NYSERDA **New York State Energy Research and Development Authority**

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June 22, 2009

Keith I. McConnell
USNRC
FSME/DWMEP/DURLD
TWFN/7 E18
11545 Rockville Pike
Rockville, MD 20852-2738

Dear Mr. McConnell:

I am writing to update you on our 2008 deer hunting program. As you know, NYSERDA performed additional radioactive analysis of venison and bone samples from deer provided to us by hunters during Opening Day weekend (November 15-16, 2008). NYSERDA initiated this task to ensure the continued safety of the deer hunters and the public.

We collected a total of 15 venison and 14 bone samples (including one field replicate of each sample type) for analysis. Overall, the sampling and analysis results indicate that radioactivity levels in venison and bone of deer on and around the Western New York Nuclear Service Center are low. All venison sample results were shown to be less than five percent of the U.S. Food and Drug Administration's limit for radioactivity in imported food (U.S. Department of Health and Human Services, Food and Drug Administration, *Accidental Radioactive Contamination of Human Food and Animal Feeds: Recommendations for State and Local Agencies*, August 13, 1998, Rockville, MD). A hunter eating 90 pounds of venison from a deer with radioactivity at this level could receive an additional radiation dose of less than two millirem per year. The New York State Department of Health has concluded that venison with radioactivity at these low levels does not present a public health hazard. All bone sample results contained low levels of radioactivity as well.

For your reference, attached are the data from the sampling and analysis. Graphs showing the calculated dose from consuming 90 pounds of venison using the Cesium-137 and Tritium analytical data are attached. A comparison of the 2008 NYSERDA data with historical site data is also included. We have provided each participating hunter with a letter containing specific laboratory results and calculated dose for the sample provided. In addition, we will be sending another letter to all hunters who participated in the 2008 program, providing them with a general description of the results.

THA/09amd029.amd

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Buffalo
Larkin at Exchange Building
726 Exchange Street, Suite 821
Buffalo, New York 14210
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If you have any questions regarding these results, please contact me at (716) 942-9960, extension 2453.

Sincerely,

WEST VALLEY SITE MANAGEMENT PROGRAM

Thomas H. Attridge, Program Manager
State-Licensed Disposal Area & Retained Premises

/amd
Attachments:

1. Tables: *Calculated Radiation Dose From Cesium-137*, *Calculated Radiation Dose from Tritium*, *Total Calculated Radiation Dose from Cs-137 and H-3*, and *Strontium-90 Concentration in Bone.*
2. Graphs: *Calculated Dose to Individuals Consuming 90 Pounds of Venison from the WNYNSC, Radionuclide Concentration in Venison from the WNYNSC,* and *Cesium Concentration in Near-Site, Background, and 2008 NYSERDA Deer Samples Taken from the WNYNSC.*

cc: R. Tadesse, USNRC (w/atts.)
C. J. Glenn, USNRC (w/atts.)
M. C. Roberts, USNRC, Region 1 (w/atts.)
D. A. Munro, NYSERDA-Albany (w/atts.)
P. J. Bembia, NYSERDA-WV (w/atts.)
M. J. Willett, NYSERDA-WV (w/atts.)

CALCULATED RADIATION DOSE FROM CESIUM-137 (person consuming 90 lbs. of venison)

A	B	C	D	E	F	G	H	I	J
Hunter Name	Deer Number	Location ID	Sample ID	Sample Type	Venison/Cesium-137 Concentration (pCi/gram)	Cesium-137 Dose Conversion Factor[1] (mrem/pCi)	Grams in 90 lbs. of Venison	Venison/Cesium-137 Dose (mrem)	Comments
Pawlowski, Jake	1	Area5	90401	Venison	9.90E-02	5.00E-05	40860	2.02E-01	
Thurston, Mike	2	Area3	90403	Venison	1.16E-01	5.00E-05	40860	2.37E-01	
Hogenmiller, Mike	3	Area4	90405	Venison	1.65E-01	5.00E-05	40860	3.37E-01	
Austin, Ryan	4	Area1	90407	Venison	1.88E-01	5.00E-05	40860	3.84E-01	
Pawlowski, Jake	5	Area5	90409	Venison	3.65E-02	5.00E-05	40860	7.46E-02	
Ingoldsby, Len	6	Area3	90411	Venison	4.57E-02	5.00E-05	40860	9.34E-02	
Ingoldsby, Len	6	Area3	90413	Venison	6.59E-02	5.00E-05	40860	1.35E-01	Field replicate
Wagner, Mark	7	Area7	90415	Venison	9.08E-02	5.00E-05	40860	1.86E-01	
Wagner, Gerard	8	Area2	90417	Venison	6.36E-02	5.00E-05	40860	1.30E-01	
Ridolfi, Jason	9	Area6	90419	Venison	7.76E-01	5.00E-05	40860	1.59E+00	
Burkett, Barry Sr.	10	Area1	90421	Venison	3.16E-02	5.00E-05	40860	6.46E-02	
Austin, Dave	11	Area2	90423	Venison	8.14E-02	5.00E-05	40860	1.66E-01	
Austin, Dave	11	Area2	90425	Heart	4.39E-02	5.00E-05	40860	8.97E-02	Heart sample
Petrus, Dave	12	Area3	90427	Venison	7.97E-02	5.00E-05	40860	1.63E-01	
Petrus, Dave	13	Area3	90429	Venison	5.01E-02	5.00E-05	40860	1.02E-01	
Martyna, Richard	14	Area3	90431	Venison	1.06E-01	5.00E-05	40860	2.17E-01	
Highest Level	Historical Data	Near Site		Venison	2.42E+00	5.00E-05	40860	4.94E+00	
					COLUMN F	X COLUMN G	X COLUMN H	= COLUMN I	

[1] ICRP 30 - Ingestion

CALCULATED RADIATION DOSE FROM TRITIUM (person consuming 90 lbs. of venison)

A	B	C	D	E	F	G	H	I	J
Hunter Name	Deer Number	Location ID	Sample ID	Sample Type	Venison/Tritium Concentration (pCi/mL)	Tritium Dose Conversion Factor[2] (mrem/pCi)	Grams in 90 lbs. of Venison	Venison/Tritium Dose (mrem)	Comments
Pawlowski, Jake	1	Area5	90401	Venison	1.28E-01	1.05E-07	40860	5.49E-04	
Thurston, Mike	2	Area3	90403	Venison	6.32E-01	1.05E-07	40860	2.71E-03	
Hogenmiller, Mike	3	Area4	90405	Venison	4.14E-02	1.05E-07	40860	1.78E-04	
Austin, Ryan	4	Area1	90407	Venison	3.73E+00	1.05E-07	40860	1.60E-02	
Pawlowski, Jake	5	Area5	90409	Venison	9.69E-02	1.05E-07	40860	4.16E-04	
Ingoldsby, Len	6	Area3	90411	Venison	1.61E+00	1.05E-07	40860	6.91E-03	
Ingoldsby, Len	6	Area3	90413	Venison	1.25E-01	1.05E-07	40860	5.36E-04	Field replicate
Wagner, Mark	7	Area7	90415	Venison	1.21E-01	1.05E-07	40860	5.19E-04	
Wagner, Gerard	8	Area2	90417	Venison	1.20E-01	1.05E-07	40860	5.15E-04	
Ridolfi, Jason	9	Area6	90419	Venison	9.51E-02	1.05E-07	40860	4.08E-04	
Burkett, Barry Sr.	10	Area1	90421	Venison	1.63E-01	1.05E-07	40860	6.99E-04	
Austin, Dave	11	Area2	90423	Venison	7.00E-02	1.05E-07	40860	3.00E-04	
Austin, Dave	11	Area2	90425	Heart	3.62E-02	1.05E-07	40860	1.55E-04	Heart sample
Petrus, Dave	12	Area3	90427	Venison	1.87E-01	1.05E-07	40860	8.02E-04	
Petrus, Dave	13	Area3	90429	Venison	2.22E-01	1.05E-07	40860	9.52E-04	
Martyna, Richard	14	Area3	90431	Venison	2.81E-01	1.05E-07	40860	1.21E-03	
Highest Level	Historical Data	Near Site		Venison	3.73E+00	1.05E-07	40860	1.60E-02	
					COLUMN F	X COLUMN G	X COLUMN H	= COLUMN I	

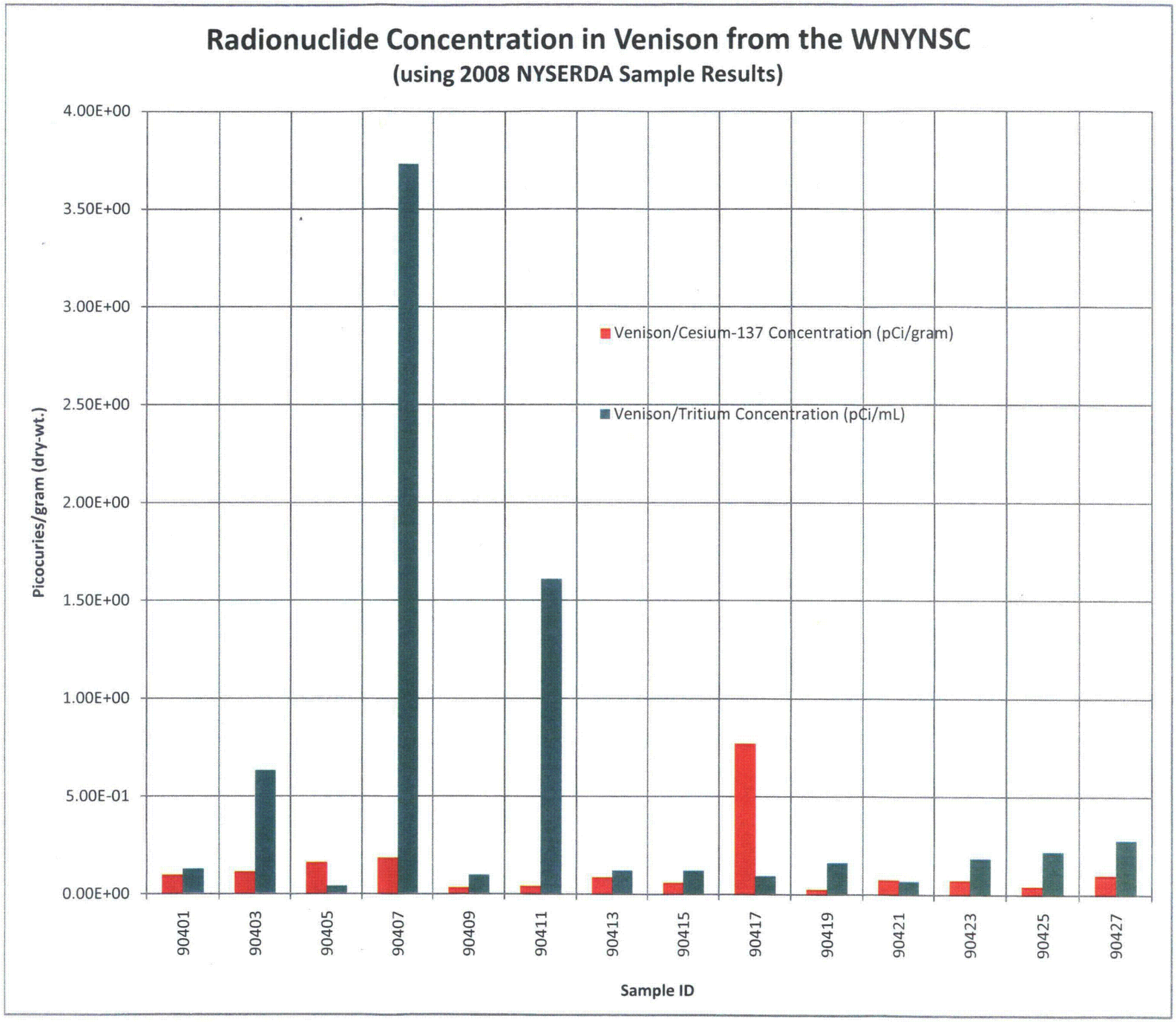
[2] NRC Reg Guide 1.109 - Ingestion

TOTAL CALCULATED RADIATION DOSE FROM CS-137 AND H-3 (person consuming 90 lbs. of venison)

A	B	C	D	E	F	G	H	I	J
Hunter Name	Deer Number	Location ID	Sample ID	Sample Type	Venison/Cesium-137 Dose (mrem)	Venison/Tritium Dose (mrem)	Venison/Total Dose (mrem)	Comments	Venison/Highest Historical Dose (mrem)
Pawlowski, Jake	1	Area5	90401	Venison	2.02E-01	5.49E-04	2.03E-01		4.96E+00
Thurston, Mike	2	Area3	90403	Venison	2.37E-01	2.71E-03	2.40E-01		4.96E+00
Hogenmiller, Mike	3	Area4	90405	Venison	3.37E-01	1.78E-04	3.37E-01		4.96E+00
Austin, Ryan	4	Area1	90407	Venison	3.84E-01	1.60E-02	4.00E-01		4.96E+00
Pawlowski, Jake	5	Area5	90409	Venison	7.46E-02	4.16E-04	7.50E-02		4.96E+00
Ingoldsby, Len	6	Area3	90411	Venison	9.34E-02	6.91E-03	1.00E-01		4.96E+00
Ingoldsby, Len	6	Area3	90413	Venison	1.35E-01	5.36E-04	1.35E-01	Field replicate	4.96E+00
Wagner, Mark	7	Area7	90415	Venison	1.86E-01	5.19E-04	1.86E-01		4.96E+00
Wagner, Gerard	8	Area2	90417	Venison	1.30E-01	5.15E-04	1.30E-01		4.96E+00
Ridolfi, Jason	9	Area6	90419	Venison	1.59E+00	4.08E-04	1.59E+00		4.96E+00
Burkett, Barry Sr.	10	Area1	90421	Venison	6.46E-02	6.99E-04	6.53E-02		4.96E+00
Austin, Dave	11	Area2	90423	Venison	1.66E-01	3.00E-04	1.67E-01		4.96E+00
Austin, Dave	11	Area2	90425	Heart	8.97E-02	1.55E-04	8.98E-02	Heart sample	4.96E+00
Petrus, Dave	12	Area3	90427	Venison	1.63E-01	8.02E-04	1.64E-01		4.96E+00
Petrus, Dave	13	Area3	90429	Venison	1.02E-01	9.52E-04	1.03E-01		4.96E+00
Martyna, Richard	14	Area3	90431	Venison	2.17E-01	1.21E-03	2.18E-01		4.96E+00
Highest Level	Historical Data	Near Site		Venison	4.94E+00	1.60E-02	4.96E+00		
					COLUMN F	+ COLUMN G	= COLUMN H		

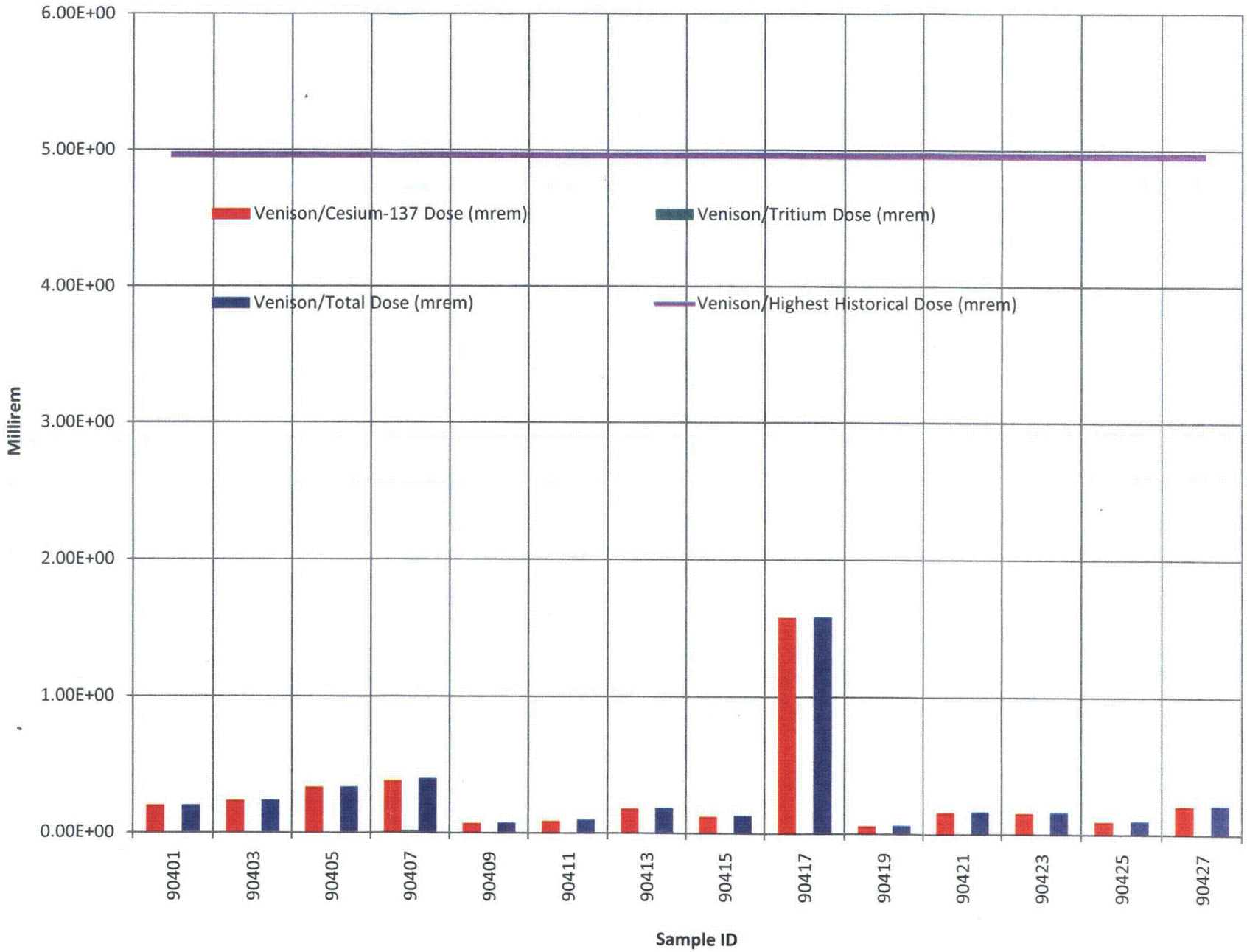
STRONTIUM-90 CONCENTRATION IN BONE

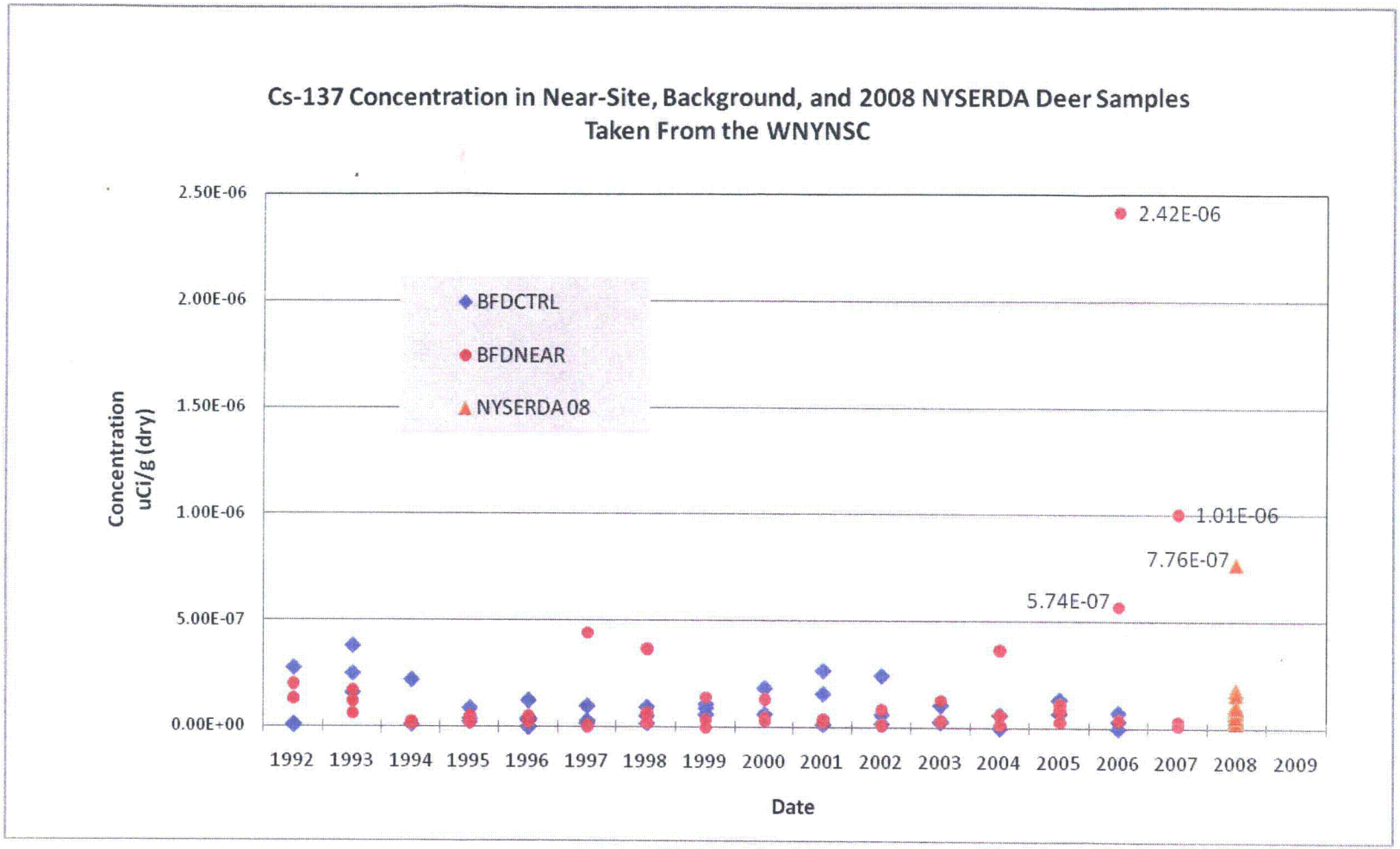
A	B	C	D	E	F	G
Hunter Name	Deer Number	Location ID	Sample ID	Sample Type	Bone/Strontium-90 Concentration (pCi/gram)	Comments
Thurston, Mike	2	Area3	90404	Bone	2.87E-01	
Hogenmiller, Mike	3	Area4	90406	Bone	5.39E-01	
Austin, Ryan	4	Area1	90408	Bone	1.43E+00	
Pawlowski, Jake	5	Area5	90410	Bone	7.43E-01	
Ingoldsby, Len	6	Area3	90412	Bone	1.91E+00	
Ingoldsby, Len	6	Area3	90414	Bone	2.25E+00	Field replicate
Wagner, Mark	7	Area7	90416	Bone	8.85E-01	
Wagner, Gerard	8	Area2	90418	Bone	1.94E-01	
Ridolfi, Jason	9	Area6	90420	Bone	5.33E-01	
Burkett, Barry Sr.	10	Area1	90422	Bone	1.14E+00	
Austin, Dave	11	Area2	90424	Bone	1.15E+00	
Petrus, Dave	12	Area3	90428	Bone	6.60E-01	
Petrus, Dave	13	Area3	90430	Bone	3.79E-01	
Martyna, Richard	14	Area3	90432	Bone	6.67E-01	


Radionuclide Concentration in Venison from the WNYNSC
(using 2008 NYSERDA Sample Results)
Picocuries/gram (dry-wt.)
4.00E+00
3.50E+00
3.00E+00
2.50E+00
2.00E+00
1.50E+00
1.00E+00
5.00E-01
0.00E+00
Venison/Cesium-137 Concentration (pCi/gram)
Venison/Tritium Concentration (pCi/mL)
90401
90403
90405
90407
90409
90411
90413
90415
90417
90419
90421
90423
90425
90427
Sample ID

Calculated Dose to Individuals Consuming 90 Pounds of Venison from the WNYNSC

(using 2008 NYSERDA Sample Results)





Legend Description:

BFDCTRL – Deer samples collected from a location 16 kilometers or more from the WVDP

BFDNEAR – Deer samples collected from a location within the vicinity of the WVDP and the WNYNSC

NYSERDA 08 – Deer harvested from the WNYNSC during the NYSERDA 2008 annual hunting program