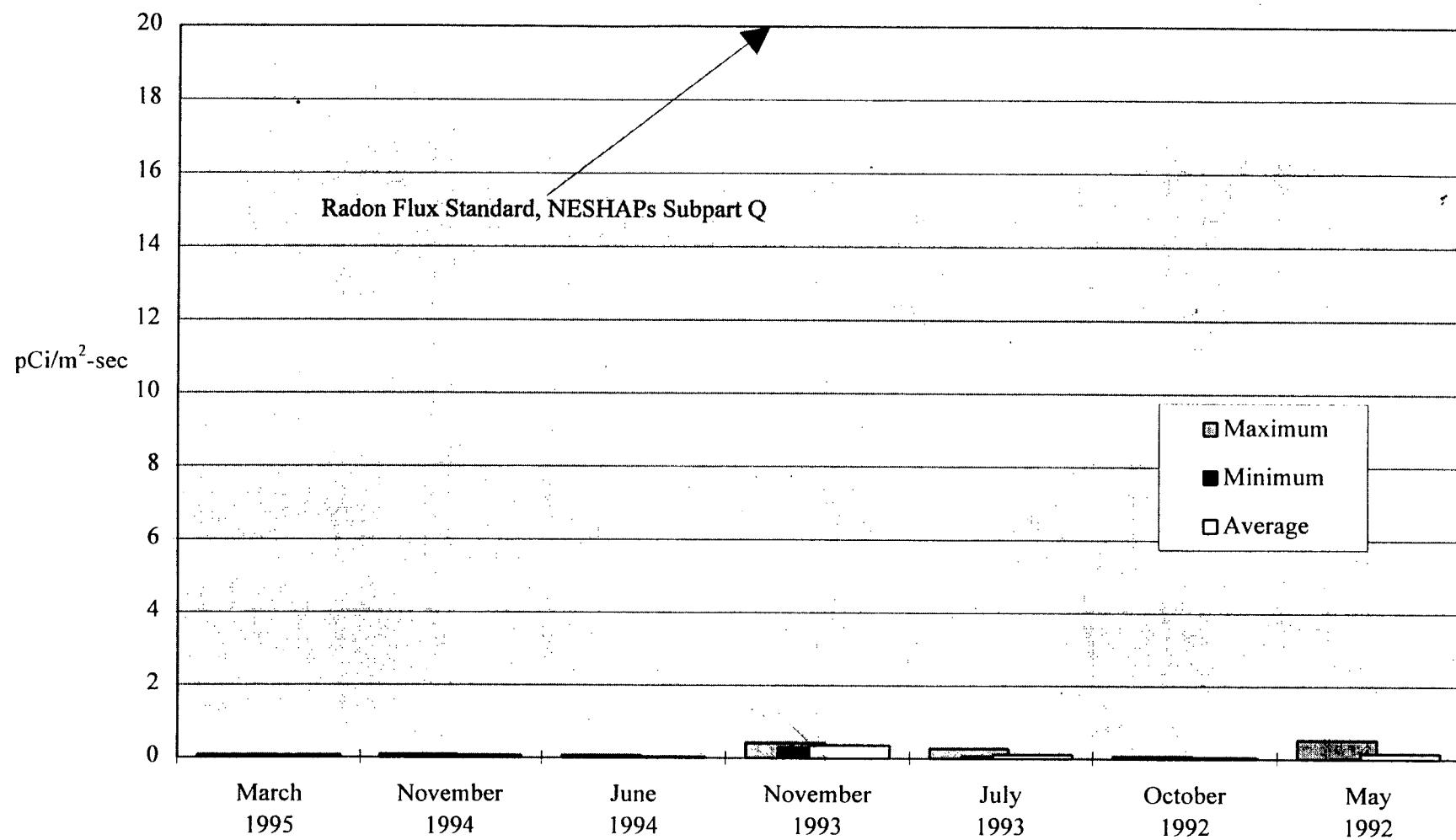
- Radon Flux Summary for the Maywood Interim Storage Site (Figure)
- Approximate Radon Flux Monitoring Locations (Figure)
- Radon Flux Surveillance Results

Niagara Falls Storage Site

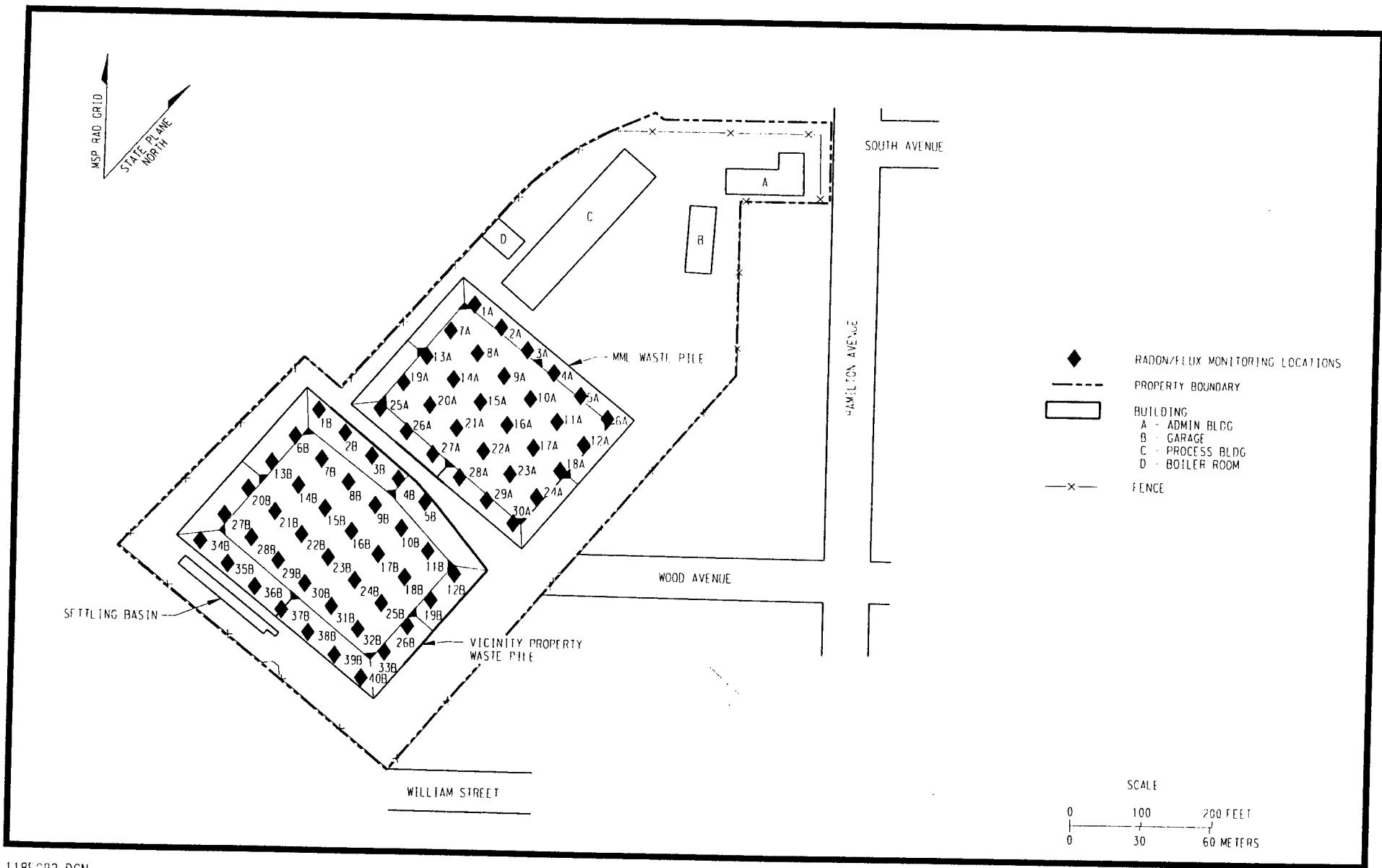
- Radon Flux Summary for the Niagara Falls Storage Site (Figure)
- Approximate Radon Flux Locations for the NFSS Waste Containment Structure (Figure)
- Radon Flux Monitoring Results



**Radon Flux Summary for the Middlesex Sampling Plant - North Pile**



**Radon Flux Summary for the Middlesex Sampling Plant - South Pile**



118F032.DGN

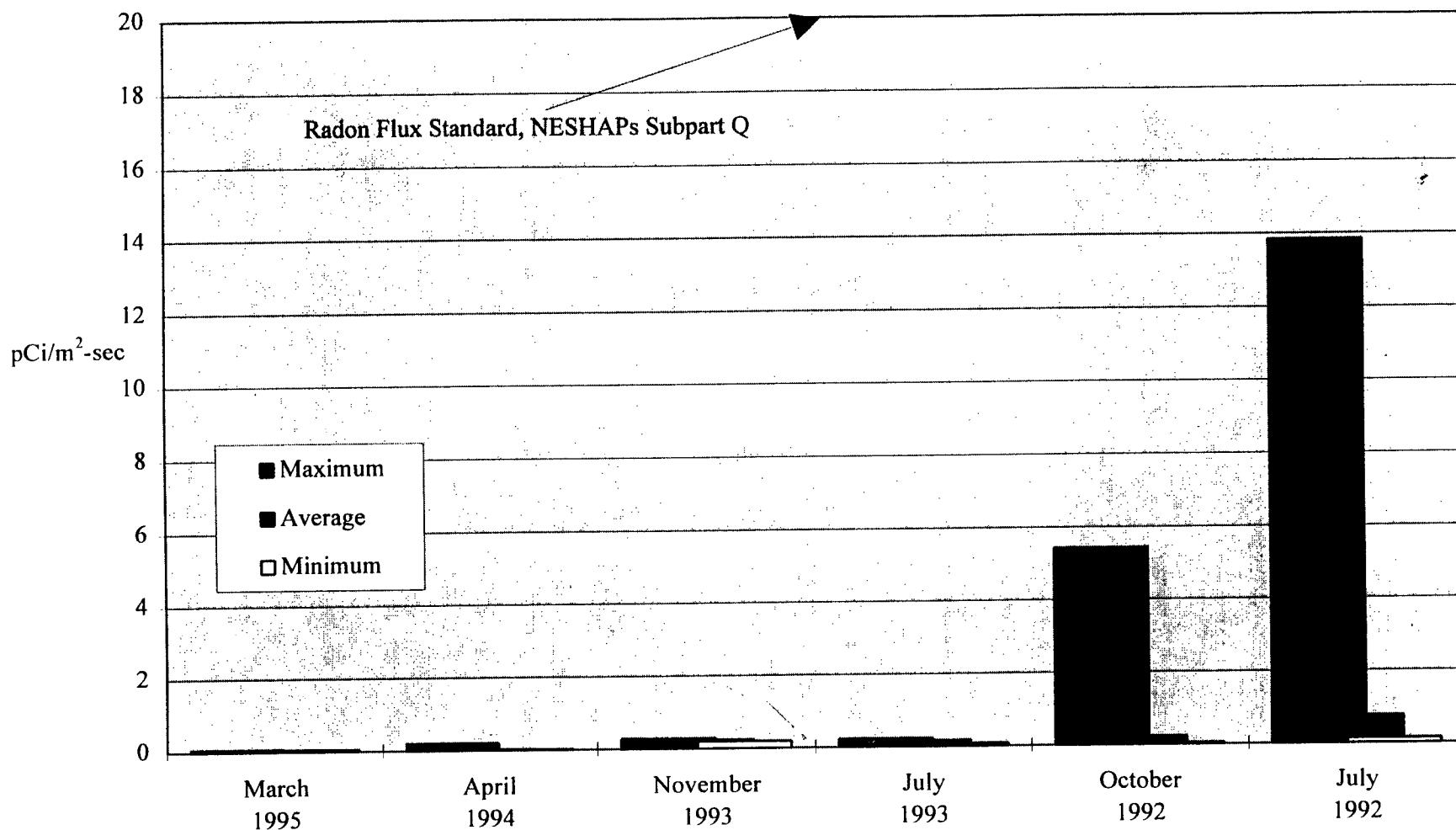
**Middlesex Sampling Plant Environmental Surveillance**  
**Radon Flux Monitoring Locations**

# Radon Flux Monitoring Results at MSP (North Pile)

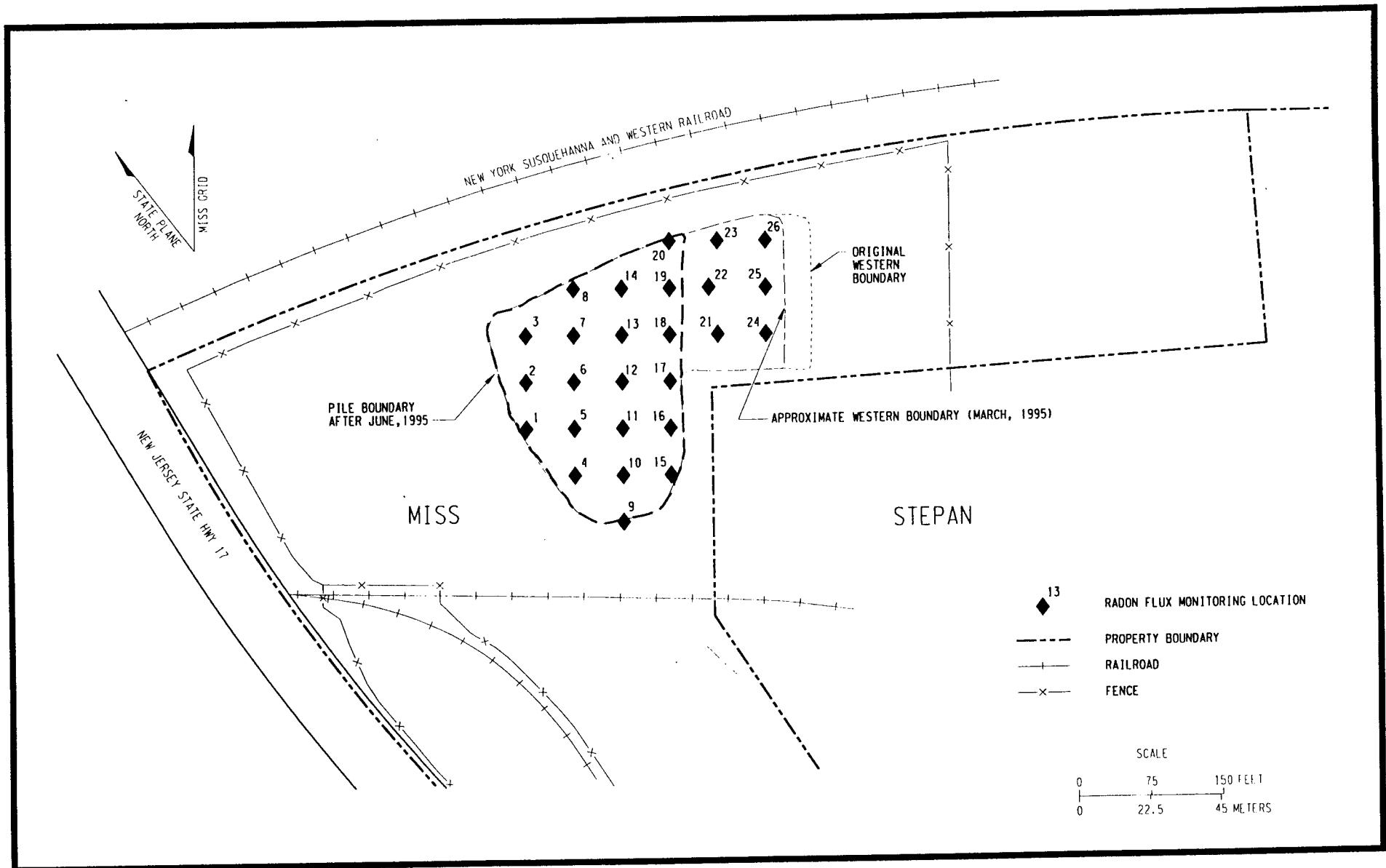
Sample ID	1995	1994		1993		1992	
	March pCi/m <sup>2</sup> /s	November pCi/m <sup>2</sup> /s	June pCi/m <sup>2</sup> /s	November pCi/m <sup>2</sup> /s	July pCi/m <sup>2</sup> /s	October pCi/m <sup>2</sup> /s	July pCi/m <sup>2</sup> /s
<b>North pile :</b>							
<b>(landfill)</b>							
118-RF-01A	0.05	0.07	0.03	0.34	0.14	0.09	0.32
118-RF-02A	0.05	0.07	0.02	0.34	0.08	0.08	0.49
118-RF-03A	0.05	0.07	0.03	0.43	0.25	0.07	0.23
118-RF-04A	0.05	0.07	0.03	0.41	0.09	0.08	0.21
118-RF-05A	0.05	0.07	0.02	0.35	0.08	0.08	0.23
118-RF-06A	0.05	0.07	0.03	0.38	0.09	0.08	0.25
118-RF-07A	0.06	0.07	0.03	0.35	0.22	0.09	0.24
118-RF-08A	0.06	0.07	0.03	0.38	0.08	0.09	0.26
118-RF-09A	0.05	0.07	0.04	0.40	0.23	0.08	0.24
118-RF-10A	0.05	0.07	0.03	0.40	0.08	0.09	1.50
118-RF-11A	0.05	0.07	0.03	0.35	0.39	0.09	0.28
118-RF-12A	0.05	0.07	0.03	0.34	0.16	0.09	0.29
118-RF-13A	0.06	0.07	0.03	0.38	0.35	0.20	0.24
118-RF-14A	0.05	0.07	0.04	0.38	0.13	0.09	3.73
118-RF-15A	0.05	0.07	0.04	0.37	0.06	0.09	x
118-RF-16A	0.05	0.07	0.04	0.37	0.23	0.09	0.23
118-RF-17A	0.05	0.07	0.03	0.35	0.14	0.09	0.35
118-RF-18A	0.06	0.07	0.04	0.37	0.22	0.09	4.66
118-RF-19A	0.05	0.07	0.03	0.35	0.19	0.05	0.33
118-RF-20A	0.06	0.07	0.04	0.37	0.51	0.08	0.28
118-RF-21A	0.05	0.07	0.06	0.41	0.09	0.09	0.27
118-RF-22A	0.05	0.07	0.02	0.38	0.10	0.09	0.25
118-RF-23A	0.05	0.07	0.03	0.28	0.09	0.09	0.23
118-RF-24A	x	0.07	0.04	0.34	0.08	0.08	0.26
118-RF-25A	0.06	0.07	0.04	0.36	0.34	0.08	0.21
118-RF-26A	0.05	0.07	0.05	0.33	0.22	0.08	0.28
118-RF-27A	0.06	0.07	0.33	0.31	0.14	0.08	0.23
118-RF-28A	0.07	0.07	0.04	0.45	0.12	0.09	0.27
118-RF-29A	0.06	0.07	0.04	0.34	0.06	0.09	0.28
118-RF-30A	0.05	0.07	0.85	0.29	0.10	0.09	0.24
# of readings	29	30	30	30	30	30	29
Minimum	0.05	0.07	0.02	0.28	0.06	0.05	0.21
Maximum	0.07	0.07	0.85	0.45	0.51	0.20	4.66
Average	0.05	0.07	0.07	0.36	0.17	0.09	0.58

## Radon Flux Monitoring Results at MSP (South Pile)

Sample ID	1995	1994		1993		1992	
	March pCi/m <sup>2</sup> /s	November pCi/m <sup>2</sup> /s	June pCi/m <sup>2</sup> /s	November pCi/m <sup>2</sup> /s	July pCi/m <sup>2</sup> /s	October pCi/m <sup>2</sup> /s	May pCi/m <sup>2</sup> /s
<b>South pile :</b>							
<b>(Vicinity property)</b>							
118-RF-01B	0.06	0.08	0.02	0.40	0.08	0.04	0.05
118-RF-02B	0.05	0.07	0.03	0.39	0.18	0.07	0.28
118-RF-03B	0.06	0.07	0.03	0.38	0.07	0.04	0.32
118-RF-04B	0.06	0.07	0.05	0.35	0.08	0.04	0.25
118-RF-05B	0.06	0.07	0.06	0.36	0.13	0.04	0.06
118-RF-06B	0.07	0.06	0.05	0.33	0.13	0.04	0.06
118-RF-07B	0.04	0.06	0.05	0.39	0.13	0.04	0.04
118-RF-08B	0.05	0.09	0.03	0.35	0.09	0.04	0.03
118-RF-09B	0.05	0.07	0.04	0.35	0.09	0.04	0.05
118-RF-10B	0.06	0.07	0.06	0.35	0.13	0.04	0.10
118-RF-11B	0.06	0.06	0.07	0.37	0.07	0.04	0.09
118-RF-12B	0.07	0.07	0.03	0.34	0.11	0.04	0.52
118-RF-13B	0.05	0.07	0.03	0.36	0.10	0.04	0.14
118-RF-14B	0.06	0.06	0.03	0.41	0.11	0.04	0.03
118-RF-15B	0.06	0.06	0.05	0.33	0.12	0.04	0.05
118-RF-16B	0.05	0.07	0.07	0.35	0.12	0.04	0.19
118-RF-17B	0.07	0.06	0.05	0.35	0.07	0.04	0.19
118-RF-18B	0.06	0.07	0.05	0.35	0.08	0.04	0.05
118-RF-19B	0.07	0.07	0.06	0.34	0.08	0.04	0.15
118-RF-20B	0.05	0.07	0.04	0.41	0.10	0.04	0.13
118-RF-21B	0.05	0.08	0.02	0.35	0.09	0.04	0.05
118-RF-22B	0.06	0.06	0.03	0.34	0.06	0.07	0.07
118-RF-23B	0.06	0.07	0.03	0.34	0.08	0.04	0.04
118-RF-24B	0.06	0.06	0.05	0.33	0.11	0.04	0.21
118-RF-25B	0.05	0.07	0.05	0.37	0.08	0.04	0.21
118-RF-26B	0.06	0.07	0.04	0.35	0.09	0.04	0.19
118-RF-27B	0.06	0.06	0.04	0.37	0.10	0.04	0.38
118-RF-28B	0.05	0.06	0.04	0.35	0.08	0.04	0.09
118-RF-29B	0.05	0.07	0.03	0.32	0.08	0.04	0.03
118-RF-30B	0.06	0.07	0.04	0.31	0.10	0.04	0.12
118-RF-31B	0.06	0.07	0.03	0.36	0.17	0.04	0.16
118-RF-32B	0.07	0.06	0.04	0.36	0.16	0.04	0.51
118-RF-33B	0.07	0.06	0.04	0.36	0.22	0.04	0.39
118-RF-34B	0.06	0.06	0.03	0.37	0.14	0.04	0.03
118-RF-35B	0.05	0.08	0.03	0.34	0.14	0.04	0.28
118-RF-36B	0.06	0.07	0.04	0.35	0.09	0.04	0.03
118-RF-37B	0.06	0.07	0.04	0.33	0.13	0.04	0.16
118-RF-38B	0.07	0.07	0.04	0.38	0.11	0.04	0.25
118-RF-39B	0.06	0.08	0.03	0.35	0.27	0.04	0.27
118-RF-40B	0.07	0.06	0.02	0.33	0.13	0.04	0.04
# of readings	40	40	40	40	40	40	40
Minimum	0.04	0.06	0.02	0.31	0.06	0.04	0.03
Maximum	0.07	0.09	0.07	0.41	0.27	0.07	0.52
Average	0.06	0.07	0.04	0.36	0.11	0.04	0.16

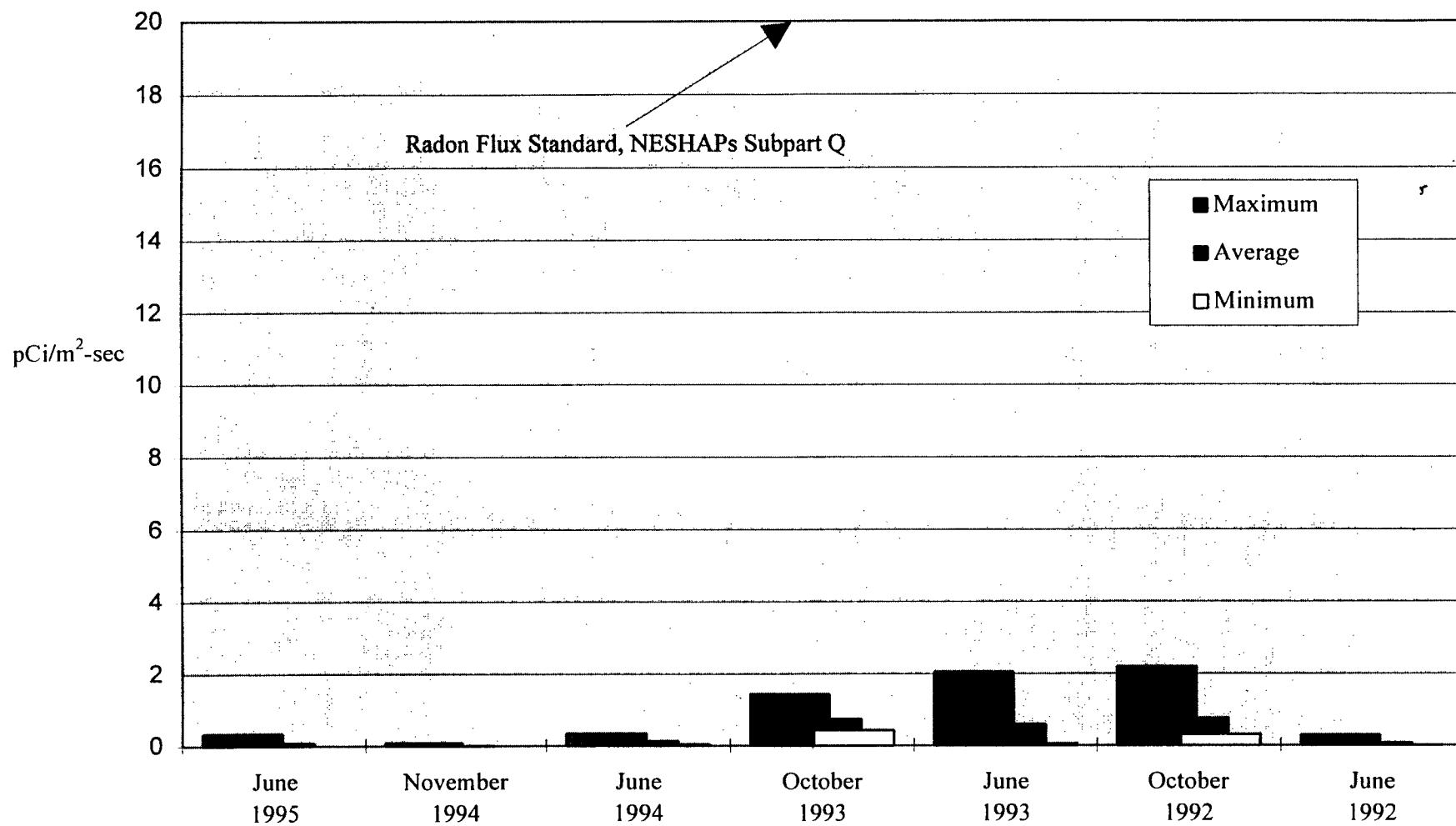


Radon Flux Summary for the Maywood Interim Storage Site

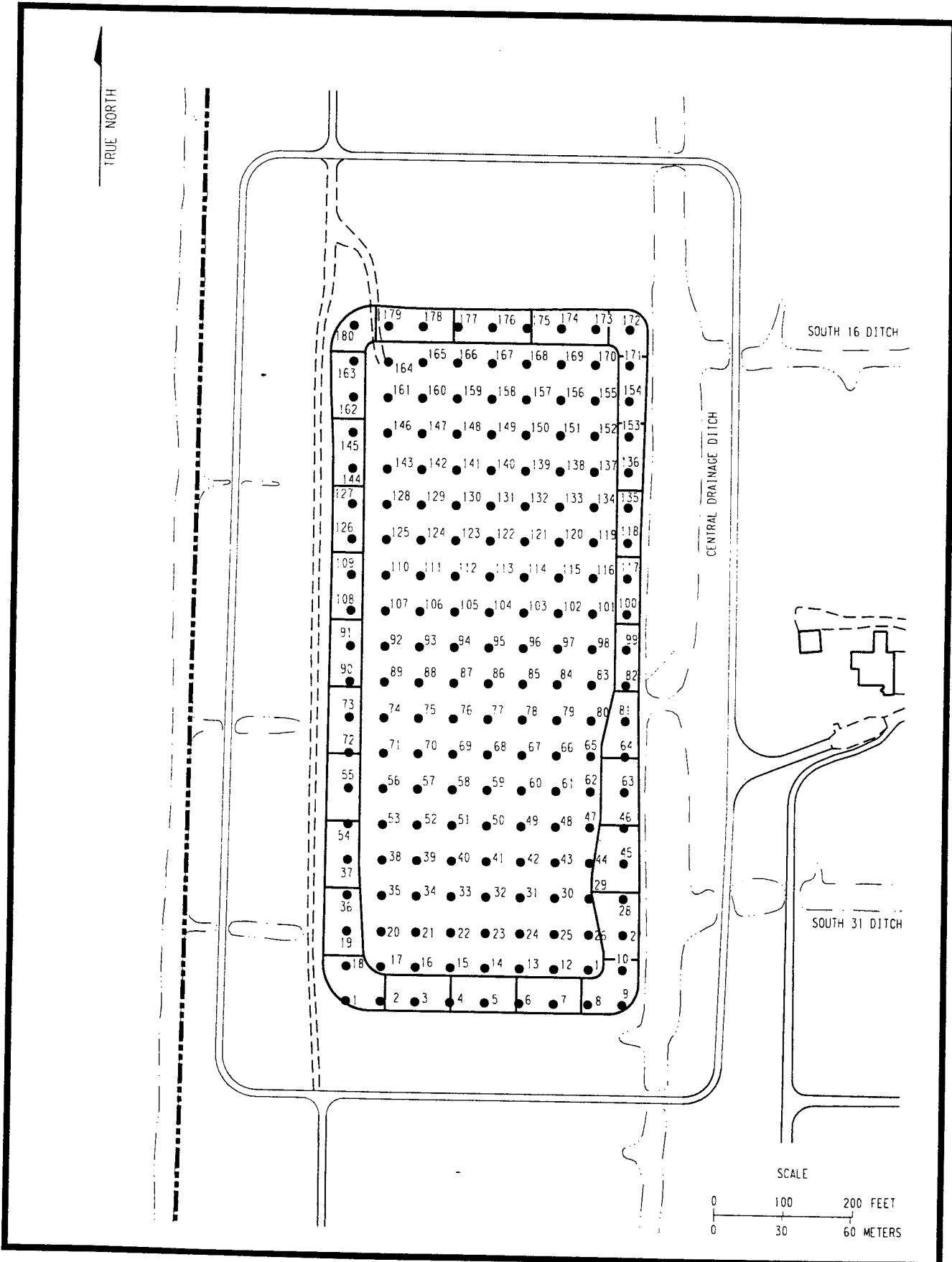


## Radon Flux Monitoring Results for MISS

Sample ID	1995	1994	1993		1992	
	March pCi/m <sup>2</sup> /s	April pCi/m <sup>2</sup> /s	November pCi/m <sup>2</sup> /s	July pCi/m <sup>2</sup> /s	October pCi/m <sup>2</sup> /s	July pCi/m <sup>2</sup> /s
138-RF-01	0.06	0.02	0.24	0.20	0.04	0.23
138-RF-02	0.06	0.02	0.27	0.19	0.04	0.57
138-RF-03	0.06	0.02	0.22	0.22	0.04	0.22
138-RF-04	0.06	0.03	0.22	0.18	0.04	0.23
138-RF-05	0.06	0.02	0.23	0.17	0.04	0.30
138-RF-06	0.05	0.02	0.23	0.21	0.04	0.26
138-RF-07	0.06	0.02	0.24	0.19	0.04	0.28
138-RF-08	0.06	0.02	0.24	0.21	0.04	0.23
138-RF-09	0.05	0.02	0.26	0.20	0.04	0.25
138-RF-10	0.05	0.02	0.22	0.15	0.04	0.29
138-RF-11	0.06	0.02	0.26	0.08	0.04	0.27
138-RF-12	0.06	0.02	0.25	0.17	0.04	0.22
138-RF-13	0.05	0.20	0.23	0.17	5.42	1.83
138-RF-14	0.06	0.02	0.19	0.22	0.04	0.29
138-RF-15	0.06	0.03	0.25	0.17	0.04	0.26
138-RF-16	0.06	0.02	0.24	0.14	0.04	13.84
138-RF-17	0.06	0.02	0.23	0.15	0.04	0.20
138-RF-18	0.06	0.02	0.23	0.11	0.04	0.21
138-RF-19	0.06	0.03	0.22	0.18	0.04	0.22
138-RF-20	0.06	0.02	0.21	0.10	0.04	0.23
138-RF-21	0.06	0.02	0.23	0.15	0.05	0.21
138-RF-22	0.06	0.02	0.22	0.14	0.05	0.23
138-RF-23	0.06	0.03	0.23	0.16	0.05	0.23
138-RF-24	0.06	0.03	0.23	0.16	0.05	0.18
138-RF-25	0.07	0.02	0.22	0.15	0.05	0.13
138-RF-26	0.06	0.03	0.25	0.17	0.05	0.22
138-RF-27	x	0.02	0.25	0.18	0.05	0.28
138-RF-28	x	0.03	0.23	0.13	0.05	0.25
138-RF-29	x	0.03	0.23	0.15	0.05	0.28
138-RF-30	x	x	x	0.17	0.10	0.14
# of readings	26	29	29	30	30	30
Minimum	0.05	0.02	0.19	0.08	0.04	0.13
Maximum	0.07	0.20	0.27	0.22	5.42	13.84
Average	0.06	0.03	0.23	0.17	0.22	0.75



Radon Flux Summary for the Niagara Falls Storage Site



R85F 009.DGN

## Approximate Radon Flux Monitoring Locations for the NFSS Waste Containment Structure

# Radon Flux Monitoring Results at NFSS

Sample ID	1995		1994		1993		1992	
	June pCi/m <sup>2</sup> /s	November pCi/m <sup>2</sup> /s	June pCi/m <sup>2</sup> /s	October pCi/m <sup>2</sup> /s	June pCi/m <sup>2</sup> /s	October pCi/m <sup>2</sup> /s	June pCi/m <sup>2</sup> /s	June pCi/m <sup>2</sup> /s
202-RF-001	0.18	0.00	0.07	0.92	0.44	0.31	0.09	
202-RF-002	0.00	0.09	0.05	0.52	2.04	0.83	0.16	
202-RF-003	0.34	-0.01	0.08	0.62	0.49	0.50	0.06	
202-RF-004	0.06	0.00	0.06	0.52	0.71	0.62	0.20	
202-RF-005	0.13	0.00	0.12	0.74	0.22	0.46	0.05	
202-RF-006	0.13	0.00	0.16	0.63	0.29	0.52	0.04	
202-RF-007	0.09	0.01	0.07	0.58	0.05	0.80	0.10	
202-RF-008	0.17	0.00	0.06	0.43	0.26	0.43	0.06	
202-RF-009	0.09	0.00	0.07	0.50	0.26	0.70	0.08	
202-RF-010	0.10	0.03	0.15	0.65	0.52	1.46	0.04	
202-RF-011	0.06	0.01	0.16	0.70	0.48	0.95	0.15	
202-RF-012	0.07	0.00	0.13	0.71	0.55	1.12	0.09	
202-RF-013	0.13	-0.01	0.25	0.79	0.53	1.31	0.14	
202-RF-014	0.13	-0.02	0.17	0.81	0.29	1.26	0.10	
202-RF-015	0.11	0.00	0.19	0.74	0.33	0.97	0.09	
202-RF-016	0.15	-0.01	0.17	0.71	0.52	0.75	0.05	
202-RF-017	0.14	0.00	0.11	0.55	0.45	0.74	0.09	
202-RF-018	0.09	-0.01	0.05	0.69	0.44	0.47	0.13	
202-RF-019	0.08	0.00	0.11	0.70	0.63	0.78	0.08	
202-RF-020	0.20	0.01	0.12	0.78	0.32	0.92	0.10	
202-RF-021	0.16	-0.02	0.08	0.81	0.53	0.38	0.05	
202-RF-022	0.16	-0.01	0.21	0.86	0.57	1.34	0.10	
202-RF-023	0.09	-0.01	0.18	0.69	0.26	0.77	0.07	
202-RF-024	0.00	-0.01	0.10	0.71	0.31	1.16	0.08	
202-RF-025	0.11	-0.01	0.19	0.89	0.67	0.97	0.11	
202-RF-026	0.34	0.00	0.13	0.85	1.01	1.31	0.10	
202-RF-027	0.09	0.02	0.09	0.68	0.45	1.02	0.07	
202-RF-028	0.08	0.02	0.10	0.64	0.33	0.92	0.04	
202-RF-029	0.10	0.00	0.28	0.88	0.24	0.48	0.08	
202-RF-030	0.08	0.00	0.10	0.79	0.49	0.93	0.13	
202-RF-031	0.12	-0.02	0.15	0.65	0.52	0.80	0.06	
202-RF-032	0.30	-0.01	0.15	0.79	0.83	0.72	0.23	
202-RF-033	0.12	0.01	0.11	0.56	0.51	0.82	0.10	
202-RF-034	0.04	0.00	0.07	0.67	0.33	0.77	0.04	
202-RF-035	0.10	-0.02	0.21	0.70	0.39	0.75	0.08	
202-RF-036	0.11	0.00	0.12	0.68	0.23	0.69	0.11	
202-RF-037	0.25	-0.01	0.20	0.68	0.63	0.67	0.06	
202-RF-038	0.11	-0.01	0.09	0.73	0.33	0.68	0.06	
202-RF-039	0.07	-0.01	0.07	0.53	0.40	0.80	0.05	
202-RF-040	0.12	0.00	0.08	0.56	0.29	0.74	0.04	
202-RF-041	0.17	-0.01	0.12	0.58	0.54	1.27	0.06	
202-RF-042	0.18	0.02	0.10	0.75	0.80	0.89	0.03	
202-RF-043	0.10	0.00	0.16	1.22	0.49	0.93	0.10	
202-RF-044	0.09	0.01	0.21	0.73	0.33	0.80	0.09	
202-RF-045	0.16	0.01	0.04	0.59	0.28	0.90	0.04	
202-RF-046	0.06	0.00	0.12	0.63	0.23	0.96	0.04	
202-RF-047	0.06	-0.02	0.09	0.77	0.32	0.87	0.07	
202-RF-048	0.11	-0.01	0.08	0.69	0.61	0.93	0.06	
202-RF-049	0.09	0.02	0.07	0.96	0.67	1.38	0.08	

## Radon Flux Monitoring Results at NFSS

Sample ID	1995		1994		1993		1992	
	June pCi/m <sup>2</sup> /s	November pCi/m <sup>2</sup> /s	June pCi/m <sup>2</sup> /s	October pCi/m <sup>2</sup> /s	June pCi/m <sup>2</sup> /s	October pCi/m <sup>2</sup> /s	June pCi/m <sup>2</sup> /s	June pCi/m <sup>2</sup> /s
202-RF-050	0.09	-0.02	0.11	0.55	0.19	0.57	0.08	
202-RF-051	0.08	0.00	0.10	0.64	0.43	0.69	0.07	
202-RF-052	0.11	-0.01	0.09	0.60	0.34	0.69	0.05	
202-RF-053	0.12	-0.02	0.17	0.74	0.50	0.53	0.06	
202-RF-054	0.14	-0.02	0.12	0.79	0.37	0.95	0.28	
202-RF-055	0.11	-0.01	0.16	0.90	0.52	1.69	0.08	
202-RF-056	0.22	0.01	0.17	0.65	0.42	0.69	0.06	
202-RF-057	0.07	0.00	0.13	0.69	0.26	0.60	0.02	
202-RF-058	0.10	0.01	0.06	0.63	0.23	0.66	0.02	
202-RF-059	0.11	0.00	0.08	0.63	0.21	0.58	0.01	
202-RF-060	0.07	0.01	0.07	0.69	0.38	0.51	0.03	
202-RF-061	0.14	0.00	0.09	0.82	0.36	0.81	0.03	
202-RF-062	1.89	0.01	0.11	0.97	0.26	0.70	0.04	
202-RF-063	0.08	0.02	0.06	0.68	0.34	1.30	0.03	
202-RF-064	0.08	0.01	0.07	0.81	0.25	1.10	0.04	
202-RF-065	0.11	0.00	0.08	0.76	0.29	1.15	0.08	
202-RF-066	0.11	0.00	0.16	0.67	0.25	0.44	0.04	
202-RF-067	0.09	0.00	0.25	0.49	0.18	0.31	0.04	
202-RF-068	0.09	0.01	0.25	0.53	0.25	0.51	0.02	
202-RF-069	0.12	0.00	0.16	0.59	0.98	0.66	0.03	
202-RF-070	0.07	0.02	0.11	0.77	0.41	0.49	0.06	
202-RF-071	0.11	0.03	0.15	0.74	0.43	1.08	0.07	
202-RF-072	0.12	0.00	0.11	1.02	0.65	1.96	0.18	
202-RF-073	0.12	0.05	0.27	0.88	0.72	1.12	0.04	
202-RF-074	0.08	0.01	0.15	0.72	0.26	x	0.05	
202-RF-075	0.04	0.01	0.16	0.57	0.36	0.46	0.02	
202-RF-076	0.16	0.01	0.18	0.60	0.29	0.50	0.04	
202-RF-077	0.12	0.02	0.16	0.72	0.26	x	0.04	
202-RF-078	0.10	0.01	0.17	0.53	0.44	0.44	0.05	
202-RF-079	0.07	0.02	0.13	0.83	0.39	0.65	0.10	
202-RF-080	0.04	0.01	0.19	0.66	0.44	0.57	0.04	
202-RF-081	0.05	0.01	0.08	0.72	0.25	0.65	0.03	
202-RF-082	0.06	0.01	0.30	0.70	0.17	0.65	0.08	
202-RF-083	0.07	0.00	0.14	0.76	0.95	0.46	0.05	
202-RF-084	0.06	0.01	0.12	0.63	0.37	0.35	0.04	
202-RF-085	0.13	0.01	0.13	0.65	0.41	0.63	0.02	
202-RF-086	0.07	0.01	0.17	0.66	0.30	0.46	0.11	
202-RF-087	0.07	0.01	0.20	0.64	0.37	0.75	0.06	
202-RF-088	0.11	0.01	0.10	0.60	0.28	0.39	0.10	
202-RF-089	0.06	0.01	0.23	1.43	0.46	0.63	0.11	
202-RF-090	0.07	0.00	0.09	0.82	0.20	0.95	0.07	
202-RF-091	0.08	0.03	0.27	0.66	0.26	0.67	0.09	
202-RF-092	0.07	0.02	0.14	0.62	0.47	0.60	0.03	
202-RF-093	0.08	0.01	0.10	0.69	0.40	0.53	0.03	
202-RF-094	0.05	0.00	0.12	0.65	0.41	0.55	0.08	
202-RF-095	0.04	0.01	0.15	0.97	0.17	0.36	0.04	
202-RF-096	0.08	0.01	0.09	0.61	0.26	0.52	0.03	
202-RF-097	0.03	0.01	0.09	0.63	0.30	0.52	0.02	
202-RF-098	0.04	0.00	0.15	0.61	0.26	0.58	0.04	

## Radon Flux Monitoring Results at NFSS

Sample ID	1995	1994		1993		1992	
	June pCi/m <sup>2</sup> /s	November pCi/m <sup>2</sup> /s	June pCi/m <sup>2</sup> /s	October pCi/m <sup>2</sup> /s	June pCi/m <sup>2</sup> /s	October pCi/m <sup>2</sup> /s	June pCi/m <sup>2</sup> /s
202-RF-099	0.07	0.01	0.15	0.77	1.52	2.19	0.14
202-RF-100	0.05	0.01	0.19	0.75	0.77	1.38	0.07
202-RF-101	0.08	0.00	0.15	0.69	1.95	0.66	0.03
202-RF-102	0.02	0.01	0.09	0.63	0.59	0.50	0.04
202-RF-103	0.06	0.00	0.13	0.56	0.74	0.32	0.01
202-RF-104	0.07	0.00	0.13	0.77	0.56	0.47	0.06
202-RF-105	0.03	0.03	0.21	0.70	0.84	0.59	0.05
202-RF-106	0.17	0.00	0.11	0.62	0.59	0.61	0.04
202-RF-107	0.13	0.03	0.13	0.80	1.17	0.79	0.05
202-RF-108	0.08	0.03	0.13	1.13	0.92	1.34	0.10
202-RF-109	0.09	0.01	0.12	0.68	0.79	1.12	0.06
202-RF-110	0.10	0.01	0.15	0.67	1.20	1.03	0.03
202-RF-111	0.10	0.01	0.21	0.66	1.47	0.60	0.07
202-RF-112	0.11	0.01	0.16	0.58	0.86	0.57	0.08
202-RF-113	0.05	0.01	0.13	0.72	1.16	0.39	0.09
202-RF-114	0.03	0.02	0.10	0.61	0.66	0.57	0.02
202-RF-115	0.04	0.04	0.07	0.55	0.76	0.67	0.02
202-RF-116	0.05	0.00	0.09	0.55	1.54	0.48	0.01
202-RF-117	0.09	0.03	0.17	0.93	0.94	1.29	0.13
202-RF-118	0.11	0.05	0.08	0.55	1.31	0.99	0.02
202-RF-119	0.05	0.00	0.11	1.04	0.86	0.77	0.04
202-RF-120	0.05	0.00	0.07	0.55	0.63	0.32	0.03
202-RF-121	0.04	0.02	0.17	0.81	0.95	0.55	0.03
202-RF-122	0.08	0.01	0.14	0.85	1.27	0.50	0.05
202-RF-123	0.04	0.02	0.06	0.74	0.73	0.71	0.02
202-RF-124	0.06	0.01	0.30	0.80	1.04	0.48	0.03
202-RF-125	0.10	0.00	0.29	0.98	0.92	0.80	0.03
202-RF-126	0.05	0.01	0.12	0.98	0.57	0.91	0.14
202-RF-127	0.09	0.01	0.14	0.70	1.37	1.28	0.09
202-RF-128	0.04	0.01	0.07	0.85	0.80	0.90	0.04
202-RF-129	0.09	0.01	0.10	0.65	0.80	0.45	0.16
202-RF-130	0.09	0.00	0.08	0.67	0.52	0.56	0.03
202-RF-131	0.04	0.01	0.14	0.74	1.00	0.45	0.02
202-RF-132	0.04	0.00	0.11	0.62	0.76	0.46	0.03
202-RF-133	0.00	0.00	0.07	0.66	0.49	0.53	0.04
202-RF-134	0.06	0.01	0.08	0.91	0.92	0.45	0.04
202-RF-135	0.08	0.02	0.11	0.73	1.07	0.85	0.17
202-RF-136	0.09	0.01	0.14	0.72	0.72	0.67	0.03
202-RF-137	0.07	0.01	0.12	0.76	1.06	1.00	0.04
202-RF-138	0.07	0.01	0.09	0.71	1.40	0.86	0.04
202-RF-139	0.07	-0.01	0.13	0.61	0.64	0.55	0.01
202-RF-140	0.06	0.00	0.12	0.85	0.61	1.08	0.01
202-RF-141	0.04	0.00	0.15	0.78	1.30	0.53	0.03
202-RF-142	0.05	0.00	0.16	0.63	0.39	0.62	0.04
202-RF-143	0.06	0.00	0.16	0.79	0.93	0.68	0.05
202-RF-144	0.11	0.01	0.15	0.81	0.63	0.79	0.06
202-RF-145	0.06	0.01	0.08	0.79	0.62	0.79	0.05
202-RF-146	0.04	0.01	0.25	0.78	0.78	0.59	0.08
202-RF-147	0.10	0.02	0.11	1.09	0.58	0.75	0.03

## Radon Flux Monitoring Results at NFSS

Sample ID	1995		1994		1993		1992	
	June pCi/m <sup>2</sup> /s	November pCi/m <sup>2</sup> /s	June pCi/m <sup>2</sup> /s	October pCi/m <sup>2</sup> /s	June pCi/m <sup>2</sup> /s	October pCi/m <sup>2</sup> /s	June pCi/m <sup>2</sup> /s	June pCi/m <sup>2</sup> /s
202-RF-148	0.08	0.00	0.34	0.92	0.67	0.36	0.05	
202-RF-149	0.06	0.00	0.17	0.99	0.51	0.54	0.02	
202-RF-150	0.08	0.01	0.22	1.26	0.54	0.69	0.10	
202-RF-151	0.05	0.01	0.10	0.83	0.67	0.44	0.04	
202-RF-152	0.03	0.00	0.16	1.01	0.78	0.52	0.04	
202-RF-153	0.03	0.03	0.06	0.92	0.29	1.05	0.04	
202-RF-154	0.06	0.01	0.07	0.74	0.55	0.91	0.03	
202-RF-155	0.05	0.01	0.17	0.67	0.36	0.56	0.03	
202-RF-156	0.06	0.00	0.16	0.66	0.40	0.63	0.03	
202-RF-157	0.05	0.01	0.12	1.01	0.25	0.55	0.02	
202-RF-158	0.05	0.01	0.13	0.86	0.69	0.76	0.04	
202-RF-159	0.10	0.01	0.11	0.95	0.59	0.45	0.06	
202-RF-160	0.05	0.00	0.12	0.80	0.56	0.75	0.07	
202-RF-161	0.09	0.01	0.09	0.74	0.84	0.33	0.04	
202-RF-162	0.13	0.00	0.13	0.85	0.52	0.69	0.08	
202-RF-163	0.11	0.00	0.11	0.88	0.73	0.38	0.12	
202-RF-164	0.06	0.00	0.16	0.56	0.45	0.30	0.04	
202-RF-165	0.02	0.00	0.15	0.68	0.52	0.33	0.04	
202-RF-166	0.09	0.01	0.16	0.72	0.82	0.60	0.13	
202-RF-167	0.04	0.00	0.19	0.65	1.05	0.52	0.06	
202-RF-168	0.10	0.02	0.21	0.80	0.52	0.74	0.07	
202-RF-169	0.06	0.01	0.12	0.66	0.44	0.36	0.04	
202-RF-170	0.13	0.01	0.15	0.79	0.82	0.50	0.04	
202-RF-171	0.11	0.01	0.07	0.77	0.66	0.53	0.04	
202-RF-172	0.08	0.07	0.12	0.75	0.58	1.07	0.05	
202-RF-173	0.07	0.02	0.12	0.73	0.70	0.85	0.02	
202-RF-174	0.09	0.04	0.12	0.82	0.58	0.83	0.02	
202-RF-175	0.09	0	0.23	0.66	0.73	0.72	0.09	
202-RF-176	0.04	0.02	0.07	0.62	0.39	0.65	0.05	
202-RF-177	0.11	0.02	0.12	0.62	0.48	0.68	0.07	
202-RF-178	0.11	0.02	0.11	0.71	0.68	1.52	0.11	
202-RF-179	0.33	0.02	0.17	0.80	0.96	0.88	0.25	
202-RF-180	0.09	0.02	0.07	0.77	0.62	NA	0.06	
# of readings	180	180	180	180	180	178	180	
Minimum	0.00	-0.02	0.04	0.43	0.05	0.30	0.01	
Maximum	0.34	0.09	0.34	1.43	2.04	2.19	0.28	
Average	0.09	0.01	0.14	0.73	0.59	0.74	0.06	