

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

**BNE Background Locations
Concentrations of Iodine-131 in Bi-Weekly Air Iodine Samples**

BNE Office (COAI01)

<u>Collection Period</u>	<u>I-131 (pCi/m³)</u>
12/28/11 - 01/09/12	< 0.011
01/09/12 - 01/24/12	< 0.007
01/24/12 - 02/08/12	< 0.008
02/08/12 - 02/21/12	< 0.008
02/21/12 - 03/06/12	< 0.007
03/06/12 - 03/21/12	< 0.008
03/21/12 - 04/02/12	< 0.010
04/02/12 - 04/16/12	< 0.018
04/16/12 - 04/30/12	< 0.008
04/30/12 - 05/15/12	< 0.011
05/15/12 - 05/29/12	< 0.005
05/29/12 - 06/12/12	< 0.007
06/12/12 - 06/25/12	< 0.012
06/25/12 - 07/09/12	< 0.011
07/09/12 - 07/23/12	< 0.012
07/23/12 - 08/06/12	< 0.015
08/06/12 - 08/20/12	< 0.008
08/20/12 - 09/04/12	< 0.018
09/04/12 - 09/19/12	< 0.004
09/19/12 - 10/01/12	< 0.005
10/01/12 - 10/15/12	< 0.013
10/15/12 - 11/05/12	< 0.007
11/05/12 - 11/13/12	< 0.020
11/13/12 - 11/26/12	< 0.010
11/26/12 - 12/10/12	< 0.012
12/10/12 - 12/21/12	< 0.008
12/21/12 - 01/07/13	< 0.007

Results in picoCuries per cubic meter (pCi/m³)

**New Jersey Department of Environmental Protection
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**BNE Background Locations
Concentrations of Iodine-131 in Bi-Weekly Air Iodine Samples**

Brendan T. Byrne State Forest (COAI02)

<u>Collection Period</u>	<u>I-131 (pCi/m³)</u>
12/26/11 - 01/09/12	< 0.009
01/09/12 - 01/23/12	< 0.016
01/23/12 - 02/06/12	< 0.010
02/06/12 - 02/21/12	< 0.006
02/21/12 - 03/05/12	< 0.008
03/05/12 - 03/19/12	< 0.012
03/19/12 - 04/02/12	< 0.008
04/02/12 - 04/16/12	< 0.013
04/16/12 - 04/30/12	< 0.008
04/30/12 - 05/14/12	< 0.008
05/14/12 - 05/29/12	< 0.006
05/29/12 - 06/11/12	< 0.009
06/11/12 - 06/25/12	< 0.019
06/25/12 - 07/09/12	< 0.010
07/09/12 - 07/23/12	< 0.010
07/23/12 - 08/06/12	< 0.009
08/06/12 - 08/20/12	< 0.007
08/20/12 - 09/04/12	< 0.006
09/04/12 - 09/17/12	< 0.011
09/17/12 - 10/02/12	< 0.005
10/02/12 - 10/15/12	< 0.009
10/15/12 - 11/05/12	< 0.010
11/05/12 - 11/13/12	< 0.015
11/13/12 - 11/26/12	< 0.007
11/26/12 - 12/10/12	< 0.008
12/10/12 - 12/21/12	< 0.006
12/21/12 - 01/07/13	< 0.008

Results in picoCuries per cubic meter (pCi/m³)

**New Jersey Department of Environmental Protection
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**Oyster Creek
Concentrations of Iodine-131 in Bi-Weekly Air Iodine Samples**

Waretown Municipal Building (OCAI01)

<u>Collection Period</u>	<u>I-131 (pCi/m³)</u>
12/26/11 - 01/09/12	< 0.011
01/09/12 - 01/23/12	< 0.009
01/23/12 - 02/06/12	< 0.008
02/06/12 - 02/21/12	< 0.006
02/21/12 - 03/05/12	< 0.007
03/05/12 - 03/19/12	< 0.016
03/19/12 - 04/02/12	< 0.008
04/02/12 - 04/16/12	< 0.013
04/16/12 - 04/30/12	< 0.008
04/30/12 - 05/14/12	< 0.008
05/14/12 - 05/29/12	< 0.011
05/29/12 - 06/11/12	< 0.010
06/11/12 - 06/25/12	< 0.008
06/25/12 - 07/09/12	< 0.007
07/09/12 - 07/23/12	< 0.007
07/23/12 - 08/06/12	< 0.011
08/06/12 - 08/20/12	< 0.008
08/20/12 - 09/04/12	< 0.006
09/04/12 - 09/17/12	< 0.013
09/17/12 - 10/02/12	< 0.005
10/02/12 - 10/15/12	< 0.010
10/15/12 - 11/05/12	< 0.008
11/05/12 - 11/13/12	< 0.012
11/13/12 - 11/26/12	< 0.008
11/26/12 - 12/10/12	< 0.016
12/10/12 - 12/21/12	< 0.009
12/21/12 - 01/07/13	< 0.011

Results in picoCuries per cubic meter (pCi/m³)

**New Jersey Department of Environmental Protection
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**Oyster Creek
Concentrations of Iodine-131 in Bi-Weekly Air Iodine Samples**

Sands Point Harbor (OCAI02)

<u>Collection Period</u>			<u>I-131</u> <u>(pCi/m³)</u>
12/26/11	-	01/09/12	< 0.008
01/09/12	-	01/23/12	< 0.010
01/23/12	-	02/06/12	< 0.006
02/06/12	-	02/21/12	< 0.005
02/21/12	-	03/05/12	< 0.007
03/05/12	-	03/19/12	< 0.017
03/19/12	-	04/02/12	< 0.008
04/02/12	-	04/16/12	< 0.025
04/16/12	-	04/30/12	< 0.006
04/30/12	-	05/14/12	< 0.014
05/14/12	-	05/29/12	< 0.011
05/29/12	-	06/11/12	< 0.012
06/11/12	-	06/25/12	< 0.006
06/25/12	-	07/09/12	< 0.015
07/09/12	-	07/23/12	< 0.008
07/23/12	-	08/06/12	< 0.011
08/06/12	-	08/20/12	< 0.006
08/20/12	-	09/04/12	< 0.008
09/04/12	-	09/17/12	< 0.009
09/17/12	-	10/02/12	< 0.004
10/02/12	-	10/15/12	< 0.008
10/15/12	-	11/05/12	No Data*
11/05/12	-	11/13/12	No Data*
11/13/12	-	11/26/12	No Data*
11/26/12	-	12/10/12	No Data*
12/10/12	-	12/21/12	< 0.009
12/21/12	-	01/07/13	< 0.011

Results in picoCuries per cubic meter (pCi/m³)

* Air sampler at this location sustained damage during Superstorm Sandy on October 29, 2012. A replacement unit was installed. Collection resumed on December 10, 2012.

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**Oyster Creek
Concentrations of Iodine-131 in Bi-Weekly Air Iodine Samples**

Forked River Marina (OCAI03)

<u>Collection Period</u>			<u>I-131</u> <u>(pCi/m³)</u>
12/26/11	-	01/09/12	< 0.017
01/09/12	-	01/23/12	< 0.014
01/23/12	-	02/06/12	< 0.012
02/06/12	-	02/21/12	< 0.009
02/21/12	-	03/05/12	< 0.007
03/05/12	-	03/19/12	< 0.013
03/19/12	-	04/02/12	< 0.012
04/02/12	-	04/16/12	< 0.015
04/16/12	-	04/30/12	< 0.007
04/30/12	-	05/14/12	< 0.007
05/14/12	-	05/29/12	< 0.009
05/29/12	-	06/11/12	< 0.010
06/11/12	-	06/25/12	< 0.014
06/25/12	-	07/09/12	< 0.009
07/09/12	-	07/23/12	< 0.012
07/23/12	-	08/06/12	< 0.011
08/06/12	-	08/20/12	< 0.008
08/20/12	-	09/04/12	< 0.010
09/04/12	-	09/17/12	< 0.009
09/17/12	-	10/02/12	< 0.005
10/02/12	-	10/15/12	< 0.012
10/15/12	-	11/05/12	< 0.009
11/05/12	-	11/13/12	< 0.022
11/13/12	-	11/26/12	< 0.008
11/26/12	-	12/10/12	< 0.008
12/10/12	-	12/21/12	< 0.006
12/21/12	-	01/17/13	< 0.005

Results in picoCuries per cubic meter (pCi/m³)

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**Oyster Creek
Concentrations of Iodine-131 in Bi-Weekly Air Iodine Samples**

Lacey Township Recreation Building (OCAI04)

<u>Collection Period</u>	<u>I-131 (pCi/m³)</u>
12/26/11 - 01/09/12	< 0.012
01/09/12 - 01/23/12	< 0.010
01/23/12 - 02/06/12	< 0.010
02/06/12 - 02/21/12	< 0.006
02/21/12 - 03/05/12	< 0.007
03/05/12 - 03/19/12	< 0.020
03/19/12 - 04/02/12	< 0.007
04/02/12 - 04/16/12	< 0.011
04/16/12 - 04/30/12	< 0.006
04/30/12 - 05/14/12	< 0.007
05/14/12 - 05/29/12	< 0.009
05/29/12 - 06/11/12	< 0.012
06/11/12 - 06/25/12	< 0.015
06/25/12 - 07/09/12	< 0.012
07/09/12 - 07/23/12	< 0.009
07/23/12 - 08/06/12	< 0.010
08/06/12 - 08/20/12	< 0.008
08/20/12 - 09/04/12	< 0.010
09/04/12 - 09/17/12	< 0.007
09/17/12 - 10/02/12	< 0.006
10/02/12 - 10/15/12	< 0.010
10/15/12 - 11/05/12	< 0.008
11/05/12 - 11/13/12	< 0.009
11/13/12 - 11/26/12	< 0.008
11/26/12 - 12/10/12	< 0.012
12/10/12 - 12/21/12	< 0.007
12/21/12 - 01/07/13	< 0.010

Results in picoCuries per cubic meter (pCi/m³)

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**Oyster Creek
Concentrations of Iodine-131 in Bi-Weekly Air Iodine Samples**

JCP&L Substation (OCAI05)

<u>Collection Period</u>	<u>I-131 (pCi/m³)</u>
12/26/11 - 01/09/12	< 0.012
01/09/12 - 01/23/12	< 0.029
01/23/12 - 02/06/12	< 0.010
02/06/12 - 02/21/12	< 0.007
02/21/12 - 03/05/12	< 0.012
03/05/12 - 03/19/12	< 0.017
03/19/12 - 04/02/12	< 0.007
04/02/12 - 04/16/12	< 0.014
04/16/12 - 04/30/12	< 0.005
04/30/12 - 05/14/12	< 0.014
05/14/12 - 05/29/12	< 0.008
05/29/12 - 06/11/12	< 0.009
06/11/12 - 06/25/12	< 0.010
06/25/12 - 07/09/12	< 0.010
07/09/12 - 07/23/12	< 0.008
07/23/12 - 08/06/12	< 0.012
08/06/12 - 08/20/12	< 0.015
08/20/12 - 09/04/12	< 0.011
09/04/12 - 09/17/12	< 0.007
09/17/12 - 10/02/12	< 0.008
10/02/12 - 10/15/12	< 0.012
10/15/12 - 11/05/12	< 0.013
11/05/12 - 11/13/12	< 0.013
11/13/12 - 11/26/12	< 0.015
11/26/12 - 12/10/12	< 0.011
12/10/12 - 12/21/12	< 0.007
12/21/12 - 01/07/13	< 0.010

Results in picoCuries per cubic meter (pCi/m³)

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**Oyster Creek
Concentrations of Iodine-131 in Weekly* Air Iodine Samples**

Finninger Farm, OC Dredge Site (OCAI06)

<u>Collection Period</u>	<u>I-131 (pCi/m³)</u>
12/28/11 - 01/04/12	< 0.027
01/04/12 - 01/11/12	< 0.026
01/11/12 - 01/18/12	< 0.020
01/18/12 - 01/25/12	< 0.025
01/25/12 - 02/01/12	< 0.027
02/01/12 - 02/08/12	< 0.021
02/08/12 - 02/15/12	< 0.012
02/15/12 - 02/22/12	< 0.018
02/22/12 - 02/29/12	< 0.020
02/29/12 - 03/07/12	< 0.012
03/07/12 - 03/14/12	< 0.029
03/14/12 - 03/21/12	< 0.027
03/21/12 - 03/27/12	< 0.050
03/27/12 - 04/04/12	< 0.018
04/04/12 - 04/11/12	< 0.023
04/11/12 - 04/18/12	< 0.020
04/18/12 - 04/25/12	< 0.058
04/25/12 - 05/01/12	< 0.022
05/01/12 - 05/09/12	< 0.026
05/09/12 - 05/16/12	< 0.016
05/16/12 - 05/23/12	< 0.044
05/23/12 - 05/30/12	< 0.052
05/30/12 - 06/06/12	< 0.036
06/06/12 - 06/13/12	< 0.024
06/13/12 - 06/20/12	< 0.045
06/20/12 - 06/27/12	< 0.024

Results in picoCuries per cubic meter (pCi/m³)

* Air Iodine samples are collected by the licensee on a weekly basis

**New Jersey Department of Environmental Protection
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**Oyster Creek
Concentrations of Iodine-131 in Weekly* Air Iodine Samples**

Finninger Farm, OC Dredge Site (OCAI06) - continued

<u>Collection Period</u>	<u>I-131 (pCi/m³)</u>
06/27/12 - 07/03/12	< 0.022
07/03/12 - 07/11/12	< 0.025
07/11/12 - 07/18/12	< 0.023
07/18/12 - 07/25/12	< 0.024
07/25/12 - 08/01/12	< 0.027
08/01/12 - 08/15/12**	< 0.028
08/15/12 - 08/22/12	< 0.035
08/22/12 - 08/29/12	< 0.019
08/29/12 - 09/05/12	< 0.017
09/05/12 - 09/12/12	< 0.037
09/12/12 - 09/19/12	< 0.028
09/19/12 - 09/26/12	< 0.032
09/26/12 - 10/03/12	< 0.025
10/03/12 - 10/10/12	< 0.036
10/10/12 - 10/17/12	< 0.029
10/17/12 - 10/24/12	< 0.023
10/24/12 - 11/01/12	< 0.018
11/01/12 - 11/07/12	< 0.028
11/07/12 - 11/14/12	< 0.022
11/14/12 - 11/20/12	< 0.061
11/20/12 - 11/28/12	< 0.015
11/28/12 - 12/05/12	< 0.031
12/05/12 - 12/12/12	< 0.026
12/12/12 - 12/18/12	< 0.049
12/18/12 - 12/26/12	< 0.014
12/26/12 - 01/02/13	< 0.027

Results in picoCuries per cubic meter (pCi/m³)

* Air Iodine samples are collected by the licensee on a weekly basis

** There was no access to the site during the week of August 7, 2012. Therefore the sample was collected and analyzed bi-weekly

**New Jersey Department of Environmental Protection
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**Oyster Creek
Concentrations of Iodine-131 in Weekly Air Iodine Samples***

Access Road to Finninger Farm Property (ENE Sector) (OCAI07)

<u>Collection Period</u>			<u>I-131</u> <u>(pCi/m³)</u>
12/26/11	-	01/09/12	< 0.011
01/09/12	-	01/23/12	< 0.015
01/23/12	-	02/06/12	< 0.013
02/06/12	-	02/21/12	< 0.005
02/21/12	-	03/05/12	< 0.007
03/05/12	-	03/19/12	< 0.025
03/19/12	-	04/02/12	< 0.008
04/02/12	-	04/16/12	< 0.025
04/16/12	-	04/30/12	< 0.008
04/30/12	-	05/14/12	< 0.009
05/14/12	-	05/29/12	< 0.018
05/29/12	-	06/11/12	< 0.012
06/11/12	-	06/25/12	< 0.012
06/25/12	-	07/09/12	< 0.006
07/09/12	-	07/23/12	< 0.009
07/23/12	-	08/06/12	< 0.008
08/06/12	-	08/20/12	< 0.010
08/20/12	-	09/04/12	< 0.004
09/04/12	-	09/17/12	< 0.016
09/17/12	-	10/02/12	< 0.005
10/02/12	-	10/15/12	< 0.015
10/15/12	-	11/05/12	< 0.008
11/05/12	-	11/13/12	< 0.009
11/13/12	-	11/26/12	< 0.006
11/26/12	-	12/10/12	< 0.008
12/10/12	-	12/21/12	< 0.008
12/21/12	-	01/07/13	< 0.009

Results in picoCuries per cubic meter (pCi/m³)

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**Salem/Hope Creek
Concentrations of Iodine-131 in Bi-Weekly Air Iodine Samples**

Fort Elfsborg Road (AIAI01)

<u>Collection Period</u>	<u>I-131 (pCi/m³)</u>
12/27/11 - 01/09/12	< 0.011
01/09/12 - 01/24/12	< 0.007
01/24/12 - 02/07/12	< 0.009
02/07/12 - 02/21/12	< 0.008
02/21/12 - 03/05/12	< 0.007
03/05/12 - 03/20/12	< 0.010
03/20/12 - 04/02/12	< 0.008
04/02/12 - 04/17/12	< 0.013
04/17/12 - 04/30/12	< 0.007
04/30/12 - 05/15/12	< 0.008
05/15/12 - 05/29/12	< 0.012
05/29/12 - 06/12/12	< 0.010
06/12/12 - 06/25/12	< 0.013
06/25/12 - 07/09/12	< 0.014
07/09/12 - 07/23/12	< 0.028
07/23/12 - 08/06/12	< 0.010
08/06/12 - 08/20/12	< 0.007
08/20/12 - 09/04/12	< 0.008
09/04/12 - 09/19/12	< 0.006
09/19/12 - 10/01/12	< 0.010
10/01/12 - 10/15/12	< 0.014
10/15/12 - 11/05/12	< 0.007
11/05/12 - 11/13/12	< 0.015
11/13/12 - 11/26/12	< 0.010
11/26/12 - 12/10/12	< 0.012
12/10/12 - 12/21/12	< 0.006
12/21/12 - 01/07/13	< 0.015

Results in picoCuries per cubic meter (pCi/m³)

**New Jersey Department of Environmental Protection
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**Salem/Hope Creek
Concentrations of Iodine-131 in Bi-Weekly Air Iodine Samples**

Plant Access Road (AIAI02)

<u>Collection Period</u>	<u>I-131 (pCi/m³)</u>
12/27/11 - 01/09/12	< 0.010
01/09/12 - 01/24/12	< 0.007
01/24/12 - 02/07/12	< 0.010
02/07/12 - 02/21/12	< 0.007
02/21/12 - 03/05/12	< 0.007
03/05/12 - 03/20/12	< 0.019
03/20/12 - 04/02/12	< 0.007
04/02/12 - 04/18/12	< 0.013
04/18/12 - 04/30/12	< 0.011
04/30/12 - 05/15/12	< 0.006
05/15/12 - 05/29/12	< 0.009
05/29/12 - 06/12/12	< 0.009
06/12/12 - 06/25/12	< 0.007
06/25/12 - 07/09/12	< 0.013
07/09/12 - 07/23/12	< 0.009
07/23/12 - 08/06/12	< 0.013
08/06/12 - 08/20/12	< 0.010
08/20/12 - 09/04/12	< 0.008
09/04/12 - 09/19/12	< 0.003
09/19/12 - 10/01/12	< 0.008
10/01/12 - 10/15/12	< 0.012
10/15/12 - 11/05/12	< 0.009
11/05/12 - 11/13/12	< 0.017
11/13/12 - 11/26/12	< 0.007
11/26/12 - 12/10/12	< 0.007
12/10/12 - 12/21/12	< 0.009
12/21/12 - 01/07/13	< 0.007

Results in picoCuries per cubic meter (pCi/m³)

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**Salem/Hope Creek
Concentrations of Iodine-131 in Bi-Weekly Air Iodine Samples**

Lower Alloways Creek School (AIAI03)

<u>Collection Period</u>	<u>I-131 (pCi/m³)</u>
12/27/11 - 01/09/12	< 0.008
01/09/12 - 01/24/12	< 0.013
01/24/12 - 02/07/12	< 0.010
02/07/12 - 02/21/12	< 0.006
02/21/12 - 03/05/12	< 0.010
03/05/12 - 03/20/12	< 0.024
03/20/12 - 04/02/12	< 0.007
04/02/12 - 04/18/12	< 0.013
04/18/12 - 04/30/12	< 0.007
04/30/12 - 05/15/12	< 0.008
05/15/12 - 05/29/12	< 0.014
05/29/12 - 06/12/12	< 0.018
06/12/12 - 06/25/12	< 0.019
06/25/12 - 07/09/12	< 0.010
07/09/12 - 07/23/12	< 0.010
07/23/12 - 08/06/12	< 0.018
08/06/12 - 08/20/12	< 0.009
08/20/12 - 09/04/12	< 0.012
09/04/12 - 09/19/12	< 0.006
09/19/12 - 10/01/12	< 0.011
10/01/12 - 10/15/12	< 0.018
10/15/12 - 11/05/12	< 0.009
11/05/12 - 11/13/12	< 0.011
11/13/12 - 11/26/12	< 0.007
11/26/12 - 12/10/12	< 0.010
12/10/12 - 12/21/12	< 0.007
12/21/12 - 01/07/13	< 0.009

Results in picoCuries per cubic meter (pCi/m³)

**New Jersey Department of Environmental Protection
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**BNE Background Locations
Concentrations of Gross Beta in Bi-Weekly Air Particulate Samples**

BNE Office (COAP01)

<u>Collection Period</u>	<u>Particulate Gross Beta (pCi/m³)</u>
12/28/11 - 01/09/12	0.039 ± 0.0040
01/09/12 - 01/24/12	0.033 ± 0.0030
01/24/12 - 02/08/12	0.038 ± 0.0030
02/08/12 - 02/21/12	0.037 ± 0.0030
02/21/12 - 03/06/12	0.033 ± 0.0030
03/06/12 - 03/21/12	0.031 ± 0.0030
03/21/12 - 04/02/12	0.030 ± 0.0030
04/02/12 - 04/16/12	0.030 ± 0.0030
04/16/12 - 04/30/12	0.029 ± 0.0030
04/30/12 - 05/15/12	0.026 ± 0.0030
05/15/12 - 05/29/12	0.018 ± 0.0020
05/29/12 - 06/12/12	0.024 ± 0.0020
06/12/12 - 06/25/12	0.028 ± 0.0030
06/25/12 - 07/09/12	0.036 ± 0.0030
07/09/12 - 07/23/12	0.032 ± 0.0030
07/23/12 - 08/06/12	0.033 ± 0.0030
08/06/12 - 08/20/12	0.029 ± 0.0030
08/20/12 - 09/04/12	0.048 ± 0.0040
09/04/12 - 09/19/12	0.034 ± 0.0030
09/19/12 - 10/01/12	0.039 ± 0.0040
10/01/12 - 10/15/12	0.040 ± 0.0030
10/15/12 - 11/05/12	0.034 ± 0.0030
11/05/12 - 11/13/12	0.041 ± 0.0040
11/13/12 - 11/26/12	0.044 ± 0.0040
11/26/12 - 12/10/12	0.044 ± 0.0030
12/10/12 - 12/21/12	0.042 ± 0.0040
12/21/12 - 01/07/13	0.039 ± 0.0030

Results in picoCuries per cubic meter (pCi/m³) +/- 2 Standard deviations total measurement uncertainty

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

**BNE Background Locations
Concentrations of Gross Beta in Bi-Weekly Air Particulate Samples**

Brendan T. Byrne State Forest (COAP02)

<u>Collection Period</u>	<u>Particulate Gross Beta (pCi/m³)</u>
12/26/11 - 01/09/12	0.041 ± 0.0030
01/09/12 - 01/23/12	0.034 ± 0.0030
01/23/12 - 02/06/12	0.040 ± 0.0030
02/06/12 - 02/21/12	0.030 ± 0.0030
02/21/12 - 03/05/12	0.035 ± 0.0030
03/05/12 - 03/19/12	0.030 ± 0.0030
03/19/12 - 04/02/12	0.026 ± 0.0030
04/02/12 - 04/16/12	0.029 ± 0.0030
04/16/12 - 04/30/12	0.029 ± 0.0030
04/30/12 - 05/14/12	0.025 ± 0.0030
05/14/12 - 05/29/12	0.023 ± 0.0020
05/29/12 - 06/11/12	0.026 ± 0.0030
06/11/12 - 06/25/12	0.027 ± 0.0030
06/25/12 - 07/09/12	0.037 ± 0.0030
07/09/12 - 07/23/12	0.029 ± 0.0030
07/23/12 - 08/06/12	0.035 ± 0.0030
08/06/12 - 08/20/12	0.032 ± 0.0030
08/20/12 - 09/04/12	0.047 ± 0.0030
09/04/12 - 09/17/12	0.030 ± 0.0030
09/17/12 - 10/02/12	0.032 ± 0.0030
10/02/12 - 10/15/12	0.036 ± 0.0030
10/15/12 - 11/05/12	0.028 ± 0.0020
11/05/12 - 11/13/12	0.039 ± 0.0040
11/13/12 - 11/26/12	0.039 ± 0.0030
11/26/12 - 12/10/12	0.041 ± 0.0030
12/10/12 - 12/21/12	0.036 ± 0.0030
12/21/12 - 01/07/13	0.041 ± 0.0030

Results in picoCuries per cubic meter (pCi/m³) +/- 2 Standard deviations total measurement uncertainty

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

**Oyster Creek
Concentrations of Gross Beta in Bi-Weekly Air Particulate Samples**

Waretown Municipal Building (OCAP01)

<u>Collection Period</u>	<u>Particulate Gross Beta (pCi/m³)</u>
12/26/11 - 01/09/12	0.034 ± 0.0030
01/09/12 - 01/23/12	0.030 ± 0.0030
01/23/12 - 02/06/12	0.041 ± 0.0030
02/06/12 - 02/21/12	0.035 ± 0.0030
02/21/12 - 03/05/12	0.031 ± 0.0030
03/05/12 - 03/19/12	0.030 ± 0.0030
03/19/12 - 04/02/12	0.029 ± 0.0030
04/02/12 - 04/16/12	0.030 ± 0.0030
04/16/12 - 04/30/12	0.027 ± 0.0030
04/30/12 - 05/14/12	0.022 ± 0.0020
05/14/12 - 05/29/12	0.021 ± 0.0020
05/29/12 - 06/11/12	0.027 ± 0.0030
06/11/12 - 06/25/12	0.030 ± 0.0030
06/25/12 - 07/09/12	0.038 ± 0.0030
07/09/12 - 07/23/12	0.032 ± 0.0030
07/23/12 - 08/06/12	0.034 ± 0.0030
08/06/12 - 08/20/12	0.029 ± 0.0030
08/20/12 - 09/04/12	0.042 ± 0.0030
09/04/12 - 09/17/12	0.031 ± 0.0030
09/17/12 - 10/02/12	0.035 ± 0.0030
10/02/12 - 10/15/12	0.038 ± 0.0030
10/15/12 - 11/05/12	0.023 ± 0.0020
11/05/12 - 11/13/12	0.041 ± 0.0040
11/13/12 - 11/26/12	0.047 ± 0.0040
11/26/12 - 12/10/12	0.044 ± 0.0030
12/10/12 - 12/21/12	0.038 ± 0.0030
12/21/12 - 01/07/13	0.036 ± 0.0030

Results in picoCuries per cubic meter (pCi/m³) +/- 2 Standard deviations total measurement uncertainty

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

**Oyster Creek
Concentrations of Gross Beta in Bi-Weekly Air Particulate Samples**

Sands Point Harbor (OCAP02)

<u>Collection Period</u>	<u>Particulate Gross Beta (pCi/m³)</u>
12/26/11 - 01/09/12	0.038 ± 0.0030
01/09/12 - 01/23/12	0.030 ± 0.0030
01/23/12 - 02/06/12	0.044 ± 0.0030
02/06/12 - 02/21/12	0.036 ± 0.0030
02/21/12 - 03/05/12	0.033 ± 0.0030
03/05/12 - 03/19/12	0.028 ± 0.0030
03/19/12 - 04/02/12	0.027 ± 0.0030
04/02/12 - 04/16/12	0.030 ± 0.0030
04/16/12 - 04/30/12	0.028 ± 0.0030
04/30/12 - 05/14/12	0.024 ± 0.0030
05/14/12 - 05/29/12	0.020 ± 0.0020
05/29/12 - 06/11/12	0.022 ± 0.0020
06/11/12 - 06/25/12	0.027 ± 0.0030
06/25/12 - 07/09/12	0.043 ± 0.0040
07/09/12 - 07/23/12	0.034 ± 0.0030
07/23/12 - 08/06/12	0.031 ± 0.0030
08/06/12 - 08/20/12	0.035 ± 0.0030
08/20/12 - 09/04/12	0.038 ± 0.0030
09/04/12 - 09/17/12	0.029 ± 0.0030
09/17/12 - 10/02/12	0.033 ± 0.0030
10/02/12 - 10/15/12	0.036 ± 0.0030
10/15/12 - 11/05/12	No Data*
11/05/12 - 11/13/12	No Data*
11/13/12 - 11/26/12	No Data*
11/26/12 - 12/10/12	No Data*
12/10/12 - 12/21/12	0.034 ± 0.0040
12/21/12 - 01/07/13	0.041 ± 0.0030

Results in picoCuries per cubic meter (pCi/m³) +/- 2 Standard deviations total measurement uncertainty

* Air sampler at this location sustained damage during Superstorm Sandy on October 29, 2012. A replacement unit was installed. Collection resumed on December 10, 2012.

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

**Oyster Creek
Concentrations of Gross Beta in Bi-Weekly Air Particulate Samples**

Forked River Marina (OCAP03)

<u>Collection Period</u>	<u>Particulate Gross Beta (pCi/m³)</u>
12/26/11 - 01/09/12	0.034 ± 0.0030
01/09/12 - 01/23/12	0.038 ± 0.0030
01/23/12 - 02/06/12	0.039 ± 0.0030
02/06/12 - 02/21/12	0.036 ± 0.0030
02/21/12 - 03/05/12	0.031 ± 0.0030
03/05/12 - 03/19/12	0.028 ± 0.0030
03/19/12 - 04/02/12	0.027 ± 0.0030
04/02/12 - 04/16/12	0.028 ± 0.0030
04/16/12 - 04/30/12	0.029 ± 0.0030
04/30/12 - 05/14/12	0.026 ± 0.0030
05/14/12 - 05/29/12	0.016 ± 0.0020
05/29/12 - 06/11/12	0.025 ± 0.0030
06/11/12 - 06/25/12	0.026 ± 0.0020
06/25/12 - 07/09/12	0.039 ± 0.0030
07/09/12 - 07/23/12	0.029 ± 0.0030
07/23/12 - 08/06/12	0.034 ± 0.0030
08/06/12 - 08/20/12	0.029 ± 0.0030
08/20/12 - 09/04/12	0.046 ± 0.0030
09/04/12 - 09/17/12	0.034 ± 0.0030
09/17/12 - 10/02/12	0.033 ± 0.0030
10/02/12 - 10/15/12	0.035 ± 0.0030
10/15/12 - 11/05/12	0.027 ± 0.0020
11/05/12 - 11/13/12	0.039 ± 0.0040
11/13/12 - 11/26/12	0.047 ± 0.0040
11/26/12 - 12/10/12	0.042 ± 0.0030
12/10/12 - 12/21/12	0.039 ± 0.0030
12/21/12 - 01/07/13	0.034 ± 0.0030

Results in picoCuries per cubic meter (pCi/m³) +/- 2 Standard deviations total measurement uncertainty

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

**Oyster Creek
Concentrations of Gross Beta in Bi-Weekly Air Particulate Samples**

Lacey Twp. Recreation Building (OCAP04)

<u>Collection Period</u>	<u>Particulate Gross Beta (pCi/m³)</u>
12/26/11 - 01/09/12	0.034 ± 0.0030
01/09/12 - 01/23/12	0.031 ± 0.0030
01/23/12 - 02/06/12	0.038 ± 0.0030
02/06/12 - 02/21/12	0.038 ± 0.0030
02/21/12 - 03/05/12	0.032 ± 0.0030
03/05/12 - 03/19/12	0.033 ± 0.0030
03/19/12 - 04/02/12	0.025 ± 0.0030
04/02/12 - 04/16/12	0.028 ± 0.0030
04/16/12 - 04/30/12	0.030 ± 0.0030
04/30/12 - 05/14/12	0.024 ± 0.0030
05/14/12 - 05/29/12	0.020 ± 0.0020
05/29/12 - 06/11/12	0.027 ± 0.0030
06/11/12 - 06/25/12	0.026 ± 0.0030
06/25/12 - 07/09/12	0.039 ± 0.0030
07/09/12 - 07/23/12	0.020 ± 0.0020
07/23/12 - 08/06/12	0.034 ± 0.0030
08/06/12 - 08/20/12	0.034 ± 0.0030
08/20/12 - 09/04/12	0.041 ± 0.0030
09/04/12 - 09/17/12	0.033 ± 0.0030
09/17/12 - 10/02/12	0.030 ± 0.0030
10/02/12 - 10/15/12	0.037 ± 0.0030
10/15/12 - 11/05/12	0.028 ± 0.0020
11/05/12 - 11/13/12	0.044 ± 0.0040
11/13/12 - 11/26/12	0.043 ± 0.0030
11/26/12 - 12/10/12	0.044 ± 0.0030
12/10/12 - 12/21/12	0.034 ± 0.0030
12/21/12 - 01/07/13	0.032 ± 0.0030

Results in picoCuries per cubic meter (pCi/m³) +/- 2 Standard deviations total measurement uncertainty

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

**Oyster Creek
Concentrations of Gross Beta in Bi-Weekly Air Particulate Samples**

JCP&L Substation (OCAP05)

<u>Collection Period</u>	<u>Particulate Gross Beta (pCi/m³)</u>
12/26/11 - 01/09/12	0.035 ± 0.0030
01/09/12 - 01/23/12	0.037 ± 0.0040
01/23/12 - 02/06/12	0.036 ± 0.0030
02/06/12 - 02/21/12	0.033 ± 0.0030
02/21/12 - 03/05/12	0.030 ± 0.0030
03/05/12 - 03/19/12	0.032 ± 0.0030
03/19/12 - 04/02/12	0.025 ± 0.0030
04/02/12 - 04/16/12	0.029 ± 0.0030
04/16/12 - 04/30/12	0.027 ± 0.0030
04/30/12 - 05/14/12	0.024 ± 0.0030
05/14/12 - 05/29/12	0.018 ± 0.0020
05/29/12 - 06/11/12	0.026 ± 0.0030
06/11/12 - 06/25/12	0.027 ± 0.0030
06/25/12 - 07/09/12	0.037 ± 0.0030
07/09/12 - 07/23/12	0.028 ± 0.0030
07/23/12 - 08/06/12	0.032 ± 0.0030
08/06/12 - 08/20/12	0.033 ± 0.0030
08/20/12 - 09/04/12	0.045 ± 0.0030
09/04/12 - 09/17/12	0.027 ± 0.0030
09/17/12 - 10/02/12	0.035 ± 0.0030
10/02/12 - 10/15/12	0.041 ± 0.0030
10/15/12 - 11/05/12	0.030 ± 0.0020
11/05/12 - 11/13/12	0.038 ± 0.0040
11/13/12 - 11/26/12	0.043 ± 0.0030
11/26/12 - 12/10/12	0.042 ± 0.0030
12/10/12 - 12/21/12	0.031 ± 0.0030
12/21/12 - 01/07/13	0.037 ± 0.0030

Results in picoCuries per cubic meter (pCi/m³) +/- 2 Standard deviations total measurement uncertainty

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

**Oyster Creek
Concentrations of Gross Beta in Weekly* Air Particulate Samples**

Finninger Farm, OC Dredge Site (OCAP06)

<u>Collection Period</u>	<u>Particulate Gross Beta (pCi/m³)</u>
12/28/11 - 01/04/12	0.047 ± 0.0070
01/04/12 - 01/11/12	0.057 ± 0.0080
01/11/12 - 01/18/12	0.038 ± 0.0070
01/18/12 - 01/25/12	0.034 ± 0.0060
01/25/12 - 02/01/12	0.046 ± 0.0070
02/01/12 - 02/08/12	0.034 ± 0.0060
02/08/12 - 02/15/12	0.034 ± 0.0060
02/15/12 - 02/22/12	0.037 ± 0.0060
02/22/12 - 02/29/12	0.050 ± 0.0070
02/29/12 - 03/07/12	0.040 ± 0.0060
03/07/12 - 03/14/12	0.033 ± 0.0060
03/14/12 - 03/21/12	0.032 ± 0.0060
03/21/12 - 03/27/12	0.045 ± 0.0070
03/27/12 - 04/04/12	0.037 ± 0.0060
04/04/12 - 04/11/12	0.035 ± 0.0060
04/11/12 - 04/18/12	0.032 ± 0.0060
04/18/12 - 04/25/12	0.027 ± 0.0050
04/25/12 - 05/01/12	0.036 ± 0.0070
05/01/12 - 05/09/12	0.026 ± 0.0050
05/09/12 - 05/16/12	0.040 ± 0.0060
05/16/12 - 05/23/12	0.026 ± 0.0050
05/23/12 - 05/30/12	0.026 ± 0.0050
05/30/12 - 06/06/12	0.038 ± 0.0060
06/06/12 - 06/13/12	0.039 ± 0.0060
06/13/12 - 06/20/12	0.055 ± 0.0070
06/20/12 - 06/27/12	0.042 ± 0.0060

Results in picoCuries per cubic meter (pCi/m³) +/- 2 Standard deviations total measurement uncertainty

* Air Particulate samples are collected by the licensee on a weekly basis

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

**Oyster Creek
Concentrations of Gross Beta in Weekly* Air Particulate Samples**

Finninger Farm, OC Dredge Site (OCAP06) - continued

<u>Collection Period</u>	<u>Particulate Gross Beta (pCi/m³)</u>
06/27/12 - 07/03/12	0.063 ± 0.0090
07/03/12 - 07/11/12	0.046 ± 0.0060
07/11/12 - 07/18/12	0.040 ± 0.0060
07/18/12 - 07/25/12	0.029 ± 0.0050
07/25/12 - 08/01/12	0.033 ± 0.0060
08/01/12 - 08/15/12**	0.034 ± 0.0040
08/15/12 - 08/22/12	0.048 ± 0.0070
08/22/12 - 08/29/12	0.046 ± 0.0070
08/29/12 - 09/05/12	0.050 ± 0.0070
09/05/12 - 09/12/12	0.040 ± 0.0060
09/12/12 - 09/19/12	0.038 ± 0.0060
09/19/12 - 09/26/12	0.032 ± 0.0060
09/26/12 - 10/03/12	0.059 ± 0.0080
10/03/12 - 10/10/12	0.045 ± 0.0070
10/10/12 - 10/17/12	0.047 ± 0.0070
10/17/12 - 10/24/12	0.045 ± 0.0070
10/24/12 - 11/01/12	0.028 ± 0.0050
11/01/12 - 11/07/12	0.027 ± 0.0060
11/07/12 - 11/14/12	0.045 ± 0.0070
11/14/12 - 11/20/12	0.056 ± 0.0080
11/20/12 - 11/28/12	0.051 ± 0.0060
11/28/12 - 12/05/12	0.055 ± 0.0070
12/05/12 - 12/12/12	0.031 ± 0.0050
12/12/12 - 12/18/12	0.037 ± 0.0060
12/18/12 - 12/26/12	0.048 ± 0.0060
12/26/12 - 01/02/13	0.040 ± 0.0060

Results in picoCuries per cubic meter (pCi/m³) +/- 2 Standard deviations total measurement uncertainty

* Air Particulate samples are collected by the licensee on a weekly basis

** There was no access to the site during the week of August 7, 2012. Therefore the sample was collected on August 15, 2012 and analyzed bi-weekly

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

**Oyster Creek
Concentrations of Gross Beta in Weekly Air Particulate Samples**

Access Road to Finninger Farm Property (ENE Sector) (OCAP07)

<u>Collection Period</u>	<u>Particulate Gross Beta (pCi/m³)</u>
12/26/11 - 01/09/12	0.037 ± 0.0030
01/09/12 - 01/23/12	0.031 ± 0.0030
01/23/12 - 02/06/12	0.037 ± 0.0030
02/06/12 - 02/21/12	0.037 ± 0.0030
02/21/12 - 03/05/12	0.011 ± 0.0020
03/05/12 - 03/19/12	0.031 ± 0.0030
03/19/12 - 04/02/12	0.028 ± 0.0030
04/02/12 - 04/16/12	0.030 ± 0.0030
04/16/12 - 04/30/12	0.028 ± 0.0030
04/30/12 - 05/14/12	0.022 ± 0.0020
05/14/12 - 05/29/12	0.022 ± 0.0020
05/29/12 - 06/11/12	No Data *
06/11/12 - 06/25/12	0.030 ± 0.0030
06/25/12 - 07/09/12	0.038 ± 0.0030
07/09/12 - 07/23/12	0.031 ± 0.0030
07/23/12 - 08/06/12	0.033 ± 0.0030
08/06/12 - 08/20/12	0.032 ± 0.0030
08/20/12 - 09/04/12	0.040 ± 0.0030
09/04/12 - 09/17/12	0.030 ± 0.0030
09/17/12 - 10/02/12	0.037 ± 0.0030
10/02/12 - 10/15/12	0.041 ± 0.0030
10/15/12 - 11/05/12	0.028 ± 0.0020
11/05/12 - 11/13/12	0.036 ± 0.0040
11/13/12 - 11/26/12	0.046 ± 0.0030
11/26/12 - 12/10/12	0.045 ± 0.0030
12/10/12 - 12/21/12	0.036 ± 0.0030
12/21/12 - 01/07/13	0.038 ± 0.0030

Results in picoCuries per cubic meter (pCi/m³) +/- 2 Standard deviations total measurement uncertainty

* Data not available due to a missing air filter

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

**Salem/Hope Creek
Concentrations of Gross Beta in Bi-Weekly Air Particulate Samples**

Fort Elfsborg Road (AIAP01)

<u>Collection Period</u>	<u>Particulate Gross Beta (pCi/m³)</u>
12/27/11 - 01/09/12	0.039 ± 0.0030
01/09/12 - 01/24/12	0.037 ± 0.0030
01/24/12 - 02/07/12	0.042 ± 0.0030
02/07/12 - 02/21/12	0.036 ± 0.0030
02/21/12 - 03/05/12	0.032 ± 0.0030
03/05/12 - 03/20/12	0.029 ± 0.0030
03/20/12 - 04/02/12	0.025 ± 0.0030
04/02/12 - 04/17/12	0.031 ± 0.0030
04/17/12 - 04/30/12	0.029 ± 0.0030
04/30/12 - 05/15/12	0.028 ± 0.0030
05/15/12 - 05/29/12	0.021 ± 0.0020
05/29/12 - 06/12/12	0.028 ± 0.0030
06/12/12 - 06/25/12	0.030 ± 0.0030
06/25/12 - 07/09/12	0.039 ± 0.0040
07/09/12 - 07/23/12	0.034 ± 0.0030
07/23/12 - 08/06/12	0.037 ± 0.0030
08/06/12 - 08/20/12	0.038 ± 0.0030
08/20/12 - 09/04/12	0.045 ± 0.0030
09/04/12 - 09/19/12	0.033 ± 0.0030
09/19/12 - 10/01/12	0.039 ± 0.0040
10/01/12 - 10/15/12	0.043 ± 0.0040
10/15/12 - 11/05/12	0.030 ± 0.0020
11/05/12 - 11/13/12	0.041 ± 0.0040
11/13/12 - 11/26/12	0.043 ± 0.0040
11/26/12 - 12/10/12	0.041 ± 0.0030
12/10/12 - 12/21/12	0.045 ± 0.0040
12/21/12 - 01/07/13	0.039 ± 0.0030

Results in picoCuries per cubic meter (pCi/m³) +/- 2 Standard deviations total measurement uncertainty

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

**Salem/Hope Creek
Concentrations of Gross Beta in Bi-Weekly Air Particulate Samples**

Plant Access Road (AIAP02)

<u>Collection Period</u>	<u>Particulate Gross Beta (pCi/m³)</u>
12/27/11 - 01/09/12	0.040 ± 0.0030
01/09/12 - 01/24/12	0.036 ± 0.0030
01/24/12 - 02/07/12	0.043 ± 0.0030
02/07/12 - 02/21/12	0.035 ± 0.0030
02/21/12 - 03/05/12	0.030 ± 0.0030
03/05/12 - 03/20/12	0.033 ± 0.0030
03/20/12 - 04/02/12	0.025 ± 0.0030
04/02/12 - 04/18/12	0.031 ± 0.0030
04/18/12 - 04/30/12	0.031 ± 0.0030
04/30/12 - 05/15/12	0.029 ± 0.0030
05/15/12 - 05/29/12	0.018 ± 0.0020
05/29/12 - 06/12/12	0.011 ± 0.0020
06/12/12 - 06/25/12	0.029 ± 0.0030
06/25/12 - 07/09/12	0.047 ± 0.0040
07/09/12 - 07/23/12	0.031 ± 0.0030
07/23/12 - 08/06/12	0.036 ± 0.0030
08/06/12 - 08/20/12	0.036 ± 0.0030
08/20/12 - 09/04/12	0.045 ± 0.0030
09/04/12 - 09/19/12	0.035 ± 0.0030
09/19/12 - 10/01/12	0.041 ± 0.0040
10/01/12 - 10/15/12	0.032 ± 0.0030
10/15/12 - 11/05/12	0.031 ± 0.0020
11/05/12 - 11/13/12	0.046 ± 0.0050
11/13/12 - 11/26/12	0.041 ± 0.0030
11/26/12 - 12/10/12	0.049 ± 0.0040
12/10/12 - 12/21/12	0.042 ± 0.0040
12/21/12 - 01/07/13	0.042 ± 0.0030

Results in picoCuries per cubic meter (pCi/m³) +/- 2 Standard deviations total measurement uncertainty

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

**Salem/Hope Creek
Concentrations of Gross Beta in Bi-Weekly Air Particulate Samples**

Lower Alloways Creek School (AIAP03)

<u>Collection Period</u>	<u>Particulate Gross Beta (pCi/m³)</u>
12/27/11 - 01/09/12	0.038 ± 0.0030
01/09/12 - 01/24/12	0.031 ± 0.0030
01/24/12 - 02/07/12	0.043 ± 0.0030
02/07/12 - 02/21/12	0.036 ± 0.0030
02/21/12 - 03/05/12	0.033 ± 0.0030
03/05/12 - 03/20/12	0.035 ± 0.0030
03/20/12 - 04/02/12	0.023 ± 0.0030
04/02/12 - 04/18/12	0.030 ± 0.0030
04/18/12 - 04/30/12	0.029 ± 0.0030
04/30/12 - 05/15/12	0.029 ± 0.0030
05/15/12 - 05/29/12	0.020 ± 0.0020
05/29/12 - 06/12/12	0.029 ± 0.0030
06/12/12 - 06/25/12	0.032 ± 0.0030
06/25/12 - 07/09/12	0.041 ± 0.0030
07/09/12 - 07/23/12	0.031 ± 0.0030
07/23/12 - 08/06/12	0.037 ± 0.0030
08/06/12 - 08/20/12	0.037 ± 0.0030
08/20/12 - 09/04/12	0.044 ± 0.0030
09/04/12 - 09/19/12	0.034 ± 0.0030
09/19/12 - 10/01/12	0.039 ± 0.0040
10/01/12 - 10/15/12	0.042 ± 0.0030
10/15/12 - 11/05/12	0.027 ± 0.0020
11/05/12 - 11/13/12	0.045 ± 0.0040
11/13/12 - 11/26/12	0.042 ± 0.0030
11/26/12 - 12/10/12	0.040 ± 0.0030
12/10/12 - 12/21/12	0.042 ± 0.0040
12/21/12 - 01/07/13	0.042 ± 0.0030

Results in picoCuries per cubic meter (pCi/m³) +/- 2 Standard deviations total measurement uncertainty

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

**BNE Background Locations
Concentrations of Gamma Emitters and Strontium in
Quarterly Composite Air Samples**

BNE Office (COAP01)

<u>Collection Period</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Be-7</u>	<u>Sr-89</u>	<u>Sr-90</u>
12/28/11 - 04/02/12	< 0.3	< 0.4	< 0.3	93 ± 15	< 7.5	< 1.9
04/02/12 - 06/25/12	< 0.5	< 0.5	< 0.4	112 ± 20	< 14.6	< 13.9
06/25/12 - 10/01/12	< 0.3	< 0.5	< 0.3	116 ± 18	< 0.8	< 0.3
10/01/12 - 12/21/12	< 0.4	< 0.4	< 0.3	70 ± 11	< 61.7	< 18.5

Brendan T. Byrne State Forest (COAP02)

<u>Collection Period</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Be-7</u>	<u>Sr-89</u>	<u>Sr-90</u>
12/26/11 - 04/02/12	< 0.4	< 0.4	< 0.3	92 ± 16	< 9.6	< 2.4
04/02/12 - 06/25/12	< 0.5	< 0.4	< 0.4	114 ± 21	< 8.2	< 12.3
06/25/12 - 10/02/12	< 0.3	< 0.3	< 0.3	112 ± 16	< 0.7	< 0.3
10/02/12 - 12/21/12	< 0.3	< 0.4	< 0.3	82 ± 13	< 33.8	< 16.0

Results in 10^{-3} picoCuries per cubic meter (pCi/m³) +/- 2 Standard deviations total measurement uncertainty

Beryllium-7 (Be-7) is a naturally occurring radionuclide found in the environment.

**New Jersey Department of Environmental Protection
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**Oyster Creek
Concentrations of Gamma Emitters and Strontium in
Quarterly Composite Air Samples**

Waretown Municipal Building (OCAP01)

<u>Collection Period</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Be-7</u>	<u>Sr-89</u>	<u>Sr-90</u>
12/26/11 - 04/02/12	< 0.4	< 0.5	< 0.4	98 ± 16	< 10.0	< 2.3
04/02/12 - 06/25/12	< 0.4	< 0.4	< 0.3	119 ± 18	< 13.4	< 11.4
06/25/12 - 10/02/12	< 0.4	< 0.4	< 0.4	128 ± 18	< 0.6	< 0.3
10/02/12 - 12/21/12	< 0.3	< 0.4	< 0.4	76 ± 12	< 27.3	< 19.8

Sands Point Harbor (OCAP02)

<u>Collection Period</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Be-7</u>	<u>Sr-89</u>	<u>Sr-90</u>
12/26/11 - 04/02/12	< 0.3	< 0.3	< 0.3	94 ± 14	< 7.8	< 2.0
04/02/12 - 06/25/12	< 0.4	< 0.6	< 0.3	117 ± 19	< 13.3	< 16.7
06/25/12 - 10/02/12	< 0.3	< 0.3	< 0.2	109 ± 18	< 0.6	< 0.3
10/02/12 - 12/21/12	< 1.1	< 1.1	< 0.9	84 ± 29	< 117.0	< 45.4

Forked River Marina (OCAP03)

<u>Collection Period</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Be-7</u>	<u>Sr-89</u>	<u>Sr-90</u>
12/26/11 - 04/02/12	< 0.4	< 0.4	< 0.3	96 ± 15	< 8.3	< 1.4
04/02/12 - 06/25/12	< 0.4	< 0.4	< 0.4	112 ± 19	< 14.6	< 13.2
06/25/12 - 10/02/12	< 0.4	< 0.2	< 0.2	115 ± 16	< 1.0	< 0.3
10/02/12 - 12/21/12	< 0.2	< 0.4	< 0.3	95 ± 13	< 53.4	< 22.6

Lacey Township Recreation Building (OCAP04)

<u>Collection Period</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Be-7</u>	<u>Sr-89</u>	<u>Sr-90</u>
12/26/11 - 04/02/12	< 0.3	< 0.3	< 0.2	103 ± 15	< 8.0	< 3.0
04/02/12 - 06/25/12	< 0.5	< 0.5	< 0.3	112 ± 19	< 13.2	< 22.5
06/25/12 - 10/02/12	< 0.3	< 0.3	< 0.2	123 ± 17	< 0.6	< 0.4
10/02/12 - 12/21/12	< 0.4	< 0.4	< 0.3	85 ± 11	< 47.8	< 23.0

Results in 10^{-3} picoCuries per cubic meter (pCi/m^3) +/- 2 Standard deviations total measurement uncertainty

Beryllium-7 (Be-7) is a naturally occurring radionuclide found in the environment.

**New Jersey Department of Environmental Protection
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**Oyster Creek
Concentrations of Gamma Emitters and Strontium in
Quarterly Composite Air Samples**

Jersey Central Power and Light Substation (OCAP05)

<u>Collection Period</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Be-7</u>	<u>Sr-89</u>	<u>Sr-90</u>
12/26/11 - 04/02/12	< 0.4	< 0.5	< 0.4	102 ± 17	< 5.5	< 1.8
04/02/12 - 06/25/12	< 0.3	< 0.5	< 0.3	90 ± 17	< 14.0	< 13.3
06/25/12 - 10/02/12	< 0.4	< 0.3	< 0.2	129 ± 18	< 0.9	< 0.2
10/02/12 - 12/21/12	< 0.5	< 0.5	< 0.3	77 ± 14	< 48.2	< 25.0

Finninger Farm, OC Dredge Site (OCAP06)

<u>Collection Period</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Be-7</u>	<u>Sr-89</u>	<u>Sr-90</u>
12/28/11 - 03/27/12	< 0.7	< 0.9	< 0.6	106 ± 24	< 18.6	< 7.4
03/27/12 - 07/03/12	< 0.5	< 0.6	< 0.5	129 ± 24	< 25.4	< 21.2
07/03/12 - 10/03/12	< 0.6	< 0.8	< 0.7	107 ± 22	< 1.5	< 0.7
10/03/12 - 01/02/13	< 0.5	< 0.6	< 0.6	76 ± 16	< 93.9	< 31.8

Access Road, Finninger Farm Property (ENE Sector) (OCAP07)

<u>Collection Period</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Be-7</u>	<u>Sr-89</u>	<u>Sr-90</u>
12/26/11 - 04/02/12	< 0.4	< 0.3	< 0.3	105 ± 16	< 7.6	< 2.5
04/02/12 - 06/25/12	< 0.5	< 0.5	< 0.5	90 ± 19	< 15.5	< 12.5
06/25/12 - 10/02/12	< 0.4	< 0.3	< 0.3	114 ± 16	< 1.0	< 0.3
10/02/12 - 12/21/12	< 0.4	< 0.3	< 0.3	86 ± 12	< 54.3	< 13.3

Results in 10^{-3} picoCuries per cubic meter (pCi/m^3) +/- 2 Standard deviations total measurement uncertainty

Beryllium-7 (Be-7) is a naturally occurring radionuclide found in the environment.

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2012 Radiological Environmental Monitoring Program**

**Salem / Hope Creek
Concentrations of Gamma Emitters and Strontium in
Quarterly Composite Air Samples**

Fort Elfsborg Road (AIAP01)

<u>Collection Period</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Be-7</u>	<u>Sr-89</u>	<u>Sr-90</u>
12/27/11 - 04/02/12	< 0.3	< 0.4	< 0.3	84 ± 14	< 9.0	< 2.1
04/02/12 - 06/25/12	< 0.4	< 0.5	< 0.3	116 ± 20	< 14.5	< 14.6
06/25/12 - 10/01/12	< 0.3	< 0.5	< 0.4	123 ± 23	< 1.1	< 0.3
10/01/12 - 12/21/12	< 0.4	< 0.4	< 0.4	79 ± 12	< 45.0	< 23.6

Plant Access Road (AIAP02)

<u>Collection Period</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Be-7</u>	<u>Sr-89</u>	<u>Sr-90</u>
12/27/11 - 04/02/12	< 0.3	< 0.3	< 0.2	92 ± 14	< 8.6	< 1.9
04/02/12 - 06/25/12	< 0.4	< 0.5	< 0.3	123 ± 18	< 15.6	< 12.7
06/25/12 - 10/01/12	< 0.6	< 0.6	< 0.5	144 ± 23	< 1.0	< 0.4
10/01/12 - 12/21/12	< 0.4	< 0.4	< 0.3	72 ± 13	< 53.4	< 20.4

Lower Alloways Creek School (AIAP03)

<u>Collection Period</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Be-7</u>	<u>Sr-89</u>	<u>Sr-90</u>
12/27/11 - 04/02/12	< 0.3	< 0.5	< 0.3	93 ± 15	< 8.2	< 1.9
04/02/12 - 06/25/12	< 0.3	< 0.4	< 0.3	118 ± 18	< 16.0	< 49.6
06/25/12 - 10/01/12	< 0.2	< 0.3	< 0.3	111 ± 17	< 1.0	< 0.2
10/01/12 - 12/21/12	< 0.4	< 0.5	< 0.3	78 ± 13	< 34.8	< 15.6

Results in 10⁻³ picoCuries per cubic meter (pCi/m³) +/- 2 Standard deviations total measurement uncertainty

Beryllium-7 (Be-7) is a naturally occurring radionuclide found in the environment.

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

**Oyster Creek
Concentrations of Gamma Emitters and Strontium in Fish/Shellfish Samples**

Stouts Creek (OCFS01)

<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>K-40</u>	<u>Sr-89</u>	<u>Sr-90</u>
04/10/12 - Clams	< 4	< 4	< 5	< 4	1700 ± 174	< 240	< 404
09/24/12 - Clams	< 6	< 7	< 8	< 7	1090 ± 152	< 495	< 588

East of Site – Barnegat Bay (OCFS02)

<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>K-40</u>	<u>Sr-89</u>	<u>Sr-90</u>
04/10/12 - Clams	< 4	< 4	< 5	< 4	1660 ± 166	< 321	< 346
09/24/12 - Clams	< 9	< 9	< 10	< 9	1230 ± 206	< 532	< 538

Great Bay / Little Egg Harbor (OCFS03)

<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>K-40</u>	<u>Sr-89</u>	<u>Sr-90</u>
04/09/12 - Clams	< 3	< 4	< 4	< 3	2000 ± 196	< 335	< 490
09/26/12 - Clams	< 8	< 10	< 10	< 9	1260 ± 194	< 576	< 470
04/09/12 – Bluefish	< 5	< 5	< 6	8 ± 5	3480 ± 326	< 234	< 345

OCNGS Discharge Canal between Pump Discharges and US Route 9 (OCFS04)

<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>K-40</u>	<u>Sr-89</u>	<u>Sr-90</u>
04/10/12 – Bluefish	< 3	< 4	< 4	9 ± 4	3460 ± 350	< 251	< 264
04/10/12 – Striped Bass	< 5	< 5	< 6	< 5	4130 ± 373	< 618	< 736
09/25/12 – Bluefish	< 3	< 3	< 3	< 3	2920 ± 258	< 475	< 388
09/25/12 – Striped Bass	< 2	< 4	< 3	< 3	2460 ± 234	< 454	< 470
09/25/12 – Black Drum	< 7	< 7	< 9	< 9	2530 ± 276	< 365	< 405

ESE of Site, EAST of U.S. Route 9 Bridge at the OCNGS Discharge Canal (OCFS05)

<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>K-40</u>	<u>Sr-89</u>	<u>Sr-90</u>
09/24/12 - Bluefish	< 7	< 7	< 9	< 8	2720 ± 279	< 418	< 569

Results in picoCuries per kilogram – WET (pCi/kg) +/- 2 Standard deviations total measurement uncertainty

Potassium-40 (K-40) is a naturally occurring radionuclide found in the environment

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

**Salem/Hope Creek
Concentrations of Gamma Emitters and Strontium in Fish/Shellfish Samples**

Delaware River – Near Plant Discharge Outfall Area – Salem NGS (AIFS01)

<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>K-40</u>	<u>Sr-89</u>	<u>Sr-90</u>
04/25/12 – Fish *	< 3	< 4	< 4	4 ± 3	3480 ± 307	< 467	< 476
07/23/12 – Hardshell Crab	< 4	< 5	< 5	< 5	3080 ± 288	< 261	< 176
08/27/12 – Hardshell Crab	< 4	< 4	< 5	< 4	2920 ± 270	< 247	< 332

Delaware River – West Bank Upstream (AIFS02)

<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>K-40</u>	<u>Sr-89</u>	<u>Sr-90</u>
04/24/12 – Fish **	< 4	< 4	< 4	8 ± 4	3880 ± 353	< 462	< 488
07/23/12 – Hardshell Crab	< 4	< 5	< 5	< 4	3180 ± 308	< 188	< 173
08/27/12 – Hardshell Crab	< 4	< 5	< 5	< 4	3150 ± 291	< 164	< 352

Delaware River - One Mile West of Mad Horse Creek (AIFS03)

<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>K-40</u>	<u>Sr-89</u>	<u>Sr-90</u>
04/24/12 – Fish ***	< 3	< 4	< 4	< 3	3630 ± 321	< 416	< 408

Results in picocuries per kilogram – WET (pCi/kg) +/- 2 Standard deviations total measurement uncertainty

Potassium-40 (K-40) is a naturally occurring radionuclide found in the environment.

* Species of fish include Striped Bass, Channel Catfish, White Perch and Black Drum

** Species of fish include Striped Bass, Channel Catfish

*** Species of fish include Striped Bass, White Perch and Channel Catfish

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

**Oyster Creek
Concentrations of Gamma Emitters in Aquatic Sediment Samples**

Barnegat Bay (OCAQ01)

<u>Collection Date</u>	<u>Be-7</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Mn-54</u>	<u>K-40</u>
04/10/12	< 79	< 9	< 9	< 12	< 10	< 9	352 ± 145
09/24/12	208 ± 120	< 20	< 21	< 23	< 19	< 19	1310 ± 251

Oyster Creek Discharge Canal (OCAQ02)

<u>Collection Date</u>	<u>Be-7</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Mn-54</u>	<u>K-40</u>
04/09/12	594 ± 155	< 13	< 13	< 17	24 ± 10	< 13	3660 ± 417
09/24/12	367 ± 169	< 25	< 28	< 28	< 27	< 24	3320 ± 463

Great Bay / Little Egg Harbor (OCAQ03)

<u>Collection Date</u>	<u>Be-7</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Mn-54</u>	<u>K-40</u>
04/09/12	< 137	< 15	< 17	< 20	< 14	< 15	8290 ± 942
09/26/12	631 ± 133	< 16	< 18	< 20	< 16	< 17	5470 ± 572

Stouts Creek (OCAQ04)

<u>Collection Date</u>	<u>Be-7</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Mn-54</u>	<u>K-40</u>
04/10/12	103 ± 83	< 9	< 10	< 12	< 11	< 9	1460 ± 203
09/24/12	< 172	< 21	< 20	< 28	< 22	< 22	2250 ± 304

Results in picoCuries per kilogram – DRY (pCi/kg) +/- 2 Standard deviations total measurement uncertainty

Potassium-40 (K-40) and Beryllium-7 (Be-7) are naturally occurring radionuclides found in the environment.

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

**Salem/Hope Creek
Concentrations of Gamma Emitters in Aquatic Sediment Samples**

Delaware River – Near Facility Helipad (AIAQ01)

<u>Collection Date</u>	<u>Be-7</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Mn-54</u>	<u>K-40</u>
06/11/12	< 25	< 3	< 3	< 5	4 ± 3	< 3	6640 ± 563
11/21/12	< 62	< 8	< 9	< 9	< 7	< 8	2190 ± 234

Delaware River – Near Plant Discharge Outfall Area – Salem NGS (AIAQ02)

<u>Collection Date</u>	<u>Be-7</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Mn-54</u>	<u>K-40</u>
05/30/12	< 42	< 4	< 4	< 7	< 4	< 4	3980 ± 346
11/21/12	< 81	< 9	< 9	< 11	< 9	< 9	3700 ± 354

Delaware River – Near Hope Creek NGS Cooling Tower Blow Down Discharge Line Outfall (AIAQ03)

<u>Collection Date</u>	<u>Be-7</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Mn-54</u>	<u>K-40</u>
05/30/12	41 ± 27	< 4	< 4	< 6	8 ± 4	< 4	4610 ± 401
11/21/12	< 45	< 5	< 5	< 6	5 ± 3	< 5	3410 ± 304

Delaware River – Near South Storm Drain Discharge Line (AIAQ04)

<u>Collection Date</u>	<u>Be-7</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Mn-54</u>	<u>K-40</u>
05/30/12	< 74	< 7	< 7	< 11	< 7	< 7	5570 ± 484
11/21/12	< 49	< 5	< 5	< 6	< 6	< 5	3130 ± 343

West Bank of Delaware River – Upstream (AIAQ05)

<u>Collection Date</u>	<u>Be-7</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>Mn-54</u>	<u>K-40</u>
05/30/12	< 90	< 10	< 10	< 14	14 ± 7	< 10	16000 ± 1400
11/21/12	< 76	< 7	< 8	< 10	< 8	< 8	5650 ± 519

Results in picoCuries per kilogram – DRY (pCi/kg) +/- 2 Standard deviations total measurement uncertainty

Potassium-40 (K-40) and Beryllium-7 (Be-7) are naturally occurring radionuclides found in the environment.

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

**Oyster Creek
Concentrations of Gamma Emitters in Vegetable Samples**

Oyster Creek Onsite Garden - ESE (OCVE01)

<u>Sample</u>	<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>K-40</u>
Cabbage	07/19/12	< 8	< 9	< 10	< 9	3650 ± 372
Collards	07/19/12	< 9	< 10	< 10	< 9	3920 ± 404
Kale	07/19/12	< 10	< 11	< 12	< 10	3460 ± 361
Cabbage	08/13/12	< 7	< 8	< 9	< 8	2390 ± 262
Collards	08/13/12	< 12	< 13	< 15	< 12	3100 ± 373
Kale	08/13/12	< 10	< 13	< 13	< 12	3870 ± 434
Cabbage	09/19/12	< 6	< 6	< 7	< 6	2170 ± 235

Private Farm – NW (OCVE02)

<u>Sample</u>	<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>K-40</u>
Cabbage	07/19/12	< 6	< 7	< 7	< 6	2510 ± 257
Collards	07/19/12	< 7	< 7	< 8	< 7	4580 ± 454
Kale	07/19/12	< 9	< 12	< 11	< 10	4720 ± 496
Cabbage	08/13/12	< 9	< 10	< 11	< 10	2210 ± 281
Collards	08/13/12	< 8	< 9	< 11	< 9	4620 ± 446
Kale	08/13/12	< 10	< 12	< 13	< 10	3990 ± 423
Cabbage	09/19/12	< 8	< 8	< 10	< 8	1910 ± 216
Collards	09/19/12	< 8	< 9	< 9	< 8	4010 ± 392
Kale	09/19/12	< 9	< 10	< 11	< 9	3650 ± 359
Cabbage	10/16/12	< 6	< 7	< 7	< 7	2210 ± 246
Collards	10/16/12	< 7	< 8	< 9	< 7	3570 ± 182
Kale	10/16/12	< 9	< 12	< 12	< 10	3560 ± 390

Results in picoCuries per kilogram – WET (pCi/kg) +/- 2 Standard deviations total measurement uncertainty

Potassium-40 (K-40) is a naturally occurring radionuclide found in the environment

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

**Oyster Creek
Concentrations of Gamma Emitters in Vegetable Samples**

Oyster Creek Onsite Garden - E (OCVE07)

<u>Sample</u>	<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>K-40</u>
Cabbage	07/19/12	< 9	< 9	< 10	24 ± 8	2530 ± 277
Kale	07/19/12	< 11	< 10	< 12	14 ± 8	3600 ± 373
Cabbage	08/13/12	< 8	< 9	< 11	41 ± 10	2570 ± 290
Collards	08/13/12	< 7	< 8	< 9	67 ± 13	2290 ± 263
Kale	08/13/12	< 10	< 13	< 13	45 ± 12	2670 ± 307
Cabbage	09/19/12	< 5	< 6	< 6	12 ± 5	1640 ± 182
Collards	09/19/12	< 21	< 28	< 25	30 ± 23	3190 ± 535
Kale	09/19/12	< 17	< 19	< 23	29 ± 16	4600 ± 571
Collards	10/16/12	< 6	< 8	< 9	23 ± 9	3950 ± 389
Kale	10/16/12	< 9	< 9	< 10	16 ± 11	4370 ± 443

Results in picoCuries per kilogram – WET (pCi/kg) +/- 2 Standard deviations total measurement uncertainty

Potassium-40 (K-40) is a naturally occurring radionuclide found in the environment.

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

**Salem/Hope Creek
Concentrations of Gamma Emitters in Vegetable Samples**

Private Farm – NNE (AIVE04)

<u>Sample</u>	<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>K-40</u>
Asparagus	05/06/12	< 7	< 9	< 9	< 7	2260 ± 248
Corn	07/09/12	< 7	< 7	< 8	< 7	2160 ± 239

Private Farm – NNE (AIVE05)

<u>Sample</u>	<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>K-40</u>
Asparagus	04/22/12	< 6	< 6	< 7	< 7	1950 ± 208
Corn	07/23/12	< 7	< 8	< 9	< 7	2390 ± 265
Tomato	07/23/12	< 3	< 4	< 4	< 3	2080 ± 194

Private Farm – NE (AIVE11)

<u>Sample</u>	<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>K-40</u>
Asparagus	05/21/12	< 6	< 7	< 8	< 8	1690 ± 209
Corn	07/23/12	< 8	< 10	< 10	< 8	2190 ± 255
Tomato	07/23/12	< 3	< 3	< 3	< 3	1820 ± 171
Cabbage	07/31/12	< 7	< 7	< 8	< 6	2250 ± 244
Peppers	07/31/12	< 6	< 6	< 7	< 6	1890 ± 204

Owner Controlled Area (Onsite) - N (AIVE12)

<u>Sample</u>	<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>K-40</u>
Cabbage	12/13/12	< 15	< 17	< 18	29 ± 13	2790 ± 369

Owner Controlled Area (Onsite) - NW (AIVE13)

<u>Sample</u>	<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>K-40</u>
Cabbage	12/13/12	< 14	< 14	< 14	88 ± 19	3480 ± 447

Owner Controlled Area (Onsite) - NNW (AIVE14)

<u>Sample</u>	<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>K-40</u>
Cabbage	12/13/12	< 12	< 14	< 14	83 ± 16	3820 ± 463

Private Farm – SSW (AIVE15)

<u>Sample</u>	<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>K-40</u>
Cabbage	12/13/12	< 8	< 9	< 9	9 ± 8	3280 ± 345

Results in picoCuries per kilogram – WET (pCi/kg) +/- 2 Standard deviations total measurement uncertainty

Potassium-40 (K-40) is a naturally occurring radionuclide found in the environment.

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

**Salem/Hope Creek
Concentrations of Gamma Emitters in Vegetable Samples**

Private Farm - S (AIVE17)

<u>Sample</u>	<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>K-40</u>
Corn	07/23/12	< 6	< 7	< 8	< 6	2500 ± 263
Tomato	07/23/12	< 4	< 5	< 5	< 4	1770 ± 179

Private Farm – NNE (AIVE18)

<u>Sample</u>	<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>K-40</u>
Corn	07/23/12	< 6	< 7	< 7	< 6	2340 ± 247
Tomato	07/23/12	< 4	< 5	< 5	< 4	1560 ± 167
Pepper	07/31/12	< 8	< 9	< 9	< 8	1610 ± 232

Private Farm – WNW (AIVE19)

<u>Sample</u>	<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>K-40</u>
Soy Bean	10/13/12	< 8	< 9	< 9	< 7	15000 ± 1290

Private Farm – N (AIVE20)

<u>Sample</u>	<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>K-40</u>
Soy Bean	11/02/12	< 5	< 6	< 5	< 5	13200 ± 210

Results in picoCuries per kilogram – WET (pCi/kg) +/- 2 Standard deviations total measurement uncertainty

Potassium-40 (K-40) is a naturally occurring radionuclide found in the environment.

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

**BNE Background Location
Concentrations of Gamma Emitters and Strontium in Milk Samples**

State of New Jersey Dairy Farm (COMI01)

<u>Collection Date</u>	<u>Cs-137</u>	<u>I-131</u>	<u>K-40</u>	<u>Sr-89</u>	<u>Sr-90</u>
02/06/12	< 2.59	< 0.53	1360 ± 135	< 0.85	< 0.61
05/09/12	< 2.14	< 0.70	1680 ± 150	< 0.81	< 0.90
08/08/12	< 2.13	< 0.66	1340 ± 122	< 0.72	< 0.81
11/19/12	< 2.41	< 0.89	1400 ± 136	< 0.76	< 0.85

Results in picoCuries per Liter (pCi/L) +/- 2 Standard deviations total measurement uncertainty

Potassium-40 (K-40) is a naturally occurring radionuclide found in the environment.

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

**Salem/Hope Creek
Concentrations of Gamma Emitters and Strontium in Milk Samples**

Private Farm – NNE (AIMI01)

<u>Collection Date</u>	<u>Cs-137</u>	<u>I-131</u>	<u>K-40</u>	<u>Sr-89</u>	<u>Sr-90</u>
01/03/12	< 3.09	< 0.76	1610 ± 161	< 0.86	< 0.86
02/06/12	< 2.47	< 0.75	1890 ± 174	< 0.73	< 0.72
03/05/12	< 2.50	< 0.45	1360 ± 128	< 0.85	< 0.83
04/02/12	< 2.37	< 0.49	1370 ± 129	< 0.85	< 0.82
05/07/12	< 1.90	< 0.69	1550 ± 142	< 0.82	< 0.72
06/04/12	< 2.44	< 0.56	1360 ± 134	< 0.89	< 0.72
07/09/12	< 1.85	< 0.73	1340 ± 123	< 0.94	< 0.83
08/06/12	< 1.95	< 0.52	1570 ± 144	< 1.28*	< 0.89
09/10/12	< 1.94	< 0.70	1600 ± 146	< 0.85	< 0.87
10/15/12	< 2.02	< 0.72	2160 ± 193	< 0.71	< 0.63
11/26/12	< 3.50	< 0.63	1060 ± 118	< 0.88	< 0.93
12/10/12	< 2.50	< 0.55	1430 ± 137	< 0.80	< 0.82

Private Farm – NE (AIMI02)

<u>Collection Date</u>	<u>Cs-137</u>	<u>I-131</u>	<u>K-40</u>	<u>Sr-89</u>	<u>Sr-90</u>
01/03/12	< 2.23	< 0.91	1490 ± 139	< 0.84	< 0.91
02/06/12	< 2.18	< 0.63	2120 ± 205	< 0.81	< 0.68
03/05/12	< 2.59	< 0.44	1530 ± 145	< 0.83	< 0.81
04/02/12	< 2.45	< 0.44	1740 ± 168	< 0.81	< 0.75
05/07/12	< 2.25	< 0.42	1730 ± 156	< 0.70	< 0.74
06/04/12	< 2.09	< 0.70	1440 ± 134	< 0.79	< 0.82
07/09/12	< 1.95	< 0.99	1310 ± 121	< 0.91	< 0.85
08/06/12	< 2.14	< 0.56	1620 ± 146	< 0.96	< 0.79
09/10/12	< 2.47	< 0.76	1680 ± 152	< 0.88	< 0.55
10/15/12	< 3.35	< 0.71	1930 ± 195	< 0.67	< 0.69
11/26/12	< 3.61	< 0.73	1200 ± 91	< 0.74	< 0.75
12/10/12	< 2.22	< 0.62	1310 ± 128	< 0.91	< 0.90

Results in picoCuries per Liter (pCi/L) +/- 2 Standard deviations total measurement uncertainty

Potassium-40 (K-40) is a naturally occurring radionuclide found in the environment

* The required Minimum Detectable Concentration (MDC) of 1.0 pCi/L was not achieved due to low chemical yield. Low chemical yield is a result of the delay in time between sample collection and analysis along with Sr-89 decay for the same reason (51 days). There was insufficient chemical recovery to meet the MDC.

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

**Salem/Hope Creek
Concentrations of Gamma Emitters and Strontium in Milk Samples**

Private Farm – WNW (AIMI03)

<u>Collection Date</u>	<u>Cs-137</u>	<u>I-131</u>	<u>K-40</u>	<u>Sr-89</u>	<u>Sr-90</u>
01/03/12	< 2.33	< 0.80	1290 ± 121	< 0.83	< 0.81
02/06/12	< 2.99	< 0.71	2100 ± 195	< 0.72	< 0.60
03/05/12	< 2.04	< 0.56	1340 ± 127	< 0.88	< 0.85
04/02/12	< 2.62	< 0.54	2200 ± 194	< 0.94	< 0.81
05/07/12	< 1.85	< 0.43	1560 ± 143	< 0.89	< 0.79
06/04/12	< 2.22	< 0.55	1470 ± 140	< 0.88	< 0.79
07/09/12	< 1.80	< 0.96	1420 ± 130	< 0.91	< 0.82
08/06/12	< 1.90	< 0.49	1670 ± 151	< 1.61*	< 0.81
09/10/12	< 2.10	< 0.58	1540 ± 140	< 0.87	< 0.75
10/15/12	< 2.72	< 0.55	2360 ± 214	< 0.84	< 0.72
11/26/12	< 3.90	< 0.78	1120 ± 128	< 0.84	< 0.88
12/10/12	< 2.27	< 0.63	1470 ± 137	< 0.71	< 0.71

Results in picoCuries per Liter (pCi/L) +/- 2 Standard deviations total measurement uncertainty

Potassium-40 (K-40) is a naturally occurring radionuclide found in the environment

* The required Minimum Detectable Concentration (MDC) of 1.0 pCi/L was not achieved due to low chemical yield. Low chemical yield is a result of the delay in time between sample collection and analysis along with Sr-89 decay for the same reason (51 days). There was insufficient chemical recovery to meet the MDC.

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

**Oyster Creek
Concentrations of Gamma Emitters and Tritium (H-3) in Surface Water**

Barnegat Bay (OCSW01)

<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>H-3</u>	<u>I-131</u>
04/09/12	< 2.09	< 2.33	< 2.96	< 3.05	< 178	< 0.91
09/25/12	< 1.44	< 1.76	< 1.88	< 1.77	< 220	< 0.91

Great Bay / Little Egg Harbor (OCSW02)

<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>H-3</u>	<u>I-131</u>
01/05/12 – 01/26/12	< 2.60	< 2.62	< 3.15	< 2.60	< 157	< 0.90
02/02/12 – 02/23/12	< 2.32	< 2.30	< 2.58	< 2.31	< 252	< 0.71
03/02/12 – 03/29/12	< 2.28	< 2.38	< 2.66	< 2.19	< 221	< 0.87
04/04/12 – 04/26/12	< 2.37	< 2.20	< 2.70	< 3.54	< 239	< 0.92
05/01/12 – 05/31/12	< 2.12	< 2.19	< 2.74	< 2.48	< 216	< 0.54
06/08/12 – 06/28/12	< 2.69	< 2.61	< 3.21	< 2.79	< 266	< 0.86
07/03/12 – 07/26/12	< 4.01	< 4.80	< 5.07	< 4.43	< 226	< 0.47
08/02/12 – 08/29/12	< 1.78	< 1.78	< 2.27	< 1.79	< 221	< 0.97
09/06/12 – 09/26/12	< 2.48	< 2.49	< 3.03	< 2.68	< 219	< 0.93
10/04/12 – 10/24/12	< 1.64	< 1.93	< 2.03	< 1.62	< 159	< 0.96
11/16/12 – 11/29/12	< 1.55	< 1.68	< 1.80	< 1.66	< 175	< 0.96
12/07/12 – 12/27/12	< 1.54	< 1.82	< 1.80	< 1.73	< 198	< 0.90

Stouts Creek (OCSW03)

<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>H-3</u>	<u>I-131</u>
04/10/12	< 2.45	< 2.66	< 3.13	< 2.93	< 179	< 0.90
09/24/12	< 2.15	< 1.83	< 2.46	< 2.01	< 222	< 0.90

Oyster Creek Discharge Canal (OCSW04)

<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>H-3</u>	<u>I-131</u>
01/05/12 – 01/25/12	< 2.00	< 2.00	< 2.41	< 2.18	< 162	< 0.82
02/02/12 – 02/23/12	< 2.35	< 2.36	< 2.58	< 2.41	< 254	< 0.73
03/02/12 – 03/29/12	< 2.43	< 2.46	< 2.60	< 2.32	< 217	< 0.87
04/04/12 – 04/26/12	< 1.68	< 2.18	< 1.94	< 1.76	< 239	< 0.69
05/01/12 – 05/31/12	< 1.76	< 1.74	< 2.32	< 1.94	< 233	< 0.30
06/08/12 – 06/28/12	< 1.84	< 1.88	< 2.00	< 1.79	< 268	< 0.86
07/03/12 – 07/26/12	< 3.35	< 3.44	< 3.64	< 3.18	< 226	< 0.38
08/02/12 – 08/30/12	< 2.15	< 2.23	< 2.64	< 2.27	< 216	< 0.86
09/06/12 – 09/24/12	< 1.64	< 1.68	< 1.97	< 1.81	< 214	< 0.83
10/03/12 – 10/24/12	< 2.23	< 2.64	< 3.00	< 2.36	< 159	< 0.88
11/01/12 – 11/28/12	< 1.75	< 1.73	< 1.92	< 1.81	< 177	< 0.68
12/07/12 – 12/27/12	< 1.58	< 1.69	< 1.83	< 1.71	< 201	< 0.90

Results in picoCuries per Liter (pCi/L)

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

**Salem/Hope Creek
Concentrations of Gamma Emitters and Tritium (H-3) in Surface Water**

Delaware River – Near Plant Discharge Outfall Area – Salem NGS (AISW01)

<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>H-3</u>	<u>I-131</u>
01/06/12	< 1.90	< 2.12	< 2.24	< 2.19	< 240	< 0.35
02/06/12	< 2.06	< 2.23	< 2.48	< 2.21	< 220	< 0.91
03/06/12	< 2.01	< 1.98	< 2.10	< 1.77	< 243	< 0.88
04/03/12	< 1.97	< 2.29	< 2.27	< 2.17	< 256	< 0.67
05/11/12	< 1.66	< 1.76	< 1.71	< 1.96	< 229	< 0.87
06/05/12	< 2.22	< 2.25	< 2.51	< 2.45	< 170	< 0.85
07/03/12	< 1.91	< 1.92	< 2.27	< 1.92	< 218	< 0.82
08/06/12	< 1.69	< 1.87	< 2.08	< 1.74	< 221	< 0.76
09/06/12	< 1.52	< 1.58	< 1.84	< 1.62	< 267	< 0.93
10/01/12	< 1.86	< 1.93	< 2.19	< 1.63	< 200	< 0.99
11/06/12	< 1.69	< 1.79	< 1.77	< 1.88	< 204	< 0.94
12/05/12	< 1.89	< 1.75	< 1.88	< 1.87	< 214	< 0.85

West Bank – Delaware River (AISW02)

<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>H-3</u>	<u>I-131</u>
01/06/12	< 2.03	< 2.24	< 2.63	< 2.03	< 179	< 0.41
02/06/12	< 1.93	< 2.39	< 2.48	< 2.07	< 219	< 0.82
03/06/12	< 1.78	< 1.69	< 2.03	< 1.65	< 245	< 0.84
04/03/12	< 1.60	< 1.90	< 2.07	< 2.19	< 254	< 0.82
05/11/12	< 1.61	< 1.93	< 1.95	< 1.74	< 222	< 0.87
06/05/12	< 1.98	< 2.09	< 2.25	< 2.15	< 170	< 0.89
07/03/12	< 1.93	< 2.02	< 2.24	< 1.88	< 220	< 0.80
08/06/12	< 2.04	< 2.28	< 2.38	< 2.25	< 193	< 0.83
09/06/12	< 1.74	< 1.68	< 2.11	< 1.97	< 180	< 0.93
10/01/12	< 2.34	< 1.95	< 2.44	< 2.13	< 204	< 0.89
11/06/12	< 3.59	< 4.10	< 3.94	< 3.46	< 207	< 0.83
12/05/12	< 2.14	< 1.95	< 2.38	< 2.11	< 169	< 0.88

Results in picoCuries per Liter (pCi/L)

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

**Oyster Creek
Concentrations of Gamma Emitters and Tritium (H-3) in Well Water**

Oyster Creek Administration Building Onsite (OCWW01)

<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>H-3</u>	<u>I-131</u>
01/30/12	< 2.13	< 2.16	< 2.48	< 3.60	< 269	< 0.90
04/30/12	< 2.11	< 2.61	< 2.77	< 2.42	< 217	< 0.43
08/06/12	< 1.41	< 1.91	< 1.95	< 1.53	< 220	< 0.90
11/05/12	< 1.42	< 1.87	< 1.63	< 1.58	< 126	< 0.90

Forked River Marina (OCWW02)

<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>H-3</u>	<u>I-131</u>
01/30/12	< 1.90	< 1.96	< 2.23	< 1.98	< 276	< 0.97
04/30/12	< 1.52	< 2.10	< 1.80	< 1.85	< 211	< 0.43
08/06/12	< 1.58	< 1.62	< 1.94	< 1.56	< 226	< 0.94
11/05/12	< 1.67	< 1.79	< 2.13	< 1.94	< 130	< 0.88

Results in picoCuries per Liter (pCi/L)

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

**Salem/Hope Creek
Concentrations of Gamma Emitters and Tritium (H-3) in Well Water**

Elsinboro School (AIWW01)

<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>H-3</u>	<u>I-131</u>
01/30/12	< 1.98	< 2.11	< 2.55	< 2.05	< 272	< 0.79
04/30/12	< 1.81	< 2.08	< 2.10	< 2.10	< 216	< 0.42
08/06/12	< 1.71	< 2.13	< 2.31	< 1.98	< 189	< 0.91
11/05/12	< 1.78	< 1.91	< 2.14	< 1.78	< 139	< 0.88

Lower Alloways Creek Police Station (AIWW02)

<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>H-3</u>	<u>I-131</u>
01/30/12	< 1.70	< 2.01	< 2.19	< 1.85	< 269	< 0.78
04/30/12	< 1.69	< 1.98	< 2.19	< 1.92	< 216	< 0.41
08/06/12	< 1.74	< 1.83	< 2.12	< 1.86	< 193	< 0.94
11/05/12	< 1.70	< 2.20	< 1.86	< 1.85	< 126	< 0.90

Salem Processing Center (AIWW03)

<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>H-3</u>	<u>I-131</u>
01/30/12	< 1.82	< 1.71	< 2.18	< 2.03	< 272	< 0.81
04/30/12	< 2.57	< 2.79	< 2.99	< 2.80	< 216	< 0.45
08/06/12	< 2.08	< 2.11	< 2.35	< 2.07	< 224	< 0.93
11/05/12	< 1.94	< 2.06	< 2.13	< 2.12	< 131	< 0.92

Lower Alloways Creek School (AIWW04)

<u>Collection Date</u>	<u>Co-58</u>	<u>Co-60</u>	<u>Cs-134</u>	<u>Cs-137</u>	<u>H-3</u>	<u>I-131</u>
01/30/12	< 2.98	< 3.28	< 3.36	< 3.29	< 276	< 0.79
04/30/12	< 2.03	< 2.15	< 2.62	< 2.18	< 216	< 0.43
08/06/12	< 2.14	< 2.38	< 2.51	< 2.32	< 222	< 0.89
11/05/12	< 2.09	< 2.10	< 2.18	< 2.00	< 126	< 0.87

Results in picoCuries per Liter (pCi/L)

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

**BNE Background Locations
Thermoluminescent Dosimetry Data
Quarterly Results**

<u>Station</u>	<u>Location</u>	<u>1st Quarter</u>		<u>2nd Quarter</u>		<u>3rd Quarter</u>		<u>4th Quarter</u>	
		<u>Result</u>	<u>%CV</u>	<u>Result</u>	<u>%CV</u>	<u>Result</u>	<u>%CV</u>	<u>Result</u>	<u>%CV</u>
CO01	BNE Office, Arctic Parkway, Ewing, NJ	14.2	2.8	13.4	0.7	14.0	4.0	15.0	2.9
CO02	Brendan T. Byrne State Forest, New Lisbon, NJ	9.7	3.1	10.3	1.8	10.9	1.5	11.0	2.7

Results are reported in units of milliroentgens (mR)

CV is the coefficient of variation; the ratio of the standard deviation to the mean, and is normally reported as a percentage

All exposures were normalized to 90 days (a standard quarter)

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

**Oyster Creek
Thermoluminescent Dosimetry Data
Quarterly Results**

<u>Station</u>	<u>Location</u>	<u>1st Quarter</u>		<u>2nd Quarter</u>		<u>3rd Quarter</u>		<u>4th Quarter</u>	
		<u>Result</u>	<u>%CV</u>	<u>Result</u>	<u>%CV</u>	<u>Result</u>	<u>%CV</u>	<u>Result</u>	<u>%CV</u>
1	Ocean County Vocational School	8.7	1.2	8.7	2.5	8.7	3.4	10.3	12.1
2	Ocean Twp. Municipal Building	9.8	2.9	9.8	3.9	10.1	5.6	10.8	1.9
3	Sewage Pumping Station, Forked River	10.7	2.5	10.2	1.9	10.9	1.9	11.4	1.2
4	Twin River Station, Forked River	9.1	2.3	9.1	2.2	9.1	4.1	10.5	2.0
5	Sewage Pumping Station, Ocean Twp.	9.7	3.6	9.9	5.6	10.1	3.8	10.7	1.9
6	Oyster Creek, Gate #2, Forked River	10.5	0.9	30.3*	2.9	10.7	3.2	22.4*	2.3
7	Finninger Farm, Forked River	9.0	2.7	8.6	3.2	8.9	5.0	9.6	2.3
8	Ocean Co. Memorial Cemetery, Waretown	9.0	2.0	9.1	6.1	9.1	1.4	10.1	2.3
9	Oyster Creek Building 17, Forked River	10.2	3.5	10.3	2.2	10.4	7.2	11.3	1.4
10	Sheffield & Derby Rd, Forked River	9.3	2.6	9.4	6.7	10.1	3.2	10.4	0.6
11	Lakeside Drive, Forked River	9.9	2.8	10.4	1.6	10.4	4.0	10.7	4.9
12	Forked River Game Farm, Forked River	10.0	2.4	9.3	4.6	10.1	1.5	11.0	4.2

* Elevated reading attributed to commercial natural gas pipeline radiography in the area (May 17, 18, December 3, 5, 6, 7, 10 and 11)

Results are reported in units of milliroentgens (mR)

CV is the coefficient of variation; the ratio of the standard deviation to the mean, and is normally reported as a percentage.

All exposures were normalized to 90 days (a standard quarter)

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

**Oyster Creek
Thermoluminescent Dosimetry Data
Quarterly Results**

<u>Station</u>	<u>Location</u>	<u>1st Quarter</u>		<u>2nd Quarter</u>		<u>3rd Quarter</u>		<u>4th Quarter</u>	
		<u>Result</u>	<u>%CV</u>	<u>Result</u>	<u>%CV</u>	<u>Result</u>	<u>%CV</u>	<u>Result</u>	<u>%CV</u>
13	Restrooms, Lakeside Dr., Forked River	10.1	7.4	9.2	1.7	9.9	1.9	10.3	3.0
14	Sands Pt. Park, Dock Ave., Waretown	10.5	0.9	10.4	3.3	10.8	1.8	11.6	2.9
15	Recreation Center, Waretown	9.2	1.3	9.0	1.1	9.6	5.4	10.0	1.4
16	North Access Rd., Forked River	10.5	3.2	10.1	1.8	10.9	3.8	11.3	7.2
20	Third Avenue, Barnegat Light	8.8	2.4	8.5	4.4	9.1	1.4	9.2	4.1
21	Rose Hill Road & Barnegat Blvd	10.1	3.5	9.7	1.8	10.4	5.8	10.6	2.6
22	Bay Way & Clairmore Avenue	9.9	4.1	9.7	3.1	10.1	2.2	10.6	2.5
23	Island Beach State Park, Parking Lot A5	8.8	6.5	8.6	0.5	8.4	1.8	9.5	2.9

Results are reported in units of milliroentgens (mR).

CV is the coefficient of variation; the ratio of the standard deviation to the mean, and is normally reported as a percentage.

All exposures were normalized to 90 days (a standard quarter).

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

**Salem/Hope Creek
Thermoluminescent Dosimetry Data
Quarterly Results**

<u>Station</u>	<u>Location</u>	<u>1st Quarter</u>		<u>2nd Quarter</u>		<u>3rd Quarter</u>		<u>4th Quarter</u>	
		<u>Result</u>	<u>%CV</u>	<u>Result</u>	<u>%CV</u>	<u>Result</u>	<u>%CV</u>	<u>Result</u>	<u>%CV</u>
1	Access Road – Security Checkpoint	11.3	3.1	11.5	2.2	11.3	3.0	11.9	2.9
2	Poplar Road, Lower Alloways	11.7	1.5	12.3	2.6	12.3	1.7	11.9	1.3
3	Money and Eagle Island Road	13.5	5.8	13.3	2.8	13.5	2.8	13.2	2.3
4	Ft. Elfsborg / Hancocks – East	13.9	1.6	13.8	2.0	13.4	2.0	13.8	0.5
5	Ft. Elfsborg / Hancocks – West	16.8	3.4	18.1	2.8	18.1	4.9	17.6	2.0
6	Stathems Neck Road	11.6	1.6	12.0	3.7	12.1	1.5	12.1	4.8
7	Stow Neck Road Lower Alloways	10.1	2.5	10.0	5.5	10.5	3.3	10.7	3.4
8	Alloways Creek Neck Road - Middle	10.1	1.7	9.9	2.7	10.1	2.0	10.4	6.4
9	Alloways Creek Neck Road - North	13.1	2.3	13.2	2.1	13.3	1.9	13.4	2.0
10	Abbotts Farm Road	10.1	2.5	9.8	3.3	9.9	3.1	10.2	2.0
11	PSEG Education Center/EOF	11.2	3.6	11.2	2.3	11.2	3.5	11.9	3.6

Results are reported in units of milliroentgens (mR)

CV is the coefficient of variation; the ratio of the standard deviation to the mean, and is normally reported as a percentage.

All exposures were normalized to 90 days (a standard quarter).

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

Comparison of NJDEP and Mirion (Global) Technologies Thermoluminescent Dosimetry Data for Oyster Creek

Quarterly Results for Co-located Dosimeters

<u>Station</u>	<u>Location</u>	<u>1st Quarter</u>				<u>2nd Quarter</u>				<u>3rd Quarter</u>				<u>4th Quarter</u>			
		<u>NJDEP</u>		<u>Global</u>		<u>NJDEP</u>		<u>Global</u>		<u>NJDEP</u>		<u>Global</u>		<u>NJDEP</u>		<u>Global</u>	
		<u>Result</u>	<u>%CV</u>	<u>Result</u>	<u>%CV</u>	<u>Result</u>	<u>%CV</u>	<u>Result</u>	<u>%CV</u>	<u>Result</u>	<u>%CV</u>	<u>Result</u>	<u>%CV</u>	<u>Result</u>	<u>%CV</u>	<u>Result</u>	<u>%CV</u>
5	Sewage Pump. Station, Ocean Township	9.7	3.6	10.3	4.0	9.9	5.6	9.8	3.0	10.1	3.8	6.2	4.1	10.7	1.9	10.8	3.1
7	Finninger Farm,OCNGS Forked River	9.0	2.7	9.8	3.5	8.6	3.2	8.7	4.1	8.9	5.0	5.5	5.3	9.6	2.3	9.3	2.7
13	Restrooms, Lakeside Dr. Forked River	10.1	7.4	10.0	3.3	9.2	1.7	9.5	4.1	9.9	1.9	6.0	4.4	10.3	3.0	10.3	2.5
21	Rose Hill and Barnegat Rd Barnegat Twp.	10.1	3.5	10.0	5.2	9.7	1.8	9.8	3.0	10.4	5.8	6.8	3.9	10.6	2.6	10.7	3.3

Results are reported in units of milliroentgens (mR)

CV is the coefficient of variation; the ratio of the standard deviation to the mean, and is normally reported as a percentage

All exposures were normalized to 90 days (a standard quarter)

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

Comparison of NJDEP and Mirion (Global) Technologies Thermoluminescent Dosimetry Data for Salem/Hope Creek

Quarterly Results for Co-located Dosimeters

<u>Station</u>	<u>Location</u>	<u>1st Quarter</u>		<u>2nd Quarter</u>		<u>3rd Quarter</u>		<u>4th Quarter</u>									
		<u>NJDEP</u>		<u>Global</u>		<u>NJDEP</u>		<u>Global</u>									
		<u>Result</u>	<u>%CV</u>	<u>Result</u>	<u>%CV</u>	<u>Result</u>	<u>%CV</u>	<u>Result</u>	<u>%CV</u>								
1	Access Road – Security Checkpoint	11.3	3.1	11.0	6.2	11.5	2.2	11.5	3.5	11.3	3.0	11.8	4.5	11.9	2.9	12.2	3.5
2	Poplar Road, Lower Alloways	11.7	1.5	12.0	2.9	12.3	2.6	11.0	4.2	12.3	1.7	12.3	4.0	11.9	1.3	12.4	2.5
3	Money and Eagle Island Roads	13.5	5.8	13.8	2.8	13.3	2.8	12.8	2.4	13.5	2.8	9.2	3.3	13.2	2.3	14.2	3.2
5	Ft. Elfsborg/ Hancocks - West	16.8	3.4	16.7	4.6	18.1	2.8	15.8	2.1	18.1	4.9	17.5	2.6	17.6	2.0	17.3	1.8

Results are reported in units of milliroentgens (mR)

CV is the coefficient of variation; the ratio of the standard deviation to the mean, and is normally reported as a percentage

All exposures were normalized to 90 days (a standard quarter)

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program**

Comparison of NJDEP and Mirion (Global) Technologies Thermoluminescent Dosimetry Data for Salem/Hope Creek

Quarterly Results for Co-located Dosimeters

<u>Station</u>	<u>Location</u>	<u>1st Quarter</u>				<u>2nd Quarter</u>				<u>3rd Quarter</u>				<u>4th Quarter</u>			
		<u>NJDEP</u>		<u>Global</u>		<u>NJDEP</u>		<u>Global</u>		<u>NJDEP</u>		<u>Global</u>		<u>NJDEP</u>		<u>Global</u>	
		<u>Result</u>	<u>%CV</u>	<u>Result</u>	<u>%CV</u>	<u>Result</u>	<u>%CV</u>	<u>Result</u>	<u>%CV</u>	<u>Result</u>	<u>%CV</u>	<u>Result</u>	<u>%CV</u>	<u>Result</u>	<u>%CV</u>	<u>Result</u>	<u>%CV</u>
7	Stow Neck Road-Lower Alloways	10.1	2.5	10.0	3.3	10.0	5.5	9.7	3.8	10.5	3.3	6.8	3.9	10.7	3.4	11.2	5.3
9	Alloways Creek Neck Road - North	13.1	2.3	13.2	4.0	13.2	2.1	12.7	3.1	13.3	1.9	14.0	4.1	13.4	2.0	14.2	0.0
11	PSEG Ed. Center/EOF Salem City	11.2	3.6	11.7	4.7	11.2	2.3	11.3	3.4	11.2	3.5	7.5	4.5	11.9	3.6	11.2	3.7

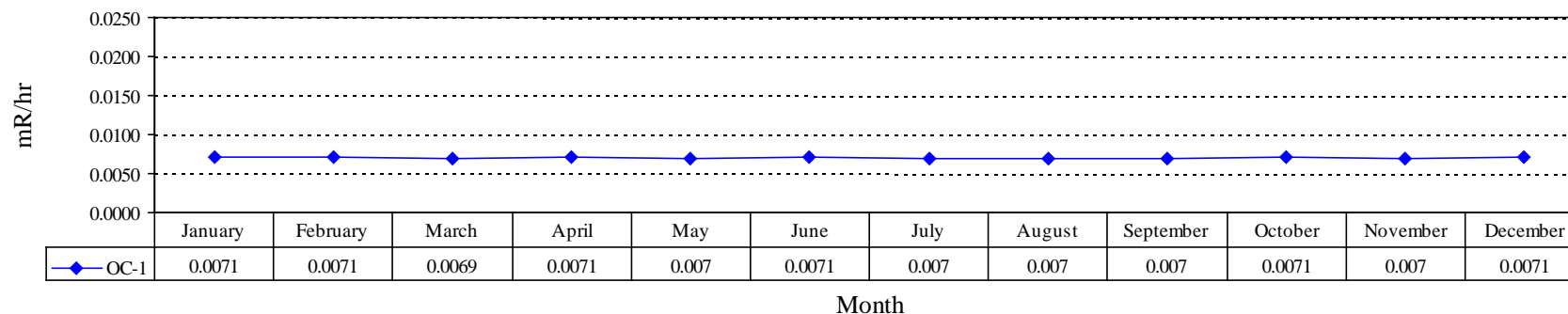
Results are reported in units of milliroentgens (mR)

CV is the coefficient of variation; the ratio of the standard deviation to the mean, and is normally reported as a percentage

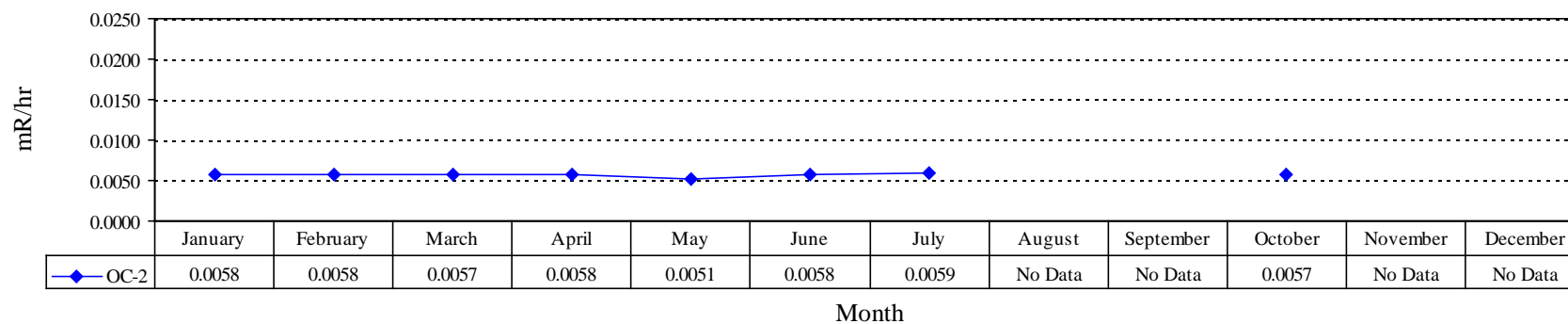
All exposures were normalized to 90 days (a standard quarter)

New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program
Oyster Creek – Continuous Radiological Environmental Surveillance Telemetry (CREST) Data

OC 1
2012 Ambient Radiation Levels



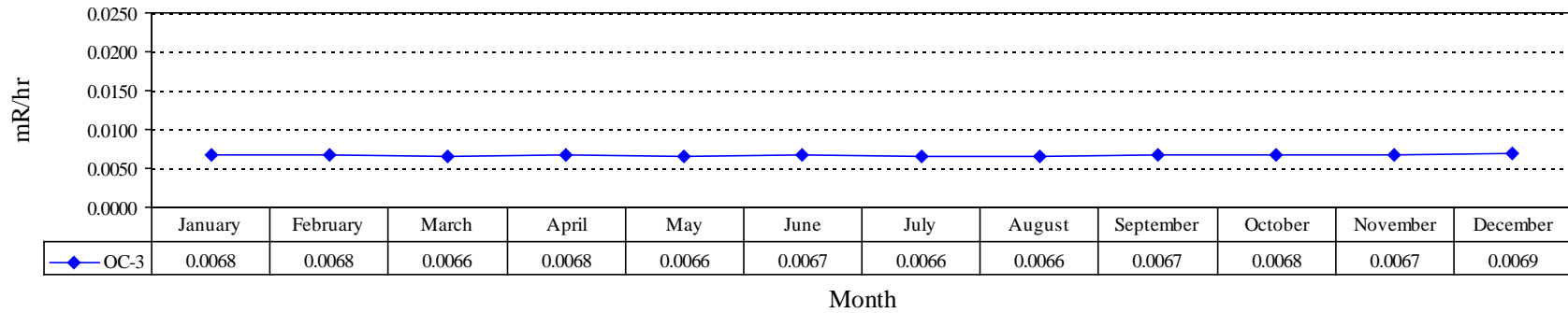
OC 2
2012 Ambient Radiation Levels



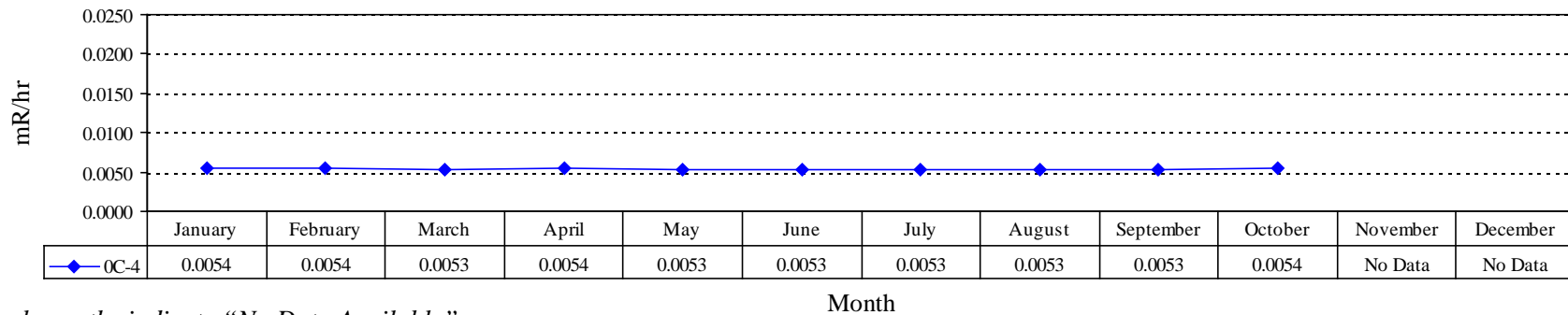
Blank months indicate 'No Data Available'

New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program
Oyster Creek – Continuous Radiological Environmental Surveillance Telemetry (CREST) Data

OC 3
2012 Ambient Radiation Levels



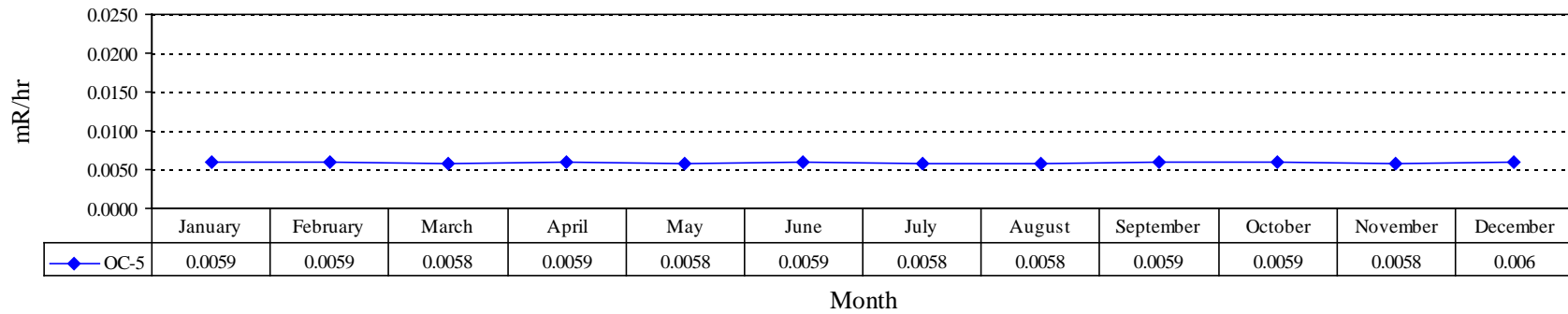
OC 4
2012 Ambient Radiation Levels



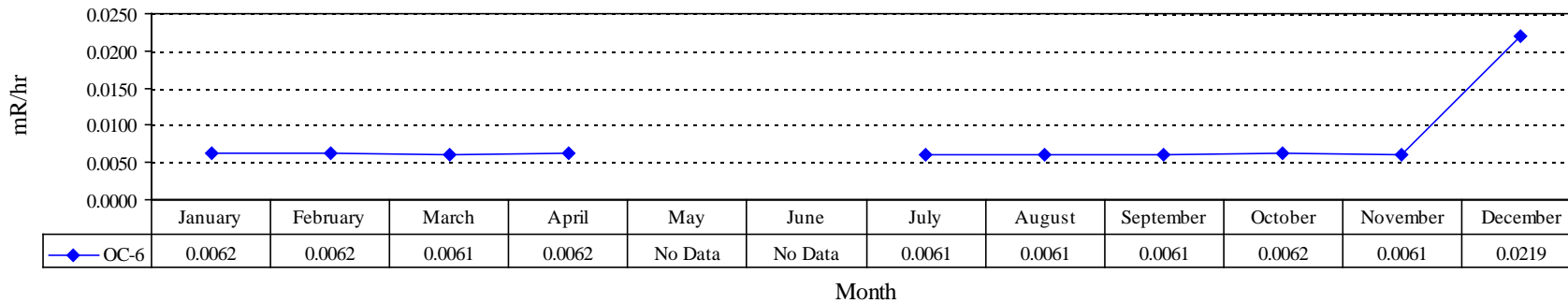
Blank months indicate "No Data Available"

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program
Oyster Creek – Continuous Radiological Environmental Surveillance Telemetry (CREST) Data**

**OC 5
2012 Ambient Radiation Levels**



**OC 6
2012 Ambient Radiation Levels**

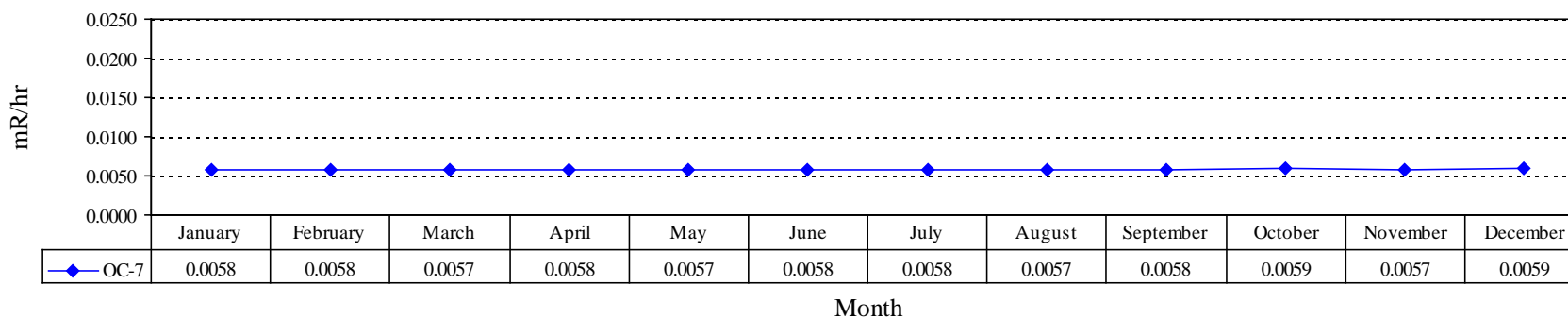


Blank months indicate "No Data Available"

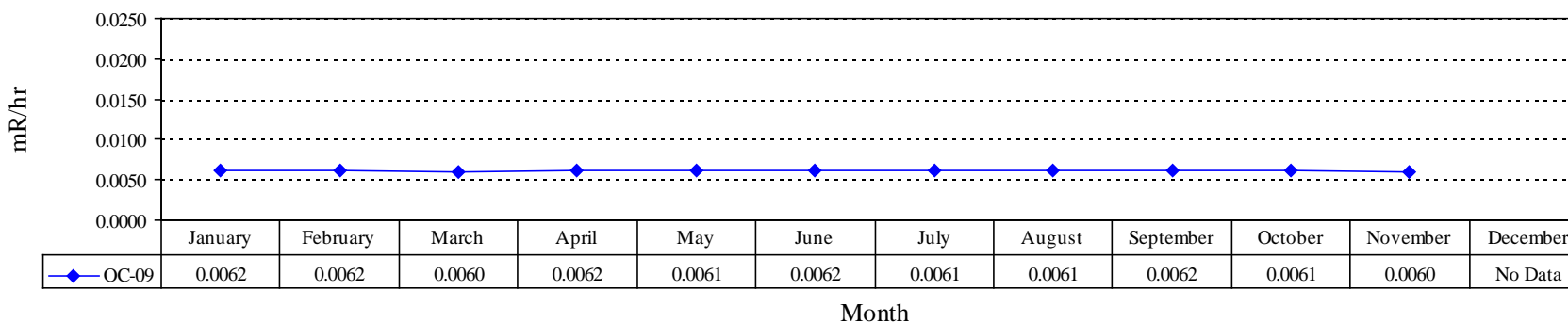
Elevated reading attributed to commercial natural gas pipeline radiography in the area (December 3, 5, 6, 7 10, and 11)

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program
Oyster Creek – Continuous Radiological Environmental Surveillance Telemetry (CREST) Data**

**OC 7
2012 Ambient Radiation Levels**



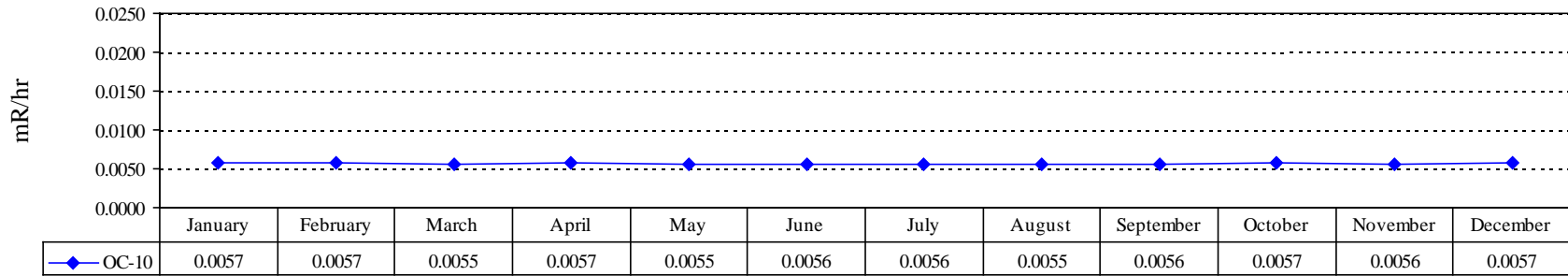
**OC 9
2012 Ambient Radiation Levels**



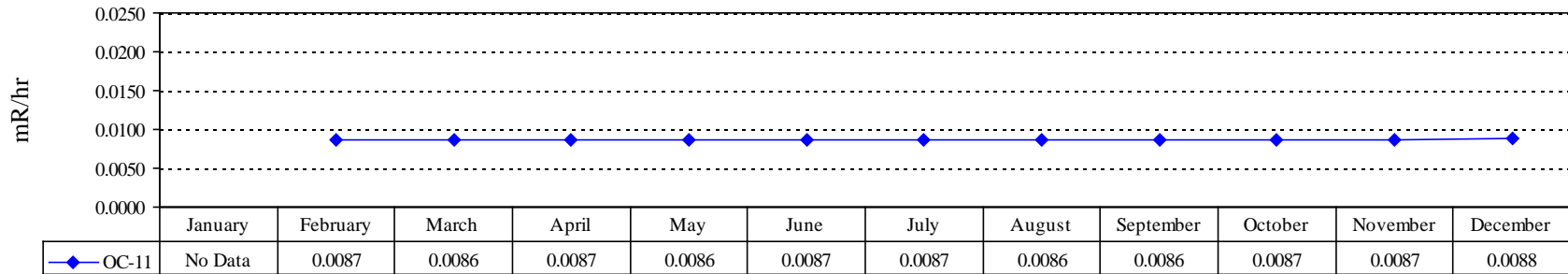
Blank months indicate “No Data Available”. OC-8 was not operational in 2012; therefore no data graph is available

New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program
Oyster Creek – Continuous Radiological Environmental Surveillance Telemetry (CREST) Data

OC 10
2012 Ambient Radiation Levels



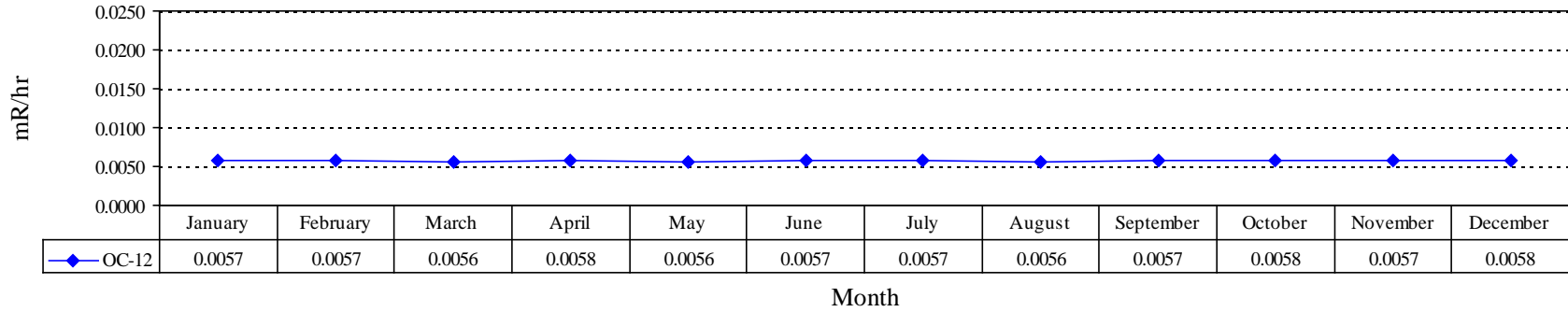
OC 11
2012 Ambient Radiation Levels



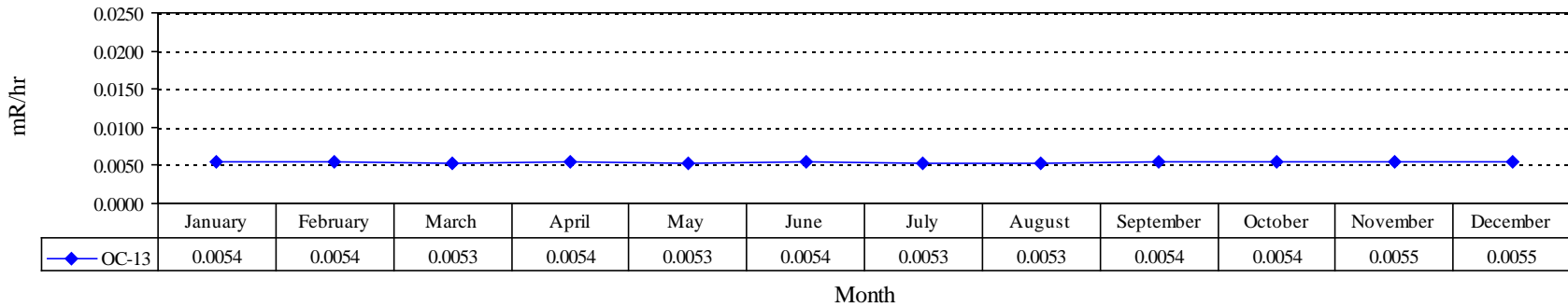
Blank months indicate "No Data Available"

New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program
Oyster Creek – Continuous Radiological Environmental Surveillance Telemetry (CREST) Data

OC 12
2012 Ambient Radiation Levels

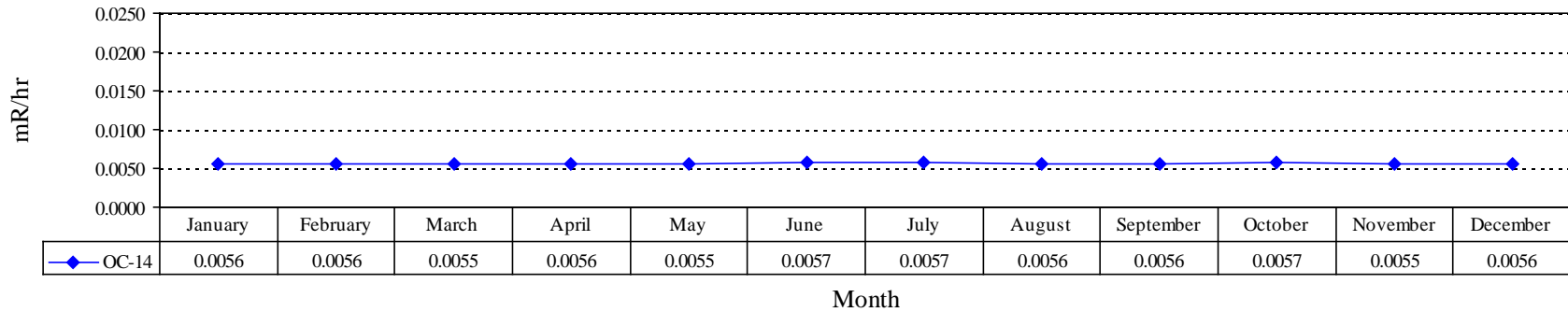


OC 13
2012 Ambient Radiation Levels

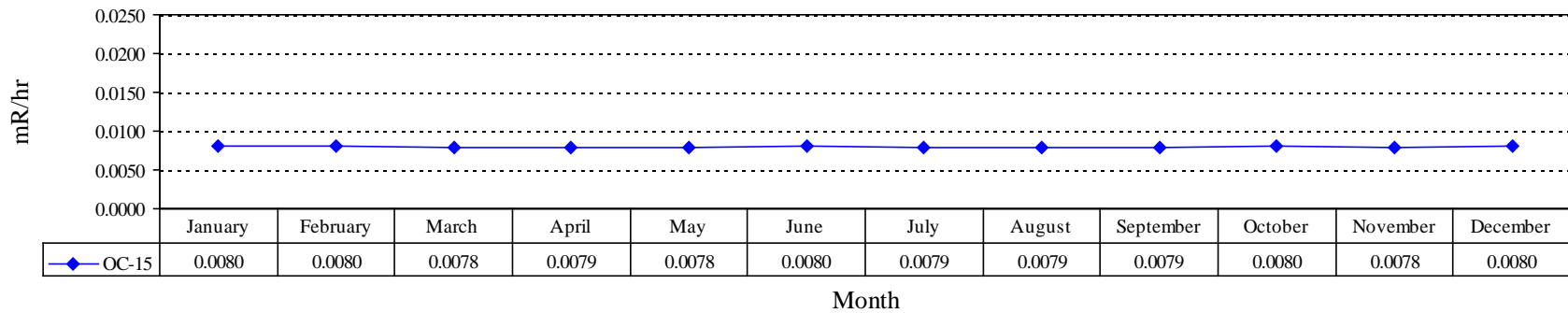


New Jersey Department of Environmental Protection
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Oyster Creek – Continuous Radiological Environmental Surveillance Telemetry (CREST) Data

OC 14
2012 Ambient Radiation Levels

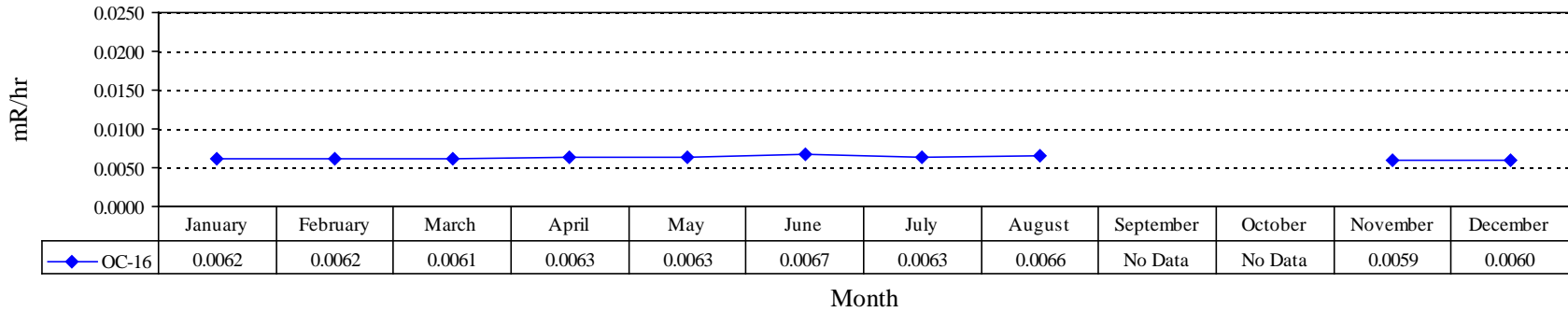


OC 15
2012 Ambient Radiation Levels



New Jersey Department of Environmental Protection
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Oyster Creek – Continuous Radiological Environmental Surveillance Telemetry (CREST) Data

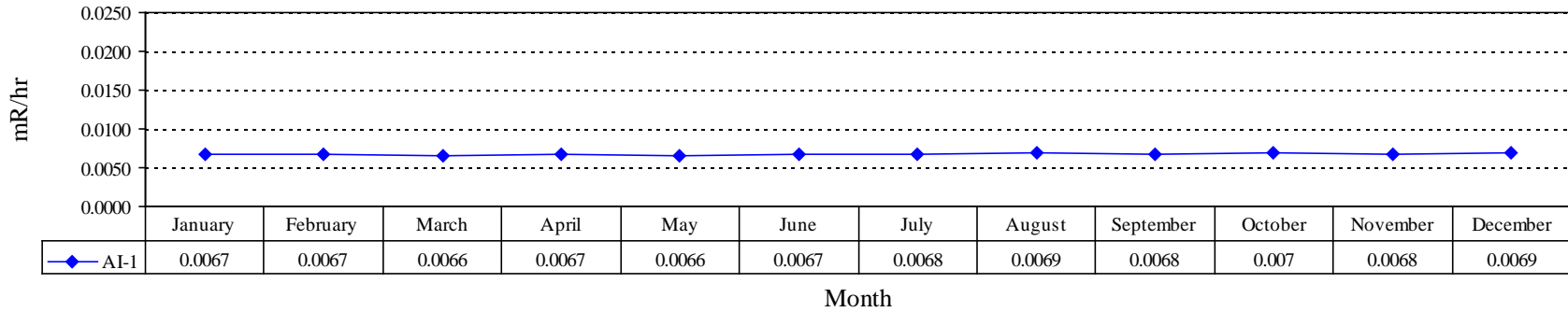
OC 16
2012 Ambient Radiation Levels



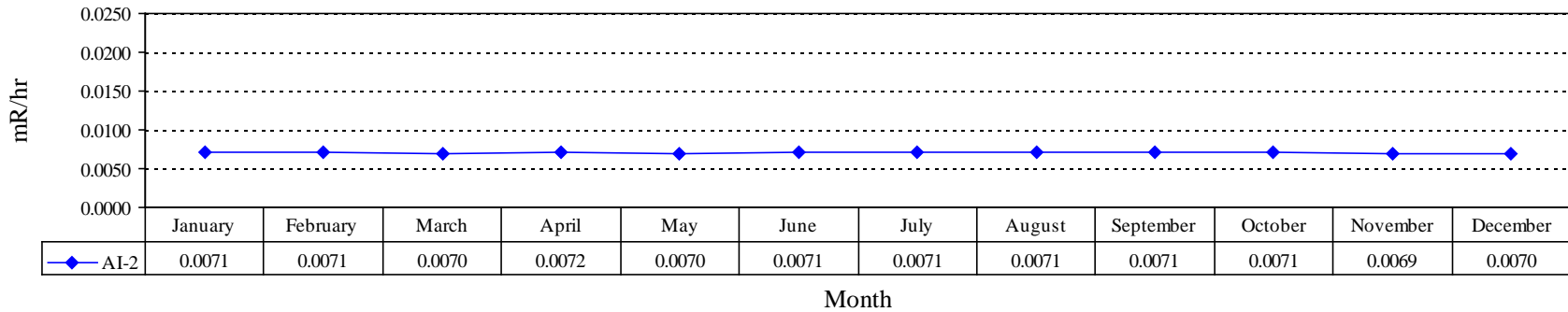
Blank months indicate "No Data Available"

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program
Salem/Hope Creek – Continuous Radiological Environmental Surveillance Telemetry (CREST) Data**

**AI 1
2012 Ambient Radiation Levels**

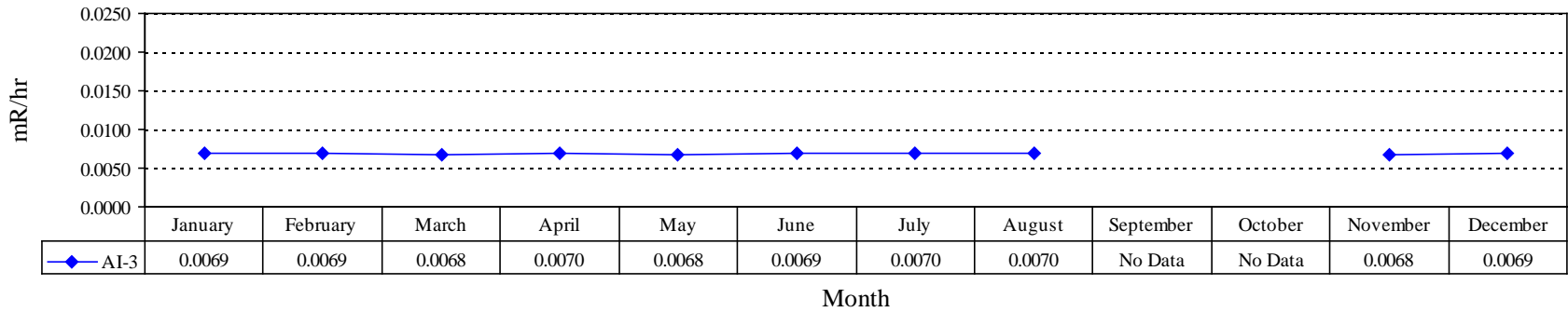


**AI 2
2012 Ambient Radiation Levels**

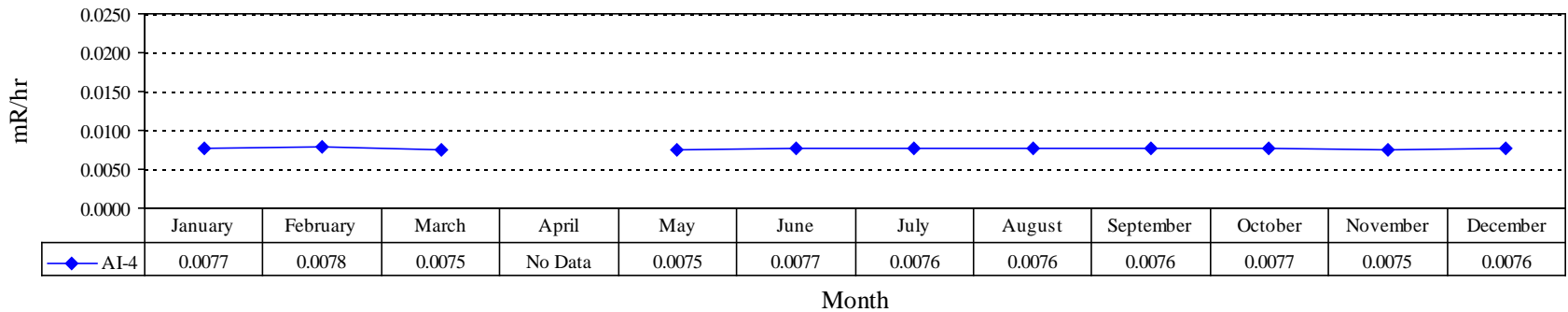


**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program
Salem/Hope Creek – Continuous Radiological Environmental Surveillance Telemetry (CREST) Data**

**AI 3
2012 Ambient Radiation Levels**



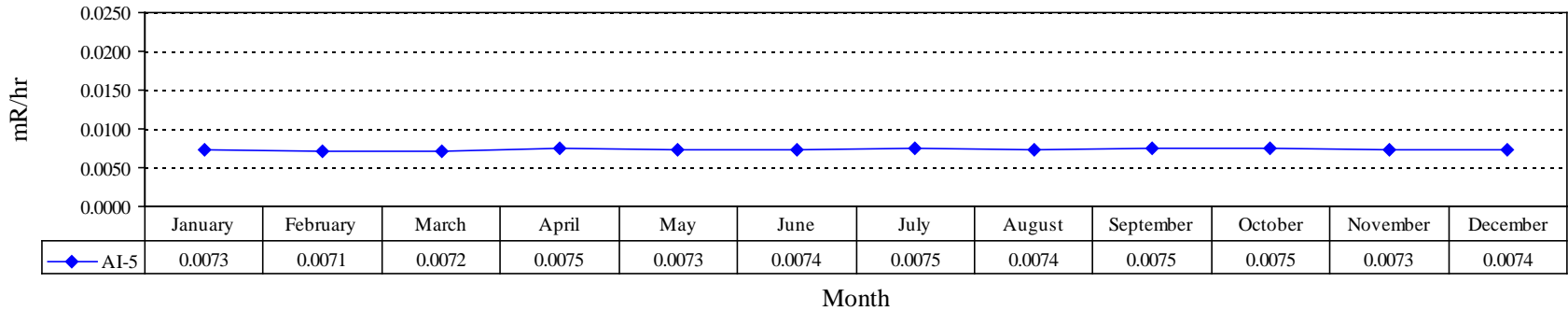
**AI 4
2012 Ambient Radiation Levels**



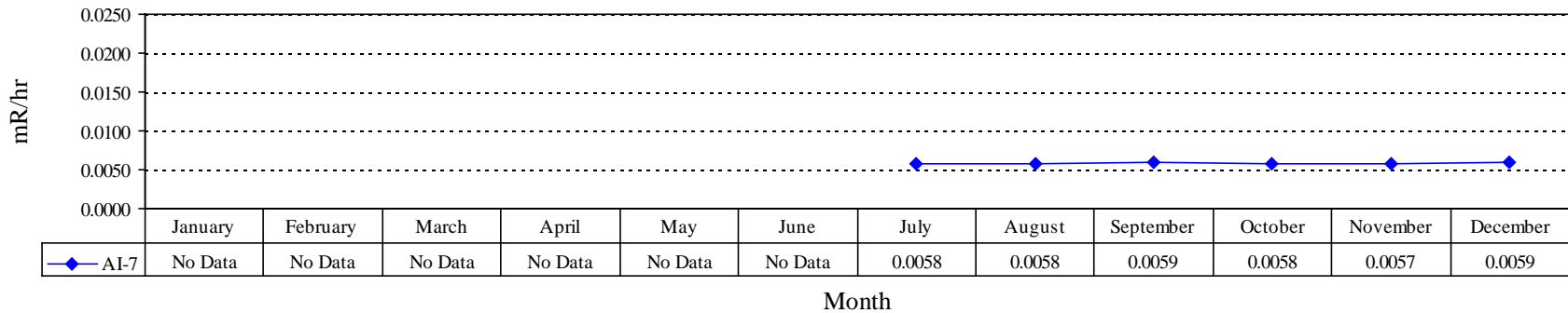
Blank months indicate 'No Data Available'

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program
Salem/Hope Creek – Continuous Radiological Environmental Surveillance Telemetry (CREST) Data**

**AI 5
2012 Ambient Radiation Levels**



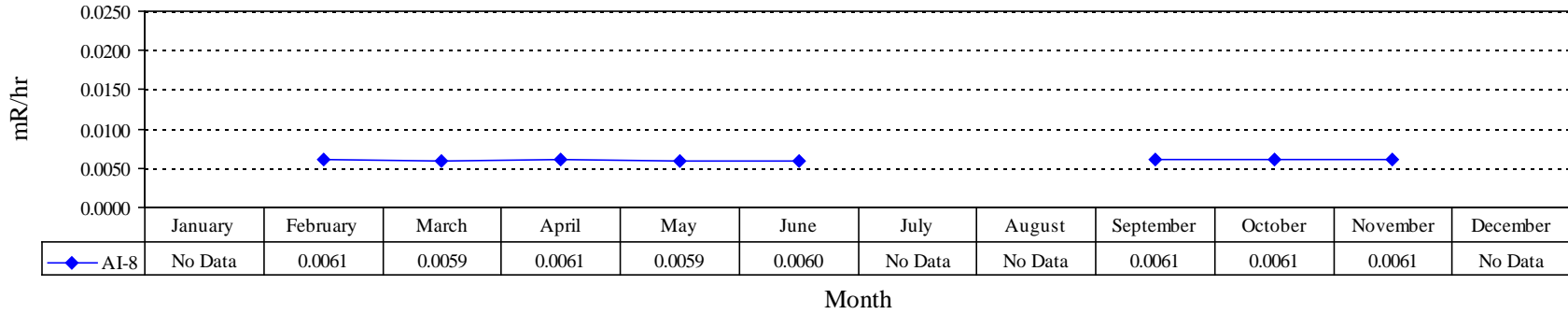
**AI 7
2012 Ambient Radiation Levels**



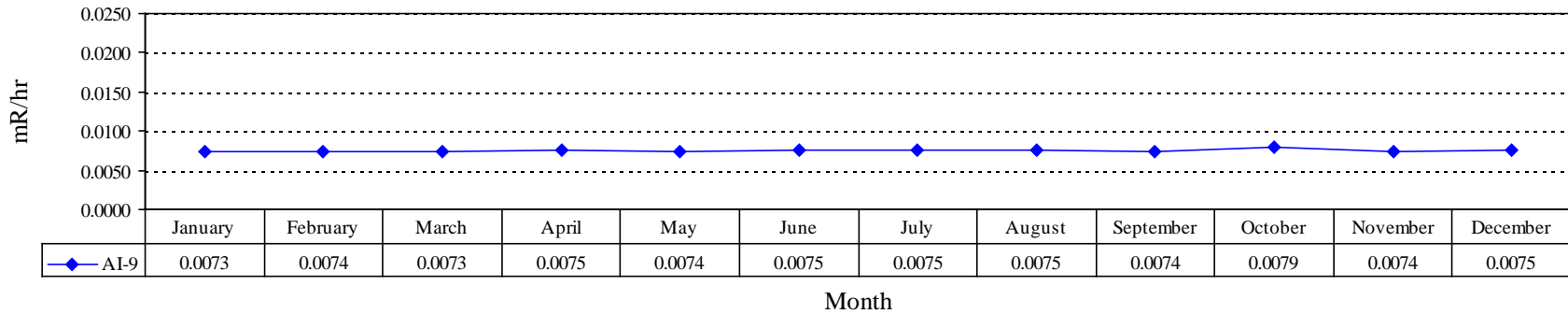
AI-6 was not operational in 2012; therefore no data graph is available; Blank months indicate 'No Data Available'

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program
Salem/Hope Creek – Continuous Radiological Environmental Surveillance Telemetry (CREST) Data**

**AI 8
2012 Ambient Radiation Levels**



**AI 9
2012 Ambient Radiation Levels**



Blank months indicate 'No Data Available'

New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2012 Radiological Environmental Monitoring Program
Salem/Hope Creek – Continuous Radiological Environmental Surveillance Telemetry (CREST) Data

AI 10
2012 Ambient Radiation Levels

