



Brunswick Nuclear Plant  
P.O. Box 10429  
Southport, NC 28461

Serial: RA-19-0140

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001

Subject: Brunswick Steam Electric Plant, Unit Nos. 1 and 2  
Renewed Facility Operating License Nos. DPR-71 and DPR-62  
Docket Nos. 50-325 and 50-324  
Annual Radiological Environmental Operating Report - 2018

Ladies and Gentlemen:

In accordance with Technical Specification (TS) 5.6.2 for the Brunswick Steam Electric Plant (BSEP), Unit Nos. 1 and 2, Duke Energy Progress, LLC, is submitting the enclosed Radiological Environmental Operating Report for 2018.

No regulatory commitments are contained in this submittal. Please refer any questions regarding this submittal to Mr. Stephen Yodersmith, Brunswick Regulatory Affairs, at (910) 832-2568.

Sincerely,

A handwritten signature in blue ink that reads "Jerry Pierce".

Jerry Pierce  
Manager – Nuclear Support Services  
Brunswick Steam Electric Plant

SBY/sby

Enclosure: Annual Radiological Environmental Operating Report - 2018

cc (with Enclosure):

U.S. Nuclear Regulatory Commission, Region II  
ATTN: Ms. Catherine Haney, Regional Administrator  
245 Peachtree Center Ave, NE, Suite 1200  
Atlanta, GA 30303-1257

U.S. Nuclear Regulatory Commission  
ATTN: Mr. Gale Smith, NRC Senior Resident Inspector  
8470 River Road  
Southport, NC 28461-8869

U.S. Nuclear Regulatory Commission  
ATTN: Mr. Dennis J. Galvin  
11555 Rockville Pike  
Rockville, MD 20852-2738

Chair - North Carolina Utilities Commission **(Electronic Copy Only)**  
4325 Mail Service Center  
Raleigh, NC 27699-4300  
swatson@ncuc.net

Mr. W. Lee Cox, III, Section Chief **(Electronic Copy Only)**  
Radiation Protection Section  
North Carolina Department of Health and Human Services  
1645 Mail Service Center  
Raleigh, NC 27699-1645  
lee.cox@dhhs.nc.gov

Mr. Patrick D. Cox **(Electronic Copy Only)**  
Environmental Program  
North Carolina Department of Health and Human Services  
1645 Mail Service Center  
Raleigh, NC 27699  
patrick.cox@dhhs.nc.gov

Annual Radiological Environmental Operating  
Report - 2018



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# **ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT**

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**DUKE ENERGY PROGRESS, LLC  
BRUNSWICK STEAM ELECTRIC PLANT**

**2018**



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**LIST OF ACRONYMS USED IN THIS TEXT** *(in alphabetical order)*

A	Annually
AP	Air Particulate
AR	Air Radioiodine = Air Cartridge
AREOR	Annual Radiological Environmental Operating Report
BO	Benthic Organisms
BSEP	Brunswick Steam Electric Plant
C	Control
CR	Condition Report (analogous to Nuclear Condition Report (NCR))
EZA	Eckert & Ziegler Analytics, Inc.
GEL	General Engineering Laboratories, LLC.
GPS	Global Positioning System
GW	Ground water
I	Indicator
IR	Inner Ring - TLDs
ISFSI	Independent Spent Fuel Storage Installation
LLD	Lower Limit of Detection
LUC	Land Use Census
M	Monthly
MAPEP	Department of Energy Mixed Analyte Performance Evaluation Program
MDA	Minimum Detectable Activity
mrem	Millirem
mR/Std Qtr	milliroentgen per standard quarter
MSL	Mean sea level
NIST	National Institute of Standards and Technology
NCR	Nuclear Condition Report (analogous to Condition Report (CR))
NRC	Nuclear Regulatory Commission
OD	Ocean discharge
ODCM	Offsite Dose Calculation Manual
OR	Outer Ring - TLDs
pCi/kg	picocurie per kilogram
pCi/l	picocurie per liter
pCi/m <sup>3</sup>	picocurie per cubic meter
PMAC	Projected Maximum Annual Concentration
Q	Quarterly
REMP	Radiological Environmental Monitoring Program
SA	Semiannually
SDSP	Storm Drain Stabilization Pond
SH	Shellfish
SI	Special Interest - TLDs
SW	Surface Water
TLD	Thermoluminescent Dosimeter
UFSAR	Updated Final Safety Analysis Report
W	Weekly

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# 1.0 EXECUTIVE SUMMARY

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This Annual Radiological Environmental Operating Report (AREOR) describes the Brunswick Steam Electric Plant (BSEP) Radiological Environmental Monitoring Program (REMP), and the program results for the calendar year 2018.

Included in the report are the identification of sampling locations, descriptions of environmental sampling and analysis procedures, comparisons of present environmental radioactivity levels, pre-operational environmental data, analysis of trends in environmental radiological data as potentially affected by plant operations, and a summary of environmental radiological sampling results. Quality assurance practices, sampling deviations, unavailable samples, and program changes are also discussed.

Sampling activities were conducted as prescribed by the BSEP Offsite Dose Calculation Manual (ODCM). One thousand two-hundred seventeen samples were analyzed comprising 1,351 test results to compile data for the 2018 BSEP Annual Radiological Environmental Operating Report. Based on the annual BSEP land use census, the current number of sampling sites for BSEP is sufficient.

Concentrations observed in the environment in 2018 for station related radionuclides were generally within the ranges of concentrations observed in the past. Inspection of the data showed that radioactivity concentrations were as expected and positively identified measurements attributable to plant operation were within limits as specified in the BSEP ODCM. Measured concentrations, including tritium, were not higher than expected and all positively identified measurements attributable to station operation were within limits as specified in the BSEP ODCM and regulatory limits. The radiological environmental data for 2018 indicates that radioactivity concentrations and all positively identified measurements attributable to BSEP operations in 2018 were within limits as specified in the BSEP ODCM, thus presenting no significant impact on the environment or public health and safety.



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## **2.0 INTRODUCTION**

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### **2.1 SITE DESCRIPTION AND SAMPLE LOCATIONS**

Duke Energy's Brunswick Steam Electric Plant (BSEP) is located in Brunswick County, North Carolina, approximately 16 miles south of Wilmington, North Carolina. The site is along state route 87 approximately two and a half miles north of Southport, North Carolina. The community of Boiling Spring Lakes is about three miles northwest of the site. The towns of Caswell Beach and Oak Island are on a barrier island south of the plant.

The Brunswick Steam Electric Plant consists of two boiling water reactors with a design rating of 2923 megawatts thermal. Commercial production was initiated by Unit 2 on November 3, 1975 and by Unit 1 on March 18, 1977.

The Cape Fear River is east of the plant and cooling water is drawn from the river through a canal. The cooling water and plant liquid effluents are both discharged to the Atlantic Ocean through a canal, pumping station, and piping. The discharge point is south of the town of Caswell Beach. The plant site varies in elevation from sea level to 30 feet above mean sea level (MSL) and is surrounded by extensive marshes.

Sampling locations are chosen based upon meteorological factors, preoperational monitoring, and land use surveys. Additional locations were selected and identified as controls because they are unlikely to be affected by plant operations. Figures 2.1-1, 2.1-2, and 2.1-3 are maps depicting BSEP sampling locations and the Thermoluminescent Dosimeter (TLD) monitoring locations. The location numbers shown on these maps correspond to those listed in Tables 2.1-A and 2.1-B.

### **2.2 SCOPE AND REQUIREMENTS OF THE REMP**

A Radiological Environmental Monitoring Program (REMP) has been in effect at BSEP, and the preoperational program provides data on the existing environmental radioactivity levels for the site and vicinity which may be used to determine whether increases in environmental levels are attributable to the station. The operational program provides surveillance and backup support of detailed effluent monitoring, which is necessary to evaluate the significance, if any, of the contributions to the existing environmental radioactivity levels that result from station operation.

This monitoring program is based on NRC guidance as reflected in the BSEP Offsite Dose Calculation Manual (ODCM), with regards to sample media, sampling locations, sampling frequency and analytical sensitivity requirements. Indicator and control locations were established for comparison purposes to distinguish radioactivity of plant origin from natural or other "man-made" environmental radioactivity. The environmental monitoring program also verifies projected and anticipated radionuclide concentrations in the environment and related exposures from releases of radionuclides from BSEP. This program satisfies the requirements of Section IV.B.2 of Appendix I to 10CFR50 and provides surveillance of all appropriate critical exposure pathways to man and protects vital interests of the company, public and state and federal

agencies concerned with the environment. Reporting levels for activity found in environmental samples are listed in Table 2.2-A. Table 2.2-B lists the REMP analysis and frequency schedule. The Annual Land Use Census, required by the BSEP ODCM, is performed to ensure that changes in the use of areas at or beyond the site boundary are identified and that modifications to the REMP are made if required by changes in land use. This census satisfies the requirements of Section IV.B.3 of Appendix I to 10CFR50. Results are shown in Tables 3.9-A and 3.9-B.

Participation in an interlaboratory comparison program is performed in fulfillment of BSEP ODCM Operational Requirement provides for independent checks on the precision and accuracy of measurements of radioactive material in REMP sample matrices. Such checks are performed as part of the quality assurance program for environmental monitoring in order to demonstrate that the results are valid for the purposes of Section IV.B.2 of Appendix I to 10CFR50. A summary of the results obtained as part of this comparison program are in Section 4 of this annual report.

## 2.3 STATISTICAL AND CALCULATIONAL METHODOLOGY

### 2.3.1 ESTIMATION OF THE MEAN VALUE

There was one (1) basic statistical calculation performed on the raw data resulting from the environmental sample analysis program. The calculation involved the determination of the mean value for the indicator and the control samples for each sample medium. The mean is a widely used statistic. This value was used in the reduction of the data generated by the sampling and analysis of the various media in the Radiological Environmental Monitoring Program. "Net activity (or concentration)" is the activity (or concentration) determined to be present in the sample. No "Minimum Detectable Activity", "Lower Limit of Detection", "Less Than Level", or negative activities or concentrations are included in the calculation of the mean. The following equation was used to estimate the mean:

$$\bar{x} = \frac{\sum_{i=1}^N x_i}{N}$$

Where:

$\bar{x}$  = estimate of the mean,

i = individual sample,

N = total number of samples with a net activity (or concentration),

$x_i$  = net activity (or concentration) for sample i.

### 2.3.2 LOWER LIMIT OF DETECTION AND MINIMUM DETECTABLE ACTIVITY

The Lower Limit of Detection (LLD) and Minimum Detectable Activity (MDA) are used throughout the REMP.

**LLD** - The LLD, as defined in the Offsite Dose Calculation Manual (ODCM), is the smallest concentration of radioactive material in an unknown sample that will yield a net count, above the system background, that will be detected with 95% probability with a 5% probability of falsely concluding that a blank observation represents a "real" signal. The LLD is an *a priori* (before the fact) lower limit of detection. The actual LLD is dependent upon the standard deviation of the background counting rate, the counting efficiency, the sample size (mass or volume), the radiochemical yield and the radioactive decay of the sample between sample collection and counting. The "required" LLDs for each sample medium and selected radionuclides are given in the ODCMs and are listed in Table 2.2-C.

**MDA** - The MDA is the net counting rate (sample after subtraction of background) that must be surpassed before a sample is considered to contain a scientifically measurable

amount of a radioactive material exceeding background amounts. The MDA is calculated using a sample background and may be thought of as an "actual" LLD for a sample measurement. Certain gross counting measurements display a calculated negative value, indicating background is greater than sample activity.

### **2.3.3 TREND IDENTIFICATION**

One of the purposes of an environmental monitoring program is to determine if there is a buildup of radionuclides in the environment due to the operation of the nuclear station. Visual inspection of tabular or graphical presentations of data (including preoperational) is used to determine if a trend exists. A decrease in a radionuclide's concentration in an environmental medium does not indicate that reactor operations are removing radioactivity from the environment but that reactor operations are not adding that radionuclide to the environment in quantities exceeding the preoperational level and that the normal removal processes (radioactive decay, deposition, resuspension, etc.) are influencing the concentration.

Substantial increases or decreases in the amount of a radionuclide's release from the nuclear plant will greatly affect the resulting environmental levels; therefore, a knowledge of the release of a radionuclide from the nuclear plant is necessary to completely interpret the trends, or lack of trends, determined from the environmental data. Factors that may affect environmental levels of radionuclides include prevailing weather conditions (periods of drought, solar cycles or heavier than normal precipitation), construction in or around either the nuclear plant or the sampling location, and addition or deletion of other sources of radioactive materials (such as the 1986 Chernobyl accident and the 2011 Japan earthquake and tsunami, which triggered the Fukushima Dai-ichi Nuclear Power Plant incident). Some of these factors may be obvious while others are sometimes unknown. Therefore, how trends are identified will include some judgment by plant personnel.

Figure 2.1-1

BSEP Environmental Sampling Locations - One mile radius

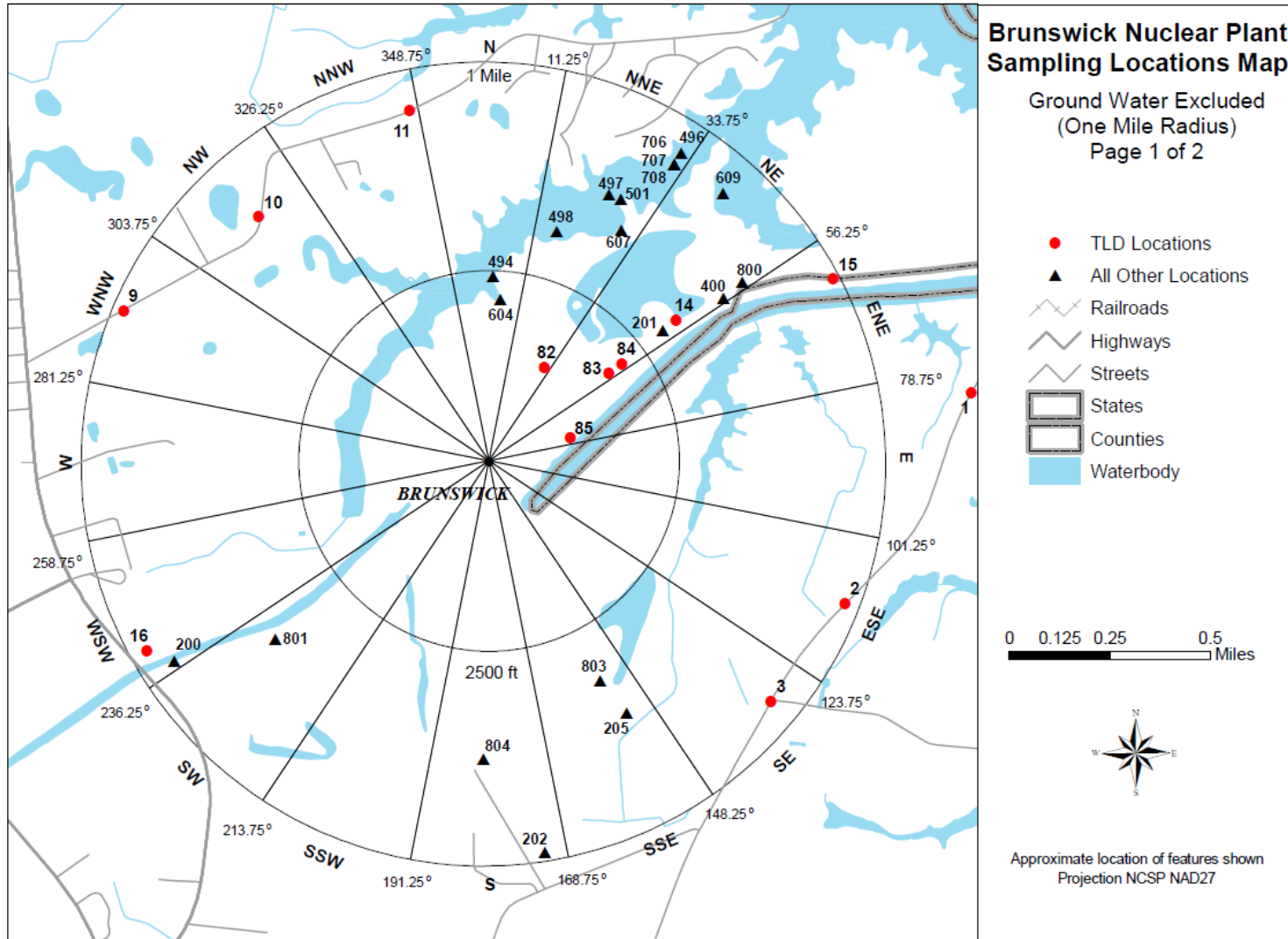


Figure 2.1-2

BSEP Environmental Sampling Locations (Ground Water Only) - One mile radius

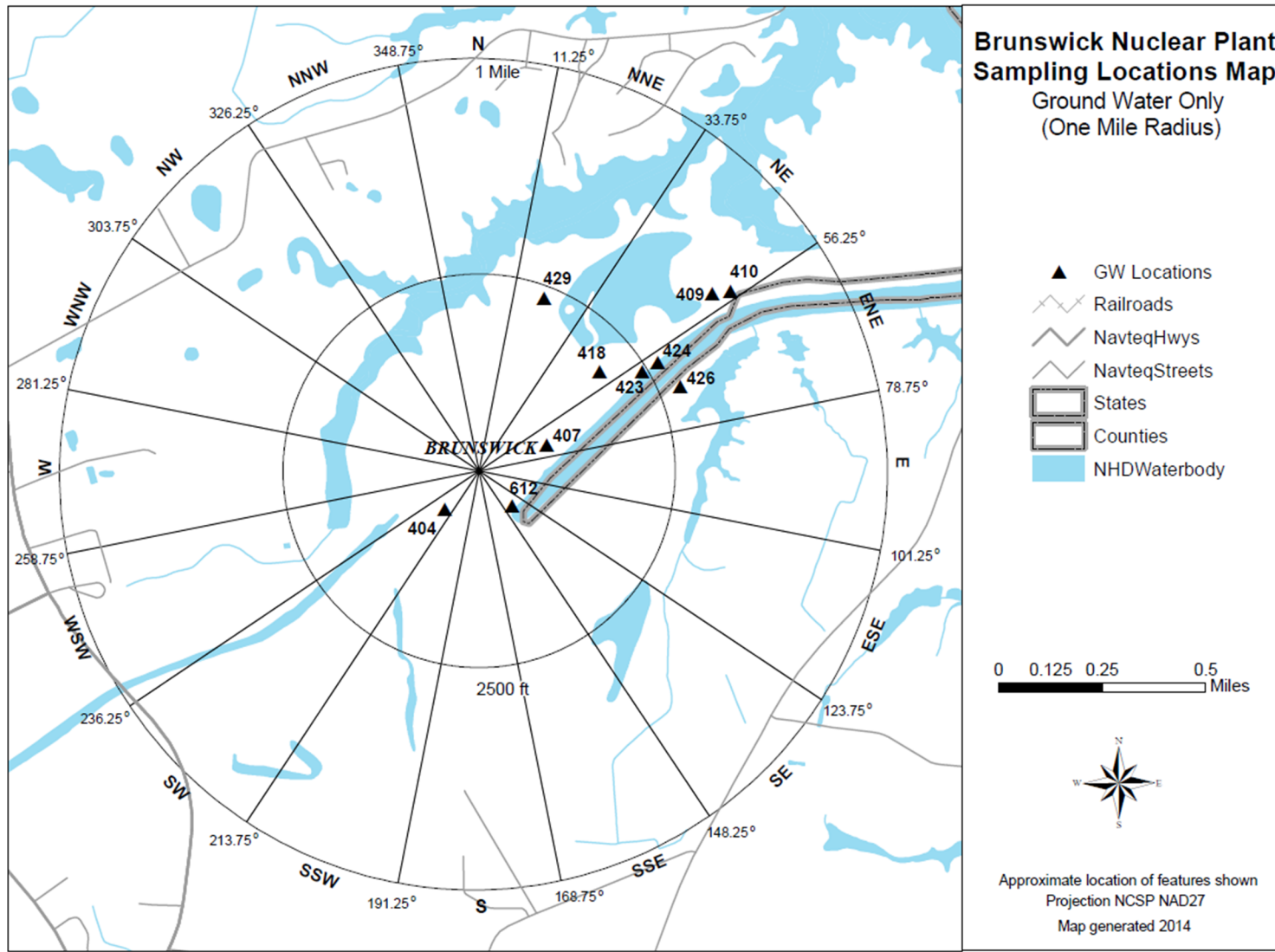
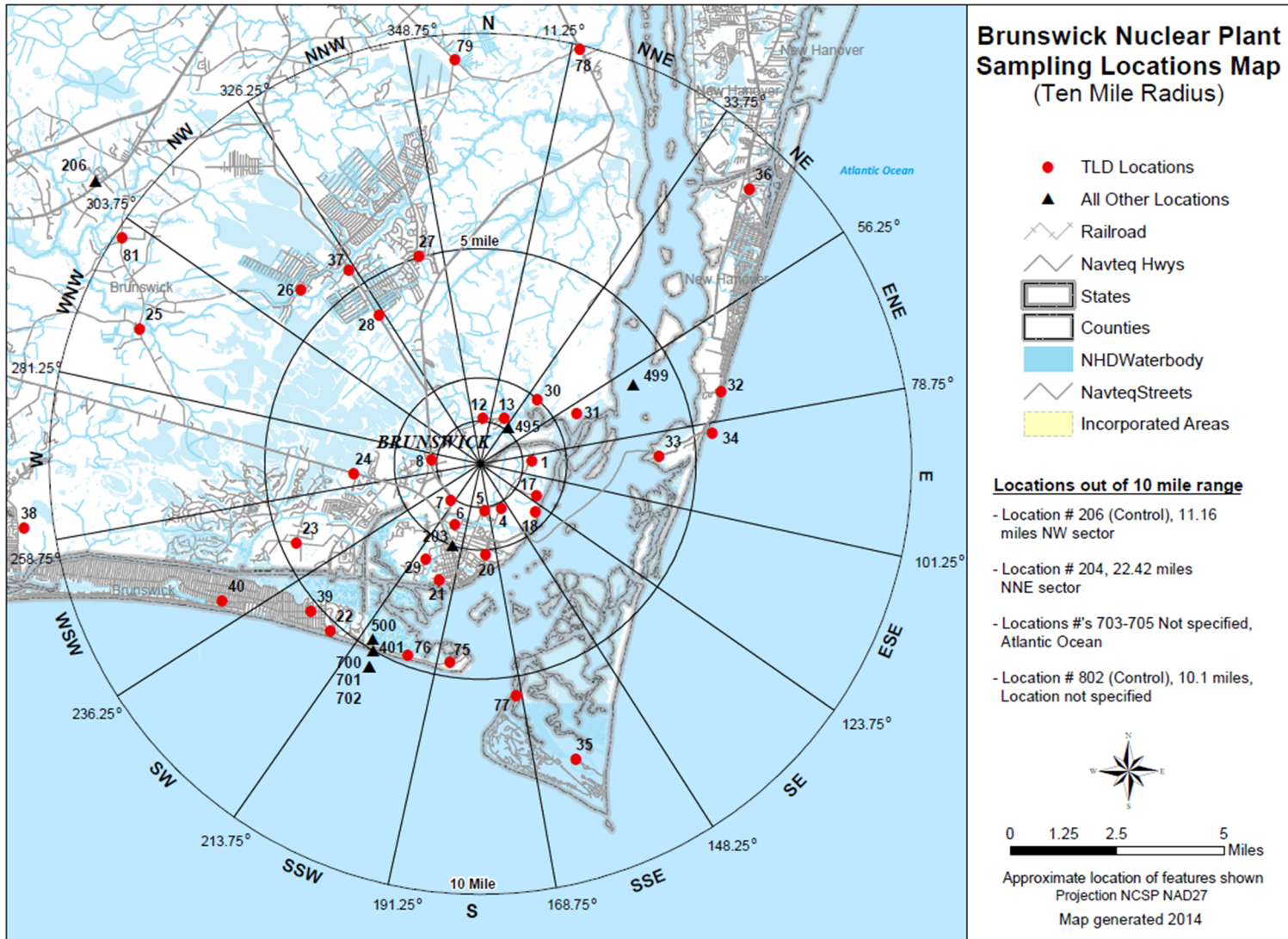


Figure 2.1-3

BSEP Environmental Sample Locations - Ten mile radius



**TABLE 2.1-A**

**RADIOLOGICAL MONITORING PROGRAM SAMPLING LOCATIONS**

**BRUNSWICK STEAM ELECTRIC PLANT (BSEP) ODCM**

Table 2.1-A Codes			
W	Weekly	C	Control
M	Monthly	I	Indicator
Q	Quarterly		
SA	Semiannually		
A	Annually		

Site #	Type	Location Description*	Air Radiiodine & Air Particulate	Surface Water	Shoreline Sediment	Fish (FI)	Broadleaf Vegetation	Ground Water
200	I	1.0 miles WSW – Visitors Center	W/Q					
201	I	0.5 miles NE – Bio Lab Rd. – Projected Maximum Annual Concentration (PMAC)	W/Q					
202	I	1.0 mile S – Substation, Construction Rd.	W/Q					
203	I	2.0 miles SSW – Southport Substation	W/Q					
204	C	22.4 miles NNE – Sutton Plant (Historical Control)	W/Q					
205	I	0.6 miles SSE – Spoil Pond	W/Q					
206	C	11.3 miles NW – Brunswick County Complex	W/Q					
400	C	0.6 miles NE – Intake Canal		M				
401	I	4.9 miles SSW – Discharge Canal @ OD Pumps		M				
404	I	0.16 miles SW, Monitoring Well ESS-1B						Q/SA
407	I	0.06 miles ENE, Monitoring Well ESS-13B						Q/SA
409	I	0.65 miles NE, Monitoring Well ESS-17A						Q/SA
410	I	0.65 miles NE, Monitoring Well ESS-17B						Q/SA
418	I	Monitoring Well ESS-21B, Near SDSP						Q/SA
423	I	Monitoring Well ESS-24A, Near SDSP						Q/SA
424	I	Monitoring Well ESS-24B, Near SDSP						Q/SA
426	I	Monitoring Well ESS-25B, Near SDSP						Q/SA
429	I	Monitoring Well ESS-27A, Near SDSP						Q/SA
494	I	Nancy’s Creek Marsh Area – WP-106		M				
495	I	Nancy’s Creek – WP-52		M				
496	I	Nancy’s Creek – WP-53		M				
497	I	Nancy’s Creek – WP-55		M				
498	I	Nancy’s Creek – WP-57		M				
499	C	Cape Fear River – WP-61		M				
500	I	5.0 miles SSW – Discharge – Beach near OD Pumps			SA			
501	I	Nancy’s Creek, Adjacent to WP-55, Near SDSP			A			
604	I	Nancy’s Creek Marsh Area – WP-92		M				
607	I	Nancy’s Creek Marsh Area – WP-76		M				
609	I	Nancy’s Creek Marsh Area – WP-84		M				
612	I	Monitoring Well ESS MWPA-118B, Near Intake Canal and Plant Stack						Q/SA
700	I	5.5 miles SSW – Atlantic Ocean @ discharge (Free Swimmer)				SA <sup>(b)(c)</sup>		
701	I	5.5 miles SSW – Atlantic Ocean @ discharge (Bottom Feeders)				SA <sup>(b)(c)</sup>		
702	I	5.5 miles SSW – Atlantic Ocean @ discharge (Shellfish/Invertebrates)				SA <sup>(b)(c)</sup>		
703	C	Atlantic Ocean; location not specified (Free Swimmer)				SA <sup>(b)(c)</sup>		
704	C	Atlantic Ocean; location not specified (Bottom Feeder)				SA <sup>(b)(c)</sup>		
705	C	Atlantic Ocean; location not specified (Shellfish/Invertebrates)				SA <sup>(b)(c)</sup>		



**TABLE 2.1-A (Continued)**

Site #	Type	Location Description*	Air Radioidine & Air Particulate	Surface Water	Shoreline Sediment	Fish (FI)	Broadleaf Vegetation	Ground Water
706	I	Nancy's Creek; location not specified (Free Swimmer)				A <sup>(b)</sup>		
707	I	Nancy's Creek; location not specified (Bottom Feeder)				A <sup>(b)</sup>		
708	I	Nancy's Creek; location not specified (Shellfish/Invertebrates)				A <sup>(b)</sup>		
800	I	0.7 miles NE – Intake Canal					M <sup>(a)</sup>	
801	I	0.8 miles SW – Discharge Canal					M <sup>(a)</sup>	
802	C	10.1 miles – Location not Specified					M <sup>(a)</sup>	
803	I	0.6 miles SSE – Spoil Pond					M <sup>(a)</sup>	
804	I	0.7 miles S – Leonard Street plant exit adjacent to RR tracks					M <sup>(a)</sup>	

(a) When Available

(b) Edible Portions

(c) When in Season

\* GPS data reflect approximate accuracy to within 2-5 meters. GPS field measurements were taken as close as possible to the item of interest.

SDSP: Storm Drain Stabilization Pond

**TABLE 2.1-B**

**RADIOLOGICAL MONITORING PROGRAM SAMPLING LOCATIONS (TLD SITES)**

**BRUNSWICK STEAM ELECTRIC PLANT (BSEP)**

Table 2.1-B Codes			
IR	Inner Ring	OR	Outer Ring
ISFSI	Independent Spent Fuel Storage Installation		
C	Control	SI	Special Interest

Site #	Measure Type	Location*	Distance (miles)	Sector	Site #	Measure Type	Location*	Distance (miles)	Sector
1	IR	1.1 miles E	1.1	E	27	OR	5.1 miles NNW	5.1	NNW
2	IR	0.9 miles ESE	0.9	ESE	28	OR	4.2 miles NW	4.2	NW
3	IR	0.9 miles SE	0.9	SE	29	IR	2.6 miles SSW	2.6	SSW
4	IR	1.1 miles SSE	1.1	SSE	30	IR	2.0 miles NE	2.0	NE
5	IR	1.1 miles S	1.1	S	31	IR	2.5 miles ENE	2.5	ENE
6	IR	1.6 miles SSW	1.6	SSW	32	OR	5.8 miles ENE	5.8	ENE
7	IR	1.1 miles SW	1.1	SW	33	OR	4.1 miles E	4.1	E
8	IR	1.2 miles W	1.2	W	34	OR	5.4 miles E	5.4	E
9	IR	1.0 miles WNW	1.0	WNW	35	OR	7.3 miles SSE	7.3	SSE
10	IR	0.8 miles NW	0.8	NW	36	OR	8.9 miles NE	8.9	NE
11	IR	0.9 miles NNW	0.9	NNW	37	OR	5.5 miles NW	5.5	NW
12	IR	1.1 miles N	1.1	N	38	OR	11.0 miles W	11.0	W
13	IR	1.2 miles NNE	1.2	NNE	39	OR	5.3 miles SW	5.3	SW
14	IR	0.5 miles NE	0.5	NE	40	OR	6.9 miles WSW	6.9	WSW
15	IR	0.9 miles ENE	0.9	ENE	75	OR	4.7 miles S	4.7	S
16	IR	1.0 miles WSW	1.0	WSW	76	OR	4.8 miles SSW	4.8	SSW
17	IR	1.4 miles ESE	1.4	ESE	77	OR	5.4 miles S	5.4	S
18	IR	1.7 miles	1.7		78	OR	9.9 miles NNE	9.9	NNE
20	IR	2.1 miles S	2.1	S	79	OR	9.5 miles N	9.5	N
21	IR	2.9 miles SSW	2.9	SSW	81	C	9.9 miles WNW	9.9	WNW
22	OR	5.3 miles SW	5.3	SW	82	ISFSI	0.17 miles NNE @ SW corner of ISFSI	0.17	NNE
23	OR	4.6 miles WSW	4.6	WSW	83	ISFSI	0.27 miles NE @ NW corner ISFSI	0.27	NE
24	IR	3.0 miles W	3.0	W	84	ISFSI	0.27 miles NE @ NE corner of ISFSI	0.27	NE
25	OR	8.6 miles WNW	8.6	WNW	85	ISFSI	0.09 miles ENE @ SE corner of ISFSI	0.09	ENE
26	OR	5.9 miles NW	5.9	NW					

\* GPS data reflect approximate accuracy to within 2-5 meters. GPS field measurements were taken as close as possible to the item of interest.

**TABLE 2.2-A****REPORTING LEVELS FOR RADIOACTIVITY  
CONCENTRATIONS IN ENVIRONMENTAL SAMPLES**

Analysis	Water (pCi/liter)	Airborne Particulate and Gases (pCi/m <sup>3</sup> )	Fish (pCi/kg, wet)	Milk (pCi/liter)	Broadleaf Vegetation (pCi/kg)
H-3	30,000				
Mn-54	1,000		30,000		
Fe-59	400		10,000		
Co-58	1,000		30,000		
Co-60	300		10,000		
Zn-65	300		20,000		
Zr-Nb-95	400				
I-131	2	0.9		3	100
Cs-134	30	10	1,000	60	1,000
Cs-137	50	20	2,000	70	2,000
Ba-La-140	200			300	

**TABLE 2.2-B****REMP ANALYSIS FREQUENCY**

Sample Medium	Analysis Schedule	Gamma Isotopic	Tritium	Gross Beta	TLD
Air Radioiodine	Weekly	X			
Air Particulate	Weekly			X	
	Quarterly	X			
Direct Radiation (TLD)	Quarterly				X
Surface Water	Monthly Composite (400 & 401)	X	X		
	Monthly Grab (494 - 499, 604, 607, & 609)	X	X		
Ground Water	Quarterly Grab		X		
	Semiannual Grab	X			
Shoreline Sediment	Semiannually (500)	X			
	Annually (501)	X			
Fish and Shellfish/Invertebrates <sup>(a)</sup>	Semiannually (700 – 705)	X			
	Annually (706 – 708)	X			
Broadleaf Vegetation <sup>(b)</sup>	Monthly <sup>(b)</sup>	X			

(a) Edible portions

(b) When available

**TABLE 2.2-C**

**DETECTION CAPABILITIES FOR THE *A PRIORI* LOWER LIMIT OF DETECTION<sup>(a)(b)(d)</sup>**

Analysis	Water (pCi/liter)	Airborne Particulates or Gases (pCi/m <sup>3</sup> )	Fish (pCi/kg, wet)	Milk (pCi/liter)	Broadleaf Vegetation (pCi/kg, wet)	Sediment (pCi/kg, dry)
Gross Beta	4	0.01				
H-3	3000					
Mn-54	15		130			
Fe-59	30		260			
Co-58, 60	15		130			
Zn-65	30		260			
Zr-Nb-95	15					
I-131	1 <sup>(c)</sup>	0.07		1	60	
Cs-134	15	0.05	130	15	60	150
Cs-137	18	0.06	150	18	80	180
Ba-La-140	15			15		

- (a) This list does not mean that only these nuclides are to be considered. Other peaks that are identifiable, together with these of the above nuclides, shall be analyzed and reported in the AREOR.
- (b) The LLD is defined in the BSEP ODCM.
- (c) LLD for drinking water samples. If no drinking water pathway exists, a value of 15 pCi/L may be used.
- (d) The LLD for each analysis is specified, with the exception of the Nancy's Creek Marsh Area principal gamma isotopic and I-131. The LLD for the Nancy's Creek Marsh Area gamma isotopic is  $5 \times 10^{-7}$   $\mu$ Ci/ml for Principal Gamma Emitters and  $1 \times 10^{-6}$   $\mu$ Ci/ml for I-131.

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## 3.0 INTERPRETATION OF RESULTS

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Review of 2018 REMP analysis results was performed to detect and identify changes in environmental levels as a result of station operation. The radionuclides with ODCM reporting levels that indicate consistent detectable activity have been historically trended from preoperation to present. Summary tables containing 2018 information required by Technical Specification Administrative Control 5.6.2, BSEP ODCM 7.4.1 are located in Appendix B. Brunswick 2018 REMP results are located in Appendix E.

The highest annual mean concentration of applicable ODCM radionuclides from the indicator locations for each media type was used for trending purposes. Trending was performed by comparing annual mean concentrations to historical results. Factors evaluated include the frequency of detection and the concentration in terms of the percent of the radionuclide's ODCM reporting level (Table 2.2-A). Evaluation for significant trends was performed for radionuclides that are listed as required in the BSEP ODCM. The radionuclides include: H-3, Mn-54, Fe-59, Co-58, Co-60, Zn-65, Zr-95, Nb-95, I-131, Cs-134, Cs-137, Ba-140 and La-140. Gross beta results were trended for air particulate and tritium in surface water samples.

Review of the 2018 data presented in this section supports the conclusion that there were no significant changes in environmental sample radionuclide concentrations of samples collected and analyzed from BSEP and surrounding areas that were attributable to plant operations. The radiological environmental data for 2018 indicates that radioactivity concentrations were not higher than expected and all positively identified measurements attributable to BSEP operations in 2018 were within limits as specified in the BSEP ODCM, thus presenting no significant impact on the environment or public health and safety.

Data presented in Sections 3.1 through 3.8 support the conclusion that there was no significant increase in radioactivity in the environment around Brunswick Steam Electric Plant due to station operations in 2018. Similarly, there was no significant increase in ambient background radiation levels in the surrounding areas. The 2018 land use census data, shown in Section 3.9, indicates that no program changes are required as a result of the census.

### **3.1 AIRBORNE RADIOIODINE AND PARTICULATES**

In 2018, 361 radioiodine and particulate samples were analyzed, 258 from five indicator locations and 103 from the two control locations. The air samplers operated for a total of 98.04% availability for the 2018 year, with most air sampler downtime (Appendix C) being attributable to significant weather event Hurricane Florence. Particulate samples were analyzed weekly for gross beta. A quarterly gamma analysis was performed on the quarterly filter composite (by location). Radioiodine samples received a weekly gamma analysis.

Gross beta analyses indicated  $1.72\text{E-}2$  pCi/m<sup>3</sup> at the location with the highest annual mean and  $1.69\text{E-}2$  pCi/m<sup>3</sup> at the two control locations. One air particulate filter from location 205 (0.6 mi SSE) for monitoring period 3/13–3/20/2019 incurred slight damage (puncture hole) during the collection period but there were no discernible analytical effects observed (NCR # 02193413).

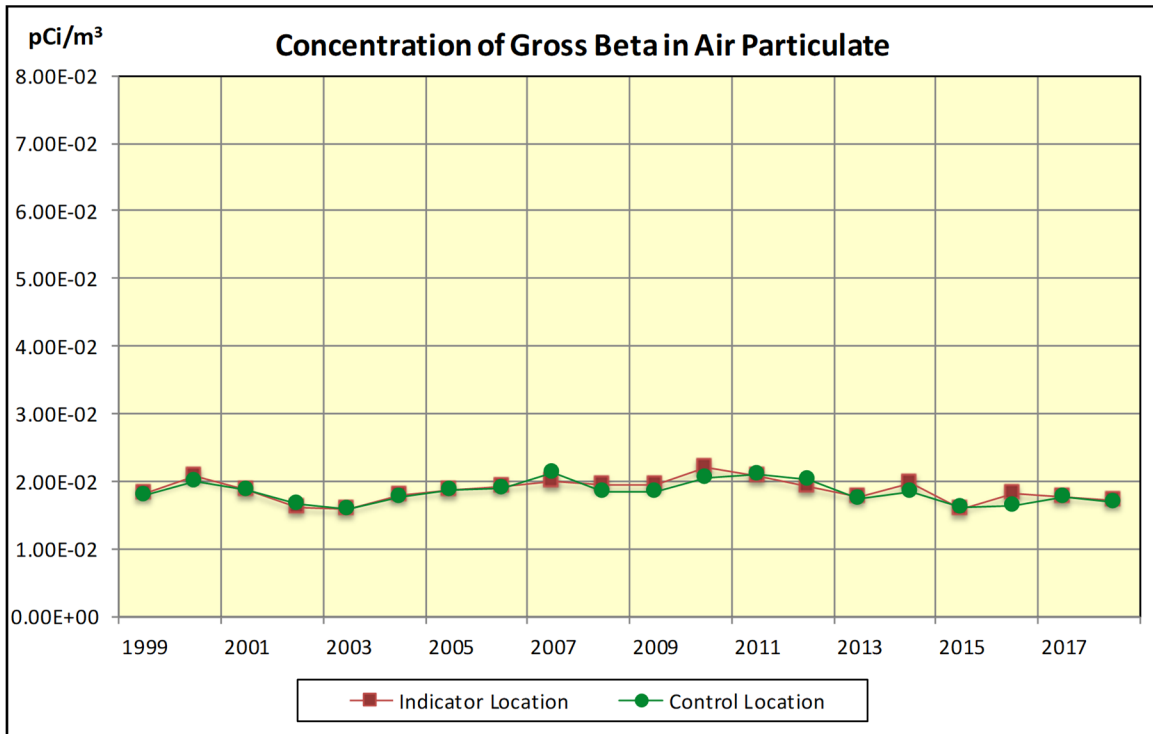
Cs-137 was observed in four indicator radioiodine (charcoal cartridge) samples and two control location radioiodine samples (NCR # 02185225, NCR # 02238598). The highest annual mean indicator Cs-137 concentration from location 200 was  $1.24\text{E-}02$  pCi/m<sup>3</sup>, which is 0.06% of the 20 pCi/m<sup>3</sup> reporting level. Control location 206 annual mean Cs-137 concentration was  $1.08\text{E-}02$  pCi/m<sup>3</sup>, which is 0.05% of the reporting level. Cs-137 detection on charcoal cartridges was determined to possibly be an active constituent of the charcoal media prior to placement in air sampling equipment (NCR # 02185225).

Figure 3.1 and Table 3.1-A provide individual sample gross beta results for the highest annual mean indicator location and the control locations concentration since 1999. There is no reporting level for gross beta in air particulate.

Table 3.1-B gives indicator location highest annual means and control means since 1999 for I-131. No I-131 activity due to BSEP operation has been detected since 2006. Since no activity was detected in 2018, no reporting levels were approached.

K-40 and Be-7 observed in air samples are naturally occurring radionuclides.

Figure 3.1



**Table 3.1-A Mean Concentration of Gross Beta in Air Particulate**

Year	Indicator Location (pCi/m <sup>3</sup> )	Control Location (pCi/m <sup>3</sup> )
1999	1.82E-2	1.80E-2
2000	2.08E-2	2.01E-2
2001	1.87E-2	1.87E-2
2002	1.62E-2	1.66E-2
2003	1.59E-2	1.59E-2
2004	1.78E-2	1.77E-2
2005	1.86E-2	1.88E-2
2006	1.92E-2	1.90E-2
2007	2.01E-2	2.13E-2
2008	1.94E-2	1.83E-2
2009	1.95E-2	1.83E-2
2010	2.20E-2	2.06E-2
2011	2.08E-2	2.10E-2
2012	1.93E-2	2.03E-2
2013	1.77E-2	1.74E-2
2014	1.97E-2	1.84E-2
2015	1.58E-2	1.60E-2
2016	1.82E-2	1.63E-2
2017	1.77E-2	1.76E-2
2018	1.72E-2	1.69E-2

**Table 3.1-B Mean Concentration of Air Radioiodine (I-131)**

Year	Indicator Location (pCi/m <sup>3</sup> )	Control Location (pCi/m <sup>3</sup> )
1999	0.00E+0	0.00E+0
2000	0.00E+0	0.00E+0
2001	0.00E+0	0.00E+0
2002	0.00E+0	0.00E+0
2003	0.00E+0	0.00E+0
2004	0.00E+0	0.00E+0
2005	0.00E+0	0.00E+0
2006 <sup>(1)</sup>	5.31E-2	0.00E+0
2007	0.00E+0	0.00E+0
2008	0.00E+0	0.00E+0
2009	0.00E+0	0.00E+0
2010	0.00E+0	0.00E+0
2011 <sup>(2)</sup>	1.31E-1	1.00E-1
2012	0.00E+0	0.00E+0
2013	0.00E+0	0.00E+0
2014 <sup>(3)</sup>	0.00E+0	0.00E+0
2015	0.00E+0	0.00E+0
2016	0.00E+0	0.00E+0
2017	0.00E+0	0.00E+0
2018	0.00E+0	0.00E+0

0.00E+0 indicates no detectable measurements

(1) 2006 concentration affected by plant conditions (NCR # 0211934).

(2) 2011 concentrations affected by Fukushima Dai-ichi (NCR # 0456564).

(3) 2014 Gamma spectroscopy system was replaced 10JUL2014. Gamma spectroscopy system hardware, detector cooling apparatus, software, electronics, nuclide identification libraries, and analytical test matrix components for test matrices were modified (NCR # 0739995). No analytical changes were noted due to the 2014 gamma spectroscopy system change.



### 3.2 SURFACE WATER

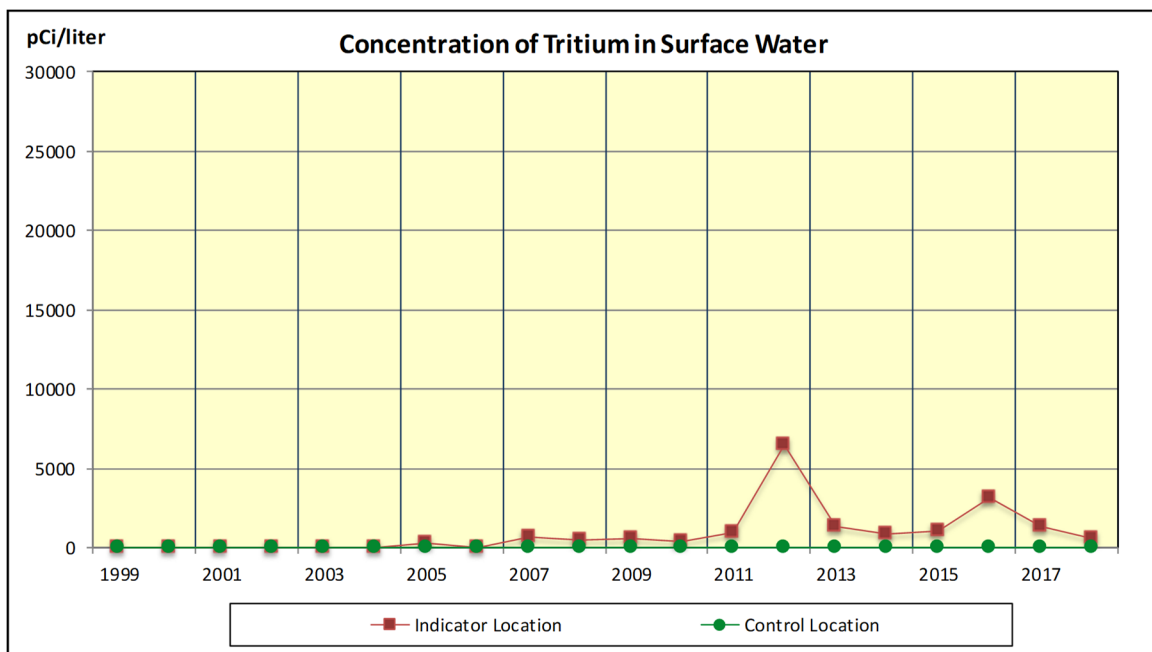
In 2018, 132 surface water samples were analyzed for gamma emitting radionuclides and tritium. Surface water samples were taken monthly from the intake canal, the discharge canal, and five Nancy's Creek surface water locations and four Nancy's Creek Marsh Area surface water locations.

No detectable gamma activity attributable to BSEP operation was found in surface water samples in 2018. K-40 and Be-7 observed in some surface water samples are naturally occurring radionuclides. Tritium was detected in 7 of the 132 surface water samples taken in 2018. Tritium was not detected in any of the control location samples in 2018.

The predominate indicator location indicating tritium in 2018 was at location 604, Nancy's Creek Marsh Area (Waypoint-92). Seven of the twelve samples from location 604 indicated the presence of tritium. Indicator samples from Nancy's Creek and Nancy's Creek Marsh Area had an average tritium concentration of 536 pCi/L. The reporting limit for tritium in environmental surface water samples is 30,000 pCi/L.

Figure 3.2 displays the tritium results for the highest annual mean indicator and control locations concentrations since 1999. Table 3.2 lists the highest annual mean concentrations for indicator and control locations.

Figure 3.2



*There is no reporting level for tritium in surface water; however, if no drinking water pathway exists, a value of 30,000 pCi/l may be used.*

**Table 3.2 Mean Concentration of Tritium in Surface Water**

<b>Year</b>	<b>Indicator Location (pCi/l)</b>	<b>Control Location (pCi/l)</b>
1999	0.00E+0	0.00E+0
2000	0.00E+0	0.00E+0
2001	0.00E+0	0.00E+0
2002	0.00E+0	0.00E+0
2003	0.00E+0	0.00E+0
2004	0.00E+0	0.00E+0
2005	3.22E+2	0.00E+0
2006	0.00E+0	0.00E+0
2007	6.30E+2	0.00E+0
2008	4.85E+2	0.00E+0
2009	5.75E+2	0.00E+0
2010	3.39E+2	0.00E+0
2011	9.28E+2	0.00E+0
2012	6.47E+3	0.00E+0
2013	1.29E+3	0.00E+0
2014	8.80E+2	0.00E+0
2015	1.02E+3	0.00E+0
2016	3.18E+3	0.00E+0
2017	1.33E+3	0.00E+0
2018	5.36E+2	0.00E+0

0.00E+0 indicates no detectable measurements

### **3.3 GROUND WATER**

In 2018, 41 ground water samples were collected from ten indicator locations and analyzed for gamma emitting radionuclides and tritium. Grab samples were collected quarterly for tritium testing and semiannually for gamma spectroscopy testing. There is no ground water control location sampled.

No detectable gamma activity attributable to BSEP operation was found in ground water samples in 2018. K-40 observed in some ground water samples is a naturally occurring radionuclide. Tritium was detected in 6 of the 41 indicator ground water samples taken in 2018 with a mean tritium concentration of 322 pCi/L.

Brunswick county utilizes water from the Cape Fear River, which is processed at the Northwest Water Treatment Plant, and groundwater that is pumped from the Castle Hayne Aquifer, which is processed at the 211 Water Treatment Plant in Southport. The 211 Water Treatment Plant supplies drinking water to Southport, Oak Island, and St. James Plantation. The 211 Water Treatment Plant uses ground water from fourteen wells screened in the Castle Hayne formation approximately 175 feet below the ground's surface and is located approximately 4 miles northwest, up gradient, of the site according to the North Carolina Department of Environmental Quality (NCDEQ) Public Water Supply Section and the Brunswick County Public Utilities Water Distribution Division. The City of Southport has a network of ground water supply wells installed in the Castle Hayne and PeeDee aquifers, within two miles of the BNP Storm Drain Stabilization Pond (SDSP) area; however, these wells are only maintained as emergency or backup supply wells. Between the Ground Water Program at BSEP, the BSEP REMP, the information provided by the Castle Hayne Aquifer/ formation, and Silar Services, Inc.; the drinking water source for the public is sufficiently monitored and a control point for sampling drinking water is not needed.

Table 3.3 lists the tritium results for the highest annual mean concentrations for indicator locations since 1999.

**Table 3.3 Mean Concentration of Tritium in Ground Water**

<b>Year</b>	<b>Indicator Location (pCi/l)</b>	<b>Control Location (pCi/l)</b>
1999	N/A	N/A
2000	N/A	N/A
2001	N/A	N/A
2002	N/A	N/A
2003	N/A	N/A
2004	N/A	N/A
2005	N/A	N/A
2006	N/A	N/A
2007	N/A	N/A
2008	1.50E+6	No Control
2009	6.48E+5	No Control
2010	5.66E+5	No Control
2011	3.10E+2	No Control
2012	4.00E+2	No Control
2013	4.66E+2	No Control
2014	6.54E+2	No Control
2015	4.02E+2	No Control
2016	0.00E+0	No Control
2017	3.76E+2	No Control
2018	3.22E+2	No Control

0.00E+0 indicates no detectable measurements

N/A indicates that Ground Water samples were not part of the BSEP REMP until 2008.

### **3.4 MILK**

No milk sampling locations are currently identified in BSEP environs, therefore no sampling of this media was available or performed in 2018.

### 3.5 BROADLEAF VEGETATION

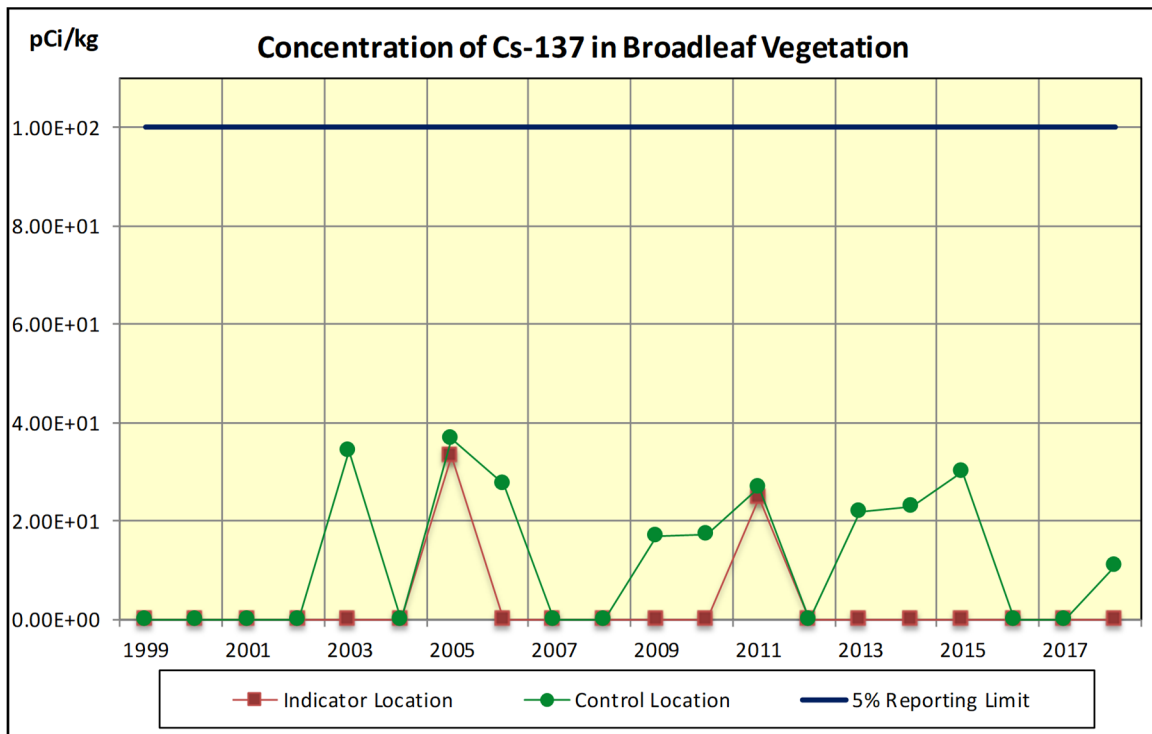
In 2018, 60 broadleaf vegetation samples were collected monthly and analyzed by gamma spectroscopy, 48 at the four indicator locations and twelve at the control location.

Gamma spectroscopy analysis did not detect Cs-137 in any of the indicator locations, but did identify Cs-137 in two of the twelve control location samples. Cs-137 was detected at control location 802 with a mean concentration of 10.7 pCi/kg which represents 0.54% of the reporting level.

It is not unusual for Cs-137 to be present in broadleaf vegetation. It is a constituent of nuclear weapons test fallout and nuclear plant accidents and has been observed in samples from indicator and control locations since the preoperational period. Figure 3.5 displays the highest annual mean indicator and control location concentrations for Cs-137 in broadleaf vegetation since 1999. Table 3.5 lists the highest indicator location annual mean and control location annual means for Cs-134, Cs-137, Co-60, and I-131 since 1999. Visual inspection of the tabular data did not reveal any increasing trends.

K-40 and Be-7 observed in broadleaf vegetation samples are naturally occurring radionuclides.

Figure 3.5



**Table 3.5 Mean Concentrations of Radionuclides in Broadleaf Vegetation (pCi/kg)**

Year	Cs-134 Indicator	Cs-134 Control	Cs-137 Indicator	Cs-137 Control	Co-60 Indicator	Co-60 Control	I-131 Indicator	I-131 Control
1999	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
2000	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
2001	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
2002	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
2003	0.00E+0	0.00E+0	0.00E+0	3.42E+1	0.00E+0	0.00E+0	0.00E+0	0.00E+0
2004	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
2005	0.00E+0	0.00E+0	3.32E+1	3.66E+1	0.00E+0	0.00E+0	0.00E+0	0.00E+0
2006	0.00E+0	0.00E+0	0.00E+0	2.73E+1	0.00E+0	0.00E+0	0.00E+0	0.00E+0
2007	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
2008	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
2009	0.00E+0	0.00E+0	0.00E+0	1.69E+1	4.94E+1	0.00E+0	0.00E+0	0.00E+0
2010	0.00E+0	0.00E+0	0.00E+0	1.73E+1	0.00E+0	0.00E+0	0.00E+0	0.00E+0
2011 <sup>(1)</sup>	2.60E+1	1.64E+1	2.48E+1	2.68E+1	0.00E+0	0.00E+0	2.20E+2	1.48E+2
2012	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
2013	0.00E+0	0.00E+0	0.00E+0	2.18E+1	0.00E+0	0.00E+0	0.00E+0	0.00E+0
2014 <sup>(2)</sup>	0.00E+0	0.00E+0	0.00E+0	2.29E+1	0.00E+0	0.00E+0	0.00E+0	0.00E+0
2015	0.00E+0	0.00E+0	0.00E+0	2.98E+1	0.00E+0	0.00E+0	0.00E+0	0.00E+0
2016	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
2017	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
2018	0.00E+0	0.00E+0	0.00E+0	1.07E+1	0.00E+0	0.00E+0	0.00E+0	0.00E+0

0.00E+0 indicates no detectable measurements

(1) 2011 concentration affected by Fukushima Dai-ichi

(2) 2014 Gamma spectroscopy system was replaced 10JUL2014. Gamma spectroscopy system hardware, detector cooling apparatus, software, electronics, nuclide identification libraries, and analytical test matrix components for test matrices were modified (NCR # 0739995). No analytical changes were noted due to the 2014 gamma spectroscopy system change.

### **3.6 FISH and INVERTEBRATES**

In 2018, 14 fish samples were collected and analyzed for gamma emitting radionuclides, eight at the indicator locations and six at the control locations. Fish (free swimmers and bottom feeders), invertebrate (SH), and benthic organism (BO) samples were collected semiannually. Gamma spectroscopy analysis indicated no gamma emitting radionuclides attributable to BSEP plant operations in any indicator or control location fish samples in 2018.

The location 706 December 2018 free swimmer fish sample was unavailable. The free swimmer fish sample volume was insufficient to produce a viable sample for gamma spectroscopy testing. Difficulty in collecting sufficient fish sample volume is attributable to Hurricane Florence rainfall and flooding and the subsequent heavy rainfall during the fourth quarter of 2018. The heavy rainfall and flooding lowered sample location area salinities and river and stream flows kept the estuary systems flushed out so sufficient quantity of free swimmer fish were not available in the Nancy's Creek location during the scheduled sampling period (NCR # 02250000).

K-40 is a naturally occurring radionuclide observed in fish samples.



### 3.7 SHORELINE SEDIMENT

In 2018, three shoreline sediment samples were analyzed from two indicator locations. There is no control shoreline sediment location.

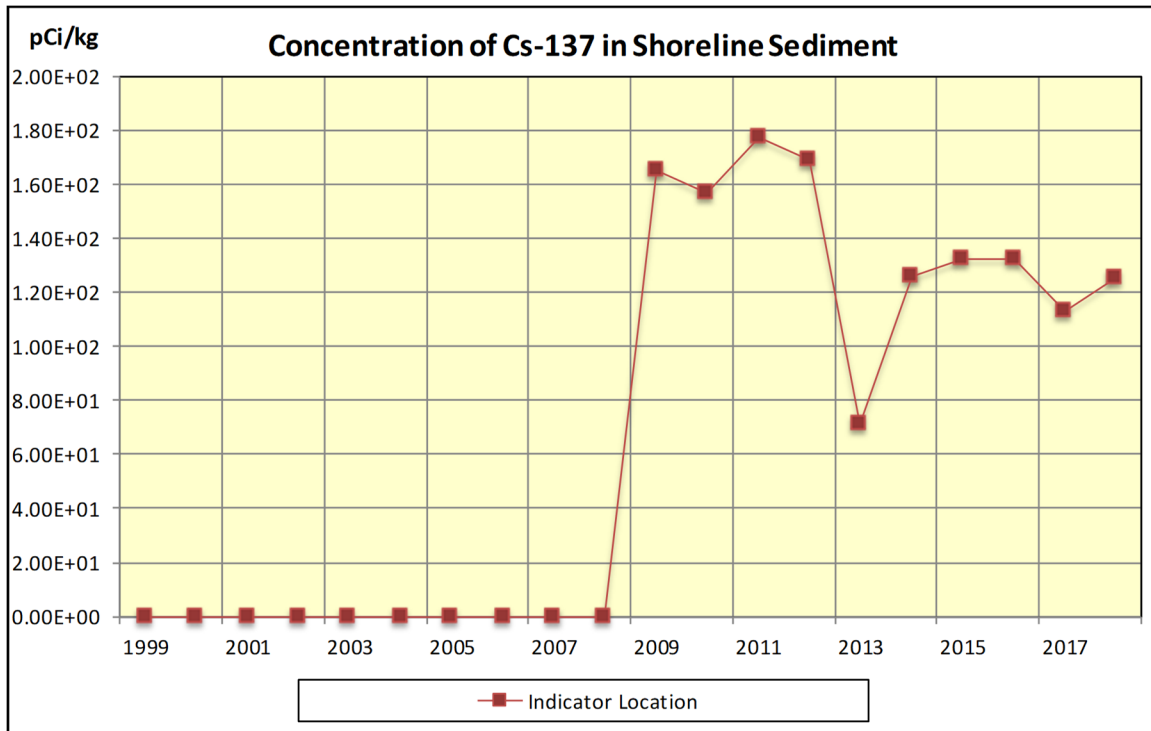
A location 500 (5.0 miles SSW – Discharge – Beach near OD Pumps) sample scheduled for May 2018 sampling was determined as a missed sample (NCR # 02268142). The November 2018 sample was collected for location 500. No detectable activity attributable to BSEP plant operations has been detected in this media at this location since 1995.

Cs-137 activity was detected in one 2018 shoreline sediment sample collected from location 501 (Nancy's Creek, Adjacent to WP-55, Near Storm Drain Stabilization Pond) with a Cs-137 concentration of 125 pCi/kg. The Nancy's Creek sample that indicated Cs-137 activity was analyzed for Ni-63, Fe-55, and Sr-89/90 and all the results were less than detection limit with no activity being detected.

Figure 3.7 shows Cs-137 highest annual mean indicator concentrations since 1999. Table 3.7 shows indicator location highest annual means since 1999. There is no reporting level for shoreline sediment.

K-40 and Be-7 observed in shoreline samples are naturally occurring radionuclides.

**Figure 3.7**



*There is no reporting level for Cs-137 in shoreline sediment*

**Table 3.7 Mean Concentration of Radionuclides in Shoreline Sediment**

<b>YEAR</b>	<b>Cs-137 Indicator (pCi/kg)</b>
1999	0.00E+0
2000	0.00E+0
2001	0.00E+0
2002	0.00E+0
2003	0.00E+0
2004	0.00E+0
2005	0.00E+0
2006	0.00E+0
2007	0.00E+0
2008	0.00E+0
2009	1.65E+2
2010	1.57E+2
2011	1.77E+2
2012	1.69E+2
2013	7.13E+1
2014 <sup>(1)</sup>	1.26E+2
2015	1.32E+2
2016	1.32E+2
2017	1.13E+2
2018	1.25E+2

0.00E+0 indicates no detectable measurements

There is no control location for Shoreline Sediments.

(1) 2014 Gamma spectroscopy system was replaced 10JUL2014. Gamma spectroscopy system hardware, detector cooling apparatus, software, electronics, nuclide identification libraries, and analytical test matrix components for test matrices were modified (NCR # 0739995). No analytical changes were noted due to the 2014 gamma spectroscopy system change.

## **3.8 DIRECT GAMMA RADIATION**

### **3.8.1 ENVIRONMENTAL TLD**

In 2018, 179 TLDs were analyzed, 175 at indicator locations and 4 at the control location. TLDs were collected and analyzed quarterly. Transit TLDs and laboratory background TLDs were used for determining transit and laboratory background dose and were subtracted from gross field readings as required by ANSI N545-1975.

TLD locations designated as "inner ring" are placed in each meteorological sector in the general area of the site boundary as is reasonably accessible and practical and all are used as indicators. Due to close proximity with Brunswick, and most being within the exclusion area boundary, inner ring TLD locations are not good indicators of radiation exposure to a member of the public, but are good at determining nearby environmental effects due to plant operation. Based on their placement, inner ring TLD locations are expected to occasionally be influenced by normal plant operation. TLD locations designated as "outer ring" are placed in each meteorological sector at distances of 8 kilometers or greater from the site as is reasonably accessible and practical. All outer ring TLD locations are used as indicators. The one "control" location is 9.9 miles WNW from station center. This location was chosen to reduce the probability of influence from Brunswick operation on data. The control location is not used as background subtraction in the TLD analysis. Its purpose is to provide a comparison to indicator locations.

The environmental data on external radiation exposure for 2018 was essentially unchanged from 1989-2018, with an average exposure for all of 2018 indicator locations of 10.0 mR per std. quarter. The TLD location with the highest annual mean of 13.9 mR per std. quarter was location 24, located 3.00 miles W of the plant. Control TLD location 81 had an annual mean of 10.0 mR per std. quarter.

Figure 3.8 and Table 3.8-A show TLD inner ring, outer ring, and control location annual averages in mR per std. qtr. since 1999. The differences among these locations are attributed to variations in soils, local geology, and are not the result of plant operations. Table 3.8-B shows average TLD results (All Locations) from 1972 to 1994 in mR per week. Table 3.8-C shows TLD results (All Indicator Locations) from 1995 to present in mR per std. quarter.

As of first quarter 2014, environmental TLDs utilized for the BSEP REMP were Harshaw TLDs, replacing Panasonic TLDs which were utilized prior to 2014 (NCR # 01982479). Starting in 2016, enhanced analytical methods will be evaluated for future implementation when sufficient data is available. The new methods will improve data transparency and interpretation.

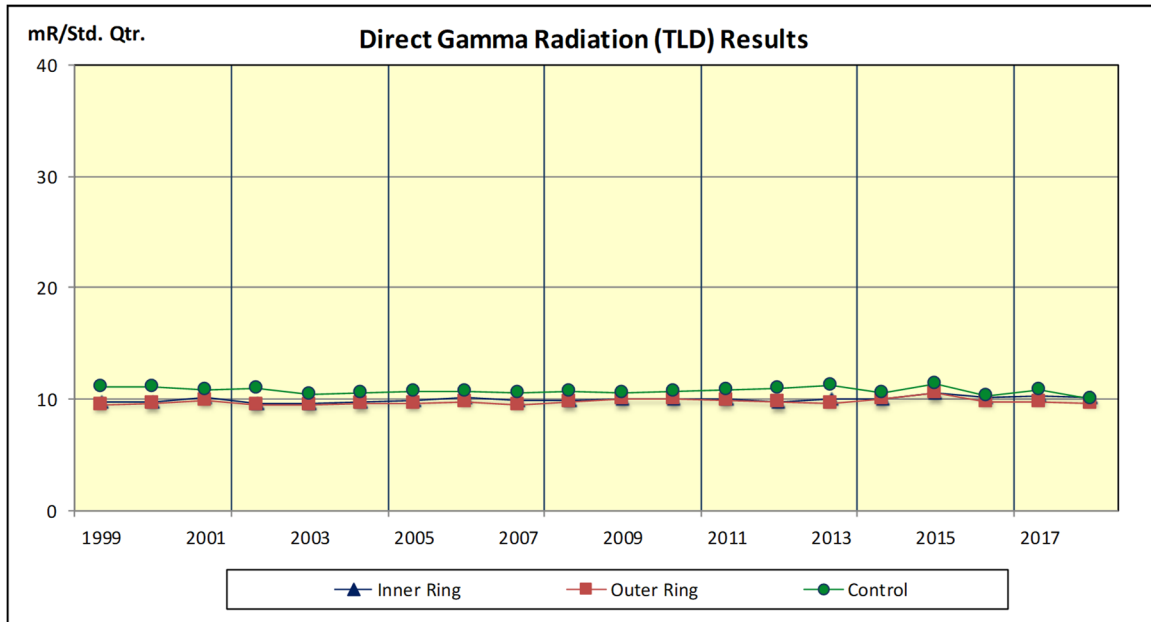
A TLD Intercomparison Program is conducted as part of the quality assurance program. Results of this program are included in Section 4.7.

### **3.8.2 ISFSI**

BSEP ISFSI TLDs were added to the program in the 3<sup>rd</sup> quarter of 2010. The ISFSI TLDs are not part of the plant's environmental TLD monitoring program. Comparison of the

2018 ISFSI TLD data after loaded fuel with preoperational data (2008 – 3<sup>rd</sup> Quarter 2010) indicates that the average pre-op TLD dose levels were about the same as the average after fuel was loaded (Table 3.8-D). Dry fuel storage radiation measurements have been monitored since 2008 and additional information can be found in the BSEP 2018 Annual Radioactive Effluent Release Report (ARERR).

**Figure 3.8**



*There is no reporting level for Direct Radiation (TLD)*

**Table 3.8-A Direct Gamma Radiation (TLD) Results**

<b>Year</b>	<b>Inner Ring Average (mR/Std. Qtr.)</b>	<b>Outer Ring Average (mR/Std. Qtr.)</b>	<b>Control Average (mR/Std. Qtr.)</b>
1999	9.76E+0	9.53E+0	1.11E+1
2000	9.75E+0	9.61E+0	1.11E+1
2001	1.01E+1	9.88E+0	1.09E+1
2002	9.65E+0	9.45E+0	1.09E+1
2003	9.60E+0	9.51E+0	1.05E+1
2004	9.78E+0	9.68E+0	1.06E+1
2005	9.94E+0	9.64E+0	1.07E+1
2006	1.02E+1	9.80E+0	1.07E+1
2007	9.96E+0	9.55E+0	1.06E+1
2008	9.93E+0	9.83E+0	1.07E+1
2009	1.00E+1	9.98E+0	1.06E+1
2010	1.01E+1	1.01E+1	1.07E+1
2011	1.00E+1	9.86E+0	1.08E+1
2012	9.78E+0	9.79E+0	1.10E+1
2013	9.98E+0	9.61E+0	1.12E+1
2014	1.01E+1	9.98E+0	1.05E+1
2015	1.06E+1	1.06E+1	1.14E+1
2016	1.01E+1	9.76E+0	1.03E+1
2017	1.03E+1	9.73E+0	1.08E+1
2018	1.02E+1	9.62E+0	1.00E+1

**Table 3.8-B BSEP TLD RESULTS (1972-1994)**

<b>Year</b>	<b>Average TLD Exposure All Monitoring Locations (mR per week)*</b>
1972 (4th Qtr.)	8.00E-1
1973	1.25E+0
1974	9.70E-1
1975 (1st, 2nd Qtr)	8.00E-1
1976	9.80E-1
1977	1.32E+0
1978	1.24E+0
1979	9.30E-1
1980	9.00E-1
1981	9.60E-1
1982	1.18E+0
1983	1.21E+0
1984	9.80E-1
1985	1.03E+0
1986	8.90E-1
1987	9.20E-1
1988	8.60E-1
1989	7.50E-1
1990	7.60E-1
1991	7.60E-1
1992	7.50E-1
1993	7.80E-1
1994	7.70E-1

\*TLD exposure in mR per quarter beginning in 1995, reference Table 3.8-C.

**Table 3.8-C BSEP TLD RESULTS (1995-2018)**

Year	Average TLD Exposure All Indicator Locations mR per quarter *
1995	1.01E+1
1996	1.01E+1
1997	1.01E+1
1998	9.70E+0
1999	9.70E+0
2000	9.70E+0
2001	1.00E+1
2002	9.60E+0
2003	9.60E+0
2004	9.70E+0
2005	9.80E+0
2006	1.00E+1
2007	9.80E+0
2008	9.90E+0
2009	1.00E+1
2010	1.01E+1
2011	9.90E+0
2012	9.80E+0
2013	9.80E+0
2014	1.00E+1
2015	1.07E+1
2016	1.00E+1
2017	1.01E+1
2018	1.00E+1**

\* TLD exposure reported in milliroentgen (mR) per standard quarter (91 days), beginning 1995.  
 \*\* The equivalent 2018 weekly exposure is 7.70E-1 mR.

**Table 3.8-D ISFSI TLD Dose (mR/Std. Qtr.)**

Year	TLD # 82	TLD # 83	TLD # 84	TLD # 85
Average Pre-Op (1Q2008 to 3Q2010)	3.01E+1 ± 3.1E+0	2.24E+1 ± 2.1E+0	1.67E+1 ± 1.6E+0	5.32E+1 ± 7.6E+0
Average after Fuel Loaded (4Q2010 to 4Q2018)	2.97E+1	2.42E+1	1.85E+1	3.89E+1

### **3.9 LAND USE CENSUS**

The 2018 BSEP Land Use Census was conducted 6/11-6/12/2018 as required by the BSEP ODCM. Table 3.9-A summarizes the land use census results that was conducted within five miles of BSEP. Table 3.9-B summarizes the results of the garden census that was conducted within three miles of BSEP. A map indicating identified locations is shown in Figure 3.9.

During the 2018 census, no new residences (nearer to the plant) or milk locations were identified. The nearest residence is located in the North sector at 0.70 miles. No environmental program changes were required as a result of the 2018 land use census.



**Table 3.9-A BSEP Land Use Census Comparison (2017 – 2018)**

**Nearest Pathway (Miles)**

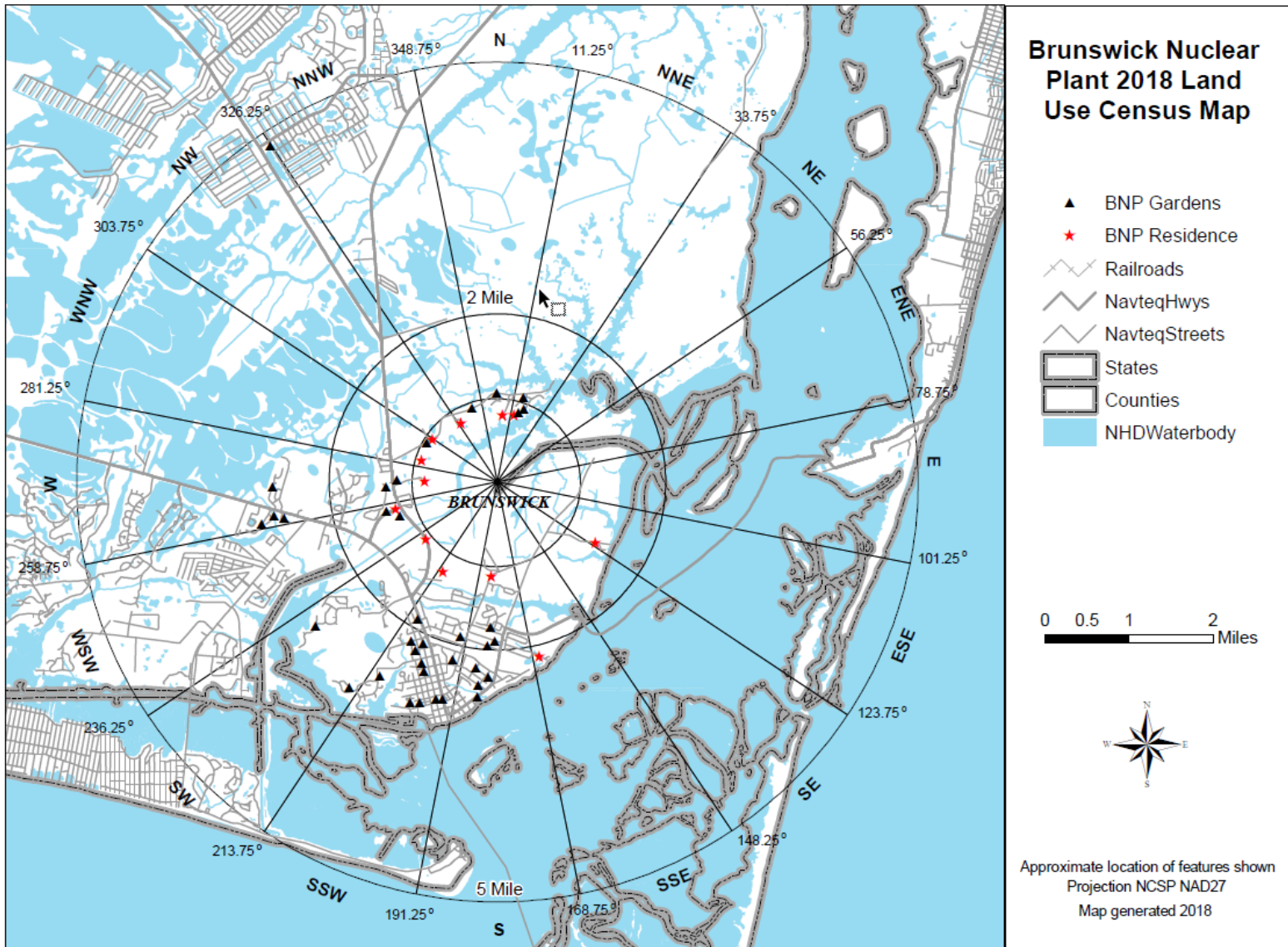
SECTOR	RESIDENT		GARDEN		MILK ANIMALS	
	2017	2018	2017	2018	2017	2018
N	0.7	0.7	None*	1.1*	None	None
NNE	0.8	0.8	0.9	0.9*	None	None
NE	None	None	None	None	None	None
ENE	None	None	None	None	None	None
E	None	None	None	None	None	None
ESE	1.4	1.4	None	None	None	None
SE	None	None	None	None	None	None
SSE	2.1	2.1	None	None	None	None
S	1.1	1.1	1.7	1.7	None	None
SSW	1.2	1.2	1.7	1.9*	None	None
SW	1.1	1.1	2.8*	2.8	None	None
WSW	1.2	1.2	1.3	1.2*	None	None
W	0.9	0.9	1.2	1.2	None	None
WNW	0.9	0.9	1.0	1.0	None	None
NW	0.9	0.9	4.9	4.9	None	None
NNW	0.8	0.8	0.8*	0.9*	None	None

\* Represents a change from the previous year.  
Sector and distance determined by Global Positioning System.

**Table 3.9-B BSEP Garden Census (2018)**

<b>SECTOR</b>	<b>DISTANCE (miles)</b>		<b>SECTOR</b>	<b>DISTANCE (miles)</b>
N	1.1		SSW	2.2
NNE	0.9		SSW	2.3
NNE	0.9		SSW	2.4
NNE	1.0		SSW	2.6
NE	None		SSW	2.7
ENE	None		SSW	2.7
E	None		SSW	2.8
ESE	None		SSW	2.8
SE	None		SW	2.8
SSE	None		SW	3.0
S	1.7		WSW	1.2
S	1.9		WSW	1.3
S	2.0		W	1.2
S	2.2		W	1.3
S	2.3		W	2.6
S	2.4		W	2.6
S	2.6		W	2.7
SSW	1.9		W	2.8
SSW	1.9		WNW	1.0
SSW	2.1		NW	4.9
SSW	2.2		NNW	0.9
SSW	2.2			

Figure 3.9



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# 4.0 QUALITY ASSURANCE

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## 4.1 SAMPLE COLLECTION

Environmental sample collection at BSEP was performed by BSEP Chemistry personnel in 2018 along with the Environmental Services Group as specified by approved sample collection procedures.

## 4.2 SAMPLE ANALYSIS

EnRad Laboratories performed the environmental sample analyses as specified by approved analysis procedures. EnRad Laboratories is located in Huntersville, North Carolina, at Duke Energy's Environmental Center. Shoreline sediment analyses for Fe-55, Ni-63, and Sr-89/90 were analyzed by General Engineering Laboratory, LLC (GEL).

## 4.3 DOSIMETRY ANALYSIS

The Dosimetry and Records group performed the environmental dosimetry measurements as specified by approved dosimetry analysis procedures. The Dosimetry and Records group is located in Huntersville, North Carolina, at Duke Energy's Environmental Center.

## 4.4 LABORATORY EQUIPMENT QUALITY ASSURANCE

### 4.4.1 DAILY QUALITY CONTROL

EnRad Laboratories has an internal quality assurance program which monitors each type of instrumentation for reliability and accuracy. Daily quality control checks ensure that instruments are in proper working order and these checks are used to monitor instrument performance.

### 4.4.2 CALIBRATION VERIFICATION

National Institute of Standards and Technology (NIST) standards that represent counting geometries are analyzed as unknowns at various frequencies ranging from weekly to annually to verify that efficiency calibrations are valid. The frequency is dependent upon instrument use and performance. Investigations are performed and documented should calibration verification data fall outside of the acceptable limits.

### 4.4.3 BATCH PROCESSING

Method quality control samples are analyzed with sample analyses that are processed in batches. These include tritium analyses in surface water and ground water samples.

## **4.5 DUKE ENERGY INTERLABORATORY COMPARISON PROGRAM**

In 2018 Duke Energy Environmental Laboratory (EnRad) participated in interlaboratory programs to satisfy Radiological Environmental Monitoring Program requirements in Duke Energy nuclear plant Offsite Dose Calculation Manuals and Selected Licensee Commitments Manuals, as applicable.

EnRad Laboratory participated in an interlaboratory program with Eckert & Ziegler Analytics (EZA) in 2018. EZA results were evaluated against the NRC Inspection Manual Procedure 84750 (IP 84750) acceptance criteria stated in EnRad Procedure 515, Cross Check Program Administration. All regulatory requirements continue to be met by the EZA Cross Check Program.

### **4.5.1 ECKERT & ZIEGLER ANALYTICS CROSS CHECK PROGRAM**

EZA mixed gamma in liquid, mixed gamma in soil, low-level I-131 in liquid, mixed gamma air filter composites, I-131 air cartridges, strontium in water, gross alpha and beta in water, gross alpha and beta in filters, and tritium in water were analyzed at various times of the year at EnRad Laboratories. A summary of the applicable REMP EnRad Laboratory program results for 2018 is documented in Table 4.0-A.

Interlaboratory cross check samples from EZA were received and analyzed in three of the four quarters of 2018. Table 4.0-A lists the performance for specific samples. Forty-six nuclide results were reported to EZA of which forty-six (100 %) met the acceptance criteria based on IP 84750.

## **4.6 STATE OF NORTH CAROLINA INTERCOMPARISON PROGRAM**

EnRad Laboratories routinely participates with the North Carolina Department of Health and Human Services in an intercomparison program. EnRad Laboratories sends BSEP Radiological Environmental Monitoring Program air, surface water, fish and invertebrates, broadleaf vegetation, and shoreline sediment samples to the North Carolina Department of Health and Human Services, Division of Public Health for intercomparison analysis.

## **4.7 TLD INTERCOMPARISON PROGRAM**

### **4.7.1 NUCLEAR TECHNOLOGY SERVICES INTERCOMPARISON PROGRAM**

Radiation Dosimetry and Records participates in a quarterly TLD intercomparison program administered by Nuclear Technology Services, Inc. of Roswell, GA. Nuclear Technology Services irradiates environmental dosimeters quarterly and sends them to the Radiation Dosimetry and Records group for analysis of the unknown estimated delivered exposure. A summary of the 2018 Nuclear Technology Services Intercomparison Report is documented in Table 4.0-B.

The individual measurements were evaluated and results falling outside the acceptable ratio criteria had an evaluation performed to identify any recommended remedial actions and to reduce anomalous errors.

#### **4.7.2 INTERNAL CROSS CHECK (DUKE ENERGY)**

Radiation Dosimetry and Records participates in a quarterly TLD internal comparison program administered internally by the Dosimetry Lab. The Dosimetry Lab Staff irradiates environmental dosimeters quarterly and submits them for analysis of the unknown estimated delivered exposure. A summary of the 2018 Internal Cross Check (Duke Energy) Program is documented in Table 4.0-B.

#### **4.8 GENERAL ENGINEERING LABORATORY, LLC (GEL)**

General Engineering Laboratory, LLC (GEL) participated in various Quality Assurance Programs for Inter-laboratory, Intra-laboratory, Third Party Cross Check programs, and a number of proficiency testing programs during 2018. A summary of the GEL quality assurance program results for the sample media types sent to GEL during 2018 is documented in Table 4.0-C. Table 4.0-C may not be applicable to all plants or stations.

# TABLE 4.0-A

## ECKERT & ZIEGLER ANALYTICS

### CROSS CHECK PROGRAM

#### 2018 Cross Check Results for EnRad Laboratories

Interlaboratory cross check samples from EZA were received and analyzed in three of the four quarters of 2018. Results are reported directly to Eckert & Ziegler Analytics. Environmental cross check samples were analyzed in replicate, and the result closest to the mean is reported to Eckert & Ziegler Analytics. The acceptance criteria for the program was based on the NRC Inspection Manual Procedure 84750 (IP 84750). Table 4.0-A lists the performance for specific samples. Forty-six nuclide results were reported to EZA of which forty-six (100 %) met the acceptance criteria based on IP 84750.

Sample	Sample ID	Nuclide	Quarter	Units	EnRad Value	EZA Value	EnRad/EZA Ratio	Evaluation
Beta Filter in Planchet	E12096	Cs-137	1	pCi	212	207	1.02	Agreement
	E12180	Cs-137	2	pCi	202	210	0.96	Agreement
I-131 in Charcoal Cartridge	E12095	I-131	1	pCi	99.2	95.3	1.04	Agreement
	E12246	I-131	3	pCi	82.0	81.6	1.00	Agreement
Gamma in Composite Filter	E12094	Ce-141	1	pCi	83.8	82.0	1.02	Agreement
		Co-58	1	pCi	124	121	1.02	Agreement
		Co-60	1	pCi	197	199	0.99	Agreement
		Cr-51	1	pCi	349	347	1.01	Agreement
		Cs-134	1	pCi	180	191	0.94	Agreement
		Cs-137	1	pCi	192	183	1.05	Agreement
		Fe-59	1	pCi	160	148	1.08	Agreement
		Mn-54	1	pCi	138	140	0.99	Agreement
		Zn-65	1	pCi	283	260	1.09	Agreement
Gamma in Simulated Soil	E12249	Ce-141	3	pCi/g	0.217	0.221	0.98	Agreement
		Co-58	3	pCi/g	0.239	0.248	0.96	Agreement
		Co-60	3	pCi/g	0.317	0.328	0.97	Agreement
		Cr-51	3	pCi/g	0.407	0.457	0.89	Agreement
		Cs-134	3	pCi/g	0.207	0.212	0.98	Agreement
		Cs-137	3	pCi/g	0.311	0.330	0.94	Agreement
		Fe-59	3	pCi/g	0.196	0.206	0.95	Agreement
		Mn-54	3	pCi/g	0.309	0.289	1.07	Agreement
		Zn-65	3	pCi/g	0.362	0.347	1.04	Agreement

## TABLE 4.0-A (Cont.)

Sample	Sample ID	Nuclide	Quarter	Units	EnRad Value	EZA Value	EnRad/EZA Ratio	Evaluation
Gamma in Water	E12250	Ce-141	3	pCi/L	146	137	1.07	Agreement
		Co-58	3	pCi/L	164	153	1.07	Agreement
		Co-60	3	pCi/L	215	202	1.06	Agreement
		Cr-51	3	pCi/L	307	282	1.09	Agreement
		Cs-134	3	pCi/L	127	131	0.97	Agreement
		Cs-137	3	pCi/L	169	157	1.07	Agreement
		Fe-59	3	pCi/L	138	127	1.08	Agreement
		I-131	3	pCi/L	64.7	62.5	1.04	Agreement
		Mn-54	3	pCi/L	193	178	1.08	Agreement
		Zn-65	3	pCi/L	240	214	1.12	Agreement
Gamma in Milk	E12097	Ce-141	1	pCi/L	79.4	77.0	1.03	Agreement
		Co-58	1	pCi/L	116	114	1.02	Agreement
		Co-60	1	pCi/L	192	187	1.03	Agreement
		Cr-51	1	pCi/L	335	326	1.03	Agreement
		Cs-134	1	pCi/L	174	180	0.97	Agreement
		Cs-137	1	pCi/L	183	172	1.06	Agreement
		Fe-59	1	pCi/L	151	139	1.09	Agreement
		Mn-54	1	pCi/L	141	131	1.07	Agreement
		Zn-65	1	pCi/L	266	244	1.09	Agreement
LLI-131 in Milk	E12097	I-131	1	pCi/L	101	108	0.93	Agreement
Gross Beta in Water	E12178	Cs-137	2	pCi/L	224	226	0.99	Agreement
	E12248	Cs-137	3	pCi/L	174	199	0.88	Agreement
Tritium in Water	E12179	H-3	2	pCi/L	11300	11000	1.02	Agreement
	E12247	H-3	3	pCi/L	13100	12900	1.02	Agreement



# TABLE 4.0-B

## 2018 ENVIRONMENTAL DOSIMETER

### CROSS-CHECK RESULTS

#### Nuclear Technology Services

Radiation Dosimetry and Records participates in a quarterly TLD intercomparison program administered by Nuclear Technology Services, Inc. of Roswell, GA. Nuclear Technology Services irradiates environmental dosimeters quarterly and sends them to Radiation Dosimetry and Records group for analysis of the unknown estimated delivered exposure. The individual measurements were evaluated and results falling outside the acceptable ratio criteria had an evaluation performed to identify any recommended remedial actions and to reduce anomalous errors.

1st Quarter 2018						2nd Quarter 2018					
TLD Number	Reported (mR)	Delivered (mR)	Bias (% diff)	Pass/Fail Criteria	Pass/Fail	TLD Number	Reported (mR)	Delivered (mR)	Bias (% diff)	Pass/Fail Criteria	Pass/Fail
103109	84.34	76.32	10.51	<+/-15%	Pass	100476	57.72	60.80	-5.07	<+/-15%	Pass
103168	83.20	76.32	9.01	<+/-15%	Pass	101207	59.63	60.80	-1.92	<+/-15%	Pass
102842	79.60	76.32	4.30	<+/-15%	Pass	100628	58.40	60.80	-3.95	<+/-15%	Pass
102197	79.34	76.32	3.96	<+/-15%	Pass	100232	54.45	60.80	-10.44	<+/-15%	Pass
102240	79.98	76.32	4.80	<+/-15%	Pass	103236	58.36	60.80	-4.01	<+/-15%	Pass
Average Bias (B)			6.51			Average Bias (B)			-5.08		
Standard Deviation (S)			3.03			Standard Deviation (S)			3.21		
Measure Performance  B +S			9.54	<15%	Pass	Measure Performance  B +S			8.29	<15%	Pass
3rd Quarter 2018						4th Quarter 2018					
TLD Number	Reported (mR)	Delivered (mR)	Bias (% diff)	Pass/Fail Criteria	Pass/Fail	TLD Number	Reported (mR)	Delivered (mR)	Bias (% diff)	Pass/Fail Criteria	Pass/Fail
102475	18.69	18.84	-0.80	<+/-15%	Pass	103532	67.52	61.93	9.03	<+/-15%	Pass
100674	18.66	18.84	-0.96	<+/-15%	Pass	102805	67.74	61.93	9.38	<+/-15%	Pass
100287	17.66	18.84	-6.96	<+/-15%	Pass	103209	66.84	61.93	7.93	<+/-15%	Pass
101172	18.23	18.84	-3.24	<+/-15%	Pass	103347	69.03	61.93	11.46	<+/-15%	Pass
101202	18.48	18.84	-1.91	<+/-15%	Pass	103399	67.21	61.93	8.53	<+/-15%	Pass
Average Bias (B)			-2.63			Average Bias (B)			9.27		
Standard Deviation (S)			2.25			Standard Deviation (S)			1.35		
Measure Performance  B +S			4.88	<15%	Pass	Measure Performance  B +S			10.61	<15%	Pass

# TABLE 4.0-B (Cont.)

## 2018 ENVIRONMENTAL DOSIMETER

### CROSS CHECK RESULTS

#### Internal Crosscheck (Duke Energy)

Radiation Dosimetry and Records participates in a quarterly TLD internal comparison program administered internally by the Dosimetry Lab. The Dosimetry Lab Staff irradiates environmental dosimetry quarterly and submits them for analysis of the unknown estimated delivered exposure.

1st Quarter 2018						2nd Quarter 2018						
TLD Number	Reported (mR)	Delivered (mR)	Bias (% diff)	Pass/Fail Criteria	Pass/Fail	TLD Number	Reported (mR)	Delivered (mR)	Bias (% diff)	Pass/Fail Criteria	Pass/Fail	
103932	34.28	37.26	-7.99	<+/-15%	Pass	103049	20.41	18.49	10.38	<+/-15%	Pass	
103952	34.50	37.26	-7.40	<+/-15%	Pass	103360	21.06	18.49	13.90	<+/-15%	Pass	
104007	34.95	37.26	-6.19	<+/-15%	Pass	100021	18.06	18.49	-2.33	<+/-15%	Pass	
103961	35.30	37.26	-5.26	<+/-15%	Pass	102504	20.03	18.49	8.33	<+/-15%	Pass	
103962	35.10	37.26	-5.79	<+/-15%	Pass	102466	19.51	18.49	5.52	<+/-15%	Pass	
103931	35.54	37.26	-4.61	<+/-15%	Pass	100208	17.93	18.49	-3.03	<+/-15%	Pass	
104011	35.22	37.26	-5.47	<+/-15%	Pass	101155	18.66	18.49	0.92	<+/-15%	Pass	
103950	35.48	37.26	-4.77	<+/-15%	Pass	101145	17.93	18.49	-3.03	<+/-15%	Pass	
103949	35.37	37.26	-5.07	<+/-15%	Pass	101272	18.00	18.49	-2.65	<+/-15%	Pass	
103951	35.75	37.26	-4.05	<+/-15%	Pass	100515	17.87	18.49	-3.35	<+/-15%	Pass	
Average Bias (B)			-5.66				Average Bias (B)			2.47		
Standard Deviation (S)			1.24				Standard Deviation (S)			6.52		
Measure Performance  B +S			6.90	<15%	Pass	Measure Performance  B +S			8.99	<15%	Pass	
3rd Quarter 2018						4th Quarter 2018						
TLD Number	Reported (mR)	Delivered (mR)	Bias (% diff)	Pass/Fail Criteria	Pass/Fail	TLD Number	Reported (mR)	Delivered (mR)	Bias (% diff)	Pass/Fail Criteria	Pass/Fail	
102886	44.09	40.0	10.23	<+/-15%	Pass	102089	46.94	45.0	4.31	<+/-15%	Pass	
102730	44.27	40.0	10.68	<+/-15%	Pass	102442	45.03	45.0	0.07	<+/-15%	Pass	
102248	41.02	40.0	2.55	<+/-15%	Pass	102336	47.40	45.0	5.33	<+/-15%	Pass	
102867	42.58	40.0	6.45	<+/-15%	Pass	103721	48.89	45.0	8.64	<+/-15%	Pass	
102464	40.91	40.0	2.27	<+/-15%	Pass	102738	48.54	45.0	7.87	<+/-15%	Pass	
102752	43.09	40.0	7.73	<+/-15%	Pass	103194	47.94	45.0	6.53	<+/-15%	Pass	
102803	43.80	40.0	9.50	<+/-15%	Pass	102931	47.59	45.0	5.76	<+/-15%	Pass	
103531	43.17	40.0	7.93	<+/-15%	Pass	103742	49.22	45.0	9.38	<+/-15%	Pass	
102880	44.04	40.0	10.10	<+/-15%	Pass	102029	47.14	45.0	4.76	<+/-15%	Pass	
102415	42.26	40.0	5.65	<+/-15%	Pass	102290	46.10	45.0	2.44	<+/-15%	Pass	
Average Bias (B)			7.31				Average Bias (B)			5.51		
Standard Deviation (S)			3.06				Standard Deviation (S)			2.84		
Measure Performance  B +S			10.37	<15%	Pass	Measure Performance  B +S			8.35	<15%	Pass	

# TABLE 4.0-C

## 2018 GEL Laboratories, LLC QA Results

Interlaboratory cross check samples from Eckert & Ziegler Analytics (EZA) and Proficiency Tests from the Department of Energy Mixed Analyte Performance Evaluation Program (MAPEP) were received and analyzed by GEL in all four quarters of 2018 from EZA and in two quarters from MAPEP. Table 4.0-C lists the performance for specific samples. Table 4.0-C may not be applicable to all plants/stations.

Sample	Sample ID	Nuclide	Quarter	Units	GEL Value	Known Value	Acceptance Range/Ratio	Evaluation
Hard To Detect in Soil	MAPEP -18-MaS38	Fe-55	2	Bq/Kg	67	N/A	False Pos Test	Agreement
		Ni-63	2	Bq/Kg	1.05	N/A	False Pos Test	Agreement
		Sr-90	2	Bq/Kg	-1.08	N/A	False Pos Test	Agreement
	MAPEP -18-MaS39	Fe-55	4	Bq/kg	434	512	358 - 666	Agreement
		Ni-63	4	Bq/kg	793	765	536 - 995	Agreement
		Sr-90	4	Bq/kg	162	193	135 - 251	Agreement
I-131 in Milk with EZA	E12173	I-131	1	pCi/L	105	108	0.97	Agreement
	E12173	I-131	2	pCi/L	78.9	71.9	1.10	Agreement
	E12242	I-131	3	pCi/L	71.8	58.2	1.23	Agreement
	E12348	I-131	4	pCi/L	95.8	93.3	1.03	Agreement
Gross Beta in Water	E12304 <sup>(1)</sup>	Cs-137	4	pCi/L	241	295	0.82	Agreement

<sup>(1)</sup> One set of December 2018 Gross Beta in water analyses were analyzed at GEL.

**APPENDIX A**

**ENVIRONMENTAL SAMPLING**  
**&**  
**ANALYSIS PROCEDURES**

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# APPENDIX A

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## ENVIRONMENTAL SAMPLING AND ANALYSIS PROCEDURES

Adherence to established procedures for sampling and analysis of all environmental media at the Brunswick Steam Electric Plant (BSEP) was required to ensure compliance with the BSEP Offsite Dose Calculation Manual (ODCM). Analytical procedures were employed to ensure that the ODCM detection capabilities were achieved.

Environmental sampling was performed by BSEP and Environmental Services. Analyses were performed by EnRad Laboratories, General Engineering Laboratory, LLC (GEL) (for special analyses), and Dosimetry and Records.

This appendix describes the environmental sampling frequencies and analysis procedures by media type.

### I. CHANGE OF SAMPLING PROCEDURES

No sampling procedures were changed during 2018.

### II. DESCRIPTION OF ANALYSIS PROCEDURES

Gamma spectroscopy analyses are performed using high purity germanium gamma detectors and Canberra analytical software. Designated sample volumes are transferred to appropriate counting geometries and analyzed by gamma spectroscopy. Perishable samples such as fish, invertebrates, and broadleaf vegetation are ground to achieve a homogeneous mixture. Soil and sediments are dried, sifted to remove foreign objects (rocks, clams, glass, etc.) then transferred to appropriate counting geometry.

Tritium analyses are performed by using low-level environmental liquid scintillation analysis technique on a Perkin-Elmer 4910TR liquid scintillation system or Perkin-Elmer 3100TR liquid scintillation system. Tritium samples are distilled and batch processed with a laboratory fortified blank, matrix spike, matrix spike duplicate, and blank to verify instrument performance and sample preparation technique are acceptable.

Gross beta analysis is performed by concentrating a designated aliquot of sample precipitate and analyzing by Tennelec XLB Series 5 gas-flow proportional counters. Samples are batch processed with a blank to ensure sample contamination has not occurred.

### III. CHANGE OF ANALYSIS PROCEDURES

No analysis procedures were changed during 2018.

## **IV. SAMPLING AND ANALYSIS PROCEDURES**

### **A.1 AIRBORNE PARTICULATE AND RADIOIODINE**

Air particulate and radioiodine samples at each of seven locations were composited continuously by means of continuous air samplers. Air particulates were collected on a particulate filter and radioiodines were collected in a charcoal cartridge positioned behind the filter in the sample head. The samplers are designed to operate at a constant flow rate (in order to compensate for any filter loading) and are set to sample approximately 1 cubic foot per minute. Filters and cartridges were collected weekly. A separate weekly gamma analysis was performed on each charcoal cartridge. A weekly gross beta analysis was performed on each filter and then the filters, by location, were composited to produce quarterly filter samples for gamma analysis. The continuous composite samples were collected from the locations listed below.

Location 200 = 1.0 miles WSW Visitors Center  
Location 201 = 0.5 miles NE Bio Lab Rd. – Projected Maximum  
Annual Concentration (PMAC)  
Location 202 = 1.0 miles S Substation, Construction Rd.  
Location 203 = 2.0 miles SSW Southport substation  
Location 204 = 22.4 miles NNE Sutton Plant (Historical Control)  
Location 205 = 0.6 miles SSE Spoil Pond  
Location 206 = 11.3 miles NW Brunswick County Complex (Control)

### **A.2 SURFACE WATER**

Monthly composite samples were collected from locations 400 and 401. Monthly grab samples were collected from locations 494 – 499, 604, 607, and 609. A gamma analysis and tritium analysis was performed on each sample collected. The samples were collected from the locations listed below.

Location 400 = 0.6 miles NE – Intake Canal (Control)  
Location 401 = 4.9 miles SSW – Discharge Canal @ OD Pumps  
Location 494 = Nancy’s Creek Marsh Area – WP-106  
Location 495 = Nancy’s Creek – WP-52  
Location 496 = Nancy’s Creek – WP-53  
Location 497 = Nancy’s Creek – WP-55  
Location 498 = Nancy’s Creek – WP-57  
Location 499 = Nancy’s Creek – WP-61 (Control)  
Location 604 = Nancy’s Creek Marsh Area – WP-92  
Location 607 = Nancy’s Creek Marsh Area – WP-76  
Location 609 = Nancy’s Creek Marsh Area – WP-84

### **A.3 GROUND WATER**

Grab samples were collected quarterly and semiannually from ground water wells at ten locations. A tritium analysis was performed quarterly and a gamma analysis

was performed semiannually on each sample. The samples were collected from the locations listed below.

Location 404 = Monitoring Well ESS-1B - 0.16 miles SW  
Location 407 = Monitoring Well ESS-13B - 0.06 miles ENE  
Location 409 = Monitoring Well ESS-17A - 0.65 miles NE  
Location 410 = Monitoring Well ESS-17B - 0.65 miles NE  
Location 418 = Monitoring Well ESS-21B – Near SDSP  
Location 423 = Monitoring Well ESS-24A – Near SDSP  
Location 424 = Monitoring Well ESS-24B – Near SDSP  
Location 426 = Monitoring Well ESS-25B – Near SDSP  
Location 429 = Monitoring Well ESS-27A – Near SDSP  
Location 612 = Monitoring Well ESS MWPA-118B – Near Intake Canal & Plant Stack

**Note:** SDSP = Storm Drain Stabilization Pond

#### **A.4 BROADLEAF VEGETATION**

Monthly samples were collected as available and a gamma analysis was performed on each sample. The samples were collected from the locations listed below.

Location 800 = 0.7 miles NE – Intake Canal  
Location 801 = 0.8 miles SW – Discharge Canal  
Location 802 = 10.1 miles – location not specified (Control)  
Location 803 = 0.6 miles SSE – Spoil Pond  
Location 804 = 0.7 miles S – Leonard Street plant exit adjacent to RR tracks

#### **A.5 FISH and INVERTEBRATES**

Fish (free swimmers and bottom feeders) and Invertebrates (shell fish and/or benthic organisms) samples are collected semiannually from two locations (near the Atlantic Ocean discharge pipe at Caswell Beach and a control location in the Atlantic Ocean not influenced by plant operations) and annually from three locations on Nancy's Creek (see Figure 2.1-3). A gamma analysis was performed on the edible portions of each sample. The samples were collected from the locations listed below.

Location 700 = 5.5 miles SSW, Atlantic Ocean at Discharge (free swimmers)  
Location 701 = 5.5 miles SSW, Atlantic Ocean at Discharge (bottom feeders)  
Location 702 = 5.5 miles SSW, Atlantic Ocean at Discharge (shellfish/ Invertebrates)  
Location 703 = Atlantic Ocean, location not specified (free swimmer) – (Control)  
Location 704 = Atlantic Ocean, location not specified (bottom feeders) – (Control)  
Location 705 = Atlantic Ocean, location not specified (shellfish/Invertebrates)  
Location 706 = Nancy's Creek, location not specified (free swimmer)  
Location 707 = Nancy's Creek, location not specified (bottom feeders)  
Location 708 = Nancy's Creek, location not specified (shellfish/Invertebrates)

## **A.6 SHORELINE SEDIMENT**

Semiannual samples were collected at location 500, while an annual sample was collected at location 501. A gamma analysis was performed on each sample following the drying and removal of rocks and clams. The samples were collected from the locations listed below.

Location 500 = 5.0 miles SSW, Discharge,  
Beach near Ocean Discharge (OD) pumps  
Location 501 = Nancy's Creek, Adjacent to WP-55,  
Near Storm Drain Stabilization Pond

## **A.7 DIRECT GAMMA RADIATION (TLD)**

Thermoluminescent dosimeters (TLD) were collected quarterly at forty-five locations and four quarterly ISFSI TLDs. A gamma exposure rate was determined for each TLD. TLD locations are listed in Table 2.1-B. The TLDs were placed as indicated below.

- \* An inner ring of 24 TLDs, one in each meteorological sector in the general area of the site boundary.
- \* An outer ring of 20 TLDs, one in each meteorological sector at 8 kilometers or greater from the site.
- \* The remaining TLDs were placed in special interest areas such as population centers, residential areas, schools, and at one control location.

## **A.8 ANNUAL LAND USE CENSUS**

An Annual Land Use Census was conducted to identify within a distance of 8 kilometers (5.0 miles) from the plant, the nearest location from the site boundary in each of the sixteen meteorological sectors, the following:

- \* The Nearest Residence
- \* The Nearest Garden greater than 50 square meters or 500 square feet
- \* The Nearest Milk-giving Animal (cow, goat, etc.)

The Annual Land Use Census must also identify (for elevated releases) within the three-mile (4.8 kilometer) radius of the plant (a garden census) for each of the 16 meteorological sectors for the following:

- \* The location of all milk animals
- \* The location of all gardens of greater than 500 square feet (50 square meters)



The census was conducted during the growing season 6/11 – 6/12/2018. Results are shown in Tables 3.9-A and 3.9-B. The primary method of performing the land use census is visual inspection from the roadside within the five (5) mile radius, with the exception of the Sunny Point Military Ocean terminal. This information may be supplemented with data from aerial photographs and a Global Positioning System (GPS) to determine distance and direction from the plant. Distances from the plant are accurate to within one tenth of a mile. No changes were made to the sampling procedures during 2018 as a result of the 2018 BSEP census.

## **V. GLOBAL POSITIONING SYSTEM (GPS) ANALYSIS**

The Brunswick site centerline used for GPS measurements was referenced from the Brunswick Nuclear Station Updated Final Safety Analysis Report (UFSAR), section 2.1.1, Site Location and Description. Waypoint coordinates used for BNP GPS measurements were latitude 33°57'30" North and longitude 78°00'30" West. Maps and tables were generated using North American Datum (NAD) 27. Data normally reflect accuracy to within one tenth mile from point of measurement. GPS field measurements were taken as close as possible to the item of interest. Distances for the locations are displayed using two significant figures.

**APPENDIX B**

**RADIOLOGICAL  
ENVIRONMENTAL MONITORING  
PROGRAM**

**SUMMARY OF RESULTS**

**BRUNSWICK STEAM ELECTRIC PLANT  
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM DATA SUMMARY**

Brunswick Steam Electric Plant  
Brunswick County, North Carolina

Docket Numbers 50-324, 325  
Calendar Year 2018

Medium or Pathway Sampled or Measured (Unit of Measurement)	Type and Total No. of Measurements Performed	Lower Limit of Detection (LLD) <sup>(1)</sup>	All Indicator Locations <sup>(2) (3)</sup> Mean Range	Location w/Highest Annual Mean		Control Locations Mean Range <sup>(2) (3)</sup>	No. of Non-Routine Report Meas.
				Name, Distance, and Direction	Mean Range <sup>(2) (3)</sup>		
Air Particulate (pCi/m <sup>3</sup> )	Gross Beta 361 <sup>(4)</sup>	See Table 2.2-C	1.68E-2 (258/258) 3.47E-3 – 3.93E-2	203 (2.00 mi SSW)	1.72E-2 (51/51) 3.47E-3 – 3.10E-2	204 (22.4 mi NNE) 206 (11.3 mi NW) 1.69E-2 (103/103) 4.85E-3 – 2.81E-2	0
	Gamma 28 <sup>(4)</sup>	See Table 2.2-C	All less than LLD	-----	-----	All less than LLD	0
Air Radioiodine (pCi/m <sup>3</sup> )	Gamma 361 <sup>(4)</sup> Cs-137	See Table 2.2-C	1.05E-02 (4/258) 1.84E-03 – 2.22E-02	200 (1.00 mi WSW)	1.24E-2 (3/51) 1.84E-03 – 2.22E-02	204 (22.4 mi NNE) 206 (11.3 mi NW) 1.08E-02 (2/103) 4.68E-03 – 1.70E-02	0
Broadleaf Vegetation (pCi/kg, wet)	Gamma 60 Cs-137	See Table 2.2-C	All less than LLD	-----	-----	802 (10.1 mi not specified) 1.07E+01 (2/12) 1.01E+01 – 1.13E+01	0
Fish and Invertebrates (pCi/l)	Gamma 14 <sup>(4)</sup>	See Table 2.2-C	All less than LLD	-----	-----	All less than LLD	0
Sediment - Shoreline (pCi/kg, dry)	Gamma 3 Cs-137	See Table 2.2-C	1.25E+02 (1/3) 1.25E+02 – 1.25E+02	501 Nancy's Creek Adjacent to WP-55 near SDSP	1.25E+02 (1/2) 1.25E+02 – 1.25E+02	No Control	0
	Fe-55, Ni-63, Sr89/90 4	-----	All less than LLD	-----	-----	No Control	0

**BRUNSWICK STEAM ELECTRIC PLANT  
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM DATA SUMMARY**

Brunswick Steam Electric Plant  
Brunswick County, North Carolina

Docket Numbers 50-324, 325  
Calendar Year 2018

Medium or Pathway Sampled or Measured (Unit of Measurement)	Type and Total No. of Measurements Performed	Lower Limit of Detection (LLD) <sup>(1)</sup>	All Indicator Locations <sup>(2) (3)</sup> Mean Range	Location w/Highest Annual Mean		Control Locations Mean Range <sup>(2) (3)</sup>	No. of Non-Routine Report Meas.
				Name, Distance, and Direction	Mean Range <sup>(2) (3)</sup>		
Surface Water (pCi/l)	Gamma 132	See Table 2.2-C	All less than LLD	----	----	All less than LLD	0
	Tritium 132	See Table 2.2-C	5.36E+02 (7/108) 2.05E+02 – 1.46E+03	604 Nancy's Creek Marsh Area Waypoint-92	5.36E+02 (7/12) 2.05E+02 – 1.46E+03	All less than LLD	0
Ground Water (pCi/l)	Gamma 21	See Table 2.2-C	All less than LLD	----	----	No Control	0
	Tritium 41	See Table 2.2-C	3.22E+02 (6/41) 2.21E+02 – 4.25E+02	407 Monitoring Well ESS-13B 0.06 mi ENE	3.69E+02 (4/4) 3.23E+02 – 4.25E+02	No Control	0
Direct Gamma Radiation (TLD) (mR per quarter) <sup>(5)</sup>	TLD Readout 179 <sup>(4)</sup>	----	1.00E+01 (175/175) 5.43E+00 – 1.70E+01	24 (3.0 mi W)	1.39E+01 (4/4) 1.13E+01 – 1.70E+01	81 (9.9 mi WNW) 1.00E+01 (4/4) 7.42E+00 – 1.30E+01	0
Direct Gamma Radiation (TLD) ISFSI (mR per quarter) <sup>(5)</sup>	TLD Readout 16	----	2.41E+01 (16/16) 1.51E+01 – 3.30E+01	82 SW corner of ISFSI (0.17 mi NNE)	2.70E+01 (4/4) 2.25E+01 – 3.26E+01	No Control	0

## Footnotes to Appendix B

1. The Lower Limit of Detection (LLD) is the smallest concentration of radioactive material in a sample that will yield a net count above system background which will be detected with 95 percent probability and with only 5 percent probability of falsely concluding that a blank observation represents a "real" signal. Due to counting statistics and varying volumes, occasionally lower LLDs are achieved. Refer to Analytical Procedures Section/Gamma Spectrometry for an explanation of how LLD values were derived.
2. Mean and range are based on detectable measurements only.
3. The fractions of all samples with detectable activities at specific locations are indicated in parentheses.
4. Missing samples or surveillances are discussed in Appendix C or Appendix D.
5. TLD exposure is reported in milliroentgen (mR) per standard quarter (91 days).

**APPENDIX C**

**SAMPLING DEVIATIONS  
&  
UNAVAILABLE ANALYSES**

# APPENDIX C

## BRUNSWICK NUCLEAR PLANT SAMPLING DEVIATIONS & UNAVAILABLE ANALYSES

DEVIATION & UNAVAILABLE REASON CODES			
BF	Blown Fuse	PM	Preventive Maintenance
CN	Construction	PO	Power Outage
FZ	Sample Frozen	PS	Pump out of service / Undergoing repair
IV	Insufficient Volume	SL	Sample Loss/Lost due to Lab Accident
IW	Inclement Weather	SM	Motor / Rotor Seized
LC	Line Clog to Sampler	SU	Seasonally Unavailable
OT	Other	TF	Torn Filter
PI	Power Interrupt	VN	Vandalism

### C.1 SAMPLING DEVIATIONS

#### Air Particulate and Air Radioiodine

REMP weekly air samples (Air Particulate (AP) or Air Radioiodine (AR)) that experience any downtime during a surveillance period are reported as a Deviation and classified as a “Sampling Deviation.” However, the sample is counted and the data reported, whereas a Deviation with no available sample is classified as an “Unavailable Analyses” and does not have any data reported. The Brunswick REMP air samplers operated for a total of 98.04% availability in 2018. Most 2018 air sampler downtime (deviations and unavailable samples) was attributable to significant weather event Hurricane Florence. There were 1,189.2 hours of air sampler downtime in 2018 with 1,186.8 hours (99.7%) due to regional impacts from Hurricane Florence.

Location	Scheduled Collection Dates	Code	Description & Action to Prevent Recurrence	Corrective Action
206	2/27 - 3/6/2018	PS	Sampler pump malfunction resulted in 1.9 hours downtime. The air sampler was replaced, normal sampling resumed.	NCR # 02188821
200	9/11 - 9/18/2018	IW	Hurricane Florence power interruption, 111.9 hours downtime incurred for scheduled collection period.	NCR # 02232796
203	9/11 – 9/18/2018	IW	Hurricane Florence power interruption, 107 hours downtime incurred for scheduled collection period.	NCR # 02232796
206	9/11 – 9/18/2018	IW	Hurricane Florence power interruption, 108.2 hours downtime incurred for scheduled collection period.	NCR # 02232796
204	9/18 – 9/25/2018	IW	Hurricane Florence power interruption, 99.5 hours downtime incurred for scheduled collection period.	NCR # 02233005
200	9/25 – 10/2/2018	IW	Hurricane Florence power interruption, 145.5 hours downtime incurred for scheduled collection period.	NCR # 02234631
203	9/25 – 10/2/2018	IW	Hurricane Florence power interruption, 29.3 hours downtime incurred for scheduled collection period.	NCR # 02234631
200	10/2 – 10/9/2018	IW	Power interruption resulted in 0.48 hours downtime for scheduled collection period.	NCR # 02236457
204	10/2 – 10/9/2018	IW	Hurricane Florence power interruption, 81.4 hours downtime incurred for scheduled collection period.	NCR # 02236153

## Ground Water

Location	Scheduled Collection Dates	Code	Description & Action to Prevent Recurrence	Corrective Action
429 ESS-27A	9/11/2018	PS	Sampling equipment malfunction (bladder pump) at scheduled time of collection caused the 3 <sup>rd</sup> quarter sample collection to be delayed. A new bladder and pump was installed on 15OCT2018 and the sample was successfully collected.	NCR # 02236346

## C.2 UNAVAILABLE ANALYSES

### Air Particulate and Air Radioiodine

Location	Scheduled Collection Dates	Code	Description & Action to Prevent Recurrence	Corrective Action
200	9/18 – 9/25/2018	IW	Hurricane Florence power outage, sample unavailable due to power outage during scheduled collection period.	NCR # 02233005
203	9/18 – 9/25/2018	IW	Hurricane Florence power outage, sample unavailable due to power outage during scheduled collection period.	NCR # 02233005
204	9/25 – 10/2/2018	IW	Hurricane Florence power outage, sample unavailable due to power outage during scheduled collection period.	NCR # 02234631

### Fish

Location	Scheduled Collection Dates	Code	Description & Action to Prevent Recurrence	Corrective Action
706	12/12/2018	IV	Free swimmer fish sample volume was insufficient to produce a viable sample for gamma spectroscopy testing. Hurricane Florence rainfall/flooding and the subsequent heavy rainfall during the fourth quarter of 2018 lowered sample location area salinities and river and stream flows kept estuary systems flushed out so free swimmer fish were not available in the Nancy's Creek location during the scheduled sampling period.	NCR # 02250000

### Sediment

Location	Scheduled Collection Dates	Code	Description & Action to Prevent Recurrence	Corrective Action
500	May 2018	OT	The May 2018 semiannual location 500 sampling was unable to be confirmed as complete. Work order 20177142 was completed 5/7/2018 indicating a sample was collected, but no confirming attachment was found indicating a sample was obtained. The sample was determined to be a missed sample. Work order tasks were modified to prevent recurrence.	NCR # 02268142



**APPENDIX D**

**ANALYTICAL DEVIATIONS**

# APPENDIX D

## BRUNSWICK NUCLEAR STATION ANALYTICAL DEVIATIONS

DEVIATION & UNAVAILABLE REASON CODES			
BF	Blown Fuse	PM	Preventive Maintenance
CN	Construction	PO	Power Outage
FZ	Sample Frozen	PS	Pump out of service / Undergoing repair
IV	Insufficient Volume	SL	Sample Loss/Lost due to Lab Accident
IW	Inclement Weather	SM	Motor / Rotor Seized
LC	Line Clog to Sampler	SU	Seasonally Unavailable
OT	Other	TF	Torn Filter
PI	Power Interrupt	VN	Vandalism

### D.1 ANALYTICAL DEVIATIONS

#### TLD

Location	Scheduled Collection Dates	Code	Description & Action to Prevent Recurrence	Corrective Action
76	7/9 – 10/2/2018	AD	The 3 <sup>rd</sup> quarter location 76 environmental TLD was collected from the designated monitoring location as required. During laboratory analysis of the TLD, it was determined the TLD had incurred damage during the quarterly monitoring period. The laboratory found the TLD collected from location 76 (TLD # 101256 [E-76]) indicated irregular glow curves for E3 and E4 (no usable glow curves). Further physical inspection of the TLD revealed a film and debris on elements E3 and E4 causing the TLD to be invalid. TLD # 101256 was removed from service. TLD # 101256 was in place at location 76 during the regional impacts from Hurricane Florence. Results for location 76 3 <sup>rd</sup> quarter 2018 were determined unavailable due to the damaged TLD.	NCR # 02238941

**APPENDIX E**

**RADIOLOGICAL  
ENVIRONMENTAL MONITORING  
PROGRAM RESULTS**

**2018**

This appendix includes sample analysis report summaries and supportive data generated from each sample medium for 2018.

# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 200 [ INDICATOR - WSW @ 1 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466129	1/2/2018 - 1/9/2018	Beta	2.35E-02	5.33E-03	6.68E-03
466336	1/9/2018 - 1/16/2018	Beta	1.09E-02	4.27E-03	6.15E-03
466923	1/16/2018 - 1/23/2018	Beta	2.11E-02	5.38E-03	7.13E-03
467280	1/23/2018 - 1/30/2018	Beta	1.20E-02	4.07E-03	5.56E-03
467583	1/30/2018 - 2/6/2018	Beta	2.07E-02	4.92E-03	6.02E-03
468384	2/6/2018 - 2/13/2018	Beta	1.31E-02	4.43E-03	6.21E-03
468704	2/13/2018 - 2/20/2018	Beta	1.48E-02	4.65E-03	6.40E-03
469514	2/20/2018 - 2/27/2018	Beta	1.19E-02	4.13E-03	5.68E-03
470527	2/27/2018 - 3/6/2018	Beta	2.29E-02	5.12E-03	6.28E-03
471106	3/6/2018 - 3/13/2018	Beta	2.00E-02	5.28E-03	7.02E-03
471660	3/13/2018 - 3/20/2018	Beta	2.65E-02	5.19E-03	5.90E-03
472423	3/20/2018 - 3/27/2018	Beta	1.16E-02	4.66E-03	6.81E-03
472914	3/27/2018 - 4/3/2018	Beta	1.35E-02	4.10E-03	5.63E-03
472430	1/2/2018 - 4/3/2018	Cs-134	<3.81E-03	0.00E+00	3.81E-03
		Cs-137	<3.35E-03	0.00E+00	3.35E-03
		Be-7	2.10E-01	6.08E-02	4.46E-02
		K-40	<6.20E-02	0.00E+00	6.20E-02
473214	4/3/2018 - 4/10/2018	Beta	1.86E-02	4.11E-03	4.96E-03
473578	4/10/2018 - 4/17/2018	Beta	1.87E-02	4.35E-03	5.51E-03
474096	4/17/2018 - 4/24/2018	Beta	1.86E-02	4.47E-03	5.81E-03
474468	4/24/2018 - 5/1/2018	Beta	1.63E-02	4.37E-03	5.87E-03
474836	5/1/2018 - 5/8/2018	Beta	1.72E-02	4.24E-03	5.49E-03
475158	5/8/2018 - 5/15/2018	Beta	2.12E-02	4.48E-03	5.53E-03
475482	5/15/2018 - 5/22/2018	Beta	7.64E-03	4.37E-03	6.81E-03
476301	5/22/2018 - 5/29/2018	Beta	1.07E-02	4.49E-03	6.67E-03



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 200 [ INDICATOR - WSW @ 1 miles ]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
477322	5/29/2018 - 6/5/2018	Beta	1.06E-02	4.75E-03	7.21E-03
478046	6/5/2018 - 6/12/2018	Beta	1.86E-02	5.01E-03	6.71E-03
478369	6/12/2018 - 6/19/2018	Beta	1.71E-02	4.11E-03	5.21E-03
478701	6/19/2018 - 6/26/2018	Beta	2.54E-02	5.31E-03	6.47E-03
479168	6/26/2018 - 7/3/2018	Beta	1.49E-02	4.28E-03	5.93E-03
478708	4/3/2018 - 7/3/2018	Cs-134	<2.95E-03	0.00E+00	2.95E-03
		Cs-137	<2.08E-03	0.00E+00	2.08E-03
		Be-7	9.37E-02	5.83E-02	8.53E-02
		K-40	<6.88E-02	0.00E+00	6.88E-02
479824	7/3/2018 - 7/10/2018	Beta	1.37E-02	4.62E-03	6.48E-03
480192	7/10/2018 - 7/17/2018	Beta	2.55E-02	5.25E-03	6.34E-03
481013	7/17/2018 - 7/24/2018	Beta	1.40E-02	4.02E-03	5.51E-03
481466	7/24/2018 - 7/31/2018	Beta	1.57E-02	4.23E-03	5.70E-03
481898	7/31/2018 - 8/7/2018	Beta	1.30E-02	4.35E-03	5.98E-03
482428	8/7/2018 - 8/14/2018	Beta	1.17E-02	4.41E-03	6.35E-03
482747	8/14/2018 - 8/21/2018	Beta	1.35E-02	4.57E-03	6.42E-03
483381	8/21/2018 - 8/28/2018	Beta	1.68E-02	4.57E-03	5.87E-03
483952	8/28/2018 - 9/4/2018	Beta	6.54E-03	4.38E-03	7.00E-03
484565	9/4/2018 - 9/11/2018	Beta	1.51E-02	4.25E-03	5.80E-03
484968	9/11/2018 - 9/18/2018	Beta	5.63E-03	4.38E-03	7.21E-03
486091	9/25/2018 - 10/2/2018	Beta	2.81E-02	6.16E-03	9.69E-03
485425	7/3/2018 - 10/2/2018	Cs-134	<2.52E-03	0.00E+00	2.52E-03
		Cs-137	<2.36E-03	0.00E+00	2.36E-03
		Be-7	1.33E-01	4.37E-02	4.72E-02
		K-40	<3.75E-02	0.00E+00	3.75E-02
486644	10/2/2018 - 10/9/2018	Beta	2.91E-02	5.60E-03	6.68E-03
487677	10/9/2018 - 10/16/2018	Beta	1.50E-02	4.39E-03	6.09E-03



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 200 [ INDICATOR - WSW @ 1 miles ]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
487933	10/16/2018 - 10/23/2018	Beta	1.76E-02	4.86E-03	6.46E-03
488417	10/23/2018 - 10/30/2018	Beta	2.08E-02	5.12E-03	6.59E-03
488791	10/30/2018 - 11/6/2018	Beta	1.22E-02	4.94E-03	7.30E-03
489089	11/6/2018 - 11/13/2018	Beta	1.88E-02	5.01E-03	6.59E-03
489683	11/13/2018 - 11/20/2018	Beta	1.69E-02	5.06E-03	6.98E-03
490098	11/20/2018 - 11/27/2018	Beta	2.12E-02	5.28E-03	6.86E-03
490741	11/27/2018 - 12/4/2018	Beta	1.87E-02	4.44E-03	5.65E-03
491116	12/4/2018 - 12/11/2018	Beta	1.52E-02	5.02E-03	7.06E-03
491429	12/11/2018 - 12/18/2018	Beta	2.19E-02	5.17E-03	6.42E-03
491671	12/18/2018 - 12/26/2018	Beta	1.59E-02	4.02E-03	5.31E-03
492163	12/26/2018 - 1/2/2019	Beta	1.86E-02	4.43E-03	5.69E-03
491678	10/2/2018 - 1/2/2019	Cs-134	<2.32E-03	0.00E+00	2.32E-03
		Cs-137	<2.81E-03	0.00E+00	2.81E-03
		Be-7	1.15E-01	4.11E-02	4.32E-02
		K-40	<5.01E-02	0.00E+00	5.01E-02

## Sample Point 201 [ INDICATOR - NE @ 0.5 miles ]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
466130	1/2/2018 - 1/9/2018	Beta	2.66E-02	5.50E-03	6.66E-03
466337	1/9/2018 - 1/16/2018	Beta	1.41E-02	4.51E-03	6.19E-03
466924	1/16/2018 - 1/23/2018	Beta	2.41E-02	5.55E-03	7.12E-03
467281	1/23/2018 - 1/30/2018	Beta	1.14E-02	4.03E-03	5.55E-03
467584	1/30/2018 - 2/6/2018	Beta	1.77E-02	4.69E-03	5.97E-03
468385	2/6/2018 - 2/13/2018	Beta	1.29E-02	4.44E-03	6.23E-03
468705	2/13/2018 - 2/20/2018	Beta	1.31E-02	4.56E-03	6.42E-03
469515	2/20/2018 - 2/27/2018	Beta	1.40E-02	4.34E-03	5.77E-03
470528	2/27/2018 - 3/6/2018	Beta	1.97E-02	4.94E-03	6.29E-03



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m<sup>3</sup>

Sample Point 201 [ INDICATOR - NE @ 0.5 miles ]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
471107	3/6/2018 - 3/13/2018	Beta	2.24E-02	5.38E-03	6.95E-03
471661	3/13/2018 - 3/20/2018	Beta	2.23E-02	4.86E-03	5.79E-03
472424	3/20/2018 - 3/27/2018	Beta	1.48E-02	4.81E-03	6.71E-03
472915	3/27/2018 - 4/3/2018	Beta	1.39E-02	4.05E-03	5.52E-03
472431	1/2/2018 - 4/3/2018	Cs-134	<2.06E-03	0.00E+00	2.06E-03
		Cs-137	<2.45E-03	0.00E+00	2.45E-03
		Be-7	1.52E-01	5.73E-02	6.33E-02
		K-40	<6.54E-02	0.00E+00	6.54E-02
473215	4/3/2018 - 4/10/2018	Beta	1.90E-02	4.08E-03	4.88E-03
473579	4/10/2018 - 4/17/2018	Beta	1.80E-02	4.25E-03	5.41E-03
474097	4/17/2018 - 4/24/2018	Beta	2.06E-02	4.54E-03	5.72E-03
474469	4/24/2018 - 5/1/2018	Beta	1.86E-02	4.44E-03	5.78E-03
474837	5/1/2018 - 5/8/2018	Beta	2.33E-02	4.54E-03	5.41E-03
475159	5/8/2018 - 5/15/2018	Beta	1.51E-02	4.11E-03	5.47E-03
475483	5/15/2018 - 5/22/2018	Beta	5.96E-03	4.22E-03	6.76E-03
476302	5/22/2018 - 5/29/2018	Beta	9.66E-03	4.39E-03	6.60E-03
477323	5/29/2018 - 6/5/2018	Beta	9.66E-03	4.68E-03	7.15E-03
478047	6/5/2018 - 6/12/2018	Beta	2.53E-02	5.35E-03	6.65E-03
478370	6/12/2018 - 6/19/2018	Beta	1.81E-02	4.13E-03	5.14E-03
478702	6/19/2018 - 6/26/2018	Beta	1.86E-02	4.88E-03	6.41E-03
479169	6/26/2018 - 7/3/2018	Beta	1.07E-02	4.00E-03	5.87E-03
478709	4/3/2018 - 7/3/2018	Cs-134	<3.85E-03	0.00E+00	3.85E-03
		Cs-137	<2.26E-03	0.00E+00	2.26E-03
		Be-7	1.60E-01	5.54E-02	6.04E-02
		K-40	<4.49E-02	0.00E+00	4.49E-02
479825	7/3/2018 - 7/10/2018	Beta	1.32E-02	4.53E-03	6.39E-03
480193	7/10/2018 - 7/17/2018	Beta	2.47E-02	5.16E-03	6.27E-03



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 201 [ INDICATOR - NE @ 0.5 miles ]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
481014	7/17/2018 - 7/24/2018	Beta	1.62E-02	4.16E-03	5.50E-03
481467	7/24/2018 - 7/31/2018	Beta	1.80E-02	4.34E-03	5.64E-03
481899	7/31/2018 - 8/7/2018	Beta	1.28E-02	4.30E-03	5.92E-03
482429	8/7/2018 - 8/14/2018	Beta	1.21E-02	4.39E-03	6.26E-03
482748	8/14/2018 - 8/21/2018	Beta	1.64E-02	4.71E-03	6.36E-03
483382	8/21/2018 - 8/28/2018	Beta	1.57E-02	4.44E-03	5.80E-03
483953	8/28/2018 - 9/4/2018	Beta	8.37E-03	4.47E-03	6.94E-03
484566	9/4/2018 - 9/11/2018	Beta	1.13E-02	3.98E-03	5.75E-03
484969	9/11/2018 - 9/18/2018	Beta	7.43E-03	3.52E-03	5.31E-03
485419	9/18/2018 - 9/25/2018	Beta	1.76E-02	4.61E-03	6.20E-03
486092	9/25/2018 - 10/2/2018	Beta	1.70E-02	4.21E-03	5.48E-03
485426	7/3/2018 - 10/2/2018	Cs-134	<2.11E-03	0.00E+00	2.11E-03
		Cs-137	<1.36E-03	0.00E+00	1.36E-03
		Be-7	1.45E-01	3.91E-02	4.25E-02
		K-40	4.22E-02	2.19E-02	2.77E-02
486645	10/2/2018 - 10/9/2018	Beta	2.78E-02	5.48E-03	6.60E-03
487678	10/9/2018 - 10/16/2018	Beta	1.51E-02	4.34E-03	6.02E-03
487934	10/16/2018 - 10/23/2018	Beta	1.74E-02	4.94E-03	6.60E-03
488418	10/23/2018 - 10/30/2018	Beta	1.61E-02	4.83E-03	6.59E-03
488792	10/30/2018 - 11/6/2018	Beta	1.39E-02	5.03E-03	7.29E-03
489090	11/6/2018 - 11/13/2018	Beta	1.96E-02	5.01E-03	6.52E-03
489684	11/13/2018 - 11/20/2018	Beta	1.69E-02	4.97E-03	6.84E-03
490099	11/20/2018 - 11/27/2018	Beta	2.26E-02	5.26E-03	6.72E-03
490742	11/27/2018 - 12/4/2018	Beta	1.80E-02	4.32E-03	5.52E-03
491117	12/4/2018 - 12/11/2018	Beta	1.28E-02	4.77E-03	6.90E-03





# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 201 [ INDICATOR - NE @ 0.5 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491430	12/11/2018 - 12/18/2018	Beta	1.88E-02	4.87E-03	6.27E-03
491672	12/18/2018 - 12/26/2018	Beta	1.95E-02	4.14E-03	5.20E-03
492164	12/26/2018 - 1/2/2019	Beta	1.43E-02	4.11E-03	5.57E-03
491679	10/2/2018 - 1/2/2019	Cs-134	<2.81E-03	0.00E+00	2.81E-03
		Cs-137	<2.81E-03	0.00E+00	2.81E-03
		Be-7	1.41E-01	4.87E-02	4.87E-02
		K-40	<8.33E-02	0.00E+00	8.33E-02

Sample Point 202 [ INDICATOR - S @ 1 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466131	1/2/2018 - 1/9/2018	Beta	2.82E-02	5.67E-03	6.78E-03
466338	1/9/2018 - 1/16/2018	Beta	1.21E-02	4.42E-03	6.25E-03
466925	1/16/2018 - 1/23/2018	Beta	2.52E-02	5.67E-03	7.23E-03
467282	1/23/2018 - 1/30/2018	Beta	1.21E-02	4.12E-03	5.62E-03
467585	1/30/2018 - 2/6/2018	Beta	1.68E-02	4.68E-03	6.06E-03
468386	2/6/2018 - 2/13/2018	Beta	1.51E-02	4.63E-03	6.31E-03
468706	2/13/2018 - 2/20/2018	Beta	1.16E-02	4.45E-03	6.41E-03
469516	2/20/2018 - 2/27/2018	Beta	1.08E-02	4.14E-03	5.82E-03
470529	2/27/2018 - 3/6/2018	Beta	2.20E-02	5.17E-03	6.44E-03
471108	3/6/2018 - 3/13/2018	Beta	1.92E-02	5.22E-03	7.02E-03
471662	3/13/2018 - 3/20/2018	Beta	2.74E-02	5.26E-03	5.89E-03
472425	3/20/2018 - 3/27/2018	Beta	1.14E-02	4.64E-03	6.80E-03
472916	3/27/2018 - 4/3/2018	Beta	1.30E-02	4.01E-03	5.54E-03
472432	1/2/2018 - 4/3/2018	Cs-134	<2.89E-03	0.00E+00	2.89E-03
		Cs-137	<1.61E-03	0.00E+00	1.61E-03
		Be-7	1.18E-01	5.22E-02	6.31E-02
		K-40	<5.25E-02	0.00E+00	5.25E-02
473216	4/3/2018 - 4/10/2018	Beta	1.76E-02	4.02E-03	4.89E-03
473580	4/10/2018 - 4/17/2018	Beta	1.64E-02	4.17E-03	5.43E-03



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 202 [ INDICATOR - S @ 1 miles ]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
474098	4/17/2018 - 4/24/2018	Beta	2.04E-02	4.53E-03	5.74E-03
474470	4/24/2018 - 5/1/2018	Beta	1.81E-02	4.42E-03	5.80E-03
474838	5/1/2018 - 5/8/2018	Beta	1.89E-02	4.30E-03	5.41E-03
475160	5/8/2018 - 5/15/2018	Beta	2.09E-02	4.43E-03	5.46E-03
475484	5/15/2018 - 5/22/2018	Beta	6.34E-03	4.22E-03	6.72E-03
476303	5/22/2018 - 5/29/2018	Beta	1.15E-02	4.50E-03	6.59E-03
477324	5/29/2018 - 6/5/2018	Beta	8.04E-03	4.54E-03	7.10E-03
478048	6/5/2018 - 6/12/2018	Beta	2.35E-02	5.23E-03	6.62E-03
478371	6/12/2018 - 6/19/2018	Beta	1.82E-02	4.14E-03	5.15E-03
478703	6/19/2018 - 6/26/2018	Beta	1.85E-02	4.85E-03	6.39E-03
479170	6/26/2018 - 7/3/2018	Beta	1.54E-02	4.25E-03	5.84E-03
478710	4/3/2018 - 7/3/2018	Cs-134	<3.46E-03	0.00E+00	3.46E-03
		Cs-137	<2.00E-03	0.00E+00	2.00E-03
		Be-7	<9.97E-02	0.00E+00	9.97E-02
		K-40	<5.96E-02	0.00E+00	5.96E-02
479826	7/3/2018 - 7/10/2018	Beta	1.50E-02	4.65E-03	6.39E-03
480194	7/10/2018 - 7/17/2018	Beta	2.17E-02	4.98E-03	6.25E-03
481015	7/17/2018 - 7/24/2018	Beta	1.29E-02	3.96E-03	5.50E-03
481468	7/24/2018 - 7/31/2018	Beta	1.35E-02	4.04E-03	5.60E-03
481900	7/31/2018 - 8/7/2018	Beta	1.12E-02	4.18E-03	5.90E-03
482430	8/7/2018 - 8/14/2018	Beta	1.60E-02	4.62E-03	6.23E-03
482749	8/14/2018 - 8/21/2018	Beta	1.52E-02	4.62E-03	6.33E-03
483383	8/21/2018 - 8/28/2018	Beta	1.28E-02	4.24E-03	5.79E-03
483954	8/28/2018 - 9/4/2018	Beta	6.02E-03	4.31E-03	6.93E-03
484567	9/4/2018 - 9/11/2018	Beta	1.46E-02	4.17E-03	5.72E-03



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 202 [ INDICATOR - S @ 1 miles ]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
484970	9/11/2018 - 9/18/2018	Beta	6.93E-03	3.49E-03	5.34E-03
485420	9/18/2018 - 9/25/2018	Beta	1.39E-02	4.45E-03	6.30E-03
486093	9/25/2018 - 10/2/2018	Beta	1.41E-02	4.06E-03	5.52E-03
485427	7/3/2018 - 10/2/2018	Cs-134	<1.50E-03	0.00E+00	1.50E-03
		Cs-137	<2.72E-03	0.00E+00	2.72E-03
		Be-7	1.30E-01	3.66E-02	3.71E-02
		K-40	<4.07E-02	0.00E+00	4.07E-02
486646	10/2/2018 - 10/9/2018	Beta	2.71E-02	5.48E-03	6.65E-03
487679	10/9/2018 - 10/16/2018	Beta	1.59E-02	4.45E-03	6.11E-03
487935	10/16/2018 - 10/23/2018	Beta	1.71E-02	4.81E-03	6.44E-03
488419	10/23/2018 - 10/30/2018	Beta	1.68E-02	4.86E-03	6.58E-03
488793	10/30/2018 - 11/6/2018	Beta	1.08E-02	4.84E-03	7.30E-03
489091	11/6/2018 - 11/13/2018	Beta	1.54E-02	4.80E-03	6.59E-03
489685	11/13/2018 - 11/20/2018	Beta	1.76E-02	5.11E-03	7.02E-03
490100	11/20/2018 - 11/27/2018	Beta	2.13E-02	5.31E-03	6.91E-03
490743	11/27/2018 - 12/4/2018	Beta	2.37E-02	4.76E-03	5.69E-03
491118	12/4/2018 - 12/11/2018	Beta	1.98E-02	5.17E-03	6.86E-03
491431	12/11/2018 - 12/18/2018	Beta	2.50E-02	5.37E-03	6.46E-03
491673	12/18/2018 - 12/26/2018	Beta	1.61E-02	4.04E-03	5.34E-03
492165	12/26/2018 - 1/2/2019	Beta	1.77E-02	4.40E-03	5.72E-03
491680	10/2/2018 - 1/2/2019	Cs-134	<3.57E-03	0.00E+00	3.57E-03
		Cs-137	<6.02E-04	0.00E+00	6.02E-04
		Be-7	1.54E-01	4.87E-02	3.98E-02
		K-40	<5.66E-02	0.00E+00	5.66E-02

Sample Point 203 [ INDICATOR - SSW @ 2 miles ]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
466132	1/2/2018 - 1/9/2018	Beta	2.61E-02	5.54E-03	6.77E-03
466339	1/9/2018 - 1/16/2018	Beta	1.41E-02	4.56E-03	6.27E-03



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 203 [ INDICATOR - SSW @ 2 miles ]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
466926	1/16/2018 - 1/23/2018	Beta	3.10E-02	5.97E-03	7.21E-03
467283	1/23/2018 - 1/30/2018	Beta	1.05E-02	4.01E-03	5.63E-03
467586	1/30/2018 - 2/6/2018	Beta	1.49E-02	4.55E-03	6.06E-03
468387	2/6/2018 - 2/13/2018	Beta	1.05E-02	4.31E-03	6.32E-03
468707	2/13/2018 - 2/20/2018	Beta	9.56E-03	4.33E-03	6.45E-03
469517	2/20/2018 - 2/27/2018	Beta	1.14E-02	4.21E-03	5.87E-03
470530	2/27/2018 - 3/6/2018	Beta	2.42E-02	5.32E-03	6.46E-03
471109	3/6/2018 - 3/13/2018	Beta	2.00E-02	5.30E-03	7.06E-03
471663	3/13/2018 - 3/20/2018	Beta	2.31E-02	4.98E-03	5.89E-03
472426	3/20/2018 - 3/27/2018	Beta	1.50E-02	4.88E-03	6.80E-03
472917	3/27/2018 - 4/3/2018	Beta	1.69E-02	4.29E-03	5.61E-03
472433	1/2/2018 - 4/3/2018	Cs-134	<2.98E-03	0.00E+00	2.98E-03
		Cs-137	<3.17E-03	0.00E+00	3.17E-03
		Be-7	1.97E-01	6.17E-02	5.86E-02
		K-40	<5.72E-02	0.00E+00	5.72E-02
473217	4/3/2018 - 4/10/2018	Beta	1.87E-02	4.12E-03	4.95E-03
473581	4/10/2018 - 4/17/2018	Beta	1.75E-02	4.27E-03	5.49E-03
474099	4/17/2018 - 4/24/2018	Beta	1.85E-02	4.46E-03	5.80E-03
474471	4/24/2018 - 5/1/2018	Beta	1.63E-02	4.36E-03	5.86E-03
474839	5/1/2018 - 5/8/2018	Beta	2.03E-02	4.40E-03	5.46E-03
475161	5/8/2018 - 5/15/2018	Beta	1.69E-02	4.23E-03	5.51E-03
475485	5/15/2018 - 5/22/2018	Beta	7.58E-03	4.34E-03	6.79E-03
476304	5/22/2018 - 5/29/2018	Beta	1.35E-02	4.66E-03	6.64E-03
477325	5/29/2018 - 6/5/2018	Beta	1.04E-02	4.71E-03	7.15E-03
478049	6/5/2018 - 6/12/2018	Beta	2.79E-02	5.49E-03	6.67E-03



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 203 [ INDICATOR - SSW @ 2 miles ]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
478372	6/12/2018 - 6/19/2018	Beta	1.88E-02	4.20E-03	5.18E-03
478704	6/19/2018 - 6/26/2018	Beta	2.02E-02	4.98E-03	6.42E-03
479171	6/26/2018 - 7/3/2018	Beta	1.10E-02	4.04E-03	5.90E-03
478711	4/3/2018 - 7/3/2018	Cs-134	<4.49E-03	0.00E+00	4.49E-03
		Cs-137	<2.50E-03	0.00E+00	2.50E-03
		Be-7	1.45E-01	5.33E-02	5.64E-02
		K-40	<6.31E-02	0.00E+00	6.31E-02
479827	7/3/2018 - 7/10/2018	Beta	1.19E-02	4.49E-03	6.46E-03
480195	7/10/2018 - 7/17/2018	Beta	2.69E-02	5.32E-03	6.31E-03
481016	7/17/2018 - 7/24/2018	Beta	1.35E-02	4.02E-03	5.54E-03
481469	7/24/2018 - 7/31/2018	Beta	1.03E-02	3.88E-03	5.66E-03
481901	7/31/2018 - 8/7/2018	Beta	1.58E-02	4.52E-03	5.95E-03
482431	8/7/2018 - 8/14/2018	Beta	1.31E-02	4.44E-03	6.21E-03
482750	8/14/2018 - 8/21/2018	Beta	1.21E-02	4.43E-03	6.36E-03
483384	8/21/2018 - 8/28/2018	Beta	1.66E-02	4.54E-03	5.85E-03
483955	8/28/2018 - 9/4/2018	Beta	1.20E-02	4.73E-03	6.98E-03
484568	9/4/2018 - 9/11/2018	Beta	1.53E-02	4.25E-03	5.78E-03
484971	9/11/2018 - 9/18/2018	Beta	3.47E-03	3.24E-03	5.39E-03
486094	9/25/2018 - 10/2/2018	Beta	2.06E-02	4.90E-03	6.29E-03
485428	7/3/2018 - 10/2/2018	Cs-134	<1.88E-03	0.00E+00	1.88E-03
		Cs-137	<1.30E-03	0.00E+00	1.30E-03
		Be-7	1.12E-01	3.31E-02	3.99E-02
		K-40	2.33E-02	1.84E-02	2.78E-02
486647	10/2/2018 - 10/9/2018	Beta	2.98E-02	5.59E-03	6.61E-03
487680	10/9/2018 - 10/16/2018	Beta	1.76E-02	4.52E-03	6.07E-03
487936	10/16/2018 - 10/23/2018	Beta	2.12E-02	5.03E-03	6.37E-03
488420	10/23/2018 - 10/30/2018	Beta	1.90E-02	4.96E-03	6.52E-03



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 203 [ INDICATOR - SSW @ 2 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
488794	10/30/2018 - 11/6/2018	Beta	1.64E-02	5.17E-03	7.24E-03
489092	11/6/2018 - 11/13/2018	Beta	2.43E-02	5.31E-03	6.54E-03
489686	11/13/2018 - 11/20/2018	Beta	1.61E-02	4.99E-03	6.94E-03
490101	11/20/2018 - 11/27/2018	Beta	2.28E-02	5.35E-03	6.84E-03
490744	11/27/2018 - 12/4/2018	Beta	2.10E-02	4.58E-03	5.66E-03
491119	12/4/2018 - 12/11/2018	Beta	1.17E-02	4.81E-03	7.11E-03
491432	12/11/2018 - 12/18/2018	Beta	2.11E-02	5.13E-03	6.44E-03
491674	12/18/2018 - 12/26/2018	Beta	2.13E-02	4.33E-03	5.34E-03
492166	12/26/2018 - 1/2/2019	Beta	1.80E-02	4.42E-03	5.71E-03
491681	10/2/2018 - 1/2/2019	Cs-134	<2.07E-03	0.00E+00	2.07E-03
		Cs-137	<2.24E-03	0.00E+00	2.24E-03
		Be-7	1.15E-01	4.11E-02	4.91E-02
		K-40	<4.05E-02	0.00E+00	4.05E-02

Sample Point 204 [ CONTROL - NNE @ 22.4 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466133	1/2/2018 - 1/9/2018	Beta	2.11E-02	5.27E-03	6.78E-03
466340	1/9/2018 - 1/16/2018	Beta	1.42E-02	4.52E-03	6.19E-03
466927	1/16/2018 - 1/23/2018	Beta	2.02E-02	5.32E-03	7.12E-03
467284	1/23/2018 - 1/30/2018	Beta	1.46E-02	4.26E-03	5.54E-03
467587	1/30/2018 - 2/6/2018	Beta	1.57E-02	4.59E-03	6.03E-03
468388	2/6/2018 - 2/13/2018	Beta	1.20E-02	4.40E-03	6.28E-03
468708	2/13/2018 - 2/20/2018	Beta	1.53E-02	4.64E-03	6.31E-03
469518	2/20/2018 - 2/27/2018	Beta	1.42E-02	4.30E-03	5.68E-03
470531	2/27/2018 - 3/6/2018	Beta	1.66E-02	4.75E-03	6.32E-03
471110	3/6/2018 - 3/13/2018	Beta	2.29E-02	5.40E-03	6.93E-03
471664	3/13/2018 - 3/20/2018	Beta	2.13E-02	4.84E-03	5.82E-03



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 204 [ CONTROL - NNE @ 22.4 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
472427	3/20/2018 - 3/27/2018	Beta	1.07E-02	4.57E-03	6.76E-03
472918	3/27/2018 - 4/3/2018	Beta	1.78E-02	4.31E-03	5.55E-03
472434	1/2/2018 - 4/3/2018	Cs-134	<3.49E-03	0.00E+00	3.49E-03
		Cs-137	<2.55E-03	0.00E+00	2.55E-03
		Be-7	1.46E-01	6.00E-02	7.12E-02
		K-40	5.85E-02	3.71E-02	4.72E-02
473218	4/3/2018 - 4/10/2018	Beta	2.03E-02	4.21E-03	4.92E-03
473582	4/10/2018 - 4/17/2018	Beta	1.83E-02	4.26E-03	5.40E-03
474100	4/17/2018 - 4/24/2018	Beta	1.82E-02	4.46E-03	5.82E-03
474472	4/24/2018 - 5/1/2018	Beta	1.22E-02	4.13E-03	5.88E-03
474840	5/1/2018 - 5/8/2018	Beta	1.89E-02	4.36E-03	5.54E-03
475162	5/8/2018 - 5/15/2018	Beta	1.84E-02	4.31E-03	5.52E-03
475486	5/15/2018 - 5/22/2018	Beta	7.28E-03	4.35E-03	6.81E-03
476305	5/22/2018 - 5/29/2018	Beta	1.09E-02	4.54E-03	6.72E-03
477326	5/29/2018 - 6/5/2018	Beta	1.11E-02	4.79E-03	7.22E-03
478050	6/5/2018 - 6/12/2018	Beta	2.11E-02	5.24E-03	6.88E-03
478373	6/12/2018 - 6/19/2018	Beta	1.90E-02	4.19E-03	5.14E-03
478705	6/19/2018 - 6/26/2018	Beta	2.31E-02	5.17E-03	6.45E-03
479172	6/26/2018 - 7/3/2018	Beta	1.25E-02	4.16E-03	5.97E-03
478712	4/3/2018 - 7/3/2018	Cs-134	<3.82E-03	0.00E+00	3.82E-03
		Cs-137	<2.06E-03	0.00E+00	2.06E-03
		Be-7	1.69E-01	5.78E-02	6.21E-02
		K-40	<5.34E-02	0.00E+00	5.34E-02
479828	7/3/2018 - 7/10/2018	Beta	1.84E-02	4.94E-03	6.51E-03
480196	7/10/2018 - 7/17/2018	Beta	2.10E-02	4.98E-03	6.32E-03
481017	7/17/2018 - 7/24/2018	Beta	1.79E-02	4.31E-03	5.61E-03
481470	7/24/2018 - 7/31/2018	Beta	1.49E-02	4.16E-03	5.66E-03



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 204 [ CONTROL - NNE @ 22.4 miles ]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
481902	7/31/2018 - 8/7/2018	Beta	1.21E-02	4.25E-03	5.92E-03
482432	8/7/2018 - 8/14/2018	Beta	1.59E-02	4.68E-03	6.34E-03
482751	8/14/2018 - 8/21/2018	Beta	1.50E-02	4.67E-03	6.45E-03
483385	8/21/2018 - 8/28/2018	Beta	1.78E-02	4.61E-03	5.84E-03
483956	8/28/2018 - 9/4/2018	Beta	8.69E-03	4.51E-03	6.97E-03
484569	9/4/2018 - 9/11/2018	Beta	1.52E-02	4.29E-03	5.87E-03
484972	9/11/2018 - 9/18/2018	Beta	6.05E-03	3.36E-03	5.19E-03
485422	9/18/2018 - 9/25/2018	Beta	2.23E-02	4.57E-03	6.81E-03
485429	7/3/2018 - 9/25/2018	Cs-134	<2.78E-03	0.00E+00	2.78E-03
		Cs-137	<1.72E-03	0.00E+00	1.72E-03
		Be-7	1.11E-01	4.12E-02	4.89E-02
		K-40	3.63E-02	2.29E-02	2.93E-02
486648	10/2/2018 - 10/9/2018	Beta	2.45E-02	4.70E-03	6.51E-03
487681	10/9/2018 - 10/16/2018	Beta	1.60E-02	4.42E-03	6.06E-03
487937	10/16/2018 - 10/23/2018	Beta	2.26E-02	5.19E-03	6.49E-03
488421	10/23/2018 - 10/30/2018	Beta	1.74E-02	4.99E-03	6.72E-03
488795	10/30/2018 - 11/6/2018	Beta	1.15E-02	4.88E-03	7.27E-03
489093	11/6/2018 - 11/13/2018	Beta	2.41E-02	5.34E-03	6.62E-03
489687	11/13/2018 - 11/20/2018	Beta	1.71E-02	5.12E-03	7.10E-03
490102	11/20/2018 - 11/27/2018	Beta	2.15E-02	5.39E-03	7.02E-03
490745	11/27/2018 - 12/4/2018	Beta	2.33E-02	4.76E-03	5.75E-03
491120	12/4/2018 - 12/11/2018	Beta	1.30E-02	4.95E-03	7.19E-03
491433	12/11/2018 - 12/18/2018	Beta	2.28E-02	5.30E-03	6.57E-03
491675	12/18/2018 - 12/26/2018	Beta	1.81E-02	4.19E-03	5.41E-03
492167	12/26/2018 - 1/2/2019	Beta	1.61E-02	4.37E-03	5.82E-03





# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 204 [ CONTROL - NNE @ 22.4 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491682	10/2/2018 - 1/2/2019				
		Cs-134	<5.41E-03	0.00E+00	5.41E-03
		Cs-137	<2.64E-03	0.00E+00	2.64E-03
		Be-7	1.34E-01	4.86E-02	4.41E-02
		K-40	<5.20E-02	0.00E+00	5.20E-02

## Sample Point 205 [ INDICATOR - SSE @ 0.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466134	1/2/2018 - 1/9/2018	Beta	2.44E-02	5.64E-03	7.11E-03
466341	1/9/2018 - 1/16/2018	Beta	1.61E-02	4.87E-03	6.57E-03
466928	1/16/2018 - 1/23/2018	Beta	1.93E-02	5.51E-03	7.52E-03
467285	1/23/2018 - 1/30/2018	Beta	1.16E-02	4.23E-03	5.88E-03
467588	1/30/2018 - 2/6/2018	Beta	2.17E-02	5.16E-03	6.34E-03
468389	2/6/2018 - 2/13/2018	Beta	1.29E-02	4.63E-03	6.59E-03
468709	2/13/2018 - 2/20/2018	Beta	1.67E-02	5.02E-03	6.80E-03
469519	2/20/2018 - 2/27/2018	Beta	1.45E-02	4.53E-03	6.04E-03
470532	2/27/2018 - 3/6/2018	Beta	3.93E-02	6.33E-03	6.74E-03
471111	3/6/2018 - 3/13/2018	Beta	1.85E-02	5.42E-03	7.43E-03
471665	3/13/2018 - 3/20/2018	Beta	2.21E-02	5.10E-03	6.19E-03
472428	3/20/2018 - 3/27/2018	Beta	9.81E-03	4.66E-03	7.04E-03
472919	3/27/2018 - 4/3/2018	Beta	1.51E-02	4.15E-03	5.57E-03
472435	1/2/2018 - 4/3/2018				
		Cs-134	<3.50E-03	0.00E+00	3.50E-03
		Cs-137	<2.56E-03	0.00E+00	2.56E-03
		Be-7	2.31E-01	6.53E-02	5.06E-02
		K-40	<3.35E-02	0.00E+00	3.35E-02
473219	4/3/2018 - 4/10/2018	Beta	1.67E-02	3.97E-03	4.92E-03
473583	4/10/2018 - 4/17/2018	Beta	1.77E-02	4.27E-03	5.48E-03
474101	4/17/2018 - 4/24/2018	Beta	2.27E-02	4.70E-03	5.79E-03
474473	4/24/2018 - 5/1/2018	Beta	1.48E-02	4.27E-03	5.86E-03
474841	5/1/2018 - 5/8/2018	Beta	1.62E-02	4.18E-03	5.48E-03



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 205 [ INDICATOR - SSE @ 0.6 miles ]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
475163	5/8/2018 - 5/15/2018	Beta	2.04E-02	4.45E-03	5.54E-03
475487	5/15/2018 - 5/22/2018	Beta	9.36E-03	4.50E-03	6.84E-03
476306	5/22/2018 - 5/29/2018	Beta	8.41E-03	4.36E-03	6.70E-03
477327	5/29/2018 - 6/5/2018	Beta	8.52E-03	4.64E-03	7.22E-03
478051	6/5/2018 - 6/12/2018	Beta	2.41E-02	5.33E-03	6.72E-03
478374	6/12/2018 - 6/19/2018	Beta	1.70E-02	4.12E-03	5.24E-03
478706	6/19/2018 - 6/26/2018	Beta	2.18E-02	5.12E-03	6.50E-03
479173	6/26/2018 - 7/3/2018	Beta	1.35E-02	4.22E-03	5.95E-03
478713	4/3/2018 - 7/3/2018	Cs-134	<2.58E-03	0.00E+00	2.58E-03
		Cs-137	<2.46E-03	0.00E+00	2.46E-03
		Be-7	1.35E-01	4.96E-02	5.00E-02
		K-40	<5.98E-02	0.00E+00	5.98E-02
479829	7/3/2018 - 7/10/2018	Beta	1.51E-02	4.73E-03	6.53E-03
480197	7/10/2018 - 7/17/2018	Beta	2.45E-02	5.23E-03	6.40E-03
481018	7/17/2018 - 7/24/2018	Beta	1.16E-02	3.92E-03	5.58E-03
481471	7/24/2018 - 7/31/2018	Beta	1.30E-02	4.08E-03	5.72E-03
481903	7/31/2018 - 8/7/2018	Beta	1.11E-02	4.24E-03	6.01E-03
482433	8/7/2018 - 8/14/2018	Beta	1.42E-02	4.57E-03	6.34E-03
482752	8/14/2018 - 8/21/2018	Beta	1.13E-02	4.45E-03	6.44E-03
483386	8/21/2018 - 8/28/2018	Beta	2.06E-02	4.82E-03	5.88E-03
483957	8/28/2018 - 9/4/2018	Beta	5.58E-03	4.35E-03	7.06E-03
484570	9/4/2018 - 9/11/2018	Beta	1.31E-02	4.17E-03	5.88E-03
484973	9/11/2018 - 9/19/2018	Beta	5.12E-03	3.14E-03	4.94E-03
485423	9/19/2018 - 9/25/2018	Beta	1.75E-02	5.10E-03	7.06E-03
486096	9/25/2018 - 10/2/2018	Beta	1.61E-02	4.27E-03	5.66E-03



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 205 [ INDICATOR - SSE @ 0.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
485430	7/3/2018 - 10/2/2018	Cs-134	<2.37E-03	0.00E+00	2.37E-03
		Cs-137	<1.94E-03	0.00E+00	1.94E-03
		Be-7	1.30E-01	4.77E-02	4.96E-02
		K-40	<5.48E-02	0.00E+00	5.48E-02
486649	10/2/2018 - 10/9/2018	Beta	2.62E-02	5.48E-03	6.76E-03
487682	10/9/2018 - 10/16/2018	Beta	1.85E-02	4.62E-03	6.16E-03
487938	10/16/2018 - 10/23/2018	Beta	1.58E-02	4.78E-03	6.50E-03
488422	10/23/2018 - 10/30/2018	Beta	2.01E-02	5.08E-03	6.61E-03
488796	10/30/2018 - 11/6/2018	Beta	1.66E-02	5.25E-03	7.34E-03
489094	11/6/2018 - 11/13/2018	Beta	2.28E-02	5.28E-03	6.63E-03
489688	11/13/2018 - 11/20/2018	Beta	1.53E-02	4.96E-03	6.99E-03
490103	11/20/2018 - 11/27/2018	Beta	2.33E-02	5.40E-03	6.87E-03
490746	11/27/2018 - 12/4/2018	Beta	2.38E-02	4.73E-03	5.65E-03
491121	12/4/2018 - 12/11/2018	Beta	1.24E-02	4.83E-03	7.06E-03
491434	12/11/2018 - 12/18/2018	Beta	1.90E-02	4.99E-03	6.43E-03
491676	12/18/2018 - 12/26/2018	Beta	1.62E-02	4.05E-03	5.33E-03
492168	12/26/2018 - 1/2/2019	Beta	2.00E-02	4.53E-03	5.71E-03
491683	10/2/2018 - 1/2/2019	Cs-134	<1.86E-03	0.00E+00	1.86E-03
		Cs-137	<1.70E-03	0.00E+00	1.70E-03
		Be-7	1.01E-01	3.29E-02	3.89E-02
		K-40	<2.99E-02	0.00E+00	2.99E-02

## Sample Point 206 [ CONTROL - NW @ 11.3 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466135	1/2/2018 - 1/9/2018	Beta	2.66E-02	5.75E-03	7.07E-03
466342	1/9/2018 - 1/16/2018	Beta	1.69E-02	4.84E-03	6.43E-03
466929	1/16/2018 - 1/23/2018	Beta	2.49E-02	5.74E-03	7.38E-03
467286	1/23/2018 - 1/30/2018	Beta	1.05E-02	4.07E-03	5.75E-03
467589	1/30/2018 - 2/6/2018	Beta	1.84E-02	4.90E-03	6.26E-03



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 206 [ CONTROL - NW @ 11.3 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
468390	2/6/2018 - 2/13/2018	Beta	1.48E-02	4.72E-03	6.51E-03
468710	2/13/2018 - 2/20/2018	Beta	1.50E-02	4.78E-03	6.57E-03
469520	2/20/2018 - 2/27/2018	Beta	1.53E-02	4.53E-03	5.92E-03
470533	2/27/2018 - 3/6/2018	Beta	1.92E-02	5.09E-03	6.59E-03
471112	3/6/2018 - 3/13/2018	Beta	1.70E-02	5.03E-03	6.88E-03
471666	3/13/2018 - 3/20/2018	Beta	2.46E-02	5.03E-03	5.82E-03
472429	3/20/2018 - 3/27/2018	Beta	7.67E-03	4.36E-03	6.77E-03
472920	3/27/2018 - 4/3/2018	Beta	1.83E-02	4.36E-03	5.56E-03
472436	1/2/2018 - 4/3/2018	Cs-134	<4.38E-03	0.00E+00	4.38E-03
		Cs-137	<1.87E-03	0.00E+00	1.87E-03
		Be-7	1.37E-01	6.88E-02	9.33E-02
		K-40	<6.06E-02	0.00E+00	6.06E-02
473220	4/3/2018 - 4/10/2018	Beta	2.72E-02	4.60E-03	4.93E-03
473584	4/10/2018 - 4/17/2018	Beta	1.76E-02	4.24E-03	5.42E-03
474102	4/17/2018 - 4/24/2018	Beta	2.44E-02	4.78E-03	5.80E-03
474474	4/24/2018 - 5/1/2018	Beta	1.39E-02	4.22E-03	5.83E-03
474842	5/1/2018 - 5/8/2018	Beta	1.93E-02	4.38E-03	5.51E-03
475164	5/8/2018 - 5/15/2018	Beta	2.05E-02	4.45E-03	5.51E-03
475488	5/15/2018 - 5/22/2018	Beta	5.71E-03	4.22E-03	6.79E-03
476307	5/22/2018 - 5/29/2018	Beta	1.06E-02	4.54E-03	6.70E-03
477328	5/29/2018 - 6/5/2018	Beta	1.29E-02	4.89E-03	7.20E-03
478052	6/5/2018 - 6/12/2018	Beta	2.05E-02	5.16E-03	6.78E-03
478375	6/12/2018 - 6/19/2018	Beta	1.77E-02	4.13E-03	5.18E-03
478707	6/19/2018 - 6/26/2018	Beta	2.27E-02	5.12E-03	6.42E-03
479174	6/26/2018 - 7/3/2018	Beta	1.53E-02	4.34E-03	5.99E-03



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 206 [ CONTROL - NW @ 11.3 miles ]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
478714	4/3/2018 - 7/3/2018	Cs-134	<3.55E-03	0.00E+00	3.55E-03
		Cs-137	<2.61E-03	0.00E+00	2.61E-03
		Be-7	1.51E-01	5.12E-02	4.43E-02
		K-40	5.10E-02	2.76E-02	9.88E-03
479830	7/3/2018 - 7/10/2018	Beta	1.37E-02	4.65E-03	6.52E-03
480198	7/10/2018 - 7/17/2018	Beta	2.45E-02	5.21E-03	6.36E-03
481019	7/17/2018 - 7/24/2018	Beta	1.30E-02	4.04E-03	5.61E-03
481472	7/24/2018 - 7/31/2018	Beta	1.35E-02	4.09E-03	5.69E-03
481904	7/31/2018 - 8/7/2018	Beta	1.43E-02	4.42E-03	5.94E-03
482434	8/7/2018 - 8/14/2018	Beta	1.32E-02	4.52E-03	6.35E-03
482753	8/14/2018 - 8/21/2018	Beta	1.37E-02	4.60E-03	6.46E-03
483387	8/21/2018 - 8/28/2018	Beta	1.88E-02	4.70E-03	5.87E-03
483958	8/28/2018 - 9/4/2018	Beta	7.37E-03	4.45E-03	7.03E-03
484571	9/4/2018 - 9/11/2018	Beta	1.31E-02	4.18E-03	5.91E-03
484974	9/11/2018 - 9/18/2018	Beta	4.85E-03	3.92E-03	6.46E-03
485424	9/18/2018 - 9/25/2018	Beta	1.65E-02	4.79E-03	6.63E-03
486097	9/25/2018 - 10/2/2018	Beta	1.62E-02	4.30E-03	5.71E-03
485431	7/3/2018 - 10/2/2018	Cs-134	<4.40E-03	0.00E+00	4.40E-03
		Cs-137	<2.37E-03	0.00E+00	2.37E-03
		Be-7	1.13E-01	4.55E-02	4.15E-02
		K-40	<6.41E-02	0.00E+00	6.41E-02
486650	10/2/2018 - 10/9/2018	Beta	2.81E-02	5.67E-03	6.89E-03
487683	10/9/2018 - 10/16/2018	Beta	1.45E-02	4.41E-03	6.17E-03
487939	10/16/2018 - 10/23/2018	Beta	1.93E-02	5.05E-03	6.59E-03
488423	10/23/2018 - 10/30/2018	Beta	1.78E-02	5.03E-03	6.76E-03
488797	10/30/2018 - 11/6/2018	Beta	1.51E-02	5.15E-03	7.36E-03
489095	11/6/2018 - 11/13/2018	Beta	1.85E-02	5.07E-03	6.71E-03



## BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR PARTICULATE Concentration (Activity): pCi/m3

Sample Point 206 [ CONTROL - NW @ 11.3 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
489689	11/13/2018 - 11/20/2018	Beta	1.60E-02	5.08E-03	7.12E-03
490104	11/20/2018 - 11/27/2018	Beta	2.27E-02	5.45E-03	7.02E-03
490747	11/27/2018 - 12/4/2018	Beta	2.16E-02	4.65E-03	5.74E-03
491122	12/4/2018 - 12/11/2018	Beta	1.00E-02	4.74E-03	7.19E-03
491435	12/11/2018 - 12/18/2018	Beta	2.04E-02	5.14E-03	6.54E-03
491677	12/18/2018 - 12/26/2018	Beta	1.96E-02	4.27E-03	5.40E-03
492169	12/26/2018 - 1/2/2019	Beta	1.84E-02	4.49E-03	5.81E-03
491684	10/2/2018 - 1/2/2019	Cs-134	<3.08E-03	0.00E+00	3.08E-03
		Cs-137	<1.72E-03	0.00E+00	1.72E-03
		Be-7	1.28E-01	4.12E-02	4.94E-02
		K-40	4.26E-02	2.25E-02	2.69E-02

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 200 [ INDICATOR - WSW @ 1 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466136	1/2/2018 - 1/9/2018	I-131	<5.05E-02	0.00E+00	5.05E-02
		Cs-134	<3.47E-02	0.00E+00	3.47E-02
		Cs-137	<3.99E-02	0.00E+00	3.99E-02
		Be-7	<2.21E-01	0.00E+00	2.21E-01
		K-40	8.00E-01	3.26E-01	2.88E-01
466343	1/9/2018 - 1/16/2018	I-131	<5.32E-02	0.00E+00	5.32E-02
		Cs-134	<8.25E-03	0.00E+00	8.25E-03
		Cs-137	1.84E-03	5.46E-03	9.25E-03
		Be-7	1.11E-02	6.73E-02	1.14E-01
		K-40	5.30E-01	1.04E-01	1.11E-01
466930	1/16/2018 - 1/23/2018	I-131	<4.23E-02	0.00E+00	4.23E-02
		Cs-134	<3.28E-02	0.00E+00	3.28E-02
		Cs-137	<3.38E-02	0.00E+00	3.38E-02
		Be-7	<2.50E-01	0.00E+00	2.50E-01
		K-40	9.53E-01	3.74E-01	3.72E-01
467287	1/23/2018 - 1/30/2018	I-131	<5.23E-02	0.00E+00	5.23E-02
		Cs-134	<3.55E-02	0.00E+00	3.55E-02
		Cs-137	<3.35E-02	0.00E+00	3.35E-02
		Be-7	<2.10E-01	0.00E+00	2.10E-01
		K-40	1.01E+00	4.70E-01	6.13E-01
467590	1/30/2018 - 2/6/2018	I-131	<4.96E-02	0.00E+00	4.96E-02
		Cs-134	<3.70E-02	0.00E+00	3.70E-02
		Cs-137	<3.85E-02	0.00E+00	3.85E-02
		Be-7	<2.68E-01	0.00E+00	2.68E-01
		K-40	1.20E+00	4.01E-01	3.36E-01

# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 200 [ INDICATOR - WSW @ 1 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
468391	2/6/2018 - 2/13/2018	I-131	<3.95E-02	0.00E+00	3.95E-02
		Cs-134	<3.73E-02	0.00E+00	3.73E-02
		Cs-137	<3.07E-02	0.00E+00	3.07E-02
		Be-7	<2.29E-01	0.00E+00	2.29E-01
		K-40	1.18E+00	3.79E-01	2.61E-01
468711	2/13/2018 - 2/20/2018	I-131	<5.57E-02	0.00E+00	5.57E-02
		Cs-134	<2.54E-02	0.00E+00	2.54E-02
		Cs-137	<3.03E-02	0.00E+00	3.03E-02
		Be-7	<1.96E-01	0.00E+00	1.96E-01
		K-40	1.06E+00	3.43E-01	3.72E-01
469521	2/20/2018 - 2/27/2018	I-131	<4.39E-02	0.00E+00	4.39E-02
		Cs-134	<3.95E-02	0.00E+00	3.95E-02
		Cs-137	<3.37E-02	0.00E+00	3.37E-02
		Be-7	<2.38E-01	0.00E+00	2.38E-01
		K-40	1.12E+00	3.93E-01	3.63E-01
470534	2/27/2018 - 3/6/2018	I-131	<4.79E-02	0.00E+00	4.79E-02
		Cs-134	<3.07E-02	0.00E+00	3.07E-02
		Cs-137	<4.51E-02	0.00E+00	4.51E-02
		Be-7	<2.69E-01	0.00E+00	2.69E-01
		K-40	7.50E-01	3.57E-01	4.24E-01
471113	3/6/2018 - 3/13/2018	I-131	<4.57E-02	0.00E+00	4.57E-02
		Cs-134	<3.33E-02	0.00E+00	3.33E-02
		Cs-137	<3.63E-02	0.00E+00	3.63E-02
		Be-7	<2.45E-01	0.00E+00	2.45E-01
		K-40	1.21E+00	4.51E-01	4.91E-01
471667	3/13/2018 - 3/20/2018	I-131	<5.11E-02	0.00E+00	5.11E-02
		Cs-134	<2.19E-02	0.00E+00	2.19E-02
		Cs-137	<2.61E-02	0.00E+00	2.61E-02
		Be-7	<1.87E-01	0.00E+00	1.87E-01
		K-40	9.98E-01	2.26E-01	1.82E-01
472437	3/20/2018 - 3/27/2018	I-131	<4.74E-02	0.00E+00	4.74E-02
		Cs-134	<3.58E-02	0.00E+00	3.58E-02
		Cs-137	<3.38E-02	0.00E+00	3.38E-02
		Be-7	<2.68E-01	0.00E+00	2.68E-01
		K-40	7.66E-01	3.44E-01	3.74E-01
472921	3/27/2018 - 4/3/2018	I-131	<4.03E-02	0.00E+00	4.04E-02
		Cs-134	<1.82E-02	0.00E+00	1.82E-02
		Cs-137	<3.25E-02	0.00E+00	3.25E-02
		Be-7	<2.50E-01	0.00E+00	2.50E-01
		K-40	1.07E+00	3.74E-01	3.08E-01
473221	4/3/2018 - 4/10/2018	I-131	<4.35E-02	0.00E+00	4.35E-02
		Cs-134	<3.79E-02	0.00E+00	3.79E-02
		Cs-137	<4.53E-02	0.00E+00	4.53E-02
		Be-7	<2.75E-01	0.00E+00	2.75E-01
		K-40	9.95E-01	3.96E-01	4.27E-01
473585	4/10/2018 - 4/17/2018	I-131	<4.78E-02	0.00E+00	4.78E-02
		Cs-134	<3.42E-02	0.00E+00	3.42E-02
		Cs-137	<3.85E-02	0.00E+00	3.85E-02



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 200 [ INDICATOR - WSW @ 1 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
473585	4/10/2018 - 4/17/2018	Be-7	<1.86E-01	0.00E+00	1.86E-01
		K-40	1.15E+00	4.09E-01	3.93E-01
474103	4/17/2018 - 4/24/2018	I-131	<5.25E-02	0.00E+00	5.25E-02
		Cs-134	<3.79E-02	0.00E+00	3.79E-02
		Cs-137	<3.34E-02	0.00E+00	3.34E-02
		Be-7	<2.84E-01	0.00E+00	2.84E-01
		K-40	7.90E-01	4.02E-01	5.22E-01
474475	4/24/2018 - 5/1/2018	I-131	<5.20E-02	0.00E+00	5.20E-02
		Cs-134	<3.66E-02	0.00E+00	3.66E-02
		Cs-137	<3.23E-02	0.00E+00	3.23E-02
		Be-7	<2.67E-01	0.00E+00	2.67E-01
		K-40	1.27E+00	4.25E-01	3.95E-01
474843	5/1/2018 - 5/8/2018	I-131	<3.75E-02	0.00E+00	3.75E-02
		Cs-134	<3.04E-02	0.00E+00	3.04E-02
		Cs-137	<3.84E-02	0.00E+00	3.84E-02
		Be-7	<2.47E-01	0.00E+00	2.47E-01
		K-40	8.63E-01	3.63E-01	3.93E-01
475165	5/8/2018 - 5/15/2018	I-131	<5.09E-02	0.00E+00	5.09E-02
		Cs-134	<3.62E-02	0.00E+00	3.62E-02
		Cs-137	<3.68E-02	0.00E+00	3.68E-02
		Be-7	<2.56E-01	0.00E+00	2.56E-01
		K-40	8.75E-01	3.98E-01	4.86E-01
475489	5/15/2018 - 5/22/2018	I-131	<4.78E-02	0.00E+00	4.78E-02
		Cs-134	<3.20E-02	0.00E+00	3.20E-02
		Cs-137	<3.29E-02	0.00E+00	3.29E-02
		Be-7	<2.20E-01	0.00E+00	2.20E-01
		K-40	9.41E-01	3.98E-01	4.61E-01
476308	5/22/2018 - 5/29/2018	I-131	<4.56E-02	0.00E+00	4.56E-02
		Cs-134	<3.70E-02	0.00E+00	3.70E-02
		Cs-137	<3.45E-02	0.00E+00	3.45E-02
		Be-7	<2.38E-01	0.00E+00	2.38E-01
		K-40	<7.99E-01	0.00E+00	7.99E-01
477329	5/29/2018 - 6/5/2018	I-131	<4.85E-02	0.00E+00	4.85E-02
		Cs-134	<3.96E-02	0.00E+00	3.96E-02
		Cs-137	<3.37E-02	0.00E+00	3.37E-02
		Be-7	<2.62E-01	0.00E+00	2.62E-01
		K-40	7.80E-01	3.53E-01	4.03E-01
478053	6/5/2018 - 6/12/2018	I-131	<4.60E-02	0.00E+00	4.60E-02
		Cs-134	<3.80E-02	0.00E+00	3.80E-02
		Cs-137	<2.56E-02	0.00E+00	2.56E-02
		Be-7	9.05E-02	1.76E-01	3.00E-01
		K-40	9.10E-01	3.60E-01	3.65E-01
478376	6/12/2018 - 6/19/2018	I-131	<5.31E-02	0.00E+00	5.31E-02
		Cs-134	<2.39E-02	0.00E+00	2.39E-02
		Cs-137	<2.99E-02	0.00E+00	2.99E-02
		Be-7	<2.23E-01	0.00E+00	2.23E-01
		K-40	8.24E-01	2.91E-01	2.71E-01





# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 200 [ INDICATOR - WSW @ 1 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
478715	6/19/2018 - 6/26/2018	I-131	<5.57E-02	0.00E+00	5.57E-02
		Cs-134	<3.09E-02	0.00E+00	3.09E-02
		Cs-137	<3.12E-02	0.00E+00	3.12E-02
		Be-7	<2.04E-01	0.00E+00	2.04E-01
		K-40	7.76E-01	3.35E-01	4.28E-01
479175	6/26/2018 - 7/3/2018	I-131	<4.82E-02	0.00E+00	4.82E-02
		Cs-134	<3.29E-02	0.00E+00	3.29E-02
		Cs-137	<3.14E-02	0.00E+00	3.14E-02
		Be-7	<2.29E-01	0.00E+00	2.29E-01
		K-40	8.75E-01	3.68E-01	4.07E-01
479831	7/3/2018 - 7/10/2018	I-131	<4.57E-02	0.00E+00	4.57E-02
		Cs-134	<3.31E-02	0.00E+00	3.31E-02
		Cs-137	<3.36E-02	0.00E+00	3.36E-02
		Be-7	<2.40E-01	0.00E+00	2.40E-01
		K-40	1.28E+00	4.13E-01	3.54E-01
480199	7/10/2018 - 7/17/2018	I-131	<4.27E-02	0.00E+00	4.27E-02
		Cs-134	<3.02E-02	0.00E+00	3.02E-02
		Cs-137	<3.64E-02	0.00E+00	3.64E-02
		Be-7	<2.10E-01	0.00E+00	2.10E-01
		K-40	1.04E+00	4.72E-01	6.15E-01
481020	7/17/2018 - 7/24/2018	I-131	<4.41E-02	0.00E+00	4.41E-02
		Cs-134	<2.46E-02	0.00E+00	2.46E-02
		Cs-137	<2.09E-02	0.00E+00	2.09E-02
		Be-7	<2.02E-01	0.00E+00	2.02E-01
		K-40	1.13E+00	3.73E-01	2.84E-01
481473	7/24/2018 - 7/31/2018	I-131	<4.14E-02	0.00E+00	4.14E-02
		Cs-134	<3.34E-02	0.00E+00	3.34E-02
		Cs-137	<4.10E-02	0.00E+00	4.10E-02
		Be-7	<2.45E-01	0.00E+00	2.45E-01
		K-40	1.14E+00	4.28E-01	4.65E-01
481905	7/31/2018 - 8/7/2018	I-131	<4.51E-02	0.00E+00	4.51E-02
		Cs-134	<3.74E-02	0.00E+00	3.74E-02
		Cs-137	<2.97E-02	0.00E+00	2.97E-02
		Be-7	<2.50E-01	0.00E+00	2.50E-01
		K-40	8.79E-01	3.75E-01	4.22E-01
482435	8/7/2018 - 8/14/2018	I-131	<4.75E-02	0.00E+00	4.75E-02
		Cs-134	<3.71E-02	0.00E+00	3.71E-02
		Cs-137	<3.37E-02	0.00E+00	3.37E-02
		Be-7	<2.72E-01	0.00E+00	2.72E-01
		K-40	9.51E-01	3.39E-01	2.53E-01
482754	8/14/2018 - 8/21/2018	I-131	<5.39E-02	0.00E+00	5.39E-02
		Cs-134	<2.65E-02	0.00E+00	2.65E-02
		Cs-137	<2.85E-02	0.00E+00	2.85E-02
		Be-7	<1.93E-01	0.00E+00	1.93E-01
		K-40	1.21E+00	3.21E-01	2.08E-01
483388	8/21/2018 - 8/28/2018	I-131	<2.73E-02	0.00E+00	2.73E-02
		Cs-134	<2.45E-02	0.00E+00	2.45E-02
		Cs-137	<3.13E-02	0.00E+00	3.13E-02



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 200 [ INDICATOR - WSW @ 1 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
483388	8/21/2018 - 8/28/2018	Be-7	<1.94E-01	0.00E+00	1.94E-01
		K-40	2.82E-01	2.39E-01	3.47E-01
483959	8/28/2018 - 9/4/2018	I-131	<3.16E-02	0.00E+00	3.16E-02
		Cs-134	<2.24E-02	0.00E+00	2.24E-02
		Cs-137	<3.33E-02	0.00E+00	3.33E-02
		Be-7	<1.61E-01	0.00E+00	1.61E-01
		K-40	6.73E-01	2.60E-01	6.52E-02
484572	9/4/2018 - 9/11/2018	I-131	<4.28E-02	0.00E+00	4.28E-02
		Cs-134	<3.27E-02	0.00E+00	3.27E-02
		Cs-137	<4.46E-02	0.00E+00	4.46E-02
		Be-7	<2.21E-01	0.00E+00	2.21E-01
		K-40	1.06E+00	3.37E-01	6.82E-02
484975	9/11/2018 - 9/18/2018	I-131	<4.92E-02	0.00E+00	4.92E-02
		Cs-134	<1.53E-02	0.00E+00	1.53E-02
		Cs-137	1.32E-02	9.86E-03	1.57E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	1.34E+00	2.12E-01	2.15E-01
486098	9/25/2018 - 10/2/2018	I-131	<4.94E-02	0.00E+00	4.94E-02
		Cs-134	<2.55E-02	0.00E+00	2.55E-02
		Cs-137	2.22E-02	2.05E-02	3.35E-02
		Be-7	<2.17E-01	0.00E+00	2.17E-01
		K-40	4.02E+00	7.19E-01	2.88E-01
486651	10/2/2018 - 10/9/2018	I-131	<4.49E-02	0.00E+00	4.49E-02
		Cs-134	<3.47E-02	0.00E+00	3.47E-02
		Cs-137	<2.72E-02	0.00E+00	2.72E-02
		Be-7	<2.61E-01	0.00E+00	2.61E-01
		K-40	9.55E-01	3.42E-01	2.60E-01
487684	10/9/2018 - 10/16/2018	I-131	<3.57E-02	0.00E+00	3.57E-02
		Cs-134	<2.09E-02	0.00E+00	2.09E-02
		Cs-137	<2.37E-02	0.00E+00	2.37E-02
		Be-7	<1.70E-01	0.00E+00	1.70E-01
		K-40	4.80E-01	2.31E-01	3.10E-01
487940	10/16/2018 - 10/23/2018	I-131	<4.89E-02	0.00E+00	4.89E-02
		Cs-134	<3.43E-02	0.00E+00	3.43E-02
		Cs-137	<3.57E-02	0.00E+00	3.57E-02
		Be-7	<2.12E-01	0.00E+00	2.12E-01
		K-40	1.13E+00	3.83E-01	3.03E-01
488424	10/23/2018 - 10/30/2018	I-131	<4.85E-02	0.00E+00	4.85E-02
		Cs-134	<3.42E-02	0.00E+00	3.42E-02
		Cs-137	<3.47E-02	0.00E+00	3.47E-02
		Be-7	<2.57E-01	0.00E+00	2.57E-01
		K-40	1.11E+00	3.74E-01	2.80E-01
488798	10/30/2018 - 11/6/2018	I-131	<5.14E-02	0.00E+00	5.14E-02
		Cs-134	<3.44E-02	0.00E+00	3.44E-02
		Cs-137	<3.17E-02	0.00E+00	3.17E-02
		Be-7	<2.34E-01	0.00E+00	2.34E-01
		K-40	8.66E-01	4.19E-01	5.34E-01



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 200 [ INDICATOR - WSW @ 1 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
489096	11/6/2018 - 11/13/2018	I-131	<4.30E-02	0.00E+00	4.30E-02
		Cs-134	<3.97E-02	0.00E+00	3.97E-02
		Cs-137	<3.59E-02	0.00E+00	3.59E-02
		Be-7	<2.76E-01	0.00E+00	2.76E-01
		K-40	7.22E-01	3.89E-01	5.14E-01
489690	11/13/2018 - 11/20/2018	I-131	<5.47E-02	0.00E+00	5.47E-02
		Cs-134	<3.48E-02	0.00E+00	3.48E-02
		Cs-137	<3.71E-02	0.00E+00	3.71E-02
		Be-7	<2.55E-01	0.00E+00	2.55E-01
		K-40	9.79E-01	3.62E-01	3.08E-01
490105	11/20/2018 - 11/27/2018	I-131	<4.11E-02	0.00E+00	4.11E-02
		Cs-134	<3.16E-02	0.00E+00	3.16E-02
		Cs-137	<4.33E-02	0.00E+00	4.33E-02
		Be-7	<2.65E-01	0.00E+00	2.65E-01
		K-40	9.43E-01	4.31E-01	5.36E-01
490748	11/27/2018 - 12/4/2018	I-131	<5.41E-02	0.00E+00	5.41E-02
		Cs-134	<3.90E-02	0.00E+00	3.90E-02
		Cs-137	<3.54E-02	0.00E+00	3.54E-02
		Be-7	<2.04E-01	0.00E+00	2.04E-01
		K-40	1.24E+00	4.80E-01	5.58E-01
491123	12/4/2018 - 12/11/2018	I-131	<5.06E-02	0.00E+00	5.06E-02
		Cs-134	<3.67E-02	0.00E+00	3.67E-02
		Cs-137	<3.97E-02	0.00E+00	3.97E-02
		Be-7	<2.72E-01	0.00E+00	2.72E-01
		K-40	6.51E-01	3.09E-01	3.19E-01
491436	12/11/2018 - 12/18/2018	I-131	<4.89E-02	0.00E+00	4.89E-02
		Cs-134	<2.22E-02	0.00E+00	2.22E-02
		Cs-137	<1.76E-02	0.00E+00	1.76E-02
		Be-7	<1.35E-01	0.00E+00	1.35E-01
		K-40	9.80E-01	2.49E-01	2.64E-01
491685	12/18/2018 - 12/26/2018	I-131	<5.21E-02	0.00E+00	5.21E-02
		Cs-134	<1.75E-02	0.00E+00	1.75E-02
		Cs-137	<2.21E-02	0.00E+00	2.21E-02
		Be-7	<1.50E-01	0.00E+00	1.50E-01
		K-40	9.45E-01	2.23E-01	1.33E-01
492170	12/26/2018 - 1/2/2019	I-131	<5.53E-02	0.00E+00	5.53E-02
		Cs-134	<3.77E-02	0.00E+00	3.77E-02
		Cs-137	<3.27E-02	0.00E+00	3.27E-02
		Be-7	<2.60E-01	0.00E+00	2.60E-01
		K-40	1.09E+00	3.58E-01	3.38E-01

## Sample Point 201 [ INDICATOR - NE @ 0.5 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466137	1/2/2018 - 1/9/2018	I-131	<5.21E-02	0.00E+00	5.21E-02
		Cs-134	<3.15E-02	0.00E+00	3.15E-02
		Cs-137	<3.40E-02	0.00E+00	3.40E-02
		Be-7	<2.77E-01	0.00E+00	2.77E-01
		K-40	1.34E+00	4.07E-01	2.57E-01



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 201 [ INDICATOR - NE @ 0.5 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466344	1/9/2018 - 1/16/2018	I-131	<5.59E-02	0.00E+00	5.59E-02
		Cs-134	<3.27E-02	0.00E+00	3.27E-02
		Cs-137	<2.69E-02	0.00E+00	2.69E-02
		Be-7	<2.23E-01	0.00E+00	2.23E-01
		K-40	1.28E+00	4.08E-01	4.07E-01
466931	1/16/2018 - 1/23/2018	I-131	<4.77E-02	0.00E+00	4.77E-02
		Cs-134	<3.57E-02	0.00E+00	3.57E-02
		Cs-137	<3.67E-02	0.00E+00	3.67E-02
		Be-7	<2.73E-01	0.00E+00	2.73E-01
		K-40	9.25E-01	3.76E-01	3.96E-01
467288	1/23/2018 - 1/30/2018	I-131	<4.44E-02	0.00E+00	4.44E-02
		Cs-134	<3.40E-02	0.00E+00	3.40E-02
		Cs-137	<3.45E-02	0.00E+00	3.45E-02
		Be-7	<2.44E-01	0.00E+00	2.44E-01
		K-40	8.54E-01	3.96E-01	4.84E-01
467591	1/30/2018 - 2/6/2018	I-131	<4.43E-02	0.00E+00	4.43E-02
		Cs-134	<3.40E-02	0.00E+00	3.40E-02
		Cs-137	<3.64E-02	0.00E+00	3.64E-02
		Be-7	<2.60E-01	0.00E+00	2.60E-01
		K-40	9.32E-01	3.75E-01	3.91E-01
468392	2/6/2018 - 2/13/2018	I-131	<4.49E-02	0.00E+00	4.49E-02
		Cs-134	<2.88E-02	0.00E+00	2.88E-02
		Cs-137	<2.97E-02	0.00E+00	2.97E-02
		Be-7	<2.17E-01	0.00E+00	2.17E-01
		K-40	9.49E-01	3.74E-01	3.84E-01
468712	2/13/2018 - 2/20/2018	I-131	<4.92E-02	0.00E+00	4.92E-02
		Cs-134	<2.72E-02	0.00E+00	2.72E-02
		Cs-137	<2.47E-02	0.00E+00	2.47E-02
		Be-7	9.49E-03	1.06E-01	1.89E-01
		K-40	9.50E-01	2.91E-01	3.08E-01
469522	2/20/2018 - 2/27/2018	I-131	<4.02E-02	0.00E+00	4.02E-02
		Cs-134	<3.90E-02	0.00E+00	3.90E-02
		Cs-137	<3.61E-02	0.00E+00	3.61E-02
		Be-7	<2.01E-01	0.00E+00	2.01E-01
		K-40	1.09E+00	3.69E-01	2.74E-01
470535	2/27/2018 - 3/6/2018	I-131	<5.37E-02	0.00E+00	5.37E-02
		Cs-134	<3.24E-02	0.00E+00	3.24E-02
		Cs-137	<3.81E-02	0.00E+00	3.81E-02
		Be-7	<2.81E-01	0.00E+00	2.81E-01
		K-40	1.04E+00	4.06E-01	4.39E-01
471114	3/6/2018 - 3/13/2018	I-131	<4.28E-02	0.00E+00	4.28E-02
		Cs-134	<4.55E-02	0.00E+00	4.55E-02
		Cs-137	<3.50E-02	0.00E+00	3.50E-02
		Be-7	<2.43E-01	0.00E+00	2.43E-01
		K-40	1.02E+00	4.37E-01	5.29E-01
471668	3/13/2018 - 3/20/2018	I-131	<5.53E-02	0.00E+00	5.53E-02
		Cs-134	<3.25E-02	0.00E+00	3.25E-02
		Cs-137	<3.94E-02	0.00E+00	3.94E-02

# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 201 [ INDICATOR - NE @ 0.5 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
471668	3/13/2018 - 3/20/2018	Be-7	<2.20E-01	0.00E+00	2.20E-01
		K-40	9.58E-01	3.73E-01	4.11E-01
472438	3/20/2018 - 3/27/2018	I-131	<4.56E-02	0.00E+00	4.56E-02
		Cs-134	<3.78E-02	0.00E+00	3.78E-02
		Cs-137	<3.23E-02	0.00E+00	3.23E-02
		Be-7	<2.21E-01	0.00E+00	2.21E-01
		K-40	8.28E-01	3.60E-01	3.97E-01
472922	3/27/2018 - 4/3/2018	I-131	<4.88E-02	0.00E+00	4.88E-02
		Cs-134	<3.34E-02	0.00E+00	3.34E-02
		Cs-137	<3.67E-02	0.00E+00	3.67E-02
		Be-7	<2.68E-01	0.00E+00	2.68E-01
		K-40	7.52E-01	3.57E-01	4.27E-01
473222	4/3/2018 - 4/10/2018	I-131	<4.79E-02	0.00E+00	4.79E-02
		Cs-134	<3.60E-02	0.00E+00	3.60E-02
		Cs-137	<3.28E-02	0.00E+00	3.28E-02
		Be-7	<2.37E-01	0.00E+00	2.37E-01
		K-40	9.57E-01	3.62E-01	3.43E-01
473586	4/10/2018 - 4/17/2018	I-131	<4.32E-02	0.00E+00	4.32E-02
		Cs-134	<2.89E-02	0.00E+00	2.89E-02
		Cs-137	<3.78E-02	0.00E+00	3.78E-02
		Be-7	<2.40E-01	0.00E+00	2.40E-01
		K-40	1.19E+00	4.76E-01	5.79E-01
474104	4/17/2018 - 4/24/2018	I-131	<4.73E-02	0.00E+00	4.73E-02
		Cs-134	<2.88E-02	0.00E+00	2.88E-02
		Cs-137	<3.18E-02	0.00E+00	3.18E-02
		Be-7	<2.34E-01	0.00E+00	2.34E-01
		K-40	8.20E-01	4.13E-01	5.41E-01
474476	4/24/2018 - 5/1/2018	I-131	<4.52E-02	0.00E+00	4.52E-02
		Cs-134	<3.73E-02	0.00E+00	3.73E-02
		Cs-137	<3.92E-02	0.00E+00	3.92E-02
		Be-7	<2.27E-01	0.00E+00	2.27E-01
		K-40	8.72E-01	3.32E-01	2.76E-01
474844	5/1/2018 - 5/8/2018	I-131	<4.30E-02	0.00E+00	4.30E-02
		Cs-134	<3.29E-02	0.00E+00	3.29E-02
		Cs-137	<4.19E-02	0.00E+00	4.19E-02
		Be-7	<2.44E-01	0.00E+00	2.44E-01
		K-40	1.04E+00	3.57E-01	2.74E-01
475166	5/8/2018 - 5/15/2018	I-131	<3.94E-02	0.00E+00	3.94E-02
		Cs-134	<2.85E-02	0.00E+00	2.85E-02
		Cs-137	<3.55E-02	0.00E+00	3.55E-02
		Be-7	<2.30E-01	0.00E+00	2.30E-01
		K-40	1.27E+00	3.74E-01	6.89E-02
475490	5/15/2018 - 5/22/2018	I-131	<4.45E-02	0.00E+00	4.45E-02
		Cs-134	<3.32E-02	0.00E+00	3.32E-02
		Cs-137	<3.64E-02	0.00E+00	3.64E-02
		Be-7	<2.44E-01	0.00E+00	2.44E-01
		K-40	1.22E+00	3.88E-01	2.81E-01



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 201 [ INDICATOR - NE @ 0.5 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
476309	5/22/2018 - 5/29/2018	I-131	<4.37E-02	0.00E+00	4.37E-02
		Cs-134	<3.67E-02	0.00E+00	3.67E-02
		Cs-137	<3.13E-02	0.00E+00	3.13E-02
		Be-7	<2.59E-01	0.00E+00	2.59E-01
		K-40	1.34E+00	4.20E-01	3.57E-01
477330	5/29/2018 - 6/5/2018	I-131	<4.76E-02	0.00E+00	4.76E-02
		Cs-134	<3.93E-02	0.00E+00	3.93E-02
		Cs-137	<3.25E-02	0.00E+00	3.25E-02
		Be-7	<2.71E-01	0.00E+00	2.71E-01
		K-40	<7.88E-01	0.00E+00	7.88E-01
478054	6/5/2018 - 6/12/2018	I-131	<4.65E-02	0.00E+00	4.65E-02
		Cs-134	<3.39E-02	0.00E+00	3.39E-02
		Cs-137	<3.40E-02	0.00E+00	3.40E-02
		Be-7	<2.75E-01	0.00E+00	2.75E-01
		K-40	8.85E-01	3.47E-01	3.37E-01
478377	6/12/2018 - 6/19/2018	I-131	<5.58E-02	0.00E+00	5.58E-02
		Cs-134	<3.27E-02	0.00E+00	3.27E-02
		Cs-137	<2.68E-02	0.00E+00	2.68E-02
		Be-7	<2.46E-01	0.00E+00	2.46E-01
		K-40	7.67E-01	3.62E-01	4.59E-01
478716	6/19/2018 - 6/26/2018	I-131	<5.25E-02	0.00E+00	5.25E-02
		Cs-134	<2.43E-02	0.00E+00	2.43E-02
		Cs-137	<2.54E-02	0.00E+00	2.54E-02
		Be-7	<1.65E-01	0.00E+00	1.65E-01
		K-40	1.10E+00	3.15E-01	2.92E-01
479176	6/26/2018 - 7/3/2018	I-131	<4.36E-02	0.00E+00	4.36E-02
		Cs-134	<3.87E-02	0.00E+00	3.87E-02
		Cs-137	<3.10E-02	0.00E+00	3.10E-02
		Be-7	<2.14E-01	0.00E+00	2.14E-01
		K-40	7.92E-01	3.66E-01	4.39E-01
479832	7/3/2018 - 7/10/2018	I-131	<4.40E-02	0.00E+00	4.40E-02
		Cs-134	<3.12E-02	0.00E+00	3.12E-02
		Cs-137	<3.59E-02	0.00E+00	3.59E-02
		Be-7	<2.37E-01	0.00E+00	2.37E-01
		K-40	1.14E+00	4.03E-01	3.95E-01
480200	7/10/2018 - 7/17/2018	I-131	<4.39E-02	0.00E+00	4.39E-02
		Cs-134	<3.43E-02	0.00E+00	3.43E-02
		Cs-137	<3.32E-02	0.00E+00	3.32E-02
		Be-7	<2.56E-01	0.00E+00	2.56E-01
		K-40	9.30E-01	3.69E-01	3.85E-01
481021	7/17/2018 - 7/24/2018	I-131	<4.66E-02	0.00E+00	4.66E-02
		Cs-134	<2.81E-02	0.00E+00	2.81E-02
		Cs-137	<3.76E-02	0.00E+00	3.76E-02
		Be-7	<2.62E-01	0.00E+00	2.62E-01
		K-40	1.39E+00	4.37E-01	3.93E-01
481474	7/24/2018 - 7/31/2018	I-131	<4.92E-02	0.00E+00	4.92E-02
		Cs-134	<3.31E-02	0.00E+00	3.31E-02
		Cs-137	<3.89E-02	0.00E+00	3.89E-02



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 201 [ INDICATOR - NE @ 0.5 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481474	7/24/2018 - 7/31/2018	Be-7	<2.11E-01	0.00E+00	2.11E-01
		K-40	1.22E+00	4.07E-01	3.65E-01
481906	7/31/2018 - 8/7/2018	I-131	<4.50E-02	0.00E+00	4.50E-02
		Cs-134	<4.05E-02	0.00E+00	4.05E-02
		Cs-137	<3.26E-02	0.00E+00	3.26E-02
		Be-7	1.03E-01	1.35E-01	2.22E-01
		K-40	1.26E+00	4.56E-01	5.02E-01
482436	8/7/2018 - 8/14/2018	I-131	<5.14E-02	0.00E+00	5.14E-02
		Cs-134	<3.40E-02	0.00E+00	3.40E-02
		Cs-137	<3.50E-02	0.00E+00	3.50E-02
		Be-7	<2.46E-01	0.00E+00	2.46E-01
		K-40	9.35E-01	3.78E-01	4.12E-01
482755	8/14/2018 - 8/21/2018	I-131	<5.56E-02	0.00E+00	5.56E-02
		Cs-134	<2.88E-02	0.00E+00	2.88E-02
		Cs-137	<2.55E-02	0.00E+00	2.55E-02
		Be-7	<1.84E-01	0.00E+00	1.84E-01
		K-40	1.07E+00	2.92E-01	1.80E-01
483389	8/21/2018 - 8/28/2018	I-131	<2.89E-02	0.00E+00	2.89E-02
		Cs-134	<2.51E-02	0.00E+00	2.51E-02
		Cs-137	<3.10E-02	0.00E+00	3.10E-02
		Be-7	<2.13E-01	0.00E+00	2.13E-01
		K-40	1.26E+00	3.86E-01	2.68E-01
483960	8/28/2018 - 9/4/2018	I-131	<3.24E-02	0.00E+00	3.24E-02
		Cs-134	<3.12E-02	0.00E+00	3.12E-02
		Cs-137	<3.62E-02	0.00E+00	3.62E-02
		Be-7	<2.28E-01	0.00E+00	2.28E-01
		K-40	<5.57E-01	0.00E+00	5.57E-01
484573	9/4/2018 - 9/11/2018	I-131	<4.11E-02	0.00E+00	4.11E-02
		Cs-134	<3.50E-02	0.00E+00	3.50E-02
		Cs-137	<3.29E-02	0.00E+00	3.29E-02
		Be-7	<2.31E-01	0.00E+00	2.31E-01
		K-40	1.08E+00	3.71E-01	3.14E-01
484976	9/11/2018 - 9/18/2018	I-131	<5.07E-02	0.00E+00	5.07E-02
		Cs-134	<1.29E-02	0.00E+00	1.29E-02
		Cs-137	<1.29E-02	0.00E+00	1.29E-02
		Be-7	<1.11E-01	0.00E+00	1.11E-01
		K-40	9.38E-01	2.33E-01	1.52E-01
485433	9/18/2018 - 9/25/2018	I-131	<5.39E-02	0.00E+00	5.39E-02
		Cs-134	<2.16E-02	0.00E+00	2.16E-02
		Cs-137	<2.00E-02	0.00E+00	2.00E-02
		Be-7	<1.60E-01	0.00E+00	1.60E-01
		K-40	9.61E-01	2.72E-01	3.02E-01
486099	9/25/2018 - 10/2/2018	I-131	<5.45E-02	0.00E+00	5.45E-02
		Cs-134	<2.91E-02	0.00E+00	2.91E-02
		Cs-137	<3.27E-02	0.00E+00	3.27E-02
		Be-7	<2.79E-01	0.00E+00	2.79E-01
		K-40	1.14E+00	3.66E-01	3.36E-01



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 201 [ INDICATOR - NE @ 0.5 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
486652	10/2/2018 - 10/9/2018	I-131	<3.62E-02	0.00E+00	3.62E-02
		Cs-134	<3.29E-02	0.00E+00	3.29E-02
		Cs-137	<3.44E-02	0.00E+00	3.44E-02
		Be-7	<2.79E-01	0.00E+00	2.79E-01
		K-40	8.96E-01	3.47E-01	3.28E-01
487685	10/9/2018 - 10/16/2018	I-131	<5.42E-02	0.00E+00	5.42E-02
		Cs-134	<2.39E-02	0.00E+00	2.39E-02
		Cs-137	<2.62E-02	0.00E+00	2.62E-02
		Be-7	<1.98E-01	0.00E+00	1.98E-01
		K-40	1.45E+00	3.63E-01	3.13E-01
487941	10/16/2018 - 10/23/2018	I-131	<5.11E-02	0.00E+00	5.11E-02
		Cs-134	<4.39E-02	0.00E+00	4.39E-02
		Cs-137	<3.22E-02	0.00E+00	3.22E-02
		Be-7	<2.58E-01	0.00E+00	2.58E-01
		K-40	1.04E+00	4.43E-01	5.32E-01
488425	10/23/2018 - 10/30/2018	I-131	<5.18E-02	0.00E+00	5.18E-02
		Cs-134	<3.83E-02	0.00E+00	3.83E-02
		Cs-137	<4.11E-02	0.00E+00	4.11E-02
		Be-7	<2.18E-01	0.00E+00	2.18E-01
		K-40	1.05E+00	3.68E-01	2.90E-01
488799	10/30/2018 - 11/6/2018	I-131	<4.50E-02	0.00E+00	4.50E-02
		Cs-134	<3.57E-02	0.00E+00	3.57E-02
		Cs-137	<3.38E-02	0.00E+00	3.38E-02
		Be-7	<2.19E-01	0.00E+00	2.19E-01
		K-40	9.71E-01	4.03E-01	4.53E-01
489097	11/6/2018 - 11/13/2018	I-131	<4.99E-02	0.00E+00	4.99E-02
		Cs-134	<3.68E-02	0.00E+00	3.68E-02
		Cs-137	<4.33E-02	0.00E+00	4.33E-02
		Be-7	<1.85E-01	0.00E+00	1.85E-01
		K-40	1.03E+00	3.99E-01	4.19E-01
489691	11/13/2018 - 11/20/2018	I-131	<5.58E-02	0.00E+00	5.58E-02
		Cs-134	<2.92E-02	0.00E+00	2.92E-02
		Cs-137	<2.96E-02	0.00E+00	2.96E-02
		Be-7	<2.24E-01	0.00E+00	2.24E-01
		K-40	9.88E-01	3.77E-01	4.39E-01
490106	11/20/2018 - 11/27/2018	I-131	<4.81E-02	0.00E+00	4.81E-02
		Cs-134	<3.53E-02	0.00E+00	3.53E-02
		Cs-137	<3.24E-02	0.00E+00	3.24E-02
		Be-7	<2.71E-01	0.00E+00	2.71E-01
		K-40	8.36E-01	3.03E-01	7.08E-02
490749	11/27/2018 - 12/4/2018	I-131	<4.54E-02	0.00E+00	4.54E-02
		Cs-134	<2.93E-02	0.00E+00	2.93E-02
		Cs-137	<2.90E-02	0.00E+00	2.90E-02
		Be-7	<3.01E-01	0.00E+00	3.01E-01
		K-40	8.06E-01	3.58E-01	3.99E-01
491124	12/4/2018 - 12/11/2018	I-131	<4.72E-02	0.00E+00	4.72E-02
		Cs-134	<3.30E-02	0.00E+00	3.30E-02
		Cs-137	<3.78E-02	0.00E+00	3.78E-02





# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 201 [ INDICATOR - NE @ 0.5 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491124	12/4/2018 - 12/11/2018	Be-7	<2.60E-01	0.00E+00	2.60E-01
		K-40	<6.88E-01	0.00E+00	6.88E-01
491437	12/11/2018 - 12/18/2018	I-131	<5.56E-02	0.00E+00	5.56E-02
		Cs-134	<1.89E-02	0.00E+00	1.89E-02
		Cs-137	<2.28E-02	0.00E+00	2.28E-02
		Be-7	<1.51E-01	0.00E+00	1.51E-01
		K-40	9.05E-01	2.30E-01	1.85E-01
491686	12/18/2018 - 12/26/2018	I-131	<5.58E-02	0.00E+00	5.58E-02
		Cs-134	<2.54E-02	0.00E+00	2.54E-02
		Cs-137	<2.63E-02	0.00E+00	2.63E-02
		Be-7	<1.77E-01	0.00E+00	1.77E-01
		K-40	9.03E-01	2.68E-01	2.23E-01
492171	12/26/2018 - 1/2/2019	I-131	<5.14E-02	0.00E+00	5.14E-02
		Cs-134	<2.31E-02	0.00E+00	2.31E-02
		Cs-137	<2.65E-02	0.00E+00	2.65E-02
		Be-7	<1.67E-01	0.00E+00	1.67E-01
		K-40	8.70E-01	2.82E-01	3.14E-01

Sample Point 202 [ INDICATOR - S @ 1 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466138	1/2/2018 - 1/9/2018	I-131	<5.00E-02	0.00E+00	5.00E-02
		Cs-134	<3.67E-02	0.00E+00	3.67E-02
		Cs-137	<4.23E-02	0.00E+00	4.23E-02
		Be-7	<3.15E-01	0.00E+00	3.15E-01
		K-40	7.21E-01	4.41E-01	6.27E-01
466345	1/9/2018 - 1/16/2018	I-131	<4.88E-02	0.00E+00	4.88E-02
		Cs-134	<1.96E-02	0.00E+00	1.96E-02
		Cs-137	<2.82E-02	0.00E+00	2.82E-02
		Be-7	<1.99E-01	0.00E+00	1.99E-01
		K-40	1.04E+00	3.03E-01	3.10E-01
466932	1/16/2018 - 1/23/2018	I-131	<4.98E-02	0.00E+00	4.98E-02
		Cs-134	<3.89E-02	0.00E+00	3.89E-02
		Cs-137	<3.63E-02	0.00E+00	3.63E-02
		Be-7	<2.20E-01	0.00E+00	2.20E-01
		K-40	9.30E-01	3.80E-01	4.01E-01
467289	1/23/2018 - 1/30/2018	I-131	<5.53E-02	0.00E+00	5.53E-02
		Cs-134	<3.44E-02	0.00E+00	3.44E-02
		Cs-137	<3.49E-02	0.00E+00	3.49E-02
		Be-7	2.41E-01	2.04E-01	3.17E-01
		K-40	8.64E-01	3.79E-01	4.30E-01
467592	1/30/2018 - 2/6/2018	I-131	<4.49E-02	0.00E+00	4.49E-02
		Cs-134	<2.13E-02	0.00E+00	2.13E-02
		Cs-137	<4.46E-02	0.00E+00	4.46E-02
		Be-7	<2.52E-01	0.00E+00	2.52E-01
		K-40	5.73E-01	3.77E-01	5.36E-01
468393	2/6/2018 - 2/13/2018	I-131	<3.62E-02	0.00E+00	3.62E-02
		Cs-134	<3.79E-02	0.00E+00	3.79E-02
		Cs-137	<3.23E-02	0.00E+00	3.23E-02



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 202 [ INDICATOR - S @ 1 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
468393	2/6/2018 - 2/13/2018	Be-7	<2.79E-01	0.00E+00	2.79E-01
		K-40	1.28E+00	3.78E-01	7.06E-02
468713	2/13/2018 - 2/20/2018	I-131	<5.59E-02	0.00E+00	5.59E-02
		Cs-134	<2.22E-02	0.00E+00	2.22E-02
		Cs-137	<2.25E-02	0.00E+00	2.25E-02
		Be-7	<1.66E-01	0.00E+00	1.66E-01
		K-40	1.04E+00	3.08E-01	2.92E-01
469523	2/20/2018 - 2/27/2018	I-131	<5.07E-02	0.00E+00	5.07E-02
		Cs-134	<3.81E-02	0.00E+00	3.81E-02
		Cs-137	<3.64E-02	0.00E+00	3.64E-02
		Be-7	<2.51E-01	0.00E+00	2.51E-01
		K-40	1.14E+00	4.10E-01	4.02E-01
470536	2/27/2018 - 3/6/2018	I-131	<4.87E-02	0.00E+00	4.87E-02
		Cs-134	<3.61E-02	0.00E+00	3.61E-02
		Cs-137	<3.90E-02	0.00E+00	3.90E-02
		Be-7	<2.65E-01	0.00E+00	2.65E-01
		K-40	8.26E-01	3.04E-01	7.22E-02
471115	3/6/2018 - 3/13/2018	I-131	<4.55E-02	0.00E+00	4.55E-02
		Cs-134	<4.02E-02	0.00E+00	4.02E-02
		Cs-137	<3.21E-02	0.00E+00	3.21E-02
		Be-7	<2.39E-01	0.00E+00	2.39E-01
		K-40	9.63E-01	3.30E-01	7.25E-02
471669	3/13/2018 - 3/20/2018	I-131	<5.56E-02	0.00E+00	5.56E-02
		Cs-134	<2.76E-02	0.00E+00	2.76E-02
		Cs-137	<2.50E-02	0.00E+00	2.50E-02
		Be-7	<2.07E-01	0.00E+00	2.07E-01
		K-40	9.80E-01	2.96E-01	2.78E-01
472439	3/20/2018 - 3/27/2018	I-131	<4.06E-02	0.00E+00	4.06E-02
		Cs-134	<4.52E-02	0.00E+00	4.52E-02
		Cs-137	<2.52E-02	0.00E+00	2.52E-02
		Be-7	<2.56E-01	0.00E+00	2.56E-01
		K-40	1.21E+00	3.95E-01	3.00E-01
472923	3/27/2018 - 4/3/2018	I-131	<4.26E-02	0.00E+00	4.26E-02
		Cs-134	<4.63E-02	0.00E+00	4.63E-02
		Cs-137	<2.86E-02	0.00E+00	2.86E-02
		Be-7	<2.52E-01	0.00E+00	2.52E-01
		K-40	<7.28E-01	0.00E+00	7.28E-01
473223	4/3/2018 - 4/10/2018	I-131	<4.16E-02	0.00E+00	4.16E-02
		Cs-134	<3.48E-02	0.00E+00	3.48E-02
		Cs-137	<3.49E-02	0.00E+00	3.49E-02
		Be-7	<2.55E-01	0.00E+00	2.55E-01
		K-40	7.50E-01	3.07E-01	2.63E-01
473587	4/10/2018 - 4/17/2018	I-131	<4.50E-02	0.00E+00	4.50E-02
		Cs-134	<4.12E-02	0.00E+00	4.12E-02
		Cs-137	<3.32E-02	0.00E+00	3.32E-02
		Be-7	<2.28E-01	0.00E+00	2.28E-01
		K-40	1.19E+00	3.87E-01	2.90E-01



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 202 [ INDICATOR - S @ 1 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474105	4/17/2018 - 4/24/2018	I-131	<5.14E-02	0.00E+00	5.14E-02
		Cs-134	<3.75E-02	0.00E+00	3.75E-02
		Cs-137	<3.49E-02	0.00E+00	3.49E-02
		Be-7	<2.65E-01	0.00E+00	2.65E-01
		K-40	8.32E-01	3.44E-01	3.48E-01
474477	4/24/2018 - 5/1/2018	I-131	<4.18E-02	0.00E+00	4.18E-02
		Cs-134	<2.98E-02	0.00E+00	2.98E-02
		Cs-137	<3.39E-02	0.00E+00	3.39E-02
		Be-7	<2.40E-01	0.00E+00	2.40E-01
		K-40	8.58E-01	3.47E-01	3.44E-01
474845	5/1/2018 - 5/8/2018	I-131	<3.72E-02	0.00E+00	3.72E-02
		Cs-134	<3.29E-02	0.00E+00	3.29E-02
		Cs-137	<2.56E-02	0.00E+00	2.56E-02
		Be-7	<2.20E-01	0.00E+00	2.20E-01
		K-40	8.20E-01	3.81E-01	4.66E-01
475167	5/8/2018 - 5/15/2018	I-131	<4.34E-02	0.00E+00	4.34E-02
		Cs-134	<3.57E-02	0.00E+00	3.57E-02
		Cs-137	<2.93E-02	0.00E+00	2.93E-02
		Be-7	<2.30E-01	0.00E+00	2.30E-01
		K-40	6.98E-01	3.51E-01	4.33E-01
475491	5/15/2018 - 5/22/2018	I-131	<4.74E-02	0.00E+00	4.74E-02
		Cs-134	<3.00E-02	0.00E+00	3.00E-02
		Cs-137	<3.96E-02	0.00E+00	3.96E-02
		Be-7	<2.24E-01	0.00E+00	2.24E-01
		K-40	9.03E-01	3.84E-01	4.41E-01
476310	5/22/2018 - 5/29/2018	I-131	<4.92E-02	0.00E+00	4.92E-02
		Cs-134	<3.27E-02	0.00E+00	3.27E-02
		Cs-137	<3.59E-02	0.00E+00	3.59E-02
		Be-7	<2.64E-01	0.00E+00	2.64E-01
		K-40	1.01E+00	3.47E-01	2.47E-01
477331	5/29/2018 - 6/5/2018	I-131	<4.49E-02	0.00E+00	4.49E-02
		Cs-134	<3.66E-02	0.00E+00	3.66E-02
		Cs-137	<3.68E-02	0.00E+00	3.68E-02
		Be-7	<2.98E-01	0.00E+00	2.98E-01
		K-40	1.07E+00	3.92E-01	3.96E-01
478055	6/5/2018 - 6/12/2018	I-131	<3.26E-02	0.00E+00	3.26E-02
		Cs-134	<3.38E-02	0.00E+00	3.38E-02
		Cs-137	<3.48E-02	0.00E+00	3.48E-02
		Be-7	<2.31E-01	0.00E+00	2.31E-01
		K-40	7.83E-01	4.30E-01	5.96E-01
478378	6/12/2018 - 6/19/2018	I-131	<5.41E-02	0.00E+00	5.41E-02
		Cs-134	<2.79E-02	0.00E+00	2.79E-02
		Cs-137	<2.37E-02	0.00E+00	2.37E-02
		Be-7	<2.02E-01	0.00E+00	2.02E-01
		K-40	7.47E-01	2.83E-01	2.82E-01
478717	6/19/2018 - 6/26/2018	I-131	<5.34E-02	0.00E+00	5.34E-02
		Cs-134	<4.08E-02	0.00E+00	4.08E-02
		Cs-137	<3.25E-02	0.00E+00	3.25E-02



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 202 [ INDICATOR - S @ 1 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
478717	6/19/2018 - 6/26/2018	Be-7	<3.04E-01	0.00E+00	3.04E-01
		K-40	6.86E-01	3.18E-01	3.77E-01
479177	6/26/2018 - 7/3/2018	I-131	<5.05E-02	0.00E+00	5.05E-02
		Cs-134	<2.62E-02	0.00E+00	2.62E-02
		Cs-137	<2.87E-02	0.00E+00	2.87E-02
		Be-7	<2.26E-01	0.00E+00	2.26E-01
		K-40	1.03E+00	3.48E-01	2.51E-01
479833	7/3/2018 - 7/10/2018	I-131	<3.77E-02	0.00E+00	3.77E-02
		Cs-134	<2.46E-02	0.00E+00	2.46E-02
		Cs-137	<2.66E-02	0.00E+00	2.66E-02
		Be-7	<2.31E-01	0.00E+00	2.31E-01
		K-40	1.11E+00	3.86E-01	3.55E-01
480201	7/10/2018 - 7/17/2018	I-131	<4.53E-02	0.00E+00	4.53E-02
		Cs-134	<3.27E-02	0.00E+00	3.27E-02
		Cs-137	<3.41E-02	0.00E+00	3.41E-02
		Be-7	<2.33E-01	0.00E+00	2.33E-01
		K-40	1.28E+00	3.93E-01	2.70E-01
481022	7/17/2018 - 7/24/2018	I-131	<4.35E-02	0.00E+00	4.35E-02
		Cs-134	<3.13E-02	0.00E+00	3.13E-02
		Cs-137	<2.54E-02	0.00E+00	2.54E-02
		Be-7	<2.78E-01	0.00E+00	2.78E-01
		K-40	7.51E-01	3.80E-01	4.89E-01
481475	7/24/2018 - 7/31/2018	I-131	<4.43E-02	0.00E+00	4.43E-02
		Cs-134	<3.42E-02	0.00E+00	3.42E-02
		Cs-137	<3.78E-02	0.00E+00	3.78E-02
		Be-7	<2.69E-01	0.00E+00	2.69E-01
		K-40	7.93E-01	3.54E-01	4.02E-01
481907	7/31/2018 - 8/7/2018	I-131	<4.57E-02	0.00E+00	4.57E-02
		Cs-134	<3.44E-02	0.00E+00	3.44E-02
		Cs-137	<2.69E-02	0.00E+00	2.69E-02
		Be-7	<1.95E-01	0.00E+00	1.95E-01
		K-40	9.23E-01	3.77E-01	4.09E-01
482437	8/7/2018 - 8/14/2018	I-131	<4.61E-02	0.00E+00	4.61E-02
		Cs-134	<3.39E-02	0.00E+00	3.39E-02
		Cs-137	<3.49E-02	0.00E+00	3.49E-02
		Be-7	<2.01E-01	0.00E+00	2.01E-01
		K-40	8.10E-01	3.76E-01	4.59E-01
482756	8/14/2018 - 8/21/2018	I-131	<5.51E-02	0.00E+00	5.51E-02
		Cs-134	<3.31E-02	0.00E+00	3.31E-02
		Cs-137	<3.80E-02	0.00E+00	3.80E-02
		Be-7	<2.84E-01	0.00E+00	2.84E-01
		K-40	1.05E+00	4.04E-01	4.47E-01
483390	8/21/2018 - 8/28/2018	I-131	<2.95E-02	0.00E+00	2.95E-02
		Cs-134	<2.85E-02	0.00E+00	2.85E-02
		Cs-137	<3.48E-02	0.00E+00	3.48E-02
		Be-7	<1.88E-01	0.00E+00	1.88E-01
		K-40	6.30E-01	2.48E-01	6.32E-02



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 202 [ INDICATOR - S @ 1 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
483961	8/28/2018 - 9/4/2018	I-131	<3.00E-02	0.00E+00	3.00E-02
		Cs-134	<2.26E-02	0.00E+00	2.26E-02
		Cs-137	<2.45E-02	0.00E+00	2.45E-02
		Be-7	<2.13E-01	0.00E+00	2.13E-01
		K-40	<6.06E-01	0.00E+00	6.06E-01
484574	9/4/2018 - 9/11/2018	I-131	<4.32E-02	0.00E+00	4.32E-02
		Cs-134	<3.09E-02	0.00E+00	3.09E-02
		Cs-137	<3.27E-02	0.00E+00	3.27E-02
		Be-7	<2.53E-01	0.00E+00	2.53E-01
		K-40	<7.89E-01	0.00E+00	7.89E-01
484977	9/11/2018 - 9/18/2018	I-131	<5.34E-02	0.00E+00	5.34E-02
		Cs-134	<1.28E-02	0.00E+00	1.28E-02
		Cs-137	<1.37E-02	0.00E+00	1.37E-02
		Be-7	<1.03E-01	0.00E+00	1.03E-01
		K-40	8.37E-01	1.64E-01	1.63E-01
485434	9/18/2018 - 9/25/2018	I-131	<5.50E-02	0.00E+00	5.50E-02
		Cs-134	<2.24E-02	0.00E+00	2.24E-02
		Cs-137	4.83E-03	1.11E-02	1.90E-02
		Be-7	<1.56E-01	0.00E+00	1.56E-01
		K-40	1.10E+00	2.69E-01	2.57E-01
486100	9/25/2018 - 10/2/2018	I-131	<5.44E-02	0.00E+00	5.44E-02
		Cs-134	<2.43E-02	0.00E+00	2.43E-02
		Cs-137	<2.65E-02	0.00E+00	2.65E-02
		Be-7	<2.45E-01	0.00E+00	2.45E-01
		K-40	9.79E-01	3.21E-01	2.26E-01
486653	10/2/2018 - 10/9/2018	I-131	<4.01E-02	0.00E+00	4.01E-02
		Cs-134	<3.32E-02	0.00E+00	3.32E-02
		Cs-137	<2.95E-02	0.00E+00	2.95E-02
		Be-7	<2.76E-01	0.00E+00	2.76E-01
		K-40	1.18E+00	3.59E-01	6.93E-02
487686	10/9/2018 - 10/16/2018	I-131	<3.27E-02	0.00E+00	3.27E-02
		Cs-134	<1.69E-02	0.00E+00	1.69E-02
		Cs-137	<1.52E-02	0.00E+00	1.52E-02
		Be-7	<1.39E-01	0.00E+00	1.39E-01
		K-40	7.24E-01	1.93E-01	1.82E-01
487942	10/16/2018 - 10/23/2018	I-131	<5.60E-02	0.00E+00	5.60E-02
		Cs-134	<3.46E-02	0.00E+00	3.46E-02
		Cs-137	<3.74E-02	0.00E+00	3.74E-02
		Be-7	<2.74E-01	0.00E+00	2.74E-01
		K-40	7.16E-01	3.33E-01	3.75E-01
488426	10/23/2018 - 10/30/2018	I-131	<4.94E-02	0.00E+00	4.94E-02
		Cs-134	<3.56E-02	0.00E+00	3.56E-02
		Cs-137	<3.47E-02	0.00E+00	3.47E-02
		Be-7	<2.57E-01	0.00E+00	2.57E-01
		K-40	9.37E-01	4.02E-01	4.66E-01
488800	10/30/2018 - 11/6/2018	I-131	<4.76E-02	0.00E+00	4.76E-02
		Cs-134	<3.44E-02	0.00E+00	3.44E-02
		Cs-137	<4.04E-02	0.00E+00	4.04E-02



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 202 [ INDICATOR - S @ 1 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
488800	10/30/2018 - 11/6/2018	Be-7	<2.65E-01	0.00E+00	2.65E-01
		K-40	8.85E-01	3.79E-01	4.23E-01
489098	11/6/2018 - 11/13/2018	I-131	<4.24E-02	0.00E+00	4.24E-02
		Cs-134	<3.72E-02	0.00E+00	3.72E-02
		Cs-137	<3.06E-02	0.00E+00	3.06E-02
		Be-7	<2.19E-01	0.00E+00	2.19E-01
		K-40	9.46E-01	4.22E-01	5.16E-01
489692	11/13/2018 - 11/20/2018	I-131	<5.32E-02	0.00E+00	5.32E-02
		Cs-134	<2.73E-02	0.00E+00	2.73E-02
		Cs-137	<2.85E-02	0.00E+00	2.85E-02
		Be-7	<1.91E-01	0.00E+00	1.91E-01
		K-40	7.37E-01	3.11E-01	3.90E-01
490107	11/20/2018 - 11/27/2018	I-131	<4.16E-02	0.00E+00	4.16E-02
		Cs-134	<2.63E-02	0.00E+00	2.63E-02
		Cs-137	<3.74E-02	0.00E+00	3.74E-02
		Be-7	<2.35E-01	0.00E+00	2.35E-01
		K-40	1.10E+00	3.55E-01	7.28E-02
490750	11/27/2018 - 12/4/2018	I-131	<4.68E-02	0.00E+00	4.68E-02
		Cs-134	<3.35E-02	0.00E+00	3.35E-02
		Cs-137	<3.56E-02	0.00E+00	3.56E-02
		Be-7	<2.48E-01	0.00E+00	2.48E-01
		K-40	6.45E-01	3.35E-01	4.04E-01
491125	12/4/2018 - 12/11/2018	I-131	<4.86E-02	0.00E+00	4.86E-02
		Cs-134	<2.77E-02	0.00E+00	2.77E-02
		Cs-137	<3.57E-02	0.00E+00	3.57E-02
		Be-7	<2.97E-01	0.00E+00	2.97E-01
		K-40	7.64E-01	4.15E-01	5.60E-01
491438	12/11/2018 - 12/18/2018	I-131	<5.48E-02	0.00E+00	5.48E-02
		Cs-134	<2.14E-02	0.00E+00	2.14E-02
		Cs-137	<2.12E-02	0.00E+00	2.12E-02
		Be-7	<1.72E-01	0.00E+00	1.72E-01
		K-40	9.77E-01	2.45E-01	2.40E-01
491687	12/18/2018 - 12/26/2018	I-131	<5.55E-02	0.00E+00	5.55E-02
		Cs-134	<2.22E-02	0.00E+00	2.22E-02
		Cs-137	<2.69E-02	0.00E+00	2.69E-02
		Be-7	<1.91E-01	0.00E+00	1.91E-01
		K-40	8.90E-01	2.73E-01	2.35E-01
492172	12/26/2018 - 1/2/2019	I-131	<5.23E-02	0.00E+00	5.23E-02
		Cs-134	<2.73E-02	0.00E+00	2.73E-02
		Cs-137	<2.73E-02	0.00E+00	2.73E-02
		Be-7	<1.88E-01	0.00E+00	1.88E-01
		K-40	1.09E+00	3.13E-01	2.55E-01

Sample Point 203 [ INDICATOR - SSW @ 2 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466139	1/2/2018 - 1/9/2018	I-131	<5.24E-02	0.00E+00	5.24E-02
		Cs-134	<4.18E-02	0.00E+00	4.18E-02
		Cs-137	<3.66E-02	0.00E+00	3.66E-02



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 203 [ INDICATOR - SSW @ 2 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466139	1/2/2018 - 1/9/2018	Be-7	<1.92E-01	0.00E+00	1.92E-01
		K-40	6.75E-01	3.92E-01	5.33E-01
466346	1/9/2018 - 1/16/2018	I-131	<5.51E-02	0.00E+00	5.51E-02
		Cs-134	<4.45E-02	0.00E+00	4.45E-02
		Cs-137	<3.39E-02	0.00E+00	3.39E-02
		Be-7	<2.60E-01	0.00E+00	2.60E-01
		K-40	9.93E-01	4.17E-01	4.83E-01
466933	1/16/2018 - 1/23/2018	I-131	<4.85E-02	0.00E+00	4.85E-02
		Cs-134	<3.61E-02	0.00E+00	3.61E-02
		Cs-137	<3.08E-02	0.00E+00	3.08E-02
		Be-7	<2.76E-01	0.00E+00	2.76E-01
		K-40	1.09E+00	3.53E-01	7.23E-02
467290	1/23/2018 - 1/30/2018	I-131	<5.27E-02	0.00E+00	5.27E-02
		Cs-134	<2.80E-02	0.00E+00	2.80E-02
		Cs-137	<3.29E-02	0.00E+00	3.29E-02
		Be-7	<2.48E-01	0.00E+00	2.48E-01
		K-40	1.14E+00	3.86E-01	3.06E-01
467593	1/30/2018 - 2/6/2018	I-131	<5.19E-02	0.00E+00	5.19E-02
		Cs-134	<3.14E-02	0.00E+00	3.14E-02
		Cs-137	<3.50E-02	0.00E+00	3.50E-02
		Be-7	<1.87E-01	0.00E+00	1.87E-01
		K-40	1.01E+00	4.05E-01	4.42E-01
468394	2/6/2018 - 2/13/2018	I-131	<4.22E-02	0.00E+00	4.22E-02
		Cs-134	<3.67E-02	0.00E+00	3.67E-02
		Cs-137	<3.73E-02	0.00E+00	3.73E-02
		Be-7	<2.40E-01	0.00E+00	2.40E-01
		K-40	1.07E+00	3.95E-01	3.91E-01
468714	2/13/2018 - 2/20/2018	I-131	<5.50E-02	0.00E+00	5.50E-02
		Cs-134	<2.92E-02	0.00E+00	2.92E-02
		Cs-137	<2.69E-02	0.00E+00	2.69E-02
		Be-7	<1.93E-01	0.00E+00	1.93E-01
		K-40	8.60E-01	2.97E-01	3.14E-01
469524	2/20/2018 - 2/27/2018	I-131	<4.90E-02	0.00E+00	4.90E-02
		Cs-134	<4.63E-02	0.00E+00	4.63E-02
		Cs-137	<4.12E-02	0.00E+00	4.12E-02
		Be-7	<2.34E-01	0.00E+00	2.34E-01
		K-40	9.80E-01	3.77E-01	3.69E-01
470537	2/27/2018 - 3/6/2018	I-131	<4.90E-02	0.00E+00	4.90E-02
		Cs-134	<3.47E-02	0.00E+00	3.47E-02
		Cs-137	<2.83E-02	0.00E+00	2.83E-02
		Be-7	<2.72E-01	0.00E+00	2.72E-01
		K-40	1.27E+00	4.32E-01	4.05E-01
471116	3/6/2018 - 3/13/2018	I-131	<5.06E-02	0.00E+00	5.06E-02
		Cs-134	<4.83E-02	0.00E+00	4.83E-02
		Cs-137	<4.12E-02	0.00E+00	4.12E-02
		Be-7	<2.20E-01	0.00E+00	2.20E-01
		K-40	1.10E+00	3.56E-01	7.30E-02



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 203 [ INDICATOR - SSW @ 2 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
471670	3/13/2018 - 3/20/2018	I-131	<5.59E-02	0.00E+00	5.59E-02
		Cs-134	<2.65E-02	0.00E+00	2.65E-02
		Cs-137	<2.70E-02	0.00E+00	2.70E-02
		Be-7	<1.78E-01	0.00E+00	1.78E-01
		K-40	1.11E+00	2.94E-01	2.24E-01
472440	3/20/2018 - 3/27/2018	I-131	<4.49E-02	0.00E+00	4.49E-02
		Cs-134	<3.71E-02	0.00E+00	3.71E-02
		Cs-137	<4.12E-02	0.00E+00	4.12E-02
		Be-7	<2.62E-01	0.00E+00	2.62E-01
		K-40	1.26E+00	4.96E-01	6.00E-01
472924	3/27/2018 - 4/3/2018	I-131	<4.98E-02	0.00E+00	4.98E-02
		Cs-134	<2.56E-02	0.00E+00	2.56E-02
		Cs-137	<3.99E-02	0.00E+00	3.99E-02
		Be-7	<2.43E-01	0.00E+00	2.43E-01
		K-40	8.99E-01	4.00E-01	4.78E-01
473224	4/3/2018 - 4/10/2018	I-131	<4.06E-02	0.00E+00	4.06E-02
		Cs-134	<3.38E-02	0.00E+00	3.38E-02
		Cs-137	<3.33E-02	0.00E+00	3.33E-02
		Be-7	<2.40E-01	0.00E+00	2.40E-01
		K-40	1.24E+00	4.17E-01	3.80E-01
473588	4/10/2018 - 4/17/2018	I-131	<5.60E-02	0.00E+00	5.60E-02
		Cs-134	<3.12E-02	0.00E+00	3.12E-02
		Cs-137	<3.49E-02	0.00E+00	3.49E-02
		Be-7	<2.21E-01	0.00E+00	2.21E-01
		K-40	1.11E+00	3.61E-01	2.45E-01
474106	4/17/2018 - 4/24/2018	I-131	<5.06E-02	0.00E+00	5.06E-02
		Cs-134	<3.24E-02	0.00E+00	3.24E-02
		Cs-137	<3.23E-02	0.00E+00	3.23E-02
		Be-7	<2.44E-01	0.00E+00	2.44E-01
		K-40	1.17E+00	4.59E-01	5.37E-01
474478	4/24/2018 - 5/1/2018	I-131	<4.43E-02	0.00E+00	4.43E-02
		Cs-134	<3.08E-02	0.00E+00	3.08E-02
		Cs-137	<3.71E-02	0.00E+00	3.71E-02
		Be-7	<2.30E-01	0.00E+00	2.30E-01
		K-40	1.30E+00	4.03E-01	2.84E-01
474846	5/1/2018 - 5/8/2018	I-131	<4.87E-02	0.00E+00	4.87E-02
		Cs-134	<3.18E-02	0.00E+00	3.18E-02
		Cs-137	<2.95E-02	0.00E+00	2.95E-02
		Be-7	<2.41E-01	0.00E+00	2.41E-01
		K-40	7.09E-01	2.89E-01	2.15E-01
475168	5/8/2018 - 5/15/2018	I-131	<4.55E-02	0.00E+00	4.55E-02
		Cs-134	<3.19E-02	0.00E+00	3.19E-02
		Cs-137	<3.66E-02	0.00E+00	3.66E-02
		Be-7	<2.44E-01	0.00E+00	2.44E-01
		K-40	8.86E-01	3.49E-01	3.34E-01
475492	5/15/2018 - 5/22/2018	I-131	<4.14E-02	0.00E+00	4.14E-02
		Cs-134	<3.03E-02	0.00E+00	3.03E-02
		Cs-137	<3.07E-02	0.00E+00	3.07E-02





# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 203 [ INDICATOR - SSW @ 2 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
475492	5/15/2018 - 5/22/2018	Be-7	<2.20E-01	0.00E+00	2.20E-01
		K-40	8.41E-01	4.00E-01	5.04E-01
476311	5/22/2018 - 5/29/2018	I-131	<4.83E-02	0.00E+00	4.83E-02
		Cs-134	<3.15E-02	0.00E+00	3.15E-02
		Cs-137	<4.04E-02	0.00E+00	4.04E-02
		Be-7	<2.11E-01	0.00E+00	2.11E-01
		K-40	1.17E+00	4.29E-01	4.61E-01
477332	5/29/2018 - 6/5/2018	I-131	<4.29E-02	0.00E+00	4.29E-02
		Cs-134	<3.93E-02	0.00E+00	3.93E-02
		Cs-137	<3.04E-02	0.00E+00	3.04E-02
		Be-7	<2.66E-01	0.00E+00	2.66E-01
		K-40	1.04E+00	3.35E-01	6.87E-02
478056	6/5/2018 - 6/12/2018	I-131	<4.25E-02	0.00E+00	4.25E-02
		Cs-134	<3.27E-02	0.00E+00	3.27E-02
		Cs-137	<3.32E-02	0.00E+00	3.32E-02
		Be-7	<2.91E-01	0.00E+00	2.91E-01
		K-40	9.66E-01	4.00E-01	4.61E-01
478379	6/12/2018 - 6/19/2018	I-131	<5.51E-02	0.00E+00	5.51E-02
		Cs-134	<3.13E-02	0.00E+00	3.13E-02
		Cs-137	<3.21E-02	0.00E+00	3.21E-02
		Be-7	<2.04E-01	0.00E+00	2.04E-01
		K-40	1.07E+00	3.18E-01	2.59E-01
478718	6/19/2018 - 6/26/2018	I-131	<5.40E-02	0.00E+00	5.40E-02
		Cs-134	<2.37E-02	0.00E+00	2.37E-02
		Cs-137	<2.74E-02	0.00E+00	2.74E-02
		Be-7	<1.99E-01	0.00E+00	1.99E-01
		K-40	9.67E-01	2.94E-01	2.63E-01
479178	6/26/2018 - 7/3/2018	I-131	<4.85E-02	0.00E+00	4.85E-02
		Cs-134	<3.89E-02	0.00E+00	3.89E-02
		Cs-137	<3.22E-02	0.00E+00	3.22E-02
		Be-7	<2.28E-01	0.00E+00	2.28E-01
		K-40	8.33E-01	3.91E-01	4.87E-01
479834	7/3/2018 - 7/10/2018	I-131	<4.20E-02	0.00E+00	4.20E-02
		Cs-134	<2.04E-02	0.00E+00	2.04E-02
		Cs-137	<4.20E-02	0.00E+00	4.20E-02
		Be-7	<2.27E-01	0.00E+00	2.27E-01
		K-40	8.90E-01	3.76E-01	4.23E-01
480202	7/10/2018 - 7/17/2018	I-131	<4.22E-02	0.00E+00	4.22E-02
		Cs-134	<3.15E-02	0.00E+00	3.15E-02
		Cs-137	<3.53E-02	0.00E+00	3.53E-02
		Be-7	<1.87E-01	0.00E+00	1.87E-01
		K-40	1.07E+00	4.05E-01	4.28E-01
481023	7/17/2018 - 7/24/2018	I-131	<4.24E-02	0.00E+00	4.24E-02
		Cs-134	<3.15E-02	0.00E+00	3.15E-02
		Cs-137	<3.43E-02	0.00E+00	3.43E-02
		Be-7	<2.10E-01	0.00E+00	2.10E-01
		K-40	9.53E-01	4.27E-01	5.35E-01



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 203 [ INDICATOR - SSW @ 2 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481476	7/24/2018 - 7/31/2018	I-131	<4.66E-02	0.00E+00	4.66E-02
		Cs-134	<3.71E-02	0.00E+00	3.71E-02
		Cs-137	<3.06E-02	0.00E+00	3.06E-02
		Be-7	<2.32E-01	0.00E+00	2.32E-01
		K-40	1.17E+00	3.58E-01	6.92E-02
481908	7/31/2018 - 8/7/2018	I-131	<4.70E-02	0.00E+00	4.70E-02
		Cs-134	<3.19E-02	0.00E+00	3.19E-02
		Cs-137	<3.66E-02	0.00E+00	3.66E-02
		Be-7	<2.77E-01	0.00E+00	2.77E-01
		K-40	1.04E+00	3.72E-01	3.32E-01
482438	8/7/2018 - 8/14/2018	I-131	<4.99E-02	0.00E+00	4.99E-02
		Cs-134	<2.96E-02	0.00E+00	2.96E-02
		Cs-137	<2.99E-02	0.00E+00	2.99E-02
		Be-7	<2.27E-01	0.00E+00	2.27E-01
		K-40	1.15E+00	3.68E-01	2.47E-01
482757	8/14/2018 - 8/21/2018	I-131	<5.14E-02	0.00E+00	5.14E-02
		Cs-134	<2.42E-02	0.00E+00	2.42E-02
		Cs-137	<2.48E-02	0.00E+00	2.48E-02
		Be-7	<2.11E-01	0.00E+00	2.11E-01
		K-40	8.89E-01	3.15E-01	3.38E-01
483391	8/21/2018 - 8/28/2018	I-131	<2.60E-02	0.00E+00	2.60E-02
		Cs-134	<2.97E-02	0.00E+00	2.97E-02
		Cs-137	<3.35E-02	0.00E+00	3.35E-02
		Be-7	<1.87E-01	0.00E+00	1.87E-01
		K-40	4.95E-01	2.42E-01	2.22E-01
483962	8/28/2018 - 9/4/2018	I-131	<2.74E-02	0.00E+00	2.74E-02
		Cs-134	<2.53E-02	0.00E+00	2.53E-02
		Cs-137	<1.79E-02	0.00E+00	1.79E-02
		Be-7	<1.77E-01	0.00E+00	1.77E-01
		K-40	3.13E-01	2.56E-01	3.71E-01
484575	9/4/2018 - 9/11/2018	I-131	<4.31E-02	0.00E+00	4.31E-02
		Cs-134	<2.97E-02	0.00E+00	2.97E-02
		Cs-137	<3.84E-02	0.00E+00	3.84E-02
		Be-7	<2.14E-01	0.00E+00	2.14E-01
		K-40	8.82E-01	3.27E-01	2.59E-01
484978	9/11/2018 - 9/18/2018	I-131	<5.13E-02	0.00E+00	5.13E-02
		Cs-134	<1.37E-02	0.00E+00	1.37E-02
		Cs-137	<1.39E-02	0.00E+00	1.39E-02
		Be-7	<1.12E-01	0.00E+00	1.12E-01
		K-40	1.37E+00	2.08E-01	2.05E-01
486101	9/25/2018 - 10/2/2018	I-131	<5.38E-02	0.00E+00	5.38E-02
		Cs-134	<2.81E-02	0.00E+00	2.81E-02
		Cs-137	<3.41E-02	0.00E+00	3.41E-02
		Be-7	<2.25E-01	0.00E+00	2.25E-01
		K-40	8.28E-01	3.90E-01	5.26E-01
486654	10/2/2018 - 10/9/2018	I-131	<4.76E-02	0.00E+00	4.76E-02
		Cs-134	<3.56E-02	0.00E+00	3.56E-02
		Cs-137	<3.25E-02	0.00E+00	3.25E-02



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 203 [ INDICATOR - SSW @ 2 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
486654	10/2/2018 - 10/9/2018	Be-7	<2.02E-01	0.00E+00	2.02E-01
		K-40	1.16E+00	3.67E-01	2.25E-01
487687	10/9/2018 - 10/16/2018	I-131	<5.58E-02	0.00E+00	5.58E-02
		Cs-134	<2.34E-02	0.00E+00	2.34E-02
		Cs-137	<3.08E-02	0.00E+00	3.08E-02
		Be-7	<2.27E-01	0.00E+00	2.27E-01
		K-40	9.78E-01	3.23E-01	2.94E-01
487943	10/16/2018 - 10/23/2018	I-131	<5.19E-02	0.00E+00	5.19E-02
		Cs-134	<3.90E-02	0.00E+00	3.90E-02
		Cs-137	<3.70E-02	0.00E+00	3.70E-02
		Be-7	<2.67E-01	0.00E+00	2.67E-01
		K-40	9.06E-01	3.41E-01	2.87E-01
488427	10/23/2018 - 10/30/2018	I-131	<4.07E-02	0.00E+00	4.07E-02
		Cs-134	<3.38E-02	0.00E+00	3.38E-02
		Cs-137	<3.33E-02	0.00E+00	3.33E-02
		Be-7	<2.43E-01	0.00E+00	2.43E-01
		K-40	1.08E+00	3.84E-01	3.49E-01
488801	10/30/2018 - 11/6/2018	I-131	<4.41E-02	0.00E+00	4.41E-02
		Cs-134	<4.29E-02	0.00E+00	4.29E-02
		Cs-137	<3.46E-02	0.00E+00	3.46E-02
		Be-7	<2.18E-01	0.00E+00	2.18E-01
		K-40	7.34E-01	3.18E-01	3.08E-01
489099	11/6/2018 - 11/13/2018	I-131	<4.57E-02	0.00E+00	4.57E-02
		Cs-134	<3.56E-02	0.00E+00	3.56E-02
		Cs-137	<3.75E-02	0.00E+00	3.75E-02
		Be-7	<3.00E-01	0.00E+00	3.00E-01
		K-40	9.28E-01	3.89E-01	4.32E-01
489693	11/13/2018 - 11/20/2018	I-131	<5.03E-02	0.00E+00	5.03E-02
		Cs-134	<2.66E-02	0.00E+00	2.66E-02
		Cs-137	<2.65E-02	0.00E+00	2.65E-02
		Be-7	<1.92E-01	0.00E+00	1.92E-01
		K-40	9.60E-01	2.96E-01	3.17E-01
490108	11/20/2018 - 11/27/2018	I-131	<4.46E-02	0.00E+00	4.46E-02
		Cs-134	<3.60E-02	0.00E+00	3.60E-02
		Cs-137	<4.06E-02	0.00E+00	4.06E-02
		Be-7	<2.58E-01	0.00E+00	2.58E-01
		K-40	<7.83E-01	0.00E+00	7.83E-01
490751	11/27/2018 - 12/4/2018	I-131	<4.82E-02	0.00E+00	4.82E-02
		Cs-134	<3.34E-02	0.00E+00	3.34E-02
		Cs-137	<4.19E-02	0.00E+00	4.19E-02
		Be-7	<2.66E-01	0.00E+00	2.66E-01
		K-40	1.15E+00	4.50E-01	5.09E-01
491126	12/4/2018 - 12/11/2018	I-131	<5.54E-02	0.00E+00	5.54E-02
		Cs-134	<3.97E-02	0.00E+00	3.97E-02
		Cs-137	<4.26E-02	0.00E+00	4.26E-02
		Be-7	<3.02E-01	0.00E+00	3.03E-01
		K-40	1.31E+00	3.92E-01	7.39E-02



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 203 [ INDICATOR - SSW @ 2 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491439	12/11/2018 - 12/18/2018	I-131	<5.58E-02	0.00E+00	5.58E-02
		Cs-134	<2.05E-02	0.00E+00	2.05E-02
		Cs-137	<1.97E-02	0.00E+00	1.97E-02
		Be-7	<1.59E-01	0.00E+00	1.59E-01
		K-40	8.51E-01	2.13E-01	1.75E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491688	12/18/2018 - 12/26/2018	I-131	<5.56E-02	0.00E+00	5.56E-02
		Cs-134	<3.13E-02	0.00E+00	3.13E-02
		Cs-137	<3.09E-02	0.00E+00	3.09E-02
		Be-7	<2.46E-01	0.00E+00	2.46E-01
		K-40	7.06E-01	3.56E-01	4.67E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
492173	12/26/2018 - 1/2/2019	I-131	<5.07E-02	0.00E+00	5.07E-02
		Cs-134	<2.81E-02	0.00E+00	2.81E-02
		Cs-137	<2.56E-02	0.00E+00	2.56E-02
		Be-7	<1.81E-01	0.00E+00	1.81E-01
		K-40	8.37E-01	2.69E-01	2.62E-01

## Sample Point 204 [ CONTROL - NNE @ 22.4 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466140	1/2/2018 - 1/9/2018	I-131	<4.85E-02	0.00E+00	4.85E-02
		Cs-134	<2.65E-02	0.00E+00	2.65E-02
		Cs-137	<3.67E-02	0.00E+00	3.67E-02
		Be-7	<2.65E-01	0.00E+00	2.65E-01
		K-40	1.55E+00	4.58E-01	3.43E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466347	1/9/2018 - 1/16/2018	I-131	<5.32E-02	0.00E+00	5.32E-02
		Cs-134	<2.94E-02	0.00E+00	2.94E-02
		Cs-137	<2.05E-02	0.00E+00	2.05E-02
		Be-7	<1.80E-01	0.00E+00	1.80E-01
		K-40	1.15E+00	3.23E-01	3.09E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466934	1/16/2018 - 1/23/2018	I-131	<5.20E-02	0.00E+00	5.20E-02
		Cs-134	<3.43E-02	0.00E+00	3.43E-02
		Cs-137	<3.27E-02	0.00E+00	3.27E-02
		Be-7	<2.38E-01	0.00E+00	2.38E-01
		K-40	7.92E-01	3.71E-01	4.40E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467291	1/23/2018 - 1/30/2018	I-131	<4.97E-02	0.00E+00	4.97E-02
		Cs-134	<3.53E-02	0.00E+00	3.53E-02
		Cs-137	<3.63E-02	0.00E+00	3.63E-02
		Be-7	<2.57E-01	0.00E+00	2.57E-01
		K-40	9.66E-01	3.94E-01	4.34E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467594	1/30/2018 - 2/6/2018	I-131	<4.33E-02	0.00E+00	4.33E-02
		Cs-134	<3.43E-02	0.00E+00	3.43E-02
		Cs-137	<3.95E-02	0.00E+00	3.95E-02
		Be-7	<2.69E-01	0.00E+00	2.69E-01
		K-40	1.40E+00	4.20E-01	2.86E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
468395	2/6/2018 - 2/13/2018	I-131	<4.14E-02	0.00E+00	4.14E-02
		Cs-134	<4.23E-02	0.00E+00	4.23E-02
		Cs-137	<3.32E-02	0.00E+00	3.32E-02
		Be-7	<2.68E-01	0.00E+00	2.68E-01
		K-40	6.01E-01	3.68E-01	5.09E-01



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 204 [ CONTROL - NNE @ 22.4 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
468715	2/13/2018 - 2/20/2018	I-131	<5.54E-02	0.00E+00	5.54E-02
		Cs-134	<2.69E-02	0.00E+00	2.69E-02
		Cs-137	<2.29E-02	0.00E+00	2.29E-02
		Be-7	<2.40E-01	0.00E+00	2.40E-01
		K-40	9.81E-01	3.22E-01	2.18E-01
469525	2/20/2018 - 2/27/2018	I-131	<4.94E-02	0.00E+00	4.94E-02
		Cs-134	<3.18E-02	0.00E+00	3.18E-02
		Cs-137	<2.71E-02	0.00E+00	2.71E-02
		Be-7	<2.57E-01	0.00E+00	2.57E-01
		K-40	1.06E+00	4.10E-01	4.46E-01
470538	2/27/2018 - 3/6/2018	I-131	<4.83E-02	0.00E+00	4.83E-02
		Cs-134	<3.40E-02	0.00E+00	3.40E-02
		Cs-137	<3.13E-02	0.00E+00	3.13E-02
		Be-7	<2.55E-01	0.00E+00	2.55E-01
		K-40	1.08E+00	4.88E-01	6.36E-01
471117	3/6/2018 - 3/13/2018	I-131	<4.81E-02	0.00E+00	4.81E-02
		Cs-134	<3.58E-02	0.00E+00	3.58E-02
		Cs-137	<3.68E-02	0.00E+00	3.68E-02
		Be-7	<2.44E-01	0.00E+00	2.44E-01
		K-40	1.17E+00	4.38E-01	4.71E-01
471671	3/13/2018 - 3/20/2018	I-131	<5.18E-02	0.00E+00	5.18E-02
		Cs-134	<3.03E-02	0.00E+00	3.03E-02
		Cs-137	<3.06E-02	0.00E+00	3.06E-02
		Be-7	<2.20E-01	0.00E+00	2.20E-01
		K-40	8.38E-01	2.98E-01	3.12E-01
472441	3/20/2018 - 3/27/2018	I-131	<4.13E-02	0.00E+00	4.13E-02
		Cs-134	<3.69E-02	0.00E+00	3.69E-02
		Cs-137	<3.46E-02	0.00E+00	3.46E-02
		Be-7	<2.67E-01	0.00E+00	2.67E-01
		K-40	6.72E-01	3.85E-01	5.23E-01
472925	3/27/2018 - 4/3/2018	I-131	<4.18E-02	0.00E+00	4.18E-02
		Cs-134	<4.00E-02	0.00E+00	4.00E-02
		Cs-137	<3.69E-02	0.00E+00	3.69E-02
		Be-7	<2.76E-01	0.00E+00	2.76E-01
		K-40	1.04E+00	3.58E-01	2.67E-01
473225	4/3/2018 - 4/10/2018	I-131	<4.52E-02	0.00E+00	4.52E-02
		Cs-134	<3.50E-02	0.00E+00	3.50E-02
		Cs-137	<3.61E-02	0.00E+00	3.61E-02
		Be-7	<2.13E-01	0.00E+00	2.13E-01
		K-40	8.49E-01	4.01E-01	5.00E-01
473589	4/10/2018 - 4/17/2018	I-131	<4.59E-02	0.00E+00	4.59E-02
		Cs-134	<3.35E-02	0.00E+00	3.35E-02
		Cs-137	<3.68E-02	0.00E+00	3.68E-02
		Be-7	<2.91E-01	0.00E+00	2.91E-01
		K-40	9.23E-01	3.76E-01	4.04E-01
474107	4/17/2018 - 4/24/2018	I-131	<4.92E-02	0.00E+00	4.92E-02
		Cs-134	<3.10E-02	0.00E+00	3.10E-02
		Cs-137	<2.50E-02	0.00E+00	2.50E-02

# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 204 [ CONTROL - NNE @ 22.4 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474107	4/17/2018 - 4/24/2018	Be-7	<2.75E-01	0.00E+00	2.75E-01
		K-40	1.10E+00	3.49E-01	7.07E-02
474479	4/24/2018 - 5/1/2018	I-131	<4.79E-02	0.00E+00	4.79E-02
		Cs-134	<3.40E-02	0.00E+00	3.40E-02
		Cs-137	<2.89E-02	0.00E+00	2.89E-02
		Be-7	<2.51E-01	0.00E+00	2.51E-01
		K-40	1.12E+00	3.99E-01	3.76E-01
474847	5/1/2018 - 5/8/2018	I-131	<4.51E-02	0.00E+00	4.51E-02
		Cs-134	<3.07E-02	0.00E+00	3.07E-02
		Cs-137	<3.70E-02	0.00E+00	3.70E-02
		Be-7	<2.19E-01	0.00E+00	2.19E-01
		K-40	<7.09E-01	0.00E+00	7.09E-01
475169	5/8/2018 - 5/15/2018	I-131	<4.96E-02	0.00E+00	4.96E-02
		Cs-134	<3.61E-02	0.00E+00	3.61E-02
		Cs-137	<2.97E-02	0.00E+00	2.97E-02
		Be-7	<2.33E-01	0.00E+00	2.33E-01
		K-40	1.27E+00	4.29E-01	4.15E-01
475493	5/15/2018 - 5/22/2018	I-131	<4.84E-02	0.00E+00	4.84E-02
		Cs-134	<3.04E-02	0.00E+00	3.04E-02
		Cs-137	<2.85E-02	0.00E+00	2.85E-02
		Be-7	<2.58E-01	0.00E+00	2.58E-01
		K-40	9.78E-01	3.76E-01	3.76E-01
476312	5/22/2018 - 5/29/2018	I-131	<5.59E-02	0.00E+00	5.59E-02
		Cs-134	<3.99E-02	0.00E+00	3.99E-02
		Cs-137	<3.00E-02	0.00E+00	3.00E-02
		Be-7	<2.47E-01	0.00E+00	2.47E-01
		K-40	<8.84E-01	0.00E+00	8.84E-01
477333	5/29/2018 - 6/5/2018	I-131	<5.01E-02	0.00E+00	5.01E-02
		Cs-134	<3.19E-02	0.00E+00	3.19E-02
		Cs-137	<4.00E-02	0.00E+00	4.00E-02
		Be-7	<2.34E-01	0.00E+00	2.34E-01
		K-40	1.15E+00	3.75E-01	2.67E-01
478057	6/5/2018 - 6/12/2018	I-131	<5.49E-02	0.00E+00	5.49E-02
		Cs-134	<3.77E-02	0.00E+00	3.77E-02
		Cs-137	<3.21E-02	0.00E+00	3.21E-02
		Be-7	<2.07E-01	0.00E+00	2.07E-01
		K-40	7.56E-01	4.38E-01	6.16E-01
478380	6/12/2018 - 6/19/2018	I-131	<5.43E-02	0.00E+00	5.43E-02
		Cs-134	<3.45E-02	0.00E+00	3.45E-02
		Cs-137	<3.34E-02	0.00E+00	3.34E-02
		Be-7	<2.07E-01	0.00E+00	2.07E-01
		K-40	9.81E-01	3.50E-01	3.32E-01
478719	6/19/2018 - 6/26/2018	I-131	<5.25E-02	0.00E+00	5.25E-02
		Cs-134	<2.57E-02	0.00E+00	2.57E-02
		Cs-137	<2.63E-02	0.00E+00	2.63E-02
		Be-7	<1.86E-01	0.00E+00	1.86E-01
		K-40	1.02E+00	3.28E-01	3.46E-01



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 204 [ CONTROL - NNE @ 22.4 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
479179	6/26/2018 - 7/3/2018	I-131	<4.99E-02	0.00E+00	4.99E-02
		Cs-134	<3.02E-02	0.00E+00	3.02E-02
		Cs-137	<3.36E-02	0.00E+00	3.36E-02
		Be-7	<2.66E-01	0.00E+00	2.66E-01
		K-40	6.95E-01	3.33E-01	3.86E-01
479835	7/3/2018 - 7/10/2018	I-131	<4.01E-02	0.00E+00	4.01E-02
		Cs-134	<3.72E-02	0.00E+00	3.72E-02
		Cs-137	<3.37E-02	0.00E+00	3.37E-02
		Be-7	<2.36E-01	0.00E+00	2.36E-01
		K-40	1.18E+00	3.59E-01	6.93E-02
480203	7/10/2018 - 7/17/2018	I-131	<4.83E-02	0.00E+00	4.83E-02
		Cs-134	<4.04E-02	0.00E+00	4.04E-02
		Cs-137	<3.63E-02	0.00E+00	3.63E-02
		Be-7	<2.59E-01	0.00E+00	2.59E-01
		K-40	9.24E-01	4.15E-01	5.14E-01
481024	7/17/2018 - 7/24/2018	I-131	<4.96E-02	0.00E+00	4.96E-02
		Cs-134	<3.73E-02	0.00E+00	3.73E-02
		Cs-137	<2.72E-02	0.00E+00	2.72E-02
		Be-7	<2.13E-01	0.00E+00	2.13E-01
		K-40	1.15E+00	3.97E-01	3.63E-01
481477	7/24/2018 - 7/31/2018	I-131	<5.22E-02	0.00E+00	5.22E-02
		Cs-134	<3.03E-02	0.00E+00	3.03E-02
		Cs-137	<3.74E-02	0.00E+00	3.74E-02
		Be-7	<2.13E-01	0.00E+00	2.13E-01
		K-40	9.54E-01	3.59E-01	3.35E-01
481909	7/31/2018 - 8/7/2018	I-131	<5.06E-02	0.00E+00	5.06E-02
		Cs-134	<3.17E-02	0.00E+00	3.17E-02
		Cs-137	<3.64E-02	0.00E+00	3.64E-02
		Be-7	<2.49E-01	0.00E+00	2.49E-01
		K-40	5.42E-01	3.31E-01	4.46E-01
482439	8/7/2018 - 8/14/2018	I-131	<4.81E-02	0.00E+00	4.81E-02
		Cs-134	<3.17E-02	0.00E+00	3.17E-02
		Cs-137	<2.70E-02	0.00E+00	2.70E-02
		Be-7	<2.45E-01	0.00E+00	2.45E-01
		K-40	1.04E+00	4.56E-01	5.75E-01
482758	8/14/2018 - 8/21/2018	I-131	<5.51E-02	0.00E+00	5.51E-02
		Cs-134	<3.29E-02	0.00E+00	3.29E-02
		Cs-137	<3.40E-02	0.00E+00	3.40E-02
		Be-7	<2.22E-01	0.00E+00	2.22E-01
		K-40	1.05E+00	3.15E-01	2.42E-01
483392	8/21/2018 - 8/28/2018	I-131	<2.96E-02	0.00E+00	2.96E-02
		Cs-134	<3.32E-02	0.00E+00	3.32E-02
		Cs-137	<2.58E-02	0.00E+00	2.58E-02
		Be-7	<2.08E-01	0.00E+00	2.08E-01
		K-40	4.28E-01	3.27E-01	4.80E-01
483963	8/28/2018 - 9/4/2018	I-131	<3.92E-02	0.00E+00	3.92E-02
		Cs-134	<2.87E-02	0.00E+00	2.87E-02
		Cs-137	<2.92E-02	0.00E+00	2.92E-02



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 204 [ CONTROL - NNE @ 22.4 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
483963	8/28/2018 - 9/4/2018	Be-7	<2.13E-01	0.00E+00	2.13E-01
		K-40	3.87E-01	2.59E-01	3.32E-01
484576	9/4/2018 - 9/11/2018	I-131	<4.93E-02	0.00E+00	4.93E-02
		Cs-134	<3.17E-02	0.00E+00	3.17E-02
		Cs-137	<3.36E-02	0.00E+00	3.36E-02
		Be-7	<2.43E-01	0.00E+00	2.43E-01
		K-40	1.00E+00	3.68E-01	3.42E-01
484979	9/11/2018 - 9/18/2018	I-131	<5.59E-02	0.00E+00	5.59E-02
		Cs-134	<1.16E-02	0.00E+00	1.16E-02
		Cs-137	<1.60E-02	0.00E+00	1.60E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	1.05E+00	1.84E-01	1.50E-01
485436	9/18/2018 - 9/25/2018	I-131	<5.36E-02	0.00E+00	5.36E-02
		Cs-134	<2.69E-02	0.00E+00	2.69E-02
		Cs-137	<2.98E-02	0.00E+00	2.98E-02
		Be-7	<2.38E-01	0.00E+00	2.38E-01
		K-40	1.54E+00	3.71E-01	4.18E-01
486655	10/2/2018 - 10/9/2018	I-131	<4.24E-02	0.00E+00	4.24E-02
		Cs-134	<4.11E-02	0.00E+00	4.11E-02
		Cs-137	<3.96E-02	0.00E+00	3.96E-02
		Be-7	<2.95E-01	0.00E+00	2.95E-01
		K-40	1.60E+00	3.93E-01	2.28E-01
487688	10/9/2018 - 10/16/2018	I-131	<5.55E-02	0.00E+00	5.55E-02
		Cs-134	<2.79E-02	0.00E+00	2.79E-02
		Cs-137	<2.37E-02	0.00E+00	2.37E-02
		Be-7	<2.05E-01	0.00E+00	2.05E-01
		K-40	9.09E-01	2.82E-01	2.42E-01
487944	10/16/2018 - 10/23/2018	I-131	<5.06E-02	0.00E+00	5.06E-02
		Cs-134	<3.58E-02	0.00E+00	3.58E-02
		Cs-137	<3.39E-02	0.00E+00	3.39E-02
		Be-7	1.67E-01	1.72E-01	2.74E-01
		K-40	8.37E-01	3.67E-01	4.10E-01
488428	10/23/2018 - 10/30/2018	I-131	<4.76E-02	0.00E+00	4.76E-02
		Cs-134	<3.49E-02	0.00E+00	3.49E-02
		Cs-137	<3.09E-02	0.00E+00	3.09E-02
		Be-7	<2.23E-01	0.00E+00	2.23E-01
		K-40	8.49E-01	3.94E-01	4.76E-01
488802	10/30/2018 - 11/6/2018	I-131	<4.79E-02	0.00E+00	4.79E-02
		Cs-134	<3.12E-02	0.00E+00	3.12E-02
		Cs-137	<3.16E-02	0.00E+00	3.16E-02
		Be-7	<2.20E-01	0.00E+00	2.20E-01
		K-40	1.08E+00	3.77E-01	3.10E-01
489100	11/6/2018 - 11/13/2018	I-131	<4.71E-02	0.00E+00	4.71E-02
		Cs-134	<3.15E-02	0.00E+00	3.15E-02
		Cs-137	<3.07E-02	0.00E+00	3.07E-02
		Be-7	<2.54E-01	0.00E+00	2.54E-01
		K-40	9.26E-01	3.58E-01	3.30E-01





# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 204 [ CONTROL - NNE @ 22.4 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
489694	11/13/2018 - 11/20/2018	I-131	<5.60E-02	0.00E+00	5.60E-02
		Cs-134	<2.76E-02	0.00E+00	2.76E-02
		Cs-137	<2.74E-02	0.00E+00	2.74E-02
		Be-7	<1.87E-01	0.00E+00	1.87E-01
		K-40	7.02E-01	3.09E-01	4.14E-01
490109	11/20/2018 - 11/27/2018	I-131	<5.16E-02	0.00E+00	5.16E-02
		Cs-134	<3.06E-02	0.00E+00	3.06E-02
		Cs-137	<3.70E-02	0.00E+00	3.70E-02
		Be-7	<2.33E-01	0.00E+00	2.33E-01
		K-40	9.37E-01	3.74E-01	3.71E-01
490752	11/27/2018 - 12/4/2018	I-131	<4.54E-02	0.00E+00	4.54E-02
		Cs-134	<2.87E-02	0.00E+00	2.87E-02
		Cs-137	<3.80E-02	0.00E+00	3.80E-02
		Be-7	<2.52E-01	0.00E+00	2.52E-01
		K-40	5.29E-01	3.07E-01	3.81E-01
491127	12/4/2018 - 12/11/2018	I-131	<5.55E-02	0.00E+00	5.55E-02
		Cs-134	<3.27E-02	0.00E+00	3.27E-02
		Cs-137	<3.53E-02	0.00E+00	3.53E-02
		Be-7	<2.30E-01	0.00E+00	2.30E-01
		K-40	1.04E+00	4.34E-01	5.00E-01
491440	12/11/2018 - 12/18/2018	I-131	<5.08E-02	0.00E+00	5.08E-02
		Cs-134	<2.02E-02	0.00E+00	2.02E-02
		Cs-137	<1.91E-02	0.00E+00	1.91E-02
		Be-7	<1.41E-01	0.00E+00	1.41E-01
		K-40	1.01E+00	2.36E-01	2.31E-01
491689	12/18/2018 - 12/26/2018	I-131	<5.47E-02	0.00E+00	5.47E-02
		Cs-134	<2.07E-02	0.00E+00	2.07E-02
		Cs-137	<2.17E-02	0.00E+00	2.17E-02
		Be-7	<1.78E-01	0.00E+00	1.78E-01
		K-40	1.07E+00	2.74E-01	2.48E-01
492174	12/26/2018 - 1/2/2019	I-131	<5.60E-02	0.00E+00	5.60E-02
		Cs-134	<2.45E-02	0.00E+00	2.45E-02
		Cs-137	<2.99E-02	0.00E+00	2.99E-02
		Be-7	<2.01E-01	0.00E+00	2.01E-01
		K-40	9.71E-01	3.20E-01	3.58E-01

Sample Point 205 [ INDICATOR - SSE @ 0.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466141	1/2/2018 - 1/9/2018	I-131	<4.84E-02	0.00E+00	4.84E-02
		Cs-134	<3.84E-02	0.00E+00	3.84E-02
		Cs-137	<4.52E-02	0.00E+00	4.52E-02
		Be-7	<2.84E-01	0.00E+00	2.84E-01
		K-40	1.07E+00	4.20E-01	4.36E-01
466348	1/9/2018 - 1/16/2018	I-131	<5.56E-02	0.00E+00	5.56E-02
		Cs-134	<2.27E-02	0.00E+00	2.27E-02
		Cs-137	<3.03E-02	0.00E+00	3.03E-02
		Be-7	<2.04E-01	0.00E+00	2.04E-01
		K-40	8.75E-01	3.59E-01	4.92E-01



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 205 [ INDICATOR - SSE @ 0.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466935	1/16/2018 - 1/23/2018	I-131	<4.70E-02	0.00E+00	4.70E-02
		Cs-134	<4.18E-02	0.00E+00	4.18E-02
		Cs-137	<4.17E-02	0.00E+00	4.17E-02
		Be-7	<2.76E-01	0.00E+00	2.76E-01
		K-40	1.08E+00	3.84E-01	3.05E-01
467292	1/23/2018 - 1/30/2018	I-131	<5.37E-02	0.00E+00	5.37E-02
		Cs-134	<3.60E-02	0.00E+00	3.60E-02
		Cs-137	<3.76E-02	0.00E+00	3.76E-02
		Be-7	<2.78E-01	0.00E+00	2.78E-01
		K-40	1.19E+00	4.00E-01	3.06E-01
467595	1/30/2018 - 2/6/2018	I-131	<4.74E-02	0.00E+00	4.74E-02
		Cs-134	<3.11E-02	0.00E+00	3.11E-02
		Cs-137	<3.66E-02	0.00E+00	3.66E-02
		Be-7	<3.11E-01	0.00E+00	3.11E-01
		K-40	<9.02E-01	0.00E+00	9.02E-01
468396	2/6/2018 - 2/13/2018	I-131	<4.17E-02	0.00E+00	4.17E-02
		Cs-134	<4.45E-02	0.00E+00	4.45E-02
		Cs-137	<3.79E-02	0.00E+00	3.79E-02
		Be-7	<2.30E-01	0.00E+00	2.30E-01
		K-40	9.23E-01	4.01E-01	4.60E-01
468716	2/13/2018 - 2/20/2018	I-131	<5.29E-02	0.00E+00	5.29E-02
		Cs-134	<2.29E-02	0.00E+00	2.29E-02
		Cs-137	<2.75E-02	0.00E+00	2.75E-02
		Be-7	<1.71E-01	0.00E+00	1.71E-01
		K-40	8.63E-01	2.93E-01	3.37E-01
469526	2/20/2018 - 2/27/2018	I-131	<5.17E-02	0.00E+00	5.17E-02
		Cs-134	<3.04E-02	0.00E+00	3.04E-02
		Cs-137	<3.88E-02	0.00E+00	3.88E-02
		Be-7	<2.26E-01	0.00E+00	2.26E-01
		K-40	1.60E+00	4.35E-01	7.35E-02
470539	2/27/2018 - 3/6/2018	I-131	<4.19E-02	0.00E+00	4.19E-02
		Cs-134	<3.12E-02	0.00E+00	3.12E-02
		Cs-137	<3.09E-02	0.00E+00	3.09E-02
		Be-7	<1.97E-01	0.00E+00	1.97E-01
		K-40	1.21E+00	4.79E-01	5.59E-01
471118	3/6/2018 - 3/13/2018	I-131	<4.78E-02	0.00E+00	4.78E-02
		Cs-134	<3.69E-02	0.00E+00	3.69E-02
		Cs-137	<3.52E-02	0.00E+00	3.52E-02
		Be-7	<3.04E-01	0.00E+00	3.04E-01
		K-40	8.61E-01	3.53E-01	3.22E-01
471672	3/13/2018 - 3/20/2018	I-131	<5.37E-02	0.00E+00	5.37E-02
		Cs-134	<2.95E-02	0.00E+00	2.95E-02
		Cs-137	<2.84E-02	0.00E+00	2.84E-02
		Be-7	<2.19E-01	0.00E+00	2.19E-01
		K-40	1.18E+00	3.41E-01	3.04E-01
472442	3/20/2018 - 3/27/2018	I-131	<4.59E-02	0.00E+00	4.59E-02
		Cs-134	<3.97E-02	0.00E+00	3.97E-02
		Cs-137	<4.00E-02	0.00E+00	4.00E-02



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 205 [ INDICATOR - SSE @ 0.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
472442	3/20/2018 - 3/27/2018	Be-7	<2.59E-01	0.00E+00	2.59E-01
		K-40	9.64E-01	3.78E-01	3.68E-01
472926	3/27/2018 - 4/3/2018	I-131	<4.81E-02	0.00E+00	4.81E-02
		Cs-134	<3.07E-02	0.00E+00	3.07E-02
		Cs-137	<3.79E-02	0.00E+00	3.79E-02
		Be-7	<2.35E-01	0.00E+00	2.35E-01
		K-40	1.24E+00	4.31E-01	4.27E-01
473226	4/3/2018 - 4/10/2018	I-131	<4.80E-02	0.00E+00	4.80E-02
		Cs-134	<3.21E-02	0.00E+00	3.21E-02
		Cs-137	<3.51E-02	0.00E+00	3.51E-02
		Be-7	<2.57E-01	0.00E+00	2.57E-01
		K-40	1.08E+00	3.75E-01	3.10E-01
473590	4/10/2018 - 4/17/2018	I-131	<4.42E-02	0.00E+00	4.42E-02
		Cs-134	<3.93E-02	0.00E+00	3.93E-02
		Cs-137	<3.55E-02	0.00E+00	3.55E-02
		Be-7	<2.94E-01	0.00E+00	2.94E-01
		K-40	1.17E+00	4.30E-01	4.53E-01
474108	4/17/2018 - 4/24/2018	I-131	<4.66E-02	0.00E+00	4.66E-02
		Cs-134	<3.52E-02	0.00E+00	3.52E-02
		Cs-137	<3.52E-02	0.00E+00	3.52E-02
		Be-7	<2.78E-01	0.00E+00	2.78E-01
		K-40	8.15E-01	3.63E-01	4.12E-01
474480	4/24/2018 - 5/1/2018	I-131	<4.71E-02	0.00E+00	4.71E-02
		Cs-134	<3.52E-02	0.00E+00	3.52E-02
		Cs-137	<3.00E-02	0.00E+00	3.00E-02
		Be-7	<2.78E-01	0.00E+00	2.78E-01
		K-40	1.21E+00	4.39E-01	4.66E-01
474848	5/1/2018 - 5/8/2018	I-131	<4.04E-02	0.00E+00	4.04E-02
		Cs-134	<3.85E-02	0.00E+00	3.85E-02
		Cs-137	<3.08E-02	0.00E+00	3.08E-02
		Be-7	<2.53E-01	0.00E+00	2.53E-01
		K-40	1.19E+00	3.99E-01	3.45E-01
475170	5/8/2018 - 5/15/2018	I-131	<4.52E-02	0.00E+00	4.52E-02
		Cs-134	<3.75E-02	0.00E+00	3.75E-02
		Cs-137	<3.09E-02	0.00E+00	3.09E-02
		Be-7	<2.46E-01	0.00E+00	2.46E-01
		K-40	9.24E-01	3.97E-01	4.65E-01
475494	5/15/2018 - 5/22/2018	I-131	<4.63E-02	0.00E+00	4.63E-02
		Cs-134	<3.63E-02	0.00E+00	3.63E-02
		Cs-137	<3.59E-02	0.00E+00	3.59E-02
		Be-7	<2.35E-01	0.00E+00	2.35E-01
		K-40	7.93E-01	3.98E-01	5.13E-01
476313	5/22/2018 - 5/29/2018	I-131	<4.48E-02	0.00E+00	4.48E-02
		Cs-134	<3.03E-02	0.00E+00	3.03E-02
		Cs-137	<3.56E-02	0.00E+00	3.56E-02
		Be-7	<2.68E-01	0.00E+00	2.68E-01
		K-40	1.08E+00	3.82E-01	3.45E-01

# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 205 [ INDICATOR - SSE @ 0.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
477334	5/29/2018 - 6/5/2018	I-131	<5.00E-02	0.00E+00	5.00E-02
		Cs-134	<3.19E-02	0.00E+00	3.19E-02
		Cs-137	<3.57E-02	0.00E+00	3.57E-02
		Be-7	<2.57E-01	0.00E+00	2.57E-01
		K-40	1.19E+00	3.83E-01	2.80E-01
478058	6/5/2018 - 6/12/2018	I-131	<3.90E-02	0.00E+00	3.90E-02
		Cs-134	<4.35E-02	0.00E+00	4.35E-02
		Cs-137	<4.11E-02	0.00E+00	4.11E-02
		Be-7	1.03E-01	1.28E-01	1.95E-01
		K-40	9.43E-01	3.82E-01	4.17E-01
478381	6/12/2018 - 6/19/2018	I-131	<5.51E-02	0.00E+00	5.51E-02
		Cs-134	<3.33E-02	0.00E+00	3.33E-02
		Cs-137	<2.76E-02	0.00E+00	2.76E-02
		Be-7	<2.14E-01	0.00E+00	2.14E-01
		K-40	8.56E-01	3.27E-01	3.60E-01
478720	6/19/2018 - 6/26/2018	I-131	<5.34E-02	0.00E+00	5.34E-02
		Cs-134	<2.43E-02	0.00E+00	2.43E-02
		Cs-137	<2.92E-02	0.00E+00	2.92E-02
		Be-7	<2.62E-01	0.00E+00	2.62E-01
		K-40	9.88E-01	3.52E-01	3.73E-01
479180	6/26/2018 - 7/3/2018	I-131	<4.84E-02	0.00E+00	4.84E-02
		Cs-134	<3.57E-02	0.00E+00	3.57E-02
		Cs-137	<3.96E-02	0.00E+00	3.96E-02
		Be-7	<2.17E-01	0.00E+00	2.17E-01
		K-40	8.60E-01	3.37E-01	3.12E-01
479836	7/3/2018 - 7/10/2018	I-131	<4.54E-02	0.00E+00	4.54E-02
		Cs-134	<4.19E-02	0.00E+00	4.19E-02
		Cs-137	<3.58E-02	0.00E+00	3.58E-02
		Be-7	<2.30E-01	0.00E+00	2.30E-01
		K-40	<7.97E-01	0.00E+00	7.97E-01
480204	7/10/2018 - 7/17/2018	I-131	<5.03E-02	0.00E+00	5.03E-02
		Cs-134	<3.34E-02	0.00E+00	3.34E-02
		Cs-137	<3.08E-02	0.00E+00	3.08E-02
		Be-7	<2.78E-01	0.00E+00	2.78E-01
		K-40	1.14E+00	4.52E-01	5.32E-01
481025	7/17/2018 - 7/24/2018	I-131	<4.86E-02	0.00E+00	4.86E-02
		Cs-134	<3.71E-02	0.00E+00	3.71E-02
		Cs-137	<3.46E-02	0.00E+00	3.46E-02
		Be-7	<2.61E-01	0.00E+00	2.61E-01
		K-40	1.00E+00	4.45E-01	5.63E-01
481478	7/24/2018 - 7/31/2018	I-131	<4.49E-02	0.00E+00	4.49E-02
		Cs-134	<3.49E-02	0.00E+00	3.49E-02
		Cs-137	<3.86E-02	0.00E+00	3.86E-02
		Be-7	<3.00E-01	0.00E+00	3.00E-01
		K-40	1.00E+00	3.63E-01	3.11E-01
481910	7/31/2018 - 8/7/2018	I-131	<4.93E-02	0.00E+00	4.93E-02
		Cs-134	<3.36E-02	0.00E+00	3.36E-02
		Cs-137	<3.70E-02	0.00E+00	3.70E-02

# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 205 [ INDICATOR - SSE @ 0.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481910	7/31/2018 - 8/7/2018	Be-7	<2.64E-01	0.00E+00	2.64E-01
		K-40	9.72E-01	4.07E-01	4.70E-01
482440	8/7/2018 - 8/14/2018	I-131	<4.66E-02	0.00E+00	4.66E-02
		Cs-134	<2.28E-02	0.00E+00	2.28E-02
		Cs-137	<3.56E-02	0.00E+00	3.56E-02
		Be-7	<2.97E-01	0.00E+00	2.97E-01
		K-40	1.06E+00	3.88E-01	3.80E-01
482759	8/14/2018 - 8/21/2018	I-131	<5.37E-02	0.00E+00	5.37E-02
		Cs-134	<2.52E-02	0.00E+00	2.52E-02
		Cs-137	<2.44E-02	0.00E+00	2.44E-02
		Be-7	<2.12E-01	0.00E+00	2.12E-01
		K-40	8.00E-01	2.85E-01	2.99E-01
483393	8/21/2018 - 8/28/2018	I-131	<3.44E-02	0.00E+00	3.44E-02
		Cs-134	<3.20E-02	0.00E+00	3.20E-02
		Cs-137	<2.77E-02	0.00E+00	2.77E-02
		Be-7	<2.01E-01	0.00E+00	2.01E-01
		K-40	<5.80E-01	0.00E+00	5.80E-01
483964	8/28/2018 - 9/4/2018	I-131	<4.13E-02	0.00E+00	4.13E-02
		Cs-134	<1.91E-02	0.00E+00	1.91E-02
		Cs-137	<1.91E-02	0.00E+00	1.91E-02
		Be-7	<1.79E-01	0.00E+00	1.79E-01
		K-40	4.86E-01	3.00E-01	3.87E-01
484577	9/4/2018 - 9/11/2018	I-131	<4.08E-02	0.00E+00	4.08E-02
		Cs-134	<3.45E-02	0.00E+00	3.45E-02
		Cs-137	<2.70E-02	0.00E+00	2.70E-02
		Be-7	<2.43E-01	0.00E+00	2.43E-01
		K-40	1.09E+00	3.92E-01	3.79E-01
484980	9/11/2018 - 9/19/2018	I-131	<4.60E-02	0.00E+00	4.60E-02
		Cs-134	<1.14E-02	0.00E+00	1.14E-02
		Cs-137	<1.23E-02	0.00E+00	1.23E-02
		Be-7	<9.45E-02	0.00E+00	9.45E-02
		K-40	8.04E-01	1.51E-01	1.48E-01
485437	9/19/2018 - 9/25/2018	I-131	<5.16E-02	0.00E+00	5.16E-02
		Cs-134	<2.03E-02	0.00E+00	2.03E-02
		Cs-137	<1.97E-02	0.00E+00	1.97E-02
		Be-7	<1.68E-01	0.00E+00	1.68E-01
		K-40	1.12E+00	2.52E-01	2.46E-01
486103	9/25/2018 - 10/2/2018	I-131	<5.27E-02	0.00E+00	5.27E-02
		Cs-134	<2.18E-02	0.00E+00	2.18E-02
		Cs-137	<2.64E-02	0.00E+00	2.64E-02
		Be-7	<1.90E-01	0.00E+00	1.90E-01
		K-40	8.13E-01	2.95E-01	3.46E-01
486656	10/2/2018 - 10/9/2018	I-131	<5.01E-02	0.00E+00	5.01E-02
		Cs-134	<3.51E-02	0.00E+00	3.51E-02
		Cs-137	<3.22E-02	0.00E+00	3.22E-02
		Be-7	<2.76E-01	0.00E+00	2.76E-01
		K-40	1.40E+00	4.17E-01	2.81E-01



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 205 [ INDICATOR - SSE @ 0.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
487689	10/9/2018 - 10/16/2018	I-131	<5.44E-02	0.00E+00	5.44E-02
		Cs-134	<2.25E-02	0.00E+00	2.25E-02
		Cs-137	<2.48E-02	0.00E+00	2.48E-02
		Be-7	<1.64E-01	0.00E+00	1.64E-01
		K-40	1.18E+00	2.84E-01	2.38E-01
487945	10/16/2018 - 10/23/2018	I-131	<5.24E-02	0.00E+00	5.24E-02
		Cs-134	<4.10E-02	0.00E+00	4.10E-02
		Cs-137	<3.59E-02	0.00E+00	3.59E-02
		Be-7	<2.28E-01	0.00E+00	2.28E-01
		K-40	1.03E+00	4.52E-01	5.60E-01
488429	10/23/2018 - 10/30/2018	I-131	<5.09E-02	0.00E+00	5.09E-02
		Cs-134	<3.28E-02	0.00E+00	3.28E-02
		Cs-137	<3.67E-02	0.00E+00	3.67E-02
		Be-7	<2.76E-01	0.00E+00	2.76E-01
		K-40	<7.87E-01	0.00E+00	7.87E-01
488803	10/30/2018 - 11/6/2018	I-131	<5.16E-02	0.00E+00	5.16E-02
		Cs-134	<3.46E-02	0.00E+00	3.46E-02
		Cs-137	<3.71E-02	0.00E+00	3.71E-02
		Be-7	<2.73E-01	0.00E+00	2.73E-01
		K-40	<7.04E-01	0.00E+00	7.04E-01
489101	11/6/2018 - 11/13/2018	I-131	<4.39E-02	0.00E+00	4.39E-02
		Cs-134	<3.87E-02	0.00E+00	3.87E-02
		Cs-137	<3.99E-02	0.00E+00	3.99E-02
		Be-7	<2.89E-01	0.00E+00	2.89E-01
		K-40	1.30E+00	4.33E-01	3.97E-01
489695	11/13/2018 - 11/20/2018	I-131	<5.35E-02	0.00E+00	5.35E-02
		Cs-134	<2.83E-02	0.00E+00	2.83E-02
		Cs-137	<2.40E-02	0.00E+00	2.40E-02
		Be-7	<1.87E-01	0.00E+00	1.87E-01
		K-40	8.74E-01	2.96E-01	3.38E-01
490110	11/20/2018 - 11/27/2018	I-131	<5.11E-02	0.00E+00	5.11E-02
		Cs-134	<3.75E-02	0.00E+00	3.75E-02
		Cs-137	<3.31E-02	0.00E+00	3.31E-02
		Be-7	<2.41E-01	0.00E+00	2.41E-01
		K-40	1.09E+00	3.99E-01	3.80E-01
490753	11/27/2018 - 12/4/2018	I-131	<4.62E-02	0.00E+00	4.62E-02
		Cs-134	<3.63E-02	0.00E+00	3.63E-02
		Cs-137	<4.27E-02	0.00E+00	4.27E-02
		Be-7	<2.71E-01	0.00E+00	2.71E-01
		K-40	1.58E+00	4.30E-01	7.26E-02
491128	12/4/2018 - 12/11/2018	I-131	<5.29E-02	0.00E+00	5.29E-02
		Cs-134	<3.81E-02	0.00E+00	3.81E-02
		Cs-137	<2.74E-02	0.00E+00	2.74E-02
		Be-7	<2.47E-01	0.00E+00	2.47E-01
		K-40	1.01E+00	3.94E-01	4.03E-01
491441	12/11/2018 - 12/18/2018	I-131	<5.55E-02	0.00E+00	5.55E-02
		Cs-134	<2.02E-02	0.00E+00	2.02E-02
		Cs-137	<2.00E-02	0.00E+00	2.00E-02



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 205 [ INDICATOR - SSE @ 0.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491441	12/11/2018 - 12/18/2018	Be-7	<1.58E-01	0.00E+00	1.58E-01
		K-40	8.52E-01	2.43E-01	2.76E-01
491690	12/18/2018 - 12/26/2018	I-131	<5.56E-02	0.00E+00	5.56E-02
		Cs-134	<2.10E-02	0.00E+00	2.10E-02
		Cs-137	<2.41E-02	0.00E+00	2.41E-02
		Be-7	<1.84E-01	0.00E+00	1.84E-01
		K-40	7.46E-01	2.19E-01	1.25E-01
492175	12/26/2018 - 1/2/2019	I-131	<5.57E-02	0.00E+00	5.57E-02
		Cs-134	<2.17E-02	0.00E+00	2.17E-02
		Cs-137	<2.71E-02	0.00E+00	2.71E-02
		Be-7	<2.44E-01	0.00E+00	2.44E-01
		K-40	5.73E-01	3.90E-01	5.84E-01

## Sample Point 206 [ CONTROL - NW @ 11.3 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466142	1/2/2018 - 1/9/2018	I-131	<5.45E-02	0.00E+00	5.45E-02
		Cs-134	<4.73E-02	0.00E+00	4.73E-02
		Cs-137	<4.13E-02	0.00E+00	4.13E-02
		Be-7	<2.90E-01	0.00E+00	2.90E-01
		K-40	1.06E+00	4.18E-01	4.38E-01
466349	1/9/2018 - 1/16/2018	I-131	<4.69E-02	0.00E+00	4.69E-02
		Cs-134	<6.75E-03	0.00E+00	6.75E-03
		Cs-137	4.68E-03	5.33E-03	8.72E-03
		Be-7	<5.99E-02	0.00E+00	5.99E-02
		K-40	5.74E-01	1.01E-01	1.08E-01
466936	1/16/2018 - 1/23/2018	I-131	<4.63E-02	0.00E+00	4.63E-02
		Cs-134	<3.56E-02	0.00E+00	3.56E-02
		Cs-137	<4.00E-02	0.00E+00	4.00E-02
		Be-7	<2.78E-01	0.00E+00	2.78E-01
		K-40	6.95E-01	3.88E-01	5.14E-01
467293	1/23/2018 - 1/30/2018	I-131	<4.83E-02	0.00E+00	4.83E-02
		Cs-134	<4.54E-02	0.00E+00	4.54E-02
		Cs-137	<3.57E-02	0.00E+00	3.57E-02
		Be-7	<2.48E-01	0.00E+00	2.48E-01
		K-40	8.41E-01	4.39E-01	5.88E-01
467596	1/30/2018 - 2/6/2018	I-131	<4.34E-02	0.00E+00	4.34E-02
		Cs-134	<3.25E-02	0.00E+00	3.25E-02
		Cs-137	<3.40E-02	0.00E+00	3.40E-02
		Be-7	<2.49E-01	0.00E+00	2.49E-01
		K-40	1.20E+00	4.26E-01	4.09E-01
468397	2/6/2018 - 2/13/2018	I-131	<5.36E-02	0.00E+00	5.36E-02
		Cs-134	<3.78E-02	0.00E+00	3.78E-02
		Cs-137	<3.84E-02	0.00E+00	3.84E-02
		Be-7	<3.10E-01	0.00E+00	3.10E-01
		K-40	7.18E-01	3.52E-01	4.16E-01
468717	2/13/2018 - 2/20/2018	I-131	<5.29E-02	0.00E+00	5.29E-02
		Cs-134	<2.21E-02	0.00E+00	2.21E-02
		Cs-137	<2.38E-02	0.00E+00	2.38E-02

# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 206 [ CONTROL - NW @ 11.3 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
468717	2/13/2018 - 2/20/2018	Be-7	<1.61E-01	0.00E+00	1.61E-01
		K-40	1.18E+00	2.72E-01	2.05E-01
469527	2/20/2018 - 2/27/2018	I-131	<5.35E-02	0.00E+00	5.35E-02
		Cs-134	<3.87E-02	0.00E+00	3.87E-02
		Cs-137	<3.80E-02	0.00E+00	3.80E-02
		Be-7	<2.74E-01	0.00E+00	2.74E-01
		K-40	1.05E+00	4.04E-01	4.17E-01
470540	2/27/2018 - 3/6/2018	I-131	<4.56E-02	0.00E+00	4.56E-02
		Cs-134	<3.96E-02	0.00E+00	3.96E-02
		Cs-137	<2.69E-02	0.00E+00	2.69E-02
		Be-7	<2.84E-01	0.00E+00	2.84E-01
		K-40	1.42E+00	4.87E-01	5.07E-01
471119	3/6/2018 - 3/13/2018	I-131	<4.45E-02	0.00E+00	4.45E-02
		Cs-134	<3.82E-02	0.00E+00	3.82E-02
		Cs-137	<3.56E-02	0.00E+00	3.56E-02
		Be-7	<2.60E-01	0.00E+00	2.60E-01
		K-40	9.94E-01	4.03E-01	4.47E-01
471673	3/13/2018 - 3/20/2018	I-131	<5.56E-02	0.00E+00	5.56E-02
		Cs-134	<2.19E-02	0.00E+00	2.19E-02
		Cs-137	<2.28E-02	0.00E+00	2.28E-02
		Be-7	<2.26E-01	0.00E+00	2.26E-01
		K-40	1.13E+00	3.27E-01	2.95E-01
472443	3/20/2018 - 3/27/2018	I-131	<4.80E-02	0.00E+00	4.80E-02
		Cs-134	<4.18E-02	0.00E+00	4.18E-02
		Cs-137	<4.18E-02	0.00E+00	4.18E-02
		Be-7	<2.56E-01	0.00E+00	2.56E-01
		K-40	1.13E+00	3.80E-01	2.95E-01
472927	3/27/2018 - 4/3/2018	I-131	<4.74E-02	0.00E+00	4.74E-02
		Cs-134	<3.64E-02	0.00E+00	3.64E-02
		Cs-137	<3.21E-02	0.00E+00	3.21E-02
		Be-7	<2.42E-01	0.00E+00	2.42E-01
		K-40	1.08E+00	4.70E-01	5.97E-01
473227	4/3/2018 - 4/10/2018	I-131	<4.23E-02	0.00E+00	4.23E-02
		Cs-134	<3.22E-02	0.00E+00	3.22E-02
		Cs-137	<3.21E-02	0.00E+00	3.21E-02
		Be-7	<2.06E-01	0.00E+00	2.06E-01
		K-40	6.78E-01	3.29E-01	3.78E-01
473591	4/10/2018 - 4/17/2018	I-131	<4.63E-02	0.00E+00	4.63E-02
		Cs-134	<2.32E-02	0.00E+00	2.32E-02
		Cs-137	<3.41E-02	0.00E+00	3.41E-02
		Be-7	<2.97E-01	0.00E+00	2.97E-01
		K-40	9.42E-01	3.99E-01	4.61E-01
474109	4/17/2018 - 4/24/2018	I-131	<4.76E-02	0.00E+00	4.76E-02
		Cs-134	<3.91E-02	0.00E+00	3.91E-02
		Cs-137	<3.12E-02	0.00E+00	3.12E-02
		Be-7	3.71E-02	1.49E-01	2.67E-01
		K-40	1.16E+00	4.08E-01	3.88E-01





# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 206 [ CONTROL - NW @ 11.3 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474481	4/24/2018 - 5/1/2018	I-131	<5.19E-02	0.00E+00	5.19E-02
		Cs-134	<3.77E-02	0.00E+00	3.77E-02
		Cs-137	<3.60E-02	0.00E+00	3.60E-02
		Be-7	<2.01E-01	0.00E+00	2.01E-01
		K-40	6.55E-01	3.15E-01	3.49E-01
474849	5/1/2018 - 5/8/2018	I-131	<4.29E-02	0.00E+00	4.29E-02
		Cs-134	<2.89E-02	0.00E+00	2.89E-02
		Cs-137	<2.74E-02	0.00E+00	2.74E-02
		Be-7	<2.50E-01	0.00E+00	2.50E-01
		K-40	1.18E+00	3.95E-01	3.34E-01
475171	5/8/2018 - 5/15/2018	I-131	<5.39E-02	0.00E+00	5.39E-02
		Cs-134	<3.97E-02	0.00E+00	3.97E-02
		Cs-137	<3.75E-02	0.00E+00	3.75E-02
		Be-7	<2.73E-01	0.00E+00	2.73E-01
		K-40	6.15E-01	3.85E-01	5.42E-01
475495	5/15/2018 - 5/22/2018	I-131	<4.77E-02	0.00E+00	4.77E-02
		Cs-134	<3.19E-02	0.00E+00	3.19E-02
		Cs-137	<3.83E-02	0.00E+00	3.83E-02
		Be-7	<2.85E-01	0.00E+00	2.85E-01
		K-40	8.60E-01	3.83E-01	4.53E-01
476314	5/22/2018 - 5/29/2018	I-131	<4.75E-02	0.00E+00	4.75E-02
		Cs-134	<3.33E-02	0.00E+00	3.33E-02
		Cs-137	<3.47E-02	0.00E+00	3.47E-02
		Be-7	<2.64E-01	0.00E+00	2.64E-01
		K-40	5.14E-01	3.76E-01	5.56E-01
477335	5/29/2018 - 6/5/2018	I-131	<5.25E-02	0.00E+00	5.25E-02
		Cs-134	<3.84E-02	0.00E+00	3.84E-02
		Cs-137	<3.65E-02	0.00E+00	3.65E-02
		Be-7	<2.52E-01	0.00E+00	2.52E-01
		K-40	8.29E-01	3.15E-01	2.39E-01
478059	6/5/2018 - 6/12/2018	I-131	<4.46E-02	0.00E+00	4.46E-02
		Cs-134	<3.60E-02	0.00E+00	3.60E-02
		Cs-137	<3.56E-02	0.00E+00	3.56E-02
		Be-7	<2.32E-01	0.00E+00	2.32E-01
		K-40	7.48E-01	3.96E-01	5.25E-01
478382	6/12/2018 - 6/19/2018	I-131	<5.10E-02	0.00E+00	5.10E-02
		Cs-134	<2.65E-02	0.00E+00	2.65E-02
		Cs-137	<2.82E-02	0.00E+00	2.82E-02
		Be-7	<1.94E-01	0.00E+00	1.94E-01
		K-40	8.23E-01	2.57E-01	2.24E-01
478721	6/19/2018 - 6/26/2018	I-131	<5.51E-02	0.00E+00	5.51E-02
		Cs-134	<2.50E-02	0.00E+00	2.50E-02
		Cs-137	<2.64E-02	0.00E+00	2.64E-02
		Be-7	<2.12E-01	0.00E+00	2.12E-01
		K-40	6.07E-01	3.12E-01	4.10E-01
479181	6/26/2018 - 7/3/2018	I-131	<5.32E-02	0.00E+00	5.32E-02
		Cs-134	<4.07E-02	0.00E+00	4.07E-02
		Cs-137	<3.91E-02	0.00E+00	3.91E-02

# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 206 [ CONTROL - NW @ 11.3 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
479181	6/26/2018 - 7/3/2018	Be-7	<2.39E-01	0.00E+00	2.39E-01
		K-40	5.63E-01	3.60E-01	5.04E-01
479837	7/3/2018 - 7/10/2018	I-131	<4.04E-02	0.00E+00	4.04E-02
		Cs-134	<3.73E-02	0.00E+00	3.73E-02
		Cs-137	<3.18E-02	0.00E+00	3.18E-02
		Be-7	<2.59E-01	0.00E+00	2.59E-01
		K-40	6.29E-01	3.39E-01	4.30E-01
480205	7/10/2018 - 7/17/2018	I-131	<5.16E-02	0.00E+00	5.16E-02
		Cs-134	<3.32E-02	0.00E+00	3.32E-02
		Cs-137	<4.07E-02	0.00E+00	4.07E-02
		Be-7	<2.49E-01	0.00E+00	2.49E-01
		K-40	8.03E-01	4.08E-01	5.36E-01
481026	7/17/2018 - 7/24/2018	I-131	<4.99E-02	0.00E+00	4.99E-02
		Cs-134	<3.60E-02	0.00E+00	3.60E-02
		Cs-137	<3.18E-02	0.00E+00	3.18E-02
		Be-7	<2.14E-01	0.00E+00	2.14E-01
		K-40	1.10E+00	3.47E-01	6.95E-02
481479	7/24/2018 - 7/31/2018	I-131	<4.74E-02	0.00E+00	4.74E-02
		Cs-134	<3.73E-02	0.00E+00	3.73E-02
		Cs-137	<3.57E-02	0.00E+00	3.57E-02
		Be-7	<2.14E-01	0.00E+00	2.14E-01
		K-40	1.16E+00	3.99E-01	3.65E-01
481911	7/31/2018 - 8/7/2018	I-131	<4.75E-02	0.00E+00	4.75E-02
		Cs-134	<3.84E-02	0.00E+00	3.84E-02
		Cs-137	<3.17E-02	0.00E+00	3.17E-02
		Be-7	<2.45E-01	0.00E+00	2.45E-01
		K-40	9.29E-01	4.17E-01	5.16E-01
482441	8/7/2018 - 8/14/2018	I-131	<4.42E-02	0.00E+00	4.42E-02
		Cs-134	<3.59E-02	0.00E+00	3.59E-02
		Cs-137	<3.17E-02	0.00E+00	3.17E-02
		Be-7	<2.57E-01	0.00E+00	2.57E-01
		K-40	7.33E-01	3.42E-01	3.93E-01
482760	8/14/2018 - 8/21/2018	I-131	<5.52E-02	0.00E+00	5.52E-02
		Cs-134	<2.48E-02	0.00E+00	2.48E-02
		Cs-137	<2.86E-02	0.00E+00	2.86E-02
		Be-7	<2.13E-01	0.00E+00	2.13E-01
		K-40	1.07E+00	3.03E-01	2.39E-01
483394	8/21/2018 - 8/28/2018	I-131	<3.57E-02	0.00E+00	3.57E-02
		Cs-134	<2.34E-02	0.00E+00	2.34E-02
		Cs-137	<2.93E-02	0.00E+00	2.93E-02
		Be-7	<1.97E-01	0.00E+00	1.97E-01
		K-40	3.73E-01	2.95E-01	4.30E-01
483965	8/28/2018 - 9/4/2018	I-131	<3.78E-02	0.00E+00	3.78E-02
		Cs-134	<2.89E-02	0.00E+00	2.89E-02
		Cs-137	<2.80E-02	0.00E+00	2.80E-02
		Be-7	<2.25E-01	0.00E+00	2.25E-01
		K-40	5.94E-01	3.08E-01	3.55E-01



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 206 [ CONTROL - NW @ 11.3 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
484578	9/4/2018 - 9/11/2018	I-131	<4.92E-02	0.00E+00	4.92E-02
		Cs-134	<3.73E-02	0.00E+00	3.73E-02
		Cs-137	<3.48E-02	0.00E+00	3.48E-02
		Be-7	<2.84E-01	0.00E+00	2.84E-01
		K-40	7.77E-01	3.09E-01	2.49E-01
484981	9/11/2018 - 9/18/2018	I-131	<4.89E-02	0.00E+00	4.89E-02
		Cs-134	<1.32E-02	0.00E+00	1.32E-02
		Cs-137	1.70E-02	1.34E-02	2.16E-02
		Be-7	<9.80E-02	0.00E+00	9.80E-02
		K-40	1.28E+00	2.00E-01	2.04E-01
485438	9/18/2018 - 9/25/2018	I-131	<5.50E-02	0.00E+00	5.50E-02
		Cs-134	<2.47E-02	0.00E+00	2.47E-02
		Cs-137	<2.53E-02	0.00E+00	2.53E-02
		Be-7	<1.68E-01	0.00E+00	1.68E-01
		K-40	1.16E+00	2.63E-01	2.14E-01
486104	9/25/2018 - 10/2/2018	I-131	<4.27E-02	0.00E+00	4.27E-02
		Cs-134	<1.83E-02	0.00E+00	1.83E-02
		Cs-137	<1.48E-02	0.00E+00	1.48E-02
		Be-7	<1.29E-01	0.00E+00	1.29E-01
		K-40	7.06E-01	1.96E-01	1.97E-01
486657	10/2/2018 - 10/9/2018	I-131	<4.99E-02	0.00E+00	4.99E-02
		Cs-134	<3.13E-02	0.00E+00	3.13E-02
		Cs-137	<3.17E-02	0.00E+00	3.17E-02
		Be-7	<2.47E-01	0.00E+00	2.47E-01
		K-40	7.69E-01	3.81E-01	4.75E-01
487690	10/9/2018 - 10/16/2018	I-131	<5.00E-02	0.00E+00	5.00E-02
		Cs-134	<2.64E-02	0.00E+00	2.64E-02
		Cs-137	<2.50E-02	0.00E+00	2.50E-02
		Be-7	<1.73E-01	0.00E+00	1.73E-01
		K-40	1.11E+00	2.90E-01	2.52E-01
487946	10/16/2018 - 10/23/2018	I-131	<5.25E-02	0.00E+00	5.25E-02
		Cs-134	<3.64E-02	0.00E+00	3.64E-02
		Cs-137	<4.10E-02	0.00E+00	4.10E-02
		Be-7	<3.05E-01	0.00E+00	3.05E-01
		K-40	<7.91E-01	0.00E+00	7.91E-01
488430	10/23/2018 - 10/30/2018	I-131	<4.99E-02	0.00E+00	4.99E-02
		Cs-134	<3.36E-02	0.00E+00	3.36E-02
		Cs-137	<3.56E-02	0.00E+00	3.56E-02
		Be-7	<2.77E-01	0.00E+00	2.77E-01
		K-40	7.53E-01	3.63E-01	4.30E-01
488804	10/30/2018 - 11/6/2018	I-131	<4.41E-02	0.00E+00	4.41E-02
		Cs-134	<3.61E-02	0.00E+00	3.61E-02
		Cs-137	<3.99E-02	0.00E+00	3.99E-02
		Be-7	<2.37E-01	0.00E+00	2.37E-01
		K-40	8.26E-01	3.56E-01	3.76E-01
489102	11/6/2018 - 11/13/2018	I-131	<4.71E-02	0.00E+00	4.71E-02
		Cs-134	<4.05E-02	0.00E+00	4.05E-02
		Cs-137	<3.85E-02	0.00E+00	3.85E-02

# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: AIR RADIOIODINE Concentration (Activity): pCi/m3

Sample Point 206 [ CONTROL - NW @ 11.3 miles ]

Sample ID:	Sample Dates:		Nuclide	Activity	2 Sigma Error	MDA
489102	11/6/2018 - 11/13/2018		Be-7	<2.64E-01	0.00E+00	2.64E-01
			K-40	8.88E-01	3.70E-01	3.88E-01
489696	11/13/2018 - 11/20/2018		I-131	<5.39E-02	0.00E+00	5.39E-02
			Cs-134	<2.34E-02	0.00E+00	2.34E-02
			Cs-137	<2.24E-02	0.00E+00	2.24E-02
			Be-7	<1.76E-01	0.00E+00	1.76E-01
			K-40	9.60E-01	2.53E-01	1.96E-01
490111	11/20/2018 - 11/27/2018		I-131	<5.10E-02	0.00E+00	5.10E-02
			Cs-134	<3.69E-02	0.00E+00	3.69E-02
			Cs-137	<3.70E-02	0.00E+00	3.70E-02
			Be-7	<2.47E-01	0.00E+00	2.47E-01
			K-40	<8.67E-01	0.00E+00	8.67E-01
490754	11/27/2018 - 12/4/2018		I-131	<4.47E-02	0.00E+00	4.47E-02
			Cs-134	<4.21E-02	0.00E+00	4.21E-02
			Cs-137	<4.07E-02	0.00E+00	4.07E-02
			Be-7	<2.99E-01	0.00E+00	2.99E-01
			K-40	9.33E-01	3.73E-01	3.71E-01
491129	12/4/2018 - 12/11/2018		I-131	<5.50E-02	0.00E+00	5.50E-02
			Cs-134	<3.88E-02	0.00E+00	3.88E-02
			Cs-137	<4.40E-02	0.00E+00	4.40E-02
			Be-7	<2.72E-01	0.00E+00	2.72E-01
			K-40	9.98E-01	3.64E-01	2.85E-01
491442	12/11/2018 - 12/18/2018		I-131	<5.58E-02	0.00E+00	5.58E-02
			Cs-134	<2.31E-02	0.00E+00	2.31E-02
			Cs-137	<1.81E-02	0.00E+00	1.81E-02
			Be-7	<1.44E-01	0.00E+00	1.44E-01
			K-40	1.17E+00	2.56E-01	2.27E-01
491691	12/18/2018 - 12/26/2018		I-131	<5.59E-02	0.00E+00	5.59E-02
			Cs-134	<1.93E-02	0.00E+00	1.93E-02
			Cs-137	<2.01E-02	0.00E+00	2.01E-02
			Be-7	<1.73E-01	0.00E+00	1.73E-01
			K-40	1.03E+00	2.34E-01	1.52E-01
492176	12/26/2018 - 1/2/2019		I-131	<5.51E-02	0.00E+00	5.51E-02
			Cs-134	<2.64E-02	0.00E+00	2.64E-02
			Cs-137	<2.29E-02	0.00E+00	2.29E-02
			Be-7	<1.96E-01	0.00E+00	1.96E-01
			K-40	1.20E+00	3.41E-01	3.39E-01

Media Type: FISH Concentration (Activity): pCi/kg wet

Sample Point 700 [ INDICATOR - SSW @ 5.5 miles ]

Sample ID:	Sample Dates:	FREESWIM	Nuclide	Activity	2 Sigma Error	MDA
478674	6/7/2018 - 6/7/2018		Mn-54	<3.15E+01	0.00E+00	3.15E+01
			Co-58	<3.87E+01	0.00E+00	3.87E+01
			Fe-59	<5.83E+01	0.00E+00	5.83E+01
			Co-60	<2.55E+01	0.00E+00	2.55E+01
			Zn-65	<6.64E+01	0.00E+00	6.64E+01
			Nb-95	<3.31E+01	0.00E+00	3.31E+01
			I-131	<5.54E+01	0.00E+00	5.54E+01
			Cs-134	<3.19E+01	0.00E+00	3.19E+01



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: FISH Concentration (Activity): pCi/kg wet

Sample Point 700 [ INDICATOR - SSW @ 5.5 miles ]

Sample ID:	Sample Dates:	FREESWIM	Nuclide	Activity	2 Sigma Error	MDA
478674	6/7/2018 - 6/7/2018		Cs-137	<2.45E+01	0.00E+00	2.45E+01
			Be-7	<3.04E+02	0.00E+00	3.04E+02
			K-40	2.98E+03	7.29E+02	4.91E+02
			Ag-110M	<2.24E+01	0.00E+00	2.24E+01
			Sb-122	<8.95E+02	0.00E+00	8.95E+02
			Sb-125	<6.65E+01	0.00E+00	6.65E+01

Sample ID:	Sample Dates:	FREESWIM	Nuclide	Activity	2 Sigma Error	MDA
491028	11/19/2018 - 11/19/2018		Mn-54	<8.31E+01	0.00E+00	8.31E+01
			Co-58	<6.87E+01	0.00E+00	6.87E+01
			Fe-59	<1.20E+02	0.00E+00	1.20E+02
			Co-60	<6.16E+01	0.00E+00	6.16E+01
			Zn-65	<1.81E+02	0.00E+00	1.81E+02
			Nb-95	<6.14E+01	0.00E+00	6.14E+01
			I-131	<2.46E+02	0.00E+00	2.46E+02
			Cs-134	<7.61E+01	0.00E+00	7.61E+01
			Cs-137	<6.26E+01	0.00E+00	6.26E+01
			Be-7	<5.65E+02	0.00E+00	5.65E+02
			K-40	4.27E+03	1.08E+03	6.09E+02
			Ag-110M	<8.18E+01	0.00E+00	8.18E+01
			Sb-122	<4.29E+03	0.00E+00	4.29E+03
			Sb-125	<1.52E+02	0.00E+00	1.52E+02

Sample Point 701 [ INDICATOR - SSW @ 5.5 miles ]

Sample ID:	Sample Dates:	BOTMFEEDER	Nuclide	Activity	2 Sigma Error	MDA
478675	6/7/2018 - 6/7/2018		Mn-54	<3.33E+01	0.00E+00	3.33E+01
			Co-58	<3.26E+01	0.00E+00	3.26E+01
			Fe-59	<6.09E+01	0.00E+00	6.09E+01
			Co-60	<4.38E+01	0.00E+00	4.38E+01
			Zn-65	<4.78E+01	0.00E+00	4.78E+01
			Nb-95	<4.58E+01	0.00E+00	4.58E+01
			I-131	<6.96E+01	0.00E+00	6.96E+01
			Cs-134	<3.69E+01	0.00E+00	3.69E+01
			Cs-137	<3.40E+01	0.00E+00	3.40E+01
			Be-7	<2.79E+02	0.00E+00	2.79E+02
			K-40	2.19E+03	6.24E+02	4.09E+02
			Ag-110M	<3.30E+01	0.00E+00	3.30E+01
			Sb-122	<4.71E+02	0.00E+00	4.71E+02
			Sb-125	<5.96E+01	0.00E+00	5.96E+01

Sample ID:	Sample Dates:	BOTMFEEDER	Nuclide	Activity	2 Sigma Error	MDA
491029	11/19/2018 - 11/19/2018		Mn-54	<5.35E+01	0.00E+00	5.35E+01
			Co-58	<6.94E+01	0.00E+00	6.94E+01
			Fe-59	<1.90E+02	0.00E+00	1.90E+02
			Co-60	<7.40E+01	0.00E+00	7.40E+01
			Zn-65	<1.68E+02	0.00E+00	1.68E+02
			Nb-95	<9.16E+01	0.00E+00	9.16E+01
			I-131	<2.63E+02	0.00E+00	2.63E+02
			Cs-134	<8.20E+01	0.00E+00	8.20E+01
			Cs-137	<7.40E+01	0.00E+00	7.40E+01
			Be-7	<5.32E+02	0.00E+00	5.32E+02
			K-40	4.19E+03	1.17E+03	9.63E+02
			Ag-110M	<3.65E+01	0.00E+00	3.65E+01
			Sb-122	<4.02E+03	0.00E+00	4.02E+03
			Sb-125	<1.98E+02	0.00E+00	1.98E+02

Sample Point 702 [ INDICATOR - SSW @ 5.5 miles ]

Sample ID:	Sample Dates:	INVERTEBRA	Nuclide	Activity	2 Sigma Error	MDA
478676	6/7/2018 - 6/7/2018		Mn-54	<2.93E+01	0.00E+00	2.93E+01
			Co-58	<2.43E+01	0.00E+00	2.43E+01
			Fe-59	<8.36E+01	0.00E+00	8.36E+01
			Co-60	<3.79E+01	0.00E+00	3.79E+01



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: FISH Concentration (Activity): pCi/kg wet

Sample Point 702 [ INDICATOR - SSW @ 5.5 miles ]

Sample ID:	478676	Sample Dates:	6/7/2018 - 6/7/2018	INVERTEBRA	Nuclide	Activity	2 Sigma Error	MDA
					Zn-65	<7.52E+01	0.00E+00	7.52E+01
					Nb-95	<4.20E+01	0.00E+00	4.20E+01
					I-131	<7.49E+01	0.00E+00	7.49E+01
					Cs-134	<4.05E+01	0.00E+00	4.05E+01
					Cs-137	<3.25E+01	0.00E+00	3.25E+01
					Be-7	<2.84E+02	0.00E+00	2.84E+02
					K-40	3.27E+03	7.32E+02	9.54E+01
					Ag-110M	<2.76E+01	0.00E+00	2.76E+01
					Sb-122	<8.35E+02	0.00E+00	8.35E+02
					Sb-125	<5.76E+01	0.00E+00	5.76E+01

Sample ID:	491030	Sample Dates:	11/19/2018 - 11/19/2018	INVERTEBRA	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<8.80E+01	0.00E+00	8.80E+01
					Co-58	<6.01E+01	0.00E+00	6.01E+01
					Fe-59	<1.70E+02	0.00E+00	1.70E+02
					Co-60	<8.09E+01	0.00E+00	8.09E+01
					Zn-65	<1.88E+02	0.00E+00	1.88E+02
					Nb-95	<1.09E+02	0.00E+00	1.09E+02
					I-131	<2.50E+02	0.00E+00	2.50E+02
					Cs-134	<6.00E+01	0.00E+00	6.00E+01
					Cs-137	<7.18E+01	0.00E+00	7.18E+01
					Be-7	<5.34E+02	0.00E+00	5.34E+02
					K-40	3.34E+03	1.10E+03	1.09E+03
					Ag-110M	<5.62E+01	0.00E+00	5.62E+01
					Sb-122	<3.20E+03	0.00E+00	3.20E+03
					Sb-125	<1.64E+02	0.00E+00	1.64E+02

## Sample Point 703 [ CONTROL - -- @ 0 miles ]

Sample ID:	478677	Sample Dates:	6/7/2018 - 6/7/2018	FREESWIM	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<4.74E+01	0.00E+00	4.74E+01
					Co-58	<3.27E+01	0.00E+00	3.27E+01
					Fe-59	<1.10E+02	0.00E+00	1.10E+02
					Co-60	<4.39E+01	0.00E+00	4.39E+01
					Zn-65	<7.82E+01	0.00E+00	7.82E+01
					Nb-95	<3.48E+01	0.00E+00	3.48E+01
					I-131	<8.49E+01	0.00E+00	8.49E+01
					Cs-134	<2.93E+01	0.00E+00	2.93E+01
					Cs-137	<2.91E+01	0.00E+00	2.91E+01
					Be-7	<3.29E+02	0.00E+00	3.29E+02
					K-40	4.78E+03	9.70E+02	1.11E+02
					Ag-110M	<3.24E+01	0.00E+00	3.24E+01
					Sb-122	<7.65E+02	0.00E+00	7.65E+02
					Sb-125	<7.90E+01	0.00E+00	7.90E+01

Sample ID:	491031	Sample Dates:	11/19/2018 - 11/19/2018	FREESWIM	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<5.54E+01	0.00E+00	5.54E+01
					Co-58	<5.80E+01	0.00E+00	5.80E+01
					Fe-59	<1.37E+02	0.00E+00	1.37E+02
					Co-60	<6.56E+01	0.00E+00	6.56E+01
					Zn-65	<1.28E+02	0.00E+00	1.28E+02
					Nb-95	<6.85E+01	0.00E+00	6.85E+01
					I-131	<1.64E+02	0.00E+00	1.64E+02
					Cs-134	<5.45E+01	0.00E+00	5.45E+01
					Cs-137	<5.81E+01	0.00E+00	5.81E+01
					Be-7	<3.85E+02	0.00E+00	3.85E+02
					K-40	3.79E+03	8.94E+02	7.95E+02
					Ag-110M	<4.36E+01	0.00E+00	4.36E+01
					Sb-122	<2.92E+03	0.00E+00	2.92E+03
					Sb-125	<1.16E+02	0.00E+00	1.16E+02



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: FISH Concentration (Activity): pCi/kg wet

Sample Point 704 [ CONTROL - -- @ 0 miles ]

Sample ID:	478678	Sample Dates:	6/7/2018 - 6/7/2018	BOTMFEEDER	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<2.70E+01	0.00E+00	2.70E+01
					Co-58	<3.22E+01	0.00E+00	3.22E+01
					Fe-59	<6.03E+01	0.00E+00	6.03E+01
					Co-60	<9.82E+00	0.00E+00	9.82E+00
					Zn-65	<6.94E+01	0.00E+00	6.94E+01
					Nb-95	<3.42E+01	0.00E+00	3.42E+01
					I-131	<6.57E+01	0.00E+00	6.57E+01
					Cs-134	<4.18E+01	0.00E+00	4.18E+01
					Cs-137	<2.86E+01	0.00E+00	2.86E+01
					Be-7	<2.61E+02	0.00E+00	2.61E+02
					K-40	2.49E+03	6.70E+02	4.51E+02
					Ag-110M	<3.06E+01	0.00E+00	3.06E+01
					Sb-122	<6.72E+02	0.00E+00	6.72E+02
					Sb-125	<8.60E+01	0.00E+00	8.60E+01

Sample ID:	491033	Sample Dates:	11/19/2018 - 11/19/2018	BOTMFEEDER	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<6.55E+01	0.00E+00	6.55E+01
					Co-58	<7.96E+01	0.00E+00	7.96E+01
					Fe-59	<1.46E+02	0.00E+00	1.46E+02
					Co-60	<8.07E+01	0.00E+00	8.07E+01
					Zn-65	<1.56E+02	0.00E+00	1.56E+02
					Nb-95	<8.88E+01	0.00E+00	8.88E+01
					I-131	<2.49E+02	0.00E+00	2.49E+02
					Cs-134	<7.60E+01	0.00E+00	7.60E+01
					Cs-137	<6.25E+01	0.00E+00	6.25E+01
					Be-7	<5.41E+02	0.00E+00	5.41E+02
					K-40	4.03E+03	1.13E+03	9.75E+02
					Ag-110M	<6.60E+01	0.00E+00	6.60E+01
					Sb-122	<3.90E+03	0.00E+00	3.90E+03
					Sb-125	<1.52E+02	0.00E+00	1.52E+02

Sample Point 705 [ CONTROL - -- @ 0 miles ]

Sample ID:	478679	Sample Dates:	6/7/2018 - 6/7/2018	INVERTEBRA	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<2.67E+01	0.00E+00	2.67E+01
					Co-58	<4.20E+01	0.00E+00	4.20E+01
					Fe-59	<7.71E+01	0.00E+00	7.71E+01
					Co-60	<3.33E+01	0.00E+00	3.33E+01
					Zn-65	<9.57E+01	0.00E+00	9.57E+01
					Nb-95	<3.68E+01	0.00E+00	3.68E+01
					I-131	<5.78E+01	0.00E+00	5.78E+01
					Cs-134	<2.96E+01	0.00E+00	2.96E+01
					Cs-137	<3.08E+01	0.00E+00	3.08E+01
					Be-7	<2.43E+02	0.00E+00	2.43E+02
					K-40	3.39E+03	7.67E+02	3.35E+02
					Ag-110M	<3.22E+01	0.00E+00	3.22E+01
					Sb-122	<6.29E+02	0.00E+00	6.29E+02
					Sb-125	<5.87E+01	0.00E+00	5.87E+01

Sample ID:	491035	Sample Dates:	11/19/2018 - 11/19/2018	INVERTEBRA	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<5.81E+01	0.00E+00	5.81E+01
					Co-58	<7.78E+01	0.00E+00	7.78E+01
					Fe-59	<1.78E+02	0.00E+00	1.78E+02
					Co-60	<8.60E+01	0.00E+00	8.60E+01
					Zn-65	<1.34E+02	0.00E+00	1.34E+02
					Nb-95	<1.03E+02	0.00E+00	1.03E+02
					I-131	<2.01E+02	0.00E+00	2.01E+02
					Cs-134	<8.17E+01	0.00E+00	8.17E+01
					Cs-137	<4.56E+01	0.00E+00	4.56E+01
					Be-7	<3.09E+02	0.00E+00	3.09E+02
					K-40	3.55E+03	1.12E+03	1.09E+03
					Ag-110M	<6.82E+01	0.00E+00	6.82E+01
					Sb-122	<4.68E+03	0.00E+00	4.68E+03
					Sb-125	<1.63E+02	0.00E+00	1.63E+02



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: FISH Concentration (Activity): pCi/kg wet

Sample Point 707 [ INDICATOR - -- @ 0 miles ]

Sample ID:	491913	Sample Dates:	10/9/2018 - 11/27/2018	BOTMFEEDER	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<5.09E+01	0.00E+00	5.09E+01
					Co-58	<5.83E+01	0.00E+00	5.83E+01
					Fe-59	<1.70E+02	0.00E+00	1.70E+02
					Co-60	<4.09E+01	0.00E+00	4.09E+01
					Zn-65	<1.11E+02	0.00E+00	1.11E+02
					Nb-95	<1.03E+02	0.00E+00	1.03E+02
					I-131	<2.43E+03	0.00E+00	2.43E+03
					Cs-134	<4.16E+01	0.00E+00	4.16E+01
					Cs-137	<4.39E+01	0.00E+00	4.39E+01
					Be-7	<5.78E+02	0.00E+00	5.78E+02
					K-40	3.75E+03	7.46E+02	5.97E+02
					Ag-110M	<3.91E+01	0.00E+00	3.91E+01
					Sb-122	<8.66E+06	0.00E+00	8.66E+06
					Sb-125	<1.05E+02	0.00E+00	1.05E+02

Sample Point 708 [ INDICATOR - -- @ 0 miles ]

Sample ID:	491914	Sample Dates:	10/9/2018 - 12/12/2018	INVERTEBRA	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<4.25E+01	0.00E+00	4.25E+01
					Co-58	<7.24E+01	0.00E+00	7.24E+01
					Fe-59	<1.84E+02	0.00E+00	1.84E+02
					Co-60	<4.37E+01	0.00E+00	4.37E+01
					Zn-65	<8.49E+01	0.00E+00	8.49E+01
					Nb-95	<1.23E+02	0.00E+00	1.23E+02
					I-131	<1.26E+03	0.00E+00	1.26E+03
					Cs-134	<5.67E+01	0.00E+00	5.67E+01
					Cs-137	<4.50E+01	0.00E+00	4.50E+01
					Be-7	<4.97E+02	0.00E+00	4.97E+02
					K-40	2.09E+03	7.34E+02	8.91E+02
					Ag-110M	<4.45E+01	0.00E+00	4.45E+01
					Sb-122	<1.34E+06	0.00E+00	1.34E+06
					Sb-125	<1.10E+02	0.00E+00	1.10E+02

Media Type: GROUND WATER Concentration (Activity): pCi/l

Sample Point 404 [ INDICATOR - SW @ 0.16 miles ]

Sample ID:	469124	Sample Dates:	3/8/2018 - 3/8/2018		Nuclide	Activity	2 Sigma Error	MDA
					H3GW	<-1.2E+01	0.00E+00	1.67E+02

Sample ID:	476276	Sample Dates:	6/14/2018 - 6/14/2018		Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<4.43E+00	0.00E+00	4.43E+00
					Co-58	<4.85E+00	0.00E+00	4.85E+00
					Fe-59	<7.11E+00	0.00E+00	7.11E+00
					Co-60	<4.87E+00	0.00E+00	4.87E+00
					Zn-65	<8.44E+00	0.00E+00	8.44E+00
					Zr-95	<7.40E+00	0.00E+00	7.40E+00
					Nb-95	<4.27E+00	0.00E+00	4.27E+00
					I-131	<1.08E+01	0.00E+00	1.08E+01
					Cs-134	<4.81E+00	0.00E+00	4.81E+00
					Cs-137	<3.66E+00	0.00E+00	3.66E+00
					BaLa-140	<8.75E+00	0.00E+00	8.75E+00
					Total-Gam	0.00E+00		
					H3GW	<-6.5E+01	0.00E+00	1.88E+02

Sample ID:	482369	Sample Dates:	9/11/2018 - 9/11/2018		Nuclide	Activity	2 Sigma Error	MDA
					H3GW	<-7.5E+01	0.00E+00	1.90E+02

Sample ID:	489020	Sample Dates:	12/10/2018 - 12/10/2018		Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<4.50E+00	0.00E+00	4.50E+00
					Co-58	<5.25E+00	0.00E+00	5.25E+00
					Fe-59	<1.24E+01	0.00E+00	1.24E+01
					Co-60	<6.00E+00	0.00E+00	6.00E+00
					Zn-65	<9.00E+00	0.00E+00	9.00E+00
					Zr-95	<9.88E+00	0.00E+00	9.88E+00





# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: GROUND WATER Concentration (Activity): pCi/l

Sample Point 404 [ INDICATOR - SW @ 0.16 miles ]

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Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
489020	12/10/2018 - 12/10/2018	Nb-95	<6.32E+00	0.00E+00	6.32E+00
		I-131	<6.13E+00	0.00E+00	6.13E+00
		Cs-134	<6.34E+00	0.00E+00	6.34E+00
		Cs-137	<3.85E+00	0.00E+00	3.85E+00
		BaLa-140	<7.82E+00	0.00E+00	7.82E+00
		Total-Gam	0.00E+00		
		H3GW	<1.22E+02	0.00E+00	1.84E+02

Sample Point 407 [ INDICATOR - ENE @ 0.06 miles ]

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Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
469125	3/6/2018 - 3/6/2018	H3GW	4.25E+02	1.21E+02	1.84E+02

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Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
476277	6/14/2018 - 6/14/2018	Mn-54	<5.00E+00	0.00E+00	5.00E+00
		Co-58	<4.90E+00	0.00E+00	4.90E+00
		Fe-59	<7.95E+00	0.00E+00	7.95E+00
		Co-60	<7.42E+00	0.00E+00	7.42E+00
		Zn-65	<1.41E+01	0.00E+00	1.41E+01
		Zr-95	<1.09E+01	0.00E+00	1.09E+01
		Nb-95	<6.68E+00	0.00E+00	6.68E+00
		I-131	<1.12E+01	0.00E+00	1.12E+01
		Cs-134	<6.00E+00	0.00E+00	6.00E+00
		Cs-137	<4.59E+00	0.00E+00	4.59E+00
		BaLa-140	<9.88E+00	0.00E+00	9.88E+00
		Total-Gam	0.00E+00		
		H3GW	3.98E+02	1.22E+02	1.88E+02

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Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
482370	9/11/2018 - 9/11/2018	H3GW	3.29E+02	1.21E+02	1.91E+02

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Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
489021	12/11/2018 - 12/11/2018	Mn-54	<5.10E+00	0.00E+00	5.10E+00
		Co-58	<5.92E+00	0.00E+00	5.92E+00
		Fe-59	<1.23E+01	0.00E+00	1.23E+01
		Co-60	<7.51E+00	0.00E+00	7.51E+00
		Zn-65	<1.04E+01	0.00E+00	1.04E+01
		Zr-95	<9.62E+00	0.00E+00	9.62E+00
		Nb-95	<4.93E+00	0.00E+00	4.93E+00
		I-131	<8.80E+00	0.00E+00	8.80E+00
		Cs-134	<6.58E+00	0.00E+00	6.58E+00
		Cs-137	<5.14E+00	0.00E+00	5.14E+00
		BaLa-140	<9.45E+00	0.00E+00	9.45E+00
		Total-Gam	0.00E+00		
		H3GW	3.23E+02	1.13E+02	1.75E+02

Sample Point 409 [ INDICATOR - NE @ 0.65 miles ]

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Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
469126	3/7/2018 - 3/7/2018	H3GW	<-8.5E+01	0.00E+00	1.84E+02

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Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
476278	6/5/2018 - 6/5/2018	Mn-54	<5.50E+00	0.00E+00	5.50E+00
		Co-58	<4.76E+00	0.00E+00	4.76E+00
		Fe-59	<5.10E+00	0.00E+00	5.10E+00
		Co-60	<5.43E+00	0.00E+00	5.43E+00
		Zn-65	<8.82E+00	0.00E+00	8.82E+00
		Zr-95	<1.09E+01	0.00E+00	1.09E+01
		Nb-95	<5.51E+00	0.00E+00	5.51E+00
		I-131	<8.29E+00	0.00E+00	8.29E+00
		Cs-134	<5.45E+00	0.00E+00	5.45E+00
		Cs-137	<6.36E+00	0.00E+00	6.36E+00
		BaLa-140	<9.56E+00	0.00E+00	9.56E+00
		Total-Gam	0.00E+00		

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# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: GROUND WATER Concentration (Activity): pCi/l

Sample Point 409 [ INDICATOR - NE @ 0.65 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
476278	6/5/2018 - 6/5/2018	H3GW	<4.53E+00	0.00E+00	1.83E+02
482371	9/5/2018 - 9/5/2018	H3GW	<-5.8E+01	0.00E+00	2.05E+02
489022	12/3/2018 - 12/3/2018	Mn-54	<4.15E+00	0.00E+00	4.15E+00
		Co-58	<4.36E+00	0.00E+00	4.36E+00
		Fe-59	<8.71E+00	0.00E+00	8.71E+00
		Co-60	<5.43E+00	0.00E+00	5.43E+00
		Zn-65	<1.34E+01	0.00E+00	1.34E+01
		Zr-95	<1.05E+01	0.00E+00	1.05E+01
		Nb-95	<7.39E+00	0.00E+00	7.39E+00
		I-131	<8.74E+00	0.00E+00	8.74E+00
		Cs-134	<4.62E+00	0.00E+00	4.62E+00
		Cs-137	<5.52E+00	0.00E+00	5.52E+00
		BaLa-140	<1.12E+01	0.00E+00	1.12E+01
		Total-Gam	0.00E+00		
		H3GW	<5.80E+01	0.00E+00	1.86E+02

Sample Point 410 [ INDICATOR - NE @ 0.65 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
469127	3/7/2018 - 3/7/2018	H3GW	<-1.6E+01	0.00E+00	1.84E+02
476279	6/6/2018 - 6/6/2018	Mn-54	<4.70E+00	0.00E+00	4.70E+00
		Co-58	<6.79E+00	0.00E+00	6.79E+00
		Fe-59	<9.80E+00	0.00E+00	9.80E+00
		Co-60	<4.54E+00	0.00E+00	4.54E+00
		Zn-65	<1.35E+01	0.00E+00	1.35E+01
		Zr-95	<1.09E+01	0.00E+00	1.09E+01
		Nb-95	<5.90E+00	0.00E+00	5.90E+00
		I-131	<8.32E+00	0.00E+00	8.32E+00
		Cs-134	<6.25E+00	0.00E+00	6.25E+00
		Cs-137	<5.42E+00	0.00E+00	5.42E+00
		BaLa-140	<8.64E+00	0.00E+00	8.64E+00
		Total-Gam	0.00E+00		
		H3GW	<-3.8E+01	0.00E+00	1.81E+02
482372	9/5/2018 - 9/5/2018	H3GW	<-1.0E+02	0.00E+00	2.04E+02
489023	12/3/2018 - 12/3/2018	Mn-54	<4.38E+00	0.00E+00	4.38E+00
		Co-58	<4.98E+00	0.00E+00	4.98E+00
		Fe-59	<9.29E+00	0.00E+00	9.29E+00
		Co-60	<4.64E+00	0.00E+00	4.64E+00
		Zn-65	<1.05E+01	0.00E+00	1.05E+01
		Zr-95	<9.32E+00	0.00E+00	9.32E+00
		Nb-95	<5.00E+00	0.00E+00	5.00E+00
		I-131	<8.44E+00	0.00E+00	8.44E+00
		Cs-134	<5.47E+00	0.00E+00	5.47E+00
		Cs-137	<4.59E+00	0.00E+00	4.59E+00
		BaLa-140	<1.18E+01	0.00E+00	1.18E+01
		Total-Gam	0.00E+00		
		H3GW	<-2.3E+00	0.00E+00	1.87E+02

Sample Point 418 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
469134	3/19/2018 - 3/19/2018	H3GW	2.38E+02	1.16E+02	1.86E+02
476287	6/5/2018 - 6/5/2018	Mn-54	<4.65E+00	0.00E+00	4.65E+00



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: GROUND WATER Concentration (Activity): pCi/l

Sample Point 418 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
476287	6/5/2018 - 6/5/2018	Co-58	<6.24E+00	0.00E+00	6.24E+00
		Fe-59	<1.04E+01	0.00E+00	1.04E+01
		Co-60	<6.21E+00	0.00E+00	6.21E+00
		Zn-65	<1.16E+01	0.00E+00	1.16E+01
		Zr-95	<8.75E+00	0.00E+00	8.75E+00
		Nb-95	<5.07E+00	0.00E+00	5.07E+00
		I-131	<7.30E+00	0.00E+00	7.30E+00
		Cs-134	<5.95E+00	0.00E+00	5.95E+00
		Cs-137	<4.74E+00	0.00E+00	4.74E+00
		BaLa-140	<7.27E+00	0.00E+00	7.27E+00
		Total-Gam	0.00E+00		
		H3GW	<1.53E+02	0.00E+00	1.81E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
482379	9/6/2018 - 9/6/2018	H3GW	<7.68E+01	0.00E+00	2.03E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
489031	12/6/2018 - 12/6/2018	Mn-54	<3.82E+00	0.00E+00	3.82E+00
		Co-58	<5.49E+00	0.00E+00	5.49E+00
		Fe-59	<9.13E+00	0.00E+00	9.13E+00
		Co-60	<7.09E+00	0.00E+00	7.09E+00
		Zn-65	<1.04E+01	0.00E+00	1.04E+01
		Zr-95	<6.91E+00	0.00E+00	6.91E+00
		Nb-95	<6.11E+00	0.00E+00	6.11E+00
		I-131	<9.26E+00	0.00E+00	9.26E+00
		Cs-134	<7.15E+00	0.00E+00	7.15E+00
		Cs-137	<6.01E+00	0.00E+00	6.01E+00
		BaLa-140	<9.26E+00	0.00E+00	9.26E+00
		Total-Gam	0.00E+00		
		H3GW	2.21E+02	1.14E+02	1.85E+02

Sample Point 423 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
469136	3/8/2018 - 3/8/2018	H3GW	<-7.6E+01	0.00E+00	1.86E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
476290	6/6/2018 - 6/6/2018	Mn-54	<5.68E+00	0.00E+00	5.68E+00
		Co-58	<6.56E+00	0.00E+00	6.56E+00
		Fe-59	<1.12E+01	0.00E+00	1.12E+01
		Co-60	<7.13E+00	0.00E+00	7.13E+00
		Zn-65	<1.20E+01	0.00E+00	1.20E+01
		Zr-95	<1.14E+01	0.00E+00	1.14E+01
		Nb-95	<6.01E+00	0.00E+00	6.01E+00
		I-131	<8.02E+00	0.00E+00	8.02E+00
		Cs-134	<5.63E+00	0.00E+00	5.63E+00
		Cs-137	<5.90E+00	0.00E+00	5.90E+00
		BaLa-140	<1.00E+01	0.00E+00	1.00E+01
		Total-Gam	0.00E+00		
		H3GW	<-3.6E+01	0.00E+00	1.81E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
482381	9/11/2018 - 9/11/2018	H3GW	<2.64E+01	0.00E+00	1.82E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
489036	12/6/2018 - 12/6/2018	Mn-54	<6.43E+00	0.00E+00	6.43E+00
		Co-58	<4.82E+00	0.00E+00	4.82E+00
		Fe-59	<9.90E+00	0.00E+00	9.90E+00
		Co-60	<5.83E+00	0.00E+00	5.83E+00
		Zn-65	<1.33E+01	0.00E+00	1.33E+01
		Zr-95	<8.42E+00	0.00E+00	8.42E+00
		Nb-95	<6.61E+00	0.00E+00	6.61E+00
		I-131	<9.12E+00	0.00E+00	9.12E+00
		Cs-134	<6.18E+00	0.00E+00	6.18E+00
		Cs-137	<5.73E+00	0.00E+00	5.73E+00



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: GROUND WATER Concentration (Activity): pCi/l

Sample Point 423 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
489036	12/6/2018 - 12/6/2018	BaLa-140	<7.66E+00	0.00E+00	7.66E+00
		Total-Gam	0.00E+00		
		H3GW	<-3.7E+01	0.00E+00	1.84E+02

Sample Point 424 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
463834	1/10/2018 - 1/10/2018	Mn-54	<6.56E+00	0.00E+00	6.56E+00
		Co-58	<5.38E+00	0.00E+00	5.38E+00
		Fe-59	<1.28E+01	0.00E+00	1.28E+01
		Co-60	<3.29E+00	0.00E+00	3.29E+00
		Zn-65	<1.12E+01	0.00E+00	1.12E+01
		Zr-95	<7.39E+00	0.00E+00	7.39E+00
		Nb-95	<5.87E+00	0.00E+00	5.87E+00
		I-131	<7.14E+00	0.00E+00	7.14E+00
		Cs-134	<4.65E+00	0.00E+00	4.65E+00
		Cs-137	<6.40E+00	0.00E+00	6.40E+00
		BaLa-140	<6.43E+00	0.00E+00	6.43E+00
		Total-Gam	0.00E+00		
		H3GW	<-5.6E+01	0.00E+00	1.84E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
469137	3/8/2018 - 3/8/2018	H3GW	<-6.8E+01	0.00E+00	1.86E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
476291	6/6/2018 - 6/6/2018	Mn-54	<5.32E+00	0.00E+00	5.32E+00
		Co-58	<4.81E+00	0.00E+00	4.81E+00
		Fe-59	<7.96E+00	0.00E+00	7.96E+00
		Co-60	<3.74E+00	0.00E+00	3.74E+00
		Zn-65	<1.07E+01	0.00E+00	1.07E+01
		Zr-95	<1.10E+01	0.00E+00	1.10E+01
		Nb-95	<4.82E+00	0.00E+00	4.82E+00
		I-131	<6.48E+00	0.00E+00	6.48E+00
		Cs-134	<5.52E+00	0.00E+00	5.52E+00
		Cs-137	<4.79E+00	0.00E+00	4.79E+00
		BaLa-140	<6.77E+00	0.00E+00	6.77E+00
		Total-Gam	0.00E+00		
		H3GW	<1.36E+01	0.00E+00	1.84E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
482382	9/11/2018 - 9/11/2018	H3GW	<-7.1E+00	0.00E+00	1.79E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
489037	12/6/2018 - 12/6/2018	Mn-54	<7.28E+00	0.00E+00	7.28E+00
		Co-58	<5.68E+00	0.00E+00	5.68E+00
		Fe-59	<1.37E+01	0.00E+00	1.37E+01
		Co-60	<5.14E+00	0.00E+00	5.14E+00
		Zn-65	<1.27E+01	0.00E+00	1.27E+01
		Zr-95	<9.92E+00	0.00E+00	9.92E+00
		Nb-95	<8.30E+00	0.00E+00	8.30E+00
		I-131	<1.06E+01	0.00E+00	1.06E+01
		Cs-134	<6.59E+00	0.00E+00	6.59E+00
		Cs-137	<5.52E+00	0.00E+00	5.52E+00
		BaLa-140	<6.83E+00	0.00E+00	6.83E+00
		Total-Gam	0.00E+00		
		H3GW	<2.06E+01	0.00E+00	1.84E+02

Sample Point 426 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
469139	3/22/2018 - 3/22/2018	H3GW	<7.06E+00	0.00E+00	1.86E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
476293	6/14/2018 - 6/14/2018	Mn-54	<4.24E+00	0.00E+00	4.24E+00



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: GROUND WATER Concentration (Activity): pCi/l

Sample Point 426 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
476293	6/14/2018 - 6/14/2018	Co-58	<3.92E+00	0.00E+00	3.92E+00
		Fe-59	<1.03E+01	0.00E+00	1.03E+01
		Co-60	<3.26E+00	0.00E+00	3.26E+00
		Zn-65	<1.01E+01	0.00E+00	1.01E+01
		Zr-95	<8.41E+00	0.00E+00	8.41E+00
		Nb-95	<5.38E+00	0.00E+00	5.38E+00
		I-131	<1.06E+01	0.00E+00	1.06E+01
		Cs-134	<4.59E+00	0.00E+00	4.59E+00
		Cs-137	<4.06E+00	0.00E+00	4.06E+00
		BaLa-140	<9.74E+00	0.00E+00	9.74E+00
		Total-Gam	0.00E+00		
		H3GW	<-1.4E+01	0.00E+00	1.86E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
482384	9/11/2018 - 9/11/2018	H3GW	<7.69E+01	0.00E+00	1.82E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
489039	12/11/2018 - 12/11/2018	Mn-54	<6.09E+00	0.00E+00	6.09E+00
		Co-58	<5.00E+00	0.00E+00	5.00E+00
		Fe-59	<1.16E+01	0.00E+00	1.16E+01
		Co-60	<5.12E+00	0.00E+00	5.12E+00
		Zn-65	<1.32E+01	0.00E+00	1.32E+01
		Zr-95	<8.76E+00	0.00E+00	8.76E+00
		Nb-95	<6.12E+00	0.00E+00	6.12E+00
		I-131	<8.99E+00	0.00E+00	8.99E+00
		Cs-134	<5.08E+00	0.00E+00	5.08E+00
		Cs-137	<5.12E+00	0.00E+00	5.12E+00
		BaLa-140	<7.15E+00	0.00E+00	7.15E+00
		Total-Gam	0.00E+00		
		H3GW	<1.27E+02	0.00E+00	1.75E+02

Sample Point 429 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
469141	3/19/2018 - 3/19/2018	H3GW	<4.95E+01	0.00E+00	1.86E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
476294	6/6/2018 - 6/6/2018	Mn-54	<5.18E+00	0.00E+00	5.18E+00
		Co-58	<5.40E+00	0.00E+00	5.40E+00
		Fe-59	<1.27E+01	0.00E+00	1.27E+01
		Co-60	<4.98E+00	0.00E+00	4.98E+00
		Zn-65	<1.15E+01	0.00E+00	1.15E+01
		Zr-95	<1.18E+01	0.00E+00	1.18E+01
		Nb-95	<6.53E+00	0.00E+00	6.53E+00
		I-131	<6.42E+00	0.00E+00	6.42E+00
		Cs-134	<5.54E+00	0.00E+00	5.54E+00
		Cs-137	<5.33E+00	0.00E+00	5.33E+00
		BaLa-140	<6.88E+00	0.00E+00	6.88E+00
		Total-Gam	0.00E+00		
		H3GW	<-3.1E+01	0.00E+00	1.81E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
482385	10/15/2018 - 10/15/2018	H3GW	<-1.3E+02	0.00E+00	1.92E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
489040	12/6/2018 - 12/6/2018	Mn-54	<4.82E+00	0.00E+00	4.82E+00
		Co-58	<4.98E+00	0.00E+00	4.98E+00
		Fe-59	<1.45E+01	0.00E+00	1.45E+01
		Co-60	<6.33E+00	0.00E+00	6.33E+00
		Zn-65	<1.39E+01	0.00E+00	1.39E+01
		Zr-95	<9.79E+00	0.00E+00	9.79E+00
		Nb-95	<9.55E+00	0.00E+00	9.55E+00
		I-131	<9.82E+00	0.00E+00	9.82E+00
		Cs-134	<6.64E+00	0.00E+00	6.64E+00
		Cs-137	<6.57E+00	0.00E+00	6.57E+00



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: GROUND WATER Concentration (Activity): pCi/l

Sample Point 429 [ INDICATOR - -- @ 0 miles ]

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Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
489040	12/6/2018 - 12/6/2018	BaLa-140	<1.09E+01	0.00E+00	1.09E+01
		Total-Gam	0.00E+00		
		H3GW	<1.61E+01	0.00E+00	1.84E+02

Sample Point 612 [ INDICATOR - -- @ 0 miles ]

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Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
469142	3/5/2018 - 3/5/2018	H3GW	<5.17E+01	0.00E+00	1.84E+02

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Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
476296	6/7/2018 - 6/7/2018	Mn-54	<4.50E+00	0.00E+00	4.50E+00
		Co-58	<5.32E+00	0.00E+00	5.32E+00
		Fe-59	<1.14E+01	0.00E+00	1.14E+01
		Co-60	<5.27E+00	0.00E+00	5.27E+00
		Zn-65	<1.01E+01	0.00E+00	1.01E+01
		Zr-95	<7.23E+00	0.00E+00	7.23E+00
		Nb-95	<6.89E+00	0.00E+00	6.89E+00
		I-131	<7.98E+00	0.00E+00	7.98E+00
		Cs-134	<6.17E+00	0.00E+00	6.17E+00
		Cs-137	<5.17E+00	0.00E+00	5.17E+00
		BaLa-140	<6.46E+00	0.00E+00	6.46E+00
		Total-Gam	0.00E+00		
		H3GW	<9.44E+01	0.00E+00	1.90E+02

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Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
482386	9/11/2018 - 9/11/2018	H3GW	<7.87E+01	0.00E+00	1.81E+02

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Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
489042	12/11/2018 - 12/11/2018	Mn-54	<4.66E+00	0.00E+00	4.66E+00
		Co-58	<4.01E+00	0.00E+00	4.01E+00
		Fe-59	<1.24E+01	0.00E+00	1.24E+01
		Co-60	<5.84E+00	0.00E+00	5.84E+00
		Zn-65	<1.11E+01	0.00E+00	1.11E+01
		Zr-95	<9.71E+00	0.00E+00	9.71E+00
		Nb-95	<6.15E+00	0.00E+00	6.15E+00
		I-131	<7.60E+00	0.00E+00	7.60E+00
		Cs-134	<4.92E+00	0.00E+00	4.92E+00
		Cs-137	<4.94E+00	0.00E+00	4.94E+00
		BaLa-140	<7.00E+00	0.00E+00	7.00E+00
		Total-Gam	0.00E+00		
		H3GW	<1.75E+02	0.00E+00	1.75E+02

Media Type: SEDIMENT\_SHORE Concentration (Activity): pCi/kg dry

Sample Point 500 [ INDICATOR - SSW @ 5 miles ]

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Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
490021	11/8/2018 - 11/8/2018	Mn-54	<5.09E+01	0.00E+00	5.09E+01
		Co-58	<4.34E+01	0.00E+00	4.34E+01
		Fe-59	<9.57E+01	0.00E+00	9.57E+01
		Co-60	<3.24E+01	0.00E+00	3.24E+01
		Zn-65	<9.68E+01	0.00E+00	9.68E+01
		Zr-95	<4.71E+01	0.00E+00	4.71E+01
		Nb-95	<4.97E+01	0.00E+00	4.97E+01
		I-131	<1.66E+02	0.00E+00	1.66E+02
		Cs-134	<4.64E+01	0.00E+00	4.64E+01
		Cs-137	<4.00E+01	0.00E+00	4.00E+01
		Be-7	<4.52E+02	0.00E+00	4.52E+02
		K-40	1.06E+03	5.22E+02	5.83E+02
		Co-57	<2.68E+01	0.00E+00	2.68E+01
		Mo-99	<2.61E+04	0.00E+00	2.61E+04
		Ag-110M	<3.06E+01	0.00E+00	3.06E+01
		Sb-122	<3.48E+03	0.00E+00	3.48E+03
		Sb-125	<8.54E+01	0.00E+00	8.54E+01

# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SEDIMENT\_SHORE Concentration (Activity): pCi/kg dry

Sample Point 501 [ INDICATOR - -- @ 0 miles ]

Sample ID: 475470 Sample Dates: 5/8/2018 - 5/8/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<6.05E+01	0.00E+00	6.05E+01
Co-58	<6.47E+01	0.00E+00	6.47E+01
Fe-59	<2.59E+02	0.00E+00	2.59E+02
Co-60	<4.93E+01	0.00E+00	4.93E+01
Zn-65	<1.39E+02	0.00E+00	1.39E+02
Zr-95	<1.29E+02	0.00E+00	1.29E+02
Nb-95	<1.11E+02	0.00E+00	1.11E+02
I-131	<4.93E+02	0.00E+00	4.93E+02
Cs-134	<7.50E+01	0.00E+00	7.50E+01
Cs-137	1.25E+02	6.63E+01	9.19E+01
Be-7	<8.12E+02	0.00E+00	8.12E+02
K-40	1.10E+04	1.88E+03	1.07E+03
Co-57	<3.29E+01	0.00E+00	3.29E+01
Mo-99	<4.22E+05	0.00E+00	4.22E+05
Ag-110M	<5.28E+01	0.00E+00	5.28E+01
Sb-122	<6.78E+04	0.00E+00	6.78E+04
Sb-125	<1.32E+02	0.00E+00	1.32E+02
Fe-55	<1.04E+05	0.00E+00	1.04E+05
Ni-63	<5.29E+04	0.00E+00	5.29E+04
Sr-89	<6.65E+01	0.00E+00	6.65E+01
Sr-90	<5.32E+01	0.00E+00	5.32E+01

Sample ID: 490019 Sample Dates: 11/7/2018 - 11/7/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<9.96E+01	0.00E+00	9.96E+01
Co-58	<6.47E+01	0.00E+00	6.47E+01
Fe-59	<1.78E+02	0.00E+00	1.78E+02
Co-60	<9.41E+01	0.00E+00	9.41E+01
Zn-65	<1.43E+02	0.00E+00	1.43E+02
Zr-95	<2.01E+02	0.00E+00	2.01E+02
Nb-95	<1.21E+02	0.00E+00	1.21E+02
I-131	<3.05E+02	0.00E+00	3.05E+02
Cs-134	<1.01E+02	0.00E+00	1.01E+02
Cs-137	<1.41E+02	0.00E+00	1.41E+02
Be-7	<7.98E+02	0.00E+00	7.98E+02
K-40	9.27E+03	1.81E+03	7.28E+02
Co-57	<6.22E+01	0.00E+00	6.22E+01
Mo-99	<7.44E+04	0.00E+00	7.44E+04
Ag-110M	<6.59E+01	0.00E+00	6.59E+01
Sb-122	<9.78E+03	0.00E+00	9.78E+03
Sb-125	<2.05E+02	0.00E+00	2.05E+02

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 400 [ CONTROL - NE @ 0.6 miles ]

Sample ID: 466148 Sample Dates: 1/1/2018 - 2/1/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<2.28E+00	0.00E+00	2.28E+00
Co-58	<1.83E+00	0.00E+00	1.83E+00
Fe-59	<4.81E+00	0.00E+00	4.81E+00
Co-60	<2.12E+00	0.00E+00	2.12E+00
Zn-65	<4.68E+00	0.00E+00	4.68E+00
Zr-95	<4.38E+00	0.00E+00	4.38E+00
Nb-95	<2.81E+00	0.00E+00	2.81E+00
I-131	<1.02E+01	0.00E+00	1.02E+01
Cs-134	<2.55E+00	0.00E+00	2.55E+00
Cs-137	<2.13E+00	0.00E+00	2.13E+00
BaLa-140	<4.14E+00	0.00E+00	4.14E+00
H3SW	<6.62E+01	0.00E+00	1.78E+02

Sample ID: 467602 Sample Dates: 2/1/2018 - 3/1/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<2.73E+00	0.00E+00	2.73E+00
Co-58	<3.12E+00	0.00E+00	3.12E+00
Fe-59	<7.02E+00	0.00E+00	7.02E+00
Co-60	<2.77E+00	0.00E+00	2.77E+00
Zn-65	<4.90E+00	0.00E+00	4.90E+00



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 400 [ CONTROL - NE @ 0.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467602	2/1/2018 - 3/1/2018	Zr-95	<4.78E+00	0.00E+00	4.78E+00
		Nb-95	<4.56E+00	0.00E+00	4.56E+00
		I-131	<1.17E+01	0.00E+00	1.17E+01
		Cs-134	<3.16E+00	0.00E+00	3.16E+00
		Cs-137	<2.62E+00	0.00E+00	2.62E+00
		BaLa-140	<1.12E+01	0.00E+00	1.12E+01
		H3SW	<-7.3E+01	0.00E+00	1.86E+02
470546	3/1/2018 - 4/1/2018	Mn-54	<1.95E+00	0.00E+00	1.95E+00
		Co-58	<2.26E+00	0.00E+00	2.26E+00
		Fe-59	<3.79E+00	0.00E+00	3.79E+00
		Co-60	<2.50E+00	0.00E+00	2.50E+00
		Zn-65	<5.02E+00	0.00E+00	5.02E+00
		Zr-95	<4.17E+00	0.00E+00	4.17E+00
		Nb-95	<2.56E+00	0.00E+00	2.56E+00
		I-131	<9.89E+00	0.00E+00	9.89E+00
		Cs-134	<2.55E+00	0.00E+00	2.55E+00
		Cs-137	<2.13E+00	0.00E+00	2.13E+00
		BaLa-140	<5.98E+00	0.00E+00	5.98E+00
		H3SW	<-1.3E+02	0.00E+00	1.94E+02
		474487	4/1/2018 - 5/1/2018	Mn-54	<2.09E+00
Co-58	<2.36E+00			0.00E+00	2.36E+00
Fe-59	<6.29E+00			0.00E+00	6.29E+00
Co-60	<2.09E+00			0.00E+00	2.09E+00
Zn-65	<4.19E+00			0.00E+00	4.19E+00
Zr-95	<4.48E+00			0.00E+00	4.48E+00
Nb-95	<2.39E+00			0.00E+00	2.39E+00
I-131	<1.10E+01			0.00E+00	1.10E+01
Cs-134	<2.30E+00			0.00E+00	2.30E+00
Cs-137	<2.77E+00			0.00E+00	2.77E+00
BaLa-140	<6.36E+00			0.00E+00	6.36E+00
H3SW	<2.82E+01			0.00E+00	1.79E+02
476320	5/1/2018 - 6/4/2018			Mn-54	<9.20E-01
		Co-58	<1.06E+00	0.00E+00	1.06E+00
		Fe-59	<2.39E+00	0.00E+00	2.39E+00
		Co-60	<1.02E+00	0.00E+00	1.02E+00
		Zn-65	<2.07E+00	0.00E+00	2.07E+00
		Zr-95	<2.15E+00	0.00E+00	2.15E+00
		Nb-95	<1.42E+00	0.00E+00	1.42E+00
		I-131	<8.67E+00	0.00E+00	8.67E+00
		Cs-134	<1.04E+00	0.00E+00	1.04E+00
		Cs-137	<9.99E-01	0.00E+00	9.99E-01
		BaLa-140	<3.65E+00	0.00E+00	3.65E+00
		H3SW	<4.91E+01	0.00E+00	1.77E+02
		478727	6/4/2018 - 7/2/2018	Mn-54	<2.01E+00
Co-58	<1.91E+00			0.00E+00	1.91E+00
Fe-59	<3.92E+00			0.00E+00	3.92E+00
Co-60	<1.88E+00			0.00E+00	1.88E+00
Zn-65	<3.42E+00			0.00E+00	3.42E+00
Zr-95	<4.19E+00			0.00E+00	4.19E+00
Nb-95	<2.50E+00			0.00E+00	2.50E+00
I-131	<1.10E+01			0.00E+00	1.10E+01
Cs-134	<2.24E+00			0.00E+00	2.24E+00
Cs-137	<2.04E+00			0.00E+00	2.04E+00
BaLa-140	<6.14E+00			0.00E+00	6.14E+00
H3SW	<8.93E+01			0.00E+00	1.78E+02





# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 400 [ CONTROL - NE @ 0.6 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481032	7/2/2018 - 8/2/2018	Mn-54	<2.05E+00	0.00E+00	2.05E+00
		Co-58	<2.09E+00	0.00E+00	2.09E+00
		Fe-59	<5.39E+00	0.00E+00	5.39E+00
		Co-60	<2.00E+00	0.00E+00	2.00E+00
		Zn-65	<4.68E+00	0.00E+00	4.68E+00
		Zr-95	<3.78E+00	0.00E+00	3.78E+00
		Nb-95	<2.86E+00	0.00E+00	2.86E+00
		I-131	<1.10E+01	0.00E+00	1.10E+01
		Cs-134	<1.98E+00	0.00E+00	1.98E+00
		Cs-137	<2.10E+00	0.00E+00	2.10E+00
		BaLa-140	<7.50E+00	0.00E+00	7.50E+00
		H3SW	<4.24E+01	0.00E+00	1.81E+02
482766	8/2/2018 - 9/4/2018	Mn-54	<1.69E+00	0.00E+00	1.69E+00
		Co-58	<1.90E+00	0.00E+00	1.90E+00
		Fe-59	<4.62E+00	0.00E+00	4.62E+00
		Co-60	<1.92E+00	0.00E+00	1.92E+00
		Zn-65	<3.54E+00	0.00E+00	3.54E+00
		Zr-95	<4.02E+00	0.00E+00	4.02E+00
		Nb-95	<2.82E+00	0.00E+00	2.82E+00
		I-131	<1.20E+01	0.00E+00	1.20E+01
		Cs-134	<2.01E+00	0.00E+00	2.01E+00
		Cs-137	<1.77E+00	0.00E+00	1.77E+00
		BaLa-140	<6.28E+00	0.00E+00	6.28E+00
		H3SW	<-7.0E+01	0.00E+00	1.92E+02
484987	9/4/2018 - 10/1/2018	Mn-54	<1.74E+00	0.00E+00	1.74E+00
		Co-58	<2.62E+00	0.00E+00	2.62E+00
		Fe-59	<4.93E+00	0.00E+00	4.93E+00
		Co-60	<2.23E+00	0.00E+00	2.23E+00
		Zn-65	<3.82E+00	0.00E+00	3.82E+00
		Zr-95	<4.37E+00	0.00E+00	4.37E+00
		Nb-95	<4.00E+00	0.00E+00	4.00E+00
		I-131	<1.13E+01	0.00E+00	1.13E+01
		Cs-134	<1.92E+00	0.00E+00	1.92E+00
		Cs-137	<2.38E+00	0.00E+00	2.38E+00
		BaLa-140	<9.76E+00	0.00E+00	9.76E+00
		H3SW	<9.97E+01	0.00E+00	1.89E+02
487696	10/1/2018 - 11/1/2018	Mn-54	<1.76E+00	0.00E+00	1.76E+00
		Co-58	<1.86E+00	0.00E+00	1.86E+00
		Fe-59	<4.58E+00	0.00E+00	4.58E+00
		Co-60	<1.56E+00	0.00E+00	1.56E+00
		Zn-65	<3.73E+00	0.00E+00	3.73E+00
		Zr-95	<3.85E+00	0.00E+00	3.85E+00
		Nb-95	<2.53E+00	0.00E+00	2.53E+00
		I-131	<1.19E+01	0.00E+00	1.19E+01
		Cs-134	<2.05E+00	0.00E+00	2.05E+00
		Cs-137	<1.68E+00	0.00E+00	1.68E+00
		BaLa-140	<5.42E+00	0.00E+00	5.42E+00
		H3SW	<-7.4E+01	0.00E+00	1.90E+02
489108	11/1/2018 - 12/3/2018	Mn-54	<1.49E+00	0.00E+00	1.49E+00
		Co-58	<1.56E+00	0.00E+00	1.56E+00
		Fe-59	<3.69E+00	0.00E+00	3.69E+00
		Co-60	<1.61E+00	0.00E+00	1.61E+00
		Zn-65	<3.80E+00	0.00E+00	3.80E+00
		Zr-95	<3.76E+00	0.00E+00	3.76E+00
		Nb-95	<2.57E+00	0.00E+00	2.57E+00
		I-131	<1.14E+01	0.00E+00	1.14E+01
		Cs-134	<1.79E+00	0.00E+00	1.79E+00



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 400 [ CONTROL - NE @ 0.6 miles ]

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Sample ID:	489108	Sample Dates:	11/1/2018 - 12/3/2018	Nuclide	Activity	2 Sigma Error	MDA
				Cs-137	<1.59E+00	0.00E+00	1.59E+00
				BaLa-140	<5.88E+00	0.00E+00	5.88E+00
				H3SW	<9.28E+00	0.00E+00	1.90E+02

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Sample ID:	491135	Sample Dates:	12/3/2018 - 1/2/2019	Nuclide	Activity	2 Sigma Error	MDA
				Mn-54	<1.28E+00	0.00E+00	1.28E+00
				Co-58	<1.48E+00	0.00E+00	1.48E+00
				Fe-59	<3.16E+00	0.00E+00	3.16E+00
				Co-60	<1.26E+00	0.00E+00	1.26E+00
				Zn-65	<2.83E+00	0.00E+00	2.83E+00
				Zr-95	<2.76E+00	0.00E+00	2.76E+00
				Nb-95	<1.77E+00	0.00E+00	1.77E+00
				I-131	<9.31E+00	0.00E+00	9.31E+00
				Cs-134	<1.61E+00	0.00E+00	1.61E+00
				Cs-137	<1.20E+00	0.00E+00	1.20E+00
				BaLa-140	<4.16E+00	0.00E+00	4.16E+00
				H3SW	<3.26E+01	0.00E+00	1.88E+02

## Sample Point 401 [ INDICATOR - SSW @ 4.9 miles ]

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Sample ID:	466149	Sample Dates:	1/1/2018 - 2/1/2018	Nuclide	Activity	2 Sigma Error	MDA
				Mn-54	<1.66E+00	0.00E+00	1.66E+00
				Co-58	<1.89E+00	0.00E+00	1.89E+00
				Fe-59	<3.69E+00	0.00E+00	3.69E+00
				Co-60	<1.96E+00	0.00E+00	1.96E+00
				Zn-65	<3.18E+00	0.00E+00	3.18E+00
				Zr-95	<3.29E+00	0.00E+00	3.29E+00
				Nb-95	<2.72E+00	0.00E+00	2.72E+00
				I-131	<8.87E+00	0.00E+00	8.87E+00
				Cs-134	<1.83E+00	0.00E+00	1.83E+00
				Cs-137	<1.70E+00	0.00E+00	1.70E+00
				BaLa-140	<5.00E+00	0.00E+00	5.00E+00
				H3SW	<1.47E+02	0.00E+00	1.78E+02

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Sample ID:	467603	Sample Dates:	2/1/2018 - 3/1/2018	Nuclide	Activity	2 Sigma Error	MDA
				Mn-54	<2.03E+00	0.00E+00	2.03E+00
				Co-58	<2.27E+00	0.00E+00	2.27E+00
				Fe-59	<5.66E+00	0.00E+00	5.66E+00
				Co-60	<1.92E+00	0.00E+00	1.92E+00
				Zn-65	<4.24E+00	0.00E+00	4.24E+00
				Zr-95	<4.61E+00	0.00E+00	4.61E+00
				Nb-95	<3.52E+00	0.00E+00	3.52E+00
				I-131	<9.94E+00	0.00E+00	9.94E+00
				Cs-134	<2.14E+00	0.00E+00	2.14E+00
				Cs-137	<2.24E+00	0.00E+00	2.24E+00
				BaLa-140	<6.60E+00	0.00E+00	6.60E+00
				H3SW	<6.38E+01	0.00E+00	1.86E+02

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Sample ID:	470547	Sample Dates:	3/1/2018 - 4/1/2018	Nuclide	Activity	2 Sigma Error	MDA
				Mn-54	<3.00E+00	0.00E+00	3.00E+00
				Co-58	<3.34E+00	0.00E+00	3.34E+00
				Fe-59	<6.56E+00	0.00E+00	6.56E+00
				Co-60	<3.08E+00	0.00E+00	3.08E+00
				Zn-65	<5.90E+00	0.00E+00	5.90E+00
				Zr-95	<5.41E+00	0.00E+00	5.41E+00
				Nb-95	<3.93E+00	0.00E+00	3.93E+00
				I-131	<1.18E+01	0.00E+00	1.18E+01
				Cs-134	<2.96E+00	0.00E+00	2.96E+00
				Cs-137	<3.17E+00	0.00E+00	3.17E+00
				BaLa-140	<9.21E+00	0.00E+00	9.21E+00
				H3SW	<-2.4E+01	0.00E+00	1.93E+02

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Sample ID:	474488	Sample Dates:	4/1/2018 - 5/1/2018	Nuclide	Activity	2 Sigma Error	MDA
				Mn-54	<2.11E+00	0.00E+00	2.11E+00
				Co-58	<2.35E+00	0.00E+00	2.35E+00

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# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 401 [ INDICATOR - SSW @ 4.9 miles ]

Sample ID: 474488 Sample Dates: 4/1/2018 - 5/1/2018

Nuclide	Activity	2 Sigma Error	MDA
Fe-59	<4.24E+00	0.00E+00	4.24E+00
Co-60	<2.26E+00	0.00E+00	2.26E+00
Zn-65	<3.84E+00	0.00E+00	3.84E+00
Zr-95	<4.43E+00	0.00E+00	4.43E+00
Nb-95	<2.83E+00	0.00E+00	2.83E+00
I-131	<1.05E+01	0.00E+00	1.05E+01
Cs-134	<2.19E+00	0.00E+00	2.19E+00
Cs-137	<2.21E+00	0.00E+00	2.21E+00
BaLa-140	<5.97E+00	0.00E+00	5.97E+00
H3SW	<1.42E+02	0.00E+00	1.80E+02

Sample ID: 476321 Sample Dates: 5/1/2018 - 6/4/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<1.02E+00	0.00E+00	1.02E+00
Co-58	<1.15E+00	0.00E+00	1.15E+00
Fe-59	<2.75E+00	0.00E+00	2.75E+00
Co-60	<8.81E-01	0.00E+00	8.81E-01
Zn-65	<2.11E+00	0.00E+00	2.11E+00
Zr-95	<2.26E+00	0.00E+00	2.26E+00
Nb-95	<1.69E+00	0.00E+00	1.69E+00
I-131	<9.73E+00	0.00E+00	9.73E+00
Cs-134	<1.05E+00	0.00E+00	1.05E+00
Cs-137	<9.76E-01	0.00E+00	9.76E-01
BaLa-140	<3.89E+00	0.00E+00	3.89E+00
H3SW	<8.45E+01	0.00E+00	1.76E+02

Sample ID: 478728 Sample Dates: 6/4/2018 - 7/2/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<1.72E+00	0.00E+00	1.72E+00
Co-58	<2.16E+00	0.00E+00	2.16E+00
Fe-59	<4.31E+00	0.00E+00	4.31E+00
Co-60	<1.89E+00	0.00E+00	1.89E+00
Zn-65	<3.20E+00	0.00E+00	3.20E+00
Zr-95	<2.75E+00	0.00E+00	2.75E+00
Nb-95	<2.24E+00	0.00E+00	2.24E+00
I-131	<9.97E+00	0.00E+00	9.97E+00
Cs-134	<1.89E+00	0.00E+00	1.89E+00
Cs-137	<1.62E+00	0.00E+00	1.62E+00
BaLa-140	<5.77E+00	0.00E+00	5.77E+00
H3SW	<6.92E+01	0.00E+00	1.78E+02

Sample ID: 481033 Sample Dates: 7/2/2018 - 8/2/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<2.23E+00	0.00E+00	2.23E+00
Co-58	<2.41E+00	0.00E+00	2.41E+00
Fe-59	<5.54E+00	0.00E+00	5.54E+00
Co-60	<1.62E+00	0.00E+00	1.62E+00
Zn-65	<4.71E+00	0.00E+00	4.71E+00
Zr-95	<5.12E+00	0.00E+00	5.12E+00
Nb-95	<3.27E+00	0.00E+00	3.27E+00
I-131	<1.20E+01	0.00E+00	1.20E+01
Cs-134	<2.32E+00	0.00E+00	2.32E+00
Cs-137	<2.04E+00	0.00E+00	2.04E+00
BaLa-140	<8.82E+00	0.00E+00	8.82E+00
H3SW	<1.29E+02	0.00E+00	1.81E+02

Sample ID: 482767 Sample Dates: 8/2/2018 - 9/4/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<1.77E+00	0.00E+00	1.77E+00
Co-58	<1.80E+00	0.00E+00	1.80E+00
Fe-59	<3.72E+00	0.00E+00	3.72E+00
Co-60	<1.31E+00	0.00E+00	1.31E+00
Zn-65	<3.07E+00	0.00E+00	3.07E+00
Zr-95	<4.24E+00	0.00E+00	4.24E+00
Nb-95	<2.19E+00	0.00E+00	2.19E+00
I-131	<1.18E+01	0.00E+00	1.18E+01
Cs-134	<1.92E+00	0.00E+00	1.92E+00
Cs-137	<1.56E+00	0.00E+00	1.56E+00
BaLa-140	<6.26E+00	0.00E+00	6.26E+00



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 401 [ INDICATOR - SSW @ 4.9 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
482767	8/2/2018 - 9/4/2018	H3SW	<-1.6E+01	0.00E+00	1.93E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
484988	9/4/2018 - 10/1/2018	Mn-54	<1.84E+00	0.00E+00	1.84E+00
		Co-58	<2.46E+00	0.00E+00	2.46E+00
		Fe-59	<4.58E+00	0.00E+00	4.58E+00
		Co-60	<1.48E+00	0.00E+00	1.48E+00
		Zn-65	<4.22E+00	0.00E+00	4.22E+00
		Zr-95	<4.30E+00	0.00E+00	4.30E+00
		Nb-95	<2.63E+00	0.00E+00	2.63E+00
		I-131	<1.01E+01	0.00E+00	1.01E+01
		Cs-134	<2.21E+00	0.00E+00	2.21E+00
		Cs-137	<1.74E+00	0.00E+00	1.74E+00
		BaLa-140	<6.08E+00	0.00E+00	6.08E+00
		H3SW	<1.07E+02	0.00E+00	1.89E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
487697	10/1/2018 - 11/1/2018	Mn-54	<1.89E+00	0.00E+00	1.89E+00
		Co-58	<1.88E+00	0.00E+00	1.88E+00
		Fe-59	<4.82E+00	0.00E+00	4.82E+00
		Co-60	<1.49E+00	0.00E+00	1.49E+00
		Zn-65	<2.88E+00	0.00E+00	2.88E+00
		Zr-95	<2.74E+00	0.00E+00	2.74E+00
		Nb-95	<2.60E+00	0.00E+00	2.60E+00
		I-131	<1.03E+01	0.00E+00	1.03E+01
		Cs-134	<1.82E+00	0.00E+00	1.82E+00
		Cs-137	<1.68E+00	0.00E+00	1.68E+00
		BaLa-140	<5.52E+00	0.00E+00	5.52E+00
		H3SW	<8.66E+01	0.00E+00	1.91E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
489109	11/1/2018 - 12/3/2018	Mn-54	<9.00E-01	0.00E+00	9.00E-01
		Co-58	<1.06E+00	0.00E+00	1.06E+00
		Fe-59	<2.40E+00	0.00E+00	2.40E+00
		Co-60	<9.90E-01	0.00E+00	9.90E-01
		Zn-65	<1.95E+00	0.00E+00	1.95E+00
		Zr-95	<2.06E+00	0.00E+00	2.06E+00
		Nb-95	<1.61E+00	0.00E+00	1.61E+00
		I-131	<9.02E+00	0.00E+00	9.02E+00
		Cs-134	<1.01E+00	0.00E+00	1.01E+00
		Cs-137	<1.01E+00	0.00E+00	1.01E+00
		BaLa-140	<3.63E+00	0.00E+00	3.63E+00
		H3SW	<1.11E+02	0.00E+00	1.89E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491136	12/3/2018 - 1/2/2019	Mn-54	<1.76E+00	0.00E+00	1.76E+00
		Co-58	<2.12E+00	0.00E+00	2.12E+00
		Fe-59	<4.51E+00	0.00E+00	4.51E+00
		Co-60	<1.93E+00	0.00E+00	1.93E+00
		Zn-65	<3.12E+00	0.00E+00	3.12E+00
		Zr-95	<3.30E+00	0.00E+00	3.30E+00
		Nb-95	<2.79E+00	0.00E+00	2.79E+00
		I-131	<1.20E+01	0.00E+00	1.20E+01
		Cs-134	<1.88E+00	0.00E+00	1.88E+00
		Cs-137	<1.80E+00	0.00E+00	1.80E+00
		BaLa-140	<6.57E+00	0.00E+00	6.57E+00
		H3SW	<1.70E+02	0.00E+00	1.88E+02

Sample Point 494 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
465816	1/9/2018 - 1/9/2018	Mn-54	<4.93E+00	0.00E+00	4.93E+00
		Co-58	<4.37E+00	0.00E+00	4.37E+00
		Fe-59	<8.06E+00	0.00E+00	8.06E+00
		Co-60	<4.83E+00	0.00E+00	4.83E+00



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 494 [ INDICATOR - -- @ 0 miles ]

Sample ID:	465816	Sample Dates:	1/9/2018 - 1/9/2018	Nuclide	Activity	2 Sigma Error	MDA
				Zn-65	<7.66E+00	0.00E+00	7.66E+00
				Zr-95	<8.05E+00	0.00E+00	8.05E+00
				Nb-95	<7.06E+00	0.00E+00	7.06E+00
				I-131	<5.37E+00	0.00E+00	5.37E+00
				Cs-134	<5.28E+00	0.00E+00	5.28E+00
				Cs-137	<6.75E+00	0.00E+00	6.75E+00
				BaLa-140	<4.82E+00	0.00E+00	4.82E+00
				Total-Gam	0.00E+00		
				H3SW	<1.23E+02	0.00E+00	1.78E+02

Sample ID:	467269	Sample Dates:	2/8/2018 - 2/8/2018	Nuclide	Activity	2 Sigma Error	MDA
				Mn-54	<5.50E+00	0.00E+00	5.50E+00
				Co-58	<5.45E+00	0.00E+00	5.45E+00
				Fe-59	<1.04E+01	0.00E+00	1.04E+01
				Co-60	<6.22E+00	0.00E+00	6.22E+00
				Zn-65	<8.82E+00	0.00E+00	8.82E+00
				Zr-95	<9.51E+00	0.00E+00	9.51E+00
				Nb-95	<6.99E+00	0.00E+00	6.99E+00
				I-131	<6.04E+00	0.00E+00	6.04E+00
				Cs-134	<4.91E+00	0.00E+00	4.91E+00
				Cs-137	<5.33E+00	0.00E+00	5.33E+00
				BaLa-140	<8.17E+00	0.00E+00	8.17E+00
				Total-Gam	0.00E+00		
				H3SW	<2.59E+01	0.00E+00	1.82E+02

Sample ID:	469503	Sample Dates:	3/7/2018 - 3/7/2018	Nuclide	Activity	2 Sigma Error	MDA
				Mn-54	<4.48E+00	0.00E+00	4.48E+00
				Co-58	<4.80E+00	0.00E+00	4.80E+00
				Fe-59	<8.66E+00	0.00E+00	8.66E+00
				Co-60	<6.70E+00	0.00E+00	6.70E+00
				Zn-65	<1.07E+01	0.00E+00	1.07E+01
				Zr-95	<8.74E+00	0.00E+00	8.74E+00
				Nb-95	<5.02E+00	0.00E+00	5.02E+00
				I-131	<6.95E+00	0.00E+00	6.95E+00
				Cs-134	<5.52E+00	0.00E+00	5.52E+00
				Cs-137	<6.02E+00	0.00E+00	6.02E+00
				BaLa-140	<9.86E+00	0.00E+00	9.86E+00
				Total-Gam	0.00E+00		
				H3SW	<0.00E+00	0.00E+00	1.79E+02

Sample ID:	472746	Sample Dates:	4/5/2018 - 4/5/2018	Nuclide	Activity	2 Sigma Error	MDA
				Mn-54	<5.51E+00	0.00E+00	5.51E+00
				Co-58	<3.61E+00	0.00E+00	3.61E+00
				Fe-59	<1.10E+01	0.00E+00	1.10E+01
				Co-60	<5.83E+00	0.00E+00	5.83E+00
				Zn-65	<1.10E+01	0.00E+00	1.10E+01
				Zr-95	<9.14E+00	0.00E+00	9.14E+00
				Nb-95	<5.51E+00	0.00E+00	5.51E+00
				I-131	<8.49E+00	0.00E+00	8.49E+00
				Cs-134	<5.71E+00	0.00E+00	5.71E+00
				Cs-137	<3.42E+00	0.00E+00	3.42E+00
				BaLa-140	<7.25E+00	0.00E+00	7.25E+00
				Total-Gam	0.00E+00		
				H3SW	<1.88E+01	0.00E+00	1.86E+02

Sample ID:	474450	Sample Dates:	5/8/2018 - 5/8/2018	Nuclide	Activity	2 Sigma Error	MDA
				Mn-54	<4.87E+00	0.00E+00	4.87E+00
				Co-58	<5.65E+00	0.00E+00	5.65E+00
				Fe-59	<1.10E+01	0.00E+00	1.10E+01
				Co-60	<5.84E+00	0.00E+00	5.84E+00
				Zn-65	<9.62E+00	0.00E+00	9.62E+00
				Zr-95	<8.73E+00	0.00E+00	8.73E+00
				Nb-95	<6.29E+00	0.00E+00	6.29E+00
				I-131	<7.65E+00	0.00E+00	7.65E+00
				Cs-134	<6.97E+00	0.00E+00	6.97E+00



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 494 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474450	5/8/2018 - 5/8/2018	Cs-137	<6.81E+00	0.00E+00	6.81E+00
		BaLa-140	<7.29E+00	0.00E+00	7.29E+00
		Total-Gam	0.00E+00		
		H3SW	<5.89E+01	0.00E+00	1.91E+02
476523	6/11/2018 - 6/11/2018	Mn-54	<5.28E+00	0.00E+00	5.28E+00
		Co-58	<4.67E+00	0.00E+00	4.67E+00
		Fe-59	<1.10E+01	0.00E+00	1.10E+01
		Co-60	<4.82E+00	0.00E+00	4.82E+00
		Zn-65	<8.46E+00	0.00E+00	8.46E+00
		Zr-95	<8.11E+00	0.00E+00	8.11E+00
		Nb-95	<5.81E+00	0.00E+00	5.81E+00
		I-131	<4.51E+00	0.00E+00	4.51E+00
		Cs-134	<6.90E+00	0.00E+00	6.90E+00
		Cs-137	<5.69E+00	0.00E+00	5.69E+00
		BaLa-140	<4.98E+00	0.00E+00	4.98E+00
		Total-Gam	0.00E+00		
		H3SW	<-3.1E+01	0.00E+00	1.88E+02
479015	7/11/2018 - 7/11/2018	Mn-54	<4.93E+00	0.00E+00	4.93E+00
		Co-58	<6.16E+00	0.00E+00	6.16E+00
		Fe-59	<9.98E+00	0.00E+00	9.98E+00
		Co-60	<4.83E+00	0.00E+00	4.83E+00
		Zn-65	<1.34E+01	0.00E+00	1.34E+01
		Zr-95	<9.14E+00	0.00E+00	9.14E+00
		Nb-95	<6.51E+00	0.00E+00	6.51E+00
		I-131	<7.86E+00	0.00E+00	7.86E+00
		Cs-134	<7.11E+00	0.00E+00	7.11E+00
		Cs-137	<3.88E+00	0.00E+00	3.88E+00
		BaLa-140	<6.82E+00	0.00E+00	6.82E+00
		Total-Gam	0.00E+00		
		H3SW	<7.95E+01	0.00E+00	1.88E+02
481455	8/9/2018 - 8/9/2018	Mn-54	<2.82E+00	0.00E+00	2.82E+00
		Co-58	<2.80E+00	0.00E+00	2.80E+00
		Fe-59	<6.34E+00	0.00E+00	6.34E+00
		Co-60	<3.00E+00	0.00E+00	3.00E+00
		Zn-65	<6.02E+00	0.00E+00	6.02E+00
		Zr-95	<5.69E+00	0.00E+00	5.69E+00
		Nb-95	<3.29E+00	0.00E+00	3.29E+00
		I-131	<4.26E+00	0.00E+00	4.26E+00
		Cs-134	<3.16E+00	0.00E+00	3.16E+00
		Cs-137	<2.99E+00	0.00E+00	2.99E+00
		BaLa-140	<4.63E+00	0.00E+00	4.63E+00
		Total-Gam	0.00E+00		
		H3SW	<-1.5E+02	0.00E+00	2.01E+02
482732	9/10/2018 - 9/10/2018	Mn-54	<6.89E+00	0.00E+00	6.89E+00
		Co-58	<5.21E+00	0.00E+00	5.21E+00
		Fe-59	<9.50E+00	0.00E+00	9.50E+00
		Co-60	<6.78E+00	0.00E+00	6.78E+00
		Zn-65	<1.13E+01	0.00E+00	1.13E+01
		Zr-95	<1.01E+01	0.00E+00	1.01E+01
		Nb-95	<6.20E+00	0.00E+00	6.20E+00
		I-131	<6.54E+00	0.00E+00	6.54E+00
		Cs-134	<7.56E+00	0.00E+00	7.56E+00
		Cs-137	<4.89E+00	0.00E+00	4.89E+00
		BaLa-140	<6.12E+00	0.00E+00	6.12E+00
		Total-Gam	0.00E+00		
		H3SW	<-2.4E+00	0.00E+00	1.91E+02



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 494 [ INDICATOR - -- @ 0 miles ]

Sample ID: 484916 Sample Dates: 10/9/2018 - 10/9/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<4.74E+00	0.00E+00	4.74E+00
Co-58	<4.21E+00	0.00E+00	4.21E+00
Fe-59	<1.01E+01	0.00E+00	1.01E+01
Co-60	<7.09E+00	0.00E+00	7.09E+00
Zn-65	<1.19E+01	0.00E+00	1.19E+01
Zr-95	<9.05E+00	0.00E+00	9.05E+00
Nb-95	<6.03E+00	0.00E+00	6.03E+00
I-131	<5.90E+00	0.00E+00	5.90E+00
Cs-134	<5.61E+00	0.00E+00	5.61E+00
Cs-137	<5.12E+00	0.00E+00	5.12E+00
BaLa-140	<7.43E+00	0.00E+00	7.43E+00
Total-Gam	0.00E+00		
H3SW	<-5.7E+01	0.00E+00	1.89E+02

Sample ID: 487666 Sample Dates: 11/13/2018 - 11/13/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<6.30E+00	0.00E+00	6.30E+00
Co-58	<5.45E+00	0.00E+00	5.45E+00
Fe-59	<8.89E+00	0.00E+00	8.89E+00
Co-60	<4.83E+00	0.00E+00	4.83E+00
Zn-65	<1.06E+01	0.00E+00	1.06E+01
Zr-95	<1.06E+01	0.00E+00	1.06E+01
Nb-95	<6.52E+00	0.00E+00	6.52E+00
I-131	<4.91E+00	0.00E+00	4.91E+00
Cs-134	<5.01E+00	0.00E+00	5.01E+00
Cs-137	<5.36E+00	0.00E+00	5.36E+00
BaLa-140	<8.38E+00	0.00E+00	8.38E+00
Total-Gam	0.00E+00		
H3SW	<6.02E+01	0.00E+00	1.84E+02

Sample ID: 489343 Sample Dates: 12/12/2018 - 12/12/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<5.52E+00	0.00E+00	5.52E+00
Co-58	<4.25E+00	0.00E+00	4.25E+00
Fe-59	<9.76E+00	0.00E+00	9.76E+00
Co-60	<5.42E+00	0.00E+00	5.42E+00
Zn-65	<1.03E+01	0.00E+00	1.03E+01
Zr-95	<8.34E+00	0.00E+00	8.34E+00
Nb-95	<5.74E+00	0.00E+00	5.74E+00
I-131	<7.69E+00	0.00E+00	7.69E+00
Cs-134	<7.54E+00	0.00E+00	7.54E+00
Cs-137	<4.74E+00	0.00E+00	4.74E+00
BaLa-140	<7.31E+00	0.00E+00	7.31E+00
Total-Gam	0.00E+00		
H3SW	<1.03E+02	0.00E+00	1.86E+02

Sample Point 495 [ INDICATOR - -- @ 0 miles ]

Sample ID: 465817 Sample Dates: 1/9/2018 - 1/9/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<5.86E+00	0.00E+00	5.86E+00
Co-58	<6.61E+00	0.00E+00	6.61E+00
Fe-59	<9.52E+00	0.00E+00	9.52E+00
Co-60	<6.89E+00	0.00E+00	6.89E+00
Zn-65	<1.17E+01	0.00E+00	1.17E+01
Zr-95	<1.15E+01	0.00E+00	1.15E+01
Nb-95	<7.22E+00	0.00E+00	7.22E+00
I-131	<8.68E+00	0.00E+00	8.68E+00
Cs-134	<6.39E+00	0.00E+00	6.39E+00
Cs-137	<6.63E+00	0.00E+00	6.63E+00
BaLa-140	<6.69E+00	0.00E+00	6.69E+00
Total-Gam	0.00E+00		
H3SW	<-3.1E+01	0.00E+00	1.78E+02

Sample ID: 467270 Sample Dates: 2/8/2018 - 2/8/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<5.14E+00	0.00E+00	5.14E+00
Co-58	<4.85E+00	0.00E+00	4.85E+00

# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 495 [ INDICATOR - -- @ 0 miles ]

Sample ID: 467270 Sample Dates: 2/8/2018 - 2/8/2018

Nuclide	Activity	2 Sigma Error	MDA
Fe-59	<1.22E+01	0.00E+00	1.22E+01
Co-60	<3.74E+00	0.00E+00	3.74E+00
Zn-65	<1.29E+01	0.00E+00	1.29E+01
Zr-95	<7.17E+00	0.00E+00	7.17E+00
Nb-95	<5.35E+00	0.00E+00	5.35E+00
I-131	<7.19E+00	0.00E+00	7.19E+00
Cs-134	<5.75E+00	0.00E+00	5.75E+00
Cs-137	<5.70E+00	0.00E+00	5.70E+00
BaLa-140	<7.95E+00	0.00E+00	7.95E+00
Total-Gam	0.00E+00		
H3SW	<-8.0E+01	0.00E+00	1.81E+02

Sample ID: 469504 Sample Dates: 3/7/2018 - 3/7/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<4.47E+00	0.00E+00	4.47E+00
Co-58	<5.85E+00	0.00E+00	5.85E+00
Fe-59	<1.04E+01	0.00E+00	1.04E+01
Co-60	<5.36E+00	0.00E+00	5.36E+00
Zn-65	<1.32E+01	0.00E+00	1.32E+01
Zr-95	<1.10E+01	0.00E+00	1.10E+01
Nb-95	<5.86E+00	0.00E+00	5.86E+00
I-131	<6.90E+00	0.00E+00	6.90E+00
Cs-134	<6.68E+00	0.00E+00	6.68E+00
Cs-137	<6.40E+00	0.00E+00	6.40E+00
BaLa-140	<6.39E+00	0.00E+00	6.39E+00
Total-Gam	0.00E+00		
H3SW	<-7.1E+00	0.00E+00	1.79E+02

Sample ID: 472747 Sample Dates: 4/5/2018 - 4/5/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<5.78E+00	0.00E+00	5.78E+00
Co-58	<4.58E+00	0.00E+00	4.58E+00
Fe-59	<8.45E+00	0.00E+00	8.45E+00
Co-60	<5.07E+00	0.00E+00	5.07E+00
Zn-65	<1.18E+01	0.00E+00	1.18E+01
Zr-95	<1.07E+01	0.00E+00	1.07E+01
Nb-95	<6.92E+00	0.00E+00	6.92E+00
I-131	<8.66E+00	0.00E+00	8.66E+00
Cs-134	<5.27E+00	0.00E+00	5.27E+00
Cs-137	<6.46E+00	0.00E+00	6.46E+00
BaLa-140	<1.09E+01	0.00E+00	1.09E+01
Total-Gam	0.00E+00		
H3SW	<-2.6E+01	0.00E+00	1.86E+02

Sample ID: 474451 Sample Dates: 5/8/2018 - 5/8/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<5.13E+00	0.00E+00	5.13E+00
Co-58	<5.47E+00	0.00E+00	5.47E+00
Fe-59	<1.01E+01	0.00E+00	1.01E+01
Co-60	<5.67E+00	0.00E+00	5.67E+00
Zn-65	<1.19E+01	0.00E+00	1.19E+01
Zr-95	<9.19E+00	0.00E+00	9.19E+00
Nb-95	<6.09E+00	0.00E+00	6.09E+00
I-131	<7.76E+00	0.00E+00	7.76E+00
Cs-134	<5.74E+00	0.00E+00	5.74E+00
Cs-137	<5.17E+00	0.00E+00	5.17E+00
BaLa-140	<1.04E+01	0.00E+00	1.04E+01
Total-Gam	0.00E+00		
H3SW	<5.19E+01	0.00E+00	1.91E+02

Sample ID: 476524 Sample Dates: 6/11/2018 - 6/11/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<5.73E+00	0.00E+00	5.73E+00
Co-58	<5.33E+00	0.00E+00	5.33E+00
Fe-59	<8.70E+00	0.00E+00	8.70E+00
Co-60	<7.34E+00	0.00E+00	7.34E+00
Zn-65	<1.23E+01	0.00E+00	1.23E+01
Zr-95	<1.06E+01	0.00E+00	1.06E+01
Nb-95	<5.75E+00	0.00E+00	5.75E+00





# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 495 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
476524	6/11/2018 - 6/11/2018	I-131	<5.08E+00	0.00E+00	5.08E+00
		Cs-134	<7.95E+00	0.00E+00	7.95E+00
		Cs-137	<5.97E+00	0.00E+00	5.97E+00
		BaLa-140	<7.91E+00	0.00E+00	7.91E+00
		Total-Gam	0.00E+00		
		H3SW	<-1.6E+01	0.00E+00	1.88E+02
479016	7/11/2018 - 7/11/2018	Mn-54	<4.52E+00	0.00E+00	4.52E+00
		Co-58	<4.89E+00	0.00E+00	4.89E+00
		Fe-59	<1.18E+01	0.00E+00	1.18E+01
		Co-60	<6.01E+00	0.00E+00	6.01E+00
		Zn-65	<1.31E+01	0.00E+00	1.31E+01
		Zr-95	<9.75E+00	0.00E+00	9.75E+00
		Nb-95	<5.83E+00	0.00E+00	5.83E+00
		I-131	<6.92E+00	0.00E+00	6.92E+00
		Cs-134	<5.62E+00	0.00E+00	5.62E+00
		Cs-137	<4.41E+00	0.00E+00	4.41E+00
		BaLa-140	<6.25E+00	0.00E+00	6.25E+00
		Total-Gam	0.00E+00		
		H3SW	<3.61E+01	0.00E+00	1.88E+02
481456	8/9/2018 - 8/9/2018	Mn-54	<2.89E+00	0.00E+00	2.89E+00
		Co-58	<2.38E+00	0.00E+00	2.38E+00
		Fe-59	<4.70E+00	0.00E+00	4.70E+00
		Co-60	<2.68E+00	0.00E+00	2.68E+00
		Zn-65	<6.04E+00	0.00E+00	6.04E+00
		Zr-95	<4.65E+00	0.00E+00	4.65E+00
		Nb-95	<3.34E+00	0.00E+00	3.34E+00
		I-131	<4.14E+00	0.00E+00	4.14E+00
		Cs-134	<2.96E+00	0.00E+00	2.96E+00
		Cs-137	<3.09E+00	0.00E+00	3.09E+00
		BaLa-140	<4.63E+00	0.00E+00	4.63E+00
		Total-Gam	0.00E+00		
		H3SW	<-1.0E+02	0.00E+00	2.02E+02
482733	9/10/2018 - 9/10/2018	Mn-54	<6.52E+00	0.00E+00	6.52E+00
		Co-58	<6.11E+00	0.00E+00	6.11E+00
		Fe-59	<1.17E+01	0.00E+00	1.17E+01
		Co-60	<7.77E+00	0.00E+00	7.77E+00
		Zn-65	<1.24E+01	0.00E+00	1.24E+01
		Zr-95	<8.66E+00	0.00E+00	8.66E+00
		Nb-95	<5.08E+00	0.00E+00	5.08E+00
		I-131	<5.91E+00	0.00E+00	5.91E+00
		Cs-134	<7.34E+00	0.00E+00	7.34E+00
		Cs-137	<6.21E+00	0.00E+00	6.21E+00
		BaLa-140	<7.72E+00	0.00E+00	7.72E+00
		Total-Gam	0.00E+00		
		H3SW	<-2.6E+01	0.00E+00	1.91E+02
484917	10/9/2018 - 10/9/2018	Mn-54	<4.36E+00	0.00E+00	4.36E+00
		Co-58	<4.83E+00	0.00E+00	4.83E+00
		Fe-59	<1.03E+01	0.00E+00	1.03E+01
		Co-60	<5.82E+00	0.00E+00	5.82E+00
		Zn-65	<1.09E+01	0.00E+00	1.09E+01
		Zr-95	<1.01E+01	0.00E+00	1.01E+01
		Nb-95	<5.12E+00	0.00E+00	5.12E+00
		I-131	<4.88E+00	0.00E+00	4.88E+00
		Cs-134	<5.45E+00	0.00E+00	5.45E+00
		Cs-137	<5.36E+00	0.00E+00	5.36E+00
		BaLa-140	<7.75E+00	0.00E+00	7.75E+00
		Total-Gam	0.00E+00		



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 495 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
484917	10/9/2018 - 10/9/2018	H3SW	<2.95E+01	0.00E+00	1.90E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
487667	11/13/2018 - 11/13/2018	Mn-54	<5.47E+00	0.00E+00	5.47E+00
		Co-58	<4.82E+00	0.00E+00	4.82E+00
		Fe-59	<1.08E+01	0.00E+00	1.08E+01
		Co-60	<5.41E+00	0.00E+00	5.41E+00
		Zn-65	<1.02E+01	0.00E+00	1.02E+01
		Zr-95	<6.04E+00	0.00E+00	6.04E+00
		Nb-95	<5.10E+00	0.00E+00	5.10E+00
		I-131	<5.03E+00	0.00E+00	5.03E+00
		Cs-134	<4.61E+00	0.00E+00	4.61E+00
		Cs-137	<4.27E+00	0.00E+00	4.27E+00
		BaLa-140	<5.84E+00	0.00E+00	5.84E+00
		Total-Gam	0.00E+00		
		H3SW	<6.02E+01	0.00E+00	1.84E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
489344	12/12/2018 - 12/12/2018	Mn-54	<5.30E+00	0.00E+00	5.30E+00
		Co-58	<6.22E+00	0.00E+00	6.22E+00
		Fe-59	<1.30E+01	0.00E+00	1.30E+01
		Co-60	<4.97E+00	0.00E+00	4.97E+00
		Zn-65	<1.61E+01	0.00E+00	1.61E+01
		Zr-95	<1.15E+01	0.00E+00	1.15E+01
		Nb-95	<7.30E+00	0.00E+00	7.30E+00
		I-131	<8.86E+00	0.00E+00	8.86E+00
		Cs-134	<6.37E+00	0.00E+00	6.37E+00
		Cs-137	<7.09E+00	0.00E+00	7.09E+00
		BaLa-140	<7.30E+00	0.00E+00	7.30E+00
		Total-Gam	0.00E+00		
		H3SW	<6.87E+01	0.00E+00	1.86E+02

Sample Point 496 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
465818	1/9/2018 - 1/9/2018	Mn-54	<5.86E+00	0.00E+00	5.86E+00
		Co-58	<5.66E+00	0.00E+00	5.66E+00
		Fe-59	<9.47E+00	0.00E+00	9.47E+00
		Co-60	<6.04E+00	0.00E+00	6.04E+00
		Zn-65	<1.00E+01	0.00E+00	1.00E+01
		Zr-95	<8.83E+00	0.00E+00	8.83E+00
		Nb-95	<6.26E+00	0.00E+00	6.26E+00
		I-131	<7.74E+00	0.00E+00	7.74E+00
		Cs-134	<5.27E+00	0.00E+00	5.27E+00
		Cs-137	<5.52E+00	0.00E+00	5.52E+00
		BaLa-140	<7.07E+00	0.00E+00	7.07E+00
		Total-Gam	0.00E+00		
		H3SW	<8.02E+01	0.00E+00	1.77E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467271	2/8/2018 - 2/8/2018	Mn-54	<5.86E+00	0.00E+00	5.86E+00
		Co-58	<4.61E+00	0.00E+00	4.61E+00
		Fe-59	<1.12E+01	0.00E+00	1.12E+01
		Co-60	<2.96E+00	0.00E+00	2.96E+00
		Zn-65	<1.19E+01	0.00E+00	1.19E+01
		Zr-95	<8.05E+00	0.00E+00	8.05E+00
		Nb-95	<4.90E+00	0.00E+00	4.90E+00
		I-131	<6.83E+00	0.00E+00	6.83E+00
		Cs-134	<5.96E+00	0.00E+00	5.96E+00
		Cs-137	<3.60E+00	0.00E+00	3.60E+00
		BaLa-140	<7.93E+00	0.00E+00	7.93E+00
		Total-Gam	0.00E+00		
		H3SW	<-2.6E+01	0.00E+00	1.82E+02



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 496 [ INDICATOR - -- @ 0 miles ]

Sample ID: 469505 Sample Dates: 3/7/2018 - 3/7/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<6.14E+00	0.00E+00	6.14E+00
Co-58	<6.25E+00	0.00E+00	6.25E+00
Fe-59	<1.10E+01	0.00E+00	1.10E+01
Co-60	<4.54E+00	0.00E+00	4.54E+00
Zn-65	<1.12E+01	0.00E+00	1.12E+01
Zr-95	<1.06E+01	0.00E+00	1.06E+01
Nb-95	<8.88E+00	0.00E+00	8.88E+00
I-131	<7.90E+00	0.00E+00	7.90E+00
Cs-134	<6.02E+00	0.00E+00	6.02E+00
Cs-137	<6.30E+00	0.00E+00	6.30E+00
BaLa-140	<9.18E+00	0.00E+00	9.18E+00
Total-Gam	0.00E+00		
H3SW	<-7.1E+00	0.00E+00	1.79E+02

Sample ID: 472748 Sample Dates: 4/5/2018 - 4/5/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<5.97E+00	0.00E+00	5.97E+00
Co-58	<4.28E+00	0.00E+00	4.28E+00
Fe-59	<1.36E+01	0.00E+00	1.36E+01
Co-60	<5.37E+00	0.00E+00	5.37E+00
Zn-65	<1.04E+01	0.00E+00	1.04E+01
Zr-95	<8.55E+00	0.00E+00	8.55E+00
Nb-95	<6.21E+00	0.00E+00	6.21E+00
I-131	<8.82E+00	0.00E+00	8.82E+00
Cs-134	<6.92E+00	0.00E+00	6.92E+00
Cs-137	<6.76E+00	0.00E+00	6.76E+00
BaLa-140	<6.78E+00	0.00E+00	6.78E+00
Total-Gam	0.00E+00		
H3SW	<-2.6E+01	0.00E+00	1.85E+02

Sample ID: 474452 Sample Dates: 5/8/2018 - 5/8/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<6.26E+00	0.00E+00	6.26E+00
Co-58	<5.85E+00	0.00E+00	5.85E+00
Fe-59	<1.57E+01	0.00E+00	1.57E+01
Co-60	<7.45E+00	0.00E+00	7.45E+00
Zn-65	<1.26E+01	0.00E+00	1.26E+01
Zr-95	<1.03E+01	0.00E+00	1.03E+01
Nb-95	<7.54E+00	0.00E+00	7.54E+00
I-131	<9.39E+00	0.00E+00	9.39E+00
Cs-134	<7.21E+00	0.00E+00	7.21E+00
Cs-137	<5.52E+00	0.00E+00	5.52E+00
BaLa-140	<7.54E+00	0.00E+00	7.54E+00
Total-Gam	0.00E+00		
H3SW	<9.23E+01	0.00E+00	1.92E+02

Sample ID: 476525 Sample Dates: 6/11/2018 - 6/11/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<5.47E+00	0.00E+00	5.47E+00
Co-58	<5.46E+00	0.00E+00	5.46E+00
Fe-59	<1.00E+01	0.00E+00	1.00E+01
Co-60	<4.33E+00	0.00E+00	4.33E+00
Zn-65	<1.17E+01	0.00E+00	1.17E+01
Zr-95	<9.17E+00	0.00E+00	9.17E+00
Nb-95	<6.12E+00	0.00E+00	6.12E+00
I-131	<5.48E+00	0.00E+00	5.48E+00
Cs-134	<5.50E+00	0.00E+00	5.50E+00
Cs-137	<6.47E+00	0.00E+00	6.47E+00
BaLa-140	<8.04E+00	0.00E+00	8.04E+00
Total-Gam	0.00E+00		
H3SW	<-3.3E+01	0.00E+00	1.88E+02

Sample ID: 479017 Sample Dates: 7/11/2018 - 7/11/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<3.81E+00	0.00E+00	3.81E+00
Co-58	<5.87E+00	0.00E+00	5.87E+00
Fe-59	<1.17E+01	0.00E+00	1.17E+01
Co-60	<4.15E+00	0.00E+00	4.15E+00
Zn-65	<1.26E+01	0.00E+00	1.26E+01

# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 496 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
479017	7/11/2018 - 7/11/2018	Zr-95	<1.14E+01	0.00E+00	1.14E+01
		Nb-95	<6.74E+00	0.00E+00	6.74E+00
		I-131	<7.82E+00	0.00E+00	7.82E+00
		Cs-134	<5.01E+00	0.00E+00	5.01E+00
		Cs-137	<5.81E+00	0.00E+00	5.81E+00
		BaLa-140	<8.44E+00	0.00E+00	8.44E+00
		Total-Gam	0.00E+00		
		H3SW	<1.46E+01	0.00E+00	1.90E+02
481457	8/9/2018 - 8/9/2018	Mn-54	<2.77E+00	0.00E+00	2.77E+00
		Co-58	<2.48E+00	0.00E+00	2.48E+00
		Fe-59	<4.55E+00	0.00E+00	4.55E+00
		Co-60	<3.56E+00	0.00E+00	3.56E+00
		Zn-65	<6.42E+00	0.00E+00	6.42E+00
		Zr-95	<5.60E+00	0.00E+00	5.60E+00
		Nb-95	<3.37E+00	0.00E+00	3.37E+00
		I-131	<3.72E+00	0.00E+00	3.72E+00
		Cs-134	<3.28E+00	0.00E+00	3.28E+00
		Cs-137	<3.03E+00	0.00E+00	3.03E+00
		BaLa-140	<3.31E+00	0.00E+00	3.31E+00
		Total-Gam	0.00E+00		
		H3SW	<-9.3E+01	0.00E+00	2.01E+02
		482734	9/10/2018 - 9/10/2018	Mn-54	<6.27E+00
Co-58	<4.65E+00			0.00E+00	4.65E+00
Fe-59	<1.05E+01			0.00E+00	1.05E+01
Co-60	<3.10E+00			0.00E+00	3.10E+00
Zn-65	<1.04E+01			0.00E+00	1.04E+01
Zr-95	<9.59E+00			0.00E+00	9.59E+00
Nb-95	<6.08E+00			0.00E+00	6.08E+00
I-131	<5.62E+00			0.00E+00	5.62E+00
Cs-134	<6.45E+00			0.00E+00	6.45E+00
Cs-137	<5.97E+00			0.00E+00	5.97E+00
BaLa-140	<6.69E+00			0.00E+00	6.69E+00
Total-Gam	0.00E+00				
H3SW	<-2.1E+01			0.00E+00	1.91E+02
484918	10/9/2018 - 10/9/2018			Mn-54	<6.89E+00
		Co-58	<4.73E+00	0.00E+00	4.73E+00
		Fe-59	<1.18E+01	0.00E+00	1.18E+01
		Co-60	<8.09E+00	0.00E+00	8.09E+00
		Zn-65	<8.45E+00	0.00E+00	8.45E+00
		Zr-95	<1.13E+01	0.00E+00	1.13E+01
		Nb-95	<6.17E+00	0.00E+00	6.17E+00
		I-131	<6.32E+00	0.00E+00	6.32E+00
		Cs-134	<4.99E+00	0.00E+00	4.99E+00
		Cs-137	<6.58E+00	0.00E+00	6.58E+00
		BaLa-140	<7.85E+00	0.00E+00	7.85E+00
		Total-Gam	0.00E+00		
		H3SW	<-1.6E+01	0.00E+00	1.89E+02
		487668	11/13/2018 - 11/13/2018	Mn-54	<5.04E+00
Co-58	<6.51E+00			0.00E+00	6.51E+00
Fe-59	<1.47E+01			0.00E+00	1.47E+01
Co-60	<6.61E+00			0.00E+00	6.61E+00
Zn-65	<1.67E+01			0.00E+00	1.67E+01
Zr-95	<1.18E+01			0.00E+00	1.18E+01
Nb-95	<8.13E+00			0.00E+00	8.13E+00
I-131	<7.11E+00			0.00E+00	7.11E+00
Cs-134	<6.67E+00			0.00E+00	6.67E+00
Cs-137	<5.96E+00			0.00E+00	5.96E+00



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 496 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
487668	11/13/2018 - 11/13/2018	BaLa-140	<7.35E+00	0.00E+00	7.35E+00
		Total-Gam	0.00E+00		
		H3SW	<-2.7E+01	0.00E+00	1.84E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
489345	12/12/2018 - 12/12/2018	Mn-54	<5.89E+00	0.00E+00	5.89E+00
		Co-58	<5.86E+00	0.00E+00	5.86E+00
		Fe-59	<7.44E+00	0.00E+00	7.44E+00
		Co-60	<7.78E+00	0.00E+00	7.78E+00
		Zn-65	<1.43E+01	0.00E+00	1.43E+01
		Zr-95	<9.89E+00	0.00E+00	9.89E+00
		Nb-95	<5.30E+00	0.00E+00	5.30E+00
		I-131	<8.10E+00	0.00E+00	8.10E+00
		Cs-134	<6.39E+00	0.00E+00	6.39E+00
		Cs-137	<5.55E+00	0.00E+00	5.55E+00
		BaLa-140	<7.27E+00	0.00E+00	7.27E+00
		Total-Gam	0.00E+00		
H3SW	<-4.6E+00	0.00E+00	1.88E+02		

Sample Point 497 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
465819	1/9/2018 - 1/9/2018	Mn-54	<5.33E+00	0.00E+00	5.33E+00
		Co-58	<4.62E+00	0.00E+00	4.62E+00
		Fe-59	<1.07E+01	0.00E+00	1.07E+01
		Co-60	<6.71E+00	0.00E+00	6.71E+00
		Zn-65	<1.07E+01	0.00E+00	1.07E+01
		Zr-95	<9.21E+00	0.00E+00	9.21E+00
		Nb-95	<5.73E+00	0.00E+00	5.73E+00
		I-131	<6.96E+00	0.00E+00	6.96E+00
		Cs-134	<5.97E+00	0.00E+00	5.97E+00
		Cs-137	<4.13E+00	0.00E+00	4.13E+00
		BaLa-140	<4.84E+00	0.00E+00	4.84E+00
		Total-Gam	0.00E+00		
H3SW	<1.39E+02	0.00E+00	1.77E+02		

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467272	2/8/2018 - 2/8/2018	Mn-54	<3.75E+00	0.00E+00	3.75E+00
		Co-58	<3.13E+00	0.00E+00	3.13E+00
		Fe-59	<7.06E+00	0.00E+00	7.06E+00
		Co-60	<3.92E+00	0.00E+00	3.92E+00
		Zn-65	<6.47E+00	0.00E+00	6.47E+00
		Zr-95	<6.29E+00	0.00E+00	6.29E+00
		Nb-95	<4.22E+00	0.00E+00	4.22E+00
		I-131	<5.44E+00	0.00E+00	5.44E+00
		Cs-134	<4.04E+00	0.00E+00	4.04E+00
		Cs-137	<3.70E+00	0.00E+00	3.70E+00
		BaLa-140	<4.87E+00	0.00E+00	4.87E+00
		Total-Gam	0.00E+00		
H3SW	<4.47E+01	0.00E+00	1.82E+02		

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
469506	3/7/2018 - 3/7/2018	Mn-54	<3.50E+00	0.00E+00	3.50E+00
		Co-58	<5.79E+00	0.00E+00	5.79E+00
		Fe-59	<1.13E+01	0.00E+00	1.13E+01
		Co-60	<3.84E+00	0.00E+00	3.84E+00
		Zn-65	<1.43E+01	0.00E+00	1.43E+01
		Zr-95	<9.74E+00	0.00E+00	9.74E+00
		Nb-95	<6.00E+00	0.00E+00	6.00E+00
		I-131	<8.05E+00	0.00E+00	8.05E+00
		Cs-134	<5.44E+00	0.00E+00	5.44E+00
		Cs-137	<5.70E+00	0.00E+00	5.70E+00
		BaLa-140	<8.37E+00	0.00E+00	8.37E+00
		Total-Gam	0.00E+00		



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 497 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
469506	3/7/2018 - 3/7/2018	H3SW	<-6.2E+01	0.00E+00	1.80E+02
472749	4/5/2018 - 4/5/2018	Mn-54	<6.25E+00	0.00E+00	6.25E+00
		Co-58	<6.24E+00	0.00E+00	6.24E+00
		Fe-59	<1.20E+01	0.00E+00	1.20E+01
		Co-60	<3.84E+00	0.00E+00	3.84E+00
		Zn-65	<7.89E+00	0.00E+00	7.89E+00
		Zr-95	<7.41E+00	0.00E+00	7.41E+00
		Nb-95	<4.57E+00	0.00E+00	4.57E+00
		I-131	<7.81E+00	0.00E+00	7.81E+00
		Cs-134	<6.17E+00	0.00E+00	6.17E+00
		Cs-137	<4.28E+00	0.00E+00	4.28E+00
		BaLa-140	<8.87E+00	0.00E+00	8.87E+00
		Total-Gam	0.00E+00		
		H3SW	<-1.6E+01	0.00E+00	1.86E+02
474453	5/8/2018 - 5/8/2018	Mn-54	<5.70E+00	0.00E+00	5.70E+00
		Co-58	<5.48E+00	0.00E+00	5.48E+00
		Fe-59	<9.49E+00	0.00E+00	9.49E+00
		Co-60	<3.74E+00	0.00E+00	3.74E+00
		Zn-65	<1.19E+01	0.00E+00	1.19E+01
		Zr-95	<1.02E+01	0.00E+00	1.02E+01
		Nb-95	<5.55E+00	0.00E+00	5.55E+00
		I-131	<8.28E+00	0.00E+00	8.28E+00
		Cs-134	<5.52E+00	0.00E+00	5.52E+00
		Cs-137	<5.70E+00	0.00E+00	5.70E+00
		BaLa-140	<1.15E+01	0.00E+00	1.15E+01
		Total-Gam	0.00E+00		
		H3SW	<4.73E+00	0.00E+00	1.92E+02
476526	6/11/2018 - 6/11/2018	Mn-54	<5.64E+00	0.00E+00	5.64E+00
		Co-58	<4.44E+00	0.00E+00	4.44E+00
		Fe-59	<1.15E+01	0.00E+00	1.15E+01
		Co-60	<6.03E+00	0.00E+00	6.03E+00
		Zn-65	<1.12E+01	0.00E+00	1.12E+01
		Zr-95	<8.47E+00	0.00E+00	8.47E+00
		Nb-95	<5.80E+00	0.00E+00	5.80E+00
		I-131	<4.62E+00	0.00E+00	4.62E+00
		Cs-134	<5.00E+00	0.00E+00	5.00E+00
		Cs-137	<6.01E+00	0.00E+00	6.01E+00
		BaLa-140	<5.75E+00	0.00E+00	5.75E+00
		Total-Gam	0.00E+00		
		H3SW	<4.69E+00	0.00E+00	1.88E+02
479018	7/11/2018 - 7/11/2018	Mn-54	<4.49E+00	0.00E+00	4.49E+00
		Co-58	<4.59E+00	0.00E+00	4.59E+00
		Fe-59	<7.16E+00	0.00E+00	7.16E+00
		Co-60	<5.67E+00	0.00E+00	5.67E+00
		Zn-65	<1.07E+01	0.00E+00	1.07E+01
		Zr-95	<9.49E+00	0.00E+00	9.49E+00
		Nb-95	<6.19E+00	0.00E+00	6.19E+00
		I-131	<7.22E+00	0.00E+00	7.22E+00
		Cs-134	<5.03E+00	0.00E+00	5.03E+00
		Cs-137	<4.58E+00	0.00E+00	4.58E+00
		BaLa-140	<8.35E+00	0.00E+00	8.35E+00
		Total-Gam	0.00E+00		
		H3SW	<-1.2E+01	0.00E+00	1.90E+02
481458	8/9/2018 - 8/9/2018	Mn-54	<3.21E+00	0.00E+00	3.21E+00
		Co-58	<3.21E+00	0.00E+00	3.21E+00



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 497 [ INDICATOR - -- @ 0 miles ]

Sample ID: 481458 Sample Dates: 8/9/2018 - 8/9/2018

Nuclide	Activity	2 Sigma Error	MDA
Fe-59	<4.70E+00	0.00E+00	4.70E+00
Co-60	<3.67E+00	0.00E+00	3.67E+00
Zn-65	<7.50E+00	0.00E+00	7.50E+00
Zr-95	<4.79E+00	0.00E+00	4.79E+00
Nb-95	<3.30E+00	0.00E+00	3.30E+00
I-131	<4.72E+00	0.00E+00	4.72E+00
Cs-134	<3.89E+00	0.00E+00	3.89E+00
Cs-137	<3.12E+00	0.00E+00	3.12E+00
BaLa-140	<6.19E+00	0.00E+00	6.19E+00
Total-Gam	0.00E+00		
H3SW	<-8.1E+01	0.00E+00	2.02E+02

Sample ID: 482735 Sample Dates: 9/10/2018 - 9/10/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<4.60E+00	0.00E+00	4.60E+00
Co-58	<5.44E+00	0.00E+00	5.44E+00
Fe-59	<9.78E+00	0.00E+00	9.78E+00
Co-60	<6.89E+00	0.00E+00	6.89E+00
Zn-65	<1.26E+01	0.00E+00	1.26E+01
Zr-95	<9.10E+00	0.00E+00	9.10E+00
Nb-95	<3.96E+00	0.00E+00	3.96E+00
I-131	<5.77E+00	0.00E+00	5.77E+00
Cs-134	<6.35E+00	0.00E+00	6.35E+00
Cs-137	<4.94E+00	0.00E+00	4.94E+00
BaLa-140	<5.88E+00	0.00E+00	5.88E+00
Total-Gam	0.00E+00		
H3SW	<-5.9E+01	0.00E+00	1.91E+02

Sample ID: 484919 Sample Dates: 10/9/2018 - 10/9/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<6.51E+00	0.00E+00	6.51E+00
Co-58	<5.82E+00	0.00E+00	5.82E+00
Fe-59	<1.18E+01	0.00E+00	1.18E+01
Co-60	<6.89E+00	0.00E+00	6.89E+00
Zn-65	<1.41E+01	0.00E+00	1.41E+01
Zr-95	<7.55E+00	0.00E+00	7.55E+00
Nb-95	<5.83E+00	0.00E+00	5.83E+00
I-131	<5.62E+00	0.00E+00	5.62E+00
Cs-134	<6.95E+00	0.00E+00	6.95E+00
Cs-137	<4.94E+00	0.00E+00	4.94E+00
BaLa-140	<8.26E+00	0.00E+00	8.26E+00
Total-Gam	0.00E+00		
H3SW	<-3.2E+01	0.00E+00	1.90E+02

Sample ID: 487669 Sample Dates: 11/13/2018 - 11/13/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<5.63E+00	0.00E+00	5.63E+00
Co-58	<5.19E+00	0.00E+00	5.19E+00
Fe-59	<8.78E+00	0.00E+00	8.78E+00
Co-60	<5.11E+00	0.00E+00	5.11E+00
Zn-65	<1.05E+01	0.00E+00	1.05E+01
Zr-95	<9.40E+00	0.00E+00	9.40E+00
Nb-95	<5.83E+00	0.00E+00	5.83E+00
I-131	<5.32E+00	0.00E+00	5.32E+00
Cs-134	<6.55E+00	0.00E+00	6.55E+00
Cs-137	<4.14E+00	0.00E+00	4.14E+00
BaLa-140	<6.74E+00	0.00E+00	6.74E+00
Total-Gam	0.00E+00		
H3SW	<1.17E+02	0.00E+00	1.86E+02

Sample ID: 489346 Sample Dates: 12/12/2018 - 12/12/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<4.87E+00	0.00E+00	4.87E+00
Co-58	<6.04E+00	0.00E+00	6.04E+00
Fe-59	<1.10E+01	0.00E+00	1.10E+01
Co-60	<3.84E+00	0.00E+00	3.84E+00
Zn-65	<1.22E+01	0.00E+00	1.22E+01
Zr-95	<1.05E+01	0.00E+00	1.05E+01
Nb-95	<6.81E+00	0.00E+00	6.81E+00



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 497 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
489346	12/12/2018 - 12/12/2018	I-131	<8.39E+00	0.00E+00	8.39E+00
		Cs-134	<4.91E+00	0.00E+00	4.91E+00
		Cs-137	<5.33E+00	0.00E+00	5.33E+00
		BaLa-140	<4.97E+00	0.00E+00	4.97E+00
		Total-Gam	0.00E+00		
		H3SW	<-2.3E+01	0.00E+00	1.88E+02

Sample Point 498 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
465820	1/9/2018 - 1/9/2018	Mn-54	<5.71E+00	0.00E+00	5.71E+00
		Co-58	<5.24E+00	0.00E+00	5.24E+00
		Fe-59	<1.20E+01	0.00E+00	1.20E+01
		Co-60	<5.83E+00	0.00E+00	5.83E+00
		Zn-65	<8.81E+00	0.00E+00	8.81E+00
		Zr-95	<9.88E+00	0.00E+00	9.88E+00
		Nb-95	<5.51E+00	0.00E+00	5.51E+00
		I-131	<8.21E+00	0.00E+00	8.21E+00
		Cs-134	<6.80E+00	0.00E+00	6.80E+00
		Cs-137	<6.07E+00	0.00E+00	6.07E+00
		BaLa-140	<8.09E+00	0.00E+00	8.09E+00
		Total-Gam	0.00E+00		
		H3SW	<1.42E+01	0.00E+00	1.78E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467273	2/8/2018 - 2/8/2018	Mn-54	<6.51E+00	0.00E+00	6.51E+00
		Co-58	<6.37E+00	0.00E+00	6.37E+00
		Fe-59	<1.31E+01	0.00E+00	1.31E+01
		Co-60	<7.30E+00	0.00E+00	7.30E+00
		Zn-65	<1.07E+01	0.00E+00	1.07E+01
		Zr-95	<1.02E+01	0.00E+00	1.02E+01
		Nb-95	<7.36E+00	0.00E+00	7.36E+00
		I-131	<9.16E+00	0.00E+00	9.16E+00
		Cs-134	<6.18E+00	0.00E+00	6.18E+00
		Cs-137	<6.02E+00	0.00E+00	6.02E+00
		BaLa-140	<1.15E+01	0.00E+00	1.15E+01
		Total-Gam	0.00E+00		
		H3SW	<-8.0E+01	0.00E+00	1.82E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
469507	3/7/2018 - 3/7/2018	Mn-54	<5.12E+00	0.00E+00	5.12E+00
		Co-58	<5.41E+00	0.00E+00	5.41E+00
		Fe-59	<8.66E+00	0.00E+00	8.66E+00
		Co-60	<1.09E+00	0.00E+00	1.09E+00
		Zn-65	<1.47E+01	0.00E+00	1.47E+01
		Zr-95	<8.73E+00	0.00E+00	8.73E+00
		Nb-95	<5.96E+00	0.00E+00	5.96E+00
		I-131	<6.49E+00	0.00E+00	6.49E+00
		Cs-134	<5.27E+00	0.00E+00	5.27E+00
		Cs-137	<6.31E+00	0.00E+00	6.31E+00
		BaLa-140	<5.76E+00	0.00E+00	5.76E+00
		Total-Gam	0.00E+00		
		H3SW	<-2.3E+01	0.00E+00	1.86E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
472750	4/5/2018 - 4/5/2018	Mn-54	<4.39E+00	0.00E+00	4.39E+00
		Co-58	<5.23E+00	0.00E+00	5.23E+00
		Fe-59	<1.10E+01	0.00E+00	1.10E+01
		Co-60	<6.57E+00	0.00E+00	6.57E+00
		Zn-65	<1.28E+01	0.00E+00	1.28E+01
		Zr-95	<8.73E+00	0.00E+00	8.73E+00
		Nb-95	<5.92E+00	0.00E+00	5.92E+00
		I-131	<8.75E+00	0.00E+00	8.75E+00
		Cs-134	<5.93E+00	0.00E+00	5.93E+00





# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 498 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
472750	4/5/2018 - 4/5/2018	Cs-137	<5.14E+00	0.00E+00	5.14E+00
		BaLa-140	<8.91E+00	0.00E+00	8.91E+00
		Total-Gam	0.00E+00		
		H3SW	<-3.3E+01	0.00E+00	1.86E+02
474454	5/8/2018 - 5/8/2018	Mn-54	<6.38E+00	0.00E+00	6.38E+00
		Co-58	<6.76E+00	0.00E+00	6.76E+00
		Fe-59	<1.12E+01	0.00E+00	1.12E+01
		Co-60	<4.81E+00	0.00E+00	4.81E+00
		Zn-65	<1.44E+01	0.00E+00	1.44E+01
		Zr-95	<1.15E+01	0.00E+00	1.15E+01
		Nb-95	<4.65E+00	0.00E+00	4.65E+00
		I-131	<8.32E+00	0.00E+00	8.32E+00
		Cs-134	<6.92E+00	0.00E+00	6.92E+00
		Cs-137	<5.14E+00	0.00E+00	5.14E+00
		BaLa-140	<1.10E+01	0.00E+00	1.10E+01
		Total-Gam	0.00E+00		
		H3SW	<-1.4E+01	0.00E+00	1.91E+02
476527	6/11/2018 - 6/11/2018	Mn-54	<5.83E+00	0.00E+00	5.83E+00
		Co-58	<4.82E+00	0.00E+00	4.82E+00
		Fe-59	<1.23E+01	0.00E+00	1.23E+01
		Co-60	<5.42E+00	0.00E+00	5.42E+00
		Zn-65	<1.15E+01	0.00E+00	1.15E+01
		Zr-95	<9.11E+00	0.00E+00	9.11E+00
		Nb-95	<6.32E+00	0.00E+00	6.32E+00
		I-131	<6.92E+00	0.00E+00	6.92E+00
		Cs-134	<6.55E+00	0.00E+00	6.55E+00
		Cs-137	<5.14E+00	0.00E+00	5.14E+00
		BaLa-140	<5.92E+00	0.00E+00	5.92E+00
		Total-Gam	0.00E+00		
		H3SW	<2.35E+00	0.00E+00	1.88E+02
479019	7/11/2018 - 7/11/2018	Mn-54	<4.24E+00	0.00E+00	4.24E+00
		Co-58	<4.58E+00	0.00E+00	4.58E+00
		Fe-59	<7.16E+00	0.00E+00	7.16E+00
		Co-60	<4.33E+00	0.00E+00	4.33E+00
		Zn-65	<1.07E+01	0.00E+00	1.07E+01
		Zr-95	<1.07E+01	0.00E+00	1.07E+01
		Nb-95	<6.51E+00	0.00E+00	6.51E+00
		I-131	<6.58E+00	0.00E+00	6.58E+00
		Cs-134	<5.27E+00	0.00E+00	5.27E+00
		Cs-137	<5.17E+00	0.00E+00	5.17E+00
		BaLa-140	<6.84E+00	0.00E+00	6.84E+00
		Total-Gam	0.00E+00		
		H3SW	<2.68E+01	0.00E+00	1.91E+02
481459	8/9/2018 - 8/9/2018	Mn-54	<3.44E+00	0.00E+00	3.44E+00
		Co-58	<3.33E+00	0.00E+00	3.33E+00
		Fe-59	<6.61E+00	0.00E+00	6.61E+00
		Co-60	<3.47E+00	0.00E+00	3.47E+00
		Zn-65	<7.99E+00	0.00E+00	7.99E+00
		Zr-95	<6.09E+00	0.00E+00	6.09E+00
		Nb-95	<3.88E+00	0.00E+00	3.88E+00
		I-131	<4.77E+00	0.00E+00	4.77E+00
		Cs-134	<3.79E+00	0.00E+00	3.79E+00
		Cs-137	<3.34E+00	0.00E+00	3.34E+00
		BaLa-140	<5.21E+00	0.00E+00	5.21E+00
		Total-Gam	0.00E+00		
		H3SW	<-5.3E+01	0.00E+00	2.03E+02



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 498 [ INDICATOR - -- @ 0 miles ]

Sample ID: 482736 Sample Dates: 9/10/2018 - 9/10/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<6.89E+00	0.00E+00	6.89E+00
Co-58	<5.82E+00	0.00E+00	5.82E+00
Fe-59	<9.49E+00	0.00E+00	9.49E+00
Co-60	<4.60E+00	0.00E+00	4.60E+00
Zn-65	<1.25E+01	0.00E+00	1.25E+01
Zr-95	<1.01E+01	0.00E+00	1.01E+01
Nb-95	<6.52E+00	0.00E+00	6.52E+00
I-131	<5.83E+00	0.00E+00	5.83E+00
Cs-134	<6.56E+00	0.00E+00	6.56E+00
Cs-137	<6.89E+00	0.00E+00	6.89E+00
BaLa-140	<7.40E+00	0.00E+00	7.40E+00
Total-Gam	0.00E+00		
H3SW	<1.18E+01	0.00E+00	1.91E+02

Sample ID: 484920 Sample Dates: 10/9/2018 - 10/9/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<4.67E+00	0.00E+00	4.67E+00
Co-58	<4.90E+00	0.00E+00	4.90E+00
Fe-59	<1.05E+01	0.00E+00	1.05E+01
Co-60	<6.32E+00	0.00E+00	6.32E+00
Zn-65	<1.29E+01	0.00E+00	1.29E+01
Zr-95	<9.94E+00	0.00E+00	9.94E+00
Nb-95	<5.57E+00	0.00E+00	5.57E+00
I-131	<5.34E+00	0.00E+00	5.34E+00
Cs-134	<6.66E+00	0.00E+00	6.66E+00
Cs-137	<6.14E+00	0.00E+00	6.14E+00
BaLa-140	<5.21E+00	0.00E+00	5.21E+00
Total-Gam	0.00E+00		
H3SW	<4.10E+01	0.00E+00	1.91E+02

Sample ID: 487670 Sample Dates: 11/13/2018 - 11/13/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<5.47E+00	0.00E+00	5.47E+00
Co-58	<3.48E+00	0.00E+00	3.48E+00
Fe-59	<7.00E+00	0.00E+00	7.00E+00
Co-60	<6.20E+00	0.00E+00	6.20E+00
Zn-65	<1.09E+01	0.00E+00	1.09E+01
Zr-95	<7.99E+00	0.00E+00	7.99E+00
Nb-95	<3.97E+00	0.00E+00	3.97E+00
I-131	<5.32E+00	0.00E+00	5.32E+00
Cs-134	<6.57E+00	0.00E+00	6.57E+00
Cs-137	<4.27E+00	0.00E+00	4.27E+00
BaLa-140	<5.07E+00	0.00E+00	5.07E+00
Total-Gam	0.00E+00		
H3SW	<4.8E+00	0.00E+00	1.84E+02

Sample ID: 489347 Sample Dates: 12/12/2018 - 12/12/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<5.26E+00	0.00E+00	5.26E+00
Co-58	<7.14E+00	0.00E+00	7.14E+00
Fe-59	<1.44E+01	0.00E+00	1.44E+01
Co-60	<5.61E+00	0.00E+00	5.61E+00
Zn-65	<1.14E+01	0.00E+00	1.14E+01
Zr-95	<9.82E+00	0.00E+00	9.82E+00
Nb-95	<5.91E+00	0.00E+00	5.91E+00
I-131	<1.01E+01	0.00E+00	1.01E+01
Cs-134	<6.59E+00	0.00E+00	6.59E+00
Cs-137	<4.89E+00	0.00E+00	4.89E+00
BaLa-140	<9.16E+00	0.00E+00	9.16E+00
Total-Gam	0.00E+00		
H3SW	<6.87E+00	0.00E+00	1.86E+02

Sample Point 499 [ CONTROL - -- @ 0 miles ]

Sample ID: 465821 Sample Dates: 1/9/2018 - 1/9/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<5.59E+00	0.00E+00	5.59E+00
Co-58	<5.52E+00	0.00E+00	5.52E+00



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 499 [ CONTROL - -- @ 0 miles ]

Sample ID: 465821 Sample Dates: 1/9/2018 - 1/9/2018

Nuclide	Activity	2 Sigma Error	MDA
Fe-59	<9.21E+00	0.00E+00	9.21E+00
Co-60	<5.53E+00	0.00E+00	5.53E+00
Zn-65	<1.35E+01	0.00E+00	1.35E+01
Zr-95	<9.25E+00	0.00E+00	9.25E+00
Nb-95	<6.73E+00	0.00E+00	6.73E+00
I-131	<7.68E+00	0.00E+00	7.68E+00
Cs-134	<6.68E+00	0.00E+00	6.68E+00
Cs-137	<6.30E+00	0.00E+00	6.30E+00
BaLa-140	<8.25E+00	0.00E+00	8.25E+00
Total-Gam	0.00E+00		
H3SW	<-7.6E+01	0.00E+00	1.78E+02

Sample ID: 467274 Sample Dates: 2/8/2018 - 2/8/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<4.93E+00	0.00E+00	4.93E+00
Co-58	<5.47E+00	0.00E+00	5.47E+00
Fe-59	<1.22E+01	0.00E+00	1.22E+01
Co-60	<6.04E+00	0.00E+00	6.04E+00
Zn-65	<1.29E+01	0.00E+00	1.29E+01
Zr-95	<1.05E+01	0.00E+00	1.05E+01
Nb-95	<7.63E+00	0.00E+00	7.63E+00
I-131	<7.28E+00	0.00E+00	7.28E+00
Cs-134	<6.56E+00	0.00E+00	6.56E+00
Cs-137	<6.31E+00	0.00E+00	6.31E+00
BaLa-140	<8.62E+00	0.00E+00	8.62E+00
Total-Gam	0.00E+00		
H3SW	<-9.6E+01	0.00E+00	1.82E+02

Sample ID: 469508 Sample Dates: 3/7/2018 - 3/7/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<5.09E+00	0.00E+00	5.09E+00
Co-58	<4.47E+00	0.00E+00	4.47E+00
Fe-59	<9.59E+00	0.00E+00	9.59E+00
Co-60	<6.20E+00	0.00E+00	6.20E+00
Zn-65	<1.33E+01	0.00E+00	1.33E+01
Zr-95	<8.24E+00	0.00E+00	8.24E+00
Nb-95	<6.18E+00	0.00E+00	6.18E+00
I-131	<6.81E+00	0.00E+00	6.81E+00
Cs-134	<5.71E+00	0.00E+00	5.71E+00
Cs-137	<4.02E+00	0.00E+00	4.02E+00
BaLa-140	<8.99E+00	0.00E+00	8.99E+00
Total-Gam	0.00E+00		
H3SW	<-5.9E+01	0.00E+00	1.86E+02

Sample ID: 472751 Sample Dates: 4/5/2018 - 4/5/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<6.76E+00	0.00E+00	6.76E+00
Co-58	<5.17E+00	0.00E+00	5.17E+00
Fe-59	<1.30E+01	0.00E+00	1.30E+01
Co-60	<5.37E+00	0.00E+00	5.37E+00
Zn-65	<2.15E+00	0.00E+00	2.15E+00
Zr-95	<9.91E+00	0.00E+00	9.91E+00
Nb-95	<5.22E+00	0.00E+00	5.22E+00
I-131	<8.23E+00	0.00E+00	8.23E+00
Cs-134	<5.64E+00	0.00E+00	5.64E+00
Cs-137	<7.57E+00	0.00E+00	7.57E+00
BaLa-140	<9.51E+00	0.00E+00	9.51E+00
Total-Gam	0.00E+00		
H3SW	<0.00E+00	0.00E+00	1.76E+02

Sample ID: 474455 Sample Dates: 5/8/2018 - 5/8/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<5.33E+00	0.00E+00	5.33E+00
Co-58	<5.86E+00	0.00E+00	5.86E+00
Fe-59	<1.31E+01	0.00E+00	1.31E+01
Co-60	<5.28E+00	0.00E+00	5.28E+00
Zn-65	<1.34E+01	0.00E+00	1.34E+01
Zr-95	<8.46E+00	0.00E+00	8.46E+00
Nb-95	<6.92E+00	0.00E+00	6.92E+00



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 499 [ CONTROL - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474455	5/8/2018 - 5/8/2018	I-131	<8.23E+00	0.00E+00	8.23E+00
		Cs-134	<6.57E+00	0.00E+00	6.57E+00
		Cs-137	<6.47E+00	0.00E+00	6.47E+00
		BaLa-140	<9.91E+00	0.00E+00	9.91E+00
		Total-Gam	0.00E+00		
		H3SW	<-1.2E+01	0.00E+00	1.92E+02
476528	6/11/2018 - 6/11/2018	Mn-54	<5.44E+00	0.00E+00	5.44E+00
		Co-58	<5.83E+00	0.00E+00	5.83E+00
		Fe-59	<1.17E+01	0.00E+00	1.17E+01
		Co-60	<6.41E+00	0.00E+00	6.41E+00
		Zn-65	<1.31E+01	0.00E+00	1.31E+01
		Zr-95	<1.11E+01	0.00E+00	1.11E+01
		Nb-95	<5.67E+00	0.00E+00	5.67E+00
		I-131	<6.53E+00	0.00E+00	6.53E+00
		Cs-134	<6.11E+00	0.00E+00	6.11E+00
		Cs-137	<6.08E+00	0.00E+00	6.08E+00
		BaLa-140	<7.45E+00	0.00E+00	7.45E+00
		Total-Gam	0.00E+00		
		H3SW	<0.00E+00	0.00E+00	1.88E+02
479020	7/11/2018 - 7/11/2018	Mn-54	<5.97E+00	0.00E+00	5.97E+00
		Co-58	<5.40E+00	0.00E+00	5.40E+00
		Fe-59	<1.24E+01	0.00E+00	1.24E+01
		Co-60	<6.30E+00	0.00E+00	6.30E+00
		Zn-65	<1.32E+01	0.00E+00	1.32E+01
		Zr-95	<1.06E+01	0.00E+00	1.06E+01
		Nb-95	<6.35E+00	0.00E+00	6.35E+00
		I-131	<7.86E+00	0.00E+00	7.86E+00
		Cs-134	<5.63E+00	0.00E+00	5.63E+00
		Cs-137	<5.14E+00	0.00E+00	5.14E+00
		BaLa-140	<1.91E+00	0.00E+00	1.91E+00
		Total-Gam	0.00E+00		
		H3SW	<-6.1E+01	0.00E+00	1.90E+02
481460	8/9/2018 - 8/9/2018	Mn-54	<2.52E+00	0.00E+00	2.52E+00
		Co-58	<2.27E+00	0.00E+00	2.27E+00
		Fe-59	<4.64E+00	0.00E+00	4.64E+00
		Co-60	<2.06E+00	0.00E+00	2.06E+00
		Zn-65	<5.36E+00	0.00E+00	5.36E+00
		Zr-95	<4.76E+00	0.00E+00	4.76E+00
		Nb-95	<2.41E+00	0.00E+00	2.41E+00
		I-131	<3.27E+00	0.00E+00	3.27E+00
		Cs-134	<2.43E+00	0.00E+00	2.43E+00
		Cs-137	<2.16E+00	0.00E+00	2.16E+00
		BaLa-140	<3.44E+00	0.00E+00	3.44E+00
		Total-Gam	0.00E+00		
		H3SW	<-1.5E+02	0.00E+00	2.01E+02
482737	9/10/2018 - 9/10/2018	Mn-54	<4.89E+00	0.00E+00	4.89E+00
		Co-58	<4.88E+00	0.00E+00	4.88E+00
		Fe-59	<1.10E+01	0.00E+00	1.10E+01
		Co-60	<6.38E+00	0.00E+00	6.38E+00
		Zn-65	<1.37E+01	0.00E+00	1.37E+01
		Zr-95	<7.30E+00	0.00E+00	7.30E+00
		Nb-95	<5.30E+00	0.00E+00	5.30E+00
		I-131	<4.83E+00	0.00E+00	4.83E+00
		Cs-134	<6.73E+00	0.00E+00	6.73E+00
		Cs-137	<5.18E+00	0.00E+00	5.18E+00
		BaLa-140	<7.49E+00	0.00E+00	7.49E+00
		Total-Gam	0.00E+00		



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 499 [ CONTROL - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
482737	9/10/2018 - 9/10/2018	H3SW	<-7.8E+01	0.00E+00	1.90E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
484921	10/9/2018 - 10/9/2018	Mn-54	<6.33E+00	0.00E+00	6.33E+00
		Co-58	<4.98E+00	0.00E+00	4.98E+00
		Fe-59	<7.59E+00	0.00E+00	7.59E+00
		Co-60	<6.29E+00	0.00E+00	6.29E+00
		Zn-65	<1.37E+01	0.00E+00	1.37E+01
		Zr-95	<1.13E+01	0.00E+00	1.13E+01
		Nb-95	<5.10E+00	0.00E+00	5.10E+00
		I-131	<6.09E+00	0.00E+00	6.09E+00
		Cs-134	<4.99E+00	0.00E+00	4.99E+00
		Cs-137	<6.01E+00	0.00E+00	6.01E+00
		BaLa-140	<5.50E+00	0.00E+00	5.50E+00
		Total-Gam	0.00E+00		
		H3SW	<5.00E+01	0.00E+00	1.90E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
487671	11/13/2018 - 11/13/2018	Mn-54	<5.64E+00	0.00E+00	5.64E+00
		Co-58	<6.54E+00	0.00E+00	6.54E+00
		Fe-59	<1.27E+01	0.00E+00	1.27E+01
		Co-60	<7.12E+00	0.00E+00	7.12E+00
		Zn-65	<1.31E+01	0.00E+00	1.31E+01
		Zr-95	<1.04E+01	0.00E+00	1.04E+01
		Nb-95	<6.51E+00	0.00E+00	6.51E+00
		I-131	<6.83E+00	0.00E+00	6.83E+00
		Cs-134	<6.78E+00	0.00E+00	6.78E+00
		Cs-137	<6.25E+00	0.00E+00	6.25E+00
		BaLa-140	<8.46E+00	0.00E+00	8.46E+00
		Total-Gam	0.00E+00		
		H3SW	<3.61E+01	0.00E+00	1.84E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
489348	12/12/2018 - 12/12/2018	Mn-54	<7.02E+00	0.00E+00	7.02E+00
		Co-58	<5.62E+00	0.00E+00	5.62E+00
		Fe-59	<1.05E+01	0.00E+00	1.05E+01
		Co-60	<5.96E+00	0.00E+00	5.96E+00
		Zn-65	<1.28E+01	0.00E+00	1.28E+01
		Zr-95	<1.16E+01	0.00E+00	1.16E+01
		Nb-95	<6.21E+00	0.00E+00	6.21E+00
		I-131	<8.33E+00	0.00E+00	8.33E+00
		Cs-134	<7.54E+00	0.00E+00	7.54E+00
		Cs-137	<5.64E+00	0.00E+00	5.64E+00
		BaLa-140	<8.53E+00	0.00E+00	8.53E+00
		Total-Gam	0.00E+00		
		H3SW	<-2.1E+01	0.00E+00	1.86E+02

Sample Point 604 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
465822	1/9/2018 - 1/9/2018	Mn-54	<4.93E+00	0.00E+00	4.93E+00
		Co-58	<6.67E+00	0.00E+00	6.67E+00
		Fe-59	<1.22E+01	0.00E+00	1.22E+01
		Co-60	<6.70E+00	0.00E+00	6.70E+00
		Zn-65	<1.13E+01	0.00E+00	1.13E+01
		Zr-95	<1.02E+01	0.00E+00	1.02E+01
		Nb-95	<6.89E+00	0.00E+00	6.89E+00
		I-131	<7.81E+00	0.00E+00	7.81E+00
		Cs-134	<5.51E+00	0.00E+00	5.51E+00
		Cs-137	<5.52E+00	0.00E+00	5.52E+00
		BaLa-140	<8.56E+00	0.00E+00	8.56E+00
		Total-Gam	0.00E+00		
		H3SW	3.77E+02	1.16E+02	1.78E+02



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 604 [ INDICATOR - -- @ 0 miles ]

Sample ID: 467275 Sample Dates: 2/8/2018 - 2/8/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<7.13E+00	0.00E+00	7.13E+00
Co-58	<5.74E+00	0.00E+00	5.74E+00
Fe-59	<5.22E+00	0.00E+00	5.22E+00
Co-60	<5.07E+00	0.00E+00	5.07E+00
Zn-65	<8.03E+00	0.00E+00	8.03E+00
Zr-95	<1.19E+01	0.00E+00	1.19E+01
Nb-95	<7.24E+00	0.00E+00	7.24E+00
I-131	<7.40E+00	0.00E+00	7.40E+00
Cs-134	<7.45E+00	0.00E+00	7.45E+00
Cs-137	<5.79E+00	0.00E+00	5.79E+00
BaLa-140	<8.29E+00	0.00E+00	8.29E+00
Total-Gam	0.00E+00		
H3SW	1.46E+03	1.49E+02	1.83E+02

Sample ID: 469509 Sample Dates: 3/7/2018 - 3/7/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<6.31E+00	0.00E+00	6.31E+00
Co-58	<6.26E+00	0.00E+00	6.26E+00
Fe-59	<1.30E+01	0.00E+00	1.30E+01
Co-60	<5.53E+00	0.00E+00	5.53E+00
Zn-65	<1.24E+01	0.00E+00	1.24E+01
Zr-95	<1.06E+01	0.00E+00	1.06E+01
Nb-95	<7.85E+00	0.00E+00	7.85E+00
I-131	<6.96E+00	0.00E+00	6.96E+00
Cs-134	<4.68E+00	0.00E+00	4.68E+00
Cs-137	<5.79E+00	0.00E+00	5.79E+00
BaLa-140	<8.58E+00	0.00E+00	8.58E+00
Total-Gam	0.00E+00		
H3SW	<-2.4E+00	0.00E+00	1.86E+02

Sample ID: 472752 Sample Dates: 4/5/2018 - 4/5/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<5.09E+00	0.00E+00	5.09E+00
Co-58	<4.76E+00	0.00E+00	4.76E+00
Fe-59	<9.08E+00	0.00E+00	9.08E+00
Co-60	<3.05E+00	0.00E+00	3.05E+00
Zn-65	<1.10E+01	0.00E+00	1.10E+01
Zr-95	<8.73E+00	0.00E+00	8.73E+00
Nb-95	<7.29E+00	0.00E+00	7.29E+00
I-131	<7.32E+00	0.00E+00	7.32E+00
Cs-134	<6.15E+00	0.00E+00	6.15E+00
Cs-137	<6.36E+00	0.00E+00	6.36E+00
BaLa-140	<1.83E+00	0.00E+00	1.83E+00
Total-Gam	0.00E+00		
H3SW	2.39E+02	1.11E+02	1.77E+02

Sample ID: 474456 Sample Dates: 5/8/2018 - 5/8/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<7.85E+00	0.00E+00	7.85E+00
Co-58	<7.92E+00	0.00E+00	7.92E+00
Fe-59	<1.25E+01	0.00E+00	1.25E+01
Co-60	<6.42E+00	0.00E+00	6.42E+00
Zn-65	<1.43E+01	0.00E+00	1.43E+01
Zr-95	<9.44E+00	0.00E+00	9.44E+00
Nb-95	<7.71E+00	0.00E+00	7.71E+00
I-131	<9.16E+00	0.00E+00	9.16E+00
Cs-134	<7.59E+00	0.00E+00	7.59E+00
Cs-137	<5.71E+00	0.00E+00	5.71E+00
BaLa-140	<1.06E+01	0.00E+00	1.06E+01
Total-Gam	0.00E+00		
H3SW	<1.51E+02	0.00E+00	1.91E+02

Sample ID: 476529 Sample Dates: 6/11/2018 - 6/11/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<5.82E+00	0.00E+00	5.82E+00
Co-58	<5.47E+00	0.00E+00	5.47E+00
Fe-59	<1.10E+01	0.00E+00	1.10E+01
Co-60	<6.04E+00	0.00E+00	6.04E+00
Zn-65	<5.19E+00	0.00E+00	5.19E+00



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 604 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
476529	6/11/2018 - 6/11/2018	Zr-95	<1.04E+01	0.00E+00	1.04E+01
		Nb-95	<5.98E+00	0.00E+00	5.98E+00
		I-131	<4.38E+00	0.00E+00	4.38E+00
		Cs-134	<5.26E+00	0.00E+00	5.26E+00
		Cs-137	<4.79E+00	0.00E+00	4.79E+00
		BaLa-140	<8.96E+00	0.00E+00	8.96E+00
		Total-Gam	0.00E+00		
		H3SW	4.41E+02	1.23E+02	1.88E+02
479021	7/11/2018 - 7/11/2018	Mn-54	<5.29E+00	0.00E+00	5.29E+00
		Co-58	<5.62E+00	0.00E+00	5.62E+00
		Fe-59	<9.67E+00	0.00E+00	9.67E+00
		Co-60	<5.84E+00	0.00E+00	5.84E+00
		Zn-65	<1.22E+01	0.00E+00	1.22E+01
		Zr-95	<1.01E+01	0.00E+00	1.01E+01
		Nb-95	<5.22E+00	0.00E+00	5.22E+00
		I-131	<7.40E+00	0.00E+00	7.40E+00
		Cs-134	<6.77E+00	0.00E+00	6.77E+00
		Cs-137	<4.72E+00	0.00E+00	4.72E+00
		BaLa-140	<7.86E+00	0.00E+00	7.86E+00
		Total-Gam	0.00E+00		
		H3SW	<8.26E+01	0.00E+00	1.90E+02
481461	8/9/2018 - 8/9/2018	Mn-54	<2.87E+00	0.00E+00	2.87E+00
		Co-58	<2.78E+00	0.00E+00	2.78E+00
		Fe-59	<4.80E+00	0.00E+00	4.80E+00
		Co-60	<3.01E+00	0.00E+00	3.01E+00
		Zn-65	<5.62E+00	0.00E+00	5.62E+00
		Zr-95	<5.12E+00	0.00E+00	5.12E+00
		Nb-95	<2.60E+00	0.00E+00	2.60E+00
		I-131	<3.81E+00	0.00E+00	3.81E+00
		Cs-134	<3.15E+00	0.00E+00	3.15E+00
		Cs-137	<2.90E+00	0.00E+00	2.90E+00
		BaLa-140	<3.39E+00	0.00E+00	3.39E+00
		Total-Gam	0.00E+00		
		H3SW	<1.74E+02	0.00E+00	2.01E+02
482738	9/10/2018 - 9/10/2018	Mn-54	<4.84E+00	0.00E+00	4.84E+00
		Co-58	<5.64E+00	0.00E+00	5.64E+00
		Fe-59	<1.13E+01	0.00E+00	1.13E+01
		Co-60	<5.82E+00	0.00E+00	5.82E+00
		Zn-65	<1.50E+01	0.00E+00	1.50E+01
		Zr-95	<7.99E+00	0.00E+00	7.99E+00
		Nb-95	<4.69E+00	0.00E+00	4.69E+00
		I-131	<5.99E+00	0.00E+00	5.99E+00
		Cs-134	<6.37E+00	0.00E+00	6.37E+00
		Cs-137	<5.16E+00	0.00E+00	5.16E+00
		BaLa-140	<7.12E+00	0.00E+00	7.12E+00
		Total-Gam	0.00E+00		
		H3SW	<1.33E+02	0.00E+00	1.91E+02
484922	10/9/2018 - 10/9/2018	Mn-54	<4.84E+00	0.00E+00	4.84E+00
		Co-58	<6.01E+00	0.00E+00	6.01E+00
		Fe-59	<1.35E+01	0.00E+00	1.35E+01
		Co-60	<6.20E+00	0.00E+00	6.20E+00
		Zn-65	<1.26E+01	0.00E+00	1.26E+01
		Zr-95	<6.61E+00	0.00E+00	6.61E+00
		Nb-95	<4.71E+00	0.00E+00	4.71E+00
		I-131	<6.27E+00	0.00E+00	6.27E+00
		Cs-134	<5.19E+00	0.00E+00	5.19E+00
		Cs-137	<5.16E+00	0.00E+00	5.16E+00



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 604 [ INDICATOR - -- @ 0 miles ]

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Sample ID:	484922	Sample Dates:	10/9/2018 - 10/9/2018	Nuclide	Activity	2 Sigma Error	MDA
				BaLa-140	<4.05E+00	0.00E+00	4.05E+00
				Total-Gam	0.00E+00		
				H3SW	4.74E+02	1.25E+02	1.91E+02

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Sample ID:	487672	Sample Dates:	11/13/2018 - 11/13/2018	Nuclide	Activity	2 Sigma Error	MDA
				Mn-54	<6.37E+00	0.00E+00	6.37E+00
				Co-58	<6.87E+00	0.00E+00	6.87E+00
				Fe-59	<1.19E+01	0.00E+00	1.19E+01
				Co-60	<8.05E+00	0.00E+00	8.05E+00
				Zn-65	<1.20E+01	0.00E+00	1.20E+01
				Zr-95	<1.19E+01	0.00E+00	1.19E+01
				Nb-95	<9.32E+00	0.00E+00	9.32E+00
				I-131	<8.04E+00	0.00E+00	8.04E+00
				Cs-134	<6.70E+00	0.00E+00	6.70E+00
				Cs-137	<5.99E+00	0.00E+00	5.99E+00
				BaLa-140	<5.96E+00	0.00E+00	5.96E+00
				Total-Gam	0.00E+00		
				H3SW	5.58E+02	1.26E+02	1.86E+02

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Sample ID:	489349	Sample Dates:	12/12/2018 - 12/12/2018	Nuclide	Activity	2 Sigma Error	MDA
				Mn-54	<5.97E+00	0.00E+00	5.97E+00
				Co-58	<5.91E+00	0.00E+00	5.91E+00
				Fe-59	<1.06E+01	0.00E+00	1.06E+01
				Co-60	<7.45E+00	0.00E+00	7.45E+00
				Zn-65	<1.49E+01	0.00E+00	1.49E+01
				Zr-95	<1.07E+01	0.00E+00	1.07E+01
				Nb-95	<6.64E+00	0.00E+00	6.64E+00
				I-131	<8.12E+00	0.00E+00	8.12E+00
				Cs-134	<6.19E+00	0.00E+00	6.19E+00
				Cs-137	<6.21E+00	0.00E+00	6.21E+00
				BaLa-140	<1.03E+01	0.00E+00	1.03E+01
				Total-Gam	0.00E+00		
				H3SW	2.05E+02	1.15E+02	1.87E+02

Sample Point 607 [ INDICATOR - -- @ 0 miles ]

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Sample ID:	465823	Sample Dates:	1/9/2018 - 1/9/2018	Nuclide	Activity	2 Sigma Error	MDA
				Mn-54	<6.23E+00	0.00E+00	6.23E+00
				Co-58	<6.57E+00	0.00E+00	6.57E+00
				Fe-59	<9.75E+00	0.00E+00	9.75E+00
				Co-60	<3.85E+00	0.00E+00	3.85E+00
				Zn-65	<1.33E+01	0.00E+00	1.33E+01
				Zr-95	<8.72E+00	0.00E+00	8.72E+00
				Nb-95	<6.09E+00	0.00E+00	6.09E+00
				I-131	<7.58E+00	0.00E+00	7.58E+00
				Cs-134	<4.29E+00	0.00E+00	4.29E+00
				Cs-137	<6.04E+00	0.00E+00	6.04E+00
				BaLa-140	<6.25E+00	0.00E+00	6.25E+00
				Total-Gam	0.00E+00		
				H3SW	<1.51E+02	0.00E+00	1.77E+02

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Sample ID:	467276	Sample Dates:	2/8/2018 - 2/8/2018	Nuclide	Activity	2 Sigma Error	MDA
				Mn-54	<5.10E+00	0.00E+00	5.10E+00
				Co-58	<4.52E+00	0.00E+00	4.52E+00
				Fe-59	<1.04E+01	0.00E+00	1.04E+01
				Co-60	<3.84E+00	0.00E+00	3.84E+00
				Zn-65	<1.22E+01	0.00E+00	1.22E+01
				Zr-95	<8.76E+00	0.00E+00	8.76E+00
				Nb-95	<4.57E+00	0.00E+00	4.57E+00
				I-131	<8.72E+00	0.00E+00	8.72E+00
				Cs-134	<5.47E+00	0.00E+00	5.47E+00
				Cs-137	<5.73E+00	0.00E+00	5.73E+00
				BaLa-140	<8.88E+00	0.00E+00	8.88E+00
				Total-Gam	0.00E+00		

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# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 607 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467276	2/8/2018 - 2/8/2018	H3SW	<-4.7E+01	0.00E+00	1.82E+02
469510	3/7/2018 - 3/7/2018	Mn-54	<5.50E+00	0.00E+00	5.50E+00
		Co-58	<5.61E+00	0.00E+00	5.61E+00
		Fe-59	<8.67E+00	0.00E+00	8.67E+00
		Co-60	<6.04E+00	0.00E+00	6.04E+00
		Zn-65	<1.00E+01	0.00E+00	1.00E+01
		Zr-95	<9.77E+00	0.00E+00	9.77E+00
		Nb-95	<5.22E+00	0.00E+00	5.22E+00
		I-131	<7.11E+00	0.00E+00	7.11E+00
		Cs-134	<5.95E+00	0.00E+00	5.95E+00
		Cs-137	<5.85E+00	0.00E+00	5.85E+00
		BaLa-140	<7.48E+00	0.00E+00	7.48E+00
		Total-Gam	0.00E+00		
		H3SW	<-1.4E+01	0.00E+00	1.86E+02
472753	4/5/2018 - 4/5/2018	Mn-54	<4.64E+00	0.00E+00	4.64E+00
		Co-58	<5.37E+00	0.00E+00	5.37E+00
		Fe-59	<1.10E+01	0.00E+00	1.10E+01
		Co-60	<6.87E+00	0.00E+00	6.87E+00
		Zn-65	<1.11E+01	0.00E+00	1.11E+01
		Zr-95	<1.20E+01	0.00E+00	1.20E+01
		Nb-95	<7.35E+00	0.00E+00	7.35E+00
		I-131	<7.94E+00	0.00E+00	7.94E+00
		Cs-134	<6.99E+00	0.00E+00	6.99E+00
		Cs-137	<5.08E+00	0.00E+00	5.08E+00
		BaLa-140	<5.95E+00	0.00E+00	5.95E+00
		Total-Gam	0.00E+00		
		H3SW	<1.18E+02	0.00E+00	1.76E+02
474457	5/8/2018 - 5/8/2018	Mn-54	<5.31E+00	0.00E+00	5.31E+00
		Co-58	<4.52E+00	0.00E+00	4.52E+00
		Fe-59	<9.76E+00	0.00E+00	9.76E+00
		Co-60	<6.21E+00	0.00E+00	6.21E+00
		Zn-65	<1.02E+01	0.00E+00	1.02E+01
		Zr-95	<1.06E+01	0.00E+00	1.06E+01
		Nb-95	<5.08E+00	0.00E+00	5.08E+00
		I-131	<9.12E+00	0.00E+00	9.12E+00
		Cs-134	<7.18E+00	0.00E+00	7.18E+00
		Cs-137	<6.07E+00	0.00E+00	6.07E+00
		BaLa-140	<8.88E+00	0.00E+00	8.88E+00
		Total-Gam	0.00E+00		
		H3SW	<1.25E+02	0.00E+00	1.92E+02
476530	6/11/2018 - 6/11/2018	Mn-54	<5.22E+00	0.00E+00	5.22E+00
		Co-58	<6.38E+00	0.00E+00	6.38E+00
		Fe-59	<1.07E+01	0.00E+00	1.07E+01
		Co-60	<5.13E+00	0.00E+00	5.13E+00
		Zn-65	<1.06E+01	0.00E+00	1.06E+01
		Zr-95	<9.79E+00	0.00E+00	9.79E+00
		Nb-95	<5.86E+00	0.00E+00	5.86E+00
		I-131	<5.93E+00	0.00E+00	5.93E+00
		Cs-134	<6.57E+00	0.00E+00	6.57E+00
		Cs-137	<4.89E+00	0.00E+00	4.89E+00
		BaLa-140	<8.05E+00	0.00E+00	8.05E+00
		Total-Gam	0.00E+00		
		H3SW	<4.93E+01	0.00E+00	1.88E+02
479022	7/11/2018 - 7/11/2018	Mn-54	<4.25E+00	0.00E+00	4.25E+00
		Co-58	<4.62E+00	0.00E+00	4.62E+00



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 607 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
479022	7/11/2018 - 7/11/2018	Fe-59	<1.12E+01	0.00E+00	1.12E+01
		Co-60	<4.59E+00	0.00E+00	4.59E+00
		Zn-65	<1.37E+01	0.00E+00	1.37E+01
		Zr-95	<8.06E+00	0.00E+00	8.06E+00
		Nb-95	<5.61E+00	0.00E+00	5.61E+00
		I-131	<7.86E+00	0.00E+00	7.86E+00
		Cs-134	<5.88E+00	0.00E+00	5.88E+00
		Cs-137	<4.66E+00	0.00E+00	4.66E+00
		BaLa-140	<7.22E+00	0.00E+00	7.22E+00
		Total-Gam	0.00E+00		
		H3SW	<2.65E+01	0.00E+00	1.88E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481462	8/9/2018 - 8/9/2018	Mn-54	<3.06E+00	0.00E+00	3.06E+00
		Co-58	<2.73E+00	0.00E+00	2.73E+00
		Fe-59	<5.17E+00	0.00E+00	5.17E+00
		Co-60	<2.50E+00	0.00E+00	2.50E+00
		Zn-65	<5.94E+00	0.00E+00	5.94E+00
		Zr-95	<4.91E+00	0.00E+00	4.91E+00
		Nb-95	<3.15E+00	0.00E+00	3.15E+00
		I-131	<4.36E+00	0.00E+00	4.36E+00
		Cs-134	<3.20E+00	0.00E+00	3.20E+00
		Cs-137	<3.09E+00	0.00E+00	3.09E+00
		BaLa-140	<3.97E+00	0.00E+00	3.97E+00
		Total-Gam	0.00E+00		
H3SW	<-9.3E+01	0.00E+00	2.01E+02		

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
482739	9/10/2018 - 9/10/2018	Mn-54	<5.82E+00	0.00E+00	5.82E+00
		Co-58	<5.41E+00	0.00E+00	5.41E+00
		Fe-59	<1.22E+01	0.00E+00	1.22E+01
		Co-60	<6.00E+00	0.00E+00	6.00E+00
		Zn-65	<9.79E+00	0.00E+00	9.79E+00
		Zr-95	<9.40E+00	0.00E+00	9.40E+00
		Nb-95	<5.65E+00	0.00E+00	5.65E+00
		I-131	<6.28E+00	0.00E+00	6.28E+00
		Cs-134	<6.10E+00	0.00E+00	6.10E+00
		Cs-137	<4.41E+00	0.00E+00	4.41E+00
		BaLa-140	<6.75E+00	0.00E+00	6.75E+00
		Total-Gam	0.00E+00		
		H3SW	<-1.2E+01	0.00E+00	1.91E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
484923	10/9/2018 - 10/9/2018	Mn-54	<6.37E+00	0.00E+00	6.37E+00
		Co-58	<4.97E+00	0.00E+00	4.97E+00
		Fe-59	<1.22E+01	0.00E+00	1.22E+01
		Co-60	<4.58E+00	0.00E+00	4.58E+00
		Zn-65	<1.19E+01	0.00E+00	1.19E+01
		Zr-95	<8.65E+00	0.00E+00	8.65E+00
		Nb-95	<6.52E+00	0.00E+00	6.52E+00
		I-131	<5.87E+00	0.00E+00	5.87E+00
		Cs-134	<5.61E+00	0.00E+00	5.61E+00
		Cs-137	<4.66E+00	0.00E+00	4.66E+00
		BaLa-140	<5.24E+00	0.00E+00	5.24E+00
		Total-Gam	0.00E+00		
		H3SW	<-9.2E+00	0.00E+00	1.91E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
487673	11/13/2018 - 11/13/2018	Mn-54	<5.47E+00	0.00E+00	5.47E+00
		Co-58	<5.45E+00	0.00E+00	5.45E+00
		Fe-59	<6.80E+00	0.00E+00	6.80E+00
		Co-60	<5.67E+00	0.00E+00	5.67E+00
		Zn-65	<1.12E+01	0.00E+00	1.12E+01
		Zr-95	<1.04E+01	0.00E+00	1.04E+01
Nb-95	<5.30E+00	0.00E+00	5.30E+00		



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 607 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
487673	11/13/2018 - 11/13/2018	I-131	<5.18E+00	0.00E+00	5.18E+00
		Cs-134	<5.50E+00	0.00E+00	5.50E+00
		Cs-137	<5.36E+00	0.00E+00	5.36E+00
		BaLa-140	<6.38E+00	0.00E+00	6.38E+00
		Total-Gam	0.00E+00		
		H3SW	<1.03E+02	0.00E+00	1.83E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
489350	12/12/2018 - 12/12/2018	Mn-54	<3.62E+00	0.00E+00	3.62E+00
		Co-58	<3.65E+00	0.00E+00	3.65E+00
		Fe-59	<8.01E+00	0.00E+00	8.01E+00
		Co-60	<3.71E+00	0.00E+00	3.71E+00
		Zn-65	<9.08E+00	0.00E+00	9.08E+00
		Zr-95	<6.64E+00	0.00E+00	6.64E+00
		Nb-95	<4.49E+00	0.00E+00	4.49E+00
		I-131	<5.65E+00	0.00E+00	5.65E+00
		Cs-134	<3.88E+00	0.00E+00	3.88E+00
		Cs-137	<3.82E+00	0.00E+00	3.82E+00
		BaLa-140	<6.35E+00	0.00E+00	6.35E+00
		Total-Gam	0.00E+00		
		H3SW	<9.20E+00	0.00E+00	1.87E+02

Sample Point 609 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
465824	1/9/2018 - 1/9/2018	Mn-54	<5.28E+00	0.00E+00	5.28E+00
		Co-58	<5.42E+00	0.00E+00	5.42E+00
		Fe-59	<1.40E+01	0.00E+00	1.40E+01
		Co-60	<7.48E+00	0.00E+00	7.48E+00
		Zn-65	<9.97E+00	0.00E+00	9.97E+00
		Zr-95	<1.06E+01	0.00E+00	1.06E+01
		Nb-95	<6.69E+00	0.00E+00	6.69E+00
		I-131	<8.02E+00	0.00E+00	8.02E+00
		Cs-134	<7.22E+00	0.00E+00	7.22E+00
		Cs-137	<5.73E+00	0.00E+00	5.73E+00
		BaLa-140	<1.05E+01	0.00E+00	1.05E+01
		Total-Gam	0.00E+00		
		H3SW	<-1.7E+01	0.00E+00	1.77E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467277	2/8/2018 - 2/8/2018	Mn-54	<5.53E+00	0.00E+00	5.53E+00
		Co-58	<6.76E+00	0.00E+00	6.76E+00
		Fe-59	<1.30E+01	0.00E+00	1.30E+01
		Co-60	<5.86E+00	0.00E+00	5.86E+00
		Zn-65	<1.04E+01	0.00E+00	1.04E+01
		Zr-95	<6.84E+00	0.00E+00	6.84E+00
		Nb-95	<5.75E+00	0.00E+00	5.75E+00
		I-131	<8.50E+00	0.00E+00	8.50E+00
		Cs-134	<6.69E+00	0.00E+00	6.69E+00
		Cs-137	<5.14E+00	0.00E+00	5.14E+00
		BaLa-140	<6.78E+00	0.00E+00	6.78E+00
		Total-Gam	0.00E+00		
		H3SW	<-2.8E+01	0.00E+00	1.83E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
469511	3/7/2018 - 3/7/2018	Mn-54	<6.04E+00	0.00E+00	6.04E+00
		Co-58	<6.16E+00	0.00E+00	6.16E+00
		Fe-59	<1.19E+01	0.00E+00	1.19E+01
		Co-60	<6.22E+00	0.00E+00	6.22E+00
		Zn-65	<1.16E+01	0.00E+00	1.16E+01
		Zr-95	<7.78E+00	0.00E+00	7.78E+00
		Nb-95	<5.40E+00	0.00E+00	5.40E+00
		I-131	<7.44E+00	0.00E+00	7.44E+00
		Cs-134	<5.44E+00	0.00E+00	5.44E+00



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 609 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
469511	3/7/2018 - 3/7/2018	Cs-137	<4.94E+00	0.00E+00	4.94E+00
		BaLa-140	<7.70E+00	0.00E+00	7.70E+00
		Total-Gam	0.00E+00		
		H3SW	<2.81E+01	0.00E+00	1.86E+02
472754	4/5/2018 - 4/5/2018	Mn-54	<4.71E+00	0.00E+00	4.71E+00
		Co-58	<6.13E+00	0.00E+00	6.13E+00
		Fe-59	<9.21E+00	0.00E+00	9.21E+00
		Co-60	<5.06E+00	0.00E+00	5.06E+00
		Zn-65	<1.30E+01	0.00E+00	1.30E+01
		Zr-95	<8.85E+00	0.00E+00	8.85E+00
		Nb-95	<7.07E+00	0.00E+00	7.07E+00
		I-131	<1.02E+01	0.00E+00	1.02E+01
		Cs-134	<5.27E+00	0.00E+00	5.27E+00
		Cs-137	<6.92E+00	0.00E+00	6.92E+00
		BaLa-140	<1.20E+01	0.00E+00	1.20E+01
		Total-Gam	0.00E+00		
		H3SW	<-9.4E+00	0.00E+00	1.76E+02
474458	5/8/2018 - 5/8/2018	Mn-54	<5.59E+00	0.00E+00	5.59E+00
		Co-58	<5.74E+00	0.00E+00	5.74E+00
		Fe-59	<9.23E+00	0.00E+00	9.23E+00
		Co-60	<6.33E+00	0.00E+00	6.33E+00
		Zn-65	<9.78E+00	0.00E+00	9.78E+00
		Zr-95	<1.07E+01	0.00E+00	1.07E+01
		Nb-95	<5.80E+00	0.00E+00	5.80E+00
		I-131	<8.08E+00	0.00E+00	8.08E+00
		Cs-134	<6.25E+00	0.00E+00	6.25E+00
		Cs-137	<6.46E+00	0.00E+00	6.46E+00
		BaLa-140	<5.09E+00	0.00E+00	5.09E+00
		Total-Gam	0.00E+00		
		H3SW	<3.55E+01	0.00E+00	1.92E+02
476531	6/11/2018 - 6/11/2018	Mn-54	<4.22E+00	0.00E+00	4.22E+00
		Co-58	<4.74E+00	0.00E+00	4.74E+00
		Fe-59	<7.23E+00	0.00E+00	7.23E+00
		Co-60	<6.75E+00	0.00E+00	6.75E+00
		Zn-65	<9.80E+00	0.00E+00	9.80E+00
		Zr-95	<9.42E+00	0.00E+00	9.42E+00
		Nb-95	<5.28E+00	0.00E+00	5.28E+00
		I-131	<5.55E+00	0.00E+00	5.55E+00
		Cs-134	<5.61E+00	0.00E+00	5.61E+00
		Cs-137	<5.53E+00	0.00E+00	5.53E+00
		BaLa-140	<8.53E+00	0.00E+00	8.53E+00
		Total-Gam	0.00E+00		
		H3SW	<2.58E+01	0.00E+00	1.88E+02
479023	7/11/2018 - 7/11/2018	Mn-54	<5.51E+00	0.00E+00	5.51E+00
		Co-58	<4.49E+00	0.00E+00	4.49E+00
		Fe-59	<1.09E+01	0.00E+00	1.09E+01
		Co-60	<5.42E+00	0.00E+00	5.42E+00
		Zn-65	<9.59E+00	0.00E+00	9.59E+00
		Zr-95	<8.69E+00	0.00E+00	8.69E+00
		Nb-95	<4.76E+00	0.00E+00	4.76E+00
		I-131	<8.44E+00	0.00E+00	8.44E+00
		Cs-134	<5.46E+00	0.00E+00	5.46E+00
		Cs-137	<5.90E+00	0.00E+00	5.90E+00
		BaLa-140	<6.04E+00	0.00E+00	6.04E+00
		Total-Gam	0.00E+00		
		H3SW	<6.07E+01	0.00E+00	1.90E+02



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 609 [ INDICATOR - -- @ 0 miles ]

Sample ID: 481463 Sample Dates: 8/9/2018 - 8/9/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<2.60E+00	0.00E+00	2.60E+00
Co-58	<2.70E+00	0.00E+00	2.70E+00
Fe-59	<5.85E+00	0.00E+00	5.85E+00
Co-60	<2.63E+00	0.00E+00	2.63E+00
Zn-65	<6.15E+00	0.00E+00	6.15E+00
Zr-95	<5.19E+00	0.00E+00	5.19E+00
Nb-95	<3.15E+00	0.00E+00	3.15E+00
I-131	<3.84E+00	0.00E+00	3.84E+00
Cs-134	<3.40E+00	0.00E+00	3.40E+00
Cs-137	<3.07E+00	0.00E+00	3.07E+00
BaLa-140	<3.65E+00	0.00E+00	3.65E+00
Total-Gam	0.00E+00		
H3SW	<-7.6E+01	0.00E+00	2.01E+02

Sample ID: 482740 Sample Dates: 9/10/2018 - 9/10/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<4.45E+00	0.00E+00	4.45E+00
Co-58	<5.62E+00	0.00E+00	5.62E+00
Fe-59	<1.14E+01	0.00E+00	1.14E+01
Co-60	<6.37E+00	0.00E+00	6.37E+00
Zn-65	<1.32E+01	0.00E+00	1.32E+01
Zr-95	<1.01E+01	0.00E+00	1.01E+01
Nb-95	<5.11E+00	0.00E+00	5.11E+00
I-131	<5.81E+00	0.00E+00	5.81E+00
Cs-134	<6.72E+00	0.00E+00	6.72E+00
Cs-137	<4.57E+00	0.00E+00	4.57E+00
BaLa-140	<7.47E+00	0.00E+00	7.47E+00
Total-Gam	0.00E+00		
H3SW	<-1.4E+01	0.00E+00	1.91E+02

Sample ID: 484924 Sample Dates: 10/9/2018 - 10/9/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<5.93E+00	0.00E+00	5.93E+00
Co-58	<6.70E+00	0.00E+00	6.70E+00
Fe-59	<8.48E+00	0.00E+00	8.48E+00
Co-60	<7.77E+00	0.00E+00	7.77E+00
Zn-65	<1.48E+01	0.00E+00	1.48E+01
Zr-95	<7.71E+00	0.00E+00	7.71E+00
Nb-95	<5.10E+00	0.00E+00	5.10E+00
I-131	<6.14E+00	0.00E+00	6.14E+00
Cs-134	<6.90E+00	0.00E+00	6.90E+00
Cs-137	<6.01E+00	0.00E+00	6.01E+00
BaLa-140	<7.80E+00	0.00E+00	7.80E+00
Total-Gam	0.00E+00		
H3SW	<-3.2E+01	0.00E+00	1.89E+02

Sample ID: 487674 Sample Dates: 11/13/2018 - 11/13/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<6.28E+00	0.00E+00	6.28E+00
Co-58	<6.60E+00	0.00E+00	6.60E+00
Fe-59	<1.13E+01	0.00E+00	1.13E+01
Co-60	<6.45E+00	0.00E+00	6.45E+00
Zn-65	<1.32E+01	0.00E+00	1.32E+01
Zr-95	<1.18E+01	0.00E+00	1.18E+01
Nb-95	<7.33E+00	0.00E+00	7.33E+00
I-131	<6.90E+00	0.00E+00	6.90E+00
Cs-134	<6.18E+00	0.00E+00	6.18E+00
Cs-137	<7.43E+00	0.00E+00	7.43E+00
BaLa-140	<8.46E+00	0.00E+00	8.46E+00
Total-Gam	0.00E+00		
H3SW	<1.03E+02	0.00E+00	1.83E+02

Sample ID: 489351 Sample Dates: 12/12/2018 - 12/12/2018

Nuclide	Activity	2 Sigma Error	MDA
Mn-54	<3.29E+00	0.00E+00	3.29E+00
Co-58	<3.18E+00	0.00E+00	3.18E+00
Fe-59	<5.96E+00	0.00E+00	5.96E+00
Co-60	<4.05E+00	0.00E+00	4.05E+00
Zn-65	<8.23E+00	0.00E+00	8.23E+00



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SURFACE WATER Concentration (Activity): pCi/l

Sample Point 609 [ INDICATOR - -- @ 0 miles ]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
489351	12/12/2018 - 12/12/2018	Zr-95	<6.08E+00	0.00E+00	6.08E+00
		Nb-95	<3.72E+00	0.00E+00	3.72E+00
		I-131	<5.52E+00	0.00E+00	5.52E+00
		Cs-134	<4.86E+00	0.00E+00	4.86E+00
		Cs-137	<4.29E+00	0.00E+00	4.29E+00
		BaLa-140	<5.85E+00	0.00E+00	5.85E+00
		Total-Gam	0.00E+00		
		H3SW	<6.90E+01	0.00E+00	1.87E+02

Media Type: TLD Concentration (Activity): mR/Standard Quarter

Sample Point 1 [ INDICATOR - E @ 1.1 miles ]

TLD RING TLD\_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
470074	1/3/2018 - 4/2/2018	mR/Std Qtr	11.41
477032	4/2/2018 - 7/9/2018	mR/Std Qtr	9.77
483662	7/9/2018 - 10/1/2018	mR/Std Qtr	7.31
490446	10/1/2018 - 1/7/2019	mR/Std Qtr	11.69

Sample Point 2 [ INDICATOR - ESE @ 0.9 miles ]

TLD RING TLD\_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
470084	1/3/2018 - 4/2/2018	mR/Std Qtr	9.60
477042	4/2/2018 - 7/9/2018	mR/Std Qtr	9.47
483672	7/9/2018 - 10/1/2018	mR/Std Qtr	6.71
490456	10/1/2018 - 1/7/2019	mR/Std Qtr	11.09

Sample Point 3 [ INDICATOR - SE @ 0.9 miles ]

TLD RING TLD\_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
470095	1/3/2018 - 4/2/2018	mR/Std Qtr	10.59
477053	4/2/2018 - 7/9/2018	mR/Std Qtr	11.37
483683	7/9/2018 - 10/1/2018	mR/Std Qtr	7.65
490467	10/1/2018 - 1/7/2019	mR/Std Qtr	11.59

Sample Point 4 [ INDICATOR - SSE @ 1.1 miles ]

TLD RING TLD\_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
470106	1/3/2018 - 4/2/2018	mR/Std Qtr	11.23
477064	4/2/2018 - 7/9/2018	mR/Std Qtr	11.32
483694	7/9/2018 - 10/1/2018	mR/Std Qtr	7.26



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: TLD Concentration (Activity): mR/Standard Quarter

Sample Point 4 [ INDICATOR - SSE @ 1.1 miles ]

TLD RING TLD\_INNER

Sample ID:	490478	Sample Dates:	10/1/2018 - 1/7/2019	Nuclide	Activity
				mR/Std Qtr	12.28

Sample Point 5 [ INDICATOR - S @ 1.1 miles ]

TLD RING TLD\_INNER

Sample ID:	470108	Sample Dates:	1/3/2018 - 4/2/2018	Nuclide	Activity
				mR/Std Qtr	11.28

Sample ID:	477066	Sample Dates:	4/2/2018 - 7/9/2018	Nuclide	Activity
				mR/Std Qtr	10.83

Sample ID:	483696	Sample Dates:	7/9/2018 - 10/1/2018	Nuclide	Activity
				mR/Std Qtr	6.68

Sample ID:	490480	Sample Dates:	10/1/2018 - 1/7/2019	Nuclide	Activity
				mR/Std Qtr	10.77

Sample Point 6 [ INDICATOR - SSW @ 1.6 miles ]

TLD RING TLD\_INNER

Sample ID:	470109	Sample Dates:	1/3/2018 - 4/2/2018	Nuclide	Activity
				mR/Std Qtr	9.92

Sample ID:	477067	Sample Dates:	4/2/2018 - 7/9/2018	Nuclide	Activity
				mR/Std Qtr	9.58

Sample ID:	483697	Sample Dates:	7/9/2018 - 10/1/2018	Nuclide	Activity
				mR/Std Qtr	6.92

Sample ID:	490481	Sample Dates:	10/1/2018 - 1/7/2019	Nuclide	Activity
				mR/Std Qtr	11.97

Sample Point 7 [ INDICATOR - SW @ 1.1 miles ]

TLD RING TLD\_INNER

Sample ID:	470110	Sample Dates:	1/3/2018 - 4/2/2018	Nuclide	Activity
				mR/Std Qtr	10.67

Sample ID:	477068	Sample Dates:	4/2/2018 - 7/9/2018	Nuclide	Activity
				mR/Std Qtr	11.16

Sample ID:	483698	Sample Dates:	7/9/2018 - 10/1/2018	Nuclide	Activity
				mR/Std Qtr	7.81

Sample ID:	490482	Sample Dates:	10/1/2018 - 1/7/2019	Nuclide	Activity
				mR/Std Qtr	11.80

Sample Point 8 [ INDICATOR - W @ 1.2 miles ]

TLD RING TLD\_INNER

Sample ID:	470116	Sample Dates:	1/3/2018 - 4/2/2018	Nuclide	Activity
				mR/Std Qtr	9.42

Sample ID:	477074	Sample Dates:	4/2/2018 - 7/9/2018	Nuclide	Activity
				mR/Std Qtr	10.99

Sample ID:	483704	Sample Dates:	7/9/2018 - 10/1/2018	Nuclide	Activity
				mR/Std Qtr	7.31

Sample ID:	490488	Sample Dates:	10/1/2018 - 1/7/2019	Nuclide	Activity
				mR/Std Qtr	11.36

Sample Point 9 [ INDICATOR - WNW @ 1 miles ]

TLD RING TLD\_INNER

Sample ID:	470122	Sample Dates:	1/3/2018 - 4/2/2018	Nuclide	Activity
				mR/Std Qtr	8.69

# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: TLD Concentration (Activity): mR/Standard Quarter

Sample Point 9 [ INDICATOR - WNW @ 1 miles ]

TLD RING TLD\_INNER

Sample ID:	477080	Sample Dates:	4/2/2018 - 7/9/2018	Nuclide	Activity
				mR/Std Qtr	8.06
Sample ID:	483710	Sample Dates:	7/9/2018 - 10/1/2018	Nuclide	Activity
				mR/Std Qtr	6.09
Sample ID:	490494	Sample Dates:	10/1/2018 - 1/7/2019	Nuclide	Activity
				mR/Std Qtr	11.08

Sample Point 10 [ INDICATOR - NW @ 0.8 miles ]

TLD RING TLD\_INNER

Sample ID:	470075	Sample Dates:	1/3/2018 - 4/2/2018	Nuclide	Activity
				mR/Std Qtr	9.49
Sample ID:	477033	Sample Dates:	4/2/2018 - 7/9/2018	Nuclide	Activity
				mR/Std Qtr	9.13
Sample ID:	483663	Sample Dates:	7/9/2018 - 10/1/2018	Nuclide	Activity
				mR/Std Qtr	5.87
Sample ID:	490447	Sample Dates:	10/1/2018 - 1/7/2019	Nuclide	Activity
				mR/Std Qtr	9.65

Sample Point 11 [ INDICATOR - NNW @ 0.9 miles ]

TLD RING TLD\_INNER

Sample ID:	470076	Sample Dates:	1/3/2018 - 4/2/2018	Nuclide	Activity
				mR/Std Qtr	11.03
Sample ID:	477034	Sample Dates:	4/2/2018 - 7/9/2018	Nuclide	Activity
				mR/Std Qtr	10.26
Sample ID:	483664	Sample Dates:	7/9/2018 - 10/1/2018	Nuclide	Activity
				mR/Std Qtr	7.53
Sample ID:	490448	Sample Dates:	10/1/2018 - 1/7/2019	Nuclide	Activity
				mR/Std Qtr	10.12

Sample Point 12 [ INDICATOR - N @ 1.1 miles ]

TLD RING TLD\_INNER

Sample ID:	470077	Sample Dates:	1/3/2018 - 4/2/2018	Nuclide	Activity
				mR/Std Qtr	11.60
Sample ID:	477035	Sample Dates:	4/2/2018 - 7/9/2018	Nuclide	Activity
				mR/Std Qtr	12.16
Sample ID:	483665	Sample Dates:	7/9/2018 - 10/1/2018	Nuclide	Activity
				mR/Std Qtr	7.43
Sample ID:	490449	Sample Dates:	10/1/2018 - 1/7/2019	Nuclide	Activity
				mR/Std Qtr	12.41

Sample Point 13 [ INDICATOR - NNE @ 1.2 miles ]

TLD RING TLD\_INNER

Sample ID:	470078	Sample Dates:	1/3/2018 - 4/2/2018	Nuclide	Activity
				mR/Std Qtr	10.90
Sample ID:	477036	Sample Dates:	4/2/2018 - 7/9/2018	Nuclide	Activity
				mR/Std Qtr	9.34
Sample ID:	483666	Sample Dates:	7/9/2018 - 10/1/2018	Nuclide	Activity
				mR/Std Qtr	6.88
Sample ID:	490450	Sample Dates:	10/1/2018 - 1/7/2019	Nuclide	Activity
				mR/Std Qtr	10.31



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: TLD Concentration (Activity): mR/Standard Quarter

Sample Point 14 [ INDICATOR - NE @ 0.5 miles ]

TLD RING TLD\_INNER

Sample ID:	470079	Sample Dates:	1/3/2018 - 4/2/2018	Nuclide	Activity
				mR/Std Qtr	11.13
Sample ID:	477037	Sample Dates:	4/2/2018 - 7/12/2018	Nuclide	Activity
				mR/Std Qtr	10.80
Sample ID:	483667	Sample Dates:	7/12/2018 - 10/1/2018	Nuclide	Activity
				mR/Std Qtr	8.36
Sample ID:	490451	Sample Dates:	10/1/2018 - 1/8/2019	Nuclide	Activity
				mR/Std Qtr	12.53

Sample Point 15 [ INDICATOR - ENE @ 0.9 miles ]

TLD RING TLD\_INNER

Sample ID:	470080	Sample Dates:	1/3/2018 - 4/2/2018	Nuclide	Activity
				mR/Std Qtr	11.29
Sample ID:	477038	Sample Dates:	4/2/2018 - 7/12/2018	Nuclide	Activity
				mR/Std Qtr	12.49
Sample ID:	483668	Sample Dates:	7/12/2018 - 10/1/2018	Nuclide	Activity
				mR/Std Qtr	8.10
Sample ID:	490452	Sample Dates:	10/1/2018 - 1/8/2019	Nuclide	Activity
				mR/Std Qtr	12.16

Sample Point 16 [ INDICATOR - WSW @ 1 miles ]

TLD RING TLD\_INNER

Sample ID:	470081	Sample Dates:	1/3/2018 - 4/2/2018	Nuclide	Activity
				mR/Std Qtr	11.30
Sample ID:	477039	Sample Dates:	4/2/2018 - 7/9/2018	Nuclide	Activity
				mR/Std Qtr	11.10
Sample ID:	483669	Sample Dates:	7/9/2018 - 10/1/2018	Nuclide	Activity
				mR/Std Qtr	8.36
Sample ID:	490453	Sample Dates:	10/1/2018 - 1/7/2019	Nuclide	Activity
				mR/Std Qtr	12.21

Sample Point 17 [ INDICATOR - ESE @ 1.4 miles ]

TLD RING TLD\_INNER

Sample ID:	470082	Sample Dates:	1/3/2018 - 4/2/2018	Nuclide	Activity
				mR/Std Qtr	13.26
Sample ID:	477040	Sample Dates:	4/2/2018 - 7/9/2018	Nuclide	Activity
				mR/Std Qtr	12.99
Sample ID:	483670	Sample Dates:	7/9/2018 - 10/1/2018	Nuclide	Activity
				mR/Std Qtr	8.31
Sample ID:	490454	Sample Dates:	10/1/2018 - 1/7/2019	Nuclide	Activity
				mR/Std Qtr	14.13

Sample Point 18 [ INDICATOR - SE @ 1.7 miles ]

TLD RING TLD\_INNER

Sample ID:	470083	Sample Dates:	1/3/2018 - 4/2/2018	Nuclide	Activity
				mR/Std Qtr	10.87
Sample ID:	477041	Sample Dates:	4/2/2018 - 7/9/2018	Nuclide	Activity
				mR/Std Qtr	9.73
Sample ID:	483671	Sample Dates:	7/9/2018 - 10/1/2018	Nuclide	Activity
				mR/Std Qtr	7.08

# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: TLD Concentration (Activity): mR/Standard Quarter

Sample Point 18 [ INDICATOR - SE @ 1.7 miles ]

TLD RING TLD\_INNER

Sample ID:	490455	Sample Dates:	10/1/2018 - 1/7/2019	Nuclide	Activity
				mR/Std Qtr	11.57

Sample Point 20 [ INDICATOR - S @ 2.1 miles ]

TLD RING TLD\_INNER

Sample ID:	470085	Sample Dates:	1/3/2018 - 4/2/2018	Nuclide	Activity
				mR/Std Qtr	9.51

Sample ID:	477043	Sample Dates:	4/2/2018 - 7/9/2018	Nuclide	Activity
				mR/Std Qtr	9.59

Sample ID:	483673	Sample Dates:	7/9/2018 - 10/1/2018	Nuclide	Activity
				mR/Std Qtr	6.54

Sample ID:	490457	Sample Dates:	10/1/2018 - 1/7/2019	Nuclide	Activity
				mR/Std Qtr	10.69

Sample Point 21 [ INDICATOR - SSW @ 2.9 miles ]

TLD RING TLD\_INNER

Sample ID:	470086	Sample Dates:	1/3/2018 - 4/2/2018	Nuclide	Activity
				mR/Std Qtr	13.19

Sample ID:	477044	Sample Dates:	4/2/2018 - 7/9/2018	Nuclide	Activity
				mR/Std Qtr	13.63

Sample ID:	483674	Sample Dates:	7/9/2018 - 10/1/2018	Nuclide	Activity
				mR/Std Qtr	9.71

Sample ID:	490458	Sample Dates:	10/1/2018 - 1/7/2019	Nuclide	Activity
				mR/Std Qtr	14.73

Sample Point 22 [ INDICATOR - SW @ 5.3 miles ]

TLD RING TLD\_OUTER

Sample ID:	470087	Sample Dates:	1/9/2018 - 4/3/2018	Nuclide	Activity
				mR/Std Qtr	11.58

Sample ID:	477045	Sample Dates:	4/3/2018 - 7/9/2018	Nuclide	Activity
				mR/Std Qtr	9.67

Sample ID:	483675	Sample Dates:	7/9/2018 - 10/2/2018	Nuclide	Activity
				mR/Std Qtr	7.91

Sample ID:	490459	Sample Dates:	10/2/2018 - 1/3/2019	Nuclide	Activity
				mR/Std Qtr	12.63

Sample Point 23 [ INDICATOR - WSW @ 4.6 miles ]

TLD RING TLD\_OUTER

Sample ID:	470088	Sample Dates:	1/9/2018 - 4/3/2018	Nuclide	Activity
				mR/Std Qtr	8.00

Sample ID:	477046	Sample Dates:	4/3/2018 - 7/9/2018	Nuclide	Activity
				mR/Std Qtr	6.98

Sample ID:	483676	Sample Dates:	7/9/2018 - 10/2/2018	Nuclide	Activity
				mR/Std Qtr	5.96

Sample ID:	490460	Sample Dates:	10/2/2018 - 1/3/2019	Nuclide	Activity
				mR/Std Qtr	9.20

Sample Point 24 [ INDICATOR - W @ 3 miles ]

TLD RING TLD\_INNER

Sample ID:	470089	Sample Dates:	1/8/2018 - 4/2/2018	Nuclide	Activity
				mR/Std Qtr	14.29

# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: TLD Concentration (Activity): mR/Standard Quarter

Sample Point 24 [ INDICATOR - W @ 3 miles ]

TLD RING TLD\_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
477047	4/2/2018 - 7/10/2018	mR/Std Qtr	13.11
483677	7/10/2018 - 10/2/2018	mR/Std Qtr	11.33
490461	10/2/2018 - 1/3/2019	mR/Std Qtr	17.00

Sample Point 25 [ INDICATOR - WNW @ 8.6 miles ]

TLD RING TLD\_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
470090	1/8/2018 - 4/2/2018	mR/Std Qtr	10.04
477048	4/2/2018 - 7/10/2018	mR/Std Qtr	10.10
483678	7/10/2018 - 10/2/2018	mR/Std Qtr	7.17
490462	10/2/2018 - 1/3/2019	mR/Std Qtr	10.54

Sample Point 26 [ INDICATOR - NW @ 5.9 miles ]

TLD RING TLD\_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
470091	1/3/2018 - 4/2/2018	mR/Std Qtr	11.54
477049	4/2/2018 - 7/9/2018	mR/Std Qtr	10.71
483679	7/9/2018 - 10/1/2018	mR/Std Qtr	8.88
490463	10/1/2018 - 1/7/2019	mR/Std Qtr	13.66

Sample Point 27 [ INDICATOR - NNW @ 5.1 miles ]

TLD RING TLD\_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
470092	1/3/2018 - 4/2/2018	mR/Std Qtr	8.52
477050	4/2/2018 - 7/9/2018	mR/Std Qtr	8.69
483680	7/9/2018 - 10/1/2018	mR/Std Qtr	5.98
490464	10/1/2018 - 1/7/2019	mR/Std Qtr	10.76

Sample Point 28 [ INDICATOR - NW @ 4.2 miles ]

TLD RING TLD\_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
470093	1/3/2018 - 4/2/2018	mR/Std Qtr	10.23
477051	4/2/2018 - 7/9/2018	mR/Std Qtr	8.55
483681	7/9/2018 - 10/1/2018	mR/Std Qtr	6.71
490465	10/1/2018 - 1/7/2019	mR/Std Qtr	10.87

# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: TLD Concentration (Activity): mR/Standard Quarter

Sample Point 29 [ INDICATOR - SSW @ 2.6 miles ]

TLD RING TLD\_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
470094	1/3/2018 - 4/2/2018	mR/Std Qtr	8.85
477052	4/2/2018 - 7/9/2018	mR/Std Qtr	8.41
483682	7/9/2018 - 10/1/2018	mR/Std Qtr	6.57
490466	10/1/2018 - 1/7/2019	mR/Std Qtr	9.71

Sample Point 30 [ INDICATOR - NE @ 2 miles ]

TLD RING TLD\_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
470096	1/10/2018 - 4/2/2018	mR/Std Qtr	9.54
477054	4/2/2018 - 7/10/2018	mR/Std Qtr	9.62
483684	7/10/2018 - 10/2/2018	mR/Std Qtr	6.97
490468	10/2/2018 - 1/9/2019	mR/Std Qtr	10.49

Sample Point 31 [ INDICATOR - ENE @ 2.5 miles ]

TLD RING TLD\_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
470097	1/10/2018 - 4/2/2018	mR/Std Qtr	12.83
477055	4/2/2018 - 7/10/2018	mR/Std Qtr	11.76
483685	7/10/2018 - 10/2/2018	mR/Std Qtr	9.55
490469	10/2/2018 - 1/9/2019	mR/Std Qtr	11.40

Sample Point 32 [ INDICATOR - ENE @ 5.8 miles ]

TLD RING TLD\_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
470098	1/7/2018 - 4/4/2018	mR/Std Qtr	13.85
477056	4/4/2018 - 7/10/2018	mR/Std Qtr	11.09
483686	7/10/2018 - 10/2/2018	mR/Std Qtr	8.72
490470	10/2/2018 - 1/8/2019	mR/Std Qtr	13.37

Sample Point 33 [ INDICATOR - E @ 4.1 miles ]

TLD RING TLD\_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
470099	1/7/2018 - 4/4/2018	mR/Std Qtr	8.47
477057	4/4/2018 - 7/10/2018	mR/Std Qtr	9.28
483687	7/10/2018 - 10/2/2018	mR/Std Qtr	6.54

# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: TLD Concentration (Activity): mR/Standard Quarter

Sample Point 33 [ INDICATOR - E @ 4.1 miles ]

TLD RING TLD\_OUTER

Sample ID:	490471	Sample Dates:	10/2/2018 - 1/8/2019	Nuclide	Activity
				mR/Std Qtr	10.70

Sample Point 34 [ INDICATOR - E @ 5.4 miles ]

TLD RING TLD\_OUTER

Sample ID:	470100	Sample Dates:	1/7/2018 - 4/4/2018	Nuclide	Activity
				mR/Std Qtr	8.79

Sample ID:	477058	Sample Dates:	4/4/2018 - 7/10/2018	Nuclide	Activity
				mR/Std Qtr	8.83

Sample ID:	483688	Sample Dates:	7/10/2018 - 10/2/2018	Nuclide	Activity
				mR/Std Qtr	6.46

Sample ID:	490472	Sample Dates:	10/2/2018 - 1/8/2019	Nuclide	Activity
				mR/Std Qtr	10.71

Sample Point 35 [ INDICATOR - SSE @ 7.3 miles ]

TLD RING TLD\_OUTER

Sample ID:	470101	Sample Dates:	1/8/2018 - 4/3/2018	Nuclide	Activity
				mR/Std Qtr	7.51

Sample ID:	477059	Sample Dates:	4/3/2018 - 7/11/2018	Nuclide	Activity
				mR/Std Qtr	7.79

Sample ID:	483689	Sample Dates:	7/11/2018 - 10/3/2018	Nuclide	Activity
				mR/Std Qtr	5.43

Sample ID:	490473	Sample Dates:	10/3/2018 - 1/3/2019	Nuclide	Activity
				mR/Std Qtr	8.49

Sample Point 36 [ INDICATOR - NE @ 8.9 miles ]

TLD RING TLD\_OUTER

Sample ID:	470102	Sample Dates:	1/7/2018 - 4/4/2018	Nuclide	Activity
				mR/Std Qtr	9.42

Sample ID:	477060	Sample Dates:	4/4/2018 - 7/10/2018	Nuclide	Activity
				mR/Std Qtr	10.65

Sample ID:	483690	Sample Dates:	7/10/2018 - 10/2/2018	Nuclide	Activity
				mR/Std Qtr	6.55

Sample ID:	490474	Sample Dates:	10/2/2018 - 1/8/2019	Nuclide	Activity
				mR/Std Qtr	11.81

Sample Point 37 [ INDICATOR - NW @ 5.5 miles ]

TLD RING TLD\_OUTER

Sample ID:	470103	Sample Dates:	1/3/2018 - 4/2/2018	Nuclide	Activity
				mR/Std Qtr	7.96

Sample ID:	477061	Sample Dates:	4/2/2018 - 7/9/2018	Nuclide	Activity
				mR/Std Qtr	9.63

Sample ID:	483691	Sample Dates:	7/9/2018 - 10/1/2018	Nuclide	Activity
				mR/Std Qtr	5.67

Sample ID:	490475	Sample Dates:	10/1/2018 - 1/7/2019	Nuclide	Activity
				mR/Std Qtr	9.44

Sample Point 38 [ INDICATOR - W @ 11 miles ]

TLD RING TLD\_OUTER

Sample ID:	470104	Sample Dates:	1/8/2018 - 4/2/2018	Nuclide	Activity
				mR/Std Qtr	9.80

# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: TLD Concentration (Activity): mR/Standard Quarter

Sample Point 38 [ INDICATOR - W @ 11 miles ]

TLD RING TLD\_OUTER

Sample ID:	477062	Sample Dates:	4/2/2018 - 7/10/2018	Nuclide	Activity
				mR/Std Qtr	9.75

Sample ID:	483692	Sample Dates:	7/10/2018 - 10/2/2018	Nuclide	Activity
				mR/Std Qtr	8.36

Sample ID:	490476	Sample Dates:	10/2/2018 - 1/3/2019	Nuclide	Activity
				mR/Std Qtr	10.33

Sample Point 39 [ INDICATOR - SW @ 5.3 miles ]

TLD RING TLD\_OUTER

Sample ID:	470105	Sample Dates:	1/9/2018 - 4/3/2018	Nuclide	Activity
				mR/Std Qtr	14.74

Sample ID:	477063	Sample Dates:	4/3/2018 - 7/9/2018	Nuclide	Activity
				mR/Std Qtr	13.30

Sample ID:	483693	Sample Dates:	7/9/2018 - 10/2/2018	Nuclide	Activity
				mR/Std Qtr	12.09

Sample ID:	490477	Sample Dates:	10/2/2018 - 1/3/2019	Nuclide	Activity
				mR/Std Qtr	13.09

Sample Point 40 [ INDICATOR - WSW @ 6.9 miles ]

TLD RING TLD\_OUTER

Sample ID:	470107	Sample Dates:	1/9/2018 - 4/3/2018	Nuclide	Activity
				mR/Std Qtr	12.85

Sample ID:	477065	Sample Dates:	4/3/2018 - 7/9/2018	Nuclide	Activity
				mR/Std Qtr	13.60

Sample ID:	483695	Sample Dates:	7/9/2018 - 10/2/2018	Nuclide	Activity
				mR/Std Qtr	10.45

Sample ID:	490479	Sample Dates:	10/2/2018 - 1/3/2019	Nuclide	Activity
				mR/Std Qtr	14.35

Sample Point 75 [ INDICATOR - S @ 4.7 miles ]

TLD RING TLD\_OUTER

Sample ID:	470111	Sample Dates:	1/9/2018 - 4/3/2018	Nuclide	Activity
				mR/Std Qtr	11.83

Sample ID:	477069	Sample Dates:	4/3/2018 - 7/9/2018	Nuclide	Activity
				mR/Std Qtr	10.26

Sample ID:	483699	Sample Dates:	7/9/2018 - 10/2/2018	Nuclide	Activity
				mR/Std Qtr	7.64

Sample ID:	490483	Sample Dates:	10/2/2018 - 1/3/2019	Nuclide	Activity
				mR/Std Qtr	11.20

Sample Point 76 [ INDICATOR - SSW @ 4.8 miles ]

TLD RING TLD\_OUTER

Sample ID:	470112	Sample Dates:	1/9/2018 - 4/3/2018	Nuclide	Activity
				mR/Std Qtr	12.11

Sample ID:	477070	Sample Dates:	4/3/2018 - 7/9/2018	Nuclide	Activity
				mR/Std Qtr	11.70

Sample ID:	490484	Sample Dates:	10/2/2018 - 1/3/2019	Nuclide	Activity
				mR/Std Qtr	14.84

# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: TLD Concentration (Activity): mR/Standard Quarter

Sample Point 77 [ INDICATOR - S @ 5.4 miles ]

TLD RING TLD\_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
470113	1/8/2018 - 4/3/2018	mR/Std Qtr	8.81
477071	4/3/2018 - 7/11/2018	mR/Std Qtr	8.30
483701	7/11/2018 - 10/3/2018	mR/Std Qtr	6.08
490485	10/3/2018 - 1/3/2019	mR/Std Qtr	8.54

Sample Point 78 [ INDICATOR - NNE @ 9.9 miles ]

TLD RING TLD\_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
470114	1/3/2018 - 4/2/2018	mR/Std Qtr	9.09
477072	4/2/2018 - 7/9/2018	mR/Std Qtr	8.53
483702	7/9/2018 - 10/1/2018	mR/Std Qtr	6.26
490486	10/1/2018 - 1/7/2019	mR/Std Qtr	10.20

Sample Point 79 [ INDICATOR - N @ 9.5 miles ]

TLD RING TLD\_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
470115	1/3/2018 - 4/2/2018	mR/Std Qtr	11.15
477073	4/2/2018 - 7/9/2018	mR/Std Qtr	9.47
483703	7/9/2018 - 10/1/2018	mR/Std Qtr	6.86
490487	10/1/2018 - 1/7/2019	mR/Std Qtr	10.46

Sample Point 81 [ CONTROL - WNW @ 9.9 miles ]

TLD RING TLD\_CTRL

Sample ID:	Sample Dates:	Nuclide	Activity
470117	1/8/2018 - 4/2/2018	mR/Std Qtr	9.22
477075	4/2/2018 - 7/10/2018	mR/Std Qtr	10.41
483705	7/10/2018 - 10/2/2018	mR/Std Qtr	7.42
490489	10/2/2018 - 1/3/2019	mR/Std Qtr	12.99

Sample Point 82 [ INDICATOR - NNE @ 0.17 miles ]

TLD RING TLD\_ISFSI

Sample ID:	Sample Dates:	Nuclide	Activity
470118	1/3/2018 - 4/2/2018	mR/Std Qtr	26.94
477076	4/2/2018 - 7/12/2018	mR/Std Qtr	26.20
483706	7/12/2018 - 10/1/2018	mR/Std Qtr	22.47

# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: TLD Concentration (Activity): mR/Standard Quarter

Sample Point 82 [ INDICATOR - NNE @ 0.17 miles ]

TLD RING TLD\_ISFSI

Sample ID:	Sample Dates:	Nuclide	Activity
490490	10/1/2018 - 1/8/2019	mR/Std Qtr	32.55

Sample Point 83 [ INDICATOR - NE @ 0.27 miles ]

TLD RING TLD\_ISFSI

Sample ID:	Sample Dates:	Nuclide	Activity
470119	1/3/2018 - 4/2/2018	mR/Std Qtr	25.44

Sample ID:	Sample Dates:	Nuclide	Activity
477077	4/2/2018 - 7/12/2018	mR/Std Qtr	24.24

Sample ID:	Sample Dates:	Nuclide	Activity
483707	7/12/2018 - 10/1/2018	mR/Std Qtr	20.21

Sample ID:	Sample Dates:	Nuclide	Activity
490491	10/1/2018 - 1/8/2019	mR/Std Qtr	22.08

Sample Point 84 [ INDICATOR - NE @ 0.27 miles ]

TLD RING TLD\_ISFSI

Sample ID:	Sample Dates:	Nuclide	Activity
470120	1/3/2018 - 4/2/2018	mR/Std Qtr	20.88

Sample ID:	Sample Dates:	Nuclide	Activity
477078	4/2/2018 - 7/12/2018	mR/Std Qtr	19.19

Sample ID:	Sample Dates:	Nuclide	Activity
483708	7/12/2018 - 10/1/2018	mR/Std Qtr	15.10

Sample ID:	Sample Dates:	Nuclide	Activity
490492	10/1/2018 - 1/8/2019	mR/Std Qtr	23.34

Sample Point 85 [ INDICATOR - ENE @ 0.09 miles ]

TLD RING TLD\_ISFSI

Sample ID:	Sample Dates:	Nuclide	Activity
470121	1/3/2018 - 4/2/2018	mR/Std Qtr	25.34

Sample ID:	Sample Dates:	Nuclide	Activity
477079	4/2/2018 - 7/12/2018	mR/Std Qtr	29.64

Sample ID:	Sample Dates:	Nuclide	Activity
483709	7/12/2018 - 10/1/2018	mR/Std Qtr	21.52

Sample ID:	Sample Dates:	Nuclide	Activity
490493	10/1/2018 - 1/8/2019	mR/Std Qtr	30.57

Media Type: VEGETATION Concentration (Activity): pCi/kg wet

Sample Point 800 [ INDICATOR - NE @ 0.7 miles ]

Sample ID:	Sample Dates:	WAXMYRTLE	Nuclide	Activity	2 Sigma Error	MDA
464932	1/2/2018 - 1/2/2018	WAXMYRTLE	Mn-54	<3.38E+01	0.00E+00	3.38E+01
			Co-58	<2.36E+01	0.00E+00	2.36E+01
			Fe-59	<5.55E+01	0.00E+00	5.55E+01
			Co-60	<3.28E+01	0.00E+00	3.28E+01
			Zn-65	<8.01E+01	0.00E+00	8.01E+01
			Zr-95	<5.69E+01	0.00E+00	5.69E+01
			Nb-95	<3.21E+01	0.00E+00	3.21E+01
			I-131	<4.51E+01	0.00E+00	4.51E+01
			Cs-134	<3.07E+01	0.00E+00	3.07E+01
			Cs-137	<3.13E+01	0.00E+00	3.13E+01
			BaLa-140	<6.61E+01	0.00E+00	6.61E+01
			Be-7	1.54E+03	3.57E+02	3.57E+02
			K-40	2.16E+03	5.87E+02	5.85E+02

Sample ID:	Sample Dates:	WAXMYRTLE	Nuclide	Activity	2 Sigma Error	MDA
466143	2/1/2018 - 2/1/2018	WAXMYRTLE	Mn-54	<2.68E+01	0.00E+00	2.68E+01





# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: VEGETATION Concentration (Activity): pCi/kg wet

Sample Point 800 [ INDICATOR - NE @ 0.7 miles ]

Sample ID:	Sample Dates:	WAXMYRTLE	Nuclide	Activity	2 Sigma Error	MDA
466143	2/1/2018 - 2/1/2018	WAXMYRTLE	Co-58	<2.41E+01	0.00E+00	2.41E+01
			Fe-59	<4.66E+01	0.00E+00	4.66E+01
			Co-60	<3.38E+01	0.00E+00	3.38E+01
			Zn-65	<6.81E+01	0.00E+00	6.81E+01
			Zr-95	<3.96E+01	0.00E+00	3.96E+01
			Nb-95	<2.01E+01	0.00E+00	2.01E+01
			I-131	<3.74E+01	0.00E+00	3.74E+01
			Cs-134	<3.10E+01	0.00E+00	3.10E+01
			Cs-137	<1.32E+01	0.00E+00	1.32E+01
			BaLa-140	<3.82E+01	0.00E+00	3.82E+01
			Be-7	2.42E+03	4.14E+02	3.25E+02
			K-40	2.00E+03	5.05E+02	4.50E+02
467597	3/1/2018 - 3/1/2018	WAXMYRTLE	Mn-54	<2.59E+01	0.00E+00	2.59E+01
			Co-58	<3.04E+01	0.00E+00	3.04E+01
			Fe-59	<8.94E+01	0.00E+00	8.94E+01
			Co-60	<3.44E+01	0.00E+00	3.44E+01
			Zn-65	<6.60E+01	0.00E+00	6.60E+01
			Zr-95	<4.62E+01	0.00E+00	4.62E+01
			Nb-95	<3.85E+01	0.00E+00	3.85E+01
			I-131	<4.10E+01	0.00E+00	4.10E+01
			Cs-134	<4.15E+01	0.00E+00	4.15E+01
			Cs-137	<3.30E+01	0.00E+00	3.30E+01
			BaLa-140	<4.38E+01	0.00E+00	4.38E+01
			Be-7	4.58E+03	6.58E+02	3.50E+02
K-40	2.41E+03	5.62E+02	7.79E+01			
470541	4/1/2018 - 4/1/2018	WAXMYRTLE	Mn-54	<2.24E+01	0.00E+00	2.24E+01
			Co-58	<1.68E+01	0.00E+00	1.68E+01
			Fe-59	<4.85E+01	0.00E+00	4.85E+01
			Co-60	<2.00E+01	0.00E+00	2.00E+01
			Zn-65	<6.36E+01	0.00E+00	6.36E+01
			Zr-95	<4.93E+01	0.00E+00	4.93E+01
			Nb-95	<2.92E+01	0.00E+00	2.92E+01
			I-131	<4.21E+01	0.00E+00	4.21E+01
			Cs-134	<2.77E+01	0.00E+00	2.77E+01
			Cs-137	<2.14E+01	0.00E+00	2.14E+01
			BaLa-140	<2.95E+01	0.00E+00	2.95E+01
			Be-7	2.58E+03	4.21E+02	2.83E+02
K-40	2.55E+03	5.14E+02	5.86E+01			
474482	5/1/2018 - 5/1/2018	WAXMYRTLE	Mn-54	<1.47E+01	0.00E+00	1.47E+01
			Co-58	<1.63E+01	0.00E+00	1.63E+01
			Fe-59	<2.95E+01	0.00E+00	2.95E+01
			Co-60	<1.48E+01	0.00E+00	1.48E+01
			Zn-65	<3.41E+01	0.00E+00	3.41E+01
			Zr-95	<3.04E+01	0.00E+00	3.04E+01
			Nb-95	<1.84E+01	0.00E+00	1.84E+01
			I-131	<4.60E+01	0.00E+00	4.60E+01
			Cs-134	<1.62E+01	0.00E+00	1.62E+01
			Cs-137	<1.52E+01	0.00E+00	1.52E+01
			BaLa-140	<3.38E+01	0.00E+00	3.38E+01
			Be-7	1.89E+03	2.38E+02	2.10E+02
K-40	4.43E+03	4.72E+02	2.03E+02			
476315	6/4/2018 - 6/4/2018	WAXMYRTLE	Mn-54	<3.07E+01	0.00E+00	3.07E+01
			Co-58	<2.62E+01	0.00E+00	2.62E+01
			Fe-59	<7.05E+01	0.00E+00	7.05E+01
			Co-60	<2.59E+01	0.00E+00	2.59E+01
			Zn-65	<5.30E+01	0.00E+00	5.30E+01
			Zr-95	<6.78E+01	0.00E+00	6.78E+01



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: VEGETATION Concentration (Activity): pCi/kg wet

Sample Point 800 [ INDICATOR - NE @ 0.7 miles ]

Sample ID:	Sample Dates:	WAXMYRTLE	Nuclide	Activity	2 Sigma Error	MDA
476315	6/4/2018 - 6/4/2018	WAXMYRTLE	Nb-95	<3.96E+01	0.00E+00	3.96E+01
			I-131	<4.58E+01	0.00E+00	4.58E+01
			Cs-134	<3.42E+01	0.00E+00	3.42E+01
			Cs-137	<3.73E+01	0.00E+00	3.73E+01
			BaLa-140	<6.77E+01	0.00E+00	6.77E+01
			Be-7	7.89E+02	2.84E+02	3.46E+02
			K-40	3.21E+03	6.79E+02	3.98E+02
478722	7/2/2018 - 7/2/2018	WAXMYRTLE	Mn-54	<2.68E+01	0.00E+00	2.68E+01
			Co-58	<3.22E+01	0.00E+00	3.22E+01
			Fe-59	<6.85E+01	0.00E+00	6.85E+01
			Co-60	<3.10E+01	0.00E+00	3.10E+01
			Zn-65	<6.80E+01	0.00E+00	6.80E+01
			Zr-95	<6.57E+01	0.00E+00	6.57E+01
			Nb-95	<3.21E+01	0.00E+00	3.21E+01
			I-131	<4.46E+01	0.00E+00	4.46E+01
			Cs-134	<2.98E+01	0.00E+00	2.98E+01
			Cs-137	<2.46E+01	0.00E+00	2.46E+01
			BaLa-140	<4.82E+01	0.00E+00	4.82E+01
			Be-7	1.44E+03	3.17E+02	2.90E+02
			K-40	3.78E+03	6.52E+02	5.96E+01
			481027	8/2/2018 - 8/2/2018	WAXMYRTLE	Mn-54
Co-58	<1.51E+01	0.00E+00				1.51E+01
Fe-59	<3.58E+01	0.00E+00				3.58E+01
Co-60	<1.49E+01	0.00E+00				1.49E+01
Zn-65	<4.27E+01	0.00E+00				4.27E+01
Zr-95	<3.36E+01	0.00E+00				3.36E+01
Nb-95	<2.30E+01	0.00E+00				2.30E+01
I-131	<4.66E+01	0.00E+00				4.66E+01
Cs-134	<1.99E+01	0.00E+00				1.99E+01
Cs-137	<1.90E+01	0.00E+00				1.90E+01
BaLa-140	<2.24E+01	0.00E+00				2.24E+01
Be-7	4.24E+03	4.83E+02				2.15E+02
K-40	2.64E+03	4.09E+02				2.30E+02
482761	9/4/2018 - 9/4/2018	WAXMYRTLE				Mn-54
			Co-58	<1.98E+01	0.00E+00	1.98E+01
			Fe-59	<4.01E+01	0.00E+00	4.01E+01
			Co-60	<2.73E+01	0.00E+00	2.73E+01
			Zn-65	<5.40E+01	0.00E+00	5.40E+01
			Zr-95	<6.24E+01	0.00E+00	6.24E+01
			Nb-95	<3.78E+01	0.00E+00	3.78E+01
			I-131	<4.50E+01	0.00E+00	4.50E+01
			Cs-134	<3.14E+01	0.00E+00	3.14E+01
			Cs-137	<1.83E+01	0.00E+00	1.83E+01
			BaLa-140	<3.29E+01	0.00E+00	3.29E+01
			Be-7	2.72E+03	4.90E+02	4.14E+02
			K-40	3.03E+03	6.63E+02	5.11E+02
			484982	10/1/2018 - 10/1/2018	WAXMYRTLE	Mn-54
Co-58	<2.30E+01	0.00E+00				2.30E+01
Fe-59	<7.50E+01	0.00E+00				7.50E+01
Co-60	<3.48E+01	0.00E+00				3.48E+01
Zn-65	<7.04E+01	0.00E+00				7.04E+01
Zr-95	<6.05E+01	0.00E+00				6.05E+01
Nb-95	<4.06E+01	0.00E+00				4.06E+01
I-131	<4.65E+01	0.00E+00				4.65E+01
Cs-134	<3.43E+01	0.00E+00				3.43E+01
Cs-137	<4.07E+01	0.00E+00				4.07E+01
BaLa-140	<5.04E+01	0.00E+00				5.04E+01



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: VEGETATION Concentration (Activity): pCi/kg wet

Sample Point 800 [ INDICATOR - NE @ 0.7 miles ]

Sample ID:	Sample Dates:	WAXMYRTLE	Nuclide	Activity	2 Sigma Error	MDA
484982	10/1/2018 - 10/1/2018		Be-7	2.55E+03	4.69E+02	3.87E+02
			K-40	3.16E+03	6.32E+02	7.19E+01
487691	11/1/2018 - 11/1/2018		Mn-54	<2.05E+01	0.00E+00	2.05E+01
			Co-58	<2.17E+01	0.00E+00	2.17E+01
			Fe-59	<4.17E+01	0.00E+00	4.17E+01
			Co-60	<2.71E+01	0.00E+00	2.71E+01
			Zn-65	<4.74E+01	0.00E+00	4.74E+01
			Zr-95	<4.37E+01	0.00E+00	4.37E+01
			Nb-95	<2.30E+01	0.00E+00	2.30E+01
			I-131	<4.62E+01	0.00E+00	4.62E+01
			Cs-134	<2.71E+01	0.00E+00	2.71E+01
			Cs-137	<1.80E+01	0.00E+00	1.80E+01
			BaLa-140	<5.24E+01	0.00E+00	5.24E+01
			Be-7	1.87E+03	3.13E+02	2.80E+02
			K-40	2.76E+03	4.62E+02	2.92E+02
			489103	12/3/2018 - 12/3/2018		Mn-54
Co-58	<2.73E+01	0.00E+00				2.73E+01
Fe-59	<4.84E+01	0.00E+00				4.84E+01
Co-60	<2.15E+01	0.00E+00				2.15E+01
Zn-65	<6.17E+01	0.00E+00				6.17E+01
Zr-95	<4.93E+01	0.00E+00				4.93E+01
Nb-95	<3.19E+01	0.00E+00				3.19E+01
I-131	<4.44E+01	0.00E+00				4.44E+01
Cs-134	<3.02E+01	0.00E+00				3.02E+01
Cs-137	<2.50E+01	0.00E+00				2.50E+01
BaLa-140	<3.97E+01	0.00E+00				3.97E+01
Be-7	2.17E+03	3.39E+02				2.54E+02
K-40	2.02E+03	4.65E+02				3.32E+02

## Sample Point 801 [ INDICATOR - SW @ 0.8 miles ]

Sample ID:	Sample Dates:	WAXMYRTLE	Nuclide	Activity	2 Sigma Error	MDA
464933	1/2/2018 - 1/2/2018		Mn-54	<2.06E+01	0.00E+00	2.06E+01
			Co-58	<2.77E+01	0.00E+00	2.77E+01
			Fe-59	<6.29E+01	0.00E+00	6.29E+01
			Co-60	<2.59E+01	0.00E+00	2.59E+01
			Zn-65	<6.07E+01	0.00E+00	6.07E+01
			Zr-95	<5.24E+01	0.00E+00	5.24E+01
			Nb-95	<2.83E+01	0.00E+00	2.83E+01
			I-131	<4.46E+01	0.00E+00	4.46E+01
			Cs-134	<3.43E+01	0.00E+00	3.43E+01
			Cs-137	<2.56E+01	0.00E+00	2.56E+01
			BaLa-140	<3.24E+01	0.00E+00	3.24E+01
			Be-7	1.59E+03	3.26E+02	3.04E+02
			K-40	2.34E+03	5.14E+02	3.97E+02
			466144	2/1/2018 - 2/1/2018		Mn-54
Co-58	<3.16E+01	0.00E+00				3.16E+01
Fe-59	<3.93E+01	0.00E+00				3.93E+01
Co-60	<3.33E+01	0.00E+00				3.33E+01
Zn-65	<5.87E+01	0.00E+00				5.87E+01
Zr-95	<5.49E+01	0.00E+00				5.49E+01
Nb-95	<3.05E+01	0.00E+00				3.05E+01
I-131	<4.70E+01	0.00E+00				4.70E+01
Cs-134	<3.13E+01	0.00E+00				3.13E+01
Cs-137	<3.19E+01	0.00E+00				3.19E+01
BaLa-140	<4.52E+01	0.00E+00				4.52E+01
Be-7	3.67E+03	5.61E+02				3.74E+02
K-40	2.63E+03	5.79E+02				3.18E+02



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: VEGETATION Concentration (Activity): pCi/kg wet

Sample Point 801 [ INDICATOR - SW @ 0.8 miles ]

Sample ID:	Sample Dates:	WAXMYRTLE	Nuclide	Activity	2 Sigma Error	MDA
467598	3/1/2018 - 3/1/2018		Mn-54	<3.14E+01	0.00E+00	3.14E+01
			Co-58	<3.44E+01	0.00E+00	3.44E+01
			Fe-59	<7.24E+01	0.00E+00	7.24E+01
			Co-60	<3.15E+01	0.00E+00	3.15E+01
			Zn-65	<5.09E+01	0.00E+00	5.09E+01
			Zr-95	<6.68E+01	0.00E+00	6.68E+01
			Nb-95	<3.13E+01	0.00E+00	3.13E+01
			I-131	<4.22E+01	0.00E+00	4.22E+01
			Cs-134	<3.24E+01	0.00E+00	3.24E+01
			Cs-137	<3.93E+01	0.00E+00	3.93E+01
			BaLa-140	<3.66E+01	0.00E+00	3.66E+01
			Be-7	6.08E+03	7.94E+02	5.11E+02
			K-40	2.16E+03	5.58E+02	5.11E+02
			470542	4/1/2018 - 4/1/2018		Mn-54
Co-58	<2.97E+01	0.00E+00				2.97E+01
Fe-59	<7.02E+01	0.00E+00				7.02E+01
Co-60	<3.90E+01	0.00E+00				3.90E+01
Zn-65	<5.44E+01	0.00E+00				5.44E+01
Zr-95	<4.46E+01	0.00E+00				4.46E+01
Nb-95	<2.79E+01	0.00E+00				2.79E+01
I-131	<4.33E+01	0.00E+00				4.33E+01
Cs-134	<2.56E+01	0.00E+00				2.56E+01
Cs-137	<2.72E+01	0.00E+00				2.72E+01
BaLa-140	<5.22E+01	0.00E+00				5.22E+01
Be-7	3.13E+03	5.07E+02				3.82E+02
K-40	2.39E+03	5.10E+02				6.34E+01
474483	5/1/2018 - 5/1/2018					Mn-54
			Co-58	<2.54E+01	0.00E+00	2.54E+01
			Fe-59	<5.25E+01	0.00E+00	5.25E+01
			Co-60	<2.73E+01	0.00E+00	2.73E+01
			Zn-65	<6.20E+01	0.00E+00	6.20E+01
			Zr-95	<5.47E+01	0.00E+00	5.47E+01
			Nb-95	<3.07E+01	0.00E+00	3.07E+01
			I-131	<4.63E+01	0.00E+00	4.63E+01
			Cs-134	<2.71E+01	0.00E+00	2.71E+01
			Cs-137	<1.81E+01	0.00E+00	1.81E+01
			BaLa-140	<3.82E+01	0.00E+00	3.82E+01
			Be-7	1.25E+03	3.01E+02	3.24E+02
			K-40	2.60E+03	5.30E+02	3.62E+02
			476316	6/4/2018 - 6/4/2018		Mn-54
Co-58	<2.69E+01	0.00E+00				2.69E+01
Fe-59	<5.79E+01	0.00E+00				5.79E+01
Co-60	<3.08E+01	0.00E+00				3.08E+01
Zn-65	<9.85E+01	0.00E+00				9.85E+01
Zr-95	<5.36E+01	0.00E+00				5.36E+01
Nb-95	<2.74E+01	0.00E+00				2.74E+01
I-131	<4.42E+01	0.00E+00				4.42E+01
Cs-134	<2.06E+01	0.00E+00				2.06E+01
Cs-137	<2.49E+01	0.00E+00				2.49E+01
BaLa-140	<3.64E+01	0.00E+00				3.64E+01
Be-7	6.79E+02	2.64E+02				3.22E+02
K-40	3.56E+03	7.16E+02				2.99E+02
478723	7/2/2018 - 7/2/2018					Mn-54
			Co-58	<2.75E+01	0.00E+00	2.75E+01
			Fe-59	<4.61E+01	0.00E+00	4.61E+01
			Co-60	<1.84E+01	0.00E+00	1.84E+01
			Zn-65	<5.13E+01	0.00E+00	5.13E+01



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: VEGETATION Concentration (Activity): pCi/kg wet

Sample Point 801 [ INDICATOR - SW @ 0.8 miles ]

Sample ID:	Sample Dates:	WAXMYRTLE	Nuclide	Activity	2 Sigma Error	MDA
478723	7/2/2018 - 7/2/2018	WAXMYRTLE	Zr-95	<4.90E+01	0.00E+00	4.90E+01
			Nb-95	<3.32E+01	0.00E+00	3.32E+01
			I-131	<4.42E+01	0.00E+00	4.42E+01
			Cs-134	<2.55E+01	0.00E+00	2.55E+01
			Cs-137	<2.62E+01	0.00E+00	2.62E+01
			BaLa-140	<4.02E+01	0.00E+00	4.02E+01
			Be-7	1.02E+03	2.69E+02	3.26E+02
			K-40	2.76E+03	5.19E+02	4.12E+02
481028	8/2/2018 - 8/2/2018	WAXMYRTLE	Mn-54	<1.40E+01	0.00E+00	1.40E+01
			Co-58	<1.54E+01	0.00E+00	1.54E+01
			Fe-59	<3.04E+01	0.00E+00	3.04E+01
			Co-60	<1.64E+01	0.00E+00	1.64E+01
			Zn-65	<3.31E+01	0.00E+00	3.31E+01
			Zr-95	<2.53E+01	0.00E+00	2.53E+01
			Nb-95	<2.31E+01	0.00E+00	2.31E+01
			I-131	<4.53E+01	0.00E+00	4.53E+01
			Cs-134	<2.04E+01	0.00E+00	2.04E+01
			Cs-137	<1.46E+01	0.00E+00	1.46E+01
			BaLa-140	<3.04E+01	0.00E+00	3.04E+01
			Be-7	3.40E+03	4.04E+02	2.21E+02
			K-40	2.52E+03	3.91E+02	2.94E+02
			482762	9/4/2018 - 9/4/2018	WAXMYRTLE	Mn-54
Co-58	<3.51E+01	0.00E+00				3.51E+01
Fe-59	<5.33E+01	0.00E+00				5.33E+01
Co-60	<2.15E+01	0.00E+00				2.15E+01
Zn-65	<5.56E+01	0.00E+00				5.56E+01
Zr-95	<6.65E+01	0.00E+00				6.65E+01
Nb-95	<3.58E+01	0.00E+00				3.58E+01
I-131	<4.70E+01	0.00E+00				4.70E+01
Cs-134	<3.94E+01	0.00E+00				3.94E+01
Cs-137	<3.79E+01	0.00E+00				3.79E+01
BaLa-140	<4.78E+01	0.00E+00				4.78E+01
Be-7	1.67E+03	4.04E+02				4.14E+02
K-40	2.40E+03	7.06E+02				7.82E+02
484983	10/1/2018 - 10/1/2018	WAXMYRTLE				Mn-54
			Co-58	<2.83E+01	0.00E+00	2.83E+01
			Fe-59	<4.66E+01	0.00E+00	4.66E+01
			Co-60	<2.92E+01	0.00E+00	2.92E+01
			Zn-65	<5.74E+01	0.00E+00	5.74E+01
			Zr-95	<4.09E+01	0.00E+00	4.09E+01
			Nb-95	<3.16E+01	0.00E+00	3.16E+01
			I-131	<4.36E+01	0.00E+00	4.36E+01
			Cs-134	<2.64E+01	0.00E+00	2.64E+01
			Cs-137	<2.37E+01	0.00E+00	2.37E+01
			BaLa-140	<3.69E+01	0.00E+00	3.69E+01
			Be-7	4.32E+03	5.74E+02	3.05E+02
			K-40	1.84E+03	4.32E+02	2.92E+02
			487692	11/1/2018 - 11/1/2018	WAXMYRTLE	Mn-54
Co-58	<1.51E+01	0.00E+00				1.51E+01
Fe-59	<3.45E+01	0.00E+00				3.45E+01
Co-60	<1.83E+01	0.00E+00				1.83E+01
Zn-65	<3.12E+01	0.00E+00				3.12E+01
Zr-95	<2.76E+01	0.00E+00				2.76E+01
Nb-95	<1.68E+01	0.00E+00				1.68E+01
I-131	<4.15E+01	0.00E+00				4.15E+01
Cs-134	<1.73E+01	0.00E+00				1.73E+01
Cs-137	<1.30E+01	0.00E+00				1.30E+01



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: VEGETATION Concentration (Activity): pCi/kg wet

Sample Point 801 [ INDICATOR - SW @ 0.8 miles ]

Sample ID:	487692	Sample Dates:	11/1/2018 - 11/1/2018	WAXMYRTLE	Nuclide	Activity	2 Sigma Error	MDA
					BaLa-140	<3.30E+01	0.00E+00	3.30E+01
					Be-7	2.39E+03	2.86E+02	1.72E+02
					K-40	2.32E+03	3.34E+02	2.15E+02

Sample ID:	489104	Sample Dates:	12/3/2018 - 12/3/2018	WAXMYRTLE	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<3.74E+01	0.00E+00	3.74E+01
					Co-58	<3.08E+01	0.00E+00	3.08E+01
					Fe-59	<6.46E+01	0.00E+00	6.46E+01
					Co-60	<3.49E+01	0.00E+00	3.49E+01
					Zn-65	<7.87E+01	0.00E+00	7.87E+01
					Zr-95	<5.90E+01	0.00E+00	5.90E+01
					Nb-95	<4.60E+01	0.00E+00	4.60E+01
					I-131	<4.64E+01	0.00E+00	4.64E+01
					Cs-134	<3.11E+01	0.00E+00	3.11E+01
					Cs-137	<3.24E+01	0.00E+00	3.24E+01
					BaLa-140	<5.89E+01	0.00E+00	5.89E+01
					Be-7	3.68E+03	5.90E+02	4.32E+02
					K-40	1.62E+03	5.10E+02	5.08E+02

## Sample Point 802 [ CONTROL - -- @ 10.1 miles ]

Sample ID:	464934	Sample Dates:	1/2/2018 - 1/2/2018	WAXMYRTLE	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<3.89E+01	0.00E+00	3.89E+01
					Co-58	<3.89E+01	0.00E+00	3.89E+01
					Fe-59	<8.47E+01	0.00E+00	8.47E+01
					Co-60	<4.05E+01	0.00E+00	4.05E+01
					Zn-65	<8.46E+01	0.00E+00	8.46E+01
					Zr-95	<5.40E+01	0.00E+00	5.40E+01
					Nb-95	<3.35E+01	0.00E+00	3.35E+01
					I-131	<4.71E+01	0.00E+00	4.71E+01
					Cs-134	<2.67E+01	0.00E+00	2.67E+01
					Cs-137	<2.50E+01	0.00E+00	2.50E+01
					BaLa-140	<6.63E+01	0.00E+00	6.63E+01
					Be-7	6.20E+03	8.21E+02	4.21E+02
					K-40	2.03E+03	5.54E+02	4.29E+02

Sample ID:	466145	Sample Dates:	2/1/2018 - 2/1/2018	WAXMYRTLE	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<2.17E+01	0.00E+00	2.17E+01
					Co-58	<2.37E+01	0.00E+00	2.37E+01
					Fe-59	<6.15E+01	0.00E+00	6.15E+01
					Co-60	<2.91E+01	0.00E+00	2.91E+01
					Zn-65	<5.87E+01	0.00E+00	5.87E+01
					Zr-95	<3.60E+01	0.00E+00	3.60E+01
					Nb-95	<3.20E+01	0.00E+00	3.20E+01
					I-131	<3.40E+01	0.00E+00	3.40E+01
					Cs-134	<3.11E+01	0.00E+00	3.11E+01
					Cs-137	<3.15E+01	0.00E+00	3.15E+01
					BaLa-140	<4.40E+01	0.00E+00	4.40E+01
					Be-7	4.27E+03	5.89E+02	3.30E+02
					K-40	1.52E+03	4.27E+02	3.52E+02

Sample ID:	467599	Sample Dates:	3/1/2018 - 3/1/2018	WAXMYRTLE	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<2.01E+01	0.00E+00	2.01E+01
					Co-58	<2.40E+01	0.00E+00	2.40E+01
					Fe-59	<4.47E+01	0.00E+00	4.47E+01
					Co-60	<2.56E+01	0.00E+00	2.56E+01
					Zn-65	<4.72E+01	0.00E+00	4.72E+01
					Zr-95	<3.59E+01	0.00E+00	3.59E+01
					Nb-95	<2.55E+01	0.00E+00	2.55E+01
					I-131	<3.48E+01	0.00E+00	3.48E+01
					Cs-134	<2.54E+01	0.00E+00	2.54E+01
					Cs-137	<2.24E+01	0.00E+00	2.24E+01
					BaLa-140	<2.38E+01	0.00E+00	2.38E+01
					Be-7	2.37E+03	3.78E+02	3.23E+02



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: VEGETATION Concentration (Activity): pCi/kg wet

Sample Point 802 [ CONTROL - -- @ 10.1 miles ]

Sample ID:	Sample Dates:	WAXMYRTLE	Nuclide	Activity	2 Sigma Error	MDA
467599	3/1/2018 - 3/1/2018		K-40	2.23E+03	4.35E+02	2.61E+02
470543	4/1/2018 - 4/1/2018		Mn-54	<2.12E+01	0.00E+00	2.12E+01
			Co-58	<2.96E+01	0.00E+00	2.96E+01
			Fe-59	<4.57E+01	0.00E+00	4.57E+01
			Co-60	<1.89E+01	0.00E+00	1.89E+01
			Zn-65	<6.52E+01	0.00E+00	6.52E+01
			Zr-95	<3.86E+01	0.00E+00	3.86E+01
			Nb-95	<2.14E+01	0.00E+00	2.14E+01
			I-131	<3.84E+01	0.00E+00	3.84E+01
			Cs-134	<2.74E+01	0.00E+00	2.74E+01
			Cs-137	<2.63E+01	0.00E+00	2.63E+01
			BaLa-140	<3.48E+01	0.00E+00	3.48E+01
			Be-7	4.56E+03	5.96E+02	3.08E+02
			K-40	1.67E+03	3.91E+02	5.50E+01
474484	5/1/2018 - 5/1/2018		Mn-54	<2.40E+01	0.00E+00	2.40E+01
			Co-58	<2.37E+01	0.00E+00	2.37E+01
			Fe-59	<5.62E+01	0.00E+00	5.62E+01
			Co-60	<2.63E+01	0.00E+00	2.63E+01
			Zn-65	<3.59E+01	0.00E+00	3.59E+01
			Zr-95	<4.36E+01	0.00E+00	4.36E+01
			Nb-95	<2.44E+01	0.00E+00	2.44E+01
			I-131	<4.08E+01	0.00E+00	4.08E+01
			Cs-134	<2.81E+01	0.00E+00	2.81E+01
			Cs-137	<3.17E+01	0.00E+00	3.17E+01
			BaLa-140	<3.73E+01	0.00E+00	3.73E+01
			Be-7	1.37E+03	3.23E+02	3.35E+02
			K-40	2.81E+03	5.64E+02	2.90E+02
476317	6/4/2018 - 6/4/2018		Mn-54	<3.10E+01	0.00E+00	3.10E+01
			Co-58	<3.21E+01	0.00E+00	3.21E+01
			Fe-59	<7.95E+01	0.00E+00	7.95E+01
			Co-60	<3.99E+01	0.00E+00	3.99E+01
			Zn-65	<8.32E+01	0.00E+00	8.32E+01
			Zr-95	<5.29E+01	0.00E+00	5.29E+01
			Nb-95	<3.10E+01	0.00E+00	3.10E+01
			I-131	<4.13E+01	0.00E+00	4.13E+01
			Cs-134	<3.46E+01	0.00E+00	3.46E+01
			Cs-137	<3.40E+01	0.00E+00	3.40E+01
			BaLa-140	<6.47E+01	0.00E+00	6.47E+01
			Be-7	8.02E+02	3.26E+02	4.39E+02
			K-40	2.58E+03	6.01E+02	3.32E+02
478724	7/2/2018 - 7/2/2018		Mn-54	<2.33E+01	0.00E+00	2.33E+01
			Co-58	<2.58E+01	0.00E+00	2.58E+01
			Fe-59	<5.19E+01	0.00E+00	5.19E+01
			Co-60	<2.00E+01	0.00E+00	2.00E+01
			Zn-65	<6.27E+01	0.00E+00	6.27E+01
			Zr-95	<4.96E+01	0.00E+00	4.96E+01
			Nb-95	<3.13E+01	0.00E+00	3.13E+01
			I-131	<4.44E+01	0.00E+00	4.44E+01
			Cs-134	<2.67E+01	0.00E+00	2.67E+01
			Cs-137	<2.30E+01	0.00E+00	2.30E+01
			BaLa-140	<3.74E+01	0.00E+00	3.74E+01
			Be-7	2.95E+03	4.60E+02	3.94E+02
			K-40	2.90E+03	5.69E+02	5.04E+02
481029	8/2/2018 - 8/2/2018		Mn-54	<1.97E+01	0.00E+00	1.97E+01
			Co-58	<1.88E+01	0.00E+00	1.88E+01



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: VEGETATION Concentration (Activity): pCi/kg wet

Sample Point 802 [ CONTROL - -- @ 10.1 miles ]

Sample ID:	Sample Dates:	WAXMYRTLE	Nuclide	Activity	2 Sigma Error	MDA
481029	8/2/2018 - 8/2/2018	WAXMYRTLE	Fe-59	<4.68E+01	0.00E+00	4.68E+01
			Co-60	<2.14E+01	0.00E+00	2.14E+01
			Zn-65	<5.02E+01	0.00E+00	5.02E+01
			Zr-95	<4.13E+01	0.00E+00	4.13E+01
			Nb-95	<2.59E+01	0.00E+00	2.59E+01
			I-131	<4.75E+01	0.00E+00	4.75E+01
			Cs-134	<2.14E+01	0.00E+00	2.14E+01
			Cs-137	1.13E+01	1.43E+01	2.34E+01
			BaLa-140	<3.74E+01	0.00E+00	3.74E+01
			Be-7	3.77E+03	4.59E+02	2.72E+02
			K-40	2.36E+03	4.25E+02	3.67E+02
482763	9/4/2018 - 9/4/2018	WAXMYRTLE	Mn-54	<2.45E+01	0.00E+00	2.45E+01
			Co-58	<2.73E+01	0.00E+00	2.73E+01
			Fe-59	<6.43E+01	0.00E+00	6.43E+01
			Co-60	<1.98E+01	0.00E+00	1.98E+01
			Zn-65	<5.12E+01	0.00E+00	5.12E+01
			Zr-95	<4.76E+01	0.00E+00	4.76E+01
			Nb-95	<3.72E+01	0.00E+00	3.72E+01
			I-131	<4.44E+01	0.00E+00	4.44E+01
			Cs-134	<3.47E+01	0.00E+00	3.47E+01
			Cs-137	<2.69E+01	0.00E+00	2.69E+01
			BaLa-140	<5.11E+01	0.00E+00	5.11E+01
Be-7	3.53E+03	5.98E+02	5.17E+02			
K-40	1.88E+03	5.18E+02	4.07E+02			
484984	10/1/2018 - 10/1/2018	WAXMYRTLE	Mn-54	<3.97E+01	0.00E+00	3.97E+01
			Co-58	<4.11E+01	0.00E+00	4.11E+01
			Fe-59	<7.98E+01	0.00E+00	7.98E+01
			Co-60	<5.09E+01	0.00E+00	5.09E+01
			Zn-65	<6.85E+01	0.00E+00	6.85E+01
			Zr-95	<6.78E+01	0.00E+00	6.78E+01
			Nb-95	<5.48E+01	0.00E+00	5.48E+01
			I-131	<4.15E+01	0.00E+00	4.15E+01
			Cs-134	<3.00E+01	0.00E+00	3.00E+01
			Cs-137	<4.01E+01	0.00E+00	4.01E+01
			BaLa-140	<6.81E+01	0.00E+00	6.81E+01
Be-7	4.33E+03	7.10E+02	4.74E+02			
K-40	2.57E+03	6.43E+02	9.80E+01			
487693	11/1/2018 - 11/1/2018	WAXMYRTLE	Mn-54	<1.74E+01	0.00E+00	1.74E+01
			Co-58	<1.94E+01	0.00E+00	1.94E+01
			Fe-59	<3.75E+01	0.00E+00	3.75E+01
			Co-60	<1.83E+01	0.00E+00	1.83E+01
			Zn-65	<3.95E+01	0.00E+00	3.95E+01
			Zr-95	<2.76E+01	0.00E+00	2.76E+01
			Nb-95	<2.28E+01	0.00E+00	2.28E+01
			I-131	<3.87E+01	0.00E+00	3.87E+01
			Cs-134	<1.77E+01	0.00E+00	1.77E+01
			Cs-137	1.01E+01	1.28E+01	2.11E+01
			BaLa-140	<3.72E+01	0.00E+00	3.72E+01
Be-7	2.98E+03	3.84E+02	2.84E+02			
K-40	1.57E+03	2.97E+02	2.35E+02			
489105	12/3/2018 - 12/3/2018	WAXMYRTLE	Mn-54	<2.51E+01	0.00E+00	2.51E+01
			Co-58	<2.53E+01	0.00E+00	2.53E+01
			Fe-59	<5.75E+01	0.00E+00	5.75E+01
			Co-60	<2.52E+01	0.00E+00	2.52E+01
			Zn-65	<5.91E+01	0.00E+00	5.91E+01
			Nb-95	<4.89E+01	0.00E+00	4.89E+01
			Nb-95	<2.81E+01	0.00E+00	2.81E+01





# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: VEGETATION Concentration (Activity): pCi/kg wet

Sample Point 802 [ CONTROL - -- @ 10.1 miles ]

Sample ID:	Sample Dates:	WAXMYRTLE	Nuclide	Activity	2 Sigma Error	MDA
489105	12/3/2018 - 12/3/2018		I-131	<4.74E+01	0.00E+00	4.74E+01
			Cs-134	<2.48E+01	0.00E+00	2.48E+01
			Cs-137	<3.14E+01	0.00E+00	3.14E+01
			BaLa-140	<3.86E+01	0.00E+00	3.86E+01
			Be-7	4.03E+03	5.58E+02	3.49E+02
			K-40	1.59E+03	3.87E+02	2.29E+02

Sample Point 803 [ INDICATOR - SSE @ 0.6 miles ]

Sample ID:	Sample Dates:	WAXMYRTLE	Nuclide	Activity	2 Sigma Error	MDA
464935	1/2/2018 - 1/2/2018		Mn-54	<2.45E+01	0.00E+00	2.45E+01
			Co-58	<2.50E+01	0.00E+00	2.50E+01
			Fe-59	<4.17E+01	0.00E+00	4.17E+01
			Co-60	<2.22E+01	0.00E+00	2.22E+01
			Zn-65	<2.79E+01	0.00E+00	2.79E+01
			Zr-95	<3.94E+01	0.00E+00	3.94E+01
			Nb-95	<2.53E+01	0.00E+00	2.53E+01
			I-131	<4.79E+01	0.00E+00	4.79E+01
			Cs-134	<2.56E+01	0.00E+00	2.56E+01
			Cs-137	<2.47E+01	0.00E+00	2.47E+01
			BaLa-140	<2.45E+01	0.00E+00	2.45E+01
			Be-7	3.66E+03	4.92E+02	2.72E+02
			K-40	2.76E+03	4.97E+02	2.22E+02

Sample ID:	Sample Dates:	WAXMYRTLE	Nuclide	Activity	2 Sigma Error	MDA
466146	2/1/2018 - 2/1/2018		Mn-54	<2.50E+01	0.00E+00	2.50E+01
			Co-58	<2.98E+01	0.00E+00	2.98E+01
			Fe-59	<3.71E+01	0.00E+00	3.71E+01
			Co-60	<3.60E+01	0.00E+00	3.60E+01
			Zn-65	<5.97E+01	0.00E+00	5.97E+01
			Zr-95	<4.72E+01	0.00E+00	4.72E+01
			Nb-95	<2.26E+01	0.00E+00	2.26E+01
			I-131	<3.36E+01	0.00E+00	3.36E+01
			Cs-134	<2.23E+01	0.00E+00	2.23E+01
			Cs-137	<2.40E+01	0.00E+00	2.40E+01
			BaLa-140	<4.27E+01	0.00E+00	4.27E+01
			Be-7	4.35E+03	6.17E+02	4.07E+02
			K-40	2.42E+03	5.49E+02	3.59E+02

Sample ID:	Sample Dates:	WAXMYRTLE	Nuclide	Activity	2 Sigma Error	MDA
467600	3/1/2018 - 3/1/2018		Mn-54	<3.58E+01	0.00E+00	3.58E+01
			Co-58	<3.34E+01	0.00E+00	3.34E+01
			Fe-59	<6.46E+01	0.00E+00	6.46E+01
			Co-60	<4.45E+01	0.00E+00	4.45E+01
			Zn-65	<6.85E+01	0.00E+00	6.85E+01
			Zr-95	<5.17E+01	0.00E+00	5.17E+01
			Nb-95	<3.54E+01	0.00E+00	3.54E+01
			I-131	<4.61E+01	0.00E+00	4.61E+01
			Cs-134	<3.23E+01	0.00E+00	3.23E+01
			Cs-137	<2.78E+01	0.00E+00	2.78E+01
			BaLa-140	<5.24E+01	0.00E+00	5.24E+01
			Be-7	6.42E+03	8.27E+02	3.05E+02
			K-40	2.32E+03	5.59E+02	8.05E+01

Sample ID:	Sample Dates:	WAXMYRTLE	Nuclide	Activity	2 Sigma Error	MDA
470544	4/1/2018 - 4/1/2018		Mn-54	<2.91E+01	0.00E+00	2.91E+01
			Co-58	<2.29E+01	0.00E+00	2.29E+01
			Fe-59	<4.45E+01	0.00E+00	4.45E+01
			Co-60	<2.24E+01	0.00E+00	2.24E+01
			Zn-65	<6.01E+01	0.00E+00	6.01E+01
			Zr-95	<4.57E+01	0.00E+00	4.57E+01
			Nb-95	<3.14E+01	0.00E+00	3.14E+01
			I-131	<4.36E+01	0.00E+00	4.36E+01
			Cs-134	<2.95E+01	0.00E+00	2.95E+01



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: VEGETATION Concentration (Activity): pCi/kg wet

Sample Point 803 [ INDICATOR - SSE @ 0.6 miles ]

Sample ID:	Sample Dates:	WAXMYRTLE	Nuclide	Activity	2 Sigma Error	MDA
470544	4/1/2018 - 4/1/2018	WAXMYRTLE	Cs-137	<2.79E+01	0.00E+00	2.79E+01
			BaLa-140	<5.89E+01	0.00E+00	5.89E+01
			Be-7	3.79E+03	5.47E+02	2.53E+02
			K-40	2.61E+03	5.56E+02	2.50E+02
474485	5/1/2018 - 5/1/2018	WAXMYRTLE	Mn-54	<2.08E+01	0.00E+00	2.08E+01
			Co-58	<2.72E+01	0.00E+00	2.72E+01
			Fe-59	<5.97E+01	0.00E+00	5.97E+01
			Co-60	<2.16E+01	0.00E+00	2.16E+01
			Zn-65	<6.66E+01	0.00E+00	6.66E+01
			Zr-95	<4.57E+01	0.00E+00	4.57E+01
			Nb-95	<3.09E+01	0.00E+00	3.09E+01
			I-131	<4.03E+01	0.00E+00	4.03E+01
			Cs-134	<3.38E+01	0.00E+00	3.38E+01
			Cs-137	<2.31E+01	0.00E+00	2.31E+01
			BaLa-140	<3.96E+01	0.00E+00	3.96E+01
			Be-7	1.57E+03	3.17E+02	2.80E+02
			K-40	3.45E+03	6.11E+02	2.65E+02
			476318	6/4/2018 - 6/4/2018	WAXMYRTLE	Mn-54
Co-58	<2.08E+01	0.00E+00				2.08E+01
Fe-59	<7.07E+01	0.00E+00				7.07E+01
Co-60	<4.01E+01	0.00E+00				4.01E+01
Zn-65	<6.39E+01	0.00E+00				6.39E+01
Zr-95	<5.25E+01	0.00E+00				5.25E+01
Nb-95	<3.65E+01	0.00E+00				3.65E+01
I-131	<4.79E+01	0.00E+00				4.79E+01
Cs-134	<3.76E+01	0.00E+00				3.76E+01
Cs-137	<3.23E+01	0.00E+00				3.23E+01
BaLa-140	<3.87E+01	0.00E+00				3.87E+01
Be-7	7.41E+02	2.53E+02				3.02E+02
K-40	3.65E+03	6.86E+02				3.67E+02
478725	7/2/2018 - 7/2/2018	WAXMYRTLE				Mn-54
			Co-58	<3.18E+01	0.00E+00	3.18E+01
			Fe-59	<5.84E+01	0.00E+00	5.84E+01
			Co-60	<2.74E+01	0.00E+00	2.74E+01
			Zn-65	<5.47E+01	0.00E+00	5.47E+01
			Zr-95	<4.30E+01	0.00E+00	4.30E+01
			Nb-95	<3.28E+01	0.00E+00	3.28E+01
			I-131	<4.44E+01	0.00E+00	4.44E+01
			Cs-134	<3.04E+01	0.00E+00	3.04E+01
			Cs-137	<2.98E+01	0.00E+00	2.98E+01
			BaLa-140	<5.44E+01	0.00E+00	5.44E+01
			Be-7	1.66E+03	3.36E+02	3.17E+02
			K-40	3.53E+03	6.48E+02	4.74E+02
			481030	8/2/2018 - 8/2/2018	WAXMYRTLE	Mn-54
Co-58	<1.87E+01	0.00E+00				1.87E+01
Fe-59	<3.58E+01	0.00E+00				3.58E+01
Co-60	<1.62E+01	0.00E+00				1.62E+01
Zn-65	<3.71E+01	0.00E+00				3.71E+01
Zr-95	<2.19E+01	0.00E+00				2.19E+01
Nb-95	<1.74E+01	0.00E+00				1.74E+01
I-131	<4.31E+01	0.00E+00				4.31E+01
Cs-134	<1.94E+01	0.00E+00				1.94E+01
Cs-137	<1.31E+01	0.00E+00				1.31E+01
BaLa-140	<3.46E+01	0.00E+00				3.46E+01
Be-7	4.53E+03	5.01E+02				2.35E+02
K-40	2.80E+03	4.00E+02				1.83E+02



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: VEGETATION Concentration (Activity): pCi/kg wet

Sample Point 803 [ INDICATOR - SSE @ 0.6 miles ]

Sample ID:	482764	Sample Dates:	9/4/2018 - 9/4/2018	WAXMYRTLE	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<3.03E+01	0.00E+00	3.03E+01
					Co-58	<2.75E+01	0.00E+00	2.75E+01
					Fe-59	<5.54E+01	0.00E+00	5.54E+01
					Co-60	<2.71E+01	0.00E+00	2.71E+01
					Zn-65	<5.78E+01	0.00E+00	5.78E+01
					Zr-95	<4.99E+01	0.00E+00	4.99E+01
					Nb-95	<2.93E+01	0.00E+00	2.93E+01
					I-131	<4.20E+01	0.00E+00	4.20E+01
					Cs-134	<3.32E+01	0.00E+00	3.32E+01
					Cs-137	<2.60E+01	0.00E+00	2.60E+01
					BaLa-140	<4.05E+01	0.00E+00	4.05E+01
					Be-7	2.04E+03	3.69E+02	3.68E+02
					K-40	3.47E+03	5.85E+02	3.53E+02

Sample ID:	484985	Sample Dates:	10/1/2018 - 10/1/2018	WAXMYRTLE	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<2.65E+01	0.00E+00	2.65E+01
					Co-58	<2.51E+01	0.00E+00	2.51E+01
					Fe-59	<5.91E+01	0.00E+00	5.91E+01
					Co-60	<2.70E+01	0.00E+00	2.70E+01
					Zn-65	<6.17E+01	0.00E+00	6.17E+01
					Zr-95	<5.47E+01	0.00E+00	5.47E+01
					Nb-95	<3.56E+01	0.00E+00	3.56E+01
					I-131	<3.99E+01	0.00E+00	3.99E+01
					Cs-134	<3.57E+01	0.00E+00	3.57E+01
					Cs-137	<3.64E+01	0.00E+00	3.64E+01
					BaLa-140	<4.75E+01	0.00E+00	4.75E+01
					Be-7	2.48E+03	4.89E+02	4.44E+02
					K-40	2.33E+03	6.82E+02	7.36E+02

Sample ID:	487694	Sample Dates:	11/1/2018 - 11/1/2018	WAXMYRTLE	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<2.05E+01	0.00E+00	2.05E+01
					Co-58	<2.16E+01	0.00E+00	2.16E+01
					Fe-59	<4.08E+01	0.00E+00	4.08E+01
					Co-60	<1.60E+01	0.00E+00	1.60E+01
					Zn-65	<4.15E+01	0.00E+00	4.15E+01
					Zr-95	<3.36E+01	0.00E+00	3.36E+01
					Nb-95	<2.48E+01	0.00E+00	2.48E+01
					I-131	<4.52E+01	0.00E+00	4.52E+01
					Cs-134	<1.88E+01	0.00E+00	1.88E+01
					Cs-137	<1.83E+01	0.00E+00	1.83E+01
					BaLa-140	<4.07E+01	0.00E+00	4.07E+01
					Be-7	3.43E+03	4.27E+02	2.51E+02
					K-40	2.63E+03	4.10E+02	2.46E+02

Sample ID:	489106	Sample Dates:	12/3/2018 - 12/3/2018	WAXMYRTLE	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<2.68E+01	0.00E+00	2.68E+01
					Co-58	<2.28E+01	0.00E+00	2.28E+01
					Fe-59	<5.66E+01	0.00E+00	5.66E+01
					Co-60	<1.84E+01	0.00E+00	1.84E+01
					Zn-65	<5.84E+01	0.00E+00	5.84E+01
					Zr-95	<3.97E+01	0.00E+00	3.97E+01
					Nb-95	<3.16E+01	0.00E+00	3.16E+01
					I-131	<4.47E+01	0.00E+00	4.47E+01
					Cs-134	<2.98E+01	0.00E+00	2.98E+01
					Cs-137	<1.85E+01	0.00E+00	1.85E+01
					BaLa-140	<4.40E+01	0.00E+00	4.40E+01
					Be-7	2.20E+03	3.98E+02	3.57E+02
					K-40	1.44E+03	4.11E+02	3.87E+02

Sample Point 804 [ INDICATOR - S @ 0.7 miles ]

Sample ID:	464936	Sample Dates:	1/2/2018 - 1/2/2018	WAXMYRTLE	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<3.02E+01	0.00E+00	3.02E+01
					Co-58	<2.59E+01	0.00E+00	2.59E+01



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: VEGETATION Concentration (Activity): pCi/kg wet

Sample Point 804 [ INDICATOR - S @ 0.7 miles ]

Sample ID:	Sample Dates:	WAXMYRTLE	Nuclide	Activity	2 Sigma Error	MDA
464936	1/2/2018 - 1/2/2018		Fe-59	<4.37E+01	0.00E+00	4.37E+01
			Co-60	<2.58E+01	0.00E+00	2.58E+01
			Zn-65	<5.55E+01	0.00E+00	5.55E+01
			Zr-95	<4.78E+01	0.00E+00	4.78E+01
			Nb-95	<3.55E+01	0.00E+00	3.55E+01
			I-131	<4.52E+01	0.00E+00	4.52E+01
			Cs-134	<2.79E+01	0.00E+00	2.79E+01
			Cs-137	<3.31E+01	0.00E+00	3.31E+01
			BaLa-140	<3.92E+01	0.00E+00	3.92E+01
			Be-7	1.62E+03	3.64E+02	3.63E+02
			K-40	1.96E+03	5.67E+02	6.09E+02
			466147	2/1/2018 - 2/1/2018		Mn-54
Co-58	<1.83E+01	0.00E+00				1.83E+01
Fe-59	<4.78E+01	0.00E+00				4.78E+01
Co-60	<2.22E+01	0.00E+00				2.22E+01
Zn-65	<3.10E+01	0.00E+00				3.10E+01
Zr-95	<3.92E+01	0.00E+00				3.92E+01
Nb-95	<2.43E+01	0.00E+00				2.43E+01
I-131	<3.82E+01	0.00E+00				3.82E+01
Cs-134	<3.22E+01	0.00E+00				3.22E+01
Cs-137	<3.00E+01	0.00E+00				3.00E+01
BaLa-140	<1.07E+01	0.00E+00				1.07E+01
Be-7	2.51E+03	4.42E+02				3.41E+02
K-40	1.42E+03	4.80E+02	5.34E+02			
467601	3/1/2018 - 3/1/2018		Mn-54	<2.81E+01	0.00E+00	2.81E+01
			Co-58	<2.60E+01	0.00E+00	2.60E+01
			Fe-59	<5.32E+01	0.00E+00	5.32E+01
			Co-60	<2.65E+01	0.00E+00	2.65E+01
			Zn-65	<6.19E+01	0.00E+00	6.19E+01
			Zr-95	<4.69E+01	0.00E+00	4.69E+01
			Nb-95	<2.52E+01	0.00E+00	2.52E+01
			I-131	<4.23E+01	0.00E+00	4.23E+01
			Cs-134	<3.04E+01	0.00E+00	3.04E+01
			Cs-137	<2.34E+01	0.00E+00	2.34E+01
			BaLa-140	<4.01E+01	0.00E+00	4.01E+01
			Be-7	5.12E+03	6.52E+02	3.33E+02
K-40	2.67E+03	5.40E+02	3.34E+02			
470545	4/1/2018 - 4/1/2018		Mn-54	<3.16E+01	0.00E+00	3.16E+01
			Co-58	<2.27E+01	0.00E+00	2.27E+01
			Fe-59	<6.98E+01	0.00E+00	6.98E+01
			Co-60	<2.73E+01	0.00E+00	2.73E+01
			Zn-65	<5.53E+01	0.00E+00	5.53E+01
			Zr-95	<4.58E+01	0.00E+00	4.58E+01
			Nb-95	<2.60E+01	0.00E+00	2.60E+01
			I-131	<4.78E+01	0.00E+00	4.78E+01
			Cs-134	<2.27E+01	0.00E+00	2.27E+01
			Cs-137	<2.60E+01	0.00E+00	2.60E+01
			BaLa-140	<3.61E+01	0.00E+00	3.61E+01
			Be-7	5.05E+03	6.38E+02	2.94E+02
K-40	2.48E+03	5.39E+02	3.93E+02			
474486	5/1/2018 - 5/1/2018		Mn-54	<2.26E+01	0.00E+00	2.26E+01
			Co-58	<2.10E+01	0.00E+00	2.10E+01
			Fe-59	<4.61E+01	0.00E+00	4.61E+01
			Co-60	<2.47E+01	0.00E+00	2.47E+01
			Zn-65	<5.46E+01	0.00E+00	5.46E+01
			Zr-95	<3.40E+01	0.00E+00	3.40E+01
			Nb-95	<2.16E+01	0.00E+00	2.16E+01



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: VEGETATION Concentration (Activity): pCi/kg wet

Sample Point 804 [ INDICATOR - S @ 0.7 miles ]

Sample ID:	Sample Dates:	WAXMYRTLE	Nuclide	Activity	2 Sigma Error	MDA
474486	5/1/2018 - 5/1/2018		I-131	<3.37E+01	0.00E+00	3.37E+01
			Cs-134	<2.52E+01	0.00E+00	2.52E+01
			Cs-137	<2.27E+01	0.00E+00	2.27E+01
			BaLa-140	<5.31E+01	0.00E+00	5.31E+01
			Be-7	8.92E+02	2.20E+02	1.76E+02
			K-40	2.96E+03	5.51E+02	5.57E+01
476319	6/4/2018 - 6/4/2018		Mn-54	<3.24E+01	0.00E+00	3.24E+01
			Co-58	<3.02E+01	0.00E+00	3.02E+01
			Fe-59	<7.90E+01	0.00E+00	7.90E+01
			Co-60	<4.22E+01	0.00E+00	4.22E+01
			Zn-65	<7.44E+01	0.00E+00	7.44E+01
			Zr-95	<5.57E+01	0.00E+00	5.57E+01
			Nb-95	<3.73E+01	0.00E+00	3.73E+01
			I-131	<3.96E+01	0.00E+00	3.96E+01
			Cs-134	<4.09E+01	0.00E+00	4.09E+01
			Cs-137	<2.96E+01	0.00E+00	2.96E+01
			BaLa-140	<4.55E+01	0.00E+00	4.55E+01
			Be-7	9.97E+02	3.09E+02	3.48E+02
			K-40	3.46E+03	7.25E+02	4.67E+02
			478726	7/2/2018 - 7/2/2018		Mn-54
Co-58	<1.94E+01	0.00E+00				1.94E+01
Fe-59	<4.89E+01	0.00E+00				4.89E+01
Co-60	<2.29E+01	0.00E+00				2.29E+01
Zn-65	<6.33E+01	0.00E+00				6.33E+01
Zr-95	<4.69E+01	0.00E+00				4.69E+01
Nb-95	<2.58E+01	0.00E+00				2.58E+01
I-131	<4.60E+01	0.00E+00				4.60E+01
Cs-134	<3.39E+01	0.00E+00				3.39E+01
Cs-137	<2.98E+01	0.00E+00				2.98E+01
BaLa-140	<3.25E+01	0.00E+00				3.25E+01
Be-7	8.91E+02	2.82E+02				3.60E+02
K-40	2.65E+03	5.46E+02				4.24E+02
481031	8/2/2018 - 8/2/2018					Mn-54
			Co-58	<1.85E+01	0.00E+00	1.85E+01
			Fe-59	<4.40E+01	0.00E+00	4.40E+01
			Co-60	<2.15E+01	0.00E+00	2.15E+01
			Zn-65	<4.36E+01	0.00E+00	4.36E+01
			Zr-95	<3.97E+01	0.00E+00	3.97E+01
			Nb-95	<2.59E+01	0.00E+00	2.59E+01
			I-131	<4.77E+01	0.00E+00	4.77E+01
			Cs-134	<2.04E+01	0.00E+00	2.04E+01
			Cs-137	<2.31E+01	0.00E+00	2.31E+01
			BaLa-140	<3.66E+01	0.00E+00	3.66E+01
			Be-7	1.84E+03	2.87E+02	2.46E+02
			K-40	2.57E+03	4.08E+02	2.63E+02
			482765	9/4/2018 - 9/4/2018		Mn-54
Co-58	<2.86E+01	0.00E+00				2.86E+01
Fe-59	<4.58E+01	0.00E+00				4.58E+01
Co-60	<3.02E+01	0.00E+00				3.02E+01
Zn-65	<6.25E+01	0.00E+00				6.25E+01
Zr-95	<4.42E+01	0.00E+00				4.42E+01
Nb-95	<3.46E+01	0.00E+00				3.46E+01
I-131	<3.89E+01	0.00E+00				3.89E+01
Cs-134	<3.37E+01	0.00E+00				3.37E+01
Cs-137	<2.77E+01	0.00E+00				2.77E+01
BaLa-140	<3.27E+01	0.00E+00				3.27E+01
Be-7	2.57E+03	4.43E+02				3.09E+02



# BRUNSWICK Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: VEGETATION Concentration (Activity): pCi/kg wet

Sample Point 804 [ INDICATOR - S @ 0.7 miles ]

Sample ID:	Sample Dates:	WAXMYRTLE	Nuclide	Activity	2 Sigma Error	MDA
482765	9/4/2018 - 9/4/2018		K-40	2.30E+03	5.30E+02	2.62E+02
484986	10/1/2018 - 10/1/2018		Mn-54	<2.68E+01	0.00E+00	2.68E+01
			Co-58	<2.61E+01	0.00E+00	2.61E+01
			Fe-59	<5.23E+01	0.00E+00	5.23E+01
			Co-60	<3.37E+01	0.00E+00	3.37E+01
			Zn-65	<7.21E+01	0.00E+00	7.21E+01
			Zr-95	<4.22E+01	0.00E+00	4.22E+01
			Nb-95	<3.15E+01	0.00E+00	3.15E+01
			I-131	<4.46E+01	0.00E+00	4.46E+01
			Cs-134	<3.16E+01	0.00E+00	3.16E+01
			Cs-137	<2.05E+01	0.00E+00	2.05E+01
			BaLa-140	<3.32E+01	0.00E+00	3.32E+01
			Be-7	3.77E+03	5.57E+02	2.83E+02
			K-40	2.30E+03	6.41E+02	6.78E+02
487695	11/1/2018 - 11/1/2018		Mn-54	<1.69E+01	0.00E+00	1.69E+01
			Co-58	<1.59E+01	0.00E+00	1.59E+01
			Fe-59	<3.79E+01	0.00E+00	3.79E+01
			Co-60	<1.84E+01	0.00E+00	1.84E+01
			Zn-65	<3.94E+01	0.00E+00	3.94E+01
			Zr-95	<2.78E+01	0.00E+00	2.78E+01
			Nb-95	<1.97E+01	0.00E+00	1.97E+01
			I-131	<4.33E+01	0.00E+00	4.33E+01
			Cs-134	<1.80E+01	0.00E+00	1.80E+01
			Cs-137	<1.45E+01	0.00E+00	1.45E+01
			BaLa-140	<3.13E+01	0.00E+00	3.13E+01
			Be-7	3.21E+03	5.70E+02	1.68E+02
			K-40	2.77E+03	3.84E+02	2.90E+02
489107	12/3/2018 - 12/3/2018		Mn-54	<2.41E+01	0.00E+00	2.41E+01
			Co-58	<2.04E+01	0.00E+00	2.04E+01
			Fe-59	<4.99E+01	0.00E+00	4.99E+01
			Co-60	<2.68E+01	0.00E+00	2.68E+01
			Zn-65	<5.97E+01	0.00E+00	5.97E+01
			Zr-95	<4.71E+01	0.00E+00	4.71E+01
			Nb-95	<2.67E+01	0.00E+00	2.67E+01
			I-131	<3.80E+01	0.00E+00	3.80E+01
			Cs-134	<2.82E+01	0.00E+00	2.82E+01
			Cs-137	<2.63E+01	0.00E+00	2.63E+01
			BaLa-140	<3.43E+01	0.00E+00	3.43E+01
			Be-7	2.94E+03	4.38E+02	3.51E+02
			K-40	1.92E+03	4.26E+02	3.69E+02



**APPENDIX F**

**ERRATA TO  
PREVIOUS REPORTS**

There are no errata to be appended to the  
2018 Brunswick Steam Electric Plant AREOR.