



Kevin M. Ellis
H. B. Robinson Steam
Electric Plant Unit 2
Manager – Nuclear Support Services

Duke Energy Progress
3581 West Entrance Road
Hartsville, SC 29550

O: 843 951 1329
F: 843 951 1319

Kevin.Ellis@duke-energy.com

Serial: RA-19-0146

TS 5.6.2

MAY 07 2019

United States Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

H. B. ROBINSON STEAM ELECTRIC PLANT (HBRSEP), UNIT NO. 2
DOCKET NO. 50-261 / RENEWED LICENSE NO. DPR-23

2018 ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT

Ladies and Gentlemen:

Enclosed is the Radiological Environmental Operating Report for the period January 1, 2018 through December 31, 2018. This report is made in accordance with the HBRSEP, Unit No. 2, Technical Specification, 5.6.2, "Annual Radiological Environmental Operating Report."

This document contains no new Regulatory Commitments. If you have any questions regarding this submittal, please contact Justin Wild, Regulatory Affairs, at (843) 951-3283.

Sincerely,

Kevin M. Ellis
Manager – Nuclear Support Services

KME/jmw

Enclosure

c: NRC Regional Administrator, NRC Region II
N. Jordan, NRC Project Manager, NRR (w/o Attachment)
NRC Resident Inspector, HBRSEP
S. E. Jenkins, SCDHEC

United States Nuclear Regulatory Commission
Enclosure to Serial: RA-19-0146
161 Pages (including this cover sheet)

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2
2018 ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT



ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT

DUKE ENERGY PROGRESS, LLC

**H. B. ROBINSON STEAM ELECTRIC PLANT
Unit No. 2**

2018



TABLE OF CONTENTS

1.0 Executive Summary	1-1
2.0 Introduction	2-1
2.1 Site Description and Sample Locations	2-1
2.2 Scope and Requirements of the REMP	2-1
2.3 Statistical and Calculational Methodology	2-2
2.3.1 Estimation of the Mean Value	2-2
2.3.2 Lower Limit of Detection and Minimum Detectable Activity	2-3
2.3.3 Trend Identification.	2-3
3.0 Interpretation of Results	3-1
3.1 Airborne Radioiodine and Particulates	3-2
3.2 Surface Water	3-5
3.3 Ground Water	3-7
3.4 Milk	3-8
3.5 Broadleaf Vegetation.	3-9
3.6 Food Products	3-11
3.7 Fish	3-12
3.8 Shoreline Sediment	3-14
3.9 Direct Gamma Radiation	3-15
3.9.1 Environmental TLD	3-15
3.10 Land Use Census	3-17
4.0 Quality Assurance	4-1
4.1 Sample Collection	4-1
4.2 Sample Analysis	4-1
4.3 Dosimetry Analysis	4-1
4.4 Laboratory Equipment Quality Assurance	4-1
4.4.1 Daily Quality Control	4-1
4.4.2 Calibration Verification	4-1
4.4.3 Batch Processing	4-1
4.5 Duke Energy Interlaboratory Comparison Program	4-2
4.5.1 Eckert & Ziegler Analytics Cross Check Program.	4-2
4.6 Split Comparison Program	4-2
4.7 TLD Intercomparison Program	4-2
4.7.1 Nuclear Technology Services Intercomparison Program	4-2
4.7.2 Internal Cross Check (Duke Energy)	4-3
4.8 General Engineering Laboratory, LLC (GEL)	4-3

Appendices

Appendix A: Environmental Sampling and Analysis Procedures	A-1
I. Change of Sampling Procedures	A-2
II. Description of Analysis Procedures	A-2
III. Change of Analysis Procedures	A-3
IV. Sampling and Analysis Procedures	A-3
A.1 Airborne Particulate and Radioiodine	A-3
A.2 Surface Water	A-3
A.3 Ground Water	A-4
A.4 Broadleaf Vegetation	A-4
A.5 Food Products	A-4
A.6 Fish.	A-4
A.7 Shoreline Sediment	A-4
A.8 Direct Gamma Radiation (TLD)	A-5
A.9 Annual Land Use Census	A-5
V. Global Positioning System (GPS) Analysis.	A-6
Appendix B: Radiological Environmental Monitoring Program - Summary of Results.	B-1
Radiological Environmental Monitoring Program Data Summary.	B-2
Footnotes to Appendix B.	B-4
Appendix C: Sampling Deviations and Unavailable Analyses	C-1
C.1 Sampling Deviations	C-2
C.2 Unavailable Analyses	C-3
Appendix D: Analytical Deviations	D-1
Appendix E: Radiological Environmental Monitoring Program Results	E-1
Appendix F: Errata to Previous Reports	F-1

LIST OF FIGURES

2.1-1	Radiological Environmental Sampling Locations (One Mile Radius)	2-4
2.1-2	Radiological Environmental Sampling Locations (Ten Mile Radius).	2-5
3.1	Concentration of Gross Beta in Air Particulate	3-3
3.2	Concentration of Tritium in Surface Water	3-5
3.5	Concentration of Cs-137 in Broadleaf Vegetation	3-10
3.7	Concentration of Cs-137 in Fish.	3-12
3.9	Direct Gamma Radiation (TLD) Results	3-16
3.10	Robinson Nuclear Plant 2018 Land Use Census Map	3-19

LIST OF TABLES

2.1-A	Radiological Monitoring Program Sampling Locations	2-6
2.1-B	Radiological Monitoring Program Sampling Locations (TLD Sites)	2-7
2.2-A	Reporting Levels for Radioactivity Concentrations in Environmental Samples	2-8
2.2-B	REMP Analysis Frequency	2-8
2.2-C	A Priori Lower Limits of Detection (LLD).	2-9
3.1-A	Mean Concentration of Gross Beta in Air Particulate	3-3
3.1-B	Mean Concentration of Gross Beta in Air Radioiodine (I-131)	3-4
3.2	Mean Concentration of Tritium in Surface Water	3-6

LIST OF TABLES CONTINUED

3.5	Mean Concentration of Radionuclides in Broadleaf Vegetation (pCi/kg)	3-10
3.7	Mean Concentration of Radionuclides in Fish (pCi/kg)	3-13
3.9	Direct Gamma Radiation (TLD) Results	3-16
3.10	HBRSEP Land Use Census Comparison (2017 – 2018).	3-18
4.0-A	Eckert & Ziegler Analytics Cross Check Program	4-4
4.0-B	2018 Environmental Dosimeter Cross Check Results	4-6
4.0-C	2018 GEL Laboratories, LLC QA Results	4-8

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
BLV	Broadleaf Vegetation
C	Control
CR	Condition Report (analogous to Nuclear Condition Report (NCR))
EZA	Eckert & Ziegler Analytics
FI	Fish
FP	Food Product
GEL	General Engineering Laboratories, LLC
GPS	Global Positioning System
GW	Ground Water
I	Indicator
IR	Inner Ring - TLDs
ISFSI	Independent Spent Fuel Storage Installation
HBRSEP or RNP	H. B. Robinson Steam Electric Plant, Unit No. 2
LLD	Lower Limit of Detection
M	Monthly
MAPEP	Department of Energy Mixed Analyte Performance Evaluation Program
MDA	Minimum Detectable Activity
mrem	millirem
mR	milliroentgen
mR/Std Qtr	milliroentgen per standard quarter
MWe	Megawatt (electrical)
NCR	Nuclear Condition Report (analogous to Condition Report (CR))
NIST	National Institute of Standards and Technology
NRC	Nuclear Regulatory Commission
ODCM	Off-Site Dose Calculation Manual
OR	Outer Ring - TLDs
pCi/kg	picocurie per kilogram
pCi/l	picocurie per liter
pCi/m ³	picocurie per cubic meter
PI	Power Interrupt
Q	Quarterly
REMP	Radiological Environmental Monitoring Program
SA	Semiannually
SS	Sediment – Shoreline
SI	Special Interest - TLDs
SW	Surface Water
TECH SPECS	Technical Specifications
TLD	Thermoluminescent Dosimeter
UFSAR	Updated Final Safety Analysis Report
μCi/ml	microcurie per milliliter
W	Weekly

1.0 EXECUTIVE SUMMARY

This Annual Radiological Environmental Operating Report describes the H. B. Robinson Steam Electric Plant, Unit No. 2 (HBRSEP or Robinson Nuclear Plant) 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 and 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 and program changes are also discussed.

Sampling activities were conducted as prescribed by the HBRSEP ODCM. Required analyses were performed and detection capabilities were met for the collected samples required by the ODCM. One-thousand-three-hundred-fifty-two samples were analyzed comprising 1,352 test results in order to compile data for the 2018 HBRSEP Annual Radiological Environmental Operating Report (AREOR). Based on the annual HBRSEP land use census, the current number of sampling sites for Robinson Nuclear Plant is sufficient.

Concentrations observed in the environment in 2018 for plant related radionuclides were within the ranges of concentrations observed in the past. Inspection of data showed that radioactivity concentrations in surface water, fish, shoreline sediment, and broadleaf vegetation, are higher than the activities reported for samples collected at control locations. All positively identified measurements attributable to plant operation were within limits as specified in ODCM.

The continued operation of HBRSEP has not contributed measurable radiation or the presence of gamma radioactivity in the environmental media monitored. The Lake Robinson surface water samples revealed tritium concentrations that are well within the applicable regulatory limits. The radiological environmental data for 2018 indicates that radioactivity concentrations were not higher than expected and all positively identified measurements attributable to HBRSEP operations in 2018 were within limits as specified in the HBRSEP ODCM, thus presenting no significant impact on the environment or public safety.

2.0 INTRODUCTION

2.1 SITE DESCRIPTION AND SAMPLE LOCATIONS

The H. B. Robinson Steam Electric Plant, Unit No. 2 (HBRSEP) is located in Darlington County, South Carolina, approximately five (5) miles northwest of Hartsville, and approximately twenty five (25) miles northwest of Florence, South Carolina. Lake Robinson is adjacent to the plant and is the source of cooling water. The lake was impounded during the construction of Robinson Unit No.1 (coal fired). The lake is fed by Black Creek and is approximately 2,250 acres in area. The plant intake is at the southern portion of the lake near the dam. The discharge is to a canal which conveys the cooling water to a point 4.2 miles north of the plant, where it returns to Lake Robinson.

HBRSEP consists of a pressurized water reactor (Unit No. 2) that is designed to produce 2339 Megawatts thermal (MWt). The site was shared with a pulverized coal unit (Unit No.1), which established commercial operation in 1960. Unit 1 is now offline and has been decommissioned. Commercial production was initiated by Unit No. 2 on March 7, 1971.

Figures 2.1-1 and 2.1-2 are maps depicting the Thermoluminescent Dosimeter (TLD) monitoring locations and the sampling locations. The location numbers shown on these maps correspond to those listed in Tables 2.1-A and 2.1-B. Figure 2.1-1 comprises all sample locations within a one mile radius of RNP. Figure 2.1-2 comprises all sample locations with a ten mile radius of RNP.

2.2 SCOPE AND REQUIREMENTS OF THE REMP

The Radiological Environmental Monitoring Program (REMP) has been in effect at HBRSEP since 1973. 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 plant. 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 HBRSEP Off-Site 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 HBRSEP. This program satisfies the requirements of Section IV.B.2 of Appendix I to 10 CFR 50 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 HBRSEP Off-Site Dose Calculation Manual (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 10 CFR 50. Results are shown in Table 3.10.

Participation in an interlaboratory comparison program as required by HBRSEP ODCM Operational Requirements 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 10 CFR 50. 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 ODCM as the smallest concentration of radioactive material in a sample that will yield a net count, above the system background, that will be detected with 95% probability with only 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" LLD's for each sample medium and selected radionuclides are given in the ODCM 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 particular 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 particular 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 particular 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

Radiological Environmental Sampling Locations
(Near Plant)

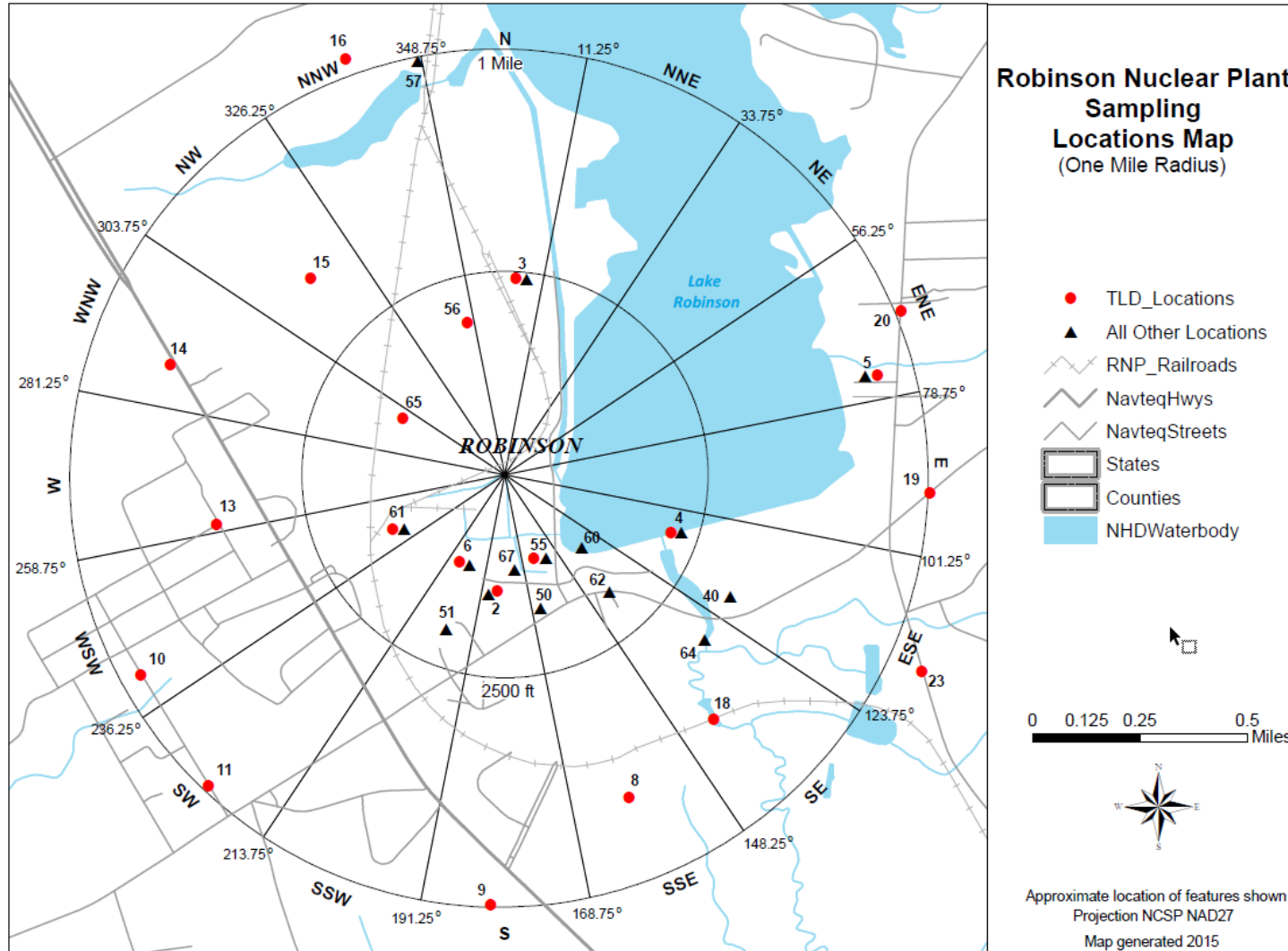


Figure 2.1-2

**Radiological Environmental Sampling Locations
(Distant from Plant)**

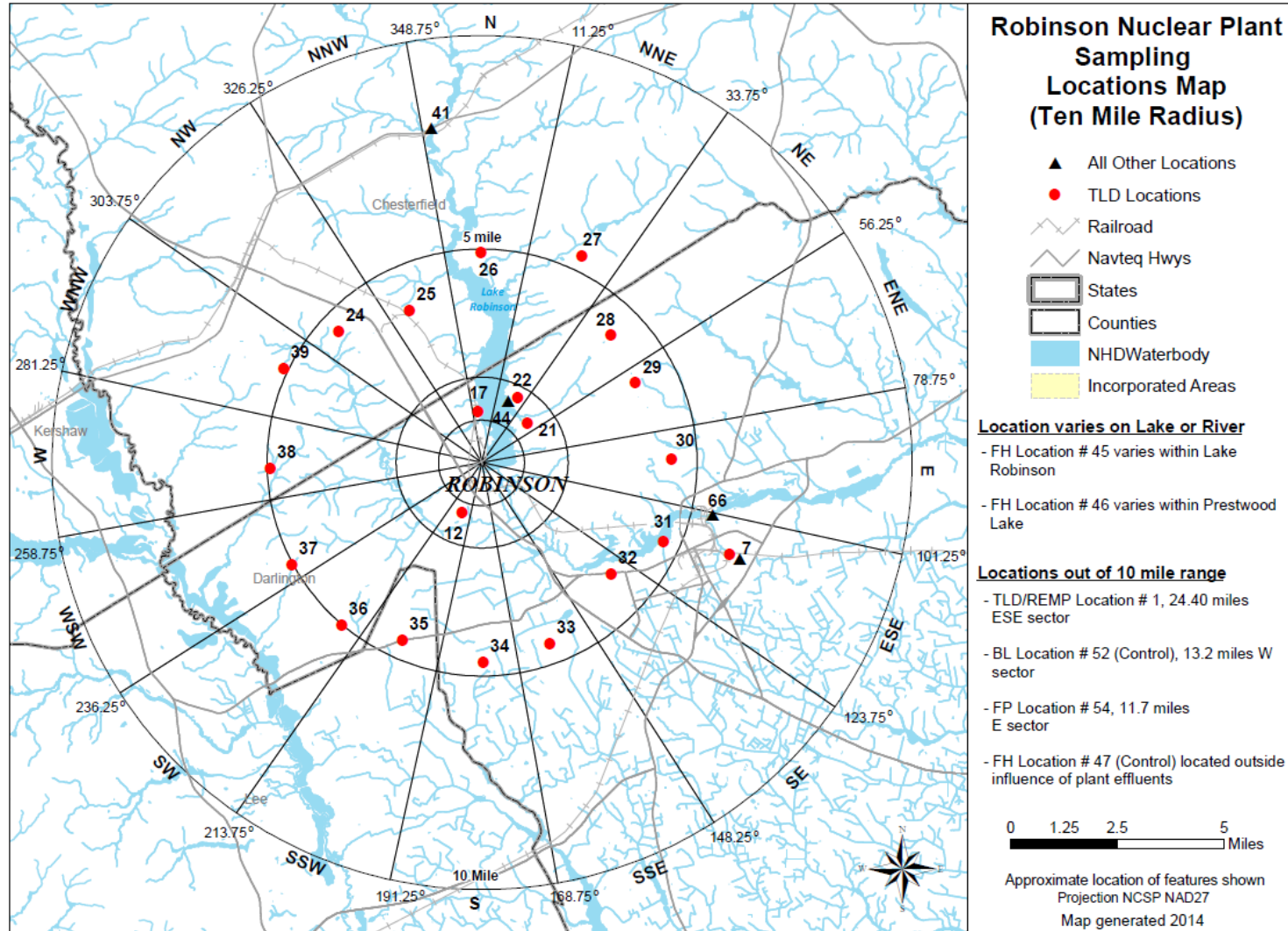


TABLE 2.1-A

**H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2 (HBRSEP)
RADIOLOGICAL MONITORING PROGRAM SAMPLING LOCATIONS**

Site#	Type [†]	Location Description**	AR [†] & AP [†]	SW*	SS*	FP ^{(a)†}	Fish (FI) [†]	BLV ^{(b)†}	GW*
1	C	24.4 miles ESE Florence, S.C.	W/Q						
2	I	0.2 miles S Information Center	W/Q						
3	I	0.5 miles N Microwave Tower	W/Q						
4	I	0.4 miles ESE Spillway	W/Q						
5	I	0.9 miles ENE East shore of lake near Johnson's Landing	W/Q						
6	I	0.2 miles SSW Information Center	W/Q						
7	I	6.4 miles ESE CP&L facility on RR Avenue, Hartsville	W/Q						
40	I	0.6 miles ESE Black Creek at Old Camden Road (S-16-23) – Lake Robinson		M					
41	C	8.0 miles N Black Creek at US Hwy 1		M					
44	I	1.6 miles NNE East Shore of Lake, Shady Rest Club			SA				
45	I	Site varies within Lake Robinson					SA		
46	I	Site varies within Prestwood Lake					SA		
47	C	Control station, Any lake not influenced by plant discharge					SA		
50	I	SSE Close to Site Boundary						M ^(b)	
51	I	SSW Close to Site Boundary						M ^(b)	
52	C	10 miles W near Bethune						M ^(b)	
54	I	10.1 miles E Auburndale Plantation (if irrigating from Black Creek)				A ^(a)			
55	I	0.2 miles SSE South of West Settling Pond	W/Q						
60	I	0.2 miles SE Robinson Picnic Area	W/Q						
61	I	0.3 miles WSW West Parking lot near RR tracks	W/Q						
62	I	SE Close to Site Boundary						M ^(b)	
64	I	0.6 miles SE Artesian Well							Q
67	I	S Close to Site Boundary						M ^(b)	

(a) During Harvest/Growing Season

(b) When Available

* Refer to List of Acronyms Used in this Text in Table of Contents

**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 2.1-B

**H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2 (HBRSEP)
RADIOLOGICAL MONITORING PROGRAM SAMPLING LOCATIONS (TLD SITES)**

Table 2.1-B Codes	
C	Control
IR	Inner Ring
OR	Outer Ring
SI	Special Interest

Site #	Measure Type	Location*	Distance (miles) [†]	Sector	Site #	Measure Type	Location*	Distance (miles) [†]	Sector
1	C	Florence, SC	24.4	ESE	23	IR	New Market Road (#S-16-39)	1.0	ESE
2	IR	Information Center ^{1,2}	0.2	S	24	OR	Sowell Road (#S-13-711)	4.6	NW
3	IR	Microwave Tower	0.5	N	25	OR	Lake Robinson Road (#S-13-346)	4.0	NNW
4	IR	Spillway	0.4	ESE	26	OR	Lake Robinson Road (#S-13-346)	5.0	N
5	IR	East shore of lake near Johnson's Landing	0.9	ENE	27	OR	Prospect Church Road (#S-13-763)	5.4	NNE
6	IR	Information Center ^{1,2}	0.2	SSW	28	OR	New Market Road (#S-13-39)	4.3	NE
7	OR	CP&L Facility on RR Avenue, Hartsville	6.4	ESE	29	OR	Ruby Road (#S-16-20)	4.0	ENE
8	IR	Transmission right-of-way	0.8	SSE	30	OR	Ruby Road (#S-16-20)	4.4	E
9	IR	Transmission right-of-way	1.0	S	31	OR	Lakeshore Drive	4.6	ESE
10	IR	Clyde Church of God	1.0	WSW	32	OR	Transmission right-of-way	4.0	SE
11	IR	Old Camden Road	1.0	SW	33	OR	Bay Road (#S-16-493)	4.5	SSE
12	IR	Off of Old Camden Road	1.2	SSW	34	OR	Kellybell Road (#S-16-772)	4.7	S
13	IR	Corner of Saluda and Sandpit Roads	0.7	W	35	OR	Kelly Bridge Road (#S-31-51)	4.5	SSW
14	IR	First Baptist Church of Pine Ridge	0.8	WNW	36	OR	Kingston Drive	5.0	SW
15	IR	Transmission right-of-way	0.7	NW	37	OR	Pine Cone Road	5.0	WSW
16	IR	South side of Darlington Co. I.C. Turbine Plant	1.0	NNW	38	OR	Union Church Road	4.9	W
17	IR	Darlington Co. Plant emergency fire pump	1.2	N	39	OR	King's Pond Road	5.1	WNW
18	IR	Old Black Creek RR trestle	0.7	SE	55	IR	South of the West Settling Pond	0.2	SSE
19	IR	Old Camden Road (#S-16-23)	1.0	E	56	IR	North of the center of the 7P-ISFSI ^{1,2}	0.4	NNW
20	IR	New Market Road (#S-16-39)	1.0	ENE	61	IR	West Parking lot near RR tracks ²	0.3	WSW
21	IR	New Market Road (#S-16-39)	1.4	NE	65	IR	Northwest of the 24P-ISFSI ²	0.3	WNW
22	IR	Shady Rest entrance off of Cloverdale Drive	1.7	NNE					

1 Required for monitoring of the 7P-ISFSI

2 Required for monitoring of the 24P-ISFSI

* 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 (pCi/m ³)	Fish (pCi/kg-wet)	Milk (pCi/liter)	Food Products (pCi/kg-wet)
H-3	20,000 ^(a)	----	----	----	----
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 ^(b)	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	----

(a) For drinking water samples. This is 40 CFR Part 141 value. If no drinking water pathway exists, a value of 30,000 pCi/liter may be used.

(b) If no drinking water pathway exists, a value of 20 pCi/liter may be used.

“----” represents no specified limits

TABLE 2.2-B**REMP ANALYSIS FREQUENCY**

Sample Medium	Analysis Schedule	Gamma Isotopic	Tritium	Low Level I-131	Gross Beta	TLD
Air Radioiodine	Weekly	X				
Air Particulate	Weekly				X	
	Quarterly	X				
Direct Radiation	Quarterly					X
Surface Water	Monthly Composite	X	X			
Ground Water	Quarterly	X	X			
Shoreline Sediment	Semiannually	X				
Fish	Semiannually	X				
Broadleaf Vegetation	Monthly ^(a)	X				
Food Products	Annually ^(b)	X				

(a) When Available

(b) At harvest

TABLE 2.2-C**A PRIORI LOWER LIMITS OF DETECTION (LLD)^(a)**

Analysis	Water (pCi/liter)	Airborne (pCi/m ³)	Fish (pCi/kg-wet)	Milk (pCi/liter)	Food Products (pCi/kg-wet)	Sediment (pCi/kg-dry)
Gross Beta	----	0.01	----	----	----	----
H-3	2000 ^(c)	----	----	----	----	----
Mn-54	15	----	130	----	----	----
Fe-59	30	----	260	----	----	----
Co-58, 60	15	----	130	----	----	----
Zn-65	30	----	260	----	----	----
Zr-Nb-95 ^(b)	15	----	----	----	----	----
I-131	1 ^(d)	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 ^(b)	15	----	----	15	----	----

(a) The LLD is defined in Section 2.3.2.

(b) The specified LLD applies to the daughter nuclide of an equilibrium mixture of the parent and daughter nuclides.

(c) If no drinking water pathway exists, a value of 3000 pCi/liter may be used.

(d) If no drinking water pathway exists, a value of 15 pCi/liter may be used.

“----” represents no specified limits

3.0 INTERPRETATION OF RESULTS

Review of the 2018 analysis results was performed to identify changes in environmental levels as a results of plant operations. The review is summarized in this section. Data from 2018 was compared to preoperational and historical data. Sample data for some media is not directly comparable to preoperational and earlier operational sample results because of either significant changes in the analysis methods or changes in the reporting of the results. Summary tables containing 2018 information required by Technical Specifications Administrative Control 5.6.2 are located in Appendix B. REMP results for 2018 are located in Appendix E.

Evaluation for significant trends was performed for the radionuclides listed as required LLDs within the HBRSEP 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. Trending of air particulate gross beta results is being performed. Trending is also performed for other radionuclides that are detected and could have been the result of station effluents. Only ODCM required radionuclides were detected in 2018.

Trending was performed by comparing annual mean concentrations of any effluent related detected radionuclide to historical results. Factors evaluated include the frequency of detection and the concentration terms of the percent of the radionuclide's ODCM reporting level (Table 2.2-A). All maximum percent of reporting level values were well below the 100% action level. The highest value reached during 2018 due to HBRSEP operation was 27.6% for H-3 in surface water sample collected at location 40.

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 HBRSEP 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 HBRSEP operations in 2018 were within limits as specified in the HBRSEP ODCM, thus presenting no significant impact on the environment or public safety.

Data presented in Section 3.1 – 3.9 support the conclusion that there were no significant increases in radionuclides in the environment around HBRSEP due to plant 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 3.10, indicates that no program changes are required as a result of the census.

3.1 AIRBORNE RADIOIODINE AND PARTICULATES

In 2018, 519 air radioiodine and particulate samples were analyzed, 468 from nine indicator locations and 51 from one control location. The air samplers operated for a total of 99.54% availability for the 2018 year. 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. During the collection period of 18SEP2018-24SEP2018, the air particulate samples were collected with the filter media in the incorrect orientation (NCR# 02233439). There was little to no effect on the analysis results due to this incorrect orientation, as documented in NCR# 02026783.

Gross beta analyses indicated $1.94\text{E-}2$ pCi/m³ at the location with the highest annual mean and $1.75\text{E-}2$ pCi/m³ at the control location. Figure 3.1 and Table 3.1-A provide individual sample gross beta results for the highest annual mean indicator location and the control location concentrations since 1999 to 2018. The two sample locations' results are similar in concentration and have negligible variance.

There was no detectable I-131 in air samples in 2018. Table 3.1-B gives the highest indicator location annual mean and control location annual mean for I-131 since 1999. The tables show similar historical concentrations for both the indicator and control locations and the activities decreasing from early in the operational history of the plant.

There were no detectable gamma emitting radionuclides detected in air particulate samples in 2018 due to HBRSEP operations. No gamma emitting particulate due to HBRSEP operations have been detected in indicator location samples from 1999-2018.

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

Figure 3.1

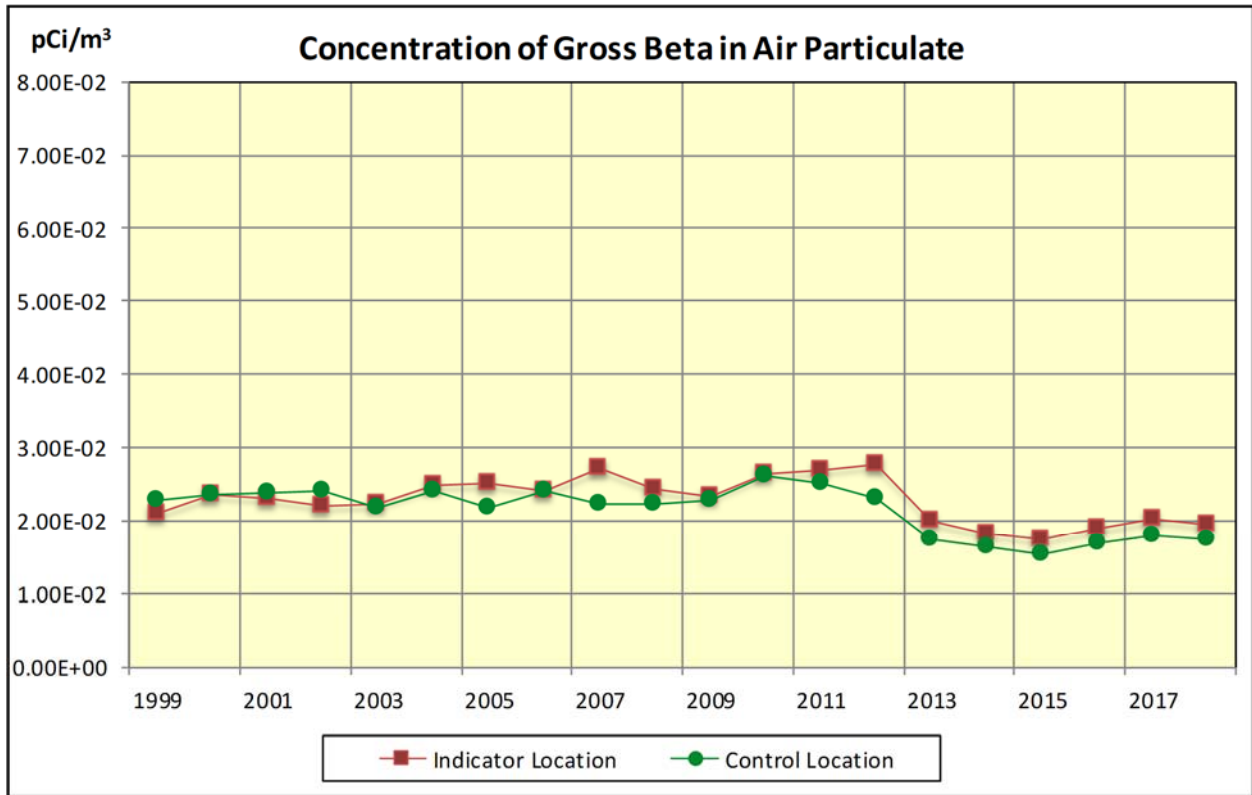


Table 3.1-A Mean Concentration of Gross Beta in Air Particulate

Year	Indicator Location (pCi/m³)	Control Location (pCi/m³)
1999	2.09E-2	2.29E-2
2000	2.35E-2	2.37E-2
2001	2.31E-2	2.39E-2
2002	2.21E-2	2.41E-2
2003	2.22E-2	2.19E-2
2004	2.48E-2	2.41E-2
2005	2.50E-2	2.19E-2
2006	2.40E-2	2.40E-2
2007	2.71E-2	2.23E-2
2008	2.44E-2	2.23E-2
2009	2.34E-2	2.27E-2
2010	2.65E-2	2.62E-2
2011	2.68E-2	2.51E-2
2012	2.78E-2	2.30E-2
2013	2.01E-2	1.74E-2
2014	1.82E-2	1.63E-2
2015	1.74E-2	1.54E-2
2016	1.90E-2	1.68E-2
2017	2.03E-2	1.78E-2
2018	1.94E-2	1.75E-2

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

Year	Indicator Location (pCi/m³)	Control Location (pCi/m³)
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	0.00E+0	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 ⁽¹⁾	8.23E-2	8.10E-2
2012	0.00E+0	0.00E+0
2013	0.00E+0	0.00E+0
2014 ⁽²⁾	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) 2011 concentrations 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 observed due to the 2014 gamma spectroscopy system change.

3.2 SURFACE WATER

Gamma spectroscopy and Tritium analyses were performed on 24 monthly surface water samples. One indicator and one control location were sampled. The indicator is downstream of the liquid effluent release point.

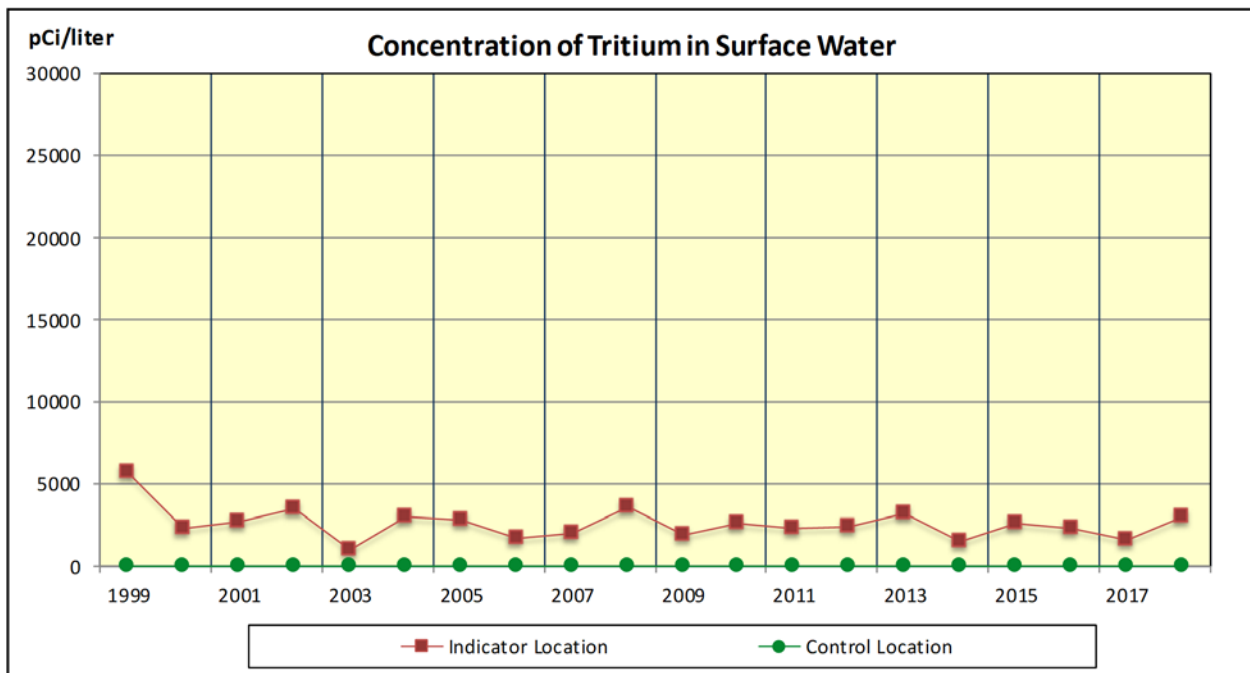
Tritium was detected in the 12 indicator samples. The 2018 surface water average tritium concentration was 3,030 pCi/liter. The individual samples ranged from 235 to 8,290 pCi/liter. For comparison purposes, the 2017 mean concentration was 1,620 pCi/liter. Tritium was not detected in any of the control surface water samples.

Figure 3.2 shows the indicator and control annual means for Tritium since 1999. Table 3.2 lists the indicator and control annual means since 1999.

Gamma spectroscopy analysis did not detect any station related gamma activity during 2018. No gamma emitting radionuclides attributable to plant operations have been detected in surface water samples since 1999.

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

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

Year	Indicator Location (pCi/l)	Control Location (pCi/l)
1999	5.64E+3	0.00E+0
2000	2.30E+3	0.00E+0
2001	2.64E+3	0.00E+0
2002	3.47E+3	0.00E+0
2003	9.53E+2	0.00E+0
2004	3.03E+3	0.00E+0
2005	2.83E+3	0.00E+0
2006	1.65E+3	0.00E+0
2007	2.03E+3	0.00E+0
2008	3.59E+3	0.00E+0
2009	1.86E+3	0.00E+0
2010	2.55E+3	0.00E+0
2011	2.29E+3	0.00E+0
2012	2.38E+3	0.00E+0
2013	3.14E+3	0.00E+0
2014	1.50E+3	0.00E+0
2015	2.56E+3	0.00E+0
2016	2.28E+3	0.00E+0
2017	1.62E+3	0.00E+0
2018	3.03E+3	0.00E+0

0.00E+0 indicates no detectable measurements

3.3 GROUND WATER

Gamma spectroscopy and tritium analyses were performed on 4 quarterly ground water samples collected at one indicator location during 2018. There is no control ground water location.

Tritium was detected in 1 indicator sample in 2018 at a concentration of 371 pCi/liter. This location was resampled during the same quarter and the tritium analysis showed no detectable tritium activity.

Gamma spectroscopy analyses did not detect any gamma emitting radionuclides attributable to plant operations during 2018.

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

3.4 MILK

Milk monitoring has not been conducted due to the unavailability of milk samples in the area since July 17, 1998, when the dairy ceased operation. Milk sampling will resume if a new sample location is identified. Broadleaf sampling is conducted since no milk animals are located within a radius of approximately five miles of the plant in any sector and is used to calculate dose to an individual via the vegetation-milk-man pathway.

3.5 BROADLEAF VEGETATION

Gamma spectroscopy was performed on 30 broadleaf vegetation samples during 2018. Four indicator locations and one control location were sampled.

During 2018, 7 of the 24 samples taken from the indicator locations identified Cs-137 activity with the highest annual mean concentration of 72.9 pCi/kg. Cs-137 was detected in 2 of the 6 samples taken from the control location with the an annual mean concentration of 53.4 pCi/kg.

It is not unusual for Cs-137 to be present in vegetation. It is a constituent of nuclear weapons test fallout, nuclear plant accidents and has been observed in samples from indicator and control locations since 1999. Figure 3.5 displays the highest annual mean indicator and control location concentrations for Cs-137 in broadleaf vegetation from 1999 to 2018 and Table 3.5 lists these values.

Co-58 activity was detected in 4 of the 24 samples taken from the indicator locations with the highest annual mean concentration of 67.7 pCi/kg. Co-58 was detected in 1 of the 6 samples taken from the control location with an annual mean concentration of 19.3 pCi/kg. Co-58 is not historically observed in vegetation samples, and was determined to be due to the samples being contaminated during collection, and not due to plant operations (NCR # 02220166).

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

Figure 3.5

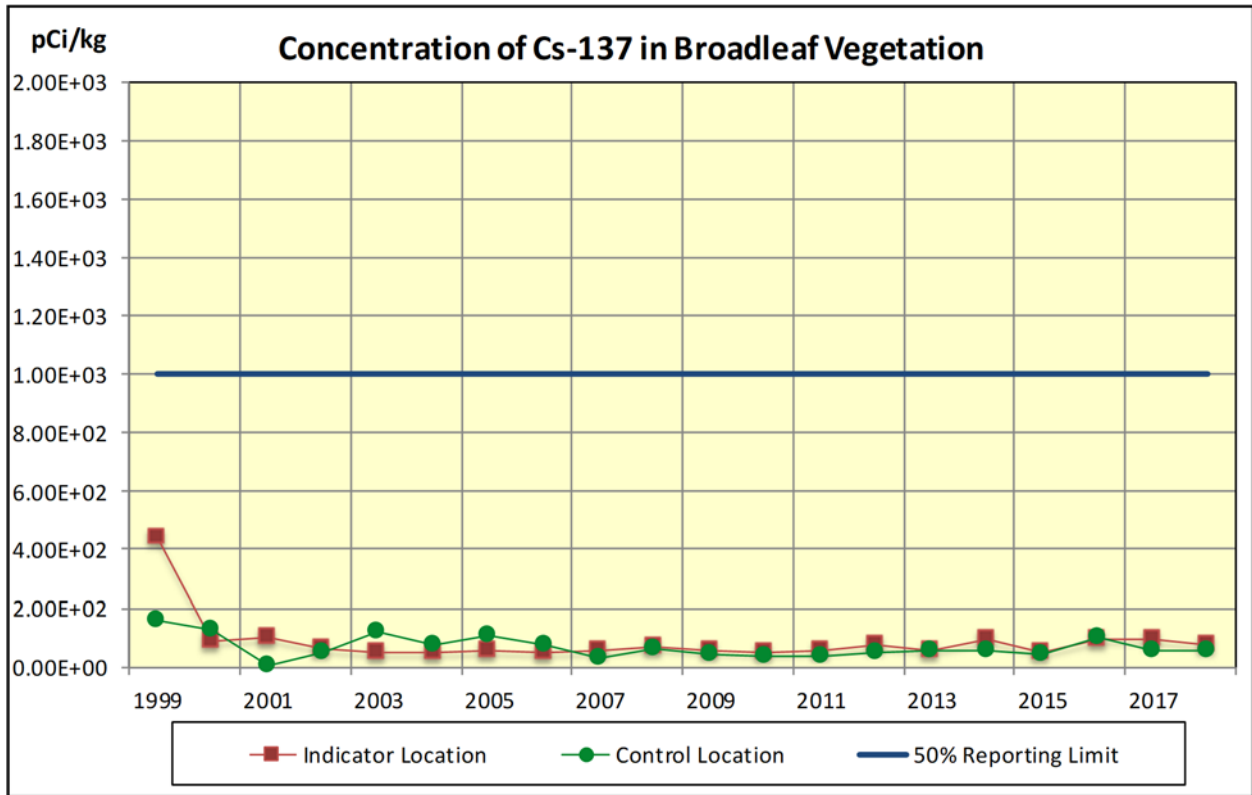


Table 3.5 Mean Concentrations of Radionuclides in Broadleaf Vegetation (pCi/kg)

Year	Cs-137 Indicator Location	Cs-137 Control Location
1999	4.39E+2	2.58E+2
2000	8.86E+1	1.29E+2
2001	9.72E+1	1.53E+0
2002	6.15E+1	4.96E+1
2003	4.66E+1	1.19E+2
2004	4.66E+1	7.64E+1
2005	5.27E+1	1.07E+2
2006	5.11E+1	7.76E+1
2007	5.38E+1	3.25E+1
2008	6.76E+1	6.06E+1
2009	5.84E+1	4.22E+1
2010	8.02E+1	3.38E+1
2011	5.84E+1	3.41E+1
2012	7.32E+1	4.83E+1
2013	5.27E+1	5.31E+1
2014 ⁽²⁾	9.62E+1	5.51E+1
2015	4.68E+1	4.21E+1
2016	9.23E+1	9.72E+1
2017	9.12E+1	5.40E+1
2018	7.29E+1	5.34E+1

(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 observed due to the 2014 gamma spectroscopy system change.

3.6 FOOD PRODUCTS

Gamma spectroscopy was performed on 2 food product samples during 2018. One indicator location was sampled. There were no gamma emitting radionuclides due to RNP plant operations identified in food product samples in 2018.

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

3.7 FISH

Gamma spectroscopy was performed on 12 fish samples during 2018. Two indicator locations and one control location were sampled.

During 2018, 2 of the 8 samples taken from the indicator locations identified Cs-137 activity with the highest annual mean concentration of 60.7 pCi/kg. Cs-137 was detected in 3 of the 4 samples taken from the control location with the highest annual mean concentration of 55.3 pCi/kg.

Figure 3.7 is a graph displaying the high annual means for Cs-137 from 1999 to 2018. Table 3.7 displays the highest annual mean indicator and control location concentrations for Cs-137 in fish from 1999 to 2018. Upon comparing these results, it is concluded that the 2018 indicator values reflect fallout Cs-137 contamination; therefore, no detectable activities relating to plant effluents were detected in any indicator or control fish samples.

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

Figure 3.7

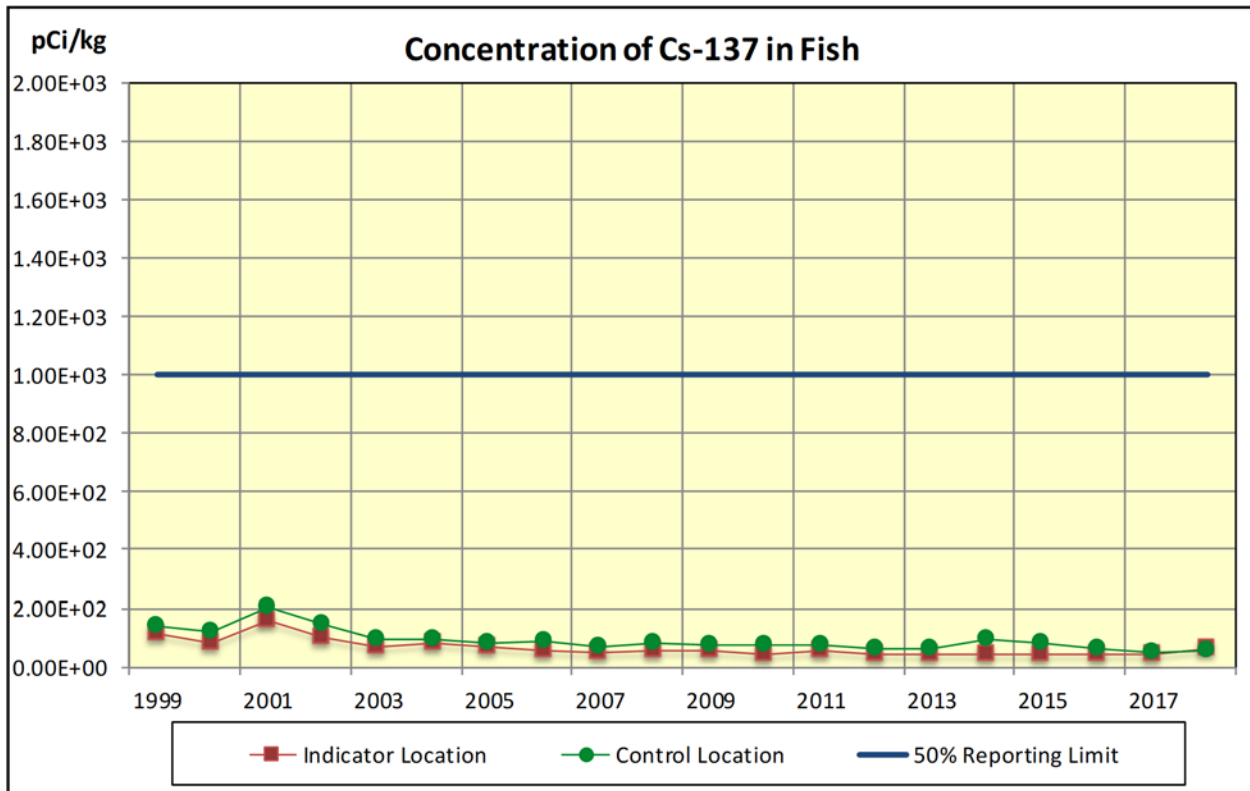


Table 3.7 Mean Concentrations of Radionuclides in Fish (pCi/kg)

Year	Cs-137 Indicator Location	Cs-137 Control Location
1999	1.13E+2	1.38E+2
2000	8.14E+1	1.20E+2
2001	1.58E+2	2.02E+2
2002	1.02E+2	1.48E+2
2003	6.87E+1	9.40E+1
2004	8.35E+1	9.16E+1
2005	7.00E+1	8.21E+1
2006	5.74E+1	8.56E+1
2007	5.15E+1	6.74E+1
2008	5.47E+1	8.04E+1
2009	5.59E+1	7.26E+1
2010	4.47E+1	7.28E+1
2011	5.52E+1	7.48E+1
2012	4.36E+1	5.97E+1
2013	4.47E+1	5.97E+1
2014 ⁽¹⁾	4.24E+1	9.32E+1
2015	4.16E+1	8.04E+1
2016	4.24E+1	6.06E+1
2017	4.09E+1	4.70E+1
2018	6.07E+1	5.53E+1

0.00E+0 indicates no detectable measurements

(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 observed due to the 2014 gamma spectroscopy system change.

3.8 SHORELINE SEDIMENT

Gamma spectroscopy was performed on 2 sediment samples from the one indicator location during 2018. There were no gamma emitting radionuclides due to RNP plant operations identified in the sediment samples in 2018. There is no control shoreline sediment location.

Be-7 observed in the sediment samples is a naturally occurring radionuclide.

3.9 DIRECT GAMMA RADIATION

3.9.1 ENVIRONMENTAL TLD

In 2018, 171 TLDs were analyzed, 167 at indicator locations and 4 at the control location. TLDs are 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 HBRSEP, 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 6 to 8 kilometers from the site as is reasonably accessible and practical. All outer ring TLD locations are used as indicators. The one "control" location is 24.4 miles ESE from station center. This location was chosen to reduce the probability of influence from HBRSEP 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 1999-2018, with an average exposure for all of 2018 indicator locations of 17.0 mR per std. quarter. The TLD location with the highest annual mean of 24.2 mR per std. quarter was location 37, located 5.00 miles WSW of the plant. Control TLD location 1 had an annual mean of 18.7 mR per std. quarter.

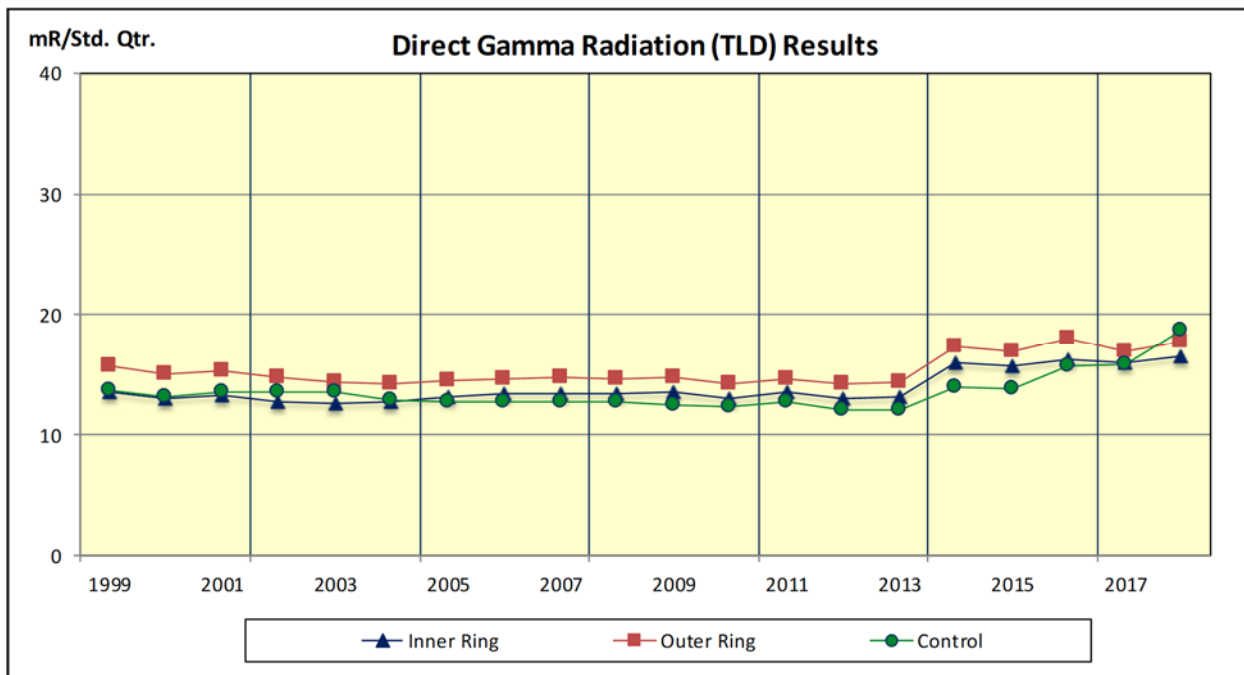
Figure 3.9 and Table 3.9 show TLD inner ring, outer ring, and control location annual averages in mR per std. qtr. since 1999. The differences among these locations are attributed to variations in soils, local geology, and are not the result of plant operations.

Comparison of the average annual TLD exposure within approximately 1 mile (inner ring) of the plant with that at approximately 5 miles (outer ring) and the control for 1999 to 2018 is presented in Figure 3.9 and Table 3.9.

As of first quarter 2014, the environmental TLDs utilized for the HBRSEP 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.

Figure 3.9



There is no reporting level for Direct Radiation (TLD)

Table 3.9 Direct Gamma Radiation (TLD) Results

Year	Inner Ring Average (mR/Std. Qtr.)	Outer Ring Average (mR/Std. Qtr.)	Control Average (mR/Std. Qtr.)
1999	1.35E+1	1.57E+1	1.37E+1
2000	1.30E+1	1.51E+1	1.32E+1
2001	1.34E+1	1.53E+1	1.36E+1
2002	1.27E+1	1.47E+1	1.35E+1
2003	1.26E+1	1.44E+1	1.36E+1
2004	1.28E+1	1.43E+1	1.30E+1
2005	1.32E+1	1.45E+1	1.27E+1
2006	1.35E+1	1.47E+1	1.28E+1
2007	1.35E+1	1.48E+1	1.27E+1
2008	1.35E+1	1.47E+1	1.27E+1
2009	1.36E+1	1.47E+1	1.25E+1
2010	1.31E+1	1.43E+1	1.24E+1
2011	1.35E+1	1.46E+1	1.27E+1
2012	1.30E+1	1.42E+1	1.21E+1
2013	1.32E+1	1.44E+1	1.21E+1
2014	1.59E+1	1.74E+1	1.40E+1
2015	1.57E+1	1.70E+1	1.39E+1
2016	1.63E+1	1.80E+1	1.57E+1
2017	1.60E+1	1.69E+1	1.58E+1
2018	1.65E+1	1.78E+1	1.87E+1

3.10 LAND USE CENSUS

The 2018 HBRSEP Annual Land Use Census was conducted 7/18-7/19/2018 to meet the requirements of the HBRSEP ODCM 4.4.1. Table 3.10 summarizes the HBRSEP 2018 census results. A map indicating identified locations is shown in Figure 3.10.

During the 2018 census no milk locations were identified within five miles (8 kilometers) of HBRSEP and meat animals were only identified at the nearest garden or closer in each sector. Based on a review of sampling requirements, existing/new sample locations, and relative depositions values; no new environmental program changes were required as a result of the 2018 Land Use Census.

Table 3.10 HBRSEP Land Use Census Comparison (2017 – 2018)

Nearest Pathway (Miles)

SECTOR	RESIDENT		GARDEN		MEAT ANIMAL ⁽¹⁾		MILK ANIMAL	
	2017	2018	2017	2018	2017	2018	2017	2018
N	2.83	2.83	3.28	----*	----	----	----	----
NNE	1.53	1.53	2.16	2.75*	----	----	----	----
NE	1.03	1.03	2.89	2.57*	----	2.57*	----	----
ENE	0.85	0.85	0.94	1.08*	----	----	----	----
E	0.90	0.90	4.19	4.19	3.00	----*	----	----
ESE	0.62	0.62	1.28	1.28	----	----	----	----
SE	0.38	0.38	3.74	3.74	----	1.96*	----	----
SSE	0.33	0.33	2.39	2.61*	----	----	----	----
S	0.44	0.44	0.74	0.74	----	----	----	----
SSW	0.42	0.42	4.61	4.61	4.38	----*	----	----
SW	0.44	0.44	2.78	2.78	----	----	----	----
WSW	0.46	0.46**	0.86	0.86	0.86	----*	----	----
W	0.56	0.56	0.70	0.70	----	----	----	----
WNW	0.57	0.57	0.81	0.81	----	----	----	----
NW	1.56	1.56	1.62	2.36*	1.62	----*	----	----
NNW	2.00	2.00	----	----	----	----	----	----

* Represents a change from the previous year.

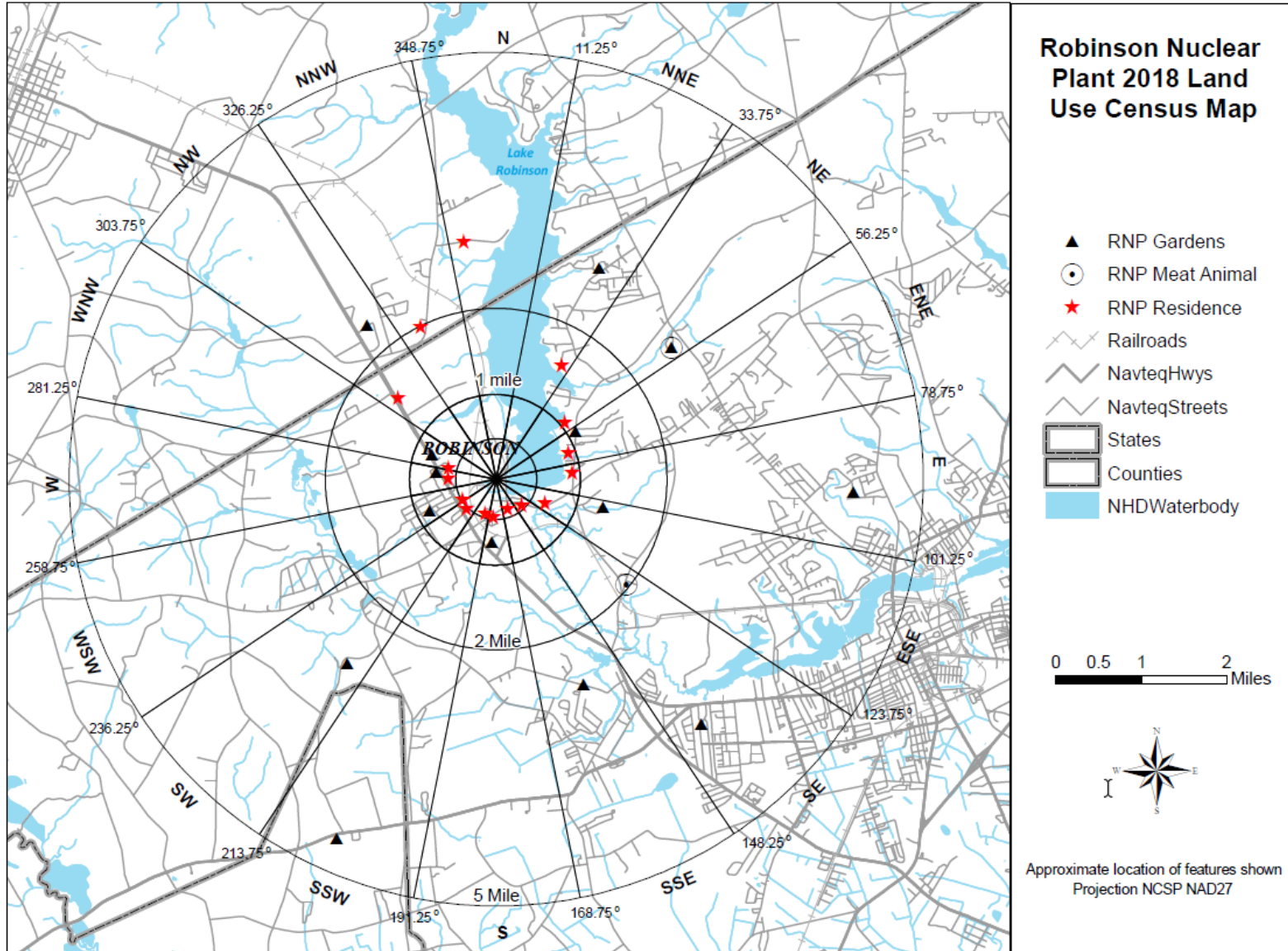
** Represents a change from the previous year – different address, same mileage

“----” indicates no occurrences within the 5 mile radius

(1) Meat animal was only identified at the nearest garden or closer in each sector.

NOTE: Sector and distance determined by Global Positioning System.

Figure 3.10



4.0 QUALITY ASSURANCE

4.1 SAMPLE COLLECTION

HBRSEP Chemistry and the Environmental Services performed the environmental sample collections 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. During 2018, a vendor laboratory, General Engineering Laboratory, LLC (GEL), performed some environmental sample analyses as specified by approved analysis procedures.

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 Laboratory 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 drinking water, surface water and ground water samples.

4.5 DUKE ENERGY INTERLABORATORY COMPARISON PROGRAM

In 2018 Duke Energy Environmental Laboratory (EnRad) participated in an interlaboratory program 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 SPLIT COMPARISON PROGRAM

HBRSEP routinely participates in an environmental sample intercomparison program. Program elements include sampling frequency and analysis for food products, shoreline sediments, surface water, and fish collected by HBRSEP Chemistry and Environmental Services. Samples are routinely split with a vendor laboratory for intercomparison.

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
Gamma in Simulated Soil	E12249	Zn-65	1	pCi	283	260	1.09	Agreement
		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 ⁽¹⁾	Cs-137	4	pCi/L	241	295	0.82	Agreement

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

APPENDIX A

**ENVIRONMENTAL SAMPLING
&
ANALYSIS PROCEDURES**

APPENDIX A

ENVIRONMENTAL SAMPLING AND ANALYSIS PROCEDURES

Adherence to established procedures for sampling and analysis of environmental media at the H. B. Robinson Steam Electric Plant, Unit No. 2 (HBRSEP) is required to ensure compliance with the HBRSEP Off-Site Dose Calculation Manual (ODCM). Analytical procedures were employed to ensure that the ODCM detection capabilities were achieved.

Environmental sampling were performed by HBRSEP Chemistry and Environmental Services. Environmental analyses were performed by EnRad Laboratories and Dosimetry and Records.

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

I. CHANGE OF SAMPLING PROCEDURES

There were no changes of sampling procedures in 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 and broadleaf vegetation are ground to achieve a homogeneous mixture. Soils 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 a 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 in 2018.

IV. SAMPLING AND ANALYSIS PROCEDURES

A.1 AIRBORNE PARTICULATE AND RADIOIODINE

Airborne particulate and radioiodine samples at each of ten 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 sampler. 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 2 cubic feet 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. A quarterly gamma analysis was performed on the quarterly filter composite (by location). The continuous composite samples were collected from the locations listed below.

Location 1	=	24.4 miles ESE Florence, S.C. (Control)
Location 2	=	0.2 miles S Information Center
Location 3	=	0.5 miles N Microwave Tower
Location 4	=	0.4 miles ESE Spillway
Location 5	=	0.9 miles ENE East shore of lake near Johnson's Landing
Location 6	=	0.2 miles SSW Information Center
Location 7	=	6.4 miles ESE CP&L facility on RR Ave., Hartsville
Location 55	=	0.2 miles SSE South of West Settling Pond
Location 60	=	0.2 miles SE Robinson Picnic Area
Location 61	=	0.3 miles WSW West Parking lot near RR tracks

A.2 SURFACE WATER

Weekly composite surface water (SW) samples were collected from two locations, with aliquots going to monthly composite samples. Gamma and Tritium analyses were performed on the monthly composites. The composites are collected from the locations listed below.

Location 40	=	0.6 miles ESE Black Creek at Old Camden Road (S-16-23) – Lake Robinson
Location 41	=	8.0 miles N Black Creek at US Hwy 1 (Control)

A.3 GROUND WATER

Grab samples were collected quarterly from one ground water (GW) well location. A gamma analysis and tritium analysis were performed on the sample. The ground water samples were collected from the location listed below.

Location 64 = 0.6 miles SE Artesian Well

A.4 BROADLEAF VEGETATION

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

Location 50 = SSE Close to Site Boundary
Location 51 = SSW Close to Site Boundary
Location 52 = 10 miles W near Bethune (Control)
Location 62 = SE Close to Site Boundary
Location 67 = S Close to Site Boundary

A.5 FOOD PRODUCTS

Annually samples were collected when available during harvest season at one location. A gamma analysis was performed each sample. The samples were collected from the location listed below.

Location 54 = 10.1 miles E Auburndale Plantation (if irrigating from Black Creek)

A.6 FISH

Semiannual samples were collected and a gamma analysis was performed on the edible portions of each sample. The samples were collected from the locations listed below.

Location 45 = Site varies within Lake Robinson
Location 46 = Site varies within Prestwood Lake
Location 47 = Control station, Any lake not influenced by plant discharge (Control)

A.7 SHORELINE SEDIMENT

Semiannual samples were collected and a gamma analysis was performed on each sample following the drying and removal of rocks and clams. The samples were collected from the location listed below.

Location 44 = 1.6 miles NNE East shore of lake, Shady Rest Club

A.8 DIRECT GAMMA RADIATION (TLD)

Thermoluminescent dosimeters (TLD) were collected quarterly at forty-three locations. A gamma exposure rate was determined for each TLD. The TLDs were placed as indicated below.

- * An inner ring of 25 TLDs, one in each meteorological sector in the general area of the site boundary.
- * An outer ring of 17 TLDs, one in each meteorological sector in the 6 to 8 kilometer range.
- * The remaining TLDs were placed in special interest areas such as population centers, residential areas, schools, and at a control location.

TLD Locations are listed in Table 2.1-B

A.9 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 following locations in each of the sixteen meteorological sectors:

- * The Nearest Residence
- * The Nearest Garden greater than 500 square feet or 50 square meters, producing broadleaf vegetables (fresh leafy vegetables)
- * The Nearest Milk-giving Animal (cow, goat, etc.)
- * The Nearest Meat Animal (beef, hogs, etc.) was only identified at the nearest garden or closer in each sector, and poultry and egg laying animals were not classified as meat animals for the 2018 census.

The census was conducted during the growing season in 7/18-7/19/2018. Results are shown in Table 3.10. No changes were made to the sampling procedures during 2018 as a result of the 2018 census.

V. GLOBAL POSITIONING SYSTEM (GPS) ANALYSIS

The H. B. Robinson Steam Electric Plant site centerline used for GPS measurements was referenced from the H. B. Robinson Steam Electric Plant (HBSEP) Updated Final Safety Analysis Report (UFSAR). Waypoint coordinates used for HBSEP GPS measurements were latitude 34° 24' 02" N and longitude 80° 09' 05" W. Maps and tables were generated using North American Datum (NAD) 27. Data normally reflect accuracy to within 2 to 5 meters from point of measurement. All 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

2018

**H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2 (HBRSEP)
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM DATA SUMMARY**

H. B. Robinson Steam Electric Plant, Unit No. 2
Darlington County, South Carolina

Docket Numbers: 50-261
Calendar Year: 2018

Medium or Pathway Sampled or Measured (Unit of Measurement)	Type and Total No. of Measurements Performed	Lower Limit of Detection (LLD) ⁽¹⁾	All Indicator Locations ^{(2) (3)} Mean Range	Location w/Highest Annual Mean		Control Locations Mean Range ^{(2) (3)}	No. of Non-Routine Report Meas.
				Name, Distance, and Direction	Mean Range ^{(2) (3)}		
Air Particulate (pCi/m ³)	Gross Beta 519 ⁽⁴⁾	See Table 2.2-C	1.75E-02 (468/468) 5.05E-03 – 3.32E-02	2 (0.20 mi S)	1.94E-02 (52/52) 6.99E-03 – 3.32E-02	1 (24.4 mi ESE) 1.75E-02 (51/51) 7.31E-03 – 3.42E-02	0
	Gamma 40 ⁽⁴⁾	See Table 2.2-C	All less than LLD	----	----	All less than LLD	0
Air Radioiodine (pCi/m ³)	Gamma 519 ⁽⁴⁾	See Table 2.2-C	All less than LLD	----	----	All less than LLD	0
Surface Water (pCi/l)	Gamma 24 ⁽⁴⁾	See Table 2.2-C	All less than LLD	----	----	All less than LLD	0
	Tritium 24 ⁽⁴⁾	2000	3.03E+03 (12/12) 2.35E+02 – 8.29E+03	40 (0.60 mi ESE)	3.03E+03 (12/12) 2.35E+02 – 8.29E+03	All less than LLD	0
Ground Water (pCi/l)	Gamma 4 ⁽⁴⁾	See Table 2.2-C	All less than LLD	----	----	No Control	0
	Tritium 5 ⁽⁴⁾	2000	3.71E+02 (1/5) 3.71E+02 – 3.71E+02	64 (0.60 mi SE)	3.71E+02 (1/5) 3.71E+02 – 3.71E+02	No Control	0
Food Products (pCi/l)	Gamma 2	See Table 2.2-C	All less than LLD	----	----	All less than LLD	0
Broadleaf Vegetation (pCi/kg, wet)	Gamma 30	See Table 2.2-C					0
	Cs-137	80	3.31E+01 (7/24) 1.18E+01 – 1.32E+02	67 (0.0 mi S)	7.29E+01 (2/6) 1.38E+01 – 1.32E+02	52 (10 mi W) 5.34E+01 (2/6) 4.47E+01 – 6.21E+01	
	Co-58 ⁽⁶⁾		2.73E+01 (4/24) 9.86E+00 – 6.77E+01	51 (0.0 mi SSW)	6.77E+01 (1/6) 6.77E+01 – 6.77E+01	1.93E+01 (1/6) 1.93E+01 – 1.93E+01	

**H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2 (HBRSEP)
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM DATA SUMMARY**

H. B. Robinson Steam Electric Plant, Unit No. 2
Darlington County, South Carolina

Docket Numbers: 50-261
Calendar Year: 2018

Medium or Pathway Sampled or Measured (Unit of Measurement)	Type and Total No. of Measurements Performed	Lower Limit of Detection (LLD) ⁽¹⁾	All Indicator Locations ^{(2) (3)} Mean Range	Location w/Highest Annual Mean		Control Locations Mean Range ^{(2) (3)}	No. of Non-Routine Report Meas.
				Name, Distance, and Direction	Mean Range ^{(2) (3)}		
Fish (pCi/kg, wet)	Gamma 12 Cs-137	See Table 2.2-C 150	6.07E+01 (2/8) 4.84E+01 – 7.29E+01	46 (Prestwood Lake)	6.07E+01 (2/4) 4.84E+01 – 7.29E+01	47 55.3E+01 (3/4) 3.64E+01 – 8.96E+01	0
Sediments--Shoreline (pCi/kg, dry)	Gamma 2	See Table 2.2-C	All less than LLD	-----	-----	All less than LLD	0
TLD (mR per quarter) ⁽⁵⁾	TLD Readout 171	-----	1.70E+01 (167/167) 1.06E+01 – 2.70E+01	37 (5.00 mi WSW)	2.42E+01 (4/4) 2.21E+01 – 2.70E+01	1 (24.4 mi ESE) 1.87E+01 (4/4) 1.70E+01 – 1.97E+01	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 Section 2.3.2 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).
6. NCR 02220166

APPENDIX C

**SAMPLING DEVIATIONS
&
UNAVAILABLE ANALYSES**

APPENDIX C

H. B. ROBINSON 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 air samplers operated for a total of 99.54% availability in 2018.

Location	Scheduled Collection Dates	Code	Description & Action to Prevent Recurrence	Corrective Action
6	6/26-7/3/2018	OT	56.7 hours downtime due to air sampler malfunction	NCR # 02217458
1	9/11-9/18/2018	IW	53.5 hours downtime due to Hurricane Florence storm	NCR # 02231590
6	9/24-10/1/2018	PI	82.7 hours downtime due to unknown power interruption	NCR # 02234455
6	10/1-10/9/2018	PI	28.9 hours downtime due to unknown power interruption	NCR # 02234455

Surface Water

REMP monthly surface water (SW) samples that experience any downtime during a surveillance period are reported as a Deviation and classified as a “Sampling Deviation.” 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 Robinson REMP water samplers operated for a total of 93.96% availability in 2018.

Location	Scheduled Collection Dates	Code	Description & Action to Prevent Recurrence	Corrective Action
41	1/30-2/27/2018	OT	344 hours downtime due to sampler malfunction. Sampler tubing was realigned and sampler was reset.	NCR # 02189406 NCR # 02184418 NCR # 02187890
40	8/28-10/1/2018	PI	168.4 hours downtime due to unknown power interruption	NCR # 02234696
40	10/1-10/29/2018	PI	526.8 hours downtime due to unknown power interruption	NCR # 02234696

Broadleaf Vegetation

REMP monthly Broadleaf Vegetation (BLV) samples that are not collected within the required surveillance period are reported as a Deviation and classified as a “Sampling Deviation.” 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.

Location	Scheduled Collection Dates	Code	Description & Action to Prevent Recurrence	Corrective Action
All BLV	September 2018	IW	Broadleaf Vegetation samples were not collected within the surveillance period due to staffing safety and Hurricane Florence tropical storm conditions experienced in the area.	NCR # 02231254

Note: All “BLV” represents HBRSEP Broadleaf Vegetation locations 50, 51,52,62, and 67

C.2 UNAVAILABLE ANALYSES

Air Particulate and Air Radioiodine

Location	Scheduled Collection Dates	Code	Description & Action to Prevent Recurrence	Corrective Action
1	2/6-2/13/2018	OT	171.3 hours downtime due to failed air sampler calibration.	NCR # 02182734 NCR # 02182783

Broadleaf Vegetation (BLV)

Location	Scheduled Collection Dates	Code	Description & Action to Prevent Recurrence	Corrective Action
All BLV	January 2018	SU	Broadleaf Vegetation was seasonally unavailable	NCR # 02176203
All BLV	February 2018	SU	Broadleaf Vegetation was seasonally unavailable	NCR # 02182748
All BLV	March 2018	SU	Broadleaf Vegetation was seasonally unavailable	NCR # 02191504
All BLV	April 2018	SU	Broadleaf Vegetation was seasonally unavailable	NCR # 02197839
All BLV	November 2018	SU	Broadleaf Vegetation was seasonally unavailable	NCR # 02242546
All BLV	December 2018	SU	Broadleaf Vegetation was seasonally unavailable	NCR # 02248739

Note: All “BLV” represents HBRSEP Broadleaf Vegetation locations 50, 51,52,62, and 67.

Food Products

Location	Scheduled Collection Dates	Code	Description & Action to Prevent Recurrence	Corrective Action
58	November 2018	SU	Food Products were seasonally unavailable	NCR # 02245871

Direct Radiation (TLD)

Location	Scheduled Collection Dates	Code	Description & Action to Prevent Recurrence	Corrective Action
35	1/18-4/19/2018	VN	TLD was missing due to vandalism	NCR # 02200485

APPENDIX D

ANALYTICAL DEVIATIONS

No Analytical deviations were incurred for the
2018 Radiological Environmental Monitoring Program

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

ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 1 [CONTROL - ESE @ 24.4 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466026	1/2/2018 - 1/10/2018	Beta	2.51E-02	2.90E-03	2.51E-03
466222	1/10/2018 - 1/16/2018	Beta	1.53E-02	2.87E-03	3.24E-03
466406	1/16/2018 - 1/23/2018	Beta	2.87E-02	3.02E-03	2.69E-03
467005	1/23/2018 - 1/30/2018	Beta	1.06E-02	2.16E-03	2.63E-03
467359	1/30/2018 - 2/6/2018	Beta	1.45E-02	2.86E-03	3.53E-03
468454	2/13/2018 - 2/20/2018	Beta	1.63E-02	2.99E-03	3.54E-03
468783	2/20/2018 - 2/27/2018	Beta	1.19E-02	2.71E-03	3.40E-03
469593	2/27/2018 - 3/6/2018	Beta	1.73E-02	2.93E-03	3.28E-03
470633	3/6/2018 - 3/13/2018	Beta	1.80E-02	2.92E-03	3.16E-03
471176	3/13/2018 - 3/20/2018	Beta	2.20E-02	3.09E-03	3.08E-03
471738	3/20/2018 - 3/27/2018	Beta	1.14E-02	2.48E-03	3.18E-03
472537	3/27/2018 - 4/3/2018	Beta	1.41E-02	2.63E-03	2.94E-03
472547	1/2/2018 - 4/3/2018	Cs-134	<2.04E-03	0.00E+00	2.04E-03
		Cs-137	<1.41E-03	0.00E+00	1.41E-03
		Be-7	1.59E-01	3.90E-02	3.02E-02
		K-40	<3.71E-02	0.00E+00	3.71E-02
473008	4/3/2018 - 4/10/2018	Beta	1.91E-02	2.94E-03	3.03E-03
473284	4/10/2018 - 4/17/2018	Beta	1.72E-02	2.67E-03	2.96E-03
473657	4/17/2018 - 4/24/2018	Beta	2.19E-02	2.86E-03	2.84E-03
474175	4/24/2018 - 5/1/2018	Beta	1.57E-02	2.86E-03	3.28E-03
474551	5/1/2018 - 5/8/2018	Beta	1.80E-02	3.10E-03	3.47E-03
474921	5/8/2018 - 5/15/2018	Beta	2.28E-02	2.91E-03	2.86E-03
475238	5/15/2018 - 5/22/2018	Beta	7.31E-03	2.50E-03	3.57E-03
475561	5/22/2018 - 5/29/2018	Beta	1.04E-02	2.34E-03	2.94E-03
476384	5/29/2018 - 6/5/2018	Beta	1.75E-02	2.95E-03	3.25E-03
477407	6/5/2018 - 6/12/2018	Beta	2.21E-02	3.38E-03	3.72E-03
478130	6/12/2018 - 6/20/2018	Beta	1.57E-02	2.75E-03	3.14E-03



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 1 [CONTROL - ESE @ 24.4 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
478448	6/20/2018 - 6/26/2018	Beta	1.98E-02	3.36E-03	3.77E-03
478819	6/26/2018 - 7/3/2018	Beta	1.05E-02	2.35E-03	2.97E-03
478829	4/3/2018 - 7/3/2018	Cs-134	<1.55E-03	0.00E+00	1.55E-03
		Cs-137	<1.10E-03	0.00E+00	1.10E-03
		Be-7	1.47E-01	3.69E-02	2.99E-02
		K-40	<2.68E-02	0.00E+00	2.68E-02
479224	7/3/2018 - 7/10/2018	Beta	2.01E-02	3.17E-03	3.41E-03
479906	7/10/2018 - 7/17/2018	Beta	2.65E-02	3.56E-03	3.65E-03
480271	7/17/2018 - 7/24/2018	Beta	2.07E-02	3.09E-03	3.08E-03
481096	7/24/2018 - 7/31/2018	Beta	1.63E-02	2.77E-03	3.26E-03
481536	7/31/2018 - 8/6/2018	Beta	8.05E-03	2.91E-03	4.20E-03
481991	8/6/2018 - 8/14/2018	Beta	1.50E-02	2.66E-03	3.08E-03
482506	8/14/2018 - 8/21/2018	Beta	1.62E-02	2.99E-03	3.49E-03
482830	8/21/2018 - 8/28/2018	Beta	1.83E-02	3.07E-03	3.49E-03
483451	8/28/2018 - 9/4/2018	Beta	9.98E-03	2.71E-03	3.62E-03
484051	9/4/2018 - 9/11/2018	Beta	1.80E-02	2.68E-03	2.83E-03
484623	9/11/2018 - 9/18/2018	Beta	8.56E-03	3.27E-03	4.65E-03
485049	9/18/2018 - 9/24/2018	Beta	2.26E-02	3.33E-03	3.56E-03
485511	9/24/2018 - 10/1/2018	Beta	1.65E-02	2.49E-03	2.57E-03
485521	7/3/2018 - 10/1/2018	Cs-134	<1.92E-03	0.00E+00	1.92E-03
		Cs-137	<1.12E-03	0.00E+00	1.12E-03
		Be-7	1.50E-01	3.85E-02	3.43E-02
		K-40	<2.40E-02	0.00E+00	2.40E-02
486193	10/1/2018 - 10/9/2018	Beta	3.42E-02	3.11E-03	2.47E-03
486722	10/9/2018 - 10/15/2018	Beta	1.78E-02	2.98E-03	3.39E-03
487760	10/15/2018 - 10/23/2018	Beta	2.31E-02	2.81E-03	2.77E-03
488003	10/23/2018 - 10/29/2018	Beta	1.68E-02	3.23E-03	3.87E-03
488496	10/29/2018 - 11/5/2018	Beta	1.95E-02	2.88E-03	3.26E-03
488880	11/5/2018 - 11/13/2018	Beta	1.64E-02	2.61E-03	2.81E-03



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 1 [CONTROL - ESE @ 24.4 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
489172	11/13/2018 - 11/20/2018	Beta	1.85E-02	3.04E-03	3.38E-03
489753	11/20/2018 - 11/28/2018	Beta	2.03E-02	3.04E-03	3.19E-03
490177	11/28/2018 - 12/5/2018	Beta	1.77E-02	2.43E-03	2.52E-03
490829	12/5/2018 - 12/11/2018	Beta	1.64E-02	3.19E-03	3.79E-03
491306	12/11/2018 - 12/18/2018	Beta	1.81E-02	2.62E-03	2.71E-03
491505	12/18/2018 - 12/26/2018	Beta	1.85E-02	2.70E-03	2.78E-03
491785	10/1/2018 - 1/2/2019	Cs-134	<2.06E-03	0.00E+00	2.06E-03
		Cs-137	<1.57E-03	0.00E+00	1.57E-03
		Be-7	1.27E-01	3.47E-02	3.18E-02
		K-40	<2.90E-02	0.00E+00	2.90E-02
491856	12/26/2018 - 1/2/2019	Beta	1.57E-02	2.58E-03	2.94E-03

Sample Point 2 [INDICATOR - S @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466027	1/2/2018 - 1/10/2018	Beta	3.10E-02	3.22E-03	2.62E-03
466223	1/10/2018 - 1/16/2018	Beta	1.50E-02	2.94E-03	3.38E-03
466407	1/16/2018 - 1/23/2018	Beta	2.78E-02	3.06E-03	2.82E-03
467006	1/23/2018 - 1/30/2018	Beta	1.11E-02	2.23E-03	2.72E-03
467360	1/30/2018 - 2/6/2018	Beta	1.28E-02	2.85E-03	3.68E-03
467686	2/6/2018 - 2/13/2018	Beta	1.59E-02	2.38E-03	2.51E-03
468455	2/13/2018 - 2/20/2018	Beta	1.70E-02	2.96E-03	3.43E-03
468784	2/20/2018 - 2/27/2018	Beta	1.19E-02	2.62E-03	3.27E-03
469594	2/27/2018 - 3/6/2018	Beta	2.18E-02	3.12E-03	3.24E-03
470634	3/6/2018 - 3/13/2018	Beta	2.49E-02	3.25E-03	3.15E-03
471177	3/13/2018 - 3/20/2018	Beta	2.39E-02	3.18E-03	3.08E-03
471739	3/20/2018 - 3/27/2018	Beta	1.20E-02	2.48E-03	3.16E-03
472538	3/27/2018 - 4/3/2018	Beta	1.54E-02	2.69E-03	2.90E-03
472548	1/2/2018 - 4/3/2018	Cs-134	<2.15E-03	0.00E+00	2.15E-03
		Cs-137	<8.12E-04	0.00E+00	8.12E-04
		Be-7	1.76E-01	4.19E-02	3.68E-02
		K-40	<2.79E-02	0.00E+00	2.79E-02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 2 [INDICATOR - S @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
473009	4/3/2018 - 4/10/2018	Beta	2.19E-02	3.06E-03	2.99E-03
473285	4/10/2018 - 4/17/2018	Beta	1.79E-02	2.67E-03	2.91E-03
473658	4/17/2018 - 4/24/2018	Beta	2.35E-02	2.88E-03	2.77E-03
474176	4/24/2018 - 5/1/2018	Beta	1.49E-02	2.83E-03	3.29E-03
474552	5/1/2018 - 5/8/2018	Beta	2.55E-02	3.37E-03	3.31E-03
474922	5/8/2018 - 5/15/2018	Beta	2.73E-02	3.10E-03	2.84E-03
475239	5/15/2018 - 5/22/2018	Beta	8.43E-03	2.53E-03	3.50E-03
475562	5/22/2018 - 5/29/2018	Beta	9.89E-03	2.27E-03	2.88E-03
476385	5/29/2018 - 6/5/2018	Beta	1.47E-02	2.77E-03	3.20E-03
477408	6/5/2018 - 6/12/2018	Beta	2.53E-02	3.33E-03	3.42E-03
478131	6/12/2018 - 6/20/2018	Beta	2.28E-02	3.08E-03	3.11E-03
478449	6/20/2018 - 6/26/2018	Beta	1.94E-02	3.44E-03	3.92E-03
478820	6/26/2018 - 7/3/2018	Beta	1.52E-02	2.57E-03	2.92E-03
478830	4/3/2018 - 7/3/2018	Cs-134	<1.62E-03	0.00E+00	1.62E-03
		Cs-137	<1.96E-03	0.00E+00	1.96E-03
		Be-7	1.57E-01	3.95E-02	3.36E-02
		K-40	<3.10E-02	0.00E+00	3.10E-02
479225	7/3/2018 - 7/10/2018	Beta	1.86E-02	3.06E-03	3.36E-03
479907	7/10/2018 - 7/17/2018	Beta	3.15E-02	3.76E-03	3.61E-03
480272	7/17/2018 - 7/24/2018	Beta	2.33E-02	3.21E-03	3.07E-03
481097	7/24/2018 - 7/31/2018	Beta	1.92E-02	2.87E-03	3.21E-03
481537	7/31/2018 - 8/6/2018	Beta	7.46E-03	2.86E-03	4.17E-03
481992	8/6/2018 - 8/14/2018	Beta	1.76E-02	2.79E-03	3.07E-03
482507	8/14/2018 - 8/21/2018	Beta	2.11E-02	3.24E-03	3.48E-03
482831	8/21/2018 - 8/28/2018	Beta	2.44E-02	3.35E-03	3.46E-03
483452	8/28/2018 - 9/4/2018	Beta	1.08E-02	2.75E-03	3.60E-03
484052	9/4/2018 - 9/11/2018	Beta	1.94E-02	2.79E-03	2.90E-03



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 2 [INDICATOR - S @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
484624	9/11/2018 - 9/18/2018	Beta	6.99E-03	2.29E-03	3.12E-03
485050	9/18/2018 - 9/24/2018	Beta	2.31E-02	3.45E-03	3.70E-03
485512	9/24/2018 - 10/1/2018	Beta	2.13E-02	2.87E-03	2.79E-03
485522	7/3/2018 - 10/1/2018	Cs-134	<1.37E-03	0.00E+00	1.37E-03
		Cs-137	<1.13E-03	0.00E+00	1.13E-03
		Be-7	1.39E-01	3.67E-02	3.17E-02
		K-40	<3.18E-02	0.00E+00	3.18E-02
486194	10/1/2018 - 10/9/2018	Beta	3.32E-02	3.16E-03	2.58E-03
486723	10/9/2018 - 10/15/2018	Beta	1.46E-02	2.91E-03	3.55E-03
487761	10/15/2018 - 10/23/2018	Beta	2.65E-02	2.98E-03	2.81E-03
488004	10/23/2018 - 10/29/2018	Beta	2.02E-02	3.66E-03	4.30E-03
488497	10/29/2018 - 11/5/2018	Beta	2.00E-02	3.00E-03	3.41E-03
488881	11/5/2018 - 11/13/2018	Beta	1.95E-02	2.89E-03	3.01E-03
489173	11/13/2018 - 11/20/2018	Beta	1.96E-02	3.24E-03	3.61E-03
489754	11/20/2018 - 11/28/2018	Beta	2.47E-02	3.42E-03	3.45E-03
490178	11/28/2018 - 12/5/2018	Beta	1.99E-02	2.67E-03	2.72E-03
490830	12/5/2018 - 12/11/2018	Beta	1.98E-02	3.58E-03	4.13E-03
491307	12/11/2018 - 12/18/2018	Beta	2.04E-02	2.87E-03	2.93E-03
491506	12/18/2018 - 12/26/2018	Beta	1.80E-02	2.80E-03	2.95E-03
491786	10/1/2018 - 1/2/2019	Cs-134	<1.82E-03	0.00E+00	1.82E-03
		Cs-137	<1.86E-03	0.00E+00	1.86E-03
		Be-7	1.17E-01	3.63E-02	3.90E-02
		K-40	<2.84E-02	0.00E+00	2.84E-02
491857	12/26/2018 - 1/2/2019	Beta	1.89E-02	2.87E-03	3.16E-03

Sample Point 3 [INDICATOR - N @ 0.5 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466028	1/2/2018 - 1/10/2018	Beta	2.70E-02	3.02E-03	2.57E-03
466224	1/10/2018 - 1/16/2018	Beta	1.44E-02	2.80E-03	3.20E-03
466408	1/16/2018 - 1/23/2018	Beta	2.57E-02	2.84E-03	2.61E-03
467007	1/23/2018 - 1/30/2018	Beta	1.40E-02	2.35E-03	2.65E-03



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 3 [INDICATOR - N @ 0.5 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467361	1/30/2018 - 2/6/2018	Beta	1.27E-02	2.68E-03	3.39E-03
467687	2/6/2018 - 2/13/2018	Beta	1.85E-02	2.77E-03	2.92E-03
468456	2/13/2018 - 2/20/2018	Beta	1.52E-02	3.02E-03	3.69E-03
468785	2/20/2018 - 2/27/2018	Beta	1.19E-02	2.76E-03	3.49E-03
469595	2/27/2018 - 3/6/2018	Beta	2.06E-02	3.24E-03	3.51E-03
470635	3/6/2018 - 3/13/2018	Beta	2.23E-02	3.29E-03	3.40E-03
471178	3/13/2018 - 3/20/2018	Beta	2.43E-02	3.34E-03	3.31E-03
471740	3/20/2018 - 3/27/2018	Beta	1.27E-02	2.64E-03	3.37E-03
472539	3/27/2018 - 4/3/2018	Beta	1.60E-02	2.86E-03	3.13E-03
472549	1/2/2018 - 4/3/2018	Cs-134	<2.29E-03	0.00E+00	2.29E-03
		Cs-137	<1.16E-03	0.00E+00	1.16E-03
		Be-7	1.82E-01	4.28E-02	3.19E-02
		K-40	<3.26E-02	0.00E+00	3.26E-02
473010	4/3/2018 - 4/10/2018	Beta	2.25E-02	3.22E-03	3.20E-03
473286	4/10/2018 - 4/17/2018	Beta	2.19E-02	2.90E-03	2.97E-03
473659	4/17/2018 - 4/24/2018	Beta	2.21E-02	2.98E-03	3.01E-03
474177	4/24/2018 - 5/1/2018	Beta	1.78E-02	3.06E-03	3.42E-03
474553	5/1/2018 - 5/8/2018	Beta	2.34E-02	3.38E-03	3.50E-03
474923	5/8/2018 - 5/15/2018	Beta	2.86E-02	3.16E-03	2.87E-03
475240	5/15/2018 - 5/22/2018	Beta	8.15E-03	2.58E-03	3.61E-03
475563	5/22/2018 - 5/29/2018	Beta	1.16E-02	2.41E-03	2.95E-03
476386	5/29/2018 - 6/5/2018	Beta	1.65E-02	2.94E-03	3.32E-03
477409	6/5/2018 - 6/12/2018	Beta	2.41E-02	3.43E-03	3.66E-03
478132	6/12/2018 - 6/20/2018	Beta	1.90E-02	2.88E-03	3.08E-03
478450	6/20/2018 - 6/26/2018	Beta	1.95E-02	3.54E-03	4.08E-03
478821	6/26/2018 - 7/3/2018	Beta	1.60E-02	2.64E-03	2.98E-03
478831	4/3/2018 - 7/3/2018	Cs-134	<1.93E-03	0.00E+00	1.93E-03
		Cs-137	<1.12E-03	0.00E+00	1.12E-03



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 3 [INDICATOR - N @ 0.5 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
478831	4/3/2018 - 7/3/2018	Be-7	1.73E-01	4.14E-02	3.49E-02
		K-40	<2.56E-02	0.00E+00	2.56E-02
479226	7/3/2018 - 7/10/2018	Beta	1.78E-02	3.11E-03	3.50E-03
479908	7/10/2018 - 7/17/2018	Beta	2.74E-02	3.67E-03	3.75E-03
480273	7/17/2018 - 7/24/2018	Beta	2.35E-02	3.27E-03	3.15E-03
481098	7/24/2018 - 7/31/2018	Beta	1.89E-02	2.93E-03	3.33E-03
481538	7/31/2018 - 8/6/2018	Beta	8.68E-03	3.03E-03	4.34E-03
481993	8/6/2018 - 8/14/2018	Beta	1.88E-02	2.91E-03	3.17E-03
482508	8/14/2018 - 8/21/2018	Beta	2.11E-02	3.31E-03	3.60E-03
482832	8/21/2018 - 8/28/2018	Beta	2.37E-02	3.39E-03	3.58E-03
483453	8/28/2018 - 9/4/2018	Beta	1.20E-02	2.88E-03	3.72E-03
484053	9/4/2018 - 9/11/2018	Beta	1.63E-02	2.61E-03	2.85E-03
484625	9/11/2018 - 9/18/2018	Beta	5.05E-03	2.25E-03	3.30E-03
485051	9/18/2018 - 9/24/2018	Beta	2.17E-02	3.32E-03	3.61E-03
485513	9/24/2018 - 10/1/2018	Beta	1.77E-02	2.68E-03	2.77E-03
485523	7/3/2018 - 10/1/2018	Cs-134	<1.50E-03	0.00E+00	1.50E-03
		Cs-137	<1.23E-03	0.00E+00	1.23E-03
		Be-7	1.58E-01	3.97E-02	3.05E-02
		K-40	1.79E-02	1.20E-02	5.39E-03
486195	10/1/2018 - 10/9/2018	Beta	3.23E-02	3.10E-03	2.55E-03
486724	10/9/2018 - 10/15/2018	Beta	1.60E-02	2.98E-03	3.55E-03
487762	10/15/2018 - 10/23/2018	Beta	2.35E-02	2.88E-03	2.86E-03
488005	10/23/2018 - 10/29/2018	Beta	1.90E-02	3.62E-03	4.31E-03
488498	10/29/2018 - 11/5/2018	Beta	1.84E-02	2.97E-03	3.48E-03
488882	11/5/2018 - 11/13/2018	Beta	2.05E-02	2.96E-03	3.04E-03
489174	11/13/2018 - 11/20/2018	Beta	2.34E-02	3.45E-03	3.64E-03
489755	11/20/2018 - 11/28/2018	Beta	2.26E-02	3.37E-03	3.52E-03



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 3 [INDICATOR - N @ 0.5 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
490179	11/28/2018 - 12/5/2018	Beta	2.04E-02	2.71E-03	2.76E-03
490831	12/5/2018 - 12/11/2018	Beta	1.72E-02	3.50E-03	4.24E-03
491308	12/11/2018 - 12/18/2018	Beta	1.83E-02	2.80E-03	2.99E-03
491507	12/18/2018 - 12/26/2018	Beta	1.81E-02	2.86E-03	3.05E-03
491787	10/1/2018 - 1/2/2019	Cs-134	<1.87E-03	0.00E+00	1.87E-03
		Cs-137	<1.19E-03	0.00E+00	1.19E-03
		Be-7	1.22E-01	3.87E-02	4.33E-02
		K-40	<2.91E-02	0.00E+00	2.91E-02
491858	12/26/2018 - 1/2/2019	Beta	1.72E-02	2.83E-03	3.21E-03

Sample Point 4 [INDICATOR - ESE @ 0.4 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466029	1/2/2018 - 1/10/2018	Beta	2.76E-02	3.09E-03	2.64E-03
466225	1/10/2018 - 1/16/2018	Beta	1.41E-02	2.92E-03	3.43E-03
466409	1/16/2018 - 1/23/2018	Beta	2.83E-02	3.08E-03	2.81E-03
467008	1/23/2018 - 1/30/2018	Beta	1.21E-02	2.30E-03	2.73E-03
467362	1/30/2018 - 2/6/2018	Beta	1.27E-02	2.87E-03	3.71E-03
467688	2/6/2018 - 2/13/2018	Beta	1.45E-02	2.32E-03	2.52E-03
468457	2/13/2018 - 2/20/2018	Beta	1.48E-02	3.02E-03	3.71E-03
468786	2/20/2018 - 2/27/2018	Beta	1.40E-02	2.89E-03	3.51E-03
469596	2/27/2018 - 3/6/2018	Beta	2.25E-02	3.35E-03	3.54E-03
470636	3/6/2018 - 3/13/2018	Beta	2.32E-02	3.37E-03	3.46E-03
471179	3/13/2018 - 3/20/2018	Beta	2.48E-02	3.39E-03	3.33E-03
471741	3/20/2018 - 3/27/2018	Beta	1.25E-02	2.70E-03	3.49E-03
472540	3/27/2018 - 4/3/2018	Beta	1.53E-02	2.80E-03	3.10E-03
472550	1/2/2018 - 4/3/2018	Cs-134	<1.95E-03	0.00E+00	1.95E-03
		Cs-137	<1.48E-03	0.00E+00	1.48E-03
		Be-7	1.74E-01	4.11E-02	3.43E-02
		K-40	<2.69E-02	0.00E+00	2.69E-02
473011	4/3/2018 - 4/10/2018	Beta	2.12E-02	3.16E-03	3.21E-03
473287	4/10/2018 - 4/17/2018	Beta	1.65E-02	2.72E-03	3.10E-03



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 4 [INDICATOR - ESE @ 0.4 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
473660	4/17/2018 - 4/24/2018	Beta	2.15E-02	2.93E-03	2.98E-03
474178	4/24/2018 - 5/1/2018	Beta	1.36E-02	2.87E-03	3.49E-03
474554	5/1/2018 - 5/8/2018	Beta	2.19E-02	3.30E-03	3.49E-03
474924	5/8/2018 - 5/15/2018	Beta	2.73E-02	3.17E-03	2.95E-03
475241	5/15/2018 - 5/22/2018	Beta	6.91E-03	2.51E-03	3.61E-03
475564	5/22/2018 - 5/29/2018	Beta	9.55E-03	2.32E-03	2.99E-03
476387	5/29/2018 - 6/5/2018	Beta	1.84E-02	3.05E-03	3.34E-03
477410	6/5/2018 - 6/12/2018	Beta	2.17E-02	3.28E-03	3.58E-03
478133	6/12/2018 - 6/20/2018	Beta	2.14E-02	3.10E-03	3.25E-03
478451	6/20/2018 - 6/26/2018	Beta	1.83E-02	3.44E-03	4.01E-03
478822	6/26/2018 - 7/3/2018	Beta	1.24E-02	2.48E-03	3.02E-03
478832	4/3/2018 - 7/3/2018	Cs-134	<1.38E-03	0.00E+00	1.38E-03
		Cs-137	<1.13E-03	0.00E+00	1.13E-03
		Be-7	1.41E-01	3.66E-02	3.05E-02
		K-40	<3.06E-02	0.00E+00	3.06E-02
479227	7/3/2018 - 7/10/2018	Beta	1.97E-02	3.20E-03	3.49E-03
479909	7/10/2018 - 7/17/2018	Beta	3.00E-02	3.77E-03	3.75E-03
480274	7/17/2018 - 7/24/2018	Beta	2.19E-02	3.21E-03	3.19E-03
481099	7/24/2018 - 7/31/2018	Beta	1.78E-02	2.88E-03	3.33E-03
481539	7/31/2018 - 8/6/2018	Beta	8.70E-03	3.03E-03	4.32E-03
481994	8/6/2018 - 8/14/2018	Beta	1.81E-02	2.87E-03	3.16E-03
482509	8/14/2018 - 8/21/2018	Beta	1.89E-02	3.20E-03	3.59E-03
482833	8/21/2018 - 8/28/2018	Beta	1.95E-02	3.22E-03	3.61E-03
483454	8/28/2018 - 9/4/2018	Beta	1.27E-02	2.89E-03	3.67E-03
484054	9/4/2018 - 9/11/2018	Beta	1.69E-02	2.66E-03	2.88E-03
484626	9/11/2018 - 9/18/2018	Beta	7.11E-03	2.32E-03	3.18E-03
485052	9/18/2018 - 9/24/2018	Beta	2.28E-02	3.40E-03	3.66E-03



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 4 [INDICATOR - ESE @ 0.4 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
485514	9/24/2018 - 10/1/2018	Beta	1.47E-02	2.56E-03	2.82E-03
485524	7/3/2018 - 10/1/2018	Nuclide	Activity	2 Sigma Error	MDA
		Cs-134	<1.55E-03	0.00E+00	1.55E-03
		Cs-137	<1.27E-03	0.00E+00	1.27E-03
		Be-7	1.14E-01	3.64E-02	4.10E-02
		K-40	<3.34E-02	0.00E+00	3.34E-02
486196	10/1/2018 - 10/9/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	2.90E-02	2.99E-03	2.57E-03
486725	10/9/2018 - 10/15/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.63E-02	3.00E-03	3.56E-03
487763	10/15/2018 - 10/23/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	2.33E-02	2.89E-03	2.89E-03
488006	10/23/2018 - 10/29/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.62E-02	3.55E-03	4.46E-03
488499	10/29/2018 - 11/5/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.59E-02	2.88E-03	3.51E-03
488883	11/5/2018 - 11/13/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.83E-02	2.87E-03	3.07E-03
489175	11/13/2018 - 11/20/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	2.05E-02	3.35E-03	3.71E-03
489756	11/20/2018 - 11/28/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	2.12E-02	3.34E-03	3.58E-03
490180	11/28/2018 - 12/5/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	2.00E-02	2.72E-03	2.81E-03
490832	12/5/2018 - 12/11/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.69E-02	3.56E-03	4.36E-03
491309	12/11/2018 - 12/18/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.68E-02	2.75E-03	3.03E-03
491508	12/18/2018 - 12/26/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.92E-02	2.93E-03	3.06E-03
491788	10/1/2018 - 1/2/2019	Nuclide	Activity	2 Sigma Error	MDA
		Cs-134	<2.28E-03	0.00E+00	2.28E-03
		Cs-137	<9.80E-04	0.00E+00	9.80E-04
		Be-7	1.23E-01	3.74E-02	3.80E-02
		K-40	<2.62E-02	0.00E+00	2.62E-02
491859	12/26/2018 - 1/2/2019	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.70E-02	2.83E-03	3.23E-03

Sample Point 5 [INDICATOR - ENE @ 0.9 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466030	1/2/2018 - 1/10/2018	Beta	2.33E-02	2.87E-03	2.60E-03
466226	1/10/2018 - 1/16/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.36E-02	2.89E-03	3.42E-03
466410	1/16/2018 - 1/23/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	2.67E-02	3.05E-03	2.86E-03
467009	1/23/2018 - 1/30/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	8.89E-03	2.17E-03	2.82E-03
467363	1/30/2018 - 2/6/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.29E-02	2.82E-03	3.61E-03
467689	2/6/2018 - 2/13/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.18E-02	2.16E-03	2.49E-03



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 5 [INDICATOR - ENE @ 0.9 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
468458	2/13/2018 - 2/20/2018	Beta	1.61E-02	2.92E-03	3.44E-03
468787	2/20/2018 - 2/27/2018	Beta	1.06E-02	2.58E-03	3.32E-03
469597	2/27/2018 - 3/6/2018	Beta	1.82E-02	2.96E-03	3.25E-03
470637	3/6/2018 - 3/13/2018	Beta	1.92E-02	2.98E-03	3.15E-03
471180	3/13/2018 - 3/20/2018	Beta	2.01E-02	2.98E-03	3.06E-03
471742	3/20/2018 - 3/27/2018	Beta	9.18E-03	2.34E-03	3.16E-03
472541	3/27/2018 - 4/3/2018	Beta	1.52E-02	2.67E-03	2.90E-03
472551	1/2/2018 - 4/3/2018	Cs-134	<1.80E-03	0.00E+00	1.80E-03
		Cs-137	<1.58E-03	0.00E+00	1.58E-03
		Be-7	1.44E-01	3.71E-02	3.24E-02
		K-40	1.82E-02	1.66E-02	2.47E-02
473012	4/3/2018 - 4/10/2018	Beta	1.89E-02	2.92E-03	3.02E-03
473288	4/10/2018 - 4/17/2018	Beta	1.68E-02	2.59E-03	2.85E-03
473661	4/17/2018 - 4/24/2018	Beta	2.06E-02	2.82E-03	2.86E-03
474179	4/24/2018 - 5/1/2018	Beta	1.55E-02	2.83E-03	3.24E-03
474555	5/1/2018 - 5/8/2018	Beta	1.98E-02	3.14E-03	3.40E-03
474925	5/8/2018 - 5/15/2018	Beta	2.40E-02	2.92E-03	2.79E-03
475242	5/15/2018 - 5/22/2018	Beta	8.19E-03	2.51E-03	3.47E-03
475565	5/22/2018 - 5/29/2018	Beta	9.81E-03	2.27E-03	2.89E-03
476388	5/29/2018 - 6/5/2018	Beta	1.50E-02	2.79E-03	3.22E-03
477411	6/5/2018 - 6/12/2018	Beta	2.00E-02	3.18E-03	3.56E-03
478134	6/12/2018 - 6/20/2018	Beta	1.86E-02	2.85E-03	3.06E-03
478452	6/20/2018 - 6/26/2018	Beta	1.85E-02	3.37E-03	3.88E-03
478823	6/26/2018 - 7/3/2018	Beta	1.36E-02	2.48E-03	2.93E-03
478833	4/3/2018 - 7/3/2018	Cs-134	<1.63E-03	0.00E+00	1.63E-03
		Cs-137	<1.15E-03	0.00E+00	1.15E-03
		Be-7	1.66E-01	3.94E-02	2.95E-02
		K-40	1.60E-02	1.31E-02	1.67E-02
479228	7/3/2018 - 7/10/2018	Beta	1.89E-02	3.07E-03	3.35E-03



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 5 [INDICATOR - ENE @ 0.9 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
479910	7/10/2018 - 7/17/2018	Beta	2.99E-02	3.69E-03	3.61E-03
480275	7/17/2018 - 7/24/2018	Beta	2.09E-02	3.07E-03	3.04E-03
481100	7/24/2018 - 7/31/2018	Beta	1.60E-02	2.72E-03	3.20E-03
481540	7/31/2018 - 8/6/2018	Beta	8.98E-03	2.93E-03	4.13E-03
481995	8/6/2018 - 8/14/2018	Beta	1.78E-02	2.77E-03	3.03E-03
482510	8/14/2018 - 8/21/2018	Beta	1.69E-02	3.00E-03	3.44E-03
482834	8/21/2018 - 8/28/2018	Beta	2.07E-02	3.16E-03	3.44E-03
483455	8/28/2018 - 9/4/2018	Beta	1.09E-02	2.73E-03	3.57E-03
484055	9/4/2018 - 9/11/2018	Beta	1.68E-02	2.56E-03	2.74E-03
484627	9/11/2018 - 9/18/2018	Beta	6.74E-03	2.62E-03	3.74E-03
485053	9/18/2018 - 9/24/2018	Beta	2.46E-02	3.38E-03	3.49E-03
485515	9/24/2018 - 10/1/2018	Beta	1.63E-02	2.53E-03	2.66E-03
485525	7/3/2018 - 10/1/2018	Cs-134	<1.74E-03	0.00E+00	1.74E-03
		Cs-137	<1.10E-03	0.00E+00	1.10E-03
		Be-7	1.04E-01	3.72E-02	4.57E-02
		K-40	1.59E-02	1.50E-02	2.20E-02
486197	10/1/2018 - 10/9/2018	Beta	2.99E-02	2.95E-03	2.46E-03
486726	10/9/2018 - 10/15/2018	Beta	1.53E-02	2.96E-03	3.57E-03
487764	10/15/2018 - 10/23/2018	Beta	1.94E-02	2.60E-03	2.70E-03
488007	10/23/2018 - 10/29/2018	Beta	1.54E-02	3.27E-03	4.07E-03
488500	10/29/2018 - 11/5/2018	Beta	1.48E-02	2.68E-03	3.29E-03
488884	11/5/2018 - 11/13/2018	Beta	1.73E-02	2.67E-03	2.83E-03
489176	11/13/2018 - 11/20/2018	Beta	1.61E-02	2.93E-03	3.39E-03
489757	11/20/2018 - 11/28/2018	Beta	1.91E-02	3.02E-03	3.25E-03
490181	11/28/2018 - 12/5/2018	Beta	1.70E-02	2.43E-03	2.56E-03
490833	12/5/2018 - 12/11/2018	Beta	1.39E-02	3.11E-03	3.88E-03
491310	12/11/2018 - 12/18/2018	Beta	1.55E-02	2.52E-03	2.76E-03



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 5 [INDICATOR - ENE @ 0.9 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491509	12/18/2018 - 12/26/2018	Beta	1.49E-02	2.54E-03	2.81E-03
491789	10/1/2018 - 1/2/2019	Nuclide	Activity	2 Sigma Error	MDA
		Cs-134	<2.26E-03	0.00E+00	2.26E-03
		Cs-137	<1.85E-03	0.00E+00	1.85E-03
		Be-7	1.09E-01	3.64E-02	4.06E-02
		K-40	<2.59E-02	0.00E+00	2.59E-02
491860	12/26/2018 - 1/2/2019	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.41E-02	2.52E-03	2.96E-03

Sample Point 6 [INDICATOR - SSW @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466032	1/2/2018 - 1/10/2018	Beta	2.45E-02	2.63E-03	2.18E-03
466228	1/10/2018 - 1/16/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.37E-02	2.58E-03	2.91E-03
466412	1/16/2018 - 1/23/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	2.56E-02	2.69E-03	2.41E-03
467011	1/23/2018 - 1/30/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.03E-02	1.97E-03	2.34E-03
467365	1/30/2018 - 2/6/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.25E-02	2.53E-03	3.14E-03
467691	2/6/2018 - 2/13/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.16E-02	1.83E-03	1.97E-03
468460	2/13/2018 - 2/20/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.43E-02	2.53E-03	2.95E-03
468789	2/20/2018 - 2/27/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.08E-02	2.31E-03	2.84E-03
469599	2/27/2018 - 3/6/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.75E-02	2.61E-03	2.76E-03
470639	3/6/2018 - 3/13/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.95E-02	2.67E-03	2.65E-03
471182	3/13/2018 - 3/20/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	2.31E-02	2.82E-03	2.61E-03
471744	3/20/2018 - 3/27/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.10E-02	2.13E-03	2.64E-03
472543	3/27/2018 - 4/3/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.48E-02	2.37E-03	2.47E-03
472553	1/2/2018 - 4/3/2018	Nuclide	Activity	2 Sigma Error	MDA
		Cs-134	<1.22E-03	0.00E+00	1.22E-03
		Cs-137	<1.53E-03	0.00E+00	1.53E-03
		Be-7	1.58E-01	3.63E-02	3.15E-02
		K-40	<2.34E-02	0.00E+00	2.34E-02
473014	4/3/2018 - 4/10/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.85E-02	2.59E-03	2.54E-03
473290	4/10/2018 - 4/17/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.91E-02	2.44E-03	2.45E-03
473663	4/17/2018 - 4/24/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.89E-02	2.41E-03	2.36E-03
474181	4/24/2018 - 5/1/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	1.35E-02	2.45E-03	2.80E-03
474557	5/1/2018 - 5/8/2018	Nuclide	Activity	2 Sigma Error	MDA
		Beta	2.18E-02	2.87E-03	2.83E-03



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 6 [INDICATOR - SSW @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474927	5/8/2018 - 5/15/2018	Beta	2.67E-02	2.78E-03	2.43E-03
475244	5/15/2018 - 5/22/2018	Beta	6.70E-03	2.12E-03	2.97E-03
475567	5/22/2018 - 5/29/2018	Beta	7.29E-03	1.87E-03	2.46E-03
476390	5/29/2018 - 6/5/2018	Beta	1.40E-02	2.45E-03	2.75E-03
477413	6/5/2018 - 6/12/2018	Beta	2.01E-02	2.80E-03	2.95E-03
478136	6/12/2018 - 6/20/2018	Beta	1.81E-02	2.57E-03	2.66E-03
478454	6/20/2018 - 6/26/2018	Beta	1.80E-02	3.03E-03	3.37E-03
478825	6/26/2018 - 7/3/2018	Beta	1.46E-02	3.20E-03	4.02E-03
478835	4/3/2018 - 7/3/2018	Cs-134	<1.88E-03	0.00E+00	1.88E-03
		Cs-137	<7.16E-04	0.00E+00	7.16E-04
		Be-7	1.47E-01	3.44E-02	2.91E-02
		K-40	<2.75E-02	0.00E+00	2.75E-02
479230	7/3/2018 - 7/10/2018	Beta	1.71E-02	2.78E-03	3.04E-03
479912	7/10/2018 - 7/17/2018	Beta	2.79E-02	3.37E-03	3.27E-03
480277	7/17/2018 - 7/24/2018	Beta	1.92E-02	2.79E-03	2.76E-03
481102	7/24/2018 - 7/31/2018	Beta	1.28E-02	2.38E-03	2.89E-03
481542	7/31/2018 - 8/6/2018	Beta	9.04E-03	2.71E-03	3.74E-03
481997	8/6/2018 - 8/14/2018	Beta	1.61E-02	2.51E-03	2.75E-03
482512	8/14/2018 - 8/21/2018	Beta	1.65E-02	2.78E-03	3.12E-03
482836	8/21/2018 - 8/28/2018	Beta	2.06E-02	2.94E-03	3.09E-03
483457	8/28/2018 - 9/4/2018	Beta	9.15E-03	2.41E-03	3.20E-03
484057	9/4/2018 - 9/11/2018	Beta	1.63E-02	2.35E-03	2.43E-03
484629	9/11/2018 - 9/18/2018	Beta	7.05E-03	2.02E-03	2.64E-03
485055	9/18/2018 - 9/24/2018	Beta	2.31E-02	3.07E-03	3.11E-03
485517	9/24/2018 - 10/1/2018	Beta	1.39E-02	3.56E-03	4.57E-03
485527	7/3/2018 - 10/1/2018	Cs-134	<2.20E-03	0.00E+00	2.20E-03
		Cs-137	<1.22E-03	0.00E+00	1.22E-03
		Be-7	1.13E-01	3.47E-02	3.74E-02
		K-40	2.26E-02	1.46E-02	1.68E-02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 6 [INDICATOR - SSW @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
486199	10/1/2018 - 10/9/2018	Beta	2.93E-02	3.00E-03	2.57E-03
486728	10/9/2018 - 10/15/2018	Beta	1.50E-02	2.57E-03	2.97E-03
487766	10/15/2018 - 10/23/2018	Beta	2.05E-02	2.41E-03	2.34E-03
488009	10/23/2018 - 10/29/2018	Beta	1.58E-02	2.97E-03	3.53E-03
488502	10/29/2018 - 11/5/2018	Beta	1.60E-02	2.45E-03	2.81E-03
488886	11/5/2018 - 11/13/2018	Beta	1.73E-02	2.42E-03	2.45E-03
489178	11/13/2018 - 11/20/2018	Beta	1.97E-02	2.79E-03	2.89E-03
489759	11/20/2018 - 11/28/2018	Beta	1.81E-02	2.68E-03	2.79E-03
490183	11/28/2018 - 12/5/2018	Beta	1.91E-02	2.28E-03	2.20E-03
490835	12/5/2018 - 12/11/2018	Beta	1.35E-02	2.75E-03	3.31E-03
491312	12/11/2018 - 12/18/2018	Beta	1.75E-02	2.36E-03	2.37E-03
491511	12/18/2018 - 12/26/2018	Beta	1.44E-02	2.25E-03	2.38E-03
491791	10/1/2018 - 1/2/2019	Cs-134	<1.65E-03	0.00E+00	1.65E-03
		Cs-137	<1.11E-03	0.00E+00	1.11E-03
		Be-7	9.42E-02	3.04E-02	3.41E-02
		K-40	1.10E-02	1.34E-02	2.15E-02
491862	12/26/2018 - 1/2/2019	Beta	1.60E-02	2.35E-03	2.55E-03

Sample Point 7 [INDICATOR - ESE @ 6.4 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466035	1/2/2018 - 1/10/2018	Beta	2.32E-02	2.66E-03	2.30E-03
466231	1/10/2018 - 1/16/2018	Beta	1.29E-02	2.60E-03	3.03E-03
466415	1/16/2018 - 1/23/2018	Beta	2.47E-02	2.69E-03	2.46E-03
467014	1/23/2018 - 1/30/2018	Beta	9.68E-03	2.05E-03	2.54E-03
467368	1/30/2018 - 2/6/2018	Beta	1.12E-02	2.48E-03	3.18E-03
467694	2/6/2018 - 2/13/2018	Beta	1.37E-02	2.17E-03	2.34E-03
468463	2/13/2018 - 2/20/2018	Beta	1.12E-02	2.48E-03	3.14E-03
468792	2/20/2018 - 2/27/2018	Beta	9.22E-03	2.31E-03	3.00E-03
469602	2/27/2018 - 3/6/2018	Beta	1.68E-02	2.66E-03	2.89E-03



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 7 [INDICATOR - ESE @ 6.4 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
470642	3/6/2018 - 3/13/2018	Beta	1.64E-02	2.61E-03	2.80E-03
471185	3/13/2018 - 3/20/2018	Beta	2.13E-02	2.83E-03	2.74E-03
471747	3/20/2018 - 3/27/2018	Beta	1.05E-02	2.19E-03	2.79E-03
472546	3/27/2018 - 4/3/2018	Beta	1.44E-02	2.42E-03	2.57E-03
472556	1/2/2018 - 4/3/2018	Cs-134	<1.69E-03	0.00E+00	1.69E-03
		Cs-137	<1.05E-03	0.00E+00	1.05E-03
		Be-7	1.44E-01	3.42E-02	2.72E-02
		K-40	2.62E-02	1.37E-02	1.30E-02
473017	4/3/2018 - 4/10/2018	Beta	1.61E-02	2.59E-03	2.72E-03
473293	4/10/2018 - 4/17/2018	Beta	1.45E-02	2.29E-03	2.56E-03
473666	4/17/2018 - 4/24/2018	Beta	1.91E-02	2.52E-03	2.52E-03
474184	4/24/2018 - 5/1/2018	Beta	1.30E-02	2.50E-03	2.91E-03
474560	5/1/2018 - 5/8/2018	Beta	1.99E-02	2.89E-03	2.99E-03
474930	5/8/2018 - 5/15/2018	Beta	2.18E-02	2.67E-03	2.56E-03
475247	5/15/2018 - 5/22/2018	Beta	6.70E-03	2.21E-03	3.11E-03
475570	5/22/2018 - 5/29/2018	Beta	8.38E-03	2.01E-03	2.58E-03
476393	5/29/2018 - 6/5/2018	Beta	1.43E-02	2.53E-03	2.86E-03
477416	6/5/2018 - 6/12/2018	Beta	1.74E-02	2.84E-03	3.23E-03
478139	6/12/2018 - 6/20/2018	Beta	1.61E-02	2.49E-03	2.69E-03
478457	6/20/2018 - 6/26/2018	Beta	1.81E-02	3.10E-03	3.48E-03
478828	6/26/2018 - 7/3/2018	Beta	1.24E-02	2.24E-03	2.61E-03
478838	4/3/2018 - 7/3/2018	Cs-134	<1.26E-03	0.00E+00	1.26E-03
		Cs-137	<1.45E-03	0.00E+00	1.45E-03
		Be-7	1.22E-01	3.53E-02	3.69E-02
		K-40	<2.19E-02	0.00E+00	2.19E-02
479233	7/3/2018 - 7/10/2018	Beta	1.72E-02	2.76E-03	3.00E-03
479915	7/10/2018 - 7/17/2018	Beta	2.53E-02	3.20E-03	3.18E-03
480280	7/17/2018 - 7/24/2018	Beta	1.99E-02	2.83E-03	2.77E-03
481105	7/24/2018 - 7/31/2018	Beta	1.46E-02	2.43E-03	2.84E-03



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 7 [INDICATOR - ESE @ 6.4 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481545	7/31/2018 - 8/6/2018	Beta	7.76E-03	2.62E-03	3.71E-03
482000	8/6/2018 - 8/14/2018	Beta	1.43E-02	2.40E-03	2.71E-03
482515	8/14/2018 - 8/21/2018	Beta	1.57E-02	2.71E-03	3.07E-03
482839	8/21/2018 - 8/28/2018	Beta	1.85E-02	2.82E-03	3.07E-03
483460	8/28/2018 - 9/4/2018	Beta	7.37E-03	2.29E-03	3.18E-03
484060	9/4/2018 - 9/11/2018	Beta	1.62E-02	2.44E-03	2.58E-03
484632	9/11/2018 - 9/18/2018	Beta	6.99E-03	1.93E-03	2.50E-03
485058	9/18/2018 - 9/24/2018	Beta	1.89E-02	2.63E-03	2.74E-03
485520	9/24/2018 - 10/1/2018	Beta	1.34E-02	2.04E-03	2.13E-03
485530	7/3/2018 - 10/1/2018	Cs-134	<1.46E-03	0.00E+00	1.46E-03
		Cs-137	<1.03E-03	0.00E+00	1.03E-03
		Be-7	1.14E-01	3.22E-02	3.00E-02
		K-40	<2.35E-02	0.00E+00	2.35E-02
486202	10/1/2018 - 10/9/2018	Beta	2.77E-02	2.50E-03	1.97E-03
486731	10/9/2018 - 10/15/2018	Beta	1.29E-02	2.32E-03	2.72E-03
487769	10/15/2018 - 10/23/2018	Beta	1.88E-02	2.22E-03	2.16E-03
488012	10/23/2018 - 10/29/2018	Beta	1.39E-02	2.70E-03	3.24E-03
488505	10/29/2018 - 11/5/2018	Beta	1.02E-02	2.07E-03	2.62E-03
488889	11/5/2018 - 11/13/2018	Beta	1.48E-02	2.18E-03	2.26E-03
489181	11/13/2018 - 11/20/2018	Beta	1.75E-02	2.55E-03	2.68E-03
489762	11/20/2018 - 11/28/2018	Beta	1.81E-02	2.55E-03	2.59E-03
490186	11/28/2018 - 12/5/2018	Beta	1.32E-02	1.92E-03	2.04E-03
490838	12/5/2018 - 12/11/2018	Beta	1.24E-02	2.54E-03	3.06E-03
491315	12/11/2018 - 12/18/2018	Beta	1.44E-02	2.09E-03	2.18E-03
491514	12/18/2018 - 12/26/2018	Beta	1.28E-02	2.09E-03	2.26E-03
491794	10/1/2018 - 1/2/2019	Cs-134	<1.53E-03	0.00E+00	1.53E-03
		Cs-137	<1.12E-03	0.00E+00	1.12E-03
		Be-7	9.57E-02	2.72E-02	2.30E-02
		K-40	<1.89E-02	0.00E+00	1.89E-02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 7 [INDICATOR - ESE @ 6.4 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491865	12/26/2018 - 1/2/2019	Beta	1.58E-02	2.24E-03	2.38E-03
Sample Point 55 [INDICATOR - SSE @ 0.2 miles]					
466031	1/2/2018 - 1/10/2018	Beta	2.51E-02	2.83E-03	2.42E-03
466227	1/10/2018 - 1/16/2018	Beta	1.53E-02	2.87E-03	3.24E-03
466411	1/16/2018 - 1/23/2018	Beta	2.62E-02	2.87E-03	2.63E-03
467010	1/23/2018 - 1/30/2018	Beta	1.28E-02	2.25E-03	2.59E-03
467364	1/30/2018 - 2/6/2018	Beta	1.36E-02	2.77E-03	3.47E-03
467690	2/6/2018 - 2/13/2018	Beta	1.32E-02	2.01E-03	2.14E-03
468459	2/13/2018 - 2/20/2018	Beta	1.71E-02	2.87E-03	3.28E-03
468788	2/20/2018 - 2/27/2018	Beta	1.36E-02	2.66E-03	3.16E-03
469598	2/27/2018 - 3/6/2018	Beta	2.05E-02	2.95E-03	3.07E-03
470638	3/6/2018 - 3/13/2018	Beta	2.08E-02	2.92E-03	2.94E-03
471181	3/13/2018 - 3/20/2018	Beta	2.39E-02	3.06E-03	2.89E-03
471743	3/20/2018 - 3/27/2018	Beta	1.16E-02	2.33E-03	2.93E-03
472542	3/27/2018 - 4/3/2018	Beta	1.52E-02	2.58E-03	2.76E-03
472552	1/2/2018 - 4/3/2018	Nuclide	Activity	2 Sigma Error	MDA
		Cs-134	<1.31E-03	0.00E+00	1.31E-03
		Cs-137	<7.29E-04	0.00E+00	7.29E-04
		Be-7	1.61E-01	3.58E-02	2.42E-02
		K-40	1.80E-02	1.05E-02	4.06E-03
473013	4/3/2018 - 4/10/2018	Beta	2.18E-02	2.94E-03	2.82E-03
473289	4/10/2018 - 4/17/2018	Beta	1.63E-02	2.48E-03	2.71E-03
473662	4/17/2018 - 4/24/2018	Beta	1.94E-02	2.63E-03	2.66E-03
474180	4/24/2018 - 5/1/2018	Beta	1.71E-02	2.83E-03	3.10E-03
474556	5/1/2018 - 5/8/2018	Beta	2.04E-02	3.02E-03	3.16E-03
474926	5/8/2018 - 5/15/2018	Beta	2.81E-02	3.02E-03	2.69E-03
475243	5/15/2018 - 5/22/2018	Beta	7.67E-03	2.38E-03	3.32E-03
475566	5/22/2018 - 5/29/2018	Beta	8.93E-03	2.13E-03	2.74E-03



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 55 [INDICATOR - SSE @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
476389	5/29/2018 - 6/5/2018	Beta	1.61E-02	2.75E-03	3.05E-03
477412	6/5/2018 - 6/12/2018	Beta	2.62E-02	3.32E-03	3.34E-03
478135	6/12/2018 - 6/20/2018	Beta	1.96E-02	2.80E-03	2.92E-03
478453	6/20/2018 - 6/26/2018	Beta	1.90E-02	3.29E-03	3.70E-03
478824	6/26/2018 - 7/3/2018	Beta	1.47E-02	2.47E-03	2.80E-03
478834	4/3/2018 - 7/3/2018	Cs-134	<1.88E-03	0.00E+00	1.88E-03
		Cs-137	<8.65E-04	0.00E+00	8.65E-04
		Be-7	1.85E-01	4.23E-02	3.48E-02
		K-40	<2.32E-02	0.00E+00	2.32E-02
479229	7/3/2018 - 7/10/2018	Beta	1.87E-02	2.95E-03	3.18E-03
479911	7/10/2018 - 7/17/2018	Beta	2.81E-02	3.49E-03	3.44E-03
480276	7/17/2018 - 7/24/2018	Beta	2.04E-02	2.95E-03	2.90E-03
481101	7/24/2018 - 7/31/2018	Beta	1.84E-02	2.73E-03	3.04E-03
481541	7/31/2018 - 8/6/2018	Beta	8.22E-03	2.78E-03	3.94E-03
481996	8/6/2018 - 8/14/2018	Beta	2.01E-02	2.80E-03	2.90E-03
482511	8/14/2018 - 8/21/2018	Beta	1.74E-02	2.92E-03	3.28E-03
482835	8/21/2018 - 8/28/2018	Beta	2.37E-02	3.19E-03	3.26E-03
483456	8/28/2018 - 9/4/2018	Beta	1.10E-02	2.65E-03	3.42E-03
484056	9/4/2018 - 9/11/2018	Beta	1.70E-02	2.43E-03	2.51E-03
484628	9/11/2018 - 9/18/2018	Beta	5.57E-03	1.92E-03	2.67E-03
485054	9/18/2018 - 9/24/2018	Beta	2.10E-02	3.00E-03	3.16E-03
485516	9/24/2018 - 10/1/2018	Beta	1.55E-02	2.30E-03	2.36E-03
485526	7/3/2018 - 10/1/2018	Cs-134	<1.40E-03	0.00E+00	1.40E-03
		Cs-137	<1.60E-03	0.00E+00	1.60E-03
		Be-7	1.28E-01	3.44E-02	3.28E-02
		K-40	<3.27E-02	0.00E+00	3.27E-02
486198	10/1/2018 - 10/9/2018	Beta	2.89E-02	2.71E-03	2.19E-03
486727	10/9/2018 - 10/15/2018	Beta	1.45E-02	2.55E-03	2.97E-03
487765	10/15/2018 - 10/23/2018	Beta	2.10E-02	2.46E-03	2.37E-03



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 55 [INDICATOR - SSE @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
488008	10/23/2018 - 10/29/2018	Beta	1.54E-02	2.96E-03	3.55E-03
488501	10/29/2018 - 11/5/2018	Beta	1.61E-02	2.50E-03	2.87E-03
488885	11/5/2018 - 11/13/2018	Beta	1.58E-02	2.73E-03	3.05E-03
489177	11/13/2018 - 11/20/2018	Beta	1.78E-02	2.75E-03	2.98E-03
489758	11/20/2018 - 11/28/2018	Beta	1.78E-02	2.69E-03	2.83E-03
490182	11/28/2018 - 12/5/2018	Beta	1.87E-02	2.29E-03	2.24E-03
490834	12/5/2018 - 12/11/2018	Beta	1.55E-02	2.87E-03	3.34E-03
491311	12/11/2018 - 12/18/2018	Beta	1.47E-02	2.26E-03	2.41E-03
491510	12/18/2018 - 12/26/2018	Beta	1.52E-02	2.31E-03	2.42E-03
491790	10/1/2018 - 1/2/2019	Cs-134	<1.85E-03	0.00E+00	1.85E-03
		Cs-137	<1.79E-03	0.00E+00	1.79E-03
		Be-7	1.02E-01	3.53E-02	4.38E-02
		K-40	<3.40E-02	0.00E+00	3.40E-02
491861	12/26/2018 - 1/2/2019	Beta	1.62E-02	2.40E-03	2.59E-03

Sample Point 60 [INDICATOR - SE @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466033	1/2/2018 - 1/10/2018	Beta	2.69E-02	2.95E-03	2.48E-03
466229	1/10/2018 - 1/16/2018	Beta	1.64E-02	2.94E-03	3.24E-03
466413	1/16/2018 - 1/23/2018	Beta	2.89E-02	3.00E-03	2.66E-03
467012	1/23/2018 - 1/30/2018	Beta	1.18E-02	2.21E-03	2.60E-03
467366	1/30/2018 - 2/6/2018	Beta	1.28E-02	2.75E-03	3.50E-03
467692	2/6/2018 - 2/13/2018	Beta	1.53E-02	2.10E-03	2.11E-03
468461	2/13/2018 - 2/20/2018	Beta	1.77E-02	2.89E-03	3.25E-03
468790	2/20/2018 - 2/27/2018	Beta	1.16E-02	2.50E-03	3.09E-03
469600	2/27/2018 - 3/6/2018	Beta	2.06E-02	2.96E-03	3.07E-03
470640	3/6/2018 - 3/13/2018	Beta	2.25E-02	3.04E-03	2.99E-03
471183	3/13/2018 - 3/20/2018	Beta	2.31E-02	3.00E-03	2.87E-03
471745	3/20/2018 - 3/27/2018	Beta	1.26E-02	2.41E-03	2.98E-03



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 60 [INDICATOR - SE @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
472544	3/27/2018 - 4/3/2018	Beta	1.41E-02	2.49E-03	2.70E-03
472554	1/2/2018 - 4/3/2018	Cs-134	<1.18E-03	0.00E+00	1.18E-03
		Cs-137	<1.24E-03	0.00E+00	1.24E-03
		Be-7	1.72E-01	3.67E-02	1.95E-02
		K-40	<2.06E-02	0.00E+00	2.06E-02
473015	4/3/2018 - 4/10/2018	Beta	2.09E-02	2.88E-03	2.81E-03
473291	4/10/2018 - 4/17/2018	Beta	1.96E-02	2.63E-03	2.71E-03
473664	4/17/2018 - 4/24/2018	Beta	2.19E-02	2.70E-03	2.60E-03
474182	4/24/2018 - 5/1/2018	Beta	1.46E-02	2.68E-03	3.07E-03
474558	5/1/2018 - 5/8/2018	Beta	2.17E-02	3.02E-03	3.07E-03
474928	5/8/2018 - 5/15/2018	Beta	2.99E-02	3.04E-03	2.61E-03
475245	5/15/2018 - 5/22/2018	Beta	7.18E-03	2.29E-03	3.21E-03
475568	5/22/2018 - 5/29/2018	Beta	9.03E-03	2.08E-03	2.64E-03
476391	5/29/2018 - 6/5/2018	Beta	1.62E-02	2.68E-03	2.93E-03
477414	6/5/2018 - 6/12/2018	Beta	2.23E-02	3.02E-03	3.14E-03
478137	6/12/2018 - 6/20/2018	Beta	1.97E-02	2.77E-03	2.86E-03
478455	6/20/2018 - 6/26/2018	Beta	1.78E-02	3.11E-03	3.52E-03
478826	6/26/2018 - 7/3/2018	Beta	1.35E-02	2.31E-03	2.65E-03
478836	4/3/2018 - 7/3/2018	Cs-134	<1.69E-03	0.00E+00	1.69E-03
		Cs-137	<9.79E-04	0.00E+00	9.79E-04
		Be-7	1.45E-01	3.51E-02	2.94E-02
		K-40	<3.23E-02	0.00E+00	3.23E-02
479231	7/3/2018 - 7/10/2018	Beta	1.79E-02	2.83E-03	3.05E-03
479913	7/10/2018 - 7/17/2018	Beta	2.56E-02	3.26E-03	3.26E-03
480278	7/17/2018 - 7/24/2018	Beta	2.23E-02	2.96E-03	2.77E-03
481103	7/24/2018 - 7/31/2018	Beta	1.75E-02	2.60E-03	2.89E-03
481543	7/31/2018 - 8/6/2018	Beta	9.53E-03	2.75E-03	3.76E-03
481998	8/6/2018 - 8/14/2018	Beta	1.55E-02	2.48E-03	2.75E-03
482513	8/14/2018 - 8/21/2018	Beta	1.73E-02	2.81E-03	3.11E-03



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 60 [INDICATOR - SE @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
482837	8/21/2018 - 8/28/2018	Beta	2.04E-02	3.05E-03	3.27E-03
483458	8/28/2018 - 9/4/2018	Beta	1.09E-02	2.42E-03	3.04E-03
484058	9/4/2018 - 9/11/2018	Beta	1.44E-02	2.32E-03	2.54E-03
484630	9/11/2018 - 9/18/2018	Beta	7.41E-03	2.13E-03	2.81E-03
485056	9/18/2018 - 9/24/2018	Beta	2.15E-02	3.08E-03	3.25E-03
485518	9/24/2018 - 10/1/2018	Beta	1.46E-02	2.33E-03	2.47E-03
485528	7/3/2018 - 10/1/2018	Cs-134	<3.48E-04	0.00E+00	3.48E-04
		Cs-137	<1.27E-03	0.00E+00	1.27E-03
		Be-7	1.31E-01	3.06E-02	1.51E-02
		K-40	<2.67E-02	0.00E+00	2.67E-02
486200	10/1/2018 - 10/9/2018	Beta	3.16E-02	2.86E-03	2.27E-03
486729	10/9/2018 - 10/15/2018	Beta	1.66E-02	2.78E-03	3.18E-03
487767	10/15/2018 - 10/23/2018	Beta	2.29E-02	2.64E-03	2.53E-03
488010	10/23/2018 - 10/29/2018	Beta	1.94E-02	3.38E-03	3.91E-03
488503	10/29/2018 - 11/5/2018	Beta	1.62E-02	2.65E-03	3.11E-03
488887	11/5/2018 - 11/13/2018	Beta	1.85E-02	2.65E-03	2.70E-03
489179	11/13/2018 - 11/20/2018	Beta	1.97E-02	3.03E-03	3.27E-03
489760	11/20/2018 - 11/28/2018	Beta	2.08E-02	3.03E-03	3.13E-03
490184	11/28/2018 - 12/5/2018	Beta	2.22E-02	2.58E-03	2.46E-03
490836	12/5/2018 - 12/11/2018	Beta	2.00E-02	3.39E-03	3.80E-03
491313	12/11/2018 - 12/18/2018	Beta	1.86E-02	2.61E-03	2.66E-03
491512	12/18/2018 - 12/26/2018	Beta	1.77E-02	2.61E-03	2.69E-03
491792	10/1/2018 - 1/2/2019	Cs-134	<1.66E-03	0.00E+00	1.66E-03
		Cs-137	<1.22E-03	0.00E+00	1.22E-03
		Be-7	1.06E-01	2.92E-02	2.19E-02
		K-40	<3.25E-02	0.00E+00	3.25E-02
491863	12/26/2018 - 1/2/2019	Beta	1.93E-02	2.68E-03	2.83E-03

Sample Point 61 [INDICATOR - WSW @ 0.3 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466034	1/2/2018 - 1/10/2018	Beta	2.60E-02	2.88E-03	2.43E-03



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 61 [INDICATOR - WSW @ 0.3 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466230	1/10/2018 - 1/16/2018	Beta	1.46E-02	2.66E-03	2.96E-03
466414	1/16/2018 - 1/23/2018	Beta	2.62E-02	2.87E-03	2.62E-03
467013	1/23/2018 - 1/30/2018	Beta	1.16E-02	2.11E-03	2.46E-03
467367	1/30/2018 - 2/6/2018	Beta	1.18E-02	2.61E-03	3.34E-03
467693	2/6/2018 - 2/13/2018	Beta	1.31E-02	2.00E-03	2.12E-03
468462	2/13/2018 - 2/20/2018	Beta	1.42E-02	2.77E-03	3.36E-03
468791	2/20/2018 - 2/27/2018	Beta	1.10E-02	2.53E-03	3.18E-03
469601	2/27/2018 - 3/6/2018	Beta	1.82E-02	2.92E-03	3.20E-03
470641	3/6/2018 - 3/13/2018	Beta	2.18E-02	3.07E-03	3.10E-03
471184	3/13/2018 - 3/20/2018	Beta	2.07E-02	2.98E-03	3.01E-03
471746	3/20/2018 - 3/27/2018	Beta	1.21E-02	2.46E-03	3.11E-03
472545	3/27/2018 - 4/3/2018	Beta	1.61E-02	2.67E-03	2.81E-03
472555	1/2/2018 - 4/3/2018	Cs-134	<1.02E-03	0.00E+00	1.02E-03
		Cs-137	<1.06E-03	0.00E+00	1.06E-03
		Be-7	1.41E-01	3.84E-02	3.72E-02
		K-40	<2.98E-02	0.00E+00	2.98E-02
473016	4/3/2018 - 4/10/2018	Beta	2.14E-02	2.98E-03	2.92E-03
473292	4/10/2018 - 4/17/2018	Beta	1.85E-02	2.64E-03	2.81E-03
473665	4/17/2018 - 4/24/2018	Beta	2.14E-02	2.74E-03	2.69E-03
474183	4/24/2018 - 5/1/2018	Beta	1.17E-02	2.56E-03	3.15E-03
474559	5/1/2018 - 5/8/2018	Beta	1.94E-02	2.97E-03	3.16E-03
474929	5/8/2018 - 5/15/2018	Beta	2.55E-02	2.91E-03	2.68E-03
475246	5/15/2018 - 5/22/2018	Beta	7.60E-03	2.37E-03	3.30E-03
475569	5/22/2018 - 5/29/2018	Beta	8.84E-03	2.11E-03	2.72E-03
476392	5/29/2018 - 6/5/2018	Beta	1.49E-02	2.66E-03	3.02E-03
477415	6/5/2018 - 6/12/2018	Beta	2.12E-02	3.04E-03	3.24E-03
478138	6/12/2018 - 6/20/2018	Beta	2.14E-02	2.88E-03	2.91E-03



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 61 [INDICATOR - WSW @ 0.3 miles]

Sample ID	Sample Dates	Nuclide	Activity	2 Sigma Error	MDA
478456	6/20/2018 - 6/26/2018	Beta	1.60E-02	3.11E-03	3.68E-03
478827	6/26/2018 - 7/3/2018	Beta	1.26E-02	2.32E-03	2.73E-03
478837	4/3/2018 - 7/3/2018	Cs-134	<1.35E-03	0.00E+00	1.35E-03
		Cs-137	<1.24E-03	0.00E+00	1.24E-03
		Be-7	1.33E-01	3.42E-02	3.13E-02
		K-40	<2.34E-02	0.00E+00	2.34E-02
479232	7/3/2018 - 7/10/2018	Beta	1.94E-02	2.96E-03	3.14E-03
479914	7/10/2018 - 7/17/2018	Beta	2.53E-02	3.33E-03	3.37E-03
480279	7/17/2018 - 7/24/2018	Beta	1.96E-02	2.88E-03	2.86E-03
481104	7/24/2018 - 7/31/2018	Beta	1.62E-02	2.60E-03	2.99E-03
481544	7/31/2018 - 8/6/2018	Beta	1.18E-02	2.95E-03	3.87E-03
481999	8/6/2018 - 8/14/2018	Beta	1.57E-02	2.54E-03	2.83E-03
482514	8/14/2018 - 8/21/2018	Beta	1.54E-02	2.78E-03	3.22E-03
482838	8/21/2018 - 8/28/2018	Beta	1.90E-02	2.94E-03	3.21E-03
483459	8/28/2018 - 9/4/2018	Beta	1.20E-02	2.64E-03	3.30E-03
484059	9/4/2018 - 9/11/2018	Beta	1.66E-02	2.44E-03	2.56E-03
484631	9/11/2018 - 9/18/2018	Beta	5.40E-03	2.01E-03	2.85E-03
485057	9/18/2018 - 9/24/2018	Beta	2.27E-02	3.18E-03	3.32E-03
485519	9/24/2018 - 10/1/2018	Beta	1.42E-02	2.32E-03	2.49E-03
485529	7/3/2018 - 10/1/2018	Cs-134	<1.42E-03	0.00E+00	1.42E-03
		Cs-137	<1.31E-03	0.00E+00	1.31E-03
		Be-7	9.14E-02	3.69E-02	4.93E-02
		K-40	3.81E-02	1.75E-02	1.59E-02
486201	10/1/2018 - 10/9/2018	Beta	2.59E-02	2.67E-03	2.29E-03
486730	10/9/2018 - 10/15/2018	Beta	1.10E-02	2.50E-03	3.19E-03
487768	10/15/2018 - 10/23/2018	Beta	1.94E-02	2.50E-03	2.54E-03
488011	10/23/2018 - 10/29/2018	Beta	1.63E-02	3.24E-03	3.93E-03
488504	10/29/2018 - 11/5/2018	Beta	1.36E-02	2.52E-03	3.10E-03
488888	11/5/2018 - 11/13/2018	Beta	1.49E-02	2.49E-03	2.73E-03



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 61 [INDICATOR - WSW @ 0.3 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
489180	11/13/2018 - 11/20/2018	Beta	1.73E-02	2.91E-03	3.28E-03
489761	11/20/2018 - 11/28/2018	Beta	2.01E-02	3.00E-03	3.15E-03
490185	11/28/2018 - 12/5/2018	Beta	1.61E-02	2.33E-03	2.47E-03
490837	12/5/2018 - 12/11/2018	Beta	1.75E-02	3.29E-03	3.84E-03
491314	12/11/2018 - 12/18/2018	Beta	1.80E-02	2.59E-03	2.68E-03
491513	12/18/2018 - 12/26/2018	Beta	1.74E-02	2.60E-03	2.70E-03
491793	10/1/2018 - 1/2/2019	Cs-134	<1.54E-03	0.00E+00	1.54E-03
		Cs-137	<8.67E-04	0.00E+00	8.67E-04
		Be-7	1.37E-01	3.40E-02	2.45E-02
		K-40	1.41E-02	1.01E-02	4.79E-03
491864	12/26/2018 - 1/2/2019	Beta	1.65E-02	2.57E-03	2.85E-03

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

Sample Point 1 [CONTROL - ESE @ 24.4 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466036	1/2/2018 - 1/10/2018	I-131	<2.65E-02	0.00E+00	2.65E-02
		Cs-134	<1.44E-02	0.00E+00	1.44E-02
		Cs-137	<1.41E-02	0.00E+00	1.41E-02
		Be-7	<8.12E-02	0.00E+00	8.12E-02
		K-40	4.73E-01	1.60E-01	1.24E-01
466232	1/10/2018 - 1/16/2018	I-131	<4.59E-02	0.00E+00	4.59E-02
		Cs-134	<1.92E-02	0.00E+00	1.92E-02
		Cs-137	<2.07E-02	0.00E+00	2.07E-02
		Be-7	2.65E-02	1.05E-01	1.85E-01
		K-40	5.97E-01	2.20E-01	2.22E-01
466416	1/16/2018 - 1/23/2018	I-131	<2.76E-02	0.00E+00	2.76E-02
		Cs-134	<2.00E-02	0.00E+00	2.00E-02
		Cs-137	<1.61E-02	0.00E+00	1.61E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	6.11E-01	1.80E-01	3.31E-02
467015	1/23/2018 - 1/30/2018	I-131	<2.05E-02	0.00E+00	2.05E-02
		Cs-134	<1.51E-02	0.00E+00	1.51E-02
		Cs-137	<1.29E-02	0.00E+00	1.29E-02
		Be-7	<1.23E-01	0.00E+00	1.23E-01
		K-40	5.06E-01	1.98E-01	2.22E-01
467369	1/30/2018 - 2/6/2018	I-131	<2.91E-02	0.00E+00	2.91E-02
		Cs-134	<1.42E-02	0.00E+00	1.42E-02
		Cs-137	<1.66E-02	0.00E+00	1.66E-02
		Be-7	<1.46E-01	0.00E+00	1.46E-01
		K-40	5.94E-01	1.88E-01	1.30E-01
468464	2/13/2018 - 2/20/2018	I-131	<2.90E-02	0.00E+00	2.90E-02
		Cs-134	<1.87E-02	0.00E+00	1.87E-02
		Cs-137	<2.03E-02	0.00E+00	2.03E-02
		Be-7	<1.23E-01	0.00E+00	1.23E-01

ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 1 [CONTROL - ESE @ 24.4 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
468464	2/13/2018 - 2/20/2018	K-40	3.69E-01	1.90E-01	2.41E-01
468793	2/20/2018 - 2/27/2018	I-131	<2.21E-02	0.00E+00	2.21E-02
		Cs-134	<1.74E-02	0.00E+00	1.74E-02
		Cs-137	<2.05E-02	0.00E+00	2.05E-02
		Be-7	<1.34E-01	0.00E+00	1.34E-01
		K-40	<3.95E-01	0.00E+00	3.95E-01
469603	2/27/2018 - 3/6/2018	I-131	<2.34E-02	0.00E+00	2.34E-02
		Cs-134	<1.83E-02	0.00E+00	1.83E-02
		Cs-137	<1.61E-02	0.00E+00	1.61E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	4.52E-01	1.99E-01	2.35E-01
470643	3/6/2018 - 3/13/2018	I-131	<2.57E-02	0.00E+00	2.57E-02
		Cs-134	<2.00E-02	0.00E+00	2.00E-02
		Cs-137	<1.98E-02	0.00E+00	1.98E-02
		Be-7	<1.32E-01	0.00E+00	1.32E-01
		K-40	4.01E-01	1.48E-01	3.51E-02
471186	3/13/2018 - 3/20/2018	I-131	<3.25E-02	0.00E+00	3.25E-02
		Cs-134	<1.82E-02	0.00E+00	1.82E-02
		Cs-137	<2.06E-02	0.00E+00	2.06E-02
		Be-7	<1.32E-01	0.00E+00	1.32E-01
		K-40	2.92E-01	1.87E-01	2.65E-01
471748	3/20/2018 - 3/27/2018	I-131	<3.12E-02	0.00E+00	3.12E-02
		Cs-134	<1.96E-02	0.00E+00	1.96E-02
		Cs-137	<1.99E-02	0.00E+00	1.99E-02
		Be-7	<1.37E-01	0.00E+00	1.37E-01
		K-40	<4.10E-01	0.00E+00	4.10E-01
472557	3/27/2018 - 4/3/2018	I-131	<2.04E-02	0.00E+00	2.04E-02
		Cs-134	<7.59E-03	0.00E+00	7.59E-03
		Cs-137	<7.92E-03	0.00E+00	7.92E-03
		Be-7	<5.56E-02	0.00E+00	5.56E-02
		K-40	3.50E-01	9.07E-02	9.68E-02
473018	4/3/2018 - 4/10/2018	I-131	<2.28E-02	0.00E+00	2.28E-02
		Cs-134	<1.97E-02	0.00E+00	1.97E-02
		Cs-137	<1.73E-02	0.00E+00	1.73E-02
		Be-7	<1.52E-01	0.00E+00	1.52E-01
		K-40	5.59E-01	1.91E-01	1.56E-01
473294	4/10/2018 - 4/17/2018	I-131	<2.31E-02	0.00E+00	2.31E-02
		Cs-134	<1.98E-02	0.00E+00	1.98E-02
		Cs-137	<1.33E-02	0.00E+00	1.33E-02
		Be-7	<1.53E-01	0.00E+00	1.53E-01
		K-40	5.01E-01	1.91E-01	1.87E-01
473667	4/17/2018 - 4/24/2018	I-131	<2.28E-02	0.00E+00	2.28E-02
		Cs-134	<1.87E-02	0.00E+00	1.87E-02
		Cs-137	<1.65E-02	0.00E+00	1.65E-02
		Be-7	<1.66E-01	0.00E+00	1.66E-01
		K-40	4.36E-01	1.75E-01	1.67E-01
474185	4/24/2018 - 5/1/2018	I-131	<2.20E-02	0.00E+00	2.20E-02
		Cs-134	<1.61E-02	0.00E+00	1.61E-02
		Cs-137	<1.66E-02	0.00E+00	1.66E-02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 1 [CONTROL - ESE @ 24.4 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474185	4/24/2018 - 5/1/2018	Be-7	<1.10E-01	0.00E+00	1.10E-01
		K-40	5.46E-01	1.84E-01	1.35E-01
474561	5/1/2018 - 5/8/2018	I-131	<1.99E-02	0.00E+00	1.99E-02
		Cs-134	<2.21E-02	0.00E+00	2.21E-02
		Cs-137	<1.89E-02	0.00E+00	1.89E-02
		Be-7	<1.31E-01	0.00E+00	1.31E-01
		K-40	5.31E-01	1.85E-01	1.38E-01
474931	5/8/2018 - 5/15/2018	I-131	<2.26E-02	0.00E+00	2.26E-02
		Cs-134	<1.94E-02	0.00E+00	1.94E-02
		Cs-137	<1.76E-02	0.00E+00	1.76E-02
		Be-7	<1.32E-01	0.00E+00	1.32E-01
		K-40	3.41E-01	1.89E-01	2.49E-01
475248	5/15/2018 - 5/22/2018	I-131	<2.56E-02	0.00E+00	2.56E-02
		Cs-134	<1.32E-02	0.00E+00	1.32E-02
		Cs-137	<1.72E-02	0.00E+00	1.72E-02
		Be-7	<1.18E-01	0.00E+00	1.18E-01
		K-40	6.55E-01	2.29E-01	2.34E-01
475571	5/22/2018 - 5/29/2018	I-131	<2.44E-02	0.00E+00	2.44E-02
		Cs-134	<1.76E-02	0.00E+00	1.76E-02
		Cs-137	<2.15E-02	0.00E+00	2.15E-02
		Be-7	<1.15E-01	0.00E+00	1.15E-01
		K-40	4.39E-01	1.91E-01	2.13E-01
476394	5/29/2018 - 6/5/2018	I-131	<2.05E-02	0.00E+00	2.05E-02
		Cs-134	<2.06E-02	0.00E+00	2.06E-02
		Cs-137	<1.54E-02	0.00E+00	1.54E-02
		Be-7	<1.30E-01	0.00E+00	1.30E-01
		K-40	6.80E-01	2.18E-01	1.88E-01
477417	6/5/2018 - 6/12/2018	I-131	<2.76E-02	0.00E+00	2.76E-02
		Cs-134	<1.86E-02	0.00E+00	1.86E-02
		Cs-137	<2.01E-02	0.00E+00	2.01E-02
		Be-7	<1.25E-01	0.00E+00	1.25E-01
		K-40	4.57E-01	1.74E-01	1.42E-01
478140	6/12/2018 - 6/20/2018	I-131	<3.08E-02	0.00E+00	3.08E-02
		Cs-134	<1.96E-02	0.00E+00	1.96E-02
		Cs-137	<1.83E-02	0.00E+00	1.83E-02
		Be-7	<1.10E-01	0.00E+00	1.10E-01
		K-40	3.90E-01	1.78E-01	2.13E-01
478458	6/20/2018 - 6/26/2018	I-131	<2.44E-02	0.00E+00	2.44E-02
		Cs-134	<2.19E-02	0.00E+00	2.19E-02
		Cs-137	<1.92E-02	0.00E+00	1.92E-02
		Be-7	<1.49E-01	0.00E+00	1.49E-01
		K-40	4.31E-01	2.23E-01	2.88E-01
478839	6/26/2018 - 7/3/2018	I-131	<2.45E-02	0.00E+00	2.45E-02
		Cs-134	<1.83E-02	0.00E+00	1.83E-02
		Cs-137	<1.98E-02	0.00E+00	1.98E-02
		Be-7	<1.46E-01	0.00E+00	1.46E-01
		K-40	4.59E-01	1.75E-01	1.45E-01
479234	7/3/2018 - 7/10/2018	I-131	<2.65E-02	0.00E+00	2.65E-02
		Cs-134	<2.01E-02	0.00E+00	2.01E-02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 1 [CONTROL - ESE @ 24.4 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
479234	7/3/2018 - 7/10/2018	Cs-137	<1.87E-02	0.00E+00	1.87E-02
		Be-7	<1.27E-01	0.00E+00	1.27E-01
		K-40	4.02E-01	2.20E-01	3.02E-01
479916	7/10/2018 - 7/17/2018	I-131	<2.39E-02	0.00E+00	2.39E-02
		Cs-134	<1.96E-02	0.00E+00	1.96E-02
		Cs-137	<1.97E-02	0.00E+00	1.97E-02
		Be-7	<1.49E-01	0.00E+00	1.49E-01
		K-40	6.47E-01	2.15E-01	1.91E-01
480281	7/17/2018 - 7/24/2018	I-131	<2.27E-02	0.00E+00	2.27E-02
		Cs-134	<1.81E-02	0.00E+00	1.81E-02
		Cs-137	<1.81E-02	0.00E+00	1.81E-02
		Be-7	<1.36E-01	0.00E+00	1.36E-01
		K-40	4.13E-01	2.05E-01	2.64E-01
481106	7/24/2018 - 7/31/2018	I-131	<2.87E-02	0.00E+00	2.87E-02
		Cs-134	<1.69E-02	0.00E+00	1.69E-02
		Cs-137	<2.08E-02	0.00E+00	2.08E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	6.10E-01	2.11E-01	1.92E-01
481546	7/31/2018 - 8/6/2018	I-131	<3.21E-02	0.00E+00	3.21E-02
		Cs-134	<2.13E-02	0.00E+00	2.13E-02
		Cs-137	<1.96E-02	0.00E+00	1.96E-02
		Be-7	<1.37E-01	0.00E+00	1.37E-01
		K-40	4.14E-01	2.12E-01	2.62E-01
482001	8/6/2018 - 8/14/2018	I-131	<1.86E-02	0.00E+00	1.86E-02
		Cs-134	<9.30E-03	0.00E+00	9.30E-03
		Cs-137	<1.53E-02	0.00E+00	1.53E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	2.30E-01	1.22E-01	1.39E-01
482516	8/14/2018 - 8/21/2018	I-131	<3.58E-02	0.00E+00	3.58E-02
		Cs-134	<1.41E-02	0.00E+00	1.41E-02
		Cs-137	<1.76E-02	0.00E+00	1.76E-02
		Be-7	<1.33E-01	0.00E+00	1.33E-01
		K-40	6.36E-01	2.15E-01	1.99E-01
482840	8/21/2018 - 8/28/2018	I-131	<1.57E-02	0.00E+00	1.57E-02
		Cs-134	<1.53E-02	0.00E+00	1.53E-02
		Cs-137	<1.77E-02	0.00E+00	1.77E-02
		Be-7	<1.06E-01	0.00E+00	1.06E-01
		K-40	<3.53E-01	0.00E+00	3.53E-01
483461	8/28/2018 - 9/4/2018	I-131	<2.72E-02	0.00E+00	2.72E-02
		Cs-134	<1.87E-02	0.00E+00	1.87E-02
		Cs-137	<1.93E-02	0.00E+00	1.93E-02
		Be-7	<1.41E-01	0.00E+00	1.41E-01
		K-40	4.25E-01	1.93E-01	2.23E-01
484061	9/4/2018 - 9/11/2018	I-131	<3.43E-02	0.00E+00	3.43E-02
		Cs-134	<1.69E-02	0.00E+00	1.69E-02
		Cs-137	<1.58E-02	0.00E+00	1.58E-02
		Be-7	<1.23E-01	0.00E+00	1.23E-01
		K-40	3.36E-01	1.48E-01	1.35E-01
484633	9/11/2018 - 9/18/2018	I-131	<2.91E-02	0.00E+00	2.91E-02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 1 [CONTROL - ESE @ 24.4 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
484633	9/11/2018 - 9/18/2018	Cs-134	<2.66E-02	0.00E+00	2.66E-02
		Cs-137	<2.00E-02	0.00E+00	2.00E-02
		Be-7	<1.65E-01	0.00E+00	1.65E-01
		K-40	4.10E-01	2.31E-01	2.92E-01
485059	9/18/2018 - 9/24/2018	I-131	<3.02E-02	0.00E+00	3.02E-02
		Cs-134	<2.38E-02	0.00E+00	2.38E-02
		Cs-137	<2.34E-02	0.00E+00	2.34E-02
		Be-7	8.32E-02	9.92E-02	1.61E-01
		K-40	8.08E-01	2.71E-01	2.57E-01
485531	9/24/2018 - 10/1/2018	I-131	<3.68E-02	0.00E+00	3.68E-02
		Cs-134	<1.89E-02	0.00E+00	1.89E-02
		Cs-137	<1.70E-02	0.00E+00	1.70E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	3.75E-01	1.79E-01	2.15E-01
486203	10/1/2018 - 10/9/2018	I-131	<3.01E-02	0.00E+00	3.01E-02
		Cs-134	<1.59E-02	0.00E+00	1.59E-02
		Cs-137	<1.67E-02	0.00E+00	1.67E-02
		Be-7	<1.00E-01	0.00E+00	1.00E-01
		K-40	4.24E-01	1.58E-01	1.34E-01
486732	10/9/2018 - 10/15/2018	I-131	<3.92E-02	0.00E+00	3.92E-02
		Cs-134	<2.29E-02	0.00E+00	2.29E-02
		Cs-137	<2.12E-02	0.00E+00	2.12E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	<4.23E-01	0.00E+00	4.23E-01
487770	10/15/2018 - 10/23/2018	I-131	<2.38E-02	0.00E+00	2.38E-02
		Cs-134	<1.45E-02	0.00E+00	1.45E-02
		Cs-137	<1.61E-02	0.00E+00	1.61E-02
		Be-7	<1.11E-01	0.00E+00	1.11E-01
		K-40	5.33E-01	2.15E-01	2.58E-01
488013	10/23/2018 - 10/29/2018	I-131	<2.50E-02	0.00E+00	2.50E-02
		Cs-134	<2.14E-02	0.00E+00	2.14E-02
		Cs-137	<1.99E-02	0.00E+00	1.99E-02
		Be-7	<1.33E-01	0.00E+00	1.33E-01
		K-40	4.70E-01	1.99E-01	2.08E-01
488506	10/29/2018 - 11/5/2018	I-131	<2.13E-02	0.00E+00	2.13E-02
		Cs-134	<1.97E-02	0.00E+00	1.97E-02
		Cs-137	<1.82E-02	0.00E+00	1.82E-02
		Be-7	<1.26E-01	0.00E+00	1.26E-01
		K-40	4.84E-01	1.87E-01	1.85E-01
488890	11/5/2018 - 11/13/2018	I-131	<2.31E-02	0.00E+00	2.31E-02
		Cs-134	<1.36E-02	0.00E+00	1.36E-02
		Cs-137	<1.60E-02	0.00E+00	1.60E-02
		Be-7	<9.60E-02	0.00E+00	9.60E-02
		K-40	4.14E-01	1.67E-01	1.75E-01
489182	11/13/2018 - 11/20/2018	I-131	<3.90E-02	0.00E+00	3.90E-02
		Cs-134	<2.38E-02	0.00E+00	2.38E-02
		Cs-137	<1.69E-02	0.00E+00	1.69E-02
		Be-7	<1.37E-01	0.00E+00	1.37E-01
		K-40	3.83E-01	1.46E-01	3.58E-02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 1 [CONTROL - ESE @ 24.4 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
489763	11/20/2018 - 11/28/2018	I-131	<2.63E-02	0.00E+00	2.63E-02
		Cs-134	<1.61E-02	0.00E+00	1.61E-02
		Cs-137	<2.01E-02	0.00E+00	2.01E-02
		Be-7	<1.18E-01	0.00E+00	1.18E-01
		K-40	<3.41E-01	0.00E+00	3.41E-01
490187	11/28/2018 - 12/5/2018	I-131	<3.06E-02	0.00E+00	3.06E-02
		Cs-134	<1.43E-02	0.00E+00	1.43E-02
		Cs-137	<1.32E-02	0.00E+00	1.32E-02
		Be-7	<1.02E-01	0.00E+00	1.02E-01
		K-40	5.42E-01	2.03E-01	2.29E-01
490839	12/5/2018 - 12/11/2018	I-131	<3.35E-02	0.00E+00	3.35E-02
		Cs-134	<2.06E-02	0.00E+00	2.06E-02
		Cs-137	<1.46E-02	0.00E+00	1.46E-02
		Be-7	<1.22E-01	0.00E+00	1.22E-01
		K-40	7.29E-01	2.14E-01	3.95E-02
491316	12/11/2018 - 12/18/2018	I-131	<3.87E-02	0.00E+00	3.87E-02
		Cs-134	<2.19E-02	0.00E+00	2.19E-02
		Cs-137	<1.61E-02	0.00E+00	1.61E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	6.09E-01	1.84E-01	3.51E-02
491515	12/18/2018 - 12/26/2018	I-131	<3.97E-02	0.00E+00	3.97E-02
		Cs-134	<1.45E-02	0.00E+00	1.45E-02
		Cs-137	<1.48E-02	0.00E+00	1.48E-02
		Be-7	<1.11E-01	0.00E+00	1.11E-01
		K-40	<3.06E-01	0.00E+00	3.06E-01
491866	12/26/2018 - 1/2/2019	I-131	<3.62E-02	0.00E+00	3.62E-02
		Cs-134	<1.46E-02	0.00E+00	1.46E-02
		Cs-137	<1.72E-02	0.00E+00	1.72E-02
		Be-7	<1.09E-01	0.00E+00	1.09E-01
		K-40	4.64E-01	1.90E-01	2.05E-01

Sample Point 2 [INDICATOR - S @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466037	1/2/2018 - 1/10/2018	I-131	<2.85E-02	0.00E+00	2.85E-02
		Cs-134	<1.68E-02	0.00E+00	1.68E-02
		Cs-137	<1.64E-02	0.00E+00	1.64E-02
		Be-7	<1.08E-01	0.00E+00	1.08E-01
		K-40	4.82E-01	1.54E-01	3.11E-02
466233	1/10/2018 - 1/16/2018	I-131	<4.55E-02	0.00E+00	4.55E-02
		Cs-134	<1.84E-02	0.00E+00	1.84E-02
		Cs-137	<2.20E-02	0.00E+00	2.20E-02
		Be-7	<1.49E-01	0.00E+00	1.49E-01
		K-40	7.06E-01	2.11E-01	3.99E-02
466417	1/16/2018 - 1/23/2018	I-131	<3.63E-02	0.00E+00	3.63E-02
		Cs-134	<2.20E-02	0.00E+00	2.20E-02
		Cs-137	<1.87E-02	0.00E+00	1.87E-02
		Be-7	<1.45E-01	0.00E+00	1.45E-01
		K-40	3.54E-01	1.82E-01	2.31E-01
467016	1/23/2018 - 1/30/2018	I-131	<2.47E-02	0.00E+00	2.47E-02
		Cs-134	<1.56E-02	0.00E+00	1.56E-02
		Cs-137	<1.56E-02	0.00E+00	1.56E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 2 [INDICATOR - S @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467016	1/23/2018 - 1/30/2018	K-40	3.21E-01	1.64E-01	2.00E-01
467370	1/30/2018 - 2/6/2018	I-131	<3.35E-02	0.00E+00	3.35E-02
		Cs-134	<1.92E-02	0.00E+00	1.92E-02
		Cs-137	<1.63E-02	0.00E+00	1.63E-02
		Be-7	<1.32E-01	0.00E+00	1.32E-01
		K-40	5.35E-01	1.87E-01	1.52E-01
467696	2/6/2018 - 2/13/2018	I-131	<2.23E-02	0.00E+00	2.23E-02
		Cs-134	<1.64E-02	0.00E+00	1.64E-02
		Cs-137	<1.39E-02	0.00E+00	1.39E-02
		Be-7	<1.09E-01	0.00E+00	1.09E-01
		K-40	4.95E-01	1.60E-01	3.27E-02
468465	2/13/2018 - 2/20/2018	I-131	<3.15E-02	0.00E+00	3.15E-02
		Cs-134	<1.53E-02	0.00E+00	1.53E-02
		Cs-137	<1.84E-02	0.00E+00	1.84E-02
		Be-7	<1.22E-01	0.00E+00	1.22E-01
		K-40	2.64E-01	1.36E-01	1.89E-01
468794	2/20/2018 - 2/27/2018	I-131	<2.42E-02	0.00E+00	2.42E-02
		Cs-134	<1.99E-02	0.00E+00	1.99E-02
		Cs-137	<1.75E-02	0.00E+00	1.75E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	4.90E-01	1.86E-01	1.82E-01
469604	2/27/2018 - 3/6/2018	I-131	<2.63E-02	0.00E+00	2.63E-02
		Cs-134	<1.26E-02	0.00E+00	1.26E-02
		Cs-137	<1.74E-02	0.00E+00	1.74E-02
		Be-7	<9.89E-02	0.00E+00	9.89E-02
		K-40	4.35E-01	1.74E-01	1.70E-01
470644	3/6/2018 - 3/13/2018	I-131	<2.38E-02	0.00E+00	2.38E-02
		Cs-134	<1.53E-02	0.00E+00	1.53E-02
		Cs-137	<1.89E-02	0.00E+00	1.89E-02
		Be-7	<1.35E-01	0.00E+00	1.35E-01
		K-40	4.42E-01	2.17E-01	2.84E-01
471187	3/13/2018 - 3/20/2018	I-131	<3.30E-02	0.00E+00	3.30E-02
		Cs-134	<1.89E-02	0.00E+00	1.89E-02
		Cs-137	<1.89E-02	0.00E+00	1.89E-02
		Be-7	<1.44E-01	0.00E+00	1.44E-01
		K-40	6.71E-01	1.94E-01	3.50E-02
471749	3/20/2018 - 3/27/2018	I-131	<3.26E-02	0.00E+00	3.26E-02
		Cs-134	<1.37E-02	0.00E+00	1.37E-02
		Cs-137	<1.60E-02	0.00E+00	1.60E-02
		Be-7	<1.42E-01	0.00E+00	1.42E-01
		K-40	4.52E-01	1.92E-01	2.16E-01
472558	3/27/2018 - 4/3/2018	I-131	<2.22E-02	0.00E+00	2.22E-02
		Cs-134	<1.36E-02	0.00E+00	1.36E-02
		Cs-137	<1.85E-02	0.00E+00	1.85E-02
		Be-7	<1.59E-01	0.00E+00	1.59E-01
		K-40	5.77E-01	2.03E-01	1.93E-01
473019	4/3/2018 - 4/10/2018	I-131	<2.05E-02	0.00E+00	2.05E-02
		Cs-134	<1.81E-02	0.00E+00	1.81E-02
		Cs-137	<1.80E-02	0.00E+00	1.80E-02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 2 [INDICATOR - S @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA		
473019	4/3/2018 - 4/10/2018	Be-7	<1.02E-01	0.00E+00	1.02E-01		
		K-40	3.63E-01	1.83E-01	2.30E-01		
		473295	4/10/2018 - 4/17/2018	I-131	<2.18E-02	0.00E+00	2.18E-02
		Cs-134	<2.06E-02	0.00E+00	2.06E-02		
473668	4/17/2018 - 4/24/2018	Cs-137	<1.85E-02	0.00E+00	1.85E-02		
		Be-7	<1.24E-01	0.00E+00	1.24E-01		
		K-40	4.41E-01	1.79E-01	1.84E-01		
		474186	4/24/2018 - 5/1/2018	I-131	<2.30E-02	0.00E+00	2.30E-02
474562	5/1/2018 - 5/8/2018	Cs-134	<1.53E-02	0.00E+00	1.53E-02		
		Cs-137	<1.50E-02	0.00E+00	1.50E-02		
		Be-7	<1.21E-01	0.00E+00	1.21E-01		
		K-40	4.86E-01	2.21E-01	2.81E-01		
474932	5/8/2018 - 5/15/2018	I-131	<2.21E-02	0.00E+00	2.21E-02		
		Cs-134	<2.29E-02	0.00E+00	2.29E-02		
		Cs-137	<2.12E-02	0.00E+00	2.12E-02		
		Be-7	<1.18E-01	0.00E+00	1.18E-01		
474932	5/8/2018 - 5/15/2018	K-40	4.17E-01	1.93E-01	2.34E-01		
		475249	5/15/2018 - 5/22/2018	I-131	<2.49E-02	0.00E+00	2.49E-02
		Cs-134	<1.82E-02	0.00E+00	1.82E-02		
		Cs-137	<1.80E-02	0.00E+00	1.80E-02		
475572	5/22/2018 - 5/29/2018	Be-7	<1.42E-01	0.00E+00	1.42E-01		
		K-40	4.76E-01	1.97E-01	2.21E-01		
		475249	5/15/2018 - 5/22/2018	I-131	<2.57E-02	0.00E+00	2.57E-02
		Cs-134	<2.12E-02	0.00E+00	2.12E-02		
475572	5/22/2018 - 5/29/2018	Cs-137	<1.54E-02	0.00E+00	1.54E-02		
		Be-7	<1.13E-01	0.00E+00	1.13E-01		
		K-40	4.81E-01	2.08E-01	2.45E-01		
		475249	5/15/2018 - 5/22/2018	I-131	<2.34E-02	0.00E+00	2.34E-02
475572	5/22/2018 - 5/29/2018	Cs-134	<1.39E-02	0.00E+00	1.39E-02		
		Cs-137	<1.40E-02	0.00E+00	1.40E-02		
		Be-7	<1.22E-01	0.00E+00	1.22E-01		
		K-40	4.72E-01	1.90E-01	2.00E-01		
475572	5/22/2018 - 5/29/2018	I-131	<2.08E-02	0.00E+00	2.08E-02		
		Cs-134	<1.99E-02	0.00E+00	1.99E-02		
		Cs-137	<1.89E-02	0.00E+00	1.89E-02		
		Be-7	<1.20E-01	0.00E+00	1.20E-01		
476395	5/29/2018 - 6/5/2018	K-40	5.07E-01	1.77E-01	1.27E-01		
		476395	5/29/2018 - 6/5/2018	I-131	<2.80E-02	0.00E+00	2.80E-02
		Cs-134	<1.63E-02	0.00E+00	1.63E-02		
		Cs-137	<1.92E-02	0.00E+00	1.92E-02		
477418	6/5/2018 - 6/12/2018	Be-7	<1.28E-01	0.00E+00	1.28E-01		
		K-40	<4.12E-01	0.00E+00	4.12E-01		
		477418	6/5/2018 - 6/12/2018	I-131	<1.93E-02	0.00E+00	1.93E-02
		Cs-134	<2.02E-02	0.00E+00	2.02E-02		
478141	6/12/2018 - 6/20/2018	Cs-137	<1.62E-02	0.00E+00	1.62E-02		
		Be-7	<1.05E-01	0.00E+00	1.05E-01		
		K-40	5.06E-01	2.09E-01	2.47E-01		
		478141	6/12/2018 - 6/20/2018	I-131	<2.33E-02	0.00E+00	2.33E-02
478141	6/12/2018 - 6/20/2018	Cs-134	<1.60E-02	0.00E+00	1.60E-02		



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 2 [INDICATOR - S @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
478141	6/12/2018 - 6/20/2018	Cs-137	<1.69E-02	0.00E+00	1.69E-02
		Be-7	<1.31E-01	0.00E+00	1.31E-01
		K-40	4.15E-01	1.65E-01	1.65E-01
478459	6/20/2018 - 6/26/2018	I-131	<3.22E-02	0.00E+00	3.22E-02
		Cs-134	<2.20E-02	0.00E+00	2.20E-02
		Cs-137	<1.73E-02	0.00E+00	1.73E-02
		Be-7	<1.66E-01	0.00E+00	1.66E-01
		K-40	5.92E-01	2.40E-01	2.67E-01
478840	6/26/2018 - 7/3/2018	I-131	<2.40E-02	0.00E+00	2.40E-02
		Cs-134	<1.49E-02	0.00E+00	1.49E-02
		Cs-137	<1.85E-02	0.00E+00	1.85E-02
		Be-7	<1.39E-01	0.00E+00	1.39E-01
		K-40	4.73E-01	1.81E-01	1.66E-01
479235	7/3/2018 - 7/10/2018	I-131	<2.58E-02	0.00E+00	2.58E-02
		Cs-134	<1.56E-02	0.00E+00	1.56E-02
		Cs-137	<2.02E-02	0.00E+00	2.02E-02
		Be-7	<1.23E-01	0.00E+00	1.23E-01
		K-40	4.44E-01	1.77E-01	1.71E-01
479917	7/10/2018 - 7/17/2018	I-131	<2.22E-02	0.00E+00	2.22E-02
		Cs-134	<1.80E-02	0.00E+00	1.80E-02
		Cs-137	<1.59E-02	0.00E+00	1.59E-02
		Be-7	<1.34E-01	0.00E+00	1.34E-01
		K-40	5.72E-01	1.80E-01	3.61E-02
480282	7/17/2018 - 7/24/2018	I-131	<2.54E-02	0.00E+00	2.54E-02
		Cs-134	<1.73E-02	0.00E+00	1.73E-02
		Cs-137	<1.90E-02	0.00E+00	1.90E-02
		Be-7	<1.38E-01	0.00E+00	1.38E-01
		K-40	6.39E-01	2.13E-01	1.90E-01
481107	7/24/2018 - 7/31/2018	I-131	<3.39E-02	0.00E+00	3.39E-02
		Cs-134	<1.88E-02	0.00E+00	1.88E-02
		Cs-137	<2.17E-02	0.00E+00	2.17E-02
		Be-7	<1.27E-01	0.00E+00	1.27E-01
		K-40	6.28E-01	1.90E-01	3.62E-02
481547	7/31/2018 - 8/6/2018	I-131	<2.80E-02	0.00E+00	2.80E-02
		Cs-134	<1.95E-02	0.00E+00	1.95E-02
		Cs-137	<2.59E-02	0.00E+00	2.59E-02
		Be-7	<1.59E-01	0.00E+00	1.59E-01
		K-40	6.26E-01	2.31E-01	2.21E-01
482002	8/6/2018 - 8/14/2018	I-131	<2.73E-02	0.00E+00	2.73E-02
		Cs-134	<1.42E-02	0.00E+00	1.42E-02
		Cs-137	<1.58E-02	0.00E+00	1.58E-02
		Be-7	<9.19E-02	0.00E+00	9.19E-02
		K-40	5.11E-01	1.71E-01	1.38E-01
482517	8/14/2018 - 8/21/2018	I-131	<3.58E-02	0.00E+00	3.58E-02
		Cs-134	<1.94E-02	0.00E+00	1.94E-02
		Cs-137	<1.65E-02	0.00E+00	1.65E-02
		Be-7	<1.33E-01	0.00E+00	1.33E-01
		K-40	<3.98E-01	0.00E+00	3.98E-01
482841	8/21/2018 - 8/28/2018	I-131	<1.95E-02	0.00E+00	1.95E-02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 2 [INDICATOR - S @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
482841	8/21/2018 - 8/28/2018	Cs-134	<1.66E-02	0.00E+00	1.66E-02
		Cs-137	<1.21E-02	0.00E+00	1.21E-02
		Be-7	<1.00E-01	0.00E+00	1.00E-01
		K-40	5.00E-01	1.65E-01	3.48E-02
483462	8/28/2018 - 9/4/2018	I-131	<2.27E-02	0.00E+00	2.27E-02
		Cs-134	<2.12E-02	0.00E+00	2.12E-02
		Cs-137	<1.96E-02	0.00E+00	1.96E-02
		Be-7	<1.10E-01	0.00E+00	1.10E-01
		K-40	5.17E-01	2.01E-01	2.05E-01
484062	9/4/2018 - 9/11/2018	I-131	<3.36E-02	0.00E+00	3.36E-02
		Cs-134	<1.62E-02	0.00E+00	1.62E-02
		Cs-137	<1.54E-02	0.00E+00	1.54E-02
		Be-7	<1.27E-01	0.00E+00	1.27E-01
		K-40	<2.95E-01	0.00E+00	2.95E-01
484634	9/11/2018 - 9/18/2018	I-131	<1.70E-02	0.00E+00	1.70E-02
		Cs-134	<2.11E-02	0.00E+00	2.11E-02
		Cs-137	<1.93E-02	0.00E+00	1.93E-02
		Be-7	<1.01E-01	0.00E+00	1.01E-01
		K-40	3.21E-01	1.60E-01	1.81E-01
485060	9/18/2018 - 9/24/2018	I-131	<3.03E-02	0.00E+00	3.03E-02
		Cs-134	<2.55E-02	0.00E+00	2.55E-02
		Cs-137	<1.62E-02	0.00E+00	1.62E-02
		Be-7	<1.45E-01	0.00E+00	1.45E-01
		K-40	8.23E-01	2.80E-01	2.67E-01
485532	9/24/2018 - 10/1/2018	I-131	<4.20E-02	0.00E+00	4.20E-02
		Cs-134	<1.66E-02	0.00E+00	1.66E-02
		Cs-137	<2.05E-02	0.00E+00	2.05E-02
		Be-7	<1.46E-01	0.00E+00	1.46E-01
		K-40	3.90E-01	1.63E-01	1.41E-01
486204	10/1/2018 - 10/9/2018	I-131	<3.21E-02	0.00E+00	3.21E-02
		Cs-134	<1.73E-02	0.00E+00	1.73E-02
		Cs-137	<1.71E-02	0.00E+00	1.71E-02
		Be-7	<1.12E-01	0.00E+00	1.12E-01
		K-40	4.73E-01	2.01E-01	2.40E-01
486733	10/9/2018 - 10/15/2018	I-131	<3.82E-02	0.00E+00	3.82E-02
		Cs-134	<2.32E-02	0.00E+00	2.32E-02
		Cs-137	<1.97E-02	0.00E+00	1.97E-02
		Be-7	<1.83E-01	0.00E+00	1.83E-01
		K-40	7.16E-01	2.21E-01	4.31E-02
487771	10/15/2018 - 10/23/2018	I-131	<2.43E-02	0.00E+00	2.43E-02
		Cs-134	<1.74E-02	0.00E+00	1.74E-02
		Cs-137	<1.59E-02	0.00E+00	1.59E-02
		Be-7	<1.25E-01	0.00E+00	1.25E-01
		K-40	4.33E-01	1.50E-01	3.36E-02
488014	10/23/2018 - 10/29/2018	I-131	<3.15E-02	0.00E+00	3.15E-02
		Cs-134	<2.12E-02	0.00E+00	2.12E-02
		Cs-137	<2.44E-02	0.00E+00	2.44E-02
		Be-7	<1.74E-01	0.00E+00	1.74E-01
		K-40	5.41E-01	2.12E-01	1.91E-01



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 2 [INDICATOR - S @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
488507	10/29/2018 - 11/5/2018	I-131	<2.81E-02	0.00E+00	2.81E-02
		Cs-134	<1.62E-02	0.00E+00	1.62E-02
		Cs-137	<2.05E-02	0.00E+00	2.05E-02
		Be-7	<1.35E-01	0.00E+00	1.35E-01
		K-40	4.15E-01	1.91E-01	2.21E-01
488891	11/5/2018 - 11/13/2018	I-131	<2.47E-02	0.00E+00	2.47E-02
		Cs-134	<1.38E-02	0.00E+00	1.38E-02
		Cs-137	<1.67E-02	0.00E+00	1.67E-02
		Be-7	<1.22E-01	0.00E+00	1.22E-01
		K-40	4.57E-01	1.77E-01	1.74E-01
489183	11/13/2018 - 11/20/2018	I-131	<4.28E-02	0.00E+00	4.28E-02
		Cs-134	<1.84E-02	0.00E+00	1.84E-02
		Cs-137	<1.86E-02	0.00E+00	1.86E-02
		Be-7	<1.36E-01	0.00E+00	1.36E-01
		K-40	5.25E-01	1.88E-01	1.44E-01
489764	11/20/2018 - 11/28/2018	I-131	<3.31E-02	0.00E+00	3.31E-02
		Cs-134	<1.74E-02	0.00E+00	1.74E-02
		Cs-137	<1.67E-02	0.00E+00	1.67E-02
		Be-7	<1.39E-01	0.00E+00	1.39E-01
		K-40	4.64E-01	1.89E-01	1.89E-01
490188	11/28/2018 - 12/5/2018	I-131	<2.62E-02	0.00E+00	2.62E-02
		Cs-134	<1.74E-02	0.00E+00	1.74E-02
		Cs-137	<1.77E-02	0.00E+00	1.77E-02
		Be-7	<1.18E-01	0.00E+00	1.18E-01
		K-40	3.92E-01	1.70E-01	1.85E-01
490840	12/5/2018 - 12/11/2018	I-131	<3.62E-02	0.00E+00	3.62E-02
		Cs-134	<1.85E-02	0.00E+00	1.85E-02
		Cs-137	<2.02E-02	0.00E+00	2.02E-02
		Be-7	<1.45E-01	0.00E+00	1.45E-01
		K-40	<3.52E-01	0.00E+00	3.52E-01
491317	12/11/2018 - 12/18/2018	I-131	<5.48E-02	0.00E+00	5.48E-02
		Cs-134	<1.46E-02	0.00E+00	1.46E-02
		Cs-137	<1.52E-02	0.00E+00	1.52E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	4.11E-01	1.54E-01	1.29E-01
491516	12/18/2018 - 12/26/2018	I-131	<4.06E-02	0.00E+00	4.06E-02
		Cs-134	<1.46E-02	0.00E+00	1.46E-02
		Cs-137	<1.52E-02	0.00E+00	1.52E-02
		Be-7	<1.63E-01	0.00E+00	1.63E-01
		K-40	<3.72E-01	0.00E+00	3.72E-01
491867	12/26/2018 - 1/2/2019	I-131	<3.41E-02	0.00E+00	3.41E-02
		Cs-134	<2.24E-02	0.00E+00	2.24E-02
		Cs-137	<2.14E-02	0.00E+00	2.14E-02
		Be-7	<1.26E-01	0.00E+00	1.26E-01
		K-40	2.85E-01	1.72E-01	2.27E-01

Sample Point 3 [INDICATOR - N @ 0.5 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466038	1/2/2018 - 1/10/2018	I-131	<3.05E-02	0.00E+00	3.05E-02
		Cs-134	<1.64E-02	0.00E+00	1.64E-02
		Cs-137	<1.44E-02	0.00E+00	1.44E-02
		Be-7	<1.22E-01	0.00E+00	1.22E-01



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 3 [INDICATOR - N @ 0.5 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466038	1/2/2018 - 1/10/2018	K-40	3.08E-01	1.65E-01	2.17E-01
466234	1/10/2018 - 1/16/2018	I-131	<3.83E-02	0.00E+00	3.83E-02
		Cs-134	<1.82E-02	0.00E+00	1.82E-02
		Cs-137	<1.41E-02	0.00E+00	1.41E-02
		Be-7	<1.48E-01	0.00E+00	1.48E-01
		K-40	5.23E-01	2.20E-01	2.56E-01
466418	1/16/2018 - 1/23/2018	I-131	<2.97E-02	0.00E+00	2.97E-02
		Cs-134	<1.55E-02	0.00E+00	1.55E-02
		Cs-137	<1.61E-02	0.00E+00	1.61E-02
		Be-7	<1.39E-01	0.00E+00	1.39E-01
		K-40	5.12E-01	1.88E-01	1.91E-01
467017	1/23/2018 - 1/30/2018	I-131	<2.12E-02	0.00E+00	2.12E-02
		Cs-134	<1.10E-02	0.00E+00	1.10E-02
		Cs-137	<1.71E-02	0.00E+00	1.71E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	3.83E-01	1.87E-01	2.36E-01
467371	1/30/2018 - 2/6/2018	I-131	<3.16E-02	0.00E+00	3.16E-02
		Cs-134	<1.19E-02	0.00E+00	1.19E-02
		Cs-137	<1.73E-02	0.00E+00	1.73E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	6.10E-01	2.02E-01	1.90E-01
467697	2/6/2018 - 2/13/2018	I-131	<1.98E-02	0.00E+00	1.98E-02
		Cs-134	<1.97E-02	0.00E+00	1.97E-02
		Cs-137	<2.05E-02	0.00E+00	2.05E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	4.94E-01	2.06E-01	2.29E-01
468466	2/13/2018 - 2/20/2018	I-131	<3.61E-02	0.00E+00	3.61E-02
		Cs-134	<2.02E-02	0.00E+00	2.02E-02
		Cs-137	<2.37E-02	0.00E+00	2.37E-02
		Be-7	<1.31E-01	0.00E+00	1.31E-01
		K-40	6.43E-01	2.03E-01	1.26E-01
468795	2/20/2018 - 2/27/2018	I-131	<2.63E-02	0.00E+00	2.63E-02
		Cs-134	<2.13E-02	0.00E+00	2.13E-02
		Cs-137	<1.70E-02	0.00E+00	1.70E-02
		Be-7	<1.46E-01	0.00E+00	1.46E-01
		K-40	3.16E-01	1.93E-01	2.66E-01
469605	2/27/2018 - 3/6/2018	I-131	<2.55E-02	0.00E+00	2.55E-02
		Cs-134	<1.96E-02	0.00E+00	1.96E-02
		Cs-137	<1.78E-02	0.00E+00	1.78E-02
		Be-7	<1.39E-01	0.00E+00	1.39E-01
		K-40	4.66E-01	2.35E-01	3.13E-01
470645	3/6/2018 - 3/13/2018	I-131	<2.73E-02	0.00E+00	2.73E-02
		Cs-134	<2.09E-02	0.00E+00	2.09E-02
		Cs-137	<1.73E-02	0.00E+00	1.73E-02
		Be-7	<1.36E-01	0.00E+00	1.36E-01
		K-40	5.71E-01	2.08E-01	1.97E-01
471188	3/13/2018 - 3/20/2018	I-131	<3.19E-02	0.00E+00	3.19E-02
		Cs-134	<1.65E-02	0.00E+00	1.65E-02
		Cs-137	<1.47E-02	0.00E+00	1.47E-02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 3 [INDICATOR - N @ 0.5 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
471188	3/13/2018 - 3/20/2018	Be-7	<1.28E-01	0.00E+00	1.28E-01
		K-40	4.59E-01	1.76E-01	1.43E-01
		I-131	<3.77E-02	0.00E+00	3.77E-02
		Cs-134	<1.95E-02	0.00E+00	1.95E-02
471750	3/20/2018 - 3/27/2018	Cs-137	<1.92E-02	0.00E+00	1.92E-02
		Be-7	<1.38E-01	0.00E+00	1.38E-01
		K-40	5.18E-01	2.04E-01	2.11E-01
		I-131	<2.60E-02	0.00E+00	2.60E-02
472559	3/27/2018 - 4/3/2018	Cs-134	<2.03E-02	0.00E+00	2.03E-02
		Cs-137	<1.84E-02	0.00E+00	1.84E-02
		Be-7	<1.32E-01	0.00E+00	1.32E-01
		K-40	5.12E-01	2.03E-01	2.10E-01
473020	4/3/2018 - 4/10/2018	I-131	<2.03E-02	0.00E+00	2.03E-02
		Cs-134	<1.45E-02	0.00E+00	1.45E-02
		Cs-137	<1.77E-02	0.00E+00	1.77E-02
		Be-7	<1.27E-01	0.00E+00	1.27E-01
473296	4/10/2018 - 4/17/2018	K-40	5.48E-01	1.96E-01	1.67E-01
		I-131	<2.12E-02	0.00E+00	2.12E-02
		Cs-134	<1.86E-02	0.00E+00	1.86E-02
		Cs-137	<1.59E-02	0.00E+00	1.59E-02
473669	4/17/2018 - 4/24/2018	Be-7	<1.30E-01	0.00E+00	1.30E-01
		K-40	<4.21E-01	0.00E+00	4.21E-01
		I-131	<2.57E-02	0.00E+00	2.57E-02
		Cs-134	<2.42E-02	0.00E+00	2.42E-02
474187	4/24/2018 - 5/1/2018	Cs-137	<1.50E-02	0.00E+00	1.50E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	5.80E-01	1.98E-01	1.46E-01
		I-131	<2.20E-02	0.00E+00	2.20E-02
474563	5/1/2018 - 5/8/2018	Cs-134	<1.83E-02	0.00E+00	1.83E-02
		Cs-137	<2.07E-02	0.00E+00	2.07E-02
		Be-7	<1.08E-01	0.00E+00	1.08E-01
		K-40	4.73E-01	1.78E-01	1.50E-01
474933	5/8/2018 - 5/15/2018	I-131	<2.24E-02	0.00E+00	2.24E-02
		Cs-134	<2.12E-02	0.00E+00	2.12E-02
		Cs-137	<1.91E-02	0.00E+00	1.91E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
475250	5/15/2018 - 5/22/2018	K-40	6.57E-01	1.97E-01	3.71E-02
		I-131	<2.36E-02	0.00E+00	2.36E-02
		Cs-134	<2.25E-02	0.00E+00	2.25E-02
		Cs-137	<2.05E-02	0.00E+00	2.05E-02
475573	5/22/2018 - 5/29/2018	Be-7	<1.30E-01	0.00E+00	1.30E-01
		K-40	<4.01E-01	0.00E+00	4.01E-01
		I-131	<2.41E-02	0.00E+00	2.41E-02
		Cs-134	<1.77E-02	0.00E+00	1.77E-02
475573	5/22/2018 - 5/29/2018	Cs-137	<1.74E-02	0.00E+00	1.74E-02
		Be-7	<1.01E-01	0.00E+00	1.01E-01
		K-40	5.25E-01	1.93E-01	1.75E-01
		I-131	<2.48E-02	0.00E+00	2.48E-02
475573	5/22/2018 - 5/29/2018	Cs-134	<1.76E-02	0.00E+00	1.76E-02
		I-131	<2.48E-02	0.00E+00	2.48E-02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 3 [INDICATOR - N @ 0.5 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
475573	5/22/2018 - 5/29/2018	Cs-137	<1.94E-02	0.00E+00	1.94E-02
		Be-7	<1.38E-01	0.00E+00	1.38E-01
		K-40	4.21E-01	1.84E-01	2.00E-01
476396	5/29/2018 - 6/5/2018	I-131	<2.17E-02	0.00E+00	2.17E-02
		Cs-134	<1.69E-02	0.00E+00	1.69E-02
		Cs-137	<1.44E-02	0.00E+00	1.44E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	4.60E-01	1.93E-01	2.08E-01
477419	6/5/2018 - 6/12/2018	I-131	<2.81E-02	0.00E+00	2.81E-02
		Cs-134	<1.84E-02	0.00E+00	1.84E-02
		Cs-137	<1.89E-02	0.00E+00	1.89E-02
		Be-7	<1.12E-01	0.00E+00	1.12E-01
		K-40	<4.16E-01	0.00E+00	4.16E-01
478142	6/12/2018 - 6/20/2018	I-131	<2.43E-02	0.00E+00	2.43E-02
		Cs-134	<1.71E-02	0.00E+00	1.71E-02
		Cs-137	<1.24E-02	0.00E+00	1.24E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	3.13E-01	1.74E-01	2.34E-01
478460	6/20/2018 - 6/26/2018	I-131	<2.78E-02	0.00E+00	2.78E-02
		Cs-134	<2.21E-02	0.00E+00	2.21E-02
		Cs-137	<2.49E-02	0.00E+00	2.49E-02
		Be-7	<1.34E-01	0.00E+00	1.34E-01
		K-40	<4.73E-01	0.00E+00	4.73E-01
478841	6/26/2018 - 7/3/2018	I-131	<2.80E-02	0.00E+00	2.80E-02
		Cs-134	<1.69E-02	0.00E+00	1.69E-02
		Cs-137	<1.79E-02	0.00E+00	1.79E-02
		Be-7	<1.39E-01	0.00E+00	1.39E-01
		K-40	4.02E-01	2.08E-01	2.72E-01
479236	7/3/2018 - 7/10/2018	I-131	<2.12E-02	0.00E+00	2.12E-02
		Cs-134	<1.63E-02	0.00E+00	1.63E-02
		Cs-137	<2.06E-02	0.00E+00	2.06E-02
		Be-7	<1.10E-01	0.00E+00	1.10E-01
		K-40	6.15E-01	2.16E-01	2.06E-01
479918	7/10/2018 - 7/17/2018	I-131	<2.50E-02	0.00E+00	2.50E-02
		Cs-134	<2.07E-02	0.00E+00	2.07E-02
		Cs-137	<1.71E-02	0.00E+00	1.71E-02
		Be-7	<1.43E-01	0.00E+00	1.43E-01
		K-40	4.23E-01	2.43E-01	3.43E-01
480283	7/17/2018 - 7/24/2018	I-131	<2.50E-02	0.00E+00	2.50E-02
		Cs-134	<2.12E-02	0.00E+00	2.12E-02
		Cs-137	<1.70E-02	0.00E+00	1.70E-02
		Be-7	<1.33E-01	0.00E+00	1.33E-01
		K-40	5.11E-01	2.05E-01	2.21E-01
481108	7/24/2018 - 7/31/2018	I-131	<3.57E-02	0.00E+00	3.57E-02
		Cs-134	<1.65E-02	0.00E+00	1.65E-02
		Cs-137	<2.03E-02	0.00E+00	2.03E-02
		Be-7	<1.51E-01	0.00E+00	1.51E-01
		K-40	4.61E-01	1.75E-01	1.40E-01
481548	7/31/2018 - 8/6/2018	I-131	<3.25E-02	0.00E+00	3.25E-02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 3 [INDICATOR - N @ 0.5 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481548	7/31/2018 - 8/6/2018	Cs-134	<2.44E-02	0.00E+00	2.44E-02
		Cs-137	<2.59E-02	0.00E+00	2.59E-02
		Be-7	<1.54E-01	0.00E+00	1.54E-01
		K-40	5.58E-01	2.22E-01	2.18E-01
482003	8/6/2018 - 8/14/2018	I-131	<2.62E-02	0.00E+00	2.62E-02
		Cs-134	<1.80E-02	0.00E+00	1.80E-02
		Cs-137	<1.54E-02	0.00E+00	1.54E-02
		Be-7	<8.59E-02	0.00E+00	8.59E-02
		K-40	<2.70E-01	0.00E+00	2.70E-01
482518	8/14/2018 - 8/21/2018	I-131	<3.07E-02	0.00E+00	3.07E-02
		Cs-134	<2.01E-02	0.00E+00	2.01E-02
		Cs-137	<1.53E-02	0.00E+00	1.53E-02
		Be-7	<1.27E-01	0.00E+00	1.27E-01
		K-40	6.86E-01	2.36E-01	2.38E-01
482842	8/21/2018 - 8/28/2018	I-131	<1.66E-02	0.00E+00	1.66E-02
		Cs-134	<1.61E-02	0.00E+00	1.61E-02
		Cs-137	<1.52E-02	0.00E+00	1.52E-02
		Be-7	<1.03E-01	0.00E+00	1.03E-01
		K-40	<2.96E-01	0.00E+00	2.96E-01
483463	8/28/2018 - 9/4/2018	I-131	<2.48E-02	0.00E+00	2.48E-02
		Cs-134	<2.00E-02	0.00E+00	2.00E-02
		Cs-137	<2.31E-02	0.00E+00	2.31E-02
		Be-7	<1.29E-01	0.00E+00	1.29E-01
		K-40	5.68E-01	2.10E-01	2.02E-01
484063	9/4/2018 - 9/11/2018	I-131	<3.65E-02	0.00E+00	3.65E-02
		Cs-134	<1.53E-02	0.00E+00	1.53E-02
		Cs-137	<1.59E-02	0.00E+00	1.59E-02
		Be-7	<1.11E-01	0.00E+00	1.11E-01
		K-40	2.18E-01	1.45E-01	1.96E-01
484635	9/11/2018 - 9/18/2018	I-131	<1.90E-02	0.00E+00	1.90E-02
		Cs-134	<1.93E-02	0.00E+00	1.93E-02
		Cs-137	<1.66E-02	0.00E+00	1.66E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	2.22E-01	1.57E-01	2.19E-01
485061	9/18/2018 - 9/24/2018	I-131	<3.28E-02	0.00E+00	3.28E-02
		Cs-134	<2.15E-02	0.00E+00	2.15E-02
		Cs-137	<1.91E-02	0.00E+00	1.91E-02
		Be-7	<1.05E-01	0.00E+00	1.05E-01
		K-40	9.80E-01	3.09E-01	3.04E-01
485533	9/24/2018 - 10/1/2018	I-131	<4.00E-02	0.00E+00	4.00E-02
		Cs-134	<1.57E-02	0.00E+00	1.57E-02
		Cs-137	<1.60E-02	0.00E+00	1.60E-02
		Be-7	<1.31E-01	0.00E+00	1.31E-01
		K-40	5.42E-01	2.25E-01	2.62E-01
486205	10/1/2018 - 10/9/2018	I-131	<3.96E-02	0.00E+00	3.96E-02
		Cs-134	<1.88E-02	0.00E+00	1.88E-02
		Cs-137	<1.64E-02	0.00E+00	1.64E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	3.65E-01	1.47E-01	1.26E-01



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 3 [INDICATOR - N @ 0.5 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
486734	10/9/2018 - 10/15/2018	I-131	<4.58E-02	0.00E+00	4.58E-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	<1.44E-01	0.00E+00	1.44E-01
		K-40	7.22E-01	2.55E-01	2.51E-01
487772	10/15/2018 - 10/23/2018	I-131	<2.35E-02	0.00E+00	2.35E-02
		Cs-134	<1.64E-02	0.00E+00	1.64E-02
		Cs-137	<1.80E-02	0.00E+00	1.80E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	3.34E-01	1.42E-01	1.18E-01
488015	10/23/2018 - 10/29/2018	I-131	<3.01E-02	0.00E+00	3.01E-02
		Cs-134	<2.13E-02	0.00E+00	2.13E-02
		Cs-137	<2.45E-02	0.00E+00	2.45E-02
		Be-7	<1.71E-01	0.00E+00	1.71E-01
		K-40	<4.40E-01	0.00E+00	4.40E-01
488508	10/29/2018 - 11/5/2018	I-131	<2.70E-02	0.00E+00	2.70E-02
		Cs-134	<2.17E-02	0.00E+00	2.17E-02
		Cs-137	<1.61E-02	0.00E+00	1.61E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	6.34E-01	2.15E-01	1.88E-01
488892	11/5/2018 - 11/13/2018	I-131	<2.54E-02	0.00E+00	2.54E-02
		Cs-134	<1.75E-02	0.00E+00	1.75E-02
		Cs-137	<1.91E-02	0.00E+00	1.91E-02
		Be-7	<1.36E-01	0.00E+00	1.36E-01
		K-40	<4.10E-01	0.00E+00	4.10E-01
489184	11/13/2018 - 11/20/2018	I-131	<4.13E-02	0.00E+00	4.13E-02
		Cs-134	<2.15E-02	0.00E+00	2.15E-02
		Cs-137	<1.88E-02	0.00E+00	1.88E-02
		Be-7	<1.12E-01	0.00E+00	1.12E-01
		K-40	4.70E-01	1.95E-01	2.01E-01
489765	11/20/2018 - 11/28/2018	I-131	<3.26E-02	0.00E+00	3.26E-02
		Cs-134	<2.34E-02	0.00E+00	2.34E-02
		Cs-137	<1.93E-02	0.00E+00	1.93E-02
		Be-7	<1.49E-01	0.00E+00	1.49E-01
		K-40	3.37E-01	1.65E-01	1.79E-01
490189	11/28/2018 - 12/5/2018	I-131	<3.01E-02	0.00E+00	3.01E-02
		Cs-134	<1.71E-02	0.00E+00	1.71E-02
		Cs-137	<1.70E-02	0.00E+00	1.70E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	5.14E-01	1.98E-01	2.12E-01
490841	12/5/2018 - 12/11/2018	I-131	<4.21E-02	0.00E+00	4.21E-02
		Cs-134	<1.68E-02	0.00E+00	1.68E-02
		Cs-137	<1.55E-02	0.00E+00	1.55E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	<2.75E-01	0.00E+00	2.75E-01
491318	12/11/2018 - 12/18/2018	I-131	<4.58E-02	0.00E+00	4.58E-02
		Cs-134	<1.70E-02	0.00E+00	1.70E-02
		Cs-137	<1.99E-02	0.00E+00	1.99E-02
		Be-7	<1.45E-01	0.00E+00	1.45E-01
		K-40	4.95E-01	2.04E-01	2.19E-01



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 3 [INDICATOR - N @ 0.5 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491517	12/18/2018 - 12/26/2018	I-131	<4.05E-02	0.00E+00	4.05E-02
		Cs-134	<1.66E-02	0.00E+00	1.66E-02
		Cs-137	<1.67E-02	0.00E+00	1.67E-02
		Be-7	<1.29E-01	0.00E+00	1.29E-01
		K-40	4.98E-01	1.73E-01	1.26E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491868	12/26/2018 - 1/2/2019	I-131	<3.28E-02	0.00E+00	3.28E-02
		Cs-134	<2.14E-02	0.00E+00	2.14E-02
		Cs-137	<1.64E-02	0.00E+00	1.64E-02
		Be-7	<1.49E-01	0.00E+00	1.49E-01
		K-40	<3.95E-01	0.00E+00	3.95E-01

Sample Point 4 [INDICATOR - ESE @ 0.4 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466039	1/2/2018 - 1/10/2018	I-131	<2.93E-02	0.00E+00	2.93E-02
		Cs-134	<1.30E-02	0.00E+00	1.30E-02
		Cs-137	<1.44E-02	0.00E+00	1.44E-02
		Be-7	<1.12E-01	0.00E+00	1.12E-01
		K-40	4.48E-01	1.97E-01	2.44E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466235	1/10/2018 - 1/16/2018	I-131	<5.11E-02	0.00E+00	5.11E-02
		Cs-134	<1.68E-02	0.00E+00	1.68E-02
		Cs-137	<2.08E-02	0.00E+00	2.08E-02
		Be-7	<1.35E-01	0.00E+00	1.35E-01
		K-40	5.15E-01	2.40E-01	3.02E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466419	1/16/2018 - 1/23/2018	I-131	<3.52E-02	0.00E+00	3.52E-02
		Cs-134	<1.52E-02	0.00E+00	1.52E-02
		Cs-137	<1.82E-02	0.00E+00	1.82E-02
		Be-7	<1.07E-01	0.00E+00	1.07E-01
		K-40	3.95E-01	2.04E-01	2.70E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467018	1/23/2018 - 1/30/2018	I-131	<2.43E-02	0.00E+00	2.43E-02
		Cs-134	<1.83E-02	0.00E+00	1.83E-02
		Cs-137	<1.93E-02	0.00E+00	1.93E-02
		Be-7	<1.26E-01	0.00E+00	1.26E-01
		K-40	4.49E-01	1.82E-01	1.93E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467372	1/30/2018 - 2/6/2018	I-131	<3.23E-02	0.00E+00	3.23E-02
		Cs-134	<1.65E-02	0.00E+00	1.65E-02
		Cs-137	<1.98E-02	0.00E+00	1.98E-02
		Be-7	<1.26E-01	0.00E+00	1.26E-01
		K-40	5.03E-01	2.12E-01	2.50E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467698	2/6/2018 - 2/13/2018	I-131	<2.48E-02	0.00E+00	2.48E-02
		Cs-134	<1.64E-02	0.00E+00	1.64E-02
		Cs-137	<1.65E-02	0.00E+00	1.65E-02
		Be-7	<1.00E-01	0.00E+00	1.00E-01
		K-40	3.90E-01	1.84E-01	2.27E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
468467	2/13/2018 - 2/20/2018	I-131	<3.66E-02	0.00E+00	3.66E-02
		Cs-134	<1.65E-02	0.00E+00	1.65E-02
		Cs-137	<1.61E-02	0.00E+00	1.61E-02
		Be-7	<1.25E-01	0.00E+00	1.25E-01
		K-40	4.32E-01	2.04E-01	2.50E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
468796	2/20/2018 - 2/27/2018	I-131	<2.62E-02	0.00E+00	2.62E-02
		Cs-134	<2.01E-02	0.00E+00	2.01E-02
		Cs-137	<1.92E-02	0.00E+00	1.92E-02
		Be-7	5.11E-03	8.50E-02	1.55E-01



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 4 [INDICATOR - ESE @ 0.4 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
468796	2/20/2018 - 2/27/2018	K-40	5.76E-01	2.13E-01	2.13E-01
469606	2/27/2018 - 3/6/2018	I-131	<2.92E-02	0.00E+00	2.92E-02
		Cs-134	<2.17E-02	0.00E+00	2.17E-02
		Cs-137	<1.62E-02	0.00E+00	1.62E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	6.90E-01	2.13E-01	1.41E-01
470646	3/6/2018 - 3/13/2018	I-131	<2.75E-02	0.00E+00	2.75E-02
		Cs-134	<2.00E-02	0.00E+00	2.00E-02
		Cs-137	<2.08E-02	0.00E+00	2.08E-02
		Be-7	<1.25E-01	0.00E+00	1.25E-01
		K-40	4.84E-01	2.08E-01	2.35E-01
471189	3/13/2018 - 3/20/2018	I-131	<3.29E-02	0.00E+00	3.29E-02
		Cs-134	<2.04E-02	0.00E+00	2.04E-02
		Cs-137	<1.89E-02	0.00E+00	1.89E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	6.14E-01	2.15E-01	1.98E-01
471751	3/20/2018 - 3/27/2018	I-131	<3.90E-02	0.00E+00	3.90E-02
		Cs-134	<1.61E-02	0.00E+00	1.61E-02
		Cs-137	<1.77E-02	0.00E+00	1.77E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	5.46E-01	1.92E-01	1.43E-01
472560	3/27/2018 - 4/3/2018	I-131	<2.47E-02	0.00E+00	2.47E-02
		Cs-134	<1.72E-02	0.00E+00	1.72E-02
		Cs-137	<2.12E-02	0.00E+00	2.12E-02
		Be-7	2.25E-02	7.46E-02	1.33E-01
		K-40	4.94E-01	1.99E-01	2.07E-01
473021	4/3/2018 - 4/10/2018	I-131	<2.01E-02	0.00E+00	2.01E-02
		Cs-134	<2.14E-02	0.00E+00	2.14E-02
		Cs-137	<1.66E-02	0.00E+00	1.66E-02
		Be-7	<1.31E-01	0.00E+00	1.31E-01
		K-40	5.03E-01	1.94E-01	1.85E-01
473297	4/10/2018 - 4/17/2018	I-131	<2.81E-02	0.00E+00	2.81E-02
		Cs-134	<1.72E-02	0.00E+00	1.72E-02
		Cs-137	<1.97E-02	0.00E+00	1.97E-02
		Be-7	<1.15E-01	0.00E+00	1.15E-01
		K-40	5.37E-01	2.10E-01	2.24E-01
473670	4/17/2018 - 4/24/2018	I-131	<2.96E-02	0.00E+00	2.96E-02
		Cs-134	<1.89E-02	0.00E+00	1.89E-02
		Cs-137	<1.99E-02	0.00E+00	1.99E-02
		Be-7	<1.33E-01	0.00E+00	1.33E-01
		K-40	5.98E-01	2.24E-01	2.37E-01
474188	4/24/2018 - 5/1/2018	I-131	<2.45E-02	0.00E+00	2.45E-02
		Cs-134	<1.87E-02	0.00E+00	1.87E-02
		Cs-137	<1.82E-02	0.00E+00	1.82E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	5.76E-01	2.00E-01	1.65E-01
474564	5/1/2018 - 5/8/2018	I-131	<2.20E-02	0.00E+00	2.20E-02
		Cs-134	<1.91E-02	0.00E+00	1.91E-02
		Cs-137	<1.57E-02	0.00E+00	1.57E-02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 4 [INDICATOR - ESE @ 0.4 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474564	5/1/2018 - 5/8/2018	Be-7	<1.30E-01	0.00E+00	1.30E-01
		K-40	4.04E-01	1.96E-01	2.42E-01
474934	5/8/2018 - 5/15/2018	I-131	<2.40E-02	0.00E+00	2.40E-02
		Cs-134	<2.08E-02	0.00E+00	2.08E-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	6.95E-01	2.42E-01	2.52E-01
475251	5/15/2018 - 5/22/2018	I-131	<2.70E-02	0.00E+00	2.70E-02
		Cs-134	<1.43E-02	0.00E+00	1.43E-02
		Cs-137	<1.69E-02	0.00E+00	1.69E-02
		Be-7	<1.23E-01	0.00E+00	1.23E-01
		K-40	5.63E-01	2.01E-01	1.82E-01
475574	5/22/2018 - 5/29/2018	I-131	<2.84E-02	0.00E+00	2.84E-02
		Cs-134	<2.25E-02	0.00E+00	2.25E-02
		Cs-137	<2.01E-02	0.00E+00	2.01E-02
		Be-7	<1.44E-01	0.00E+00	1.44E-01
		K-40	4.95E-01	2.01E-01	2.15E-01
476397	5/29/2018 - 6/5/2018	I-131	<2.29E-02	0.00E+00	2.29E-02
		Cs-134	<2.06E-02	0.00E+00	2.06E-02
		Cs-137	<1.91E-02	0.00E+00	1.91E-02
		Be-7	<1.31E-01	0.00E+00	1.31E-01
		K-40	5.75E-01	1.83E-01	3.71E-02
477420	6/5/2018 - 6/12/2018	I-131	<2.58E-02	0.00E+00	2.58E-02
		Cs-134	<1.73E-02	0.00E+00	1.73E-02
		Cs-137	<1.59E-02	0.00E+00	1.59E-02
		Be-7	<1.33E-01	0.00E+00	1.33E-01
		K-40	5.31E-01	1.73E-01	3.60E-02
478143	6/12/2018 - 6/20/2018	I-131	<2.51E-02	0.00E+00	2.51E-02
		Cs-134	<1.80E-02	0.00E+00	1.80E-02
		Cs-137	<1.63E-02	0.00E+00	1.63E-02
		Be-7	<1.23E-01	0.00E+00	1.23E-01
		K-40	3.44E-01	1.48E-01	1.39E-01
478461	6/20/2018 - 6/26/2018	I-131	<3.25E-02	0.00E+00	3.25E-02
		Cs-134	<1.99E-02	0.00E+00	1.99E-02
		Cs-137	<2.34E-02	0.00E+00	2.34E-02
		Be-7	<1.79E-01	0.00E+00	1.79E-01
		K-40	4.19E-01	2.28E-01	2.99E-01
478842	6/26/2018 - 7/3/2018	I-131	<2.33E-02	0.00E+00	2.33E-02
		Cs-134	<1.93E-02	0.00E+00	1.93E-02
		Cs-137	<1.76E-02	0.00E+00	1.76E-02
		Be-7	<1.55E-01	0.00E+00	1.55E-01
		K-40	4.31E-01	1.93E-01	2.20E-01
479237	7/3/2018 - 7/10/2018	I-131	<2.66E-02	0.00E+00	2.66E-02
		Cs-134	<1.63E-02	0.00E+00	1.63E-02
		Cs-137	<1.46E-02	0.00E+00	1.46E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	6.86E-01	2.02E-01	3.72E-02
479919	7/10/2018 - 7/17/2018	I-131	<2.32E-02	0.00E+00	2.32E-02
		Cs-134	<1.63E-02	0.00E+00	1.63E-02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 4 [INDICATOR - ESE @ 0.4 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
479919	7/10/2018 - 7/17/2018	Cs-137	<1.77E-02	0.00E+00	1.77E-02
		Be-7	<1.43E-01	0.00E+00	1.43E-01
		K-40	4.36E-01	2.06E-01	2.54E-01
480284	7/17/2018 - 7/24/2018	I-131	<2.94E-02	0.00E+00	2.94E-02
		Cs-134	<1.72E-02	0.00E+00	1.72E-02
		Cs-137	<1.93E-02	0.00E+00	1.93E-02
		Be-7	<1.47E-01	0.00E+00	1.47E-01
		K-40	5.32E-01	2.06E-01	2.12E-01
481109	7/24/2018 - 7/31/2018	I-131	<3.25E-02	0.00E+00	3.25E-02
		Cs-134	<2.02E-02	0.00E+00	2.02E-02
		Cs-137	<1.54E-02	0.00E+00	1.54E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	4.57E-01	1.89E-01	1.96E-01
481549	7/31/2018 - 8/6/2018	I-131	<2.78E-02	0.00E+00	2.78E-02
		Cs-134	<2.43E-02	0.00E+00	2.43E-02
		Cs-137	<2.26E-02	0.00E+00	2.26E-02
		Be-7	<1.19E-01	0.00E+00	1.19E-01
		K-40	5.83E-01	2.00E-01	4.39E-02
482004	8/6/2018 - 8/14/2018	I-131	<2.51E-02	0.00E+00	2.51E-02
		Cs-134	<1.26E-02	0.00E+00	1.26E-02
		Cs-137	<1.15E-02	0.00E+00	1.15E-02
		Be-7	<9.22E-02	0.00E+00	9.22E-02
		K-40	2.59E-01	1.31E-01	1.45E-01
482519	8/14/2018 - 8/21/2018	I-131	<3.72E-02	0.00E+00	3.72E-02
		Cs-134	<2.01E-02	0.00E+00	2.01E-02
		Cs-137	<1.87E-02	0.00E+00	1.87E-02
		Be-7	<1.60E-01	0.00E+00	1.60E-01
		K-40	4.46E-01	1.70E-01	1.29E-01
482843	8/21/2018 - 8/28/2018	I-131	<1.36E-02	0.00E+00	1.36E-02
		Cs-134	<1.52E-02	0.00E+00	1.52E-02
		Cs-137	<1.14E-02	0.00E+00	1.14E-02
		Be-7	<9.76E-02	0.00E+00	9.76E-02
		K-40	3.64E-01	1.41E-01	3.52E-02
483464	8/28/2018 - 9/4/2018	I-131	<2.67E-02	0.00E+00	2.67E-02
		Cs-134	<1.97E-02	0.00E+00	1.97E-02
		Cs-137	<1.90E-02	0.00E+00	1.90E-02
		Be-7	<1.40E-01	0.00E+00	1.40E-01
		K-40	<3.51E-01	0.00E+00	3.51E-01
484064	9/4/2018 - 9/11/2018	I-131	<2.51E-02	0.00E+00	2.51E-02
		Cs-134	<1.82E-02	0.00E+00	1.82E-02
		Cs-137	<1.26E-02	0.00E+00	1.26E-02
		Be-7	<1.19E-01	0.00E+00	1.19E-01
		K-40	2.64E-01	1.45E-01	1.69E-01
484636	9/11/2018 - 9/18/2018	I-131	<1.76E-02	0.00E+00	1.76E-02
		Cs-134	<1.46E-02	0.00E+00	1.46E-02
		Cs-137	<1.56E-02	0.00E+00	1.56E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	1.00E-01	1.06E-01	1.61E-01
485062	9/18/2018 - 9/24/2018	I-131	<3.51E-02	0.00E+00	3.51E-02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 4 [INDICATOR - ESE @ 0.4 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
485062	9/18/2018 - 9/24/2018	Cs-134	<2.28E-02	0.00E+00	2.28E-02
		Cs-137	<1.61E-02	0.00E+00	1.61E-02
		Be-7	<1.29E-01	0.00E+00	1.29E-01
		K-40	1.04E+00	3.05E-01	2.55E-01
485534	9/24/2018 - 10/1/2018	I-131	<4.16E-02	0.00E+00	4.16E-02
		Cs-134	<1.77E-02	0.00E+00	1.77E-02
		Cs-137	<1.92E-02	0.00E+00	1.92E-02
		Be-7	<1.55E-01	0.00E+00	1.55E-01
		K-40	7.60E-01	2.30E-01	1.69E-01
486206	10/1/2018 - 10/9/2018	I-131	<3.29E-02	0.00E+00	3.29E-02
		Cs-134	<1.72E-02	0.00E+00	1.72E-02
		Cs-137	<1.66E-02	0.00E+00	1.66E-02
		Be-7	<1.37E-01	0.00E+00	1.37E-01
		K-40	4.64E-01	1.86E-01	2.03E-01
486735	10/9/2018 - 10/15/2018	I-131	<3.93E-02	0.00E+00	3.93E-02
		Cs-134	<1.80E-02	0.00E+00	1.80E-02
		Cs-137	<2.54E-02	0.00E+00	2.54E-02
		Be-7	<1.90E-01	0.00E+00	1.90E-01
		K-40	5.27E-01	2.69E-01	3.60E-01
487773	10/15/2018 - 10/23/2018	I-131	<2.90E-02	0.00E+00	2.90E-02
		Cs-134	<1.79E-02	0.00E+00	1.79E-02
		Cs-137	<1.47E-02	0.00E+00	1.47E-02
		Be-7	<1.36E-01	0.00E+00	1.36E-01
		K-40	4.83E-01	1.61E-01	3.45E-02
488016	10/23/2018 - 10/29/2018	I-131	<2.80E-02	0.00E+00	2.80E-02
		Cs-134	<2.62E-02	0.00E+00	2.62E-02
		Cs-137	<2.36E-02	0.00E+00	2.36E-02
		Be-7	<1.73E-01	0.00E+00	1.73E-01
		K-40	<4.48E-01	0.00E+00	4.48E-01
488509	10/29/2018 - 11/5/2018	I-131	<2.92E-02	0.00E+00	2.92E-02
		Cs-134	<1.91E-02	0.00E+00	1.91E-02
		Cs-137	<1.86E-02	0.00E+00	1.86E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	<3.98E-01	0.00E+00	3.98E-01
488893	11/5/2018 - 11/13/2018	I-131	<2.65E-02	0.00E+00	2.65E-02
		Cs-134	<1.64E-02	0.00E+00	1.64E-02
		Cs-137	<1.71E-02	0.00E+00	1.71E-02
		Be-7	<1.45E-01	0.00E+00	1.45E-01
		K-40	6.03E-01	2.11E-01	2.14E-01
489185	11/13/2018 - 11/20/2018	I-131	<4.61E-02	0.00E+00	4.61E-02
		Cs-134	<1.73E-02	0.00E+00	1.73E-02
		Cs-137	<1.97E-02	0.00E+00	1.97E-02
		Be-7	<1.44E-01	0.00E+00	1.44E-01
		K-40	2.98E-01	1.81E-01	2.40E-01
489766	11/20/2018 - 11/28/2018	I-131	<3.64E-02	0.00E+00	3.64E-02
		Cs-134	<2.04E-02	0.00E+00	2.04E-02
		Cs-137	<2.31E-02	0.00E+00	2.31E-02
		Be-7	<1.26E-01	0.00E+00	1.26E-01
		K-40	3.09E-01	2.32E-01	3.49E-01



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 4 [INDICATOR - ESE @ 0.4 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
490190	11/28/2018 - 12/5/2018	I-131	<3.07E-02	0.00E+00	3.07E-02
		Cs-134	<1.73E-02	0.00E+00	1.73E-02
		Cs-137	<1.41E-02	0.00E+00	1.41E-02
		Be-7	<1.31E-01	0.00E+00	1.31E-01
		K-40	4.47E-01	1.67E-01	1.36E-01
490842	12/5/2018 - 12/11/2018	I-131	<4.16E-02	0.00E+00	4.16E-02
		Cs-134	<2.28E-02	0.00E+00	2.28E-02
		Cs-137	<1.47E-02	0.00E+00	1.47E-02
		Be-7	<1.58E-01	0.00E+00	1.58E-01
		K-40	4.53E-01	2.13E-01	2.37E-01
491319	12/11/2018 - 12/18/2018	I-131	<5.22E-02	0.00E+00	5.22E-02
		Cs-134	<2.19E-02	0.00E+00	2.19E-02
		Cs-137	<2.12E-02	0.00E+00	2.12E-02
		Be-7	<1.44E-01	0.00E+00	1.44E-01
		K-40	4.39E-01	2.04E-01	2.41E-01
491518	12/18/2018 - 12/26/2018	I-131	<4.10E-02	0.00E+00	4.10E-02
		Cs-134	<1.93E-02	0.00E+00	1.93E-02
		Cs-137	<1.63E-02	0.00E+00	1.63E-02
		Be-7	<1.42E-01	0.00E+00	1.42E-01
		K-40	4.59E-01	1.80E-01	1.80E-01
491869	12/26/2018 - 1/2/2019	I-131	<3.56E-02	0.00E+00	3.56E-02
		Cs-134	<2.09E-02	0.00E+00	2.09E-02
		Cs-137	<2.14E-02	0.00E+00	2.14E-02
		Be-7	<1.16E-01	0.00E+00	1.16E-01
		K-40	<3.91E-01	0.00E+00	3.91E-01

Sample Point 5 [INDICATOR - ENE @ 0.9 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466040	1/2/2018 - 1/10/2018	I-131	<2.89E-02	0.00E+00	2.89E-02
		Cs-134	<1.36E-02	0.00E+00	1.36E-02
		Cs-137	<1.51E-02	0.00E+00	1.51E-02
		Be-7	<1.27E-01	0.00E+00	1.27E-01
		K-40	5.37E-01	1.62E-01	3.09E-02
466236	1/10/2018 - 1/16/2018	I-131	<5.25E-02	0.00E+00	5.25E-02
		Cs-134	<2.18E-02	0.00E+00	2.18E-02
		Cs-137	<2.28E-02	0.00E+00	2.28E-02
		Be-7	<1.73E-01	0.00E+00	1.73E-01
		K-40	6.62E-01	2.40E-01	2.44E-01
466420	1/16/2018 - 1/23/2018	I-131	<2.89E-02	0.00E+00	2.89E-02
		Cs-134	<1.62E-02	0.00E+00	1.62E-02
		Cs-137	<1.76E-02	0.00E+00	1.76E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	4.48E-01	1.93E-01	2.21E-01
467019	1/23/2018 - 1/30/2018	I-131	<2.27E-02	0.00E+00	2.27E-02
		Cs-134	<1.89E-02	0.00E+00	1.89E-02
		Cs-137	<1.31E-02	0.00E+00	1.31E-02
		Be-7	<1.15E-01	0.00E+00	1.15E-01
		K-40	4.58E-01	1.81E-01	1.81E-01
467373	1/30/2018 - 2/6/2018	I-131	<3.54E-02	0.00E+00	3.54E-02
		Cs-134	<2.00E-02	0.00E+00	2.00E-02
		Cs-137	<1.93E-02	0.00E+00	1.93E-02
		Be-7	<1.29E-01	0.00E+00	1.29E-01



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 5 [INDICATOR - ENE @ 0.9 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467373	1/30/2018 - 2/6/2018	K-40	4.25E-01	1.97E-01	2.43E-01
467699	2/6/2018 - 2/13/2018	I-131	<2.04E-02	0.00E+00	2.04E-02
		Cs-134	<2.10E-02	0.00E+00	2.10E-02
		Cs-137	<1.63E-02	0.00E+00	1.63E-02
		Be-7	<1.22E-01	0.00E+00	1.22E-01
		K-40	4.07E-01	1.56E-01	1.32E-01
468468	2/13/2018 - 2/20/2018	I-131	<3.02E-02	0.00E+00	3.02E-02
		Cs-134	<1.68E-02	0.00E+00	1.68E-02
		Cs-137	<1.75E-02	0.00E+00	1.75E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	3.76E-01	1.82E-01	2.22E-01
468797	2/20/2018 - 2/27/2018	I-131	<2.32E-02	0.00E+00	2.32E-02
		Cs-134	<1.28E-02	0.00E+00	1.28E-02
		Cs-137	<1.95E-02	0.00E+00	1.95E-02
		Be-7	<1.18E-01	0.00E+00	1.18E-01
		K-40	5.32E-01	1.99E-01	2.00E-01
469607	2/27/2018 - 3/6/2018	I-131	<2.88E-02	0.00E+00	2.88E-02
		Cs-134	<1.75E-02	0.00E+00	1.75E-02
		Cs-137	<1.89E-02	0.00E+00	1.89E-02
		Be-7	<1.07E-01	0.00E+00	1.07E-01
		K-40	4.71E-01	1.99E-01	2.31E-01
470647	3/6/2018 - 3/13/2018	I-131	<2.23E-02	0.00E+00	2.23E-02
		Cs-134	<1.88E-02	0.00E+00	1.88E-02
		Cs-137	<1.70E-02	0.00E+00	1.70E-02
		Be-7	<1.38E-01	0.00E+00	1.38E-01
		K-40	<3.76E-01	0.00E+00	3.76E-01
471190	3/13/2018 - 3/20/2018	I-131	<3.23E-02	0.00E+00	3.23E-02
		Cs-134	<2.10E-02	0.00E+00	2.10E-02
		Cs-137	<2.16E-02	0.00E+00	2.16E-02
		Be-7	<1.25E-01	0.00E+00	1.25E-01
		K-40	4.48E-01	2.00E-01	2.42E-01
471752	3/20/2018 - 3/27/2018	I-131	<3.72E-02	0.00E+00	3.72E-02
		Cs-134	<1.62E-02	0.00E+00	1.62E-02
		Cs-137	<2.02E-02	0.00E+00	2.02E-02
		Be-7	<1.63E-01	0.00E+00	1.63E-01
		K-40	7.59E-01	2.19E-01	1.55E-01
472561	3/27/2018 - 4/3/2018	I-131	<2.18E-02	0.00E+00	2.18E-02
		Cs-134	<1.53E-02	0.00E+00	1.53E-02
		Cs-137	<1.85E-02	0.00E+00	1.85E-02
		Be-7	<1.23E-01	0.00E+00	1.23E-01
		K-40	6.10E-01	2.21E-01	2.37E-01
473022	4/3/2018 - 4/10/2018	I-131	<2.22E-02	0.00E+00	2.22E-02
		Cs-134	<1.69E-02	0.00E+00	1.69E-02
		Cs-137	<1.72E-02	0.00E+00	1.72E-02
		Be-7	<1.34E-01	0.00E+00	1.34E-01
		K-40	5.27E-01	1.90E-01	1.73E-01
473298	4/10/2018 - 4/17/2018	I-131	<2.49E-02	0.00E+00	2.49E-02
		Cs-134	<1.79E-02	0.00E+00	1.79E-02
		Cs-137	<1.77E-02	0.00E+00	1.77E-02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 5 [INDICATOR - ENE @ 0.9 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
473298	4/10/2018 - 4/17/2018	Be-7	<1.30E-01	0.00E+00	1.30E-01
		K-40	4.55E-01	1.70E-01	1.45E-01
473671	4/17/2018 - 4/24/2018	I-131	<2.30E-02	0.00E+00	2.30E-02
		Cs-134	<1.74E-02	0.00E+00	1.74E-02
		Cs-137	<2.13E-02	0.00E+00	2.13E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	6.29E-01	2.12E-01	1.89E-01
474189	4/24/2018 - 5/1/2018	I-131	<2.52E-02	0.00E+00	2.52E-02
		Cs-134	<1.60E-02	0.00E+00	1.60E-02
		Cs-137	<1.64E-02	0.00E+00	1.64E-02
		Be-7	<1.25E-01	0.00E+00	1.25E-01
		K-40	4.32E-01	1.82E-01	1.99E-01
474565	5/1/2018 - 5/8/2018	I-131	<2.50E-02	0.00E+00	2.50E-02
		Cs-134	<1.73E-02	0.00E+00	1.73E-02
		Cs-137	<2.20E-02	0.00E+00	2.20E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	4.93E-01	2.00E-01	2.18E-01
474935	5/8/2018 - 5/15/2018	I-131	<2.12E-02	0.00E+00	2.12E-02
		Cs-134	<1.96E-02	0.00E+00	1.96E-02
		Cs-137	<1.67E-02	0.00E+00	1.67E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	4.45E-01	1.81E-01	1.85E-01
475252	5/15/2018 - 5/22/2018	I-131	<2.48E-02	0.00E+00	2.48E-02
		Cs-134	<1.28E-02	0.00E+00	1.28E-02
		Cs-137	<1.73E-02	0.00E+00	1.73E-02
		Be-7	<1.47E-01	0.00E+00	1.47E-01
		K-40	4.24E-01	1.62E-01	1.26E-01
475575	5/22/2018 - 5/29/2018	I-131	<2.44E-02	0.00E+00	2.44E-02
		Cs-134	<1.86E-02	0.00E+00	1.86E-02
		Cs-137	<1.90E-02	0.00E+00	1.90E-02
		Be-7	<1.38E-01	0.00E+00	1.38E-01
		K-40	7.03E-01	2.48E-01	2.74E-01
476398	5/29/2018 - 6/5/2018	I-131	<2.45E-02	0.00E+00	2.45E-02
		Cs-134	<1.39E-02	0.00E+00	1.39E-02
		Cs-137	<1.84E-02	0.00E+00	1.84E-02
		Be-7	<1.26E-01	0.00E+00	1.26E-01
		K-40	4.58E-01	2.00E-01	2.35E-01
477421	6/5/2018 - 6/12/2018	I-131	<2.61E-02	0.00E+00	2.61E-02
		Cs-134	<2.21E-02	0.00E+00	2.21E-02
		Cs-137	<1.93E-02	0.00E+00	1.93E-02
		Be-7	<1.23E-01	0.00E+00	1.23E-01
		K-40	7.51E-01	2.19E-01	1.48E-01
478144	6/12/2018 - 6/20/2018	I-131	<3.26E-02	0.00E+00	3.26E-02
		Cs-134	<1.58E-02	0.00E+00	1.58E-02
		Cs-137	<1.54E-02	0.00E+00	1.54E-02
		Be-7	<1.01E-01	0.00E+00	1.01E-01
		K-40	3.89E-01	1.68E-01	1.88E-01
478462	6/20/2018 - 6/26/2018	I-131	<2.43E-02	0.00E+00	2.43E-02
		Cs-134	<1.92E-02	0.00E+00	1.92E-02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 5 [INDICATOR - ENE @ 0.9 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
478462	6/20/2018 - 6/26/2018	Cs-137	<1.92E-02	0.00E+00	1.92E-02
		Be-7	<1.43E-01	0.00E+00	1.43E-01
		K-40	5.24E-01	2.52E-01	3.24E-01
478843	6/26/2018 - 7/3/2018	I-131	<2.38E-02	0.00E+00	2.38E-02
		Cs-134	<1.66E-02	0.00E+00	1.66E-02
		Cs-137	<1.65E-02	0.00E+00	1.65E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	5.68E-01	1.97E-01	1.69E-01
479238	7/3/2018 - 7/10/2018	I-131	<2.33E-02	0.00E+00	2.33E-02
		Cs-134	<1.18E-02	0.00E+00	1.18E-02
		Cs-137	<1.63E-02	0.00E+00	1.63E-02
		Be-7	<1.25E-01	0.00E+00	1.25E-01
		K-40	4.79E-01	1.72E-01	1.54E-01
479920	7/10/2018 - 7/17/2018	I-131	<1.87E-02	0.00E+00	1.87E-02
		Cs-134	<1.73E-02	0.00E+00	1.73E-02
		Cs-137	<1.95E-02	0.00E+00	1.95E-02
		Be-7	<1.29E-01	0.00E+00	1.29E-01
		K-40	4.93E-01	1.92E-01	1.94E-01
480285	7/17/2018 - 7/24/2018	I-131	<2.42E-02	0.00E+00	2.42E-02
		Cs-134	<1.92E-02	0.00E+00	1.92E-02
		Cs-137	<1.69E-02	0.00E+00	1.69E-02
		Be-7	<1.26E-01	0.00E+00	1.26E-01
		K-40	5.82E-01	1.92E-01	1.39E-01
481110	7/24/2018 - 7/31/2018	I-131	<3.34E-02	0.00E+00	3.34E-02
		Cs-134	<1.81E-02	0.00E+00	1.81E-02
		Cs-137	<1.54E-02	0.00E+00	1.54E-02
		Be-7	<1.23E-01	0.00E+00	1.23E-01
		K-40	3.90E-01	1.58E-01	1.30E-01
481550	7/31/2018 - 8/6/2018	I-131	<2.95E-02	0.00E+00	2.95E-02
		Cs-134	<2.09E-02	0.00E+00	2.09E-02
		Cs-137	<1.56E-02	0.00E+00	1.56E-02
		Be-7	<1.32E-01	0.00E+00	1.32E-01
		K-40	7.63E-01	2.56E-01	2.43E-01
482005	8/6/2018 - 8/14/2018	I-131	<2.29E-02	0.00E+00	2.29E-02
		Cs-134	<1.65E-02	0.00E+00	1.65E-02
		Cs-137	<1.42E-02	0.00E+00	1.42E-02
		Be-7	<9.43E-02	0.00E+00	9.43E-02
		K-40	2.61E-01	1.36E-01	1.58E-01
482520	8/14/2018 - 8/21/2018	I-131	<2.74E-02	0.00E+00	2.74E-02
		Cs-134	<1.29E-02	0.00E+00	1.29E-02
		Cs-137	<1.93E-02	0.00E+00	1.93E-02
		Be-7	<1.07E-01	0.00E+00	1.07E-01
		K-40	3.53E-01	1.72E-01	2.01E-01
482844	8/21/2018 - 8/28/2018	I-131	<1.90E-02	0.00E+00	1.90E-02
		Cs-134	<1.34E-02	0.00E+00	1.34E-02
		Cs-137	<1.60E-02	0.00E+00	1.60E-02
		Be-7	<9.44E-02	0.00E+00	9.44E-02
		K-40	3.23E-01	1.44E-01	1.25E-01
483465	8/28/2018 - 9/4/2018	I-131	<2.51E-02	0.00E+00	2.51E-02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 5 [INDICATOR - ENE @ 0.9 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
483465	8/28/2018 - 9/4/2018	Cs-134	<1.91E-02	0.00E+00	1.91E-02
		Cs-137	<1.74E-02	0.00E+00	1.74E-02
		Be-7	<1.27E-01	0.00E+00	1.27E-01
		K-40	6.58E-01	2.25E-01	2.18E-01
484065	9/4/2018 - 9/11/2018	I-131	<2.59E-02	0.00E+00	2.59E-02
		Cs-134	<1.12E-02	0.00E+00	1.12E-02
		Cs-137	<1.56E-02	0.00E+00	1.56E-02
		Be-7	<1.03E-01	0.00E+00	1.03E-01
		K-40	3.91E-01	1.49E-01	3.65E-02
484637	9/11/2018 - 9/18/2018	I-131	<2.22E-02	0.00E+00	2.22E-02
		Cs-134	<1.94E-02	0.00E+00	1.94E-02
		Cs-137	<2.30E-02	0.00E+00	2.30E-02
		Be-7	<1.35E-01	0.00E+00	1.35E-01
		K-40	<3.67E-01	0.00E+00	3.67E-01
485063	9/18/2018 - 9/24/2018	I-131	<2.64E-02	0.00E+00	2.64E-02
		Cs-134	<2.25E-02	0.00E+00	2.25E-02
		Cs-137	<1.53E-02	0.00E+00	1.53E-02
		Be-7	<1.70E-01	0.00E+00	1.70E-01
		K-40	9.92E-01	3.07E-01	3.01E-01
485535	9/24/2018 - 10/1/2018	I-131	<3.53E-02	0.00E+00	3.53E-02
		Cs-134	<2.25E-02	0.00E+00	2.25E-02
		Cs-137	<1.48E-02	0.00E+00	1.48E-02
		Be-7	<1.39E-01	0.00E+00	1.39E-01
		K-40	3.04E-01	1.53E-01	1.69E-01
486207	10/1/2018 - 10/9/2018	I-131	<3.88E-02	0.00E+00	3.88E-02
		Cs-134	<1.65E-02	0.00E+00	1.65E-02
		Cs-137	<1.50E-02	0.00E+00	1.50E-02
		Be-7	<1.04E-01	0.00E+00	1.04E-01
		K-40	4.36E-01	1.55E-01	1.13E-01
486736	10/9/2018 - 10/15/2018	I-131	<4.49E-02	0.00E+00	4.49E-02
		Cs-134	<2.41E-02	0.00E+00	2.41E-02
		Cs-137	<2.17E-02	0.00E+00	2.17E-02
		Be-7	<1.62E-01	0.00E+00	1.62E-01
		K-40	7.12E-01	2.54E-01	2.51E-01
487774	10/15/2018 - 10/23/2018	I-131	<2.35E-02	0.00E+00	2.35E-02
		Cs-134	<1.90E-02	0.00E+00	1.90E-02
		Cs-137	<1.82E-02	0.00E+00	1.82E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	3.34E-01	1.84E-01	2.48E-01
488017	10/23/2018 - 10/29/2018	I-131	<3.17E-02	0.00E+00	3.17E-02
		Cs-134	<1.83E-02	0.00E+00	1.83E-02
		Cs-137	<2.31E-02	0.00E+00	2.31E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	4.01E-01	1.95E-01	2.24E-01
488510	10/29/2018 - 11/5/2018	I-131	<2.38E-02	0.00E+00	2.38E-02
		Cs-134	<1.64E-02	0.00E+00	1.64E-02
		Cs-137	<1.58E-02	0.00E+00	1.58E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	4.87E-01	1.79E-01	1.49E-01



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 5 [INDICATOR - ENE @ 0.9 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
488894	11/5/2018 - 11/13/2018	I-131	<2.34E-02	0.00E+00	2.34E-02
		Cs-134	<1.45E-02	0.00E+00	1.45E-02
		Cs-137	<1.53E-02	0.00E+00	1.53E-02
		Be-7	<1.06E-01	0.00E+00	1.06E-01
		K-40	3.68E-01	1.72E-01	2.09E-01
489186	11/13/2018 - 11/20/2018	I-131	<4.04E-02	0.00E+00	4.04E-02
		Cs-134	<1.40E-02	0.00E+00	1.40E-02
		Cs-137	<1.70E-02	0.00E+00	1.70E-02
		Be-7	<1.35E-01	0.00E+00	1.35E-01
		K-40	5.00E-01	2.07E-01	2.37E-01
489767	11/20/2018 - 11/28/2018	I-131	<3.76E-02	0.00E+00	3.76E-02
		Cs-134	<1.98E-02	0.00E+00	1.98E-02
		Cs-137	<1.57E-02	0.00E+00	1.57E-02
		Be-7	<8.23E-02	0.00E+00	8.23E-02
		K-40	4.13E-01	2.07E-01	2.68E-01
490191	11/28/2018 - 12/5/2018	I-131	<3.13E-02	0.00E+00	3.13E-02
		Cs-134	<1.31E-02	0.00E+00	1.31E-02
		Cs-137	<1.70E-02	0.00E+00	1.70E-02
		Be-7	<1.19E-01	0.00E+00	1.19E-01
		K-40	3.26E-01	1.66E-01	2.09E-01
490843	12/5/2018 - 12/11/2018	I-131	<3.70E-02	0.00E+00	3.70E-02
		Cs-134	<1.93E-02	0.00E+00	1.93E-02
		Cs-137	<1.58E-02	0.00E+00	1.58E-02
		Be-7	<1.02E-01	0.00E+00	1.02E-01
		K-40	3.09E-01	1.37E-01	3.99E-02
491320	12/11/2018 - 12/18/2018	I-131	<4.33E-02	0.00E+00	4.33E-02
		Cs-134	<1.73E-02	0.00E+00	1.73E-02
		Cs-137	<1.84E-02	0.00E+00	1.84E-02
		Be-7	<1.34E-01	0.00E+00	1.34E-01
		K-40	5.23E-01	1.98E-01	2.01E-01
491519	12/18/2018 - 12/26/2018	I-131	<3.87E-02	0.00E+00	3.87E-02
		Cs-134	<1.76E-02	0.00E+00	1.76E-02
		Cs-137	<1.35E-02	0.00E+00	1.35E-02
		Be-7	<1.27E-01	0.00E+00	1.27E-01
		K-40	4.28E-01	1.60E-01	1.43E-01
491870	12/26/2018 - 1/2/2019	I-131	<3.26E-02	0.00E+00	3.26E-02
		Cs-134	<1.64E-02	0.00E+00	1.64E-02
		Cs-137	<1.68E-02	0.00E+00	1.68E-02
		Be-7	<1.25E-01	0.00E+00	1.25E-01
		K-40	5.34E-01	1.98E-01	1.96E-01

Sample Point 6 [INDICATOR - SSW @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466042	1/2/2018 - 1/10/2018	I-131	<2.27E-02	0.00E+00	2.27E-02
		Cs-134	<1.49E-02	0.00E+00	1.49E-02
		Cs-137	<1.40E-02	0.00E+00	1.40E-02
		Be-7	<8.56E-02	0.00E+00	8.56E-02
		K-40	3.73E-01	1.33E-01	1.07E-01
466238	1/10/2018 - 1/16/2018	I-131	<3.63E-02	0.00E+00	3.63E-02
		Cs-134	<1.85E-02	0.00E+00	1.85E-02
		Cs-137	<1.67E-02	0.00E+00	1.67E-02
		Be-7	<1.32E-01	0.00E+00	1.32E-01



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 6 [INDICATOR - SSW @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466238	1/10/2018 - 1/16/2018	K-40	4.45E-01	1.65E-01	1.34E-01
466422	1/16/2018 - 1/23/2018	I-131	<3.09E-02	0.00E+00	3.09E-02
		Cs-134	<1.23E-02	0.00E+00	1.23E-02
		Cs-137	<1.56E-02	0.00E+00	1.56E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	3.91E-01	1.75E-01	2.16E-01
467021	1/23/2018 - 1/30/2018	I-131	<2.11E-02	0.00E+00	2.11E-02
		Cs-134	<1.14E-02	0.00E+00	1.14E-02
		Cs-137	<1.34E-02	0.00E+00	1.34E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	3.36E-01	1.45E-01	1.54E-01
467375	1/30/2018 - 2/6/2018	I-131	<3.18E-02	0.00E+00	3.18E-02
		Cs-134	<1.52E-02	0.00E+00	1.52E-02
		Cs-137	<1.68E-02	0.00E+00	1.68E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	<3.26E-01	0.00E+00	3.26E-01
467701	2/6/2018 - 2/13/2018	I-131	<1.57E-02	0.00E+00	1.57E-02
		Cs-134	<1.33E-02	0.00E+00	1.33E-02
		Cs-137	<1.53E-02	0.00E+00	1.53E-02
		Be-7	<9.24E-02	0.00E+00	9.24E-02
		K-40	4.23E-01	1.40E-01	1.09E-01
468470	2/13/2018 - 2/20/2018	I-131	<2.77E-02	0.00E+00	2.77E-02
		Cs-134	<1.61E-02	0.00E+00	1.61E-02
		Cs-137	<1.50E-02	0.00E+00	1.50E-02
		Be-7	<8.63E-02	0.00E+00	8.63E-02
		K-40	4.03E-01	1.44E-01	1.03E-01
468799	2/20/2018 - 2/27/2018	I-131	<2.08E-02	0.00E+00	2.08E-02
		Cs-134	<1.63E-02	0.00E+00	1.63E-02
		Cs-137	<1.56E-02	0.00E+00	1.56E-02
		Be-7	<1.04E-01	0.00E+00	1.04E-01
		K-40	4.66E-01	1.79E-01	1.93E-01
469609	2/27/2018 - 3/6/2018	I-131	<2.07E-02	0.00E+00	2.07E-02
		Cs-134	<1.42E-02	0.00E+00	1.42E-02
		Cs-137	<1.64E-02	0.00E+00	1.64E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	5.13E-01	1.65E-01	1.21E-01
470649	3/6/2018 - 3/13/2018	I-131	<1.83E-02	0.00E+00	1.83E-02
		Cs-134	<1.63E-02	0.00E+00	1.63E-02
		Cs-137	<1.39E-02	0.00E+00	1.39E-02
		Be-7	<1.33E-01	0.00E+00	1.33E-01
		K-40	5.20E-01	1.66E-01	1.26E-01
471192	3/13/2018 - 3/20/2018	I-131	<3.10E-02	0.00E+00	3.10E-02
		Cs-134	<1.59E-02	0.00E+00	1.59E-02
		Cs-137	<1.21E-02	0.00E+00	1.21E-02
		Be-7	<1.22E-01	0.00E+00	1.22E-01
		K-40	4.83E-01	1.58E-01	1.10E-01
471754	3/20/2018 - 3/27/2018	I-131	<2.87E-02	0.00E+00	2.87E-02
		Cs-134	<1.58E-02	0.00E+00	1.58E-02
		Cs-137	<1.43E-02	0.00E+00	1.43E-02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 6 [INDICATOR - SSW @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
471754	3/20/2018 - 3/27/2018	Be-7	<9.46E-02	0.00E+00	9.46E-02
		K-40	4.68E-01	1.55E-01	1.11E-01
472563	3/27/2018 - 4/3/2018	I-131	<1.99E-02	0.00E+00	1.99E-02
		Cs-134	<1.66E-02	0.00E+00	1.66E-02
		Cs-137	<1.50E-02	0.00E+00	1.50E-02
		Be-7	<1.05E-01	0.00E+00	1.05E-01
		K-40	4.10E-01	1.57E-01	1.54E-01
473024	4/3/2018 - 4/10/2018	I-131	<2.01E-02	0.00E+00	2.01E-02
		Cs-134	<1.54E-02	0.00E+00	1.54E-02
		Cs-137	<1.27E-02	0.00E+00	1.27E-02
		Be-7	<1.01E-01	0.00E+00	1.01E-01
		K-40	4.49E-01	1.64E-01	1.55E-01
473300	4/10/2018 - 4/17/2018	I-131	<2.19E-02	0.00E+00	2.19E-02
		Cs-134	<1.36E-02	0.00E+00	1.36E-02
		Cs-137	<1.49E-02	0.00E+00	1.49E-02
		Be-7	<8.81E-02	0.00E+00	8.81E-02
		K-40	4.49E-01	1.63E-01	1.55E-01
473673	4/17/2018 - 4/24/2018	I-131	<2.00E-02	0.00E+00	2.00E-02
		Cs-134	<1.56E-02	0.00E+00	1.56E-02
		Cs-137	<1.46E-02	0.00E+00	1.46E-02
		Be-7	<1.25E-01	0.00E+00	1.25E-01
		K-40	3.80E-01	1.52E-01	1.49E-01
474191	4/24/2018 - 5/1/2018	I-131	<1.85E-02	0.00E+00	1.85E-02
		Cs-134	<1.31E-02	0.00E+00	1.31E-02
		Cs-137	<1.42E-02	0.00E+00	1.42E-02
		Be-7	<1.03E-01	0.00E+00	1.03E-01
		K-40	3.84E-01	1.68E-01	1.97E-01
474567	5/1/2018 - 5/8/2018	I-131	<2.84E-02	0.00E+00	2.84E-02
		Cs-134	<1.38E-02	0.00E+00	1.38E-02
		Cs-137	<1.69E-02	0.00E+00	1.69E-02
		Be-7	<1.08E-01	0.00E+00	1.08E-01
		K-40	5.99E-01	1.93E-01	1.83E-01
474937	5/8/2018 - 5/15/2018	I-131	<2.18E-02	0.00E+00	2.18E-02
		Cs-134	<1.81E-02	0.00E+00	1.81E-02
		Cs-137	<1.81E-02	0.00E+00	1.81E-02
		Be-7	<1.08E-01	0.00E+00	1.08E-01
		K-40	4.09E-01	1.40E-01	3.08E-02
475254	5/15/2018 - 5/22/2018	I-131	<2.18E-02	0.00E+00	2.18E-02
		Cs-134	<1.57E-02	0.00E+00	1.57E-02
		Cs-137	<1.24E-02	0.00E+00	1.24E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	3.91E-01	1.57E-01	1.61E-01
475577	5/22/2018 - 5/29/2018	I-131	<2.14E-02	0.00E+00	2.14E-02
		Cs-134	<1.59E-02	0.00E+00	1.59E-02
		Cs-137	<1.20E-02	0.00E+00	1.20E-02
		Be-7	<1.03E-01	0.00E+00	1.03E-01
		K-40	4.63E-01	1.69E-01	1.61E-01
476400	5/29/2018 - 6/5/2018	I-131	<2.02E-02	0.00E+00	2.02E-02
		Cs-134	<1.59E-02	0.00E+00	1.59E-02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 6 [INDICATOR - SSW @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
476400	5/29/2018 - 6/5/2018	Cs-137	<1.61E-02	0.00E+00	1.61E-02
		Be-7	<1.05E-01	0.00E+00	1.05E-01
		K-40	5.38E-01	1.91E-01	1.97E-01
477423	6/5/2018 - 6/12/2018	I-131	<1.88E-02	0.00E+00	1.88E-02
		Cs-134	<1.48E-02	0.00E+00	1.48E-02
		Cs-137	<1.40E-02	0.00E+00	1.40E-02
		Be-7	<9.05E-02	0.00E+00	9.05E-02
		K-40	3.24E-01	1.39E-01	1.40E-01
478146	6/12/2018 - 6/20/2018	I-131	<2.47E-02	0.00E+00	2.47E-02
		Cs-134	<1.32E-02	0.00E+00	1.32E-02
		Cs-137	<1.34E-02	0.00E+00	1.34E-02
		Be-7	<1.01E-01	0.00E+00	1.01E-01
		K-40	<2.90E-01	0.00E+00	2.90E-01
478464	6/20/2018 - 6/26/2018	I-131	<2.47E-02	0.00E+00	2.47E-02
		Cs-134	<1.96E-02	0.00E+00	1.96E-02
		Cs-137	<1.88E-02	0.00E+00	1.88E-02
		Be-7	<9.52E-02	0.00E+00	9.52E-02
		K-40	4.68E-01	1.79E-01	1.58E-01
478845	6/26/2018 - 7/3/2018	I-131	<3.76E-02	0.00E+00	3.76E-02
		Cs-134	<2.57E-02	0.00E+00	2.57E-02
		Cs-137	<2.19E-02	0.00E+00	2.19E-02
		Be-7	<1.57E-01	0.00E+00	1.57E-01
		K-40	6.41E-01	2.55E-01	2.56E-01
479240	7/3/2018 - 7/10/2018	I-131	<2.62E-02	0.00E+00	2.62E-02
		Cs-134	<7.31E-03	0.00E+00	7.31E-03
		Cs-137	<7.60E-03	0.00E+00	7.60E-03
		Be-7	<6.12E-02	0.00E+00	6.12E-02
		K-40	2.29E-01	1.63E-01	2.57E-01
479922	7/10/2018 - 7/17/2018	I-131	<2.12E-02	0.00E+00	2.12E-02
		Cs-134	<2.07E-02	0.00E+00	2.07E-02
		Cs-137	<1.68E-02	0.00E+00	1.68E-02
		Be-7	<1.11E-01	0.00E+00	1.11E-01
		K-40	3.82E-01	1.63E-01	1.72E-01
480287	7/17/2018 - 7/24/2018	I-131	<2.36E-02	0.00E+00	2.36E-02
		Cs-134	<1.74E-02	0.00E+00	1.74E-02
		Cs-137	<1.67E-02	0.00E+00	1.67E-02
		Be-7	<1.30E-01	0.00E+00	1.30E-01
		K-40	5.77E-01	1.89E-01	1.59E-01
481112	7/24/2018 - 7/31/2018	I-131	<2.80E-02	0.00E+00	2.80E-02
		Cs-134	<1.64E-02	0.00E+00	1.64E-02
		Cs-137	<1.72E-02	0.00E+00	1.72E-02
		Be-7	<1.15E-01	0.00E+00	1.15E-01
		K-40	6.50E-01	1.93E-01	1.29E-01
481552	7/31/2018 - 8/6/2018	I-131	<2.52E-02	0.00E+00	2.52E-02
		Cs-134	<1.48E-02	0.00E+00	1.48E-02
		Cs-137	<1.80E-02	0.00E+00	1.80E-02
		Be-7	<1.23E-01	0.00E+00	1.23E-01
		K-40	5.97E-01	2.06E-01	1.73E-01
482007	8/6/2018 - 8/14/2018	I-131	<2.14E-02	0.00E+00	2.14E-02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 6 [INDICATOR - SSW @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
482007	8/6/2018 - 8/14/2018	Cs-134	<1.06E-02	0.00E+00	1.06E-02
		Cs-137	<8.32E-03	0.00E+00	8.32E-03
		Be-7	<8.00E-02	0.00E+00	8.00E-02
		K-40	2.39E-01	1.01E-01	2.82E-02
482522	8/14/2018 - 8/21/2018	I-131	<3.32E-02	0.00E+00	3.32E-02
		Cs-134	<1.74E-02	0.00E+00	1.74E-02
		Cs-137	<1.66E-02	0.00E+00	1.66E-02
		Be-7	<1.11E-01	0.00E+00	1.11E-01
		K-40	4.28E-01	1.84E-01	2.15E-01
482846	8/21/2018 - 8/28/2018	I-131	<1.75E-02	0.00E+00	1.75E-02
		Cs-134	<1.35E-02	0.00E+00	1.35E-02
		Cs-137	<1.16E-02	0.00E+00	1.16E-02
		Be-7	<6.87E-02	0.00E+00	6.87E-02
		K-40	2.44E-01	1.26E-01	1.38E-01
483467	8/28/2018 - 9/4/2018	I-131	<2.28E-02	0.00E+00	2.28E-02
		Cs-134	<1.77E-02	0.00E+00	1.77E-02
		Cs-137	<1.74E-02	0.00E+00	1.74E-02
		Be-7	<1.01E-01	0.00E+00	1.01E-01
		K-40	3.85E-01	1.48E-01	1.11E-01
484067	9/4/2018 - 9/11/2018	I-131	<3.42E-02	0.00E+00	3.42E-02
		Cs-134	<1.27E-02	0.00E+00	1.27E-02
		Cs-137	<1.46E-02	0.00E+00	1.46E-02
		Be-7	<1.02E-01	0.00E+00	1.02E-01
		K-40	2.55E-01	1.11E-01	3.14E-02
484639	9/11/2018 - 9/18/2018	I-131	<2.22E-02	0.00E+00	2.22E-02
		Cs-134	<1.63E-02	0.00E+00	1.63E-02
		Cs-137	<1.61E-02	0.00E+00	1.61E-02
		Be-7	<9.56E-02	0.00E+00	9.56E-02
		K-40	3.31E-01	1.35E-01	1.23E-01
485065	9/18/2018 - 9/24/2018	I-131	<2.55E-02	0.00E+00	2.55E-02
		Cs-134	<2.39E-02	0.00E+00	2.39E-02
		Cs-137	<2.09E-02	0.00E+00	2.09E-02
		Be-7	<1.52E-01	0.00E+00	1.52E-01
		K-40	7.86E-01	2.42E-01	2.02E-01
485537	9/24/2018 - 10/1/2018	I-131	<5.60E-02	0.00E+00	5.60E-02
		Cs-134	<2.47E-02	0.00E+00	2.47E-02
		Cs-137	<2.23E-02	0.00E+00	2.23E-02
		Be-7	1.97E-02	1.11E-01	1.97E-01
		K-40	7.38E-01	2.42E-01	2.32E-01
486209	10/1/2018 - 10/9/2018	I-131	<3.45E-02	0.00E+00	3.45E-02
		Cs-134	<1.45E-02	0.00E+00	1.45E-02
		Cs-137	<1.51E-02	0.00E+00	1.51E-02
		Be-7	<1.19E-01	0.00E+00	1.19E-01
		K-40	4.39E-01	1.94E-01	2.35E-01
486738	10/9/2018 - 10/15/2018	I-131	<3.39E-02	0.00E+00	3.39E-02
		Cs-134	<2.07E-02	0.00E+00	2.07E-02
		Cs-137	<1.81E-02	0.00E+00	1.81E-02
		Be-7	<1.38E-01	0.00E+00	1.38E-01
		K-40	5.28E-01	2.10E-01	2.31E-01



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 6 [INDICATOR - SSW @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
487776	10/15/2018 - 10/23/2018	I-131	<1.96E-02	0.00E+00	1.96E-02
		Cs-134	<1.28E-02	0.00E+00	1.28E-02
		Cs-137	<1.58E-02	0.00E+00	1.58E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	5.46E-01	1.56E-01	2.79E-02
488019	10/23/2018 - 10/29/2018	I-131	<2.55E-02	0.00E+00	2.55E-02
		Cs-134	<2.13E-02	0.00E+00	2.13E-02
		Cs-137	<1.86E-02	0.00E+00	1.86E-02
		Be-7	<1.48E-01	0.00E+00	1.48E-01
		K-40	5.37E-01	2.18E-01	2.51E-01
488512	10/29/2018 - 11/5/2018	I-131	<2.22E-02	0.00E+00	2.22E-02
		Cs-134	<1.47E-02	0.00E+00	1.47E-02
		Cs-137	<1.57E-02	0.00E+00	1.57E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	4.63E-01	1.59E-01	1.24E-01
488896	11/5/2018 - 11/13/2018	I-131	<1.51E-02	0.00E+00	1.51E-02
		Cs-134	<1.13E-02	0.00E+00	1.13E-02
		Cs-137	<1.24E-02	0.00E+00	1.24E-02
		Be-7	<8.95E-02	0.00E+00	8.95E-02
		K-40	4.08E-01	1.52E-01	1.50E-01
489188	11/13/2018 - 11/20/2018	I-131	<3.15E-02	0.00E+00	3.15E-02
		Cs-134	<1.54E-02	0.00E+00	1.54E-02
		Cs-137	<1.77E-02	0.00E+00	1.77E-02
		Be-7	<1.33E-01	0.00E+00	1.33E-01
		K-40	4.40E-01	1.76E-01	1.95E-01
489769	11/20/2018 - 11/28/2018	I-131	<2.91E-02	0.00E+00	2.91E-02
		Cs-134	<1.41E-02	0.00E+00	1.41E-02
		Cs-137	<1.49E-02	0.00E+00	1.49E-02
		Be-7	<1.10E-01	0.00E+00	1.10E-01
		K-40	4.63E-01	1.69E-01	1.61E-01
490193	11/28/2018 - 12/5/2018	I-131	<2.52E-02	0.00E+00	2.52E-02
		Cs-134	<1.19E-02	0.00E+00	1.19E-02
		Cs-137	<1.35E-02	0.00E+00	1.35E-02
		Be-7	<1.09E-01	0.00E+00	1.09E-01
		K-40	4.20E-01	1.42E-01	1.05E-01
490845	12/5/2018 - 12/11/2018	I-131	<3.49E-02	0.00E+00	3.49E-02
		Cs-134	<1.27E-02	0.00E+00	1.27E-02
		Cs-137	<1.44E-02	0.00E+00	1.44E-02
		Be-7	<9.28E-02	0.00E+00	9.28E-02
		K-40	<3.14E-01	0.00E+00	3.14E-01
491322	12/11/2018 - 12/18/2018	I-131	<4.81E-02	0.00E+00	4.81E-02
		Cs-134	<1.14E-02	0.00E+00	1.14E-02
		Cs-137	<1.40E-02	0.00E+00	1.40E-02
		Be-7	<1.12E-01	0.00E+00	1.12E-01
		K-40	<2.62E-01	0.00E+00	2.62E-01
491521	12/18/2018 - 12/26/2018	I-131	<3.01E-02	0.00E+00	3.01E-02
		Cs-134	<1.79E-02	0.00E+00	1.79E-02
		Cs-137	<1.42E-02	0.00E+00	1.42E-02
		Be-7	<8.67E-02	0.00E+00	8.67E-02
		K-40	3.07E-01	1.26E-01	1.18E-01



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 6 [INDICATOR - SSW @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491872	12/26/2018 - 1/2/2019	I-131	<3.03E-02	0.00E+00	3.03E-02
		Cs-134	<1.80E-02	0.00E+00	1.80E-02
		Cs-137	<1.49E-02	0.00E+00	1.49E-02
		Be-7	<1.08E-01	0.00E+00	1.08E-01
		K-40	4.01E-01	1.65E-01	1.78E-01

Sample Point 7 [INDICATOR - ESE @ 6.4 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466045	1/2/2018 - 1/10/2018	I-131	<2.47E-02	0.00E+00	2.47E-02
		Cs-134	<1.31E-02	0.00E+00	1.31E-02
		Cs-137	<1.70E-02	0.00E+00	1.70E-02
		Be-7	<1.10E-01	0.00E+00	1.10E-01
		K-40	3.09E-01	1.47E-01	1.79E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466241	1/10/2018 - 1/16/2018	I-131	<3.71E-02	0.00E+00	3.71E-02
		Cs-134	<1.40E-02	0.00E+00	1.40E-02
		Cs-137	<1.69E-02	0.00E+00	1.69E-02
		Be-7	<1.34E-01	0.00E+00	1.34E-01
		K-40	3.87E-01	2.19E-01	3.04E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466425	1/16/2018 - 1/23/2018	I-131	<2.85E-02	0.00E+00	2.85E-02
		Cs-134	<1.63E-02	0.00E+00	1.63E-02
		Cs-137	<1.67E-02	0.00E+00	1.67E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	4.08E-01	1.73E-01	2.01E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467024	1/23/2018 - 1/30/2018	I-131	<2.24E-02	0.00E+00	2.24E-02
		Cs-134	<1.39E-02	0.00E+00	1.39E-02
		Cs-137	<1.55E-02	0.00E+00	1.55E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	4.22E-01	2.05E-01	2.72E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467378	1/30/2018 - 2/6/2018	I-131	<2.89E-02	0.00E+00	2.89E-02
		Cs-134	<1.54E-02	0.00E+00	1.54E-02
		Cs-137	<1.62E-02	0.00E+00	1.62E-02
		Be-7	<9.24E-02	0.00E+00	9.24E-02
		K-40	4.17E-01	1.55E-01	1.34E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467704	2/6/2018 - 2/13/2018	I-131	<1.96E-02	0.00E+00	1.96E-02
		Cs-134	<1.52E-02	0.00E+00	1.52E-02
		Cs-137	<1.64E-02	0.00E+00	1.64E-02
		Be-7	<1.07E-01	0.00E+00	1.07E-01
		K-40	4.85E-01	2.02E-01	2.48E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
468473	2/13/2018 - 2/20/2018	I-131	<2.49E-02	0.00E+00	2.49E-02
		Cs-134	<1.24E-02	0.00E+00	1.24E-02
		Cs-137	<1.25E-02	0.00E+00	1.25E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	4.07E-01	1.84E-01	2.26E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
468802	2/20/2018 - 2/27/2018	I-131	<1.57E-02	0.00E+00	1.57E-02
		Cs-134	<1.24E-02	0.00E+00	1.24E-02
		Cs-137	<1.69E-02	0.00E+00	1.69E-02
		Be-7	<1.18E-01	0.00E+00	1.18E-01
		K-40	4.21E-01	1.71E-01	1.83E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
469612	2/27/2018 - 3/6/2018	I-131	<1.99E-02	0.00E+00	1.99E-02
		Cs-134	<1.77E-02	0.00E+00	1.77E-02
		Cs-137	<1.27E-02	0.00E+00	1.27E-02
		Be-7	<1.25E-01	0.00E+00	1.25E-01



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 7 [INDICATOR - ESE @ 6.4 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
469612	2/27/2018 - 3/6/2018	K-40	<3.38E-01	0.00E+00	3.38E-01
470652	3/6/2018 - 3/13/2018	I-131	<2.29E-02	0.00E+00	2.29E-02
		Cs-134	<1.72E-02	0.00E+00	1.72E-02
		Cs-137	<1.64E-02	0.00E+00	1.64E-02
		Be-7	<1.15E-01	0.00E+00	1.15E-01
		K-40	4.15E-01	1.70E-01	1.87E-01
471195	3/13/2018 - 3/20/2018	I-131	<3.21E-02	0.00E+00	3.21E-02
		Cs-134	<1.56E-02	0.00E+00	1.56E-02
		Cs-137	<1.47E-02	0.00E+00	1.47E-02
		Be-7	<1.23E-01	0.00E+00	1.23E-01
		K-40	3.91E-01	1.68E-01	1.90E-01
471757	3/20/2018 - 3/27/2018	I-131	<2.94E-02	0.00E+00	2.94E-02
		Cs-134	<1.55E-02	0.00E+00	1.55E-02
		Cs-137	<1.46E-02	0.00E+00	1.46E-02
		Be-7	<1.03E-01	0.00E+00	1.03E-01
		K-40	3.91E-01	1.47E-01	1.18E-01
472566	3/27/2018 - 4/3/2018	I-131	<1.89E-02	0.00E+00	1.89E-02
		Cs-134	<1.61E-02	0.00E+00	1.61E-02
		Cs-137	<1.27E-02	0.00E+00	1.27E-02
		Be-7	<1.22E-01	0.00E+00	1.22E-01
		K-40	<3.77E-01	0.00E+00	3.77E-01
473027	4/3/2018 - 4/10/2018	I-131	<1.90E-02	0.00E+00	1.90E-02
		Cs-134	<1.77E-02	0.00E+00	1.77E-02
		Cs-137	<1.55E-02	0.00E+00	1.55E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	4.15E-01	1.90E-01	2.37E-01
473303	4/10/2018 - 4/17/2018	I-131	<2.25E-02	0.00E+00	2.25E-02
		Cs-134	<1.72E-02	0.00E+00	1.72E-02
		Cs-137	<1.78E-02	0.00E+00	1.78E-02
		Be-7	<1.12E-01	0.00E+00	1.12E-01
		K-40	4.19E-01	1.79E-01	2.10E-01
473676	4/17/2018 - 4/24/2018	I-131	<2.06E-02	0.00E+00	2.06E-02
		Cs-134	<1.83E-02	0.00E+00	1.83E-02
		Cs-137	<1.36E-02	0.00E+00	1.36E-02
		Be-7	<1.26E-01	0.00E+00	1.26E-01
		K-40	5.08E-01	1.60E-01	3.20E-02
474194	4/24/2018 - 5/1/2018	I-131	<2.33E-02	0.00E+00	2.33E-02
		Cs-134	<1.68E-02	0.00E+00	1.68E-02
		Cs-137	<1.16E-02	0.00E+00	1.16E-02
		Be-7	<1.25E-01	0.00E+00	1.25E-01
		K-40	5.04E-01	1.79E-01	1.72E-01
474570	5/1/2018 - 5/8/2018	I-131	<2.89E-02	0.00E+00	2.89E-02
		Cs-134	<1.65E-02	0.00E+00	1.65E-02
		Cs-137	<1.40E-02	0.00E+00	1.40E-02
		Be-7	<1.30E-01	0.00E+00	1.30E-01
		K-40	4.47E-01	1.77E-01	1.91E-01
474940	5/8/2018 - 5/15/2018	I-131	<2.36E-02	0.00E+00	2.36E-02
		Cs-134	<1.80E-02	0.00E+00	1.80E-02
		Cs-137	<1.15E-02	0.00E+00	1.15E-02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 7 [INDICATOR - ESE @ 6.4 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474940	5/8/2018 - 5/15/2018	Be-7	<9.19E-02	0.00E+00	9.19E-02
		K-40	3.96E-01	1.41E-01	3.25E-02
475257	5/15/2018 - 5/22/2018	I-131	<2.02E-02	0.00E+00	2.02E-02
		Cs-134	<1.71E-02	0.00E+00	1.71E-02
		Cs-137	<1.50E-02	0.00E+00	1.50E-02
		Be-7	<1.00E-01	0.00E+00	1.00E-01
		K-40	4.29E-01	1.81E-01	2.09E-01
475580	5/22/2018 - 5/29/2018	I-131	<2.25E-02	0.00E+00	2.25E-02
		Cs-134	<1.54E-02	0.00E+00	1.54E-02
		Cs-137	<1.73E-02	0.00E+00	1.73E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	2.92E-01	1.62E-01	2.10E-01
476403	5/29/2018 - 6/5/2018	I-131	<2.40E-02	0.00E+00	2.40E-02
		Cs-134	<1.86E-02	0.00E+00	1.86E-02
		Cs-137	<1.35E-02	0.00E+00	1.35E-02
		Be-7	<1.06E-01	0.00E+00	1.06E-01
		K-40	4.28E-01	1.63E-01	1.53E-01
477426	6/5/2018 - 6/12/2018	I-131	<2.57E-02	0.00E+00	2.57E-02
		Cs-134	<1.74E-02	0.00E+00	1.74E-02
		Cs-137	<1.58E-02	0.00E+00	1.58E-02
		Be-7	<1.37E-01	0.00E+00	1.37E-01
		K-40	4.54E-01	1.52E-01	3.24E-02
478149	6/12/2018 - 6/20/2018	I-131	<2.46E-02	0.00E+00	2.46E-02
		Cs-134	<1.39E-02	0.00E+00	1.39E-02
		Cs-137	<1.50E-02	0.00E+00	1.50E-02
		Be-7	<9.44E-02	0.00E+00	9.44E-02
		K-40	4.26E-01	1.56E-01	1.53E-01
478467	6/20/2018 - 6/26/2018	I-131	<2.21E-02	0.00E+00	2.21E-02
		Cs-134	<2.15E-02	0.00E+00	2.15E-02
		Cs-137	<1.98E-02	0.00E+00	1.98E-02
		Be-7	<1.32E-01	0.00E+00	1.32E-01
		K-40	7.08E-01	2.17E-01	1.49E-01
478848	6/26/2018 - 7/3/2018	I-131	<2.48E-02	0.00E+00	2.48E-02
		Cs-134	<1.84E-02	0.00E+00	1.84E-02
		Cs-137	<1.47E-02	0.00E+00	1.47E-02
		Be-7	<1.11E-01	0.00E+00	1.11E-01
		K-40	3.24E-01	1.65E-01	2.07E-01
479243	7/3/2018 - 7/10/2018	I-131	<2.15E-02	0.00E+00	2.15E-02
		Cs-134	<1.77E-02	0.00E+00	1.77E-02
		Cs-137	<1.60E-02	0.00E+00	1.60E-02
		Be-7	<1.10E-01	0.00E+00	1.10E-01
		K-40	4.98E-01	1.89E-01	2.02E-01
479925	7/10/2018 - 7/17/2018	I-131	<1.96E-02	0.00E+00	1.96E-02
		Cs-134	<1.39E-02	0.00E+00	1.39E-02
		Cs-137	<1.83E-02	0.00E+00	1.83E-02
		Be-7	<1.16E-01	0.00E+00	1.16E-01
		K-40	4.07E-01	1.75E-01	2.02E-01
480290	7/17/2018 - 7/24/2018	I-131	<2.36E-02	0.00E+00	2.36E-02
		Cs-134	<1.42E-02	0.00E+00	1.42E-02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 7 [INDICATOR - ESE @ 6.4 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
480290	7/17/2018 - 7/24/2018	Cs-137	<1.49E-02	0.00E+00	1.49E-02
		Be-7	<1.12E-01	0.00E+00	1.12E-01
		K-40	4.67E-01	1.77E-01	1.77E-01
481115	7/24/2018 - 7/31/2018	I-131	<3.37E-02	0.00E+00	3.37E-02
		Cs-134	<1.78E-02	0.00E+00	1.78E-02
		Cs-137	<1.51E-02	0.00E+00	1.51E-02
		Be-7	<1.47E-01	0.00E+00	1.47E-01
		K-40	5.52E-01	1.89E-01	1.77E-01
481555	7/31/2018 - 8/6/2018	I-131	<2.62E-02	0.00E+00	2.62E-02
		Cs-134	<1.56E-02	0.00E+00	1.56E-02
		Cs-137	<1.94E-02	0.00E+00	1.94E-02
		Be-7	<1.32E-01	0.00E+00	1.32E-01
		K-40	5.95E-01	2.03E-01	1.63E-01
482010	8/6/2018 - 8/14/2018	I-131	<2.34E-02	0.00E+00	2.34E-02
		Cs-134	<1.03E-02	0.00E+00	1.03E-02
		Cs-137	<1.07E-02	0.00E+00	1.07E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	3.84E-01	1.28E-01	2.74E-02
482525	8/14/2018 - 8/21/2018	I-131	<3.08E-02	0.00E+00	3.08E-02
		Cs-134	<1.66E-02	0.00E+00	1.66E-02
		Cs-137	<1.60E-02	0.00E+00	1.60E-02
		Be-7	<9.90E-02	0.00E+00	9.90E-02
		K-40	4.74E-01	1.82E-01	1.91E-01
482849	8/21/2018 - 8/28/2018	I-131	<1.67E-02	0.00E+00	1.67E-02
		Cs-134	<1.47E-02	0.00E+00	1.47E-02
		Cs-137	<1.07E-02	0.00E+00	1.07E-02
		Be-7	<1.06E-01	0.00E+00	1.06E-01
		K-40	<2.74E-01	0.00E+00	2.74E-01
483470	8/28/2018 - 9/4/2018	I-131	<2.41E-02	0.00E+00	2.41E-02
		Cs-134	<1.71E-02	0.00E+00	1.71E-02
		Cs-137	<1.82E-02	0.00E+00	1.82E-02
		Be-7	<1.29E-01	0.00E+00	1.29E-01
		K-40	4.34E-01	1.85E-01	2.14E-01
484070	9/4/2018 - 9/11/2018	I-131	<2.79E-02	0.00E+00	2.79E-02
		Cs-134	<1.19E-02	0.00E+00	1.19E-02
		Cs-137	<1.53E-02	0.00E+00	1.53E-02
		Be-7	<8.70E-02	0.00E+00	8.70E-02
		K-40	<2.86E-01	0.00E+00	2.86E-01
484642	9/11/2018 - 9/18/2018	I-131	<2.20E-02	0.00E+00	2.20E-02
		Cs-134	<1.51E-02	0.00E+00	1.51E-02
		Cs-137	<1.18E-02	0.00E+00	1.18E-02
		Be-7	<8.80E-02	0.00E+00	8.80E-02
		K-40	1.75E-01	1.26E-01	1.75E-01
485068	9/18/2018 - 9/24/2018	I-131	<1.81E-02	0.00E+00	1.81E-02
		Cs-134	<1.77E-02	0.00E+00	1.77E-02
		Cs-137	<1.20E-02	0.00E+00	1.20E-02
		Be-7	<8.50E-02	0.00E+00	8.50E-02
		K-40	7.02E-01	2.08E-01	1.48E-01
485540	9/24/2018 - 10/1/2018	I-131	<3.50E-02	0.00E+00	3.50E-02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 7 [INDICATOR - ESE @ 6.4 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
485540	9/24/2018 - 10/1/2018	Cs-134	<1.56E-02	0.00E+00	1.56E-02
		Cs-137	<1.37E-02	0.00E+00	1.37E-02
		Be-7	<1.12E-01	0.00E+00	1.12E-01
		K-40	3.33E-01	1.51E-01	1.76E-01
486212	10/1/2018 - 10/9/2018	I-131	<2.48E-02	0.00E+00	2.48E-02
		Cs-134	<1.05E-02	0.00E+00	1.05E-02
		Cs-137	<1.20E-02	0.00E+00	1.20E-02
		Be-7	<8.85E-02	0.00E+00	8.85E-02
		K-40	3.92E-01	1.25E-01	2.53E-02
486741	10/9/2018 - 10/15/2018	I-131	<2.97E-02	0.00E+00	2.97E-02
		Cs-134	<1.84E-02	0.00E+00	1.84E-02
		Cs-137	<1.30E-02	0.00E+00	1.30E-02
		Be-7	<1.11E-01	0.00E+00	1.11E-01
		K-40	6.00E-01	1.87E-01	1.28E-01
487779	10/15/2018 - 10/23/2018	I-131	<1.96E-02	0.00E+00	1.96E-02
		Cs-134	<1.29E-02	0.00E+00	1.29E-02
		Cs-137	<1.36E-02	0.00E+00	1.36E-02
		Be-7	<6.81E-02	0.00E+00	6.81E-02
		K-40	2.92E-01	1.22E-01	1.19E-01
488022	10/23/2018 - 10/29/2018	I-131	<2.30E-02	0.00E+00	2.30E-02
		Cs-134	<1.53E-02	0.00E+00	1.53E-02
		Cs-137	<1.42E-02	0.00E+00	1.42E-02
		Be-7	<1.18E-01	0.00E+00	1.18E-01
		K-40	4.78E-01	1.84E-01	1.89E-01
488515	10/29/2018 - 11/5/2018	I-131	<1.97E-02	0.00E+00	1.97E-02
		Cs-134	<9.46E-03	0.00E+00	9.46E-03
		Cs-137	<1.47E-02	0.00E+00	1.47E-02
		Be-7	<9.41E-02	0.00E+00	9.41E-02
		K-40	<3.19E-01	0.00E+00	3.19E-01
488899	11/5/2018 - 11/13/2018	I-131	<1.75E-02	0.00E+00	1.75E-02
		Cs-134	<1.30E-02	0.00E+00	1.30E-02
		Cs-137	<1.19E-02	0.00E+00	1.19E-02
		Be-7	<8.94E-02	0.00E+00	8.94E-02
		K-40	2.22E-01	1.30E-01	1.76E-01
489191	11/13/2018 - 11/20/2018	I-131	<3.40E-02	0.00E+00	3.40E-02
		Cs-134	<1.11E-02	0.00E+00	1.11E-02
		Cs-137	<1.64E-02	0.00E+00	1.64E-02
		Be-7	<1.01E-01	0.00E+00	1.01E-01
		K-40	4.39E-01	1.82E-01	2.19E-01
489772	11/20/2018 - 11/28/2018	I-131	<2.62E-02	0.00E+00	2.62E-02
		Cs-134	<1.24E-02	0.00E+00	1.24E-02
		Cs-137	<1.46E-02	0.00E+00	1.46E-02
		Be-7	<9.37E-02	0.00E+00	9.37E-02
		K-40	3.45E-01	1.34E-01	1.15E-01
490196	11/28/2018 - 12/5/2018	I-131	<2.46E-02	0.00E+00	2.46E-02
		Cs-134	<1.21E-02	0.00E+00	1.21E-02
		Cs-137	<1.32E-02	0.00E+00	1.32E-02
		Be-7	<8.34E-02	0.00E+00	8.34E-02
		K-40	3.35E-01	1.36E-01	1.44E-01



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 7 [INDICATOR - ESE @ 6.4 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
490848	12/5/2018 - 12/11/2018	I-131	<1.75E-02	0.00E+00	1.75E-02
		Cs-134	<1.78E-02	0.00E+00	1.78E-02
		Cs-137	<1.31E-02	0.00E+00	1.31E-02
		Be-7	<9.05E-02	0.00E+00	9.05E-02
		K-40	3.43E-01	1.37E-01	1.08E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491325	12/11/2018 - 12/18/2018	I-131	<2.95E-02	0.00E+00	2.95E-02
		Cs-134	<1.36E-02	0.00E+00	1.36E-02
		Cs-137	<1.10E-02	0.00E+00	1.10E-02
		Be-7	<1.11E-01	0.00E+00	1.11E-01
		K-40	4.59E-01	1.51E-01	1.07E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491524	12/18/2018 - 12/26/2018	I-131	<3.26E-02	0.00E+00	3.26E-02
		Cs-134	<1.51E-02	0.00E+00	1.51E-02
		Cs-137	<1.28E-02	0.00E+00	1.28E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	2.26E-01	9.40E-02	2.55E-02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491875	12/26/2018 - 1/2/2019	I-131	<2.79E-02	0.00E+00	2.79E-02
		Cs-134	<1.43E-02	0.00E+00	1.43E-02
		Cs-137	<1.43E-02	0.00E+00	1.43E-02
		Be-7	<1.18E-01	0.00E+00	1.18E-01
		K-40	2.98E-01	1.37E-01	1.52E-01

Sample Point 55 [INDICATOR - SSE @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466041	1/2/2018 - 1/10/2018	I-131	<2.27E-02	0.00E+00	2.27E-02
		Cs-134	<1.33E-02	0.00E+00	1.33E-02
		Cs-137	<1.66E-02	0.00E+00	1.66E-02
		Be-7	<1.03E-01	0.00E+00	1.03E-01
		K-40	4.92E-01	1.79E-01	1.91E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466237	1/10/2018 - 1/16/2018	I-131	<4.65E-02	0.00E+00	4.65E-02
		Cs-134	<1.76E-02	0.00E+00	1.76E-02
		Cs-137	<1.81E-02	0.00E+00	1.81E-02
		Be-7	<1.63E-01	0.00E+00	1.63E-01
		K-40	6.09E-01	2.17E-01	2.07E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466421	1/16/2018 - 1/23/2018	I-131	<3.04E-02	0.00E+00	3.04E-02
		Cs-134	<1.80E-02	0.00E+00	1.80E-02
		Cs-137	<1.67E-02	0.00E+00	1.67E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	3.96E-01	1.76E-01	2.06E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467020	1/23/2018 - 1/30/2018	I-131	<2.11E-02	0.00E+00	2.11E-02
		Cs-134	<1.62E-02	0.00E+00	1.62E-02
		Cs-137	<1.67E-02	0.00E+00	1.67E-02
		Be-7	<1.25E-01	0.00E+00	1.25E-01
		K-40	5.86E-01	1.93E-01	1.71E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467374	1/30/2018 - 2/6/2018	I-131	<2.99E-02	0.00E+00	2.99E-02
		Cs-134	<2.32E-02	0.00E+00	2.32E-02
		Cs-137	<1.31E-02	0.00E+00	1.31E-02
		Be-7	<1.30E-01	0.00E+00	1.30E-01
		K-40	5.41E-01	2.26E-01	2.82E-01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467700	2/6/2018 - 2/13/2018	I-131	<1.86E-02	0.00E+00	1.86E-02
		Cs-134	<1.15E-02	0.00E+00	1.15E-02
		Cs-137	<1.35E-02	0.00E+00	1.35E-02
		Be-7	<8.78E-02	0.00E+00	8.78E-02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 55 [INDICATOR - SSE @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
467700	2/6/2018 - 2/13/2018	K-40	4.31E-01	1.46E-01	1.11E-01
468469	2/13/2018 - 2/20/2018	I-131	<2.40E-02	0.00E+00	2.40E-02
		Cs-134	<2.02E-02	0.00E+00	2.02E-02
		Cs-137	<1.62E-02	0.00E+00	1.62E-02
		Be-7	<1.26E-01	0.00E+00	1.26E-01
		K-40	2.94E-01	1.62E-01	2.09E-01
468798	2/20/2018 - 2/27/2018	I-131	<2.19E-02	0.00E+00	2.19E-02
		Cs-134	<1.69E-02	0.00E+00	1.69E-02
		Cs-137	<1.69E-02	0.00E+00	1.69E-02
		Be-7	<1.35E-01	0.00E+00	1.35E-01
		K-40	3.58E-01	1.53E-01	1.47E-01
469608	2/27/2018 - 3/6/2018	I-131	<2.32E-02	0.00E+00	2.32E-02
		Cs-134	<1.71E-02	0.00E+00	1.71E-02
		Cs-137	<1.40E-02	0.00E+00	1.40E-02
		Be-7	<1.30E-01	0.00E+00	1.30E-01
		K-40	5.83E-01	1.75E-01	3.29E-02
470648	3/6/2018 - 3/13/2018	I-131	<2.22E-02	0.00E+00	2.22E-02
		Cs-134	<1.75E-02	0.00E+00	1.75E-02
		Cs-137	<1.59E-02	0.00E+00	1.59E-02
		Be-7	<8.57E-02	0.00E+00	8.57E-02
		K-40	5.06E-01	1.99E-01	2.26E-01
471191	3/13/2018 - 3/20/2018	I-131	<2.72E-02	0.00E+00	2.72E-02
		Cs-134	<1.28E-02	0.00E+00	1.28E-02
		Cs-137	<1.73E-02	0.00E+00	1.73E-02
		Be-7	<1.19E-01	0.00E+00	1.19E-01
		K-40	4.32E-01	1.85E-01	2.15E-01
471753	3/20/2018 - 3/27/2018	I-131	<3.31E-02	0.00E+00	3.31E-02
		Cs-134	<1.86E-02	0.00E+00	1.86E-02
		Cs-137	<1.67E-02	0.00E+00	1.67E-02
		Be-7	<1.35E-01	0.00E+00	1.35E-01
		K-40	6.42E-01	2.13E-01	2.12E-01
472562	3/27/2018 - 4/3/2018	I-131	<2.34E-02	0.00E+00	2.34E-02
		Cs-134	<1.38E-02	0.00E+00	1.38E-02
		Cs-137	<1.42E-02	0.00E+00	1.42E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	3.42E-01	1.54E-01	1.64E-01
473023	4/3/2018 - 4/10/2018	I-131	<1.82E-02	0.00E+00	1.82E-02
		Cs-134	<1.59E-02	0.00E+00	1.59E-02
		Cs-137	<1.74E-02	0.00E+00	1.74E-02
		Be-7	<9.65E-02	0.00E+00	9.65E-02
		K-40	5.61E-01	1.71E-01	3.30E-02
473299	4/10/2018 - 4/17/2018	I-131	<2.29E-02	0.00E+00	2.29E-02
		Cs-134	<1.57E-02	0.00E+00	1.57E-02
		Cs-137	<1.55E-02	0.00E+00	1.55E-02
		Be-7	<1.26E-01	0.00E+00	1.26E-01
		K-40	3.78E-01	1.59E-01	1.62E-01
473672	4/17/2018 - 4/24/2018	I-131	<2.59E-02	0.00E+00	2.59E-02
		Cs-134	<1.62E-02	0.00E+00	1.62E-02
		Cs-137	<1.59E-02	0.00E+00	1.59E-02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 55 [INDICATOR - SSE @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
473672	4/17/2018 - 4/24/2018	Be-7	<1.40E-01	0.00E+00	1.40E-01
		K-40	<3.91E-01	0.00E+00	3.91E-01
474190	4/24/2018 - 5/1/2018	I-131	<2.16E-02	0.00E+00	2.16E-02
		Cs-134	<1.60E-02	0.00E+00	1.60E-02
		Cs-137	<1.62E-02	0.00E+00	1.62E-02
		Be-7	<1.28E-01	0.00E+00	1.28E-01
		K-40	5.08E-01	1.90E-01	1.93E-01
474566	5/1/2018 - 5/8/2018	I-131	<2.84E-02	0.00E+00	2.84E-02
		Cs-134	<1.30E-02	0.00E+00	1.30E-02
		Cs-137	<1.96E-02	0.00E+00	1.96E-02
		Be-7	<1.38E-01	0.00E+00	1.38E-01
		K-40	5.09E-01	1.83E-01	1.70E-01
474936	5/8/2018 - 5/15/2018	I-131	<2.34E-02	0.00E+00	2.34E-02
		Cs-134	<1.71E-02	0.00E+00	1.71E-02
		Cs-137	<1.84E-02	0.00E+00	1.84E-02
		Be-7	<1.38E-01	0.00E+00	1.38E-01
		K-40	5.84E-01	2.21E-01	2.52E-01
475253	5/15/2018 - 5/22/2018	I-131	<2.21E-02	0.00E+00	2.21E-02
		Cs-134	<1.69E-02	0.00E+00	1.69E-02
		Cs-137	<1.70E-02	0.00E+00	1.70E-02
		Be-7	<9.64E-02	0.00E+00	9.64E-02
		K-40	4.13E-01	1.71E-01	1.77E-01
475576	5/22/2018 - 5/29/2018	I-131	<2.30E-02	0.00E+00	2.30E-02
		Cs-134	<1.57E-02	0.00E+00	1.57E-02
		Cs-137	<1.61E-02	0.00E+00	1.61E-02
		Be-7	1.20E-02	6.86E-02	1.24E-01
		K-40	4.07E-01	1.68E-01	1.69E-01
476399	5/29/2018 - 6/5/2018	I-131	<2.51E-02	0.00E+00	2.51E-02
		Cs-134	<1.82E-02	0.00E+00	1.82E-02
		Cs-137	<1.79E-02	0.00E+00	1.79E-02
		Be-7	<1.25E-01	0.00E+00	1.25E-01
		K-40	4.00E-01	1.72E-01	1.86E-01
477422	6/5/2018 - 6/12/2018	I-131	<2.59E-02	0.00E+00	2.59E-02
		Cs-134	<1.39E-02	0.00E+00	1.39E-02
		Cs-137	<1.81E-02	0.00E+00	1.81E-02
		Be-7	<1.18E-01	0.00E+00	1.18E-01
		K-40	5.62E-01	1.80E-01	1.18E-01
478145	6/12/2018 - 6/20/2018	I-131	<2.76E-02	0.00E+00	2.76E-02
		Cs-134	<1.17E-02	0.00E+00	1.17E-02
		Cs-137	<1.59E-02	0.00E+00	1.59E-02
		Be-7	<9.93E-02	0.00E+00	9.93E-02
		K-40	4.43E-01	1.65E-01	1.62E-01
478463	6/20/2018 - 6/26/2018	I-131	<2.65E-02	0.00E+00	2.65E-02
		Cs-134	<2.00E-02	0.00E+00	2.00E-02
		Cs-137	<2.00E-02	0.00E+00	2.00E-02
		Be-7	<1.62E-01	0.00E+00	1.62E-01
		K-40	5.61E-01	2.13E-01	2.09E-01
478844	6/26/2018 - 7/3/2018	I-131	<2.34E-02	0.00E+00	2.34E-02
		Cs-134	<1.34E-02	0.00E+00	1.34E-02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 55 [INDICATOR - SSE @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
478844	6/26/2018 - 7/3/2018	Cs-137	<1.41E-02	0.00E+00	1.41E-02
		Be-7	<1.31E-01	0.00E+00	1.31E-01
		K-40	4.81E-01	1.86E-01	1.87E-01
479239	7/3/2018 - 7/10/2018	I-131	<2.16E-02	0.00E+00	2.16E-02
		Cs-134	<2.04E-02	0.00E+00	2.04E-02
		Cs-137	<1.55E-02	0.00E+00	1.55E-02
		Be-7	<8.84E-02	0.00E+00	8.84E-02
		K-40	3.31E-01	2.16E-01	3.17E-01
479921	7/10/2018 - 7/17/2018	I-131	<2.41E-02	0.00E+00	2.41E-02
		Cs-134	<1.50E-02	0.00E+00	1.50E-02
		Cs-137	<1.77E-02	0.00E+00	1.77E-02
		Be-7	<1.28E-01	0.00E+00	1.28E-01
		K-40	5.48E-01	1.95E-01	1.85E-01
480286	7/17/2018 - 7/24/2018	I-131	<2.47E-02	0.00E+00	2.47E-02
		Cs-134	<1.41E-02	0.00E+00	1.41E-02
		Cs-137	<1.66E-02	0.00E+00	1.66E-02
		Be-7	<1.41E-01	0.00E+00	1.41E-01
		K-40	4.41E-01	1.76E-01	1.78E-01
481111	7/24/2018 - 7/31/2018	I-131	<3.35E-02	0.00E+00	3.35E-02
		Cs-134	<1.78E-02	0.00E+00	1.78E-02
		Cs-137	<1.85E-02	0.00E+00	1.85E-02
		Be-7	<1.02E-01	0.00E+00	1.02E-01
		K-40	5.34E-01	1.79E-01	1.28E-01
481551	7/31/2018 - 8/6/2018	I-131	<2.46E-02	0.00E+00	2.46E-02
		Cs-134	<2.00E-02	0.00E+00	2.00E-02
		Cs-137	<1.57E-02	0.00E+00	1.57E-02
		Be-7	<1.40E-01	0.00E+00	1.40E-01
		K-40	5.55E-01	2.12E-01	2.06E-01
482006	8/6/2018 - 8/14/2018	I-131	<2.12E-02	0.00E+00	2.12E-02
		Cs-134	<1.09E-02	0.00E+00	1.09E-02
		Cs-137	<9.42E-03	0.00E+00	9.42E-03
		Be-7	<8.69E-02	0.00E+00	8.69E-02
		K-40	1.41E-01	9.20E-02	1.09E-01
482521	8/14/2018 - 8/21/2018	I-131	<3.00E-02	0.00E+00	3.00E-02
		Cs-134	<1.57E-02	0.00E+00	1.57E-02
		Cs-137	<1.92E-02	0.00E+00	1.92E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	3.98E-01	1.73E-01	1.90E-01
482845	8/21/2018 - 8/28/2018	I-131	<2.02E-02	0.00E+00	2.02E-02
		Cs-134	<1.62E-02	0.00E+00	1.62E-02
		Cs-137	<1.40E-02	0.00E+00	1.40E-02
		Be-7	<1.16E-01	0.00E+00	1.16E-01
		K-40	<2.74E-01	0.00E+00	2.74E-01
483466	8/28/2018 - 9/4/2018	I-131	<2.50E-02	0.00E+00	2.50E-02
		Cs-134	<1.55E-02	0.00E+00	1.55E-02
		Cs-137	<1.45E-02	0.00E+00	1.45E-02
		Be-7	<1.22E-01	0.00E+00	1.22E-01
		K-40	5.26E-01	1.80E-01	1.29E-01
484066	9/4/2018 - 9/11/2018	I-131	<3.18E-02	0.00E+00	3.18E-02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 55 [INDICATOR - SSE @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
484066	9/4/2018 - 9/11/2018	Cs-134	<1.75E-02	0.00E+00	1.75E-02
		Cs-137	<1.16E-02	0.00E+00	1.16E-02
		Be-7	<9.33E-02	0.00E+00	9.33E-02
		K-40	3.40E-01	1.58E-01	1.83E-01
484638	9/11/2018 - 9/18/2018	I-131	<2.77E-02	0.00E+00	2.77E-02
		Cs-134	<1.38E-02	0.00E+00	1.38E-02
		Cs-137	<1.59E-02	0.00E+00	1.59E-02
		Be-7	<1.03E-01	0.00E+00	1.03E-01
		K-40	4.47E-01	1.46E-01	3.03E-02
485064	9/18/2018 - 9/24/2018	I-131	<2.58E-02	0.00E+00	2.58E-02
		Cs-134	<2.18E-02	0.00E+00	2.18E-02
		Cs-137	<2.07E-02	0.00E+00	2.07E-02
		Be-7	<1.38E-01	0.00E+00	1.38E-01
		K-40	7.68E-01	2.62E-01	2.74E-01
485536	9/24/2018 - 10/1/2018	I-131	<3.34E-02	0.00E+00	3.34E-02
		Cs-134	<1.41E-02	0.00E+00	1.41E-02
		Cs-137	<1.69E-02	0.00E+00	1.69E-02
		Be-7	<9.78E-02	0.00E+00	9.78E-02
		K-40	<3.81E-01	0.00E+00	3.81E-01
486208	10/1/2018 - 10/9/2018	I-131	<3.36E-02	0.00E+00	3.36E-02
		Cs-134	<1.24E-02	0.00E+00	1.24E-02
		Cs-137	<1.37E-02	0.00E+00	1.37E-02
		Be-7	<1.01E-01	0.00E+00	1.01E-01
		K-40	4.68E-01	1.44E-01	2.82E-02
486737	10/9/2018 - 10/15/2018	I-131	<3.09E-02	0.00E+00	3.09E-02
		Cs-134	<1.81E-02	0.00E+00	1.81E-02
		Cs-137	<1.65E-02	0.00E+00	1.65E-02
		Be-7	<1.31E-01	0.00E+00	1.31E-01
		K-40	4.34E-01	1.99E-01	2.39E-01
487775	10/15/2018 - 10/23/2018	I-131	<1.94E-02	0.00E+00	1.94E-02
		Cs-134	<1.36E-02	0.00E+00	1.36E-02
		Cs-137	<1.30E-02	0.00E+00	1.30E-02
		Be-7	<1.08E-01	0.00E+00	1.08E-01
		K-40	4.07E-01	1.45E-01	1.17E-01
488018	10/23/2018 - 10/29/2018	I-131	<2.34E-02	0.00E+00	2.34E-02
		Cs-134	<1.42E-02	0.00E+00	1.42E-02
		Cs-137	<1.49E-02	0.00E+00	1.49E-02
		Be-7	<1.26E-01	0.00E+00	1.26E-01
		K-40	6.46E-01	2.15E-01	1.91E-01
488511	10/29/2018 - 11/5/2018	I-131	<2.34E-02	0.00E+00	2.34E-02
		Cs-134	<1.50E-02	0.00E+00	1.50E-02
		Cs-137	<1.73E-02	0.00E+00	1.73E-02
		Be-7	<1.06E-01	0.00E+00	1.06E-01
		K-40	5.06E-01	1.90E-01	2.06E-01
488895	11/5/2018 - 11/13/2018	I-131	<2.80E-02	0.00E+00	2.80E-02
		Cs-134	<1.82E-02	0.00E+00	1.82E-02
		Cs-137	<1.44E-02	0.00E+00	1.44E-02
		Be-7	<9.36E-02	0.00E+00	9.36E-02
		K-40	4.34E-01	1.82E-01	2.02E-01



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 55 [INDICATOR - SSE @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
489187	11/13/2018 - 11/20/2018	I-131	<3.44E-02	0.00E+00	3.44E-02
		Cs-134	<1.53E-02	0.00E+00	1.53E-02
		Cs-137	<1.90E-02	0.00E+00	1.90E-02
		Be-7	<1.22E-01	0.00E+00	1.22E-01
		K-40	4.45E-01	1.78E-01	1.92E-01
489768	11/20/2018 - 11/28/2018	I-131	<2.86E-02	0.00E+00	2.86E-02
		Cs-134	<1.67E-02	0.00E+00	1.67E-02
		Cs-137	<1.47E-02	0.00E+00	1.47E-02
		Be-7	<9.59E-02	0.00E+00	9.59E-02
		K-40	<3.37E-01	0.00E+00	3.37E-01
490192	11/28/2018 - 12/5/2018	I-131	<2.51E-02	0.00E+00	2.51E-02
		Cs-134	<1.21E-02	0.00E+00	1.21E-02
		Cs-137	<1.34E-02	0.00E+00	1.34E-02
		Be-7	<9.70E-02	0.00E+00	9.70E-02
		K-40	<3.24E-01	0.00E+00	3.24E-01
490844	12/5/2018 - 12/11/2018	I-131	<2.60E-02	0.00E+00	2.60E-02
		Cs-134	<1.90E-02	0.00E+00	1.90E-02
		Cs-137	<1.38E-02	0.00E+00	1.38E-02
		Be-7	<1.00E-01	0.00E+00	1.00E-01
		K-40	2.72E-01	1.42E-01	1.60E-01
491321	12/11/2018 - 12/18/2018	I-131	<3.69E-02	0.00E+00	3.69E-02
		Cs-134	<1.63E-02	0.00E+00	1.63E-02
		Cs-137	<1.65E-02	0.00E+00	1.65E-02
		Be-7	<1.26E-01	0.00E+00	1.26E-01
		K-40	4.45E-01	1.83E-01	2.11E-01
491520	12/18/2018 - 12/26/2018	I-131	<3.21E-02	0.00E+00	3.21E-02
		Cs-134	<1.37E-02	0.00E+00	1.37E-02
		Cs-137	<1.60E-02	0.00E+00	1.60E-02
		Be-7	<9.41E-02	0.00E+00	9.41E-02
		K-40	3.32E-01	1.38E-01	1.42E-01
491871	12/26/2018 - 1/2/2019	I-131	<2.88E-02	0.00E+00	2.88E-02
		Cs-134	<1.37E-02	0.00E+00	1.37E-02
		Cs-137	<1.72E-02	0.00E+00	1.72E-02
		Be-7	<1.18E-01	0.00E+00	1.18E-01
		K-40	4.48E-01	1.68E-01	1.63E-01

Sample Point 60 [INDICATOR - SE @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466043	1/2/2018 - 1/10/2018	I-131	<3.24E-02	0.00E+00	3.24E-02
		Cs-134	<1.59E-02	0.00E+00	1.59E-02
		Cs-137	<1.30E-02	0.00E+00	1.30E-02
		Be-7	<9.71E-02	0.00E+00	9.71E-02
		K-40	5.69E-01	1.78E-01	1.46E-01
466239	1/10/2018 - 1/16/2018	I-131	<4.83E-02	0.00E+00	4.83E-02
		Cs-134	<1.76E-02	0.00E+00	1.76E-02
		Cs-137	<1.97E-02	0.00E+00	1.97E-02
		Be-7	<1.61E-01	0.00E+00	1.61E-01
		K-40	5.88E-01	2.16E-01	2.12E-01
466423	1/16/2018 - 1/23/2018	I-131	<2.20E-02	0.00E+00	2.20E-02
		Cs-134	<1.44E-02	0.00E+00	1.44E-02
		Cs-137	<1.77E-02	0.00E+00	1.77E-02
		Be-7	<1.18E-01	0.00E+00	1.18E-01



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 60 [INDICATOR - SE @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466423	1/16/2018 - 1/23/2018	K-40	4.42E-01	1.66E-01	1.47E-01
467022	1/23/2018 - 1/30/2018	I-131	<2.17E-02	0.00E+00	2.17E-02
		Cs-134	<1.42E-02	0.00E+00	1.42E-02
		Cs-137	<1.21E-02	0.00E+00	1.21E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	5.40E-01	1.67E-01	3.25E-02
467376	1/30/2018 - 2/6/2018	I-131	<3.67E-02	0.00E+00	3.67E-02
		Cs-134	<1.32E-02	0.00E+00	1.32E-02
		Cs-137	<1.65E-02	0.00E+00	1.65E-02
		Be-7	<1.05E-01	0.00E+00	1.05E-01
		K-40	<3.73E-01	0.00E+00	3.73E-01
467702	2/6/2018 - 2/13/2018	I-131	<2.00E-02	0.00E+00	2.00E-02
		Cs-134	<1.43E-02	0.00E+00	1.43E-02
		Cs-137	<1.30E-02	0.00E+00	1.30E-02
		Be-7	<1.18E-01	0.00E+00	1.18E-01
		K-40	4.58E-01	1.65E-01	1.67E-01
468471	2/13/2018 - 2/20/2018	I-131	<3.06E-02	0.00E+00	3.06E-02
		Cs-134	<1.84E-02	0.00E+00	1.84E-02
		Cs-137	<1.82E-02	0.00E+00	1.82E-02
		Be-7	<1.13E-01	0.00E+00	1.13E-01
		K-40	4.65E-01	1.65E-01	1.25E-01
468800	2/20/2018 - 2/27/2018	I-131	<2.03E-02	0.00E+00	2.03E-02
		Cs-134	<1.36E-02	0.00E+00	1.36E-02
		Cs-137	<1.56E-02	0.00E+00	1.56E-02
		Be-7	<1.07E-01	0.00E+00	1.07E-01
		K-40	4.00E-01	2.01E-01	2.66E-01
469610	2/27/2018 - 3/6/2018	I-131	<2.31E-02	0.00E+00	2.31E-02
		Cs-134	<1.77E-02	0.00E+00	1.77E-02
		Cs-137	<1.86E-02	0.00E+00	1.86E-02
		Be-7	<1.22E-01	0.00E+00	1.22E-01
		K-40	4.26E-01	1.93E-01	2.36E-01
470650	3/6/2018 - 3/13/2018	I-131	<2.61E-02	0.00E+00	2.61E-02
		Cs-134	<1.66E-02	0.00E+00	1.66E-02
		Cs-137	<1.99E-02	0.00E+00	1.99E-02
		Be-7	<1.02E-01	0.00E+00	1.02E-01
		K-40	4.78E-01	2.06E-01	2.53E-01
471193	3/13/2018 - 3/20/2018	I-131	<2.88E-02	0.00E+00	2.88E-02
		Cs-134	<1.50E-02	0.00E+00	1.50E-02
		Cs-137	<1.44E-02	0.00E+00	1.44E-02
		Be-7	<1.15E-01	0.00E+00	1.15E-01
		K-40	4.44E-01	1.73E-01	1.75E-01
471755	3/20/2018 - 3/27/2018	I-131	<3.49E-02	0.00E+00	3.49E-02
		Cs-134	<1.60E-02	0.00E+00	1.60E-02
		Cs-137	<1.91E-02	0.00E+00	1.91E-02
		Be-7	<1.23E-01	0.00E+00	1.23E-01
		K-40	5.52E-01	1.89E-01	1.70E-01
472564	3/27/2018 - 4/3/2018	I-131	<2.11E-02	0.00E+00	2.11E-02
		Cs-134	<1.63E-02	0.00E+00	1.63E-02
		Cs-137	<1.59E-02	0.00E+00	1.59E-02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 60 [INDICATOR - SE @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
472564	3/27/2018 - 4/3/2018	Be-7	<1.03E-01	0.00E+00	1.03E-01
		K-40	4.18E-01	1.71E-01	1.80E-01
		I-131	<2.04E-02	0.00E+00	2.04E-02
		Cs-134	<1.36E-02	0.00E+00	1.36E-02
473025	4/3/2018 - 4/10/2018	Cs-137	<1.50E-02	0.00E+00	1.50E-02
		Be-7	<1.30E-01	0.00E+00	1.30E-01
		K-40	5.17E-01	1.88E-01	1.87E-01
		I-131	<2.36E-02	0.00E+00	2.36E-02
473301	4/10/2018 - 4/17/2018	Cs-134	<1.76E-02	0.00E+00	1.76E-02
		Cs-137	<1.69E-02	0.00E+00	1.69E-02
		Be-7	<9.39E-02	0.00E+00	9.39E-02
		K-40	5.56E-01	1.70E-01	3.28E-02
473674	4/17/2018 - 4/24/2018	I-131	<2.25E-02	0.00E+00	2.25E-02
		Cs-134	<1.94E-02	0.00E+00	1.94E-02
		Cs-137	<1.46E-02	0.00E+00	1.46E-02
		Be-7	<1.27E-01	0.00E+00	1.27E-01
474192	4/24/2018 - 5/1/2018	K-40	4.11E-01	1.71E-01	1.83E-01
		I-131	<2.43E-02	0.00E+00	2.43E-02
		Cs-134	<2.09E-02	0.00E+00	2.09E-02
		Cs-137	<1.82E-02	0.00E+00	1.82E-02
474568	5/1/2018 - 5/8/2018	Be-7	<1.19E-01	0.00E+00	1.19E-01
		K-40	5.46E-01	1.89E-01	1.75E-01
		I-131	<3.03E-02	0.00E+00	3.03E-02
		Cs-134	<1.63E-02	0.00E+00	1.63E-02
474938	5/8/2018 - 5/15/2018	Cs-137	<1.58E-02	0.00E+00	1.58E-02
		Be-7	<1.44E-01	0.00E+00	1.44E-01
		K-40	4.95E-01	2.02E-01	2.39E-01
		I-131	<2.00E-02	0.00E+00	2.00E-02
475255	5/15/2018 - 5/22/2018	Cs-134	<1.78E-02	0.00E+00	1.78E-02
		Cs-137	<1.74E-02	0.00E+00	1.74E-02
		Be-7	<1.34E-01	0.00E+00	1.34E-01
		K-40	4.64E-01	1.66E-01	1.32E-01
475578	5/22/2018 - 5/29/2018	I-131	<2.16E-02	0.00E+00	2.16E-02
		Cs-134	<1.87E-02	0.00E+00	1.87E-02
		Cs-137	<1.50E-02	0.00E+00	1.50E-02
		Be-7	<1.36E-01	0.00E+00	1.36E-01
476401	5/29/2018 - 6/5/2018	K-40	<3.76E-01	0.00E+00	3.76E-01
		I-131	<2.15E-02	0.00E+00	2.15E-02
		Cs-134	<1.36E-02	0.00E+00	1.36E-02
		Cs-137	<1.77E-02	0.00E+00	1.77E-02
477424	6/5/2018 - 6/12/2018	Be-7	<1.29E-01	0.00E+00	1.29E-01
		K-40	5.25E-01	1.83E-01	1.62E-01
		I-131	<2.06E-02	0.00E+00	2.06E-02
		Cs-134	<1.49E-02	0.00E+00	1.49E-02
		Be-7	<1.03E-01	0.00E+00	1.03E-01
		K-40	4.68E-01	2.04E-01	2.51E-01
		I-131	<2.08E-02	0.00E+00	2.08E-02
		Cs-134	<1.69E-02	0.00E+00	1.69E-02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 60 [INDICATOR - SE @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
477424	6/5/2018 - 6/12/2018	Cs-137	<1.66E-02	0.00E+00	1.66E-02
		Be-7	<1.19E-01	0.00E+00	1.19E-01
		K-40	4.11E-01	1.61E-01	1.57E-01
478147	6/12/2018 - 6/20/2018	I-131	<2.73E-02	0.00E+00	2.73E-02
		Cs-134	<1.48E-02	0.00E+00	1.48E-02
		Cs-137	<1.35E-02	0.00E+00	1.35E-02
		Be-7	<1.08E-01	0.00E+00	1.08E-01
		K-40	4.78E-01	1.49E-01	2.95E-02
478465	6/20/2018 - 6/26/2018	I-131	<2.82E-02	0.00E+00	2.82E-02
		Cs-134	<1.97E-02	0.00E+00	1.97E-02
		Cs-137	<2.01E-02	0.00E+00	2.01E-02
		Be-7	<1.46E-01	0.00E+00	1.46E-01
		K-40	5.78E-01	2.20E-01	2.32E-01
478846	6/26/2018 - 7/3/2018	I-131	<1.89E-02	0.00E+00	1.89E-02
		Cs-134	<1.35E-02	0.00E+00	1.35E-02
		Cs-137	<1.63E-02	0.00E+00	1.63E-02
		Be-7	<1.07E-01	0.00E+00	1.07E-01
		K-40	4.24E-01	1.86E-01	2.22E-01
479241	7/3/2018 - 7/10/2018	I-131	<1.76E-02	0.00E+00	1.76E-02
		Cs-134	<1.86E-02	0.00E+00	1.86E-02
		Cs-137	<1.83E-02	0.00E+00	1.83E-02
		Be-7	<1.09E-01	0.00E+00	1.09E-01
		K-40	5.79E-01	1.80E-01	1.18E-01
479923	7/10/2018 - 7/17/2018	I-131	<2.42E-02	0.00E+00	2.42E-02
		Cs-134	<1.56E-02	0.00E+00	1.56E-02
		Cs-137	<1.67E-02	0.00E+00	1.67E-02
		Be-7	<1.05E-01	0.00E+00	1.05E-01
		K-40	4.93E-01	1.98E-01	2.27E-01
480288	7/17/2018 - 7/24/2018	I-131	<2.31E-02	0.00E+00	2.31E-02
		Cs-134	<1.69E-02	0.00E+00	1.69E-02
		Cs-137	<1.54E-02	0.00E+00	1.54E-02
		Be-7	<1.26E-01	0.00E+00	1.26E-01
		K-40	4.70E-01	1.55E-01	3.26E-02
481113	7/24/2018 - 7/31/2018	I-131	<2.92E-02	0.00E+00	2.92E-02
		Cs-134	<1.87E-02	0.00E+00	1.87E-02
		Cs-137	<1.76E-02	0.00E+00	1.76E-02
		Be-7	<1.08E-01	0.00E+00	1.08E-01
		K-40	<3.34E-01	0.00E+00	3.34E-01
481553	7/31/2018 - 8/6/2018	I-131	<2.34E-02	0.00E+00	2.34E-02
		Cs-134	<2.18E-02	0.00E+00	2.18E-02
		Cs-137	<1.96E-02	0.00E+00	1.96E-02
		Be-7	<1.20E-01	0.00E+00	1.20E-01
		K-40	6.77E-01	2.25E-01	2.00E-01
482008	8/6/2018 - 8/14/2018	I-131	<2.77E-02	0.00E+00	2.77E-02
		Cs-134	<1.42E-02	0.00E+00	1.42E-02
		Cs-137	<1.27E-02	0.00E+00	1.27E-02
		Be-7	<8.80E-02	0.00E+00	8.80E-02
		K-40	<2.64E-01	0.00E+00	2.64E-01
482523	8/14/2018 - 8/21/2018	I-131	<2.70E-02	0.00E+00	2.70E-02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 60 [INDICATOR - SE @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
482523	8/14/2018 - 8/21/2018	Cs-134	<1.49E-02	0.00E+00	1.49E-02
		Cs-137	<1.52E-02	0.00E+00	1.52E-02
		Be-7	<1.22E-01	0.00E+00	1.22E-01
		K-40	4.66E-01	1.83E-01	1.97E-01
482847	8/21/2018 - 8/28/2018	I-131	<1.44E-02	0.00E+00	1.44E-02
		Cs-134	<1.31E-02	0.00E+00	1.31E-02
		Cs-137	<1.44E-02	0.00E+00	1.44E-02
		Be-7	1.67E-02	6.62E-02	1.20E-01
		K-40	<2.62E-01	0.00E+00	2.62E-01
483468	8/28/2018 - 9/4/2018	I-131	<2.07E-02	0.00E+00	2.07E-02
		Cs-134	<1.75E-02	0.00E+00	1.75E-02
		Cs-137	<1.66E-02	0.00E+00	1.66E-02
		Be-7	<1.11E-01	0.00E+00	1.11E-01
		K-40	4.53E-01	1.60E-01	1.26E-01
484068	9/4/2018 - 9/11/2018	I-131	<2.68E-02	0.00E+00	2.68E-02
		Cs-134	<1.51E-02	0.00E+00	1.51E-02
		Cs-137	<1.36E-02	0.00E+00	1.36E-02
		Be-7	<1.25E-01	0.00E+00	1.25E-01
		K-40	<2.32E-01	0.00E+00	2.32E-01
484640	9/11/2018 - 9/18/2018	I-131	<2.32E-02	0.00E+00	2.32E-02
		Cs-134	<1.02E-02	0.00E+00	1.02E-02
		Cs-137	<1.22E-02	0.00E+00	1.22E-02
		Be-7	<1.09E-01	0.00E+00	1.09E-01
		K-40	<3.54E-01	0.00E+00	3.54E-01
485066	9/18/2018 - 9/24/2018	I-131	<2.67E-02	0.00E+00	2.67E-02
		Cs-134	<2.68E-02	0.00E+00	2.68E-02
		Cs-137	<2.03E-02	0.00E+00	2.03E-02
		Be-7	<1.49E-01	0.00E+00	1.49E-01
		K-40	9.62E-01	2.69E-01	1.98E-01
485538	9/24/2018 - 10/1/2018	I-131	<3.47E-02	0.00E+00	3.47E-02
		Cs-134	<1.81E-02	0.00E+00	1.81E-02
		Cs-137	<1.77E-02	0.00E+00	1.77E-02
		Be-7	<9.40E-02	0.00E+00	9.40E-02
		K-40	6.32E-01	2.03E-01	1.76E-01
486210	10/1/2018 - 10/9/2018	I-131	<3.21E-02	0.00E+00	3.21E-02
		Cs-134	<1.63E-02	0.00E+00	1.63E-02
		Cs-137	<1.03E-02	0.00E+00	1.03E-02
		Be-7	<9.60E-02	0.00E+00	9.60E-02
		K-40	5.89E-01	1.98E-01	2.07E-01
486739	10/9/2018 - 10/15/2018	I-131	<4.08E-02	0.00E+00	4.08E-02
		Cs-134	<1.51E-02	0.00E+00	1.51E-02
		Cs-137	<1.88E-02	0.00E+00	1.88E-02
		Be-7	<1.55E-01	0.00E+00	1.55E-01
		K-40	6.60E-01	2.30E-01	2.24E-01
487777	10/15/2018 - 10/23/2018	I-131	<2.33E-02	0.00E+00	2.33E-02
		Cs-134	<1.57E-02	0.00E+00	1.57E-02
		Cs-137	<1.24E-02	0.00E+00	1.24E-02
		Be-7	<8.68E-02	0.00E+00	8.68E-02
		K-40	3.90E-01	1.35E-01	3.02E-02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 60 [INDICATOR - SE @ 0.2 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
488020	10/23/2018 - 10/29/2018	I-131	<2.64E-02	0.00E+00	2.64E-02
		Cs-134	<2.16E-02	0.00E+00	2.16E-02
		Cs-137	<2.12E-02	0.00E+00	2.12E-02
		Be-7	<1.31E-01	0.00E+00	1.31E-01
		K-40	4.88E-01	2.19E-01	2.58E-01
488513	10/29/2018 - 11/5/2018	I-131	<2.25E-02	0.00E+00	2.25E-02
		Cs-134	<1.48E-02	0.00E+00	1.48E-02
		Cs-137	<1.78E-02	0.00E+00	1.78E-02
		Be-7	2.12E-03	7.17E-02	1.32E-01
		K-40	5.07E-01	1.79E-01	1.51E-01
488897	11/5/2018 - 11/13/2018	I-131	<2.20E-02	0.00E+00	2.20E-02
		Cs-134	<1.66E-02	0.00E+00	1.66E-02
		Cs-137	<1.42E-02	0.00E+00	1.42E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	3.30E-01	1.76E-01	2.37E-01
489189	11/13/2018 - 11/20/2018	I-131	<3.38E-02	0.00E+00	3.38E-02
		Cs-134	<1.99E-02	0.00E+00	1.99E-02
		Cs-137	<1.95E-02	0.00E+00	1.95E-02
		Be-7	<1.39E-01	0.00E+00	1.39E-01
		K-40	4.70E-01	1.77E-01	1.61E-01
489770	11/20/2018 - 11/28/2018	I-131	<3.07E-02	0.00E+00	3.07E-02
		Cs-134	<1.58E-02	0.00E+00	1.58E-02
		Cs-137	<1.46E-02	0.00E+00	1.46E-02
		Be-7	<1.36E-01	0.00E+00	1.36E-01
		K-40	3.81E-01	1.68E-01	1.82E-01
490194	11/28/2018 - 12/5/2018	I-131	<2.04E-02	0.00E+00	2.04E-02
		Cs-134	<1.33E-02	0.00E+00	1.33E-02
		Cs-137	<1.47E-02	0.00E+00	1.47E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	5.14E-01	1.65E-01	1.17E-01
490846	12/5/2018 - 12/11/2018	I-131	<2.56E-02	0.00E+00	2.56E-02
		Cs-134	<1.45E-02	0.00E+00	1.45E-02
		Cs-137	<1.58E-02	0.00E+00	1.58E-02
		Be-7	<1.15E-01	0.00E+00	1.15E-01
		K-40	<3.49E-01	0.00E+00	3.49E-01
491323	12/11/2018 - 12/18/2018	I-131	<4.77E-02	0.00E+00	4.77E-02
		Cs-134	<1.51E-02	0.00E+00	1.51E-02
		Cs-137	<1.57E-02	0.00E+00	1.57E-02
		Be-7	<1.39E-01	0.00E+00	1.39E-01
		K-40	4.50E-01	1.96E-01	2.30E-01
491522	12/18/2018 - 12/26/2018	I-131	<3.65E-02	0.00E+00	3.65E-02
		Cs-134	<1.58E-02	0.00E+00	1.58E-02
		Cs-137	<1.29E-02	0.00E+00	1.29E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	3.77E-01	1.58E-01	1.69E-01
491873	12/26/2018 - 1/2/2019	I-131	<3.11E-02	0.00E+00	3.11E-02
		Cs-134	<1.77E-02	0.00E+00	1.77E-02
		Cs-137	<1.96E-02	0.00E+00	1.96E-02
		Be-7	<9.77E-02	0.00E+00	9.77E-02
		K-40	5.65E-01	1.98E-01	1.88E-01



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 61 [INDICATOR - WSW @ 0.3 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466044	1/2/2018 - 1/10/2018	I-131	<2.29E-02	0.00E+00	2.29E-02
		Cs-134	<1.61E-02	0.00E+00	1.61E-02
		Cs-137	<1.28E-02	0.00E+00	1.28E-02
		Be-7	<1.09E-01	0.00E+00	1.09E-01
		K-40	4.20E-01	1.63E-01	1.71E-01
466240	1/10/2018 - 1/16/2018	I-131	<4.32E-02	0.00E+00	4.32E-02
		Cs-134	<1.82E-02	0.00E+00	1.82E-02
		Cs-137	<1.75E-02	0.00E+00	1.75E-02
		Be-7	<1.37E-01	0.00E+00	1.37E-01
		K-40	4.45E-01	1.76E-01	1.69E-01
466424	1/16/2018 - 1/23/2018	I-131	<2.91E-02	0.00E+00	2.91E-02
		Cs-134	<8.83E-03	0.00E+00	8.83E-03
		Cs-137	<1.00E-02	0.00E+00	1.00E-02
		Be-7	<8.33E-02	0.00E+00	8.33E-02
		K-40	3.00E-01	1.01E-01	9.82E-02
467023	1/23/2018 - 1/30/2018	I-131	<2.14E-02	0.00E+00	2.14E-02
		Cs-134	<1.60E-02	0.00E+00	1.60E-02
		Cs-137	<1.63E-02	0.00E+00	1.63E-02
		Be-7	<8.45E-02	0.00E+00	8.45E-02
		K-40	5.65E-01	1.79E-01	1.38E-01
467377	1/30/2018 - 2/6/2018	I-131	<2.92E-02	0.00E+00	2.92E-02
		Cs-134	<1.56E-02	0.00E+00	1.56E-02
		Cs-137	<1.32E-02	0.00E+00	1.32E-02
		Be-7	<1.36E-01	0.00E+00	1.36E-01
		K-40	4.05E-01	1.75E-01	2.00E-01
467703	2/6/2018 - 2/13/2018	I-131	<1.99E-02	0.00E+00	1.99E-02
		Cs-134	<1.48E-02	0.00E+00	1.48E-02
		Cs-137	<1.46E-02	0.00E+00	1.46E-02
		Be-7	<8.46E-02	0.00E+00	8.46E-02
		K-40	3.06E-01	1.52E-01	1.93E-01
468472	2/13/2018 - 2/20/2018	I-131	<3.50E-02	0.00E+00	3.50E-02
		Cs-134	<2.07E-02	0.00E+00	2.07E-02
		Cs-137	<1.61E-02	0.00E+00	1.61E-02
		Be-7	<1.27E-01	0.00E+00	1.27E-01
		K-40	6.68E-01	1.91E-01	3.42E-02
468801	2/20/2018 - 2/27/2018	I-131	<2.42E-02	0.00E+00	2.42E-02
		Cs-134	<1.94E-02	0.00E+00	1.94E-02
		Cs-137	<1.88E-02	0.00E+00	1.88E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	5.23E-01	1.81E-01	1.47E-01
469611	2/27/2018 - 3/6/2018	I-131	<2.52E-02	0.00E+00	2.52E-02
		Cs-134	<1.65E-02	0.00E+00	1.65E-02
		Cs-137	<1.46E-02	0.00E+00	1.46E-02
		Be-7	<1.52E-01	0.00E+00	1.52E-01
		K-40	5.72E-01	2.14E-01	2.34E-01
470651	3/6/2018 - 3/13/2018	I-131	<2.28E-02	0.00E+00	2.28E-02
		Cs-134	<1.79E-02	0.00E+00	1.79E-02
		Cs-137	<1.72E-02	0.00E+00	1.72E-02
		Be-7	<1.19E-01	0.00E+00	1.19E-01
		K-40	5.16E-01	1.94E-01	1.97E-01



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 61 [INDICATOR - WSW @ 0.3 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
471194	3/13/2018 - 3/20/2018	I-131	<3.10E-02	0.00E+00	3.10E-02
		Cs-134	<1.58E-02	0.00E+00	1.58E-02
		Cs-137	<1.46E-02	0.00E+00	1.46E-02
		Be-7	<1.30E-01	0.00E+00	1.30E-01
		K-40	3.79E-01	1.41E-01	3.42E-02
471756	3/20/2018 - 3/27/2018	I-131	<3.51E-02	0.00E+00	3.51E-02
		Cs-134	<1.73E-02	0.00E+00	1.73E-02
		Cs-137	<1.82E-02	0.00E+00	1.82E-02
		Be-7	<1.25E-01	0.00E+00	1.25E-01
		K-40	4.99E-01	1.74E-01	1.30E-01
472565	3/27/2018 - 4/3/2018	I-131	<2.46E-02	0.00E+00	2.46E-02
		Cs-134	<1.88E-02	0.00E+00	1.88E-02
		Cs-137	<1.56E-02	0.00E+00	1.56E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	4.94E-01	1.70E-01	1.20E-01
473026	4/3/2018 - 4/10/2018	I-131	<1.98E-02	0.00E+00	1.98E-02
		Cs-134	<1.64E-02	0.00E+00	1.64E-02
		Cs-137	<1.71E-02	0.00E+00	1.71E-02
		Be-7	<1.25E-01	0.00E+00	1.25E-01
		K-40	<4.01E-01	0.00E+00	4.01E-01
473302	4/10/2018 - 4/17/2018	I-131	<2.41E-02	0.00E+00	2.41E-02
		Cs-134	<1.63E-02	0.00E+00	1.63E-02
		Cs-137	<1.79E-02	0.00E+00	1.79E-02
		Be-7	<1.05E-01	0.00E+00	1.05E-01
		K-40	5.79E-01	1.85E-01	1.28E-01
473675	4/17/2018 - 4/24/2018	I-131	<2.56E-02	0.00E+00	2.56E-02
		Cs-134	<1.89E-02	0.00E+00	1.89E-02
		Cs-137	<1.80E-02	0.00E+00	1.80E-02
		Be-7	<1.45E-01	0.00E+00	1.45E-01
		K-40	2.55E-01	1.34E-01	1.46E-01
474193	4/24/2018 - 5/1/2018	I-131	<2.62E-02	0.00E+00	2.62E-02
		Cs-134	<1.76E-02	0.00E+00	1.76E-02
		Cs-137	<1.65E-02	0.00E+00	1.65E-02
		Be-7	<1.25E-01	0.00E+00	1.25E-01
		K-40	5.17E-01	1.74E-01	1.18E-01
474569	5/1/2018 - 5/8/2018	I-131	<3.14E-02	0.00E+00	3.14E-02
		Cs-134	<1.74E-02	0.00E+00	1.74E-02
		Cs-137	<1.42E-02	0.00E+00	1.42E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	5.63E-01	2.05E-01	2.15E-01
474939	5/8/2018 - 5/15/2018	I-131	<2.22E-02	0.00E+00	2.22E-02
		Cs-134	<1.82E-02	0.00E+00	1.82E-02
		Cs-137	<2.18E-02	0.00E+00	2.18E-02
		Be-7	<1.10E-01	0.00E+00	1.10E-01
		K-40	4.56E-01	1.76E-01	1.70E-01
475256	5/15/2018 - 5/22/2018	I-131	<2.41E-02	0.00E+00	2.41E-02
		Cs-134	<1.92E-02	0.00E+00	1.92E-02
		Cs-137	<1.59E-02	0.00E+00	1.59E-02
		Be-7	<1.07E-01	0.00E+00	1.07E-01
		K-40	3.77E-01	1.50E-01	1.21E-01



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 61 [INDICATOR - WSW @ 0.3 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
475579	5/22/2018 - 5/29/2018	I-131	<2.56E-02	0.00E+00	2.56E-02
		Cs-134	<1.55E-02	0.00E+00	1.55E-02
		Cs-137	<1.60E-02	0.00E+00	1.60E-02
		Be-7	<1.10E-01	0.00E+00	1.10E-01
		K-40	5.09E-01	1.88E-01	1.85E-01
476402	5/29/2018 - 6/5/2018	I-131	<2.37E-02	0.00E+00	2.37E-02
		Cs-134	<1.68E-02	0.00E+00	1.68E-02
		Cs-137	<1.37E-02	0.00E+00	1.37E-02
		Be-7	<1.09E-01	0.00E+00	1.09E-01
		K-40	3.80E-01	1.82E-01	2.25E-01
477425	6/5/2018 - 6/12/2018	I-131	<2.04E-02	0.00E+00	2.04E-02
		Cs-134	<1.75E-02	0.00E+00	1.75E-02
		Cs-137	<1.58E-02	0.00E+00	1.58E-02
		Be-7	<9.97E-02	0.00E+00	9.97E-02
		K-40	<3.44E-01	0.00E+00	3.44E-01
478148	6/12/2018 - 6/20/2018	I-131	<2.68E-02	0.00E+00	2.68E-02
		Cs-134	<1.38E-02	0.00E+00	1.38E-02
		Cs-137	<1.42E-02	0.00E+00	1.42E-02
		Be-7	<1.10E-01	0.00E+00	1.10E-01
		K-40	4.42E-01	1.63E-01	1.56E-01
478466	6/20/2018 - 6/26/2018	I-131	<2.76E-02	0.00E+00	2.76E-02
		Cs-134	<1.74E-02	0.00E+00	1.74E-02
		Cs-137	<2.25E-02	0.00E+00	2.25E-02
		Be-7	<1.37E-01	0.00E+00	1.37E-01
		K-40	<4.02E-01	0.00E+00	4.02E-01
478847	6/26/2018 - 7/3/2018	I-131	<2.61E-02	0.00E+00	2.61E-02
		Cs-134	<1.92E-02	0.00E+00	1.92E-02
		Cs-137	<1.93E-02	0.00E+00	1.93E-02
		Be-7	<1.19E-01	0.00E+00	1.19E-01
		K-40	2.56E-01	1.62E-01	2.22E-01
479242	7/3/2018 - 7/10/2018	I-131	<2.34E-02	0.00E+00	2.34E-02
		Cs-134	<9.92E-03	0.00E+00	9.92E-03
		Cs-137	<1.43E-02	0.00E+00	1.43E-02
		Be-7	<9.52E-02	0.00E+00	9.52E-02
		K-40	4.16E-01	1.73E-01	1.84E-01
479924	7/10/2018 - 7/17/2018	I-131	<2.33E-02	0.00E+00	2.33E-02
		Cs-134	<1.39E-02	0.00E+00	1.39E-02
		Cs-137	<1.73E-02	0.00E+00	1.73E-02
		Be-7	<1.23E-01	0.00E+00	1.23E-01
		K-40	5.81E-01	1.89E-01	1.46E-01
480289	7/17/2018 - 7/24/2018	I-131	<2.49E-02	0.00E+00	2.49E-02
		Cs-134	<1.61E-02	0.00E+00	1.61E-02
		Cs-137	<1.81E-02	0.00E+00	1.81E-02
		Be-7	<1.27E-01	0.00E+00	1.27E-01
		K-40	3.95E-01	1.70E-01	1.84E-01
481114	7/24/2018 - 7/31/2018	I-131	<3.34E-02	0.00E+00	3.34E-02
		Cs-134	<1.48E-02	0.00E+00	1.48E-02
		Cs-137	<1.73E-02	0.00E+00	1.73E-02
		Be-7	<1.52E-01	0.00E+00	1.52E-01
		K-40	4.75E-01	1.68E-01	1.25E-01



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 61 [INDICATOR - WSW @ 0.3 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
481554	7/31/2018 - 8/6/2018	I-131	<2.58E-02	0.00E+00	2.58E-02
		Cs-134	<2.37E-02	0.00E+00	2.37E-02
		Cs-137	<1.86E-02	0.00E+00	1.86E-02
		Be-7	<1.38E-01	0.00E+00	1.38E-01
		K-40	4.01E-01	1.79E-01	1.86E-01
482009	8/6/2018 - 8/14/2018	I-131	<2.10E-02	0.00E+00	2.10E-02
		Cs-134	<9.54E-03	0.00E+00	9.54E-03
		Cs-137	<8.92E-03	0.00E+00	8.92E-03
		Be-7	<8.95E-02	0.00E+00	8.95E-02
		K-40	1.36E-01	1.04E-01	1.46E-01
482524	8/14/2018 - 8/21/2018	I-131	<3.30E-02	0.00E+00	3.30E-02
		Cs-134	<1.46E-02	0.00E+00	1.47E-02
		Cs-137	<1.37E-02	0.00E+00	1.37E-02
		Be-7	<1.33E-01	0.00E+00	1.33E-01
		K-40	4.43E-01	1.85E-01	2.08E-01
482848	8/21/2018 - 8/28/2018	I-131	<1.63E-02	0.00E+00	1.63E-02
		Cs-134	<1.07E-02	0.00E+00	1.07E-02
		Cs-137	<1.64E-02	0.00E+00	1.64E-02
		Be-7	<1.32E-01	0.00E+00	1.32E-01
		K-40	2.35E-01	1.44E-01	1.91E-01
483469	8/28/2018 - 9/4/2018	I-131	<2.05E-02	0.00E+00	2.05E-02
		Cs-134	<2.06E-02	0.00E+00	2.06E-02
		Cs-137	<1.84E-02	0.00E+00	1.84E-02
		Be-7	<1.45E-01	0.00E+00	1.45E-01
		K-40	4.50E-01	1.72E-01	1.58E-01
484069	9/4/2018 - 9/11/2018	I-131	<2.85E-02	0.00E+00	2.85E-02
		Cs-134	<1.55E-02	0.00E+00	1.55E-02
		Cs-137	<1.33E-02	0.00E+00	1.33E-02
		Be-7	<1.10E-01	0.00E+00	1.10E-01
		K-40	3.15E-01	1.52E-01	1.75E-01
484641	9/11/2018 - 9/18/2018	I-131	<2.15E-02	0.00E+00	2.15E-02
		Cs-134	<1.40E-02	0.00E+00	1.40E-02
		Cs-137	<1.34E-02	0.00E+00	1.34E-02
		Be-7	<9.08E-02	0.00E+00	9.08E-02
		K-40	2.02E-01	1.55E-01	2.27E-01
485067	9/18/2018 - 9/24/2018	I-131	<2.34E-02	0.00E+00	2.34E-02
		Cs-134	<1.49E-02	0.00E+00	1.49E-02
		Cs-137	<1.89E-02	0.00E+00	1.89E-02
		Be-7	<1.08E-01	0.00E+00	1.08E-01
		K-40	8.29E-01	2.64E-01	2.41E-01
485539	9/24/2018 - 10/1/2018	I-131	<3.75E-02	0.00E+00	3.75E-02
		Cs-134	<1.94E-02	0.00E+00	1.94E-02
		Cs-137	<1.65E-02	0.00E+00	1.65E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	4.18E-01	1.73E-01	1.80E-01
486211	10/1/2018 - 10/9/2018	I-131	<2.93E-02	0.00E+00	2.93E-02
		Cs-134	<1.36E-02	0.00E+00	1.36E-02
		Cs-137	<1.35E-02	0.00E+00	1.35E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	4.34E-01	1.62E-01	1.58E-01



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 61 [INDICATOR - WSW @ 0.3 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
486740	10/9/2018 - 10/15/2018	I-131	<4.06E-02	0.00E+00	4.06E-02
		Cs-134	<1.87E-02	0.00E+00	1.87E-02
		Cs-137	<1.72E-02	0.00E+00	1.72E-02
		Be-7	<1.45E-01	0.00E+00	1.45E-01
		K-40	4.98E-01	1.90E-01	1.68E-01
487778	10/15/2018 - 10/23/2018	I-131	<2.36E-02	0.00E+00	2.36E-02
		Cs-134	<1.46E-02	0.00E+00	1.46E-02
		Cs-137	<1.56E-02	0.00E+00	1.56E-02
		Be-7	<1.18E-01	0.00E+00	1.18E-01
		K-40	<3.30E-01	0.00E+00	3.30E-01
488021	10/23/2018 - 10/29/2018	I-131	<3.08E-02	0.00E+00	3.08E-02
		Cs-134	<1.85E-02	0.00E+00	1.85E-02
		Cs-137	<2.02E-02	0.00E+00	2.02E-02
		Be-7	<1.50E-01	0.00E+00	1.50E-01
		K-40	4.25E-01	1.73E-01	1.35E-01
488514	10/29/2018 - 11/5/2018	I-131	<1.96E-02	0.00E+00	1.96E-02
		Cs-134	<2.04E-02	0.00E+00	2.04E-02
		Cs-137	<1.32E-02	0.00E+00	1.32E-02
		Be-7	<1.05E-01	0.00E+00	1.05E-01
		K-40	4.31E-01	1.82E-01	2.02E-01
488898	11/5/2018 - 11/13/2018	I-131	<2.00E-02	0.00E+00	2.00E-02
		Cs-134	<1.39E-02	0.00E+00	1.39E-02
		Cs-137	<1.60E-02	0.00E+00	1.60E-02
		Be-7	<9.07E-02	0.00E+00	9.07E-02
		K-40	5.84E-01	1.76E-01	1.16E-01
489190	11/13/2018 - 11/20/2018	I-131	<3.00E-02	0.00E+00	3.00E-02
		Cs-134	<1.60E-02	0.00E+00	1.60E-02
		Cs-137	<1.69E-02	0.00E+00	1.69E-02
		Be-7	<1.17E-01	0.00E+00	1.17E-01
		K-40	3.02E-01	1.90E-01	2.68E-01
489771	11/20/2018 - 11/28/2018	I-131	<2.94E-02	0.00E+00	2.94E-02
		Cs-134	<1.25E-02	0.00E+00	1.25E-02
		Cs-137	<1.53E-02	0.00E+00	1.53E-02
		Be-7	<1.14E-01	0.00E+00	1.14E-01
		K-40	4.75E-01	1.80E-01	1.70E-01
490195	11/28/2018 - 12/5/2018	I-131	<3.17E-02	0.00E+00	3.17E-02
		Cs-134	<1.58E-02	0.00E+00	1.58E-02
		Cs-137	<1.56E-02	0.00E+00	1.56E-02
		Be-7	<1.21E-01	0.00E+00	1.21E-01
		K-40	<2.86E-01	0.00E+00	2.86E-01
490847	12/5/2018 - 12/11/2018	I-131	<3.49E-02	0.00E+00	3.49E-02
		Cs-134	<1.51E-02	0.00E+00	1.51E-02
		Cs-137	<1.48E-02	0.00E+00	1.48E-02
		Be-7	<1.48E-01	0.00E+00	1.48E-01
		K-40	6.24E-01	2.09E-01	1.49E-01
491324	12/11/2018 - 12/18/2018	I-131	<4.36E-02	0.00E+00	4.36E-02
		Cs-134	<1.74E-02	0.00E+00	1.74E-02
		Cs-137	<1.87E-02	0.00E+00	1.87E-02
		Be-7	<1.24E-01	0.00E+00	1.24E-01
		K-40	5.62E-01	1.75E-01	3.46E-02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 61 [INDICATOR - WSW @ 0.3 miles]

Sample ID:	Sample Dates:		Nuclide	Activity	2 Sigma Error	MDA
491523	12/18/2018 - 12/26/2018		I-131	<3.44E-02	0.00E+00	3.44E-02
			Cs-134	<1.59E-02	0.00E+00	1.59E-02
			Cs-137	<1.35E-02	0.00E+00	1.35E-02
			Be-7	<1.08E-01	0.00E+00	1.08E-01
			K-40	4.15E-01	1.80E-01	2.15E-01

Sample ID:	Sample Dates:		Nuclide	Activity	2 Sigma Error	MDA
491874	12/26/2018 - 1/2/2019		I-131	<3.52E-02	0.00E+00	3.52E-02
			Cs-134	<1.97E-02	0.00E+00	1.97E-02
			Cs-137	<1.89E-02	0.00E+00	1.89E-02
			Be-7	<1.39E-01	0.00E+00	1.39E-01
			K-40	4.65E-01	1.72E-01	1.47E-01

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

Sample Point 54 [INDICATOR - E @ 10.1 miles]

Sample ID:	Sample Dates:		Nuclide	Activity	2 Sigma Error	MDA
481358	7/12/2018 - 7/12/2018	CORN	I-131	<1.73E+01	0.00E+00	1.73E+01
			Cs-134	<1.17E+01	0.00E+00	1.17E+01
			Cs-137	<9.66E+00	0.00E+00	9.66E+00
			Be-7	<7.48E+01	0.00E+00	7.48E+01
			K-40	1.94E+03	3.14E+02	1.85E+02

Sample ID:	Sample Dates:		Nuclide	Activity	2 Sigma Error	MDA
491034	11/26/2018 - 11/26/2018	CORN	I-131	<1.33E+01	0.00E+00	1.33E+01
			Cs-134	<1.56E+01	0.00E+00	1.56E+01
			Cs-137	<1.71E+01	0.00E+00	1.71E+01
			Be-7	<1.39E+02	0.00E+00	1.39E+02
			K-40	2.89E+03	4.64E+02	2.15E+02

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

Sample Point 45 [INDICATOR - @ 0 miles]

Sample ID:	Sample Dates:		Nuclide	Activity	2 Sigma Error	MDA
474700	5/9/2018 - 5/10/2018	BOTMFEEDER	Mn-54	<3.66E+01	0.00E+00	3.66E+01
			Co-58	<3.34E+01	0.00E+00	3.34E+01
			Fe-59	<8.12E+01	0.00E+00	8.12E+01
			Co-60	<3.48E+01	0.00E+00	3.48E+01
			Zn-65	<8.74E+01	0.00E+00	8.74E+01
			Nb-95	<3.19E+01	0.00E+00	3.19E+01
			I-131	<4.82E+01	0.00E+00	4.82E+01
			Cs-134	<3.76E+01	0.00E+00	3.76E+01
			Cs-137	<4.62E+01	0.00E+00	4.62E+01
			Be-7	<2.72E+02	0.00E+00	2.72E+02
			K-40	3.75E+03	8.13E+02	1.02E+02
			Ag-110M	<2.42E+01	0.00E+00	2.42E+01
			Sb-122	<7.47E+02	0.00E+00	7.47E+02
			Sb-125	<6.69E+01	0.00E+00	6.69E+01

Sample ID:	Sample Dates:		Nuclide	Activity	2 Sigma Error	MDA
474701	5/9/2018 - 5/10/2018	FREESWIM	Mn-54	<2.36E+01	0.00E+00	2.36E+01
			Co-58	<2.96E+01	0.00E+00	2.96E+01
			Fe-59	<7.21E+01	0.00E+00	7.21E+01
			Co-60	<7.67E+00	0.00E+00	7.67E+00
			Zn-65	<6.05E+01	0.00E+00	6.05E+01
			Nb-95	<2.94E+01	0.00E+00	2.94E+01
			I-131	<6.12E+01	0.00E+00	6.12E+01
			Cs-134	<3.26E+01	0.00E+00	3.26E+01
			Cs-137	<3.09E+01	0.00E+00	3.09E+01
			Be-7	<2.28E+02	0.00E+00	2.28E+02
			K-40	2.88E+03	6.40E+02	3.50E+02
			Ag-110M	<2.69E+01	0.00E+00	2.69E+01
			Sb-122	<5.65E+02	0.00E+00	5.65E+02
			Sb-125	<5.05E+01	0.00E+00	5.05E+01

Sample ID:	Sample Dates:		Nuclide	Activity	2 Sigma Error	MDA
488719	11/14/2018 - 11/14/2018	BOTMFEEDER	Mn-54	<5.25E+01	0.00E+00	5.25E+01



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 45 [INDICATOR - @ 0 miles]

Sample ID:	Sample Dates:		Nuclide	Activity	2 Sigma Error	MDA
488719	11/14/2018 - 11/14/2018	BOTMFEEDER	Co-58	<7.18E+01	0.00E+00	7.18E+01
			Fe-59	<9.54E+01	0.00E+00	9.54E+01
			Co-60	<5.19E+01	0.00E+00	5.19E+01
			Zn-65	<1.42E+02	0.00E+00	1.42E+02
			Nb-95	<6.97E+01	0.00E+00	6.97E+01
			I-131	<1.63E+02	0.00E+00	1.63E+02
			Cs-134	<6.68E+01	0.00E+00	6.68E+01
			Cs-137	<7.98E+01	0.00E+00	7.98E+01
			Be-7	<5.05E+02	0.00E+00	5.05E+02
			K-40	4.85E+03	1.14E+03	5.80E+02
			Ag-110M	<5.29E+01	0.00E+00	5.29E+01
			Sb-122	<1.65E+03	0.00E+00	1.65E+03
			Sb-125	<1.36E+02	0.00E+00	1.36E+02

Sample ID:	Sample Dates:		Nuclide	Activity	2 Sigma Error	MDA
488720	11/14/2018 - 11/14/2018	FREESWIM	Mn-54	<7.54E+01	0.00E+00	7.54E+01
			Co-58	<5.84E+01	0.00E+00	5.84E+01
			Fe-59	<1.62E+02	0.00E+00	1.62E+02
			Co-60	<7.33E+01	0.00E+00	7.33E+01
			Zn-65	<1.63E+02	0.00E+00	1.63E+02
			Nb-95	<7.16E+01	0.00E+00	7.16E+01
			I-131	<1.09E+02	0.00E+00	1.09E+02
			Cs-134	<7.69E+01	0.00E+00	7.69E+01
			Cs-137	<9.47E+01	0.00E+00	9.47E+01
			Be-7	<5.91E+02	0.00E+00	5.91E+02
			K-40	5.42E+03	1.23E+03	1.65E+02
			Ag-110M	<6.89E+01	0.00E+00	6.89E+01
			Sb-122	<3.27E+02	0.00E+00	3.27E+02
			Sb-125	<1.95E+02	0.00E+00	1.95E+02

Sample Point 46 [INDICATOR - @ 0 miles]

Sample ID:	Sample Dates:		Nuclide	Activity	2 Sigma Error	MDA
474702	5/9/2018 - 5/9/2018	BOTMFEEDER	Mn-54	<3.62E+01	0.00E+00	3.62E+01
			Co-58	<4.34E+01	0.00E+00	4.34E+01
			Fe-59	<1.32E+02	0.00E+00	1.32E+02
			Co-60	<3.54E+01	0.00E+00	3.54E+01
			Zn-65	<1.43E+02	0.00E+00	1.43E+02
			Nb-95	<4.66E+01	0.00E+00	4.66E+01
			I-131	<7.83E+01	0.00E+00	7.83E+01
			Cs-134	<4.01E+01	0.00E+00	4.01E+01
			Cs-137	<6.79E+01	0.00E+00	6.79E+01
			Be-7	<2.53E+02	0.00E+00	2.53E+02
			K-40	3.90E+03	9.29E+02	1.31E+02
			Ag-110M	<3.82E+01	0.00E+00	3.82E+01
			Sb-122	<9.60E+02	0.00E+00	9.60E+02
			Sb-125	<1.09E+02	0.00E+00	1.09E+02

Sample ID:	Sample Dates:		Nuclide	Activity	2 Sigma Error	MDA
474703	5/9/2018 - 5/9/2018	FREESWIM	Mn-54	<2.76E+01	0.00E+00	2.76E+01
			Co-58	<2.03E+01	0.00E+00	2.03E+01
			Fe-59	<8.82E+01	0.00E+00	8.82E+01
			Co-60	<3.99E+01	0.00E+00	3.99E+01
			Zn-65	<7.10E+01	0.00E+00	7.10E+01
			Nb-95	<3.18E+01	0.00E+00	3.18E+01
			I-131	<6.04E+01	0.00E+00	6.04E+01
			Cs-134	<4.73E+01	0.00E+00	4.73E+01
			Cs-137	4.84E+01	3.35E+01	4.79E+01
			Be-7	<1.93E+02	0.00E+00	1.93E+02
			K-40	3.89E+03	8.24E+02	1.00E+02
			Ag-110M	<3.33E+01	0.00E+00	3.33E+01
			Sb-122	<8.39E+02	0.00E+00	8.39E+02
			Sb-125	<5.42E+01	0.00E+00	5.42E+01

Sample ID:	Sample Dates:		Nuclide	Activity	2 Sigma Error	MDA
488721	11/14/2018 - 11/14/2018	BOTMFEEDER	Mn-54	<6.03E+01	0.00E+00	6.03E+01
			Co-58	<4.70E+01	0.00E+00	4.70E+01



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 46 [INDICATOR - @ 0 miles]

Sample ID:	Sample Dates:	BOTMFEEDER	Nuclide	Activity	2 Sigma Error	MDA
488721	11/14/2018 - 11/14/2018		Fe-59	<1.30E+02	0.00E+00	1.30E+02
			Co-60	<5.81E+01	0.00E+00	5.81E+01
			Zn-65	<1.35E+02	0.00E+00	1.35E+02
			Nb-95	<6.30E+01	0.00E+00	6.30E+01
			I-131	<1.02E+02	0.00E+00	1.02E+02
			Cs-134	<7.40E+01	0.00E+00	7.40E+01
			Cs-137	<6.97E+01	0.00E+00	6.97E+01
			Be-7	<4.92E+02	0.00E+00	4.92E+02
			K-40	4.17E+03	1.13E+03	9.70E+02
			Ag-110M	<5.81E+01	0.00E+00	5.81E+01
			Sb-122	<3.76E+02	0.00E+00	3.76E+02
			Sb-125	<1.32E+02	0.00E+00	1.32E+02

Sample ID:	Sample Dates:	FREESWIM	Nuclide	Activity	2 Sigma Error	MDA
488722	11/14/2018 - 11/14/2018		Mn-54	<4.84E+01	0.00E+00	4.84E+01
			Co-58	<5.36E+01	0.00E+00	5.36E+01
			Fe-59	<1.31E+02	0.00E+00	1.31E+02
			Co-60	<5.57E+01	0.00E+00	5.57E+01
			Zn-65	<1.38E+02	0.00E+00	1.38E+02
			Nb-95	<5.45E+01	0.00E+00	5.45E+01
			I-131	<7.67E+01	0.00E+00	7.67E+01
			Cs-134	<6.20E+01	0.00E+00	6.20E+01
			Cs-137	7.29E+01	5.02E+01	7.19E+01
			Be-7	<4.91E+02	0.00E+00	4.91E+02
			K-40	3.55E+03	1.01E+03	9.05E+02
			Ag-110M	<3.90E+01	0.00E+00	3.90E+01
			Sb-122	<3.77E+02	0.00E+00	3.77E+02
			Sb-125	<1.58E+02	0.00E+00	1.58E+02

Sample Point 47 [CONTROL - @ 0 miles]

Sample ID:	Sample Dates:	BOTMFEEDER	Nuclide	Activity	2 Sigma Error	MDA
474704	5/8/2018 - 5/8/2018		Mn-54	<2.63E+01	0.00E+00	2.63E+01
			Co-58	<3.30E+01	0.00E+00	3.30E+01
			Fe-59	<9.05E+01	0.00E+00	9.05E+01
			Co-60	<3.00E+01	0.00E+00	3.00E+01
			Zn-65	<7.84E+01	0.00E+00	7.84E+01
			Nb-95	<5.27E+01	0.00E+00	5.27E+01
			I-131	<5.15E+01	0.00E+00	5.15E+01
			Cs-134	<4.97E+01	0.00E+00	4.97E+01
			Cs-137	<5.21E+01	0.00E+00	5.21E+01
			Be-7	<2.83E+02	0.00E+00	2.83E+02
			K-40	3.43E+03	8.02E+02	1.11E+02
			Ag-110M	<3.22E+01	0.00E+00	3.22E+01
			Sb-122	<1.04E+03	0.00E+00	1.04E+03
			Sb-125	<6.68E+01	0.00E+00	6.68E+01

Sample ID:	Sample Dates:	FREESWIM	Nuclide	Activity	2 Sigma Error	MDA
474705	5/8/2018 - 5/8/2018		Mn-54	<2.04E+01	0.00E+00	2.04E+01
			Co-58	<2.06E+01	0.00E+00	2.06E+01
			Fe-59	<5.02E+01	0.00E+00	5.02E+01
			Co-60	<2.11E+01	0.00E+00	2.11E+01
			Zn-65	<3.21E+01	0.00E+00	3.21E+01
			Nb-95	<2.23E+01	0.00E+00	2.23E+01
			I-131	<4.81E+01	0.00E+00	4.81E+01
			Cs-134	<1.84E+01	0.00E+00	1.84E+01
			Cs-137	3.98E+01	1.84E+01	2.40E+01
			Be-7	<1.75E+02	0.00E+00	1.75E+02
			K-40	2.68E+03	4.74E+02	2.40E+02
			Ag-110M	<1.58E+01	0.00E+00	1.58E+01
			Sb-122	<5.78E+02	0.00E+00	5.78E+02
			Sb-125	<4.60E+01	0.00E+00	4.60E+01

Sample ID:	Sample Dates:	BOTMFEEDER	Nuclide	Activity	2 Sigma Error	MDA
488723	11/13/2018 - 11/13/2018		Mn-54	<5.68E+01	0.00E+00	5.68E+01
			Co-58	<6.34E+01	0.00E+00	6.34E+01
			Fe-59	<1.24E+02	0.00E+00	1.24E+02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 47 [CONTROL - @ 0 miles]

Sample ID:	488723	Sample Dates:	11/13/2018 - 11/13/2018	BOTMFEEDER	Nuclide	Activity	2 Sigma Error	MDA
					Co-60	<5.58E+01	0.00E+00	5.58E+01
					Zn-65	<1.71E+02	0.00E+00	1.71E+02
					Nb-95	<6.92E+01	0.00E+00	6.92E+01
					I-131	<9.06E+01	0.00E+00	9.06E+01
					Cs-134	<8.44E+01	0.00E+00	8.44E+01
					Cs-137	3.64E+01	4.11E+01	6.52E+01
					Be-7	<6.10E+02	0.00E+00	6.10E+02
					K-40	3.52E+03	1.01E+03	6.91E+02
					Ag-110M	<5.71E+01	0.00E+00	5.71E+01
					Sb-122	<3.56E+02	0.00E+00	3.56E+02
					Sb-125	<1.71E+02	0.00E+00	1.71E+02

Sample ID:	488724	Sample Dates:	11/13/2018 - 11/13/2018	FREESWIM	Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<7.52E+01	0.00E+00	7.52E+01
					Co-58	<5.64E+01	0.00E+00	5.64E+01
					Fe-59	<1.66E+02	0.00E+00	1.66E+02
					Co-60	<8.23E+01	0.00E+00	8.23E+01
					Zn-65	<9.65E+01	0.00E+00	9.65E+01
					Nb-95	<5.77E+01	0.00E+00	5.77E+01
					I-131	<1.05E+02	0.00E+00	1.05E+02
					Cs-134	<7.35E+01	0.00E+00	7.35E+01
					Cs-137	8.96E+01	5.29E+01	7.00E+01
					Be-7	<5.72E+02	0.00E+00	5.72E+02
					K-40	4.95E+03	1.15E+03	1.58E+02
					Ag-110M	<5.77E+01	0.00E+00	5.77E+01
					Sb-122	<4.35E+02	0.00E+00	4.35E+02
					Sb-125	<1.20E+02	0.00E+00	1.20E+02

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

Sample Point 64 [INDICATOR - SE @ 0.6 miles]

Sample ID:	465544	Sample Dates:	1/23/2018 - 1/23/2018		Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<6.26E+00	0.00E+00	6.26E+00
					Co-58	<5.56E+00	0.00E+00	5.56E+00
					Fe-59	<9.83E+00	0.00E+00	9.83E+00
					Co-60	<6.45E+00	0.00E+00	6.45E+00
					Zn-65	<1.09E+01	0.00E+00	1.09E+01
					Zr-95	<8.80E+00	0.00E+00	8.80E+00
					Nb-95	<6.66E+00	0.00E+00	6.66E+00
					I-131	<8.65E+00	0.00E+00	8.65E+00
					Cs-134	<6.21E+00	0.00E+00	6.21E+00
					Cs-137	<5.95E+00	0.00E+00	5.95E+00
					BaLa-140	<1.19E+01	0.00E+00	1.19E+01
					Be-7	<4.87E+01	0.00E+00	4.87E+01
					K-40	1.22E+02	6.48E+01	8.89E+01
					H3GW	<-9.2E+01	0.00E+00	1.84E+02

Sample ID:	472413	Sample Dates:	4/24/2018 - 4/24/2018		Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<4.27E+00	0.00E+00	4.27E+00
					Co-58	<4.19E+00	0.00E+00	4.19E+00
					Fe-59	<9.11E+00	0.00E+00	9.11E+00
					Co-60	<5.28E+00	0.00E+00	5.28E+00
					Zn-65	<1.08E+01	0.00E+00	1.08E+01
					Zr-95	<7.33E+00	0.00E+00	7.33E+00
					Nb-95	<6.17E+00	0.00E+00	6.17E+00
					I-131	<9.88E+00	0.00E+00	9.88E+00
					Cs-134	<4.48E+00	0.00E+00	4.48E+00
					Cs-137	<5.18E+00	0.00E+00	5.18E+00
					BaLa-140	<8.89E+00	0.00E+00	8.89E+00
					Be-7	<4.29E+01	0.00E+00	4.29E+01
					K-40	<8.82E+01	0.00E+00	8.82E+01
					H3GW	<-1.0E+02	0.00E+00	1.88E+02

Sample ID:	478694	Sample Dates:	7/16/2018 - 7/16/2018		Nuclide	Activity	2 Sigma Error	MDA
					Mn-54	<4.90E+00	0.00E+00	4.90E+00
					Co-58	<4.93E+00	0.00E+00	4.93E+00
					Fe-59	<9.64E+00	0.00E+00	9.64E+00



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 64 [INDICATOR - SE @ 0.6 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
478694	7/16/2018 - 7/16/2018	Co-60	<5.27E+00	0.00E+00	5.27E+00
		Zn-65	<9.96E+00	0.00E+00	9.96E+00
		Zr-95	<9.26E+00	0.00E+00	9.26E+00
		Nb-95	<5.59E+00	0.00E+00	5.59E+00
		I-131	<4.87E+00	0.00E+00	4.87E+00
		Cs-134	<5.02E+00	0.00E+00	5.02E+00
		Cs-137	<5.53E+00	0.00E+00	5.53E+00
		BaLa-140	<5.23E+00	0.00E+00	5.23E+00
		Be-7	<4.41E+01	0.00E+00	4.41E+01
		K-40	<1.07E+02	0.00E+00	1.07E+02
		H3GW	3.71E+02	1.26E+02	1.96E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
482723	8/14/2018 - 8/14/2018	H3GW	<-1.4E+01	0.00E+00	1.89E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
485275	10/15/2018 - 10/15/2018	Mn-54	<6.00E+00	0.00E+00	6.00E+00
		Co-58	<5.52E+00	0.00E+00	5.52E+00
		Fe-59	<1.02E+01	0.00E+00	1.02E+01
		Co-60	<6.38E+00	0.00E+00	6.38E+00
		Zn-65	<1.33E+01	0.00E+00	1.33E+01
		Zr-95	<1.05E+01	0.00E+00	1.05E+01
		Nb-95	<6.26E+00	0.00E+00	6.26E+00
		I-131	<7.79E+00	0.00E+00	7.79E+00
		Cs-134	<6.74E+00	0.00E+00	6.74E+00
		Cs-137	<6.02E+00	0.00E+00	6.02E+00
		BaLa-140	<1.03E+01	0.00E+00	1.03E+01
		Be-7	<5.90E+01	0.00E+00	5.90E+01
		K-40	<1.01E+02	0.00E+00	1.01E+02
		H3GW	<-5.6E+01	0.00E+00	1.95E+02

Media Type: SEDIMENT_SHORE Concentration (Activity): pCi/kg dry

Sample Point 44 [INDICATOR - NNE @ 1.6 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
469275	2/13/2018 - 2/13/2018	Mn-54	<1.34E+01	0.00E+00	1.34E+01
		Co-58	<1.65E+01	0.00E+00	1.65E+01
		Fe-59	<2.26E+01	0.00E+00	2.26E+01
		Co-60	<8.09E+00	0.00E+00	8.09E+00
		Zn-65	<2.37E+01	0.00E+00	2.37E+01
		Zr-95	<2.10E+01	0.00E+00	2.10E+01
		Nb-95	<1.70E+01	0.00E+00	1.70E+01
		I-131	<2.69E+01	0.00E+00	2.69E+01
		Cs-134	<1.48E+01	0.00E+00	1.48E+01
		Cs-137	<1.37E+01	0.00E+00	1.37E+01
		Be-7	<1.19E+02	0.00E+00	1.19E+02
		K-40	<1.44E+02	0.00E+00	1.44E+02
		Co-57	<9.48E+00	0.00E+00	9.48E+00
		Mo-99	<3.30E+03	0.00E+00	3.30E+03
		Ag-110M	<1.12E+01	0.00E+00	1.12E+01
		Sb-122	<6.35E+02	0.00E+00	6.35E+02
		Sb-125	<1.98E+01	0.00E+00	1.98E+01

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474946	8/14/2018 - 8/14/2018	Mn-54	<9.00E+00	0.00E+00	9.00E+00
		Co-58	<1.10E+01	0.00E+00	1.10E+01
		Fe-59	<2.44E+01	0.00E+00	2.44E+01
		Co-60	<3.23E+00	0.00E+00	3.23E+00
		Zn-65	<1.99E+01	0.00E+00	1.99E+01
		Zr-95	<2.28E+01	0.00E+00	2.28E+01
		Nb-95	<1.53E+01	0.00E+00	1.53E+01
		I-131	<3.48E+01	0.00E+00	3.48E+01
		Cs-134	<1.11E+01	0.00E+00	1.11E+01
		Cs-137	<1.48E+01	0.00E+00	1.48E+01
		Be-7	1.75E+02	9.78E+01	1.34E+02
		K-40	<1.99E+02	0.00E+00	1.99E+02
		Co-57	<9.56E+00	0.00E+00	9.56E+00



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

Media Type: SEDIMENT_SHORE Concentration (Activity): pCi/kg dry

Sample Point 44 [INDICATOR - NNE @ 1.6 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
474946	8/14/2018 - 8/14/2018	Mo-99	<4.38E+03	0.00E+00	4.38E+03
		Ag-110M	<1.26E+01	0.00E+00	1.26E+01
		Sb-122	<7.16E+02	0.00E+00	7.16E+02
		Sb-125	<2.46E+01	0.00E+00	2.46E+01

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

Sample Point 40 [INDICATOR - ESE @ 0.6 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466838	1/2/2018 - 1/30/2018	Mn-54	<1.88E+00	0.00E+00	1.88E+00
		Co-58	<2.43E+00	0.00E+00	2.43E+00
		Fe-59	<5.17E+00	0.00E+00	5.17E+00
		Co-60	<1.71E+00	0.00E+00	1.71E+00
		Zn-65	<5.20E+00	0.00E+00	5.20E+00
		Zr-95	<4.05E+00	0.00E+00	4.05E+00
		Nb-95	<3.24E+00	0.00E+00	3.24E+00
		I-131	<1.10E+01	0.00E+00	1.10E+01
		Cs-134	<2.07E+00	0.00E+00	2.07E+00
		Cs-137	<1.97E+00	0.00E+00	1.97E+00
		BaLa-140	<6.86E+00	0.00E+00	6.86E+00
		Be-7	<1.86E+01	0.00E+00	1.86E+01
		K-40	4.11E+01	1.88E+01	2.37E+01
		H3SW	2.35E+02	1.20E+02	1.93E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
468698	1/30/2018 - 2/27/2018	Mn-54	<2.95E+00	0.00E+00	2.95E+00
		Co-58	<2.89E+00	0.00E+00	2.89E+00
		Fe-59	<5.55E+00	0.00E+00	5.55E+00
		Co-60	<2.79E+00	0.00E+00	2.79E+00
		Zn-65	<4.60E+00	0.00E+00	4.60E+00
		Zr-95	<4.18E+00	0.00E+00	4.18E+00
		Nb-95	<2.90E+00	0.00E+00	2.90E+00
		I-131	<1.11E+01	0.00E+00	1.11E+01
		Cs-134	<2.98E+00	0.00E+00	2.98E+00
		Cs-137	<2.59E+00	0.00E+00	2.59E+00
		BaLa-140	<7.56E+00	0.00E+00	7.56E+00
		Be-7	<2.40E+01	0.00E+00	2.40E+01
		K-40	5.09E+01	2.15E+01	2.59E+01
		H3SW	1.15E+03	1.42E+02	1.86E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
471758	2/27/2018 - 3/27/2018	Mn-54	<1.68E+00	0.00E+00	1.68E+00
		Co-58	<2.03E+00	0.00E+00	2.03E+00
		Fe-59	<4.14E+00	0.00E+00	4.14E+00
		Co-60	<1.97E+00	0.00E+00	1.97E+00
		Zn-65	<2.83E+00	0.00E+00	2.83E+00
		Zr-95	<3.41E+00	0.00E+00	3.41E+00
		Nb-95	<2.56E+00	0.00E+00	2.56E+00
		I-131	<1.04E+01	0.00E+00	1.04E+01
		Cs-134	<2.02E+00	0.00E+00	2.02E+00
		Cs-137	<1.65E+00	0.00E+00	1.65E+00
		BaLa-140	<5.68E+00	0.00E+00	5.68E+00
		Be-7	<1.69E+01	0.00E+00	1.69E+01
		K-40	2.56E+01	1.55E+01	2.30E+01
		H3SW	1.60E+03	1.56E+02	1.91E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
473825	3/27/2018 - 5/1/2018	Mn-54	<1.68E+00	0.00E+00	1.68E+00
		Co-58	<2.11E+00	0.00E+00	2.11E+00
		Fe-59	<4.10E+00	0.00E+00	4.10E+00
		Co-60	<1.40E+00	0.00E+00	1.40E+00
		Zn-65	<3.41E+00	0.00E+00	3.41E+00
		Zr-95	<3.21E+00	0.00E+00	3.21E+00
		Nb-95	<2.50E+00	0.00E+00	2.50E+00
		I-131	<1.17E+01	0.00E+00	1.17E+01
		Cs-134	<1.94E+00	0.00E+00	1.94E+00
		Cs-137	<1.78E+00	0.00E+00	1.78E+00



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 40 [INDICATOR - ESE @ 0.6 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
473825	3/27/2018 - 5/1/2018	BaLa-140	<4.53E+00	0.00E+00	4.53E+00
		Be-7	<1.72E+01	0.00E+00	1.72E+01
		K-40	5.00E+01	2.19E+01	3.17E+01
		H3SW	1.11E+03	1.40E+02	1.83E+02
475476	5/1/2018 - 5/29/2018	Mn-54	<2.03E+00	0.00E+00	2.03E+00
		Co-58	<2.07E+00	0.00E+00	2.07E+00
		Fe-59	<3.88E+00	0.00E+00	3.88E+00
		Co-60	<2.53E+00	0.00E+00	2.53E+00
		Zn-65	<3.29E+00	0.00E+00	3.29E+00
		Zr-95	<3.15E+00	0.00E+00	3.15E+00
		Nb-95	<2.82E+00	0.00E+00	2.82E+00
		I-131	<1.05E+01	0.00E+00	1.05E+01
		Cs-134	<1.95E+00	0.00E+00	1.95E+00
		Cs-137	<1.95E+00	0.00E+00	1.95E+00
		BaLa-140	<7.31E+00	0.00E+00	7.31E+00
		Be-7	<2.06E+01	0.00E+00	2.06E+01
		K-40	<3.47E+01	0.00E+00	3.47E+01
		H3SW	9.01E+02	1.34E+02	1.83E+02
478363	5/29/2018 - 6/26/2018	Mn-54	<2.04E+00	0.00E+00	2.04E+00
		Co-58	<2.64E+00	0.00E+00	2.64E+00
		Fe-59	<4.74E+00	0.00E+00	4.74E+00
		Co-60	<1.80E+00	0.00E+00	1.80E+00
		Zn-65	<4.53E+00	0.00E+00	4.53E+00
		Zr-95	<4.17E+00	0.00E+00	4.17E+00
		Nb-95	<2.80E+00	0.00E+00	2.80E+00
		I-131	<1.07E+01	0.00E+00	1.07E+01
		Cs-134	<2.34E+00	0.00E+00	2.34E+00
		Cs-137	<1.80E+00	0.00E+00	1.80E+00
		BaLa-140	<6.29E+00	0.00E+00	6.29E+00
		Be-7	<2.09E+01	0.00E+00	2.09E+01
		K-40	3.99E+01	1.80E+01	2.27E+01
		H3SW	4.24E+03	2.08E+02	1.90E+02
480487	6/26/2018 - 7/31/2018	Mn-54	<1.42E+00	0.00E+00	1.42E+00
		Co-58	<1.67E+00	0.00E+00	1.67E+00
		Fe-59	<3.62E+00	0.00E+00	3.62E+00
		Co-60	<1.32E+00	0.00E+00	1.32E+00
		Zn-65	<3.11E+00	0.00E+00	3.11E+00
		Zr-95	<3.34E+00	0.00E+00	3.34E+00
		Nb-95	<2.16E+00	0.00E+00	2.16E+00
		I-131	<9.41E+00	0.00E+00	9.41E+00
		Cs-134	<1.56E+00	0.00E+00	1.56E+00
		Cs-137	<1.57E+00	0.00E+00	1.57E+00
		BaLa-140	<4.87E+00	0.00E+00	4.87E+00
		Be-7	<1.39E+01	0.00E+00	1.39E+01
		K-40	3.18E+01	1.60E+01	2.37E+01
		H3SW	7.64E+03	2.58E+02	1.87E+02
482672	7/31/2018 - 8/28/2018	Mn-54	<1.78E+00	0.00E+00	1.78E+00
		Co-58	<2.08E+00	0.00E+00	2.08E+00
		Fe-59	<4.11E+00	0.00E+00	4.11E+00
		Co-60	<1.88E+00	0.00E+00	1.88E+00
		Zn-65	<3.65E+00	0.00E+00	3.65E+00
		Zr-95	<3.71E+00	0.00E+00	3.71E+00
		Nb-95	<2.64E+00	0.00E+00	2.64E+00
		I-131	<1.12E+01	0.00E+00	1.12E+01
		Cs-134	<1.81E+00	0.00E+00	1.81E+00
		Cs-137	<1.55E+00	0.00E+00	1.55E+00
		BaLa-140	<5.84E+00	0.00E+00	5.84E+00
		Be-7	<1.88E+01	0.00E+00	1.88E+01
		K-40	8.82E+01	2.42E+01	2.92E+01



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 40 [INDICATOR - ESE @ 0.6 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
482672	7/31/2018 - 8/28/2018	H3SW	8.29E+03	2.72E+02	1.91E+02
484954	8/28/2018 - 10/1/2018	Mn-54	<1.53E+00	0.00E+00	1.53E+00
		Co-58	<1.71E+00	0.00E+00	1.71E+00
		Fe-59	<3.36E+00	0.00E+00	3.36E+00
		Co-60	<1.28E+00	0.00E+00	1.28E+00
		Zn-65	<2.60E+00	0.00E+00	2.60E+00
		Zr-95	<3.13E+00	0.00E+00	3.13E+00
		Nb-95	<2.44E+00	0.00E+00	2.44E+00
		I-131	<1.04E+01	0.00E+00	1.04E+01
		Cs-134	<1.55E+00	0.00E+00	1.55E+00
		Cs-137	<1.64E+00	0.00E+00	1.64E+00
		BaLa-140	<5.17E+00	0.00E+00	5.17E+00
		Be-7	<1.46E+01	0.00E+00	1.46E+01
		K-40	3.93E+01	1.53E+01	2.04E+01
		H3SW	5.26E+03	2.31E+02	1.98E+02
487780	10/1/2018 - 10/29/2018	Mn-54	<1.13E+00	0.00E+00	1.13E+00
		Co-58	<1.35E+00	0.00E+00	1.35E+00
		Fe-59	<2.57E+00	0.00E+00	2.57E+00
		Co-60	<1.07E+00	0.00E+00	1.07E+00
		Zn-65	<2.37E+00	0.00E+00	2.37E+00
		Zr-95	<2.47E+00	0.00E+00	2.47E+00
		Nb-95	<1.72E+00	0.00E+00	1.72E+00
		I-131	<1.19E+01	0.00E+00	1.19E+01
		Cs-134	<1.24E+00	0.00E+00	1.24E+00
		Cs-137	<9.02E-01	0.00E+00	9.02E-01
		BaLa-140	<5.11E+00	0.00E+00	5.11E+00
		Be-7	<1.22E+01	0.00E+00	1.22E+01
		K-40	7.49E+01	1.44E+01	1.63E+01
		H3SW	2.96E+03	1.84E+02	1.82E+02
489441	10/29/2018 - 11/27/2018	Mn-54	<2.00E+00	0.00E+00	2.00E+00
		Co-58	<2.39E+00	0.00E+00	2.39E+00
		Fe-59	<4.13E+00	0.00E+00	4.13E+00
		Co-60	<1.96E+00	0.00E+00	1.96E+00
		Zn-65	<3.78E+00	0.00E+00	3.78E+00
		Zr-95	<3.00E+00	0.00E+00	3.00E+00
		Nb-95	<2.54E+00	0.00E+00	2.54E+00
		I-131	<1.05E+01	0.00E+00	1.05E+01
		Cs-134	<2.13E+00	0.00E+00	2.13E+00
		Cs-137	<1.94E+00	0.00E+00	1.94E+00
		BaLa-140	<6.54E+00	0.00E+00	6.54E+00
		Be-7	<1.88E+01	0.00E+00	1.88E+01
		K-40	3.39E+01	1.62E+01	2.11E+01
		H3SW	2.10E+03	1.67E+02	1.85E+02
491409	11/27/2018 - 12/26/2018	Mn-54	<9.70E-01	0.00E+00	9.70E-01
		Co-58	<1.13E+00	0.00E+00	1.13E+00
		Fe-59	<2.57E+00	0.00E+00	2.57E+00
		Co-60	<9.46E-01	0.00E+00	9.46E-01
		Zn-65	<2.19E+00	0.00E+00	2.19E+00
		Zr-95	<1.86E+00	0.00E+00	1.86E+00
		Nb-95	<1.53E+00	0.00E+00	1.53E+00
		I-131	<1.03E+01	0.00E+00	1.03E+01
		Cs-134	<1.01E+00	0.00E+00	1.01E+00
		Cs-137	<9.22E-01	0.00E+00	9.22E-01
		BaLa-140	<3.97E+00	0.00E+00	3.97E+00
		Be-7	<1.02E+01	0.00E+00	1.02E+01
		K-40	3.40E+01	9.96E+00	1.30E+01
		H3SW	8.81E+02	1.36E+02	1.87E+02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 41 [CONTROL - N @ 8 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
466839	1/2/2018 - 1/30/2018	Mn-54	<1.84E+00	0.00E+00	1.84E+00
		Co-58	<2.36E+00	0.00E+00	2.36E+00
		Fe-59	<5.77E+00	0.00E+00	5.77E+00
		Co-60	<1.76E+00	0.00E+00	1.76E+00
		Zn-65	<3.28E+00	0.00E+00	3.28E+00
		Zr-95	<3.94E+00	0.00E+00	3.94E+00
		Nb-95	<2.96E+00	0.00E+00	2.96E+00
		I-131	<1.18E+01	0.00E+00	1.18E+01
		Cs-134	<3.06E+00	0.00E+00	3.06E+00
		Cs-137	<1.96E+00	0.00E+00	1.96E+00
		BaLa-140	<8.13E+00	0.00E+00	8.13E+00
		Be-7	4.79E+00	1.56E+01	2.71E+01
		K-40	<3.68E+01	0.00E+00	3.68E+01
		H3SW	<-2.0E+02	0.00E+00	1.93E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
468699	1/30/2018 - 2/27/2018	Mn-54	<1.85E+00	0.00E+00	1.85E+00
		Co-58	<2.08E+00	0.00E+00	2.08E+00
		Fe-59	<4.83E+00	0.00E+00	4.83E+00
		Co-60	<1.50E+00	0.00E+00	1.50E+00
		Zn-65	<3.75E+00	0.00E+00	3.75E+00
		Zr-95	<3.76E+00	0.00E+00	3.76E+00
		Nb-95	<2.84E+00	0.00E+00	2.84E+00
		I-131	<9.99E+00	0.00E+00	9.99E+00
		Cs-134	<2.10E+00	0.00E+00	2.10E+00
		Cs-137	<1.80E+00	0.00E+00	1.80E+00
		BaLa-140	<6.83E+00	0.00E+00	6.83E+00
		Be-7	<1.87E+01	0.00E+00	1.87E+01
		K-40	5.81E+01	2.06E+01	2.55E+01
		H3SW	<-1.2E+02	0.00E+00	1.86E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
471759	2/27/2018 - 3/27/2018	Mn-54	<1.54E+00	0.00E+00	1.54E+00
		Co-58	<1.70E+00	0.00E+00	1.70E+00
		Fe-59	<3.75E+00	0.00E+00	3.75E+00
		Co-60	<1.42E+00	0.00E+00	1.42E+00
		Zn-65	<2.73E+00	0.00E+00	2.73E+00
		Zr-95	<3.10E+00	0.00E+00	3.10E+00
		Nb-95	<2.78E+00	0.00E+00	2.78E+00
		I-131	<1.02E+01	0.00E+00	1.02E+01
		Cs-134	<1.67E+00	0.00E+00	1.67E+00
		Cs-137	<1.66E+00	0.00E+00	1.66E+00
		BaLa-140	<4.41E+00	0.00E+00	4.41E+00
		Be-7	<1.39E+01	0.00E+00	1.39E+01
		K-40	5.06E+01	1.90E+01	2.61E+01
		H3SW	<-1.1E+02	0.00E+00	1.91E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
473826	3/27/2018 - 5/1/2018	Mn-54	<1.90E+00	0.00E+00	1.90E+00
		Co-58	<1.91E+00	0.00E+00	1.91E+00
		Fe-59	<4.84E+00	0.00E+00	4.84E+00
		Co-60	<1.63E+00	0.00E+00	1.63E+00
		Zn-65	<4.51E+00	0.00E+00	4.51E+00
		Zr-95	<3.60E+00	0.00E+00	3.60E+00
		Nb-95	<2.60E+00	0.00E+00	2.60E+00
		I-131	<1.19E+01	0.00E+00	1.19E+01
		Cs-134	<2.11E+00	0.00E+00	2.11E+00
		Cs-137	<1.81E+00	0.00E+00	1.81E+00
		BaLa-140	<6.12E+00	0.00E+00	6.12E+00
		Be-7	<1.63E+01	0.00E+00	1.63E+01
		K-40	3.67E+01	1.66E+01	2.22E+01
		H3SW	<-3.0E+01	0.00E+00	1.83E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
475477	5/1/2018 - 5/29/2018	Mn-54	<2.50E+00	0.00E+00	2.50E+00
		Co-58	<3.17E+00	0.00E+00	3.17E+00
		Fe-59	<4.31E+00	0.00E+00	4.31E+00



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 41 [CONTROL - N @ 8 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA		
475477	5/1/2018 - 5/29/2018	Co-60	<3.13E+00	0.00E+00	3.13E+00		
		Zn-65	<4.84E+00	0.00E+00	4.84E+00		
		Zr-95	<4.67E+00	0.00E+00	4.67E+00		
		Nb-95	<3.79E+00	0.00E+00	3.79E+00		
		I-131	<1.19E+01	0.00E+00	1.19E+01		
		Cs-134	<2.76E+00	0.00E+00	2.76E+00		
		Cs-137	<2.87E+00	0.00E+00	2.87E+00		
		BaLa-140	<7.09E+00	0.00E+00	7.09E+00		
		Be-7	<2.61E+01	0.00E+00	2.61E+01		
		K-40	4.95E+01	2.72E+01	3.80E+01		
		H3SW	<1.65E+01	0.00E+00	1.83E+02		
		478364	5/29/2018 - 6/26/2018	Mn-54	<2.39E+00	0.00E+00	2.39E+00
				Co-58	<2.92E+00	0.00E+00	2.92E+00
Fe-59	<5.67E+00			0.00E+00	5.67E+00		
Co-60	<2.87E+00			0.00E+00	2.87E+00		
Zn-65	<5.01E+00			0.00E+00	5.01E+00		
Zr-95	<4.26E+00			0.00E+00	4.26E+00		
Nb-95	<3.69E+00			0.00E+00	3.69E+00		
I-131	<1.20E+01			0.00E+00	1.20E+01		
Cs-134	<3.08E+00			0.00E+00	3.08E+00		
Cs-137	<2.49E+00			0.00E+00	2.49E+00		
BaLa-140	<7.64E+00			0.00E+00	7.64E+00		
Be-7	<2.67E+01			0.00E+00	2.67E+01		
K-40	3.46E+01			2.26E+01	3.29E+01		
H3SW	<-2.1E+01	0.00E+00	1.92E+02				
480488	6/26/2018 - 7/31/2018	Mn-54	<1.31E+00	0.00E+00	1.31E+00		
		Co-58	<1.69E+00	0.00E+00	1.69E+00		
		Fe-59	<3.15E+00	0.00E+00	3.15E+00		
		Co-60	<1.51E+00	0.00E+00	1.51E+00		
		Zn-65	<2.80E+00	0.00E+00	2.80E+00		
		Zr-95	<2.59E+00	0.00E+00	2.59E+00		
		Nb-95	<2.05E+00	0.00E+00	2.05E+00		
		I-131	<1.02E+01	0.00E+00	1.02E+01		
		Cs-134	<1.68E+00	0.00E+00	1.68E+00		
		Cs-137	<1.37E+00	0.00E+00	1.37E+00		
		BaLa-140	<5.81E+00	0.00E+00	5.81E+00		
		Be-7	<1.38E+01	0.00E+00	1.38E+01		
		K-40	5.91E+01	1.53E+01	1.67E+01		
H3SW	<-1.3E+01	0.00E+00	1.86E+02				
482673	7/31/2018 - 8/28/2018	Mn-54	<1.84E+00	0.00E+00	1.84E+00		
		Co-58	<1.69E+00	0.00E+00	1.69E+00		
		Fe-59	<3.66E+00	0.00E+00	3.66E+00		
		Co-60	<2.04E+00	0.00E+00	2.04E+00		
		Zn-65	<3.71E+00	0.00E+00	3.71E+00		
		Zr-95	<3.39E+00	0.00E+00	3.39E+00		
		Nb-95	<2.90E+00	0.00E+00	2.90E+00		
		I-131	<1.07E+01	0.00E+00	1.07E+01		
		Cs-134	<2.28E+00	0.00E+00	2.28E+00		
		Cs-137	<1.93E+00	0.00E+00	1.93E+00		
		BaLa-140	<7.86E+00	0.00E+00	7.86E+00		
		Be-7	<2.07E+01	0.00E+00	2.07E+01		
		K-40	3.02E+01	1.88E+01	2.79E+01		
H3SW	<-4.2E+01	0.00E+00	1.91E+02				
484955	8/28/2018 - 10/1/2018	Mn-54	<1.62E+00	0.00E+00	1.62E+00		
		Co-58	<1.94E+00	0.00E+00	1.94E+00		
		Fe-59	<3.66E+00	0.00E+00	3.66E+00		
		Co-60	<1.55E+00	0.00E+00	1.55E+00		
		Zn-65	<3.31E+00	0.00E+00	3.31E+00		
		Zr-95	<3.33E+00	0.00E+00	3.33E+00		



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 41 [CONTROL - N @ 8 miles]

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
484955	8/28/2018 - 10/1/2018	Nb-95	<2.62E+00	0.00E+00	2.62E+00
		I-131	<1.19E+01	0.00E+00	1.19E+01
		Cs-134	<1.93E+00	0.00E+00	1.93E+00
		Cs-137	<1.43E+00	0.00E+00	1.43E+00
		BaLa-140	<6.84E+00	0.00E+00	6.84E+00
		Be-7	<1.61E+01	0.00E+00	1.61E+01
		K-40	<2.68E+01	0.00E+00	2.68E+01
		H3SW	<-1.3E+02	0.00E+00	1.99E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
487781	10/1/2018 - 10/29/2018	Mn-54	<1.67E+00	0.00E+00	1.67E+00
		Co-58	<1.86E+00	0.00E+00	1.86E+00
		Fe-59	<3.83E+00	0.00E+00	3.83E+00
		Co-60	<1.67E+00	0.00E+00	1.67E+00
		Zn-65	<2.98E+00	0.00E+00	2.98E+00
		Zr-95	<3.46E+00	0.00E+00	3.46E+00
		Nb-95	<2.76E+00	0.00E+00	2.76E+00
		I-131	<1.11E+01	0.00E+00	1.11E+01
		Cs-134	<2.06E+00	0.00E+00	2.06E+00
		Cs-137	<1.45E+00	0.00E+00	1.45E+00
		BaLa-140	<5.28E+00	0.00E+00	5.28E+00
		Be-7	<1.66E+01	0.00E+00	1.66E+01
		K-40	2.13E+01	1.49E+01	2.26E+01
		H3SW	<4.81E+01	0.00E+00	1.81E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
489442	10/29/2018 - 11/27/2018	Mn-54	<2.11E+00	0.00E+00	2.11E+00
		Co-58	<2.18E+00	0.00E+00	2.18E+00
		Fe-59	<5.16E+00	0.00E+00	5.16E+00
		Co-60	<2.18E+00	0.00E+00	2.18E+00
		Zn-65	<4.46E+00	0.00E+00	4.46E+00
		Zr-95	<4.56E+00	0.00E+00	4.56E+00
		Nb-95	<3.35E+00	0.00E+00	3.35E+00
		I-131	<1.19E+01	0.00E+00	1.19E+01
		Cs-134	<2.58E+00	0.00E+00	2.58E+00
		Cs-137	<1.90E+00	0.00E+00	1.90E+00
		BaLa-140	<6.73E+00	0.00E+00	6.73E+00
		Be-7	<2.03E+01	0.00E+00	2.03E+01
		K-40	5.37E+01	2.09E+01	2.66E+01
		H3SW	<2.44E+01	0.00E+00	1.86E+02

Sample ID:	Sample Dates:	Nuclide	Activity	2 Sigma Error	MDA
491410	11/27/2018 - 12/26/2018	Mn-54	<8.36E-01	0.00E+00	8.36E-01
		Co-58	<9.09E-01	0.00E+00	9.09E-01
		Fe-59	<2.27E+00	0.00E+00	2.27E+00
		Co-60	<7.27E-01	0.00E+00	7.27E-01
		Zn-65	<1.75E+00	0.00E+00	1.75E+00
		Zr-95	<1.99E+00	0.00E+00	1.99E+00
		Nb-95	<1.40E+00	0.00E+00	1.40E+00
		I-131	<8.86E+00	0.00E+00	8.86E+00
		Cs-134	<8.99E-01	0.00E+00	8.99E-01
		Cs-137	<8.26E-01	0.00E+00	8.26E-01
		BaLa-140	<3.72E+00	0.00E+00	3.72E+00
		Be-7	2.40E+00	6.51E+00	1.09E+01
		K-40	3.35E+01	1.02E+01	1.44E+01
		H3SW	<-1.6E+02	0.00E+00	1.88E+02

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

Sample Point 1 [CONTROL - ESE @ 24.4 miles]

TLD RING TLD_CTRL

Sample ID:	Sample Dates:	Nuclide	Activity
465837	1/18/2018 - 4/19/2018	mR/Std Qtr	19.66
472834	4/19/2018 - 7/19/2018	mR/Std Qtr	18.46



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 1 [CONTROL - ESE @ 24.4 miles]

TLD RING TLD_CTRL

Sample ID:	Sample Dates:	Nuclide	Activity
479100	7/19/2018 - 10/17/2018	mR/Std Qtr	16.99
486023	10/17/2018 - 1/17/2019	mR/Std Qtr	19.70

Sample Point 2 [INDICATOR - S @ 0.2 miles]

TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
465848	1/18/2018 - 4/19/2018	mR/Std Qtr	18.91
472845	4/19/2018 - 7/19/2018	mR/Std Qtr	14.07
479111	7/19/2018 - 10/17/2018	mR/Std Qtr	13.64
486034	10/17/2018 - 1/17/2019	mR/Std Qtr	17.21

Sample Point 3 [INDICATOR - N @ 0.5 miles]

TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
465859	1/18/2018 - 4/19/2018	mR/Std Qtr	17.76
472856	4/19/2018 - 7/19/2018	mR/Std Qtr	15.15
479122	7/19/2018 - 10/17/2018	mR/Std Qtr	15.25
486045	10/17/2018 - 1/17/2019	mR/Std Qtr	18.28

Sample Point 4 [INDICATOR - ESE @ 0.4 miles]

TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
465870	1/18/2018 - 4/19/2018	mR/Std Qtr	16.05
472867	4/19/2018 - 7/19/2018	mR/Std Qtr	12.65
479133	7/19/2018 - 10/17/2018	mR/Std Qtr	11.75
486056	10/17/2018 - 1/17/2019	mR/Std Qtr	13.62

Sample Point 5 [INDICATOR - ENE @ 0.9 miles]

TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
465871	1/18/2018 - 4/19/2018	mR/Std Qtr	17.32
472868	4/19/2018 - 7/19/2018	mR/Std Qtr	14.29
479134	7/19/2018 - 10/17/2018	mR/Std Qtr	14.31
486057	10/17/2018 - 1/17/2019	mR/Std Qtr	15.61

Sample Point 6 [INDICATOR - SSW @ 0.2 miles]

TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
465874	1/18/2018 - 4/19/2018	mR/Std Qtr	17.63
472871	4/19/2018 - 7/19/2018	mR/Std Qtr	14.18
479137	7/19/2018 - 10/17/2018	mR/Std Qtr	15.09
486060	10/17/2018 - 1/17/2019	mR/Std Qtr	19.27

ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 7 [INDICATOR - ESE @ 6.4 miles]

TLD RING TLD_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
465877	1/18/2018 - 4/19/2018	mR/Std Qtr	19.33
472874	4/19/2018 - 7/19/2018	mR/Std Qtr	14.68
479140	7/19/2018 - 10/17/2018	mR/Std Qtr	13.25
486063	10/17/2018 - 1/17/2019	mR/Std Qtr	16.28

Sample Point 8 [INDICATOR - SSE @ 0.8 miles]

TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
465878	1/18/2018 - 4/19/2018	mR/Std Qtr	13.54
472875	4/19/2018 - 7/19/2018	mR/Std Qtr	11.30
479141	7/19/2018 - 10/17/2018	mR/Std Qtr	12.09
486064	10/17/2018 - 1/17/2019	mR/Std Qtr	15.56

Sample Point 9 [INDICATOR - S @ 1 miles]

TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
465879	1/18/2018 - 4/19/2018	mR/Std Qtr	15.03
472876	4/19/2018 - 7/19/2018	mR/Std Qtr	12.22
479142	7/19/2018 - 10/17/2018	mR/Std Qtr	11.73
486065	10/17/2018 - 1/17/2019	mR/Std Qtr	14.09

Sample Point 10 [INDICATOR - WSW @ 1 miles]

TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
465838	1/18/2018 - 4/19/2018	mR/Std Qtr	16.28
472835	4/19/2018 - 7/19/2018	mR/Std Qtr	14.69
479101	7/19/2018 - 10/17/2018	mR/Std Qtr	13.85
486024	10/17/2018 - 1/17/2019	mR/Std Qtr	15.42

Sample Point 11 [INDICATOR - SW @ 1 miles]

TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
465839	1/18/2018 - 4/19/2018	mR/Std Qtr	16.97
472836	4/19/2018 - 7/19/2018	mR/Std Qtr	13.11
479102	7/19/2018 - 10/17/2018	mR/Std Qtr	12.28
486025	10/17/2018 - 1/17/2019	mR/Std Qtr	14.95

Sample Point 12 [INDICATOR - SSW @ 1.2 miles]

TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
465840	1/18/2018 - 4/19/2018	mR/Std Qtr	22.07
472837	4/19/2018 - 7/19/2018	mR/Std Qtr	18.14



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 12 [INDICATOR - SSW @ 1.2 miles]

TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
479103	7/19/2018 - 10/17/2018	mR/Std Qtr	17.64
486026	10/17/2018 - 1/17/2019	mR/Std Qtr	21.26

Sample Point 13 [INDICATOR - W @ 0.7 miles]

TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
465841	1/18/2018 - 4/19/2018	mR/Std Qtr	16.99
472838	4/19/2018 - 7/19/2018	mR/Std Qtr	16.63
479104	7/19/2018 - 10/17/2018	mR/Std Qtr	14.41
486027	10/17/2018 - 1/17/2019	mR/Std Qtr	19.06

Sample Point 14 [INDICATOR - WNW @ 0.8 miles]

TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
465842	1/18/2018 - 4/19/2018	mR/Std Qtr	22.41
472839	4/19/2018 - 7/19/2018	mR/Std Qtr	18.15
479105	7/19/2018 - 10/17/2018	mR/Std Qtr	17.23
486028	10/17/2018 - 1/17/2019	mR/Std Qtr	19.21

Sample Point 15 [INDICATOR - NW @ 0.7 miles]

TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
465843	1/18/2018 - 4/19/2018	mR/Std Qtr	17.90
472840	4/19/2018 - 7/19/2018	mR/Std Qtr	13.59
479106	7/19/2018 - 10/17/2018	mR/Std Qtr	13.45
486029	10/17/2018 - 1/17/2019	mR/Std Qtr	14.63

Sample Point 16 [INDICATOR - NNW @ 1 miles]

TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
465844	1/18/2018 - 4/19/2018	mR/Std Qtr	17.54
472841	4/19/2018 - 7/19/2018	mR/Std Qtr	15.26
479107	7/19/2018 - 10/17/2018	mR/Std Qtr	11.88
486030	10/17/2018 - 1/17/2019	mR/Std Qtr	16.23

Sample Point 17 [INDICATOR - N @ 1.2 miles]

TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
465845	1/18/2018 - 4/19/2018	mR/Std Qtr	21.18
472842	4/19/2018 - 7/19/2018	mR/Std Qtr	15.68
479108	7/19/2018 - 10/17/2018	mR/Std Qtr	17.54
486031	10/17/2018 - 1/17/2019	mR/Std Qtr	19.46

ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 18 [INDICATOR - SE @ 0.7 miles]

TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
465846	1/18/2018 - 4/19/2018	mR/Std Qtr	20.19
472843	4/19/2018 - 7/19/2018	mR/Std Qtr	17.44
479109	7/19/2018 - 10/17/2018	mR/Std Qtr	16.47
486032	10/17/2018 - 1/17/2019	mR/Std Qtr	18.18

Sample Point 19 [INDICATOR - E @ 1 miles]

TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
465847	1/18/2018 - 4/19/2018	mR/Std Qtr	15.76
472844	4/19/2018 - 7/19/2018	mR/Std Qtr	14.51
479110	7/19/2018 - 10/17/2018	mR/Std Qtr	14.95
486033	10/17/2018 - 1/17/2019	mR/Std Qtr	17.42

Sample Point 20 [INDICATOR - ENE @ 1 miles]

TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
465849	1/18/2018 - 4/19/2018	mR/Std Qtr	17.23
472846	4/19/2018 - 7/19/2018	mR/Std Qtr	14.31
479112	7/19/2018 - 10/17/2018	mR/Std Qtr	12.96
486035	10/17/2018 - 1/17/2019	mR/Std Qtr	17.07

Sample Point 21 [INDICATOR - NE @ 1.4 miles]

TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
465850	1/18/2018 - 4/19/2018	mR/Std Qtr	17.22
472847	4/19/2018 - 7/19/2018	mR/Std Qtr	15.15
479113	7/19/2018 - 10/17/2018	mR/Std Qtr	14.18
486036	10/17/2018 - 1/17/2019	mR/Std Qtr	14.71

Sample Point 22 [INDICATOR - NNE @ 1.7 miles]

TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
465851	1/18/2018 - 4/19/2018	mR/Std Qtr	18.38
472848	4/19/2018 - 7/19/2018	mR/Std Qtr	14.65
479114	7/19/2018 - 10/17/2018	mR/Std Qtr	15.26
486037	10/17/2018 - 1/17/2019	mR/Std Qtr	15.46

Sample Point 23 [INDICATOR - ESE @ 1 miles]

TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
465852	1/18/2018 - 4/19/2018	mR/Std Qtr	18.67
472849	4/19/2018 - 7/19/2018	mR/Std Qtr	16.95



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 23 [INDICATOR - ESE @ 1 miles]

TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
479115	7/19/2018 - 10/17/2018	mR/Std Qtr	16.83
486038	10/17/2018 - 1/17/2019	mR/Std Qtr	17.77

Sample Point 24 [INDICATOR - NW @ 4.6 miles]

TLD RING TLD_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
465853	1/18/2018 - 4/19/2018	mR/Std Qtr	23.85
472850	4/19/2018 - 7/19/2018	mR/Std Qtr	19.53
479116	7/19/2018 - 10/17/2018	mR/Std Qtr	19.66
486039	10/17/2018 - 1/17/2019	mR/Std Qtr	21.33

Sample Point 25 [INDICATOR - NNW @ 4 miles]

TLD RING TLD_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
465854	1/18/2018 - 4/19/2018	mR/Std Qtr	19.83
472851	4/19/2018 - 7/19/2018	mR/Std Qtr	15.70
479117	7/19/2018 - 10/17/2018	mR/Std Qtr	14.87
486040	10/17/2018 - 1/17/2019	mR/Std Qtr	19.09

Sample Point 26 [INDICATOR - N @ 5 miles]

TLD RING TLD_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
465855	1/18/2018 - 4/19/2018	mR/Std Qtr	17.26
472852	4/19/2018 - 7/19/2018	mR/Std Qtr	14.62
479118	7/19/2018 - 10/17/2018	mR/Std Qtr	14.74
486041	10/17/2018 - 1/17/2019	mR/Std Qtr	16.08

Sample Point 27 [INDICATOR - NNE @ 5.4 miles]

TLD RING TLD_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
465856	1/18/2018 - 4/19/2018	mR/Std Qtr	15.91
472853	4/19/2018 - 7/19/2018	mR/Std Qtr	13.11
479119	7/19/2018 - 10/17/2018	mR/Std Qtr	11.49
486042	10/17/2018 - 1/17/2019	mR/Std Qtr	15.22

Sample Point 28 [INDICATOR - NE @ 4.3 miles]

TLD RING TLD_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
465857	1/18/2018 - 4/19/2018	mR/Std Qtr	22.25
472854	4/19/2018 - 7/19/2018	mR/Std Qtr	18.34
479120	7/19/2018 - 10/17/2018	mR/Std Qtr	17.94
486043	10/17/2018 - 1/17/2019	mR/Std Qtr	19.72

ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 29 [INDICATOR - ENE @ 4 miles]

TLD RING TLD_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
465858	1/18/2018 - 4/19/2018	mR/Std Qtr	14.24
472855	4/19/2018 - 7/19/2018	mR/Std Qtr	11.36
479121	7/19/2018 - 10/17/2018	mR/Std Qtr	12.19
486044	10/17/2018 - 1/17/2019	mR/Std Qtr	14.71

Sample Point 30 [INDICATOR - E @ 4.4 miles]

TLD RING TLD_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
465860	1/18/2018 - 4/19/2018	mR/Std Qtr	18.11
472857	4/19/2018 - 7/19/2018	mR/Std Qtr	17.52
479123	7/19/2018 - 10/17/2018	mR/Std Qtr	16.12
486046	10/17/2018 - 1/17/2019	mR/Std Qtr	18.55

Sample Point 31 [INDICATOR - ESE @ 4.6 miles]

TLD RING TLD_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
465861	1/18/2018 - 4/19/2018	mR/Std Qtr	18.19
472858	4/19/2018 - 7/19/2018	mR/Std Qtr	19.06
479124	7/19/2018 - 10/17/2018	mR/Std Qtr	15.08
486047	10/17/2018 - 1/17/2019	mR/Std Qtr	18.74

Sample Point 32 [INDICATOR - SE @ 4 miles]

TLD RING TLD_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
465862	1/18/2018 - 4/19/2018	mR/Std Qtr	17.70
472859	4/19/2018 - 7/19/2018	mR/Std Qtr	15.24
479125	7/19/2018 - 10/17/2018	mR/Std Qtr	15.66
486048	10/17/2018 - 1/17/2019	mR/Std Qtr	18.27

Sample Point 33 [INDICATOR - SSE @ 4.5 miles]

TLD RING TLD_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
465863	1/18/2018 - 4/19/2018	mR/Std Qtr	20.54
472860	4/19/2018 - 7/19/2018	mR/Std Qtr	16.06
479126	7/19/2018 - 10/17/2018	mR/Std Qtr	16.11
486049	10/17/2018 - 1/17/2019	mR/Std Qtr	18.78

Sample Point 34 [INDICATOR - S @ 4.7 miles]

TLD RING TLD_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
465864	1/18/2018 - 4/19/2018	mR/Std Qtr	16.29
472861	4/19/2018 - 7/19/2018	mR/Std Qtr	10.55

ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 34 [INDICATOR - S @ 4.7 miles]

TLD RING TLD_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
479127	7/19/2018 - 10/17/2018	mR/Std Qtr	11.90
486050	10/17/2018 - 1/17/2019	mR/Std Qtr	13.76

Sample Point 35 [INDICATOR - SSW @ 4.5 miles]

TLD RING TLD_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
472862	4/19/2018 - 7/19/2018	mR/Std Qtr	21.46
479128	7/19/2018 - 10/17/2018	mR/Std Qtr	21.48
486051	10/17/2018 - 1/17/2019	mR/Std Qtr	25.54

Sample Point 36 [INDICATOR - SW @ 5 miles]

TLD RING TLD_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
465866	1/18/2018 - 4/19/2018	mR/Std Qtr	23.15
472863	4/19/2018 - 7/19/2018	mR/Std Qtr	20.14
479129	7/19/2018 - 10/17/2018	mR/Std Qtr	21.24
486052	10/17/2018 - 1/17/2019	mR/Std Qtr	24.39

Sample Point 37 [INDICATOR - WSW @ 5 miles]

TLD RING TLD_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
465867	1/18/2018 - 4/19/2018	mR/Std Qtr	27.04
472864	4/19/2018 - 7/19/2018	mR/Std Qtr	22.10
479130	7/19/2018 - 10/17/2018	mR/Std Qtr	22.06
486053	10/17/2018 - 1/17/2019	mR/Std Qtr	25.58

Sample Point 38 [INDICATOR - W @ 4.9 miles]

TLD RING TLD_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
465868	1/18/2018 - 4/19/2018	mR/Std Qtr	18.42
472865	4/19/2018 - 7/19/2018	mR/Std Qtr	16.77
479131	7/19/2018 - 10/17/2018	mR/Std Qtr	17.17
486054	10/17/2018 - 1/17/2019	mR/Std Qtr	18.76

Sample Point 39 [INDICATOR - WNW @ 5.1 miles]

TLD RING TLD_OUTER

Sample ID:	Sample Dates:	Nuclide	Activity
465869	1/18/2018 - 4/19/2018	mR/Std Qtr	18.44
472866	4/19/2018 - 7/19/2018	mR/Std Qtr	16.91
479132	7/19/2018 - 10/17/2018	mR/Std Qtr	15.71
486055	10/17/2018 - 1/17/2019	mR/Std Qtr	17.27



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 55 [INDICATOR - SSE @ 0.2 miles]

TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
465872	1/18/2018 - 4/19/2018	mR/Std Qtr	18.22
472869	4/19/2018 - 7/19/2018	mR/Std Qtr	15.07
479135	7/19/2018 - 10/17/2018	mR/Std Qtr	14.75
486058	10/17/2018 - 1/17/2019	mR/Std Qtr	17.31

Sample Point 56 [INDICATOR - NNW @ 0.4 miles]

TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
465873	1/18/2018 - 4/19/2018	mR/Std Qtr	18.13
472870	4/19/2018 - 7/19/2018	mR/Std Qtr	16.48
479136	7/19/2018 - 10/17/2018	mR/Std Qtr	13.87
486059	10/17/2018 - 1/17/2019	mR/Std Qtr	16.16

Sample Point 61 [INDICATOR - WSW @ 0.3 miles]

TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
465875	1/18/2018 - 4/19/2018	mR/Std Qtr	23.78
472872	4/19/2018 - 7/19/2018	mR/Std Qtr	19.73
479138	7/19/2018 - 10/17/2018	mR/Std Qtr	18.28
486061	10/17/2018 - 1/17/2019	mR/Std Qtr	24.53

Sample Point 65 [INDICATOR - WNW @ 0.3 miles]

TLD RING TLD_INNER

Sample ID:	Sample Dates:	Nuclide	Activity
465876	1/18/2018 - 4/19/2018	mR/Std Qtr	26.82
472873	4/19/2018 - 7/19/2018	mR/Std Qtr	20.06
479139	7/19/2018 - 10/17/2018	mR/Std Qtr	19.75
486062	10/17/2018 - 1/17/2019	mR/Std Qtr	22.47

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

Sample Point 50 [INDICATOR - SSE @ 0 miles]

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
474941	5/10/2018 - 5/10/2018		Mn-54	<2.40E+01	0.00E+00	2.40E+01
			Co-58	<3.14E+01	0.00E+00	3.14E+01
			Fe-59	<6.44E+01	0.00E+00	6.44E+01
			Co-60	<3.24E+01	0.00E+00	3.24E+01
			Zn-65	<8.20E+01	0.00E+00	8.20E+01
			Zr-95	<5.11E+01	0.00E+00	5.11E+01
			Nb-95	<3.33E+01	0.00E+00	3.33E+01
			I-131	<4.72E+01	0.00E+00	4.72E+01
			Cs-134	<3.04E+01	0.00E+00	3.04E+01
			Cs-137	<3.86E+01	0.00E+00	3.86E+01
			BaLa-140	<5.56E+01	0.00E+00	5.56E+01
			Be-7	1.12E+03	3.13E+02	3.64E+02
			K-40	4.91E+03	8.09E+02	5.14E+02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 50 [INDICATOR - SSE @ 0 miles]

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
477427	6/15/2018 - 6/15/2018	MIXEDBLV	Mn-54	<6.86E+00	0.00E+00	6.86E+00
			Co-58	1.81E+01	4.07E+00	7.56E+00
			Fe-59	<1.61E+01	0.00E+00	1.61E+01
			Co-60	<5.72E+00	0.00E+00	5.72E+00
			Zn-65	<1.32E+01	0.00E+00	1.32E+01
			Zr-95	<2.39E+01	0.00E+00	2.39E+01
			Nb-95	<9.76E+00	0.00E+00	9.76E+00
			I-131	<4.77E+01	0.00E+00	4.77E+01
			Cs-134	<8.52E+00	0.00E+00	8.52E+00
			Cs-137	1.51E+01	6.68E+00	1.05E+01
			BaLa-140	<2.01E+01	0.00E+00	2.01E+01
			Be-7	6.83E+02	8.56E+01	8.29E+01
			K-40	7.03E+03	5.83E+02	8.39E+01
			479244	7/12/2018 - 7/12/2018	MIXEDBLV	Mn-54
Co-58	<2.18E+01	0.00E+00				2.18E+01
Fe-59	<4.16E+01	0.00E+00				4.16E+01
Co-60	<2.27E+01	0.00E+00				2.27E+01
Zn-65	<4.22E+01	0.00E+00				4.22E+01
Zr-95	<4.08E+01	0.00E+00				4.08E+01
Nb-95	<2.34E+01	0.00E+00				2.34E+01
I-131	<4.12E+01	0.00E+00				4.12E+01
Cs-134	<2.43E+01	0.00E+00				2.43E+01
Cs-137	<1.98E+01	0.00E+00				1.98E+01
BaLa-140	<3.73E+01	0.00E+00				3.73E+01
Be-7	3.87E+02	1.88E+02				2.83E+02
K-40	4.27E+03	5.65E+02				3.36E+02
482011	8/9/2018 - 8/9/2018	MIXEDBLV				Mn-54
			Co-58	<1.95E+01	0.00E+00	1.95E+01
			Fe-59	<4.49E+01	0.00E+00	4.49E+01
			Co-60	<1.95E+01	0.00E+00	1.95E+01
			Zn-65	<4.82E+01	0.00E+00	4.82E+01
			Zr-95	<4.12E+01	0.00E+00	4.12E+01
			Nb-95	<2.37E+01	0.00E+00	2.37E+01
			I-131	<4.73E+01	0.00E+00	4.73E+01
			Cs-134	<3.10E+01	0.00E+00	3.10E+01
			Cs-137	<2.48E+01	0.00E+00	2.48E+01
			BaLa-140	<2.80E+01	0.00E+00	2.80E+01
			Be-7	1.17E+03	2.37E+02	2.49E+02
			K-40	5.85E+03	7.14E+02	3.10E+02
			484071	9/17/2018 - 9/17/2018	MIXEDBLV	Mn-54
Co-58	<2.46E+01	0.00E+00				2.46E+01
Fe-59	<4.96E+01	0.00E+00				4.96E+01
Co-60	<2.92E+01	0.00E+00				2.92E+01
Zn-65	<4.58E+01	0.00E+00				4.58E+01
Zr-95	<4.70E+01	0.00E+00				4.70E+01
Nb-95	<2.52E+01	0.00E+00				2.52E+01
I-131	<4.37E+01	0.00E+00				4.37E+01
Cs-134	<3.02E+01	0.00E+00				3.02E+01
Cs-137	<2.09E+01	0.00E+00				2.09E+01
BaLa-140	<3.58E+01	0.00E+00				3.58E+01
Be-7	9.96E+02	2.43E+02				2.67E+02
K-40	3.63E+03	5.78E+02				2.96E+02
486213	10/10/2018 - 10/10/2018	MIXEDBLV				Mn-54
			Co-58	<2.82E+01	0.00E+00	2.82E+01
			Fe-59	<4.64E+01	0.00E+00	4.64E+01
			Co-60	<2.90E+01	0.00E+00	2.90E+01
			Zn-65	<5.14E+01	0.00E+00	5.14E+01
			Zr-95	<5.56E+01	0.00E+00	5.56E+01
			Nb-95	<3.20E+01	0.00E+00	3.20E+01



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 50 [INDICATOR - SSE @ 0 miles]

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
486213	10/10/2018 - 10/10/2018		I-131	<4.51E+01	0.00E+00	4.51E+01
			Cs-134	<3.00E+01	0.00E+00	3.00E+01
			Cs-137	<2.75E+01	0.00E+00	2.75E+01
			BaLa-140	<3.55E+01	0.00E+00	3.55E+01
			Be-7	1.49E+03	3.44E+02	3.71E+02
			K-40	2.61E+03	5.18E+02	2.19E+02

Sample Point 51 [INDICATOR - SSW @ 0 miles]

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
474942	5/10/2018 - 5/10/2018		Mn-54	<1.84E+01	0.00E+00	1.84E+01
			Co-58	<2.18E+01	0.00E+00	2.18E+01
			Fe-59	<4.63E+01	0.00E+00	4.63E+01
			Co-60	<2.12E+01	0.00E+00	2.12E+01
			Zn-65	<4.44E+01	0.00E+00	4.44E+01
			Zr-95	<4.12E+01	0.00E+00	4.12E+01
			Nb-95	<2.28E+01	0.00E+00	2.28E+01
			I-131	<4.59E+01	0.00E+00	4.59E+01
			Cs-134	<2.37E+01	0.00E+00	2.37E+01
			Cs-137	2.59E+01	1.91E+01	2.99E+01
			BaLa-140	<4.01E+01	0.00E+00	4.01E+01
			Be-7	5.18E+02	2.07E+02	3.03E+02
			K-40	3.48E+03	5.05E+02	3.57E+02

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
477428	6/15/2018 - 6/15/2018		Mn-54	<5.95E+00	0.00E+00	5.95E+00
			Co-58	6.77E+01	1.37E+01	6.63E+00
			Fe-59	<1.13E+01	0.00E+00	1.13E+01
			Co-60	<4.24E+00	0.00E+00	4.24E+00
			Zn-65	<9.57E+00	0.00E+00	9.57E+00
			Zr-95	<9.64E+00	0.00E+00	9.64E+00
			Nb-95	<8.23E+00	0.00E+00	8.23E+00
			I-131	<4.18E+01	0.00E+00	4.18E+01
			Cs-134	<7.93E+00	0.00E+00	7.93E+00
			Cs-137	1.44E+01	5.29E+00	8.17E+00
			BaLa-140	<1.97E+01	0.00E+00	1.97E+01
			Be-7	7.39E+02	1.28E+02	5.81E+01
			K-40	3.75E+03	3.20E+02	7.99E+01

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
479245	7/12/2018 - 7/12/2018		Mn-54	<2.77E+01	0.00E+00	2.77E+01
			Co-58	<3.03E+01	0.00E+00	3.03E+01
			Fe-59	<6.47E+01	0.00E+00	6.47E+01
			Co-60	<3.72E+01	0.00E+00	3.72E+01
			Zn-65	<5.24E+01	0.00E+00	5.24E+01
			Zr-95	<4.03E+01	0.00E+00	4.03E+01
			Nb-95	<2.86E+01	0.00E+00	2.86E+01
			I-131	<4.67E+01	0.00E+00	4.67E+01
			Cs-134	<3.15E+01	0.00E+00	3.15E+01
			Cs-137	<4.10E+01	0.00E+00	4.10E+01
			BaLa-140	<2.93E+01	0.00E+00	2.93E+01
			Be-7	6.56E+02	2.53E+02	3.42E+02
			K-40	3.77E+03	6.43E+02	3.93E+02

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
482012	8/9/2018 - 8/9/2018		Mn-54	<1.99E+01	0.00E+00	1.99E+01
			Co-58	<1.84E+01	0.00E+00	1.84E+01
			Fe-59	<3.97E+01	0.00E+00	3.97E+01
			Co-60	<1.68E+01	0.00E+00	1.68E+01
			Zn-65	<4.36E+01	0.00E+00	4.36E+01
			Zr-95	<3.29E+01	0.00E+00	3.29E+01
			Nb-95	<1.92E+01	0.00E+00	1.92E+01
			I-131	<4.68E+01	0.00E+00	4.68E+01
			Cs-134	<2.43E+01	0.00E+00	2.43E+01
			Cs-137	1.18E+01	1.70E+01	2.82E+01
			BaLa-140	<3.66E+01	0.00E+00	3.66E+01
			Be-7	2.38E+03	2.20E+02	2.00E+02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 51 [INDICATOR - SSW @ 0 miles]

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
482012	8/9/2018 - 8/9/2018		K-40	2.99E+03	4.58E+02	2.42E+02
484072	9/17/2018 - 9/17/2018		Mn-54	<3.49E+01	0.00E+00	3.49E+01
			Co-58	<3.91E+01	0.00E+00	3.91E+01
			Fe-59	<8.52E+01	0.00E+00	8.52E+01
			Co-60	<3.48E+01	0.00E+00	3.48E+01
			Zn-65	<8.89E+01	0.00E+00	8.89E+01
			Zr-95	<5.43E+01	0.00E+00	5.43E+01
			Nb-95	<3.85E+01	0.00E+00	3.85E+01
			I-131	<4.78E+01	0.00E+00	4.78E+01
			Cs-134	<4.20E+01	0.00E+00	4.20E+01
			Cs-137	<3.74E+01	0.00E+00	3.74E+01
			BaLa-140	<7.19E+01	0.00E+00	7.19E+01
			Be-7	1.97E+03	4.29E+02	4.08E+02
			K-40	4.77E+03	8.68E+02	4.38E+02
486214	10/10/2018 - 10/10/2018		Mn-54	<2.56E+01	0.00E+00	2.56E+01
			Co-58	<3.59E+01	0.00E+00	3.59E+01
			Fe-59	<6.00E+01	0.00E+00	6.00E+01
			Co-60	<2.51E+01	0.00E+00	2.51E+01
			Zn-65	<6.18E+01	0.00E+00	6.18E+01
			Zr-95	<5.33E+01	0.00E+00	5.33E+01
			Nb-95	<2.61E+01	0.00E+00	2.61E+01
			I-131	<3.77E+01	0.00E+00	3.77E+01
			Cs-134	<3.50E+01	0.00E+00	3.50E+01
			Cs-137	<2.91E+01	0.00E+00	2.91E+01
			BaLa-140	<3.19E+01	0.00E+00	3.19E+01
			Be-7	1.48E+03	3.62E+02	4.01E+02
			K-40	3.38E+03	6.37E+02	2.65E+02

Sample Point 52 [CONTROL - W @ 10 miles]

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
474943	5/10/2018 - 5/10/2018		Mn-54	<1.87E+01	0.00E+00	1.87E+01
			Co-58	<2.36E+01	0.00E+00	2.36E+01
			Fe-59	<5.94E+01	0.00E+00	5.94E+01
			Co-60	<2.29E+01	0.00E+00	2.29E+01
			Zn-65	<4.78E+01	0.00E+00	4.78E+01
			Zr-95	<4.31E+01	0.00E+00	4.31E+01
			Nb-95	<3.11E+01	0.00E+00	3.11E+01
			I-131	<4.61E+01	0.00E+00	4.61E+01
			Cs-134	<2.77E+01	0.00E+00	2.77E+01
			Cs-137	6.21E+01	2.45E+01	2.95E+01
			BaLa-140	<3.82E+01	0.00E+00	3.82E+01
			Be-7	2.88E+02	1.70E+02	2.43E+02
			K-40	3.88E+03	6.49E+02	3.17E+02
477429	6/15/2018 - 6/15/2018		Mn-54	<4.56E+00	0.00E+00	4.56E+00
			Co-58	1.93E+01	6.46E+00	9.68E+00
			Fe-59	<1.36E+01	0.00E+00	1.36E+01
			Co-60	<4.65E+00	0.00E+00	4.65E+00
			Zn-65	<1.03E+01	0.00E+00	1.03E+01
			Zr-95	<1.05E+01	0.00E+00	1.05E+01
			Nb-95	<7.27E+00	0.00E+00	7.27E+00
			I-131	<3.92E+01	0.00E+00	3.92E+01
			Cs-134	<6.28E+00	0.00E+00	6.28E+00
			Cs-137	<4.89E+00	0.00E+00	4.89E+00
			BaLa-140	<1.82E+01	0.00E+00	1.82E+01
			Be-7	1.08E+03	1.14E+02	7.60E+01
			K-40	5.60E+03	4.80E+02	7.58E+01
479246	7/12/2018 - 7/12/2018		Mn-54	<2.27E+01	0.00E+00	2.27E+01
			Co-58	<2.18E+01	0.00E+00	2.18E+01



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 52 [CONTROL - W @ 10 miles]

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
479246	7/12/2018 - 7/12/2018		Fe-59	<4.69E+01	0.00E+00	4.69E+01
			Co-60	<1.68E+01	0.00E+00	1.68E+01
			Zn-65	<4.95E+01	0.00E+00	4.95E+01
			Zr-95	<3.12E+01	0.00E+00	3.12E+01
			Nb-95	<2.70E+01	0.00E+00	2.70E+01
			I-131	<4.07E+01	0.00E+00	4.07E+01
			Cs-134	<2.12E+01	0.00E+00	2.12E+01
			Cs-137	<2.39E+01	0.00E+00	2.39E+01
			BaLa-140	<3.39E+01	0.00E+00	3.39E+01
			Be-7	1.17E+03	2.47E+02	2.68E+02
			K-40	2.31E+03	4.21E+02	3.27E+02

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
482013	8/9/2018 - 8/9/2018		Mn-54	<2.15E+01	0.00E+00	2.15E+01
			Co-58	<2.22E+01	0.00E+00	2.22E+01
			Fe-59	<4.36E+01	0.00E+00	4.36E+01
			Co-60	<1.57E+01	0.00E+00	1.57E+01
			Zn-65	<4.27E+01	0.00E+00	4.27E+01
			Zr-95	<3.35E+01	0.00E+00	3.35E+01
			Nb-95	<2.84E+01	0.00E+00	2.84E+01
			I-131	<4.79E+01	0.00E+00	4.79E+01
			Cs-134	<1.85E+01	0.00E+00	1.85E+01
			Cs-137	4.47E+01	2.11E+01	2.79E+01
			BaLa-140	<5.12E+01	0.00E+00	5.12E+01
			Be-7	1.58E+03	3.12E+02	2.87E+02
			K-40	4.04E+03	6.38E+02	3.14E+02

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
484073	9/17/2018 - 9/17/2018		Mn-54	<2.67E+01	0.00E+00	2.67E+01
			Co-58	<2.87E+01	0.00E+00	2.87E+01
			Fe-59	<6.28E+01	0.00E+00	6.28E+01
			Co-60	<2.88E+01	0.00E+00	2.88E+01
			Zn-65	<5.42E+01	0.00E+00	5.42E+01
			Zr-95	<4.69E+01	0.00E+00	4.69E+01
			Nb-95	<3.12E+01	0.00E+00	3.12E+01
			I-131	<4.28E+01	0.00E+00	4.28E+01
			Cs-134	<3.38E+01	0.00E+00	3.38E+01
			Cs-137	<2.82E+01	0.00E+00	2.82E+01
			BaLa-140	<3.88E+01	0.00E+00	3.88E+01
			Be-7	1.78E+03	3.50E+02	3.18E+02
			K-40	3.25E+03	6.25E+02	4.49E+02

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
486215	10/10/2018 - 10/10/2018		Mn-54	<2.42E+01	0.00E+00	2.42E+01
			Co-58	<2.52E+01	0.00E+00	2.52E+01
			Fe-59	<4.28E+01	0.00E+00	4.28E+01
			Co-60	<3.26E+01	0.00E+00	3.26E+01
			Zn-65	<4.41E+01	0.00E+00	4.41E+01
			Zr-95	<4.39E+01	0.00E+00	4.39E+01
			Nb-95	<3.01E+01	0.00E+00	3.01E+01
			I-131	<3.71E+01	0.00E+00	3.71E+01
			Cs-134	<2.53E+01	0.00E+00	2.53E+01
			Cs-137	<3.28E+01	0.00E+00	3.28E+01
			BaLa-140	<5.14E+01	0.00E+00	5.14E+01
			Be-7	1.92E+03	3.80E+02	3.33E+02
			K-40	1.73E+03	4.70E+02	3.91E+02

Sample Point 62 [INDICATOR - SE @ 0 miles]

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
474944	5/10/2018 - 5/10/2018		Mn-54	<2.12E+01	0.00E+00	2.12E+01
			Co-58	<2.46E+01	0.00E+00	2.46E+01
			Fe-59	<4.82E+01	0.00E+00	4.82E+01
			Co-60	<2.44E+01	0.00E+00	2.44E+01
			Zn-65	<4.19E+01	0.00E+00	4.19E+01
			Zr-95	<4.74E+01	0.00E+00	4.74E+01
			Nb-95	<2.45E+01	0.00E+00	2.45E+01



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 62 [INDICATOR - SE @ 0 miles]

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
474944	5/10/2018 - 5/10/2018	MIXEDBLV	I-131	<4.78E+01	0.00E+00	4.78E+01
			Cs-134	<2.36E+01	0.00E+00	2.36E+01
			Cs-137	<2.73E+01	0.00E+00	2.73E+01
			BaLa-140	<3.68E+01	0.00E+00	3.68E+01
			Be-7	6.05E+02	1.82E+02	2.20E+02
			K-40	4.51E+03	6.24E+02	2.62E+02
477430	6/15/2018 - 6/15/2018	MIXEDBLV	Mn-54	<4.83E+00	0.00E+00	4.83E+00
			Co-58	9.86E+00	6.27E+00	8.13E+00
			Fe-59	<1.26E+01	0.00E+00	1.26E+01
			Co-60	<4.67E+00	0.00E+00	4.67E+00
			Zn-65	<1.03E+01	0.00E+00	1.03E+01
			Zr-95	<1.06E+01	0.00E+00	1.06E+01
			Nb-95	<8.00E+00	0.00E+00	8.00E+00
			I-131	<4.51E+01	0.00E+00	4.51E+01
			Cs-134	<5.31E+00	0.00E+00	5.31E+00
			Cs-137	1.85E+01	5.48E+00	8.22E+00
			BaLa-140	<1.85E+01	0.00E+00	1.85E+01
			Be-7	7.18E+02	8.56E+01	8.30E+01
			K-40	3.15E+03	2.69E+02	6.99E+01
			479247	7/12/2018 - 7/12/2018	MIXEDBLV	Mn-54
Co-58	<2.27E+01	0.00E+00				2.27E+01
Fe-59	<4.70E+01	0.00E+00				4.70E+01
Co-60	<2.48E+01	0.00E+00				2.48E+01
Zn-65	<5.83E+01	0.00E+00				5.83E+01
Zr-95	<3.90E+01	0.00E+00				3.90E+01
Nb-95	<2.37E+01	0.00E+00				2.37E+01
I-131	<4.70E+01	0.00E+00				4.70E+01
Cs-134	<2.41E+01	0.00E+00				2.41E+01
Cs-137	<2.24E+01	0.00E+00				2.24E+01
BaLa-140	<3.65E+01	0.00E+00				3.65E+01
Be-7	6.04E+02	2.09E+02				2.86E+02
K-40	3.54E+03	5.27E+02				2.81E+02
482014	8/9/2018 - 8/9/2018	MIXEDBLV				Mn-54
			Co-58	<2.17E+01	0.00E+00	2.17E+01
			Fe-59	<4.24E+01	0.00E+00	4.24E+01
			Co-60	<2.19E+01	0.00E+00	2.19E+01
			Zn-65	<4.47E+01	0.00E+00	4.47E+01
			Zr-95	<4.11E+01	0.00E+00	4.11E+01
			Nb-95	<2.33E+01	0.00E+00	2.33E+01
			I-131	<4.66E+01	0.00E+00	4.66E+01
			Cs-134	<2.78E+01	0.00E+00	2.78E+01
			Cs-137	<2.38E+01	0.00E+00	2.38E+01
			BaLa-140	<4.71E+01	0.00E+00	4.71E+01
			Be-7	1.44E+03	2.56E+02	2.45E+02
			K-40	3.11E+03	4.83E+02	3.45E+02
			484074	9/17/2018 - 9/17/2018	MIXEDBLV	Mn-54
Co-58	<2.59E+01	0.00E+00				2.59E+01
Fe-59	<5.46E+01	0.00E+00				5.46E+01
Co-60	<2.65E+01	0.00E+00				2.65E+01
Zn-65	<6.58E+01	0.00E+00				6.58E+01
Zr-95	<4.86E+01	0.00E+00				4.86E+01
Nb-95	<2.66E+01	0.00E+00				2.66E+01
I-131	<4.74E+01	0.00E+00				4.74E+01
Cs-134	<3.54E+01	0.00E+00				3.54E+01
Cs-137	<2.33E+01	0.00E+00				2.33E+01
BaLa-140	<2.88E+01	0.00E+00				2.88E+01
Be-7	7.34E+02	2.60E+02				3.63E+02
K-40	4.82E+03	6.85E+02				3.41E+02



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 62 [INDICATOR - SE @ 0 miles]

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
486216	10/10/2018 - 10/10/2018		Mn-54	<2.85E+01	0.00E+00	2.85E+01
			Co-58	<2.88E+01	0.00E+00	2.88E+01
			Fe-59	<4.94E+01	0.00E+00	4.94E+01
			Co-60	<2.45E+01	0.00E+00	2.45E+01
			Zn-65	<6.01E+01	0.00E+00	6.01E+01
			Zr-95	<4.50E+01	0.00E+00	4.50E+01
			Nb-95	<2.66E+01	0.00E+00	2.66E+01
			I-131	<4.66E+01	0.00E+00	4.66E+01
			Cs-134	<3.46E+01	0.00E+00	3.46E+01
			Cs-137	<3.05E+01	0.00E+00	3.05E+01
			BaLa-140	<3.52E+01	0.00E+00	3.52E+01
			Be-7	1.35E+03	3.09E+02	3.09E+02
			K-40	2.75E+03	5.34E+02	2.33E+02

Sample Point 67 [INDICATOR - S @ 0 miles]

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
474945	5/10/2018 - 5/10/2018		Mn-54	<2.27E+01	0.00E+00	2.27E+01
			Co-58	<2.42E+01	0.00E+00	2.42E+01
			Fe-59	<5.33E+01	0.00E+00	5.33E+01
			Co-60	<2.42E+01	0.00E+00	2.42E+01
			Zn-65	<5.64E+01	0.00E+00	5.64E+01
			Zr-95	<3.74E+01	0.00E+00	3.74E+01
			Nb-95	<3.29E+01	0.00E+00	3.29E+01
			I-131	<4.47E+01	0.00E+00	4.47E+01
			Cs-134	<3.18E+01	0.00E+00	3.18E+01
			Cs-137	1.32E+02	3.43E+01	3.82E+01
			BaLa-140	<3.54E+01	0.00E+00	3.54E+01
			Be-7	2.87E+02	6.15E+01	2.40E+02
			K-40	2.87E+03	5.29E+02	4.01E+02

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
477431	6/15/2018 - 6/15/2018		Mn-54	<5.02E+00	0.00E+00	5.02E+00
			Co-58	1.34E+01	3.45E+00	7.52E+00
			Fe-59	<1.40E+01	0.00E+00	1.40E+01
			Co-60	<5.31E+00	0.00E+00	5.31E+00
			Zn-65	<1.15E+01	0.00E+00	1.15E+01
			Zr-95	<1.15E+01	0.00E+00	1.15E+01
			Nb-95	<8.26E+00	0.00E+00	8.26E+00
			I-131	<4.80E+01	0.00E+00	4.80E+01
			Cs-134	<8.28E+00	0.00E+00	8.28E+00
			Cs-137	1.38E+01	2.81E+00	5.54E+00
			BaLa-140	<1.99E+01	0.00E+00	1.99E+01
			Be-7	1.08E+03	1.17E+02	9.40E+01
			K-40	3.16E+03	2.83E+02	8.82E+01

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
479248	7/12/2018 - 7/12/2018		Mn-54	<1.83E+01	0.00E+00	1.83E+01
			Co-58	<2.26E+01	0.00E+00	2.26E+01
			Fe-59	<3.94E+01	0.00E+00	3.94E+01
			Co-60	<2.29E+01	0.00E+00	2.29E+01
			Zn-65	<4.52E+01	0.00E+00	4.52E+01
			Zr-95	<3.78E+01	0.00E+00	3.78E+01
			Nb-95	<2.86E+01	0.00E+00	2.86E+01
			I-131	<4.68E+01	0.00E+00	4.68E+01
			Cs-134	<2.63E+01	0.00E+00	2.63E+01
			Cs-137	<3.34E+01	0.00E+00	3.34E+01
			BaLa-140	<4.10E+01	0.00E+00	4.10E+01
			Be-7	1.52E+03	2.99E+02	3.28E+02
			K-40	2.74E+03	4.69E+02	3.38E+02

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA
482015	8/9/2018 - 8/9/2018		Mn-54	<1.87E+01	0.00E+00	1.87E+01
			Co-58	<1.76E+01	0.00E+00	1.76E+01
			Fe-59	<4.10E+01	0.00E+00	4.10E+01
			Co-60	<1.88E+01	0.00E+00	1.88E+01
			Zn-65	<3.83E+01	0.00E+00	3.83E+01



ROBINSON Radiological Environmental Monitoring Analysis Report - 2018 (Appendix E)

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

Sample Point 67 [INDICATOR - S @ 0 miles]

Sample ID:	Sample Dates:	MIXEDBLV	Nuclide	Activity	2 Sigma Error	MDA			
482015	8/9/2018 - 8/9/2018	MIXEDBLV	Zr-95	<3.25E+01	0.00E+00	3.25E+01			
			Nb-95	<2.10E+01	0.00E+00	2.10E+01			
			I-131	<4.33E+01	0.00E+00	4.33E+01			
			Cs-134	<2.07E+01	0.00E+00	2.07E+01			
			Cs-137	<1.66E+01	0.00E+00	1.66E+01			
			BaLa-140	<2.02E+01	0.00E+00	2.02E+01			
			Be-7	2.40E+03	3.27E+02	2.53E+02			
			K-40	4.10E+03	5.41E+02	2.98E+02			
			484075	9/17/2018 - 9/17/2018	MIXEDBLV	Mn-54	<3.48E+01	0.00E+00	3.48E+01
						Co-58	<2.93E+01	0.00E+00	2.93E+01
Fe-59	<4.67E+01	0.00E+00				4.67E+01			
Co-60	<2.50E+01	0.00E+00				2.50E+01			
Zn-65	<5.53E+01	0.00E+00				5.53E+01			
Zr-95	<6.17E+01	0.00E+00				6.17E+01			
Nb-95	<3.64E+01	0.00E+00				3.64E+01			
I-131	<4.44E+01	0.00E+00				4.44E+01			
Cs-134	<3.43E+01	0.00E+00				3.43E+01			
Cs-137	<4.40E+01	0.00E+00				4.40E+01			
BaLa-140	<4.08E+01	0.00E+00				4.08E+01			
Be-7	1.05E+03	2.80E+02				3.11E+02			
K-40	3.86E+03	6.57E+02				2.70E+02			
486217	10/10/2018 - 10/10/2018	MIXEDBLV				Mn-54	<2.48E+01	0.00E+00	2.48E+01
			Co-58	<3.25E+01	0.00E+00	3.25E+01			
			Fe-59	<6.46E+01	0.00E+00	6.46E+01			
			Co-60	<3.74E+01	0.00E+00	3.74E+01			
			Zn-65	<5.03E+01	0.00E+00	5.03E+01			
			Zr-95	<3.24E+01	0.00E+00	3.24E+01			
			Nb-95	<2.51E+01	0.00E+00	2.51E+01			
			I-131	<3.23E+01	0.00E+00	3.23E+01			
			Cs-134	<3.46E+01	0.00E+00	3.46E+01			
			Cs-137	<2.37E+01	0.00E+00	2.37E+01			
			BaLa-140	<3.24E+01	0.00E+00	3.24E+01			
			Be-7	1.20E+03	2.98E+02	2.87E+02			
			K-40	2.52E+03	5.67E+02	4.06E+02			



APPENDIX F

ERRATA TO

PREVIOUS REPORTS

There are no errata to be appended to the
2018 H.B. Robinson Steam Electric Plant AREOR.