

Table 3.5.2-3

**Phase 4 Characterization: 1,4-Dioxane Results for Extraction Wells and Treatment Systems  
2017-2020**

2020 BNL Groundwater Status Report

Well	Sample Date	Screen Interval (ft. BLS)	Aquifer Segment	Treatment System Extraction Well/Influent/Effluent	1,4-D µg/L
<b>OU I South Boundary Treatment System (Status: Closed)</b>					
115-27	1/11/19	150-190	DG	OU I South Boundary EW-1	NA
115-43	1/11/19	104-124	DG	OU I South Boundary EW-2	NA
<b>Chemical Holes Sr-90 Treatment System (Status: Closed)</b>					
106-92	2/12/19	23-38	SG	Chem Holes Sr-90 EW-1	NA
106-123	1/11/19	35-45	SG	Chem Holes Sr-90 EW-2	NA
106-124	1/11/19	35-45	SG	Chem Holes Sr-90 EW-3	NA
<b>HFBR Tritium Pump and Recharge System (Status: Closed)</b>					
105-40	1/11/19	130-150	DG	HFBR EW-9	NA
" " BD	1/19/19	" "	" "	" "	NA
105-39	1/11/19	130-150	DG	HFBR EW-10	NA
105-41	1/11/19	130-150	DG	HFBR EW-11	NA
096-119	1/11/19	80-120	MG	HFBR EW-16	NA
<b>Building 96 VOC Treatment System (Status: Active); Building 452 Freon-11 Treatment System (Status: Clo</b>					
095-151	12/15/18	25-35	SG	B96 RTW-1	NA
095-151	12/6/17	---	---	B96 RTW-1 System Effluent	0.2U
" "	12/15/18	---	---	" "	NA
095-153	12/15/18	25-35	SG	B96 RTW-2	NA
095-154	12/15/18	---	SG	B96 RTW-2 System Effluent	NA
095-155	12/15/18	25-35	SG	B96 RTW-3	NA
095-157	12/15/18	25-35	SG	B96 RTW-4	NA
085-389	12/15/18	55-65	SG	B452 EW-18 (Influent 095-316)	NA
<b>BGRR/WCF Sr-90 Treatment System (Status: Active)</b>					
065-368	1/17/19	33-53	SG	BGRR/WCF SR-1	NA
" "	2/27/20	" "	" "	" "	0.2U
065-369	1/17/19	33-53	SG	BGRR/WCF SR-2	NA
" "	2/27/20	" "	" "	" "	0.2U
075-676	1/17/19	51-71	SG	BGRR/WCF SR-3	NA
" "	2/27/20	" "	" "	" "	0.2U
075-677	1/17/19	35-75	SG	BGRR/WCF SR-4	NA
" "	2/27/20	" "	" "	" "	0.2U
075-678	1/17/19	35-75	SG	BGRR/WCF SR-5	NA
" "	2/27/20	" "	" "	" "	0.2U
065-403	1/17/19	85-105	SG	BGRR/WCF SR-6	NA
" "	2/27/20	" "	" "	" "	0.2U
075-702	1/17/19	82-102	SG	BGRR/WCF SR-7	NA
" "	2/27/20	" "	" "	" "	0.21
075-703	1/17/19	77-97	SG	BGRR/WCF SR-8	NA
" "	2/27/20	" "	" "	" "	0.12J
" " BD	2/27/20	" "	" "	" "	0.2U
075-704	1/17/19	67-87	SG	BGRR/WCF SR-9	NA
" "	2/27/20	" "	" "	" "	0.11J
066-216	1/17/19	---	---	BGRR/WCF System Influent	NA
066-219	1/17/19	---	---	BGRR/WCF System Effluent	NA

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<b>OU III Western South Boundary, Middle Road, and South Boundary Treatment Systems (Status: Active)</b>					
126-12	2/20/19	140-160	DG	WSB-1	NA
" "	9/18/19	" "	" "	" "	<b>2.99</b>
127-05	2/20/19	150-170	DG	WSB-2	NA
" "	9/18/19	" "	" "	" "	<b>5.38</b>
111-17	2/20/19	168-188	DG	WSB-3	NA
" "	9/18/19	" "	" "	" "	<b>3.81</b>
" "	9/2/20	" "	" "	" "	<b>2.85</b>
119-13	2/20/19	170-190	DG	WSB-4	NA
" "	9/18/19	" "	" "	" "	<b>7.64</b>
130-12	2/20/19	160-190	DG	WSB-5	NA
" "	9/18/19	" "	" "	" "	<b>6.04</b>
130-13	2/20/19	196-216	DG	WSB-6	NA
" "	9/18/19	" "	" "	" "	<b>4.05</b>
119-05	12/5/17	---	---	Former WSB Effluent Location (b)	<b>2.52</b>
113-23	12/14/18	90-130	MG	Middle Road RW-1	NA
113-24	12/14/18	170-200	DG	Middle Road RW-2	NA
113-25	12/14/18	228-268	MAG	Middle Road RW-3	NA
113-26	12/14/18	150-180	DG	Middle Road RW-4	NA
113-27	12/14/18	150-180	DG	Middle Road RW-5	NA
106-66	12/14/18	188-218	DG	Middle Road RW-6	NA
113-33	12/14/18	202-222	DG	Middle Road RW-7	NA
113-34	12/14/18	---	---	Middle Road Influent to System	NA
" " BD	12/14/18	---	---	" "	NA
121-17	12/14/18	150-190	DG	OU III South Boundary EW-3	NA
121-16	12/14/18	160-200	DG	OU III South Boundary EW-4	NA
121-15	12/14/18	160-200	DG	OU III South Boundary EW-5	NA
122-14	12/14/18	160-200	DG	OU III South Boundary EW-6	NA
122-13	12/14/18	170-210	DG	OU III South Boundary EW-7	NA
122-12	12/14/18	190-210/230-250	DG/MAG	OU III South Boundary EW-8	NA
121-46	12/14/18	207-237	DG	OU III South Boundary EW-17	NA
" " BD	12/14/18	" "	" "	" "	NA
121-41	12/14/18	---	---	OU III South Boundary Inf. to System	NA
095-126	12/6/17	---	OU III WSB/MR/SB Combined System Effluent		<b>1.54 (a)</b>
" "	12/14/18	---		" "	NA
" "	4/1/19	---	---	" "	NA
" "	9/18/19	---	---	" "	<b>4.33</b>
" "	9/2/20	---	--	" "	<b>1.66</b>
" " BD	" "	---	---	" "	<b>2.4E</b>

Table 3.5.2-3

**Phase 4 Characterization: 1,4-Dioxane Results for Extraction Wells and Treatment Systems  
2017-2020**

2020 BNL Groundwater Status Report

Well	Sample Date	Screen Interval (ft. BLS)	Aquifer Segment	Treatment System Extraction Well/Influent/Effluent	1,4-D µg/L
<b>OU III Industrial Park VOC Treatment System (Status: Active)</b>					
000-231	1/23/20	220-240	DG	IP UVB-1	0.56
000-233	1/23/20	195-215	DG	IP UVB-2	0.2U
000-235	1/23/20	194-214	DG	IP UVB-3	0.18J
000-237	1/23/20	170-190	DG	IP UVB-4	0.78
000-239	1/23/20	180-200	DG	IP UVB-5	<b>1.55</b>
000-241	1/23/20	190-210	DG	IP UVB-6	0.78
000-243	1/23/20	205-225	DG	IP UVB-7	0.66
000-532	1/23/20	230-250	MAG	IP-EW-8	<b>2.72</b>
000-533	1/23/20	220-240	MAG	IP-EW-9	<b>4.28</b>
000-534	1/23/20	---	---	IP System Influent	<b>3.81</b>
000-536	12/5/17	---	---	IP System Effluent	<b>7.14</b>
" "	1/23/20	---	---	" "	<b>4.78</b>
" " BD	" "	---	---	" "	<b>5.18</b>
<b>OU III LIPA/Airport VOC Treatment System (Status: Active)</b>					
000-453	4/7/20	217-237	DG	LIPA EW-1L	<b>3.27</b>
000-455	4/7/20	224-244	DG	LIPA EW-2L	<b>2.7</b>
000-457	4/7/20	216-236	DG	LIPA EW-3L	0.43
000-461	4/7/20	304-324	MAG	LIPA EW-4L	0.26
800-109	4/7/20	188-208	DG	AP RTW-1A	0.28
800-110	4/7/20	188-208	DG	AP RTW-2A	0.51
800-111	4/7/20	210-230	MAG	AP RTW-3A	0.12J
800-112	4/7/20	268-288	MAG	AP RTW-4A	<b>2.12</b>
800-113	4/7/20	220-240	MAG	AP RTW-5A	<b>3.15</b>
800-132	4/7/20	165-185	DG	AP RW-6A	0.82
800-122	4/7/20	---	---	LIPA/AP System Influent	<b>1.39</b>
800-124	1/17/18	---	---	LIPA/AP System Effluent	<b>1.61</b>
" "	4/7/20	---	---	" "	<b>1.03</b>
" " BD	" "	---	---	" "	<b>1.4</b>
<b>OU III North Street VOC Treatment System (Status: In Standby)</b>					
000-471	8/5/20	165-205	DG	NS-1	<b>1.48</b>
000-473	8/5/20	190-220	DG	NS-2	<b>1.22</b>
000-437	8/5/20	---	---	NS System Influent	<b>1.32</b>
000-440	8/5/20	---	---	NS System Effluent	0.27
<b>OU III North Street East VOC/EDB Treatment System (Status: Active)</b>					
000-487	8/5/20	161-191	DG	NSE-1	<b>4.12</b>
000-488	8/5/20	152-182	DG	NSE-2	0.2U
000-561	7/17/20	195-215	DG	NSE-EDB-EW3	<b>3.88</b>
000-562	7/17/20	182-202	DG	NSE-EDB-EW4	0.86
000-441	7/17/20	---	---	NSE System Influent	<b>2.52</b>
" "	8/18/20	---	---	" "	<b>3.33</b>
000-444	7/17/20	---	---	NSE System Effluent	0.2U
" " BD	" "	---	---	" "	0.2U
" "	8/18/20	---	---	" "	<b>3.31</b>
" " BD	" "	---	---	" "	<b>2.56</b>

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<b>OU VI EDB Treatment System (Status: Active)</b>					
000-503	2/12/20	115-135	DG	EW-1E	0.15J
000-504	2/12/20	115-135	DG	EW-2E	0.13J
000-512	2/12/20	---	---	OU VI System Influent	0.12J
000-510	2/12/20	---	---	OU VI System Effluent	0.17J

SG=Shallow Upper Glacial, MG=Middle Upper Glacial, DG= Deep Upper Glacial

MAG=Upper Magothy

(a) Sample collected prior to the April 2019 redirection of water from the WSB extraction wells to the OU III MR/S treatment system.

(b) Use of the former WSB air stripper tower was discontinued in April 2019.

U: Not detected at or above the method detection limits.

J: Estimated concentration.

E:

BD: Blind Duplicate sample.

NA: Samples not analyzed for specified chemical during this sample period.