INL/RPT-23-74310

Gamma-Ray Emitting Radionuclides Concentrations and Decontamination Factors of ATR Loop Liquid Samples

Cycle 171A

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August 17,2023

ATR FINAL LOOP ACTIVITY REPORT

FOR THE PERIOD

Apr. 21, 2023, to Jun. 19, 2023

CYCLE 171A-1

DATE OF REPORT

August 17,2023

GAMMA-RAY EMITTING RADIONUCLIDES CONCENTRATIONS AND DECONTAMINATION FACTORS OF ATR LOOP LIQUID SAMPLES CYCLE 171A-1

This report contains the gamma-ray emitting radionuclides concentration and decontamination factor results from gamma-ray spectrometry measurements of ATR loop liquid samples by the Radiation Measurements Laboratory (RML) for ATR Cycle 171A April 21, 2023 to June 19, 2023. This report consists of five subsections, one for each loop. Each subsection contains the results for each sampling of the loop along with the date and time of sampling, spectral data identifications, sample type, and reactor power (MW). The results are reported in units of disintegrations per minute per milliliter of sample. The results are obtained with the gamma-ray spectral data analysis routines of the RML computer. Some of this report is also generated by RML data storage and handling routines.

For certain types of samples, no results appear for certain radionuclides because meaningful results for the radionuclides cannot be obtained from the sample type. The nomenclatures of the sample types are listed below.

BIX = water sample before ion exchange
BIX-7= recount after allowing 7 days for decay
AIX = water sample after ion exchange
PIX = pressurized water sample
DFX = decontamination factor for water samples

All radionuclides concentration results have been decay-corrected back to the time of sampling.

The decontamination factor (DFX) calculation consists of the following logic where B = BIX and A = AIX,

If (B > 0 and A > 0), DFX = B/A
If (B > 0 and A = 0), no DFX is reported
If (B > 0 and A is a limit value), DFX = >B/A
If (B is a limit value or B =0), no DFX is reported

In these results a limit value is designated by the < symbol. A limit value is a type of detection limit which is defined in the computer analysis documentation of the RML. The limit value for a given radionuclide will vary from sample to sample because of the detection systems, counting geometry, counting time, the radionuclide mix, and intensity in the samples.

The results in this report have been obtained by use of the RML procedures for ATR loop radionuclide analysis. The results have been reviewed and checked for correctness by the RML staff.

The uncertainties for these results are for the random counting component obtained from the photopeak-fitting procedure. No other components are included.

There is only one PIX sample per cycle for each loop. Therefore, PIX results will be found with one sampling of each loop.

Due to unplanned outage 2D-SW and 2E-NW only sampled twice (instead of the typical 3 times).

FROM APR 21, 2023 TO JUN 19, 2023

LOOP 1C-W CYCLE 171A POWER 107.5 MW

SAMPLE TYPE	PIX		BIX		AIX				BIX-7	
SAMPLE ID			050423006		050423007				051123008	
DATE SAMPLED	00/00/00		05/04/23		05/04/23				05/04/23	
TIME SAMPLED	00:00		14:18		14:13				14:18	
RADIONUCLIDE	DPM/ML	%ERR	DPM/ML	%ERR	DPM/ML	%ERR	DFX	%ERR	DPM/ML	%ERR
11 Na 24	0.0		5.94E+01	7.1	<6.07E-01		>9.80E+01			
21 Sc 46			<6.75E+00		<5.75E-01		Undeterminable		1.32E-01	14.9
24 Cr 51									1.79E+01	1.9
25 Mn 54									5.35E+00	1.8
25 Mn 56			3.64E+02	4.7	<2.97E+00		>1.22E+02			
26 Fe 59									3.99E+00	2.5
27 Co 58									8.07E-01	4.5
27 Co 60			9.06E+00	33.4	6.28E-01	34.3	1.44E+01	47.8	1.05E+01	1.1
30 Zn 65			<1.06E+01		<9.58E-01		Undeterminable		3.13E-01	15.6
37 Rb 88	0.0		1.72E+02	24.8	<1.84E+01		>9.32E+00			
37 Rb 89	0.0		4.20E+02	5.3	1.04E+01	32.9	4.02E+01	33.3		
38 Sr 91			<4.69E+01		<1.41E+00		Undeterminable			
38 Sr 92			1.98E+01	16.9	<6.15E-01		>3.22E+01			
39 YM 90			<5.88E+00		<2.83E-01		Undeterminable			
39 Y 92			<5.25E+01		<3.30E+00		Undeterminable			
39 Y 93			<7.51E+01		<6.43E+00		Undeterminable			
40 Zr 95			<1.27E+01		<6.81E-01		Undeterminable		2.09E-01	27.7
40 Zr 97			2.66E+02	39.4	<2.81E+01		>9.47E+00			
41 Nb 95									3.81E-01	7.0
42 Mo 99									5.55E+02	1.9
43 TcM 99			<6.63E+01		<3.95E-01		Undeterminable			
44 Ru 103			<9.53E+00		<4.67E-01		Undeterminable		<5.42E-02	
45 Rh 106									<4.43E-01	
47 AgM 110									<7.33E-02	
51 Sb 122									1.10E+01	3.5
51 Sb 124									4.52E-01	8.0
52 Te 132									<2.89E-01	
53 I 131			<8.61E+00		<4.48E-01		Undeterminable		4.64E+00	2.8
53 I 132	0.0		2.14E+02	3.6	<6.05E-01		>3.54E+02			
53 I 133			7.47E+01	4.9	<3.25E-01		>2.30E+02			
53 I 134	0.0		5.96E+02	2.9	<9.14E-01		>6.53E+02			
53 I 135	0.0		1.73E+02	6.5	<1.33E+00		>1.30E+02			
55 Cs 134									2.51E-01	9.6
55 Cs 136			<2.75E+00		<7.13E-01		Undeterminable		<1.74E-01	
55 Cs 137									7.44E-01	5.1
55 Cs 138	0.0		5.30E+02	4.9	1.07E+01	33.3	4.96E+01	33.6		
56 Ba 140			<2.51E+01		<1.86E+00		Undeterminable		1.86E+00	8.0
56 Ba 141			<3.68E+01		<1.98E+00		Undeterminable			

ATR FINAL LOOP ACTIVITY REPORT

FROM APR 21,2023 TO JUN 19, 2023

LOOP 1C-W CYCLE 171A POWER 107.5 MW

SAMPLE TYPE	PIX		BIX		AIX				BIX-7	
SAMPLE ID			050423006		050423007				051123008	
DATE SAMPLED	00/00/00		05/04/23		05/04/23				05/04/23	
TIME SAMPLED	00:00		14:18		14:13				14:18	
RADIONUCLIDE	DPM/ML	%ERR	DPM/ML	%ERR	DPM/ML	%ERR	DPX	%ERR	DPM/ML	%ERR
57 La 140			<5.41E+00		<5.34E-01		Undeterminable		<6.02E+00	
57 La 142			<4.45E+01		<8.41E+00		Undeterminable			
58 Ce 141			<8.15E+00		<8.84E-01		Undeterminable		<9.36E-02	
58 Ce 143			<1.80E+01		<6.95E-01		Undeterminable			
58 Ce 144									<1.19E+00	
63 EuM 152			<3.13E+01		<2.86E+00		Undeterminable			
63 Eu 152			<4.37E+01		<1.57E+00		Undeterminable		<1.53E-01	
63 Eu 154			<1.04E+01		<6.84E-01		Undeterminable		<1.22E-01	
63 Eu 155									<4.24E-01	
63 Eu 156			<9.16E+01		<8.22E+00		Undeterminable		<1.04E+00	
68 Er 171			<1.03E+01		<4.30E-01		Undeterminable			
71 Lu 177			<4.39E+01		<2.62E+00		Undeterminable		<6.10E-01	
72 Hf 175									<5.30E-02	
72 Hf 181			<6.59E+00		<2.14E-01		Undeterminable		9.42E-02	26.9
73 Ta 182									<2.20E-01	
73 Ta 183									3.74E-01	37.4
74 W 187			1.91E+03	1.3	<1.41E+00		>1.35E+03		1.76E+03	1.5
93 Np 239			<3.96E+01		<1.61E+00		Undeterminable		<1.88E+00	
18 Ar 41	0.0									
36 KrM 85	0.0									
36 Kr 87	0.0									
36 Kr 88	0.0									
54 Xe 133	0.0									
54 XeM 135	0.0									
54 Xe 135	0.0									
54 Xe 138	0.0									

FROM APR 21, 2023 TO JUN 19, 2023

LOOP 1C-W CYCLE 171A POWER 107.5 MW

SAMPLE TYPE	PIX		BIX		AIX				BIX-7	
SAMPLE ID	052223012		052223010		052223011				053023019	
DATE SAMPLED	05/22/23		05/22/23		05/22/23				05/22/23	
TIME SAMPLED	14:30		14:43		14:37				14:43	
RADIONUCLIDE	DPM/ML	%ERR	DPM/ML	%ERR	DPM/ML	%ERR	DFX	%ERR	DPM/ML	%ERR
11 Na 24	<1.45E+02		6.21E+01	5.2	<6.63E-01		>9.37E+01			
21 Sc 46			<3.70E+00		<1.03E+00		Undeterminable		<4.83E-02	
24 Cr 51									2.79E+00	8.4
25 Mn 54									8.96E+00	1.4
25 Mn 56			7.01E+01	12.4	<2.44E+00		>2.88E+01			
26 Fe 59									4.58E+00	2.5
27 Co 58									4.41E-01	6.4
27 Co 60			3.97E+00	33.8	8.64E-01	43.3	4.60E+00	55.0	4.10E+00	1.6
30 Zn 65			<1.01E+01		<2.48E+00		Undeterminable		5.48E-01	9.9
37 Rb 88	<2.11E+03		3.61E+02	14.8	<5.04E+01		>7.16E+00			
37 Rb 89	<1.61E+03		4.49E+02	4.9	1.59E+01	29.2	2.83E+01	29.6		
38 Sr 91			<2.34E+01		<2.27E+00		Undeterminable			
38 Sr 92			2.17E+01	12.8	8.81E-01	45.5	2.46E+01	47.3		
39 YM 90			<4.79E+00		<5.01E-01		Undeterminable			
39 Y 92			<4.28E+01		<5.24E+00		Undeterminable			
39 Y 93			<6.60E+01		<6.63E+00		Undeterminable			
40 Zr 95			<7.27E+00		<1.67E+00		Undeterminable		<9.78E-02	
40 Zr 97			<3.22E+02		<6.86E+01		Undeterminable			
41 Nb 95									<7.23E-02	
42 Mo 99									4.48E+02	1.3
43 TcM 99			<5.35E+01		6.39E-01	43.2	Undeterminable			
44 Ru 103			<6.35E+00		<5.64E-01		Undeterminable		<1.18E-01	
45 Rh 106									<6.12E-01	
47 AgM 110									<5.22E-02	
51 Sb 122									9.18E+00	6.2
51 Sb 124									8.93E-01	4.2
52 Te 132									<2.61E-01	
53 I 131			<5.83E+00		<3.79E-01		Undeterminable		5.87E+00	1.7
53 I 132	3.32E+02	13.0	2.89E+02	2.1	<9.69E-01		>2.98E+02			
53 I 133			8.51E+01	6.9	<6.20E-01		>1.37E+02			
53 I 134	7.37E+02	19.5	6.65E+02	1.6	<2.23E+00		>2.99E+02			
53 I 135	2.42E+02	47.9	1.96E+02	6.5	<3.14E+00		>6.23E+01			
55 Cs 134									2.34E-01	9.5
55 Cs 136			<7.66E+00		<1.30E+00		Undeterminable		<1.62E-01	
55 Cs 137									7.80E-01	4.4
55 Cs 138	1.06E+03	16.2	7.50E+02	1.9	<9.30E+00		>8.07E+01			
56 Ba 140			<1.17E+01		<2.18E+00		Undeterminable		2.00E+00	10.9
56 Ba 141			<2.35E+01		<3.62E+00		Undeterminable			

FROM APR 21, 2023 TO JUN 19, 2023

LOOP 1C-W CYCLE 171A POWER 107.5 MW

SAMPLE TYPE	PIX		BIX		AIX				BIX-7	
SAMPLE ID	052223012		052223010		052223011				053023019	
DATE SAMPLED	05/22/23		05/22/23		05/22/23				05/22/23	
TIME SAMPLED	14:30		14:43		14:37				14:43	
RADIONUCLIDE	DPM/ML	%ERR	DPM/ML	%ERR	DPM/ML	%ERR	DFX	%ERR	DPM/ML	%ERR
57 La 140			<4.89E+00		<4.62E-01		Undeterminable		<9.78E+00	
57 La 142			<3.26E+01		<8.32E+00		Undeterminable			
58 Ce 141			<1.10E+01		<8.25E-01		Undeterminable		<5.52E-02	
58 Ce 143			<1.33E+01		<8.53E-01		Undeterminable			
58 Ce 144									<8.44E+00	
63 EuM 152			<4.81E+01		<3.44E+00		Undeterminable			
63 Eu 152			<8.77E+00		<3.21E+00		Undeterminable		<2.37E-01	
63 Eu 154			<6.64E+00		<1.82E+00		Undeterminable		<9.44E-02	
63 Eu 155									<3.44E-01	
63 Eu 156			<8.93E+01		<1.12E+01		Undeterminable		<7.67E-01	
68 Er 171			<9.02E+00		<7.45E-01		Undeterminable			
71 Lu 177			<3.72E+01		<5.55E+00		Undeterminable		<6.65E-01	
72 Hf 175									<4.68E-02	
72 Hf 181			<5.89E+00		<4.59E-01		Undeterminable		<7.17E-02	
73 Ta 182									<1.48E-01	
73 Ta 183									<5.62E-01	
74 W 187			1.22E+03	1.4	<2.05E+00		>5.95E+02		1.14E+03	2.5
93 Np 239			<2.99E+01		<2.76E+00		Undeterminable		<2.25E+00	
18 Ar 41	6.82E+02	10.9								
36 KrM 85	<2.09E+02									
36 Kr 87	2.22E+02	36.2								
36 Kr 88	<2.47E+02									
54 Xe 133	<1.10E+03									
54 XeM 135	<5.07E+02									
54 Xe 135	3.32E+02	12.9								
54 Xe 138	<2.49E+03									

FROM APR 21, 2023 TO JUN 19 2023

LOOP 1C-W CYCLE 171A POWER 107.5 MW

SAMPLE TYPE	PIX		BIX		AIX				BIX-7	
SAMPLE ID			061223009		061223010				061923011	
DATE SAMPLED	00/00/00		06/12/23		06/12/23				06/12/23	
TIME SAMPLED	00:00		14:27		14:12				14:27	
RADIONUCLIDE	DPM/ML	%ERR	DPM/ML	%ERR	DPM/ML	%ERR	DPX	%ERR	DPM/ML	%ERR
11 Na 24	0.0		5.75E+01	9.3	<1.34E+00		>4.29E+01			
21 Sc 46			4.55E+00	47.5	<4.29E-01		>1.06E+01		<8.68E-02	
24 Cr 51									2.57E+00	7.8
25 Mn 54									1.31E+01	1.0
25 Mn 56			5.81E+01	15.2	<3.30E+00		>1.76E+01			
26 Fe 59									1.04E+01	3.1
27 Co 58									8.94E-01	5.4
27 Co 60			6.58E+00	27.4	<6.27E-01		>1.05E+01		7.42E+00	1.6
30 Zn 65			<1.15E+01		<1.30E+00		Undeterminable		1.79E+00	5.6
37 Rb 88	0.0		3.38E+02	13.9	<4.99E+01		>6.78E+00			
37 Rb 89	0.0		5.28E+02	5.1	<3.39E+01		>1.56E+01			
38 Sr 91			2.95E+01	22.3	<3.75E+00		>7.85E+00			
38 Sr 92			2.46E+01	23.5	<1.87E+00		>1.32E+01			
39 YM 90			<5.78E+00		<3.91E-01		Undeterminable			
39 Y 92			<4.15E+01		<8.06E+00		Undeterminable			
39 Y 93			<6.68E+01		<7.37E+00		Undeterminable			
40 Zr 95			<6.73E+00		<1.15E+00		Undeterminable		<1.01E-01	
40 Zr 97			<1.70E+02		<4.11E+01		Undeterminable			
41 Nb 95									<1.12E-01	
42 Mo 99									3.49E+02	1.1
43 TcM 99			<4.83E+01		<4.44E-01		Undeterminable			
44 Ru 103			<5.26E+00		<4.26E-01		Undeterminable		<1.05E-01	
45 Rh 106									<7.88E-01	
47 AgM 110									<4.59E-02	
51 Sb 122									8.54E+00	3.5
51 Sb 124									1.30E+00	4.8
52 Te 132									<2.39E-01	
53 I 131			<9.85E+00		<3.17E-01		Undeterminable		6.38E+00	1.4
53 I 132	0.0		3.39E+02	1.9	<1.35E+00		>2.51E+02			
53 I 133			9.48E+01	4.6	<6.56E-01		>1.44E+02			
53 I 134	0.0		8.31E+02	2.2	<2.65E+00		>3.14E+02			
53 I 135	0.0		2.34E+02	4.2	<3.14E+00		>7.47E+01			
55 Cs 134									1.94E-01	11.7
55 Cs 136			<5.45E+00		<1.39E+00		Undeterminable		<1.99E-01	
55 Cs 137									9.44E-01	5.0
55 Cs 138	0.0		7.69E+02	2.9	3.59E+01	17.6	2.14E+01	17.8		
56 Ba 140			<1.24E+01		<2.88E+00		Undeterminable		2.61E+00	6.8
56 Ba 141			<3.09E+01		<4.91E+00		Undeterminable			

FROM APR 21, 2023 TO JUN 19, 2023

LOOP 1C-W CYCLE 171A POWER 107.5 MW

SAMPLE TYPE	PIX		BIX		AIX				BIX-7	
SAMPLE ID			061223009		061223010				061923011	
DATE SAMPLED	00/00/00		06/12/23		06/12/23				06/12/23	
TIME SAMPLED	00:00		14:27		14:12				14:27	
RADIONUCLIDE	DPM/ML	%ERR	DPM/ML	%ERR	DPM/ML	%ERR	DFX	%ERR	DPM/ML	%ERR
57 La 140			<4.46E+00		<6.74E-01		Undeterminable		<5.51E+00	
57 La 142			<4.90E+01		<2.07E+01		Undeterminable			
58 Ce 141			<9.97E+00		<9.18E-01		Undeterminable		<5.66E-02	
58 Ce 143			<1.48E+01		9.03E-01	39.9	Undeterminable			
58 Ce 144									<8.50E+00	
63 EuM 152			<4.03E+01		<5.29E+00		Undeterminable			
63 Eu 152			<1.84E+01		<4.36E+00		Undeterminable		<1.19E-01	
63 Eu 154			<1.40E+01		<1.35E+00		Undeterminable		<9.64E-02	
63 Eu 155									<3.76E-01	
63 Eu 156			<5.01E+01		<1.66E+01		Undeterminable		<6.95E-01	
68 Er 171			<7.24E+00		<6.27E-01		Undeterminable			
71 Lu 177			<4.55E+01		<2.88E+00		Undeterminable		<6.32E-01	
72 Hf 175									<7.46E-02	
72 Hf 181			<4.42E+00		<4.74E-01		Undeterminable		<6.83E-02	
73 Ta 182									<1.34E-01	
73 Ta 183									<3.44E-01	
74 W 187			9.10E+02	1.5	<1.83E+00		>4.98E+02		8.81E+02	2.2
93 Np 239			<3.11E+01		<1.92E+00		Undeterminable		<3.98E+00	
18 Ar 41	0.0									
36 KrM 85	0.0									
36 Kr 87	0.0									
36 Kr 88	0.0									
54 Xe 133	0.0									
54 XeM 135	0.0									
54 Xe 135	0.0									
54 Xe 138	0.0									

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07/24/23

FROM APR 21, 2023 TO JUN 19, 2023

LOOP 1D-N CYCLE 171A POWER 107.5 MW

SAMPLE TYPE	PIX		BIX		AIX				BIX-7	
SAMPLE ID			050823009		050823010				051523009	
DATE SAMPLED	00/00/00		05/08/23		05/08/23				05/08/23	
TIME SAMPLED	00:00		14:15		14:06				14:15	
RADIONUCLIDE	DPM/ML	%ERR	DPM/ML	%ERR	DPM/ML	%ERR	DFX	%ERR	DPM/ML	%ERR
11 Na 24	0.0		9.73E+01	7.3	<1.88E+00		>5.18E+01			
21 Sc 46			<3.02E+00		<5.70E-01		Undeterminable		<7.89E-02	
24 Cr 51									4.19E+00	7.6
25 Mn 54									1.02E+01	1.8
25 Mn 56			1.34E+03	1.7	<3.82E+00		>3.50E+02			
26 Fe 59									8.54E+00	2.1
27 Co 58									4.89E-01	7.2
27 Co 60			1.93E+01	10.3	2.47E+01	4.6	7.82E-01	11.3	1.91E+01	1.2
30 Zn 65			<9.53E+00		<1.87E+00		Undeterminable		<2.48E-01	
37 Rb 88	0.0		1.62E+02	32.8	<3.85E+01		>4.20E+00			
37 Rb 89	0.0		2.41E+02	9.8	<3.81E+01		>6.33E+00			
38 Sr 91			<2.25E+01		<2.92E+00		Undeterminable			
38 Sr 92			9.06E+00	30.6	<8.08E-01		>1.12E+01			
39 YM 90			<6.56E+00		<5.68E-01		Undeterminable			
39 Y 92			<3.41E+01		<6.85E+00		Undeterminable			
39 Y 93			<9.87E+01		<9.13E+00		Undeterminable			
40 Zr 95			<9.01E+00		<1.91E+00		Undeterminable		<1.18E-01	
40 Zr 97			1.70E+02	38.9	<5.80E+01		>2.93E+00			
41 Nb 95									<1.05E-01	
42 Mo 99									2.40E+01	1.2
43 TcM 99			4.80E+00	38.9	<5.25E-01		>9.15E+00			
44 Ru 103			5.79E+00	43.4	<4.52E-01		>1.28E+01		<8.08E-02	
45 Rh 106									<6.87E-01	
47 AgM 110									4.89E-02	43.0
51 Sb 122									2.25E+00	9.6
51 Sb 124									1.20E-01	21.2
52 Te 132									<1.44E-01	
53 I 131			<7.98E+00		<5.94E-01		Undeterminable		1.42E+00	3.6
53 I 132	0.0		1.02E+02	4.6	<1.07E+00		>9.53E+01			
53 I 133			2.19E+01	10.7	<3.54E-01		>6.20E+01			
53 I 134	0.0		2.99E+02	3.5	<1.48E+00		>2.02E+02			
53 I 135	0.0		6.27E+01	9.7	<2.90E+00		>2.16E+01			
55 Cs 134									7.08E-02	43.7
55 Cs 136			<4.42E+00		<1.72E+00		Undeterminable		<1.49E-01	
55 Cs 137									1.28E+00	3.4
55 Cs 138	0.0		3.04E+02	4.7	<1.87E+01		>1.63E+01			
56 Ba 140			<1.70E+01		<1.71E+00		Undeterminable		9.77E-01	18.5
56 Ba 141			<5.80E+01		<7.61E+00		Undeterminable			

FROM APR 21, 2023 TO JUN 19, 2023

LOOP 1D-N CYCLE 171A POWER 107.5 MW

SAMPLE TYPE	PIX		BIX		AIX				BIX-7	
SAMPLE ID			050823009		050823010				051523009	
DATE SAMPLED	00/00/00		05/08/23		05/08/23				05/08/23	
TIME SAMPLED	00:00		14:15		14:06				14:15	
RADIONUCLIDE	DPM/ML	%ERR	DPM/ML	%ERR	DPM/ML	%ERR	DFX	%ERR	DPM/ML	%ERR
57 La 140			4.11E+00	39.9	<7.72E-01		>5.32E+00		<6.03E+00	
57 La 142			<2.71E+01		<1.59E+01		Undeterminable			
58 Ce 141			<6.66E+00		<6.70E-01		Undeterminable		<5.08E-02	
58 Ce 143			<1.37E+01		<9.18E-01		Undeterminable			
58 Ce 144									<5.68E-01	
63 EuM 152			<2.40E+01		<4.34E+00		Undeterminable			
63 Eu 152			<1.66E+01		<2.61E+00		Undeterminable		<1.80E-01	
63 Eu 154			<8.95E+00		<1.18E+00		Undeterminable		<1.19E-01	
63 Eu 155									<1.87E-01	
63 Eu 156			<1.17E+02		<5.95E+00		Undeterminable		<9.77E-01	
68 Er 171			<9.03E+00		<6.09E-01		Undeterminable			
71 Lu 177			<5.95E+01		<2.38E+00		Undeterminable		<6.73E-01	
72 Hf 175									<4.51E-02	
72 Hf 181			<4.06E+00		<3.67E-01		Undeterminable		<4.56E-02	
73 Ta 182									<1.97E-01	
73 Ta 183									1.12E+00	13.3
74 W 187			1.18E+03	1.3	<2.60E+00		>4.54E+02		1.05E+03	1.7
93 Np 239			<5.63E+01		<2.16E+00		Undeterminable		<1.72E+00	
18 Ar 41	0.0									
36 KrM 85	0.0									
36 Kr 87	0.0									
36 Kr 88	0.0									
54 Xe 133	0.0									
54 XeM 135	0.0									
54 Xe 135	0.0									
54 Xe 138	0.0									

FROM APR 21, 2023 TO JUN 19, 2023

LOOP 1D-N CYCLE 171A POWER 107.5 MW

SAMPLE TYPE	PIX		BIX		AIX				BIX-7	
SAMPLE ID	052323013		052323012		052323014				053023020	
DATE SAMPLED	05/23/23		05/23/23		05/23/23				05/23/23	
TIME SAMPLED	14:25		14:24		14:20				14:24	
RADIONUCLIDE	DPM/ML	%ERR	DPM/ML	%ERR	DPM/ML	%ERR	DPX	%ERR	DPM/ML	%ERR
11 Na 24	<1.08E+02		1.02E+02	4.4	<6.08E-01		>1.67E+02			
21 Sc 46			<4.48E+00		<1.49E+00		Undeterminable		<3.38E-01	
24 Cr 51									3.31E+01	1.6
25 Mn 54									2.51E+01	1.1
25 Mn 56			2.92E+03	1.1	<2.65E+00		>1.10E+03			
26 Fe 59									8.65E+01	1.5
27 Co 58									6.69E+00	2.8
27 Co 60			6.02E+01	4.7	6.90E+00	10.4	8.72E+00	11.4	5.41E+01	1.5
30 Zn 65			<9.39E+00		<3.13E+00		Undeterminable		<6.57E-01	
37 Rb 88	<1.60E+03		1.21E+02	32.6	6.19E+01	24.1	1.95E+00	40.6		
37 Rb 89	<3.59E+02		2.53E+02	8.0	1.27E+01	40.3	1.98E+01	41.1		
38 Sr 91			<1.67E+01		<2.13E+00		Undeterminable			
38 Sr 92			<1.25E+01		<6.95E-01		Undeterminable			
39 YM 90			<5.70E+00		<6.33E-01		Undeterminable			
39 Y 92			<3.66E+01		<9.59E+00		Undeterminable			
39 Y 93			<7.75E+01		<8.27E+00		Undeterminable			
40 Zr 95			<6.37E+00		<1.28E+00		Undeterminable		<4.19E-01	
40 Zr 97			<1.56E+02		<3.25E+01		Undeterminable			
41 Nb 95									<3.67E-01	
42 Mo 99									1.82E+01	2.2
43 TcM 99			<4.51E+00		<6.89E-01		Undeterminable			
44 Ru 103			<6.23E+00		<6.71E-01		Undeterminable		<1.30E-01	
45 Rh 106									<9.07E-01	
47 AgM 110									<9.51E-02	
51 Sb 122									2.62E+00	20.0
51 Sb 124									3.49E-01	19.1
52 Te 132									<3.05E-01	
53 I 131			<1.01E+01		<5.58E-01		Undeterminable		1.70E+00	7.3
53 I 132	1.19E+02	35.6	1.08E+02	5.3	<1.74E+00		>6.19E+01			
53 I 133			2.80E+01	9.5	<9.58E-01		>2.92E+01			
53 I 134	2.58E+02	21.2	3.10E+02	2.9	<2.42E+00		>1.28E+02			
53 I 135	<9.81E+01		6.11E+01	13.9	<2.28E+00		>2.68E+01			
55 Cs 134									1.38E-01	39.8
55 Cs 136			<5.94E+00		<2.00E+00		Undeterminable		<6.74E-01	
55 Cs 137									1.32E+00	5.9
55 Cs 138	4.02E+02	21.0	2.59E+02	13.8	<1.51E+01		>1.71E+01			
56 Ba 140			<2.66E+01		<3.49E+00		Undeterminable		1.46E+00	33.9
56 Ba 141			<3.04E+01		<3.08E+00		Undeterminable			

FROM APR 21, 2023 TO JUN 19, 2023

LOOP 1D-N CYCLE 171A POWER 107.5 MW

SAMPLE TYPE	PIX		BIX		AIX				BIX-7	
SAMPLE ID	052323013		052323012		052323014				053023020	
DATE SAMPLED	05/23/23		05/23/23		05/23/23				05/23/23	
TIME SAMPLED	14:25		14:24		14:20				14:24	
RADIONUCLIDE	DPM/ML	%ERR	DPM/ML	%ERR	DPM/ML	%ERR	DPX	%ERR	DPM/ML	%ERR
57 La 140			<6.92E+00		<6.06E-01		Undeterminable		<1.48E+01	
57 La 142			<2.48E+01		<7.62E+00		Undeterminable			
58 Ce 141			<1.67E+01		<1.20E+00		Undeterminable		<1.49E-01	
58 Ce 143			<1.25E+01		<9.27E-01		Undeterminable			
58 Ce 144									<7.75E-01	
63 EuM 152			<3.64E+01		<4.07E+00		Undeterminable			
63 Eu 152			<2.20E+01		<2.47E+00		Undeterminable		<2.39E-01	
63 Eu 154			<9.75E+00		<1.84E+00		Undeterminable		<3.87E-01	
63 Eu 155									<2.71E-01	
63 Eu 156			<8.67E+01		<9.39E+00		Undeterminable		<2.31E+00	
68 Er 171			<9.87E+00		<1.44E+00		Undeterminable			
71 Lu 177			<4.39E+01		<8.87E+00		Undeterminable		<1.45E+00	
72 Hf 175									<7.08E-02	
72 Hf 181			<5.04E+00		<6.50E-01		Undeterminable		1.34E-01	36.3
73 Ta 182									8.90E-01	30.6
73 Ta 183									1.04E+01	3.7
74 W 187			8.56E+02	2.1	<1.76E+00		>4.85E+02		7.74E+02	5.4
93 Np 239			<3.57E+01		<3.58E+00		Undeterminable		<3.71E+00	
18 Ar 41	5.55E+02	11.3								
36 KrM 85	<9.77E+01									
36 Kr 87	1.50E+02	39.4								
36 Kr 88	<2.69E+02									
54 Xe 133	<7.32E+02									
54 XeM 135	<1.95E+02									
54 Xe 135	1.88E+02	15.3								
54 Xe 138	<9.75E+02									

FROM APR 21, 2023 TO JUN 19, 2023

LOOP 1D-N CYCLE 171A POWER 107.5 MW

SAMPLE TYPE	PIX		BIX		AIX				BIX-7	
SAMPLE ID			061323011		061323012				062023016	
DATE SAMPLED	00/00/00		06/13/23		06/13/23				06/13/23	
TIME SAMPLED	00:00		14:13		14:05				14:13	
RADIONUCLIDE	DPM/ML	%ERR	DPM/ML	%ERR	DPM/ML	%ERR	DFX	%ERR	DPM/ML	%ERR
11 Na 24	0.0		9.39E+01	5.8	<1.32E+00		>7.14E+01			
21 Sc 46			<3.67E+00		<3.61E-01		Undeterminable		<1.21E-01	
24 Cr 51									6.71E-01	24.3
25 Mn 54									1.78E+01	1.0
25 Mn 56			5.88E+01	11.7	<3.14E+00		>1.87E+01			
26 Fe 59									1.07E+01	1.5
27 Co 58									1.05E+00	4.3
27 Co 60			8.43E+00	23.2	1.73E+00	23.4	4.88E+00	32.9	8.69E+00	1.0
30 Zn 65			<5.99E+00		<2.12E+00		Undeterminable		<1.65E-01	
37 Rb 88	0.0		1.60E+02	26.4	<2.74E+01		>5.82E+00			
37 Rb 89	0.0		2.75E+02	6.3	<1.36E+01		>2.02E+01			
38 Sr 91			<1.14E+01		<3.09E+00		Undeterminable			
38 Sr 92			4.59E+00	35.2	<6.68E-01		>6.87E+00			
39 YM 90			<4.72E+00		<6.28E-01		Undeterminable			
39 Y 92			4.17E+01	26.1	<4.61E+00		>9.05E+00			
39 Y 93			<6.43E+01		<4.07E+00		Undeterminable			
40 Zr 95			<4.03E+00		<1.02E+00		Undeterminable		<1.52E-01	
40 Zr 97			1.47E+02	41.1	<3.21E+01		>4.58E+00			
41 Nb 95									<1.03E-01	
42 Mo 99									1.22E+01	1.7
43 TcM 99			<5.82E+00		<3.35E-01		Undeterminable			
44 Ru 103			<5.35E+00		<4.07E-01		Undeterminable		<9.05E-02	
45 Rh 106									<7.51E-01	
47 AgM 110									<4.36E-02	
51 Sb 122									3.90E+00	8.4
51 Sb 124									6.05E-01	6.8
52 Te 132									<1.65E-01	
53 I 131			<1.07E+01		<4.13E-01		Undeterminable		1.85E+00	3.1
53 I 132	0.0		1.38E+02	3.2	<1.08E+00		>1.28E+02			
53 I 133			2.75E+01	7.0	<5.38E-01		>5.12E+01			
53 I 134	0.0		3.83E+02	2.1	<9.58E-01		>4.00E+02			
53 I 135	0.0		8.23E+01	7.4	<3.08E+00		>2.67E+01			
55 Cs 134									8.51E-02	25.6
55 Cs 136			<3.79E+00		<2.52E+00		Undeterminable		<1.90E-01	
55 Cs 137									1.18E+00	4.0
55 Cs 138	0.0		3.30E+02	6.8	<1.33E+01		>2.48E+01			
56 Ba 140			<8.84E+00		<2.39E+00		Undeterminable		1.04E+00	12.3
56 Ba 141			<2.29E+01		<2.59E+00		Undeterminable			

FROM APR 21, 2023 TO JUN 19, 2023

LOOP 1D-N CYCLE 171A POWER 107.5 MW

SAMPLE TYPE	PIX		BIX		AIX				BIX-7	
SAMPLE ID			061323011		061323012				062023016	
DATE SAMPLED	00/00/00		06/13/23		06/13/23				06/13/23	
TIME SAMPLED	00:00		14:13		14:05				14:13	
RADIONUCLIDE	DPM/ML	%ERR	DPM/ML	%ERR	DPM/ML	%ERR	DFX	%ERR	DPM/ML	%ERR
57 La 140			<2.11E+00		<1.15E+00		Undeterminable		<4.36E+00	
57 La 142			<2.34E+01		<4.48E+00		Undeterminable			
58 Ce 141			<8.59E+00		<5.08E-01		Undeterminable		<5.09E-02	
58 Ce 143			<1.51E+01		<6.26E-01		Undeterminable			
58 Ce 144									<2.60E-01	
63 EuM 152			<1.39E+01		<2.92E+00		Undeterminable			
63 Eu 152			<1.27E+01		<3.05E+00		Undeterminable		<1.51E-01	
63 Eu 154			<4.84E+00		<1.98E+00		Undeterminable		<9.12E-02	
63 Eu 155									<9.84E-02	
63 Eu 156			<4.30E+01		<7.40E+00		Undeterminable		<1.11E+00	
68 Er 171			<1.57E+01		<4.97E-01		Undeterminable			
71 Lu 177			<5.52E+01		<2.58E+00		Undeterminable		<5.84E-01	
72 Hf 175									<4.68E-02	
72 Hf 181			<4.61E+00		<3.74E-01		Undeterminable		<4.13E-02	
73 Ta 182									<1.30E-01	
73 Ta 183									<3.03E-01	
74 W 187			1.14E+02	10.0	<1.48E+00		>7.69E+01		8.09E+01	12.0
93 Np 239			<4.72E+01		<1.83E+00		Undeterminable		<2.00E+00	
18 Ar 41	0.0									
36 KrM 85	0.0									
36 Kr 87	0.0									
36 Kr 88	0.0									
54 Xe 133	0.0									
54 XeM 135	0.0									
54 Xe 135	0.0									
54 Xe 138	0.0									

FROM APR 21, 2023 TO JUN 19, 2023

LOOP 2B-SE CYCLE 171A POWER 107.5 MW

SAMPLE TYPE	PIX		BIX		AIX				BIX-7	
SAMPLE ID			050923012		050923013				051623018	
DATE SAMPLED	00/00/00		05/09/23		05/09/23				05/09/23	
TIME SAMPLED	00:00		14:09		14:04				14:09	
RADIONUCLIDE	DPM/ML	%ERR	DPM/ML	%ERR	DPM/ML	%ERR	DFX	%ERR	DPM/ML	%ERR
11 Na 24	0.0		4.14E+01	10.2	1.71E+00	30.3	2.42E+01	31.9		
21 Sc 46			<1.70E+01		<1.70E+00		Undeterminable		<8.67E-02	
24 Cr 51									3.58E+00	6.8
25 Mn 54									1.72E+01	1.3
25 Mn 56			7.71E+02	4.0	<6.62E+00		>1.17E+02			
26 Fe 59									6.43E+00	2.2
27 Co 58									2.83E+00	2.4
27 Co 60			1.96E+01	21.7	2.34E+01	5.2	8.34E-01	22.3	2.31E+01	1.3
30 Zn 65			<1.63E+01		<7.12E+00		Undeterminable		<2.33E-01	
37 Rb 88	0.0		9.95E+02	9.7	1.81E+02	15.7	5.49E+00	18.4		
37 Rb 89	0.0		2.88E+03	2.4	6.52E+01	13.6	4.42E+01	13.8		
38 Sr 91			8.71E+01	20.9	<3.98E+00		>2.19E+01			
38 Sr 92			9.06E+01	8.5	<2.68E+00		>3.38E+01			
39 YM 90			<1.64E+01		<8.85E-01		Undeterminable			
39 Y 92			<7.56E+01		<1.10E+01		Undeterminable			
39 Y 93			<1.63E+02		<1.08E+01		Undeterminable			
40 Zr 95			<2.35E+01		<1.94E+00		Undeterminable		2.54E-01	22.9
40 Zr 97			<3.81E+02		<1.03E+02		Undeterminable			
41 Nb 95									2.04E-01	16.2
42 Mo 99									2.03E+02	1.8
43 TcM 99			<1.30E+02		<7.83E-01		Undeterminable			
44 Ru 103			<1.87E+01		<7.74E-01		Undeterminable		<7.58E-02	
45 Rh 106									<1.06E+00	
47 AgM 110									6.18E-02	40.3
51 Sb 122									1.14E+00	28.2
51 Sb 124									<8.95E-02	
52 Te 132									<3.56E-01	
53 I 131			3.11E+01	21.6	<9.66E-01		>3.22E+01		1.20E+01	1.1
53 I 132	0.0		8.78E+02	1.6	<1.63E+00		>5.37E+02			
53 I 133			2.35E+02	4.5	<1.68E+00		>1.40E+02			
53 I 134	0.0		2.81E+03	1.4	<2.56E+00		>1.10E+03			
53 I 135	0.0		6.17E+02	5.4	<3.46E+00		>1.78E+02			
55 Cs 134									<1.38E-01	
55 Cs 136			<1.80E+01		<3.84E+00		Undeterminable		<1.75E-01	
55 Cs 137									2.80E+00	2.1
55 Cs 138	0.0		2.69E+03	1.9	1.14E+02	6.8	2.36E+01	7.1		
56 Ba 140			<4.05E+01		<2.74E+00		Undeterminable		8.20E+00	3.0
56 Ba 141			<5.24E+01		<4.88E+00		Undeterminable			

THIS DOCUMENT IS SUBJECT TO SPECIAL EXPORT CONTROLS AND EACH

FROM APR 21, 2023 TO JUN 19, 2023

LOOP 2B-5E CYCLE 171A POWER 107.5 MW

SAMPLE TYPE	PIX		BIX		AIX				BIX-7	
SAMPLE ID			050923012		050923013				051623018	
DATE SAMPLED	00/00/00		05/09/23		05/09/23				05/09/23	
TIME SAMPLED	00:00		14:09		14:04				14:09	
RADIONUCLIDE	DPM/ML	%ERR	DPM/ML	%ERR	DPM/ML	%ERR	DFX	%ERR	DPM/ML	%ERR
57 La 140			<4.97E+00		<1.42E+00		Undeterminable		<8.35E+00	
57 La 142			<7.04E+01		<1.75E+01		Undeterminable			
58 Ce 141			<2.07E+01		<2.05E+00		Undeterminable		<7.45E-02	
58 Ce 143			<1.88E+01		<1.39E+00		Undeterminable			
58 Ce 144									<4.67E+00	
63 EuM 152			<1.26E+02		<5.58E+00		Undeterminable			
63 Eu 152			<3.14E+01		<6.88E+00		Undeterminable		<2.51E-01	
63 Eu 154			<2.51E+01		<5.38E+00		Undeterminable		<1.69E-01	
63 Eu 155									<2.62E-01	
63 Eu 156			<2.08E+02		<1.43E+01		Undeterminable		<1.29E+00	
68 Er 171			<1.66E+01		<1.33E+00		Undeterminable			
71 Lu 177			<1.46E+02		<1.15E+01		Undeterminable		<8.97E-01	
72 Hf 175									<5.26E-02	
72 Hf 181			<9.88E+00		<6.05E-01		Undeterminable		3.00E-01	11.5
73 Ta 182									<3.67E-01	
73 Ta 183									2.38E+00	11.0
74 W 187			1.40E+03	2.4	<4.15E+00		>3.38E+02		1.31E+03	2.3
93 Np 239			<1.09E+02		<4.11E+00		Undeterminable		<2.99E+00	
18 Ar 41	0.0									
36 KrM 85	0.0									
36 Kr 87	0.0									
36 Kr 88	0.0									
54 Xe 133	0.0									
54 XeM 135	0.0									
54 Xe 135	0.0									
54 Xe 138	0.0									

FROM APR 21, 2023 TO JUN 19, 2023

LOOP 2B-SE CYCLE 171A POWER 108.0 MW

SAMPLE TYPE	PIX		BIX		AIX				BIX-7	
SAMPLE ID	052423009		052423008		052423010				053123008	
DATE SAMPLED	05/24/23		05/24/23		05/24/23				05/24/23	
TIME SAMPLED	14:24		14:28		14:12				14:28	
RADIONUCLIDE	DPM/ML	%ERR	DPM/ML	%ERR	DPM/ML	%ERR	DFX	%ERR	DPM/ML	%ERR
11 Na 24	<4.24E+01		4.37E+01	11.3	<6.18E-01		>7.07E+01			
21 Sc 46			<1.23E+01		<1.06E+00		Undeterminable		<1.38E-01	
24 Cr 51									3.99E+00	8.0
25 Mn 54									2.64E+01	1.5
25 Mn 56			4.84E+02	6.1	<7.68E+00		>6.31E+01			
26 Fe 59									1.12E+01	3.1
27 Co 58									5.96E+00	1.5
27 Co 60			4.90E+01	8.1	3.32E+01	3.7	1.48E+00	8.9	4.57E+01	1.9
30 Zn 65			<1.52E+01		<3.30E+00		Undeterminable		<2.25E-01	
37 Rb 88	<1.30E+03		7.33E+02	16.5	<2.32E+02		>3.16E+00			
37 Rb 89	1.85E+03	15.4	2.63E+03	2.8	9.81E+01	16.4	2.68E+01	16.6		
38 Sr 91			5.33E+01	32.0	<4.55E+00		>1.17E+01			
38 Sr 92			8.67E+01	8.2	3.33E+00	24.3	2.61E+01	25.6		
39 YM 90			<1.08E+01		<1.13E+00		Undeterminable			
39 Y 92			<8.08E+01		1.15E+01	39.4	Undeterminable			
39 Y 93			<2.35E+02		<1.62E+01		Undeterminable			
40 Zr 95			<2.36E+01		<1.89E+00		Undeterminable		1.10E+00	6.8
40 Zr 97			1.10E+03	22.5	6.55E+01	46.5	1.68E+01	51.7		
41 Nb 95									6.14E-01	10.4
42 Mo 99									1.79E+02	1.9
43 TcM 99			<8.46E+01		<1.81E+00		Undeterminable			
44 Ru 103			<1.30E+01		<7.09E-01		Undeterminable		<1.01E-01	
45 Rh 106									<9.73E-01	
47 AgM 110									<6.08E-02	
51 Sb 122									<7.56E-01	
51 Sb 124									<1.60E-01	
52 Te 132									<2.98E-01	
53 I 131			1.20E+01	47.6	<1.19E+00		>1.01E+01		1.19E+01	1.0
53 I 132	5.88E+02	7.6	8.91E+02	1.8	1.41E+00	39.7	6.31E+02	39.7		
53 I 133			2.25E+02	4.3	<1.03E+00		>2.18E+02			
53 I 134	1.65E+03	5.6	2.61E+03	1.6	<3.31E+00		>7.90E+02			
53 I 135	2.67E+02	26.0	5.56E+02	3.8	<5.72E+00		>9.72E+01			
55 Cs 134									<1.01E-01	
55 Cs 136			<1.18E+01		<2.64E+00		Undeterminable		<2.15E-01	
55 Cs 137									2.43E+00	3.9
55 Cs 138	1.29E+03	21.0	2.42E+03	3.7	5.69E+01	34.6	4.24E+01	34.8		
56 Ba 140			<6.20E+01		<3.06E+00		Undeterminable		6.24E+00	5.6
56 Ba 141			<5.89E+01		<1.12E+01		Undeterminable			

FROM APR 21, 2023 TO JUN 19, 2023

LOOP 2B-SE CYCLE 171A POWER 108.0 MW

SAMPLE TYPE	PIX		BIX		AIX				BIX-7	
SAMPLE ID	052423009		052423008		052423010				053123008	
DATE SAMPLED	05/24/23		05/24/23		05/24/23				05/24/23	
TIME SAMPLED	14:24		14:28		14:12				14:28	
RADIONUCLIDE	DPM/ML	%ERR	DPM/ML	%ERR	DPM/ML	%ERR	DFX	%ERR	DPM/ML	%ERR
57 La 140			<1.26E+01		<1.46E+00		Undeterminable		<1.08E+01	
57 La 142			<3.61E+01		<7.65E+00		Undeterminable			
58 Ce 141			<1.49E+01		<1.91E+00		Undeterminable		<1.02E-01	
58 Ce 143			<2.44E+01		<2.61E+00		Undeterminable			
58 Ce 144									<5.68E+00	
63 EuM 152			<9.42E+01		<6.13E+00		Undeterminable			
63 Eu 152			5.24E+01	37.6	1.45E+01	17.5	3.61E+00	41.5	<1.76E-01	
63 Eu 154			<1.66E+01		<4.50E+00		Undeterminable		<1.35E-01	
63 Eu 155									<2.87E-01	
63 Eu 156			<1.88E+02		<1.88E+01		Undeterminable		<2.03E+00	
68 Er 171			<1.76E+01		<1.21E+00		Undeterminable			
71 Lu 177			8.38E+01	48.4	<8.40E+00		>9.98E+00		<9.18E-01	
72 Hf 175									1.12E-01	20.2
72 Hf 181			1.13E+01	41.3	<6.27E-01		>1.80E+01		1.55E+01	0.9
73 Ta 182									8.20E-01	14.8
73 Ta 183									9.07E+00	2.7
74 W 187			1.22E+03	1.9	<5.39E+00		>2.26E+02		1.10E+03	2.6
93 Np 239			<7.88E+01		<4.13E+00		Undeterminable		<2.64E+00	
18 Ar 41	3.43E+02	11.8								
36 KrM 85	2.17E+02	14.4								
36 Kr 87	7.08E+02	12.2								
36 Kr 88	6.07E+02	13.2								
54 Xe 133	<9.09E+02									
54 XeM 135	4.05E+02	36.2								
54 Xe 135	7.67E+02	4.8								
54 Xe 138	2.54E+03	17.8								

FROM APR 21, 2023 TO JUN 19, 2023

LOOP 2B-SE CYCLE 171A POWER 108.0 MW

SAMPLE TYPE	PIX		BIX		AIX				BIX-7	
SAMPLE ID			061923009		061923010				062623005	
DATE SAMPLED	00/00/00		06/19/23		06/19/23				06/19/23	
TIME SAMPLED	00:00		14:12		14:06				14:12	
RADIONUCLIDE	DPM/ML	%ERR	DPM/ML	%ERR	DPM/ML	%ERR	DFX	%ERR	DPM/ML	%ERR
11 Na 24	0.0		3.37E+01	12.9	<1.42E+00		>2.37E+01			
21 Sc 46			<1.36E+01		<1.89E+00		Undeterminable		<8.89E-02	
24 Cr 51									8.60E+00	3.4
25 Mn 54									2.63E+01	1.8
25 Mn 56			2.15E+02	8.8	<6.69E+00		>3.22E+01			
26 Fe 59									4.86E+00	2.3
27 Co 58									3.43E+00	1.9
27 Co 60			1.33E+01	34.5	2.15E+00	47.6	6.21E+00	58.8	1.43E+01	1.2
30 Zn 65			<3.05E+01		4.68E+00	39.4	Undeterminable		<1.80E-01	
37 Rb 88	0.0		9.02E+02	11.4	6.90E+01	47.8	1.31E+01	49.1		
37 Rb 89	0.0		2.41E+03	3.1	6.69E+01	13.1	3.60E+01	13.4		
38 Sr 91			<5.67E+01		<8.37E+00		Undeterminable			
38 Sr 92			1.72E+01	39.6	3.46E+00	50.0	4.97E+00	63.7		
39 YM 90			<1.04E+01		<8.74E-01		Undeterminable			
39 Y 92			<7.87E+01		<2.26E+01		Undeterminable			
39 Y 93			<2.42E+02		<1.65E+01		Undeterminable			
40 Zr 95			<1.87E+01		<4.21E+00		Undeterminable		3.68E+00	2.2
40 Zr 97			6.07E+02	29.4	<1.91E+02		>3.17E+00			
41 Nb 95									2.27E+00	2.5
42 Mo 99									1.35E+02	1.5
43 TcM 99			1.52E+01	22.9	<6.77E-01		>2.25E+01			
44 Ru 103			<1.48E+01		<9.29E-01		Undeterminable		<1.08E-01	
45 Rh 106									<5.04E-01	
47 AgM 110									<7.64E-02	
51 Sb 122									9.68E-01	26.6
51 Sb 124									7.17E-02	38.3
52 Te 132									<2.20E-01	
53 I 131			2.68E+01	25.1	<1.57E+00		>1.71E+01		1.07E+01	1.0
53 I 132	0.0		7.33E+02	1.7	<2.40E+00		>3.06E+02			
53 I 133			1.88E+02	3.7	<9.14E-01		>2.06E+02			
53 I 134	0.0		2.31E+03	1.4	<4.75E+00		>4.85E+02			
53 I 135	0.0		4.65E+02	6.8	<4.19E+00		>1.11E+02			
55 Cs 134									<6.23E-02	
55 Cs 136			<1.20E+01		<4.00E+00		Undeterminable		<2.46E-01	
55 Cs 137									2.78E+00	3.3
55 Cs 138	0.0		2.19E+03	2.4	5.20E+01	17.6	4.22E+01	17.8		
56 Ba 140			<3.79E+01		<4.68E+00		Undeterminable		2.57E+00	9.7
56 Ba 141			<4.48E+01		<6.76E+00		Undeterminable			

FROM APR 21, 2023 TO JUN 19, 2023

LOOP 2B-SE CYCLE 171A POWER 108.0 MW

SAMPLE TYPE	PIX		BIX		AIX				BIX-7	
SAMPLE ID			061923009		061923010				062623005	
DATE SAMPLED	00/00/00		06/19/23		06/19/23				06/19/23	
TIME SAMPLED	00:00		14:12		14:06				14:12	
RADIONUCLIDE	DPM/ML	%ERR	DPM/ML	%ERR	DPM/ML	%ERR	DFX	%ERR	DPM/ML	%ERR
57 La 140			<7.47E+00		<1.79E+00		Undeterminable		4.28E+01	2.5
57 La 142			<5.59E+01		<1.65E+01		Undeterminable			
58 Ce 141			<1.49E+01		<1.38E+00		Undeterminable		<6.14E-02	
58 Ce 143			<2.27E+01		<3.12E+00		Undeterminable			
58 Ce 144									<3.11E+00	
63 EuM 152			<1.06E+02		<7.41E+00		Undeterminable			
63 Eu 152			<3.11E+01		<1.14E+01		Undeterminable		<1.81E-01	
63 Eu 154			<1.86E+01		<6.87E+00		Undeterminable		<1.00E-01	
63 Eu 155									<2.95E-01	
63 Eu 156			<1.47E+02		<2.03E+01		Undeterminable		<7.58E-01	
68 Er 171			<1.80E+01		<1.25E+00		Undeterminable			
71 Lu 177			<8.22E+01		<8.09E+00		Undeterminable		<7.51E-01	
72 Hf 175									<3.93E-02	
72 Hf 181			<1.05E+01		<9.68E-01		Undeterminable		3.41E-01	9.4
73 Ta 182									<1.52E-01	
73 Ta 183									6.11E-01	29.3
74 W 187			8.94E+02	3.3	<3.72E+00		>2.40E+02		8.22E+02	2.7
93 Np 239			<1.07E+02		<5.19E+00		Undeterminable		<1.94E+00	
18 Ar 41	0.0									
36 KrM 85	0.0									
36 Kr 87	0.0									
36 Kr 88	0.0									
54 Xe 133	0.0									
54 XeM 135	0.0									
54 Xe 135	0.0									
54 Xe 138	0.0									

FROM APR 21, 2023 TO JUN 19, 2023

LOOP 2D-SW CYCLE 171A POWER 107.5 MW

SAMPLE TYPE	PIX		BIX		AIX				BIX-7	
SAMPLE ID			051023007		051023008				051723010	
DATE SAMPLED	00/00/00		05/10/23		05/10/23				05/10/23	
TIME SAMPLED	00:00		14:22		14:15				14:22	
RADIONUCLIDE	DPM/ML	%ERR	DPM/ML	%ERR	DPM/ML	%ERR	DFX	%ERR	DPM/ML	%ERR
11 Na 24	0.0		8.34E+01	4.4	<1.31E+00		>6.34E+01			
21 Sc 46			<5.00E+00		<8.97E-01		Undeterminable		<1.39E-01	
24 Cr 51									1.86E+00	13.7
25 Mn 54									2.32E+01	1.4
25 Mn 56			1.14E+03	2.0	<5.80E+00		>1.97E+02			
26 Fe 59									1.19E+01	1.6
27 Co 58									8.86E+00	1.2
27 Co 60			5.17E+01	5.5	9.06E+01	2.3	5.70E-01	5.9	4.72E+01	1.3
30 Zn 65			<8.15E+00		<2.79E+00		Undeterminable		<2.81E-01	
37 Rb 88	0.0		1.72E+02	27.1	<6.55E+01		>2.62E+00			
37 Rb 89	0.0		4.70E+02	4.8	1.78E+01	42.8	2.64E+01	43.0		
38 Sr 91			2.15E+01	28.2	<3.46E+00		>6.21E+00			
38 Sr 92			3.43E+01	9.7	<8.41E-01		>4.08E+01			
39 YM 90			<6.10E+00		<6.79E-01		Undeterminable			
39 Y 92			5.70E+01	24.2	<1.81E+01		>3.15E+00			
39 Y 93			<9.35E+01		<5.52E+00		Undeterminable			
40 Zr 95			<5.81E+00		<1.86E+00		Undeterminable		4.03E-01	18.0
40 Zr 97			<1.79E+02		<5.86E+01		Undeterminable			
41 Nb 95									1.45E-01	29.5
42 Mo 99									7.46E+01	2.4
43 TcM 99			<4.48E+01		<4.42E-01		Undeterminable			
44 Ru 103			<5.77E+00		<7.61E-01		Undeterminable		<1.17E-01	
45 Rh 106									<8.69E-01	
47 AgM 110									<1.01E-01	
51 Sb 122									<5.63E-01	
51 Sb 124									<7.91E-02	
52 Te 132									<1.95E-01	
53 I 131			<6.81E+00		<5.58E-01		Undeterminable		2.86E+00	2.8
53 I 132	0.0		1.92E+02	2.5	<1.46E+00		>1.32E+02			
53 I 133			5.06E+01	5.4	<8.83E-01		>5.73E+01			
53 I 134	0.0		5.95E+02	1.9	<3.10E+00		>1.92E+02			
53 I 135	0.0		1.28E+02	7.2	<2.76E+00		>4.64E+01			
55 Cs 134									<9.38E-02	
55 Cs 136			<5.03E+00		<2.36E+00		Undeterminable		<2.39E-01	
55 Cs 137									2.27E-01	18.0
55 Cs 138	0.0		6.27E+02	2.5	2.70E+01	20.2	2.33E+01	20.3		
56 Ba 140			<1.92E+01		<3.70E+00		Undeterminable		2.18E+00	9.2
56 Ba 141			<7.46E+01		<3.90E+00		Undeterminable			

FROM APR 21, 2023 TO JUN 19 2023

LOOP 2D-SW CYCLE 171A POWER 107.5 MW

SAMPLE TYPE	PIX		BIX		AIX				BIX-7	
SAMPLE ID			051023007		051023008				051723010	
DATE SAMPLED	00/00/00		05/10/23		05/10/23				05/10/23	
TIME SAMPLED	00:00		14:22		14:15				14:22	
RADIONUCLIDE	DPM/ML	%ERR	DPM/ML	%ERR	DPM/ML	%ERR	DFX	%ERR	DPM/ML	%ERR
57 La 140			<3.98E+00		<7.12E-01		Undeterminable		<7.41E+00	
57 La 142			<4.30E+01		<1.83E+01		Undeterminable			
58 Ce 141			<9.19E+00		<9.14E-01		Undeterminable		<6.59E-02	
58 Ce 143			<1.35E+01		<1.74E+00		Undeterminable			
58 Ce 144									<2.49E+00	
63 EuM 152			<3.19E+01		<8.49E+00		Undeterminable			
63 Eu 152			<1.99E+01		<5.93E+00		Undeterminable		<2.40E-01	
63 Eu 154			<8.87E+00		<2.92E+00		Undeterminable		<1.13E-01	
63 Eu 155									<2.75E-01	
63 Eu 156			<7.18E+01		<1.24E+01		Undeterminable		<9.95E-01	
68 Er 171			<1.41E+01		<8.11E-01		Undeterminable			
71 Lu 177			<4.70E+01		<3.53E+00		Undeterminable		<7.96E-01	
72 Hf 175									4.42E-02	48.4
72 Hf 181			<7.85E+00		<7.09E-01		Undeterminable		9.15E-01	4.4
73 Ta 182									<3.70E-01	
73 Ta 183									6.12E-01	30.1
74 W 187			9.54E+02	1.5	<2.51E+00		>3.80E+02		8.55E+02	2.6
93 Np 239			<7.47E+01		<2.93E+00		Undeterminable		<4.87E+00	
18 Ar 41	0.0									
36 KrM 85	0.0									
36 Kr 87	0.0									
36 Kr 88	0.0									
54 Xe 133	0.0									
54 XeM 135	0.0									
54 Xe 135	0.0									
54 Xe 138	0.0									

FROM APR 21, 2023 TO JUN 19, 2023

LOOP 2D-SW CYCLE 171A POWER 108.0 MW

SAMPLE TYPE	PIX		BIX		AIX				BIX-7	
SAMPLE ID	052523008		052523007		052523009				060123007	
DATE SAMPLED	05/25/23		05/25/23		05/25/23				05/25/23	
TIME SAMPLED	14:28		14:32		14:13				14:32	
RADIONUCLIDE	DPM/ML	%ERR	DPM/ML	%ERR	DPM/ML	%ERR	DFX	%ERR	DPM/ML	%ERR
11 Na 24	<7.27E+01		7.49E+01	7.7	<7.09E-01		>1.06E+02			
21 Sc 46			<6.10E+00		<1.07E+00		Undeterminable		<1.93E-01	
24 Cr 51									7.45E+00	4.4
25 Mn 54									3.17E+01	1.3
25 Mn 56			8.76E+02	3.7	<2.45E+00		>3.57E+02			
26 Fe 59									1.20E+01	2.1
27 Co 58									1.23E+01	1.4
27 Co 60			4.80E+01	7.6	6.36E+01	3.2	7.55E-01	8.2	5.16E+01	0.9
30 Zn 65			<8.23E+00		<1.74E+00		Undeterminable		<3.38E-01	
37 Rb 88	<1.02E+03		3.75E+02	21.7	<7.48E+01		>5.02E+00			
37 Rb 89	<5.26E+02		4.70E+02	8.8	3.02E+01	48.9	1.56E+01	49.7		
38 Sr 91			2.69E+01	33.4	<3.37E+00		>7.99E+00			
38 Sr 92			3.76E+01	27.5	<1.31E+00		>2.87E+01			
39 YM 90			<8.24E+00		<6.02E-01		Undeterminable			
39 Y 92			3.84E+01	46.3	<8.16E+00		>4.71E+00			
39 Y 93			<1.21E+02		<4.22E+00		Undeterminable			
40 Zr 95			8.63E+00	46.0	<1.94E+00		>4.45E+00		2.29E+00	5.8
40 Zr 97			<1.98E+02		<3.67E+01		Undeterminable			
41 Nb 95									1.04E+00	4.9
42 Mo 99									8.18E+01	2.8
43 TcM 99			1.54E+01	16.8	<4.57E-01		>3.36E+01			
44 Ru 103			<7.45E+00		<4.30E-01		Undeterminable		<1.08E-01	
45 Rh 106									<9.74E-01	
47 AgM 110									<1.65E-01	
51 Sb 122									<8.54E-01	
51 Sb 124									<1.05E-01	
52 Te 132									<2.06E-01	
53 I 131			<1.27E+01		<4.10E-01		Undeterminable		3.04E+00	2.5
53 I 132	1.08E+02	30.9	2.15E+02	3.2	<1.29E+00		>1.66E+02			
53 I 133			4.84E+01	7.8	<7.88E-01		>6.14E+01			
53 I 134	1.61E+02	36.9	5.72E+02	3.4	<2.96E+00		>1.93E+02			
53 I 135	<1.73E+02		1.34E+02	10.0	<2.42E+00		>5.55E+01			
55 Cs 134									<9.38E-02	
55 Cs 136			<7.41E+00		<1.98E+00		Undeterminable		<4.06E-01	
55 Cs 137									1.80E-01	23.2
55 Cs 138	5.13E+02	13.2	6.08E+02	3.3	<2.14E+01		>2.85E+01			
56 Ba 140			<2.00E+01		<2.18E+00		Undeterminable		2.50E+00	12.1
56 Ba 141			<6.89E+01		<6.05E+00		Undeterminable			

FROM APR 21, 2023 TO JUN 19, 2023

LOOP 2D-SW CYCLE 171A POWER 108.0 MW

SAMPLE TYPE	PIX		BIX		AIX				BIX-7	
SAMPLE ID	052523008		052523007		052523009				060123007	
DATE SAMPLED	05/25/23		05/25/23		05/25/23				05/25/23	
TIME SAMPLED	14:28		14:32		14:13				14:32	
RADIONUCLIDE	DPM/ML	%ERR	DPM/ML	%ERR	DPM/ML	%ERR	DFX	%ERR	DPM/ML	%ERR
57 La 140			<5.49E+00		<4.60E-01		Undeterminable		<8.87E+00	
57 La 142			<4.68E+01		9.23E+00	32.3	Undeterminable			
58 Ce 141			<1.13E+01		<1.24E+00		Undeterminable		<8.67E-02	
58 Ce 143			<2.46E+01		<6.55E-01		Undeterminable			
58 Ce 144									<3.39E+00	
63 EuM 152			<2.87E+01		<3.98E+00		Undeterminable			
63 Eu 152			<2.43E+01		<2.11E+00		Undeterminable		<1.96E-01	
63 Eu 154			<3.17E+01		<3.44E+00		Undeterminable		<1.30E-01	
63 Eu 155									<1.83E-01	
63 Eu 156			<8.66E+01		<7.71E+00		Undeterminable		<1.26E+00	
68 Er 171			<1.73E+01		<7.09E-01		Undeterminable			
71 Lu 177			<6.27E+01		<3.73E+00		Undeterminable		<8.63E-01	
72 Hf 175									2.81E-01	9.7
72 Hf 181			<1.48E+01		1.03E+00	23.6	Undeterminable		4.25E+00	1.6
73 Ta 182									<4.16E-01	
73 Ta 183									1.22E+00	28.4
74 W 187			7.75E+02	2.5	<2.15E+00		>3.61E+02		7.95E+02	2.4
93 Np 239			<7.23E+01		<2.14E+00		Undeterminable		<2.96E+00	
18 Ar 41	4.39E+02	15.6								
36 KrM 85	<8.56E+01									
36 Kr 87	<1.41E+02									
36 Kr 88	<2.39E+02									
54 Xe 133	<9.67E+02									
54 XeM 135	<5.31E+02									
54 Xe 135	1.78E+02	11.6								
54 Xe 138	<1.20E+03									

FROM APR 21, 2023 TO JUN 19, 2023

LOOP 2E-NW CYCLE 171A POWER 107.5 MW

SAMPLE TYPE	PIX		BIX		AIX				BIX-7	
SAMPLE ID			051123006		051123007				051823007	
DATE SAMPLED	00/00/00		05/11/23		05/11/23				05/11/23	
TIME SAMPLED	00:00		14:18		14:11				14:18	
RADIONUCLIDE	DPM/ML	%ERR	DPM/ML	%ERR	DPM/ML	%ERR	DFX	%ERR	DPM/ML	%ERR
11 Na 24	0.0		6.25E+02	3.8	<1.31E+00		>4.77E+02			
21 Sc 46			<1.14E+01		<1.36E+00		Undeterminable		<6.38E-02	
24 Cr 51									5.53E+00	6.4
25 Mn 54									1.44E+01	1.4
25 Mn 56			1.71E+03	3.4	<6.55E+00		>2.61E+02			
26 Fe 59									6.89E+00	2.5
27 Co 58									2.72E+00	2.3
27 Co 60			1.37E+01	36.2	7.56E+00	10.3	1.81E+00	37.6	9.15E+00	1.6
30 Zn 65			<2.36E+01		<3.10E+00		Undeterminable		1.65E-01	38.9
37 Rb 88	0.0		6.95E+02	17.8	<1.17E+02		>5.92E+00			
37 Rb 89	0.0		1.40E+03	5.4	2.53E+01	28.2	5.54E+01	28.7		
38 Sr 91			3.71E+01	47.9	<6.32E+00		>5.87E+00			
38 Sr 92			3.72E+01	40.6	<1.03E+00		>3.62E+01			
39 YM 90			<3.88E+01		<6.56E-01		Undeterminable			
39 Y 92			<8.22E+01		<1.39E+01		Undeterminable			
39 Y 93			<2.42E+02		<7.53E+00		Undeterminable			
40 Zr 95			<1.84E+01		<1.83E+00		Undeterminable		<1.68E-01	
40 Zr 97			<7.01E+02		<5.70E+01		Undeterminable			
41 Nb 95									<6.56E-02	
42 Mo 99									2.74E+02	1.7
43 TcM 99			<9.78E+01		<9.66E-01		Undeterminable			
44 Ru 103			<3.28E+01		<1.33E+00		Undeterminable		<1.09E-01	
45 Rh 106									<4.61E-01	
47 AgM 110									<1.04E-01	
51 Sb 122									<7.09E-01	
51 Sb 124									<1.03E-01	
52 Te 132									<1.66E-01	
53 I 131			<4.27E+01		<9.29E-01		Undeterminable		9.80E+00	5.4
53 I 132	0.0		6.93E+02	2.4	<1.52E+00		>4.57E+02			
53 I 133			1.85E+02	5.7	<5.98E-01		>3.09E+02			
53 I 134	0.0		1.94E+03	2.2	<2.98E+00		>6.50E+02			
53 I 135	0.0		4.10E+02	7.1	<2.74E+00		>1.50E+02			
55 Cs 134									<7.71E-02	
55 Cs 136			<1.83E+01		<3.25E+00		Undeterminable		<1.50E-01	
55 Cs 137									2.01E+00	2.7
55 Cs 138	0.0		1.64E+03	5.6	4.41E+01	15.4	3.71E+01	16.4		
56 Ba 140			<5.84E+01		4.07E+00	40.3	Undeterminable		4.88E+00	3.9
56 Ba 141			1.33E+02	34.7	<6.27E+00		>2.12E+01			

FROM APR 21, 2023 TO JUN 19, 2023

LOOP 2E-NW CYCLE 171A POWER 107.5 MW

SAMPLE TYPE	PIX		BIX		AIX				BIX-7	
SAMPLE ID			051123006		051123007				051823007	
DATE SAMPLED	00/00/00		05/11/23		05/11/23				05/11/23	
TIME SAMPLED	00:00		14:18		14:11				14:18	
RADIONUCLIDE	DPM/ML	%ERR	DPM/ML	%ERR	DPM/ML	%ERR	DFX	%ERR	DPM/ML	%ERR
57 La 140			<1.00E+01		<1.95E+00		Undeterminable		<6.12E+00	
57 La 142			<1.21E+02		<1.36E+01		Undeterminable			
58 Ce 141			<2.67E+01		<1.71E+00		Undeterminable		<6.15E-02	
58 Ce 143			<3.99E+01		<1.81E+00		Undeterminable			
58 Ce 144									<7.20E+00	
63 EuM 152			<1.20E+02		<5.47E+00		Undeterminable			
63 Eu 152			<6.68E+01		<4.32E+00		Undeterminable		<2.53E-01	
63 Eu 154			<2.04E+01		<2.77E+00		Undeterminable		<1.39E-01	
63 Eu 155									<4.29E-01	
63 Eu 156			<2.50E+02		<3.05E+01		Undeterminable		<9.40E-01	
68 Er 171			<2.47E+01		<1.26E+00		Undeterminable			
71 Lu 177			<1.62E+02		<6.92E+00		Undeterminable		<6.39E-01	
72 Hf 175									5.72E-02	35.0
72 Hf 181			1.56E+01	49.5	<6.57E-01		>2.37E+01		5.33E-01	6.1
73 Ta 182									<2.64E-01	
73 Ta 183									8.95E-01	18.7
74 W 187			3.93E+03	1.6	<3.28E+00		>1.20E+03		3.44E+03	1.1
93 Np 239			<1.26E+02		<4.18E+00		Undeterminable		<2.05E+00	
18 Ar 41	0.0									
36 KrM 85	0.0									
36 Kr 87	0.0									
36 Kr 88	0.0									
54 Xe 133	0.0									
54 XeM 135	0.0									
54 Xe 135	0.0									
54 Xe 138	0.0									

FROM APR 21, 2023 TO JUN 19, 2023

LOOP 2E-NW CYCLE 171A POWER 107.5 MW

SAMPLE TYPE	PIX		BIX		AIX				BIX-7	
SAMPLE ID	053023017		053023016		053023018				060523010	
DATE SAMPLED	05/30/23		05/30/23		05/30/23				05/30/23	
TIME SAMPLED	14:28		14:35		14:17				14:35	
RADIONUCLIDE	DPM/ML	%ERR	DPM/ML	%ERR	DPM/ML	%ERR	DPX	%ERR	DPM/ML	%ERR
11 Na 24	8.50E+02	8.3	6.72E+02	3.0	<7.41E-01		>9.07E+02			
21 Sc 46			<7.99E+00		<7.95E-01		Undeterminable		<5.04E-02	
24 Cr 51									1.05E+01	3.8
25 Mn 54									2.98E+01	1.2
25 Mn 56			1.46E+03	4.1	<6.31E+00		>2.32E+02			
26 Fe 59									1.48E+01	1.4
27 Co 58									6.04E+00	1.9
27 Co 60			1.87E+01	19.4	7.50E+00	6.7	2.49E+00	20.5	1.22E+01	1.6
30 Zn 65			<2.41E+01		<1.55E+00		Undeterminable		1.60E-01	41.2
37 Rb 88	<2.44E+03		5.43E+02	19.9	<1.19E+02		>4.57E+00			
37 Rb 89	<1.50E+03		1.18E+03	7.1	3.99E+01	20.3	2.95E+01	21.5		
38 Sr 91			<7.10E+01		<2.40E+00		Undeterminable			
38 Sr 92			2.47E+01	22.8	<1.52E+01		>1.63E+00			
39 YM 90			<1.65E+01		<7.42E-01		Undeterminable			
39 Y 92			<7.53E+01		<9.65E+00		Undeterminable			
39 Y 93			<3.03E+02		<6.89E+00		Undeterminable			
40 Zr 95			<1.45E+01		<1.47E+00		Undeterminable		3.97E-01	12.0
40 Zr 97			7.84E+02	26.1	<3.06E+01		>2.56E+01			
41 Nb 95									2.27E-01	13.6
42 Mo 99									2.76E+02	1.4
43 TcM 99			<7.67E+01		<8.88E-01		Undeterminable			
44 Ru 103			<1.18E+01		<6.51E-01		Undeterminable		<8.64E-02	
45 Rh 106									<5.35E-01	
47 AgM 110									<1.09E-01	
51 Sb 122									<7.22E-01	
51 Sb 124									<9.76E-02	
52 Te 132									<1.56E-01	
53 I 131			1.52E+01	45.4	<4.67E-01		>3.25E+01		1.05E+01	6.1
53 I 132	7.20E+02	9.0	7.01E+02	2.1	<1.08E+00		>6.51E+02			
53 I 133			1.86E+02	4.0	<6.37E-01		>2.92E+02			
53 I 134	2.01E+03	7.8	1.72E+03	2.6	<2.62E+00		>6.59E+02			
53 I 135	5.41E+02	40.7	4.24E+02	5.0	<4.23E+00		>1.00E+02			
55 Cs 134									<8.13E-02	
55 Cs 136			<1.12E+01		<1.65E+00		Undeterminable		<2.07E-01	
55 Cs 137									1.81E+00	2.9
55 Cs 138	2.87E+03	7.3	1.78E+03	1.8	6.51E+01	14.0	2.73E+01	14.1		
56 Ba 140			<2.58E+01		<1.77E+00		Undeterminable		5.29E+00	4.4
56 Ba 141			<6.44E+01		<6.37E+00		Undeterminable			

FROM APR 21, 2023 TO JUN 19, 2023

LOOP 2E-NW CYCLE 171A POWER 107.5 MW

SAMPLE TYPE	PIX		BIX		AIX				BIX-7	
SAMPLE ID	053023017		053023016		053023018				060523010	
DATE SAMPLED	05/30/23		05/30/23		05/30/23				05/30/23	
TIME SAMPLED	14:28		14:35		14:17				14:35	
RADIONUCLIDE	DPM/ML	%ERR	DPM/ML	%ERR	DPM/ML	%ERR	DFX	%ERR	DPM/ML	%ERR
57 La 140			<1.23E+01		<6.42E-01		Undeterminable		<4.86E+00	
57 La 142			<7.80E+01		<9.68E+00		Undeterminable			
58 Ce 141			<1.79E+01		<1.78E+00		Undeterminable		<8.84E-02	
58 Ce 143			<3.39E+01		<8.88E-01		Undeterminable			
58 Ce 144									<7.39E+00	
63 EuM 152			<6.27E+01		<5.07E+00		Undeterminable			
63 Eu 152			<3.86E+01		<4.71E+00		Undeterminable		<2.95E-01	
63 Eu 154			<2.51E+01		<1.41E+00		Undeterminable		<1.18E-01	
63 Eu 155									<3.92E-01	
63 Eu 156			<2.22E+02		<1.15E+01		Undeterminable		<7.50E-01	
68 Er 171			<2.66E+01		<7.55E-01		Undeterminable			
71 Lu 177			1.11E+02	45.2	<7.10E+00		>1.56E+01		<6.79E-01	
72 Hf 175									<1.00E-01	
72 Hf 181			<1.02E+01		<8.04E-01		Undeterminable		2.94E-01	15.4
73 Ta 182									<1.56E-01	
73 Ta 183									1.24E+00	22.7
74 W 187			2.72E+03	1.2	<3.30E+00		>8.24E+02		2.47E+03	1.5
93 Np 239			<9.32E+01		<2.62E+00		Undeterminable		<1.81E+00	
18 Ar 41	1.32E+03	7.2								
36 KrM 85	1.58E+02	38.6								
36 Kr 87	7.93E+02	15.2								
36 Kr 88	5.21E+02	25.4								
54 Xe 133	<1.64E+03									
54 XeM 135	6.83E+02	44.6								
54 Xe 135	9.47E+02	5.7								
54 Xe 138	<2.75E+03									