

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2021 Radiological Environmental Monitoring Program**

**BNE Background Locations
Results of Analyses for Iodine-131 in Bi-Weekly Air Samples**

BNE Office (COAI01)

<u>Collection Period</u>			<u>I-131</u> <u>(pCi/m³)</u>
12/30/20	-	01/13/21	< 0.004
01/13/21	-	01/27/21	< 0.003
01/27/21	-	02/10/21	< 0.004
02/10/21	-	02/24/21	< 0.004
02/24/21	-	03/10/21	< 0.008
03/10/21	-	03/24/21	< 0.004
03/24/21	-	04/07/21	No Data ¹
04/07/21	-	04/21/21	< 0.006
04/21/21	-	05/05/21	< 0.006
05/05/21	-	05/17/21	< 0.009
05/17/21	-	06/02/21	< 0.008
06/02/21	-	06/16/21	< 0.006
06/16/21	-	06/30/21	< 0.007
06/30/21	-	07/13/21	< 0.005
07/13/21	-	07/28/21	< 0.010
07/28/21	-	08/11/21	< 0.008
08/11/21	-	08/24/21	< 0.006
08/24/21	-	09/08/21	< 0.005
09/08/21	-	09/22/21	< 0.006
09/22/21	-	10/06/21	< 0.006
10/06/21	-	10/20/21	< 0.007
10/20/21	-	11/03/21	< 0.009
11/03/21	-	11/17/21	< 0.004
11/17/21	-	12/01/21	< 0.008
12/01/21	-	12/15/21	< 0.006
12/15/21	-	12/29/21	< 0.005

Results in picoCuries per cubic meter (pCi/m³)

¹ No Air Iodine cartridge installed.

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**BNE Background Locations
Results of Analyses for Iodine-131 in Bi-Weekly Air Samples**

Brendan T. Byrne State Forest (COAI02)²

<u>Collection Period</u>			<u>I-131</u> <u>(pCi/m³)</u>
04/21/21	-	05/05/21	< 0.002
05/05/21	-	05/18/21	< 0.006
05/18/21	-	06/02/21	< 0.006
06/02/21	-	06/16/21	< 0.006
06/16/21	-	06/30/21	< 0.006
06/30/21	-	07/13/21	< 0.004
07/13/21	-	07/28/21	< 0.007
07/28/21	-	08/11/21	< 0.007
08/11/21	-	08/24/21	< 0.008
08/24/21	-	09/08/21	< 0.007
09/08/21	-	09/22/21	< 0.005
09/22/21	-	10/06/21	< 0.010
10/06/21	-	10/20/21	< 0.005
10/20/21	-	11/03/21	< 0.007
11/03/21	-	11/17/21	< 0.005
11/17/21	-	12/01/21	< 0.008
12/01/21	-	12/15/21	< 0.005
12/15/21	-	12/29/21	< 0.003

Results in picoCuries per cubic meter (pCi/m³)

² No data available for January through mid-April. Sample collection reinstated starting April 21, 2021.

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**Salem/Hope Creek
Results of Analyses for Iodine-131 in Bi-Weekly Air Samples**

Fort Elfsborg Road (AIAI01)

<u>Collection Period</u>			<u>I-131</u> <u>(pCi/m³)</u>
12/30/20	-	01/13/21	< 0.005
01/13/21	-	01/27/21	< 0.004
01/27/21	-	02/10/21	< 0.005
02/10/21	-	02/24/21	< 0.004
02/24/21	-	03/10/21	< 0.007
03/10/21	-	03/24/21	< 0.004
03/24/21	-	04/07/21	< 0.011
04/07/21	-	04/21/21	< 0.007
04/21/21	-	05/05/21	< 0.011
05/05/21	-	05/17/21	< 0.008
05/17/21	-	06/02/21	< 0.010
06/02/21	-	06/16/21	< 0.004
06/16/21	-	06/30/21	< 0.008
06/30/21	-	07/13/21	< 0.004
07/13/21	-	07/28/21	< 0.008
07/28/21	-	08/11/21	< 0.007
08/11/21	-	08/24/21	< 0.008
08/24/21	-	09/08/21	< 0.004
09/08/21	-	09/22/21	< 0.006
09/22/21	-	10/06/21	< 0.008
10/06/21	-	10/20/21	< 0.007
10/20/21	-	11/03/21	< 0.007
11/03/21	-	11/17/21	< 0.003
11/17/21	-	12/01/21	< 0.008
12/01/21	-	12/15/21	< 0.005
12/15/21	-	12/29/21	< 0.003

Results in picoCuries per cubic meter (pCi/m³)

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**Salem/Hope Creek
Results of Analyses for Iodine-131 in Bi-Weekly Air Samples**

Plant Access Road (AIAI02)

<u>Collection Period</u>			<u>I-131</u> <u>(pCi/m³)</u>
12/30/20	-	01/13/21	< 0.005
01/13/21	-	01/27/21	< 0.006
01/27/21	-	02/10/21	< 0.005
02/10/21	-	02/24/21	< 0.004
02/24/21	-	03/10/21	< 0.007
03/10/21	-	03/24/21	< 0.005
03/24/21	-	04/07/21	< 0.013
04/07/21	-	04/21/21	< 0.006
04/21/21	-	05/05/21	< 0.011
05/05/21	-	05/17/21	< 0.006
05/17/21	-	06/02/21	< 0.005
06/02/21	-	06/16/21	< 0.006
06/16/21	-	06/30/21	< 0.007
06/30/21	-	07/13/21	< 0.005
07/13/21	-	07/28/21	< 0.008
07/28/21	-	08/11/21	< 0.007
08/11/21	-	08/24/21	< 0.007
08/24/21	-	09/08/21	< 0.006
09/08/21	-	09/22/21	< 0.008
09/22/21	-	10/06/21	< 0.007
10/06/21	-	10/20/21	< 0.005
10/20/21	-	11/03/21	< 0.008
11/03/21	-	11/17/21	< 0.003
11/17/21	-	12/01/21	< 0.005
12/01/21	-	12/15/21	< 0.004
12/15/21	-	12/29/21	< 0.003

Results in picoCuries per cubic meter (pCi/m³)

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**Salem/Hope Creek
Results of Analyses for Iodine-131 in Bi-Weekly Air Samples**

Lower Alloways Creek School (AIAI03)

<u>Collection Period</u>			<u>I-131</u> <u>(pCi/m³)</u>
12/30/20	-	01/13/21	< 0.003
01/13/21	-	01/27/21	< 0.005
01/27/21	-	02/10/21	< 0.006
02/10/21	-	02/24/21	< 0.005
02/24/21	-	03/10/21	< 0.006
03/10/21	-	03/24/21	< 0.004
03/24/21	-	04/07/21	< 0.007
04/07/21	-	04/21/21	< 0.006
04/21/21	-	05/05/21	< 0.009
05/05/21	-	05/17/21	< 0.007
05/17/21	-	06/02/21	< 0.005
06/02/21	-	06/16/21	< 0.006
06/16/21	-	06/30/21	< 0.006
06/30/21	-	07/13/21	< 0.004
07/13/21	-	07/28/21	< 0.008
07/28/21	-	08/11/21	< 0.008
08/11/21	-	08/24/21	< 0.006
08/24/21	-	09/08/21	< 0.006
09/08/21	-	09/22/21	< 0.009
09/22/21	-	10/06/21	< 0.005
10/06/21	-	10/20/21	< 0.005
10/20/21	-	11/03/21	< 0.009
11/03/21	-	11/17/21	< 0.003
11/17/21	-	12/01/21	< 0.008
12/01/21	-	12/15/21	< 0.007
12/15/21	-	12/29/21	< 0.005

Results in picoCuries per cubic meter (pCi/m³)

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**Salem/Hope Creek
Results of Analyses for Iodine-131 in Bi-Weekly Air Samples**

SE Sector, PSE&G Owner Controlled Area (AIAI04)

<u>Collection Period</u>			<u>I-131</u> <u>(pCi/m³)</u>
12/30/20	-	01/13/21	< 0.004
01/13/21	-	01/27/21	< 0.004
01/27/21	-	02/10/21	< 0.004
02/10/21	-	02/24/21	< 0.003
02/24/21	-	03/10/21	< 0.010
03/10/21	-	03/24/21	< 0.005
03/24/21	-	04/07/21	< 0.010
04/07/21	-	04/21/21	< 0.008
04/21/21	-	05/05/21	< 0.012
05/05/21	-	05/17/21	< 0.004
05/17/21	-	06/02/21	< 0.007
06/02/21	-	06/16/21	< 0.006
06/16/21	-	06/30/21	< 0.005
06/30/21	-	07/13/21	< 0.004
07/13/21	-	07/28/21	< 0.011
07/28/21	-	08/11/21	< 0.006
08/11/21	-	08/24/21	< 0.008
08/24/21	-	09/08/21	< 0.005
09/08/21	-	09/22/21	< 0.006
09/22/21	-	10/06/21	< 0.005
10/06/21	-	10/20/21	< 0.005
10/20/21	-	11/03/21	< 0.008
11/03/21	-	11/17/21	< 0.004
11/17/21	-	12/01/21	< 0.005
12/01/21	-	12/15/21	< 0.006
12/15/21	-	12/29/21	< 0.004

Results in picoCuries per cubic meter (pCi/m³)

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

BNE Office (COAP01)

<u>Collection Period</u>			<u>Particulate Gross Beta</u> <u>(pCi/m³)</u>
12/30/20	-	01/13/21	0.018 ± 0.002
01/13/21	-	01/27/21	0.023 ± 0.002
01/27/21	-	02/10/21	0.014 ± 0.001
02/10/21	-	02/24/21	0.029 ± 0.002
02/24/21	-	03/10/21	0.018 ± 0.002
03/10/21	-	03/24/21	0.021 ± 0.002
03/24/21	-	04/07/21	0.017 ± 0.002
04/07/21	-	04/21/21	0.014 ± 0.002
04/21/21	-	05/05/21	0.022 ± 0.002
05/05/21	-	05/17/21	0.013 ± 0.002
05/17/21	-	06/02/21	0.017 ± 0.002
06/02/21	-	06/16/21	0.014 ± 0.002
06/16/21	-	06/30/21	0.017 ± 0.002
06/30/21	-	07/13/21	0.018 ± 0.002
07/13/21	-	07/28/21	0.026 ± 0.002
07/28/21	-	08/11/21	0.022 ± 0.002
08/11/21	-	08/24/21	0.022 ± 0.002
08/24/21	-	09/08/21	0.028 ± 0.002
09/08/21	-	09/22/21	0.028 ± 0.002
09/22/21	-	10/06/21	0.025 ± 0.002
10/06/21	-	10/20/21	0.024 ± 0.002
10/20/21	-	11/03/21	0.025 ± 0.002
11/03/21	-	11/17/21	0.026 ± 0.002
11/17/21	-	12/01/21	0.021 ± 0.002
12/01/21	-	12/15/21	0.031 ± 0.002
12/15/21	-	12/29/21	0.034 ± 0.002

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

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

Brendan T. Byrne State Forest (COAP02)

<u>Collection Period</u>			<u>Particulate Gross Beta</u> <u>(pCi/m³)</u>
12/30/20	-	01/13/21	0.016 ± 0.002
01/13/21	-	01/27/21	0.021 ± 0.002
01/27/21	-	02/10/21	0.019 ± 0.002
02/10/21	-	02/24/21	0.021 ± 0.002
02/24/21	-	03/10/21	0.018 ± 0.002
03/10/21	-	03/24/21	0.021 ± 0.002
03/24/21	-	04/07/21	0.018 ± 0.002
04/07/21	-	04/21/21	0.010 ± 0.001
04/21/21	-	05/05/21	0.026 ± 0.002
05/05/21	-	05/18/21	0.015 ± 0.002
05/18/21	-	06/02/21	0.015 ± 0.002
06/02/21	-	06/16/21	0.016 ± 0.002
06/16/21	-	06/30/21	0.016 ± 0.002
06/30/21	-	07/13/21	0.015 ± 0.002
07/13/21	-	07/28/21	0.028 ± 0.002
07/28/21	-	08/11/21	0.025 ± 0.002
08/11/21	-	08/24/21	0.020 ± 0.002
08/24/21	-	09/08/21	0.027 ± 0.002
09/08/21	-	09/22/21	0.027 ± 0.002
09/22/21	-	10/06/21	0.023 ± 0.002
10/06/21	-	10/20/21	0.024 ± 0.002
10/20/21	-	11/03/21	0.025 ± 0.002
11/03/21	-	11/17/21	0.025 ± 0.002
11/17/21	-	12/01/21	0.018 ± 0.002
12/01/21	-	12/15/21	0.029 ± 0.002
12/15/21	-	12/29/21	0.031 ± 0.002

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

**New Jersey Department of Environmental Protection
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**Oyster Creek
Gross Beta Activity in Bi-Weekly Air Particulate Samples**

Waretown Municipal Building (OCAP01)

<u>Collection Period</u>			<u>Particulate Gross Beta</u> <u>(pCi/m³)</u>
12/30/20	-	01/13/21	0.017 ± 0.002
01/13/21	-	01/27/21	0.018 ± 0.002
01/27/21	-	02/10/21	0.015 ± 0.002
02/10/21	-	02/24/21	0.021 ± 0.002
02/24/21	-	03/10/21	0.018 ± 0.002
03/10/21	-	03/24/21	0.021 ± 0.002
03/24/21	-	04/07/21	0.020 ± 0.002
04/07/21	-	04/21/21	0.010 ± 0.001
04/21/21	-	05/05/21	0.022 ± 0.002
05/05/21	-	05/19/21	No Data ³
05/19/21	-	06/02/21	0.015 ± 0.002
06/02/21	-	06/16/21	0.014 ± 0.002
06/16/21	-	06/30/21	0.015 ± 0.002
06/30/21	-	07/13/21	0.016 ± 0.002
07/13/21	-	07/28/21	0.026 ± 0.002
07/28/21	-	08/11/21	0.024 ± 0.002
08/11/21	-	08/24/21	0.020 ± 0.002
08/24/21	-	09/08/21	0.023 ± 0.002
09/08/21	-	09/22/21	0.026 ± 0.002
09/22/21	-	10/06/21	0.025 ± 0.002
10/06/21	-	10/20/21	0.022 ± 0.002
10/20/21	-	11/03/21	0.026 ± 0.002
11/03/21	-	11/17/21	0.029 ± 0.002
11/17/21	-	12/01/21	0.022 ± 0.002
12/01/21	-	12/15/21	0.030 ± 0.002
12/15/21	-	12/29/21	0.031 ± 0.002

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

³ Air Particulate filter sample lost.

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

Sands Point Harbor (OCAP02)

<u>Collection Period</u>			<u>Particulate Gross Beta</u> <u>(pCi/m³)</u>
12/30/20	-	01/13/21	0.020 ± 0.002
01/13/21	-	01/27/21	0.022 ± 0.002
01/27/21	-	02/10/21	0.018 ± 0.002
02/10/21	-	02/24/21	0.026 ± 0.002
02/24/21	-	03/10/21	0.021 ± 0.002
03/10/21	-	03/24/21	0.024 ± 0.002
03/24/21	-	04/07/21	0.023 ± 0.002
04/07/21	-	04/21/21	0.011 ± 0.001
04/21/21	-	05/05/21	0.024 ± 0.002
05/05/21	-	05/19/21	No Data ⁴
05/19/21	-	06/02/21	0.012 ± 0.001
06/02/21	-	06/16/21	0.013 ± 0.001
06/16/21	-	06/30/21	0.015 ± 0.002
06/30/21	-	07/13/21	0.014 ± 0.002
07/13/21	-	07/28/21	0.026 ± 0.002
07/28/21	-	08/11/21	0.021 ± 0.002
08/11/21	-	08/24/21	0.021 ± 0.002
08/24/21	-	09/08/21	0.026 ± 0.002
09/08/21	-	09/22/21	0.025 ± 0.002
09/22/21	-	10/06/21	0.024 ± 0.002
10/06/21	-	10/20/21	0.022 ± 0.002
10/20/21	-	11/03/21	0.024 ± 0.002
11/03/21	-	11/17/21	0.029 ± 0.002
11/17/21	-	12/01/21	0.027 ± 0.002
12/01/21	-	12/15/21	0.028 ± 0.002
12/15/21	-	12/29/21	0.031 ± 0.002

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

⁴ Air Particulate filter sample lost.

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

Forked River Marina (OCAP03)

<u>Collection Period</u>			<u>Particulate Gross Beta</u> <u>(pCi/m³)</u>
12/30/20	-	01/13/21	0.017 ± 0.002
01/13/21	-	01/27/21	0.021 ± 0.002
01/27/21	-	02/10/21	0.015 ± 0.002
02/10/21	-	02/24/21	0.020 ± 0.002
02/24/21	-	03/10/21	0.019 ± 0.002
03/10/21	-	03/24/21	0.019 ± 0.002
03/24/21	-	04/07/21	0.016 ± 0.002
04/07/21	-	04/21/21	0.010 ± 0.001
04/21/21	-	05/05/21	0.020 ± 0.002
05/05/21	-	05/19/21	0.012 ± 0.001
05/19/21	-	06/02/21	0.015 ± 0.002
06/02/21	-	06/16/21	0.014 ± 0.002
06/16/21	-	06/30/21	0.015 ± 0.002
06/30/21	-	07/13/21	0.014 ± 0.002
07/13/21	-	07/28/21	0.025 ± 0.002
07/28/21	-	08/11/21	0.022 ± 0.002
08/11/21	-	08/24/21	0.020 ± 0.002
08/24/21	-	09/08/21	0.025 ± 0.002
09/08/21	-	09/22/21	0.026 ± 0.002
09/22/21	-	10/06/21	0.021 ± 0.002
10/06/21	-	10/20/21	0.023 ± 0.002
10/20/21	-	11/03/21	0.028 ± 0.002
11/03/21	-	11/17/21	0.025 ± 0.002
11/17/21	-	12/01/21	0.022 ± 0.002
12/01/21	-	12/15/21	0.027 ± 0.002
12/15/21	-	12/29/21	0.031 ± 0.002

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

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

Lacey Twp. Recreation Building (OCAP04)

<u>Collection Period</u>			<u>Particulate Gross Beta</u> <u>(pCi/m³)</u>
12/30/20	-	01/13/21	0.016 ± 0.002
01/13/21	-	01/27/21	0.022 ± 0.002
01/27/21	-	02/10/21	0.017 ± 0.002
02/10/21	-	02/24/21	0.022 ± 0.002
02/24/21	-	03/10/21	0.020 ± 0.002
03/10/21	-	03/24/21	0.021 ± 0.002
03/24/21	-	04/07/21	0.017 ± 0.002
04/07/21	-	04/21/21	0.011 ± 0.001
04/21/21	-	05/05/21	0.022 ± 0.002
05/05/21	-	05/19/21	0.012 ± 0.001
05/19/21	-	06/02/21	0.014 ± 0.002
06/02/21	-	06/16/21	0.015 ± 0.002
06/16/21	-	06/30/21	0.014 ± 0.002
06/30/21	-	07/13/21	0.015 ± 0.002
07/13/21	-	07/28/21	0.026 ± 0.002
07/28/21	-	08/11/21	0.027 ± 0.002
08/11/21	-	08/24/21	0.021 ± 0.002
08/24/21	-	09/08/21	0.026 ± 0.002
09/08/21	-	09/22/21	0.029 ± 0.002
09/22/21	-	10/06/21	0.023 ± 0.002
10/06/21	-	10/20/21	0.024 ± 0.002
10/20/21	-	11/03/21	0.027 ± 0.002
11/03/21	-	11/17/21	0.025 ± 0.002
11/17/21	-	12/01/21	0.020 ± 0.002
12/01/21	-	12/15/21	0.027 ± 0.002
12/15/21	-	12/29/21	0.031 ± 0.002

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

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

JCP&L Substation (OCAP05)

<u>Collection Period</u>			<u>Particulate Gross Beta</u> <u>(pCi/m³)</u>
12/30/20	-	01/13/21	0.018 ± 0.002
01/13/21	-	01/27/21	0.018 ± 0.002
01/27/21	-	02/10/21	0.016 ± 0.002
02/10/21	-	02/24/21	0.022 ± 0.002
02/24/21	-	03/10/21	0.018 ± 0.002
03/10/21	-	03/24/21	0.021 ± 0.002
03/24/21	-	04/07/21	0.017 ± 0.002
04/07/21	-	04/21/21	0.010 ± 0.001
04/21/21	-	05/05/21	0.020 ± 0.002
05/05/21	-	05/19/21	0.013 ± 0.001
05/19/21	-	06/02/21	0.015 ± 0.002
06/02/21	-	06/16/21	0.015 ± 0.002
06/16/21	-	06/30/21	0.014 ± 0.002
06/30/21	-	07/13/21	0.012 ± 0.001
07/13/21	-	07/28/21	0.018 ± 0.002
07/28/21	-	08/11/21	0.024 ± 0.002
08/11/21	-	08/24/21	0.018 ± 0.002
08/24/21	-	09/08/21	0.024 ± 0.002
09/08/21	-	09/22/21	0.025 ± 0.002
09/22/21	-	10/06/21	0.023 ± 0.002
10/06/21	-	10/20/21	0.023 ± 0.002
10/20/21	-	11/03/21	0.023 ± 0.002
11/03/21	-	11/17/21	0.026 ± 0.002
11/17/21	-	12/01/21	0.021 ± 0.002
12/01/21	-	12/15/21	0.030 ± 0.002
12/15/21	-	12/29/21	0.028 ± 0.002

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

**New Jersey Department of Environmental Protection
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**Oyster Creek
Gross Beta Activity in Bi-Weekly Air Particulate Samples**

Finninger Farm, OC Dredge Site (OCAP06)

<u>Collection Period</u>			<u>Particulate Gross Beta</u> <u>(pCi/m³)</u>
12/29/20	-	01/12/21	0.025 ± 0.003
01/12/21	-	01/27/21	0.034 ± 0.003
01/27/21	-	02/10/21	0.023 ± 0.003
02/10/21	-	02/24/21	0.030 ± 0.003
02/24/21	-	03/10/21	0.027 ± 0.003
03/10/21	-	03/23/21	0.031 ± 0.003
03/23/21	-	04/06/21	0.026 ± 0.003
04/06/21	-	04/22/21	0.016 ± 0.002
04/22/21	-	05/04/21	0.037 ± 0.004
05/04/21	-	05/20/21	0.023 ± 0.003
05/20/21	-	06/01/21	0.016 ± 0.003
06/01/21	-	06/16/21	0.015 ± 0.002
06/16/21	-	07/01/21	0.021 ± 0.002
07/01/21	-	07/14/21	0.024 ± 0.003
07/14/21	-	07/28/21	0.039 ± 0.004
07/28/21	-	08/11/21	0.033 ± 0.003
08/11/21	-	08/25/21	0.031 ± 0.003
08/25/21	-	09/10/21	0.033 ± 0.003
09/10/21	-	09/22/21	0.045 ± 0.004
09/22/21	-	10/05/21	0.039 ± 0.004
10/05/21	-	10/20/21	0.031 ± 0.003
10/20/21	-	11/04/21	0.035 ± 0.003
11/04/21	-	11/17/21	0.049 ± 0.004
11/17/21	-	12/02/21	0.036 ± 0.003
12/02/21	-	12/16/21	0.038 ± 0.004
12/16/21	-	12/29/21	0.052 ± 0.004

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

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
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**Oyster Creek
Gross Beta Activity in Bi-Weekly Air Particulate Samples**

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

<u>Collection Period</u>			<u>Particulate Gross Beta</u> <u>(pCi/m³)</u>
12/30/20	-	01/13/21	0.020 ± 0.002
01/13/21	-	01/27/21	0.020 ± 0.002
01/27/21	-	02/10/21	0.016 ± 0.002
02/10/21	-	02/24/21	0.025 ± 0.002
02/24/21	-	03/10/21	0.019 ± 0.002
03/10/21	-	03/24/21	0.020 ± 0.002
03/24/21	-	04/07/21	0.019 ± 0.002
04/07/21	-	04/21/21	0.011 ± 0.001
04/21/21	-	05/05/21	0.019 ± 0.002
05/05/21	-	05/19/21	0.013 ± 0.001
05/19/21	-	06/02/21	0.013 ± 0.001
06/02/21	-	06/16/21	0.012 ± 0.001
06/16/21	-	06/30/21	0.016 ± 0.002
06/30/21	-	07/13/21	0.017 ± 0.002
07/13/21	-	07/28/21	0.026 ± 0.002
07/28/21	-	08/11/21	0.024 ± 0.002
08/11/21	-	08/24/21	0.021 ± 0.002
08/24/21	-	09/08/21	0.024 ± 0.002
09/08/21	-	09/22/21	0.028 ± 0.002
09/22/21	-	10/06/21	0.025 ± 0.002
10/06/21	-	10/20/21	0.022 ± 0.002
10/20/21	-	11/03/21	0.024 ± 0.002
11/03/21	-	11/17/21	0.027 ± 0.002
11/17/21	-	12/01/21	0.021 ± 0.002
12/01/21	-	12/15/21	0.030 ± 0.002
12/15/21	-	12/29/21	0.032 ± 0.002

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

**New Jersey Department of Environmental Protection
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**Oyster Creek
Gross Beta Activity in Bi-Weekly Air Particulate Samples**

East of US Route 9 and South of Discharge Canal Inside Fence (SE Sector) (OCAP08)

<u>Collection Period</u>			<u>Particulate Gross Beta</u> <u>(pCi/m³)</u>
12/30/20	-	01/13/21	0.018 ± 0.002
01/13/21	-	01/27/21	0.021 ± 0.002
01/27/21	-	02/10/21	0.016 ± 0.002
02/10/21	-	02/24/21	0.024 ± 0.002
02/24/21	-	03/10/21	0.020 ± 0.002
03/10/21	-	03/24/21	0.024 ± 0.002
03/24/21	-	04/07/21	0.019 ± 0.002
04/07/21	-	04/21/21	0.011 ± 0.001
04/21/21	-	05/05/21	0.024 ± 0.002
05/05/21	-	05/19/21	0.012 ± 0.002
05/19/21	-	06/02/21	0.015 ± 0.002
06/02/21	-	06/16/21	0.014 ± 0.002
06/16/21	-	06/30/21	0.016 ± 0.002
06/30/21	-	07/13/21	0.016 ± 0.002
07/13/21	-	07/28/21	0.025 ± 0.002
07/28/21	-	08/11/21	0.023 ± 0.002
08/11/21	-	08/24/21	0.019 ± 0.002
08/24/21	-	09/08/21	0.029 ± 0.003
09/08/21	-	09/22/21	0.028 ± 0.002
09/22/21	-	10/06/21	0.023 ± 0.002
10/06/21	-	10/20/21	0.022 ± 0.002
10/20/21	-	11/03/21	0.025 ± 0.002
11/03/21	-	11/17/21	0.025 ± 0.002
11/17/21	-	12/01/21	0.021 ± 0.002
12/01/21	-	12/15/21	0.027 ± 0.002
12/15/21	-	12/29/21	0.033 ± 0.002

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

**New Jersey Department of Environmental Protection
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**Salem/Hope Creek
Gross Beta Activity in Bi-Weekly Air Particulate Samples**

Fort Elfsborg Road (AIAP01)

<u>Collection Period</u>			<u>Particulate Gross Beta</u> <u>(pCi/m³)</u>
12/30/20	-	01/13/21	0.019 ± 0.002
01/13/21	-	01/27/21	0.020 ± 0.002
01/27/21	-	02/10/21	0.021 ± 0.002
02/10/21	-	02/24/21	0.024 ± 0.002
02/24/21	-	03/10/21	0.022 ± 0.002
03/10/21	-	03/24/21	0.022 ± 0.002
03/24/21	-	04/07/21	0.017 ± 0.002
04/07/21	-	04/21/21	0.013 ± 0.002
04/21/21	-	05/05/21	0.023 ± 0.002
05/05/21	-	05/18/21	0.014 ± 0.002
05/18/21	-	06/02/21	0.015 ± 0.001
06/02/21	-	06/16/21	0.016 ± 0.002
06/16/21	-	06/30/21	0.015 ± 0.002
06/30/21	-	07/13/21	0.018 ± 0.002
07/13/21	-	07/28/21	0.026 ± 0.002
07/28/21	-	08/11/21	0.025 ± 0.002
08/11/21	-	08/24/21	0.021 ± 0.002
08/24/21	-	09/08/21	0.028 ± 0.002
09/08/21	-	09/22/21	0.028 ± 0.002
09/22/21	-	10/06/21	0.024 ± 0.002
10/06/21	-	10/20/21	0.025 ± 0.002
10/20/21	-	11/03/21	0.027 ± 0.002
11/03/21	-	11/17/21	0.027 ± 0.002
11/17/21	-	12/01/21	0.023 ± 0.002
12/01/21	-	12/15/21	0.030 ± 0.002
12/15/21	-	12/29/21	0.033 ± 0.002

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

**New Jersey Department of Environmental Protection
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**Salem/Hope Creek
Gross Beta Activity in Bi-Weekly Air Particulate Samples**

Plant Access Road (AIAP02)

<u>Collection Period</u>			<u>Particulate Gross Beta</u> <u>(pCi/m³)</u>
12/30/20	-	01/13/21	0.018 ± 0.002
01/13/21	-	01/27/21	0.021 ± 0.002
01/27/21	-	02/10/21	0.018 ± 0.002
02/10/21	-	02/24/21	0.026 ± 0.002
02/24/21	-	03/10/21	0.017 ± 0.002
03/10/21	-	03/24/21	0.020 ± 0.002
03/24/21	-	04/07/21	0.017 ± 0.002
04/07/21	-	04/21/21	0.012 ± 0.001
04/21/21	-	05/05/21	0.022 ± 0.002
05/05/21	-	05/18/21	0.015 ± 0.002
05/18/21	-	06/02/21	0.016 ± 0.002
06/02/21	-	06/16/21	0.014 ± 0.002
06/16/21	-	06/30/21	0.016 ± 0.002
06/30/21	-	07/13/21	0.018 ± 0.002
07/13/21	-	07/28/21	0.028 ± 0.002
07/28/21	-	08/11/21	0.027 ± 0.002
08/11/21	-	08/24/21	0.022 ± 0.002
08/24/21	-	09/08/21	0.027 ± 0.002
09/08/21	-	09/22/21	0.029 ± 0.002
09/22/21	-	10/06/21	0.024 ± 0.002
10/06/21	-	10/20/21	0.025 ± 0.002
10/20/21	-	11/03/21	0.024 ± 0.002
11/03/21	-	11/17/21	0.028 ± 0.002
11/17/21	-	12/01/21	0.024 ± 0.002
12/01/21	-	12/15/21	0.029 ± 0.002
12/15/21	-	12/29/21	0.033 ± 0.002

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

**New Jersey Department of Environmental Protection
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**Salem/Hope Creek
Gross Beta Activity in Bi-Weekly Air Particulate Samples**

Lower Alloways Creek School (AIAP03)

<u>Collection Period</u>			<u>Particulate Gross Beta</u> <u>(pCi/m³)</u>
12/30/20	-	01/13/21	0.018 ± 0.002
01/13/21	-	01/27/21	0.019 ± 0.002
01/27/21	-	02/10/21	0.017 ± 0.002
02/10/21	-	02/24/21	0.026 ± 0.002
02/24/21	-	03/10/21	0.019 ± 0.002
03/10/21	-	03/24/21	0.022 ± 0.002
03/24/21	-	04/07/21	0.019 ± 0.002
04/07/21	-	04/21/21	0.012 ± 0.001
04/21/21	-	05/05/21	0.021 ± 0.002
05/05/21	-	05/18/21	0.013 ± 0.002
05/18/21	-	06/02/21	0.017 ± 0.002
06/02/21	-	06/16/21	0.014 ± 0.002
06/16/21	-	06/30/21	0.016 ± 0.002
06/30/21	-	07/13/21	0.020 ± 0.002
07/13/21	-	07/28/21	0.028 ± 0.002
07/28/21	-	08/11/21	0.026 ± 0.002
08/11/21	-	08/24/21	0.024 ± 0.002
08/24/21	-	09/08/21	0.028 ± 0.002
09/08/21	-	09/22/21	0.028 ± 0.002
09/22/21	-	10/06/21	0.026 ± 0.002
10/06/21	-	10/20/21	0.024 ± 0.002
10/20/21	-	11/03/21	0.024 ± 0.002
11/03/21	-	11/17/21	0.026 ± 0.002
11/17/21	-	12/01/21	0.024 ± 0.002
12/01/21	-	12/15/21	0.031 ± 0.002
12/15/21	-	12/29/21	0.035 ± 0.002

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

**New Jersey Department of Environmental Protection
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**Salem/Hope Creek
Gross Beta Activity in Bi-Weekly Air Particulate Samples**

SE Sector, PSE&G Owner Controlled Area (AIAP04)

<u>Collection Period</u>			<u>Particulate Gross Beta</u> <u>(pCi/m³)</u>
12/30/20	-	01/13/21	0.017 ± 0.002
01/13/21	-	01/27/21	0.021 ± 0.002
01/27/21	-	02/10/21	0.019 ± 0.002
02/10/21	-	02/24/21	0.026 ± 0.002
02/24/21	-	03/10/21	0.020 ± 0.002
03/10/21	-	03/24/21	0.023 ± 0.002
03/24/21	-	04/07/21	0.016 ± 0.002
04/07/21	-	04/21/21	0.013 ± 0.002
04/21/21	-	05/05/21	0.023 ± 0.002
05/05/21	-	05/18/21	0.015 ± 0.002
05/18/21	-	06/02/21	0.018 ± 0.002
06/02/21	-	06/16/21	0.014 ± 0.002
06/16/21	-	06/30/21	0.016 ± 0.002
06/30/21	-	07/13/21	0.019 ± 0.002
07/13/21	-	07/28/21	0.029 ± 0.002
07/28/21	-	08/11/21	0.026 ± 0.002
08/11/21	-	08/24/21	0.022 ± 0.002
08/24/21	-	09/08/21	0.027 ± 0.002
09/08/21	-	09/22/21	0.032 ± 0.002
09/22/21	-	10/06/21	0.025 ± 0.002
10/06/21	-	10/20/21	0.025 ± 0.002
10/20/21	-	11/03/21	0.027 ± 0.002
11/03/21	-	11/17/21	0.025 ± 0.002
11/17/21	-	12/01/21	0.023 ± 0.002
12/01/21	-	12/15/21	0.030 ± 0.002
12/15/21	-	12/29/21	0.034 ± 0.002

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

**New Jersey Department of Environmental Protection
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**BNE Background Location
Results of Analyses 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>
12/30/20	-	03/24/21	< 0.6	< 0.6	< 0.3	139 ± 21	< 28.4	< 18.5
03/24/21	-	06/30/21	< 0.3	< 0.3	< 0.3	147 ± 18	< 22.1	< 13.6
06/30/21	-	10/06/21	< 0.2	< 0.2	< 0.2	132 ± 16	< 28.4	< 13.9
10/06/21	-	12/29/21	< 0.4	< 0.3	< 0.3	99 ± 14	< 23.1	< 15.6

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>
12/30/20	-	03/24/21	< 0.4	< 0.4	< 0.3	133 ± 18	< 36.1	< 27.5
03/24/21	-	06/30/21	< 0.2	< 0.3	< 0.2	129 ± 16	< 28.4	< 12.0
06/30/21	-	10/06/21	< 0.4	< 0.2	< 0.3	116 ± 16	< 28.3	< 16.1
10/06/21	-	12/29/21	< 0.4	< 0.3	< 0.4	125 ± 17	< 30.7	< 14.1

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
Results of Analyses 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>
12/30/20	-	03/24/21	< 0.3	< 0.3	< 0.2	120 ± 16	< 21.0	< 21.2
03/24/21	-	06/30/21	< 0.1	< 0.2	< 0.1	111 ± 14	< 29.8	< 10.4
06/30/21	-	10/06/21	< 0.3	< 0.2	< 0.2	129 ± 16	< 42.1	< 10.3
10/06/21	-	12/29/21	< 0.2	< 0.3	< 0.3	110 ± 15	< 29.0	< 12.5

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>
12/30/20	-	03/24/21	< 0.4	< 0.3	< 0.3	148 ± 18	< 25.1	< 25.1
03/24/21	-	06/30/21	< 0.3	< 0.3	< 0.2	108 ± 15	< 39.9	< 11.5
06/30/21	-	10/06/21	< 0.2	< 0.3	< 0.2	122 ± 16	< 23.6	< 12.0
10/06/21	-	12/29/21	< 0.4	< 0.3	< 0.3	115 ± 16	< 40.3	< 17.5

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>
12/30/20	-	03/24/21	< 0.4	< 0.3	< 0.3	125 ± 15	< 43.9	< 15.7
03/24/21	-	06/30/21	< 0.3	< 0.3	< 0.2	125 ± 15	< 33.6	< 12.2
06/30/21	-	10/06/21	< 0.2	< 0.3	< 0.2	132 ± 17	< 21.8	< 15.8
10/06/21	-	12/29/21	< 0.3	< 0.3	< 0.2	129 ± 17	< 25.1	< 12.2

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>
12/30/20	-	03/24/21	< 0.3	< 0.3	< 0.3	129 ± 16	< 28.0	< 14.5
03/24/21	-	06/30/21	< 0.3	< 0.3	< 0.3	132 ± 17	< 33.4	< 10.8
06/30/21	-	10/06/21	< 0.3	< 0.3	< 0.3	143 ± 18	< 34.3	< 9.3
10/06/21	-	12/29/21	< 0.3	< 0.2	< 0.2	115 ± 15	< 23.9	< 9.8

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
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**Oyster Creek
Results of Analyses 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>
12/30/20	-	03/24/21	< 0.3	< 0.2	< 0.2	131 ± 16	< 28.3	< 14.6
03/24/21	-	06/30/21	< 0.2	< 0.2	< 0.2	128 ± 16	< 25.4	< 8.2
06/30/21	-	10/06/21	< 0.3	< 0.3	< 0.1	124 ± 16	< 20.5	< 15.7
10/06/21	-	12/29/21	< 0.2	< 0.4	< 0.3	119 ± 15	< 30.7	< 8.3

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>
12/30/20	-	03/23/21	< 0.7	< 0.7	< 0.7	105 ± 22	< 48.2	< 37.6
03/23/21	-	07/01/21	< 0.3	< 0.2	< 0.2	52 ± 8	< 22.3	< 13.8
07/01/21	-	10/05/21	< 0.7	< 0.7	< 0.2	98 ± 20	< 70.7	< 43.2
10/05/21	-	12/30/21	< 0.6	< 0.7	< 0.4	119 ± 20	< 63.0	< 14.9

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>
12/30/20	-	03/24/21	< 0.3	< 0.2	< 0.2	124 ± 16	< 30.7	53 ± 21 ⁵
03/24/21	-	06/30/21	< 0.3	< 0.3	< 0.2	118 ± 15	< 28.8	< 14.8
06/30/21	-	10/06/21	< 0.2	< 0.3	< 0.2	129 ± 15	< 32.7	< 21.6
10/06/21	-	12/29/21	< 0.3	< 0.3	< 0.3	102 ± 15	< 31.2	< 12.1

East of US Route 9 & South of the Discharge Canal Inside Fence (SE Sector) (OCAP08)

<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>
12/30/20	-	03/24/21	< 0.3	< 0.2	< 0.2	143 ± 17	< 20.7	< 15.7
03/24/21	-	06/30/21	< 0.3	< 0.3	< 0.2	147 ± 17	< 25.2	< 14.5
06/30/21	-	10/06/21	< 0.3	< 0.3	< 0.2	121 ± 16	< 30.1	< 19.5
10/06/21	-	12/29/21	< 0.3	< 0.3	< 0.2	119 ± 16	< 34.0	< 18.3

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.

⁵ Since the plant has been in Decommissioning since 2018, this trace amount of Sr-90 is likely a result of radioactive fallout. Approximately 99.9% of strontium in the environment comes from fallout from nuclear testing nuclear weapons testing conducted in the late 1950's-1960's and the Chernobyl accident as well as in nuclear reactor waste.

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2021 Radiological Environmental Monitoring Program**

**Salem / Hope Creek
Results of Analyses 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>
12/30/20	-	03/24/21	< 0.4	< 0.4	< 0.4	142 ± 19	< 15.6	< 13.8
03/24/21	-	06/30/21	< 0.1	< 0.2	< 0.1	135 ± 17	< 32.0	< 13.8
06/30/21	-	10/06/21	< 0.3	< 0.3	< 0.2	135 ± 16	< 38.8	< 16.7
10/06/21	-	12/29/21	< 0.3	< 0.2	< 0.2	125 ± 17	< 22.9	< 14.3

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>
12/30/20	-	03/24/21	< 0.4	< 0.4	< 0.3	142 ± 19	< 22.7	< 13.8
03/24/21	-	06/30/21	< 0.6	< 0.4	< 0.4	154 ± 21	< 25.4	< 11.7
06/30/21	-	10/06/21	< 0.2	< 0.3	< 0.3	148 ± 19	< 33.3	< 9.8
10/06/21	-	12/29/21	< 0.4	< 0.3	< 0.3	126 ± 17	< 26.6	< 19.8

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>
12/30/20	-	03/24/21	< 0.4	< 0.3	< 0.3	139 ± 18	< 41.8	< 13.6
03/24/21	-	06/30/21	< 0.3	< 0.2	< 0.2	131 ± 15	< 38.6	< 15.4
06/30/21	-	10/06/21	< 0.3	< 0.3	< 0.2	145 ± 17	< 20.3	< 11.6
10/06/21	-	12/29/21	< 0.2	< 0.2	< 0.2	121 ± 15	< 29.2	< 21.6

SE Sector, PSE&G Owner Controlled Area (AIAP04)

<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>
12/30/20	-	03/24/21	< 0.3	< 0.3	< 0.4	148 ± 18	< 41.7	< 22.7
03/24/21	-	06/30/21	< 0.2	< 0.3	< 0.3	141 ± 17	< 21.0	< 12.0
06/30/21	-	10/06/21	< 0.3	< 0.3	< 0.2	151 ± 17	< 30.0	< 10.1
10/06/21	-	12/29/21	< 0.6	< 0.6	< 0.4	108 ± 19	< 21.4	< 10.7

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

Results of Analyses 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>
05/17/21 - Clams	< 10	< 13	< 14	< 11	1,780 ± 330	< 82	< 79
09/27/21 - Clams	< 11	< 11	< 13	< 11	1,380 ± 230	< 110	< 154

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>
05/17/21 – Striped Bass	< 21	< 17	< 25	< 19	2,810 ± 533	< 107	< 86
05/17/21 – White Perch	< 16	< 11	< 15	< 25	2,800 ± 520	< 124	< 91
05/17/21 - Clams	< 11	< 14	< 12	< 11	1,830 ± 367	< 64	< 55
09/27/21 – Clams	< 9	< 10	< 10	< 8	1,320 ± 253	< 106	< 101
09/28/21–American Eel	< 12	< 11	< 9	< 11	3,150 ± 421	< 165	< 392
09/28/21 – Striped Bass	< 7	< 8	< 7	< 6	3,400 ± 399	< 103	< 367
09/30/21 - Crab	< 16	< 12	< 15	< 14	2,130 ± 368	< 95	< 83

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>
05/19/21 - Clams	< 12	< 13	< 10	< 9	1,650 ± 312	< 58	< 86
09/29/21 – Clams	< 7	< 7	< 8	< 8	1,350 ± 249	< 66	< 105

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>
05/19/21 – Striped Bass	< 9	< 12	< 14	< 11	4,020 ± 546	< 138	< 128
09/27/21 – Striped Bass	< 8	< 11	< 11	< 8	4,940 ± 567	< 128	< 188

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
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**Salem/Hope Creek
Results of Analyses 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>
05/04/21 – Striped Bass	< 14	< 11	< 14	< 15	3,160 ± 458	< 47	< 43
07/21/21 - Crab	< 6	< 6	< 6	< 6	2,580 ± 296	< 118	< 116
08/18/21 - Crab	< 9	< 9	< 11	< 11	1,790 ± 858	< 778	< 525
09/30/21 – Striped Bass	< 8	< 8	< 6	< 7	2,580 ± 364	< 143	< 247

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>
05/04/21 – Striped Bass	< 14	< 15	< 11	< 11	3,330 ± 446	< 35	< 45
07/21/21 – Crab	< 7	< 9	< 8	< 8	3,250 ± 406	< 126	< 169
08/18/21 – Crab	< 10	< 11	< 13	< 10	3,080 ± 411	< 572	< 761
09/30/21 – Striped Bass	< 9	< 11	< 9	< 11	2,970 ± 409	< 132	< 263

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>
05/04/21 – Striped Bass	< 12	< 13	< 13	< 13	3,800 ± 484	< 27	< 22
09/30/21 – Striped Bass	< 7	< 7	< 9	< 8	4,820 ± 624	< 98	< 172

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
2021 Radiological Environmental Monitoring Program**

**Oyster Creek
Results of Analyses 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>
05/17/21	< 46	< 5	< 5	< 8	< 5	< 6	690 ± 124
09/27/21	< 116	< 9	< 13	< 18	< 13	< 12	2,460 ± 386

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>
05/18/21	< 62	< 7	< 11	< 10	40 ± 10 ⁶	< 8	4,300 ± 485
09/27/21	124 ± 91	< 9	< 10	< 12	< 11	< 10	1,770 ± 231

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>
05/19/21	< 192	< 20	< 24	< 31	< 22	< 23	19,400 ± 1,820
09/29/21	< 128	< 15	< 15	< 21	< 15	< 16	13,000 ± 1,390

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>
05/17/21	84 ± 41	< 5	< 6	< 8	< 6	< 7	1,280 ± 192
09/27/21	275 ± 110	< 8	< 10	< 13	< 10	< 9	3,990 ± 448

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.

⁶ Since the plant has been in Decommissioning since 2018, this trace amount of Cs-137 is likely attributed to radioactive fallout due to historical nuclear weapons testing and the Chernobyl accident.

**New Jersey Department of Environmental Protection
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**Salem/Hope Creek
Results of Analyses of Gamma Emitters in Aquatic Sediment Samples**

Delaware River Near Site 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>
07/27/21	< 80	< 10	< 10	< 17	< 11	< 9	5,430 ± 551
10/22/21	< 56	< 7	< 7	< 11	< 8	< 8	5,360 ± 541

Delaware River Near Plant Discharge Outfall Area – Salem Station 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>
07/27/21	< 77	< 8	< 8	< 13	< 8	< 9	3,950 ± 440
10/13/21	< 97	< 10	< 10	< 17	< 11	< 11	4,030 ± 432

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>
07/27/21	< 89	< 10	< 11	< 16	< 11	< 10	7,050 ± 774
10/13/21	< 137	< 16	< 17	< 24	< 18	< 17	11,100 ± 1,160

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>
07/27/21	< 109	< 10	< 11	< 17	< 10	< 12	5,290 ± 599
10/13/21	< 105	< 12	< 12	< 17	< 12	< 11	7,170 ± 780

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>
07/27/21	< 228	< 23	< 24	< 39	< 25	< 27	20,000 ± 2,030
10/13/21	< 180	< 20	< 23	< 30	< 23	< 20	18,000 ± 1,750

Delaware Riverbank – 1.0 Miles W of Mad Horse Creek (AIAQ06)

<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>
07/27/21	< 149	< 16	< 18	< 24	< 18	< 16	14,900 ± 1,650
10/13/21	< 134	< 13	< 15	< 23	< 16	< 17	13,400 ± 1,330

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
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**Oyster Creek
Results of Analyses 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	06/28/21	< 13	< 12	< 15	< 14	2,150 ± 417
Collards	06/28/21	< 13	< 18	< 14	< 15	2,820 ± 427
Kale	06/28/21	< 16	< 19	< 18	< 17	3,370 ± 520
Cabbage	07/20/21	< 21	< 19	< 18	< 21	2,410 ± 428
Collards	07/20/21	< 15	< 12	< 17	< 15	1,930 ± 308
Kale	07/20/21	< 17	< 20	< 19	< 21	3,190 ± 525
Cabbage	08/18/21	< 15	< 17	< 18	< 17	1,860 ± 399
Collards	08/18/21	< 17	< 19	< 21	< 17	2,110 ± 426
Cabbage	09/30/21	< 14	< 14	< 19	< 16	2,510 ± 394

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	06/28/21	< 12	< 14	< 15	< 13	3,280 ± 491
Collards	06/28/21	< 9	< 16	< 14	< 12	3,990 ± 553
Kale	06/28/21	< 11	< 13	< 14	< 13	4,210 ± 591
Cabbage	07/20/21	< 23	< 26	< 22	< 23	3,120 ± 589
Collards	07/20/21	< 14	< 14	< 15	< 13	5,400 ± 675
Kale	07/20/21	< 15	< 23	< 17	< 15	5,010 ± 726
Cabbage	08/18/21	< 17	< 21	< 20	< 20	3,270 ± 527
Collards	08/18/21	< 8	< 10	< 11	< 11	3,760 ± 516
Rape	08/18/21	< 11	< 14	< 13	< 11	4,250 ± 517
Cabbage	09/30/21	< 14	< 16	< 15	< 12	3,570 ± 535
Collards	09/30/21	< 11	< 11	< 12	< 12	5,180 ± 622
Kale	09/30/21	< 13	< 15	< 15	< 12	4,480 ± 585

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
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**Oyster Creek
Results of Analyses of Gamma Emitters in Vegetable Samples**

Oyster Creek Onsite Garden - SE (OCVE03)⁷

<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>
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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>
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Cabbage	06/28/21	< 11	< 13	< 14	< 12	1,790 ± 292
Collards	06/28/21	< 11	< 11	< 11	< 12	2,160 ± 342
Cabbage	07/20/21	< 13	< 16	< 15	26 ± 16 ⁸	2,310 ± 366
Collards	07/20/21	< 11	< 12	< 12	29 ± 14 ⁸	2,030 ± 335
Cabbage	08/18/21	< 9	< 10	< 11	< 16	2,070 ± 341
Collards	08/18/21	< 17	< 15	< 19	< 20	1,970 ± 370

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.

⁷ No samples in 2021 due to insufficient yield of plants/crops

⁸ Since the plant has been in Decommissioning since 2018, these trace amounts of Cs-137 are likely attributed to radioactive fallout due to historical nuclear weapons testing and the Chernobyl accident.

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**Salem/Hope Creek
Results of Analyses of Gamma Emitters in Vegetable Samples**

Local 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>
Corn	08/11/21	< 9	< 18	< 21	< 15	2,160 ± 456
Tomato	08/11/21	< 10	< 24	< 11	< 19	1,420 ± 738
Peppers	08/11/21	< 19	< 19	< 22	< 16	1,500 ± 434

Local 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	05/12/21	< 10	< 13	< 10	< 10	2,150 ± 351
Corn	08/03/21	< 15	< 11	< 13	< 16	1,850 ± 385
Tomato	08/03/21	< 9	< 12	< 8	< 9	1,770 ± 288

Farm Market – 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	05/12/21	< 10	< 14	< 11	< 10	3,250 ± 497
Tomato	07/20/21	< 6	< 10	< 8	< 6	1,780 ± 253
Corn	07/20/21	< 9	< 11	< 10	< 10	2,240 ± 332
Peppers	07/20/21	< 7	< 8	< 9	< 7	1,630 ± 241
Peach	07/20/21	< 6	< 7	< 7	< 6	1,890 ± 253

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>
Lambs Ear	07/28/21	< 25	< 28	< 23	< 22	18,700 ± 2,170
Broccoli	07/28/21	< 10	< 15	< 13	< 13	7,720 ± 833
Kale	07/28/21	< 24	< 31	< 24	< 25	6,260 ± 967
Kale	08/31/21	< 20	< 26	< 26	< 23	6,140 ± 832
Broccoli	08/31/21	< 16	< 19	< 17	< 15	3,420 ± 523
Lambs Ear	08/31/21	< 22	< 25	< 31	< 23	6,930 ± 1,040

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
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**Salem/Hope Creek
Results of Analyses of Gamma Emitters in Vegetable Samples**

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>
Lambs Ear	07/28/21	< 19	< 20	< 24	< 19	6,800 ± 916
Kale	08/31/21	< 20	< 20	< 22	< 21	5,110 ± 725
Broccoli	08/31/21	< 17	< 17	< 19	< 18	3,700 ± 576
Lambs Ear	08/31/21	< 28	< 41	< 37	< 30	7,600 ± 993

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>
Tomato	08/11/21	< 11	< 16	< 10	< 11	2,230 ± 372

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>
Asparagus	05/12/21	< 9	< 10	< 10	< 8	2,160 ± 338
Tomato	08/03/21	< 7	< 7	< 10	< 8	2,030 ± 316
Corn	08/03/21	< 16	< 17	< 16	< 14	3,070 ± 523
Peppers	08/03/21	< 11	< 15	< 16	< 14	1,450 ± 338
Peaches	08/03/21	< 11	< 9	< 10	< 9	2,360 ± 367

Private Farm – NW (AIVE22)

<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	08/11/21	< 13	< 19	< 19	< 18	2,250 ± 502
Tomato	08/11/21	< 6	< 12	< 11	< 14	2,190 ± 406
Peppers	08/11/21	< 10	< 12	< 12	< 9	1,560 ± 303

Onsite - SE (AIVE25)

<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>
Lambs Ear	07/28/21	< 28	< 29	< 36	< 31	20,600 ± 2,360
Kale	08/31/21	< 15	< 16	< 18	< 15	5,550 ± 674
Broccoli	08/31/21	< 15	< 15	< 16	< 18	4,160 ± 577
Lambs Ear	08/31/21	< 22	< 28	< 31	< 24	7,460 ± 968

Onsite - NE (AIVE27)

<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>
Peaches	08/03/21	< 10	< 11	< 9	< 9	1,920 ± 312

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
2021 Radiological Environmental Monitoring Program**

**BNE Background Location
Results of Analyses 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>
03/15/21	< 2.15	< 0.65	1,430 ± 143	< 2.17	< 1.00
06/14/21	< 1.94	< 0.62	1,330 ± 149	< 0.85	< 0.90
09/27/21	< 1.84	< 0.55	1,510 ± 150	< 0.76	< 0.87
12/13/21	< 1.84	< 0.37	1,310 ± 130	< 0.57	< 0.52

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
2021 Radiological Environmental Monitoring Program**

**Salem/Hope Creek
Results of Analyses 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>
01/05/21	< 2.39	< 0.68	1,380 ± 170	< 0.98	< 0.95
02/08/21	< 2.17	< 0.74	1,920 ± 201	< 0.92	< 0.85
03/08/21	< 1.71	< 0.43	1,420 ± 143	< 0.91	< 0.95
04/05/21	< 2.11	< 0.57	1,180 ± 134	< 0.43	< 0.68
05/03/21	< 2.29	< 0.52	1,330 ± 153	< 0.93	0.93 ± 0.61 ⁹
06/07/21	< 2.14	< 0.87	1,360 ± 154	< 0.89	< 1.05
07/06/21	< 1.87	< 0.97	1,300 ± 144	< 0.79	< 0.76
08/02/21	< 1.79	< 0.61	1,300 ± 139	< 0.45	< 0.98
09/07/21	< 2.08	< 0.68	1,240 ± 138	< 0.55	< 0.89
10/04/21	< 1.88	< 0.61	1,330 ± 151	< 0.94	< 1.79
11/08/21	< 2.02	< 0.68	1,240 ± 126	< 1.00	< 0.91
12/03/21	< 2.02	< 0.95	2,370 ± 232	< 0.92	< 1.76

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>
01/05/21	< 1.88	< 0.58	1,480 ± 158	< 0.86	< 0.35
02/08/21	< 2.20	< 0.90	2,010 ± 207	< 0.64	< 0.95
03/08/21	< 2.13	< 0.46	1,460 ± 162	< 0.87	< 0.93
04/05/21	< 2.19	< 0.63	1,200 ± 122	< 0.53	< 0.81
05/03/21	< 2.09	< 0.52	1,040 ± 108	< 0.93	< 0.95
06/07/21	< 1.96	< 0.66	1,800 ± 195	< 0.87	< 0.69
07/06/21	< 1.83	< 0.93	1,120 ± 129	< 0.85	< 0.70
08/02/21	< 1.66	< 0.59	1,470 ± 144	< 0.81	< 0.88
09/07/21	< 1.65	< 0.99	1,110 ± 118	< 0.93	< 0.88
10/04/21	< 1.71	< 0.57	1,210 ± 120	< 0.68	< 0.83
11/08/21	< 1.81	< 0.64	1,280 ± 141	< 0.72	< 0.92
12/03/21	< 1.84	< 0.94	2,150 ± 208	< 1.04	< 1.05

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

⁹ Since the plant has been in Decommissioning since 2018, this trace amount of Sr-90 is likely a result of radioactive fallout. Approximately 99.9% of strontium in the environment comes from fallout from nuclear testing nuclear weapons testing conducted in the late 1950's-1960's and the Chernobyl accident as well as in nuclear reactor waste.

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2021 Radiological Environmental Monitoring Program**

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

Private Farm – W (AIMI04)

<u>Collection Date</u>	<u>Cs-137</u>	<u>I-131</u>	<u>K-40</u>	<u>Sr-89</u>	<u>Sr-90</u>
01/05/21	< 2.32	< 0.65	1,590 ± 171	< 0.97	< 0.28
02/08/21	< 1.86	< 0.83	1,950 ± 222	< 0.94	< 0.89
03/08/21	< 1.60	< 0.44	1,400 ± 138	< 0.91	< 0.96
04/05/21	< 1.64	< 0.68	1,330 ± 138	< 0.59	< 0.78
05/03/21	< 2.43	< 0.67	1,230 ± 137	< 0.91	< 0.98
06/07/21	< 2.11	< 0.73	1,360 ± 155	< 0.85	< 0.67
07/06/21	< 1.47	< 0.97	1,180 ± 132	< 0.47	< 0.45
08/02/21	< 2.00	< 0.57	1,420 ± 158	< 0.42	< 0.98
09/07/21	< 2.24	< 0.76	1,440 ± 145	< 0.92	< 0.88
10/04/21	< 1.77	< 0.49	1,220 ± 128	< 0.75	< 1.28
11/08/21	< 1.81	< 0.72	1,250 ± 139	< 0.86	< 0.95
12/03/21	< 1.68	< 0.96	2,240 ± 239	< 0.79	< 0.59

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
2021 Radiological Environmental Monitoring Program**

Oyster Creek

Results of Analyses 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>
05/17/21	< 1.63	< 1.53	< 1.71	< 1.66	< 209	< 0.83
09/27/21	< 1.71	< 1.65	< 1.92	< 1.92	< 174	See Note*

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>
01/27/21	< 1.93	< 2.39	< 2.62	< 2.14	< 174	< 0.82
02/24/21	< 1.88	< 1.79	< 2.08	< 1.76	< 194	< 1.76
03/23/21	< 1.48	< 1.71	< 1.45	< 1.46	< 223	< 0.76
04/22/21	< 1.65	< 1.92	< 2.09	< 1.89	< 204	< 0.73
05/19/21	< 1.91	< 1.85	< 1.78	< 1.77	< 290	< 0.86
06/22/21	< 1.91	< 1.92	< 2.16	< 1.87	< 222	< 0.96
07/28/21	< 1.51	< 1.71	< 1.57	< 1.68	< 212	See Note*
08/25/21	< 1.53	< 1.59	< 1.78	< 1.72	< 220	See Note*
09/21/21	< 1.68	< 1.63	< 2.03	< 1.88	< 222	See Note*
10/27/21	< 1.60	< 1.45	< 1.42	< 1.39	< 202	See Note*
11/30/21	< 1.58	< 1.61	< 1.69	< 1.58	< 251	See Note*
12/30/21	< 1.30	< 1.32	< 1.25	< 1.22	< 174	See Note*

*Note: Effective July 1, 2021, Radiochemical Analysis of I-131 is no longer being performed on samples from the environs of Oyster Creek due to the facility being in Decommissioning since September 2018.

Results in picoCuries per Liter (pCi/L)

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2021 Radiological Environmental Monitoring Program**

Oyster Creek

Results of Analyses of Gamma Emitters and Tritium (H-3) in Surface Water (continued)

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>
05/17/21	< 1.52	< 1.70	< 1.67	< 1.51	< 212	< 0.81
09/27/21	< 1.85	< 2.02	< 1.80	< 1.89	< 182	See Note*

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>
01/27/21	< 1.28	< 1.34	< 1.28	< 1.33	< 164	< 0.83
02/24/21	< 1.55	< 1.69	< 1.77	< 1.57	< 181	< 0.85
03/23/21	< 2.06	< 1.75	< 1.92	< 2.10	< 232	< 0.78
04/22/21	< 1.81	< 1.85	< 2.09	< 1.56	< 205	< 0.83
05/18/21	< 1.59	< 1.61	< 1.55	< 1.48	< 265	< 0.80
06/22/21	< 1.71	< 1.71	< 1.81	< 1.77	< 209	< 0.76
07/28/21	< 2.24	< 2.44	< 2.56	< 2.29	< 215	See Note*
08/25/21	< 1.73	< 1.61	< 2.08	< 1.90	< 234	See Note*
09/22/21	< 1.84	< 1.82	< 1.90	< 1.79	< 216	See Note*
10/27/21	< 1.82	< 1.62	< 1.56	< 1.45	< 201	See Note*
11/30/21	< 1.35	< 1.21	< 1.38	< 1.28	< 245	See Note*
12/30/21	< 1.45	< 1.20	< 1.60	< 1.48	< 182	See Note*

*Note: Effective July 1, 2021, Radiochemical Analysis of I-131 is no longer being performed on samples from the environs of Oyster Creek due to the facility being in Decommissioning since September 2018

Results in picoCuries per Liter (pCi/L)

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2021 Radiological Environmental Monitoring Program**

**Salem/Hope Creek
Results of Analyses 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>
01/05/21	< 1.69	< 1.93	< 1.85	< 1.77	< 236	< 0.93
01/19/21	< 1.96	< 2.21	< 2.14	< 2.57	< 166	< 0.93
02/08/21	< 1.55	< 1.65	< 1.81	< 1.72	< 181	< 0.81
02/26/21	< 1.91	< 1.75	< 1.82	< 1.83	< 257	< 1.35
03/09/21	< 1.69	< 1.75	< 1.77	< 1.62	< 232	< 0.76
03/22/21	< 1.14	< 1.14	< 1.44	< 1.06	< 197	< 0.88
04/06/21	< 1.22	< 1.21	< 1.19	< 1.20	< 227	< 1.40
04/20/21	< 1.87	< 1.98	< 2.11	< 2.02	< 206	< 0.63
05/04/21	< 2.27	< 2.50	< 2.36	< 2.26	< 224	< 0.84
05/20/21	< 1.66	< 1.91	< 1.87	< 1.76	< 222	< 0.68
06/12/21	< 1.90	< 2.15	< 2.69	< 2.28	< 223	< 0.79
06/23/21	< 1.79	< 1.96	< 1.91	< 1.85	< 246	< 0.90
07/06/21	< 1.71	< 1.94	< 1.81	< 1.63	< 262	< 0.84
07/19/21	< 2.00	< 2.02	< 1.79	< 1.77	< 201	< 1.61
08/02/21	< 1.18	< 1.23	< 1.22	< 1.26	< 207	< 0.95
08/16/21	< 1.89	< 1.89	< 1.90	< 1.96	< 214	< 0.99
09/09/21	< 1.42	< 1.66	< 1.67	< 1.59	< 206	< 0.82
09/24/21	< 2.08	< 2.09	< 2.61	< 2.33	< 191	< 0.81
10/04/21	< 1.41	< 1.37	< 1.45	< 1.39	< 282	< 0.95
10/20/21	< 2.07	< 2.06	< 2.37	< 2.19	< 251	< 0.96
11/10/21	< 1.36	< 1.30	< 1.26	< 1.08	< 231	< 0.53
11/24/21	< 1.55	< 1.64	< 1.59	< 1.62	< 170	< 0.50
12/08/21	< 1.28	< 1.21	< 1.33	< 1.31	< 285	< 0.74
12/20/21	< 1.94	< 2.18	< 2.14	< 1.86	< 224	< 1.50

Results in picoCuries per Liter (pCi/L)

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2021 Radiological Environmental Monitoring Program**

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

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>
01/05/21	< 1.68	< 1.64	< 1.76	< 1.69	< 238	< 0.93
01/19/21	< 1.35	< 1.40	< 1.34	< 1.45	< 167	< 0.87
02/08/21	< 2.00	< 2.03	< 1.89	< 1.88	< 188	< 0.87
02/26/21	< 1.35	< 1.79	< 1.59	< 1.48	< 262	< 0.76
03/09/21	< 1.88	< 1.87	< 1.79	< 1.75	< 218	< 0.81
03/22/21	< 1.41	< 1.33	< 1.31	< 1.27	< 217	< 0.90
04/06/21	< 2.00	< 1.86	< 2.13	< 1.99	< 227	< 1.09
04/20/21	< 1.84	< 2.01	< 2.10	< 1.76	< 212	< 0.77
05/04/21	< 1.55	< 1.64	< 1.92	< 1.62	< 219	< 0.71
05/20/21	< 1.47	< 1.56	< 1.57	< 1.62	< 204	< 0.67
06/12/21	< 1.32	< 1.39	< 1.71	< 1.49	< 219	< 0.88
06/23/21	< 1.70	< 1.53	< 1.88	< 1.73	< 251	< 0.71
07/06/21	< 1.87	< 2.00	< 2.24	< 2.03	< 256	< 0.99
07/19/21	< 1.81	< 2.11	< 2.04	< 1.96	< 207	< 1.69
08/02/21	< 1.32	< 1.48	< 1.50	< 1.34	< 216	< 0.92
08/16/21	< 1.59	< 1.43	< 1.90	< 1.77	< 210	< 0.99
09/09/21	< 1.77	< 1.39	< 1.80	< 1.57	< 208	< 0.82
09/24/21	< 1.61	< 1.56	< 1.81	< 1.64	< 185	< 0.85
10/04/21	< 1.25	< 1.20	< 1.41	< 1.23	< 287	< 0.72
10/20/21	< 1.60	< 1.65	< 1.89	< 1.68	< 236	< 0.97
11/10/21	< 1.29	< 1.31	< 1.22	< 1.17	< 231	< 0.98
11/24/21	< 1.32	< 1.43	< 1.54	< 1.43	< 170	< 0.65
12/08/21	< 1.35	< 1.35	< 1.41	< 1.25	< 275	< 0.86
12/20/21	< 1.28	< 1.31	< 1.35	< 1.28	< 215	< 1.90

Results in picoCuries per Liter (pCi/L)

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2021 Radiological Environmental Monitoring Program**

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

Delaware River - One Mile West of Mad Horse Creek (AISW03)

<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>
01/05/21	< 1.70	< 1.90	< 2.04	< 1.85	< 241	< 0.93
01/19/21	< 1.57	< 1.75	< 1.66	< 1.74	< 170	< 0.93
02/08/21	< 1.68	< 2.16	< 2.18	< 2.00	< 175	< 0.82
02/26/21	< 1.84	< 2.52	< 1.98	< 1.98	< 251	< 0.75
03/09/21	< 1.53	< 1.41	< 1.29	< 1.46	< 219	< 0.86
03/22/21	< 1.31	< 1.40	< 1.33	< 1.13	< 215	< 0.84
04/06/21	< 1.36	< 1.49	< 1.30	< 1.31	< 223	< 1.26
04/20/21	< 1.39	< 1.81	< 1.71	< 1.53	< 202	< 0.61
05/04/21	< 1.61	< 1.62	< 1.57	< 1.62	< 224	< 0.78
05/20/21	< 1.34	< 1.47	< 1.44	< 1.32	< 214	< 0.66
06/12/21	< 1.44	< 1.26	< 1.40	< 1.40	< 227	< 0.75
06/23/21	< 1.39	< 1.57	< 1.44	< 1.46	< 253	< 0.77
07/06/21	< 1.46	< 1.40	< 1.73	< 1.46	< 258	< 0.85
07/19/21	< 1.68	< 1.39	< 1.93	< 1.57	< 204	< 1.34
08/02/21	< 1.54	< 1.39	< 1.57	< 1.48	< 211	< 0.90
08/16/21	< 1.55	< 1.92	< 1.98	< 2.04	< 206	< 0.97
09/09/21	< 2.49	< 2.62	< 2.41	< 2.27	< 263	< 0.77
09/24/21	< 1.67	< 1.49	< 1.86	< 1.65	< 185	< 0.76
10/04/21	< 1.45	< 1.51	< 1.38	< 1.42	< 285	< 0.94
10/20/21	< 1.87	< 2.01	< 1.85	< 1.70	< 236	< 0.97
11/10/21	< 1.58	< 1.64	< 1.48	< 1.48	< 220	< 0.93
11/24/21	< 1.67	< 1.61	< 1.92	< 1.71	< 170	< 0.97
12/08/21	< 1.69	< 1.61	< 1.46	< 1.42	< 279	< 0.70
12/20/21	< 1.39	< 1.35	< 1.42	< 1.37	< 224	< 0.91

Results in picoCuries per Liter (pCi/L)

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2021 Radiological Environmental Monitoring Program**

**Oyster Creek
Results of Analyses 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>
01/07/21	< 1.74	< 1.84	< 1.92	< 1.78	< 190	< 0.95
04/13/21	< 1.05	< 1.32	< 1.19	< 1.09	< 223	< 1.36
08/05/21	< 2.18	< 2.46	< 2.76	< 2.31	< 213	See Note*
10/12/21	< 1.97	< 2.65	< 2.77	< 2.19	< 188	See Note*

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>
01/07/21	< 1.55	< 1.75	< 1.69	< 1.70	< 192	< 0.98
04/13/21	< 0.99	< 1.01	< 1.32	< 1.12	< 229	< 1.37
08/05/21	< 1.56	< 1.52	< 1.90	< 1.58	< 207	See Note*
10/12/21	< 1.62	< 1.60	< 1.73	< 1.70	< 191	See Note*

Lacey MUA Pumping Station (OCWW03)

<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>
01/07/21	< 1.25	< 1.70	< 1.47	< 1.62	< 188	< 0.98
04/13/21	< 1.07	< 1.17	< 1.07	< 1.03	< 230	< 0.75
08/05/21	< 1.51	< 1.60	< 1.52	< 1.47	< 217	See Note*
10/12/21	< 1.85	< 2.10	< 2.08	< 1.77	< 196	See Note*

Ocean Township MUA Pumping Station (OCWW04)

<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>
01/07/21	< 1.71	< 1.71	< 1.73	< 1.71	< 193	< 0.92
04/13/21	< 1.70	< 1.61	< 1.78	< 1.81	< 225	< 0.68
08/05/21	< 1.53	< 1.43	< 1.63	< 1.46	< 211	See Note*
10/12/21	< 1.56	< 1.61	< 1.70	< 1.76	< 192	See Note*

*Note: Effective July 1, 2021, Radiochemical Analysis of I-131 is no longer being performed on samples from the environs of Oyster Creek due to the facility being in Decommissioning since September 2018.

Results in picoCuries per Liter (pCi/L)

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2021 Radiological Environmental Monitoring Program**

**Salem/Hope Creek
Results of Analyses 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>
01/07/21	< 1.26	< 1.51	< 1.53	< 1.57	< 206	< 0.74
04/13/21	< 1.30	< 1.56	< 1.44	< 1.40	< 227	< 0.87
07/29/21	< 1.15	< 1.35	< 1.32	< 1.25	< 279	< 0.77
10/12/21	< 2.37	< 1.99	< 2.36	< 1.93	< 194	< 0.72

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>
01/07/21	< 1.52	< 1.64	< 1.79	< 1.74	< 194	< 0.53
04/13/21	< 1.44	< 1.55	< 1.74	< 1.52	< 213	< 1.44
07/29/21	< 2.25	< 2.62	< 2.53	< 2.66	< 284	< 0.88
10/12/21	< 2.27	< 2.16	< 2.37	< 2.11	< 202	< 0.72

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>
01/07/21	< 1.43	< 1.49	< 1.56	< 1.59	< 197	< 0.69
04/13/21	< 1.15	< 1.02	< 1.21	< 1.26	< 216	< 1.19
07/29/21	< 1.59	< 1.76	< 1.83	< 1.68	< 256	< 0.75
10/12/21	< 1.60	< 1.61	< 1.99	< 1.66	< 199	< 1.25

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>
01/07/21	< 1.37	< 1.65	< 1.61	< 1.47	< 195	< 0.63
04/13/21	< 1.13	< 1.02	< 1.10	< 1.07	< 254	< 1.10
07/29/21	< 2.06	< 2.10	< 2.34	< 2.06	< 280	< 0.91
10/12/21	< 2.03	< 1.93	< 2.36	< 1.99	< 162	< 1.59

City of Salem Water & Sewage Department (AIWW05)

<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>
01/07/21	< 1.23	< 1.58	< 1.45	< 1.36	< 184	< 0.94
04/13/21	< 1.24	< 1.25	< 1.46	< 1.22	< 245	< 1.23
07/29/21	< 1.19	< 1.24	< 1.42	< 1.31	< 278	< 0.70
10/12/21	< 2.00	< 2.18	< 2.23	< 2.05	< 194	< 0.64

Results in picoCuries per Liter (pCi/L)

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2021 Radiological Environmental Monitoring Program**

**BNE Background Location
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	12.4	1.7	11.1	2.6	10.3	6.3	10.1	4.6
CO02	Brendan T. Byrne State Forest, New Lisbon, NJ	11.1	6.3	9.1	1.5	9.5	7.9	8.2	3.9

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
2021 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	12.5	0.7	8.1	1.6	8.4	6.7	7.6	1.0
2	Ocean Twp. Municipal Building	13.4	3.5	8.9	2.1	9.8	3.4	8.2	5.8
3	Sewage Pumping Station, Forked River	11.2	5.9	7.7	3.8	9.3	5.4	9.7	7.1
4	Twin River Station, Forked River	10.8	2.8	10.5	5.2	8.3	5.0	9.2	2.5
5	Sewage Pumping Station, Ocean Twp.	12.1	7.4	9.6	4.7	10.0	4.1	8.1	3.6
6	Oyster Creek, Gate #2, Forked River	11.1	0.0	9.2	7.4	9.2	5.6	7.3	2.6
7	Finninger Farm, Forked River	11.6	2.5	7.1	7.1	7.8	0.3	6.8	4.0
8	Ocean Co. Memorial Cemetery, Waretown	10.0	6.8	8.4	0.1	8.9	6.5	6.1	1.5
9	Oyster Creek Building 17, Forked River	11.6	5.9	9.9	3.3	10.1	4.4	7.6	15.0
10	Sheffield & Derby Rd, Forked River	12.3	1.9	8.6	5.2	9.0	1.8	7.2	6.2
11	Lakeside Drive, Forked River	12.5	4.0	10.7	3.0	9.3	7.1	9.0	3.8
12	Forked River Game Farm, Forked River	10.9	8.0	7.3	1.3	8.9	5.3	10.0	5.8

Results are reported in units of milliroentgens (mR)

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

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2021 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	10.4	2.9	9.4	6.2	9.0	5.3	8.7	5.8
14	Sands Pt. Park, Dock Ave., Waretown	13.4	2.7	8.9	4.6	9.6	4.0	8.7	0.1
15	Recreation Center, Waretown	11.5	3.1	7.5	9.5	8.8	1.9	6.5	6.1
16	North Access Rd., Forked River	11.7	1.5	8.2	11.9	9.5	1.6	8.2	3.4
20	Third Avenue, Barnegat Light	11.0	3.7	8.1	4.2	8.2	3.1	7.0	3.5
21	Rose Hill Road & Barnegat Blvd	12.7	4.1	9.8	7.4	9.4	4.1	10.2	12.1
22	Bay Way & Clairmore Avenue	11.9	8.7	8.2	7.0	8.7	3.6	7.1	7.9
23	Island Beach State Park, Parking Lot A5	11.1	3.4	8.3	3.5	8.6	5.2	6.8	4.1
24	Forked River Site Access Rd. (N)	14.0	4.8	10.6	7.1	10.2	3.9	8.2	9.4
25	Forked River Site Access Rd. (NNW)	15.0	4.1	9.4	11.1	12.1	0.9	10.0	11.3
26	Forked River Site Access Rd. (NW)	13.2	0.8	13.4	6.0	9.5	10.7	8.1	5.4
27	Southern Area Stores Fence, FR Site	10.3	8.6	13.7	19.2	11.6	7.2	11.1	7.6

Results are reported in units of milliroentgens (mR).

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

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2021 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>
28	Southern Area Stores, FR Site (WSW)	13.7	8.8	11.4	18.3	12.9	5.8	9.7	3.3
29	Southern Area Stores Access Rd (SSW)	12.6	6.0	9.6	5.2	8.7	5.2	7.2	6.5
30	Southern Area Stores Access Road (S)	13.1	3.8	10.2	1.3	9.9	1.6	9.3	7.4
31	Southern Area Stores Access Road (SSE)	14.5	8.3	9.6	7.3	9.9	14.2	9.5	3.4
32	U.S. Route 9 (ESE) Forked River., NJ	13.0	3.0	8.9	12.1	9.6	4.1	7.6	8.2
33	U.S. Route 9 (NE) Forked River, NJ	12.1	4.3	11.0	8.6	8.3	4.5	7.9	1.5
34	Garden St Pkwy Svc. Forked River, NJ	12.8	5.3	11.8	6.4	11.1	4.2	8.3	7.0
35	U.S. Route 9 & Harbor Inn Rd, Bayville, NJ	12.7	9.1	8.9	11.8	9.5	2.0	8.2	13.0
36	Orlando Dr. & Penguin Ct., Forked River, NJ	11.3	5.8	9.0	14.3	8.5	7.3	7.6	7.7
37	Bay Pkwy, Sands Point, Waretown, NJ	10.5	2.7	10.1	6.7	7.3	16.1	6.3	6.7
38	Hightide & Bonita Dr., Waretown, NJ	12.8	2.6	10.8	3.6	10.0	6.0	8.4	2.2
39	Brook & School St. Barnegat, NJ	12.6	1.6	10.4	6.0	8.4	2.7	8.6	6.2

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

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2021 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>
40	County Rt. 554, Barnegat, NJ	12.4	3.6	10.5	1.9	9.2	5.2	8.6	8.4
41	County Rt. 532, Waretown, NJ	10.3	2.8	9.0	3.0	7.6	4.7	6.6	7.5
42	Lacey Rd. WEST, Forked River, NJ	13.2	5.0	10.5	6.3	9.9	4.1	7.2	12.4
43	U.S. Route 9 (E) Forked River, NJ	11.6	3.7	8.2	3.3	9.4	4.7	8.2	6.2

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
2021 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	14.0	8.1	10.2	6.3	9.1	5.1	9.7	4.3
2	Poplar Road, Lower Alloways	13.4	6.3	9.9	4.2	9.7	2.5	10.6	4.8
3	Money and Eagle Island Road	13.8	3.7	10.1	9.7	10.3	4.9	9.9	3.1
4	Ft. Elfsborg / Hancocks – East	13.4	0.0	11.1	3.7	10.8	7.3	12.5	1.8
5	Ft. Elfsborg / Hancocks – West	16.6	7.5	13.6	7.8	15.8	0.8	15.6	1.9
6	Stathems Neck Road	14.4	6.8	10.3	8.4	10.7	1.0	10.4	2.1
7	Stow Neck Road Lower Alloways	12.6	10.2	8.9	3.4	9.1	5.5	9.4	7.8
8	Alloways Creek Neck Road - Middle	11.5	6.6	9.8	1.6	9.4	8.5	9.1	2.8
9	Alloways Creek Neck Road - North	13.3	7.0	12.8	1.6	11.2	9.0	12.9	6.3
10	Abbotts Farm Road	11.8	2.9	10.0	4.5	9.8	8.4	8.8	5.2

Results are reported in units of milliroentgens (mR)

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

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2021 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>
11	PSEG Education Center/EOF	14.2	5.8	11.4	4.6	11.7	6.4	11.1	7.2
12	Onsite Access Rd N Sector	13.6	5.4	10.9	6.4	11.7	2.3	11.7	4.8
13	Onsite Laydown Area - NNE Sector	14.1	4.2	10.0	14.2	12.3	4.6	11.2	2.6
14	Onsite Utility Pole NE Sector	14.0	4.7	9.9	5.9	10.0	4.9	9.5	3.7
15	Onsite Hope Creek Road – ENE Sector	12.9	1.5	9.3	10.0	9.4	9.8	11.4	4.6
16	Onsite Parking Lot ESE Sector	14.0	2.3	14.9	6.3	11.9	2.5	8.9	11.1
17	Onsite Salem NGS SE Sector	14.4	4.1	10.7	5.7	13.9	3.6	10.7	6.1
18	Bayside Road Bayside, NJ	13.1	5.3	9.1	2.8	10.7	4.4	8.2	6.3

Results are reported in units of milliroentgens (mR)

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

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2021 Radiological Environmental Monitoring Program**

Comparison of NJDEP and Mirion 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>Mirion</u>		<u>NJDEP</u>		<u>Mirion</u>		<u>NJDEP</u>		<u>Mirion</u>		<u>NJDEP</u>		<u>Mirion</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	12.1	7.4	12.4	3.5	9.6	4.7	10.5	4.1	10.0	4.1	10.5	3.2	8.1	3.6	7.5	4.2
7	Finninger Farm,OCNGS Forked River	11.6	2.5	10.5	3.8	7.1	7.1	9.0	3.6	7.8	0.3	7.9	4.0	6.8	4.0	8.0	3.8
13	Restrooms, Lakeside Dr. Forked River	10.4	2.9	10.5	6.0	9.4	6.2	9.6	4.2	9.0	5.3	8.3	3.6	8.7	5.8	9.3	4.9
21	Rose Hill and Barnegat Rd Barnegat Twp.	12.7	4.1	12.0	5.0	9.8	7.4	10.3	1.3	9.4	4.1	9.3	2.0	10.2	12.1	8.0	3.9

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
2021 Radiological Environmental Monitoring Program**

Comparison of NJDEP and Mirion 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>Mirion</u>		<u>NJDEP</u>		<u>Mirion</u>		<u>NJDEP</u>		<u>Mirion</u>		<u>NJDEP</u>		<u>Mirion</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>
1	Access Road – Security Checkpoint	14.0	8.1	12.4	3.5	10.2	6.3	11.7	5.3	9.1	5.1	11.1	4.4	9.7	4.3	10.1	9.9
2	Poplar Road, Lower Alloways	13.4	6.3	13.0	2.5	9.9	4.2	11.7	3.2	9.7	2.5	11.5	2.7	10.6	4.8	11.5	4.2
3	Money and Eagle Island Roads	13.8	3.7	14.2	3.0	10.1	9.7	13.4	5.7	10.3	4.9	12.4	3.1	9.9	3.1	10.9	13.7
5	Ft. Elfsborg/ Hancocks - West	16.6	7.5	17.4	2.7	13.6	7.8	17.4	3.3	15.8	0.8	16.8	2.8	15.6	1.9	14.9	6.0

Results are reported in units of milliroentgens (mR)

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

**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2021 Radiological Environmental Monitoring Program**

Comparison of NJDEP and Mirion Technologies Thermoluminescent Dosimetry 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>Mirion</u>		<u>NJDEP</u>		<u>Mirion</u>		<u>NJDEP</u>		<u>Mirion</u>		<u>NJDEP</u>		<u>Mirion</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	12.6	10.2	11.9	4.2	8.9	3.4	10.8	3.1	9.1	5.5	9.4	3.1	9.4	7.8	9.5	8.1
9	Alloways Creek Neck Road - North	13.3	7.0	14.2	3.0	12.8	1.6	13.4	4.7	11.2	9.0	12.5	2.1	12.9	6.3	14.3	2.9
11	PSEG Ed. Center/EOF Salem City	14.2	5.8	13.2	5.0	11.4	4.6	13.1	3.7	11.7	6.4	11.1	3.2	11.1	7.2	9.5	7.1

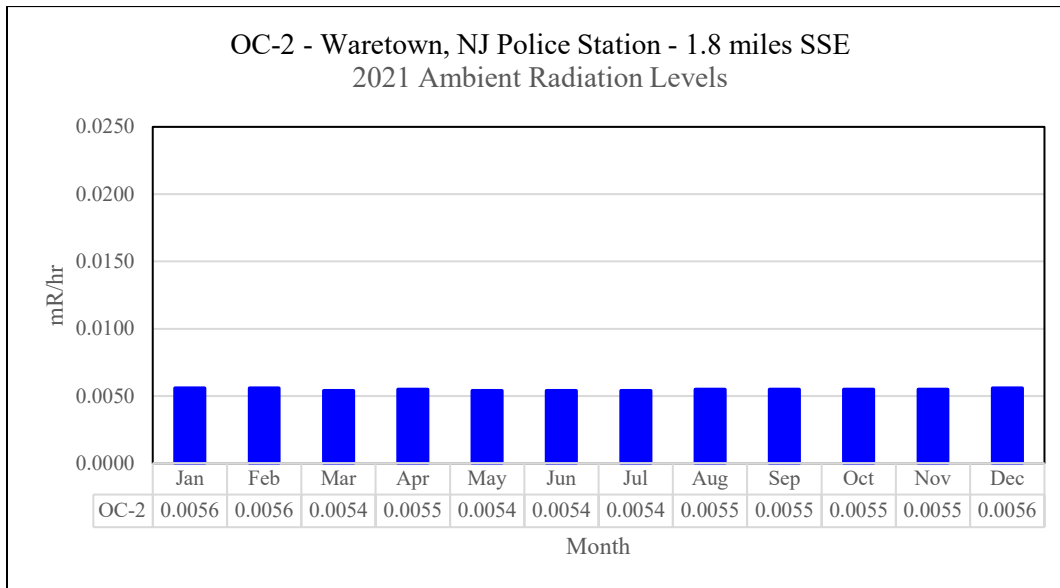
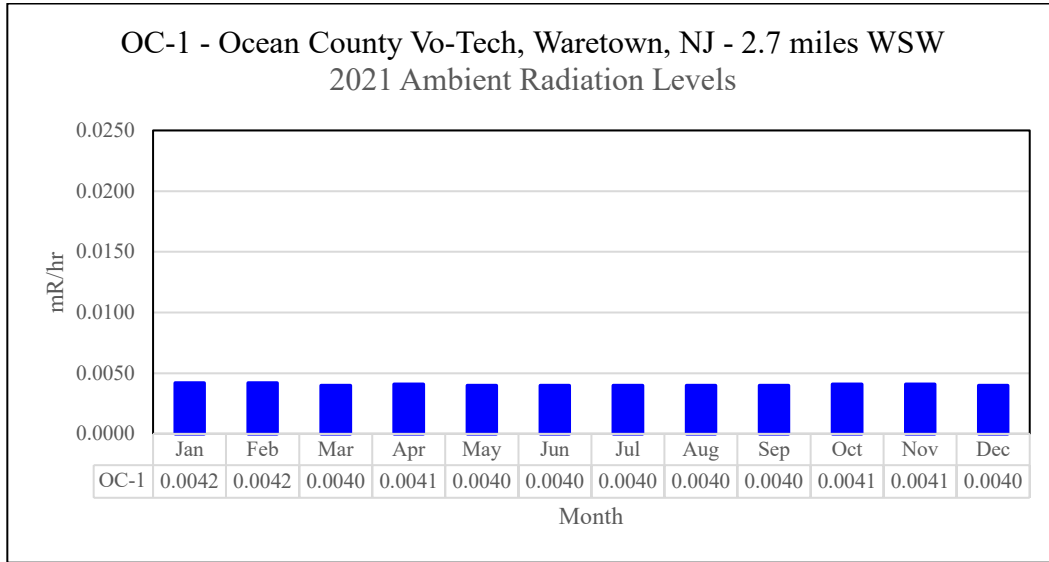
Results are reported in units of milliroentgens (mR)

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)

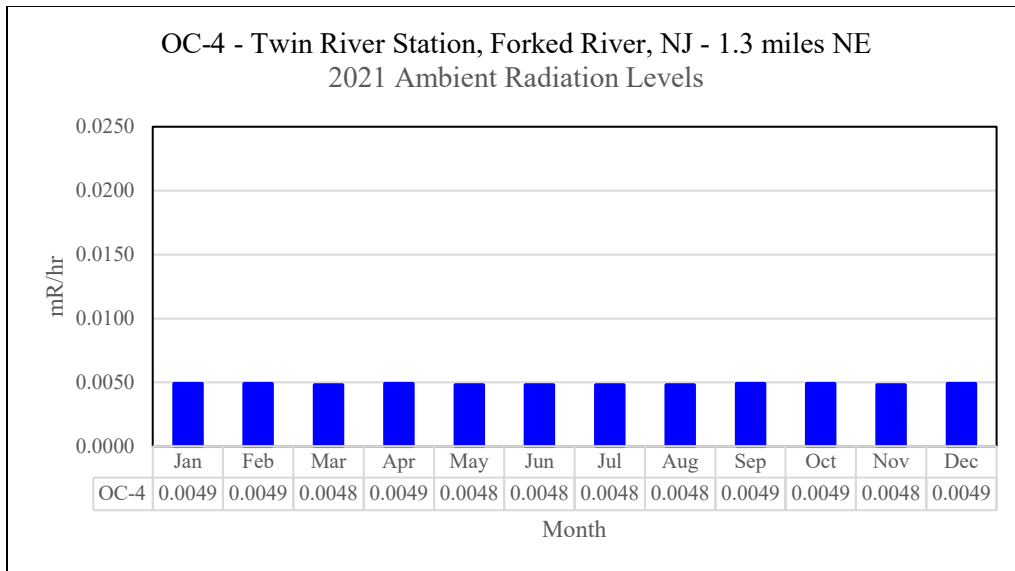
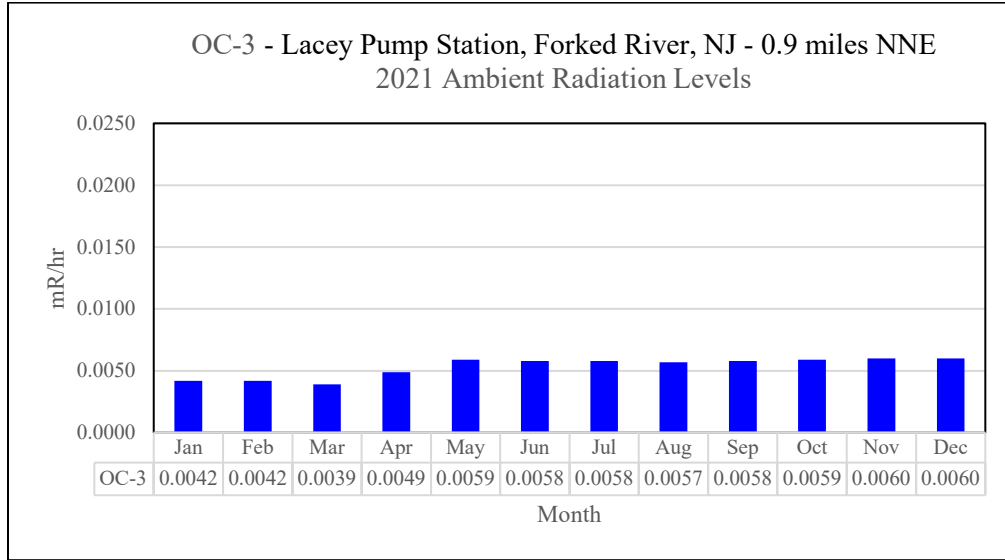
**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2021 Radiological Environmental Monitoring Program**

**Oyster Creek
Continuous Radiological Environmental Surveillance Telemetry (CREST) Data**



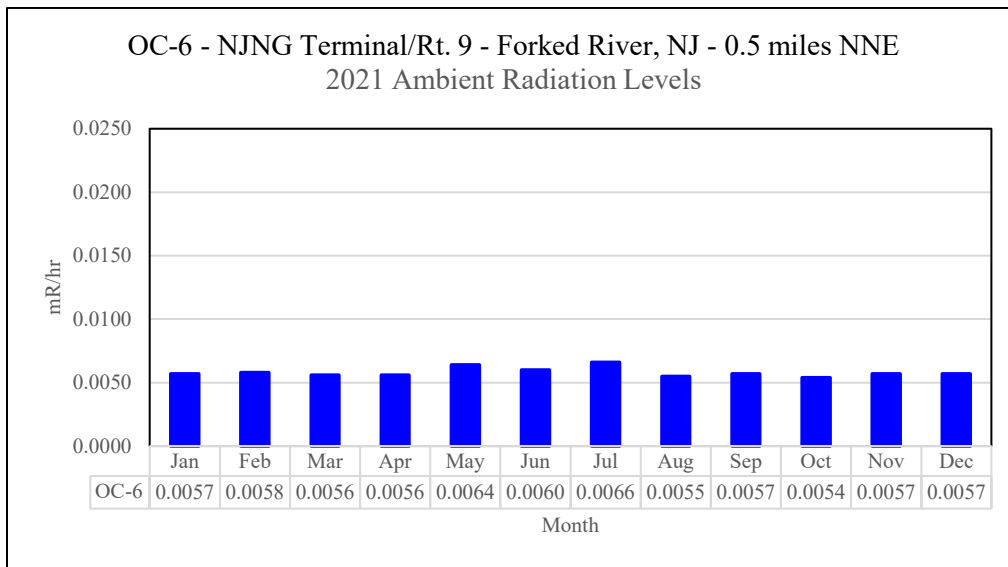
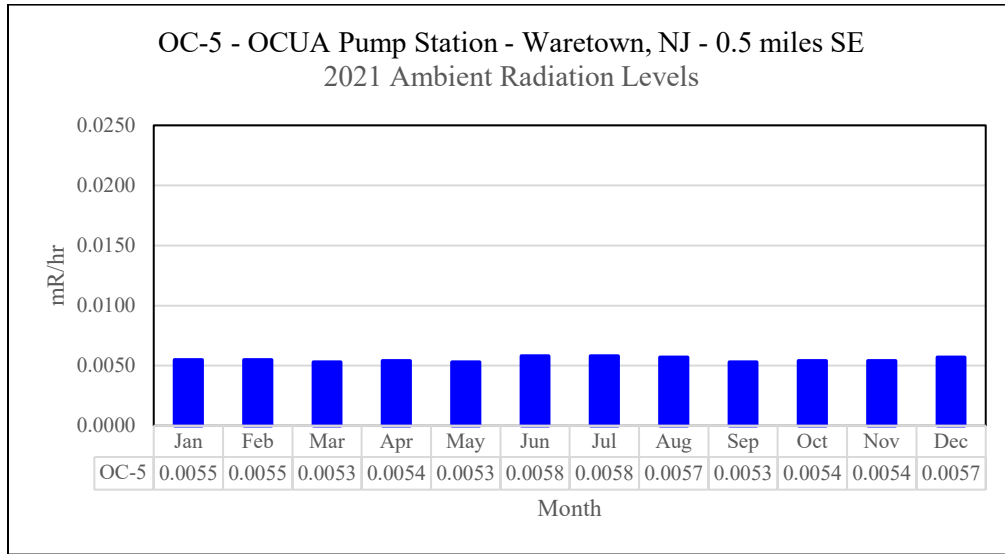
**New Jersey Department of Environmental Protection
Bureau of Nuclear Engineering
2021 Radiological Environmental Monitoring Program**

**Oyster Creek
Continuous Radiological Environmental Surveillance Telemetry (CREST) Data**



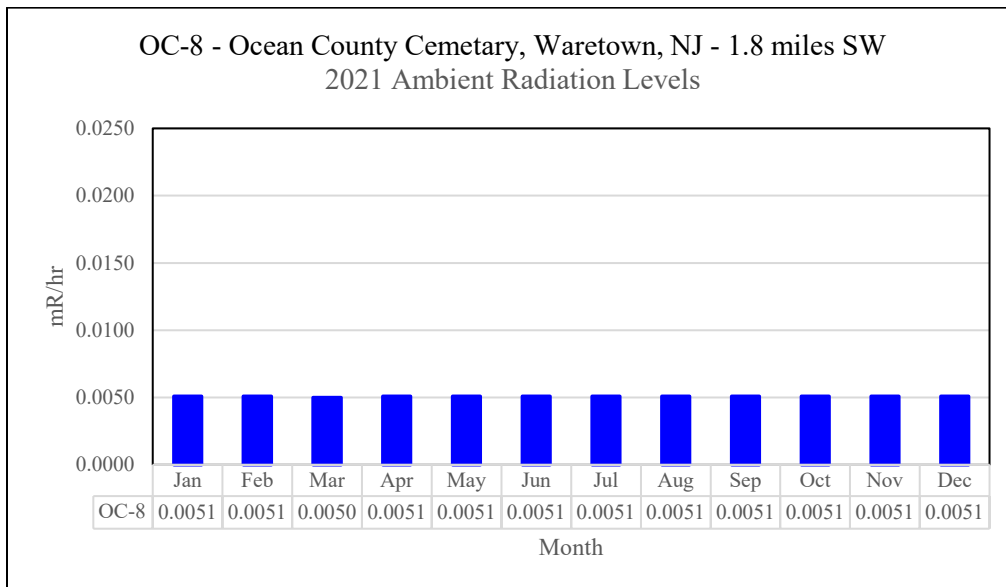
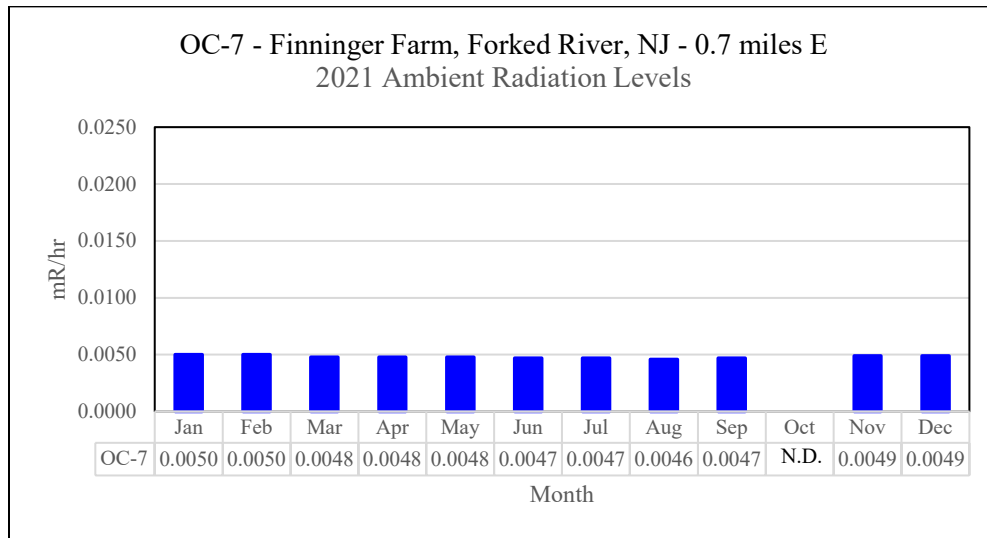
**New Jersey Department of Environmental Protection
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**Oyster Creek
Continuous Radiological Environmental Surveillance Telemetry (CREST) Data**



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Sample Location Codes**

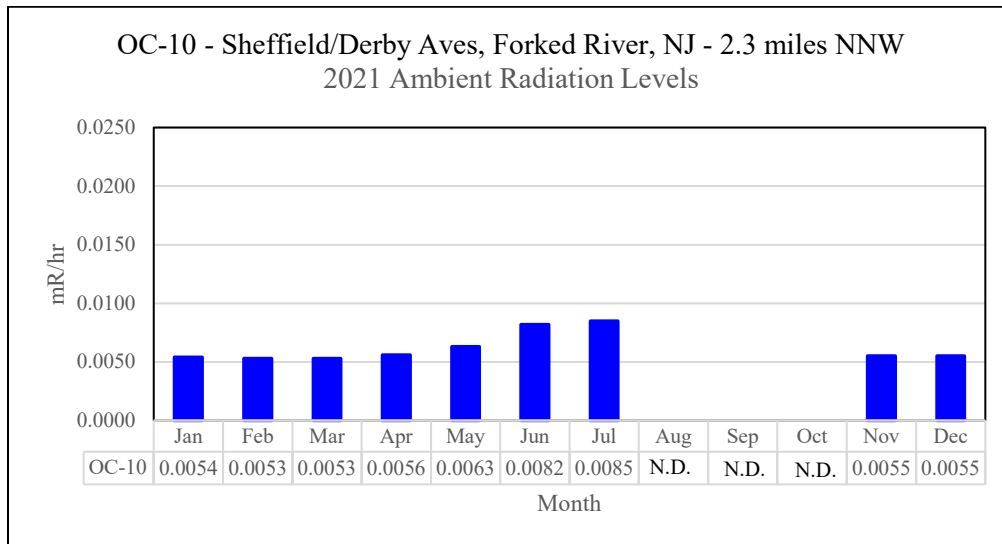
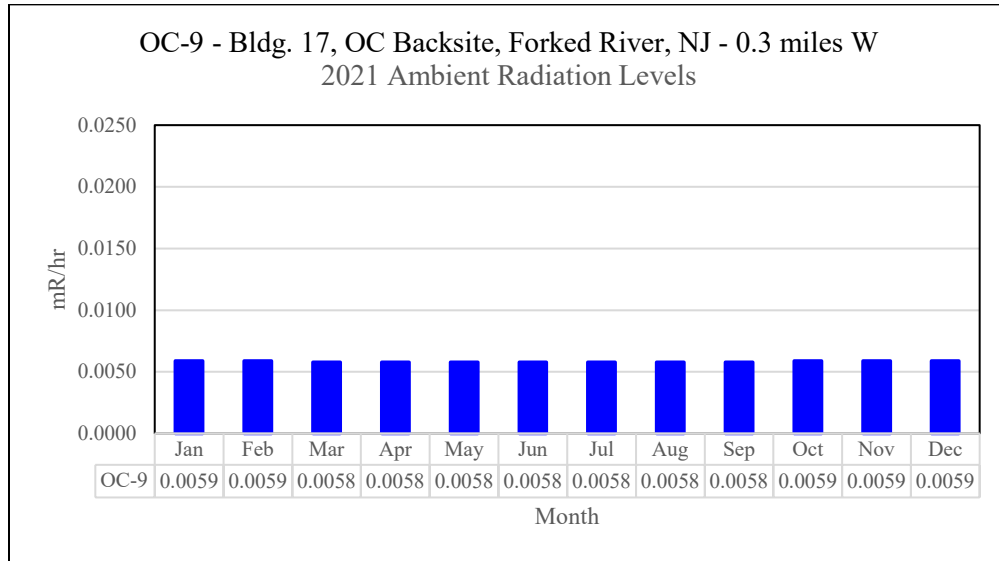
**Oyster Creek
Continuous Radiological Environmental Surveillance Telemetry (CREST) Data**



N.D. indicates No Data for the month

**New Jersey Department of Environmental Protection
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Sample Location Codes**

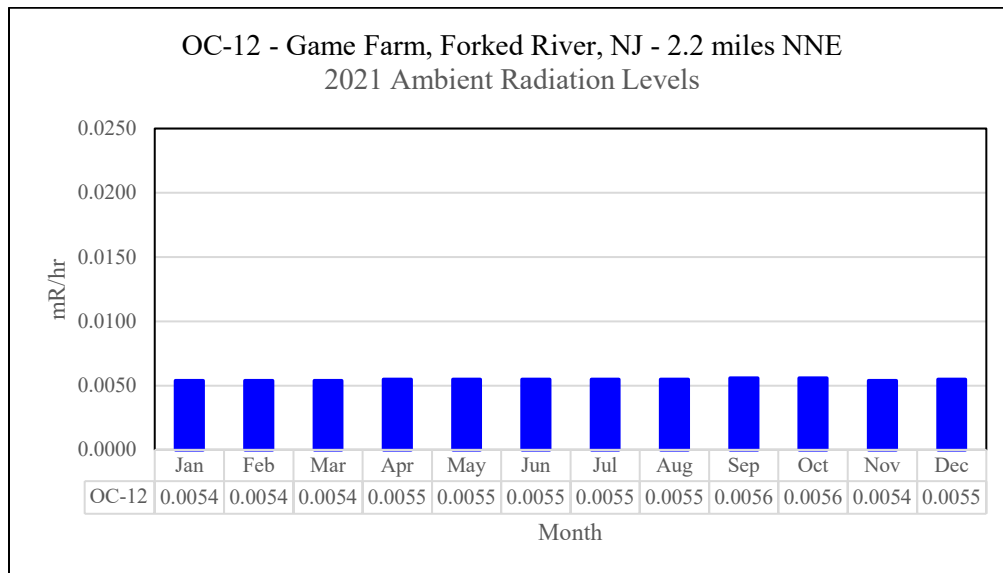
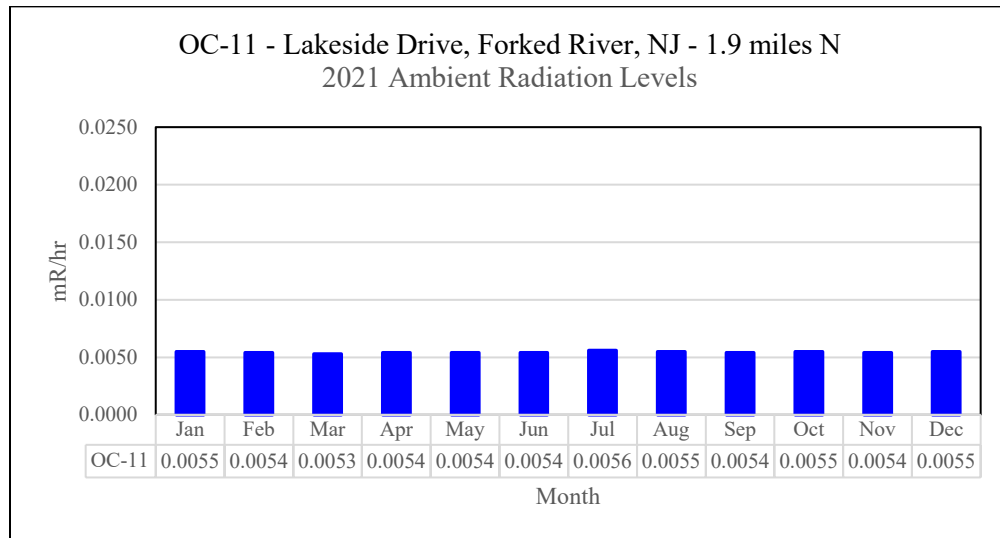
**Oyster Creek
Continuous Radiological Environmental Surveillance Telemetry (CREST) Data**



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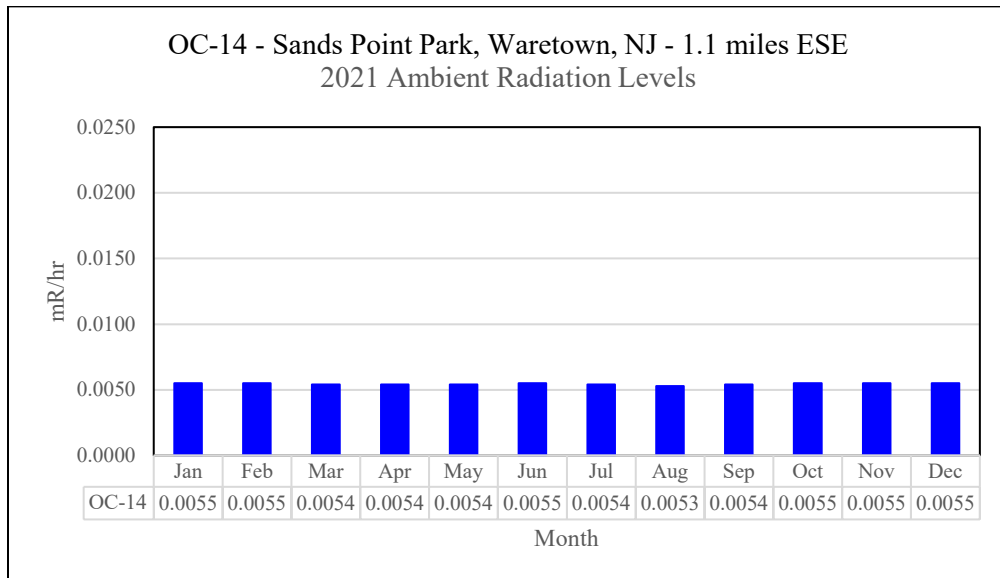
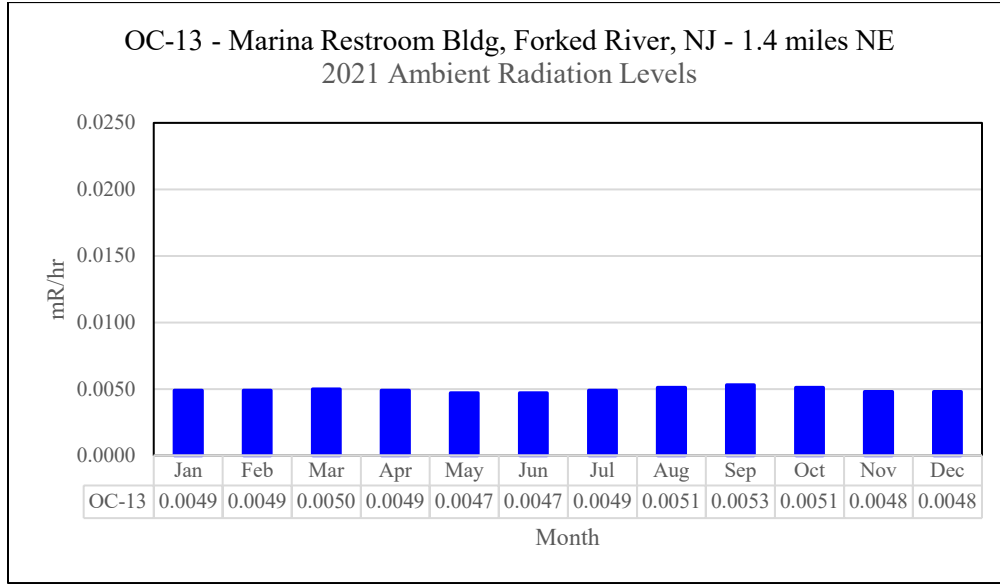
**Oyster Creek
Continuous Radiological Environmental Surveillance Telemetry (CREST) Data**



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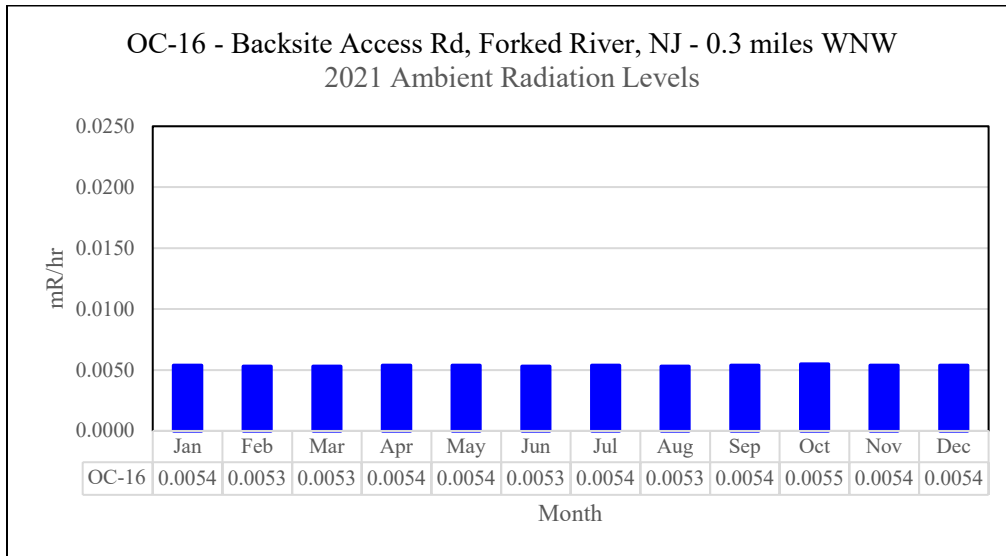
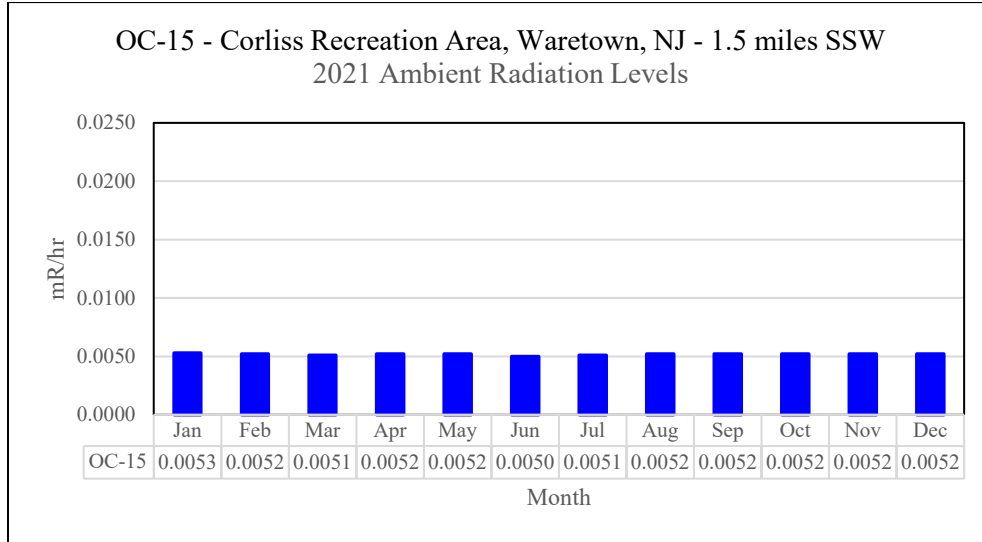
Oyster Creek

Continuous Radiological Environmental Surveillance Telemetry (CREST) Data



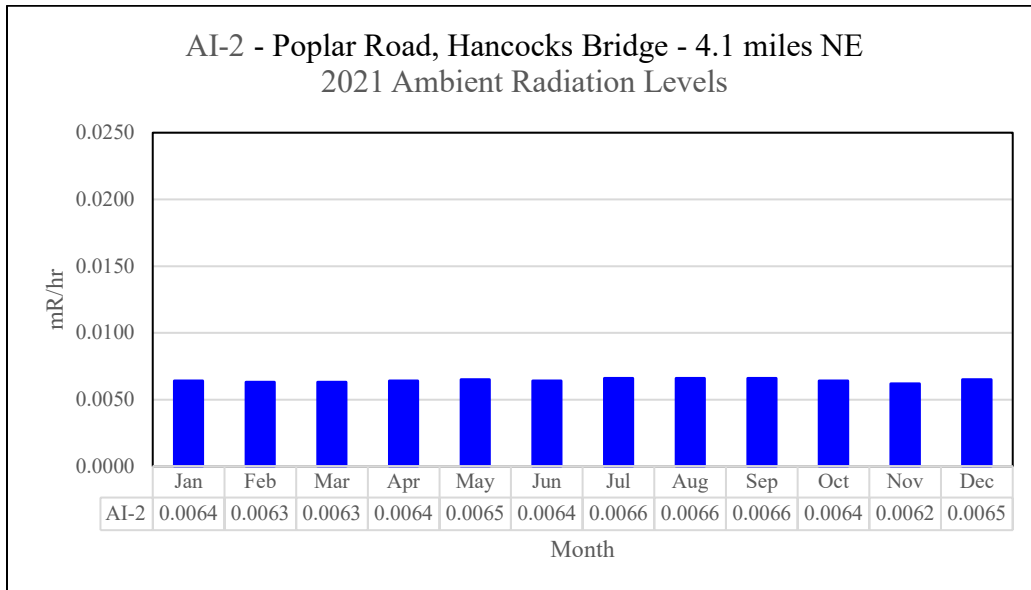
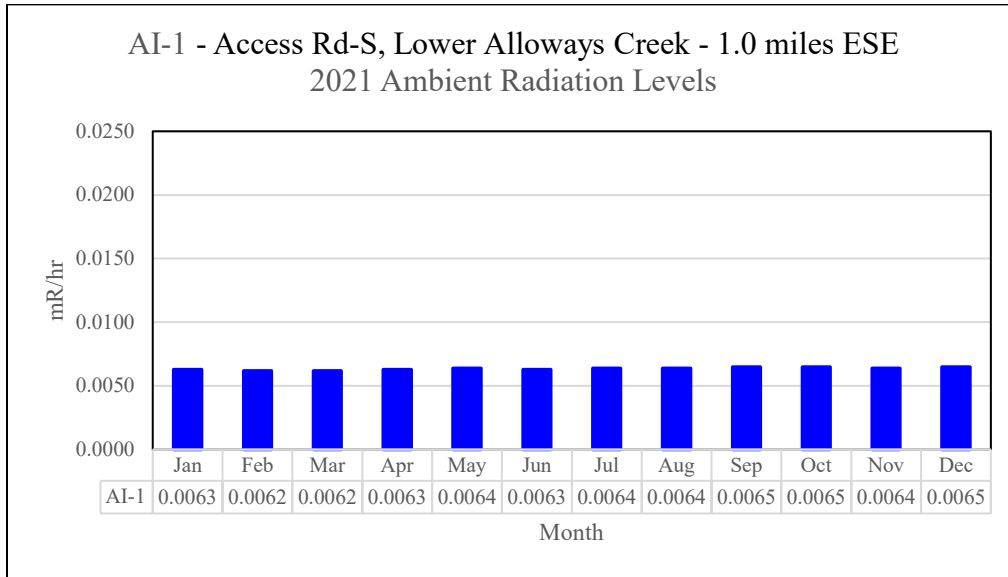
**New Jersey Department of Environmental Protection
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Sample Location Codes**

**Oyster Creek
Continuous Radiological Environmental Surveillance Telemetry (CREST) Data**



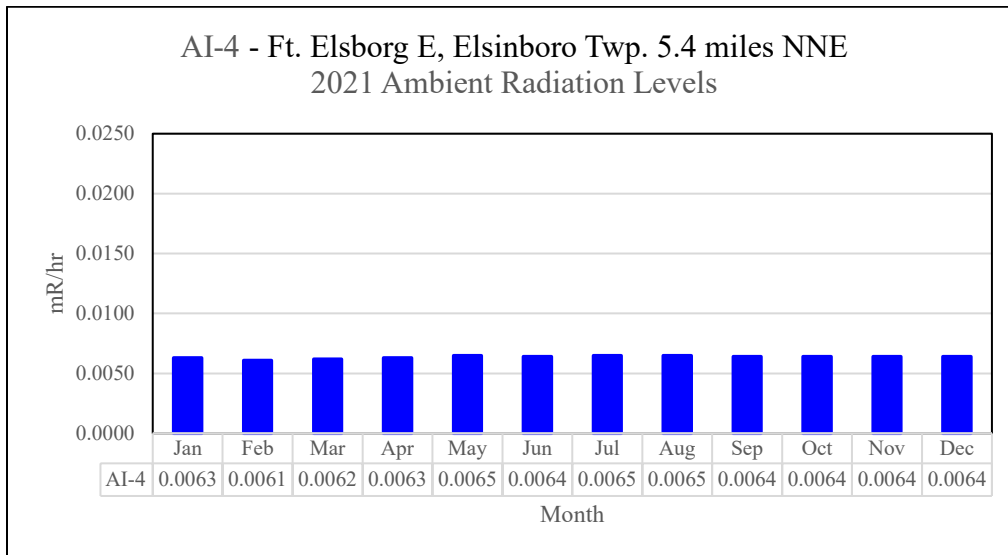
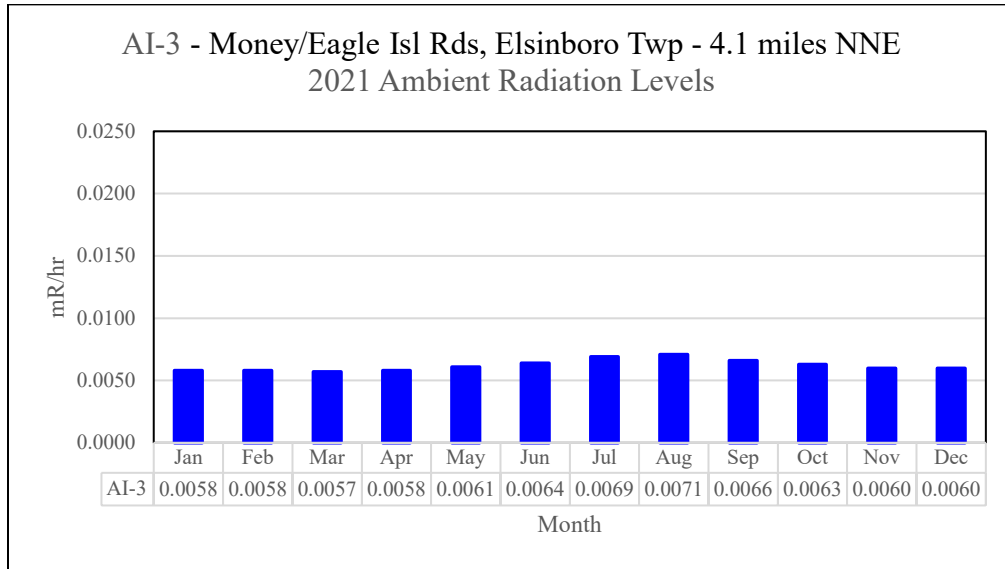
**New Jersey Department of Environmental Protection
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Sample Location Codes**

**Salem/Hope Creek
Continuous Radiological Environmental Surveillance Telemetry (CREST) Data**



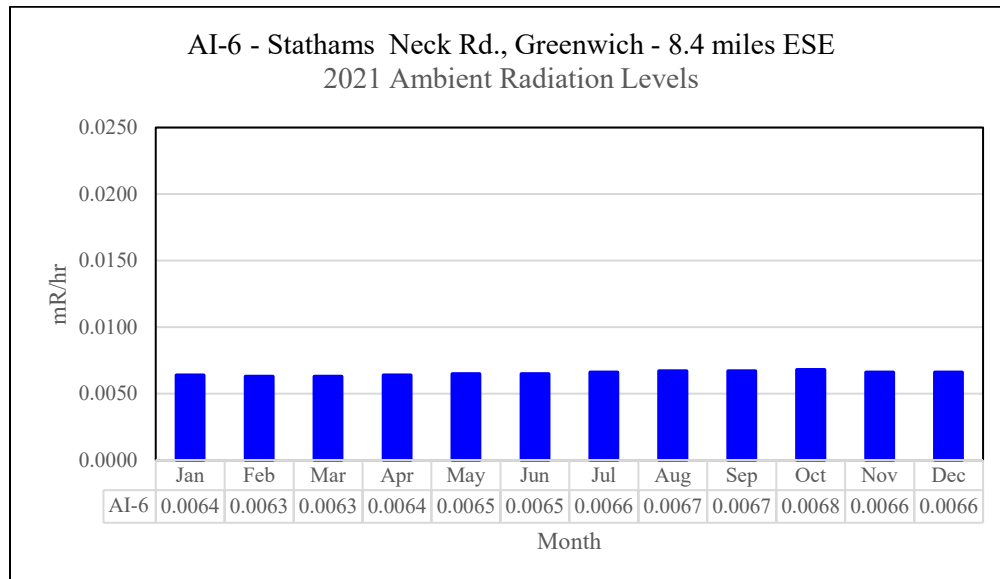
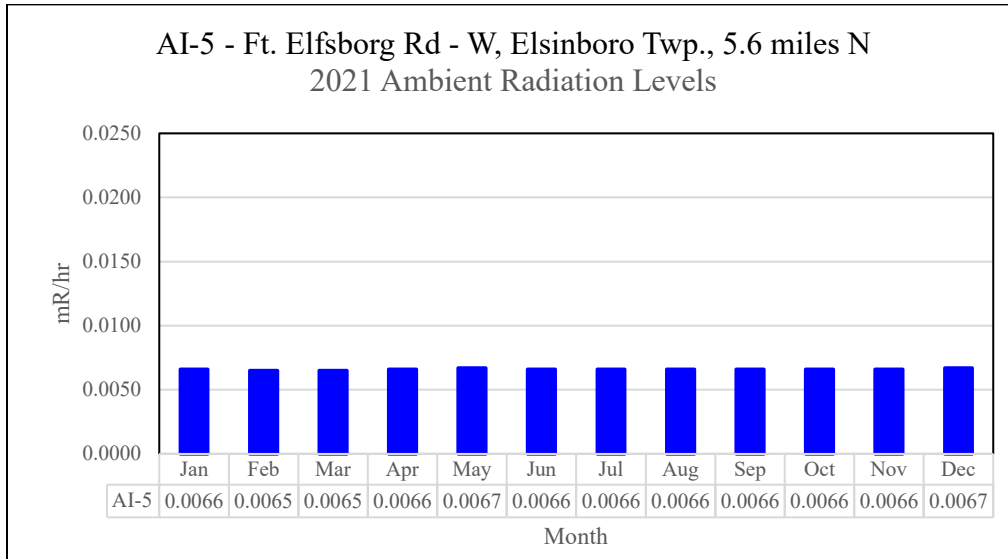
**New Jersey Department of Environmental Protection
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**Salem/Hope Creek
Continuous Radiological Environmental Surveillance Telemetry (CREST) Data**



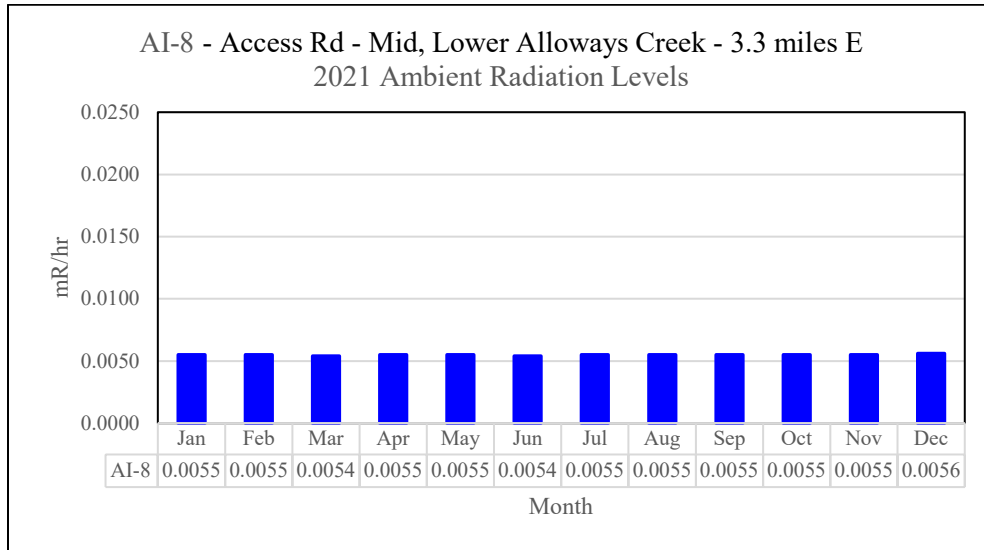
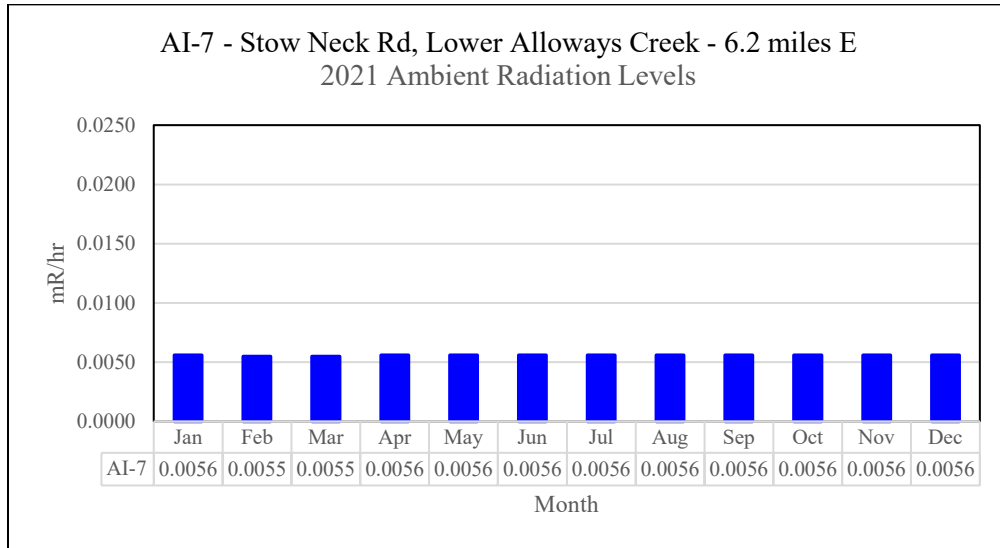
**New Jersey Department of Environmental Protection
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**Salem/Hope Creek
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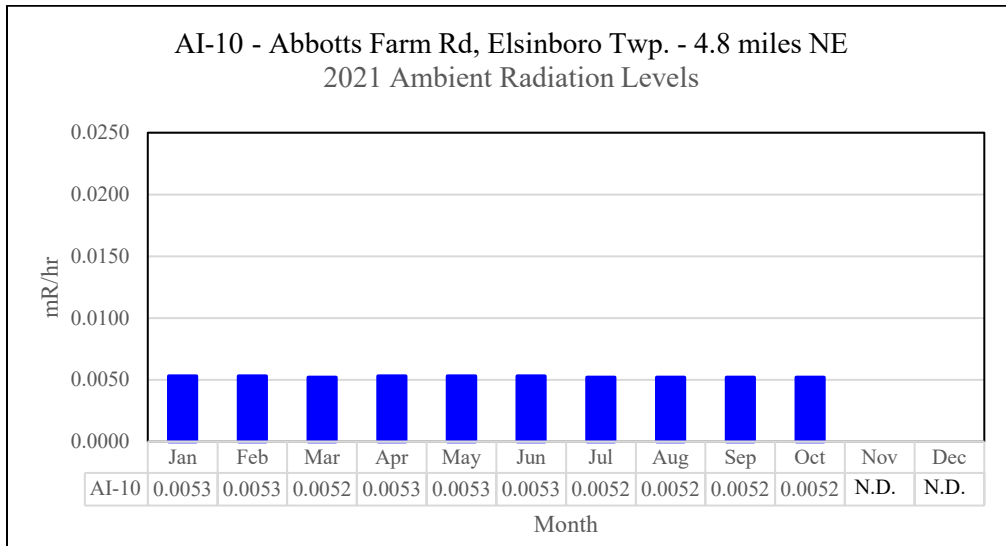
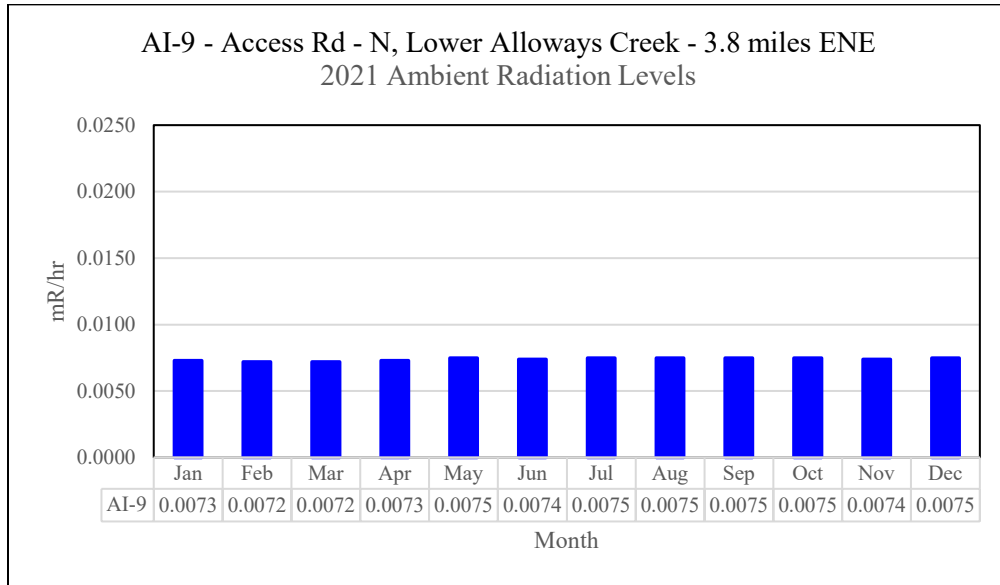
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