Luminant

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

Ref TS 5.6.2/ODCM

Subject: Comanche Peak Nuclear Power Plant (CPNPP)
Docket Nos. 50-445 and 50-446
2021 Annual Radiological Environmental Operating Report

References:

Dear Sir or Madam:

Vistra Operations Company LLC ("Vistra OpCo") hereby submits the Comanche Peak Nuclear Power Plant (CPNPP) 2021 Annual Radiological Environmental Operating Report. The enclosed report is provided pursuant to CPNPP Technical Specification 5.6.2 and the CPNPP Offsite Dose Calculation Manual. The report covers the period from January 1, 2021 to December 31, 2021.

This communication contains no new commitments regarding CPNPP Units 1 and 2.

Should you have any questions, please contact Jim Barnette at (254) 897-5866 or James.barnette@luminant.com.

Sincerely,

Jack C. Hicks

Jack C. Hicks

Enclosure: CPNPP 2021 Annual Radiological Environmental Operating Report

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COMANCHE PEAK NUCLEAR POWER PLANT

ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT

JANUARY 1, 2021 through DECEMBER 31, 2021

LUMINANT REVIEW and APPROVAL

CREATED BY: Todd Emery 3-26-22
Todd Emery — Date
Radiation Protection Technician

REVIEWED BY: Shari Mosty 4-11-22
Shari Mosty — Date
Health Physics Supervisor

APPROVED BY: Shane Howe 4.12.22
Shane Howe — Date
Radiation Protection Manager

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Table of Contents

Introduction

Results of the Radiological Environmental Monitoring Program for the Comanche Peak Nuclear Power Plant (CPNPP) are contained within this report. This report covers the period from January 1, 2021 through December 31, 2021 and summarizes the results of measurements and analysis of data obtained from environmental samples collected during this same timeframe.

A. Site and Station Description

CPNPP consists of two pressurized water reactor units, each designed to operate at a power level of about 1250 megawatts (electrical). The Station is located on Squaw Creek reservoir in Somervell and Hood counties, about forty miles southwest of Fort Worth, Texas. Unit 1 received a low power operating license February 8, 1990 and achieved initial criticality on April 3, 1990. A full power license for Unit 1 was issued on April 17, 1990 and commercial operation was declared on August 13, 1990. Unit 2 achieved initial criticality on March 24, 1993 and synchronized to the electrical grid on April 9, 1993.

B. Objectives and Overviews of the CPNPP Radiological Environmental Monitoring Program

The United States Nuclear Regulatory Commission (USNRC) regulations require that nuclear power plants be designed, constructed, and operated to keep levels of radioactive material in effluents to unrestricted areas as low as reasonably achievable (ALARA). To assure that these criteria are met, each license authorizing reactor operation includes technical specifications governing the release of radioactive effluents.

In-plant monitoring is used to assure that these predetermined release limits are not exceeded. However, as a precaution against unexpected and undefined processes that might allow undue accumulation of radioactivity in any sector of the environment, a program for monitoring the plant environs is also included.

Sampling locations were selected on the basis of local ecology, meteorology, physical characteristics of the region, and demographic and land use features of the site vicinity. The radiological environmental monitoring program was designed on the basis of the USNRC Branch Technical Position "An Acceptable Radiological Environmental Monitoring Program" on radiological environmental monitoring issued by the Radiological Assessment Branch, Revision 1 (November 1979), the CPNPP Technical Specification "Technical Specifications for Comanche Peak Nuclear Power Plant Units 1 and 2" and the "CPSES Offsite Dose Calculation Manual" (ODCM).

The Radiological Environmental Monitoring Program includes the following:

- The measurement of ambient gamma radiation by Thermal Luminescent dosimetry
- The determination of airborne gross beta, gamma emitters, and Iodine-131
- The determination of tritium and gamma emitters in Discharge Pathway surface water
- The determination of gross beta, tritium, Iodine-131, and gamma emitters in potential drinking water sources
- The determination of tritium and gamma emitters in ground water and fish
- The determination of gamma emitters in sediment
- The determination of gamma emitters in food products
- The determination of gamma emitters and Iodine-131 in broadleaf vegetation

The regulations governing the quantities of radioactivity in reactor effluents allow nuclear power plants to contribute, at most, only a small percentage increase above normal background radioactivity. Background levels at any one location are not constant but vary with time as they are influenced by external events such as cosmic ray bombardment: weapons test fallout, and seasonal variations. These levels also can vary spatially within relatively short distances reflecting variations in geological composition. To differentiate between background radiation levels and increases resulting from operation of CPNPP, the radiological surveys of the plant environs were divided into pre-operational and operational phases.

The pre-operational phase of the program provided a general characterization of the radiation levels and concentrations prevalent in these areas prior to plant operation along with an indication of the degree of natural variation to be expected. The operational phase of the program obtains data which, when considered along with the data obtained in the pre-operational phase, assists in the evaluation of the radiological impact of plant operation.

Pre-operational measurements were conducted at CPNPP from 1981 to 1989. These pre-operational measurements were performed to:

- Evaluate procedures, equipment, and techniques
- Identify potentially important pathways to be monitored after plant operation
- Measure background levels and the variations along potentially important pathways
- Provide baseline data for statistical comparisons with future operational analytical results

The operational Radiological Environmental Monitoring Program is conducted to:

- Verify that measurable concentrations of radioactive materials and levels of radiation are not higher than expected on the basis of the effluent measurements and modeling of the environmental exposure pathways
- Verify the effectiveness of in-plant measures used for controlling the release of radioactive materials
- Identify changes in the areas at and beyond the site boundary that may impact the principal pathways of exposure

This report documents the **32nd** year of operational measurements and is submitted in accordance with the requirements of the CPSES Offsite Dose Calculation Manual, Part I, Administrative Control 6.9.1.3.

NOTE: Comanche Peak Steam Electric Station (CPSES) is equivalent to Comanche Peak Nuclear Power Plant (CPNPP).

NOTE: Thermo Luminescent Dosimeters (TLDs) and Dose of Legal Record (DLR) are equivalent.

Program Descriptions and Results

A. Sample Locations

Within a radius of twenty miles of the CPNPP site there are seventy-six (76) sample locations included in the monitoring program. The number of sample points and the specific locations for the sample points were determined by considering locations where the highest off-site environmental concentrations have been predicted from plant effluent source terms, site hydrology, and site meteorological conditions. Other factors considered were applicable regulations, population distribution, and ease of access to sampling stations, availability of samples at desired locations, security, and future program integrity. Additionally, an annual land use census is conducted to identify changes in the areas surrounding the plant. If changes are identified that impact the principle pathways of

exposure, appropriate changes to the radiological environmental monitoring program are implemented. A copy of the report "Comanche Peak Nuclear Power Plant Land Use Census" is provided in Appendix B to this report.

Table 1 – Comanche Peak Nuclear Power Plant Radiological Environmental Monitoring Program contains a brief outline of the current program. This table specifies the sample media type, the number of locations for each media type, the sector and distance identifier for each sample location, the sample frequency, the type of analysis required and the frequency each analysis is required to be performed (Analytical Frequency).

Table 2 – Key to Environmental Sampling Locations provides a reference that links the sampling point designations used in procedures and forms to the appropriate physical sample location (sector and distance) and to the correct sample type. This cross-reference enhances the ability to review data and tie the data to the correct sample points and to ensure all samples are collected and analyzed as specified.

Currently there are no milk sample locations within ten miles of the CPNPP site. CPNPP already samples extra broadleaf locations as required due to no milk locations within the ten-mile radius therefore, no changes to the program are necessary. Milk sampling will be resumed if any future annual land use census determines a dairy has been established within the specified area.

Table 1 – Comanche Peak Nuclear Power Plant Radiological Environmental Monitoring Program

Media	Number of Locations	Identification by Sector and Distance (miles)	Sampling Frequency (a)	Analysis	Analytical Frequency (a)
Gamma Exposure	47	N-1.45; N-4.4; N-6.5; N-9.4; NNE-1.1; NNE-5.65; NE-1.7; NE-4.8; ENE-2.5; ENE-5.0; E-0.5; E-1.9; E-3.5; E-4.2; ESE-1.4; ESE-4.7; SE-0.6 SE-1.3; SE-3.85; SE-4.6; SSE-1.3; SSE-4.4; SSE-4.5; S-1.5; S-4.2; SSW-1.1; SSW-4.4; SW-0.9; SW-4.8; SW-12.3; WSW-1.0; WSW-5.35; WSW-7.0; W-1.0; W-2.0; W-5.5; WNW-1.0; WNW-5.0; WNW-6.7; NW-1.0; NW-5.7; NW-9.9; NNW-1.35; NNW-4.6	Q, A	Thermo Luminescent (TLD)Dosimetry	Q, A
Air Particulate Air Iodine	8	N-9.4; E-3.5; SSE-4.5; SW-12.3; NW-1.0; N-1.45; SW/WSW-0.95; S/SSW-1.2	W	Gross Beta Gamma Isotopic Filter Gamma Isotopic Charcoal	W QC W
Discharge Pathway Surface Water	4	N-19.3; ESE-1.4; N-1.5; NE-7.4	M(b)	Gamma Isotopic Tritium	M QC
Surface Water & Drinking sources	2	NNW-0.1; N-9.9	M(c)	Gross Beta Gamma Isotopic Iodine-131 Tritium	M M M QC
Ground Water	5	SSE-4.6; W-1.2; WSW-0.1; N-9.8; N-1.45	Q	Gamma Isotopic Tritium	Q Q
Sediment	4	N-9.9; NNE-1.0; NE-7.4; SE-5.3	SA	Gamma Isotopic	SA
Fish	2	NNE-8.0; SE-0.1	SA	Gamma Isotopic	SA
Food Products	1	ENE-9.0, E-4.2	MH	Gamma Isotopic Iodine-131	MH MH
Broadleaf Vegetation	3	N-1.45; SW-1.0; SW-13.5	M	Gamma Isotopic	M

(a) Frequency codes are: W–Weekly; M-Monthly; Q-Quarterly; QC-Quarterly Composite; MH-Monthly at Harvest; SA-Semiannual; A-Annual

(b) Surface water samples from Squaw Creek are monthly composites of weekly grab samples. Surface water samples from Lake Granbury are monthly grab samples.

(c) Surface water drinking samples are a monthly composite of weekly grab samples.

Table 2
Key to Environmental Sampling Locations

SAMPLING POINT	LOCATION (SECTOR-MILE)	SAMPLE TYPE*	SAMPLING POINT	LOCATION (SECTOR-MILE)	SAMPLE TYPE*
A1	N-1.45	A	R32	WSW-7.0	R
A2	N-9.4	A	R33	W-1.0	R
A3	E-3.5	A	R34	W-2.0	R
A4	SSE-4.5	A	R35	W-5.5	R
A5	S/SSW-1.2	A	R36	WNW-1.0	R
A6	SW-12.3	A	R37	WNW-5.0	R
A7	SW/WSW-0.95	A	R38	WNW-6.7	R
A8	NW-1.0	A	R39	NW-1.0	R
R1	N-1.45	R	R40	NW-5.7	R
R2	N-4.4	R	R41	NW-9.9	R
R3	N-6.5	R	R42	NNW-1.35	R
R4	N-9.4	R	R43	NNW-4.6	R
R5	NNE-1.1	R	R44	SE-0.6	R
R6	NNE-5.65	R	R45	SE-0.6	R
R7	NE-1.7	R	R46	SE-0.6	R
R8	NE-4.8	R	R47	SE-0.6	R
R9	ENE-2.5	R	SW1	N-1.5	SW
R10	ENE-5.0	R	SW2	N-9.9	SW/DW
R11	E-0.5	R	SW3	N-19.9	SW
R12	E-1.9	R	SW4	NE-7.4	SW
R13	E-3.5	R	SW5	ESE-1.4	SW
R14	E-4.2	R	SW6	NNW-0.1	SW/DW
R15	ESE-1.4	R	GW1	W-1.2	GW/DW
R16	ESE-4.7	R	GW2	WSW-0.1	GW/DW
R17	SE-1.3	R	GW3	SSE-4.6	GW/DW
R18	SE-3.85	R	GW4	N-9.8	GW/DW
R19	SE-4.6	R	GW5	N-1.45	GW/DW
R20	SSE-1.3	R	SS1	NNE-1.0	SS
R21	SSE-4.4	R	SS2	N-9.9	SS
R22	SSE-4.5	R	SS3	NE-7.4	SS
R23	S-1.5	R	SS4	SE-5.3	SS
R24	S-4.2	R	F1	ENE-2.0	F
R25	S/SSW-1.2	R	F2	NNE-8.0	F
R26	SSW-4.4	R	FP1	ENE-9.0	FP
R27	SW-0.9	R	FP2	E-4.2	FP
R28	SW-4.8	R	BL1	N-1.45	BL
R29	SW-12.3	R	BL2	SW-1.0	BL
R30	WSW-1.0	R	BL3	SW-13.5	BL
R31	WSW-5.35	R			

Sample Type*

A – AIR SAMPLE
F – FISH
SS – SHORELINE SEDIMENT
SW – SURFACE WATER
DW – DRINKING WATER
GW – GROUND WATER
R – DIRECT RADIATION
FP – FOOD PRODUCT
BL – BROADLEAF VEGETATION

B. Direct Radiation

Starting in 2013 Thermo Luminescent Dosimeters (TLDs) were used to determine the direct (ambient) radiation levels at the designated monitoring locations. The monitoring locations were chosen according to the criteria given in the USNRC Branch Technical Position on Radiation Monitoring (Revision 1, November 1979). The area around the station was divided into 16 radial sectors of 22-1/2 degrees each, corresponding to the cardinal points of the compass. TLDs were placed in each of these sectors. The TLDs were placed in two rings around the station. An inner ring was located as close as possible to the site boundary and an outer ring was located at a distance of 4 to 6 miles from the station. Eleven additional TLDs were located at points of special interest, including two control locations. For routine direct radiation measurements, two sets of the TLDs were used at each of the 43 monitoring locations. One set of TLDs was exchanged on a quarterly basis and a second set of TLDs was exchanged on a yearly basis. Additional sets of in-transit TLDs were used as control TLDs for the quarterly and annual TLDs.

Mirion Technologies provides and processes Thermo Luminescent Dosimeters (TLDs.) The TLDs are used to determine the direct (ambient) radiation levels in designated monitoring locations. Mirion Technologies is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP.)

D. C. Oakley's report "National Radiation Exposure in the United States", published in 1972, calculated a background radiation dose rate equivalent of 0.22 mR/day for the area surrounding Fort Worth, Texas. This calculated value varies widely with changes in location but represents an appropriate reference value to compare with actual measured TLD doses.

Using data from the pre-operational program for the two years prior to the startup of Unit 1, the quarterly TLDs averaged a calculated dose rate of 0.14 mR/day while the yearly TLDs averaged a calculated dose rate of 0.16 mR/day. The range of measured values from this same two-year period varied from a minimum of 0.11 mR/day to a maximum of 0.22 mR/day.

Table 3 – Environmental Direct Radiation Results contains the measured dose (mR) for each quarterly TLD from each of the 43 monitoring locations. The corresponding quarterly calculated dose rate (mR/day) values are listed as well. The statistical average doses (mR) and dose rate (mR/day) values for each set of quarterly TLDs is also displayed. Additionally, the table includes the total dose (mR) of all four quarters for each specific location. The table also includes the measured dose (mR) for each annual TLD from each of the 43 monitoring locations. The corresponding annual calculated dose rate (mR/day) values are listed as well. The statistical annual average dose (mR) for the entire set of annual TLDs is reported along with the average dose rate (mR/day) for the entire set of annual TLDs.

The measured dose rates of all the quarterly TLDs ranged from a minimum of **0.065 mR/day** to a maximum of **0.159 mR/day** with an average dose rate of **0.119 mR/day**. This resulted in an average quarterly dose of **10.858 mR** and a total annual dose of **43.435 mR** for all the forty-three monitoring stations.

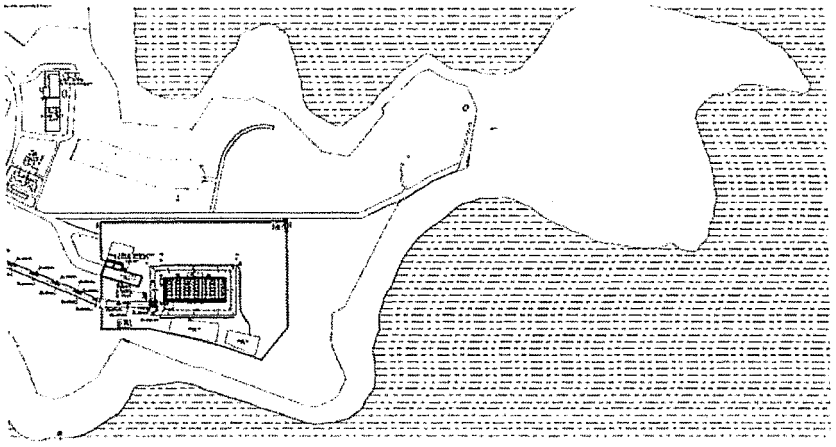
The measured dose rates of all the annual TLDs ranged from a minimum of **0.073 mR/day** to a maximum of **0.145 mR/day** with an average dose rate of **0.109 mR/day**. This resulted in an average quarterly dose of **9.94 mR** and a total annual dose average of **39.785 mR** for all the forty-three monitoring stations.

Comparing the pre-operational data and operational data collected through the year 2021 did not produce any anomalies. The direct radiation dose data was consistent with previous years of data during the pre-operational program. Annual Environmental TLDs were compared against the baseline data established in EV-TR-2015-007304-6 and no anomalies were identified.

Table 6 – DLR Trend Quarterly Average contains the average quarterly DLR data for the five most current years and the Annual totals for 2021 from each of the 43 monitoring locations. The implementation of the Mirion DLRs and the background subtract method used to report the data from the DLRs accounts for the lower values and accounts for consistent response from each location's total quarterly DLRs to the Annual DLRs. See CR-2013-004934 for additional clarification on the background subtraction method. The Quarterly average data was normalized to 91-day period starting in the 2019 Annual Environmental Report to provide consistency when comparing results during a calendar year. The ISFISI PAD DLR monitoring locations (i.e., locations 44 – 47) are not included in the normal reported results since they reside within the owner-controlled area.

ISFSI PAD Environmental Direct Radiation (CR-2019-002770)

The total number of fuel dry casks located at the CPNPP ISFSI pad by the end of 2021 was forty-eight (48). The ISFSI PAD is located within the same CPNPP owner-controlled area as the Unit 1 and 2 Protected Area. Prior to 2019 Direct Radiation monitoring was accomplished and reported with the established owner-controlled area Direct Radiation monitoring programs. In 2019, Four (4) TLDs were added on each side of the PAD's fence for radiation monitoring, trending, and reporting within the Annual Environmental Report (locations 44, 45, 46, and 47).



		1ST QTR	Average	2ND QTR	Average	3RD QTR	Average	4TH QTR	Average	AVG QTR TLD	Qtly TLD Average
SE-0.6	R44	29	0.320	40	0.436	46	0.500	43	0.467	40	0.460
SE-0.6	R45	86	0.947	148	1.628	141	1.544	151	1.661	132	1.532
SE-0.6	R46	181	1.990	189	2.074	176	1.929	194	2.131	185	2.014
SE-0.6	R47	168	1.841	168	1.851	183	2.006	189	2.080	177	1.825
Avg.		116	1.275	136	1.497	136	1.495	144	1.585	133	1.462

During the year 2021, there were exceptions to the DLR Program.

TR-2021-006247: While performing the quarterly Dosimeter Badge Changeout, it was discovered that location R3 was missing due to new construction in the area. The Annual badge is also missing.

TR-2022-000215: While collection environmental quarterly DLRs it was found that location R18 was missing due to land clearing activities. This location holds both the quarterly and Annual DLRs. Both were missing.

TR-2022-001774: Dosimetry processor could not read the 4th quarter DLRs for locations R27 and R21 as well as the annual DLR for location R3 & R27. The reason for unread results was identified as dosimeter damage.

Table 3 – Environmental Direct Radiation Results (Units of mR dose and mR/day dose rate)

Location		1ST QTR Total	Average mR/Day	2ND QTR Total	Average mR/Day	3RD QTR Total	Average mR/Day	4TH QTR Total	Average mR/Day	AVG QTR TLD Total	Qtly TLD Average mR/Day
N-1.45	R1	12	0.131	12	0.130	13	0.137	12	0.131	12	0.128
N-4.4	R2	13	0.139	14	0.149	14	0.148	14	0.151	14	0.146
N-6.5	R3	11	0.118	10	0.109	*	*	11	0.120	11	0.119
N-9.4	R4	12	0.128	11	0.117	13	0.137	12	0.131	12	0.126
NNE-1.1	R5	9	0.098	6	0.065	8	0.083	7	0.080	7	0.078
NNE-5.65	R6	13	0.139	11	0.116	14	0.148	12	0.131	12	0.131
NE-1.7	R7	7	0.077	8	0.082	9	0.094	6	0.069	8	0.082
NE-4.8	R8	13	0.139	11	0.124	14	0.148	12	0.131	12	0.133
ENE-2.5	R9	13	0.142	13	0.138	13	0.137	12	0.131	13	0.133
ENE-5.0	R10	14	0.150	13	0.141	15	0.159	12	0.131	13	0.142
E-0.5	R11	12	0.131	11	0.117	12	0.126	9	0.100	11	0.112
E-1.9	R12	10	0.109	10	0.106	11	0.116	9	0.100	10	0.107
E-3.5	R13	13	0.142	10	0.106	13	0.137	11	0.120	11	0.115
E-4.2	R14	14	0.153	12	0.130	14	0.148	12	0.131	13	0.134
ESE-1.4	R15	12	0.131	10	0.106	13	0.137	11	0.120	11	0.120
ESE-4.7	R16	13	0.139	11	0.120	13	0.137	11	0.120	12	0.123
SE-1.3	R17	13	0.142	12	0.128	14	0.148	11	0.120	12	0.131
SE-3.85	R18	11	0.120	10	0.106	12	0.126	11	0.120	11	0.115
SE-4.6	R19	12	0.131	11	0.120	13	0.137	*	*	11	0.120
SSE-1.3	R20	12	0.131	11	0.117	13	0.137	11	0.120	11	0.115
SSE-4.4	R21	12	0.131	11	0.117	12	0.126	10	0.110	11	0.117
SSE-4.5	R22	11	0.120	11	0.117	12	0.126	*	*	11	0.116
S-1.5	R23	11	0.120	10	0.106	12	0.126	12	0.131	11	0.115
S-4.2	R24	12	0.128	12	0.130	14	0.148	10	0.110	12	0.126
S/SSW-1.2	R25	12	0.131	12	0.128	12	0.126	13	0.141	12	0.125
SSW-4.8	R26	12	0.128	12	0.130	12	0.126	11	0.120	11	0.121
SW-0.9	R27	11	0.120	12	0.128	13	0.137	13	0.141	12	0.128
SW-4.8	R28	11	0.118	10	0.109	11	0.116	12	0.100	10	0.105
SW-12.3 (C)	R29	12	0.131	12	0.128	13	0.137	12	0.131	12	0.126
WSW-1.0	R30	12	0.131	12	0.128	14	0.148	11	0.131	12	0.131
WSW-5.35	R31	11	0.118	13	0.141	13	0.137	13	0.120	12	0.126
WSW-7.0 (C)	R32	13	0.139	10	0.109	14	0.148	9	0.141	12	0.129
W-1.0	R33	11	0.120	12	0.128	11	0.116	10	0.100	10	0.110
W-2.0	R34	10	0.109	10	0.106	11	0.116	9	0.110	10	0.110
W-5.5	R35	11	0.118	10	0.109	11	0.116	12	0.100	10	0.108
WNW-1.0	R36	12	0.128	10	0.106	13	0.137	11	0.131	11	0.117
WNW-5.0	R37	12	0.131	11	0.120	15	0.159	11	0.120	12	0.132
WNW-6.7	R38	12	0.128	10	0.109	12	0.126	10	0.120	11	0.117
NW-1.0	R39	12	0.131	9	0.096	12	0.126	12	0.110	13	0.110
NW-5.7	R40	13	0.139	11	0.120	13	0.137	10	0.131	12	0.124
NW-9.9	R41	11	0.118	10	0.109	12	0.126	6	0.110	11	0.115
NNW-1.35	R42	8	0.088	6	0.065	8	0.083	12	0.069	8	0.081
NNW-4.6	R43	14	0.150	12	0.130	14	0.148		0.131	12	0.128
AVERAGES		**10**	**0.110**	**11**	**0.116**	**12**	**0.132**	**11**	**0.119**	**11**	**0.119**

Table 6 – TLD Trend Quarterly Average (Five most current years)

	2017	2018	2019	2020	2021		2017-2021 mR Avg	Quarterly Baseline	Annual TLD Total	Annual Baseline
								mrem		mrem
R1	12	11	11	12	12		11.55	12.4	47	47
R2	13	13	12	13	14		12.95	14.4	52	53.9
R3	12	12	11	11	11		11.40	14	*	51.7
R4	12	12	11	12	12		11.75	13.4	45	51.2
R5	8	8	8	8	7		7.85	9	29	34.4
R6	12	12	11	12	12		11.85	13.3	48	50.6
R7	8	8	8	7	8		7.75	9	30	35
R8	13	13	12	13	12		12.65	13.8	48	54.2
R9	14	13	12	12	13		12.70	14.7	50	53.8
R10	15	15	15	13	13		14.25	15.8	54	59.1
R11	11	11	11	11	11		10.90	13.8	44	47.7
R12	11	10	10	10	10		10.20	11.6	40	44.5
R13	10	11	11	11	11		10.75	11.4	42	47.9
R14	13	13	12	13	13		12.70	14.4	49	55
R15	10	11	11	11	11		10.85	13.2	43	48.5
R16	8	12	11	12	12		10.90	14.6	46	51.8
R17	10	12	12	13	12		11.85	13.2	48	48.9
R18	11	11	12	10	11		10.95	12.1	*	47.7
R19	11	12	11	11	11		11.20	12.5	47	49.5
R20	11	11	11	11	11		10.95	12.4	46	50.2
R21	10	11	11	11	11		10.80	13	45	53
R22	12	11	11	11	11		11.20	12.6	47	50.2
R23	11	11	10	10	11		10.55	12	40	46.3
R24	13	12	12	12	12		12.15	13.1	49	50.2
R25	13	11	11	12	12		11.75	13.1	46	50.2
R26	11	12	11	12	11		11.45	13.2	47	49.1
R27	12	11	11	11	12		11.40	12.4	38	46.4
R28	10	10	10	10	10		9.95	12.1	46	45.1
R29	12	12	11	12	12		11.75	12.8	48	50.2
R30	12	12	12	12	12		12.05	13.6	43	51.1
R31	12	11	10	11	12		11.15	12.4	50	47.7
R32	7	13	12	12	12		11.20	13.6	41	52.2
R33	10	10	10	10	10		10.05	11.7	37	42.6
R34	10	10	10	10	10		10.05	11.8	40	42.7
R35	11	8	8	11	10		9.60	11.4	46	46.2
R36	12	12	12	12	11		11.80	13.9	46	52.3
R37	12	12	11	12	12		11.85	13.5	45	50.5
R38	11	11	11	11	11		10.95	12.5	43	50.7
R39	11	11	10	11	13		11.15	12.1	46	45.2
R40	12	12	12	13	12		12.10	13.3	38	52.1
R41	11	10	10	11	11		10.55	12.4	27	48.4
R42	8	8	7	7	8		7.50	8	49	30.4
R43	13	13	12	13	11		12.45	14.6	47	52.6
Averages	**11**	**11**	**12**	**13**	**11**		11.69	**13**	**44**	**49**

C. Airborne Program

Air particulate and air iodine samples were collected each week from the eight monitoring locations described in Table 1 – Comanche Peak Nuclear Power Plant Environmental Radiological Monitoring Program (as seen in section II.A). Each air particulate sample was collected by drawing air through a 47 millimeter-diameter glass-fiber filter. Air iodine was collected by drawing air through an impregnated charcoal cartridge which was connected in series behind the air particulate filter. Shipped to an independent laboratory, air particulate filters were analyzed weekly for gross beta activity and were composited quarterly for gamma spectrometry analysis. Charcoal cartridges were analyzed weekly for Iodine-131.

A total of 416 air particulate filters were collected and analyzed for gross beta activity. The reported gross beta activity ranged from a minimum value of **1.01E-2 pCi/m^3** to a maximum value of **9.70E-02 pCi/m^3** (control group excluded). Table 4 – Environmental Airborne Particulate Gross Beta Results contains the reported values of all samples. Graph 1 – Environmental Air Sample Gross Beta Results – Maximum and Minimum trends the weekly high and low gross beta values to show the seasonal variation of the results as well as providing indication of consistency between the individual monitoring locations.

A total of 416 charcoal cartridges were analyzed for airborne Iodine-131. Table 5 – Environmental Air Sample Iodine-131 Results contains the reported values of each Iodine-131 analysis, all of which are less than reportable levels.

All air particulate filters were collected and composited quarterly and then analyzed by gamma spectrometry. Typical of pre-operational and previous operational data results, the only radioactive nuclide identified in all the samples was cosmogenic Beryllium-7, a naturally occurring isotope.

During the year 2021, there were exceptions to the Airborne Program.

TR-2021-000112: While performing the weekly environmental run is was discovered locations A-5 & A-7 did not have power to run the air samplers. Power Fail is due to a blown fuse on the 25kv loop. Breaker reset by ONCOR to return power to air samplers.

TR-2021-001417: While performing the weekly environmental run for collection air sample data, it was found that location A-3 was not running due to a blown fuse. Air Sampler had a run time of 4 hours and 53 minutes. Fuse replaced and unit put back in service. The sample didn't meet the required I-131 LLD due to sample volume.

TR-2021-001727: While performing the weekly Environmental Run, it was found air sample location A-1 was not running. Water pipes had frozen in the pump station during winter blast. The team had to fix pipes and needed to cut power to the pump house to do so. The breaker box that

supplies power to the air sampler is located in pump house. The breaker was never turned back on. Sample collection was done on 3/9/2021.

TR-2021-002576: When performing the air sample collection on 4-13-21, if was found the location A-2 was not running. The GFI plug was tripped from the storms that rolled in. Reset GFI plug, Air sampler returned to normal function.

TR-2021-003181: While performing the weekly Environmental Air Sample collecting, it was found on 5-11-21 that air sample station A-1 (Squaw Creek Park) had a blown fuse. The suspected cause is the severe weather that rolled in last week. The fuse was replaced and station was up and running again. The sample time was 50 hours and 42 minutes out of a possible 168 hours.

TR-2021-003983: There is NO power to A-8 and State-1 Environmental Air samplers. This is a power source for the air sample stations only, with no other equipment being supplied. Power was not available from 6/15/2021 till 6/22/21 due to a hands-off order from the State of Texas Electric grid operators. Power to the power line was restored 6/22/2021 at approximately 10:15 am.

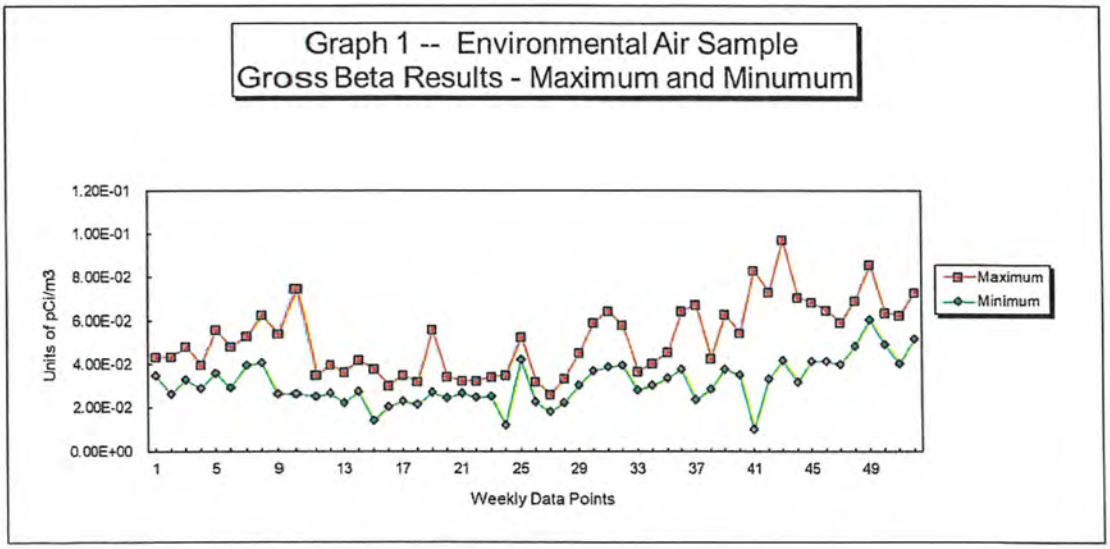
TR-2021-005883: On 9-14-21 during the weekly environmental run it was found that air sampler # 2226 location A-1 (Squaw Creek Park) had an equipment malfunction. Field diagnoses indicates the veins in pump may have failed. There was no way to determine how long the air sampler collect any sample since the sample timer was still running for the entire period. Air Sampler replaced on 9-14-21.

TR-2022-001463: On Jan 11th 2022 it was discovered that air sample data received from Gel Laboratories for location A-7 did not meet the required LLD for particulate and iodine. The air sampler in the area had been changed out and replaced with air sampler 2226 on November 2, 2021. Following the identification of the data received the air sampler was removed from service and sent for a re-calibration. It was found that the air sampler flow was actually 79 liters per minute (LPM) instead of the 30 LPM the flow site glass was displaying. Based on the findings Gel Labs was contacted and the following work orders (561663, 562483, 563319, 563543, 564523, 565204, 565868, 566105) were revised with the up to date data recalculated with actual flow rate.

Table 4 -- Environmental Airborne Particulate Gross Beta Results
(Units of pCi/m3)

	A-8	A-7	A-5	A-6	A-4	A-3	A-1	A-2
	Location							
	NW-1.0	SW/WSW-0.95	S/SSW-1.2	SW-12.3	SSE-4.5	E-3.5	N-1.45	N-9.4
Date				Control				Control
01-05-21	3.49E-02	*	*	3.70E-02	3.68E-02	3.78E-02	3.50E-02	4.35E-02
01-12-21	4.32E-02	3.69E-02	4.08E-02	2.66E-02	3.72E-02	4.31E-02	3.66E-02	3.98E-02
01-19-21	3.88E-02	4.50E-02	3.62E-02	3.51E-02	3.30E-02	4.81E-02	3.93E-02	3.92E-02
01-26-21	3.55E-02	3.85E-02	3.86E-02	2.91E-02	2.81E-02	3.97E-02	3.24E-02	3.47E-02
02-02-21	5.37E-02	4.44E-02	5.59E-02	3.60E-02	4.94E-02	4.55E-02	4.62E-02	4.99E-02
02-09-21	4.20E-02	3.68E-02	4.06E-02	2.94E-02	3.19E-02	4.61E-02	4.06E-02	4.80E-02
02-16-21	5.13E-02	4.24E-02	5.29E-02	3.96E-02	3.95E-02	5.00E-02	4.62E-02	4.72E-02
02-23-21	6.15E-02	5.44E-02	6.20E-02	4.08E-02	4.80E-02	*	6.10E-02	6.24E-02
03-02-21	2.95E-02	2.99E-02	2.83E-02	2.62E-02	2.86E-02	5.42E-02	2.63E-02	3.14E-02
03-09-21	4.08E-02	3.65E-02	3.28E-02	2.65E-02	2.74E-02	4.00E-02	7.46E-02	3.63E-02
03-16-21	2.95E-02	2.31E-02	2.91E-02	3.12E-02	3.50E-02	3.17E-02	3.05E-02	2.54E-02
03-23-21	3.17E-02	2.68E-02	2.98E-02	3.28E-02	3.35E-02	3.03E-02	3.97E-02	2.84E-02
03-30-21	3.38E-02	2.23E-02	2.59E-02	3.18E-02	3.64E-02	3.13E-02	3.39E-02	2.57E-02
04-06-21	4.20E-02	2.76E-02	3.23E-02	3.81E-02	3.69E-02	3.75E-02	3.81E-02	3.11E-02
04-13-21	3.37E-02	2.41E-02	2.99E-02	3.80E-02	3.20E-02	3.64E-02	3.71E-02	1.43E-02
04-20-21	2.67E-02	2.06E-02	2.38E-02	2.49E-02	2.61E-02	3.02E-02	3.02E-02	2.38E-02
04-27-21	3.45E-02	2.63E-02	2.30E-02	3.38E-02	3.48E-02	3.17E-02	3.31E-02	2.86E-02
05-04-21	3.21E-02	2.40E-02	2.17E-02	2.84E-02	3.17E-02	2.60E-02	2.42E-02	2.44E-02
05-11-21	3.36E-02	3.58E-02	2.72E-02	3.34E-02	3.25E-02	3.46E-02	5.57E-02	3.69E-02
05-18-21	2.84E-02	2.89E-02	2.81E-02	2.46E-02	3.42E-02	2.56E-02	2.68E-02	3.30E-02
05-25-21	2.67E-02	3.14E-02	2.89E-02	2.68E-02	2.83E-02	3.12E-02	2.91E-02	3.24E-02
06-01-21	2.56E-02	2.62E-02	2.81E-02	2.82E-02	2.51E-02	2.83E-02	2.84E-02	3.22E-02
06-08-21	2.95E-02	3.16E-02	3.07E-02	3.23E-02	2.62E-02	2.84E-02	2.53E-02	3.41E-02
06-15-21	3.20E-02	3.25E-02	2.96E-02	1.21E-02	3.28E-02	3.48E-02	2.91E-02	3.39E-02
06-22-21	*	5.14E-02	4.80E-02	4.29E-02	4.21E-02	4.42E-02	4.48E-02	5.26E-02
06-29-21	2.54E-02	3.14E-02	2.72E-02	2.29E-02	2.73E-02	2.74E-02	3.21E-02	3.15E-02
07-06-21	2.00E-02	2.61E-02	2.45E-02	1.83E-02	2.28E-02	2.44E-02	2.35E-02	2.11E-02
07-13-21	2.32E-02	2.95E-02	2.87E-02	2.22E-02	2.79E-02	2.65E-02	2.87E-02	3.33E-02
07-20-21	3.05E-02	4.12E-02	3.52E-02	3.99E-02	3.42E-02	4.01E-02	3.38E-02	4.53E-02
07-27-21	3.70E-02	5.55E-02	4.15E-02	4.26E-02	4.85E-02	5.33E-02	4.61E-02	5.93E-02
08-03-21	3.88E-02	6.42E-02	4.79E-02	4.03E-02	4.98E-02	4.97E-02	4.35E-02	5.61E-02
08-10-21	4.42E-02	5.44E-02	4.81E-02	3.98E-02	4.76E-02	4.46E-02	4.71E-02	5.79E-02
08-17-21	2.83E-02	3.47E-02	3.26E-02	3.24E-02	3.55E-02	3.31E-02	3.09E-02	3.67E-02
08-24-21	3.04E-02	4.04E-02	3.65E-02	3.35E-02	3.33E-02	3.33E-02	3.54E-02	3.81E-02
08-31-21	3.82E-02	3.84E-02	4.08E-02	3.39E-02	3.82E-02	3.50E-02	3.70E-02	4.56E-02
09-07-21	3.77E-02	5.77E-02	4.58E-02	4.38E-02	4.12E-02	4.36E-02	4.68E-02	6.45E-02
09-14-21	5.00E-02	6.64E-02	5.98E-02	4.51E-02	5.79E-02	4.68E-02	2.40E-02	6.74E-02
09-21-21	2.87E-02	4.26E-02	3.20E-02	3.02E-02	3.41E-02	3.64E-02	4.10E-02	4.03E-02
09-28-21	3.77E-02	5.49E-02	4.48E-02	4.53E-02	5.82E-02	4.29E-02	6.29E-02	4.48E-02
10-05-21	3.82E-02	4.69E-02	3.93E-02	3.53E-02	4.66E-02	3.83E-02	5.44E-02	5.30E-02
10-12-21	5.83E-02	8.01E-02	6.63E-02	5.62E-02	1.81E-02	6.03E-02	1.01E-02	8.32E-02
10-19-21	3.33E-02	4.88E-02	4.09E-02	3.50E-02	3.54E-02	3.64E-02	7.30E-02	5.62E-02
10-26-21	4.20E-02	6.27E-02	5.29E-02	5.57E-02	5.65E-02	6.39E-02	5.73E-02	9.70E-02
11-02-21	3.20E-02	7.06E-02	4.04E-02	3.47E-02	3.79E-02	3.94E-02	3.91E-02	6.08E-02
11-09-21	4.93E-02	4.14E-02	5.98E-02	5.81E-02	5.97E-02	5.90E-02	6.64E-02	6.85E-02
11-16-21	5.25E-02	4.15E-02	6.16E-02	6.48E-02	6.09E-02	6.03E-02	6.06E-02	4.78E-02
11-23-21	4.55E-02	4.01E-02	5.49E-02	5.44E-02	5.43E-02	5.90E-02	5.68E-02	4.55E-02
11-30-21	5.19E-02	4.84E-02	6.42E-02	6.92E-02	5.91E-02	5.51E-02	6.55E-02	5.33E-02
12-07-21	6.17E-02	6.06E-02	8.57E-02	7.57E-02	7.47E-02	6.66E-02	7.90E-02	6.43E-02
12-14-21	4.94E-02	4.92E-02	5.86E-02	6.36E-02	5.49E-02	5.20E-02	6.26E-02	4.69E-02
12-21-21	5.23E-02	4.05E-02	6.26E-02	4.67E-02	5.39E-02	5.04E-02	6.12E-02	4.74E-02
12-28-21	5.95E-02	5.18E-02	7.28E-02	6.78E-02	6.40E-02	5.55E-02	7.21E-02	4.88E-02
Required LLD	1.00E-02							

*Please reference IRs located in this section


Graph 1 -- Environmental Air Sample
Gross Beta Results - Maximum and Minumum
1.20E-01
1.00E-01
8.00E-02
6.00E-02
4.00E-02
2.00E-02
0.00E+00
Units of pCi/m3
1
5
9
13
17
21
25
29
33
37
41
45
49
Weekly Data Points
Maximum
Minimum

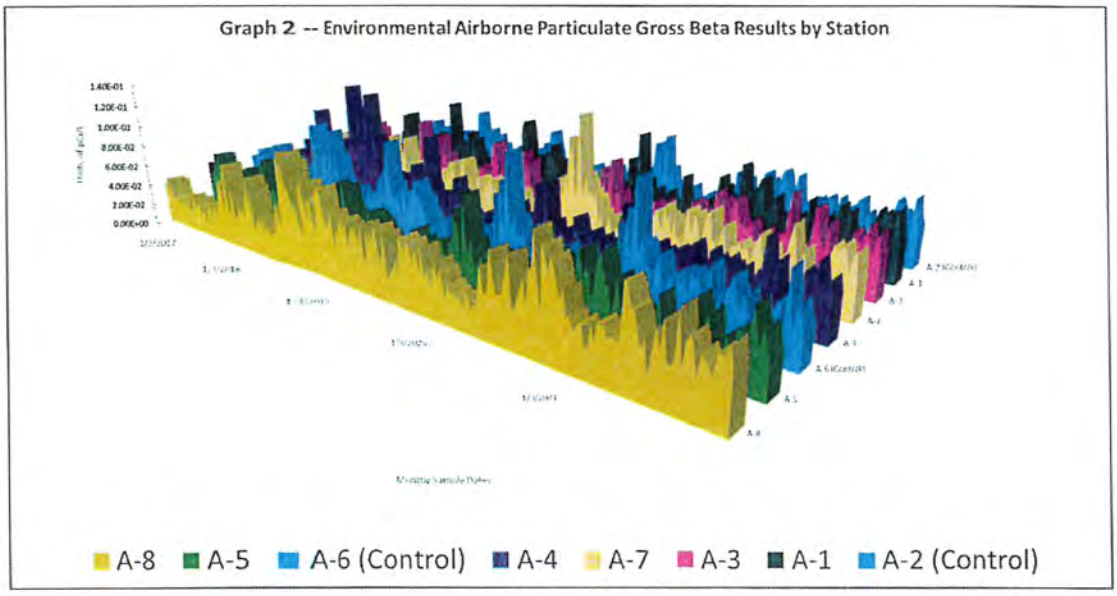

Graph 2 -- Environmental Airborne Particulate Gross Beta Results by Station
A-8
A-5
A-6 (Control)
A-4
A-7
A-3
A-1
A-2 (Control)

Table 5-- -- Environmental Air Sample Iodine-131 Results

(Units of pCi/m3)
All sample analysis results are <MDC values listed below in the following table

	A-8	A-7	A-5	A-6	A-4	A-3	A-1	A-2
	Location							
	NW-1.0	SW/WSW-0.95	S/SSW-1.2	SW-12.3	SSE-4.5	E-3.5	N-1.45	N-9.4
Date				Control				Control
01-05-21	6.91E-03	*	*	1.32E-02	5.79E-03	9.21E-03	8.55E-03	8.42E-03
01-12-21	2.22E-02	2.14E-02	2.54E-02	1.89E-02	1.69E-02	2.69E-02	2.47E-02	1.69E-02
01-19-21	1.05E-02	9.43E-03	7.41E-03	1.61E-02	1.00E-02	8.77E-03	7.09E-03	6.51E-03
01-26-21	9.73E-03	1.84E-02	1.16E-02	1.58E-02	1.67E-02	2.17E-02	1.47E-02	1.81E-02
02-02-21	1.12E-02	8.26E-03	9.35E-03	1.04E-02	1.06E-02	1.66E-02	7.89E-03	1.44E-02
02-09-21	1.46E-02	2.28E-02	1.27E-02	1.66E-02	1.17E-02	1.25E-02	1.12E-02	1.18E-02
02-16-21	2.11E-02	1.97E-02	1.35E-02	1.51E-02	1.84E-02	1.89E-02	1.52E-02	1.84E-02
02-23-21	1.62E-02	1.41E-02	1.86E-02	2.09E-02	1.82E-02	*	1.68E-02	2.01E-02
03-02-21	2.19E-02	1.15E-02	1.29E-02	1.59E-02	1.03E-02	1.49E-02	1.07E-02	1.08E-02
03-09-21	3.59E-02	1.88E-02	1.57E-02	1.20E-02	1.74E-02	2.43E-02	6.93E-02	2.07E-02
03-16-21	2.00E-02	2.05E-02	1.87E-02	1.51E-02	2.28E-02	1.87E-02	1.32E-02	1.85E-02
03-23-21	1.43E-02	1.00E-02	9.47E-03	1.03E-02	1.10E-02	1.11E-02	1.15E-02	1.16E-02
03-30-21	1.59E-02	1.64E-02	1.65E-02	1.49E-02	1.47E-02	1.16E-02	1.28E-02	1.99E-02
04-06-21	2.52E-02	3.28E-02	2.62E-02	2.13E-02	3.41E-02	2.55E-02	2.83E-02	2.87E-02
04-13-21	2.17E-02	1.96E-02	2.29E-02	2.61E-02	2.42E-02	2.25E-02	2.40E-02	1.41E-02
04-20-21	2.36E-02	2.66E-02	2.31E-02	3.50E-02	3.26E-02	2.49E-02	1.87E-02	4.27E-02
04-27-21	3.91E-02	4.02E-02	3.39E-02	1.24E-02	2.45E-02	2.76E-02	1.75E-02	3.18E-02
05-04-21	2.01E-02	2.79E-02	1.77E-02	2.76E-02	2.26E-02	2.03E-02	1.95E-02	2.30E-02
05-11-21	1.09E-02	1.59E-02	1.14E-02	1.33E-02	1.31E-02	1.00E-02	4.47E-02	2.71E-02
05-18-21	1.26E-02	8.72E-03	1.77E-02	1.55E-02	1.53E-02	1.73E-02	1.38E-02	8.95E-03
05-25-21	2.55E-02	2.41E-02	3.00E-02	2.86E-02	2.08E-02	2.51E-02	2.91E-02	3.18E-02
06-01-21	2.76E-02	1.35E-02	2.19E-02	6.15E-03	7.37E-03	2.10E-02	1.96E-02	1.77E-02
06-08-21	1.79E-02	3.08E-03	1.32E-02	1.91E-02	1.71E-02	1.49E-02	1.37E-02	1.40E-02
06-15-21	1.83E-02	9.16E-03	1.23E-02	1.59E-02	2.03E-02	1.49E-02	1.93E-02	1.31E-02
06-22-21	*	1.93E-02	1.87E-02	2.40E-02	2.66E-02	1.38E-02	1.38E-02	1.46E-02
06-29-21	1.70E-02	1.54E-02	2.17E-02	6.55E-03	1.46E-02	1.05E-02	1.49E-02	1.12E-02
07-06-21	9.04E-03	9.66E-03	1.05E-02	9.43E-03	1.08E-02	1.67E-02	1.09E-02	1.18E-02
07-13-21	1.01E-02	1.39E-02	5.99E-03	8.43E-03	1.07E-02	8.03E-03	1.14E-02	7.20E-03
07-20-21	1.40E-02	1.49E-02	1.70E-02	1.47E-02	1.57E-02	1.89E-02	1.58E-02	1.61E-02
07-27-21	2.48E-02	2.07E-02	2.31E-02	4.03E-02	3.04E-02	2.18E-02	2.42E-02	2.93E-02
08-03-21	2.95E-02	2.60E-02	2.53E-02	3.48E-02	2.73E-02	2.46E-02	2.11E-02	3.28E-02
08-10-21	1.33E-02	1.26E-02	1.21E-02	1.52E-02	1.60E-02	1.34E-02	1.42E-02	1.12E-02
08-17-21	1.33E-02	1.29E-02	1.42E-02	8.68E-03	8.96E-03	1.05E-02	1.44E-02	1.27E-02
08-24-21	1.46E-02	1.47E-02	7.89E-03	1.29E-02	9.64E-03	1.49E-02	6.91E-03	1.49E-02
08-31-21	1.07E-02	1.14E-02	1.04E-02	7.29E-03	8.92E-03	1.05E-02	1.03E-02	1.00E-02
09-07-21	2.13E-02	1.24E-02	1.64E-02	1.72E-02	1.25E-02	1.16E-02	1.35E-02	1.41E-02
09-14-21	1.36E-02	7.74E-03	2.04E-02	1.08E-02	5.41E-02	2.24E-02	1.31E-02	1.13E-02
09-21-21	1.36E-02	1.15E-02	1.40E-02	1.56E-02	1.38E-02	1.71E-02	1.27E-02	1.10E-02
09-28-21	1.09E-02	9.71E-03	9.98E-03	8.01E-03	1.45E-02	8.23E-03	1.03E-02	1.12E-02
10-05-21	1.95E-02	1.48E-02	1.67E-02	1.41E-02	1.35E-02	2.03E-02	2.02E-02	1.29E-02
10-12-21	9.23E-03	1.08E-02	6.31E-03	1.48E-02	1.04E-02	1.09E-02	1.26E-02	1.22E-02
10-19-21	1.40E-02	1.51E-02	1.63E-02	1.64E-02	1.59E-02	1.10E-02	1.24E-02	7.00E-02
10-26-21	1.66E-02	1.25E-02	1.73E-02	1.41E-02	2.13E-02	1.38E-02	1.63E-02	1.02E-02
11-02-21	1.72E-02	2.09E-02	1.99E-02	1.95E-02	1.52E-02	2.48E-02	2.19E-02	1.75E-02
11-09-21	1.24E-02	4.35E-03	1.28E-02	1.47E-02	1.37E-02	1.27E-02	1.64E-02	8.07E-03
11-16-21	1.00E-02	4.74E-03	1.37E-02	9.29E-03	1.67E-02	1.15E-02	1.15E-02	1.33E-02
11-23-21	1.13E-02	3.59E-03	1.11E-02	1.11E-02	1.23E-02	1.22E-02	1.08E-02	9.30E-03
11-30-21	1.01E-02	5.10E-03	6.67E-03	7.44E-03	1.35E-02	1.60E-02	9.54E-03	1.60E-02
12-07-21	1.63E-02	4.77E-03	9.78E-03	1.68E-02	1.35E-02	1.25E-02	1.37E-02	2.07E-02
12-14-21	1.27E-02	4.14E-03	8.98E-03	8.07E-03	1.56E-02	1.08E-02	1.02E-02	8.91E-03
12-21-21	8.28E-03	4.26E-03	8.40E-03	1.49E-02	1.87E-02	1.41E-02	1.17E-02	9.60E-03
12-28-21	1.26E-02	5.70E-03	1.30E-02	1.26E-02	2.05E-02	1.28E-02	2.55E-02	1.44E-02
Required LLD	7.00E-02							

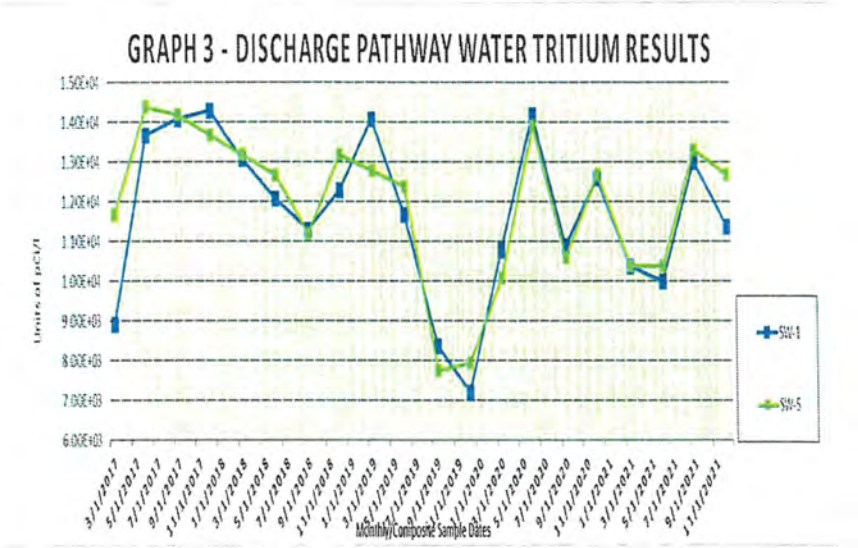
D. Discharge Pathway Surface Water Program

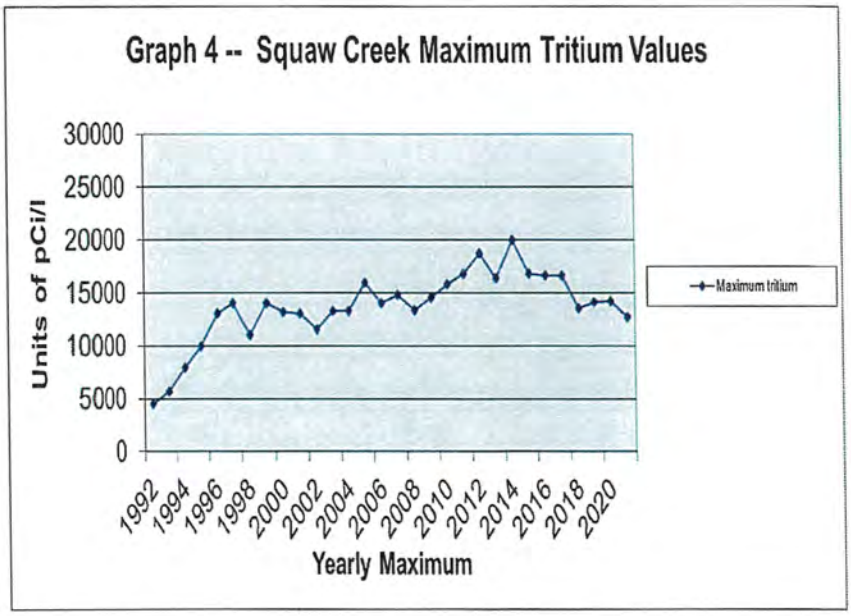
Discharge Pathway Surface water monitoring stations are found at four locations as detailed in Table 1 – Comanche Peak Nuclear Power Plant Radiological Environmental Monitoring Program. Location N-1.5 provides samples representative of Squaw Creek reservoir surface water at a location beyond significant influence of the plant discharge. Location ESE-1.4 provides samples representative of discharges from Squaw Creek reservoir downstream to Squaw Creek and to Lake Granbury via an installed return line. [*NOTE: The installed return line to Lake Granbury has never been used to send water back to Lake Granbury.*] Location NE-7.4 provides samples of Lake Granbury surface water downstream of the discharge from the return line from Squaw Creek reservoir. A control sample is obtained from the Brazos River, upstream of Lake Granbury at location N-19.3. Discharge Pathway Surface water samples from Squaw Creek reservoir locations were collected weekly and composited for monthly gamma isotopic analysis. Samples from Lake Granbury locations were collected monthly and analyzed by gamma spectrometry. All Discharge Pathway Surface Water samples were also composited quarterly by location for tritium analysis.

All Discharge Pathways Surface Water samples were collected as required. Forty-eight samples were analyzed by gamma spectrometry. All results for the required radionuclides were reported as less than the required LLDs. Sixteen quarterly composited samples were analyzed for tritium. The results of the reported tritium values for Squaw Creek reservoir were in line with expected concentrations. The tritium values ranged from a high of **1.33E+04** pCi/l to a low of **1.00E+04** pCi/l. The results from Lake Granbury were all less than the required LLDs as expected. The tritium concentration reported in Squaw Creek is well below the action level of **3.00E+4** pCi/l and is following the expected concentration variations based on fuel cycles, power histories and reservoir makeup due to rain and pump transfers from Lake Granbury. Graph 3 – Discharge Pathway Water Tritium Results indicates the current results and the short-term trend of the tritium concentration in Squaw Creek reservoir, Squaw Creek spillway, Lake Granbury, and Brazos River (control location). Graph 4 – Squaw Creek Maximum Tritium Values trends the reservoir tritium concentration since it was first detected in 1990 after Unit 1 startup. **Squaw Creek reservoir tritium is a direct product from the operation of CPNPP.**

There should not be any significant changes in the tritium concentrations in the near future and no action levels are anticipated. A review of pre-operational and operational data indicated the 2021 results were both expected and consistent with previous data and that no anomalies had occurred.

During the year 2021, there were no exceptions to the Discharge Pathway Surface Water.





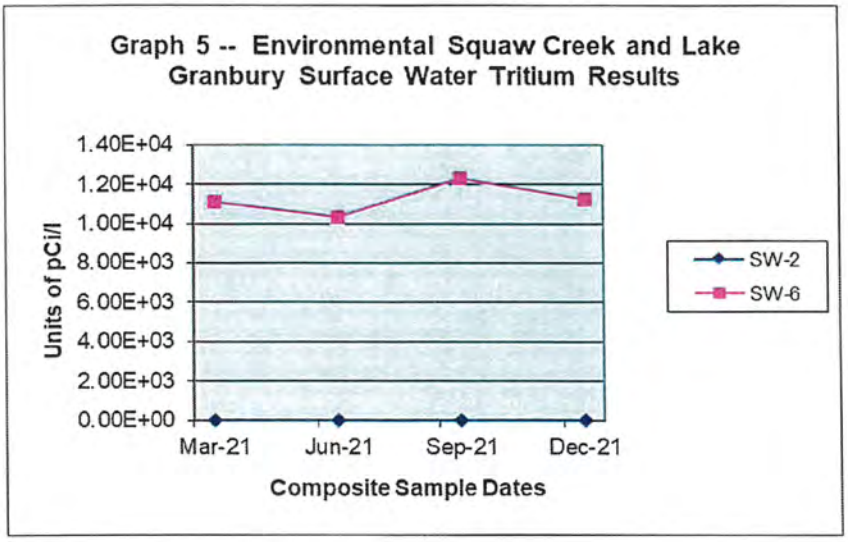
E. Squaw Creek and Lake Granbury Surface Water Program

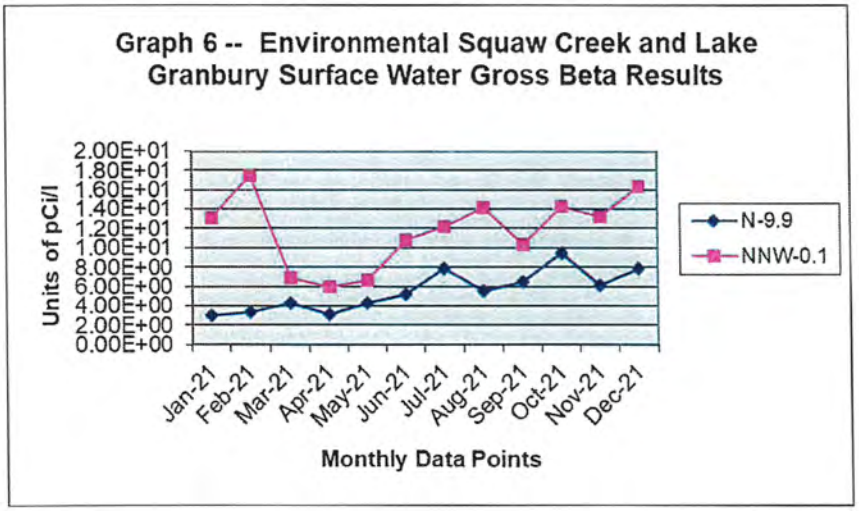
Surface water was collected at two monitoring locations. Table 1 -- Comanche Peak Nuclear Power Plant Radiological Environmental Monitoring Program details the location and types of analysis required. Samples of water from Squaw Creek reservoir were collected at the monitoring location NNW-0.1. There is not a surface water drinking source within a mile of CPNPP. Monitoring location N-9.9 is used as a surface drinking water location based on the proximity of the City of Granbury intake to the Granbury potable water system. All surface water samples were collected weekly and then composited for Iodine-131 analysis, gamma isotopic analysis, and gross beta analysis on a monthly basis. Tritium analysis was performed on a quarterly basis.

All samples were analyzed for gamma emitting radionuclides. There were no gamma emitting radionuclides identified in any of the twenty-four composite samples. Tritium reported in Squaw Creek reservoir ranged from **1.23E+04 pCi/l to 1.03E+04 pCi/l** and **averaged 1.13E+04 pCi/l.** Tritium reported from all Lake Granbury water samples indicated less than the required LLD as expected. Graph 5 – Environmental Squaw Creek and Lake Granbury Surface Water Tritium Results trends the results reported for the year 2021.

Graph 6 – Environmental Squaw Creek and Lake Granbury Surface Water Gross Beta Results trends the gross beta results for the two monitor locations and indicates no influence from Comanche Peak in the levels detected in the two different bodies of water. Gross Beta results at the indicator location NNW-0.1 ranged from **5.87+00 pCi/l to 1.74E+01 pCi/l** with an average of **11.6E+00 pCi/l**. Gross Beta results at the control location N-9.9 ranged from **3.05E+00 pCi/l to 9.43E+00 pCi/l** with an average of **6.24E+00 pCi/l.** Past gross beta results for Lake Granbury have been as high as **1.23E+01 pCi/l**, which is still within acceptable levels for gross beta**.** The gross beta results received are within values previously reported and there is no reportable level for gross beta so no action is required at this time.

During the year 2021, there were no exception to the Surface Water Program.


Graph 5 -- Environmental Squaw Creek and Lake Granbury Surface Water Tritium Results
1.40E+04
1.20E+04
1.00E+04
8.00E+03
6.00E+03
4.00E+03
2.00E+03
0.00E+00
Units of pCi/l
Mar-21
Jun-21
Sep-21
Dec-21
Composite Sample Dates
SW-2
SW-6


Graph 6 -- Environmental Squaw Creek and Lake Granbury Surface Water Gross Beta Results
2.00E+01
1.80E+01
1.60E+01
1.40E+01
1.20E+01
1.00E+01
8.00E+00
6.00E+00
4.00E+00
2.00E+00
0.00E+00
Units of pCi/l
Jan-21
Feb-21
Mar-21
Apr-21
May-21
Jun-21
Jul-21
Aug-21
Sep-21
Oct-21
Nov-21
Dec-21
Monthly Data Points
N-9.9
NNW-0.1

F. Ground Water Program

Table 1 – Comanche Peak Nuclear Power Plant Radiological Environmental Monitoring Program specifies the five groundwater monitoring locations. Groundwater supplies in the site area are not affected by plant effluents and are sampled only to provide confirmation that groundwater is not affected by plant discharges. Groundwater samples were collected quarterly and analyzed for gamma isotopes and tritium at each location.

A total of twenty groundwater samples were collected from the five different monitoring locations. There were no radionuclides identified in any of the samples. All required LLDs were met for each required gamma emitting radionuclide. Tritium analysis was performed on twenty samples, all indicated less than the required LLD. The results confirm that plant discharges are having no effect on groundwater in the area surrounding Comanche Peak.

Groundwater samples are taken quarterly in accordance with STA-654, "Groundwater Protection Program".

During the year 2021, there were no exceptions to the Ground Water Program.

G. Sediment Program

Table 1 – Comanche Peak Nuclear Power Plant Radiological Environmental Monitoring Program specifies shoreline sediments were collected at four different monitoring locations. One sample location is along the shore of Squaw Creek Reservoir, one sample location is on Squaw Creek downstream of the dam discharge and two locations are along Lake Granbury's shores. Each sample is collected on a six-month frequency and sent to the contract laboratory for analysis by gamma spectrometry.

The process of shoreline sedimentation is a complex evolution whereby potential radionuclides and stable elements may concentrate in the bottom sediment of particular bodies of water. The concentrations are affected by such things as colloidal particles combining with chelating agents and biological action of bacteria and other benthic organisms. Monitoring of the area shorelines provides one of the first and best indicators of radionuclide deposition.

As expected, and in agreement with previous results from both the pre-operational and operational programs, naturally occurring Potassium-40 was detected in all eight samples and Beryillum-7 was detected in three of the samples. All required radionuclide results were reported as less than the required LLDs. During previous years, both pre-operational and operational, positive indications occasionally had been noted for Cesium-137 however during 2021 there was two positive Cesium-137 results reported. As expected, there were no results in any sediment sample that indicated any direct influence from CPNPP discharges to the local environment.

During the year 2021, there were no exceptions to the Sediment Program

H. Fish Program

Fish samples were collected at two locations. One monitoring location is an area approximately 0.1 miles south-east of the site on Squaw Creek Reservoir. The second location is on Lake Granbury approximately eight miles north-northeast of the site. Fish sampling is scheduled for the months of April and November. The collected fish are frozen and shipped to the independent laboratory where the edible portions are analyzed for gamma emitting radionuclides.

Tritium analysis is performed annually on Squaw Creek fish (CR-2014-013335). The analysis of the (cooked) fish sample collected on May 5, 2020 from Squaw Creek indicates a positive Tritium (TR-2020-004597) analysis result consistent with previous years. This is not an ODCM required sample/analysis, and there is NO reporting level. The sample/analysis of cooked fish from Squaw Creek was a recommendation during an audit.

Catfish and Bass samples were analyzed. There were no positive results reported except for the expected Potassium-40, which is naturally occurring in all living organisms. All required radionuclide results were reported as less than the required LLDs. As a result of the fish-sampling program, there were no anomalies noted and no indication of any influence on the surrounding environment from Comanche Peak plant discharges.

No abnormal results were reported by CPNPP or by the State of Texas. As expected, Potassium-40 was the only positive isotope found.

During the year 2021 there was one exception to the Fish Program.

TR-2022-000484: The analysis of the (uncooked) fish sample collected on December 9, 2021 from Squaw Creek indicates a positive tritium analysis result (7.62 pCi/g) consistent with previous years: 6.18 pCi/g in 2020, 6.82 pCi/g in 2019 and 11.28 pCi/g in 2017. This is not an ODCM required sample/analysis, and there is NO reporting level. The sample/analysis of cooked fish from Squaw Creek was a recommendation during an audit.

I. Food Products Program

Food products (pecans/corn) were collected at the time of harvest. The samples are obtained at monitoring location ENE-9.0 and location E-4.2 at the time of harvest and are shipped to the contract laboratory for gamma isotopic analysis.

Naturally occurring Potassium 40 was detected in the samples as expected and all other required radionuclide results were reported as less than the required LLDs.

During the year 2021, there were no exceptions to the Food Products Program.

J. Broadleaf Program

Broadleaf sample collection is conducted in accordance with the requirements of the Radiological Environmental Monitoring Program. The program specifies the sampling based on the absence of milk monitoring locations. One broadleaf control location is located at SW-13.5 in the vicinity of the previous control milk location. The two indicator locations, N-1.45 and SW-1.0, are located near the site boundaries. The broadleaf samples consist of mainly native grasses and are analyzed for Iodine-131 and gamma emitting isotopes.

All radionuclide analysis met their required LLDs. The naturally occurring radionuclides of Potassium-40 was found in 36 of 36 samples taken and radionuclide Beryllium-7 was present in 36 of 36 samples.

During the year 2021, there were no exception to the Broadleaf Program.

K. Conclusions

Based on the results presented in this report and from comparisons with the pre-operational and operational program results from previous years, it can be concluded that the impact of Comanche Peak on the environment is minimal. The only indication directly attributable to Comanche Peak is the tritium detected in Squaw Creek reservoir.

The tritium in Squaw Creek reservoir is reaching equilibrium and is expected to remain well below the reportable level.

Gross beta trend indications concerning Squaw Creek Reservoir are consistent with previous values and do not indicate any increase due to influence from Comanche Peak. Future data will be evaluated as it is received and will be addressed as necessary.

There were no values reported during the year 2021 that exceeded any NRC reportable limit.

L. Inter Laboratory Comparison and Cross Check Program

GEL Laboratories LLC

GEL Laboratories LLC is the independent contract laboratory that processes the radiological environmental monitoring samples collected by CPNPP. The contract laboratory is required to participate in an Interlaboratory Comparison Program in accordance with the ODCM Control 3.12.3. GEL participates in multiple programs to ensure all environmental media sent to them are analyzed to the proper standards.

GEL Laboratories, LLC (GEL) is a privately owned environmental laboratory. GEL was established as an analytical testing laboratory in 1981. Now a full-service lab, their analytical divisions use state of the art equipment and methods to provide a comprehensive array of organic, inorganic, and radiochemical analyses.

GEL administers the QA program in accordance with the Quality Assurance Plan, GL-QSB-001. Their Quality Systems include all quality assurance (QA) policies and quality control (QC) procedures necessary to plan, implement, and assess the work they perform. GEL's QA Program establishes a quality management system (QMS) that governs all of the activities of their organization.

GEL Laboratories NUPIC Audit

Summary

The NUPIC Audit was conducted at GEL Laboratories, 2040 Savage Road, Charleston, SC 29407 during the time period of August 29, 2019. A Technical Specialist, conducted tours, observations, interviews, reviewed Standard Operating Procedures, and reviewed data. Radiochemical, Radiation Environmental Monitoring Program (REMP), Radiological Effluent, and Ground Water analyses were observed in the various laboratories. Previous Technical Audit reports from GEL were reviewed prior to the audit visit. Recommended actions or deltas from previous audits were pursued during this visit to see how GEL had reconciled these previously identified issues. Additionally, known deviations (data error reports) in data reporting from working through with GEL through EnRad Laboratories were a topic of interest. GEL's Quality Assurance Plan is designed to comply with the specifications outlined in the following NUPIC recognized documents: ANSI N42.23-1996 Measurement and Associated Instrument Quality Assurance for Radiobioassay Laboratories, 10 CFR Part 21 – Reporting of Defects and Noncompliance, 10 CFR Part 50 Appendix B – Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants, 10 CFR Part 61 – Licensing Requirements for Land Disposal of Radioactive Waste, NRC Reg Guide 4.8, and NRC Reg Guide 4.15. At the conclusion of the technical audit, it was found that GEL is in compliance with the quality control standards imposed by the above regulations and those of their Quality Assurance Plan and Standard Operating Procedures.

Technical Specialist Conclusion

The results of this audit were discussed during the Exit Meeting on August 29, 2019. It was found that GEL is in compliance with the quality control standards imposed by the specifications outlined in the following NUPIC recognized documents: ANSI N42.23-1996 - Measurement and Associated Instrument Quality Assurance for Radiobioassay Laboratories, 10 CFR Part 21 – Reporting of Defects and Noncompliance, 10 CFR Part 50 Appendix B – Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants, 10 CFR Part 61 – Licensing Requirements for Land Disposal of Radioactive Waste, NRC Reg Guide 4.8, and NRC Reg Guide 4.15, and the requirements of their Quality Assurance Plan and their Standard Operating Procedures.

Appendix A

Gel Environmental Lab Results

GEL Laboratories LLC
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To: **Distribution List**

From: **Robert L. Pullano, Director, Quality Systems, GEL Laboratories, LLC**

Date: **June 10, 2021**

Subject: **Environmental Laboratory Quarterly Quality Assurance Report for Environmental Analyses (January - March 2021)**

Attached is GEL Laboratories, LLC (GEL) first quarter 2021 quality assurance report covering Environmental Analyses. This report includes internal quality assurance comparisons, analytical Performance Test (PT) sample cross check programs in support of client Radiological Environmental Monitoring Programs (REMP) and analysis of additional radionuclides in environmental samples that are typically outside the REMP scope.

A total of 21 individual PT analyses were evaluated during this period. GEL received performance evaluation samples from ERA's RadChem Proficiency Testing Program.

Please do not hesitate to contact your project manager or me with any additional questions or comments about the report. I can be reached by email bob.pullano@gel.com, or by phone at 843-556-8171 ext. 4429.

Robert L. Pullano
Director, Quality Systems

Attachment

problem solved

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ENVIRONMENTAL LABORATORY QUALITY REPORT
2021 – FIRST QUARTER

In accordance with the U.S. Nuclear Regulatory Commission requirements, GEL Laboratories, LLC (GEL) participates in an Interlaboratory Comparison Program (ICP). This satisfies the requirements of both Regulatory Guide 4.15, Revision 1, "Quality Assurance for Radiological Monitoring Programs (Normal Operations) - Effluent Streams and the Environment", February 1979 and Regulatory Guide 4.15, Revision 2, "Quality Assurance for Radiological Monitoring Programs (Inception through Normal Operations to License Termination) - Effluent Streams and the Environment", July, 2007. Both guides indicate the ICP is to be conducted with the U.S. Environmental Protection Agency (EPA) Environmental Radioactivity Laboratory Intercomparison Studies (Cross-check) Program or an equivalent program, and the ICP should include all sample medium/radionuclide combinations that are offered by the EPA and included in the REMP.

Throughout the year, GEL receives performance evaluation samples from the U.S. Department of Energy Mixed Analyte Performance Evaluation Program (MAPEP), ERA's Mixed Rad (MRAD) Proficiency Testing Program, ERA's RadChem Proficiency Testing Program (RAD), and ERA's Quik Response Proficiency Testing Program. Each provider has a documented Quality Assurance (QA) program and the capability to prepare Quality Control (QC) materials traceable to the National Institute of Standards and Technology. The ICP is a third party blind testing program which provides a means to ensure independent checks are performed on the accuracy and precision of the measurements of radioactive materials in environmental sample matrices. The providers supply the crosscheck samples to GEL. Upon receipt, the laboratory performs the analyses in a normal manner. Laboratory results are given to each provider for evaluation.

The accuracy of each result reported to Eckert & Ziegler Analytics, Inc. (EZA) is measured by the ratio of GEL's result to the known value. Accuracy for all other results is based on statistically derived acceptance ranges calculated by the providers. An investigation is undertaken whenever the ratio or reported result falls outside of the acceptance range.

A summary of GEL's results received during First Quarter 2021 is provided in Table 2 for the required sample matrix types and isotopic distribution. GEL's results met acceptance criteria for 18 of 21 reported analytes. Investigation on the non-acceptable results were initiated as outlined in GEL's standard operating procedures for corrective action. A summary of the corrective action is provided in Table 3.

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TABLE 1

INTERNAL LABORATORY QUALITY CONTROL RESULT SUMMARY

January through March 2021

GEL Laboratories LLC
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First Quarter 2021	Bias Criteria (+ / - 25%		Precision Criteria (Note 1)	
	WITHIN CRITERIA	OUTSIDE CRITERIA	WITHIN CRITERIA	OUTSIDE CRITERIA
MILK				
Gas Flow Sr 2nd count	8	0	11	0
Gas Flow Total Strontium	4	0	4	0
Gamma Spec Liquid RAD A-013 with Ba, La	4	0	15	0
SOLID				
Gamma Spec Solid RAD A-013	2	0	2	0
LSC Nickel 63	1	0	1	0
Gas Flow Total Strontium	0	0	1	0
Gamma Spec Solid RAD A-013 with Iodine	5	0	8	0
FILTER				
Gross A & B	131	0	93	0
Gamma Spec Filter	10	0	18	0
LIQUID				
Alpha Spec Uranium	1	0	1	0
Tritium	49	0	58	0
LSC Iron-55	2	0	2	0
LSC Nickel 63	2	0	2	0
Gamma Iodine-131	1	0	1	0
Alpha Spec Plutonium	1	0	1	0
Alpha Spec Am241 Curium	1	0	1	0
Gas Flow Total Strontium	2	0	2	0
Gross Alpha Non Vol Beta	5	0	14	0
Gamma Spec Liquid RAD A-013 with Ba, La	14	0	32	0
Gamma Spec Liquid RAD A-013 with Iodine	4	0	16	0
TISSUE				
Gas Flow Sr 2nd count	2	0	2	0
Gas Flow Total Strontium	1	0	0	0
Gamma Spec Solid RAD A-013 with Iodine	1	0	1	0
VEGETATION				

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Gamma Spec Solid RAD A-013 with Iodine	9	1	14	0
AIR CHARCOAL				
Carbon-14 (Ascarite/Soda Lime Filter per Liter)	8	0	8	0
DRINKING WATER				
Tritium	8	0	9	0
LSC Iron-55	3	0	3	0
LSC Nickel 63	3	0	3	0
Gamma Iodine-131	6	0	3	0
Gas Flow Sr 2nd count	3	0	3	0
Gas Flow Total Strontium	4	0	4	0
Gross Alpha Non Vol Beta	17	0	16	0
Gamma Spec Liquid RAD A-013 with Ba, La	3	0	13	0
Gamma Spec Liquid RAD A-013 with Iodine	0	0	1	0

Note 1: The RPD must be 20 percent or less, if both samples are greater than 5 times the MDC. If both results are less than 5 times MDC, then the RPD must be equal to or less than 100%. If one result is above the MDC and the other is below the MDC, then the RPD can be calculated using the MDC for the result of the one below the MDC. The RPD must be 100% or less. In the situation where both results are above the MDC but one result is greater than 5 times the MDC and the other is less than 5 times the MDC, the RPD must be less than or equal to 20%. If both results are below MDC, then the limits on % RPD are not applicable.

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TABLE 2

GEL QUARTERLY INTERLABORATORY COMPARISON

January through March 2021

GEL Laboratories LLC
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PT Provider	Quarter / Year	Report Closing / Received Date	Sample Number	Sample Media	Units	Analyte	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation
ERA	1st/2021	03/02/21	RAD-124	Water	pCi/L	Barium-133	22.3	23.8	18.4 - 27.4	Acceptable
ERA	1st/2021	03/02/21	RAD-124	Water	pCi/L	Cesium-134	46.8	42.8	34.2 - 47.1	Acceptable
ERA	1st/2021	03/02/21	RAD-124	Water	pCi/L	Cesium-137	148	148	133 - 165	Acceptable
ERA	1st/2021	03/02/21	RAD-124	Water	pCi/L	Cesium-137	148	148	133 - 165	Acceptable
ERA	1st/2021	03/02/21	RAD-124	Water	pCi/L	Cobalt-60	36.7	34.6	30.8 - 40.8	Acceptable
ERA	1st/2021	03/02/21	RAD-124	Water	pCi/L	Zinc-65	66.2	61.6	54.6 - 75.0	Acceptable
ERA	1st/2021	03/02/21	RAD-124	Water	pCi/L	Gross Alpha	69.6	63.3	33.2 - 76.5	Acceptable
ERA	1st/2021	03/02/21	RAD-124	Water	pCi/L	Gross Beta	36.8	39.8	26.4 - 47.3	Acceptable
ERA	1st/2021	03/02/21	RAD-124	Water	pCi/L	Radium-226	8.42	15.5	11.5 - 17.5	Not Acceptable
ERA	1st/2021	03/02/21	RAD-124	Water	pCi/L	Radium-228	19.5	12.9	8.54 - 15.8	Not Acceptable
ERA	1st/2021	03/02/21	RAD-124	Water	pCi/L	Radium-228	14.6	12.9	8.54 - 15.8	Acceptable
ERA	1st/2021	03/02/21	RAD-124	Water	pCi/L	Uranium (Nat)	29.4	30.1	24.4 - 33.4	Acceptable
ERA	1st/2021	03/02/21	RAD-124	Water	pCi/L	Uranium (Nat) mass	44.6	43.9	35.5 - 48.7	Acceptable
ERA	1st/2021	03/02/21	RAD-124	Water	pCi/L	Tritium	2000	2120	1750 - 2350	Acceptable
ERA	1st/2021	03/02/21	RAD-124	Water	pCi/L	Tritium	2020	2120	1750 - 2350	Acceptable
ERA	1st/2021	03/02/21	RAD-124	Water	pCi/L	Strontium-89	74.8	61.3	49.4 - 69.2	Not Acceptable
ERA	1st/2021	03/02/21	RAD-124	Water	pCi/L	Strontium-89	65.7	61.3	49.4 - 69.2	Acceptable
ERA	1st/2021	03/02/21	RAD-124	Water	pCi/L	Strontium-90	32.5	40.6	29.9 - 46.7	Acceptable
ERA	1st/2021	03/02/21	RAD-124	Water	pCi/L	Strontium-90	38.2	40.6	29.9 - 46.7	Acceptable
ERA	1st/2021	03/02/21	RAD-124	Water	pCi/L	Iodine-131	30.2	27.9	23.2 - 32.8	Acceptable
ERA	1st/2021	03/02/21	RAD-124	Water	pCi/L	Iodine-131	31.7	27.9	23.2 - 32.8	Acceptable

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TABLE 3

CORRECTIVE ACTION REPORT SUMMARY

<table>
<tr><th>CORRECTIVE ACTION ID#
&
PE FAILURE</th><th>DISPOSITION</th></tr>
<tr><td>Summary of RAD-124 Drinking Water Study Unacceptable Ratings
<table>
<tr><th>Sample ID</th><th>Parm</th><th>Reported Value</th><th>Reference Value</th><th>Acceptance Range</th></tr>
<tr><td>Naturals</td><td>Radium - 226</td><td>8.42 pCi/L</td><td>15.5 pCi/L</td><td>11.5-17.8 pCi/L</td></tr>
<tr><td>Naturals</td><td>Radium-228</td><td>19.5 pCi/L</td><td>12.9 pCi/L</td><td>8.54-15.8 pCi/L</td></tr>
<tr><td>Strontium 89/90</td><td>Strontium-89</td><td>74.6 pCi/L</td><td>61.3 pCi/L</td><td>49.4-69.2 pCi/L</td></tr>
</table></td><td>Upon receipt of the PT report, an investigation was initiated by the Quality Department and a Corrective Action (CARR) team assembled. The team consisted of representatives from the affected laboratories. The sample preparation and analytical processes were reviewed. This included review of reagents and standards used in the sample preparation steps, calibration records, process control samples, and interviews with the analysts.

The investigation determined that the laboratory met all quality control criteria specified in each method. Additionally, all internal procedures and policies were performed as required. These failures were tracked through GEL's internal non-conformance system.</td></tr>
<tr><td></td><td>Root Cause(s):
<u>Radium-226:</u> The laboratory reviewed the data of the original analysis and no anomalies were noted. A review of the sample preparation processes, and data set did not reveal any gross errors or possible contributors to the low bias. It is possible that an unknown systematic error must have occurred during the precipitation steps of the procedure resulting in the low bias.

<u>Radium-228:</u> The Batch data was reviewed and low gravemetric yields were identified. Ra-228 drinking water method includes two gravemetric yields and both yields were lower than normal for this method. It is apparent that the low yields, which are multiplied together to determine the final yield for the analysis, biased the result high. Original reported data was calculated with "typical" method yields obtaining result of 11.9 pCi/L (92% of known value). The low yields were not sample specific with MB and LCS yields</td></tr>
</table>

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	being similar to the samples in the batch; therefore, an unknown systematic error must have occurred during the precipitation steps of the procedure that resulted in low yields. Strontium-89: The result for Strontium-89 was 122% of the known value with the acceptance range limit of 114%. The Group Leader has reviewed the method to identify the bias. The method LCS trend was reviewed for the method and no anomalies were identified. The calibration used for the analysis was compared to the new calibration performed recently and the original reported data was processed with both calibrations for comparison. Data was comparable. Instrument run logs were reviewed and there was no indication of possible bias from run log. Sr89/90 drinking water method includes two gravemetric yields. Both gravemetric batch yields were reviewed and it was noted that the Yttrium yields appeared to be slightly higher than expected for this method. It is possible that the Yttrium yields were biased high due to analyst error during the drying process. The original reported data was processed with typically recovered Yttrium method yields and the Sr-89 value (65.8 pCi/L) was within the acceptance range at 108%.

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To: **Distribution List**

From: **Robert L. Pullano, Director, Quality Systems, GEL Laboratories, LLC**

Date: **September 16, 2021**

Subject: **Environmental Laboratory Quarterly Quality Assurance Report for Environmental Analyses (April - June 2021)**

Attached is GEL Laboratories, LLC (GEL) second quarter 2021 quality assurance report covering Environmental Analyses. This report includes internal quality assurance comparisons, analytical Performance Test (PT) sample cross check programs in support of client Radiological Environmental Monitoring Programs (REMP) and analysis of additional radionuclides in environmental samples that are typically outside the REMP scope.

A total of 178 individual PT analyses were evaluated during this period. GEL received performance evaluation samples from Eckert & Ziegler Analytics, Inc. (EZA), U.S. Department of Energy Mixed Analyte Performance Evaluation Program (MAPEP), ERA's Mixed Rad (MRAD) Proficiency Testing Program, ERA's RadChem Proficiency Testing Program (RAD).

Please do not hesitate to contact your project manager or me with any additional questions or comments about the report. I can be reached by email bob.pullano@gel.com, or by phone at 843-556-8171 ext. 4429.

Robert L. Pullano
Director, Quality Systems

Attachment

problem solved

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ENVIRONMENTAL LABORATORY QUALITY REPORT
2021 – SECOND QUARTER

In accordance with the U.S. Nuclear Regulatory Commission requirements, GEL Laboratories, LLC (GEL) participates in an Interlaboratory Comparison Program (ICP). This satisfies the requirements of both Regulatory Guide 4.15, Revision 1, "Quality Assurance for Radiological Monitoring Programs (Normal Operations) - Effluent Streams and the Environment", February 1979 and Regulatory Guide 4.15, Revision 2, "Quality Assurance for Radiological Monitoring Programs (Inception through Normal Operations to License Termination) - Effluent Streams and the Environment", July, 2007. Both guides indicate the ICP is to be conducted with the U.S. Environmental Protection Agency (EPA) Environmental Radioactivity Laboratory Intercomparison Studies (Cross-check) Program or an equivalent program, and the ICP should include all sample medium/radionuclide combinations that are offered by the EPA and included in the REMP.

Throughout the year, GEL receives performance evaluation samples from the U.S. Department of Energy Mixed Analyte Performance Evaluation Program (MAPEP), ERA's Mixed Rad (MRAD) Proficiency Testing Program, ERA's RadChem Proficiency Testing Program (RAD), and ERA's Quik Response Proficiency Testing Program. Each provider has a documented Quality Assurance (QA) program and the capability to prepare Quality Control (QC) materials traceable to the National Institute of Standards and Technology. The ICP is a third party blind testing program which provides a means to ensure independent checks are performed on the accuracy and precision of the measurements of radioactive materials in environmental sample matrices. The providers supply the crosscheck samples to GEL. Upon receipt, the laboratory performs the analyses in a normal manner. Laboratory results are given to each provider for evaluation.

The accuracy of each result reported to Eckert & Ziegler Analytics, Inc. (EZA) is measured by the ratio of GEL's result to the known value. Accuracy for all other results is based on statistically derived acceptance ranges calculated by the providers. An investigation is undertaken whenever the ratio or reported result falls outside of the acceptance range.

A summary of GEL's results received during Second Quarter 2021 is provided in Table 2 for the required sample matrix types and isotopic distribution. GEL's results met acceptance criteria for 172 of 178 reported analytes. Investigation on the non-acceptable results were initiated as outlined in GEL's standard operating procedures for corrective action. A summary of the corrective actions for MRAD-34 is provided in Table 3. Investigations continue for the unacceptable results for MAPEP 44 and will be included in the Third Quarter 2021 report.

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TABLE 1

INTERNAL LABORATORY QUALITY CONTROL RESULT SUMMARY

April through June 2021

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Second Quarter 2021	Bias Criteria (+ / - 25%		Precision Criteria (Note 1)	
	WITHIN CRITERIA	OUTSIDE CRITERIA	WITHIN CRITERIA	OUTSIDE CRITERIA
MILK				
Gas Flow Sr 2nd count	10	0	11	0
Gas Flow Total Strontium	1	0	1	0
Gamma Spec Liquid RAD A-013 with Ba, La	6	0	22	0
SOLID				
Gas Flow Sr 2nd count	2	0	2	0
Gamma Spec Solid RAD A-013 with Iodine	5	0	10	0
FILTER				
Gross A & B	102	0	67	0
Gamma Spec Filter	6	0	17	0
LIQUID				
Tritium	42	0	53	0
LSC Iron-55	5	0	5	0
LSC Nickel 63	5	0	5	0
Gas Flow Sr 2nd count	2	0	2	0
Gas Flow Total Strontium	4	0	4	0
Gross Alpha Non Vol Beta	6	0	13	0
Gamma Spec Liquid RAD A-013 with Ba, La	14	0	32	0
Gamma Spec Liquid RAD A-013 with Iodine	6	0	18	0
TISSUE				
Gas Flow Sr 2nd count	3	0	4	0
Gas Flow Total Strontium	1	0	1	0
Gamma Spec Solid RAD A-013 with Iodine	8	0	8	0
VEGETATION				
Gas Flow Sr 2nd count	1	0	0	0

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Gamma Spec Solid RAD A-013 with Iodine	13	0	19	0
AIR CHARCOAL				
Carbon-14 (Ascarite/Soda Lime Filter per Liter)	5	0	6	0
DRINKING WATER				
Tritium	3	0	3	0
LSC Iron-55	1	0	1	0
LSC Nickel 63	2	0	2	0
Gamma Iodine-131	3	0	2	0
Gas Flow Sr 2nd count	3	0	3	0
Gas Flow Total Strontium	1	0	1	0
Gross Alpha Non Vol Beta	12	0	10	0
Gamma Spec Liquid RAD A-013 with Ba, La	2	0	9	0

Note 1: The RPD must be 20 percent or less, if both samples are greater than 5 times the MDC. If both results are less than 5 times MDC, then the RPD must be equal to or less than 100%. If one result is above the MDC and the other is below the MDC, then the RPD can be calculated using the MDC for the result of the one below the MDC. The RPD must be 100% or less. In the situation where both results are above the MDC but one result is greater than 5 times the MDC and the other is less than 5 times the MDC, the RPD must be less than or equal to 20%. If both results are below MDC, then the limits on % RPD are not applicable.

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TABLE 2

GEL QUARTERLY INTERLABORATORY COMPARISON

April through June 2021

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PT Provider	Quarter / Year	Report Received Date	Sample Number	Sample Media	Unit	Analyte / Nuclide	GEL Value	Known value	Acceptance Range/ Ratio	Evaluation
EZA	1st/2021	03/11/21	E13356	Cartridge	pCi	Iodine-131	9.34E+01	8.80E+01	1.06	Acceptable
EZA	1st/2021	03/11/21	E13357	Milk	pCi/L	Strontium-89	9.55E+01	8.71E+01	1.1	Acceptable
EZA	1st/2021	03/11/21	E13357	Milk	pCi/L	Strontium-90	1.14E+01	1.26E+01	0.9	Acceptable
EZA	1st/2021	03/11/21	E13358	Milk	pCi/L	Cerium-141	1.32E+02	1.25E+02	1.05	Acceptable
EZA	1st/2021	03/11/21	E13358	Milk	pCi/L	Cobalt-58	1.33E+02	1.28E+02	1.04	Acceptable
EZA	1st/2021	03/11/21	E13358	Milk	pCi/L	Cobalt-60	1.57E+02	1.54E+02	1.02	Acceptable
EZA	1st/2021	03/11/21	E13358	Milk	pCi/L	Chromium-51	2.33E+02	2.42E+02	0.96	Acceptable
EZA	1st/2021	03/11/21	E13358	Milk	pCi/L	Cesium-134	1.37E+02	1.51E+02	0.9	Acceptable
EZA	1st/2021	03/11/21	E13358	Milk	pCi/L	Cesium-137	1.12E+02	1.10E+02	1.02	Acceptable
EZA	1st/2021	03/11/21	E13358	Milk	pCi/L	Manganese-54	1.15E+02	1.12E+02	1.02	Acceptable
EZA	1st/2021	03/11/21	E13358	Milk	pCi/L	Iron-59	1.21E+02	1.09E+02	1.11	Acceptable
EZA	1st/2021	03/11/21	E13358	Milk	pCi/L	Iodine-131	8.39E+01	8.59E+01	0.97	Acceptable
EZA	1st/2021	03/11/21	E13358	Milk	pCi/L	Zinc-65	2.38E+02	2.11E+02	1.13	Acceptable
EZA	1st/2021	03/11/21	E13359	Water	pCi/L	Cerium-141	1.26E+02	1.24E+02	1.02	Acceptable
EZA	1st/2021	03/11/21	E13359	Water	pCi/L	Cobalt-58	1.34E+02	1.26E+02	1.06	Acceptable
EZA	1st/2021	03/11/21	E13359	Water	pCi/L	Cobalt-60	1.54E+02	1.52E+02	1.01	Acceptable
EZA	1st/2021	03/11/21	E13359	Water	pCi/L	Cesium-134	1.35E+02	1.50E+02	0.9	Acceptable
EZA	1st/2021	03/11/21	E13359	Water	pCi/L	Cesium-137	1.15E+02	1.09E+02	1.06	Acceptable
EZA	1st/2021	03/11/21	E13359	Water	pCi/L	Iodine-131	9.64E+01	8.79E+01	1.1	Acceptable
EZA	1st/2021	03/11/21	E13359	Water	pCi/L	Iron-59	1.12E+02	1.08E+02	1.04	Acceptable
EZA	1st/2021	03/11/21	E13359	Water	pCi/L	Manganese-54	1.17E+02	1.11E+02	1.05	Acceptable
EZA	1st/2021	03/11/21	E13359	Water	pCi/L	Zinc-65	2.24E+02	2.08E+02	1.08	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Soil	pCi/kg	Actinium-228	3260	3170	2090 - 3990	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Soil	pCi/kg	Americium-241	1580	1620	875 - 2290	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Soil	pCi/kg	Bismuth-212	3300	3280	939 - 4890	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Soil	pCi/kg	Bismuth-214	1370	1380	662 - 2050	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Soil	pCi/kg	Cesium-134	5380	5920	4050 - 7080	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Soil	pCi/kg	Cesium-137	7580	7570	5720 - 9570	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Soil	pCi/kg	Cobalt-60	4660	5060	3980 - 6250	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Soil	pCi/kg	Lead-212	3830	3350	2340 - 4240	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Soil	pCi/kg	Lead-212	3830	3350	2340 - 4240	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Soil	pCi/kg	Lead-214	1760	1440	605 - 2260	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Soil	pCi/kg	Manganese-54	<28.3	<1000	<1000	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Soil	pCi/kg	Plutonium-238	1810	1930	963 - 2930	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Soil	pCi/kg	Plutonium-239	1610	1720	937 - 2480	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Soil	pCi/kg	Potassium-40	24400	24700	17000 - 29500	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Soil	pCi/kg	Strontium-90	10200	9190	2860 - 14300	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Soil	pCi/kg	Thorium-234	4870	4020	1520 - 6880	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Soil	pCi/kg	Uranium-234	3650	4060	1900 - 5320	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Soil	pCi/kg	Uranium-234	3740	4060	1900 - 5320	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Soil	pCi/kg	Uranium-238	3480	4020	2210 - 5400	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Soil	pCi/kg	Uranium-238	3320	4020	2210 - 5400	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Soil	pCi/kg	Uranium-Total	7300	8260	4580 - 10700	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Soil	pCi/kg	Uranium-Total	7060	8260	4580 - 10700	Acceptable

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ERA	2nd/2021	5/25/2021	MRAD 34	Soil	µg/kg	Uranium-Total (mass)	10400	12000	5420 - 16200	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Soil	µg/kg	Uranium-Total (mass)	9950	12000	5420 - 16200	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Soil	pCi/kg	Zinc-65	7090	7040	5620 - 9600	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	veg	pCi/kg	Americium-241	2210	2460	1520 - 3470	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	veg	pCi/kg	Cesium-134	1920	2350	1560 - 3130	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	veg	pCi/kg	Cesium-137	2590	2720	2090 - 3660	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	veg	pCi/kg	Cobalt-60	1640	1610	1260 - 2100	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	veg	pCi/kg	Curium-244	3260	3750	2110 - 4660	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	veg	pCi/kg	Manganese-54	<26.8	<300	<300	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	veg	pCi/kg	Plutonium-238	3450	3610	2500 - 4660	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	veg	pCi/kg	Plutonium-239	1750	1820	1260 - 2300	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	veg	pCi/kg	Potassium-40	36700	33300	25000 - 42200	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	veg	pCi/kg	Strontium-90	986	1260	710 - 1640	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	veg	pCi/kg	Strontium-90	986	1260	710 - 1640	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	veg	pCi/kg	Uranium-234	1370	1420	998 - 1810	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	veg	pCi/kg	Uranium-238	1380	1410	996 - 1760	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	veg	pCi/kg	Uranium-Total	2830	2900	1650 - 3910	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	veg	µg/kg	Uranium-Total (mass)	4150	4230	3260 - 5240	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	veg	pCi/kg	Zinc-65	797	766	572 - 1140	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	veg	pCi/Filter	Americium-241	61.8	60.2	43.0 - 80.3	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Filter	pCi/Filter	Cesium-134	958	1030	668 - 1260	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Filter	pCi/Filter	Cesium-134	958	1030	668 - 1260	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Filter	pCi/Filter	Cesium-137	159	163	134 - 214	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Filter	pCi/Filter	Cesium-137	159	163	134 - 214	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Filter	pCi/Filter	Cobalt-60	1280	1220	1040 - 1550	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Filter	pCi/Filter	Iron-55	103	121	44.2 - 193	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Filter	pCi/Filter	Manganese-54	<6.46	<50.0	<50.0	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Filter	pCi/Filter	Plutonium-238	35.9	35.4	26.7 - 43.5	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Filter	pCi/Filter	Plutonium-239	20.1	20.5	15.3 - 24.7	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Filter	pCi/Filter	Strontium-90	181	189	120 - 257	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Filter	pCi/Filter	Uranium-234	24.1	25.5	18.9 - 29.9	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Filter	pCi/Filter	Uranium-234	26.4	25.5	18.9 - 29.9	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Filter	pCi/Filter	Uranium-238	24.6	25.3	19.1 - 30.2	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Filter	pCi/Filter	Uranium-238	23.5	25.3	19.1 - 30.2	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Filter	pCi/Filter	Uranium-Total	50	52	38.0 - 61.7	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Filter	pCi/Filter	Uranium-Total	49.9	52	38.0 - 61.7	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Filter	µg/Filter	Uranium-Total (mass)	73.8	75.9	60.9 - 88.9	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Filter	µg/Filter	Uranium-Total (mass)	70.5	75.9	60.9 - 88.9	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Filter	pCi/Filter	Zinc-65	840	771	632 - 1180	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Filter	pCi/Filter	Gross Alpha	391[4]	96.1	50.2 - 158	Not Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Filter	pCi/Filter	Gross Beta	71.5	62.6	38.0 - 94.6	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Water	pCi/L	Americium-241	160	157	108 - 201	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Water	pCi/L	Cesium-134	1550	1610	1220 - 1770	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Water	pCi/L	Cesium-137	595	578	495 - 657	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Water	pCi/L	Cobalt-60	2310	2180	1880 - 2500	Acceptable

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ERA	2nd/2021	5/25/2021	MRAD 34	Water	pCi/L	Cobalt-60	2310	2180	1880 - 2500	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Water	pCi/L	Cobalt-60	2310	2180	1880 - 2500	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Water	pCi/L	Iron-55	494	275	162 - 400	Not Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Water	pCi/L	Manganese-54	<6.01	<100	<100	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Water	pCi/L	Plutonium-238	115	171	103 - 222	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Water	pCi/L	Plutonium-239	95.2	142	87.9 - 175	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Water	pCi/L	Strontium-90	736	671	483 - 829	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Water	pCi/L	Uranium-234	140	160	122 - 183	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Water	pCi/L	Uranium-234	162	160	122 - 183	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Water	pCi/L	Uranium-234	152	160	122 - 183	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Water	pCi/L	Uranium-238	146	158	122 - 186	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Water	pCi/L	Uranium-238	158	158	122 - 186	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Water	pCi/L	Uranium-238	145	158	122 - 186	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Water	pCi/L	Uranium-Total	292	325	254 - 370	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Water	pCi/L	Uranium-Total	297	325	254 - 370	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Water	µg/L	Uranium-Total (mass)	436	474	384 - 536	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Water	µg/L	Uranium-Total (mass)	433	474	384 - 536	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Water	pCi/L	Zinc-65	1900	1720	1530 - 2170	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Water	pCi/L	Gross Alpha	87.8	62.2	22.7 - 85.8	Not Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Water	pCi/L	Gross Beta	73.7	103	51.5 - 142	Acceptable
ERA	2nd/2021	5/25/2021	MRAD 34	Water	pCi/L	Tritium	24900	22800	17200 - 27800	Acceptable
ERA	2nd/2021	5/25/2021	RAD 125	Water	pCi/L	Radium-226	14.2	19.3	14.3 - 22.0	Not Acceptable
ERA	2nd/2021	5/25/2021	RAD 125	Water	pCi/L	Radium-228	9.98	10.3	6.71 - 12.8	Acceptable
ERA	2nd/2021	5/25/2021	RAD 125	Water	pCi/L	Strontium-89	59.3	63.5	51.4 - 71.5	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-GrF44	Filter	Bq/smpl	Gross Alpha	0.884	1.77	0.53-3.01	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-GrF44	Filter	Bq/smpl	Gross Beta	0.639	0.649	0.325-0.974	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-GrF44	Water	Bq/L	Gross Alpha	0.782	0.87	0.26-1.48	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-GrF44	Water	Bq/L	Gross Beta	2.40	2.50	1.25-3.75	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-MaS44	Soil	Bq/Kg	Americium-241	89.6	88	62-114	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-MaS44	Soil	Bq/Kg	Cesium-134	2.92		False pos. test	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-MaS44	Soil	Bq/Kg	Cesium-137	1590	1550	1085-2015	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-MaS44	Soil	Bq/Kg	Cobalt-57	1010	920	644-1196	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-MaS44	Soil	Bq/Kg	Cobalt-60	1320	1370	959-1781	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-MaS44	Soil	Bq/Kg	Iron-55	1150	910	637-1183	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-MaS44	Soil	Bq/Kg	Manganese-54	1.84		False pos. test	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-MaS44	Soil	Bq/Kg	Nickel-63	597	689	482-896	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-MaS44	Soil	Bq/Kg	Plutonium-238	51.2	49.1	34.4-63.8	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-MaS44	Soil	Bq/Kg	Plutonium-239/240	-0.819		False pos. test	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-MaS44	Soil	Bq/Kg	Potassium-40	618	618	433-803	Acceptable

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MAPEP	2nd/2021	06/22/21	MAPEP-21-MaS44	Soil	Bq/Kg	Strontium-90	313	272	190-354	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-MaS44	Soil	Bq/Kg	Technetium-99	576	638	447-829	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-MaS44	Soil	Bq/Kg	U-234/233	57.1	59	41-77	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-MaS44	Soil	Bq/Kg	Uranium-238	194	208	146-270	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-MaS44	Soil	Bq/Kg	Zinc-65	627	604	423-785	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-MaW44	Water	Bq/L	Americium-241	0.0145		False pos. test	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-MaW44	Water	Bq/L	Cesium-134	10.6	11.5	8.1-15.0	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-MaW44	Water	Bq/L	Cesium-137	8.54	7.9	5.5-10.3	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-MaW44	Water	Bq/L	Cobalt-57	12.2	11.4	8.0-14.8	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-MaW44	Water	Bq/L	Cobalt-60	0.146		False pos. test	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-MaW44	Water	Bq/L	Hydrogen-3	2.27		False pos. test	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-MaW44	Water	Bq/L	Iron-55	27.1	26.9	18.8-35.0	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-MaW44	Water	Bq/L	Manganese-54	16.7	15.5	10.9-20.2	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-MaW44	Water	Bq/L	Nickel-63	10.4	8.2	5.7-10.7	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-MaW44	Water	Bq/L	Plutonium-238	0.515	0.577	0.404-0.750	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-MaW44	Water	Bq/L	Plutonium-239/240	0.564	0.649	0.454-0.844	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-MaW44	Water	Bq/L	Potassium-40	-0.886		False pos. test	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-MaW44	Water	Bq/L	Radium-226	0.538	0.632	0.442-0.822	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-MaW44	Water	Bq/L	Strontium-90	4.95	4.47	3.13-5.81	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-MaW44	Water	Bq/L	Technetium-99	3.69	4.01	2.81-5.21	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-MaW44	Water	Bq/L	Uranium-234/233	0.884	0.85	0.60-1.11	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-MaW44	Water	Bq/L	Uranium-238	0.913	0.86	0.60-1.12	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-MaW44	Water	Bq/L	Zinc-65	11.6	10.5	7.4-13.7	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-RdF44	Filter	ug/smpl	Uranium-235	0.0366	0.0353	0.0247-0.0459	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-RdF44	Filter	ug/smpl	Uranium-238	5.19	5.03	3.52-6.54	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-RdF44	Filter	ug/smpl	Uranium-Total	5.22	5.07	3.55-6.59	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-RdF44	Filter	Bq/smpl	Americium-241	0.0385	0.037	0.026-0.048	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-RdF44	Filter	Bq/smpl	Cesium-134	2.12	2.14	1.50-2.78	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-RdF44	Filter	Bq/smpl	Cesium-137	-0.0168		False pos. test	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-RdF44	Filter	Bq/smpl	Cobalt-57	0.74	0.686	0.480-0.892	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-RdF44	Filter	Bq/smpl	Cobalt-60	0.0325		False pos. test	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-RdF44	Filter	Bq/smpl	Manganese-54	0.368	0.312	0.218-0.406	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-RdF44	Filter	Bq/smpl	Plutonium-238	0.0207	0.0228	0.0160-0.0296	Acceptable

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MAPEP	2nd/2021	06/22/21	MAPEP-21-RdF44	Filter	Bq/smpl	Plutonium-239/240	0.0417	0.0453	0.0317-0.0589	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-RdF44	Filter	Bq/smpl	Strontium-90	0.89	0.749	0.524-0.974	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-RdF44	Filter	Bq/smpl	Uranium-234/233	0.063	0.06	0.04-0.08	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-RdF44	Filter	Bq/smpl	Uranium-238	0.0617	0.063	0.044-0.082	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-RdF44	Filter	Bq/smpl	Zinc-65	0.457	0.352	0.246-0.458	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-RdV44	veg	Bq/smpl	Americium-241	0.0605	0.0586	0.0410-0.0762	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-RdV44	veg	Bq/smpl	Cesium-134	2.51	3.6	2.52-4.68	Not Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-RdV44	veg	Bq/smpl	Cesium-137	3.75	4.69	3.28-6.10	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-RdV44	veg	Bq/smpl	Cobalt-57	3.73	5.05	3.54-6.57	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-RdV44	veg	Bq/smpl	Cobalt-60	2.36	2.99	2.09-3.89	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-RdV44	veg	Bq/smpl	Manganese-54	4.13	5.25	3.68-6.83	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-RdV44	veg	Bq/smpl	Plutonium-238	0.0467	0.0446	0.0312-0.058	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-RdV44	veg	Bq/smpl	Plutonium-239/240	0.0912	0.0912	0.0645-0.1197	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-RdV44	veg	Bq/smpl	Strontium-90	0.444	0.673	0.471-0.875	Not Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-RdV44	veg	Bq/smpl	Uranium-234/233	0.136	0.138	0.097-0.179	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-RdV44	veg	Bq/smpl	Uranium-238	0.143	0.143	0.100-0.186	Acceptable
MAPEP	2nd/2021	06/22/21	MAPEP-21-RdV44	veg	Bq/smpl	Zinc-65	-0.0042		False pos. test	Acceptable

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TABLE 3

CORRECTIVE ACTION REPORT SUMMARY

<table>
<tr><th>CORRECTIVE ACTION ID#
&
PE FAILURE</th><th>DISPOSITION</th></tr>
<tr><td>
Summary of RAD-125 Drinking Water Study Unacceptable Ratings
<table>
<tr><th>Sample ID</th><th>Parm</th><th>Reported Value</th><th>Reference Value</th></tr>
<tr><td>Naturals</td><td>Radium-226</td><td>14.2 pCi/L</td><td>19.3 pCi/L</td></tr>
</table>
</td><td>Upon receipt of the PT report, an investigation was initiated by the Quality Department and a Corrective Action (CARR) team assembled. The team consisted of representatives from the affected laboratories. The sample preparation and analytical processes were reviewed. This included review of reagents and standards used in the sample preparation steps, calibration records, process control samples, and interviews with the analysts.

The investigation determined that the laboratory met all quality control criteria specified in each method. Additionally, all internal procedures and policies were performed as required. These failures were tracked through GEL's internal non-conformance system</td></tr>
<tr><td>
Summary of MRAD-34 Study Unacceptable Ratings
<table>
<tr><th>Sample ID</th><th>Parm</th><th>Reported Value</th><th>Reference Value</th></tr>
<tr><td>Air Filter Gross Alpha/Beta</td><td>Gross Alpha</td><td>391 pCi/F</td><td>96.1 pCi/F</td></tr>
<tr><td>Water Gross Alpha/Beta</td><td>Gross Alpha</td><td>87.8 pCi/L</td><td>62.2 pCi.L</td></tr>
<tr><td>Water Radionuclides</td><td>Iron-55</td><td>494 pCi/L</td><td>275 pCi/L</td></tr>
</table>
</td><td>Upon receipt of the PT report, an investigation was initiated by the Quality Department and a Corrective Action (CARR) team assembled. The team consisted of representatives from the affected laboratories. The sample preparation and analytical processes were reviewed. This included review of reagents and standards used in the sample preparation steps, calibration records, process control samples, and interviews with the analysts.

The investigation determined that the laboratory met all quality control criteria specified in each method. Additionally, all internal procedures and policies were performed as required. These failures were tracked through GEL's internal non-conformance system</td></tr>
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	Root Cause(s): The results for this analysis were reviewed and it was noted that the result for the in-batch duplicate would have been acceptable recovering at 96% of the known value and met replication criteria. The laboratory investigated the transfer rig that was used to prep the unacceptable sample and noted loose fittings and cracked tubing. These may have contributed to the low bias in the sample preparation. The transfer rig was rebuilt and the other rigs inspected for possible wear issues that may need to be rebuilt or replaced. The laboratory successfully completed study RAD-126 for Ra-226 by 903.1

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To: **Distribution List**

From: **Robert L. Pullano, Director, Quality Systems, GEL Laboratories, LLC**

Date: **November 29, 2021**

Subject: **Environmental Laboratory Quarterly Quality Assurance Report for Environmental Analyses (July through September 2021)**

Attached is GEL Laboratories, LLC (GEL) Third Quarter 2021 quality assurance report covering Environmental Analyses. This report includes internal quality assurance comparisons, analytical Performance Test (PT) sample cross check programs in support of client Radiological Environmental Monitoring Programs (REMP) and analysis of additional radionuclides in environmental samples that are typically outside the REMP scope.

A total of 39 individual PT analyses were evaluated during this period. GEL received performance evaluation samples from Eckert & Ziegler Analytics, Inc. (EZA), and ERA's RadChem Proficiency Testing Program (RAD).

Please do not hesitate to contact your project manager or me with any additional questions or comments about the report. I can be reached by email bob.pullano@gel.com, or by phone at 843-556-8171 ext. 4429.

Robert L. Pullano
Director, Quality Systems

Attachment

problem solved

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ENVIRONMENTAL LABORATORY QUALITY REPORT
2021 – THIRD QUARTER

In accordance with the U.S. Nuclear Regulatory Commission requirements, GEL Laboratories, LLC (GEL) participates in an Interlaboratory Comparison Program (ICP). This satisfies the requirements of both Regulatory Guide 4.15, Revision 1, "Quality Assurance for Radiological Monitoring Programs (Normal Operations) - Effluent Streams and the Environment", February 1979 and Regulatory Guide 4.15, Revision 2, "Quality Assurance for Radiological Monitoring Programs (Inception through Normal Operations to License Termination) - Effluent Streams and the Environment", July, 2007. Both guides indicate the ICP is to be conducted with the U.S. Environmental Protection Agency (EPA) Environmental Radioactivity Laboratory Intercomparison Studies (Cross-check) Program or an equivalent program, and the ICP should include all sample medium/radionuclide combinations that are offered by the EPA and included in the REMP.

Throughout the year, GEL receives performance evaluation samples from the U.S. Department of Energy Mixed Analyte Performance Evaluation Program (MAPEP), ERA's Mixed Rad (MRAD) Proficiency Testing Program, ERA's RadChem Proficiency Testing Program (RAD), and ERA's Quik Response Proficiency Testing Program. Each provider has a documented Quality Assurance (QA) program and the capability to prepare Quality Control (QC) materials traceable to the National Institute of Standards and Technology. The ICP is a third party blind testing program which provides a means to ensure independent checks are performed on the accuracy and precision of the measurements of radioactive materials in environmental sample matrices. The providers supply the crosscheck samples to GEL. Upon receipt, the laboratory performs the analyses in a normal manner. Laboratory results are given to each provider for evaluation.

The accuracy of each result reported to Eckert & Ziegler Analytics, Inc. (EZA) is measured by the ratio of GEL's result to the known value. Accuracy for all other results is based on statistically derived acceptance ranges calculated by the providers. An investigation is undertaken whenever the ratio or reported result falls outside of the acceptance range.

A summary of GEL's results received during Third Quarter 2021 is provided in Table 2 for the required sample matrix types and isotopic distribution. GEL's results met acceptance criteria for 38 of 39 reported analytes. Investigation on the non-acceptable results were initiated as outlined in GEL's standard operating procedures for corrective action. A summary of the corrective actions for RAD-126 is provided in Table 3. Additionally, the summary for the unacceptable results for MAPEP 44, which were not finalized for the second quarter, are also included in the table.

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TABLE 1

INTERNAL LABORATORY QUALITY CONTROL RESULT SUMMARY

July through September 2021

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Third Quarter 2021	Bias Criteria (+ / - 25%		Precision Criteria (Note 1)	
	WITHIN CRITERIA	OUTSIDE CRITERIA	WITHIN CRITERIA	OUTSIDE CRITERIA
MILK				
Gas Flow Sr 2nd count	20	0	22	0
Gas Flow Total Strontium	5	0	6	0
Gamma Spec Liquid RAD A-013 with Ba, La	10	0	37	0
SOLID				
Gas Flow Sr 2nd count	0	0	3	0
Gamma Spec Solid RAD A-013 with Iodine	3	0	12	0
FILTER				
Gross A & B	106	0	63	0
Gamma Spec Filter	12	0	23	0
LIQUID				
Tritium	53	0	69	0
LSC Iron-55	1	0	2	0
LSC Nickel 63	1	0	2	0
Gas Flow Sr 2nd count	1	0	0	0
Gas Flow Total Strontium	1	0	3	0
Gross Alpha Non Vol Beta	4	0	21	0
Gamma Spec Liquid RAD A-013 with Ba, La	28	0	48	0
Gamma Spec Liquid RAD A-013 with Iodine	4	0	26	0
TISSUE				
Gas Flow Sr 2nd count	1	0	2	0
Gamma Spec Solid RAD A-013 with Iodine	0	1	1	0
VEGETATION				
Gamma Spec Solid RAD A-013	7	0	7	0
Gas Flow Sr 2nd count	7	0	6	0
Gamma Spec Solid RAD A-013 with Iodine	40	0	56	0
AIR CHARCOAL				
Carbon-14 (Ascarite/Soda Lime Filter per Liter)	12	0	10	0

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DRINKING WATER				
Tritium	7	0	8	0
LSC Iron-55	3	0	2	0
LSC Nickel 63	3	0	2	0
Gamma Iodine-131	4	0	4	0
Gas Flow Sr 2nd count	3	0	4	0
Gas Flow Total Strontium	4	0	2	0
Gross Alpha Non Vol Beta	19	0	14	0
Gamma Spec Liquid RAD A-013 with Ba, La	8	0	24	0
Gamma Spec Liquid RAD A-013 with Iodine	0	0	2	0

Note 1: The RPD must be 20 percent or less, if both samples are greater than 5 times the MDC. If both results are less than 5 times MDC, then the RPD must be equal to or less than 100%. If one result is above the MDC and the other is below the MDC, then the RPD can be calculated using the MDC for the result of the one below the MDC. The RPD must be 100% or less. In the situation where both results are above the MDC but one result is greater than 5 times the MDC and the other is less than 5 times the MDC, the RPD must be less than or equal to 20%. If both results are below MDC, then the limits on % RPD are not applicable.

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TABLE 2

GEL QUARTERLY INTERLABORATORY COMPARISON

July through September 2021

GEL Laboratories LLC
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PT Provider	Quarter / Year	Report Received Date	Sample Number	Sample Media	Unit	Analyte / Nuclide	GEL Value	Known value	Acceptance Range/ Ratio	Evaluation
EZA	2nd/2021	08/06/21	E13360	Cartridge	pCi	Iodine-131	9.99E+01	9.08E+01	1.10	Acceptable
EZA	2nd/2021	08/06/21	E13362	Milk	pCi/L	Cerium-141	2.12E+02	2.17E+02	0.98	Acceptable
EZA	2nd/2021	08/06/21	E13362	Milk	pCi/L	Cobalt-58	2.09E+02	2.16E+02	0.97	Acceptable
EZA	2nd/2021	08/06/21	E13362	Milk	pCi/L	Cobalt-60	2.62E+02	2.60E+02	1.01	Acceptable
EZA	2nd/2021	08/06/21	E13362	Milk	pCi/L	Chromium-51	2.66E+02	6.42E+02	1.02	Acceptable
EZA	2nd/2021	08/06/21	E13362	Milk	pCi/L	Cesium-134	2.34E+02	2.57E+02	0.91	Acceptable
EZA	2nd/2021	08/06/21	E13362	Milk	pCi/L	Cesium-137	2.32E+02	2.26E+02	1.03	Acceptable
EZA	2nd/2021	08/06/21	E13362	Milk	pCi/L	Iron-59	2.50E+02	2.21E+02	1.13	Acceptable
EZA	2nd/2021	08/06/21	E13362	Milk	pCi/L	Iodine-131	8.04E+01	8.38E+01	0.96	Acceptable
EZA	2nd/2021	08/06/21	E13362	Milk	pCi/L	Manganese-54	3.05E+02	3.00E+02	1.02	Acceptable
EZA	2nd/2021	08/06/21	E13362	Milk	pCi/L	Zinc-65	3.93E+02	3.62E+02	1.09	Acceptable
EZA	2nd/2021	08/06/21	E13363	Water	pCi/L	Cerium-141	1.96E+02	1.80E+02	1.09	Acceptable
EZA	2nd/2021	08/06/21	E13174	Water	pCi/L	Cobalt-58	1.84E+02	1.79E+02	1.03	Acceptable
EZA	2nd/2021	08/06/21	E13174	Water	pCi/L	Cobalt-60	2.20E+02	2.15E+02	1.02	Acceptable
EZA	2nd/2021	08/06/21	E13174	Water	pCi/L	Chromium-51	5.65E+02	5.33E+02	1.06	Acceptable
EZA	2nd/2021	08/06/21	E13174	Water	pCi/L	Cesium-134	2.02E+02	2.13E+02	0.95	Acceptable
EZA	2nd/2021	08/06/21	E13174	Water	pCi/L	Cesium-137	2.00E+02	1.88E+02	1.07	Acceptable
EZA	2nd/2021	08/06/21	E13174	Water	pCi/L	Iron-59	2.12E+02	1.83E+02	1.16	Acceptable
EZA	2nd/2021	08/06/21	E13174	Water	pCi/L	Iodine-131	9.21E+01	9.20E+01	1.00	Acceptable
EZA	2nd/2021	08/06/21	E13174	Water	pCi/L	Manganese-54	2.75E+02	2.49E+02	1.10	Acceptable
EZA	2nd/2021	08/06/21	E13174	Water	pCi/L	Zinc-65	3.35E+02	3.00E+02	1.12	Acceptable
ERA	3rd /2021	08/30/21	RAD-126	Water	pCi/L	Barium-133	48.9	45.5	37.2 - 50.6	Acceptable
ERA	3rd /2021	08/30/21	RAD-126	Water	pCi/L	Cesium-134	84.4	87.5	71.8 - 96.2	Acceptable
ERA	3rd /2021	08/30/21	RAD-126	Water	pCi/L	Cesium-137	211	208	187 - 230	Acceptable
ERA	3rd /2021	08/30/21	RAD-126	Water	pCi/L	Cobalt-60	93	87.1	78.4 - 98.1	Acceptable
ERA	3rd /2021	08/30/21	RAD-126	Water	pCi/L	Zinc-65	108	102	91.8 - 122	Acceptable
ERA	3rd /2021	08/30/21	RAD-126	Water	pCi/L	Gross Alpha	39.1	49.1	25.6 - 61.7	Acceptable
ERA	3rd /2021	08/30/21	RAD-126	Water	pCi/L	Gross Alpha	40.3	49.1	25.6 - 61.7	Acceptable
ERA	3rd /2021	08/30/21	RAD-126	Water	pCi/L	Gross Beta	30.4	31.5	20.3 - 39.2	Acceptable
ERA	3rd /2021	08/30/21	RAD-126	Water	pCi/L	Radium-226	11.2	13.4	9.99 - 15.4	Acceptable
ERA	3rd /2021	08/30/21	RAD-126	Water	pCi/L	Radium-228	6.8	7.59	4.81 - 9.68	Acceptable
ERA	3rd /2021	08/30/21	RAD-126	Water	pCi/L	Radium-228	6.69	7.59	4.81 - 9.68	Acceptable
ERA	3rd /2021	08/30/21	RAD-126	Water	pCi/L	Uranium (Nat)	59.6	62.3	50.9 - 68.5	Acceptable
ERA	3rd /2021	08/30/21	RAD-126	Water	µg/L	Uranium (Nat) mass	94	90.9	74.2 - 100	Acceptable
ERA	3rd /2021	08/30/21	RAD-126	Water	pCi/L	Tritium	9820	10400	9050 - 11400	Acceptable
ERA	3rd /2021	08/30/21	RAD-126	Water	pCi/L	Tritium	10300	10400	9050 - 11400	Acceptable
ERA	3rd /2021	08/30/21	RAD-126	Water	pCi/L	Strontium-89	50.3	55.9	44.6 - 63.6	Acceptable
ERA	3rd /2021	08/30/21	RAD-126	Water	pCi/L	Strontium-90	46.2	40.1	29.5 - 46.1	Not Acceptable
ERA	3rd /2021	08/30/21	RAD-126	Water	pCi/L	Iodine-131	17.6	20.8	17.2 - 25.0	Acceptable

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TABLE 3

CORRECTIVE ACTION REPORT SUMMARY

<table>
<tr><th>CORRECTIVE ACTION ID#
&
PE FAILURE</th><th>DISPOSITION</th></tr>
<tr><td>
Summary of MAPEP 44 Study Unacceptable Ratings
<table>
<tr><th>Sample ID</th><th>Parm</th><th>Reported Value</th><th>Reference Value</th><th>Acceptance Range</th></tr>
<tr><td>MAPEP-21-MaS44</td><td>Antimony</td><td>27.3 mg/kg</td><td>78 mg/kg</td><td>55-101 mg/kg</td></tr>
<tr><td>MAPEP-21-RdV44</td><td>Cesium-134
Strontium-90</td><td>2.51 Bq/samp.
0.444 Bq/samp.</td><td>3.6 Bq/samp.
0.673 Bq/samp.</td><td>2.52-4.68 Bq/samp.
0.471-0.875 Bq/samp.</td></tr>
</table>
</td><td>Upon receipt of the PT report, an investigation was initiated by the Quality Department and a Corrective Action (CARR) team assembled. The team consisted of representatives from the affected laboratories. The sample preparation and analytical processes were reviewed. This included review of reagents and standards used in the sample preparation steps, calibration records, process control samples, and interviews with the analysts.

The investigation determined that the laboratory met all quality control criteria specified in each method. Additionally, all internal procedures and policies were performed as required. These failures were tracked through GEL's internal non-conformance system</td></tr>
<tr><td></td><td>Root Cause(s):

MAPEP-21-MaS44: The sample was prepared using standard hot-acid leach per section 7.5 of SW-846 3050B. More rigorous digestions were used in an attempt to increase solubility without success. It is suspected that the low bias in the result is due to an unidentified matrix interferant.

MAPEP-21-RdV44: The data has been reviewed for these analyses and no errors were noted. The Cesium-134 and Strontium-90 failed with a low bias compared to the known. It was noted that several other reported isotopes had a low bias but were within the acceptance ranges for their parameters. It is suspected that the sample</td></tr>
</table>

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<table>
<tr><td></td><td>preparation had an unidentified error during the digestion process.</td></tr>
<tr><td></td><td></td></tr>
<tr><td>Summary of RAD-126 Study Unacceptable Ratings
<table><tr><th>Sample ID</th><th>Parm</th><th>Reported Value</th><th>Reference Value</th><th>Acceptance Range</th></tr><tr><td>Rad Strontium</td><td>Sr-90</td><td>46.2 pCi/L</td><td>40.1 pCi/L</td><td>29.5-46.1 pCi/L</td></tr></table></td><td>Upon receipt of the PT report, an investigation was initiated by the Quality Department and a Corrective Action (CARR) team assembled. The team consisted of representatives from the affected laboratories. The sample preparation and analytical processes were reviewed. This included review of reagents and standards used in the sample preparation steps, calibration records, process control samples, and interviews with the analysts.

The investigation determined that the laboratory met all quality control criteria specified in each method. Additionally, all internal procedures and policies were performed as required. These failures were tracked through GEL's internal non-conformance system</td></tr>
<tr><td></td><td>Root Cause(s):

Strontium-90-A review of the sample preparation processes and data set did not reveal any gross errors or possible contributors to the high bias. The reported value is 115% of the reference value which is within the laboratory's standard acceptance criteria of +/- 25% for Laboratory Control Samples. In addition, the sample was prepared/reported by analytical method 905.0. The result was within acceptance limits with an RPD of 11.7 when compared to the unacceptable value.</td></tr>
</table>

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To: **Distribution List**

From: **Robert L. Pullano, Director, Quality Systems, GEL Laboratories, LLC**

Date: **February 18, 2022**

Subject: **Environmental Laboratory Quarterly Quality Assurance Report for Environmental Analyses (October through December 2021)**

Attached is GEL Laboratories, LLC (GEL) Fourth Quarter 2021 quality assurance report covering Environmental Analyses. This report includes internal quality assurance comparisons, analytical Performance Test (PT) sample cross check programs in support of client Radiological Environmental Monitoring Programs (REMP) and analysis of additional radionuclides in environmental samples that are typically outside the REMP scope.

A total of 195 individual PT analyses were evaluated during this period. GEL received performance evaluation samples from Eckert & Ziegler Analytics, Inc. (EZA), U.S. Department of Energy Mixed Analyte Performance Evaluation Program (MAPEP), ERA's Mixed Rad (MRAD) Proficiency Testing Program, and ERA's RadChem Proficiency Testing Program (RAD).

Please do not hesitate to contact your project manager or me with any additional questions or comments about the report. I can be reached by email bob.pullano@gel.com, or by phone at 843-556-8171 ext. 4429.

Robert L. Pullano
Director, Quality Systems

Attachment

problem solved

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ENVIRONMENTAL LABORATORY QUALITY REPORT
2021 – FOURTH QUARTER

In accordance with the U.S. Nuclear Regulatory Commission requirements, GEL Laboratories, LLC (GEL) participates in an Interlaboratory Comparison Program (ICP). This satisfies the requirements of both Regulatory Guide 4.15, Revision 1, "Quality Assurance for Radiological Monitoring Programs (Normal Operations) - Effluent Streams and the Environment", February 1979 and Regulatory Guide 4.15, Revision 2, "Quality Assurance for Radiological Monitoring Programs (Inception through Normal Operations to License Termination) - Effluent Streams and the Environment", July, 2007. Both guides indicate the ICP is to be conducted with the U.S. Environmental Protection Agency (EPA) Environmental Radioactivity Laboratory Intercomparison Studies (Cross-check) Program or an equivalent program, and the ICP should include all sample medium/radionuclide combinations that are offered by the EPA and included in the REMP.

Throughout the year, GEL receives performance evaluation samples from the U.S. Department of Energy Mixed Analyte Performance Evaluation Program (MAPEP), ERA's Mixed Rad (MRAD) Proficiency Testing Program, ERA's RadChem Proficiency Testing Program (RAD), and ERA's Quik Response Proficiency Testing Program. Each provider has a documented Quality Assurance (QA) program and the capability to prepare Quality Control (QC) materials traceable to the National Institute of Standards and Technology. The ICP is a third party blind testing program which provides a means to ensure independent checks are performed on the accuracy and precision of the measurements of radioactive materials in environmental sample matrices. The providers supply the crosscheck samples to GEL. Upon receipt, the laboratory performs the analyses in a normal manner. Laboratory results are given to each provider for evaluation.

The accuracy of each result reported to Eckert & Ziegler Analytics, Inc. (EZA) is measured by the ratio of GEL's result to the known value. Accuracy for all other results is based on statistically derived acceptance ranges calculated by the providers. An investigation is undertaken whenever the ratio or reported result falls outside of the acceptance range.

A summary of GEL's results received during Fourth Quarter 2021 is provided in Table 2 for the required sample matrix types and isotopic distribution. GEL's results met acceptance criteria for 190 of 195 reported analytes. Investigation on the unacceptable results were initiated as outlined in GEL's standard operating procedures for corrective action. A summary of the corrective actions for unacceptable results are provided in Table 3.

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TABLE 1

INTERNAL LABORATORY QUALITY CONTROL RESULT SUMMARY

October through December 2021

GEL Laboratories LLC
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Fourth Quarter 2021	Bias Criteria (+ / - 25%)		Precision Criteria (Note 1)	
	WITHIN CRITERIA	OUTSIDE CRITERIA	WITHIN CRITERIA	OUTSIDE CRITERIA
MILK				
Gas Flow Sr 2nd count	11	0	13	0
Gas Flow Total Strontium	3	0	3	0
Gamma Spec Liquid RAD A-013 with Ba, La	11	0	28	0
Gamma Spec Liquid RAD A-013 with Iodine	0	0	1	0
SOLID				
Gamma Spec Solid RAD A-013	1	0	2	0
LSC Nickel 63	1	0	1	0
Gas Flow Sr 2nd count	2	0	2	0
Gas Flow Total Strontium	1	0	1	0
Gamma Spec Solid RAD A-013 with Iodine	6	0	11	0
FILTER				
Gross A & B	72	0	49	0
Gamma Spec Filter	8	0	17	0
LIQUID				
Tritium	62	0	78	0
LSC Iron-55	5	0	4	0
LSC Nickel 63	5	0	4	0
Gas Flow Sr 2nd count	3	0	3	0
Gas Flow Total Strontium	4	0	4	0
Gross Alpha Non Vol Beta	7	0	18	0
Gamma Spec Liquid RAD A-013 with Ba, La	18	0	32	0
Gamma Spec Liquid RAD A-013 with Iodine	3	0	14	0
TISSUE				
Gas Flow Sr 2nd count	4	0	4	0
Gas Flow Total Strontium	2	0	2	0
Gamma Spec Solid RAD A-013 with Iodine	5	0	4	0

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VEGETATION				
Gas Flow Sr 2nd count	2	0	2	0
Gamma Spec Solid RAD A-013 with Iodine	13	0	17	0
AIR CHARCOAL				
Carbon-14 (Ascarite/Soda Lime Filter per Liter)	6	0	6	0
DRINKING WATER				
Tritium	5	0	6	0
LSC Iron-55	1	0	2	0
LSC Nickel 63	1	0	2	0
Gamma Iodine-131	3	0	3	0
Gas Flow Total Strontium	3	0	3	0
Gross Alpha Non Vol Beta	17	0	19	0
Gamma Spec Liquid RAD A-013 with Ba, La	5	0	14	0
Gamma Spec Liquid RAD A-013 with Iodine	0	0	2	0

Note 1: The RPD must be 20 percent or less, if both samples are greater than 5 times the MDC. If both results are less than 5 times MDC, then the RPD must be equal to or less than 100%. If one result is above the MDC and the other is below the MDC, then the RPD can be calculated using the MDC for the result of the one below the MDC. The RPD must be 100% or less. In the situation where both results are above the MDC but one result is greater than 5 times the MDC and the other is less than 5 times the MDC, the RPD must be less than or equal to 20%. If both results are below MDC, then the limits on % RPD are not applicable.

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TABLE 2

GEL QUARTERLY INTERLABORATORY COMPARISON

October through December 2021

GEL Laboratories LLC
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PT Provider	Quarter / Year	Report Received Date	Sample Number	Sample Media	Unit	Analyte / Nuclide	GEL Value	Known value	Acceptance Range/ Ratio	Evaluation
EZA	3rd/2021	11/08/21	E13364	Cartridge	pCi	Iodine-131	1.02E+02	9.08E+01	112	Acceptable
EZA	3rd/2021	11/08/21	E13365	Milk	pCi/L	Strontium-89	8.92E+01	8.54E+01	1.04	Acceptable
EZA	3rd/2021	11/08/21	E13365	Milk	pCi/L	Strontium-90	1.01E+01	1.40E+01	0.72	Acceptable
EZA	3rd/2021	11/08/21	E13366	Milk	pCi/L	Cerium-141	1.17E+02	1.14E+02	1.02	Acceptable
EZA	3rd/2021	11/08/21	E13366	Milk	pCi/L	Cobalt-58	1.25E+02	1.18E+02	1.06	Acceptable
EZA	3rd/2021	11/08/21	E13366	Milk	pCi/L	Cobalt-60	1.46E+02	1.45E+02	1.01	Acceptable
EZA	3rd/2021	11/08/21	E13366	Milk	pCi/L	Chromium-51	2.69E+02	2.36E+02	1.14	Acceptable
EZA	3rd/2021	11/08/21	E13366	Milk	pCi/L	Cesium-134	9.00E+01	9.31E+01	0.97	Acceptable
EZA	3rd/2021	11/08/21	E13366	Milk	pCi/L	Cesium-137	1.14E+02	1.12E+02	1.02	Acceptable
EZA	3rd/2021	11/08/21	E13366	Milk	pCi/L	Iron-59	1.23E+02	1.02E+02	1.21	Acceptable
EZA	3rd/2021	11/08/21	E13366	Milk	pCi/L	Iodine-131	9.08E+01	8.56E+01	1.06	Acceptable
EZA	3rd/2021	11/08/21	E13366	Milk	pCi/L	Manganese-54	1.31E+02	1.28E+02	1.02	Acceptable
EZA	3rd/2021	11/08/21	E13366	Milk	pCi/L	Zinc-65	1.65E+02	1.53E+02	1.08	Acceptable
EZA	3rd/2021	11/08/21	E13367	Water	pCi/L	Cerium-141	1.54E+02	1.51E+02	1.02	Acceptable
EZA	3rd/2021	11/08/21	E13367	Water	pCi/L	Cobalt-58	1.62E+02	1.56E+02	1.04	Acceptable
EZA	3rd/2021	11/08/21	E13367	Water	pCi/L	Cobalt-60	2.07E+02	1.91E+02	1.08	Acceptable
EZA	3rd/2021	11/08/21	E13367	Water	pCi/L	Chromium-51	3.30E+02	3.12E+02	1.06	Acceptable
EZA	3rd/2021	11/08/21	E13367	Water	pCi/L	Cesium-134	1.13E+02	1.23E+02	0.92	Acceptable
EZA	3rd/2021	11/08/21	E13367	Water	pCi/L	Cesium-137	1.57E+02	1.48E+02	1.06	Acceptable
EZA	3rd/2021	11/08/21	E13367	Water	pCi/L	Iron-59	1.52E+02	1.35E+02	1.13	Acceptable
EZA	3rd/2021	11/08/21	E13367	Water	pCi/L	Iodine-131	2.71E+02	2.47E+02	1.10	Acceptable
EZA	3rd/2021	11/08/21	E13367	Water	pCi/L	Manganese-54	1.83E+02	1.70E+02	1.08	Acceptable
EZA	3rd/2021	11/08/21	E13367	Water	pCi/L	Zinc-65	2.33E+02	2.02E+02	1.15	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-GrF45	Filter	Bq/sample	Gross Alpha	1.73	0.98	0.288-1.632	Not Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-GrF45	Filter	Bq/sample	Gross Beta	0.642	0.553	0.277-0.830	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-GrW45	Water	Bq/L	Gross Alpha	0.226	0.232	0.070-0.394	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-GrW45	Water	Bq/L	Gross Beta	2.73	2.8707	1.404-4.211	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaS45	Soil	Bq/Kg	Americium-241	106.0	98.0	69-127	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaS45	Soil	Bq/Kg	Cesium-134	993	1170	819-1521	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaS45	Soil	Bq/Kg	Cesium-137	579.00	672	400-744	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaS45	Soil	Bq/Kg	Cobalt-57	0.375		False Pos Test	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaS45	Soil	Bq/Kg	Cobalt-60	692	722	505-939	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaS45	Soil	Bq/Kg	Iron-55	994	1020	714-1326	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaS45	Soil	Bq/Kg	Manganese-54	412	410	287-533	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaS45	Soil	Bq/Kg	Nickel-63	1170	1280	896-1664	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaS45	Soil	Bq/Kg	Plutonium-238	55.9	59.8	41.9-77.7	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaS45	Soil	Bq/Kg	Plutonium-239/240	66.3	71.3	49.9-92.7	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaS45	Soil	Bq/Kg	Potassium-40	612	607	425-789	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaS45	Soil	Bq/Kg	Strontium-90	0.161		False Pos Test	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaS45	Soil	Bq/Kg	Technetium-99	747	777	544-1010	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaS45	Soil	Bq/Kg	U-234/233	80	51	36.0-66.8	Not Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaS45	Soil	Bq/Kg	Uranium-238	177	168	118-218	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaS45	Soil	Bq/Kg	Zinc-65	945	907	635-1179	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Americium-241	0.407	0.428	0.298-0.554	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Cesium-134	9.5	10.4	7.3-13.5	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Cesium-137	-0.04		False Pos Test	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Cobalt-57	14	13.9	9.7-18.1	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Cobalt-60	14.5	14.0	9.8-18.2	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Hydrogen-3	231	250	175-325	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Iron-55	47.9	49.8	34.9-64.7	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Manganese-54	9.47	9.0	6.3-11.7	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Nickel-63	41.4	39.5	27.7-51.4	Acceptable

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MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Plutonium-238	-0.00169	0.0096	Sens. Evaluation	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Plutonium-239/240	0.470	0.528	0.370-0.689	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Potassium-40	0.005		False Pos Test	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Radium-226	0.310	0.226	0.158-0.294	Not Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Strontium-90	3.50	3.86	2.70-5.02	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Technetium-99	3.79	3.71	2.60-4.82	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Uranium-234/233	0.0203	0.0215	Sens. Evaluation	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Uranium-238	0.00975	0.0123	Sens. Evaluation	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Zinc-65	0.122		False Pos Test	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdF45	Filter	ug/sample	Uranium-235	0.0594	0.0588	0.0412-0.0764	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdF45	Filter	ug/sample	Uranium-238	8.5	8.3	5.8-10.8	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdF45	Filter	ug/sample	Uranium-Total	8.579	8.4	5.9-10.9	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdF45	Filter	Bq/sample	Americium-241	0.109	0.119	0.083-0.155	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdF45	Filter	Bq/sample	Cesium-134	1.23	1.32	0.92-1.72	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdF45	Filter	Bq/sample	Cesium-137	1.31	1.280	0.90-1.66	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdF45	Filter	Bq/sample	Cobalt-57	0.82800	0.83	0.58-1.08	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdF45	Filter	Bq/sample	Cobalt-60	2.37	2.28	1.60-2.96	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdF45	Filter	Bq/sample	Manganese-54	1.60	1.46	1.02-1.90	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdF45	Filter	Bq/sample	Plutonium-238	0.0023	0.0030	Sens. Evaluation	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdF45	Filter	Bq/sample	Plutonium-239/240	0.0574	0.0609	0.0426-0.0792	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdF45	Filter	Bq/sample	Strontium-90	0.195	0.273	0.191-0.355	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdF45	Filter	Bq/sample	Uranium-234/233	0.101	0.100	0.070-0.130	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdF45	Filter	Bq/sample	Uranium-238	0.107	0.104	0.073-0.135	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdF45	Filter	Bq/sample	Zinc-65	0.0579		False Pos Test	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdV45	Vegetation	Bq/sample	Americium-241	0.0724	0.0747	0.0523-0.0971	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdV45	Vegetation	Bq/sample	Cesium-134	4.02	4.34	3.04-5.64	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdV45	Vegetation	Bq/sample	Cesium-137	2.28	2.21	1.55-2.87	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdV45	Vegetation	Bq/sample	Cobalt-57	4.56	4.66	3.26-6.06	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdV45	Vegetation	Bq/sample	Cobalt-60	3.44	3.51	2.46-4.56	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdV45	Vegetation	Bq/sample	Manganese-54	-0.0404		False Pos Test	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdV45	Vegetation	Bq/sample	Plutonium-238	0.0603	0.0655	0.0459-0.0852	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdV45	Vegetation	Bq/sample	Plutonium-239/240	0.00140		False Pos Test	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdV45	Vegetation	Bq/sample	Strontium-90	1.10	1.32	0.92-1.72	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdV45	Vegetation	Bq/sample	Uranium-234/233	0.1740	0.1830	0.128-0.238	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdV45	Vegetation	Bq/sample	Uranium-238	0.1770	0.1760	1.123-0.229	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdV45	Vegetation	Bq/sample	Zinc-65	2.57	2.43	1.70-3.16	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Actinium-228	3370	3240	2140 - 4080	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Americium-241	922	891	481 - 1260	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Bismuth-212	3320	3350	959 - 4990	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Bismuth-214	1140	1370	658 - 2040	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Cesium-134	2410	2650	1810 - 3170	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Cesium-134	2410	2650	1810 - 3170	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Cesium-137	3720	3660	2770 - 4630	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Cobalt-60	4680	4730	3720 - 5840	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Lead-212	3840	3420	2390 - 4320	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Lead-214	1480	1490	626 - 2340	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Manganese-54	<27.4	<1000	<1000	Acceptable

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ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Plutonium-238	1230	1250	623 - 1900	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Plutonium-239	1440	1450	790 - 2090	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Potassium-40	25600	24700	17000 - 29500	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Strontium-90	8770	6090	1900 - 9490	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Thorium-234	3360	2720	1030 - 4660	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Uranium-234	2620	2740	1280 - 3590	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Uranium-234	3260	2740	1280 - 3590	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Uranium-238	2870	2720	1490 - 3650	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Uranium-238	3400	2720	1490 - 3650	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Uranium-Total	5670	5580	3100 - 7210	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Uranium-Total	5670	5580	3100 - 7210	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Uranium-Total	6817	5580	3100 - 7210	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	µg/kg	Uranium (mass)	8630	8140	3670 - 11000	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	µg/kg	Uranium (mass)	10200	8140	3670 - 11000	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Zinc-65	5540	4860	3880 - 6630	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Veg	pCi/kg	Americium-241	4040	4040	2500 - 5710	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Veg	pCi/kg	Cesium-134	918	923	613 - 1230	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Veg	pCi/kg	Cesium-137	2180	2210	1700 - 2980	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Veg	pCi/kg	Cobalt-60	1670	1590	1250 - 2080	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Veg	pCi/kg	Cobalt-60	1670	1590	1250 - 2080	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Veg	pCi/kg	Curium-244	2830	2840	1800 - 3530	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Veg	pCi/kg	Manganese-54	<47.1	<300	<300	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Veg	pCi/kg	Plutonium-238	1730	1620	1120 - 2090	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Veg	pCi/kg	Plutonium-239	1620	1440	995 - 1820	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Veg	pCi/kg	Potassium-40	30200	33300	25000 - 42200	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Veg	pCi/kg	Strontium-90	5760	5720	3220 - 7450	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Veg	pCi/kg	Uranium-234	1410	1350	948 - 1720	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Veg	pCi/kg	Uranium-238	1420	1340	946 - 1680	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Veg	pCi/kg	Uranium-Total	2900	2750	1760 - 3710	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Veg	µg/kg	Uranium (mass)	4250	4010	3080 - 4970	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Veg	pCi/kg	Zinc-65	1340	1200	896 - 1780	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Americium-241	28.1	27.7	19.8 - 36.9	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Cesium-134	217	241	156 - 296	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Cesium-137	187	187	154 - 245	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Cobalt-60	324	310	264 - 394	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Cobalt-60	324	310	264 - 394	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Iron-55	508	548	200 - 874	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Manganese-54	<3.06	<50.0	<50.0	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Plutonium-238	27.8	28.5	21.5 - 35.0	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Plutonium-239	22.6	21.6	16.1 - 26.1	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Strontium-90	23.4*	19.2	12.1 - 26.1	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Uranium-234	7.96	7.76	5.75 - 9.09	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Uranium-234	9.62*	7.76	5.75 - 9.09	Not Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Uranium-238	7.35	7.69	5.81 - 9.17	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Uranium-238	7.38	7.69	5.81 - 9.17	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Uranium-Total	15.8	15.8	11.5 - 18.7	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Uranium-Total	17	15.8	11.5 - 18.7	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	µg/Filter	Uranium (mass)	22.1	23.1	18.5 - 27.1	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	µg/Filter	Uranium (mass)	22.1	23.1	18.5 - 27.1	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Zinc-65	414	366	300 - 559	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Gross Alpha	95.4	77.6	40.5 - 128	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Gross Beta	87	80.6	48.9 - 122	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Americium-241	70.5	63.7	43.7 - 81.5	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Cesium-134	626	649	490 - 714	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Cesium-137	2210	2170	1860 - 2470	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Cobalt-60	1040	964	831 - 1110	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Iron-55	339*	246	145 - 358	Acceptable

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ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Plutonium-238	74.1	114	88.5 - 148	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Plutonium-239	21.3	34.3	21.2 - 42.3	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Strontium-90	915	936	674 - 1160	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Uranium-234	39.9	40.8	31.1 - 46.7	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Uranium-234	49.8*	40.8	31.1 - 46.7	Not Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Uranium-238	40.3	40.5	31.4 - 47.7	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Uranium-238	41.2	40.5	31.4 - 47.7	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Uranium-Total	83.1	83.2	64.9 - 94.8	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Uranium-Total	92.9*	83.2	64.9 - 94.8	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	µg/L	Uranium (mass)	121	121	98.0 - 137	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	µg/L	Uranium (mass)	123	121	98.0 - 137	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Zinc-65	449	394	351 - 497	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Gross Alpha	74.7	93.9	34.3 - 129	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Gross Beta	96.1	97	48.5 - 133	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Tritium	12600	12800	9650 - 15800	Acceptable
ERA	4th/2021	11/27/21	RAD-127	Water	pCi/L	Strontium-90	28.5	29.3	21.3 - 34.0	Acceptable
EZA	4th/2021	02/02/22	E13366	Cartridge	pCi	Iodine-131	9.78E+01	9.36E+01	1.05	Acceptable
EZA	4th/2021	02/02/22	E13370	Milk	pCi/L	Strontium-89	7.54E+01	9.08E+01	0.83	Acceptable
EZA	4th/2021	02/02/22	E13370	Milk	pCi/L	Strontium-90	1.10E+01	1.30E+01	0.85	Acceptable
EZA	4th/2021	02/02/22	E13366	Milk	pCi/L	Cerium-141	1.32E+02	1.32E+02	1.00	Acceptable
EZA	4th/2021	02/02/22	E13366	Milk	pCi/L	Cobalt-58	1.14E+02	1.14E+02	1.00	Acceptable
EZA	4th/2021	02/02/22	E13366	Milk	pCi/L	Cobalt-60	2.27E+02	2.23E+02	1.02	Acceptable
EZA	4th/2021	02/02/22	E13366	Milk	pCi/L	Chromium-51	2.84E+02	2.93E+02	0.97	Acceptable
EZA	4th/2021	02/02/22	E13366	Milk	pCi/L	Cesium-134	1.51E+02	1.66E+02	0.91	Acceptable
EZA	4th/2021	02/02/22	E13366	Milk	pCi/L	Cesium-137	1.15E+02	1.17E+02	0.98	Acceptable
EZA	4th/2021	02/02/22	E13366	Milk	pCi/L	Iron-59	1.27E+02	1.13E+02	1.13	Acceptable
EZA	4th/2021	02/02/22	E13366	Milk	pCi/L	Iodine-131	9.28E+01	9.03E+01	1.03	Acceptable
EZA	4th/2021	02/02/22	E13366	Milk	pCi/L	Manganese-54	1.60E+02	1.52E+02	1.06	Acceptable
EZA	4th/2021	02/02/22	E13366	Milk	pCi/L	Zinc-65	2.87E+02	2.57E+02	1.12	Acceptable
EZA	4th/2021	02/02/22	E13367	Water	pCi/L	Cerium-141	1.53E+02	1.54E+02	0.99	Acceptable
EZA	4th/2021	02/02/22	E13367	Water	pCi/L	Cobalt-58	1.42E+02	1.34E+02	1.06	Acceptable
EZA	4th/2021	02/02/22	E13367	Water	pCi/L	Cobalt-60	2.82E+02	2.61E+02	1.08	Acceptable
EZA	4th/2021	02/02/22	E13367	Water	pCi/L	Chromium-51	3.75E+02	3.42E+02	1.1	Acceptable
EZA	4th/2021	02/02/22	E13367	Water	pCi/L	Cesium-134	1.82E+02	1.94E+02	0.94	Acceptable
EZA	4th/2021	02/02/22	E13367	Water	pCi/L	Cesium-137	1.41E+02	1.37E+02	1.03	Acceptable
EZA	4th/2021	02/02/22	E13367	Water	pCi/L	Iron-59	1.44E+02	1.32E+02	1.09	Acceptable
EZA	4th/2021	02/02/22	E13367	Water	pCi/L	Iodine-131	9.66E+01	9.13E+01	1.06	Acceptable
EZA	4th/2021	02/02/22	E13367	Water	pCi/L	Manganese-54	1.88E+02	1.77E+02	1.06	Acceptable
EZA	4th/2021	02/02/22	E13367	Water	pCi/L	Zinc-65	3.45E+02	3.01E+02	1.15	Acceptable

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TABLE 3

CORRECTIVE ACTION REPORT SUMMARY

CORRECTIVE ACTION ID# & PE FAILURE	DISPOSITION
Summary of MAPEP 45 Study Unacceptable Ratings	Upon receipt of the PT report, an investigation was initiated by the Quality Department and a Corrective Action (CARR) team assembled. The team consisted of representatives from the affected laboratories. The sample preparation and analytical processes were reviewed. This included review of reagents and standards used in the sample preparation steps, calibration records, process control samples, and interviews with the analysts. The investigation determined that the laboratory met all quality control criteria specified in each method. Additionally, all internal procedures and policies were performed as required. These failures were tracked through GEL's internal non-conformance system

Sample ID	Parm	Reported Value	Reference Value	Acceptance Range
MAPEP-21-GrF45	Gross Alpha	1.73 Bq/S	0.960 Bq/S	0.288-1.632 Bq/S
MAPEP-21-MaS45 (Radiological)	Uranium-234	79.6 Bq/kg	51.4 Bq/kg	36.0-66.8 Bq/kg
MAPEP-21-MaSF45	Np-237 Sr-90 (W)	0.00736 Bq/S 0.482 Bq/S	NA 0.6649 Bq/S	False positive test 0.4654-0.8644 Bq/S
MAPEP-21-MaW45 (Radiological)	Ra-226	0.310 Bq/L	0.226 Bq/L	0.158-0.294 Bq/L
MAPEP-21-RdF45	Sr-90 (W)	0.195 Bq/S	0.273 Bq/S	0.191-0.355 Bq/S

Root Cause:

MAPEP-21-GrF45: Gross Alpha: The data for this analysis has been reviewed and no errors were noted. It was found that the result from the original count for the sample preparation was within the acceptance limits of the study. The sample initially did not meet replication criteria for the in-batch duplicate and was recounted. The duplicate sample was not recounted during the process.

MAPEP-21-MaS45 (radiological) U-234: The laboratory preparation and counting procedures were evaluated for potential contributors to the high bias of these results. None were noted and the batches met QC criteria for recovery and duplication.

MAPEP-21-MaSF45: Upon review, it is suspected that the bias in the Np result is due to an unidentified matrix interferant. The sample should have been returned to the lab

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	for additional clean up steps. The Sr warning result recovered at 72.5% of the known value. The laboratory evaluated both the prep and instrument processes for possible causes for the low bias. A definitive cause was not determined. **MAPEP-21-MaW45** (Radiological):Ra-226: The data has been reviewed and no errors were found. It was noted that the in-batch duplicate sample result was within acceptance limits for the study. The samples met RER replication criteria. **MAPEP-21-RdF45**: Sr: This warning result recovered at 71% of the known value. The laboratory evaluated both the prep and instrument processes for possible causes for the low bias. A definitive source was not determined. This Sr warning result was analyzed in a separate laboratory than the synthetic fecal sample which uses an entirely separate processes for analysis.

Summary of MRAD-35 Study Unacceptable Ratings

Sample ID	Parm	Reported Value	Reference Value	Acceptance Range
Air Filter	Uranium-234	9.62 pCi/F	7.76 pCi/F	5.75-9.09 pCi/F
Water	Uranium-234	49.6 pCi/L	40.8 pCi/L	31.1-46.7 pCi/L

Upon receipt of the PT report, an investigation was initiated by the Quality Department and a Corrective Action (CARR) team assembled. The team consisted of representatives from the affected laboratories. The sample preparation and analytical processes were reviewed. This included review of reagents and standards used in the sample preparation steps, calibration records, process control samples, and interviews with the analysts.

The investigation determined that the laboratory met all quality control criteria specified in each method. Additionally, all internal procedures and policies were performed as required. These failures were tracked through GEL's internal non-conformance system

Root Cause(s):

The laboratory reviewed the data and found no errors. It was noted that the sample was replicated in the analysis batch and met replication criteria. For the water analysis, the result of the duplicate sample was within the acceptance range of the study. All analysis data met the acceptance QC criteria and procedures for initial calibration, continuing calibration, instrument controls and process controls were met.

P.O. Box 236, Hancocks Bridge, New Jersey 08038-0236

PSEG
Nuclear LLC

August 29, 2019
NOD-19-018

GEL Laboratories
Mr. Robert Pullano,
Director, Quality Systems
2040 Savage Road
Charleston, SC 29407

Dear Mr. Pullano:

PSEG NUCLEAR, LLC NUPIC SUPPLIER AUDIT NUMBER: 24747 (NOV2019-069)

Attached is the audit report of the activities observed August 12th through August 14th at the GEL Lab facility located at 2040 Savage Road, Charleston, SC. The purpose of the audit was to evaluate the effectiveness and verify the implementation of GEL Labs Quality Assurance Program pertaining to the supplying of Testing, General; Environmental Monitoring; REMP Services; and Radiochemical Analysis. The applicable sections of Revision 1 of the Nuclear Utilities Procurement Issues Committee (NUPIC) Radiological Checklist were utilized during this audit.

The audit team did not identify any Findings or Deficiencies that had any impact on the quality of products or services provided to the industry and this Radiological Audit is being issued as Closed.

As a result of this audit, the audit team finds that GEL Laboratories is effectively implementing their Quality Assurance Program, and GEL Labs remains on the PSEG Nuclear, LLC Approved Suppliers List.

The results of this audit will be made available to all NUPIC members. It is the responsibility of each member utility to determine the acceptability of the audit report relative to the requirements of their own Quality Assurance Program.

The audit team thanks you for the courtesy and cooperation extended to the team in support of the audit. If you have any questions regarding the audit, please contact Roger Mills at 856-339-5451.

Sincerely,

Roger Mills
Audit Team Lead
PSEG Nuclear, LLC

Jeff DeFebo
Nuclear Oversight Audit Manager
PSEG Nuclear, LLC

RM/JD
Attachments
Audit File (NOV2019-069)
4B.102

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To: **Distribution List**

From: **Robert L. Pullano, Director, Quality Systems, GEL Laboratories, LLC**

Date: **February 18, 2022**

Subject: **Environmental Laboratory Quarterly Quality Assurance Report for Environmental Analyses (October through December 2021)**

Attached is GEL Laboratories, LLC (GEL) Fourth Quarter 2021 quality assurance report covering Environmental Analyses. This report includes internal quality assurance comparisons, analytical Performance Test (PT) sample cross check programs in support of client Radiological Environmental Monitoring Programs (REMP) and analysis of additional radionuclides in environmental samples that are typically outside the REMP scope.

A total of 195 individual PT analyses were evaluated during this period. GEL received performance evaluation samples from Eckert & Ziegler Analytics, Inc. (EZA), U.S. Department of Energy Mixed Analyte Performance Evaluation Program (MAPEP), ERA's Mixed Rad (MRAD) Proficiency Testing Program, and ERA's RadChem Proficiency Testing Program (RAD).

Please do not hesitate to contact your project manager or me with any additional questions or comments about the report. I can be reached by email bob.pullano@gel.com, or by phone at 843-556-8171 ext. 4429.

Robert L. Pullano
Director, Quality Systems

Attachment

problem solved

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ENVIRONMENTAL LABORATORY QUALITY REPORT
2021 – FOURTH QUARTER

In accordance with the U.S. Nuclear Regulatory Commission requirements, GEL Laboratories, LLC (GEL) participates in an Interlaboratory Comparison Program (ICP). This satisfies the requirements of both Regulatory Guide 4.15, Revision 1, "Quality Assurance for Radiological Monitoring Programs (Normal Operations) - Effluent Streams and the Environment", February 1979 and Regulatory Guide 4.15, Revision 2, "Quality Assurance for Radiological Monitoring Programs (Inception through Normal Operations to License Termination) - Effluent Streams and the Environment", July, 2007. Both guides indicate the ICP is to be conducted with the U.S. Environmental Protection Agency (EPA) Environmental Radioactivity Laboratory Intercomparison Studies (Cross-check) Program or an equivalent program, and the ICP should include all sample medium/radionuclide combinations that are offered by the EPA and included in the REMP.

Throughout the year, GEL receives performance evaluation samples from the U.S. Department of Energy Mixed Analyte Performance Evaluation Program (MAPEP), ERA's Mixed Rad (MRAD) Proficiency Testing Program, ERA's RadChem Proficiency Testing Program (RAD), and ERA's Quik Response Proficiency Testing Program. Each provider has a documented Quality Assurance (QA) program and the capability to prepare Quality Control (QC) materials traceable to the National Institute of Standards and Technology. The ICP is a third party blind testing program which provides a means to ensure independent checks are performed on the accuracy and precision of the measurements of radioactive materials in environmental sample matrices. The providers supply the crosscheck samples to GEL. Upon receipt, the laboratory performs the analyses in a normal manner. Laboratory results are given to each provider for evaluation.

The accuracy of each result reported to Eckert & Ziegler Analytics, Inc. (EZA) is measured by the ratio of GEL's result to the known value. Accuracy for all other results is based on statistically derived acceptance ranges calculated by the providers. An investigation is undertaken whenever the ratio or reported result falls outside of the acceptance range.

A summary of GEL's results received during Fourth Quarter 2021 is provided in Table 2 for the required sample matrix types and isotopic distribution. GEL's results met acceptance criteria for 190 of 195 reported analytes. Investigation on the unacceptable results were initiated as outlined in GEL's standard operating procedures for corrective action. A summary of the corrective actions for unacceptable results are provided in Table 3.

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TABLE 1

INTERNAL LABORATORY QUALITY CONTROL RESULT SUMMARY

October through December 2021

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Fourth Quarter 2021	Bias Criteria (+ / - 25%		Precision Criteria (Note 1)	
	WITHIN CRITERIA	OUTSIDE CRITERIA	WITHIN CRITERIA	OUTSIDE CRITERIA
MILK				
Gas Flow Sr 2nd count	11	0	13	0
Gas Flow Total Strontium	3	0	3	0
Gamma Spec Liquid RAD A-013 with Ba, La	11	0	28	0
Gamma Spec Liquid RAD A-013 with Iodine	0	0	1	0
SOLID				
Gamma Spec Solid RAD A-013	1	0	2	0
LSC Nickel 63	1	0	1	0
Gas Flow Sr 2nd count	2	0	2	0
Gas Flow Total Strontium	1	0	1	0
Gamma Spec Solid RAD A-013 with Iodine	6	0	11	0
FILTER				
Gross A & B	72	0	49	0
Gamma Spec Filter	8	0	17	0
LIQUID				
Tritium	62	0	78	0
LSC Iron-55	5	0	4	0
LSC Nickel 63	5	0	4	0
Gas Flow Sr 2nd count	3	0	3	0
Gas Flow Total Strontium	4	0	4	0
Gross Alpha Non Vol Beta	7	0	18	0
Gamma Spec Liquid RAD A-013 with Ba, La	18	0	32	0
Gamma Spec Liquid RAD A-013 with Iodine	3	0	14	0
TISSUE				
Gas Flow Sr 2nd count	4	0	4	0
Gas Flow Total Strontium	2	0	2	0
Gamma Spec Solid RAD A-013 with Iodine	5	0	4	0

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VEGETATION				
Gas Flow Sr 2nd count	2	0	2	0
Gamma Spec Solid RAD A-013 with Iodine	13	0	17	0
AIR CHARCOAL				
Carbon-14 (Ascarite/Soda Lime Filter per Liter)	6	0	6	0
DRINKING WATER				
Tritium	5	0	6	0
LSC Iron-55	1	0	2	0
LSC Nickel 63	1	0	2	0
Gamma Iodine-131	3	0	3	0
Gas Flow Total Strontium	3	0	3	0
Gross Alpha Non Vol Beta	17	0	19	0
Gamma Spec Liquid RAD A-013 with Ba, La	5	0	14	0
Gamma Spec Liquid RAD A-013 with Iodine	0	0	2	0

Note 1: The RPD must be 20 percent or less, if both samples are greater than 5 times the MDC. If both results are less than 5 times MDC, then the RPD must be equal to or less than 100%. If one result is above the MDC and the other is below the MDC, then the RPD can be calculated using the MDC for the result of the one below the MDC. The RPD must be 100% or less. In the situation where both results are above the MDC but one result is greater than 5 times the MDC and the other is less than 5 times the MDC, the RPD must be less than or equal to 20%. If both results are below MDC, then the limits on % RPD are not applicable.

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TABLE 2

GEL QUARTERLY INTERLABORATORY COMPARISON

October through December 2021

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PT Provider	Quarter / Year	Report Received Date	Sample Number	Sample Media	Unit	Analyte / Nuclide	GEL Value	Known value	Acceptance Range/ Ratio	Evaluation
EZA	3rd/2021	11/08/21	E13364	Cartridge	pCi	Iodine-131	1.02E+02	9.08E+01	112	Acceptable
EZA	3rd/2021	11/08/21	E13365	Milk	pCi/L	Strontium-89	8.92E+01	8.54E+01	1.04	Acceptable
EZA	3rd/2021	11/08/21	E13365	Milk	pCi/L	Strontium-90	1.01E+01	1.40E+01	0.72	Acceptable
EZA	3rd/2021	11/08/21	E13366	Milk	pCi/L	Cerium-141	1.17E+02	1.14E+02	1.02	Acceptable
EZA	3rd/2021	11/08/21	E13366	Milk	pCi/L	Cobalt-58	1.25E+02	1.18E+02	1.06	Acceptable
EZA	3rd/2021	11/08/21	E13366	Milk	pCi/L	Cobalt-60	1.46E+02	1.45E+02	1.01	Acceptable
EZA	3rd/2021	11/08/21	E13366	Milk	pCi/L	Chromium-51	2.69E+02	2.36E+02	1.14	Acceptable
EZA	3rd/2021	11/08/21	E13366	Milk	pCi/L	Cesium-134	9.00E+01	9.31E+01	0.97	Acceptable
EZA	3rd/2021	11/08/21	E13366	Milk	pCi/L	Cesium-137	1.14E+02	1.12E+02	1.02	Acceptable
EZA	3rd/2021	11/08/21	E13366	Milk	pCi/L	Iron-59	1.23E+02	1.02E+02	1.21	Acceptable
EZA	3rd/2021	11/08/21	E13366	Milk	pCi/L	Iodine-131	9.08E+01	8.56E+01	1.06	Acceptable
EZA	3rd/2021	11/08/21	E13366	Milk	pCi/L	Manganese-54	1.31E+02	1.28E+02	1.02	Acceptable
EZA	3rd/2021	11/08/21	E13366	Milk	pCi/L	Zinc-65	1.65E+02	1.53E+02	1.08	Acceptable
EZA	3rd/2021	11/08/21	E13367	Water	pCi/L	Cerium-141	1.54E+02	1.51E+02	1.02	Acceptable
EZA	3rd/2021	11/08/21	E13367	Water	pCi/L	Cobalt-58	1.62E+02	1.56E+02	1.04	Acceptable
EZA	3rd/2021	11/08/21	E13367	Water	pCi/L	Cobalt-60	2.07E+02	1.91E+02	1.08	Acceptable
EZA	3rd/2021	11/08/21	E13367	Water	pCi/L	Chromium-51	3.30E+02	3.12E+02	1.06	Acceptable
EZA	3rd/2021	11/08/21	E13367	Water	pCi/L	Cesium-134	1.13E+02	1.23E+02	0.92	Acceptable
EZA	3rd/2021	11/08/21	E13367	Water	pCi/L	Cesium-137	1.57E+02	1.48E+02	1.06	Acceptable
EZA	3rd/2021	11/08/21	E13367	Water	pCi/L	Iron-59	1.52E+02	1.35E+02	1.13	Acceptable
EZA	3rd/2021	11/08/21	E13367	Water	pCi/L	Iodine-131	2.71E+02	2.47E+02	1.10	Acceptable
EZA	3rd/2021	11/08/21	E13367	Water	pCi/L	Manganese-54	1.83E+02	1.70E+02	1.08	Acceptable
EZA	3rd/2021	11/08/21	E13367	Water	pCi/L	Zinc-65	2.33E+02	2.02E+02	1.15	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-GrF45	Filter	Bq/sample	Gross Alpha	1.73	0.98	0.288-1.632	Not Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-GrF45	Filter	Bq/sample	Gross Beta	0.642	0.553	0.277-0.830	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-GrW45	Water	Bq/L	Gross Alpha	0.226	0.232	0.070-0.394	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-GrW45	Water	Bq/L	Gross Beta	2.73	2.8707	1.404-4.211	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaS45	Soil	Bq/Kg	Americium-241	106.0	98.0	69-127	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaS45	Soil	Bq/Kg	Cesium-134	993	1170	819-1521	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaS45	Soil	Bq/Kg	Cesium-137	579.00	572	400-744	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaS45	Soil	Bq/Kg	Cobalt-57	0.375		False Pos Test	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaS45	Soil	Bq/Kg	Cobalt-60	692	722	505-939	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaS45	Soil	Bq/Kg	Iron-55	994	1020	714-1326	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaS45	Soil	Bq/Kg	Manganese-54	412	410	287-533	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaS45	Soil	Bq/Kg	Nickel-63	1170	1280	896-1664	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaS45	Soil	Bq/Kg	Plutonium-238	55.9	59.8	41.9-77.7	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaS45	Soil	Bq/Kg	Plutonium-239/240	66.3	71.3	49.9-92.7	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaS45	Soil	Bq/Kg	Potassium-40	612	607	425-789	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaS45	Soil	Bq/Kg	Strontium-90	0.161		False Pos Test	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaS45	Soil	Bq/Kg	Technetium-99	747	777	544-1010	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaS45	Soil	Bq/Kg	U-234/233	80	51	36.0-66.8	Not Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaS45	Soil	Bq/Kg	Uranium-238	177	168	118-218	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaS45	Soil	Bq/Kg	Zinc-65	945	907	635-1179	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Americium-241	0.407	0.426	0.298-0.554	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Cesium-134	9.5	10.4	7.3-13.5	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Cesium-137	-0.04		False Pos Test	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Cobalt-57	14	13.9	9.7-18.1	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Cobalt-60	14.5	14.0	9.8-18.2	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Hydrogen-3	231	250	175-325	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Iron-55	47.9	49.8	34.9-64.7	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Manganese-54	9.47	9.0	6.3-11.7	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Nickel-63	41.4	39.5	27.7-51.4	Acceptable

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MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Plutonium-238	-0.00169	0.0096	Sens. Evaluation	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Plutonium-239/240	0.470	0.528	0.370-0.689	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Potassium-40	0.005		False Pos Test	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Radium-226	0.310	0.226	0.158-0.294	Not Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Strontium-90	3.50	3.86	2.70-5.02	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Technetium-99	3.79	3.71	2.60-4.82	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Uranium-234/233	0.0203	0.0215	Sens. Evaluation	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Uranium-238	0.00975	0.0123	Sens. Evaluation	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-MaW45	Water	Bq/L	Zinc-65	0.122		False Pos Test	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdF45	Filter	ug/sample	Uranium-235	0.0594	0.0588	0.0412-0.0764	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdF45	Filter	ug/sample	Uranium-238	8.5	8.3	5.8-10.8	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdF45	Filter	ug/sample	Uranium-Total	8.579	8.4	5.9-10.9	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdF45	Filter	Bq/sample	Americium-241	0.109	0.119	0.083-0.155	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdF45	Filter	Bq/sample	Cesium-134	1.23	1.32	0.92-1.72	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdF45	Filter	Bq/sample	Cesium-137	1.31	1.280	0.90-1.66	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdF45	Filter	Bq/sample	Cobalt-57	0.82800	0.83	0.58-1.08	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdF45	Filter	Bq/sample	Cobalt-60	2.37	2.28	1.60-2.96	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdF45	Filter	Bq/sample	Manganese-54	1.60	1.46	1.02-1.90	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdF45	Filter	Bq/sample	Plutonium-238	0.0023	0.0030	Sens. Evaluation	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdF45	Filter	Bq/sample	Plutonium-239/240	0.0574	0.0609	0.0426-0.0792	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdF45	Filter	Bq/sample	Strontium-90	0.195	0.273	0.191-0.355	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdF45	Filter	Bq/sample	Uranium-234/233	0.101	0.100	0.070-0.130	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdF45	Filter	Bq/sample	Uranium-238	0.107	0.104	0.073-0.135	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdF45	Filter	Bq/sample	Zinc-65	0.0579		False Pos Test	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdV45	Vegetation	Bq/sample	Americium-241	0.0724	0.0747	0.0523-0.0971	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdV45	Vegetation	Bq/sample	Cesium-134	4.02	4.34	3.04-5.64	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdV45	Vegetation	Bq/sample	Cesium-137	2.28	2.21	1.55-2.87	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdV45	Vegetation	Bq/sample	Cobalt-57	4.56	4.66	3.26-6.06	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdV45	Vegetation	Bq/sample	Cobalt-60	3.44	3.51	2.46-4.56	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdV45	Vegetation	Bq/sample	Manganese-54	-0.0404		False Pos Test	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdV45	Vegetation	Bq/sample	Plutonium-238	0.0603	0.0655	0.0459-0.0852	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdV45	Vegetation	Bq/sample	Plutonium-239/240	0.00140		False Pos Test	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdV45	Vegetation	Bq/sample	Strontium-90	1.10	1.32	0.92-1.72	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdV45	Vegetation	Bq/sample	Uranium-234/233	0.1740	0.1830	0.128-0.238	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdV45	Vegetation	Bq/sample	Uranium-238	0.1770	0.1760	1.123-0.229	Acceptable
MAPEP	4th/2021	12/16/21	MAPEP-21-RdV45	Vegetation	Bq/sample	Zinc-65	2.57	2.43	1.70-3.16	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Actinium-228	3370	3240	2140 - 4080	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Americium-241	922	891	481 - 1260	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Bismuth-212	3320	3350	959 - 4990	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Bismuth-214	1140	1370	658 - 2040	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Cesium-134	2410	2650	1810 - 3170	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Cesium-134	2410	2650	1810 - 3170	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Cesium-137	3720	3660	2770 - 4630	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Cobalt-60	4680	4730	3720 - 5840	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Lead-212	3840	3420	2390 - 4320	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Lead-214	1480	1490	626 - 2340	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Manganese-54	<27.4	<1000	<1000	Acceptable

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ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Plutonium-238	1230	1250	623 - 1900	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Plutonium-239	1440	1450	790 - 2090	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Potassium-40	25600	24700	17000 - 29500	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Strontium-90	8770	6090	1900 - 9490	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Thorium-234	3350	2720	1030 - 4660	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Uranium-234	2620	2740	1280 - 3590	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Uranium-234	3260	2740	1280 - 3590	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Uranium-238	2870	2720	1490 - 3650	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Uranium-238	3400	2720	1490 - 3650	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Uranium-Total	5670	5580	3100 - 7210	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Uranium-Total	5670	5580	3100 - 7210	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Uranium-Total	6817	5580	3100 - 7210	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	µg/kg	Uranium (mass)	8630	8140	3670 - 11000	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	µg/kg	Uranium (mass)	10200	8140	3670 - 11000	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Soil	pCi/kg	Zinc-65	5540	4860	3880 - 6630	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Veg	pCi/kg	Americium-241	4040	4040	2500 - 5710	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Veg	pCi/kg	Cesium-134	918	923	613 - 1230	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Veg	pCi/kg	Cesium-137	2180	2210	1700 - 2980	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Veg	pCi/kg	Cobalt-60	1670	1590	1250 - 2080	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Veg	pCi/kg	Cobalt-60	1670	1590	1250 - 2080	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Veg	pCi/kg	Curium-244	2830	2840	1600 - 3530	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Veg	pCi/kg	Manganese-54	<47.1	<300	<300	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Veg	pCi/kg	Plutonium-238	1730	1620	1120 - 2090	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Veg	pCi/kg	Plutonium-239	1620	1440	995 - 1820	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Veg	pCi/kg	Potassium-40	30200	33300	25000 - 42200	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Veg	pCi/kg	Strontium-90	5760	5720	3220 - 7450	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Veg	pCi/kg	Uranium-234	1410	1350	948 - 1720	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Veg	pCi/kg	Uranium-238	1420	1340	946 - 1680	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Veg	pCi/kg	Uranium-Total	2900	2750	1760 - 3710	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Veg	µg/kg	Uranium (mass)	4250	4010	3080 - 4970	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Veg	pCi/kg	Zinc-65	1340	1200	896 - 1780	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Americium-241	28.1	27.7	19.8 - 36.9	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Cesium-134	217	241	156 - 296	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Cesium-137	187	187	154 - 245	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Cobalt-60	324	310	264 - 394	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Cobalt-60	324	310	264 - 394	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Iron-55	508	548	200 - 874	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Manganese-54	<3.06	<50.0	<50.0	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Plutonium-238	27.8	28.5	21.5 - 35.0	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Plutonium-239	22.6	21.6	16.1 - 26.1	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Strontium-90	23.4*	19.2	12.1 - 26.1	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Uranium-234	7.96	7.76	5.75 - 9.09	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Uranium-234	9.62*	7.76	5.75 - 9.09	Not Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Uranium-238	7.35	7.69	5.81 - 9.17	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Uranium-238	7.38	7.69	5.81 - 9.17	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Uranium-Total	15.8	15.8	11.5 - 18.7	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Uranium-Total	17	15.8	11.5 - 18.7	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	µg/Filter	Uranium (mass)	22.1	23.1	18.5 - 27.1	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	µg/Filter	Uranium (mass)	22.1	23.1	18.5 - 27.1	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Zinc-65	414	366	300 - 559	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Gross Alpha	95.4	77.6	40.5 - 128	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Filter	pCi/Filter	Gross Beta	87	80.6	48.9 - 122	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Americium-241	70.5	63.7	43.7 - 81.5	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Cesium-134	626	649	490 - 714	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Cesium-137	2210	2170	1860 - 2470	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Cobalt-60	1040	964	831 - 1110	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Iron-55	339*	246	145 - 358	Acceptable

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ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Plutonium-238	74.1	114	68.5 - 148	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Plutonium-239	21.3	34.3	21.2 - 42.3	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Strontium-90	915	936	674 - 1160	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Uranium-234	39.9	40.8	31.1 - 46.7	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Uranium-234	49.8*	40.8	31.1 - 46.7	Not Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Uranium-238	40.3	40.5	31.4 - 47.7	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Uranium-238	41.2	40.5	31.4 - 47.7	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Uranium-Total	83.1	83.2	64.9 - 94.8	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Uranium-Total	92.9*	83.2	64.9 - 94.8	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	µg/L	Uranium (mass)	121	121	98.0 - 137	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	µg/L	Uranium (mass)	123	121	98.0 - 137	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Zinc-65	449	394	351 - 497	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Gross Alpha	74.7	93.9	34.3 - 129	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Gross Beta	96.1	97	48.5 - 133	Acceptable
ERA	4th/2021	11/23/21	MRAD-35	Water	pCi/L	Tritium	12600	12600	9650 - 15600	Acceptable
ERA	4th/2021	11/27/21	RAD-127	Water	pCi/L	Strontium-90	28.5	29.3	21.3 - 34.0	Acceptable
EZA	4th/2021	02/02/22	E13368	Cartridge	pCi	Iodine-131	9.78E+01	9.36E+01	1.05	Acceptable
EZA	4th/2021	02/02/22	E13370	Milk	pCi/L	Strontium-89	7.54E+01	9.08E+01	0.83	Acceptable
EZA	4th/2021	02/02/22	E13370	Milk	pCi/L	Strontium-90	1.10E+01	1.30E+01	0.85	Acceptable
EZA	4th/2021	02/02/22	E13366	Milk	pCi/L	Cerium-141	1.32E+02	1.32E+02	1.00	Acceptable
EZA	4th/2021	02/02/22	E13366	Milk	pCi/L	Cobalt-58	1.14E+02	1.14E+02	1.00	Acceptable
EZA	4th/2021	02/02/22	E13366	Milk	pCi/L	Cobalt-60	2.27E+02	2.23E+02	1.02	Acceptable
EZA	4th/2021	02/02/22	E13366	Milk	pCi/L	Chromium-51	2.84E+02	2.93E+02	0.97	Acceptable
EZA	4th/2021	02/02/22	E13366	Milk	pCi/L	Cesium-134	1.51E+02	1.66E+02	0.91	Acceptable
EZA	4th/2021	02/02/22	E13366	Milk	pCi/L	Cesium-137	1.15E+02	1.17E+02	0.98	Acceptable
EZA	4th/2021	02/02/22	E13366	Milk	pCi/L	Iron-59	1.27E+02	1.13E+02	1.13	Acceptable
EZA	4th/2021	02/02/22	E13366	Milk	pCi/L	Iodine-131	9.28E+01	9.03E+01	1.03	Acceptable
EZA	4th/2021	02/02/22	E13366	Milk	pCi/L	Manganese-54	1.60E+02	1.52E+02	1.06	Acceptable
EZA	4th/2021	02/02/22	E13366	Milk	pCi/L	Zinc-65	2.87E+02	2.57E+02	1.12	Acceptable
EZA	4th/2021	02/02/22	E13367	Water	pCi/L	Cerium-141	1.53E+02	1.54E+02	0.99	Acceptable
EZA	4th/2021	02/02/22	E13367	Water	pCi/L	Cobalt-58	1.42E+02	1.34E+02	1.06	Acceptable
EZA	4th/2021	02/02/22	E13367	Water	pCi/L	Cobalt-60	2.82E+02	2.61E+02	1.08	Acceptable
EZA	4th/2021	02/02/22	E13367	Water	pCi/L	Chromium-51	3.75E+02	3.42E+02	1.1	Acceptable
EZA	4th/2021	02/02/22	E13367	Water	pCi/L	Cesium-134	1.82E+02	1.94E+02	0.94	Acceptable
EZA	4th/2021	02/02/22	E13367	Water	pCi/L	Cesium-137	1.41E+02	1.37E+02	1.03	Acceptable
EZA	4th/2021	02/02/22	E13367	Water	pCi/L	Iron-59	1.44E+02	1.32E+02	1.09	Acceptable
EZA	4th/2021	02/02/22	E13367	Water	pCi/L	Iodine-131	9.66E+01	9.13E+01	1.06	Acceptable
EZA	4th/2021	02/02/22	E13367	Water	pCi/L	Manganese-54	1.88E+02	1.77E+02	1.06	Acceptable
EZA	4th/2021	02/02/22	E13367	Water	pCi/L	Zinc-65	3.45E+02	3.01E+02	1.15	Acceptable

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TABLE 3

CORRECTIVE ACTION REPORT SUMMARY

CORRECTIVE ACTION ID# & PE FAILURE	DISPOSITION
Summary of MAPEP 45 Study Unacceptable Ratings	Upon receipt of the PT report, an investigation was initiated by the Quality Department and a Corrective Action (CARR) team assembled. The team consisted of representatives from the affected laboratories. The sample preparation and analytical processes were reviewed. This included review of reagents and standards used in the sample preparation steps, calibration records, process control samples, and interviews with the analysts. The investigation determined that the laboratory met all quality control criteria specified in each method. Additionally, all internal procedures and policies were performed as required. These failures were tracked through GEL's internal non-conformance system

Sample ID	Parm	Reported Value	Reference Value	Acceptance Range
MAPEP-21-GrF45	Gross Alpha	1.73 Bq/S	0.960 Bq/S	0.288-1.632 Bq/S
MAPEP-21-MaS45 (Radiological)	Uranium-234	79.6 Bq/kg	51.4 Bq/kg	36.0-66.8 Bq/kg
MAPEP-21-MaSF45	Np-237 Sr-90 (W)	0.00736 Bq/S 0.482 Bq/S	NA 0.6649 Bq/S	False positive test 0.4654-0.8644 Bq/S
MAPEP-21-MaW45 (Radiological)	Ra-226	0.310 Bq/L	0.226 Bq/L	0.158-0.294 Bq/L
MAPEP-21-RdF45	Sr-90 (W)	0.195 Bq/S	0.273 Bq/S	0.191-0.355 Bq/S

Root Cause:

MAPEP-21-GrF45: Gross Alpha: The data for this analysis has been reviewed and no errors were noted. It was found that the result from the original count for the sample preparation was within the acceptance limits of the study. The sample initially did not meet replication criteria for the in-batch duplicate and was recounted. The duplicate sample was not recounted during the process.

MAPEP-21-MaS45 (radiological) U-234: The laboratory preparation and counting procedures were evaluated for potential contributors to the high bias of these results. None were noted and the batches met QC criteria for recovery and duplication.

MAPEP-21-MaSF45: Upon review, it is suspected that the bias in the Np result is due to an unidentified matrix interferant. The sample should have been returned to the lab

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	for additional clean up steps. The Sr warning result recovered at 72.5% of the known value. The laboratory evaluated both the prep and instrument processes for possible causes for the low bias. A definitive cause was not determined. **MAPEP-21-MaW45** (Radiological):Ra-226: The data has been reviewed and no errors were found. It was noted that the in-batch duplicate sample result was within acceptance limits for the study. The samples met RER replication criteria. **MAPEP-21-RdF45**: Sr: This warning result recovered at 71% of the known value. The laboratory evaluated both the prep and instrument processes for possible causes for the low bias. A definitive source was not determined. This Sr warning result was analyzed in a separate laboratory than the synthetic fecal sample which uses an entirely separate processes for analysis.

Summary of MRAD-35 Study Unacceptable Ratings

Sample ID	Parm	Reported Value	Reference Value	Acceptance Range
Air Filter	Uranium-234	9.62 pCi/F	7.76 pCi/F	5.75-9.09 pCi/F
Water	Uranium-234	49.6 pCi/L	40.8 pCi/L	31.1-46.7 pCi/L

Upon receipt of the PT report, an investigation was initiated by the Quality Department and a Corrective Action (CARR) team assembled. The team consisted of representatives from the affected laboratories. The sample preparation and analytical processes were reviewed. This included review of reagents and standards used in the sample preparation steps, calibration records, process control samples, and interviews with the analysts.

The investigation determined that the laboratory met all quality control criteria specified in each method. Additionally, all internal procedures and policies were performed as required. These failures were tracked through GEL's internal non-conformance system

Root Cause(s):

The laboratory reviewed the data and found no errors. It was noted that the sample was replicated in the analysis batch and met replication criteria. For the water analysis, the result of the duplicate sample was within the acceptance range of the study. All analysis data met the acceptance QC criteria and procedures for initial calibration, continuing calibration, instrument controls and process controls were met.

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PSEG Nuclear LLC

PSEG Nuclear, LLC

Joint Utility Audit Report

of

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
843-766-1178

NUPIC Audit Number: 24747
PSEG Audit Number: NOV2019-069
Audit Dates: August 12 - 14, 2019

Prepared By: _____ **Date:** 8/29/2019

Roger Mills
Audit Team Lead
PSEG Nuclear, LLC

Approved By: _____ **Date:** 8/29/2019

Jeff DeFebo
NOS Audit Manager
PSEG Nuclear, LLC

PSEG NUCLEAR, LLC
Audit No. NOV2019-069

Organization:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407

Audit Dates:

August 12 through August 14, 2019

Product/Services:

GEL Labs provides Radiation Monitoring Systems including supplying of Testing, General; Environmental Monitoring; REMP Services; and Radiochemical Analysis.

Purpose and Scope:

The purpose of this Audit was to evaluate the effectiveness and verify the implementation of the GEL Laboratories Quality Assurance Program for the supplying of Testing, General; Environmental Monitoring; REMP Services; and Radiochemical Analysis. Revision 1 of the NUPIC Radiological Checklist was utilized during this audit.

The programs and processes were evaluated for compliance with NRC Reg. Guide 4.15, and GEL Labs Quality Assurance Program. Program implementation was evaluated at the Charleston, SC facility.

Applicable Quality Programs:

GEL Laboratories, LLC Quality Assurance Plan, Revision 33.

Executive Summary:

A joint utility audit led by PSEG Nuclear, LLC (PSE) with assistance by Entergy (ENT), Pacific Gas & Electric (PGE), Southern Nuclear (SNC), South Texas Project (STP), Talen Energy (TLN) and a Technical Specialist (PSE), using the NUPIC Radiological Audit Checklist, Revision 1, was conducted on August 12, 2019 through August 14, 2019 (Charleston, SC). The audit was completed using performance-based techniques including conducting interviews with facility personnel, performing observations of radiological activities, and reviewing company documentation. The audit evaluation concluded that GEL Laboratories, LLC Quality Assurance Program was effectively implemented and this Audit is being issued as Closed.

For those utilities considering classifying GEL Labs as a Class 1 Safety Related Supplier, this audit performed a cursory review of a few 10 CFR 50 Appendix B attributes that were not contained in the NUPIC Radiological Checklist that was

implemented during this audit. This cursory review identified gaps to 10 CFR 50 Appendix B criteria, some of which are as follows:

- A lack of a Commercial Grade Dedication Program,
- A lack of 17025 requirements being properly implemented into Purchase Orders,
- Annual Internal Audits of the QA Program being performed by personnel not qualified as Lead Auditors,
- Desk Audits being performed in lieu of Vendor Audits or Surveys.

These gaps to 10 CFR 50 Appendix B were not included in this audit report, since the NUPIC Radiological Checklist was utilized.

- GEL Labs does maintain an A2LA Certification that covers all aspects of their current testing process and PSEG will be dedicating GEL Labs services based on their A2LA Certification.

There were no Findings or Deficiencies issued as a result of this Radiological Audit.

Based on these results, it is recommended that GEL Labs be reclassified to "Survey" and that utilities consider accepting their A2LA Certification in lieu of a Survey for the performance of all testing.

The previous NUPIC audit identified two findings due to deficiencies to effectively implement procedure requirements. Both findings were reviewed to determine corrective action effectiveness. The follow up on the two findings was satisfactory. The two findings are described later in this report.

As a result of this audit, the Technical Specialist concluded that GEL Laboratories, LLC has the necessary controls for the supplying of Testing, General; Environmental Monitoring; REMP Services; and Radiochemical Analysis, and their program effectiveness was satisfactory.

Program Effectiveness:

Based on the results of this audit, PSEG Nuclear, LLC has concluded that GEL Laboratories, LLC is effectively implementing their Quality Assurance Program consistent with Reg. Guide 4.15, and GEL Labs Quality Assurance Program applicable requirements. As a result, GEL Laboratories, LLC remains on the PSEG Nuclear, LLC Approved Suppliers List.

Corrective Action To Previous Audit Findings:

The previous Audit of GEL Laboratories, Audit number 24229 conducted in October 2016 identified two findings that were closed during the 2016 Audit. The 2016 Audit

included the Appendix B Checklist and the Radiological Audit Checklist. Both Findings were identified during the 10CFR50 Appendix B portion of the audit.

Finding VA16087-01 (GEL CARR 161020-1058):

Purchase Orders issued to two Calibration Service Suppliers did not contain all required quality specifications and the item description was identified as being incorrect. GEL procedure GL-RC-E-002 requires that Purchase Orders must include quality specifications for the service or materials being purchased.

Procurement documents were corrected and appropriate procedures were revised.

During this Audit, corrective actions were found to be effective to prevent recurrence of this issue and should be considered closed.

Finding VA16087-02 (GEL CARR 161020-1058):
A vendor performed calibration services on site without an appropriate Purchase Order being issued and/or approved by GEL QA.

GEL Procedure GL-RC-E-002 requires that purchases made for Type I supplier/vendor goods and services must be approved by the Director of Quality Systems prior to purchase.

The purchase order was in place; however, it was not processes through the electronic purchasing system and did not receive the appropriate review. Procedures were revised to include the requirement that all service purchase orders will use the on-line purchasing system for approval and payment to vendors.

During this Audit, corrective actions were found to be effective to prevent recurrence of this issue and should be considered closed.

Findings:

None

Deficiencies:

None

Recommendations/Observations:

None

Unique Order Entry Requirements:

No unique Order Entry requirements existed previous to this audit and no additional order entry requirements will be imposed as a result of this Audit. The approved point of services is the Charleston, SC facility.

Bulletins, Notices, Industry, and NUPIC Issues:

No Bulletins, Notices, Industry, or NUPIC issues were identified for follow up during the audit of GEL.

NRC Inspection:

No GEL Laboratories, LLC related NRC inspection reports were identified during preparation for this audit.

10 CFR Part 21:

No GEL Laboratories, LLC related 10 CFR Part 21 notifications were identified during preparation or the conduct of this audit.

PBSA and Utility Input:

PBSA input was provided by PSEG Nuclear, LLC Procurement Engineering. Additional PBSA input was received from Detroit Edison, Talen, PSEG, and PG&E prior to this Utility Audit and incorporated.

Review of Industry Operating Experience (OE):

No vulnerabilities to services provided by GEL Laboratories, LLC were identified through operating experience review during the preparation or conduct of this audit.

Summary and Conclusion:

The audit team identified no Findings and no Deficiencies during the course of the audit. GEL Laboratories, LLC provided numerous documents for review and performed shop/laboratory activities that were observed by the audit team. GEL Laboratories, LLC is effectively implementing their QA Program for the supplying of Testing, General; Environmental Monitoring; REMP Services; and Radiochemical Analysis and their program effectiveness was satisfactory to meet the requirements of Reg. Guide 4.15 and other applicable documents.

Technical Specialist Report:

A Technical Specialist from PSEG Nuclear – Environmental Engineering, supported this audit. The Technical Specialist provided the following report.

Purpose:

To evaluate the technical adequacy, implementation, and application of GEL Laboratories, LLC Quality Assurance Program, pertaining to the supplying of Testing, General; Environmental Monitoring; REMP Services; and Radiochemical Analysis. GEL Laboratories, LLC Quality Assurance Program has been constructed to reflect a quality program that meets the requirements of Reg. Guide 4.15 and other applicable programs.

Technical Evaluation:

GEL Laboratories, LLC in Charleston, SC, is the Laboratory for conducting the supplying of Testing, General; Environmental Monitoring; REMP Services; and Radiochemical Analysis.

Observed Activities:

During the audit of GEL Labs between 8/12/19 and 8/14/2019, several testing operations were observed and are documented below.

Sample Receipt Log in-Process/ Control

A review was conducted of contractually required quality data as reported in three lab reports (Talen 480314, PSEG 484411 and PGE 485085). GEL SOP GL-CS-E-002 requires that the package must follow the specifications listed in the individual contract and/or purchase order if and when they are given. Client POs do not typically specify the specific analyses or required limits to be achieved. The lab technician explained that in these cases the limits in the lab reports are typically GEL limits. The lab technician demonstrated how each client specific requirements (from historical contracts and/or ODCM) are incorporated into Client Setup which is later used in the Lab Information Management System (LIMS) for generating client reports. Once Client Setup is established / verified and samples are logged in, the analyses and required limits are pulled from the Client Setup. Paperwork displaying these analyses and limits are generated and then used in the lab. The Batch Pull Sheets were reviewed (1899980 for Iodine-131and 1901339 for Gross A & B) for the PSEG report and compared them to the Product Information in Client Setup and verified that the client requirements were being met. These actions were in accordance with the established Standard Operating Procedure (SOP) which also addressed the general requirements when deliverable criteria (data package) have not been specified by the contract.

The Calibration Data section of the report for Talen Lab Report 480314 was reviewed. In the Continuing Calibration Data section of the report (Review of Gamma Spectrometer QA results, Daily calibration and background checks) were the detector calibration results with run dates of June 2. A review of sample analysis documentation in the instrument log was found to be satisfactory in accordance with the requirements of GL-RAD-I-001, Standard Operating Procedure for Gamma Spectroscopy System Operation, Rev 21.

Laboratory Controls:

Observations were made of the processing of Tritium Batch 1904800 for SONGS ACRS. While demonstrating the batch processing process, the analyst determined that the tritium count data/recovery was negative and that something went wrong during the analysis. The Excel spreadsheet used did flag the values in red; and per GEL Procedure GL-RAD-D-003, *Data Review, Validation, and Data Package Assembly*, Rev 44, the Group Leader was contacted and the sample was rescheduled and sent back for re-analysis by the Group Leader. I observed in LIMS that the sample was sent back and noted as MS/LCS failed low.

An observation of the sample preparation for work order 485902, Batch 1906546 for Sr, a PCGE sample using SOP GL-RAD-A-004, was conducted. There were no exceptions. There were no samples ready / available for analysis or in progress during this audit.

QC Measures

There were no standards observed with expired expiration dates. Section 7.4.4 of this SOP addresses Expiration Dates for Standards Specifically, gamma standards used repeatedly as Laboratory Control Samples and efficiency verification standards will be given an expiration date equal to five half-lives of the shortest lived nuclides used, typically Co-60 (half-life=5.27 years), or until the control charts indicate a degradation of the standard.

A review of adherence to GL-QS-E-013, *Handling Proficiency Evaluation*, Rev 8 and GL-QS-E-019, *Trending of Proficiency Evaluation (PE) Samples*, Rev 3 was performed and is documented in the following examples.

- A review of the *RadCheM™ Study Report, Issued 02/25/19 for Rad-116*; and *RAD-9116 PE RadChem Proficiency Testing Report*, issued 3/14/19 was performed and there were exceptions in RAD-116 for Sr-89 (75 pCi/L above the acceptance limit of 54.4). As required by GEL Procedure GL-QS-E-002, *Conducting Corrective/Preventive Action and Identifying Opportunities for Improvement*, Rev 11,

this issue was entered into the corrective action process as CARR No 190225-1192, dated 2/25/2019 and was closed 4/2/2019.

- *MRaD-30™ Study Report,* issued 05/21/19, had many "Not Acceptable" values or failures. Similarly, CARR No 1905530 was generated for this issue. However, it was entered as failures for MRAD-29. The specific failures listed for the corrective action were correct and aligned with those needed for MRAD-30. This CARR was closed out on 6/26/19. This issue was discussed with the QA Officer and identified as a typo. The CARR description was updated to indicate that the failures were for MRAD-30.

A review of the Proficiency Testing Plan in GL-QS-E-013, Rev 8, Appendix 1 was performed and the schedule was being adhered to.

Records

All records reviewed were complete. A QA Technician was interviewed and discussed the document retrieveability process IAW GL-QS-008, Rev 14. Specifically discussed was Section 5.2.1.5. A Quality Systems representative maintains a record that shows when record retrieval is requested, who made the request, when the records are provided, and when they are returned to document storage.
At the time of this audit and for this audit period there were no open requests or boxes available for inspection.

Technical Specialist Effectiveness Statement:

The technical specialist concluded that GEL Laboratories, LLC has the necessary controls for the supplying of Testing, General; Environmental Monitoring; REMP Services; and Radiochemical Analysis. GEL Laboratories is implementing their Quality Assurance Plan consistent with Reg. Guide 4.15, GEL Labs Quality Assurance Program, and other applicable programs and their program effectiveness was satisfactory.

Audit Team:

Roger Mills	(PSE) Audit Team Leader
Brian Vickery	(ENT) Audit Team Member
Mike Fussell	(PGE) Audit Team Member
Dennis Segres	(SNC) Audit Team Member
Dave Whiddon	(STP) Audit Team Member
Gerard Machalick	(TLN) Audit Team Member
Helen Gregory	(PSE) Technical Specialist

Persons Contacted During the Audit:

PSEG NUCLEAR, LLC
Audit No. NOV2019-069

NAME/TITLE	PRE-AUDIT MEETING	DURING AUDIT	POST-AUDIT MEETING
J. Westmoreland, Dir., Radiochemistry Labs	X	X	X
R. Pullano, Dir, Quality Systems	X	X	X
A. Fehr, QA Officer	X	X	X
A. Johnson, Document Control Officer	X	X	X
N. Mattern, Lead Auditor/QA Officer	X	X	X
B. Wills, Manager Nuclear Programs	X	X	
K. Cates, Project Manager		X	
D. Grunstra, Contracts/Pricing Manager		X	
G. Ramsay, Group Leader		X	
T. Winters, Group Leader		X	
T. Austin, Radiochemistry Group Leader		X	
T. Kraft, IT Group Leader		X	
A. Carlsten, Programmer II		X	
S. Kozlik, Data Reviewer		X	
S. Moreland, Group Leader		X	
R. Moser, New Product Dev and Support		X	
E. Trent, Project Manager		X	X
S. Gerideau, Analyst		X	
T. Winters, Group Leader Gamma Spec		X	
M. Hilton, Gamma Spectrometry		X	
K. Amweg, Liq. Sc. Technician		X	
N. Lang, Team Lead		X	

PSEG NUCLEAR, LLC
Audit No. NOV2019-069

Checklist Summary by Section:

Supplier QA Manual Name: Quality Assurance Plan	Revision Level: 33	Issue Date: March 2019

Audit Section	Section Description REG. GUIDE 4.15, REV 0 / 1 / 2	Implementation Status	Comments/Findings
1	Contract / Purchase Order Review	S	
2	Organizational Structure and Personnel Responsibilities	S	
3	Qualification of Personnel	S	
4	Operating Procedures and Instructions	S	
5	Records	S	
6	Quality Control in the Radioanalytical Laboratory	S	
7	Data and Computer Software Verification and Validation	S	
8	Assessments and Audits	S	
9	Preventive and Corrective Actions	S	
Implementation Key			
S – Satisfactory	U – Unsatisfactory	N/A – Not Applicable	

Ref: **Reg. Guide 4.15, Rev 0, 1 & 2, "Quality Assurance for Radiological Monitoring Programs"**

Attachments:

1. Summary Sheets and NUPIC Radiological Audit Checklist (36 pages)
2. Technical Specialist Orientation and Qualification (4 pages)
3. Completed PBSA Worksheet (1 page)

4B.102

Sample Data For: "SW-2"

Matrix	Lab ID	Collect Date	Run Date	Parmname	Units	Result	Uncertainty	MDC	LLD	Qualifier
Surface Drinking	533502002	1/26/2021 10:45	2/3/2021 17:24	Barium-140	pCi/L	8.66E-01	1.95E+00	6.62E+00	1.50E+01	U
Surface Drinking	533502002	1/26/2021 10:45	2/3/2021 17:24	Beryllium-7	pCi/L	1.85E+00	3.59E+00	1.22E+01		U
Surface Drinking	533502002	1/26/2021 10:45	2/3/2021 17:24	Cesium-134	pCi/L	-6.17E-01	4.39E-01	1.32E+00	1.50E+01	U
Surface Drinking	533502002	1/26/2021 10:45	2/3/2021 17:24	Cesium-137	pCi/L	5.42E-01	4.20E-01	1.46E+00	1.80E+01	U
Surface Drinking	533502002	1/26/2021 10:45	2/3/2021 17:24	Cobalt-57	pCi/L	2.33E-01	3.63E-01	1.19E+00		U
Surface Drinking	533502002	1/26/2021 10:45	2/3/2021 17:24	Cobalt-58	pCi/L	3.93E-01	4.16E-01	1.41E+00	1.50E+01	U
Surface Drinking	533502002	1/26/2021 10:45	2/3/2021 17:24	Cobalt-60	pCi/L	7.38E-01	4.22E-01	1.55E+00	1.50E+01	U
Surface Drinking	533502002	1/26/2021 10:45	2/3/2021 17:24	Iodine-131	pCi/L	-1.26E+00	7.86E-01	2.55E+00		U
Surface Drinking	533502002	1/26/2021 10:45	2/3/2021 17:24	Iron-59	pCi/L	-3.63E-01	8.65E-01	2.67E+00	3.00E+01	U
Surface Drinking	533502002	1/26/2021 10:45	2/3/2021 17:24	Lanthanum-140	pCi/L	-1.47E+00	7.37E-01	2.10E+00	1.50E+01	U
Surface Drinking	533502002	1/26/2021 10:45	2/3/2021 17:24	Manganese-54	pCi/L	1.57E-01	4.08E-01	1.34E+00	1.50E+01	U
Surface Drinking	533502002	1/26/2021 10:45	2/3/2021 17:24	Niobium-95	pCi/L	7.91E-01	4.00E-01	1.42E+00	1.50E+01	U
Surface Drinking	533502002	1/26/2021 10:45	2/3/2021 17:24	Potassium-40	pCi/L	1.59E+00	9.16E+00	1.55E+01		U
Surface Drinking	533502002	1/26/2021 10:45	2/3/2021 17:24	Zinc-65	pCi/L	8.62E-01	7.87E-01	2.82E+00	3.00E+01	U
Surface Drinking	533502002	1/26/2021 10:45	2/3/2021 17:24	Zirconium-95	pCi/L	-1.15E-01	7.81E-01	2.53E+00	1.50E+01	U
Surface Drinking	533502002	1/26/2021 10:45	2/9/2021 17:00	Iodine-131	pCi/L	-3.44E-01	2.32E-01	8.31E-01	1.00E+00	U
Surface Drinking	535858002	2/23/2021 11:09	3/2/2021 11:42	Barium-140	pCi/L	9.49E-01	3.34E+00	1.12E+01		U
Surface Drinking	535858002	2/23/2021 11:09	3/2/2021 11:42	Beryllium-7	pCi/L	-4.31E+00	6.46E+00	2.07E+01		U
Surface Drinking	535858002	2/23/2021 11:09	3/2/2021 11:42	Cesium-134	pCi/L	-4.58E-02	7.86E-01	2.50E+00		U
Surface Drinking	535858002	2/23/2021 11:09	3/2/2021 11:42	Cesium-137	pCi/L	-1.70E+00	1.32E+00	3.46E+00		U
Surface Drinking	535858002	2/23/2021 11:09	3/2/2021 11:42	Cobalt-57	pCi/L	7.41E-01	6.45E-01	2.19E+00		U
Surface Drinking	535858002	2/23/2021 11:09	3/2/2021 11:42	Cobalt-58	pCi/L	-6.39E-01	8.09E-01	2.27E+00		U
Surface Drinking	535858002	2/23/2021 11:09	3/2/2021 11:42	Cobalt-60	pCi/L	3.37E-01	7.38E-01	2.53E+00		U
Surface Drinking	535858002	2/23/2021 11:09	3/2/2021 11:42	Iodine-131	pCi/L	-4.02E+00	1.67E+00	4.15E+00		U
Surface Drinking	535858002	2/23/2021 11:09	3/2/2021 11:42	Iron-59	pCi/L	-1.86E+00	1.49E+00	4.49E+00		U
Surface Drinking	535858002	2/23/2021 11:09	3/2/2021 11:42	Lanthanum-140	pCi/L	-5.04E-01	1.31E+00	4.04E+00		U
Surface Drinking	535858002	2/23/2021 11:09	3/2/2021 11:42	Manganese-54	pCi/L	7.16E-01	7.92E-01	2.44E+00		U
Surface Drinking	535858002	2/23/2021 11:09	3/2/2021 11:42	Niobium-95	pCi/L	3.16E-01	6.51E-01	2.17E+00		U
Surface Drinking	535858002	2/23/2021 11:09	3/2/2021 11:42	Potassium-40	pCi/L	-1.65E+01	1.31E+01	3.89E+01		U
Surface Drinking	535858002	2/23/2021 11:09	3/2/2021 11:42	Zinc-65	pCi/L	9.85E-01	1.52E+00	5.32E+00		U

Surface Drinking	535858002	2/23/2021 11:09	3/2/2021 11:42	Zirconium-95	pCi/L	-4.54E-01	1.40E+00	4.39E+00		U
Surface Drinking	535858002	2/23/2021 11:09	3/11/2021 18:10	Iodine-131	pCi/L	1.83E-01	2.64E-01	8.52E-01		U
Surface Drinking	539607002	3/30/2021 11:37	4/6/2021 17:48	Barium-140	pCi/L	-1.02E+00	2.66E+00	8.68E+00		U
Surface Drinking	539607002	3/30/2021 11:37	4/6/2021 17:48	Beryllium-7	pCi/L	1.35E+00	4.91E+00	1.66E+01		U
Surface Drinking	539607002	3/30/2021 11:37	4/6/2021 17:48	Cesium-134	pCi/L	1.15E+00	6.52E-01	2.26E+00		U
Surface Drinking	539607002	3/30/2021 11:37	4/6/2021 17:48	Cesium-137	pCi/L	-1.20E-01	5.92E-01	1.92E+00		U
Surface Drinking	539607002	3/30/2021 11:37	4/6/2021 17:48	Cobalt-57	pCi/L	-3.89E-01	4.79E-01	1.54E+00		U
Surface Drinking	539607002	3/30/2021 11:37	4/6/2021 17:48	Cobalt-58	pCi/L	-6.11E-02	6.30E-01	2.02E+00		U
Surface Drinking	539607002	3/30/2021 11:37	4/6/2021 17:48	Cobalt-60	pCi/L	-4.79E-01	5.35E-01	1.67E+00		U
Surface Drinking	539607002	3/30/2021 11:37	4/6/2021 17:48	Iodine-131	pCi/L	-1.45E+00	1.05E+00	3.44E+00		U
Surface Drinking	539607002	3/30/2021 11:37	4/6/2021 17:48	Iron-59	pCi/L	-1.79E+00	1.08E+00	3.33E+00		U
Surface Drinking	539607002	3/30/2021 11:37	4/6/2021 17:48	Lanthanum-140	pCi/L	-5.55E-01	9.49E-01	2.98E+00		U
Surface Drinking	539607002	3/30/2021 11:37	4/6/2021 17:48	Manganese-54	pCi/L	3.23E-01	6.83E-01	2.00E+00		U
Surface Drinking	539607002	3/30/2021 11:37	4/6/2021 17:48	Niobium-95	pCi/L	-9.42E-01	6.22E-01	1.88E+00		U
Surface Drinking	539607002	3/30/2021 11:37	4/6/2021 17:48	Potassium-40	pCi/L	3.91E+01	1.54E+01	1.96E+01		UI
Surface Drinking	539607002	3/30/2021 11:37	4/6/2021 17:48	Zinc-65	pCi/L	-1.08E+00	1.22E+00	3.38E+00		U
Surface Drinking	539607002	3/30/2021 11:37	4/6/2021 17:48	Zirconium-95	pCi/L	2.66E+00	1.71E+00	3.38E+00		U
Surface Drinking	539607002	3/30/2021 11:37	4/9/2021 12:36	Iodine-131	pCi/L	3.08E-01	2.72E-01	8.34E-01		U
Surface Drinking	542462002	4/27/2021 10:42	5/6/2021 19:51	Barium-140	pCi/L	4.38E+00	3.22E+00	1.12E+01		U
Surface Drinking	542462002	4/27/2021 10:42	5/6/2021 19:51	Beryllium-7	pCi/L	6.74E-01	4.51E+00	1.51E+01		U
Surface Drinking	542462002	4/27/2021 10:42	5/6/2021 19:51	Cesium-134	pCi/L	-4.92E-01	5.65E-01	1.72E+00		U
Surface Drinking	542462002	4/27/2021 10:42	5/6/2021 19:51	Cesium-137	pCi/L	1.55E-01	5.72E-01	1.89E+00		U
Surface Drinking	542462002	4/27/2021 10:42	5/6/2021 19:51	Cobalt-57	pCi/L	6.64E-01	4.51E-01	1.51E+00		U
Surface Drinking	542462002	4/27/2021 10:42	5/6/2021 19:51	Cobalt-58	pCi/L	-5.02E-01	5.78E-01	1.76E+00		U
Surface Drinking	542462002	4/27/2021 10:42	5/6/2021 19:51	Cobalt-60	pCi/L	1.08E-01	5.52E-01	1.86E+00		U
Surface Drinking	542462002	4/27/2021 10:42	5/6/2021 19:51	Iodine-131	pCi/L	1.33E+00	1.15E+00	4.03E+00		U
Surface Drinking	542462002	4/27/2021 10:42	5/6/2021 19:51	Iron-59	pCi/L	-4.33E-01	1.12E+00	3.70E+00		U
Surface Drinking	542462002	4/27/2021 10:42	5/6/2021 19:51	Lanthanum-140	pCi/L	-1.93E-01	1.03E+00	3.33E+00		U
Surface Drinking	542462002	4/27/2021 10:42	5/6/2021 19:51	Manganese-54	pCi/L	5.34E-01	5.38E-01	1.82E+00		U
Surface Drinking	542462002	4/27/2021 10:42	5/6/2021 19:51	Niobium-95	pCi/L	-8.80E-01	8.89E-01	1.82E+00		U
Surface Drinking	542462002	4/27/2021 10:42	5/6/2021 19:51	Potassium-40	pCi/L	2.48E+01	1.30E+01	1.77E+01		UI
Surface Drinking	542462002	4/27/2021 10:42	5/6/2021 19:51	Zinc-65	pCi/L	1.61E+00	1.13E+00	3.76E+00		U
Surface Drinking	542462002	4/27/2021 10:42	5/6/2021 19:51	Zirconium-95	pCi/L	-9.16E-01	9.68E-01	2.95E+00		U

Surface Drinking	542462002	4/27/2021 10:42	5/15/2021 16:52	Iodine-131	pCi/L	7.31E-01	2.54E-01	7.76E-01		U
Surface Drinking	545730002	5/25/2021 11:01	6/9/2021 15:36	Barium-140	pCi/L	-9.48E+00	6.22E+00	1.21E+01		U
Surface Drinking	545730002	5/25/2021 11:01	6/9/2021 15:36	Beryllium-7	pCi/L	7.14E+00	4.29E+00	1.45E+01		U
Surface Drinking	545730002	5/25/2021 11:01	6/9/2021 15:36	Cesium-134	pCi/L	7.63E-02	4.70E-01	1.52E+00		U
Surface Drinking	545730002	5/25/2021 11:01	6/9/2021 15:36	Cesium-137	pCi/L	-2.45E-01	4.34E-01	1.38E+00		U
Surface Drinking	545730002	5/25/2021 11:01	6/9/2021 15:36	Cobalt-57	pCi/L	-1.37E-02	3.77E-01	1.22E+00		U
Surface Drinking	545730002	5/25/2021 11:01	6/9/2021 15:36	Cobalt-58	pCi/L	2.71E-01	4.81E-01	1.58E+00		U
Surface Drinking	545730002	5/25/2021 11:01	6/9/2021 15:36	Cobalt-60	pCi/L	-2.66E-01	4.60E-01	1.48E+00		U
Surface Drinking	545730002	5/25/2021 11:01	6/9/2021 15:36	Iodine-131	pCi/L	-4.06E-01	1.46E+00	4.90E+00		U
Surface Drinking	545730002	5/25/2021 11:01	6/9/2021 15:36	Iron-59	pCi/L	-2.50E+00	9.63E-01	2.81E+00		U
Surface Drinking	545730002	5/25/2021 11:01	6/9/2021 15:36	Lanthanum-140	pCi/L	-1.08E+00	1.35E+00	4.23E+00		U
Surface Drinking	545730002	5/25/2021 11:01	6/9/2021 15:36	Manganese-54	pCi/L	-2.94E-01	4.38E-01	1.36E+00		U
Surface Drinking	545730002	5/25/2021 11:01	6/9/2021 15:36	Niobium-95	pCi/L	4.73E-01	4.84E-01	1.63E+00		U
Surface Drinking	545730002	5/25/2021 11:01	6/9/2021 15:36	Potassium-40	pCi/L	9.81E-01	9.58E+00	2.40E+01		U
Surface Drinking	545730002	5/25/2021 11:01	6/9/2021 15:36	Zinc-65	pCi/L	9.12E-01	9.36E-01	3.29E+00		U
Surface Drinking	545730002	5/25/2021 11:01	6/9/2021 15:36	Zirconium-95	pCi/L	-1.39E+00	9.22E-01	2.77E+00		U
Surface Drinking	545730002	5/25/2021 11:01	6/21/2021 18:16	Iodine-131	pCi/L	1.42E-03	2.44E-01	8.03E-01		U
Surface Drinking	548837002	6/29/2021 12:08	7/13/2021 10:54	Barium-140	pCi/L	1.79E+00	2.37E+00	8.09E+00		U
Surface Drinking	548837002	6/29/2021 12:08	7/13/2021 10:54	Beryllium-7	pCi/L	-2.38E+00	3.09E+00	1.01E+01		U
Surface Drinking	548837002	6/29/2021 12:08	7/13/2021 10:54	Cesium-134	pCi/L	-3.94E-01	3.60E-01	1.11E+00		U
Surface Drinking	548837002	6/29/2021 12:08	7/13/2021 10:54	Cesium-137	pCi/L	-2.35E-02	3.23E-01	1.06E+00		U
Surface Drinking	548837002	6/29/2021 12:08	7/13/2021 10:54	Cobalt-57	pCi/L	-9.07E-02	3.07E-01	9.88E-01		U
Surface Drinking	548837002	6/29/2021 12:08	7/13/2021 10:54	Cobalt-58	pCi/L	-7.45E-02	3.35E-01	1.08E+00		U
Surface Drinking	548837002	6/29/2021 12:08	7/13/2021 10:54	Cobalt-60	pCi/L	1.03E-01	3.26E-01	1.11E+00		U
Surface Drinking	548837002	6/29/2021 12:08	7/13/2021 10:54	Iodine-131	pCi/L	5.68E-02	1.09E+00	3.72E+00		U
Surface Drinking	548837002	6/29/2021 12:08	7/13/2021 10:54	Iron-59	pCi/L	3.08E-01	8.17E-01	2.64E+00		U
Surface Drinking	548837002	6/29/2021 12:08	7/13/2021 10:54	Lanthanum-140	pCi/L	-3.20E+00	1.76E+00	2.86E+00		U
Surface Drinking	548837002	6/29/2021 12:08	7/13/2021 10:54	Manganese-54	pCi/L	-2.28E-01	5.74E-01	1.11E+00		U
Surface Drinking	548837002	6/29/2021 12:08	7/13/2021 10:54	Niobium-95	pCi/L	8.87E-01	6.05E-01	1.17E+00		U
Surface Drinking	548837002	6/29/2021 12:08	7/13/2021 10:54	Potassium-40	pCi/L	6.05E+00	8.47E+00	1.06E+01		U
Surface Drinking	548837002	6/29/2021 12:08	7/13/2021 10:54	Zinc-65	pCi/L	-1.09E-01	6.55E-01	1.95E+00		U
Surface Drinking	548837002	6/29/2021 12:08	7/13/2021 10:54	Zirconium-95	pCi/L	-1.97E-01	6.17E-01	1.98E+00		U
Surface Drinking	548837002	6/29/2021 12:08	7/13/2021 18:01	Iodine-131	pCi/L	-1.24E+00	2.12E-01	8.36E-01		U

Surface Drinking	551020002	7/27/2021 11:14	8/7/2021 17:45	Barium-140	pCi/L	-6.14E+00	3.77E+00	1.14E+01		U
Surface Drinking	551020002	7/27/2021 11:14	8/7/2021 17:45	Beryllium-7	pCi/L	1.71E+00	4.75E+00	1.56E+01		U
Surface Drinking	551020002	7/27/2021 11:14	8/7/2021 17:45	Cesium-134	pCi/L	8.66E-02	6.05E-01	2.04E+00		U
Surface Drinking	551020002	7/27/2021 11:14	8/7/2021 17:45	Cesium-137	pCi/L	8.97E-01	5.29E-01	1.91E+00		U
Surface Drinking	551020002	7/27/2021 11:14	8/7/2021 17:45	Cobalt-57	pCi/L	-2.53E-01	3.79E-01	1.18E+00		U
Surface Drinking	551020002	7/27/2021 11:14	8/7/2021 17:45	Cobalt-58	pCi/L	-2.63E-01	5.80E-01	1.91E+00		U
Surface Drinking	551020002	7/27/2021 11:14	8/7/2021 17:45	Cobalt-60	pCi/L	7.31E-01	5.80E-01	2.02E+00		U
Surface Drinking	551020002	7/27/2021 11:14	8/7/2021 17:45	Iodine-131	pCi/L	-9.12E-01	1.29E+00	4.16E+00		U
Surface Drinking	551020002	7/27/2021 11:14	8/7/2021 17:45	Iron-59	pCi/L	-2.17E+00	1.33E+00	3.99E+00		U
Surface Drinking	551020002	7/27/2021 11:14	8/7/2021 17:45	Lanthanum-140	pCi/L	-2.35E+00	1.16E+00	3.37E+00		U
Surface Drinking	551020002	7/27/2021 11:14	8/7/2021 17:45	Manganese-54	pCi/L	5.43E-02	5.51E-01	1.85E+00		U
Surface Drinking	551020002	7/27/2021 11:14	8/7/2021 17:45	Niobium-95	pCi/L	-3.08E+00	1.31E+00	1.95E+00		U
Surface Drinking	551020002	7/27/2021 11:14	8/7/2021 17:45	Potassium-40	pCi/L	3.80E+01	9.52E+00	2.13E+01		
Surface Drinking	551020002	7/27/2021 11:14	8/7/2021 17:45	Zinc-65	pCi/L	-7.00E-01	1.18E+00	3.75E+00		U
Surface Drinking	551020002	7/27/2021 11:14	8/7/2021 17:45	Zirconium-95	pCi/L	-1.33E+00	1.08E+00	3.46E+00		U
Surface Drinking	551020002	7/27/2021 11:14	8/10/2021 18:10	Iodine-131	pCi/L	-1.16E-01	2.49E-01	8.28E-01		U
Surface Drinking	554768002	8/31/2021 11:06	9/9/2021 16:15	Barium-140	pCi/L	-4.64E+00	3.68E+00	1.14E+01		U
Surface Drinking	554768002	8/31/2021 11:06	9/9/2021 16:15	Beryllium-7	pCi/L	1.36E+00	5.50E+00	1.81E+01		U
Surface Drinking	554768002	8/31/2021 11:06	9/9/2021 16:15	Cesium-134	pCi/L	-1.34E+00	1.11E+00	2.42E+00		U
Surface Drinking	554768002	8/31/2021 11:06	9/9/2021 16:15	Cesium-137	pCi/L	3.91E-01	7.22E-01	2.35E+00		U
Surface Drinking	554768002	8/31/2021 11:06	9/9/2021 16:15	Cobalt-57	pCi/L	8.10E-02	6.45E-01	1.27E+00		U
Surface Drinking	554768002	8/31/2021 11:06	9/9/2021 16:15	Cobalt-58	pCi/L	2.70E-01	6.79E-01	2.33E+00		U
Surface Drinking	554768002	8/31/2021 11:06	9/9/2021 16:15	Cobalt-60	pCi/L	-3.13E-01	1.20E+00	2.73E+00		U
Surface Drinking	554768002	8/31/2021 11:06	9/9/2021 16:15	Iodine-131	pCi/L	-6.07E-01	1.26E+00	4.13E+00		U
Surface Drinking	554768002	8/31/2021 11:06	9/9/2021 16:15	Iron-59	pCi/L	5.77E-01	1.47E+00	4.95E+00		U
Surface Drinking	554768002	8/31/2021 11:06	9/9/2021 16:15	Lanthanum-140	pCi/L	-1.96E+00	1.40E+00	4.14E+00		U
Surface Drinking	554768002	8/31/2021 11:06	9/9/2021 16:15	Manganese-54	pCi/L	-8.96E-02	6.32E-01	2.13E+00		U
Surface Drinking	554768002	8/31/2021 11:06	9/9/2021 16:15	Niobium-95	pCi/L	9.42E-01	6.91E-01	2.45E+00		U
Surface Drinking	554768002	8/31/2021 11:06	9/9/2021 16:15	Potassium-40	pCi/L	1.04E+01	2.02E+01	2.28E+01		U
Surface Drinking	554768002	8/31/2021 11:06	9/9/2021 16:15	Zinc-65	pCi/L	5.05E-01	1.48E+00	4.99E+00		U
Surface Drinking	554768002	8/31/2021 11:06	9/9/2021 16:15	Zirconium-95	pCi/L	3.73E+00	1.25E+00	4.44E+00		U
Surface Drinking	554768002	8/31/2021 11:06	9/9/2021 18:34	Iodine-131	pCi/L	1.95E-01	2.69E-01	8.59E-01		U
Surface Drinking	557329002	9/28/2021 11:29	10/7/2021 16:27	Barium-140	pCi/L	1.22E+00	2.47E+00	8.31E+00		U

Surface Drinking	557329002	9/28/2021 11:29	10/7/2021 16:27	Beryllium-7	pCi/L	4.16E+00	3.80E+00	1.31E+01		U
Surface Drinking	557329002	9/28/2021 11:29	10/7/2021 16:27	Cesium-134	pCi/L	-2.02E-01	8.34E-01	1.63E+00		U
Surface Drinking	557329002	9/28/2021 11:29	10/7/2021 16:27	Cesium-137	pCi/L	-1.75E-02	4.96E-01	1.61E+00		U
Surface Drinking	557329002	9/28/2021 11:29	10/7/2021 16:27	Cobalt-57	pCi/L	2.67E-01	3.32E-01	1.09E+00		U
Surface Drinking	557329002	9/28/2021 11:29	10/7/2021 16:27	Cobalt-58	pCi/L	4.00E-01	4.97E-01	1.65E+00		U
Surface Drinking	557329002	9/28/2021 11:29	10/7/2021 16:27	Cobalt-60	pCi/L	2.17E-01	5.15E-01	1.74E+00		U
Surface Drinking	557329002	9/28/2021 11:29	10/7/2021 16:27	Iodine-131	pCi/L	2.26E-01	9.00E-01	3.06E+00		U
Surface Drinking	557329002	9/28/2021 11:29	10/7/2021 16:27	Iron-59	pCi/L	-8.32E-01	8.96E-01	2.89E+00		U
Surface Drinking	557329002	9/28/2021 11:29	10/7/2021 16:27	Lanthanum-140	pCi/L	1.20E+00	8.59E-01	3.05E+00		U
Surface Drinking	557329002	9/28/2021 11:29	10/7/2021 16:27	Manganese-54	pCi/L	-4.58E-01	4.61E-01	1.41E+00		U
Surface Drinking	557329002	9/28/2021 11:29	10/7/2021 16:27	Niobium-95	pCi/L	5.11E-02	8.05E-01	1.73E+00		U
Surface Drinking	557329002	9/28/2021 11:29	10/7/2021 16:27	Potassium-40	pCi/L	-1.27E+01	8.56E+00	2.24E+01		U
Surface Drinking	557329002	9/28/2021 11:29	10/7/2021 16:27	Zinc-65	pCi/L	-1.37E+00	9.69E-01	3.06E+00		U
Surface Drinking	557329002	9/28/2021 11:29	10/7/2021 16:27	Zirconium-95	pCi/L	-3.48E-02	8.07E-01	2.60E+00		U
Surface Drinking	557329002	9/28/2021 11:29	10/9/2021 14:37	Iodine-131	pCi/L	-1.64E-01	2.97E-01	9.84E-01		U
Surface Drinking	560326002	10/26/2021 10:40	11/4/2021 17:29	Iodine-131	pCi/L	1.52E+00	2.83E-01	8.29E-01		
Surface Drinking	560326002	10/26/2021 10:40	11/5/2021 20:36	Barium-140	pCi/L	-3.45E-01	2.26E+00	7.52E+00		U
Surface Drinking	560326002	10/26/2021 10:40	11/5/2021 20:36	Beryllium-7	pCi/L	4.72E+00	3.57E+00	1.25E+01		U
Surface Drinking	560326002	10/26/2021 10:40	11/5/2021 20:36	Cesium-134	pCi/L	5.03E-02	4.39E-01	1.44E+00		U
Surface Drinking	560326002	10/26/2021 10:40	11/5/2021 20:36	Cesium-137	pCi/L	3.17E-01	4.58E-01	1.40E+00		U
Surface Drinking	560326002	10/26/2021 10:40	11/5/2021 20:36	Cobalt-57	pCi/L	-5.72E-01	3.90E-01	1.24E+00		U
Surface Drinking	560326002	10/26/2021 10:40	11/5/2021 20:36	Cobalt-58	pCi/L	5.79E-01	4.17E-01	1.43E+00		U
Surface Drinking	560326002	10/26/2021 10:40	11/5/2021 20:36	Cobalt-60	pCi/L	3.56E-01	3.87E-01	1.36E+00		U
Surface Drinking	560326002	10/26/2021 10:40	11/5/2021 20:36	Iodine-131	pCi/L	1.69E-01	9.58E-01	3.29E+00		U
Surface Drinking	560326002	10/26/2021 10:40	11/5/2021 20:36	Iron-59	pCi/L	-3.57E-01	8.91E-01	2.78E+00		U
Surface Drinking	560326002	10/26/2021 10:40	11/5/2021 20:36	Lanthanum-140	pCi/L	-1.12E+00	7.78E-01	2.37E+00		U
Surface Drinking	560326002	10/26/2021 10:40	11/5/2021 20:36	Manganese-54	pCi/L	3.16E-01	3.93E-01	1.32E+00		U
Surface Drinking	560326002	10/26/2021 10:40	11/5/2021 20:36	Niobium-95	pCi/L	-2.13E-01	4.42E-01	1.42E+00		U
Surface Drinking	560326002	10/26/2021 10:40	11/5/2021 20:36	Potassium-40	pCi/L	4.51E+00	1.23E+01	1.51E+01		U
Surface Drinking	560326002	10/26/2021 10:40	11/5/2021 20:36	Zinc-65	pCi/L	-3.25E-01	9.88E-01	2.73E+00		U
Surface Drinking	560326002	10/26/2021 10:40	11/5/2021 20:36	Zirconium-95	pCi/L	1.20E+00	7.72E-01	2.67E+00		U
Surface Drinking	563542002	11/30/2021 11:17	12/9/2021 19:25	Iodine-131	pCi/L	8.77E-01	2.40E-01	7.20E-01		M
Surface Drinking	563542002	11/30/2021 11:17	12/14/2021 12:01	Barium-140	pCi/L	2.70E+00	2.43E+00	8.31E+00		U

Surface Drinking	563542002	11/30/2021 11:17	12/14/2021 12:01	Beryllium-7	pCi/L	-2.35E-01	3.16E+00	1.05E+01		U
Surface Drinking	563542002	11/30/2021 11:17	12/14/2021 12:01	Cesium-134	pCi/L	2.94E-01	3.61E-01	1.20E+00		U
Surface Drinking	563542002	11/30/2021 11:17	12/14/2021 12:01	Cesium-137	pCi/L	-2.75E-01	3.61E-01	1.15E+00		U
Surface Drinking	563542002	11/30/2021 11:17	12/14/2021 12:01	Cobalt-57	pCi/L	-1.08E-02	3.15E-01	1.02E+00		U
Surface Drinking	563542002	11/30/2021 11:17	12/14/2021 12:01	Cobalt-58	pCi/L	-2.61E-01	3.72E-01	1.16E+00		U
Surface Drinking	563542002	11/30/2021 11:17	12/14/2021 12:01	Cobalt-60	pCi/L	5.61E-01	3.71E-01	1.31E+00		U
Surface Drinking	563542002	11/30/2021 11:17	12/14/2021 12:01	Iodine-131	pCi/L	6.85E-01	1.12E+00	3.86E+00		U
Surface Drinking	563542002	11/30/2021 11:17	12/14/2021 12:01	Iron-59	pCi/L	8.07E-01	7.29E-01	2.56E+00		U
Surface Drinking	563542002	11/30/2021 11:17	12/14/2021 12:01	Lanthanum-140	pCi/L	-2.68E-01	8.43E-01	2.70E+00		U
Surface Drinking	563542002	11/30/2021 11:17	12/14/2021 12:01	Manganese-54	pCi/L	9.56E-02	3.49E-01	1.13E+00		U
Surface Drinking	563542002	11/30/2021 11:17	12/14/2021 12:01	Niobium-95	pCi/L	3.66E-01	4.22E-01	1.40E+00		U
Surface Drinking	563542002	11/30/2021 11:17	12/14/2021 12:01	Potassium-40	pCi/L	3.35E+01	7.54E+00	1.35E+01		
Surface Drinking	563542002	11/30/2021 11:17	12/14/2021 12:01	Zinc-65	pCi/L	2.50E-02	7.28E-01	2.45E+00		U
Surface Drinking	563542002	11/30/2021 11:17	12/14/2021 12:01	Zirconium-95	pCi/L	-3.83E-01	6.85E-01	2.16E+00		U
Surface Drinking	566088002	12/28/2021 12:35	1/4/2022 17:26	Barium-140	pCi/L	-1.86E+00	3.66E+00	8.85E+00		U
Surface Drinking	566088002	12/28/2021 12:35	1/4/2022 17:26	Beryllium-7	pCi/L	-9.59E-01	4.47E+00	1.48E+01		U
Surface Drinking	566088002	12/28/2021 12:35	1/4/2022 17:26	Cesium-134	pCi/L	-2.14E-01	5.43E-01	1.71E+00		U
Surface Drinking	566088002	12/28/2021 12:35	1/4/2022 17:26	Cesium-137	pCi/L	-8.13E-01	7.75E-01	1.76E+00		U
Surface Drinking	566088002	12/28/2021 12:35	1/4/2022 17:26	Cobalt-57	pCi/L	1.78E-01	5.14E-01	1.68E+00		U
Surface Drinking	566088002	12/28/2021 12:35	1/4/2022 17:26	Cobalt-58	pCi/L	-1.26E-01	5.18E-01	1.64E+00		U
Surface Drinking	566088002	12/28/2021 12:35	1/4/2022 17:26	Cobalt-60	pCi/L	-1.81E+00	8.80E-01	1.64E+00		U
Surface Drinking	566088002	12/28/2021 12:35	1/4/2022 17:26	Iodine-131	pCi/L	-9.78E-01	9.39E-01	3.09E+00		U
Surface Drinking	566088002	12/28/2021 12:35	1/4/2022 17:26	Iron-59	pCi/L	2.17E-01	1.04E+00	3.55E+00		U
Surface Drinking	566088002	12/28/2021 12:35	1/4/2022 17:26	Lanthanum-140	pCi/L	-9.93E-01	8.30E-01	2.47E+00		U
Surface Drinking	566088002	12/28/2021 12:35	1/4/2022 17:26	Manganese-54	pCi/L	1.48E+00	9.93E-01	1.87E+00		U
Surface Drinking	566088002	12/28/2021 12:35	1/4/2022 17:26	Niobium-95	pCi/L	1.51E-01	5.35E-01	1.75E+00		U
Surface Drinking	566088002	12/28/2021 12:35	1/4/2022 17:26	Potassium-40	pCi/L	-9.27E+00	1.27E+01	3.12E+01		U
Surface Drinking	566088002	12/28/2021 12:35	1/4/2022 17:26	Zinc-65	pCi/L	-2.71E+00	1.67E+00	3.27E+00		U
Surface Drinking	566088002	12/28/2021 12:35	1/4/2022 17:26	Zirconium-95	pCi/L	1.79E+00	9.79E-01	3.43E+00		U
Surface Drinking	566088002	12/28/2021 12:35	1/11/2022 18:15	Iodine-131	pCi/L	-3.97E-01	2.33E-01	8.10E-01		U

The data obtained from this website is the most accurate possible at the time of your query and based upon your specific inquiry. This data does not replace the Certificates of Analysis provided by GEL. Certificates of Analysis undergo an additional level of review before being sent to the client that is not possible to perform on the interactive data query provided by this site.

Notes:

1. LLDs are a-priori values.
2. MDCs are calculated a-posteriori values.
3. Gamma spectroscopy analysis results are calculated from a measurement using only one gamma energy line.
4. Air sample volumes are received in units of ft3. GEL converts the units and reports them as m3.

QUALIFIERS:

U Target isotope was analyzed for but not detected above the MDC or LLD.
UI Uncertain identification for gamma spectroscopy.
X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
M Reported result is less than the LLD and greater than the MDC.
DL DL MDC > LLD.

Sample Data For: "SW-6"

Matrix	Lab ID	Collect Date	Run Date	Parmname	Units	Result	Uncertainty	MDC	LLD	Qualifier
Surface Drinking	533502001	1/26/2021 7:15	2/3/2021 17:23	Barium-140	pCi/L	5.38E+00	2.73E+00	9.55E+00	1.50E+01	U
Surface Drinking	533502001	1/26/2021 7:15	2/3/2021 17:23	Beryllium-7	pCi/L	3.75E+00	4.40E+00	1.50E+01		U
Surface Drinking	533502001	1/26/2021 7:15	2/3/2021 17:23	Cesium-134	pCi/L	-2.82E-01	5.38E-01	1.66E+00	1.50E+01	U
Surface Drinking	533502001	1/26/2021 7:15	2/3/2021 17:23	Cesium-137	pCi/L	3.49E-01	5.22E-01	1.73E+00	1.80E+01	U
Surface Drinking	533502001	1/26/2021 7:15	2/3/2021 17:23	Cobalt-57	pCi/L	3.27E-01	4.52E-01	1.50E+00		U
Surface Drinking	533502001	1/26/2021 7:15	2/3/2021 17:23	Cobalt-58	pCi/L	-5.67E-01	5.10E-01	1.52E+00	1.50E+01	U
Surface Drinking	533502001	1/26/2021 7:15	2/3/2021 17:23	Cobalt-60	pCi/L	-2.21E-01	5.21E-01	1.43E+00	1.50E+01	U
Surface Drinking	533502001	1/26/2021 7:15	2/3/2021 17:23	Iodine-131	pCi/L	1.87E-01	1.01E+00	3.43E+00		U
Surface Drinking	533502001	1/26/2021 7:15	2/3/2021 17:23	Iron-59	pCi/L	2.58E-01	1.02E+00	3.42E+00	3.00E+01	U
Surface Drinking	533502001	1/26/2021 7:15	2/3/2021 17:23	Lanthanum-140	pCi/L	-1.02E-01	9.26E-01	2.95E+00	1.50E+01	U
Surface Drinking	533502001	1/26/2021 7:15	2/3/2021 17:23	Manganese-54	pCi/L	-2.25E-01	4.71E-01	1.57E+00	1.50E+01	U
Surface Drinking	533502001	1/26/2021 7:15	2/3/2021 17:23	Niobium-95	pCi/L	1.12E+00	9.87E-01	1.48E+00	1.50E+01	U
Surface Drinking	533502001	1/26/2021 7:15	2/3/2021 17:23	Potassium-40	pCi/L	-1.30E+01	1.09E+01	2.66E+01		U
Surface Drinking	533502001	1/26/2021 7:15	2/3/2021 17:23	Zinc-65	pCi/L	-1.13E-01	9.71E-01	3.20E+00	3.00E+01	U
Surface Drinking	533502001	1/26/2021 7:15	2/3/2021 17:23	Zirconium-95	pCi/L	-1.14E-01	8.72E-01	2.76E+00	1.50E+01	U

Surface Drinking	533502001	1/26/2021 7:15	2/9/2021 17:00	Iodine-131	pCi/L	5.11E-01	2.71E-01	7.86E-01	1.00E+00	U
Surface Drinking	535858001	2/23/2021 7:49	3/2/2021 11:39	Barium-140	pCi/L	-2.21E+00	4.16E+00	1.17E+01		U
Surface Drinking	535858001	2/23/2021 7:49	3/2/2021 11:39	Beryllium-7	pCi/L	-2.20E+00	5.83E+00	1.89E+01		U
Surface Drinking	535858001	2/23/2021 7:49	3/2/2021 11:39	Cesium-134	pCi/L	1.35E+00	7.26E-01	2.71E+00		U
Surface Drinking	535858001	2/23/2021 7:49	3/2/2021 11:39	Cesium-137	pCi/L	-2.57E-01	6.46E-01	2.03E+00		U
Surface Drinking	535858001	2/23/2021 7:49	3/2/2021 11:39	Cobalt-57	pCi/L	1.28E+00	6.29E-01	2.19E+00		U
Surface Drinking	535858001	2/23/2021 7:49	3/2/2021 11:39	Cobalt-58	pCi/L	-2.37E-01	8.84E-01	2.68E+00		U
Surface Drinking	535858001	2/23/2021 7:49	3/2/2021 11:39	Cobalt-60	pCi/L	8.02E-01	9.07E-01	3.23E+00		U
Surface Drinking	535858001	2/23/2021 7:49	3/2/2021 11:39	Iodine-131	pCi/L	1.49E-01	1.32E+00	4.47E+00		U
Surface Drinking	535858001	2/23/2021 7:49	3/2/2021 11:39	Iron-59	pCi/L	-1.45E+00	1.48E+00	4.57E+00		U
Surface Drinking	535858001	2/23/2021 7:49	3/2/2021 11:39	Lanthanum-140	pCi/L	-1.37E+00	1.55E+00	3.82E+00		U
Surface Drinking	535858001	2/23/2021 7:49	3/2/2021 11:39	Manganese-54	pCi/L	7.35E-01	8.72E-01	2.96E+00		U
Surface Drinking	535858001	2/23/2021 7:49	3/2/2021 11:39	Niobium-95	pCi/L	6.66E-01	8.48E-01	2.88E+00		U
Surface Drinking	535858001	2/23/2021 7:49	3/2/2021 11:39	Potassium-40	pCi/L	4.19E+00	1.40E+01	4.82E+01		U
Surface Drinking	535858001	2/23/2021 7:49	3/2/2021 11:39	Zinc-65	pCi/L	4.82E-01	1.49E+00	5.15E+00		U
Surface Drinking	535858001	2/23/2021 7:49	3/2/2021 11:39	Zirconium-95	pCi/L	-5.93E-01	1.79E+00	4.98E+00		U
Surface Drinking	535858001	2/23/2021 7:49	3/11/2021 18:10	Iodine-131	pCi/L	1.30E-01	2.72E-01	8.81E-01		U
Surface Drinking	539607001	3/30/2021 9:05	4/6/2021 17:47	Barium-140	pCi/L	6.39E-01	3.85E+00	1.26E+01		U
Surface Drinking	539607001	3/30/2021 9:05	4/6/2021 17:47	Beryllium-7	pCi/L	4.02E+00	6.52E+00	1.96E+01		U
Surface Drinking	539607001	3/30/2021 9:05	4/6/2021 17:47	Cesium-134	pCi/L	5.06E-01	9.11E-01	3.16E+00		U
Surface Drinking	539607001	3/30/2021 9:05	4/6/2021 17:47	Cesium-137	pCi/L	7.37E-01	9.50E-01	2.83E+00		U
Surface Drinking	539607001	3/30/2021 9:05	4/6/2021 17:47	Cobalt-57	pCi/L	1.63E+00	6.54E-01	1.46E+00		UI
Surface Drinking	539607001	3/30/2021 9:05	4/6/2021 17:47	Cobalt-58	pCi/L	-6.48E-01	7.78E-01	2.54E+00		U
Surface Drinking	539607001	3/30/2021 9:05	4/6/2021 17:47	Cobalt-60	pCi/L	6.30E-02	8.74E-01	2.88E+00		U
Surface Drinking	539607001	3/30/2021 9:05	4/6/2021 17:47	Iodine-131	pCi/L	1.67E+00	1.28E+00	4.24E+00		U
Surface Drinking	539607001	3/30/2021 9:05	4/6/2021 17:47	Iron-59	pCi/L	1.07E+00	1.94E+00	6.60E+00		U
Surface Drinking	539607001	3/30/2021 9:05	4/6/2021 17:47	Lanthanum-140	pCi/L	1.32E+00	1.59E+00	5.41E+00		U
Surface Drinking	539607001	3/30/2021 9:05	4/6/2021 17:47	Manganese-54	pCi/L	-2.82E-01	8.00E-01	2.67E+00		U
Surface Drinking	539607001	3/30/2021 9:05	4/6/2021 17:47	Niobium-95	pCi/L	8.68E-02	8.22E-01	2.81E+00		U
Surface Drinking	539607001	3/30/2021 9:05	4/6/2021 17:47	Potassium-40	pCi/L	4.72E+00	1.97E+01	4.50E+01		U
Surface Drinking	539607001	3/30/2021 9:05	4/6/2021 17:47	Zinc-65	pCi/L	-1.88E-01	1.53E+00	5.05E+00		U
Surface Drinking	539607001	3/30/2021 9:05	4/6/2021 17:47	Zirconium-95	pCi/L	1.42E+00	1.43E+00	4.77E+00		U
Surface Drinking	539607001	3/30/2021 9:05	4/9/2021 12:36	Iodine-131	pCi/L	1.45E-01	2.61E-01	8.33E-01		U

Surface Drinking	542462001	4/27/2021 7:19	5/6/2021 19:50	Barium-140	pCi/L	-3.40E+00	3.36E+00	1.06E+01		U
Surface Drinking	542462001	4/27/2021 7:19	5/6/2021 19:50	Beryllium-7	pCi/L	-1.03E+01	4.90E+00	1.48E+01		U
Surface Drinking	542462001	4/27/2021 7:19	5/6/2021 19:50	Cesium-134	pCi/L	1.69E+00	6.17E-01	2.27E+00		U
Surface Drinking	542462001	4/27/2021 7:19	5/6/2021 19:50	Cesium-137	pCi/L	-1.17E+00	6.23E-01	1.82E+00		U
Surface Drinking	542462001	4/27/2021 7:19	5/6/2021 19:50	Cobalt-57	pCi/L	1.33E-02	4.81E-01	1.58E+00		U
Surface Drinking	542462001	4/27/2021 7:19	5/6/2021 19:50	Cobalt-58	pCi/L	-2.49E-01	7.37E-01	2.03E+00		U
Surface Drinking	542462001	4/27/2021 7:19	5/6/2021 19:50	Cobalt-60	pCi/L	9.05E-01	6.80E-01	2.41E+00		U
Surface Drinking	542462001	4/27/2021 7:19	5/6/2021 19:50	Iodine-131	pCi/L	1.25E+00	1.25E+00	4.37E+00		U
Surface Drinking	542462001	4/27/2021 7:19	5/6/2021 19:50	Iron-59	pCi/L	-1.39E+00	1.21E+00	3.73E+00		U
Surface Drinking	542462001	4/27/2021 7:19	5/6/2021 19:50	Lanthanum-140	pCi/L	-2.20E+00	1.19E+00	3.21E+00		U
Surface Drinking	542462001	4/27/2021 7:19	5/6/2021 19:50	Manganese-54	pCi/L	-3.67E-01	6.01E-01	1.84E+00		U
Surface Drinking	542462001	4/27/2021 7:19	5/6/2021 19:50	Niobium-95	pCi/L	1.41E+00	6.61E-01	2.33E+00		U
Surface Drinking	542462001	4/27/2021 7:19	5/6/2021 19:50	Potassium-40	pCi/L	-6.11E+00	1.08E+01	2.85E+01		U
Surface Drinking	542462001	4/27/2021 7:19	5/6/2021 19:50	Zinc-65	pCi/L	1.45E+00	1.28E+00	4.52E+00		U
Surface Drinking	542462001	4/27/2021 7:19	5/6/2021 19:50	Zirconium-95	pCi/L	-2.91E-01	1.31E+00	3.67E+00		U
Surface Drinking	542462001	4/27/2021 7:19	5/15/2021 16:52	Iodine-131	pCi/L	-6.69E-01	2.78E-01	9.59E-01		U
Surface Drinking	545730001	5/25/2021 7:15	6/9/2021 15:35	Barium-140	pCi/L	3.28E+00	4.29E+00	1.46E+01		U
Surface Drinking	545730001	5/25/2021 7:15	6/9/2021 15:35	Beryllium-7	pCi/L	3.67E+00	5.00E+00	1.71E+01		U
Surface Drinking	545730001	5/25/2021 7:15	6/9/2021 15:35	Cesium-134	pCi/L	2.46E-01	5.53E-01	1.82E+00		U
Surface Drinking	545730001	5/25/2021 7:15	6/9/2021 15:35	Cesium-137	pCi/L	9.77E-02	5.46E-01	1.80E+00		U
Surface Drinking	545730001	5/25/2021 7:15	6/9/2021 15:35	Cobalt-57	pCi/L	4.95E-01	5.40E-01	1.66E+00		U
Surface Drinking	545730001	5/25/2021 7:15	6/9/2021 15:35	Cobalt-58	pCi/L	2.09E-01	5.34E-01	1.76E+00		U
Surface Drinking	545730001	5/25/2021 7:15	6/9/2021 15:35	Cobalt-60	pCi/L	6.82E-01	5.75E-01	2.04E+00		U
Surface Drinking	545730001	5/25/2021 7:15	6/9/2021 15:35	Iodine-131	pCi/L	-1.00E+00	1.92E+00	6.42E+00		U
Surface Drinking	545730001	5/25/2021 7:15	6/9/2021 15:35	Iron-59	pCi/L	-1.21E+00	1.09E+00	3.49E+00		U
Surface Drinking	545730001	5/25/2021 7:15	6/9/2021 15:35	Lanthanum-140	pCi/L	-1.06E+00	1.55E+00	4.90E+00		U
Surface Drinking	545730001	5/25/2021 7:15	6/9/2021 15:35	Manganese-54	pCi/L	-6.58E-01	4.94E-01	1.48E+00		U
Surface Drinking	545730001	5/25/2021 7:15	6/9/2021 15:35	Niobium-95	pCi/L	-2.35E-01	5.34E-01	1.69E+00		U
Surface Drinking	545730001	5/25/2021 7:15	6/9/2021 15:35	Potassium-40	pCi/L	-1.76E+01	1.18E+01	2.83E+01		U
Surface Drinking	545730001	5/25/2021 7:15	6/9/2021 15:35	Zinc-65	pCi/L	5.04E-03	1.02E+00	3.47E+00		U
Surface Drinking	545730001	5/25/2021 7:15	6/9/2021 15:35	Zirconium-95	pCi/L	-8.88E-01	1.02E+00	3.16E+00		U
Surface Drinking	545730001	5/25/2021 7:15	6/22/2021 18:11	Iodine-131	pCi/L	4.42E-01	2.65E-01	8.43E-01		U
Surface Drinking	548837001	6/29/2021 7:40	7/13/2021 10:54	Barium-140	pCi/L	1.97E+00	2.76E+00	9.40E+00		U

Surface Drinking	548837001	6/29/2021 7:40	7/13/2021 10:54	Beryllium-7	pCi/L	-1.09E+00	3.55E+00	1.19E+01		U
Surface Drinking	548837001	6/29/2021 7:40	7/13/2021 10:54	Cesium-134	pCi/L	-1.50E-01	4.13E-01	1.33E+00		U
Surface Drinking	548837001	6/29/2021 7:40	7/13/2021 10:54	Cesium-137	pCi/L	2.19E-01	3.94E-01	1.32E+00		U
Surface Drinking	548837001	6/29/2021 7:40	7/13/2021 10:54	Cobalt-57	pCi/L	-7.92E-02	3.54E-01	1.15E+00		U
Surface Drinking	548837001	6/29/2021 7:40	7/13/2021 10:54	Cobalt-58	pCi/L	5.78E-02	4.05E-01	1.33E+00		U
Surface Drinking	548837001	6/29/2021 7:40	7/13/2021 10:54	Cobalt-60	pCi/L	5.92E-01	4.11E-01	1.46E+00		U
Surface Drinking	548837001	6/29/2021 7:40	7/13/2021 10:54	Iodine-131	pCi/L	5.39E-01	1.26E+00	4.33E+00		U
Surface Drinking	548837001	6/29/2021 7:40	7/13/2021 10:54	Iron-59	pCi/L	-1.18E+00	8.92E-01	2.67E+00		U
Surface Drinking	548837001	6/29/2021 7:40	7/13/2021 10:54	Lanthanum-140	pCi/L	-1.19E+00	9.41E-01	2.47E+00		U
Surface Drinking	548837001	6/29/2021 7:40	7/13/2021 10:54	Manganese-54	pCi/L	4.26E-01	4.71E-01	1.16E+00		U
Surface Drinking	548837001	6/29/2021 7:40	7/13/2021 10:54	Niobium-95	pCi/L	-2.20E-02	4.12E-01	1.34E+00		U
Surface Drinking	548837001	6/29/2021 7:40	7/13/2021 10:54	Potassium-40	pCi/L	-1.08E+01	9.45E+00	2.33E+01		U
Surface Drinking	548837001	6/29/2021 7:40	7/13/2021 10:54	Zinc-65	pCi/L	1.50E+00	7.66E-01	2.66E+00		U
Surface Drinking	548837001	6/29/2021 7:40	7/13/2021 10:54	Zirconium-95	pCi/L	8.08E-03	7.52E-01	2.46E+00		U
Surface Drinking	548837001	6/29/2021 7:40	7/13/2021 18:00	Iodine-131	pCi/L	-1.48E-01	2.38E-01	8.10E-01		U
Surface Drinking	551020001	7/27/2021 7:54	8/6/2021 20:11	Barium-140	pCi/L	1.04E-01	2.09E+00	7.09E+00		U
Surface Drinking	551020001	7/27/2021 7:54	8/6/2021 20:11	Beryllium-7	pCi/L	1.53E+00	3.08E+00	1.06E+01		U
Surface Drinking	551020001	7/27/2021 7:54	8/6/2021 20:11	Cesium-134	pCi/L	2.93E-01	4.16E-01	1.41E+00		U
Surface Drinking	551020001	7/27/2021 7:54	8/6/2021 20:11	Cesium-137	pCi/L	-4.07E-01	3.29E-01	1.03E+00		U
Surface Drinking	551020001	7/27/2021 7:54	8/6/2021 20:11	Cobalt-57	pCi/L	-2.49E-01	3.15E-01	1.02E+00		U
Surface Drinking	551020001	7/27/2021 7:54	8/6/2021 20:11	Cobalt-58	pCi/L	7.43E-01	3.70E-01	1.33E+00		U
Surface Drinking	551020001	7/27/2021 7:54	8/6/2021 20:11	Cobalt-60	pCi/L	-3.81E-02	3.94E-01	1.24E+00		U
Surface Drinking	551020001	7/27/2021 7:54	8/6/2021 20:11	Iodine-131	pCi/L	3.45E-01	9.60E-01	3.03E+00		U
Surface Drinking	551020001	7/27/2021 7:54	8/6/2021 20:11	Iron-59	pCi/L	-1.28E-01	8.44E-01	2.70E+00		U
Surface Drinking	551020001	7/27/2021 7:54	8/6/2021 20:11	Lanthanum-140	pCi/L	-1.18E+00	7.21E-01	2.17E+00		U
Surface Drinking	551020001	7/27/2021 7:54	8/6/2021 20:11	Manganese-54	pCi/L	4.86E-01	3.58E-01	1.25E+00		U
Surface Drinking	551020001	7/27/2021 7:54	8/6/2021 20:11	Niobium-95	pCi/L	-8.66E-01	4.15E-01	1.25E+00		U
Surface Drinking	551020001	7/27/2021 7:54	8/6/2021 20:11	Potassium-40	pCi/L	-2.65E+00	9.33E+00	2.29E+01		U
Surface Drinking	551020001	7/27/2021 7:54	8/6/2021 20:11	Zinc-65	pCi/L	1.01E+00	8.82E-01	2.74E+00		U
Surface Drinking	551020001	7/27/2021 7:54	8/6/2021 20:11	Zirconium-95	pCi/L	6.93E-01	7.11E-01	2.45E+00		U
Surface Drinking	551020001	7/27/2021 7:54	8/10/2021 18:10	Iodine-131	pCi/L	-5.34E-01	2.53E-01	8.81E-01		U
Surface Drinking	554768001	8/31/2021 6:00	9/9/2021 16:14	Barium-140	pCi/L	4.86E+00	2.52E+00	8.68E+00		U
Surface Drinking	554768001	8/31/2021 6:00	9/9/2021 16:14	Beryllium-7	pCi/L	7.61E-01	3.98E+00	1.31E+01		U

Surface Drinking	554768001	8/31/2021 6:00	9/9/2021 16:14	Cesium-134	pCi/L	-7.71E-02	4.93E-01	1.65E+00		U
Surface Drinking	554768001	8/31/2021 6:00	9/9/2021 16:14	Cesium-137	pCi/L	-2.64E-02	4.47E-01	1.42E+00		U
Surface Drinking	554768001	8/31/2021 6:00	9/9/2021 16:14	Cobalt-57	pCi/L	-1.59E-02	4.10E-01	1.32E+00		U
Surface Drinking	554768001	8/31/2021 6:00	9/9/2021 16:14	Cobalt-58	pCi/L	3.35E-01	4.57E-01	1.58E+00		U
Surface Drinking	554768001	8/31/2021 6:00	9/9/2021 16:14	Cobalt-60	pCi/L	1.05E+00	4.65E-01	1.68E+00		U
Surface Drinking	554768001	8/31/2021 6:00	9/9/2021 16:14	Iodine-131	pCi/L	5.20E-02	9.82E-01	3.28E+00		U
Surface Drinking	554768001	8/31/2021 6:00	9/9/2021 16:14	Iron-59	pCi/L	1.37E+00	9.14E-01	3.20E+00		U
Surface Drinking	554768001	8/31/2021 6:00	9/9/2021 16:14	Lanthanum-140	pCi/L	3.45E-01	8.45E-01	2.89E+00		U
Surface Drinking	554768001	8/31/2021 6:00	9/9/2021 16:14	Manganese-54	pCi/L	1.59E-01	4.26E-01	1.45E+00		U
Surface Drinking	554768001	8/31/2021 6:00	9/9/2021 16:14	Niobium-95	pCi/L	-4.34E-01	1.07E+00	1.63E+00		U
Surface Drinking	554768001	8/31/2021 6:00	9/9/2021 16:14	Potassium-40	pCi/L	2.15E+01	1.04E+01	1.35E+01		UI
Surface Drinking	554768001	8/31/2021 6:00	9/9/2021 16:14	Zinc-65	pCi/L	-1.91E+00	9.29E-01	2.73E+00		U
Surface Drinking	554768001	8/31/2021 6:00	9/9/2021 16:14	Zirconium-95	pCi/L	-5.60E-02	7.52E-01	2.54E+00		U
Surface Drinking	554768001	8/31/2021 6:00	9/9/2021 18:34	Iodine-131	pCi/L	-6.50E-02	2.42E-01	8.06E-01		U
Surface Drinking	557329001	9/28/2021 7:33	10/7/2021 16:27	Barium-140	pCi/L	1.49E+00	3.45E+00	1.07E+01		U
Surface Drinking	557329001	9/28/2021 7:33	10/7/2021 16:27	Beryllium-7	pCi/L	-2.84E+00	4.86E+00	1.54E+01		U
Surface Drinking	557329001	9/28/2021 7:33	10/7/2021 16:27	Cesium-134	pCi/L	-3.17E-01	6.15E-01	2.02E+00		U
Surface Drinking	557329001	9/28/2021 7:33	10/7/2021 16:27	Cesium-137	pCi/L	9.04E-01	6.45E-01	2.07E+00		U
Surface Drinking	557329001	9/28/2021 7:33	10/7/2021 16:27	Cobalt-57	pCi/L	6.62E-01	3.82E-01	1.25E+00		U
Surface Drinking	557329001	9/28/2021 7:33	10/7/2021 16:27	Cobalt-58	pCi/L	-1.92E-01	6.10E-01	2.02E+00		U
Surface Drinking	557329001	9/28/2021 7:33	10/7/2021 16:27	Cobalt-60	pCi/L	6.30E-01	5.58E-01	1.93E+00		U
Surface Drinking	557329001	9/28/2021 7:33	10/7/2021 16:27	Iodine-131	pCi/L	4.56E-01	1.12E+00	3.72E+00		U
Surface Drinking	557329001	9/28/2021 7:33	10/7/2021 16:27	Iron-59	pCi/L	-1.61E-01	1.28E+00	4.17E+00		U
Surface Drinking	557329001	9/28/2021 7:33	10/7/2021 16:27	Lanthanum-140	pCi/L	-9.17E-01	1.02E+00	3.21E+00		U
Surface Drinking	557329001	9/28/2021 7:33	10/7/2021 16:27	Manganese-54	pCi/L	-5.38E-01	5.72E-01	1.84E+00		U
Surface Drinking	557329001	9/28/2021 7:33	10/7/2021 16:27	Niobium-95	pCi/L	2.01E+00	6.28E-01	2.34E+00		U
Surface Drinking	557329001	9/28/2021 7:33	10/7/2021 16:27	Potassium-40	pCi/L	-5.00E+00	1.19E+01	3.21E+01		U
Surface Drinking	557329001	9/28/2021 7:33	10/7/2021 16:27	Zinc-65	pCi/L	-6.15E-01	1.19E+00	3.78E+00		U
Surface Drinking	557329001	9/28/2021 7:33	10/7/2021 16:27	Zirconium-95	pCi/L	7.49E-01	1.06E+00	3.66E+00		U
Surface Drinking	557329001	9/28/2021 7:33	10/11/2021 15:07	Iodine-131	pCi/L	-2.17E-01	2.49E-01	8.34E-01		U
Surface Drinking	560326001	10/26/2021 7:40	11/4/2021 17:29	Iodine-131	pCi/L	-3.05E-01	2.63E-01	8.81E-01		U
Surface Drinking	560326001	10/26/2021 7:40	11/5/2021 20:35	Barium-140	pCi/L	-4.87E+00	3.90E+00	7.70E+00		U
Surface Drinking	560326001	10/26/2021 7:40	11/5/2021 20:35	Beryllium-7	pCi/L	2.30E+00	3.54E+00	1.20E+01		U

Surface Drinking	560326001	10/26/2021 7:40	11/5/2021 20:35	Cesium-134	pCi/L	-1.28E+00	6.47E-01	1.38E+00		U
Surface Drinking	560326001	10/26/2021 7:40	11/5/2021 20:35	Cesium-137	pCi/L	7.08E-01	4.26E-01	1.47E+00		U
Surface Drinking	560326001	10/26/2021 7:40	11/5/2021 20:35	Cobalt-57	pCi/L	6.66E-02	3.52E-01	1.15E+00		U
Surface Drinking	560326001	10/26/2021 7:40	11/5/2021 20:35	Cobalt-58	pCi/L	6.94E-02	4.06E-01	1.31E+00		U
Surface Drinking	560326001	10/26/2021 7:40	11/5/2021 20:35	Cobalt-60	pCi/L	1.12E-01	4.20E-01	1.41E+00		U
Surface Drinking	560326001	10/26/2021 7:40	11/5/2021 20:35	Iodine-131	pCi/L	3.05E-01	9.12E-01	3.12E+00		U
Surface Drinking	560326001	10/26/2021 7:40	11/5/2021 20:35	Iron-59	pCi/L	-2.81E+00	8.32E-01	2.35E+00		U
Surface Drinking	560326001	10/26/2021 7:40	11/5/2021 20:35	Lanthanum-140	pCi/L	-9.78E-02	7.82E-01	2.53E+00		U
Surface Drinking	560326001	10/26/2021 7:40	11/5/2021 20:35	Manganese-54	pCi/L	-1.21E-01	4.16E-01	1.32E+00		U
Surface Drinking	560326001	10/26/2021 7:40	11/5/2021 20:35	Niobium-95	pCi/L	-2.85E-01	4.54E-01	1.25E+00		U
Surface Drinking	560326001	10/26/2021 7:40	11/5/2021 20:35	Potassium-40	pCi/L	-9.92E+00	8.06E+00	2.14E+01		U
Surface Drinking	560326001	10/26/2021 7:40	11/5/2021 20:35	Zinc-65	pCi/L	-6.81E-01	1.11E+00	2.87E+00		U
Surface Drinking	560326001	10/26/2021 7:40	11/5/2021 20:35	Zirconium-95	pCi/L	3.59E-01	7.72E-01	2.28E+00		U
Surface Drinking	563542001	11/30/2021 7:38	12/9/2021 19:25	Iodine-131	pCi/L	-5.16E-01	3.84E-01	1.29E+00		DLU
Surface Drinking	563542001	11/30/2021 7:38	12/14/2021 12:01	Barium-140	pCi/L	-2.74E+00	2.88E+00	8.92E+00		U
Surface Drinking	563542001	11/30/2021 7:38	12/14/2021 12:01	Beryllium-7	pCi/L	-7.09E+00	3.93E+00	1.21E+01		U
Surface Drinking	563542001	11/30/2021 7:38	12/14/2021 12:01	Cesium-134	pCi/L	6.46E-01	4.25E-01	1.47E+00		U
Surface Drinking	563542001	11/30/2021 7:38	12/14/2021 12:01	Cesium-137	pCi/L	3.91E-01	3.94E-01	1.36E+00		U
Surface Drinking	563542001	11/30/2021 7:38	12/14/2021 12:01	Cobalt-57	pCi/L	1.23E+00	5.15E-01	1.00E+00		UI
Surface Drinking	563542001	11/30/2021 7:38	12/14/2021 12:01	Cobalt-58	pCi/L	1.89E-01	4.30E-01	1.44E+00		U
Surface Drinking	563542001	11/30/2021 7:38	12/14/2021 12:01	Cobalt-60	pCi/L	4.07E+00	1.37E+00	1.42E+00		UI
Surface Drinking	563542001	11/30/2021 7:38	12/14/2021 12:01	Iodine-131	pCi/L	-8.76E-01	1.31E+00	4.24E+00		U
Surface Drinking	563542001	11/30/2021 7:38	12/14/2021 12:01	Iron-59	pCi/L	-1.16E+00	1.06E+00	2.80E+00		U
Surface Drinking	563542001	11/30/2021 7:38	12/14/2021 12:01	Lanthanum-140	pCi/L	-1.13E+00	1.00E+00	3.12E+00		U
Surface Drinking	563542001	11/30/2021 7:38	12/14/2021 12:01	Manganese-54	pCi/L	-6.67E-01	4.35E-01	1.17E+00		U
Surface Drinking	563542001	11/30/2021 7:38	12/14/2021 12:01	Niobium-95	pCi/L	1.93E-01	4.49E-01	1.51E+00		U
Surface Drinking	563542001	11/30/2021 7:38	12/14/2021 12:01	Potassium-40	pCi/L	3.84E+01	1.44E+01	1.23E+01		
Surface Drinking	563542001	11/30/2021 7:38	12/14/2021 12:01	Zinc-65	pCi/L	2.13E-01	1.01E+00	2.85E+00		U
Surface Drinking	563542001	11/30/2021 7:38	12/14/2021 12:01	Zirconium-95	pCi/L	1.31E+00	7.63E-01	2.65E+00		U
Surface Drinking	566088001	12/28/2021 8:12	1/4/2022 17:26	Barium-140	pCi/L	-1.01E+00	2.43E+00	7.81E+00		U
Surface Drinking	566088001	12/28/2021 8:12	1/4/2022 17:26	Beryllium-7	pCi/L	1.57E+00	3.97E+00	1.32E+01		U
Surface Drinking	566088001	12/28/2021 8:12	1/4/2022 17:26	Cesium-134	pCi/L	6.86E-02	5.11E-01	1.63E+00		U
Surface Drinking	566088001	12/28/2021 8:12	1/4/2022 17:26	Cesium-137	pCi/L	-2.09E-02	4.49E-01	1.44E+00		U

Surface Drinking	566088001	12/28/2021 8:12	1/4/2022 17:26	Cobalt-57	pCi/L	6.83E-02	4.61E-01	1.46E+00		U
Surface Drinking	566088001	12/28/2021 8:12	1/4/2022 17:26	Cobalt-58	pCi/L	1.16E-01	5.07E-01	1.63E+00		U
Surface Drinking	566088001	12/28/2021 8:12	1/4/2022 17:26	Cobalt-60	pCi/L	-1.16E-01	4.41E-01	1.43E+00		U
Surface Drinking	566088001	12/28/2021 8:12	1/4/2022 17:26	Iodine-131	pCi/L	-2.40E-01	8.70E-01	2.88E+00		U
Surface Drinking	566088001	12/28/2021 8:12	1/4/2022 17:26	Iron-59	pCi/L	-7.65E-01	9.35E-01	3.00E+00		U
Surface Drinking	566088001	12/28/2021 8:12	1/4/2022 17:26	Lanthanum-140	pCi/L	1.81E+00	8.08E-01	3.00E+00		U
Surface Drinking	566088001	12/28/2021 8:12	1/4/2022 17:26	Manganese-54	pCi/L	8.01E-01	4.85E-01	1.66E+00		U
Surface Drinking	566088001	12/28/2021 8:12	1/4/2022 17:26	Niobium-95	pCi/L	-2.79E-01	8.22E-01	1.75E+00		U
Surface Drinking	566088001	12/28/2021 8:12	1/4/2022 17:26	Potassium-40	pCi/L	-8.88E+00	9.64E+00	2.47E+01		U
Surface Drinking	566088001	12/28/2021 8:12	1/4/2022 17:26	Zinc-65	pCi/L	-1.11E+00	1.03E+00	2.78E+00		U
Surface Drinking	566088001	12/28/2021 8:12	1/4/2022 17:26	Zirconium-95	pCi/L	7.00E-01	8.50E-01	2.82E+00		U
Surface Drinking	566088001	12/28/2021 8:12	1/11/2022 18:15	Iodine-131	pCi/L	5.16E-01	2.85E-01	8.85E-01		U

Sample Data For: "SW-1"

Matrix	Lab ID	Collect Date	Run Date	Parmname	Units	Result	Uncertainty	MDC	LLD	Qualifier
Surface Water	533500002	1/26/2021 9:35	2/3/2021 17:17	Barium-140	pCi/L	5.57E+00	2.75E+00	9.76E+00	1.50E+01	U
Surface Water	533500002	1/26/2021 9:35	2/3/2021 17:17	Beryllium-7	pCi/L	4.93E+00	4.73E+00	1.63E+01		U
Surface Water	533500002	1/26/2021 9:35	2/3/2021 17:17	Cesium-134	pCi/L	-1.39E+00	6.14E-01	1.71E+00	1.50E+01	U
Surface Water	533500002	1/26/2021 9:35	2/3/2021 17:17	Cesium-137	pCi/L	4.06E-01	5.61E-01	1.87E+00	1.80E+01	U
Surface Water	533500002	1/26/2021 9:35	2/3/2021 17:17	Cobalt-57	pCi/L	-5.10E-01	4.31E-01	1.38E+00		U
Surface Water	533500002	1/26/2021 9:35	2/3/2021 17:17	Cobalt-58	pCi/L	-5.62E-01	5.33E-01	1.59E+00	1.50E+01	U
Surface Water	533500002	1/26/2021 9:35	2/3/2021 17:17	Cobalt-60	pCi/L	-1.05E-03	5.85E-01	1.91E+00	1.50E+01	U
Surface Water	533500002	1/26/2021 9:35	2/3/2021 17:17	Iodine-131	pCi/L	8.06E-01	9.70E-01	3.37E+00		U
Surface Water	533500002	1/26/2021 9:35	2/3/2021 17:17	Iron-59	pCi/L	-2.52E-01	1.23E+00	4.06E+00	3.00E+01	U
Surface Water	533500002	1/26/2021 9:35	2/3/2021 17:17	Lanthanum-140	pCi/L	2.18E-01	1.02E+00	3.33E+00	1.50E+01	U
Surface Water	533500002	1/26/2021 9:35	2/3/2021 17:17	Manganese-54	pCi/L	-2.86E+00	1.04E+00	1.70E+00	1.50E+01	U
Surface Water	533500002	1/26/2021 9:35	2/3/2021 17:17	Niobium-95	pCi/L	5.07E-01	5.47E-01	1.83E+00	1.50E+01	U
Surface Water	533500002	1/26/2021 9:35	2/3/2021 17:17	Potassium-40	pCi/L	2.26E+01	1.77E+01	1.89E+01		UI
Surface Water	533500002	1/26/2021 9:35	2/3/2021 17:17	Zinc-65	pCi/L	-1.70E+00	1.10E+00	3.34E+00	3.00E+01	U
Surface Water	533500002	1/26/2021 9:35	2/3/2021 17:17	Zirconium-95	pCi/L	-8.78E-01	1.04E+00	3.17E+00	1.50E+01	U
Surface Water	535863002	2/23/2021 10:00	3/2/2021 11:43	Barium-140	pCi/L	4.24E+00	3.37E+00	1.20E+01		U
Surface Water	535863002	2/23/2021 10:00	3/2/2021 11:43	Beryllium-7	pCi/L	-7.63E+00	5.72E+00	1.79E+01		U
Surface Water	535863002	2/23/2021 10:00	3/2/2021 11:43	Cesium-134	pCi/L	-1.14E-01	7.35E-01	2.37E+00		U
Surface Water	535863002	2/23/2021 10:00	3/2/2021 11:43	Cesium-137	pCi/L	-3.27E-01	6.89E-01	2.21E+00		U
Surface Water	535863002	2/23/2021 10:00	3/2/2021 11:43	Cobalt-57	pCi/L	5.29E-01	6.57E-01	2.17E+00		U
Surface Water	535863002	2/23/2021 10:00	3/2/2021 11:43	Cobalt-58	pCi/L	-6.28E-01	6.49E-01	1.96E+00		U
Surface Water	535863002	2/23/2021 10:00	3/2/2021 11:43	Cobalt-60	pCi/L	-1.44E-01	6.84E-01	2.28E+00		U
Surface Water	535863002	2/23/2021 10:00	3/2/2021 11:43	Iodine-131	pCi/L	-4.03E-01	1.26E+00	4.25E+00		U
Surface Water	535863002	2/23/2021 10:00	3/2/2021 11:43	Iron-59	pCi/L	-6.62E-01	1.58E+00	4.90E+00		U
Surface Water	535863002	2/23/2021 10:00	3/2/2021 11:43	Lanthanum-140	pCi/L	-2.54E+00	1.10E+00	2.77E+00		U
Surface Water	535863002	2/23/2021 10:00	3/2/2021 11:43	Manganese-54	pCi/L	-1.10E-01	7.81E-01	2.22E+00		U
Surface Water	535863002	2/23/2021 10:00	3/2/2021 11:43	Niobium-95	pCi/L	-5.19E-01	7.17E-01	2.24E+00		U
Surface Water	535863002	2/23/2021 10:00	3/2/2021 11:43	Potassium-40	pCi/L	2.98E+01	1.64E+01	2.46E+01		UI
Surface Water	535863002	2/23/2021 10:00	3/2/2021 11:43	Zinc-65	pCi/L	-1.91E+00	1.44E+00	4.02E+00		U
Surface Water	535863002	2/23/2021 10:00	3/2/2021 11:43	Zirconium-95	pCi/L	1.92E+00	1.37E+00	4.86E+00		U

Surface Water	539609002	3/30/2021 11:01	4/6/2021 18:40	Barium-140	pCi/L	6.09E+00	3.30E+00	1.14E+01		U
Surface Water	539609002	3/30/2021 11:01	4/6/2021 18:40	Beryllium-7	pCi/L	1.04E+00	5.71E+00	1.85E+01		U
Surface Water	539609002	3/30/2021 11:01	4/6/2021 18:40	Cesium-134	pCi/L	8.42E-01	1.04E+00	2.49E+00		U
Surface Water	539609002	3/30/2021 11:01	4/6/2021 18:40	Cesium-137	pCi/L	-2.09E-01	6.75E-01	2.24E+00		U
Surface Water	539609002	3/30/2021 11:01	4/6/2021 18:40	Cobalt-57	pCi/L	-5.01E-01	6.12E-01	1.88E+00		U
Surface Water	539609002	3/30/2021 11:01	4/6/2021 18:40	Cobalt-58	pCi/L	-6.15E-01	6.78E-01	2.15E+00		U
Surface Water	539609002	3/30/2021 11:01	4/6/2021 18:40	Cobalt-60	pCi/L	1.75E-01	6.64E-01	2.00E+00		U
Surface Water	539609002	3/30/2021 11:01	4/6/2021 18:40	Iodine-131	pCi/L	5.63E-01	1.21E+00	4.03E+00		U
Surface Water	539609002	3/30/2021 11:01	4/6/2021 18:40	Iron-59	pCi/L	-1.91E+00	2.46E+00	4.34E+00		U
Surface Water	539609002	3/30/2021 11:01	4/6/2021 18:40	Lanthanum-140	pCi/L	3.54E-01	1.23E+00	4.17E+00		U
Surface Water	539609002	3/30/2021 11:01	4/6/2021 18:40	Manganese-54	pCi/L	-7.24E-01	5.97E-01	1.84E+00		U
Surface Water	539609002	3/30/2021 11:01	4/6/2021 18:40	Niobium-95	pCi/L	9.38E-02	6.98E-01	2.34E+00		U
Surface Water	539609002	3/30/2021 11:01	4/6/2021 18:40	Potassium-40	pCi/L	1.49E+01	1.54E+01	1.90E+01		U
Surface Water	539609002	3/30/2021 11:01	4/6/2021 18:40	Zinc-65	pCi/L	6.85E-01	2.28E+00	4.82E+00		U
Surface Water	539609002	3/30/2021 11:01	4/6/2021 18:40	Zirconium-95	pCi/L	1.14E+00	1.10E+00	3.87E+00		U
Surface Water	542465002	4/27/2021 10:14	5/6/2021 20:00	Barium-140	pCi/L	1.19E+00	2.73E+00	9.19E+00		U
Surface Water	542465002	4/27/2021 10:14	5/6/2021 20:00	Beryllium-7	pCi/L	-3.42E+00	4.29E+00	1.39E+01		U
Surface Water	542465002	4/27/2021 10:14	5/6/2021 20:00	Cesium-134	pCi/L	5.57E-01	5.14E-01	1.75E+00		U
Surface Water	542465002	4/27/2021 10:14	5/6/2021 20:00	Cesium-137	pCi/L	7.78E-01	6.92E-01	1.66E+00		U
Surface Water	542465002	4/27/2021 10:14	5/6/2021 20:00	Cobalt-57	pCi/L	3.43E-01	4.38E-01	1.45E+00		U
Surface Water	542465002	4/27/2021 10:14	5/6/2021 20:00	Cobalt-58	pCi/L	-1.57E-01	5.57E-01	1.56E+00		U
Surface Water	542465002	4/27/2021 10:14	5/6/2021 20:00	Cobalt-60	pCi/L	2.13E-01	7.01E-01	1.93E+00		U
Surface Water	542465002	4/27/2021 10:14	5/6/2021 20:00	Iodine-131	pCi/L	1.06E+00	1.00E+00	3.51E+00		U
Surface Water	542465002	4/27/2021 10:14	5/6/2021 20:00	Iron-59	pCi/L	1.83E-01	1.05E+00	3.57E+00		U
Surface Water	542465002	4/27/2021 10:14	5/6/2021 20:00	Lanthanum-140	pCi/L	-1.24E+00	1.02E+00	3.05E+00		U
Surface Water	542465002	4/27/2021 10:14	5/6/2021 20:00	Manganese-54	pCi/L	-4.90E-01	5.14E-01	1.57E+00		U
Surface Water	542465002	4/27/2021 10:14	5/6/2021 20:00	Niobium-95	pCi/L	1.74E-01	5.66E-01	1.85E+00		U
Surface Water	542465002	4/27/2021 10:14	5/6/2021 20:00	Potassium-40	pCi/L	2.01E+01	1.14E+01	1.69E+01		UI
Surface Water	542465002	4/27/2021 10:14	5/6/2021 20:00	Zinc-65	pCi/L	5.78E-02	9.82E-01	3.31E+00		U
Surface Water	542465002	4/27/2021 10:14	5/6/2021 20:00	Zirconium-95	pCi/L	2.53E-01	9.04E-01	2.96E+00		U
Surface Water	545731002	5/25/2021 10:14	6/9/2021 15:38	Barium-140	pCi/L	3.51E+00	3.10E+00	1.06E+01		U
Surface Water	545731002	5/25/2021 10:14	6/9/2021 15:38	Beryllium-7	pCi/L	3.18E+00	3.91E+00	1.33E+01		U
Surface Water	545731002	5/25/2021 10:14	6/9/2021 15:38	Cesium-134	pCi/L	1.32E+00	8.97E-01	1.84E+00		U

Surface Water	545731002	5/25/2021 10:14	6/9/2021 15:38	Cesium-137	pCi/L	1.52E+00	1.01E+00	1.45E+00		UI
Surface Water	545731002	5/25/2021 10:14	6/9/2021 15:38	Cobalt-57	pCi/L	-1.63E-01	3.55E-01	1.15E+00		U
Surface Water	545731002	5/25/2021 10:14	6/9/2021 15:38	Cobalt-58	pCi/L	-4.19E-01	4.93E-01	1.51E+00		U
Surface Water	545731002	5/25/2021 10:14	6/9/2021 15:38	Cobalt-60	pCi/L	-5.99E-02	4.42E-01	1.44E+00		U
Surface Water	545731002	5/25/2021 10:14	6/9/2021 15:38	Iodine-131	pCi/L	-3.99E-01	1.49E+00	5.00E+00		U
Surface Water	545731002	5/25/2021 10:14	6/9/2021 15:38	Iron-59	pCi/L	-7.84E-01	9.34E-01	2.99E+00		U
Surface Water	545731002	5/25/2021 10:14	6/9/2021 15:38	Lanthanum-140	pCi/L	-1.34E+00	1.22E+00	3.66E+00		U
Surface Water	545731002	5/25/2021 10:14	6/9/2021 15:38	Manganese-54	pCi/L	2.11E-01	9.78E-01	1.20E+00		U
Surface Water	545731002	5/25/2021 10:14	6/9/2021 15:38	Niobium-95	pCi/L	-1.67E+00	8.14E-01	1.49E+00		U
Surface Water	545731002	5/25/2021 10:14	6/9/2021 15:38	Potassium-40	pCi/L	1.06E+01	1.23E+01	1.35E+01		U
Surface Water	545731002	5/25/2021 10:14	6/9/2021 15:38	Zinc-65	pCi/L	-1.17E+00	8.80E-01	2.74E+00		U
Surface Water	545731002	5/25/2021 10:14	6/9/2021 15:38	Zirconium-95	pCi/L	-2.01E+00	1.45E+00	2.76E+00		U
Surface Water	548840002	6/29/2021 11:10	7/13/2021 10:55	Barium-140	pCi/L	7.41E+00	4.14E+00	1.47E+01		U
Surface Water	548840002	6/29/2021 11:10	7/13/2021 10:55	Beryllium-7	pCi/L	3.18E+00	5.14E+00	1.77E+01		U
Surface Water	548840002	6/29/2021 11:10	7/13/2021 10:55	Cesium-134	pCi/L	6.90E-01	5.65E-01	1.95E+00		U
Surface Water	548840002	6/29/2021 11:10	7/13/2021 10:55	Cesium-137	pCi/L	7.76E-01	5.86E-01	2.03E+00		U
Surface Water	548840002	6/29/2021 11:10	7/13/2021 10:55	Cobalt-57	pCi/L	-1.48E-01	4.59E-01	1.53E+00		U
Surface Water	548840002	6/29/2021 11:10	7/13/2021 10:55	Cobalt-58	pCi/L	-7.90E-01	6.07E-01	1.85E+00		U
Surface Water	548840002	6/29/2021 11:10	7/13/2021 10:55	Cobalt-60	pCi/L	-7.58E-01	7.07E-01	1.90E+00		U
Surface Water	548840002	6/29/2021 11:10	7/13/2021 10:55	Iodine-131	pCi/L	-2.97E+00	1.95E+00	5.76E+00		U
Surface Water	548840002	6/29/2021 11:10	7/13/2021 10:55	Iron-59	pCi/L	-4.94E-01	1.57E+00	4.60E+00		U
Surface Water	548840002	6/29/2021 11:10	7/13/2021 10:55	Lanthanum-140	pCi/L	-2.20E+00	1.54E+00	3.76E+00		U
Surface Water	548840002	6/29/2021 11:10	7/13/2021 10:55	Manganese-54	pCi/L	-6.44E-01	5.68E-01	1.74E+00		U
Surface Water	548840002	6/29/2021 11:10	7/13/2021 10:55	Niobium-95	pCi/L	1.36E+00	6.24E-01	2.22E+00		U
Surface Water	548840002	6/29/2021 11:10	7/13/2021 10:55	Potassium-40	pCi/L	9.40E+00	1.92E+01	2.00E+01		U
Surface Water	548840002	6/29/2021 11:10	7/13/2021 10:55	Zinc-65	pCi/L	1.94E-01	1.10E+00	3.75E+00		U
Surface Water	548840002	6/29/2021 11:10	7/13/2021 10:55	Zirconium-95	pCi/L	1.13E-01	1.06E+00	3.46E+00		U
Surface Water	551018002	7/27/2021 10:07	8/6/2021 20:07	Barium-140	pCi/L	-1.00E+00	2.80E+00	9.10E+00		U
Surface Water	551018002	7/27/2021 10:07	8/6/2021 20:07	Beryllium-7	pCi/L	-1.62E+00	3.60E+00	1.18E+01		U
Surface Water	551018002	7/27/2021 10:07	8/6/2021 20:07	Cesium-134	pCi/L	1.05E+00	4.49E-01	1.58E+00		U
Surface Water	551018002	7/27/2021 10:07	8/6/2021 20:07	Cesium-137	pCi/L	1.92E-01	1.00E+00	1.44E+00		U
Surface Water	551018002	7/27/2021 10:07	8/6/2021 20:07	Cobalt-57	pCi/L	-1.29E-01	3.55E-01	1.15E+00		U
Surface Water	551018002	7/27/2021 10:07	8/6/2021 20:07	Cobalt-58	pCi/L	1.34E-01	4.28E-01	1.38E+00		U

Surface Water	551018002	7/27/2021 10:07	8/6/2021 20:07	Cobalt-60	pCi/L	-5.38E-01	4.57E-01	1.41E+00		U
Surface Water	551018002	7/27/2021 10:07	8/6/2021 20:07	Iodine-131	pCi/L	1.66E+00	1.00E+00	3.53E+00		U
Surface Water	551018002	7/27/2021 10:07	8/6/2021 20:07	Iron-59	pCi/L	1.73E-01	9.08E-01	3.06E+00		U
Surface Water	551018002	7/27/2021 10:07	8/6/2021 20:07	Lanthanum-140	pCi/L	1.43E+00	9.81E-01	3.10E+00		U
Surface Water	551018002	7/27/2021 10:07	8/6/2021 20:07	Manganese-54	pCi/L	-6.47E-01	4.58E-01	1.36E+00		U
Surface Water	551018002	7/27/2021 10:07	8/6/2021 20:07	Niobium-95	pCi/L	-5.79E-01	4.37E-01	1.31E+00		U
Surface Water	551018002	7/27/2021 10:07	8/6/2021 20:07	Potassium-40	pCi/L	-9.30E+00	8.54E+00	2.16E+01		U
Surface Water	551018002	7/27/2021 10:07	8/6/2021 20:07	Zinc-65	pCi/L	1.38E+00	8.29E-01	2.98E+00		U
Surface Water	551018002	7/27/2021 10:07	8/6/2021 20:07	Zirconium-95	pCi/L	-1.95E-02	8.32E-01	2.66E+00		U
Surface Water	554770002	8/31/2021 10:20	9/9/2021 16:19	Barium-140	pCi/L	-1.42E+00	2.45E+00	8.10E+00		U
Surface Water	554770002	8/31/2021 10:20	9/9/2021 16:19	Beryllium-7	pCi/L	-3.87E-01	3.79E+00	1.28E+01		U
Surface Water	554770002	8/31/2021 10:20	9/9/2021 16:19	Cesium-134	pCi/L	-4.25E-02	4.70E-01	1.54E+00		U
Surface Water	554770002	8/31/2021 10:20	9/9/2021 16:19	Cesium-137	pCi/L	5.07E-02	4.50E-01	1.50E+00		U
Surface Water	554770002	8/31/2021 10:20	9/9/2021 16:19	Cobalt-57	pCi/L	3.47E-01	3.92E-01	1.34E+00		U
Surface Water	554770002	8/31/2021 10:20	9/9/2021 16:19	Cobalt-58	pCi/L	1.38E-01	4.45E-01	1.48E+00		U
Surface Water	554770002	8/31/2021 10:20	9/9/2021 16:19	Cobalt-60	pCi/L	7.35E-01	4.77E-01	1.70E+00		U
Surface Water	554770002	8/31/2021 10:20	9/9/2021 16:19	Iodine-131	pCi/L	2.75E-02	1.02E+00	3.26E+00		U
Surface Water	554770002	8/31/2021 10:20	9/9/2021 16:19	Iron-59	pCi/L	-9.56E-01	1.05E+00	2.76E+00		U
Surface Water	554770002	8/31/2021 10:20	9/9/2021 16:19	Lanthanum-140	pCi/L	-6.15E-01	7.73E-01	2.44E+00		U
Surface Water	554770002	8/31/2021 10:20	9/9/2021 16:19	Manganese-54	pCi/L	-6.47E-01	4.53E-01	1.41E+00		U
Surface Water	554770002	8/31/2021 10:20	9/9/2021 16:19	Niobium-95	pCi/L	-1.76E-01	4.76E-01	1.55E+00		U
Surface Water	554770002	8/31/2021 10:20	9/9/2021 16:19	Potassium-40	pCi/L	1.34E+01	1.09E+01	1.32E+01		UI
Surface Water	554770002	8/31/2021 10:20	9/9/2021 16:19	Zinc-65	pCi/L	-7.93E-01	9.43E-01	2.91E+00		U
Surface Water	554770002	8/31/2021 10:20	9/9/2021 16:19	Zirconium-95	pCi/L	1.01E-01	8.14E-01	2.69E+00		U
Surface Water	557330002	9/28/2021 10:56	10/7/2021 16:27	Barium-140	pCi/L	2.55E+00	1.88E+00	6.67E+00		U
Surface Water	557330002	9/28/2021 10:56	10/7/2021 16:27	Beryllium-7	pCi/L	3.25E+00	3.00E+00	1.06E+01		U
Surface Water	557330002	9/28/2021 10:56	10/7/2021 16:27	Cesium-134	pCi/L	7.99E-01	4.25E-01	1.51E+00		U
Surface Water	557330002	9/28/2021 10:56	10/7/2021 16:27	Cesium-137	pCi/L	-3.69E-01	3.68E-01	1.18E+00		U
Surface Water	557330002	9/28/2021 10:56	10/7/2021 16:27	Cobalt-57	pCi/L	7.95E-01	4.20E-01	1.03E+00		U
Surface Water	557330002	9/28/2021 10:56	10/7/2021 16:27	Cobalt-58	pCi/L	-3.78E-01	3.98E-01	1.25E+00		U
Surface Water	557330002	9/28/2021 10:56	10/7/2021 16:27	Cobalt-60	pCi/L	-7.06E-01	4.15E-01	1.17E+00		U
Surface Water	557330002	9/28/2021 10:56	10/7/2021 16:27	Iodine-131	pCi/L	-8.63E-01	8.51E-01	2.56E+00		U
Surface Water	557330002	9/28/2021 10:56	10/7/2021 16:27	Iron-59	pCi/L	1.03E+00	7.74E-01	2.68E+00		U

Surface Water	557330002	9/28/2021 10:56	10/7/2021 16:27	Lanthanum-140	pCi/L	-7.33E-01	6.56E-01	2.04E+00		U
Surface Water	557330002	9/28/2021 10:56	10/7/2021 16:27	Manganese-54	pCi/L	2.07E-01	3.51E-01	1.18E+00		U
Surface Water	557330002	9/28/2021 10:56	10/7/2021 16:27	Niobium-95	pCi/L	4.28E-01	3.98E-01	1.37E+00		U
Surface Water	557330002	9/28/2021 10:56	10/7/2021 16:27	Potassium-40	pCi/L	1.33E+01	1.05E+01	1.07E+01		UI
Surface Water	557330002	9/28/2021 10:56	10/7/2021 16:27	Zinc-65	pCi/L	9.23E-01	7.91E-01	2.71E+00		U
Surface Water	557330002	9/28/2021 10:56	10/7/2021 16:27	Zirconium-95	pCi/L	2.09E-01	6.72E-01	2.25E+00		U
Surface Water	560418002	10/26/2021 10:00	11/5/2021 20:37	Barium-140	pCi/L	-9.41E+00	4.02E+00	7.96E+00		U
Surface Water	560418002	10/26/2021 10:00	11/5/2021 20:37	Beryllium-7	pCi/L	-7.19E+00	4.22E+00	1.32E+01		U
Surface Water	560418002	10/26/2021 10:00	11/5/2021 20:37	Cesium-134	pCi/L	5.17E-01	4.53E-01	1.60E+00		U
Surface Water	560418002	10/26/2021 10:00	11/5/2021 20:37	Cesium-137	pCi/L	-5.79E-02	4.66E-01	1.49E+00		U
Surface Water	560418002	10/26/2021 10:00	11/5/2021 20:37	Cobalt-57	pCi/L	-7.10E-01	4.13E-01	1.30E+00		U
Surface Water	560418002	10/26/2021 10:00	11/5/2021 20:37	Cobalt-58	pCi/L	3.53E-01	4.41E-01	1.54E+00		U
Surface Water	560418002	10/26/2021 10:00	11/5/2021 20:37	Cobalt-60	pCi/L	9.79E-02	5.13E-01	1.68E+00		U
Surface Water	560418002	10/26/2021 10:00	11/5/2021 20:37	Iodine-131	pCi/L	-4.57E-01	1.07E+00	3.57E+00		U
Surface Water	560418002	10/26/2021 10:00	11/5/2021 20:37	Iron-59	pCi/L	-3.45E-01	1.11E+00	3.14E+00		U
Surface Water	560418002	10/26/2021 10:00	11/5/2021 20:37	Lanthanum-140	pCi/L	-1.13E+00	8.62E-01	2.67E+00		U
Surface Water	560418002	10/26/2021 10:00	11/5/2021 20:37	Manganese-54	pCi/L	-9.15E-01	4.46E-01	1.39E+00		U
Surface Water	560418002	10/26/2021 10:00	11/5/2021 20:37	Niobium-95	pCi/L	3.52E-01	4.60E-01	1.61E+00		U
Surface Water	560418002	10/26/2021 10:00	11/5/2021 20:37	Potassium-40	pCi/L	2.37E+01	1.08E+01	1.53E+01		UI
Surface Water	560418002	10/26/2021 10:00	11/5/2021 20:37	Zinc-65	pCi/L	-2.99E+00	1.52E+00	3.17E+00		U
Surface Water	560418002	10/26/2021 10:00	11/5/2021 20:37	Zirconium-95	pCi/L	7.85E-01	7.98E-01	2.65E+00		U
Surface Water	563577002	11/30/2021 10:11	12/14/2021 12:02	Barium-140	pCi/L	3.80E+00	3.72E+00	8.18E+00		U
Surface Water	563577002	11/30/2021 10:11	12/14/2021 12:02	Beryllium-7	pCi/L	-5.74E-01	3.27E+00	1.09E+01		U
Surface Water	563577002	11/30/2021 10:11	12/14/2021 12:02	Cesium-134	pCi/L	7.07E-01	4.55E-01	1.24E+00		U
Surface Water	563577002	11/30/2021 10:11	12/14/2021 12:02	Cesium-137	pCi/L	1.69E-01	3.23E-01	1.08E+00		U
Surface Water	563577002	11/30/2021 10:11	12/14/2021 12:02	Cobalt-57	pCi/L	4.66E-02	3.03E-01	9.81E-01		U
Surface Water	563577002	11/30/2021 10:11	12/14/2021 12:02	Cobalt-58	pCi/L	-2.94E-01	3.86E-01	1.21E+00		U
Surface Water	563577002	11/30/2021 10:11	12/14/2021 12:02	Cobalt-60	pCi/L	5.07E-01	3.45E-01	1.23E+00		U
Surface Water	563577002	11/30/2021 10:11	12/14/2021 12:02	Iodine-131	pCi/L	-6.59E-01	1.06E+00	3.55E+00		U
Surface Water	563577002	11/30/2021 10:11	12/14/2021 12:02	Iron-59	pCi/L	-3.17E-01	1.22E+00	2.23E+00		U
Surface Water	563577002	11/30/2021 10:11	12/14/2021 12:02	Lanthanum-140	pCi/L	-3.11E-01	8.81E-01	2.85E+00		U
Surface Water	563577002	11/30/2021 10:11	12/14/2021 12:02	Manganese-54	pCi/L	-5.62E-01	3.40E-01	1.02E+00		U
Surface Water	563577002	11/30/2021 10:11	12/14/2021 12:02	Niobium-95	pCi/L	-8.32E-02	4.02E-01	1.15E+00		U

Surface Water	563577002	11/30/2021 10:11	12/14/2021 12:02	Potassium-40	pCi/L	4.18E+01	9.40E+00	1.17E+01		
Surface Water	563577002	11/30/2021 10:11	12/14/2021 12:02	Zinc-65	pCi/L	-2.97E+00	1.15E+00	2.31E+00		U
Surface Water	563577002	11/30/2021 10:11	12/14/2021 12:02	Zirconium-95	pCi/L	3.36E-01	6.06E-01	2.01E+00		U
Surface Water	566085002	12/28/2021 11:00	1/4/2022 17:22	Barium-140	pCi/L	-7.75E-01	3.21E+00	1.03E+01		U
Surface Water	566085002	12/28/2021 11:00	1/4/2022 17:22	Beryllium-7	pCi/L	1.84E+00	6.01E+00	1.97E+01		U
Surface Water	566085002	12/28/2021 11:00	1/4/2022 17:22	Cesium-134	pCi/L	2.50E-01	7.72E-01	2.65E+00		U
Surface Water	566085002	12/28/2021 11:00	1/4/2022 17:22	Cesium-137	pCi/L	4.10E-01	7.56E-01	2.46E+00		U
Surface Water	566085002	12/28/2021 11:00	1/4/2022 17:22	Cobalt-57	pCi/L	8.47E-02	4.24E-01	1.46E+00		U
Surface Water	566085002	12/28/2021 11:00	1/4/2022 17:22	Cobalt-58	pCi/L	-3.23E-03	7.64E-01	2.58E+00		U
Surface Water	566085002	12/28/2021 11:00	1/4/2022 17:22	Cobalt-60	pCi/L	-2.27E-01	7.91E-01	2.55E+00		U
Surface Water	566085002	12/28/2021 11:00	1/4/2022 17:22	Iodine-131	pCi/L	1.38E+00	1.12E+00	3.82E+00		U
Surface Water	566085002	12/28/2021 11:00	1/4/2022 17:22	Iron-59	pCi/L	-9.07E-01	1.56E+00	5.05E+00		U
Surface Water	566085002	12/28/2021 11:00	1/4/2022 17:22	Lanthanum-140	pCi/L	-2.70E+00	1.19E+00	3.20E+00		U
Surface Water	566085002	12/28/2021 11:00	1/4/2022 17:22	Manganese-54	pCi/L	-2.14E-01	6.94E-01	2.32E+00		U
Surface Water	566085002	12/28/2021 11:00	1/4/2022 17:22	Niobium-95	pCi/L	2.04E+00	7.64E-01	2.68E+00		U
Surface Water	566085002	12/28/2021 11:00	1/4/2022 17:22	Potassium-40	pCi/L	1.71E+01	1.99E+01	2.42E+01		U
Surface Water	566085002	12/28/2021 11:00	1/4/2022 17:22	Zinc-65	pCi/L	7.32E+00	3.19E+00	3.78E+00		UI
Surface Water	566085002	12/28/2021 11:00	1/4/2022 17:22	Zirconium-95	pCi/L	-3.04E+00	1.81E+00	3.89E+00		U

The data obtained from this website is the most accurate possible at the time of your query and based upon your specific inquiry. This data does not replace the Certificates of Analysis provided by GEL. Certificates of Analysis undergo an additional level of review before being sent to the client that is not possible to perform on the interactive data query provided by this site.

Notes:

1. LLDs are a-priori values.
2. MDCs are calculated a-posteriori values.
3. Gamma spectroscopy analysis results are calculated from a measurement using only one gamma energy line.
4. Air sample volumes are received in units of ft3. GEL converts the units and reports them as m3.

QUALIFIERS:

U Target isotope was analyzed for but not detected above the MDC or LLD.
UI Uncertain identification for gamma spectroscopy.

X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
M Reported result is less than the LLD and greater than the MDC.
DL DL MDC > LLD.

Sample Data For: "SW-3"

Matrix	Lab ID	Collect Date	Run Date	Parmname	Units	Result	Uncertainty	MDC	LLD	Qualifier
Surface Water	533500004	1/26/2021 11:24	2/3/2021 17:21	Barium-140	pCi/L	2.58E+00	2.24E+00	7.91E+00	1.50E+01	U
Surface Water	533500004	1/26/2021 11:24	2/3/2021 17:21	Beryllium-7	pCi/L	1.14E+00	3.65E+00	1.25E+01		U
Surface Water	533500004	1/26/2021 11:24	2/3/2021 17:21	Cesium-134	pCi/L	8.78E-01	4.52E-01	1.64E+00	1.50E+01	U
Surface Water	533500004	1/26/2021 11:24	2/3/2021 17:21	Cesium-137	pCi/L	9.05E-01	4.92E-01	1.76E+00	1.80E+01	U
Surface Water	533500004	1/26/2021 11:24	2/3/2021 17:21	Cobalt-57	pCi/L	6.03E-01	3.96E-01	1.36E+00		U
Surface Water	533500004	1/26/2021 11:24	2/3/2021 17:21	Cobalt-58	pCi/L	-9.64E-02	4.54E-01	1.47E+00	1.50E+01	U
Surface Water	533500004	1/26/2021 11:24	2/3/2021 17:21	Cobalt-60	pCi/L	-4.14E-03	4.75E-01	1.61E+00	1.50E+01	U
Surface Water	533500004	1/26/2021 11:24	2/3/2021 17:21	Iodine-131	pCi/L	-1.78E+00	9.31E-01	2.67E+00		U
Surface Water	533500004	1/26/2021 11:24	2/3/2021 17:21	Iron-59	pCi/L	-1.45E+00	1.02E+00	2.97E+00	3.00E+01	U
Surface Water	533500004	1/26/2021 11:24	2/3/2021 17:21	Lanthanum-140	pCi/L	5.82E+00	1.71E+00	3.16E+00	1.50E+01	UI
Surface Water	533500004	1/26/2021 11:24	2/3/2021 17:21	Manganese-54	pCi/L	-2.32E-01	4.76E-01	1.52E+00	1.50E+01	U
Surface Water	533500004	1/26/2021 11:24	2/3/2021 17:21	Niobium-95	pCi/L	-5.07E-01	4.68E-01	1.46E+00	1.50E+01	U
Surface Water	533500004	1/26/2021 11:24	2/3/2021 17:21	Potassium-40	pCi/L	2.21E+01	1.32E+01	1.61E+01		UI
Surface Water	533500004	1/26/2021 11:24	2/3/2021 17:21	Zinc-65	pCi/L	1.45E+00	1.88E+00	3.61E+00	3.00E+01	U
Surface Water	533500004	1/26/2021 11:24	2/3/2021 17:21	Zirconium-95	pCi/L	-5.29E-01	8.44E-01	2.69E+00	1.50E+01	U
Surface Water	535863004	2/23/2021 11:47	3/2/2021 11:59	Barium-140	pCi/L	5.50E+00	3.81E+00	1.31E+01		U
Surface Water	535863004	2/23/2021 11:47	3/2/2021 11:59	Beryllium-7	pCi/L	-5.46E+00	6.54E+00	2.00E+01		U
Surface Water	535863004	2/23/2021 11:47	3/2/2021 11:59	Cesium-134	pCi/L	1.34E+00	8.10E-01	2.95E+00		U
Surface Water	535863004	2/23/2021 11:47	3/2/2021 11:59	Cesium-137	pCi/L	8.84E-01	7.58E-01	2.71E+00		U
Surface Water	535863004	2/23/2021 11:47	3/2/2021 11:59	Cobalt-57	pCi/L	-1.40E-01	6.30E-01	2.14E+00		U
Surface Water	535863004	2/23/2021 11:47	3/2/2021 11:59	Cobalt-58	pCi/L	7.16E-01	7.75E-01	2.71E+00		U
Surface Water	535863004	2/23/2021 11:47	3/2/2021 11:59	Cobalt-60	pCi/L	8.56E-01	7.47E-01	2.65E+00		U
Surface Water	535863004	2/23/2021 11:47	3/2/2021 11:59	Iodine-131	pCi/L	2.59E+00	1.30E+00	4.60E+00		U
Surface Water	535863004	2/23/2021 11:47	3/2/2021 11:59	Iron-59	pCi/L	-1.54E+00	1.54E+00	4.62E+00		U
Surface Water	535863004	2/23/2021 11:47	3/2/2021 11:59	Lanthanum-140	pCi/L	-2.75E+00	1.42E+00	4.05E+00		U
Surface Water	535863004	2/23/2021 11:47	3/2/2021 11:59	Manganese-54	pCi/L	-1.04E+00	7.73E-01	2.13E+00		U

Surface Water	535863004	2/23/2021 11:47	3/2/2021 11:59	Niobium-95	pCi/L	-3.60E-01	7.33E-01	2.38E+00		U
Surface Water	535863004	2/23/2021 11:47	3/2/2021 11:59	Potassium-40	pCi/L	1.24E+01	1.74E+01	2.70E+01		U
Surface Water	535863004	2/23/2021 11:47	3/2/2021 11:59	Zinc-65	pCi/L	-2.16E+00	1.94E+00	4.90E+00		U
Surface Water	535863004	2/23/2021 11:47	3/2/2021 11:59	Zirconium-95	pCi/L	1.20E-01	1.38E+00	4.62E+00		U
Surface Water	539609004	3/30/2021 12:58	4/6/2021 19:52	Barium-140	pCi/L	2.26E+00	3.86E+00	1.34E+01		U
Surface Water	539609004	3/30/2021 12:58	4/6/2021 19:52	Beryllium-7	pCi/L	2.09E+01	6.96E+00	2.48E+01		U
Surface Water	539609004	3/30/2021 12:58	4/6/2021 19:52	Cesium-134	pCi/L	2.70E-01	7.49E-01	2.52E+00		U
Surface Water	539609004	3/30/2021 12:58	4/6/2021 19:52	Cesium-137	pCi/L	-3.76E-01	7.69E-01	2.51E+00		U
Surface Water	539609004	3/30/2021 12:58	4/6/2021 19:52	Cobalt-57	pCi/L	9.53E-01	7.49E-01	2.39E+00		U
Surface Water	539609004	3/30/2021 12:58	4/6/2021 19:52	Cobalt-58	pCi/L	-8.29E-01	7.52E-01	2.33E+00		U
Surface Water	539609004	3/30/2021 12:58	4/6/2021 19:52	Cobalt-60	pCi/L	-4.51E-01	7.43E-01	2.38E+00		U
Surface Water	539609004	3/30/2021 12:58	4/6/2021 19:52	Iodine-131	pCi/L	3.77E-01	1.33E+00	4.36E+00		U
Surface Water	539609004	3/30/2021 12:58	4/6/2021 19:52	Iron-59	pCi/L	-1.50E+00	1.60E+00	4.83E+00		U
Surface Water	539609004	3/30/2021 12:58	4/6/2021 19:52	Lanthanum-140	pCi/L	-2.50E+00	1.46E+00	4.24E+00		U
Surface Water	539609004	3/30/2021 12:58	4/6/2021 19:52	Manganese-54	pCi/L	-1.47E-01	7.86E-01	2.23E+00		U
Surface Water	539609004	3/30/2021 12:58	4/6/2021 19:52	Niobium-95	pCi/L	-1.17E+00	1.11E+00	2.51E+00		U
Surface Water	539609004	3/30/2021 12:58	4/6/2021 19:52	Potassium-40	pCi/L	-8.27E+00	1.06E+01	2.98E+01		U
Surface Water	539609004	3/30/2021 12:58	4/6/2021 19:52	Zinc-65	pCi/L	3.24E+00	1.79E+00	4.88E+00		U
Surface Water	539609004	3/30/2021 12:58	4/6/2021 19:52	Zirconium-95	pCi/L	-1.28E+00	1.29E+00	4.03E+00		U
Surface Water	542465004	4/27/2021 11:42	5/6/2021 20:01	Barium-140	pCi/L	2.95E+00	2.56E+00	8.90E+00		U
Surface Water	542465004	4/27/2021 11:42	5/6/2021 20:01	Beryllium-7	pCi/L	1.27E+00	4.05E+00	1.37E+01		U
Surface Water	542465004	4/27/2021 11:42	5/6/2021 20:01	Cesium-134	pCi/L	2.48E-01	4.96E-01	1.65E+00		U
Surface Water	542465004	4/27/2021 11:42	5/6/2021 20:01	Cesium-137	pCi/L	-2.50E-01	4.80E-01	1.54E+00		U
Surface Water	542465004	4/27/2021 11:42	5/6/2021 20:01	Cobalt-57	pCi/L	1.36E-01	4.09E-01	1.33E+00		U
Surface Water	542465004	4/27/2021 11:42	5/6/2021 20:01	Cobalt-58	pCi/L	2.45E-02	4.92E-01	1.60E+00		U
Surface Water	542465004	4/27/2021 11:42	5/6/2021 20:01	Cobalt-60	pCi/L	2.79E+00	9.16E-01	2.37E+00		UI
Surface Water	542465004	4/27/2021 11:42	5/6/2021 20:01	Iodine-131	pCi/L	9.72E-01	9.51E-01	3.34E+00		U
Surface Water	542465004	4/27/2021 11:42	5/6/2021 20:01	Iron-59	pCi/L	-1.52E+00	1.13E+00	3.29E+00		U
Surface Water	542465004	4/27/2021 11:42	5/6/2021 20:01	Lanthanum-140	pCi/L	-3.42E-01	6.93E-01	2.19E+00		U
Surface Water	542465004	4/27/2021 11:42	5/6/2021 20:01	Manganese-54	pCi/L	-5.65E-03	5.04E-01	1.63E+00		U
Surface Water	542465004	4/27/2021 11:42	5/6/2021 20:01	Niobium-95	pCi/L	1.23E-01	4.39E-01	1.45E+00		U
Surface Water	542465004	4/27/2021 11:42	5/6/2021 20:01	Potassium-40	pCi/L	2.81E+01	1.35E+01	1.46E+01		UI
Surface Water	542465004	4/27/2021 11:42	5/6/2021 20:01	Zinc-65	pCi/L	-9.54E-02	9.01E-01	2.83E+00		U

Surface Water	542465004	4/27/2021 11:42	5/6/2021 20:01	Zirconium-95	pCi/L	-1.85E-01	8.47E-01	2.73E+00		U
Surface Water	545731004	5/25/2021 11:28	6/4/2021 18:01	Barium-140	pCi/L	5.13E+00	5.07E+00	1.03E+01		U
Surface Water	545731004	5/25/2021 11:28	6/4/2021 18:01	Beryllium-7	pCi/L	1.08E+00	4.71E+00	1.60E+01		U
Surface Water	545731004	5/25/2021 11:28	6/4/2021 18:01	Cesium-134	pCi/L	3.82E-01	6.28E-01	2.16E+00		U
Surface Water	545731004	5/25/2021 11:28	6/4/2021 18:01	Cesium-137	pCi/L	2.50E-01	6.11E-01	2.01E+00		U
Surface Water	545731004	5/25/2021 11:28	6/4/2021 18:01	Cobalt-57	pCi/L	1.44E-01	4.32E-01	1.32E+00		U
Surface Water	545731004	5/25/2021 11:28	6/4/2021 18:01	Cobalt-58	pCi/L	6.05E-01	6.02E-01	2.09E+00		U
Surface Water	545731004	5/25/2021 11:28	6/4/2021 18:01	Cobalt-60	pCi/L	-2.77E-01	6.72E-01	2.19E+00		U
Surface Water	545731004	5/25/2021 11:28	6/4/2021 18:01	Iodine-131	pCi/L	8.41E-01	1.29E+00	4.24E+00		U
Surface Water	545731004	5/25/2021 11:28	6/4/2021 18:01	Iron-59	pCi/L	-6.55E-02	1.39E+00	4.48E+00		U
Surface Water	545731004	5/25/2021 11:28	6/4/2021 18:01	Lanthanum-140	pCi/L	1.49E+00	1.44E+00	4.90E+00		U
Surface Water	545731004	5/25/2021 11:28	6/4/2021 18:01	Manganese-54	pCi/L	1.37E+00	5.49E-01	1.39E+00		U
Surface Water	545731004	5/25/2021 11:28	6/4/2021 18:01	Niobium-95	pCi/L	6.57E-01	5.59E-01	1.97E+00		U
Surface Water	545731004	5/25/2021 11:28	6/4/2021 18:01	Potassium-40	pCi/L	-1.11E+01	1.20E+01	2.59E+01		U
Surface Water	545731004	5/25/2021 11:28	6/4/2021 18:01	Zinc-65	pCi/L	-2.01E+00	1.36E+00	4.10E+00		U
Surface Water	545731004	5/25/2021 11:28	6/4/2021 18:01	Zirconium-95	pCi/L	5.06E-01	9.79E-01	3.37E+00		U
Surface Water	548840004	6/29/2021 12:59	7/13/2021 10:56	Barium-140	pCi/L	-4.89E+00	3.85E+00	1.18E+01		U
Surface Water	548840004	6/29/2021 12:59	7/13/2021 10:56	Beryllium-7	pCi/L	8.54E-01	4.64E+00	1.51E+01		U
Surface Water	548840004	6/29/2021 12:59	7/13/2021 10:56	Cesium-134	pCi/L	-1.59E+00	1.06E+00	1.84E+00		U
Surface Water	548840004	6/29/2021 12:59	7/13/2021 10:56	Cesium-137	pCi/L	7.46E-02	5.39E-01	1.84E+00		U
Surface Water	548840004	6/29/2021 12:59	7/13/2021 10:56	Cobalt-57	pCi/L	6.42E-02	3.49E-01	1.10E+00		U
Surface Water	548840004	6/29/2021 12:59	7/13/2021 10:56	Cobalt-58	pCi/L	3.13E-01	5.69E-01	1.95E+00		U
Surface Water	548840004	6/29/2021 12:59	7/13/2021 10:56	Cobalt-60	pCi/L	-1.68E-01	6.00E-01	1.75E+00		U
Surface Water	548840004	6/29/2021 12:59	7/13/2021 10:56	Iodine-131	pCi/L	1.02E+00	1.44E+00	4.83E+00		U
Surface Water	548840004	6/29/2021 12:59	7/13/2021 10:56	Iron-59	pCi/L	1.22E+00	1.34E+00	4.55E+00		U
Surface Water	548840004	6/29/2021 12:59	7/13/2021 10:56	Lanthanum-140	pCi/L	-1.10E+00	1.21E+00	3.21E+00		U
Surface Water	548840004	6/29/2021 12:59	7/13/2021 10:56	Manganese-54	pCi/L	4.75E-01	5.46E-01	1.88E+00		U
Surface Water	548840004	6/29/2021 12:59	7/13/2021 10:56	Niobium-95	pCi/L	-6.70E-01	5.92E-01	1.91E+00		U
Surface Water	548840004	6/29/2021 12:59	7/13/2021 10:56	Potassium-40	pCi/L	1.79E+01	1.29E+01	1.91E+01		U
Surface Water	548840004	6/29/2021 12:59	7/13/2021 10:56	Zinc-65	pCi/L	1.27E-02	1.06E+00	3.47E+00		U
Surface Water	548840004	6/29/2021 12:59	7/13/2021 10:56	Zirconium-95	pCi/L	4.88E-01	9.90E-01	3.39E+00		U
Surface Water	551018004	7/27/2021 11:58	8/6/2021 20:11	Barium-140	pCi/L	1.43E+01	4.51E+00	1.09E+01		UI
Surface Water	551018004	7/27/2021 11:58	8/6/2021 20:11	Beryllium-7	pCi/L	-4.45E+00	4.81E+00	1.50E+01		U

Surface Water	551018004	7/27/2021 11:58	8/6/2021 20:11	Cesium-134	pCi/L	1.54E-02	5.82E-01	1.96E+00		U
Surface Water	551018004	7/27/2021 11:58	8/6/2021 20:11	Cesium-137	pCi/L	7.20E-01	5.80E-01	2.05E+00		U
Surface Water	551018004	7/27/2021 11:58	8/6/2021 20:11	Cobalt-57	pCi/L	5.62E-01	3.83E-01	1.25E+00		U
Surface Water	551018004	7/27/2021 11:58	8/6/2021 20:11	Cobalt-58	pCi/L	-1.42E+00	5.70E-01	1.70E+00		U
Surface Water	551018004	7/27/2021 11:58	8/6/2021 20:11	Cobalt-60	pCi/L	-1.12E+00	5.64E-01	1.56E+00		U
Surface Water	551018004	7/27/2021 11:58	8/6/2021 20:11	Iodine-131	pCi/L	1.15E+00	1.22E+00	4.12E+00		U
Surface Water	551018004	7/27/2021 11:58	8/6/2021 20:11	Iron-59	pCi/L	-1.82E+00	1.24E+00	3.75E+00		U
Surface Water	551018004	7/27/2021 11:58	8/6/2021 20:11	Lanthanum-140	pCi/L	-1.12E+00	1.11E+00	3.49E+00		U
Surface Water	551018004	7/27/2021 11:58	8/6/2021 20:11	Manganese-54	pCi/L	8.81E-01	5.58E-01	1.98E+00		U
Surface Water	551018004	7/27/2021 11:58	8/6/2021 20:11	Niobium-95	pCi/L	-1.58E+00	1.32E+00	2.26E+00		U
Surface Water	551018004	7/27/2021 11:58	8/6/2021 20:11	Potassium-40	pCi/L	7.92E+00	1.16E+01	1.76E+01		U
Surface Water	551018004	7/27/2021 11:58	8/6/2021 20:11	Zinc-65	pCi/L	-1.84E+00	1.44E+00	3.73E+00		U
Surface Water	551018004	7/27/2021 11:58	8/6/2021 20:11	Zirconium-95	pCi/L	-2.16E+00	1.00E+00	3.07E+00		U
Surface Water	554770004	8/31/2021 11:59	9/9/2021 16:22	Barium-140	pCi/L	4.94E-01	2.65E+00	8.69E+00		U
Surface Water	554770004	8/31/2021 11:59	9/9/2021 16:22	Beryllium-7	pCi/L	-4.65E+00	4.10E+00	1.30E+01		U
Surface Water	554770004	8/31/2021 11:59	9/9/2021 16:22	Cesium-134	pCi/L	-1.15E-01	4.98E-01	1.57E+00		U
Surface Water	554770004	8/31/2021 11:59	9/9/2021 16:22	Cesium-137	pCi/L	1.62E-01	4.89E-01	1.60E+00		U
Surface Water	554770004	8/31/2021 11:59	9/9/2021 16:22	Cobalt-57	pCi/L	2.21E-01	4.54E-01	1.45E+00		U
Surface Water	554770004	8/31/2021 11:59	9/9/2021 16:22	Cobalt-58	pCi/L	-5.00E-01	4.98E-01	1.31E+00		U
Surface Water	554770004	8/31/2021 11:59	9/9/2021 16:22	Cobalt-60	pCi/L	7.49E-01	4.44E-01	1.60E+00		U
Surface Water	554770004	8/31/2021 11:59	9/9/2021 16:22	Iodine-131	pCi/L	-3.95E-01	1.00E+00	3.30E+00		U
Surface Water	554770004	8/31/2021 11:59	9/9/2021 16:22	Iron-59	pCi/L	6.08E-02	8.64E-01	2.90E+00		U
Surface Water	554770004	8/31/2021 11:59	9/9/2021 16:22	Lanthanum-140	pCi/L	4.81E-01	9.23E-01	3.09E+00		U
Surface Water	554770004	8/31/2021 11:59	9/9/2021 16:22	Manganese-54	pCi/L	-4.24E-01	4.28E-01	1.29E+00		U
Surface Water	554770004	8/31/2021 11:59	9/9/2021 16:22	Niobium-95	pCi/L	-6.07E-01	5.36E-01	1.63E+00		U
Surface Water	554770004	8/31/2021 11:59	9/9/2021 16:22	Potassium-40	pCi/L	-1.98E+01	1.02E+01	2.20E+01		U
Surface Water	554770004	8/31/2021 11:59	9/9/2021 16:22	Zinc-65	pCi/L	4.90E+00	1.51E+00	2.84E+00		UI
Surface Water	554770004	8/31/2021 11:59	9/9/2021 16:22	Zirconium-95	pCi/L	-3.15E-01	9.16E-01	2.88E+00		U
Surface Water	557330004	9/28/2021 12:22	10/8/2021 17:48	Barium-140	pCi/L	-4.92E+00	2.63E+00	8.10E+00		U
Surface Water	557330004	9/28/2021 12:22	10/8/2021 17:48	Beryllium-7	pCi/L	-1.72E+00	3.82E+00	1.25E+01		U
Surface Water	557330004	9/28/2021 12:22	10/8/2021 17:48	Cesium-134	pCi/L	4.31E-01	5.14E-01	1.70E+00		U
Surface Water	557330004	9/28/2021 12:22	10/8/2021 17:48	Cesium-137	pCi/L	1.65E-01	8.53E-01	1.33E+00		U
Surface Water	557330004	9/28/2021 12:22	10/8/2021 17:48	Cobalt-57	pCi/L	-6.02E-01	3.78E-01	1.20E+00		U

Surface Water	557330004	9/28/2021 12:22	10/8/2021 17:48	Cobalt-58	pCi/L	5.63E-01	4.57E-01	1.53E+00		U
Surface Water	557330004	9/28/2021 12:22	10/8/2021 17:48	Cobalt-60	pCi/L	1.12E+00	1.03E+00	1.41E+00		U
Surface Water	557330004	9/28/2021 12:22	10/8/2021 17:48	Iodine-131	pCi/L	-2.39E-01	1.00E+00	3.38E+00		U
Surface Water	557330004	9/28/2021 12:22	10/8/2021 17:48	Iron-59	pCi/L	-3.66E-01	9.54E-01	3.13E+00		U
Surface Water	557330004	9/28/2021 12:22	10/8/2021 17:48	Lanthanum-140	pCi/L	-1.23E+00	8.75E-01	2.57E+00		U
Surface Water	557330004	9/28/2021 12:22	10/8/2021 17:48	Manganese-54	pCi/L	7.91E-01	4.61E-01	1.57E+00		U
Surface Water	557330004	9/28/2021 12:22	10/8/2021 17:48	Niobium-95	pCi/L	-3.28E-01	6.88E-01	1.55E+00		U
Surface Water	557330004	9/28/2021 12:22	10/8/2021 17:48	Potassium-40	pCi/L	4.35E+00	1.09E+01	1.50E+01		U
Surface Water	557330004	9/28/2021 12:22	10/8/2021 17:48	Zinc-65	pCi/L	1.99E-01	9.38E-01	2.93E+00		U
Surface Water	557330004	9/28/2021 12:22	10/8/2021 17:48	Zirconium-95	pCi/L	3.06E-01	8.91E-01	2.89E+00		U
Surface Water	560418004	10/26/2021 11:32	11/5/2021 20:39	Barium-140	pCi/L	-1.31E+00	3.80E+00	1.26E+01		U
Surface Water	560418004	10/26/2021 11:32	11/5/2021 20:39	Beryllium-7	pCi/L	4.51E+00	6.00E+00	2.08E+01		U
Surface Water	560418004	10/26/2021 11:32	11/5/2021 20:39	Cesium-134	pCi/L	-3.15E-01	7.39E-01	2.34E+00		U
Surface Water	560418004	10/26/2021 11:32	11/5/2021 20:39	Cesium-137	pCi/L	1.24E+00	6.37E-01	2.29E+00		U
Surface Water	560418004	10/26/2021 11:32	11/5/2021 20:39	Cobalt-57	pCi/L	2.14E-01	5.37E-01	1.81E+00		U
Surface Water	560418004	10/26/2021 11:32	11/5/2021 20:39	Cobalt-58	pCi/L	1.99E-01	6.54E-01	1.94E+00		U
Surface Water	560418004	10/26/2021 11:32	11/5/2021 20:39	Cobalt-60	pCi/L	-8.84E-01	7.53E-01	2.32E+00		U
Surface Water	560418004	10/26/2021 11:32	11/5/2021 20:39	Iodine-131	pCi/L	3.00E+00	1.69E+00	5.61E+00		U
Surface Water	560418004	10/26/2021 11:32	11/5/2021 20:39	Iron-59	pCi/L	-4.11E+00	1.40E+00	3.88E+00		U
Surface Water	560418004	10/26/2021 11:32	11/5/2021 20:39	Lanthanum-140	pCi/L	-5.92E-01	1.53E+00	4.89E+00		U
Surface Water	560418004	10/26/2021 11:32	11/5/2021 20:39	Manganese-54	pCi/L	-1.11E+00	8.78E-01	2.26E+00		U
Surface Water	560418004	10/26/2021 11:32	11/5/2021 20:39	Niobium-95	pCi/L	4.22E-01	7.44E-01	2.49E+00		U
Surface Water	560418004	10/26/2021 11:32	11/5/2021 20:39	Potassium-40	pCi/L	1.76E+01	2.10E+01	1.99E+01		U
Surface Water	560418004	10/26/2021 11:32	11/5/2021 20:39	Zinc-65	pCi/L	-2.04E+00	1.98E+00	4.95E+00		U
Surface Water	560418004	10/26/2021 11:32	11/5/2021 20:39	Zirconium-95	pCi/L	-2.19E+00	1.13E+00	3.24E+00		U
Surface Water	563577004	11/30/2021 11:58	12/14/2021 12:03	Barium-140	pCi/L	-1.97E-01	3.00E+00	9.77E+00		U
Surface Water	563577004	11/30/2021 11:58	12/14/2021 12:03	Beryllium-7	pCi/L	9.05E-01	3.83E+00	1.27E+01		U
Surface Water	563577004	11/30/2021 11:58	12/14/2021 12:03	Cesium-134	pCi/L	-3.04E-01	4.23E-01	1.31E+00		U
Surface Water	563577004	11/30/2021 11:58	12/14/2021 12:03	Cesium-137	pCi/L	1.64E-01	3.95E-01	1.29E+00		U
Surface Water	563577004	11/30/2021 11:58	12/14/2021 12:03	Cobalt-57	pCi/L	-2.99E-01	4.06E-01	1.26E+00		U
Surface Water	563577004	11/30/2021 11:58	12/14/2021 12:03	Cobalt-58	pCi/L	-1.68E-01	4.28E-01	1.34E+00		U
Surface Water	563577004	11/30/2021 11:58	12/14/2021 12:03	Cobalt-60	pCi/L	6.98E-01	4.10E-01	1.46E+00		U
Surface Water	563577004	11/30/2021 11:58	12/14/2021 12:03	Iodine-131	pCi/L	-1.40E+00	1.32E+00	4.30E+00		U

Surface Water	563577004	11/30/2021 11:58	12/14/2021 12:03	Iron-59	pCi/L	2.52E-01	8.30E-01	2.81E+00		U
Surface Water	563577004	11/30/2021 11:58	12/14/2021 12:03	Lanthanum-140	pCi/L	-6.74E-01	9.06E-01	2.82E+00		U
Surface Water	563577004	11/30/2021 11:58	12/14/2021 12:03	Manganese-54	pCi/L	-1.85E-01	4.05E-01	1.26E+00		U
Surface Water	563577004	11/30/2021 11:58	12/14/2021 12:03	Niobium-95	pCi/L	1.54E+00	4.73E-01	1.68E+00		U
Surface Water	563577004	11/30/2021 11:58	12/14/2021 12:03	Potassium-40	pCi/L	9.59E-01	1.08E+01	1.38E+01		U
Surface Water	563577004	11/30/2021 11:58	12/14/2021 12:03	Zinc-65	pCi/L	8.58E-02	8.37E-01	2.48E+00		U
Surface Water	563577004	11/30/2021 11:58	12/14/2021 12:03	Zirconium-95	pCi/L	-4.42E-01	7.18E-01	2.23E+00		U
Surface Water	566085004	12/28/2021 12:00	1/4/2022 17:25	Barium-140	pCi/L	4.46E+00	2.33E+00	8.27E+00		U
Surface Water	566085004	12/28/2021 12:00	1/4/2022 17:25	Beryllium-7	pCi/L	-5.86E+00	3.85E+00	1.25E+01		U
Surface Water	566085004	12/28/2021 12:00	1/4/2022 17:25	Cesium-134	pCi/L	3.67E-01	5.71E-01	1.70E+00		U
Surface Water	566085004	12/28/2021 12:00	1/4/2022 17:25	Cesium-137	pCi/L	-3.08E-01	6.60E-01	1.67E+00		U
Surface Water	566085004	12/28/2021 12:00	1/4/2022 17:25	Cobalt-57	pCi/L	2.37E-01	4.01E-01	1.37E+00		U
Surface Water	566085004	12/28/2021 12:00	1/4/2022 17:25	Cobalt-58	pCi/L	5.86E-01	4.89E-01	1.50E+00		U
Surface Water	566085004	12/28/2021 12:00	1/4/2022 17:25	Cobalt-60	pCi/L	-9.65E-01	7.05E-01	1.56E+00		U
Surface Water	566085004	12/28/2021 12:00	1/4/2022 17:25	Iodine-131	pCi/L	8.38E-01	8.93E-01	2.94E+00		U
Surface Water	566085004	12/28/2021 12:00	1/4/2022 17:25	Iron-59	pCi/L	1.70E+00	9.44E-01	3.29E+00		U
Surface Water	566085004	12/28/2021 12:00	1/4/2022 17:25	Lanthanum-140	pCi/L	1.74E-01	8.39E-01	2.44E+00		U
Surface Water	566085004	12/28/2021 12:00	1/4/2022 17:25	Manganese-54	pCi/L	-1.77E-01	4.44E-01	1.43E+00		U
Surface Water	566085004	12/28/2021 12:00	1/4/2022 17:25	Niobium-95	pCi/L	4.37E-01	4.99E-01	1.69E+00		U
Surface Water	566085004	12/28/2021 12:00	1/4/2022 17:25	Potassium-40	pCi/L	2.59E+01	1.49E+01	1.48E+01		UI
Surface Water	566085004	12/28/2021 12:00	1/4/2022 17:25	Zinc-65	pCi/L	-1.44E+00	1.12E+00	3.37E+00		U
Surface Water	566085004	12/28/2021 12:00	1/4/2022 17:25	Zirconium-95	pCi/L	-1.20E+00	9.11E-01	2.44E+00		U

Sample Data For: "SW-4"

Matrix	Lab ID	Collect Date	Run Date	Parmname	Units	Result	Uncertainty	MDC	LLD	Qualifier
Surface Water	533500003	1/26/2021 10:05	2/3/2021 17:20	Barium-140	pCi/L	3.97E-02	3.05E+00	9.70E+00	1.50E+01	U
Surface Water	533500003	1/26/2021 10:05	2/3/2021 17:20	Beryllium-7	pCi/L	-1.90E+00	5.09E+00	1.61E+01		U
Surface Water	533500003	1/26/2021 10:05	2/3/2021 17:20	Cesium-134	pCi/L	1.08E+00	5.95E-01	2.14E+00	1.50E+01	U
Surface Water	533500003	1/26/2021 10:05	2/3/2021 17:20	Cesium-137	pCi/L	6.77E-01	5.85E-01	2.06E+00	1.80E+01	U
Surface Water	533500003	1/26/2021 10:05	2/3/2021 17:20	Cobalt-57	pCi/L	5.89E-01	5.16E-01	1.75E+00		U
Surface Water	533500003	1/26/2021 10:05	2/3/2021 17:20	Cobalt-58	pCi/L	-1.62E-01	5.31E-01	1.76E+00	1.50E+01	U
Surface Water	533500003	1/26/2021 10:05	2/3/2021 17:20	Cobalt-60	pCi/L	-1.03E+00	8.71E-01	1.98E+00	1.50E+01	U

Surface Water	533500003	1/26/2021 10:05	2/3/2021 17:20	Iodine-131	pCi/L	2.47E-01	1.19E+00	3.86E+00		U
Surface Water	533500003	1/26/2021 10:05	2/3/2021 17:20	Iron-59	pCi/L	3.60E-01	1.18E+00	3.96E+00	3.00E+01	U
Surface Water	533500003	1/26/2021 10:05	2/3/2021 17:20	Lanthanum-140	pCi/L	-2.76E+00	1.63E+00	3.06E+00	1.50E+01	U
Surface Water	533500003	1/26/2021 10:05	2/3/2021 17:20	Manganese-54	pCi/L	-3.39E-01	5.52E-01	1.81E+00	1.50E+01	U
Surface Water	533500003	1/26/2021 10:05	2/3/2021 17:20	Niobium-95	pCi/L	5.73E-01	5.56E-01	1.94E+00	1.50E+01	U
Surface Water	533500003	1/26/2021 10:05	2/3/2021 17:20	Potassium-40	pCi/L	4.39E+01	1.69E+01	1.85E+01		
Surface Water	533500003	1/26/2021 10:05	2/3/2021 17:20	Zinc-65	pCi/L	1.16E+00	1.19E+00	3.70E+00	3.00E+01	U
Surface Water	533500003	1/26/2021 10:05	2/3/2021 17:20	Zirconium-95	pCi/L	4.45E-01	9.48E-01	3.26E+00	1.50E+01	U
Surface Water	535863003	2/23/2021 10:43	3/2/2021 11:43	Barium-140	pCi/L	5.16E+00	3.07E+00	1.12E+01		U
Surface Water	535863003	2/23/2021 10:43	3/2/2021 11:43	Beryllium-7	pCi/L	-8.45E-01	5.13E+00	1.70E+01		U
Surface Water	535863003	2/23/2021 10:43	3/2/2021 11:43	Cesium-134	pCi/L	-7.17E-01	7.16E-01	2.14E+00		U
Surface Water	535863003	2/23/2021 10:43	3/2/2021 11:43	Cesium-137	pCi/L	4.54E-01	6.46E-01	2.22E+00		U
Surface Water	535863003	2/23/2021 10:43	3/2/2021 11:43	Cobalt-57	pCi/L	-9.17E-01	5.79E-01	1.77E+00		U
Surface Water	535863003	2/23/2021 10:43	3/2/2021 11:43	Cobalt-58	pCi/L	4.97E-01	6.28E-01	2.16E+00		U
Surface Water	535863003	2/23/2021 10:43	3/2/2021 11:43	Cobalt-60	pCi/L	8.81E-01	7.41E-01	2.72E+00		U
Surface Water	535863003	2/23/2021 10:43	3/2/2021 11:43	Iodine-131	pCi/L	3.09E-01	1.03E+00	3.56E+00		U
Surface Water	535863003	2/23/2021 10:43	3/2/2021 11:43	Iron-59	pCi/L	-1.21E+00	1.06E+00	2.84E+00		U
Surface Water	535863003	2/23/2021 10:43	3/2/2021 11:43	Lanthanum-140	pCi/L	-3.73E-01	9.17E-01	2.88E+00		U
Surface Water	535863003	2/23/2021 10:43	3/2/2021 11:43	Manganese-54	pCi/L	-1.36E-01	7.11E-01	2.27E+00		U
Surface Water	535863003	2/23/2021 10:43	3/2/2021 11:43	Niobium-95	pCi/L	-7.60E-01	6.38E-01	1.88E+00		U
Surface Water	535863003	2/23/2021 10:43	3/2/2021 11:43	Potassium-40	pCi/L	-1.83E+01	1.11E+01	3.18E+01		U
Surface Water	535863003	2/23/2021 10:43	3/2/2021 11:43	Zinc-65	pCi/L	-1.03E+00	1.37E+00	4.39E+00		U
Surface Water	535863003	2/23/2021 10:43	3/2/2021 11:43	Zirconium-95	pCi/L	-8.73E-01	1.17E+00	3.58E+00		U
Surface Water	539609003	3/30/2021 11:25	4/6/2021 18:47	Barium-140	pCi/L	5.16E-01	3.40E+00	1.14E+01		U
Surface Water	539609003	3/30/2021 11:25	4/6/2021 18:47	Beryllium-7	pCi/L	-4.66E+00	5.32E+00	1.71E+01		U
Surface Water	539609003	3/30/2021 11:25	4/6/2021 18:47	Cesium-134	pCi/L	-3.42E-01	7.18E-01	2.25E+00		U
Surface Water	539609003	3/30/2021 11:25	4/6/2021 18:47	Cesium-137	pCi/L	-7.55E-01	6.81E-01	2.10E+00		U
Surface Water	539609003	3/30/2021 11:25	4/6/2021 18:47	Cobalt-57	pCi/L	6.57E-01	6.26E-01	2.09E+00		U
Surface Water	539609003	3/30/2021 11:25	4/6/2021 18:47	Cobalt-58	pCi/L	-9.82E-01	6.34E-01	1.83E+00		U
Surface Water	539609003	3/30/2021 11:25	4/6/2021 18:47	Cobalt-60	pCi/L	4.30E-01	7.11E-01	2.47E+00		U
Surface Water	539609003	3/30/2021 11:25	4/6/2021 18:47	Iodine-131	pCi/L	1.95E+00	1.29E+00	4.60E+00		U
Surface Water	539609003	3/30/2021 11:25	4/6/2021 18:47	Iron-59	pCi/L	-1.59E-01	1.22E+00	4.10E+00		U
Surface Water	539609003	3/30/2021 11:25	4/6/2021 18:47	Lanthanum-140	pCi/L	-1.25E+00	1.34E+00	3.45E+00		U

Surface Water	539609003	3/30/2021 11:25	4/6/2021 18:47	Manganese-54	pCi/L	1.52E-01	6.49E-01	2.12E+00		U
Surface Water	539609003	3/30/2021 11:25	4/6/2021 18:47	Niobium-95	pCi/L	-3.26E-01	7.11E-01	2.24E+00		U
Surface Water	539609003	3/30/2021 11:25	4/6/2021 18:47	Potassium-40	pCi/L	-7.40E+00	1.42E+01	3.99E+01		U
Surface Water	539609003	3/30/2021 11:25	4/6/2021 18:47	Zinc-65	pCi/L	1.28E+00	1.32E+00	4.72E+00		U
Surface Water	539609003	3/30/2021 11:25	4/6/2021 18:47	Zirconium-95	pCi/L	5.61E-01	1.12E+00	3.74E+00		U
Surface Water	542465003	4/27/2021 10:30	5/6/2021 20:01	Barium-140	pCi/L	3.09E+00	2.88E+00	9.98E+00		U
Surface Water	542465003	4/27/2021 10:30	5/6/2021 20:01	Beryllium-7	pCi/L	3.86E-01	4.34E+00	1.47E+01		U
Surface Water	542465003	4/27/2021 10:30	5/6/2021 20:01	Cesium-134	pCi/L	1.56E+00	7.74E-01	1.80E+00		U
Surface Water	542465003	4/27/2021 10:30	5/6/2021 20:01	Cesium-137	pCi/L	1.10E+00	5.38E-01	1.84E+00		U
Surface Water	542465003	4/27/2021 10:30	5/6/2021 20:01	Cobalt-57	pCi/L	5.21E-01	4.80E-01	1.60E+00		U
Surface Water	542465003	4/27/2021 10:30	5/6/2021 20:01	Cobalt-58	pCi/L	-1.72E-01	4.89E-01	1.56E+00		U
Surface Water	542465003	4/27/2021 10:30	5/6/2021 20:01	Cobalt-60	pCi/L	3.44E+00	8.16E-01	1.67E+00		UI
Surface Water	542465003	4/27/2021 10:30	5/6/2021 20:01	Iodine-131	pCi/L	-1.38E-01	1.26E+00	3.86E+00		U
Surface Water	542465003	4/27/2021 10:30	5/6/2021 20:01	Iron-59	pCi/L	-7.02E-01	1.15E+00	3.08E+00		U
Surface Water	542465003	4/27/2021 10:30	5/6/2021 20:01	Lanthanum-140	pCi/L	8.69E-01	1.23E+00	3.36E+00		U
Surface Water	542465003	4/27/2021 10:30	5/6/2021 20:01	Manganese-54	pCi/L	6.90E-01	4.99E-01	1.72E+00		U
Surface Water	542465003	4/27/2021 10:30	5/6/2021 20:01	Niobium-95	pCi/L	-1.10E-02	5.27E-01	1.72E+00		U
Surface Water	542465003	4/27/2021 10:30	5/6/2021 20:01	Potassium-40	pCi/L	-3.69E+00	1.03E+01	2.72E+01		U
Surface Water	542465003	4/27/2021 10:30	5/6/2021 20:01	Zinc-65	pCi/L	6.78E-01	1.03E+00	3.40E+00		U
Surface Water	542465003	4/27/2021 10:30	5/6/2021 20:01	Zirconium-95	pCi/L	3.10E-02	9.57E-01	3.14E+00		U
Surface Water	545731003	5/25/2021 9:53	6/4/2021 17:59	Barium-140	pCi/L	2.54E+00	2.93E+00	1.01E+01		U
Surface Water	545731003	5/25/2021 9:53	6/4/2021 17:59	Beryllium-7	pCi/L	1.83E+01	1.02E+01	1.46E+01		UI
Surface Water	545731003	5/25/2021 9:53	6/4/2021 17:59	Cesium-134	pCi/L	7.17E-01	5.31E-01	1.83E+00		U
Surface Water	545731003	5/25/2021 9:53	6/4/2021 17:59	Cesium-137	pCi/L	4.89E-01	4.81E-01	1.65E+00		U
Surface Water	545731003	5/25/2021 9:53	6/4/2021 17:59	Cobalt-57	pCi/L	-2.64E-01	4.84E-01	1.57E+00		U
Surface Water	545731003	5/25/2021 9:53	6/4/2021 17:59	Cobalt-58	pCi/L	3.25E-01	4.91E-01	1.64E+00		U
Surface Water	545731003	5/25/2021 9:53	6/4/2021 17:59	Cobalt-60	pCi/L	6.07E-01	5.46E-01	1.93E+00		U
Surface Water	545731003	5/25/2021 9:53	6/4/2021 17:59	Iodine-131	pCi/L	1.64E+00	1.19E+00	4.19E+00		U
Surface Water	545731003	5/25/2021 9:53	6/4/2021 17:59	Iron-59	pCi/L	1.63E+00	2.20E+00	3.79E+00		U
Surface Water	545731003	5/25/2021 9:53	6/4/2021 17:59	Lanthanum-140	pCi/L	-3.42E-01	1.07E+00	3.46E+00		U
Surface Water	545731003	5/25/2021 9:53	6/4/2021 17:59	Manganese-54	pCi/L	-1.94E-01	5.32E-01	1.50E+00		U
Surface Water	545731003	5/25/2021 9:53	6/4/2021 17:59	Niobium-95	pCi/L	1.00E+00	5.08E-01	1.79E+00		U
Surface Water	545731003	5/25/2021 9:53	6/4/2021 17:59	Potassium-40	pCi/L	-1.90E+01	1.31E+01	2.92E+01		U

Surface Water	545731003	5/25/2021 9:53	6/4/2021 17:59	Zinc-65	pCi/L	1.36E+00	1.07E+00	3.62E+00		U
Surface Water	545731003	5/25/2021 9:53	6/4/2021 17:59	Zirconium-95	pCi/L	8.10E-01	8.58E-01	2.92E+00		U
Surface Water	548840003	6/29/2021 11:47	7/13/2021 10:56	Barium-140	pCi/L	1.55E+00	3.22E+00	1.09E+01		U
Surface Water	548840003	6/29/2021 11:47	7/13/2021 10:56	Beryllium-7	pCi/L	2.36E+00	4.16E+00	1.42E+01		U
Surface Water	548840003	6/29/2021 11:47	7/13/2021 10:56	Cesium-134	pCi/L	-2.19E-01	5.05E-01	1.62E+00		U
Surface Water	548840003	6/29/2021 11:47	7/13/2021 10:56	Cesium-137	pCi/L	3.19E-01	4.42E-01	1.50E+00		U
Surface Water	548840003	6/29/2021 11:47	7/13/2021 10:56	Cobalt-57	pCi/L	1.50E+00	6.36E-01	1.37E+00		UI
Surface Water	548840003	6/29/2021 11:47	7/13/2021 10:56	Cobalt-58	pCi/L	-4.04E-01	4.82E-01	1.51E+00		U
Surface Water	548840003	6/29/2021 11:47	7/13/2021 10:56	Cobalt-60	pCi/L	3.75E-01	4.66E-01	1.63E+00		U
Surface Water	548840003	6/29/2021 11:47	7/13/2021 10:56	Iodine-131	pCi/L	7.72E-02	1.40E+00	4.81E+00		U
Surface Water	548840003	6/29/2021 11:47	7/13/2021 10:56	Iron-59	pCi/L	-1.83E+00	1.05E+00	3.01E+00		U
Surface Water	548840003	6/29/2021 11:47	7/13/2021 10:56	Lanthanum-140	pCi/L	-3.94E-01	1.07E+00	3.47E+00		U
Surface Water	548840003	6/29/2021 11:47	7/13/2021 10:56	Manganese-54	pCi/L	2.36E-01	4.58E-01	1.52E+00		U
Surface Water	548840003	6/29/2021 11:47	7/13/2021 10:56	Niobium-95	pCi/L	1.14E+00	7.55E-01	1.47E+00		U
Surface Water	548840003	6/29/2021 11:47	7/13/2021 10:56	Potassium-40	pCi/L	1.33E+00	1.50E+01	1.64E+01		U
Surface Water	548840003	6/29/2021 11:47	7/13/2021 10:56	Zinc-65	pCi/L	-9.12E-01	1.10E+00	2.89E+00		U
Surface Water	548840003	6/29/2021 11:47	7/13/2021 10:56	Zirconium-95	pCi/L	-8.25E-01	9.12E-01	2.87E+00		U
Surface Water	551018003	7/27/2021 10:38	8/6/2021 20:08	Barium-140	pCi/L	2.65E+00	2.99E+00	9.88E+00		U
Surface Water	551018003	7/27/2021 10:38	8/6/2021 20:08	Beryllium-7	pCi/L	8.41E+00	4.36E+00	1.49E+01		U
Surface Water	551018003	7/27/2021 10:38	8/6/2021 20:08	Cesium-134	pCi/L	1.17E-01	5.40E-01	1.84E+00		U
Surface Water	551018003	7/27/2021 10:38	8/6/2021 20:08	Cesium-137	pCi/L	1.09E+00	5.26E-01	1.80E+00		U
Surface Water	551018003	7/27/2021 10:38	8/6/2021 20:08	Cobalt-57	pCi/L	-9.15E-02	4.31E-01	1.46E+00		U
Surface Water	551018003	7/27/2021 10:38	8/6/2021 20:08	Cobalt-58	pCi/L	-3.01E-01	4.86E-01	1.61E+00		U
Surface Water	551018003	7/27/2021 10:38	8/6/2021 20:08	Cobalt-60	pCi/L	9.90E-01	4.74E-01	1.73E+00		U
Surface Water	551018003	7/27/2021 10:38	8/6/2021 20:08	Iodine-131	pCi/L	-1.54E+00	1.14E+00	3.59E+00		U
Surface Water	551018003	7/27/2021 10:38	8/6/2021 20:08	Iron-59	pCi/L	-1.56E+00	1.17E+00	3.11E+00		U
Surface Water	551018003	7/27/2021 10:38	8/6/2021 20:08	Lanthanum-140	pCi/L	-1.09E+00	9.71E-01	2.94E+00		U
Surface Water	551018003	7/27/2021 10:38	8/6/2021 20:08	Manganese-54	pCi/L	-1.15E-02	4.51E-01	1.52E+00		U
Surface Water	551018003	7/27/2021 10:38	8/6/2021 20:08	Niobium-95	pCi/L	2.93E-01	5.16E-01	1.78E+00		U
Surface Water	551018003	7/27/2021 10:38	8/6/2021 20:08	Potassium-40	pCi/L	3.97E+01	9.34E+00	1.81E+01		
Surface Water	551018003	7/27/2021 10:38	8/6/2021 20:08	Zinc-65	pCi/L	-7.15E-01	1.01E+00	3.24E+00		U
Surface Water	551018003	7/27/2021 10:38	8/6/2021 20:08	Zirconium-95	pCi/L	-5.75E-01	8.76E-01	2.90E+00		U
Surface Water	554770003	8/31/2021 10:41	9/9/2021 16:20	Barium-140	pCi/L	4.50E+00	2.60E+00	8.23E+00		U

Surface Water	554770003	8/31/2021 10:41	9/9/2021 16:20	Beryllium-7	pCi/L	-5.14E-01	4.03E+00	1.18E+01		U
Surface Water	554770003	8/31/2021 10:41	9/9/2021 16:20	Cesium-134	pCi/L	-2.41E-01	4.92E-01	1.64E+00		U
Surface Water	554770003	8/31/2021 10:41	9/9/2021 16:20	Cesium-137	pCi/L	3.69E-01	4.74E-01	1.57E+00		U
Surface Water	554770003	8/31/2021 10:41	9/9/2021 16:20	Cobalt-57	pCi/L	4.09E-02	4.03E-01	1.32E+00		U
Surface Water	554770003	8/31/2021 10:41	9/9/2021 16:20	Cobalt-58	pCi/L	3.16E-01	4.15E-01	1.45E+00		U
Surface Water	554770003	8/31/2021 10:41	9/9/2021 16:20	Cobalt-60	pCi/L	2.55E-02	5.16E-01	1.67E+00		U
Surface Water	554770003	8/31/2021 10:41	9/9/2021 16:20	Iodine-131	pCi/L	4.32E-01	9.63E-01	3.28E+00		U
Surface Water	554770003	8/31/2021 10:41	9/9/2021 16:20	Iron-59	pCi/L	3.32E-01	9.94E-01	3.33E+00		U
Surface Water	554770003	8/31/2021 10:41	9/9/2021 16:20	Lanthanum-140	pCi/L	-2.45E+00	1.19E+00	2.85E+00		U
Surface Water	554770003	8/31/2021 10:41	9/9/2021 16:20	Manganese-54	pCi/L	2.38E+00	1.13E+00	1.36E+00		UI
Surface Water	554770003	8/31/2021 10:41	9/9/2021 16:20	Niobium-95	pCi/L	-8.82E-02	4.27E-01	1.44E+00		U
Surface Water	554770003	8/31/2021 10:41	9/9/2021 16:20	Potassium-40	pCi/L	1.69E+01	1.09E+01	1.59E+01		UI
Surface Water	554770003	8/31/2021 10:41	9/9/2021 16:20	Zinc-65	pCi/L	1.27E+00	9.64E-01	3.05E+00		U
Surface Water	554770003	8/31/2021 10:41	9/9/2021 16:20	Zirconium-95	pCi/L	-1.11E+00	8.36E-01	2.48E+00		U
Surface Water	557330003	9/28/2021 11:18	10/7/2021 16:28	Barium-140	pCi/L	3.19E-01	2.67E+00	8.76E+00		U
Surface Water	557330003	9/28/2021 11:18	10/7/2021 16:28	Beryllium-7	pCi/L	1.38E+00	4.35E+00	1.45E+01		U
Surface Water	557330003	9/28/2021 11:18	10/7/2021 16:28	Cesium-134	pCi/L	8.49E-01	5.67E-01	1.84E+00		U
Surface Water	557330003	9/28/2021 11:18	10/7/2021 16:28	Cesium-137	pCi/L	-6.86E-02	5.32E-01	1.70E+00		U
Surface Water	557330003	9/28/2021 11:18	10/7/2021 16:28	Cobalt-57	pCi/L	-3.37E-01	4.31E-01	1.37E+00		U
Surface Water	557330003	9/28/2021 11:18	10/7/2021 16:28	Cobalt-58	pCi/L	1.66E-01	4.68E-01	1.61E+00		U
Surface Water	557330003	9/28/2021 11:18	10/7/2021 16:28	Cobalt-60	pCi/L	3.52E-01	5.29E-01	1.79E+00		U
Surface Water	557330003	9/28/2021 11:18	10/7/2021 16:28	Iodine-131	pCi/L	-1.90E+00	9.86E-01	3.12E+00		U
Surface Water	557330003	9/28/2021 11:18	10/7/2021 16:28	Iron-59	pCi/L	5.02E+00	1.77E+00	3.83E+00		UI
Surface Water	557330003	9/28/2021 11:18	10/7/2021 16:28	Lanthanum-140	pCi/L	1.51E+00	9.67E-01	3.42E+00		U
Surface Water	557330003	9/28/2021 11:18	10/7/2021 16:28	Manganese-54	pCi/L	-3.28E-01	5.05E-01	1.67E+00		U
Surface Water	557330003	9/28/2021 11:18	10/7/2021 16:28	Niobium-95	pCi/L	1.00E+00	5.26E-01	1.81E+00		U
Surface Water	557330003	9/28/2021 11:18	10/7/2021 16:28	Potassium-40	pCi/L	1.50E+01	1.58E+01	1.66E+01		U
Surface Water	557330003	9/28/2021 11:18	10/7/2021 16:28	Zinc-65	pCi/L	9.75E-02	1.05E+00	3.49E+00		U
Surface Water	557330003	9/28/2021 11:18	10/7/2021 16:28	Zirconium-95	pCi/L	-1.85E-01	9.76E-01	2.72E+00		U
Surface Water	560418003	10/26/2021 10:20	11/5/2021 20:38	Barium-140	pCi/L	9.64E+00	8.59E+00	8.71E+00		UI
Surface Water	560418003	10/26/2021 10:20	11/5/2021 20:38	Beryllium-7	pCi/L	-3.68E+00	4.24E+00	1.35E+01		U
Surface Water	560418003	10/26/2021 10:20	11/5/2021 20:38	Cesium-134	pCi/L	3.00E-01	4.76E-01	1.56E+00		U
Surface Water	560418003	10/26/2021 10:20	11/5/2021 20:38	Cesium-137	pCi/L	-2.94E-01	5.43E-01	1.51E+00		U

Surface Water	560418003	10/26/2021 10:20	11/5/2021 20:38	Cobalt-57	pCi/L	3.81E-01	4.49E-01	1.45E+00		U
Surface Water	560418003	10/26/2021 10:20	11/5/2021 20:38	Cobalt-58	pCi/L	-9.65E-01	4.61E-01	1.31E+00		U
Surface Water	560418003	10/26/2021 10:20	11/5/2021 20:38	Cobalt-60	pCi/L	3.39E-01	5.14E-01	1.56E+00		U
Surface Water	560418003	10/26/2021 10:20	11/5/2021 20:38	Iodine-131	pCi/L	2.94E-01	1.15E+00	3.85E+00		U
Surface Water	560418003	10/26/2021 10:20	11/5/2021 20:38	Iron-59	pCi/L	-2.31E-01	8.76E-01	2.90E+00		U
Surface Water	560418003	10/26/2021 10:20	11/5/2021 20:38	Lanthanum-140	pCi/L	-4.87E-01	1.01E+00	3.20E+00		U
Surface Water	560418003	10/26/2021 10:20	11/5/2021 20:38	Manganese-54	pCi/L	-3.09E-01	5.26E-01	1.43E+00		U
Surface Water	560418003	10/26/2021 10:20	11/5/2021 20:38	Niobium-95	pCi/L	-4.28E-01	7.66E-01	1.60E+00		U
Surface Water	560418003	10/26/2021 10:20	11/5/2021 20:38	Potassium-40	pCi/L	-5.71E+00	1.00E+01	2.47E+01		U
Surface Water	560418003	10/26/2021 10:20	11/5/2021 20:38	Zinc-65	pCi/L	1.13E-01	9.65E-01	3.24E+00		U
Surface Water	560418003	10/26/2021 10:20	11/5/2021 20:38	Zirconium-95	pCi/L	-3.64E-01	9.80E-01	2.72E+00		U
Surface Water	563577003	11/30/2021 10:42	12/14/2021 12:03	Barium-140	pCi/L	-3.56E+00	2.70E+00	8.40E+00		U
Surface Water	563577003	11/30/2021 10:42	12/14/2021 12:03	Beryllium-7	pCi/L	1.78E-01	3.50E+00	1.16E+01		U
Surface Water	563577003	11/30/2021 10:42	12/14/2021 12:03	Cesium-134	pCi/L	4.65E-01	4.37E-01	1.38E+00		U
Surface Water	563577003	11/30/2021 10:42	12/14/2021 12:03	Cesium-137	pCi/L	7.25E-02	4.22E-01	1.36E+00		U
Surface Water	563577003	11/30/2021 10:42	12/14/2021 12:03	Cobalt-57	pCi/L	-2.08E-01	3.44E-01	1.11E+00		U
Surface Water	563577003	11/30/2021 10:42	12/14/2021 12:03	Cobalt-58	pCi/L	1.98E-01	4.57E-01	1.39E+00		U
Surface Water	563577003	11/30/2021 10:42	12/14/2021 12:03	Cobalt-60	pCi/L	3.22E-01	4.11E-01	1.39E+00		U
Surface Water	563577003	11/30/2021 10:42	12/14/2021 12:03	Iodine-131	pCi/L	-6.50E-01	1.14E+00	3.77E+00		U
Surface Water	563577003	11/30/2021 10:42	12/14/2021 12:03	Iron-59	pCi/L	-1.02E-02	8.71E-01	2.87E+00		U
Surface Water	563577003	11/30/2021 10:42	12/14/2021 12:03	Lanthanum-140	pCi/L	-2.18E-01	9.89E-01	3.29E+00		U
Surface Water	563577003	11/30/2021 10:42	12/14/2021 12:03	Manganese-54	pCi/L	-3.97E-01	3.61E-01	1.17E+00		U
Surface Water	563577003	11/30/2021 10:42	12/14/2021 12:03	Niobium-95	pCi/L	-2.31E-01	4.34E-01	1.45E+00		U
Surface Water	563577003	11/30/2021 10:42	12/14/2021 12:03	Potassium-40	pCi/L	4.60E+01	1.01E+01	1.25E+01		UI
Surface Water	563577003	11/30/2021 10:42	12/14/2021 12:03	Zinc-65	pCi/L	-3.30E-01	9.09E-01	2.56E+00		U
Surface Water	563577003	11/30/2021 10:42	12/14/2021 12:03	Zirconium-95	pCi/L	4.89E-01	7.40E-01	2.41E+00		U
Surface Water	566085003	12/28/2021 11:26	1/4/2022 17:22	Barium-140	pCi/L	3.37E+00	1.91E+00	6.76E+00		U
Surface Water	566085003	12/28/2021 11:26	1/4/2022 17:22	Beryllium-7	pCi/L	2.84E-01	3.66E+00	1.10E+01		U
Surface Water	566085003	12/28/2021 11:26	1/4/2022 17:22	Cesium-134	pCi/L	6.07E-01	4.39E-01	1.51E+00		U
Surface Water	566085003	12/28/2021 11:26	1/4/2022 17:22	Cesium-137	pCi/L	2.14E-01	4.06E-01	1.36E+00		U
Surface Water	566085003	12/28/2021 11:26	1/4/2022 17:22	Cobalt-57	pCi/L	2.12E-01	3.54E-01	1.16E+00		U
Surface Water	566085003	12/28/2021 11:26	1/4/2022 17:22	Cobalt-58	pCi/L	3.49E-01	4.23E-01	1.29E+00		U
Surface Water	566085003	12/28/2021 11:26	1/4/2022 17:22	Cobalt-60	pCi/L	8.85E-02	3.78E-01	1.28E+00		U

Surface Water	566085003	12/28/2021 11:26	1/4/2022 17:22	Iodine-131	pCi/L	-7.06E-01	7.16E-01	2.36E+00		U
Surface Water	566085003	12/28/2021 11:26	1/4/2022 17:22	Iron-59	pCi/L	-4.25E-01	7.49E-01	2.47E+00		U
Surface Water	566085003	12/28/2021 11:26	1/4/2022 17:22	Lanthanum-140	pCi/L	-1.97E-01	6.40E-01	2.06E+00		U
Surface Water	566085003	12/28/2021 11:26	1/4/2022 17:22	Manganese-54	pCi/L	-2.94E-01	4.54E-01	1.25E+00		U
Surface Water	566085003	12/28/2021 11:26	1/4/2022 17:22	Niobium-95	pCi/L	-8.69E-01	7.69E-01	1.37E+00		U
Surface Water	566085003	12/28/2021 11:26	1/4/2022 17:22	Potassium-40	pCi/L	2.71E+01	7.67E+00	1.30E+01		
Surface Water	566085003	12/28/2021 11:26	1/4/2022 17:22	Zinc-65	pCi/L	-7.19E-01	8.72E-01	2.84E+00		U
Surface Water	566085003	12/28/2021 11:26	1/4/2022 17:22	Zirconium-95	pCi/L	3.22E-01	7.17E-01	2.37E+00		U

Sample Data For: "SW-5"

Matrix	Lab ID	Collect Date	Run Date	Parmname	Units	Result	Uncertainty	MDC	LLD	Qualifier
Surface Water	533500001	1/26/2021 9:05	2/4/2021 17:23	Barium-140	pCi/L	1.46E+00	2.78E+00	9.00E+00	1.50E+01	U
Surface Water	533500001	1/26/2021 9:05	2/4/2021 17:23	Beryllium-7	pCi/L	5.76E+00	4.28E+00	1.43E+01		U
Surface Water	533500001	1/26/2021 9:05	2/4/2021 17:23	Cesium-134	pCi/L	2.54E-02	5.29E-01	1.77E+00	1.50E+01	U
Surface Water	533500001	1/26/2021 9:05	2/4/2021 17:23	Cesium-137	pCi/L	6.25E-01	4.98E-01	1.74E+00	1.80E+01	U
Surface Water	533500001	1/26/2021 9:05	2/4/2021 17:23	Cobalt-57	pCi/L	2.03E-01	3.90E-01	1.34E+00		U
Surface Water	533500001	1/26/2021 9:05	2/4/2021 17:23	Cobalt-58	pCi/L	-6.26E-01	4.93E-01	1.56E+00	1.50E+01	U
Surface Water	533500001	1/26/2021 9:05	2/4/2021 17:23	Cobalt-60	pCi/L	1.56E+00	4.60E-01	1.76E+00	1.50E+01	U
Surface Water	533500001	1/26/2021 9:05	2/4/2021 17:23	Iodine-131	pCi/L	-8.52E-01	1.05E+00	3.32E+00		U
Surface Water	533500001	1/26/2021 9:05	2/4/2021 17:23	Iron-59	pCi/L	-2.67E+00	1.73E+00	2.96E+00	3.00E+01	U
Surface Water	533500001	1/26/2021 9:05	2/4/2021 17:23	Lanthanum-140	pCi/L	3.02E-01	8.74E-01	2.98E+00	1.50E+01	U
Surface Water	533500001	1/26/2021 9:05	2/4/2021 17:23	Manganese-54	pCi/L	7.68E-01	5.51E-01	1.72E+00	1.50E+01	U
Surface Water	533500001	1/26/2021 9:05	2/4/2021 17:23	Niobium-95	pCi/L	4.04E-01	4.74E-01	1.63E+00	1.50E+01	U
Surface Water	533500001	1/26/2021 9:05	2/4/2021 17:23	Potassium-40	pCi/L	1.89E+01	1.34E+01	1.37E+01		UI
Surface Water	533500001	1/26/2021 9:05	2/4/2021 17:23	Zinc-65	pCi/L	-1.14E+00	1.43E+00	3.52E+00	3.00E+01	U
Surface Water	533500001	1/26/2021 9:05	2/4/2021 17:23	Zirconium-95	pCi/L	7.48E-01	8.46E-01	2.92E+00	1.50E+01	U
Surface Water	535863001	2/23/2021 9:32	3/2/2021 11:42	Barium-140	pCi/L	1.68E-01	3.29E+00	1.11E+01		U
Surface Water	535863001	2/23/2021 9:32	3/2/2021 11:42	Beryllium-7	pCi/L	-9.18E+00	6.16E+00	1.92E+01		U
Surface Water	535863001	2/23/2021 9:32	3/2/2021 11:42	Cesium-134	pCi/L	-9.38E-02	7.22E-01	2.34E+00		U
Surface Water	535863001	2/23/2021 9:32	3/2/2021 11:42	Cesium-137	pCi/L	-8.61E-01	1.10E+00	2.73E+00		U
Surface Water	535863001	2/23/2021 9:32	3/2/2021 11:42	Cobalt-57	pCi/L	8.62E-02	6.35E-01	2.12E+00		U
Surface Water	535863001	2/23/2021 9:32	3/2/2021 11:42	Cobalt-58	pCi/L	8.50E-01	7.13E-01	2.37E+00		U

Surface Water	535863001	2/23/2021 9:32	3/2/2021 11:42	Cobalt-60	pCi/L	1.19E+00	8.49E-01	3.19E+00		U
Surface Water	535863001	2/23/2021 9:32	3/2/2021 11:42	Iodine-131	pCi/L	-3.57E-01	1.33E+00	4.07E+00		U
Surface Water	535863001	2/23/2021 9:32	3/2/2021 11:42	Iron-59	pCi/L	3.01E-01	1.54E+00	5.02E+00		U
Surface Water	535863001	2/23/2021 9:32	3/2/2021 11:42	Lanthanum-140	pCi/L	-1.60E+00	1.45E+00	4.29E+00		U
Surface Water	535863001	2/23/2021 9:32	3/2/2021 11:42	Manganese-54	pCi/L	2.38E-02	6.83E-01	2.24E+00		U
Surface Water	535863001	2/23/2021 9:32	3/2/2021 11:42	Niobium-95	pCi/L	-6.17E-01	6.50E-01	1.96E+00		U
Surface Water	535863001	2/23/2021 9:32	3/2/2021 11:42	Potassium-40	pCi/L	3.19E+01	1.78E+01	2.71E+01		UI
Surface Water	535863001	2/23/2021 9:32	3/2/2021 11:42	Zinc-65	pCi/L	2.61E+00	1.43E+00	5.41E+00		U
Surface Water	535863001	2/23/2021 9:32	3/2/2021 11:42	Zirconium-95	pCi/L	2.10E-01	1.25E+00	4.18E+00		U
Surface Water	539609001	3/30/2021 10:21	4/6/2021 17:48	Barium-140	pCi/L	3.06E+00	2.62E+00	9.25E+00		U
Surface Water	539609001	3/30/2021 10:21	4/6/2021 17:48	Beryllium-7	pCi/L	5.89E-01	4.63E+00	1.59E+01		U
Surface Water	539609001	3/30/2021 10:21	4/6/2021 17:48	Cesium-134	pCi/L	1.60E+00	5.69E-01	2.11E+00		U
Surface Water	539609001	3/30/2021 10:21	4/6/2021 17:48	Cesium-137	pCi/L	2.78E-01	5.27E-01	1.81E+00		U
Surface Water	539609001	3/30/2021 10:21	4/6/2021 17:48	Cobalt-57	pCi/L	4.71E-01	4.83E-01	1.64E+00		U
Surface Water	539609001	3/30/2021 10:21	4/6/2021 17:48	Cobalt-58	pCi/L	1.03E+00	5.32E-01	1.91E+00		U
Surface Water	539609001	3/30/2021 10:21	4/6/2021 17:48	Cobalt-60	pCi/L	1.12E+00	5.90E-01	2.09E+00		U
Surface Water	539609001	3/30/2021 10:21	4/6/2021 17:48	Iodine-131	pCi/L	4.98E-01	1.06E+00	3.38E+00		U
Surface Water	539609001	3/30/2021 10:21	4/6/2021 17:48	Iron-59	pCi/L	5.34E-01	9.86E-01	3.30E+00		U
Surface Water	539609001	3/30/2021 10:21	4/6/2021 17:48	Lanthanum-140	pCi/L	-3.88E-01	9.49E-01	2.72E+00		U
Surface Water	539609001	3/30/2021 10:21	4/6/2021 17:48	Manganese-54	pCi/L	4.17E-01	5.17E-01	1.77E+00		U
Surface Water	539609001	3/30/2021 10:21	4/6/2021 17:48	Niobium-95	pCi/L	-1.08E+00	5.38E-01	1.63E+00		U
Surface Water	539609001	3/30/2021 10:21	4/6/2021 17:48	Potassium-40	pCi/L	1.56E+01	1.51E+01	1.62E+01		U
Surface Water	539609001	3/30/2021 10:21	4/6/2021 17:48	Zinc-65	pCi/L	1.82E+00	1.15E+00	3.70E+00		U
Surface Water	539609001	3/30/2021 10:21	4/6/2021 17:48	Zirconium-95	pCi/L	-1.48E+00	8.83E-01	2.70E+00		U
Surface Water	542465001	4/27/2021 9:29	5/6/2021 19:59	Barium-140	pCi/L	4.57E-01	3.08E+00	9.87E+00		U
Surface Water	542465001	4/27/2021 9:29	5/6/2021 19:59	Beryllium-7	pCi/L	8.64E+00	4.65E+00	1.59E+01		U
Surface Water	542465001	4/27/2021 9:29	5/6/2021 19:59	Cesium-134	pCi/L	-8.37E-01	6.18E-01	1.65E+00		U
Surface Water	542465001	4/27/2021 9:29	5/6/2021 19:59	Cesium-137	pCi/L	2.06E-01	5.38E-01	1.83E+00		U
Surface Water	542465001	4/27/2021 9:29	5/6/2021 19:59	Cobalt-57	pCi/L	-1.63E+00	6.89E-01	1.42E+00		U
Surface Water	542465001	4/27/2021 9:29	5/6/2021 19:59	Cobalt-58	pCi/L	-4.65E-01	5.22E-01	1.66E+00		U
Surface Water	542465001	4/27/2021 9:29	5/6/2021 19:59	Cobalt-60	pCi/L	-5.95E-01	8.81E-01	2.13E+00		U
Surface Water	542465001	4/27/2021 9:29	5/6/2021 19:59	Iodine-131	pCi/L	2.96E-01	1.11E+00	3.69E+00		U
Surface Water	542465001	4/27/2021 9:29	5/6/2021 19:59	Iron-59	pCi/L	-1.71E+00	1.14E+00	3.39E+00		U

Surface Water	542465001	4/27/2021 9:29	5/6/2021 19:59	Lanthanum-140	pCi/L	-9.51E-01	1.05E+00	3.27E+00		U
Surface Water	542465001	4/27/2021 9:29	5/6/2021 19:59	Manganese-54	pCi/L	6.09E-01	5.51E-01	1.89E+00		U
Surface Water	542465001	4/27/2021 9:29	5/6/2021 19:59	Niobium-95	pCi/L	1.29E-01	6.12E-01	1.80E+00		U
Surface Water	542465001	4/27/2021 9:29	5/6/2021 19:59	Potassium-40	pCi/L	5.23E+01	1.50E+01	1.61E+01		
Surface Water	542465001	4/27/2021 9:29	5/6/2021 19:59	Zinc-65	pCi/L	-8.56E-02	1.34E+00	3.73E+00		U
Surface Water	542465001	4/27/2021 9:29	5/6/2021 19:59	Zirconium-95	pCi/L	1.85E+00	9.51E-01	3.39E+00		U
Surface Water	545731001	5/25/2021 8:49	6/9/2021 15:36	Barium-140	pCi/L	1.37E+00	3.89E+00	1.26E+01		U
Surface Water	545731001	5/25/2021 8:49	6/9/2021 15:36	Beryllium-7	pCi/L	-6.14E+00	4.72E+00	1.44E+01		U
Surface Water	545731001	5/25/2021 8:49	6/9/2021 15:36	Cesium-134	pCi/L	-4.55E-01	5.41E-01	1.74E+00		U
Surface Water	545731001	5/25/2021 8:49	6/9/2021 15:36	Cesium-137	pCi/L	7.14E-01	5.33E-01	1.87E+00		U
Surface Water	545731001	5/25/2021 8:49	6/9/2021 15:36	Cobalt-57	pCi/L	3.83E-01	4.84E-01	1.55E+00		U
Surface Water	545731001	5/25/2021 8:49	6/9/2021 15:36	Cobalt-58	pCi/L	-5.52E-02	5.91E-01	1.71E+00		U
Surface Water	545731001	5/25/2021 8:49	6/9/2021 15:36	Cobalt-60	pCi/L	-1.32E-01	5.38E-01	1.79E+00		U
Surface Water	545731001	5/25/2021 8:49	6/9/2021 15:36	Iodine-131	pCi/L	5.36E-01	1.80E+00	5.93E+00		U
Surface Water	545731001	5/25/2021 8:49	6/9/2021 15:36	Iron-59	pCi/L	-1.30E+00	1.23E+00	3.76E+00		U
Surface Water	545731001	5/25/2021 8:49	6/9/2021 15:36	Lanthanum-140	pCi/L	-8.78E-01	1.34E+00	4.28E+00		U
Surface Water	545731001	5/25/2021 8:49	6/9/2021 15:36	Manganese-54	pCi/L	-8.86E-02	4.91E-01	1.61E+00		U
Surface Water	545731001	5/25/2021 8:49	6/9/2021 15:36	Niobium-95	pCi/L	6.03E-01	5.29E-01	1.84E+00		U
Surface Water	545731001	5/25/2021 8:49	6/9/2021 15:36	Potassium-40	pCi/L	-2.38E+00	1.26E+01	2.95E+01		U
Surface Water	545731001	5/25/2021 8:49	6/9/2021 15:36	Zinc-65	pCi/L	4.00E-01	1.15E+00	3.79E+00		U
Surface Water	545731001	5/25/2021 8:49	6/9/2021 15:36	Zirconium-95	pCi/L	4.49E-02	9.87E-01	3.30E+00		U
Surface Water	548840001	6/29/2021 10:42	7/13/2021 10:55	Barium-140	pCi/L	1.77E+00	2.87E+00	9.63E+00		U
Surface Water	548840001	6/29/2021 10:42	7/13/2021 10:55	Beryllium-7	pCi/L	-9.49E-01	3.54E+00	1.16E+01		U
Surface Water	548840001	6/29/2021 10:42	7/13/2021 10:55	Cesium-134	pCi/L	5.37E-01	4.55E-01	1.53E+00		U
Surface Water	548840001	6/29/2021 10:42	7/13/2021 10:55	Cesium-137	pCi/L	1.09E+00	4.79E-01	1.31E+00		U
Surface Water	548840001	6/29/2021 10:42	7/13/2021 10:55	Cobalt-57	pCi/L	5.33E-01	3.86E-01	1.27E+00		U
Surface Water	548840001	6/29/2021 10:42	7/13/2021 10:55	Cobalt-58	pCi/L	2.86E-01	4.22E-01	1.39E+00		U
Surface Water	548840001	6/29/2021 10:42	7/13/2021 10:55	Cobalt-60	pCi/L	-5.44E-01	3.97E-01	1.22E+00		U
Surface Water	548840001	6/29/2021 10:42	7/13/2021 10:55	Iodine-131	pCi/L	2.03E+00	1.31E+00	4.56E+00		U
Surface Water	548840001	6/29/2021 10:42	7/13/2021 10:55	Iron-59	pCi/L	-1.35E+00	9.93E-01	2.70E+00		U
Surface Water	548840001	6/29/2021 10:42	7/13/2021 10:55	Lanthanum-140	pCi/L	-3.04E-01	9.90E-01	3.19E+00		U
Surface Water	548840001	6/29/2021 10:42	7/13/2021 10:55	Manganese-54	pCi/L	3.43E-01	4.07E-01	1.35E+00		U
Surface Water	548840001	6/29/2021 10:42	7/13/2021 10:55	Niobium-95	pCi/L	-1.24E-01	7.23E-01	1.50E+00		U

Surface Water	548840001	6/29/2021 10:42	7/13/2021 10:55	Potassium-40	pCi/L	1.93E+01	1.26E+01	1.24E+01		UI
Surface Water	548840001	6/29/2021 10:42	7/13/2021 10:55	Zinc-65	pCi/L	4.90E-01	9.55E-01	2.92E+00		U
Surface Water	548840001	6/29/2021 10:42	7/13/2021 10:55	Zirconium-95	pCi/L	-7.06E-01	7.92E-01	2.46E+00		U
Surface Water	551018001	7/27/2021 9:33	8/6/2021 20:05	Barium-140	pCi/L	-1.08E-01	2.76E+00	9.07E+00		U
Surface Water	551018001	7/27/2021 9:33	8/6/2021 20:05	Beryllium-7	pCi/L	1.26E+01	4.23E+00	1.54E+01		U
Surface Water	551018001	7/27/2021 9:33	8/6/2021 20:05	Cesium-134	pCi/L	1.20E+00	5.55E-01	1.94E+00		U
Surface Water	551018001	7/27/2021 9:33	8/6/2021 20:05	Cesium-137	pCi/L	-5.63E-01	9.59E-01	1.76E+00		U
Surface Water	551018001	7/27/2021 9:33	8/6/2021 20:05	Cobalt-57	pCi/L	1.39E-02	4.12E-01	1.25E+00		U
Surface Water	551018001	7/27/2021 9:33	8/6/2021 20:05	Cobalt-58	pCi/L	5.72E-01	4.91E-01	1.65E+00		U
Surface Water	551018001	7/27/2021 9:33	8/6/2021 20:05	Cobalt-60	pCi/L	-1.07E+00	1.12E+00	1.95E+00		U
Surface Water	551018001	7/27/2021 9:33	8/6/2021 20:05	Iodine-131	pCi/L	-1.42E+00	1.72E+00	3.73E+00		U
Surface Water	551018001	7/27/2021 9:33	8/6/2021 20:05	Iron-59	pCi/L	-4.51E-01	1.12E+00	3.65E+00		U
Surface Water	551018001	7/27/2021 9:33	8/6/2021 20:05	Lanthanum-140	pCi/L	1.37E+00	1.12E+00	3.85E+00		U
Surface Water	551018001	7/27/2021 9:33	8/6/2021 20:05	Manganese-54	pCi/L	-2.48E-01	4.98E-01	1.54E+00		U
Surface Water	551018001	7/27/2021 9:33	8/6/2021 20:05	Niobium-95	pCi/L	-3.93E-02	5.24E-01	1.67E+00		U
Surface Water	551018001	7/27/2021 9:33	8/6/2021 20:05	Potassium-40	pCi/L	2.07E+01	1.39E+01	1.92E+01		UI
Surface Water	551018001	7/27/2021 9:33	8/6/2021 20:05	Zinc-65	pCi/L	-9.80E-01	1.43E+00	3.55E+00		U
Surface Water	551018001	7/27/2021 9:33	8/6/2021 20:05	Zirconium-95	pCi/L	-5.05E-01	8.77E-01	2.72E+00		U
Surface Water	554770001	8/31/2021 9:52	9/9/2021 16:17	Barium-140	pCi/L	2.01E-02	2.81E+00	9.30E+00		U
Surface Water	554770001	8/31/2021 9:52	9/9/2021 16:17	Beryllium-7	pCi/L	-6.65E+00	4.13E+00	1.32E+01		U
Surface Water	554770001	8/31/2021 9:52	9/9/2021 16:17	Cesium-134	pCi/L	-9.92E-02	5.46E-01	1.75E+00		U
Surface Water	554770001	8/31/2021 9:52	9/9/2021 16:17	Cesium-137	pCi/L	1.43E-01	5.07E-01	1.67E+00		U
Surface Water	554770001	8/31/2021 9:52	9/9/2021 16:17	Cobalt-57	pCi/L	-4.49E-02	4.10E-01	1.33E+00		U
Surface Water	554770001	8/31/2021 9:52	9/9/2021 16:17	Cobalt-58	pCi/L	-3.09E-01	5.94E-01	1.65E+00		U
Surface Water	554770001	8/31/2021 9:52	9/9/2021 16:17	Cobalt-60	pCi/L	4.41E-01	4.51E-01	1.57E+00		U
Surface Water	554770001	8/31/2021 9:52	9/9/2021 16:17	Iodine-131	pCi/L	7.78E-01	1.04E+00	3.60E+00		U
Surface Water	554770001	8/31/2021 9:52	9/9/2021 16:17	Iron-59	pCi/L	3.43E-01	1.02E+00	3.10E+00		U
Surface Water	554770001	8/31/2021 9:52	9/9/2021 16:17	Lanthanum-140	pCi/L	-2.13E+00	8.45E-01	2.32E+00		U
Surface Water	554770001	8/31/2021 9:52	9/9/2021 16:17	Manganese-54	pCi/L	-6.33E-01	5.21E-01	1.60E+00		U
Surface Water	554770001	8/31/2021 9:52	9/9/2021 16:17	Niobium-95	pCi/L	-4.69E-01	8.91E-01	1.77E+00		U
Surface Water	554770001	8/31/2021 9:52	9/9/2021 16:17	Potassium-40	pCi/L	1.14E+01	9.94E+00	1.44E+01		U
Surface Water	554770001	8/31/2021 9:52	9/9/2021 16:17	Zinc-65	pCi/L	-6.02E-01	9.61E-01	2.74E+00		U
Surface Water	554770001	8/31/2021 9:52	9/9/2021 16:17	Zirconium-95	pCi/L	-8.22E-01	9.22E-01	2.88E+00		U

Surface Water	557330001	9/28/2021 10:37	10/7/2021 16:27	Barium-140	pCi/L	9.14E-01	3.09E+00	1.04E+01		U
Surface Water	557330001	9/28/2021 10:37	10/7/2021 16:27	Beryllium-7	pCi/L	3.48E-01	5.03E+00	1.70E+01		U
Surface Water	557330001	9/28/2021 10:37	10/7/2021 16:27	Cesium-134	pCi/L	6.74E-01	5.90E-01	2.07E+00		U
Surface Water	557330001	9/28/2021 10:37	10/7/2021 16:27	Cesium-137	pCi/L	6.19E-01	6.65E-01	1.98E+00		U
Surface Water	557330001	9/28/2021 10:37	10/7/2021 16:27	Cobalt-57	pCi/L	-1.79E-01	4.26E-01	1.38E+00		U
Surface Water	557330001	9/28/2021 10:37	10/7/2021 16:27	Cobalt-58	pCi/L	2.62E-01	5.65E-01	1.93E+00		U
Surface Water	557330001	9/28/2021 10:37	10/7/2021 16:27	Cobalt-60	pCi/L	3.79E-01	6.26E-01	2.14E+00		U
Surface Water	557330001	9/28/2021 10:37	10/7/2021 16:27	Iodine-131	pCi/L	2.18E-01	1.15E+00	3.73E+00		U
Surface Water	557330001	9/28/2021 10:37	10/7/2021 16:27	Iron-59	pCi/L	1.94E+00	1.17E+00	4.09E+00		U
Surface Water	557330001	9/28/2021 10:37	10/7/2021 16:27	Lanthanum-140	pCi/L	-2.03E-01	1.12E+00	3.59E+00		U
Surface Water	557330001	9/28/2021 10:37	10/7/2021 16:27	Manganese-54	pCi/L	4.15E-02	6.00E-01	2.01E+00		U
Surface Water	557330001	9/28/2021 10:37	10/7/2021 16:27	Niobium-95	pCi/L	2.29E+00	1.12E+00	1.96E+00		UI
Surface Water	557330001	9/28/2021 10:37	10/7/2021 16:27	Potassium-40	pCi/L	-1.24E+01	1.23E+01	2.75E+01		U
Surface Water	557330001	9/28/2021 10:37	10/7/2021 16:27	Zinc-65	pCi/L	-4.93E-01	1.24E+00	3.95E+00		U
Surface Water	557330001	9/28/2021 10:37	10/7/2021 16:27	Zirconium-95	pCi/L	6.01E-01	9.69E-01	3.35E+00		U
Surface Water	560418001	10/26/2021 9:42	11/5/2021 20:36	Barium-140	pCi/L	4.54E+00	2.27E+00	8.04E+00		U
Surface Water	560418001	10/26/2021 9:42	11/5/2021 20:36	Beryllium-7	pCi/L	1.00E+01	4.17E+00	1.03E+01		U
Surface Water	560418001	10/26/2021 9:42	11/5/2021 20:36	Cesium-134	pCi/L	1.55E-01	4.30E-01	1.41E+00		U
Surface Water	560418001	10/26/2021 9:42	11/5/2021 20:36	Cesium-137	pCi/L	6.62E-02	3.89E-01	1.28E+00		U
Surface Water	560418001	10/26/2021 9:42	11/5/2021 20:36	Cobalt-57	pCi/L	2.71E-01	3.25E-01	1.07E+00		U
Surface Water	560418001	10/26/2021 9:42	11/5/2021 20:36	Cobalt-58	pCi/L	-6.71E-02	4.18E-01	1.34E+00		U
Surface Water	560418001	10/26/2021 9:42	11/5/2021 20:36	Cobalt-60	pCi/L	5.82E-01	3.95E-01	1.39E+00		U
Surface Water	560418001	10/26/2021 9:42	11/5/2021 20:36	Iodine-131	pCi/L	-9.29E-01	8.66E-01	2.85E+00		U
Surface Water	560418001	10/26/2021 9:42	11/5/2021 20:36	Iron-59	pCi/L	-5.76E-01	8.67E-01	2.48E+00		U
Surface Water	560418001	10/26/2021 9:42	11/5/2021 20:36	Lanthanum-140	pCi/L	-6.01E-01	7.55E-01	2.36E+00		U
Surface Water	560418001	10/26/2021 9:42	11/5/2021 20:36	Manganese-54	pCi/L	-2.33E-01	4.16E-01	1.31E+00		U
Surface Water	560418001	10/26/2021 9:42	11/5/2021 20:36	Niobium-95	pCi/L	-9.09E-01	3.84E-01	1.10E+00		U
Surface Water	560418001	10/26/2021 9:42	11/5/2021 20:36	Potassium-40	pCi/L	2.00E+01	9.41E+00	1.25E+01		UI
Surface Water	560418001	10/26/2021 9:42	11/5/2021 20:36	Zinc-65	pCi/L	-6.40E-01	7.70E-01	2.51E+00		U
Surface Water	560418001	10/26/2021 9:42	11/5/2021 20:36	Zirconium-95	pCi/L	-4.79E-01	6.68E-01	2.09E+00		U
Surface Water	563577001	11/30/2021 9:50	12/14/2021 12:02	Barium-140	pCi/L	2.80E+00	2.66E+00	9.14E+00		U
Surface Water	563577001	11/30/2021 9:50	12/14/2021 12:02	Beryllium-7	pCi/L	7.52E+00	3.26E+00	1.16E+01		U
Surface Water	563577001	11/30/2021 9:50	12/14/2021 12:02	Cesium-134	pCi/L	1.48E-01	4.16E-01	1.23E+00		U

Surface Water	563577001	11/30/2021 9:50	12/14/2021 12:02	Cesium-137	pCi/L	2.88E-01	3.63E-01	1.23E+00		U
Surface Water	563577001	11/30/2021 9:50	12/14/2021 12:02	Cobalt-57	pCi/L	-4.89E-01	3.42E-01	1.09E+00		U
Surface Water	563577001	11/30/2021 9:50	12/14/2021 12:02	Cobalt-58	pCi/L	1.94E-01	3.50E-01	1.16E+00		U
Surface Water	563577001	11/30/2021 9:50	12/14/2021 12:02	Cobalt-60	pCi/L	6.67E-01	3.82E-01	1.37E+00		U
Surface Water	563577001	11/30/2021 9:50	12/14/2021 12:02	Iodine-131	pCi/L	1.93E+00	1.17E+00	4.13E+00		U
Surface Water	563577001	11/30/2021 9:50	12/14/2021 12:02	Iron-59	pCi/L	-1.46E-01	8.11E-01	2.56E+00		U
Surface Water	563577001	11/30/2021 9:50	12/14/2021 12:02	Lanthanum-140	pCi/L	-2.83E+00	1.23E+00	2.78E+00		U
Surface Water	563577001	11/30/2021 9:50	12/14/2021 12:02	Manganese-54	pCi/L	-3.85E-02	3.39E-01	1.10E+00		U
Surface Water	563577001	11/30/2021 9:50	12/14/2021 12:02	Niobium-95	pCi/L	5.99E-01	5.98E-01	1.24E+00		U
Surface Water	563577001	11/30/2021 9:50	12/14/2021 12:02	Potassium-40	pCi/L	2.76E+00	9.74E+00	1.02E+01		U
Surface Water	563577001	11/30/2021 9:50	12/14/2021 12:02	Zinc-65	pCi/L	4.34E-01	8.20E-01	2.39E+00		U
Surface Water	563577001	11/30/2021 9:50	12/14/2021 12:02	Zirconium-95	pCi/L	-9.43E-01	7.34E-01	2.30E+00		U
Surface Water	566085001	12/28/2021 10:42	1/4/2022 17:21	Barium-140	pCi/L	1.13E+00	2.52E+00	8.27E+00		U
Surface Water	566085001	12/28/2021 10:42	1/4/2022 17:21	Beryllium-7	pCi/L	-2.26E+00	4.14E+00	1.33E+01		U
Surface Water	566085001	12/28/2021 10:42	1/4/2022 17:21	Cesium-134	pCi/L	-1.89E-01	4.93E-01	1.64E+00		U
Surface Water	566085001	12/28/2021 10:42	1/4/2022 17:21	Cesium-137	pCi/L	6.70E-01	5.04E-01	1.69E+00		U
Surface Water	566085001	12/28/2021 10:42	1/4/2022 17:21	Cobalt-57	pCi/L	-1.37E-01	4.30E-01	1.38E+00		U
Surface Water	566085001	12/28/2021 10:42	1/4/2022 17:21	Cobalt-58	pCi/L	3.85E-01	4.77E-01	1.65E+00		U
Surface Water	566085001	12/28/2021 10:42	1/4/2022 17:21	Cobalt-60	pCi/L	3.99E-01	5.10E-01	1.72E+00		U
Surface Water	566085001	12/28/2021 10:42	1/4/2022 17:21	Iodine-131	pCi/L	-1.40E+00	8.59E-01	2.73E+00		U
Surface Water	566085001	12/28/2021 10:42	1/4/2022 17:21	Iron-59	pCi/L	-6.96E-01	1.14E+00	3.14E+00		U
Surface Water	566085001	12/28/2021 10:42	1/4/2022 17:21	Lanthanum-140	pCi/L	5.16E-03	8.47E-01	2.47E+00		U
Surface Water	566085001	12/28/2021 10:42	1/4/2022 17:21	Manganese-54	pCi/L	-1.85E-02	7.59E-01	1.52E+00		U
Surface Water	566085001	12/28/2021 10:42	1/4/2022 17:21	Niobium-95	pCi/L	-2.17E-01	7.62E-01	1.61E+00		U
Surface Water	566085001	12/28/2021 10:42	1/4/2022 17:21	Potassium-40	pCi/L	1.40E+01	1.29E+01	1.53E+01		U
Surface Water	566085001	12/28/2021 10:42	1/4/2022 17:21	Zinc-65	pCi/L	1.21E+00	1.01E+00	3.49E+00		U
Surface Water	566085001	12/28/2021 10:42	1/4/2022 17:21	Zirconium-95	pCi/L	-1.27E+00	8.12E-01	2.57E+00		U

Sample Data For: "GW-1"

Matrix	Lab ID	Collect Date	Run Date	Parmname	Units	Result	Uncertainty	MDC	LLD	Qualifier
Ground Water	539605004	3/30/2021 8:32	4/5/2021 19:53	Barium-140	pCi/L	3.73E-01	2.96E+00	9.75E+00		U
Ground Water	539605004	3/30/2021 8:32	4/5/2021 19:53	Beryllium-7	pCi/L	-4.89E+00	5.19E+00	1.65E+01		U
Ground Water	539605004	3/30/2021 8:32	4/5/2021 19:53	Cesium-134	pCi/L	4.24E-01	7.14E-01	2.34E+00		U
Ground Water	539605004	3/30/2021 8:32	4/5/2021 19:53	Cesium-137	pCi/L	3.66E-01	6.54E-01	2.17E+00		U
Ground Water	539605004	3/30/2021 8:32	4/5/2021 19:53	Cobalt-57	pCi/L	-8.20E-01	5.33E-01	1.68E+00		U
Ground Water	539605004	3/30/2021 8:32	4/5/2021 19:53	Cobalt-58	pCi/L	-3.23E-02	6.58E-01	1.84E+00		U
Ground Water	539605004	3/30/2021 8:32	4/5/2021 19:53	Cobalt-60	pCi/L	-4.05E-01	6.36E-01	1.97E+00		U
Ground Water	539605004	3/30/2021 8:32	4/5/2021 19:53	Iodine-131	pCi/L	1.57E-03	1.03E+00	3.49E+00		U
Ground Water	539605004	3/30/2021 8:32	4/5/2021 19:53	Iron-59	pCi/L	-1.62E+00	1.32E+00	4.08E+00		U
Ground Water	539605004	3/30/2021 8:32	4/5/2021 19:53	Lanthanum-140	pCi/L	-2.35E-02	1.07E+00	3.42E+00		U
Ground Water	539605004	3/30/2021 8:32	4/5/2021 19:53	Manganese-54	pCi/L	3.98E-02	5.91E-01	2.01E+00		U
Ground Water	539605004	3/30/2021 8:32	4/5/2021 19:53	Niobium-95	pCi/L	1.35E+00	6.93E-01	2.41E+00		U
Ground Water	539605004	3/30/2021 8:32	4/5/2021 19:53	Potassium-40	pCi/L	-1.62E+01	1.21E+01	3.44E+01		U
Ground Water	539605004	3/30/2021 8:32	4/5/2021 19:53	Zinc-65	pCi/L	7.83E-02	1.49E+00	4.96E+00		U
Ground Water	539605004	3/30/2021 8:32	4/5/2021 19:53	Zirconium-95	pCi/L	-8.15E-01	1.14E+00	3.49E+00		U
Ground Water	548830004	6/29/2021 9:09	7/13/2021 10:53	Barium-140	pCi/L	-2.66E+00	3.16E+00	9.84E+00		U
Ground Water	548830004	6/29/2021 9:09	7/13/2021 10:53	Beryllium-7	pCi/L	-1.88E-01	4.20E+00	1.20E+01		U
Ground Water	548830004	6/29/2021 9:09	7/13/2021 10:53	Cesium-134	pCi/L	9.54E-02	4.41E-01	1.42E+00		U
Ground Water	548830004	6/29/2021 9:09	7/13/2021 10:53	Cesium-137	pCi/L	4.95E-02	4.01E-01	1.35E+00		U
Ground Water	548830004	6/29/2021 9:09	7/13/2021 10:53	Cobalt-57	pCi/L	-5.41E-01	3.24E-01	1.01E+00		U
Ground Water	548830004	6/29/2021 9:09	7/13/2021 10:53	Cobalt-58	pCi/L	-9.50E-02	4.20E-01	1.38E+00		U
Ground Water	548830004	6/29/2021 9:09	7/13/2021 10:53	Cobalt-60	pCi/L	6.59E-01	4.00E-01	1.42E+00		U
Ground Water	548830004	6/29/2021 9:09	7/13/2021 10:53	Iodine-131	pCi/L	1.31E+00	1.30E+00	4.38E+00		U
Ground Water	548830004	6/29/2021 9:09	7/13/2021 10:53	Iron-59	pCi/L	9.89E-02	9.19E-01	2.96E+00		U
Ground Water	548830004	6/29/2021 9:09	7/13/2021 10:53	Lanthanum-140	pCi/L	-3.75E+00	1.09E+00	3.03E+00		U
Ground Water	548830004	6/29/2021 9:09	7/13/2021 10:53	Manganese-54	pCi/L	-1.64E-01	3.93E-01	1.28E+00		U
Ground Water	548830004	6/29/2021 9:09	7/13/2021 10:53	Niobium-95	pCi/L	6.31E-01	4.33E-01	1.50E+00		U
Ground Water	548830004	6/29/2021 9:09	7/13/2021 10:53	Potassium-40	pCi/L	8.60E+00	1.16E+01	1.26E+01		U
Ground Water	548830004	6/29/2021 9:09	7/13/2021 10:53	Zinc-65	pCi/L	9.23E-01	8.63E-01	2.57E+00		U
Ground Water	548830004	6/29/2021 9:09	7/13/2021 10:53	Zirconium-95	pCi/L	1.59E+00	1.21E+00	2.56E+00		U

Ground Water	557326004	9/28/2021 8:38	10/7/2021 16:26	Barium-140	pCi/L	6.25E-01	2.62E+00	8.60E+00		U
Ground Water	557326004	9/28/2021 8:38	10/7/2021 16:26	Beryllium-7	pCi/L	5.84E-01	4.14E+00	1.37E+01		U
Ground Water	557326004	9/28/2021 8:38	10/7/2021 16:26	Cesium-134	pCi/L	-2.14E-01	5.10E-01	1.59E+00		U
Ground Water	557326004	9/28/2021 8:38	10/7/2021 16:26	Cesium-137	pCi/L	-2.11E-01	4.47E-01	1.41E+00		U
Ground Water	557326004	9/28/2021 8:38	10/7/2021 16:26	Cobalt-57	pCi/L	-1.63E-01	4.48E-01	1.40E+00		U
Ground Water	557326004	9/28/2021 8:38	10/7/2021 16:26	Cobalt-58	pCi/L	-3.11E-02	4.55E-01	1.44E+00		U
Ground Water	557326004	9/28/2021 8:38	10/7/2021 16:26	Cobalt-60	pCi/L	5.11E-01	4.78E-01	1.62E+00		U
Ground Water	557326004	9/28/2021 8:38	10/7/2021 16:26	Iodine-131	pCi/L	2.58E+00	1.09E+00	3.53E+00		U
Ground Water	557326004	9/28/2021 8:38	10/7/2021 16:26	Iron-59	pCi/L	-3.02E-01	1.16E+00	3.35E+00		U
Ground Water	557326004	9/28/2021 8:38	10/7/2021 16:26	Lanthanum-140	pCi/L	-6.06E-01	9.55E-01	3.00E+00		U
Ground Water	557326004	9/28/2021 8:38	10/7/2021 16:26	Manganese-54	pCi/L	-6.02E-01	4.50E-01	1.34E+00		U

Ground Water	557326004	9/28/2021 8:38	10/7/2021 16:26	Niobium-95	pCi/L	-2.16E-01	7.86E-01	1.73E+00		U
Ground Water	557326004	9/28/2021 8:38	10/7/2021 16:26	Potassium-40	pCi/L	-1.40E+01	9.36E+00	2.51E+01		U
Ground Water	557326004	9/28/2021 8:38	10/7/2021 16:26	Zinc-65	pCi/L	-3.44E-01	1.02E+00	2.93E+00		U
Ground Water	557326004	9/28/2021 8:38	10/7/2021 16:26	Zirconium-95	pCi/L	1.59E+00	7.82E-01	2.73E+00		U
Ground Water	566089004	12/28/2021 8:29	1/4/2022 18:09	Barium-140	pCi/L	2.37E+00	3.73E+00	1.28E+01		U
Ground Water	566089004	12/28/2021 8:29	1/4/2022 18:09	Beryllium-7	pCi/L	5.12E+00	6.08E+00	2.12E+01		U
Ground Water	566089004	12/28/2021 8:29	1/4/2022 18:09	Cesium-134	pCi/L	7.05E-01	8.00E-01	2.73E+00		U
Ground Water	566089004	12/28/2021 8:29	1/4/2022 18:09	Cesium-137	pCi/L	1.25E+00	6.65E-01	2.42E+00		U
Ground Water	566089004	12/28/2021 8:29	1/4/2022 18:09	Cobalt-57	pCi/L	2.19E+00	8.96E-01	1.90E+00		UI
Ground Water	566089004	12/28/2021 8:29	1/4/2022 18:09	Cobalt-58	pCi/L	3.97E-01	7.02E-01	2.36E+00		U
Ground Water	566089004	12/28/2021 8:29	1/4/2022 18:09	Cobalt-60	pCi/L	-4.72E-02	8.01E-01	2.66E+00		U
Ground Water	566089004	12/28/2021 8:29	1/4/2022 18:09	Iodine-131	pCi/L	5.10E-01	1.43E+00	4.51E+00		U
Ground Water	566089004	12/28/2021 8:29	1/4/2022 18:09	Iron-59	pCi/L	-6.26E-01	1.66E+00	5.50E+00		U
Ground Water	566089004	12/28/2021 8:29	1/4/2022 18:09	Lanthanum-140	pCi/L	1.22E+00	1.46E+00	5.10E+00		U
Ground Water	566089004	12/28/2021 8:29	1/4/2022 18:09	Manganese-54	pCi/L	1.62E+00	7.32E-01	2.67E+00		U
Ground Water	566089004	12/28/2021 8:29	1/4/2022 18:09	Niobium-95	pCi/L	-1.67E-01	7.63E-01	2.45E+00		U
Ground Water	566089004	12/28/2021 8:29	1/4/2022 18:09	Potassium-40	pCi/L	2.98E+01	1.68E+01	2.44E+01		UI
Ground Water	566089004	12/28/2021 8:29	1/4/2022 18:09	Zinc-65	pCi/L	1.39E-01	1.42E+00	4.84E+00		U
Ground Water	566089004	12/28/2021 8:29	1/4/2022 18:09	Zirconium-95	pCi/L	-2.04E+00	1.27E+00	3.69E+00		U

The data obtained from this website is the most accurate possible at the time of your query and based upon your specific inquiry. This data does not replace the Certificates of Analysis provided by GEL. Certificates of Analysis undergo an additional level of review before being sent to the client that is not possible to perform on the interactive data query provided by this site.

Notes:

1. LLDs are a-priori values.
2. MDCs are calculated a-posteriori values.
3. Gamma spectroscopy analysis results are calculated from a measurement using only one gamma energy line.
4. Air sample volumes are received in units of ft3. GEL converts the units and reports them as m3.

QUALIFIERS:

U Target isotope was analyzed for but not detected above the MDC or LLD.

UI Uncertain identification for gamma spectroscopy.
X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
M Reported result is less than the LLD and greater than the MDC.
DL DL MDC > LLD.

Sample Data For: "GW-2"

Matrix	Lab ID	Collect Date	Run Date	Parmname	Units	Result	Uncertainty	MDC	LLD	Qualifier
Ground Water	539605005	3/30/2021 8:50	4/5/2021 19:55	Barium-140	pCi/L	8.57E-01	2.89E+00	9.77E+00		U
Ground Water	539605005	3/30/2021 8:50	4/5/2021 19:55	Beryllium-7	pCi/L	-1.55E+00	6.72E+00	1.69E+01		U
Ground Water	539605005	3/30/2021 8:50	4/5/2021 19:55	Cesium-134	pCi/L	8.98E-01	5.93E-01	2.09E+00		U
Ground Water	539605005	3/30/2021 8:50	4/5/2021 19:55	Cesium-137	pCi/L	4.66E-01	6.21E-01	2.12E+00		U
Ground Water	539605005	3/30/2021 8:50	4/5/2021 19:55	Cobalt-57	pCi/L	-1.35E-01	5.72E-01	1.86E+00		U
Ground Water	539605005	3/30/2021 8:50	4/5/2021 19:55	Cobalt-58	pCi/L	1.13E-01	6.17E-01	2.02E+00		U
Ground Water	539605005	3/30/2021 8:50	4/5/2021 19:55	Cobalt-60	pCi/L	-3.44E-01	6.18E-01	2.00E+00		U
Ground Water	539605005	3/30/2021 8:50	4/5/2021 19:55	Iodine-131	pCi/L	-9.38E-01	1.05E+00	3.51E+00		U
Ground Water	539605005	3/30/2021 8:50	4/5/2021 19:55	Iron-59	pCi/L	-9.89E-01	1.17E+00	3.48E+00		U
Ground Water	539605005	3/30/2021 8:50	4/5/2021 19:55	Lanthanum-140	pCi/L	-1.01E-01	1.25E+00	3.47E+00		U
Ground Water	539605005	3/30/2021 8:50	4/5/2021 19:55	Manganese-54	pCi/L	8.07E-01	5.50E-01	1.93E+00		U
Ground Water	539605005	3/30/2021 8:50	4/5/2021 19:55	Niobium-95	pCi/L	1.24E-01	5.97E-01	1.97E+00		U
Ground Water	539605005	3/30/2021 8:50	4/5/2021 19:55	Potassium-40	pCi/L	-3.04E+00	1.34E+01	3.61E+01		U
Ground Water	539605005	3/30/2021 8:50	4/5/2021 19:55	Zinc-65	pCi/L	1.65E-01	1.44E+00	4.09E+00		U
Ground Water	539605005	3/30/2021 8:50	4/5/2021 19:55	Zirconium-95	pCi/L	7.90E-01	1.02E+00	3.47E+00		U
Ground Water	548830005	6/29/2021 7:55	7/13/2021 10:53	Barium-140	pCi/L	-1.59E+00	2.70E+00	8.76E+00		U
Ground Water	548830005	6/29/2021 7:55	7/13/2021 10:53	Beryllium-7	pCi/L	-5.73E-01	3.63E+00	1.08E+01		U
Ground Water	548830005	6/29/2021 7:55	7/13/2021 10:53	Cesium-134	pCi/L	-7.70E-03	4.11E-01	1.32E+00		U
Ground Water	548830005	6/29/2021 7:55	7/13/2021 10:53	Cesium-137	pCi/L	9.09E-01	3.83E-01	1.35E+00		U
Ground Water	548830005	6/29/2021 7:55	7/13/2021 10:53	Cobalt-57	pCi/L	-3.99E-01	3.35E-01	1.07E+00		U
Ground Water	548830005	6/29/2021 7:55	7/13/2021 10:53	Cobalt-58	pCi/L	-4.49E-01	3.82E-01	1.16E+00		U
Ground Water	548830005	6/29/2021 7:55	7/13/2021 10:53	Cobalt-60	pCi/L	-8.80E-01	6.43E-01	1.38E+00		U
Ground Water	548830005	6/29/2021 7:55	7/13/2021 10:53	Iodine-131	pCi/L	2.09E+00	1.18E+00	4.17E+00		U
Ground Water	548830005	6/29/2021 7:55	7/13/2021 10:53	Iron-59	pCi/L	-5.74E-01	8.06E-01	2.63E+00		U
Ground Water	548830005	6/29/2021 7:55	7/13/2021 10:53	Lanthanum-140	pCi/L	-3.14E-01	9.23E-01	2.96E+00		U

Ground Water	548830005	6/29/2021 7:55	7/13/2021 10:53	Manganese-54	pCi/L	3.88E-01	3.94E-01	1.31E+00	U
Ground Water	548830005	6/29/2021 7:55	7/13/2021 10:53	Niobium-95	pCi/L	-1.32E-01	4.10E-01	1.30E+00	U
Ground Water	548830005	6/29/2021 7:55	7/13/2021 10:53	Potassium-40	pCi/L	-1.11E+01	9.29E+00	1.93E+01	U
Ground Water	548830005	6/29/2021 7:55	7/13/2021 10:53	Zinc-65	pCi/L	5.12E-01	7.15E-01	2.48E+00	U
Ground Water	548830005	6/29/2021 7:55	7/13/2021 10:53	Zirconium-95	pCi/L	-5.39E-01	6.89E-01	2.15E+00	U
Ground Water	557326005	9/28/2021 7:54	10/7/2021 16:26	Barium-140	pCi/L	2.18E+00	4.03E+00	1.25E+01	U
Ground Water	557326005	9/28/2021 7:54	10/7/2021 16:26	Beryllium-7	pCi/L	-3.92E+00	5.72E+00	1.89E+01	U
Ground Water	557326005	9/28/2021 7:54	10/7/2021 16:26	Cesium-134	pCi/L	7.46E-01	6.92E-01	2.38E+00	U
Ground Water	557326005	9/28/2021 7:54	10/7/2021 16:26	Cesium-137	pCi/L	-4.90E-01	7.36E-01	2.36E+00	U
Ground Water	557326005	9/28/2021 7:54	10/7/2021 16:26	Cobalt-57	pCi/L	4.69E-01	5.47E-01	1.86E+00	U
Ground Water	557326005	9/28/2021 7:54	10/7/2021 16:26	Cobalt-58	pCi/L	7.77E-01	7.06E-01	2.42E+00	U
Ground Water	557326005	9/28/2021 7:54	10/7/2021 16:26	Cobalt-60	pCi/L	-5.27E-01	6.46E-01	2.02E+00	U
Ground Water	557326005	9/28/2021 7:54	10/7/2021 16:26	Iodine-131	pCi/L	2.17E-01	1.63E+00	5.08E+00	U
Ground Water	557326005	9/28/2021 7:54	10/7/2021 16:26	Iron-59	pCi/L	-3.21E+00	1.45E+00	4.29E+00	U
Ground Water	557326005	9/28/2021 7:54	10/7/2021 16:26	Lanthanum-140	pCi/L	2.31E+00	2.75E+00	4.46E+00	U
Ground Water	557326005	9/28/2021 7:54	10/7/2021 16:26	Manganese-54	pCi/L	5.08E-01	6.63E-01	2.23E+00	U
Ground Water	557326005	9/28/2021 7:54	10/7/2021 16:26	Niobium-95	pCi/L	4.86E-01	7.74E-01	2.59E+00	U
Ground Water	557326005	9/28/2021 7:54	10/7/2021 16:26	Potassium-40	pCi/L	1.82E+00	1.60E+01	3.69E+01	U
Ground Water	557326005	9/28/2021 7:54	10/7/2021 16:26	Zinc-65	pCi/L	-9.75E-01	1.36E+00	4.40E+00	U
Ground Water	557326005	9/28/2021 7:54	10/7/2021 16:26	Zirconium-95	pCi/L	1.68E-01	1.19E+00	3.91E+00	U
Ground Water	566089005	12/28/2021 8:05	1/5/2022 18:59	Barium-140	pCi/L	2.74E+00	3.43E+00	1.15E+01	U
Ground Water	566089005	12/28/2021 8:05	1/5/2022 18:59	Beryllium-7	pCi/L	-1.48E+00	5.67E+00	1.84E+01	U
Ground Water	566089005	12/28/2021 8:05	1/5/2022 18:59	Cesium-134	pCi/L	2.18E-01	6.70E-01	2.18E+00	U
Ground Water	566089005	12/28/2021 8:05	1/5/2022 18:59	Cesium-137	pCi/L	8.80E-01	6.60E-01	2.26E+00	U
Ground Water	566089005	12/28/2021 8:05	1/5/2022 18:59	Cobalt-57	pCi/L	-4.95E-01	5.91E-01	1.98E+00	U
Ground Water	566089005	12/28/2021 8:05	1/5/2022 18:59	Cobalt-58	pCi/L	-2.63E-01	6.55E-01	2.05E+00	U
Ground Water	566089005	12/28/2021 8:05	1/5/2022 18:59	Cobalt-60	pCi/L	8.03E-01	6.61E-01	2.39E+00	U
Ground Water	566089005	12/28/2021 8:05	1/5/2022 18:59	Iodine-131	pCi/L	9.96E-01	1.26E+00	4.27E+00	U
Ground Water	566089005	12/28/2021 8:05	1/5/2022 18:59	Iron-59	pCi/L	4.56E-01	1.24E+00	4.28E+00	U
Ground Water	566089005	12/28/2021 8:05	1/5/2022 18:59	Lanthanum-140	pCi/L	1.38E+00	1.04E+00	3.80E+00	U
Ground Water	566089005	12/28/2021 8:05	1/5/2022 18:59	Manganese-54	pCi/L	-4.11E-01	6.63E-01	2.05E+00	U
Ground Water	566089005	12/28/2021 8:05	1/5/2022 18:59	Niobium-95	pCi/L	-1.64E+00	1.30E+00	2.23E+00	U
Ground Water	566089005	12/28/2021 8:05	1/5/2022 18:59	Potassium-40	pCi/L	-2.18E+01	1.40E+01	3.23E+01	U

Ground Water	566089005	12/28/2021 8:05	1/5/2022 18:59	Zinc-65	pCi/L	1.39E+00	1.38E+00	4.63E+00		U
Ground Water	566089005	12/28/2021 8:05	1/5/2022 18:59	Zirconium-95	pCi/L	-2.62E-01	1.15E+00	3.66E+00		U

Sample Data For: "GW-3"

Matrix	Lab ID	Collect Date	Run Date	Parmname	Units	Result	Uncertainty	MDC	LLD	Qualifier
Ground Water	539605001	3/30/2021 9:52	4/5/2021 19:52	Barium-140	pCi/L	6.15E+00	5.86E+00	1.34E+01		U
Ground Water	539605001	3/30/2021 9:52	4/5/2021 19:52	Beryllium-7	pCi/L	9.87E+00	6.95E+00	2.48E+01		U
Ground Water	539605001	3/30/2021 9:52	4/5/2021 19:52	Cesium-134	pCi/L	-8.94E-01	8.45E-01	2.54E+00		U
Ground Water	539605001	3/30/2021 9:52	4/5/2021 19:52	Cesium-137	pCi/L	1.02E+00	9.05E-01	3.15E+00		U
Ground Water	539605001	3/30/2021 9:52	4/5/2021 19:52	Cobalt-57	pCi/L	1.34E+00	6.75E-01	2.35E+00		U
Ground Water	539605001	3/30/2021 9:52	4/5/2021 19:52	Cobalt-58	pCi/L	-1.70E-02	8.50E-01	2.75E+00		U
Ground Water	539605001	3/30/2021 9:52	4/5/2021 19:52	Cobalt-60	pCi/L	-8.37E-02	8.16E-01	2.70E+00		U
Ground Water	539605001	3/30/2021 9:52	4/5/2021 19:52	Iodine-131	pCi/L	-2.33E+00	1.39E+00	3.96E+00		U
Ground Water	539605001	3/30/2021 9:52	4/5/2021 19:52	Iron-59	pCi/L	-2.58E+00	1.61E+00	4.85E+00		U
Ground Water	539605001	3/30/2021 9:52	4/5/2021 19:52	Lanthanum-140	pCi/L	9.24E-01	1.53E+00	5.27E+00		U
Ground Water	539605001	3/30/2021 9:52	4/5/2021 19:52	Manganese-54	pCi/L	1.12E+00	8.71E-01	3.03E+00		U
Ground Water	539605001	3/30/2021 9:52	4/5/2021 19:52	Niobium-95	pCi/L	-4.32E-01	9.03E-01	2.86E+00		U
Ground Water	539605001	3/30/2021 9:52	4/5/2021 19:52	Potassium-40	pCi/L	-2.08E+01	1.66E+01	4.84E+01		U
Ground Water	539605001	3/30/2021 9:52	4/5/2021 19:52	Zinc-65	pCi/L	1.09E+00	1.79E+00	5.68E+00		U
Ground Water	539605001	3/30/2021 9:52	4/5/2021 19:52	Zirconium-95	pCi/L	-4.32E-02	1.56E+00	5.07E+00		U
Ground Water	548830001	6/29/2021 10:24	7/13/2021 10:51	Barium-140	pCi/L	3.41E+00	2.98E+00	1.00E+01		U
Ground Water	548830001	6/29/2021 10:24	7/13/2021 10:51	Beryllium-7	pCi/L	6.56E+00	7.66E+00	1.25E+01		U
Ground Water	548830001	6/29/2021 10:24	7/13/2021 10:51	Cesium-134	pCi/L	1.27E+00	4.32E-01	1.59E+00		U
Ground Water	548830001	6/29/2021 10:24	7/13/2021 10:51	Cesium-137	pCi/L	3.61E-01	4.69E-01	1.38E+00		U
Ground Water	548830001	6/29/2021 10:24	7/13/2021 10:51	Cobalt-57	pCi/L	3.03E-01	3.59E-01	1.18E+00		U
Ground Water	548830001	6/29/2021 10:24	7/13/2021 10:51	Cobalt-58	pCi/L	1.91E-01	4.10E-01	1.40E+00		U
Ground Water	548830001	6/29/2021 10:24	7/13/2021 10:51	Cobalt-60	pCi/L	3.08E-01	4.70E-01	1.56E+00		U
Ground Water	548830001	6/29/2021 10:24	7/13/2021 10:51	Iodine-131	pCi/L	-9.44E-01	1.33E+00	4.37E+00		U
Ground Water	548830001	6/29/2021 10:24	7/13/2021 10:51	Iron-59	pCi/L	3.60E-01	1.04E+00	3.46E+00		U
Ground Water	548830001	6/29/2021 10:24	7/13/2021 10:51	Lanthanum-140	pCi/L	6.42E-01	1.21E+00	3.63E+00		U
Ground Water	548830001	6/29/2021 10:24	7/13/2021 10:51	Manganese-54	pCi/L	1.48E-01	3.92E-01	1.33E+00		U
Ground Water	548830001	6/29/2021 10:24	7/13/2021 10:51	Niobium-95	pCi/L	-1.63E-01	4.94E-01	1.45E+00		U

Ground Water	548830001	6/29/2021 10:24	7/13/2021 10:51	Potassium-40	pCi/L	-1.03E+01	9.43E+00	2.04E+01	U
Ground Water	548830001	6/29/2021 10:24	7/13/2021 10:51	Zinc-65	pCi/L	-1.93E+00	9.40E-01	2.81E+00	U
Ground Water	548830001	6/29/2021 10:24	7/13/2021 10:51	Zirconium-95	pCi/L	-5.20E-02	7.36E-01	2.48E+00	U
Ground Water	557326001	9/28/2021 11:37	10/7/2021 16:25	Barium-140	pCi/L	1.96E+00	2.36E+00	8.07E+00	U
Ground Water	557326001	9/28/2021 11:37	10/7/2021 16:25	Beryllium-7	pCi/L	-2.06E+00	3.55E+00	1.18E+01	U
Ground Water	557326001	9/28/2021 11:37	10/7/2021 16:25	Cesium-134	pCi/L	8.73E-01	4.36E-01	1.53E+00	U
Ground Water	557326001	9/28/2021 11:37	10/7/2021 16:25	Cesium-137	pCi/L	3.35E-01	8.00E-01	1.40E+00	U
Ground Water	557326001	9/28/2021 11:37	10/7/2021 16:25	Cobalt-57	pCi/L	7.75E-01	3.90E-01	1.32E+00	U
Ground Water	557326001	9/28/2021 11:37	10/7/2021 16:25	Cobalt-58	pCi/L	5.05E-01	4.08E-01	1.39E+00	U
Ground Water	557326001	9/28/2021 11:37	10/7/2021 16:25	Cobalt-60	pCi/L	4.08E-01	4.25E-01	1.49E+00	U
Ground Water	557326001	9/28/2021 11:37	10/7/2021 16:25	Iodine-131	pCi/L	7.42E-01	9.12E-01	3.17E+00	U
Ground Water	557326001	9/28/2021 11:37	10/7/2021 16:25	Iron-59	pCi/L	-4.08E-01	8.25E-01	2.56E+00	U
Ground Water	557326001	9/28/2021 11:37	10/7/2021 16:25	Lanthanum-140	pCi/L	-1.08E+00	7.64E-01	2.34E+00	U
Ground Water	557326001	9/28/2021 11:37	10/7/2021 16:25	Manganese-54	pCi/L	-4.40E-01	3.83E-01	1.19E+00	U
Ground Water	557326001	9/28/2021 11:37	10/7/2021 16:25	Niobium-95	pCi/L	3.92E-01	4.38E-01	1.48E+00	U
Ground Water	557326001	9/28/2021 11:37	10/7/2021 16:25	Potassium-40	pCi/L	-1.06E+01	1.16E+01	2.26E+01	U
Ground Water	557326001	9/28/2021 11:37	10/7/2021 16:25	Zinc-65	pCi/L	4.67E-01	1.19E+00	2.73E+00	U
Ground Water	557326001	9/28/2021 11:37	10/7/2021 16:25	Zirconium-95	pCi/L	9.90E-01	7.09E-01	2.45E+00	U
Ground Water	566089001	12/28/2021 10:19	1/4/2022 17:29	Barium-140	pCi/L	-3.45E+00	2.83E+00	7.81E+00	U
Ground Water	566089001	12/28/2021 10:19	1/4/2022 17:29	Beryllium-7	pCi/L	3.58E+00	4.37E+00	1.50E+01	U
Ground Water	566089001	12/28/2021 10:19	1/4/2022 17:29	Cesium-134	pCi/L	-6.65E-01	6.34E-01	1.93E+00	U
Ground Water	566089001	12/28/2021 10:19	1/4/2022 17:29	Cesium-137	pCi/L	5.68E-01	4.97E-01	1.70E+00	U
Ground Water	566089001	12/28/2021 10:19	1/4/2022 17:29	Cobalt-57	pCi/L	-2.49E-01	4.63E-01	1.50E+00	U
Ground Water	566089001	12/28/2021 10:19	1/4/2022 17:29	Cobalt-58	pCi/L	-2.03E-01	5.09E-01	1.59E+00	U
Ground Water	566089001	12/28/2021 10:19	1/4/2022 17:29	Cobalt-60	pCi/L	6.99E-01	5.34E-01	1.90E+00	U
Ground Water	566089001	12/28/2021 10:19	1/4/2022 17:29	Iodine-131	pCi/L	-4.98E-01	8.42E-01	2.80E+00	U
Ground Water	566089001	12/28/2021 10:19	1/4/2022 17:29	Iron-59	pCi/L	3.36E-01	1.13E+00	3.84E+00	U
Ground Water	566089001	12/28/2021 10:19	1/4/2022 17:29	Lanthanum-140	pCi/L	-1.53E-01	8.57E-01	2.74E+00	U
Ground Water	566089001	12/28/2021 10:19	1/4/2022 17:29	Manganese-54	pCi/L	2.04E-01	5.11E-01	1.66E+00	U
Ground Water	566089001	12/28/2021 10:19	1/4/2022 17:29	Niobium-95	pCi/L	-1.35E-01	5.62E-01	1.79E+00	U
Ground Water	566089001	12/28/2021 10:19	1/4/2022 17:29	Potassium-40	pCi/L	4.58E+00	1.60E+01	1.84E+01	U
Ground Water	566089001	12/28/2021 10:19	1/4/2022 17:29	Zinc-65	pCi/L	-7.67E-01	1.06E+00	3.40E+00	U
Ground Water	566089001	12/28/2021 10:19	1/4/2022 17:29	Zirconium-95	pCi/L	1.05E+00	9.33E-01	3.15E+00	U

Sample Data For: "GW-4"

Matrix	Lab ID	Collect Date	Run Date	Parmname	Units	Result	Uncertainty	MDC	LLD	Qualifier
Ground Water	539605003	3/30/2021 11:20	4/5/2021 19:53	Barium-140	pCi/L	1.13E+01	4.09E+00	9.88E+00		UI
Ground Water	539605003	3/30/2021 11:20	4/5/2021 19:53	Beryllium-7	pCi/L	-5.29E+00	5.28E+00	1.72E+01		U
Ground Water	539605003	3/30/2021 11:20	4/5/2021 19:53	Cesium-134	pCi/L	8.94E-01	7.19E-01	2.55E+00		U
Ground Water	539605003	3/30/2021 11:20	4/5/2021 19:53	Cesium-137	pCi/L	1.72E+00	1.06E+00	2.36E+00		U
Ground Water	539605003	3/30/2021 11:20	4/5/2021 19:53	Cobalt-57	pCi/L	4.64E-01	4.66E-01	1.57E+00		U
Ground Water	539605003	3/30/2021 11:20	4/5/2021 19:53	Cobalt-58	pCi/L	-1.11E+00	6.64E-01	2.05E+00		U
Ground Water	539605003	3/30/2021 11:20	4/5/2021 19:53	Cobalt-60	pCi/L	-1.06E+00	7.75E-01	2.36E+00		U
Ground Water	539605003	3/30/2021 11:20	4/5/2021 19:53	Iodine-131	pCi/L	2.03E+00	1.11E+00	3.80E+00		U
Ground Water	539605003	3/30/2021 11:20	4/5/2021 19:53	Iron-59	pCi/L	1.47E+00	1.46E+00	4.97E+00		U
Ground Water	539605003	3/30/2021 11:20	4/5/2021 19:53	Lanthanum-140	pCi/L	2.37E-01	1.22E+00	4.00E+00		U
Ground Water	539605003	3/30/2021 11:20	4/5/2021 19:53	Manganese-54	pCi/L	-1.42E+00	6.78E-01	2.05E+00		U
Ground Water	539605003	3/30/2021 11:20	4/5/2021 19:53	Niobium-95	pCi/L	-2.65E-01	6.70E-01	2.01E+00		U
Ground Water	539605003	3/30/2021 11:20	4/5/2021 19:53	Potassium-40	pCi/L	1.35E+01	1.35E+01	3.93E+01		U
Ground Water	539605003	3/30/2021 11:20	4/5/2021 19:53	Zinc-65	pCi/L	1.75E-01	1.78E+00	5.00E+00		U
Ground Water	539605003	3/30/2021 11:20	4/5/2021 19:53	Zirconium-95	pCi/L	-9.76E-01	1.32E+00	3.70E+00		U
Ground Water	548830003	6/29/2021 12:12	7/13/2021 10:52	Barium-140	pCi/L	1.23E+00	3.33E+00	1.11E+01		U
Ground Water	548830003	6/29/2021 12:12	7/13/2021 10:52	Beryllium-7	pCi/L	3.97E+00	4.19E+00	1.37E+01		U
Ground Water	548830003	6/29/2021 12:12	7/13/2021 10:52	Cesium-134	pCi/L	-2.40E-01	5.25E-01	1.66E+00		U
Ground Water	548830003	6/29/2021 12:12	7/13/2021 10:52	Cesium-137	pCi/L	-1.91E-01	4.49E-01	1.45E+00		U
Ground Water	548830003	6/29/2021 12:12	7/13/2021 10:52	Cobalt-57	pCi/L	-1.55E-01	3.74E-01	1.21E+00		U
Ground Water	548830003	6/29/2021 12:12	7/13/2021 10:52	Cobalt-58	pCi/L	2.29E-01	4.76E-01	1.56E+00		U
Ground Water	548830003	6/29/2021 12:12	7/13/2021 10:52	Cobalt-60	pCi/L	3.35E-01	4.29E-01	1.48E+00		U
Ground Water	548830003	6/29/2021 12:12	7/13/2021 10:52	Iodine-131	pCi/L	-4.98E-01	1.41E+00	4.75E+00		U
Ground Water	548830003	6/29/2021 12:12	7/13/2021 10:52	Iron-59	pCi/L	-1.15E-01	8.73E-01	2.93E+00		U
Ground Water	548830003	6/29/2021 12:12	7/13/2021 10:52	Lanthanum-140	pCi/L	4.44E-01	9.58E-01	3.22E+00		U
Ground Water	548830003	6/29/2021 12:12	7/13/2021 10:52	Manganese-54	pCi/L	2.61E-01	4.78E-01	1.56E+00		U
Ground Water	548830003	6/29/2021 12:12	7/13/2021 10:52	Niobium-95	pCi/L	2.44E-01	4.57E-01	1.50E+00		U
Ground Water	548830003	6/29/2021 12:12	7/13/2021 10:52	Potassium-40	pCi/L	9.30E+00	1.13E+01	1.40E+01		U
Ground Water	548830003	6/29/2021 12:12	7/13/2021 10:52	Zinc-65	pCi/L	1.03E+00	8.08E-01	2.86E+00		U
Ground Water	548830003	6/29/2021 12:12	7/13/2021 10:52	Zirconium-95	pCi/L	1.44E-01	8.23E-01	2.68E+00		U

Ground Water	557326003	9/28/2021 10:15	10/7/2021 16:26	Barium-140	pCi/L	-8.09E+00	4.20E+00	8.10E+00	U
Ground Water	557326003	9/28/2021 10:15	10/7/2021 16:26	Beryllium-7	pCi/L	-2.90E-01	3.98E+00	1.31E+01	U
Ground Water	557326003	9/28/2021 10:15	10/7/2021 16:26	Cesium-134	pCi/L	2.37E-01	4.85E-01	1.57E+00	U
Ground Water	557326003	9/28/2021 10:15	10/7/2021 16:26	Cesium-137	pCi/L	3.14E-01	4.57E-01	1.51E+00	U
Ground Water	557326003	9/28/2021 10:15	10/7/2021 16:26	Cobalt-57	pCi/L	5.32E-01	3.96E-01	1.33E+00	U
Ground Water	557326003	9/28/2021 10:15	10/7/2021 16:26	Cobalt-58	pCi/L	-1.60E-01	4.05E-01	1.35E+00	U
Ground Water	557326003	9/28/2021 10:15	10/7/2021 16:26	Cobalt-60	pCi/L	-2.72E-01	5.12E-01	1.61E+00	U
Ground Water	557326003	9/28/2021 10:15	10/7/2021 16:26	Iodine-131	pCi/L	1.39E-01	9.51E-01	3.21E+00	U
Ground Water	557326003	9/28/2021 10:15	10/7/2021 16:26	Iron-59	pCi/L	-1.29E+00	1.04E+00	3.25E+00	U
Ground Water	557326003	9/28/2021 10:15	10/7/2021 16:26	Lanthanum-140	pCi/L	-2.59E-01	8.60E-01	2.84E+00	U
Ground Water	557326003	9/28/2021 10:15	10/7/2021 16:26	Manganese-54	pCi/L	8.41E-01	4.73E-01	1.69E+00	U
Ground Water	557326003	9/28/2021 10:15	10/7/2021 16:26	Niobium-95	pCi/L	7.76E-01	4.77E-01	1.56E+00	U
Ground Water	557326003	9/28/2021 10:15	10/7/2021 16:26	Potassium-40	pCi/L	-4.29E+00	9.59E+00	2.17E+01	U
Ground Water	557326003	9/28/2021 10:15	10/7/2021 16:26	Zinc-65	pCi/L	1.03E+00	8.99E-01	3.13E+00	U
Ground Water	557326003	9/28/2021 10:15	10/7/2021 16:26	Zirconium-95	pCi/L	2.05E-01	8.41E-01	2.69E+00	U
Ground Water	566089003	12/28/2021 12:30	1/4/2022 18:09	Barium-140	pCi/L	-1.04E+00	2.18E+00	7.08E+00	U
Ground Water	566089003	12/28/2021 12:30	1/4/2022 18:09	Beryllium-7	pCi/L	1.44E+01	9.92E+00	1.10E+01	UI
Ground Water	566089003	12/28/2021 12:30	1/4/2022 18:09	Cesium-134	pCi/L	2.16E-01	4.91E-01	1.61E+00	U
Ground Water	566089003	12/28/2021 12:30	1/4/2022 18:09	Cesium-137	pCi/L	1.01E+00	4.55E-01	1.62E+00	U
Ground Water	566089003	12/28/2021 12:30	1/4/2022 18:09	Cobalt-57	pCi/L	1.64E-02	4.06E-01	1.32E+00	U
Ground Water	566089003	12/28/2021 12:30	1/4/2022 18:09	Cobalt-58	pCi/L	1.02E-01	4.54E-01	1.47E+00	U
Ground Water	566089003	12/28/2021 12:30	1/4/2022 18:09	Cobalt-60	pCi/L	-2.10E-01	4.54E-01	1.46E+00	U
Ground Water	566089003	12/28/2021 12:30	1/4/2022 18:09	Iodine-131	pCi/L	-3.95E-01	7.99E-01	2.67E+00	U
Ground Water	566089003	12/28/2021 12:30	1/4/2022 18:09	Iron-59	pCi/L	6.48E-01	9.37E-01	3.25E+00	U
Ground Water	566089003	12/28/2021 12:30	1/4/2022 18:09	Lanthanum-140	pCi/L	-1.32E+00	8.47E-01	2.50E+00	U
Ground Water	566089003	12/28/2021 12:30	1/4/2022 18:09	Manganese-54	pCi/L	-7.50E-02	4.71E-01	1.50E+00	U
Ground Water	566089003	12/28/2021 12:30	1/4/2022 18:09	Niobium-95	pCi/L	-2.20E-01	7.60E-01	1.55E+00	U
Ground Water	566089003	12/28/2021 12:30	1/4/2022 18:09	Potassium-40	pCi/L	-4.28E+00	9.00E+00	2.42E+01	U
Ground Water	566089003	12/28/2021 12:30	1/4/2022 18:09	Zinc-65	pCi/L	-1.04E+00	8.96E-01	2.84E+00	U
Ground Water	566089003	12/28/2021 12:30	1/4/2022 18:09	Zirconium-95	pCi/L	-5.44E-01	7.64E-01	2.38E+00	U

Sample Data For: "GW-5"

Matrix	Lab ID	Collect Date	Run Date	Parmname	Units	Result	Uncertainty	MDC	LLD	Qualifier
Ground Water	539605002	3/30/2021 11:04	4/5/2021 19:53	Barium-140	pCi/L	9.90E+00	4.85E+00	1.10E+01		U
Ground Water	539605002	3/30/2021 11:04	4/5/2021 19:53	Beryllium-7	pCi/L	-1.43E+01	7.36E+00	1.63E+01		U
Ground Water	539605002	3/30/2021 11:04	4/5/2021 19:53	Cesium-134	pCi/L	1.04E+00	7.16E-01	2.57E+00		U
Ground Water	539605002	3/30/2021 11:04	4/5/2021 19:53	Cesium-137	pCi/L	4.00E-01	6.79E-01	2.37E+00		U
Ground Water	539605002	3/30/2021 11:04	4/5/2021 19:53	Cobalt-57	pCi/L	-6.02E-01	4.78E-01	1.46E+00		U
Ground Water	539605002	3/30/2021 11:04	4/5/2021 19:53	Cobalt-58	pCi/L	5.86E-01	6.51E-01	2.28E+00		U
Ground Water	539605002	3/30/2021 11:04	4/5/2021 19:53	Cobalt-60	pCi/L	-2.38E-02	7.44E-01	2.39E+00		U
Ground Water	539605002	3/30/2021 11:04	4/5/2021 19:53	Iodine-131	pCi/L	-3.66E-01	1.00E+00	3.25E+00		U
Ground Water	539605002	3/30/2021 11:04	4/5/2021 19:53	Iron-59	pCi/L	-1.57E+00	1.53E+00	3.98E+00		U
Ground Water	539605002	3/30/2021 11:04	4/5/2021 19:53	Lanthanum-140	pCi/L	1.34E-03	1.19E+00	4.00E+00		U
Ground Water	539605002	3/30/2021 11:04	4/5/2021 19:53	Manganese-54	pCi/L	-5.35E-01	6.63E-01	2.13E+00		U
Ground Water	539605002	3/30/2021 11:04	4/5/2021 19:53	Niobium-95	pCi/L	-1.68E+00	1.64E+00	2.55E+00		U
Ground Water	539605002	3/30/2021 11:04	4/5/2021 19:53	Potassium-40	pCi/L	-3.51E+01	1.12E+01	2.90E+01		U
Ground Water	539605002	3/30/2021 11:04	4/5/2021 19:53	Zinc-65	pCi/L	1.75E-01	1.48E+00	4.89E+00		U
Ground Water	539605002	3/30/2021 11:04	4/5/2021 19:53	Zirconium-95	pCi/L	-3.04E-01	1.16E+00	3.85E+00		U
Ground Water	548830002	6/29/2021 11:28	7/13/2021 10:52	Barium-140	pCi/L	2.40E+00	3.99E+00	1.32E+01		U
Ground Water	548830002	6/29/2021 11:28	7/13/2021 10:52	Beryllium-7	pCi/L	-3.70E+00	5.07E+00	1.62E+01		U
Ground Water	548830002	6/29/2021 11:28	7/13/2021 10:52	Cesium-134	pCi/L	-1.68E-01	6.66E-01	2.24E+00		U
Ground Water	548830002	6/29/2021 11:28	7/13/2021 10:52	Cesium-137	pCi/L	1.15E-02	5.95E-01	1.90E+00		U
Ground Water	548830002	6/29/2021 11:28	7/13/2021 10:52	Cobalt-57	pCi/L	-8.35E-03	3.79E-01	1.19E+00		U
Ground Water	548830002	6/29/2021 11:28	7/13/2021 10:52	Cobalt-58	pCi/L	1.97E-01	6.29E-01	2.16E+00		U
Ground Water	548830002	6/29/2021 11:28	7/13/2021 10:52	Cobalt-60	pCi/L	-7.81E+00	2.53E+00	2.09E+00		U
Ground Water	548830002	6/29/2021 11:28	7/13/2021 10:52	Iodine-131	pCi/L	-6.10E-01	1.65E+00	5.41E+00		U
Ground Water	548830002	6/29/2021 11:28	7/13/2021 10:52	Iron-59	pCi/L	-1.27E-02	1.48E+00	4.90E+00		U
Ground Water	548830002	6/29/2021 11:28	7/13/2021 10:52	Lanthanum-140	pCi/L	4.51E-01	1.48E+00	4.87E+00		U
Ground Water	548830002	6/29/2021 11:28	7/13/2021 10:52	Manganese-54	pCi/L	-5.34E-01	5.70E-01	1.87E+00		U
Ground Water	548830002	6/29/2021 11:28	7/13/2021 10:52	Niobium-95	pCi/L	7.02E-01	1.18E+00	2.09E+00		U
Ground Water	548830002	6/29/2021 11:28	7/13/2021 10:52	Potassium-40	pCi/L	-1.47E+01	1.63E+01	2.87E+01		U
Ground Water	548830002	6/29/2021 11:28	7/13/2021 10:52	Zinc-65	pCi/L	1.66E+00	1.45E+00	4.51E+00		U
Ground Water	548830002	6/29/2021 11:28	7/13/2021 10:52	Zirconium-95	pCi/L	-6.92E-01	1.18E+00	3.66E+00		U
Ground Water	557326002	9/28/2021 11:05	10/7/2021 16:25	Barium-140	pCi/L	1.48E+00	2.14E+00	7.26E+00		U
Ground Water	557326002	9/28/2021 11:05	10/7/2021 16:25	Beryllium-7	pCi/L	5.64E-01	3.29E+00	1.11E+01		U

Ground Water	557326002	9/28/2021 11:05	10/7/2021 16:25	Cesium-134	pCi/L	2.55E-01	4.27E-01	1.42E+00		U
Ground Water	557326002	9/28/2021 11:05	10/7/2021 16:25	Cesium-137	pCi/L	2.67E-01	4.06E-01	1.36E+00		U
Ground Water	557326002	9/28/2021 11:05	10/7/2021 16:25	Cobalt-57	pCi/L	7.02E-01	3.32E-01	1.12E+00		U
Ground Water	557326002	9/28/2021 11:05	10/7/2021 16:25	Cobalt-58	pCi/L	3.16E-01	3.54E-01	1.19E+00		U
Ground Water	557326002	9/28/2021 11:05	10/7/2021 16:25	Cobalt-60	pCi/L	3.96E-01	4.00E-01	1.41E+00		U
Ground Water	557326002	9/28/2021 11:05	10/7/2021 16:25	Iodine-131	pCi/L	1.04E+00	9.41E-01	2.22E+00		U
Ground Water	557326002	9/28/2021 11:05	10/7/2021 16:25	Iron-59	pCi/L	-1.05E+00	7.90E-01	2.51E+00		U
Ground Water	557326002	9/28/2021 11:05	10/7/2021 16:25	Lanthanum-140	pCi/L	-6.19E-01	7.45E-01	2.33E+00		U
Ground Water	557326002	9/28/2021 11:05	10/7/2021 16:25	Manganese-54	pCi/L	-7.03E-01	3.73E-01	1.09E+00		U
Ground Water	557326002	9/28/2021 11:05	10/7/2021 16:25	Niobium-95	pCi/L	-8.76E-02	4.17E-01	1.34E+00		U
Ground Water	557326002	9/28/2021 11:05	10/7/2021 16:25	Potassium-40	pCi/L	1.09E+01	1.19E+01	1.21E+01		U
Ground Water	557326002	9/28/2021 11:05	10/7/2021 16:25	Zinc-65	pCi/L	-3.46E-01	1.04E+00	2.17E+00		U
Ground Water	557326002	9/28/2021 11:05	10/7/2021 16:25	Zirconium-95	pCi/L	-1.31E-02	7.11E-01	2.30E+00		U
Ground Water	566089002	12/28/2021 11:00	1/4/2022 18:08	Barium-140	pCi/L	3.01E-01	2.94E+00	9.40E+00		U
Ground Water	566089002	12/28/2021 11:00	1/4/2022 18:08	Beryllium-7	pCi/L	6.30E+00	4.82E+00	1.63E+01		U
Ground Water	566089002	12/28/2021 11:00	1/4/2022 18:08	Cesium-134	pCi/L	1.62E-01	6.07E-01	2.04E+00		U
Ground Water	566089002	12/28/2021 11:00	1/4/2022 18:08	Cesium-137	pCi/L	1.16E-01	5.43E-01	1.85E+00		U
Ground Water	566089002	12/28/2021 11:00	1/4/2022 18:08	Cobalt-57	pCi/L	-1.05E+00	5.41E-01	1.62E+00		U
Ground Water	566089002	12/28/2021 11:00	1/4/2022 18:08	Cobalt-58	pCi/L	6.59E-02	5.42E-01	1.81E+00		U
Ground Water	566089002	12/28/2021 11:00	1/4/2022 18:08	Cobalt-60	pCi/L	-1.45E-01	5.60E-01	1.86E+00		U
Ground Water	566089002	12/28/2021 11:00	1/4/2022 18:08	Iodine-131	pCi/L	1.30E-01	1.03E+00	3.40E+00		U
Ground Water	566089002	12/28/2021 11:00	1/4/2022 18:08	Iron-59	pCi/L	3.83E-01	1.33E+00	3.84E+00		U
Ground Water	566089002	12/28/2021 11:00	1/4/2022 18:08	Lanthanum-140	pCi/L	-1.91E+00	1.10E+00	3.26E+00		U
Ground Water	566089002	12/28/2021 11:00	1/4/2022 18:08	Manganese-54	pCi/L	-1.57E+00	9.76E-01	1.85E+00		U
Ground Water	566089002	12/28/2021 11:00	1/4/2022 18:08	Niobium-95	pCi/L	-1.26E-01	5.86E-01	1.94E+00		U
Ground Water	566089002	12/28/2021 11:00	1/4/2022 18:08	Potassium-40	pCi/L	1.43E+01	1.35E+01	2.00E+01		U
Ground Water	566089002	12/28/2021 11:00	1/4/2022 18:08	Zinc-65	pCi/L	-2.80E-01	1.31E+00	3.63E+00		U
Ground Water	566089002	12/28/2021 11:00	1/4/2022 18:08	Zirconium-95	pCi/L	-1.53E+00	9.85E-01	3.06E+00		U

Sample Data For: "SS"

Matrix	Lab ID	Collect Date	Run Date	Parmname	Units	Result	Uncertainty	MDC	LLD	Qualifier
Sediment	565867001	12/21/2021 12:00	12/29/2021 11:32	Barium-140	pCi/kg	-1.48E+01	3.41E+01	1.16E+02		U
Sediment	565867001	12/21/2021 12:00	12/29/2021 11:32	Beryllium-7	pCi/kg	7.26E+01	5.46E+01	2.04E+02		U
Sediment	565867001	12/21/2021 12:00	12/29/2021 11:32	Cesium-134	pCi/kg	6.54E-01	8.32E+00	2.77E+01		U
Sediment	565867001	12/21/2021 12:00	12/29/2021 11:32	Cesium-137	pCi/kg	-4.82E+00	6.84E+00	2.23E+01		U
Sediment	565867001	12/21/2021 12:00	12/29/2021 11:32	Cobalt-57	pCi/kg	-2.96E+00	5.42E+00	1.83E+01		U
Sediment	565867001	12/21/2021 12:00	12/29/2021 11:32	Cobalt-58	pCi/kg	2.88E+01	1.47E+01	2.45E+01		UI
Sediment	565867001	12/21/2021 12:00	12/29/2021 11:32	Cobalt-60	pCi/kg	-1.01E+00	8.92E+00	2.90E+01		U
Sediment	565867001	12/21/2021 12:00	12/29/2021 11:32	Iodine-131	pCi/kg	-1.88E+01	1.32E+01	4.20E+01		U
Sediment	565867001	12/21/2021 12:00	12/29/2021 11:32	Iron-59	pCi/kg	2.04E+01	1.85E+01	6.57E+01		U
Sediment	565867001	12/21/2021 12:00	12/29/2021 11:32	Lanthanum-140	pCi/kg	-1.30E+01	1.03E+01	2.76E+01		U
Sediment	565867001	12/21/2021 12:00	12/29/2021 11:32	Manganese-54	pCi/kg	3.00E+00	7.90E+00	2.66E+01		U
Sediment	565867001	12/21/2021 12:00	12/29/2021 11:32	Niobium-95	pCi/kg	-5.44E+00	7.62E+00	2.44E+01		U
Sediment	565867001	12/21/2021 12:00	12/29/2021 11:32	Potassium-40	pCi/kg	1.54E+04	4.54E+02	2.29E+02		
Sediment	565867001	12/21/2021 12:00	12/29/2021 11:32	Zinc-65	pCi/kg	-4.50E+00	2.31E+01	6.61E+01		U
Sediment	565867001	12/21/2021 12:00	12/29/2021 11:32	Zirconium-95	pCi/kg	-3.62E+00	1.33E+01	4.37E+01		U

Notes:

1. LLDs are a-priori values.
2. MDCs are calculated a-posteriori values.
3. Gamma spectroscopy analysis results are calculated from a measurement using only one gamma energy line.
4. Air sample volumes are received in units of ft3. GEL converts the units and reports them as m3.

QUALIFIERS:

U Target isotope was analyzed for but not detected above the MDC or LLD.
UI Uncertain identification for gamma spectroscopy.

X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
M Reported result is less than the LLD and greater than the MDC.
DL DL MDC > LLD.

Sample Data For: "SS-1"

Matrix	Lab ID	Collect Date	Run Date	Parmname	Units	Result	Uncertainty	MDC	LLD	Qualifier
Sediment	532044002	1/12/2021 10:31	1/15/2021 11:31	Barium-140	pCi/kg	5.83E+01	4.95E+01	1.80E+02		U
Sediment	532044002	1/12/2021 10:31	1/15/2021 11:31	Beryllium-7	pCi/kg	3.71E+02	1.10E+02	4.39E+02		U
Sediment	532044002	1/12/2021 10:31	1/15/2021 11:31	Cesium-134	pCi/kg	2.68E+01	1.48E+01	5.49E+01	1.50E+02	U
Sediment	532044002	1/12/2021 10:31	1/15/2021 11:31	Cesium-137	pCi/kg	1.14E+02	2.59E+01	3.74E+01	1.80E+02	M
Sediment	532044002	1/12/2021 10:31	1/15/2021 11:31	Cobalt-57	pCi/kg	6.78E+00	7.40E+00	2.70E+01		U
Sediment	532044002	1/12/2021 10:31	1/15/2021 11:31	Cobalt-58	pCi/kg	-2.16E+00	1.21E+01	3.85E+01		U
Sediment	532044002	1/12/2021 10:31	1/15/2021 11:31	Cobalt-60	pCi/kg	6.41E+00	1.52E+01	4.88E+01		U
Sediment	532044002	1/12/2021 10:31	1/15/2021 11:31	Iodine-131	pCi/kg	6.71E+00	1.34E+01	4.84E+01		U
Sediment	532044002	1/12/2021 10:31	1/15/2021 11:31	Iron-59	pCi/kg	-1.79E+01	2.66E+01	8.43E+01		U
Sediment	532044002	1/12/2021 10:31	1/15/2021 11:31	Lanthanum-140	pCi/kg	1.26E+00	1.63E+01	5.31E+01		U
Sediment	532044002	1/12/2021 10:31	1/15/2021 11:31	Manganese-54	pCi/kg	3.78E+01	1.24E+01	5.12E+01		U
Sediment	532044002	1/12/2021 10:31	1/15/2021 11:31	Niobium-95	pCi/kg	9.23E+00	1.25E+01	3.95E+01		U
Sediment	532044002	1/12/2021 10:31	1/15/2021 11:31	Potassium-40	pCi/kg	6.89E+03	4.78E+02	2.57E+02		
Sediment	532044002	1/12/2021 10:31	1/15/2021 11:31	Zinc-65	pCi/kg	-1.29E+01	3.11E+01	8.69E+01		U
Sediment	532044002	1/12/2021 10:31	1/15/2021 11:31	Zirconium-95	pCi/kg	-4.96E+00	2.21E+01	7.10E+01		U
Sediment	549194002	7/6/2021 9:49	7/12/2021 12:35	Barium-140	pCi/kg	2.54E+01	5.35E+01	1.88E+02		U
Sediment	549194002	7/6/2021 9:49	7/12/2021 12:35	Beryllium-7	pCi/kg	7.45E+02	2.58E+02	2.85E+02		UI
Sediment	549194002	7/6/2021 9:49	7/12/2021 12:35	Cesium-134	pCi/kg	1.25E+00	1.36E+01	4.51E+01		U
Sediment	549194002	7/6/2021 9:49	7/12/2021 12:35	Cesium-137	pCi/kg	1.80E+01	1.19E+01	4.39E+01		U
Sediment	549194002	7/6/2021 9:49	7/12/2021 12:35	Cobalt-57	pCi/kg	2.88E+00	8.07E+00	2.81E+01		U
Sediment	549194002	7/6/2021 9:49	7/12/2021 12:35	Cobalt-58	pCi/kg	1.65E+01	1.09E+01	4.05E+01		U
Sediment	549194002	7/6/2021 9:49	7/12/2021 12:35	Cobalt-60	pCi/kg	-1.13E+01	1.16E+01	3.04E+01		U
Sediment	549194002	7/6/2021 9:49	7/12/2021 12:35	Iodine-131	pCi/kg	1.44E+01	1.70E+01	6.24E+01		U
Sediment	549194002	7/6/2021 9:49	7/12/2021 12:35	Iron-59	pCi/kg	-3.11E+01	2.12E+01	6.19E+01		U
Sediment	549194002	7/6/2021 9:49	7/12/2021 12:35	Lanthanum-140	pCi/kg	-9.17E+00	1.10E+01	2.93E+01		U
Sediment	549194002	7/6/2021 9:49	7/12/2021 12:35	Manganese-54	pCi/kg	-1.93E+00	1.37E+01	3.93E+01		U

Sediment	549194002	7/6/2021 9:49	7/12/2021 12:35	Niobium-95	pCi/kg	8.62E-01	1.42E+01	4.07E+01		U
Sediment	549194002	7/6/2021 9:49	7/12/2021 12:35	Potassium-40	pCi/kg	6.95E+03	4.34E+02	3.05E+02		
Sediment	549194002	7/6/2021 9:49	7/12/2021 12:35	Zinc-65	pCi/kg	4.13E+01	2.67E+01	9.13E+01		U
Sediment	549194002	7/6/2021 9:49	7/12/2021 12:35	Zirconium-95	pCi/kg	-1.20E+01	2.00E+01	6.26E+01		U

Sample Data For: "SS-2"

Matrix	Lab ID	Collect Date	Run Date	Parmname	Units	Result	Uncertainty	MDC	LLD	Qualifier
Sediment	532044004	1/12/2021 11:06	1/15/2021 11:25	Barium-140	pCi/kg	5.81E+01	2.82E+01	1.15E+02		U
Sediment	532044004	1/12/2021 11:06	1/15/2021 11:25	Beryllium-7	pCi/kg	1.00E+02	5.88E+01	2.35E+02		U
Sediment	532044004	1/12/2021 11:06	1/15/2021 11:25	Cesium-134	pCi/kg	2.07E+01	1.07E+01	3.34E+01	1.50E+02	U
Sediment	532044004	1/12/2021 11:06	1/15/2021 11:25	Cesium-137	pCi/kg	-2.34E+00	6.74E+00	2.23E+01	1.80E+02	U
Sediment	532044004	1/12/2021 11:06	1/15/2021 11:25	Cobalt-57	pCi/kg	1.03E+00	5.25E+00	1.92E+01		U
Sediment	532044004	1/12/2021 11:06	1/15/2021 11:25	Cobalt-58	pCi/kg	-6.61E+00	7.71E+00	2.35E+01		U
Sediment	532044004	1/12/2021 11:06	1/15/2021 11:25	Cobalt-60	pCi/kg	5.92E+00	8.68E+00	3.22E+01		U
Sediment	532044004	1/12/2021 11:06	1/15/2021 11:25	Iodine-131	pCi/kg	-1.83E+00	8.15E+00	2.93E+01		U
Sediment	532044004	1/12/2021 11:06	1/15/2021 11:25	Iron-59	pCi/kg	-1.36E+01	1.51E+01	4.23E+01		U
Sediment	532044004	1/12/2021 11:06	1/15/2021 11:25	Lanthanum-140	pCi/kg	-1.88E+01	1.27E+01	3.33E+01		U
Sediment	532044004	1/12/2021 11:06	1/15/2021 11:25	Manganese-54	pCi/kg	2.56E+00	6.89E+00	2.42E+01		U
Sediment	532044004	1/12/2021 11:06	1/15/2021 11:25	Niobium-95	pCi/kg	5.39E-01	7.37E+00	2.26E+01		U
Sediment	532044004	1/12/2021 11:06	1/15/2021 11:25	Potassium-40	pCi/kg	6.64E+02	1.91E+02	3.46E+02		
Sediment	532044004	1/12/2021 11:06	1/15/2021 11:25	Zinc-65	pCi/kg	-3.32E+01	1.68E+01	3.61E+01		U
Sediment	532044004	1/12/2021 11:06	1/15/2021 11:25	Zirconium-95	pCi/kg	1.52E+01	1.02E+01	4.10E+01		U
Sediment	549194004	7/6/2021 10:21	7/12/2021 19:13	Barium-140	pCi/kg	4.49E+01	4.45E+01	1.66E+02		U
Sediment	549194004	7/6/2021 10:21	7/12/2021 19:13	Beryllium-7	pCi/kg	4.02E+02	1.46E+02	2.01E+02		
Sediment	549194004	7/6/2021 10:21	7/12/2021 19:13	Cesium-134	pCi/kg	1.72E+01	1.07E+01	3.52E+01		U
Sediment	549194004	7/6/2021 10:21	7/12/2021 19:13	Cesium-137	pCi/kg	-7.88E+00	9.85E+00	3.26E+01		U
Sediment	549194004	7/6/2021 10:21	7/12/2021 19:13	Cobalt-57	pCi/kg	-4.05E+00	5.97E+00	2.09E+01		U
Sediment	549194004	7/6/2021 10:21	7/12/2021 19:13	Cobalt-58	pCi/kg	1.33E+01	1.14E+01	3.99E+01		U
Sediment	549194004	7/6/2021 10:21	7/12/2021 19:13	Cobalt-60	pCi/kg	-3.59E+00	1.17E+01	3.85E+01		U
Sediment	549194004	7/6/2021 10:21	7/12/2021 19:13	Iodine-131	pCi/kg	1.27E+01	1.28E+01	4.95E+01		U
Sediment	549194004	7/6/2021 10:21	7/12/2021 19:13	Iron-59	pCi/kg	-1.18E+01	2.24E+01	6.96E+01		U
Sediment	549194004	7/6/2021 10:21	7/12/2021 19:13	Lanthanum-140	pCi/kg	-2.10E+01	1.77E+01	4.77E+01		U

Sediment	549194004	7/6/2021 10:21	7/12/2021 19:13	Manganese-54	pCi/kg	-7.94E+00	9.72E+00	3.07E+01		U
Sediment	549194004	7/6/2021 10:21	7/12/2021 19:13	Niobium-95	pCi/kg	-3.65E+00	8.92E+00	2.98E+01		U
Sediment	549194004	7/6/2021 10:21	7/12/2021 19:13	Potassium-40	pCi/kg	1.60E+03	2.38E+02	3.46E+02		
Sediment	549194004	7/6/2021 10:21	7/12/2021 19:13	Zinc-65	pCi/kg	1.97E+01	1.86E+01	7.11E+01		U
Sediment	549194004	7/6/2021 10:21	7/12/2021 19:13	Zirconium-95	pCi/kg	3.14E+01	1.65E+01	5.76E+01		U

Sample Data For: "SS-3"

Matrix	Lab ID	Collect Date	Run Date	Parmname	Units	Result	Uncertainty	MDC	LLD	Qualifier
Sediment	532044003	1/12/2021 10:43	1/15/2021 10:56	Barium-140	pCi/kg	2.72E-01	2.67E+01	9.27E+01		U
Sediment	532044003	1/12/2021 10:43	1/15/2021 10:56	Beryllium-7	pCi/kg	1.15E+02	8.07E+01	2.07E+02		U
Sediment	532044003	1/12/2021 10:43	1/15/2021 10:56	Cesium-134	pCi/kg	7.03E+00	7.58E+00	2.79E+01	1.50E+02	U
Sediment	532044003	1/12/2021 10:43	1/15/2021 10:56	Cesium-137	pCi/kg	8.03E+00	7.87E+00	2.91E+01	1.80E+02	U
Sediment	532044003	1/12/2021 10:43	1/15/2021 10:56	Cobalt-57	pCi/kg	1.07E+01	5.34E+00	2.09E+01		U
Sediment	532044003	1/12/2021 10:43	1/15/2021 10:56	Cobalt-58	pCi/kg	2.03E+00	7.41E+00	2.54E+01		U
Sediment	532044003	1/12/2021 10:43	1/15/2021 10:56	Cobalt-60	pCi/kg	6.51E+00	7.00E+00	2.68E+01		U
Sediment	532044003	1/12/2021 10:43	1/15/2021 10:56	Iodine-131	pCi/kg	1.32E+00	8.86E+00	3.22E+01		U
Sediment	532044003	1/12/2021 10:43	1/15/2021 10:56	Iron-59	pCi/kg	7.96E+00	1.36E+01	4.99E+01		U
Sediment	532044003	1/12/2021 10:43	1/15/2021 10:56	Lanthanum-140	pCi/kg	8.64E+00	1.01E+01	3.77E+01		U
Sediment	532044003	1/12/2021 10:43	1/15/2021 10:56	Manganese-54	pCi/kg	6.91E-01	7.63E+00	2.55E+01		U
Sediment	532044003	1/12/2021 10:43	1/15/2021 10:56	Niobium-95	pCi/kg	-2.97E+00	9.89E+00	3.16E+01		U
Sediment	532044003	1/12/2021 10:43	1/15/2021 10:56	Potassium-40	pCi/kg	9.09E+02	2.00E+02	2.51E+02		
Sediment	532044003	1/12/2021 10:43	1/15/2021 10:56	Zinc-65	pCi/kg	-8.59E+00	1.43E+01	4.56E+01		U
Sediment	532044003	1/12/2021 10:43	1/15/2021 10:56	Zirconium-95	pCi/kg	1.18E+01	1.39E+01	5.02E+01		U
Sediment	549194003	7/6/2021 10:00	7/12/2021 19:12	Barium-140	pCi/kg	-8.12E+01	4.58E+01	1.05E+02		U
Sediment	549194003	7/6/2021 10:00	7/12/2021 19:12	Beryllium-7	pCi/kg	1.87E+02	9.75E+01	3.94E+02		U
Sediment	549194003	7/6/2021 10:00	7/12/2021 19:12	Cesium-134	pCi/kg	1.10E+01	1.08E+01	4.11E+01		U
Sediment	549194003	7/6/2021 10:00	7/12/2021 19:12	Cesium-137	pCi/kg	-4.07E+00	9.67E+00	2.96E+01		U
Sediment	549194003	7/6/2021 10:00	7/12/2021 19:12	Cobalt-57	pCi/kg	9.29E+00	6.53E+00	2.65E+01		U
Sediment	549194003	7/6/2021 10:00	7/12/2021 19:12	Cobalt-58	pCi/kg	5.60E-01	9.77E+00	3.57E+01		U
Sediment	549194003	7/6/2021 10:00	7/12/2021 19:12	Cobalt-60	pCi/kg	-1.37E+00	1.03E+01	3.85E+01		U
Sediment	549194003	7/6/2021 10:00	7/12/2021 19:12	Iodine-131	pCi/kg	2.09E+00	1.83E+01	5.72E+01		U
Sediment	549194003	7/6/2021 10:00	7/12/2021 19:12	Iron-59	pCi/kg	-3.39E+01	2.29E+01	5.99E+01		U

Sediment	549194003	7/6/2021 10:00	7/12/2021 19:12	Lanthanum-140	pCi/kg	1.27E+01	1.68E+01	6.24E+01		U
Sediment	549194003	7/6/2021 10:00	7/12/2021 19:12	Manganese-54	pCi/kg	8.73E+00	9.64E+00	3.62E+01		U
Sediment	549194003	7/6/2021 10:00	7/12/2021 19:12	Niobium-95	pCi/kg	-7.04E+00	1.07E+01	3.47E+01		U
Sediment	549194003	7/6/2021 10:00	7/12/2021 19:12	Potassium-40	pCi/kg	1.39E+03	2.68E+02	3.33E+02		
Sediment	549194003	7/6/2021 10:00	7/12/2021 19:12	Zinc-65	pCi/kg	1.26E+01	2.20E+01	7.85E+01		U
Sediment	549194003	7/6/2021 10:00	7/12/2021 19:12	Zirconium-95	pCi/kg	2.26E+01	1.85E+01	7.15E+01		U

Sample Data For: "SS-4"

Matrix	Lab ID	Collect Date	Run Date	Parmname	Units	Result	Uncertainty	MDC	LLD	Qualifier
Sediment	532044001	1/12/2021 10:01	1/15/2021 10:54	Barium-140	pCi/kg	-2.07E+01	3.20E+01	1.07E+02		U
Sediment	532044001	1/12/2021 10:01	1/15/2021 10:54	Beryllium-7	pCi/kg	7.41E+01	7.54E+01	2.81E+02		U
Sediment	532044001	1/12/2021 10:01	1/15/2021 10:54	Cesium-134	pCi/kg	4.96E+01	1.37E+01	4.36E+01	1.50E+02	UI
Sediment	532044001	1/12/2021 10:01	1/15/2021 10:54	Cesium-137	pCi/kg	2.35E+01	1.12E+01	4.29E+01	1.80E+02	U
Sediment	532044001	1/12/2021 10:01	1/15/2021 10:54	Cobalt-57	pCi/kg	-5.66E+00	7.10E+00	2.46E+01		U
Sediment	532044001	1/12/2021 10:01	1/15/2021 10:54	Cobalt-58	pCi/kg	-2.27E+01	1.05E+01	2.93E+01		U
Sediment	532044001	1/12/2021 10:01	1/15/2021 10:54	Cobalt-60	pCi/kg	-1.25E+01	1.09E+01	3.30E+01		U
Sediment	532044001	1/12/2021 10:01	1/15/2021 10:54	Iodine-131	pCi/kg	-1.05E+01	1.17E+01	3.60E+01		U
Sediment	532044001	1/12/2021 10:01	1/15/2021 10:54	Iron-59	pCi/kg	4.56E+00	1.93E+01	6.81E+01		U
Sediment	532044001	1/12/2021 10:01	1/15/2021 10:54	Lanthanum-140	pCi/kg	-1.69E+01	1.42E+01	4.08E+01		U
Sediment	532044001	1/12/2021 10:01	1/15/2021 10:54	Manganese-54	pCi/kg	1.04E+01	9.42E+00	3.40E+01		U
Sediment	532044001	1/12/2021 10:01	1/15/2021 10:54	Niobium-95	pCi/kg	2.50E+01	1.18E+01	4.08E+01		U
Sediment	532044001	1/12/2021 10:01	1/15/2021 10:54	Potassium-40	pCi/kg	9.77E+03	4.68E+02	3.15E+02		
Sediment	532044001	1/12/2021 10:01	1/15/2021 10:54	Zinc-65	pCi/kg	1.60E+01	2.36E+01	7.70E+01		U
Sediment	532044001	1/12/2021 10:01	1/15/2021 10:54	Zirconium-95	pCi/kg	5.18E+01	2.61E+01	6.28E+01		U
Sediment	549194001	7/6/2021 8:59	8/9/2021 6:21	Barium-140	pCi/kg	1.21E+02	2.70E+02	9.81E+02		U
Sediment	549194001	7/6/2021 8:59	8/9/2021 6:21	Beryllium-7	pCi/kg	9.20E+02	4.11E+02	4.49E+02		UI
Sediment	549194001	7/6/2021 8:59	8/9/2021 6:21	Cesium-134	pCi/kg	2.16E+01	2.12E+01	7.66E+01		U
Sediment	549194001	7/6/2021 8:59	8/9/2021 6:21	Cesium-137	pCi/kg	4.36E+01	2.00E+01	3.13E+01		UI
Sediment	549194001	7/6/2021 8:59	8/9/2021 6:21	Cobalt-57	pCi/kg	6.93E-01	7.89E+00	2.92E+01		U
Sediment	549194001	7/6/2021 8:59	8/9/2021 6:21	Cobalt-58	pCi/kg	-3.24E+01	1.79E+01	4.59E+01		U
Sediment	549194001	7/6/2021 8:59	8/9/2021 6:21	Cobalt-60	pCi/kg	6.00E+00	1.50E+01	5.34E+01		U
Sediment	549194001	7/6/2021 8:59	8/9/2021 6:21	Iodine-131	pCi/kg	3.80E+01	1.80E+02	6.67E+02		U

Sediment	549194001	7/6/2021 8:59	8/9/2021 6:21	Iron-59	pCi/kg	-3.81E+01	6.24E+01	1.76E+02		U
Sediment	549194001	7/6/2021 8:59	8/9/2021 6:21	Lanthanum-140	pCi/kg	-1.35E+01	8.98E+01	2.88E+02		U
Sediment	549194001	7/6/2021 8:59	8/9/2021 6:21	Manganese-54	pCi/kg	3.03E+01	1.45E+01	5.44E+01		U
Sediment	549194001	7/6/2021 8:59	8/9/2021 6:21	Niobium-95	pCi/kg	1.53E+02	5.78E+01	5.16E+01		UI
Sediment	549194001	7/6/2021 8:59	8/9/2021 6:21	Potassium-40	pCi/kg	9.30E+03	7.14E+02	4.85E+02		
Sediment	549194001	7/6/2021 8:59	8/9/2021 6:21	Zinc-65	pCi/kg	-2.12E+01	3.58E+01	1.16E+02		U
Sediment	549194001	7/6/2021 8:59	8/9/2021 6:21	Zirconium-95	pCi/kg	1.60E+01	3.55E+01	1.25E+02		U

Sample Data For: "FP-1"

Matrix	Lab ID	Collect Date	Run Date	Parmname	Units	Result	Uncertainty	MDC	LLD	Qualifier
Food Product	564474001	12/7/2021 12:00	12/10/2021 18:56	Barium-140	pCi/kg	1.76E+01	1.85E+01	5.99E+01		U
Food Product	564474001	12/7/2021 12:00	12/10/2021 18:56	Cesium-134	pCi/kg	-5.24E+00	4.80E+00	1.33E+01		U
Food Product	564474001	12/7/2021 12:00	12/10/2021 18:56	Cesium-137	pCi/kg	4.96E+00	5.21E+00	1.82E+01		U
Food Product	564474001	12/7/2021 12:00	12/10/2021 18:56	Cobalt-57	pCi/kg	-2.41E+00	3.56E+00	1.18E+01		U
Food Product	564474001	12/7/2021 12:00	12/10/2021 18:56	Cobalt-58	pCi/kg	6.50E+00	5.00E+00	1.80E+01		U
Food Product	564474001	12/7/2021 12:00	12/10/2021 18:56	Cobalt-60	pCi/kg	3.38E+00	5.19E+00	1.88E+01		U
Food Product	564474001	12/7/2021 12:00	12/10/2021 18:56	Iodine-131	pCi/kg	7.71E+00	5.43E+00	1.89E+01		U
Food Product	564474001	12/7/2021 12:00	12/10/2021 18:56	Iron-59	pCi/kg	-3.09E+00	9.15E+00	2.99E+01		U
Food Product	564474001	12/7/2021 12:00	12/10/2021 18:56	Lanthanum-140	pCi/kg	-5.94E+00	4.10E+00	7.98E+00		U
Food Product	564474001	12/7/2021 12:00	12/10/2021 18:56	Manganese-54	pCi/kg	4.49E+00	3.94E+00	1.43E+01		U
Food Product	564474001	12/7/2021 12:00	12/10/2021 18:56	Niobium-95	pCi/kg	-2.94E-01	6.21E+00	1.76E+01		U
Food Product	564474001	12/7/2021 12:00	12/10/2021 18:56	Potassium-40	pCi/kg	3.34E+03	2.28E+02	1.23E+02		
Food Product	564474001	12/7/2021 12:00	12/10/2021 18:56	Zinc-65	pCi/kg	-5.37E+00	1.10E+01	3.55E+01		U
Food Product	564474001	12/7/2021 12:00	12/10/2021 18:56	Zirconium-95	pCi/kg	8.39E+00	9.28E+00	3.22E+01		U

The data obtained from this website is the most accurate possible at the time of your query and based upon your specific inquiry. This data does not replace the Certificates of Analysis provided by GEL. Certificates of Analysis undergo an additional level of review before being sent to the client that is not possible to perform on the interactive data query provided by this site.

Notes:

1. LLDs are a-priori values.
2. MDCs are calculated a-posteriori values.
3. Gamma spectroscopy analysis results are calculated from a measurement using only one gamma energy line.
4. Air sample volumes are received in units of ft3. GEL converts the units and reports them as m3.

QUALIFIERS:

U Target isotope was analyzed for but not detected above the MDC or LLD.
UI Uncertain identification for gamma spectroscopy.
X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.

M Reported result is less than the LLD and greater than the MDC.
DL DL MDC > LLD.

Sample Data For: "FP-2"

Matrix	Lab ID	Collect Date	Run Date	Parmname	Units	Result	Uncertainty	MDC	LLD	Qualifier
Food Product	549193001	7/6/2021 12:00	7/9/2021 16:27	Barium-140	pCi/kg	9.38E+00	8.32E+00	2.99E+01		U
Food Product	549193001	7/6/2021 12:00	7/9/2021 16:27	Cesium-134	pCi/kg	-1.31E+00	2.60E+00	7.94E+00		U
Food Product	549193001	7/6/2021 12:00	7/9/2021 16:27	Cesium-137	pCi/kg	7.17E-01	2.54E+00	8.46E+00		U
Food Product	549193001	7/6/2021 12:00	7/9/2021 16:27	Cobalt-57	pCi/kg	-1.91E-01	1.63E+00	5.26E+00		U
Food Product	549193001	7/6/2021 12:00	7/9/2021 16:27	Cobalt-58	pCi/kg	2.66E+00	2.30E+00	7.59E+00		U
Food Product	549193001	7/6/2021 12:00	7/9/2021 16:27	Cobalt-60	pCi/kg	5.98E+00	4.09E+00	9.57E+00		U
Food Product	549193001	7/6/2021 12:00	7/9/2021 16:27	Iodine-131	pCi/kg	2.63E+00	2.46E+00	8.88E+00		U
Food Product	549193001	7/6/2021 12:00	7/9/2021 16:27	Iron-59	pCi/kg	1.08E+01	5.10E+00	2.00E+01		U
Food Product	549193001	7/6/2021 12:00	7/9/2021 16:27	Lanthanum-140	pCi/kg	-2.57E+00	3.19E+00	9.18E+00		U
Food Product	549193001	7/6/2021 12:00	7/9/2021 16:27	Manganese-54	pCi/kg	-2.77E-01	2.43E+00	7.69E+00		U
Food Product	549193001	7/6/2021 12:00	7/9/2021 16:27	Niobium-95	pCi/kg	1.97E+00	2.45E+00	8.42E+00		U
Food Product	549193001	7/6/2021 12:00	7/9/2021 16:27	Potassium-40	pCi/kg	2.71E+03	1.36E+02	7.50E+01		
Food Product	549193001	7/6/2021 12:00	7/9/2021 16:27	Zinc-65	pCi/kg	-6.41E+00	5.87E+00	1.79E+01		U
Food Product	549193001	7/6/2021 12:00	7/9/2021 16:27	Zirconium-95	pCi/kg	-3.31E+00	3.73E+00	1.09E+01		U

Sample Data For: "F-1"

Matrix	Lab ID	Collect Date	Run Date	Parmname	Units	Result	Uncertainty	MDC	LLD	Qualifier
Catfish	544531001	5/11/2021 12:00	5/21/2021 5:37	Barium-140	pCi/kg	-4.81E+00	1.16E+01	3.58E+01		U
Catfish	544531001	5/11/2021 12:00	5/21/2021 5:37	Beryllium-7	pCi/kg	1.95E+01	1.60E+01	5.54E+01		U
Catfish	544531001	5/11/2021 12:00	5/21/2021 5:37	Cesium-134	pCi/kg	-2.48E+00	2.28E+00	6.96E+00		U
Catfish	544531001	5/11/2021 12:00	5/21/2021 5:37	Cesium-137	pCi/kg	7.86E-01	1.87E+00	6.46E+00		U
Catfish	544531001	5/11/2021 12:00	5/21/2021 5:37	Cobalt-57	pCi/kg	-3.87E-01	1.33E+00	4.21E+00		U
Catfish	544531001	5/11/2021 12:00	5/21/2021 5:37	Cobalt-58	pCi/kg	-2.36E+00	2.15E+00	5.87E+00		U
Catfish	544531001	5/11/2021 12:00	5/21/2021 5:37	Cobalt-60	pCi/kg	-7.68E-01	1.95E+00	6.24E+00		U
Catfish	544531001	5/11/2021 12:00	5/21/2021 5:37	Iodine-131	pCi/kg	-2.30E+00	3.42E+00	1.08E+01		U
Catfish	544531001	5/11/2021 12:00	5/21/2021 5:37	Iron-59	pCi/kg	9.25E+00	5.19E+00	1.74E+01		U
Catfish	544531001	5/11/2021 12:00	5/21/2021 5:37	Lanthanum-140	pCi/kg	2.18E+00	4.24E+00	1.46E+01		U
Catfish	544531001	5/11/2021 12:00	5/21/2021 5:37	Manganese-54	pCi/kg	2.52E+00	1.87E+00	6.75E+00		U
Catfish	544531001	5/11/2021 12:00	5/21/2021 5:37	Niobium-95	pCi/kg	-1.49E+00	2.07E+00	6.53E+00		U
Catfish	544531001	5/11/2021 12:00	5/21/2021 5:37	Potassium-40	pCi/kg	2.09E+03	1.08E+02	6.08E+01		
Catfish	544531001	5/11/2021 12:00	5/21/2021 5:37	Zinc-65	pCi/kg	-8.42E+00	6.31E+00	1.51E+01		U
Catfish	544531001	5/11/2021 12:00	5/21/2021 5:37	Zirconium-95	pCi/kg	-8.76E-01	3.67E+00	1.20E+01		U
Bass	544531002	5/11/2021 12:00	5/21/2021 5:38	Barium-140	pCi/kg	4.02E+00	1.30E+01	4.01E+01		U
Bass	544531002	5/11/2021 12:00	5/21/2021 5:38	Beryllium-7	pCi/kg	1.68E+01	1.74E+01	6.18E+01		U
Bass	544531002	5/11/2021 12:00	5/21/2021 5:38	Cesium-134	pCi/kg	5.98E-01	2.29E+00	7.61E+00		U
Bass	544531002	5/11/2021 12:00	5/21/2021 5:38	Cesium-137	pCi/kg	5.02E+00	3.74E+00	5.90E+00		U
Bass	544531002	5/11/2021 12:00	5/21/2021 5:38	Cobalt-57	pCi/kg	-1.05E+00	1.56E+00	4.96E+00		U
Bass	544531002	5/11/2021 12:00	5/21/2021 5:38	Cobalt-58	pCi/kg	1.51E+00	2.14E+00	7.37E+00		U
Bass	544531002	5/11/2021 12:00	5/21/2021 5:38	Cobalt-60	pCi/kg	1.75E+00	2.28E+00	8.24E+00		U
Bass	544531002	5/11/2021 12:00	5/21/2021 5:38	Iodine-131	pCi/kg	-2.81E+00	3.92E+00	1.29E+01		U
Bass	544531002	5/11/2021 12:00	5/21/2021 5:38	Iron-59	pCi/kg	-6.30E+00	4.44E+00	1.07E+01		U
Bass	544531002	5/11/2021 12:00	5/21/2021 5:38	Lanthanum-140	pCi/kg	-4.55E+00	3.67E+00	1.01E+01		U
Bass	544531002	5/11/2021 12:00	5/21/2021 5:38	Manganese-54	pCi/kg	6.22E-01	1.73E+00	5.80E+00		U
Bass	544531002	5/11/2021 12:00	5/21/2021 5:38	Niobium-95	pCi/kg	2.24E+00	2.25E+00	7.90E+00		U
Bass	544531002	5/11/2021 12:00	5/21/2021 5:38	Potassium-40	pCi/kg	2.34E+03	1.17E+02	7.18E+01		
Bass	544531002	5/11/2021 12:00	5/21/2021 5:38	Zinc-65	pCi/kg	6.04E-01	4.41E+00	1.42E+01		U
Bass	544531002	5/11/2021 12:00	5/21/2021 5:38	Zirconium-95	pCi/kg	4.16E+00	4.09E+00	1.44E+01		U

Catfish	564476001	12/7/2021 12:00	12/10/2021 18:56	Barium-140	pCi/kg	-1.47E+01	1.03E+01	2.89E+01		U
Catfish	564476001	12/7/2021 12:00	12/10/2021 18:56	Beryllium-7	pCi/kg	2.44E+00	1.95E+01	6.31E+01		U
Catfish	564476001	12/7/2021 12:00	12/10/2021 18:56	Cesium-134	pCi/kg	-3.83E+00	2.99E+00	8.90E+00		U
Catfish	564476001	12/7/2021 12:00	12/10/2021 18:56	Cesium-137	pCi/kg	-1.70E+00	3.08E+00	8.64E+00		U
Catfish	564476001	12/7/2021 12:00	12/10/2021 18:56	Cobalt-57	pCi/kg	1.14E+00	1.80E+00	5.83E+00		U
Catfish	564476001	12/7/2021 12:00	12/10/2021 18:56	Cobalt-58	pCi/kg	7.82E+00	4.59E+00	7.36E+00		UI
Catfish	564476001	12/7/2021 12:00	12/10/2021 18:56	Cobalt-60	pCi/kg	4.25E+00	2.80E+00	1.08E+01		U
Catfish	564476001	12/7/2021 12:00	12/10/2021 18:56	Iodine-131	pCi/kg	-3.84E-01	2.98E+00	9.69E+00		U
Catfish	564476001	12/7/2021 12:00	12/10/2021 18:56	Iron-59	pCi/kg	1.65E+01	7.30E+00	2.70E+01		U
Catfish	564476001	12/7/2021 12:00	12/10/2021 18:56	Lanthanum-140	pCi/kg	-4.20E+00	3.31E+00	6.15E+00		U
Catfish	564476001	12/7/2021 12:00	12/10/2021 18:56	Manganese-54	pCi/kg	-1.15E+00	2.76E+00	8.85E+00		U
Catfish	564476001	12/7/2021 12:00	12/10/2021 18:56	Niobium-95	pCi/kg	4.37E-01	2.69E+00	8.60E+00		U
Catfish	564476001	12/7/2021 12:00	12/10/2021 18:56	Potassium-40	pCi/kg	3.44E+03	1.61E+02	9.33E+01		
Catfish	564476001	12/7/2021 12:00	12/10/2021 18:56	Zinc-65	pCi/kg	7.51E+00	8.39E+00	2.60E+01		U
Catfish	564476001	12/7/2021 12:00	12/10/2021 18:56	Zirconium-95	pCi/kg	-4.64E+00	4.67E+00	1.20E+01		U
Bass	564476002	12/7/2021 12:00	12/10/2021 18:57	Barium-140	pCi/kg	1.70E+01	7.11E+00	2.72E+01		U
Bass	564476002	12/7/2021 12:00	12/10/2021 18:57	Beryllium-7	pCi/kg	4.38E+00	1.34E+01	4.56E+01		U
Bass	564476002	12/7/2021 12:00	12/10/2021 18:57	Cesium-134	pCi/kg	-4.76E+00	2.85E+00	7.83E+00		U
Bass	564476002	12/7/2021 12:00	12/10/2021 18:57	Cesium-137	pCi/kg	9.51E+00	3.61E+00	6.33E+00		UI
Bass	564476002	12/7/2021 12:00	12/10/2021 18:57	Cobalt-57	pCi/kg	3.27E-01	1.36E+00	4.48E+00		U
Bass	564476002	12/7/2021 12:00	12/10/2021 18:57	Cobalt-58	pCi/kg	6.82E-01	2.00E+00	6.57E+00		U
Bass	564476002	12/7/2021 12:00	12/10/2021 18:57	Cobalt-60	pCi/kg	-7.33E-01	2.33E+00	7.37E+00		U
Bass	564476002	12/7/2021 12:00	12/10/2021 18:57	Iodine-131	pCi/kg	-1.10E+00	2.39E+00	7.87E+00		U
Bass	564476002	12/7/2021 12:00	12/10/2021 18:57	Iron-59	pCi/kg	-9.28E+00	4.95E+00	1.41E+01		U
Bass	564476002	12/7/2021 12:00	12/10/2021 18:57	Lanthanum-140	pCi/kg	-3.65E-01	1.46E+00	4.39E+00		U
Bass	564476002	12/7/2021 12:00	12/10/2021 18:57	Manganese-54	pCi/kg	-4.87E-01	1.97E+00	6.11E+00		U
Bass	564476002	12/7/2021 12:00	12/10/2021 18:57	Niobium-95	pCi/kg	4.02E+00	2.67E+00	8.69E+00		U
Bass	564476002	12/7/2021 12:00	12/10/2021 18:57	Potassium-40	pCi/kg	3.10E+03	1.32E+02	8.09E+01		
Bass	564476002	12/7/2021 12:00	12/10/2021 18:57	Zinc-65	pCi/kg	3.24E+00	5.91E+00	1.84E+01		U
Bass	564476002	12/7/2021 12:00	12/10/2021 18:57	Zirconium-95	pCi/kg	1.44E+00	3.66E+00	1.21E+01		U

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Notes:

1. LLDs are a-priori values.
2. MDCs are calculated a-posteriori values.
3. Gamma spectroscopy analysis results are calculated from a measurement using only one gamma energy line.
4. Air sample volumes are received in units of ft3. GEL converts the units and reports them as m3.

QUALIFIERS:

U Target isotope was analyzed for but not detected above the MDC or LLD.
UI Uncertain identification for gamma spectroscopy.
X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
M Reported result is less than the LLD and greater than the MDC.
DL DL MDC > LLD.

Sample Data For: "F-2"

Matrix	Lab ID	Collect Date	Run Date	Parmname	Units	Result	Uncertainty	MDC	LLD	Qualifier
Bass	544531003	5/11/2021 12:00	5/21/2021 5:38	Barium-140	pCi/kg	1.80E+01	8.54E+00	3.28E+01		U
Bass	544531003	5/11/2021 12:00	5/21/2021 5:38	Beryllium-7	pCi/kg	-1.07E+01	1.31E+01	4.12E+01		U
Bass	544531003	5/11/2021 12:00	5/21/2021 5:38	Cesium-134	pCi/kg	-8.03E-01	1.81E+00	5.35E+00		U
Bass	544531003	5/11/2021 12:00	5/21/2021 5:38	Cesium-137	pCi/kg	3.47E+00	1.91E+00	6.64E+00		U
Bass	544531003	5/11/2021 12:00	5/21/2021 5:38	Cobalt-57	pCi/kg	2.01E+00	1.27E+00	4.41E+00		U
Bass	544531003	5/11/2021 12:00	5/21/2021 5:38	Cobalt-58	pCi/kg	-1.71E-01	1.72E+00	5.52E+00		U
Bass	544531003	5/11/2021 12:00	5/21/2021 5:38	Cobalt-60	pCi/kg	2.45E-01	2.37E+00	7.12E+00		U
Bass	544531003	5/11/2021 12:00	5/21/2021 5:38	Iodine-131	pCi/kg	6.89E-01	3.79E+00	1.30E+01		U
Bass	544531003	5/11/2021 12:00	5/21/2021 5:38	Iron-59	pCi/kg	1.87E+00	5.10E+00	1.67E+01		U
Bass	544531003	5/11/2021 12:00	5/21/2021 5:38	Lanthanum-140	pCi/kg	1.85E+00	2.78E+00	1.01E+01		U
Bass	544531003	5/11/2021 12:00	5/21/2021 5:38	Manganese-54	pCi/kg	6.38E-01	2.02E+00	6.70E+00		U
Bass	544531003	5/11/2021 12:00	5/21/2021 5:38	Niobium-95	pCi/kg	3.03E-01	2.08E+00	6.85E+00		U
Bass	544531003	5/11/2021 12:00	5/21/2021 5:38	Potassium-40	pCi/kg	3.31E+03	1.21E+02	1.98E+01		
Bass	544531003	5/11/2021 12:00	5/21/2021 5:38	Zinc-65	pCi/kg	-4.97E+00	3.88E+00	1.17E+01		U

Bass	544531003	5/11/2021 12:00	5/21/2021 5:38	Zirconium-95	pCi/kg	1.26E+01	5.51E+00	1.32E+01		U
Bass	564476003	12/7/2021 12:00	12/10/2021 18:58	Barium-140	pCi/kg	9.94E-01	9.03E+00	2.83E+01		U
Bass	564476003	12/7/2021 12:00	12/10/2021 18:58	Beryllium-7	pCi/kg	-2.99E+01	1.37E+01	3.62E+01		U
Bass	564476003	12/7/2021 12:00	12/10/2021 18:58	Cesium-134	pCi/kg	8.41E-01	2.85E+00	8.62E+00		U
Bass	564476003	12/7/2021 12:00	12/10/2021 18:58	Cesium-137	pCi/kg	-2.16E+00	2.70E+00	8.39E+00		U
Bass	564476003	12/7/2021 12:00	12/10/2021 18:58	Cobalt-57	pCi/kg	1.80E+00	1.54E+00	5.37E+00		U
Bass	564476003	12/7/2021 12:00	12/10/2021 18:58	Cobalt-58	pCi/kg	4.38E+00	3.00E+00	1.01E+01		U
Bass	564476003	12/7/2021 12:00	12/10/2021 18:58	Cobalt-60	pCi/kg	5.88E+00	2.93E+00	1.18E+01		U
Bass	564476003	12/7/2021 12:00	12/10/2021 18:58	Iodine-131	pCi/kg	-4.53E-01	2.67E+00	9.08E+00		U
Bass	564476003	12/7/2021 12:00	12/10/2021 18:58	Iron-59	pCi/kg	-6.84E+00	6.19E+00	1.75E+01		U
Bass	564476003	12/7/2021 12:00	12/10/2021 18:58	Lanthanum-140	pCi/kg	-5.70E+00	3.48E+00	8.68E+00		U
Bass	564476003	12/7/2021 12:00	12/10/2021 18:58	Manganese-54	pCi/kg	-2.42E-01	2.80E+00	9.05E+00		U
Bass	564476003	12/7/2021 12:00	12/10/2021 18:58	Niobium-95	pCi/kg	1.99E+00	2.44E+00	8.56E+00		U
Bass	564476003	12/7/2021 12:00	12/10/2021 18:58	Potassium-40	pCi/kg	3.04E+03	1.52E+02	5.27E+01		
Bass	564476003	12/7/2021 12:00	12/10/2021 18:58	Zinc-65	pCi/kg	3.87E+00	5.47E+00	1.88E+01		U
Bass	564476003	12/7/2021 12:00	12/10/2021 18:58	Zirconium-95	pCi/kg	3.61E+00	3.69E+00	1.33E+01		U

Sample Data For: "F-3"

Matrix	Lab ID	Collect Date	Run Date	Parmname	Units	Result	Uncertainty	MDC	LLD	Qualifier
Catfish	544531004	5/11/2021 12:00	5/21/2021 11:19	Barium-140	pCi/kg	5.51E+00	1.49E+01	5.06E+01		U
Catfish	544531004	5/11/2021 12:00	5/21/2021 11:19	Beryllium-7	pCi/kg	4.02E+00	2.00E+01	6.78E+01		U
Catfish	544531004	5/11/2021 12:00	5/21/2021 11:19	Cesium-134	pCi/kg	4.78E+00	2.66E+00	9.75E+00		U
Catfish	544531004	5/11/2021 12:00	5/21/2021 11:19	Cesium-137	pCi/kg	1.01E+00	2.86E+00	9.56E+00		U
Catfish	544531004	5/11/2021 12:00	5/21/2021 11:19	Cobalt-57	pCi/kg	-1.85E+00	1.90E+00	5.74E+00		U
Catfish	544531004	5/11/2021 12:00	5/21/2021 11:19	Cobalt-58	pCi/kg	-1.21E+00	2.23E+00	7.16E+00		U
Catfish	544531004	5/11/2021 12:00	5/21/2021 11:19	Cobalt-60	pCi/kg	9.58E-01	3.43E+00	1.17E+01		U
Catfish	544531004	5/11/2021 12:00	5/21/2021 11:19	Iodine-131	pCi/kg	-1.40E+01	5.99E+00	1.55E+01		U
Catfish	544531004	5/11/2021 12:00	5/21/2021 11:19	Iron-59	pCi/kg	-5.64E+00	6.42E+00	1.96E+01		U
Catfish	544531004	5/11/2021 12:00	5/21/2021 11:19	Lanthanum-140	pCi/kg	1.14E+00	3.97E+00	1.36E+01		U
Catfish	544531004	5/11/2021 12:00	5/21/2021 11:19	Manganese-54	pCi/kg	-2.64E-01	2.68E+00	8.92E+00		U
Catfish	544531004	5/11/2021 12:00	5/21/2021 11:19	Niobium-95	pCi/kg	2.50E+00	2.94E+00	9.54E+00		U
Catfish	544531004	5/11/2021 12:00	5/21/2021 11:19	Potassium-40	pCi/kg	2.39E+03	1.17E+02	4.58E+01		

Catfish	544531004	5/11/2021 12:00	5/21/2021 11:19	Zinc-65	pCi/kg	-4.15E+00	6.09E+00	1.89E+01		U
Catfish	544531004	5/11/2021 12:00	5/21/2021 11:19	Zirconium-95	pCi/kg	1.16E+00	4.87E+00	1.60E+01		U

Sample Data For: "BL-1"

Matrix	Lab ID	Collect Date	Run Date	Parmname	Units	Result	Uncertainty	MDC	LLD	Qualifier
Broad Leaf-Grasses	533501001	1/26/2021 9:46	2/4/2021 10:47	Barium-140	pCi/kg	5.25E+01	3.94E+01	1.17E+02		U
Broad Leaf-Grasses	533501001	1/26/2021 9:46	2/4/2021 10:47	Beryllium-7	pCi/kg	6.52E+03	1.85E+02	1.78E+02		
Broad Leaf-Grasses	533501001	1/26/2021 9:46	2/4/2021 10:47	Cesium-134	pCi/kg	1.85E+01	7.34E+00	2.42E+01	6.00E+01	U
Broad Leaf-Grasses	533501001	1/26/2021 9:46	2/4/2021 10:47	Cesium-137	pCi/kg	5.75E+00	6.67E+00	2.31E+01	8.00E+01	U
Broad Leaf-Grasses	533501001	1/26/2021 9:46	2/4/2021 10:47	Cobalt-57	pCi/kg	3.96E-01	4.85E+00	1.61E+01		U
Broad Leaf-Grasses	533501001	1/26/2021 9:46	2/4/2021 10:47	Cobalt-58	pCi/kg	1.80E+01	7.88E+00	2.08E+01		U
Broad Leaf-Grasses	533501001	1/26/2021 9:46	2/4/2021 10:47	Cobalt-60	pCi/kg	-9.71E+00	1.24E+01	2.31E+01		U
Broad Leaf-Grasses	533501001	1/26/2021 9:46	2/4/2021 10:47	Iodine-131	pCi/kg	7.77E-01	1.56E+01	4.47E+01	6.00E+01	U
Broad Leaf-Grasses	533501001	1/26/2021 9:46	2/4/2021 10:47	Iron-59	pCi/kg	5.37E+00	1.37E+01	4.60E+01		U
Broad Leaf-Grasses	533501001	1/26/2021 9:46	2/4/2021 10:47	Lanthanum-140	pCi/kg	-2.21E+01	2.57E+01	4.32E+01		U
Broad Leaf-Grasses	533501001	1/26/2021 9:46	2/4/2021 10:47	Manganese-54	pCi/kg	1.05E+01	6.40E+00	2.25E+01		U
Broad Leaf-Grasses	533501001	1/26/2021 9:46	2/4/2021 10:47	Niobium-95	pCi/kg	1.17E+01	6.52E+00	2.31E+01		U
Broad Leaf-Grasses	533501001	1/26/2021 9:46	2/4/2021 10:47	Potassium-40	pCi/kg	2.32E+03	2.37E+02	2.01E+02		
Broad Leaf-Grasses	533501001	1/26/2021 9:46	2/4/2021 10:47	Zinc-65	pCi/kg	-2.31E+01	1.42E+01	4.40E+01		U
Broad Leaf-Grasses	533501001	1/26/2021 9:46	2/4/2021 10:47	Zirconium-95	pCi/kg	6.02E+00	1.16E+01	3.98E+01		U
Broad Leaf-Grasses	535857001	2/23/2021 10:27	3/5/2021 16:40	Barium-140	pCi/kg	2.69E+01	4.49E+01	1.45E+02		U
Broad Leaf-Grasses	535857001	2/23/2021 10:27	3/5/2021 16:40	Beryllium-7	pCi/kg	5.52E+03	1.87E+02	2.06E+02		
Broad Leaf-Grasses	535857001	2/23/2021 10:27	3/5/2021 16:40	Cesium-134	pCi/kg	-2.70E+00	8.01E+00	2.64E+01		U
Broad Leaf-Grasses	535857001	2/23/2021 10:27	3/5/2021 16:40	Cesium-137	pCi/kg	7.80E+00	7.49E+00	2.59E+01		U
Broad Leaf-Grasses	535857001	2/23/2021 10:27	3/5/2021 16:40	Cobalt-57	pCi/kg	4.40E+00	4.97E+00	1.72E+01		U
Broad Leaf-Grasses	535857001	2/23/2021 10:27	3/5/2021 16:40	Cobalt-58	pCi/kg	5.68E+00	7.35E+00	2.50E+01		U
Broad Leaf-Grasses	535857001	2/23/2021 10:27	3/5/2021 16:40	Cobalt-60	pCi/kg	8.39E-01	8.31E+00	2.68E+01		U
Broad Leaf-Grasses	535857001	2/23/2021 10:27	3/5/2021 16:40	Iodine-131	pCi/kg	3.45E+01	2.00E+01	5.60E+01		U
Broad Leaf-Grasses	535857001	2/23/2021 10:27	3/5/2021 16:40	Iron-59	pCi/kg	-1.62E+01	1.61E+01	5.04E+01		U
Broad Leaf-Grasses	535857001	2/23/2021 10:27	3/5/2021 16:40	Lanthanum-140	pCi/kg	5.06E+00	1.45E+01	4.94E+01		U
Broad Leaf-Grasses	535857001	2/23/2021 10:27	3/5/2021 16:40	Manganese-54	pCi/kg	-1.48E+01	1.07E+01	2.37E+01		U
Broad Leaf-Grasses	535857001	2/23/2021 10:27	3/5/2021 16:40	Niobium-95	pCi/kg	7.42E+00	7.99E+00	2.73E+01		U
Broad Leaf-Grasses	535857001	2/23/2021 10:27	3/5/2021 16:40	Potassium-40	pCi/kg	3.13E+03	2.61E+02	2.39E+02		
Broad Leaf-Grasses	535857001	2/23/2021 10:27	3/5/2021 16:40	Zinc-65	pCi/kg	1.63E+01	1.76E+01	5.26E+01		U
Broad Leaf-Grasses	535857001	2/23/2021 10:27	3/5/2021 16:40	Zirconium-95	pCi/kg	-7.89E+00	1.33E+01	4.35E+01		U

Broad Leaf-Grasses	539604001	3/30/2021 11:10	4/6/2021 19:44	Barium-140	pCi/kg	-1.55E+01	1.93E+01	5.93E+01		U
Broad Leaf-Grasses	539604001	3/30/2021 11:10	4/6/2021 19:44	Beryllium-7	pCi/kg	2.95E+03	1.10E+02	1.00E+02		
Broad Leaf-Grasses	539604001	3/30/2021 11:10	4/6/2021 19:44	Cesium-134	pCi/kg	1.87E-01	4.29E+00	1.46E+01		U
Broad Leaf-Grasses	539604001	3/30/2021 11:10	4/6/2021 19:44	Cesium-137	pCi/kg	2.31E-01	4.01E+00	1.29E+01		U
Broad Leaf-Grasses	539604001	3/30/2021 11:10	4/6/2021 19:44	Cobalt-57	pCi/kg	1.41E+00	2.28E+00	7.38E+00		U
Broad Leaf-Grasses	539604001	3/30/2021 11:10	4/6/2021 19:44	Cobalt-58	pCi/kg	8.59E+00	5.21E+00	1.59E+01		U
Broad Leaf-Grasses	539604001	3/30/2021 11:10	4/6/2021 19:44	Cobalt-60	pCi/kg	-3.60E+00	5.18E+00	1.60E+01		U
Broad Leaf-Grasses	539604001	3/30/2021 11:10	4/6/2021 19:44	Iodine-131	pCi/kg	6.86E+00	6.14E+00	2.15E+01		U
Broad Leaf-Grasses	539604001	3/30/2021 11:10	4/6/2021 19:44	Iron-59	pCi/kg	1.92E+00	8.97E+00	3.03E+01		U
Broad Leaf-Grasses	539604001	3/30/2021 11:10	4/6/2021 19:44	Lanthanum-140	pCi/kg	-5.90E-01	5.07E+00	1.61E+01		U
Broad Leaf-Grasses	539604001	3/30/2021 11:10	4/6/2021 19:44	Manganese-54	pCi/kg	-3.09E+00	3.95E+00	1.27E+01		U
Broad Leaf-Grasses	539604001	3/30/2021 11:10	4/6/2021 19:44	Niobium-95	pCi/kg	4.85E+00	5.24E+00	1.44E+01		U
Broad Leaf-Grasses	539604001	3/30/2021 11:10	4/6/2021 19:44	Potassium-40	pCi/kg	2.47E+03	1.68E+02	1.16E+02		
Broad Leaf-Grasses	539604001	3/30/2021 11:10	4/6/2021 19:44	Zinc-65	pCi/kg	-4.58E+00	8.96E+00	2.85E+01		U
Broad Leaf-Grasses	539604001	3/30/2021 11:10	4/6/2021 19:44	Zirconium-95	pCi/kg	7.92E+00	7.32E+00	2.52E+01		U
Broad Leaf-Grasses	542443001	4/27/2021 10:20	4/30/2021 20:06	Barium-140	pCi/kg	1.29E+01	2.14E+01	7.26E+01		U
Broad Leaf-Grasses	542443001	4/27/2021 10:20	4/30/2021 20:06	Beryllium-7	pCi/kg	1.06E+04	1.91E+02	1.54E+02		
Broad Leaf-Grasses	542443001	4/27/2021 10:20	4/30/2021 20:06	Cesium-134	pCi/kg	1.05E+01	6.34E+00	2.18E+01		U
Broad Leaf-Grasses	542443001	4/27/2021 10:20	4/30/2021 20:06	Cesium-137	pCi/kg	5.76E-01	5.93E+00	1.95E+01		U
Broad Leaf-Grasses	542443001	4/27/2021 10:20	4/30/2021 20:06	Cobalt-57	pCi/kg	3.02E+00	4.21E+00	1.38E+01		U
Broad Leaf-Grasses	542443001	4/27/2021 10:20	4/30/2021 20:06	Cobalt-58	pCi/kg	2.30E+00	6.21E+00	2.04E+01		U
Broad Leaf-Grasses	542443001	4/27/2021 10:20	4/30/2021 20:06	Cobalt-60	pCi/kg	1.53E+01	1.43E+01	2.17E+01		U
Broad Leaf-Grasses	542443001	4/27/2021 10:20	4/30/2021 20:06	Iodine-131	pCi/kg	2.52E+00	7.36E+00	2.52E+01		U
Broad Leaf-Grasses	542443001	4/27/2021 10:20	4/30/2021 20:06	Iron-59	pCi/kg	-1.32E+01	1.27E+01	3.82E+01		U
Broad Leaf-Grasses	542443001	4/27/2021 10:20	4/30/2021 20:06	Lanthanum-140	pCi/kg	3.65E+00	7.65E+00	2.61E+01		U
Broad Leaf-Grasses	542443001	4/27/2021 10:20	4/30/2021 20:06	Manganese-54	pCi/kg	4.67E+00	6.30E+00	2.09E+01		U
Broad Leaf-Grasses	542443001	4/27/2021 10:20	4/30/2021 20:06	Niobium-95	pCi/kg	3.36E+00	6.45E+00	2.13E+01		U
Broad Leaf-Grasses	542443001	4/27/2021 10:20	4/30/2021 20:06	Potassium-40	pCi/kg	6.01E+03	3.08E+02	1.98E+02		
Broad Leaf-Grasses	542443001	4/27/2021 10:20	4/30/2021 20:06	Zinc-65	pCi/kg	3.70E+01	1.32E+01	4.91E+01		U
Broad Leaf-Grasses	542443001	4/27/2021 10:20	4/30/2021 20:06	Zirconium-95	pCi/kg	-1.85E+00	1.07E+01	3.45E+01		U
Broad Leaf-Grasses	545727001	5/25/2021 10:25	6/1/2021 9:59	Barium-140	pCi/kg	-1.39E+00	1.19E+01	3.47E+01		U
Broad Leaf-Grasses	545727001	5/25/2021 10:25	6/1/2021 9:59	Beryllium-7	pCi/kg	7.08E+03	1.38E+02	7.74E+01		
Broad Leaf-Grasses	545727001	5/25/2021 10:25	6/1/2021 9:59	Cesium-134	pCi/kg	2.10E+00	2.64E+00	9.00E+00		U

Broad Leaf-Grasses	545727001	5/25/2021 10:25	6/1/2021 9:59	Cesium-137	pCi/kg	3.66E+00	3.37E+00	8.57E+00		U
Broad Leaf-Grasses	545727001	5/25/2021 10:25	6/1/2021 9:59	Cobalt-57	pCi/kg	-3.59E+00	2.50E+00	7.61E+00		U
Broad Leaf-Grasses	545727001	5/25/2021 10:25	6/1/2021 9:59	Cobalt-58	pCi/kg	2.44E-02	2.82E+00	9.05E+00		U
Broad Leaf-Grasses	545727001	5/25/2021 10:25	6/1/2021 9:59	Cobalt-60	pCi/kg	1.85E+00	2.89E+00	1.01E+01		U
Broad Leaf-Grasses	545727001	5/25/2021 10:25	6/1/2021 9:59	Iodine-131	pCi/kg	-4.05E+00	4.88E+00	1.58E+01		U
Broad Leaf-Grasses	545727001	5/25/2021 10:25	6/1/2021 9:59	Iron-59	pCi/kg	-3.45E+00	5.60E+00	1.80E+01		U
Broad Leaf-Grasses	545727001	5/25/2021 10:25	6/1/2021 9:59	Lanthanum-140	pCi/kg	6.12E+00	4.19E+00	1.50E+01		U
Broad Leaf-Grasses	545727001	5/25/2021 10:25	6/1/2021 9:59	Manganese-54	pCi/kg	1.14E+00	2.77E+00	9.11E+00		U
Broad Leaf-Grasses	545727001	5/25/2021 10:25	6/1/2021 9:59	Niobium-95	pCi/kg	4.20E-01	5.01E+00	7.42E+00		U
Broad Leaf-Grasses	545727001	5/25/2021 10:25	6/1/2021 9:59	Potassium-40	pCi/kg	7.36E+02	7.66E+01	6.23E+01		
Broad Leaf-Grasses	545727001	5/25/2021 10:25	6/1/2021 9:59	Zinc-65	pCi/kg	5.32E+00	6.07E+00	1.97E+01		U
Broad Leaf-Grasses	545727001	5/25/2021 10:25	6/1/2021 9:59	Zirconium-95	pCi/kg	3.76E+00	5.44E+00	1.83E+01		U
Broad Leaf-Grasses	548822001	6/29/2021 11:33	7/7/2021 6:55	Barium-140	pCi/kg	2.04E+01	4.19E+01	1.43E+02		U
Broad Leaf-Grasses	548822001	6/29/2021 11:33	7/7/2021 6:55	Beryllium-7	pCi/kg	4.28E+03	1.95E+02	2.15E+02		
Broad Leaf-Grasses	548822001	6/29/2021 11:33	7/7/2021 6:55	Cesium-134	pCi/kg	2.57E-01	9.92E+00	2.89E+01		U
Broad Leaf-Grasses	548822001	6/29/2021 11:33	7/7/2021 6:55	Cesium-137	pCi/kg	-8.13E+00	1.16E+01	3.11E+01		U
Broad Leaf-Grasses	548822001	6/29/2021 11:33	7/7/2021 6:55	Cobalt-57	pCi/kg	-1.12E+00	5.90E+00	1.92E+01		U
Broad Leaf-Grasses	548822001	6/29/2021 11:33	7/7/2021 6:55	Cobalt-58	pCi/kg	-2.00E+01	8.90E+00	2.58E+01		U
Broad Leaf-Grasses	548822001	6/29/2021 11:33	7/7/2021 6:55	Cobalt-60	pCi/kg	-1.41E+01	1.27E+01	2.88E+01		U
Broad Leaf-Grasses	548822001	6/29/2021 11:33	7/7/2021 6:55	Iodine-131	pCi/kg	-9.87E+00	1.41E+01	4.71E+01		U
Broad Leaf-Grasses	548822001	6/29/2021 11:33	7/7/2021 6:55	Iron-59	pCi/kg	2.62E+01	1.80E+01	6.20E+01		U
Broad Leaf-Grasses	548822001	6/29/2021 11:33	7/7/2021 6:55	Lanthanum-140	pCi/kg	4.07E+00	1.46E+01	4.39E+01		U
Broad Leaf-Grasses	548822001	6/29/2021 11:33	7/7/2021 6:55	Manganese-54	pCi/kg	2.10E+01	9.09E+00	2.58E+01		U
Broad Leaf-Grasses	548822001	6/29/2021 11:33	7/7/2021 6:55	Niobium-95	pCi/kg	1.45E+01	9.02E+00	3.15E+01		U
Broad Leaf-Grasses	548822001	6/29/2021 11:33	7/7/2021 6:55	Potassium-40	pCi/kg	1.19E+04	4.46E+02	2.57E+02		
Broad Leaf-Grasses	548822001	6/29/2021 11:33	7/7/2021 6:55	Zinc-65	pCi/kg	-1.14E+00	2.33E+01	6.55E+01		U
Broad Leaf-Grasses	548822001	6/29/2021 11:33	7/7/2021 6:55	Zirconium-95	pCi/kg	1.55E+01	1.51E+01	5.18E+01		U
Broad Leaf-Grasses	551022001	7/27/2021 10:14	8/5/2021 14:50	Barium-140	pCi/kg	6.09E+01	4.25E+01	1.46E+02		U
Broad Leaf-Grasses	551022001	7/27/2021 10:14	8/5/2021 14:50	Beryllium-7	pCi/kg	5.73E+03	2.07E+02	2.07E+02		
Broad Leaf-Grasses	551022001	7/27/2021 10:14	8/5/2021 14:50	Cesium-134	pCi/kg	6.60E+00	8.87E+00	2.92E+01		U
Broad Leaf-Grasses	551022001	7/27/2021 10:14	8/5/2021 14:50	Cesium-137	pCi/kg	3.49E+00	8.00E+00	2.64E+01		U
Broad Leaf-Grasses	551022001	7/27/2021 10:14	8/5/2021 14:50	Cobalt-57	pCi/kg	-9.66E+00	5.00E+00	1.55E+01		U
Broad Leaf-Grasses	551022001	7/27/2021 10:14	8/5/2021 14:50	Cobalt-58	pCi/kg	-1.77E+00	8.53E+00	2.41E+01		U

Broad Leaf-Grasses	551022001	7/27/2021 10:14	8/5/2021 14:50	Cobalt-60	pCi/kg	9.96E-01	8.62E+00	2.88E+01		U
Broad Leaf-Grasses	551022001	7/27/2021 10:14	8/5/2021 14:50	Iodine-131	pCi/kg	3.51E+00	1.48E+01	5.02E+01		U
Broad Leaf-Grasses	551022001	7/27/2021 10:14	8/5/2021 14:50	Iron-59	pCi/kg	1.19E+01	1.69E+01	5.85E+01		U
Broad Leaf-Grasses	551022001	7/27/2021 10:14	8/5/2021 14:50	Lanthanum-140	pCi/kg	1.11E+01	1.37E+01	4.23E+01		U
Broad Leaf-Grasses	551022001	7/27/2021 10:14	8/5/2021 14:50	Manganese-54	pCi/kg	1.20E+01	8.11E+00	2.73E+01		U
Broad Leaf-Grasses	551022001	7/27/2021 10:14	8/5/2021 14:50	Niobium-95	pCi/kg	-1.57E+00	8.26E+00	2.64E+01		U
Broad Leaf-Grasses	551022001	7/27/2021 10:14	8/5/2021 14:50	Potassium-40	pCi/kg	1.19E+04	4.08E+02	2.43E+02		
Broad Leaf-Grasses	551022001	7/27/2021 10:14	8/5/2021 14:50	Zinc-65	pCi/kg	-9.67E+00	1.83E+01	6.03E+01		U
Broad Leaf-Grasses	551022001	7/27/2021 10:14	8/5/2021 14:50	Zirconium-95	pCi/kg	7.59E+00	1.49E+01	4.88E+01		U
Broad Leaf-Grasses	554766001	8/31/2021 10:29	9/4/2021 19:56	Barium-140	pCi/kg	1.70E+01	2.91E+01	1.00E+02		U
Broad Leaf-Grasses	554766001	8/31/2021 10:29	9/4/2021 19:56	Beryllium-7	pCi/kg	4.41E+03	1.64E+02	1.98E+02		
Broad Leaf-Grasses	554766001	8/31/2021 10:29	9/4/2021 19:56	Cesium-134	pCi/kg	5.34E+00	8.83E+00	2.97E+01		U
Broad Leaf-Grasses	554766001	8/31/2021 10:29	9/4/2021 19:56	Cesium-137	pCi/kg	3.23E+00	7.71E+00	2.61E+01		U
Broad Leaf-Grasses	554766001	8/31/2021 10:29	9/4/2021 19:56	Cobalt-57	pCi/kg	5.77E+00	4.74E+00	1.60E+01		U
Broad Leaf-Grasses	554766001	8/31/2021 10:29	9/4/2021 19:56	Cobalt-58	pCi/kg	2.10E+01	9.50E+00	2.41E+01		U
Broad Leaf-Grasses	554766001	8/31/2021 10:29	9/4/2021 19:56	Cobalt-60	pCi/kg	7.61E+00	8.39E+00	2.79E+01		U
Broad Leaf-Grasses	554766001	8/31/2021 10:29	9/4/2021 19:56	Iodine-131	pCi/kg	3.51E+00	1.04E+01	3.28E+01		U
Broad Leaf-Grasses	554766001	8/31/2021 10:29	9/4/2021 19:56	Iron-59	pCi/kg	1.70E+00	1.69E+01	5.46E+01		U
Broad Leaf-Grasses	554766001	8/31/2021 10:29	9/4/2021 19:56	Lanthanum-140	pCi/kg	2.56E+01	8.91E+00	2.99E+01		U
Broad Leaf-Grasses	554766001	8/31/2021 10:29	9/4/2021 19:56	Manganese-54	pCi/kg	1.35E+01	7.84E+00	2.72E+01		U
Broad Leaf-Grasses	554766001	8/31/2021 10:29	9/4/2021 19:56	Niobium-95	pCi/kg	2.80E+01	1.13E+01	2.43E+01		UI
Broad Leaf-Grasses	554766001	8/31/2021 10:29	9/4/2021 19:56	Potassium-40	pCi/kg	1.71E+04	4.33E+02	2.25E+02		
Broad Leaf-Grasses	554766001	8/31/2021 10:29	9/4/2021 19:56	Zinc-65	pCi/kg	3.94E+01	3.27E+01	5.84E+01		U
Broad Leaf-Grasses	554766001	8/31/2021 10:29	9/4/2021 19:56	Zirconium-95	pCi/kg	-3.78E+00	1.39E+01	4.57E+01		U
Broad Leaf-Grasses	557318001	9/28/2021 11:02	10/5/2021 13:14	Barium-140	pCi/kg	7.85E+01	4.53E+01	1.56E+02		U
Broad Leaf-Grasses	557318001	9/28/2021 11:02	10/5/2021 13:14	Beryllium-7	pCi/kg	2.45E+03	1.79E+02	2.45E+02		
Broad Leaf-Grasses	557318001	9/28/2021 11:02	10/5/2021 13:14	Cesium-134	pCi/kg	3.02E+00	9.78E+00	3.36E+01		U
Broad Leaf-Grasses	557318001	9/28/2021 11:02	10/5/2021 13:14	Cesium-137	pCi/kg	5.22E+00	9.90E+00	3.24E+01		U
Broad Leaf-Grasses	557318001	9/28/2021 11:02	10/5/2021 13:14	Cobalt-57	pCi/kg	2.40E+00	6.00E+00	1.96E+01		U
Broad Leaf-Grasses	557318001	9/28/2021 11:02	10/5/2021 13:14	Cobalt-58	pCi/kg	-1.57E+00	8.69E+00	2.72E+01		U
Broad Leaf-Grasses	557318001	9/28/2021 11:02	10/5/2021 13:14	Cobalt-60	pCi/kg	1.22E+01	1.47E+01	3.39E+01		U
Broad Leaf-Grasses	557318001	9/28/2021 11:02	10/5/2021 13:14	Iodine-131	pCi/kg	-1.69E+01	1.51E+01	4.91E+01		U
Broad Leaf-Grasses	557318001	9/28/2021 11:02	10/5/2021 13:14	Iron-59	pCi/kg	-1.93E+01	2.11E+01	6.72E+01		U

Broad Leaf-Grasses	557318001	9/28/2021 11:02	10/5/2021 13:14	Lanthanum-140	pCi/kg	1.06E+01	1.62E+01	5.42E+01		U
Broad Leaf-Grasses	557318001	9/28/2021 11:02	10/5/2021 13:14	Manganese-54	pCi/kg	-2.29E+01	8.93E+00	2.74E+01		U
Broad Leaf-Grasses	557318001	9/28/2021 11:02	10/5/2021 13:14	Niobium-95	pCi/kg	-9.20E+00	1.04E+01	3.20E+01		U
Broad Leaf-Grasses	557318001	9/28/2021 11:02	10/5/2021 13:14	Potassium-40	pCi/kg	7.63E+03	4.29E+02	3.08E+02		
Broad Leaf-Grasses	557318001	9/28/2021 11:02	10/5/2021 13:14	Zinc-65	pCi/kg	-1.11E+01	2.43E+01	6.86E+01		U
Broad Leaf-Grasses	557318001	9/28/2021 11:02	10/5/2021 13:14	Zirconium-95	pCi/kg	6.84E+00	1.70E+01	5.49E+01		U
Broad Leaf-Grasses	560325001	10/26/2021 10:05	11/1/2021 15:46	Barium-140	pCi/kg	-1.51E+01	3.37E+01	1.06E+02		U
Broad Leaf-Grasses	560325001	10/26/2021 10:05	11/1/2021 15:46	Beryllium-7	pCi/kg	4.30E+03	1.56E+02	1.89E+02		
Broad Leaf-Grasses	560325001	10/26/2021 10:05	11/1/2021 15:46	Cesium-134	pCi/kg	1.90E+01	7.88E+00	2.79E+01		U
Broad Leaf-Grasses	560325001	10/26/2021 10:05	11/1/2021 15:46	Cesium-137	pCi/kg	4.22E+00	7.16E+00	2.45E+01		U
Broad Leaf-Grasses	560325001	10/26/2021 10:05	11/1/2021 15:46	Cobalt-57	pCi/kg	5.82E-01	4.51E+00	1.45E+01		U
Broad Leaf-Grasses	560325001	10/26/2021 10:05	11/1/2021 15:46	Cobalt-58	pCi/kg	6.35E+00	7.30E+00	2.40E+01		U
Broad Leaf-Grasses	560325001	10/26/2021 10:05	11/1/2021 15:46	Cobalt-60	pCi/kg	-8.77E+00	7.33E+00	2.32E+01		U
Broad Leaf-Grasses	560325001	10/26/2021 10:05	11/1/2021 15:46	Iodine-131	pCi/kg	7.96E+00	1.08E+01	3.60E+01		U
Broad Leaf-Grasses	560325001	10/26/2021 10:05	11/1/2021 15:46	Iron-59	pCi/kg	-9.25E+00	1.55E+01	4.66E+01		U
Broad Leaf-Grasses	560325001	10/26/2021 10:05	11/1/2021 15:46	Lanthanum-140	pCi/kg	-1.10E+01	1.16E+01	3.63E+01		U
Broad Leaf-Grasses	560325001	10/26/2021 10:05	11/1/2021 15:46	Manganese-54	pCi/kg	-1.36E+00	7.19E+00	2.36E+01		U
Broad Leaf-Grasses	560325001	10/26/2021 10:05	11/1/2021 15:46	Niobium-95	pCi/kg	9.25E+00	8.14E+00	2.48E+01		U
Broad Leaf-Grasses	560325001	10/26/2021 10:05	11/1/2021 15:46	Potassium-40	pCi/kg	5.15E+03	2.80E+02	2.31E+02		
Broad Leaf-Grasses	560325001	10/26/2021 10:05	11/1/2021 15:46	Zinc-65	pCi/kg	-4.11E+01	1.69E+01	4.91E+01		U
Broad Leaf-Grasses	560325001	10/26/2021 10:05	11/1/2021 15:46	Zirconium-95	pCi/kg	-8.89E+00	1.21E+01	3.91E+01		U
Broad Leaf-Grasses	563530001	11/30/2021 10:05	12/3/2021 11:09	Barium-140	pCi/kg	-1.88E+01	4.02E+01	1.31E+02		U
Broad Leaf-Grasses	563530001	11/30/2021 10:05	12/3/2021 11:09	Beryllium-7	pCi/kg	4.14E+03	2.14E+02	2.61E+02		
Broad Leaf-Grasses	563530001	11/30/2021 10:05	12/3/2021 11:09	Cesium-134	pCi/kg	-8.73E+00	1.04E+01	3.14E+01		U
Broad Leaf-Grasses	563530001	11/30/2021 10:05	12/3/2021 11:09	Cesium-137	pCi/kg	2.07E+00	9.92E+00	3.29E+01		U
Broad Leaf-Grasses	563530001	11/30/2021 10:05	12/3/2021 11:09	Cobalt-57	pCi/kg	4.60E+00	7.35E+00	2.44E+01		U
Broad Leaf-Grasses	563530001	11/30/2021 10:05	12/3/2021 11:09	Cobalt-58	pCi/kg	-7.27E-01	9.46E+00	3.04E+01		U
Broad Leaf-Grasses	563530001	11/30/2021 10:05	12/3/2021 11:09	Cobalt-60	pCi/kg	6.81E+00	7.43E+00	2.73E+01		U
Broad Leaf-Grasses	563530001	11/30/2021 10:05	12/3/2021 11:09	Iodine-131	pCi/kg	7.53E+00	2.40E+01	3.79E+01		U
Broad Leaf-Grasses	563530001	11/30/2021 10:05	12/3/2021 11:09	Iron-59	pCi/kg	4.53E+00	1.77E+01	6.09E+01		U
Broad Leaf-Grasses	563530001	11/30/2021 10:05	12/3/2021 11:09	Lanthanum-140	pCi/kg	-1.57E+01	1.23E+01	3.44E+01		U
Broad Leaf-Grasses	563530001	11/30/2021 10:05	12/3/2021 11:09	Manganese-54	pCi/kg	1.52E+01	1.03E+01	3.61E+01		U
Broad Leaf-Grasses	563530001	11/30/2021 10:05	12/3/2021 11:09	Niobium-95	pCi/kg	8.38E+00	1.00E+01	3.41E+01		U

Broad Leaf-Grasses	563530001	11/30/2021 10:05	12/3/2021 11:09	Potassium-40	pCi/kg	2.33E+03	3.37E+02	3.28E+02		
Broad Leaf-Grasses	563530001	11/30/2021 10:05	12/3/2021 11:09	Zinc-65	pCi/kg	-3.09E+01	2.13E+01	6.51E+01		U
Broad Leaf-Grasses	563530001	11/30/2021 10:05	12/3/2021 11:09	Zirconium-95	pCi/kg	1.48E+01	1.47E+01	5.12E+01		U
Broad Leaf-Grasses	566090001	12/28/2021 11:05	1/3/2022 18:24	Barium-140	pCi/kg	2.25E+01	4.70E+01	1.56E+02		U
Broad Leaf-Grasses	566090001	12/28/2021 11:05	1/3/2022 18:24	Beryllium-7	pCi/kg	2.71E+03	1.85E+02	2.96E+02		
Broad Leaf-Grasses	566090001	12/28/2021 11:05	1/3/2022 18:24	Cesium-134	pCi/kg	-4.89E-01	1.50E+01	4.25E+01		U
Broad Leaf-Grasses	566090001	12/28/2021 11:05	1/3/2022 18:24	Cesium-137	pCi/kg	2.40E+01	1.12E+01	3.97E+01		U
Broad Leaf-Grasses	566090001	12/28/2021 11:05	1/3/2022 18:24	Cobalt-57	pCi/kg	3.98E+00	7.89E+00	2.71E+01		U
Broad Leaf-Grasses	566090001	12/28/2021 11:05	1/3/2022 18:24	Cobalt-58	pCi/kg	-2.31E+01	1.21E+01	3.48E+01		U
Broad Leaf-Grasses	566090001	12/28/2021 11:05	1/3/2022 18:24	Cobalt-60	pCi/kg	2.30E+01	1.19E+01	4.43E+01		U
Broad Leaf-Grasses	566090001	12/28/2021 11:05	1/3/2022 18:24	Iodine-131	pCi/kg	1.23E+01	1.69E+01	5.71E+01		U
Broad Leaf-Grasses	566090001	12/28/2021 11:05	1/3/2022 18:24	Iron-59	pCi/kg	3.36E+01	2.78E+01	8.75E+01		U
Broad Leaf-Grasses	566090001	12/28/2021 11:05	1/3/2022 18:24	Lanthanum-140	pCi/kg	-3.21E+01	1.77E+01	5.08E+01		U
Broad Leaf-Grasses	566090001	12/28/2021 11:05	1/3/2022 18:24	Manganese-54	pCi/kg	7.72E+00	1.02E+01	3.41E+01		U
Broad Leaf-Grasses	566090001	12/28/2021 11:05	1/3/2022 18:24	Niobium-95	pCi/kg	-3.09E+00	2.25E+01	3.69E+01		U
Broad Leaf-Grasses	566090001	12/28/2021 11:05	1/3/2022 18:24	Potassium-40	pCi/kg	6.80E+03	4.85E+02	3.25E+02		
Broad Leaf-Grasses	566090001	12/28/2021 11:05	1/3/2022 18:24	Zinc-65	pCi/kg	4.97E+00	2.60E+01	7.89E+01		U
Broad Leaf-Grasses	566090001	12/28/2021 11:05	1/3/2022 18:24	Zirconium-95	pCi/kg	-1.85E+01	2.03E+01	6.22E+01		U
Broad Leaf-Grasses	568665001	1/25/2022 11:03	2/1/2022 7:53	Barium-140	pCi/kg	7.47E+01	4.24E+01	1.36E+02		U
Broad Leaf-Grasses	568665001	1/25/2022 11:03	2/1/2022 7:53	Beryllium-7	pCi/kg	2.07E+03	1.59E+02	2.14E+02		
Broad Leaf-Grasses	568665001	1/25/2022 11:03	2/1/2022 7:53	Cesium-134	pCi/kg	1.73E+01	9.13E+00	3.21E+01		U
Broad Leaf-Grasses	568665001	1/25/2022 11:03	2/1/2022 7:53	Cesium-137	pCi/kg	1.28E+01	8.72E+00	3.00E+01		U
Broad Leaf-Grasses	568665001	1/25/2022 11:03	2/1/2022 7:53	Cobalt-57	pCi/kg	-3.86E+00	6.20E+00	2.08E+01		U
Broad Leaf-Grasses	568665001	1/25/2022 11:03	2/1/2022 7:53	Cobalt-58	pCi/kg	1.77E+01	7.99E+00	2.87E+01		U
Broad Leaf-Grasses	568665001	1/25/2022 11:03	2/1/2022 7:53	Cobalt-60	pCi/kg	9.57E+00	9.24E+00	3.29E+01		U
Broad Leaf-Grasses	568665001	1/25/2022 11:03	2/1/2022 7:53	Iodine-131	pCi/kg	-9.21E+00	1.29E+01	4.14E+01		U
Broad Leaf-Grasses	568665001	1/25/2022 11:03	2/1/2022 7:53	Iron-59	pCi/kg	4.94E+00	1.56E+01	5.39E+01		U
Broad Leaf-Grasses	568665001	1/25/2022 11:03	2/1/2022 7:53	Lanthanum-140	pCi/kg	-2.09E+00	1.34E+01	4.42E+01		U
Broad Leaf-Grasses	568665001	1/25/2022 11:03	2/1/2022 7:53	Manganese-54	pCi/kg	5.96E+00	8.35E+00	2.77E+01		U
Broad Leaf-Grasses	568665001	1/25/2022 11:03	2/1/2022 7:53	Niobium-95	pCi/kg	-4.29E+00	8.63E+00	2.70E+01		U
Broad Leaf-Grasses	568665001	1/25/2022 11:03	2/1/2022 7:53	Potassium-40	pCi/kg	2.65E+03	3.00E+02	2.56E+02		
Broad Leaf-Grasses	568665001	1/25/2022 11:03	2/1/2022 7:53	Zinc-65	pCi/kg	-1.62E+01	1.83E+01	5.07E+01		U
Broad Leaf-Grasses	568665001	1/25/2022 11:03	2/1/2022 7:53	Zirconium-95	pCi/kg	1.40E+01	1.53E+01	5.13E+01		U

Broad Leaf-Grasses	571371001	2/22/2022 9:14	2/25/2022 17:48	Barium-140	pCi/kg	7.31E+00	3.28E+01	1.10E+02		U
Broad Leaf-Grasses	571371001	2/22/2022 9:14	2/25/2022 17:48	Beryllium-7	pCi/kg	5.21E+03	2.10E+02	2.24E+02		
Broad Leaf-Grasses	571371001	2/22/2022 9:14	2/25/2022 17:48	Cesium-134	pCi/kg	-5.04E+00	9.22E+00	2.91E+01		U
Broad Leaf-Grasses	571371001	2/22/2022 9:14	2/25/2022 17:48	Cesium-137	pCi/kg	-1.15E+00	8.19E+00	2.67E+01		U
Broad Leaf-Grasses	571371001	2/22/2022 9:14	2/25/2022 17:48	Cobalt-57	pCi/kg	-8.01E+00	5.62E+00	1.76E+01		U
Broad Leaf-Grasses	571371001	2/22/2022 9:14	2/25/2022 17:48	Cobalt-58	pCi/kg	-2.33E+00	8.30E+00	2.65E+01		U
Broad Leaf-Grasses	571371001	2/22/2022 9:14	2/25/2022 17:48	Cobalt-60	pCi/kg	8.17E+00	7.63E+00	2.73E+01		U
Broad Leaf-Grasses	571371001	2/22/2022 9:14	2/25/2022 17:48	Iodine-131	pCi/kg	-1.41E+01	9.96E+00	3.26E+01		U
Broad Leaf-Grasses	571371001	2/22/2022 9:14	2/25/2022 17:48	Iron-59	pCi/kg	-3.09E+00	1.39E+01	4.65E+01		U
Broad Leaf-Grasses	571371001	2/22/2022 9:14	2/25/2022 17:48	Lanthanum-140	pCi/kg	6.28E-01	9.80E+00	3.25E+01		U
Broad Leaf-Grasses	571371001	2/22/2022 9:14	2/25/2022 17:48	Manganese-54	pCi/kg	-8.05E+00	9.44E+00	2.56E+01		U
Broad Leaf-Grasses	571371001	2/22/2022 9:14	2/25/2022 17:48	Niobium-95	pCi/kg	7.73E+00	8.58E+00	2.89E+01		U
Broad Leaf-Grasses	571371001	2/22/2022 9:14	2/25/2022 17:48	Potassium-40	pCi/kg	9.16E+02	1.92E+02	2.30E+02		
Broad Leaf-Grasses	571371001	2/22/2022 9:14	2/25/2022 17:48	Zinc-65	pCi/kg	7.80E+00	1.52E+01	4.74E+01		U
Broad Leaf-Grasses	571371001	2/22/2022 9:14	2/25/2022 17:48	Zirconium-95	pCi/kg	-2.65E+01	1.47E+01	4.36E+01		U

The data obtained from this website is the most accurate possible at the time of your query and based upon your specific inquiry. This data does not replace the Certificates of Analysis provided by GEL. Certificates of Analysis undergo an additional level of review before being sent to the client that is not possible to perform on the interactive data query provided by this site.

Notes:

1. LLDs are a-priori values.
2. MDCs are calculated a-posteriori values.
3. Gamma spectroscopy analysis results are calculated from a measurement using only one gamma energy line.
4. Air sample volumes are received in units of ft3. GEL converts the units and reports them as m3.

QUALIFIERS:

U Target isotope was analyzed for but not detected above the MDC or LLD.
UI Uncertain identification for gamma spectroscopy.
X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
M Reported result is less than the LLD and greater than the MDC.
DL DL MDC > LLD.

Sample Data For: "BL-2"

Matrix	Lab ID	Collect Date	Run Date	Parmname	Units	Result	Uncertainty	MDC	LLD	Qualifier
Broad Leaf-Grasses	533501003	1/26/2021 12:17	2/4/2021 10:47	Barium-140	pCi/kg	-1.66E+01	3.60E+01	1.20E+02		U
Broad Leaf-Grasses	533501003	1/26/2021 12:17	2/4/2021 10:47	Beryllium-7	pCi/kg	7.75E+03	2.10E+02	1.94E+02		
Broad Leaf-Grasses	533501003	1/26/2021 12:17	2/4/2021 10:47	Cesium-134	pCi/kg	-7.51E+00	7.62E+00	2.40E+01	6.00E+01	U
Broad Leaf-Grasses	533501003	1/26/2021 12:17	2/4/2021 10:47	Cesium-137	pCi/kg	1.54E+01	7.47E+00	2.64E+01	8.00E+01	U
Broad Leaf-Grasses	533501003	1/26/2021 12:17	2/4/2021 10:47	Cobalt-57	pCi/kg	-9.25E-01	4.68E+00	1.55E+01		U
Broad Leaf-Grasses	533501003	1/26/2021 12:17	2/4/2021 10:47	Cobalt-58	pCi/kg	7.60E+00	7.04E+00	2.40E+01		U
Broad Leaf-Grasses	533501003	1/26/2021 12:17	2/4/2021 10:47	Cobalt-60	pCi/kg	1.26E+01	7.16E+00	2.62E+01		U
Broad Leaf-Grasses	533501003	1/26/2021 12:17	2/4/2021 10:47	Iodine-131	pCi/kg	1.76E+00	1.48E+01	4.63E+01	6.00E+01	U
Broad Leaf-Grasses	533501003	1/26/2021 12:17	2/4/2021 10:47	Iron-59	pCi/kg	8.31E+00	1.44E+01	4.75E+01		U
Broad Leaf-Grasses	533501003	1/26/2021 12:17	2/4/2021 10:47	Lanthanum-140	pCi/kg	9.97E+00	1.31E+01	4.55E+01		U
Broad Leaf-Grasses	533501003	1/26/2021 12:17	2/4/2021 10:47	Manganese-54	pCi/kg	1.59E+01	6.86E+00	2.44E+01		U
Broad Leaf-Grasses	533501003	1/26/2021 12:17	2/4/2021 10:47	Niobium-95	pCi/kg	7.25E+00	7.18E+00	2.45E+01		U
Broad Leaf-Grasses	533501003	1/26/2021 12:17	2/4/2021 10:47	Potassium-40	pCi/kg	2.26E+03	2.42E+02	2.52E+02		
Broad Leaf-Grasses	533501003	1/26/2021 12:17	2/4/2021 10:47	Zinc-65	pCi/kg	2.31E+01	1.94E+01	5.09E+01		U
Broad Leaf-Grasses	533501003	1/26/2021 12:17	2/4/2021 10:47	Zirconium-95	pCi/kg	-9.08E+00	1.24E+01	3.96E+01		U
Broad Leaf-Grasses	535857003	2/23/2021 8:11	3/6/2021 15:51	Barium-140	pCi/kg	1.50E+00	2.79E+01	9.37E+01		U
Broad Leaf-Grasses	535857003	2/23/2021 8:11	3/6/2021 15:51	Beryllium-7	pCi/kg	7.72E+03	1.53E+02	1.39E+02		
Broad Leaf-Grasses	535857003	2/23/2021 8:11	3/6/2021 15:51	Cesium-134	pCi/kg	2.38E+00	6.39E+00	1.73E+01		U
Broad Leaf-Grasses	535857003	2/23/2021 8:11	3/6/2021 15:51	Cesium-137	pCi/kg	-5.73E-01	5.35E+00	1.57E+01		U
Broad Leaf-Grasses	535857003	2/23/2021 8:11	3/6/2021 15:51	Cobalt-57	pCi/kg	-6.52E+00	5.35E+00	9.89E+00		U
Broad Leaf-Grasses	535857003	2/23/2021 8:11	3/6/2021 15:51	Cobalt-58	pCi/kg	1.50E+00	4.65E+00	1.46E+01		U
Broad Leaf-Grasses	535857003	2/23/2021 8:11	3/6/2021 15:51	Cobalt-60	pCi/kg	7.09E+00	4.97E+00	1.77E+01		U
Broad Leaf-Grasses	535857003	2/23/2021 8:11	3/6/2021 15:51	Iodine-131	pCi/kg	1.91E+01	1.07E+01	3.82E+01		U
Broad Leaf-Grasses	535857003	2/23/2021 8:11	3/6/2021 15:51	Iron-59	pCi/kg	9.32E+00	1.06E+01	3.50E+01		U
Broad Leaf-Grasses	535857003	2/23/2021 8:11	3/6/2021 15:51	Lanthanum-140	pCi/kg	-6.43E-01	1.06E+01	3.48E+01		U
Broad Leaf-Grasses	535857003	2/23/2021 8:11	3/6/2021 15:51	Manganese-54	pCi/kg	4.95E-01	4.57E+00	1.49E+01		U
Broad Leaf-Grasses	535857003	2/23/2021 8:11	3/6/2021 15:51	Niobium-95	pCi/kg	4.03E+00	4.97E+00	1.67E+01		U
Broad Leaf-Grasses	535857003	2/23/2021 8:11	3/6/2021 15:51	Potassium-40	pCi/kg	1.73E+03	1.49E+02	1.62E+02		
Broad Leaf-Grasses	535857003	2/23/2021 8:11	3/6/2021 15:51	Zinc-65	pCi/kg	1.59E+01	1.02E+01	3.68E+01		U
Broad Leaf-Grasses	535857003	2/23/2021 8:11	3/6/2021 15:51	Zirconium-95	pCi/kg	8.01E+00	9.22E+00	3.10E+01		U

Broad Leaf-Grasses	539604003	3/30/2021 8:42	4/7/2021 7:19	Barium-140	pCi/kg	-6.85E+00	2.15E+01	6.35E+01		U
Broad Leaf-Grasses	539604003	3/30/2021 8:42	4/7/2021 7:19	Beryllium-7	pCi/kg	6.14E+03	1.25E+02	1.07E+02		
Broad Leaf-Grasses	539604003	3/30/2021 8:42	4/7/2021 7:19	Cesium-134	pCi/kg	9.75E+00	4.22E+00	1.49E+01		U
Broad Leaf-Grasses	539604003	3/30/2021 8:42	4/7/2021 7:19	Cesium-137	pCi/kg	-3.44E+00	4.10E+00	1.32E+01		U
Broad Leaf-Grasses	539604003	3/30/2021 8:42	4/7/2021 7:19	Cobalt-57	pCi/kg	-3.43E+00	2.97E+00	9.36E+00		U
Broad Leaf-Grasses	539604003	3/30/2021 8:42	4/7/2021 7:19	Cobalt-58	pCi/kg	4.64E+00	3.74E+00	1.28E+01		U
Broad Leaf-Grasses	539604003	3/30/2021 8:42	4/7/2021 7:19	Cobalt-60	pCi/kg	1.95E+00	4.67E+00	1.43E+01		U
Broad Leaf-Grasses	539604003	3/30/2021 8:42	4/7/2021 7:19	Iodine-131	pCi/kg	6.97E+00	6.80E+00	2.37E+01		U
Broad Leaf-Grasses	539604003	3/30/2021 8:42	4/7/2021 7:19	Iron-59	pCi/kg	-2.24E+00	8.23E+00	2.60E+01		U
Broad Leaf-Grasses	539604003	3/30/2021 8:42	4/7/2021 7:19	Lanthanum-140	pCi/kg	3.12E+00	5.98E+00	2.06E+01		U
Broad Leaf-Grasses	539604003	3/30/2021 8:42	4/7/2021 7:19	Manganese-54	pCi/kg	1.52E+00	3.49E+00	1.16E+01		U
Broad Leaf-Grasses	539604003	3/30/2021 8:42	4/7/2021 7:19	Niobium-95	pCi/kg	7.78E+00	3.84E+00	1.35E+01		U
Broad Leaf-Grasses	539604003	3/30/2021 8:42	4/7/2021 7:19	Potassium-40	pCi/kg	2.85E+03	1.63E+02	1.26E+02		
Broad Leaf-Grasses	539604003	3/30/2021 8:42	4/7/2021 7:19	Zinc-65	pCi/kg	-2.13E+00	8.55E+00	2.70E+01		U
Broad Leaf-Grasses	539604003	3/30/2021 8:42	4/7/2021 7:19	Zirconium-95	pCi/kg	4.03E+01	1.37E+01	2.23E+01		UI
Broad Leaf-Grasses	542443003	4/27/2021 7:48	4/30/2021 22:15	Barium-140	pCi/kg	-5.02E+00	1.95E+01	6.13E+01		U
Broad Leaf-Grasses	542443003	4/27/2021 7:48	4/30/2021 22:15	Beryllium-7	pCi/kg	3.63E+03	1.20E+02	1.23E+02		
Broad Leaf-Grasses	542443003	4/27/2021 7:48	4/30/2021 22:15	Cesium-134	pCi/kg	2.67E+00	5.06E+00	1.71E+01		U
Broad Leaf-Grasses	542443003	4/27/2021 7:48	4/30/2021 22:15	Cesium-137	pCi/kg	5.64E+00	5.08E+00	1.77E+01		U
Broad Leaf-Grasses	542443003	4/27/2021 7:48	4/30/2021 22:15	Cobalt-57	pCi/kg	-5.12E+00	3.05E+00	9.36E+00		U
Broad Leaf-Grasses	542443003	4/27/2021 7:48	4/30/2021 22:15	Cobalt-58	pCi/kg	3.83E+00	5.04E+00	1.72E+01		U
Broad Leaf-Grasses	542443003	4/27/2021 7:48	4/30/2021 22:15	Cobalt-60	pCi/kg	-3.33E+00	5.40E+00	1.74E+01		U
Broad Leaf-Grasses	542443003	4/27/2021 7:48	4/30/2021 22:15	Iodine-131	pCi/kg	-3.16E+00	5.84E+00	1.89E+01		U
Broad Leaf-Grasses	542443003	4/27/2021 7:48	4/30/2021 22:15	Iron-59	pCi/kg	1.11E+01	1.13E+01	3.54E+01		U
Broad Leaf-Grasses	542443003	4/27/2021 7:48	4/30/2021 22:15	Lanthanum-140	pCi/kg	-6.34E+00	7.91E+00	2.06E+01		U
Broad Leaf-Grasses	542443003	4/27/2021 7:48	4/30/2021 22:15	Manganese-54	pCi/kg	3.34E+00	5.41E+00	1.82E+01		U
Broad Leaf-Grasses	542443003	4/27/2021 7:48	4/30/2021 22:15	Niobium-95	pCi/kg	2.18E+00	4.88E+00	1.65E+01		U
Broad Leaf-Grasses	542443003	4/27/2021 7:48	4/30/2021 22:15	Potassium-40	pCi/kg	4.19E+03	2.02E+02	1.55E+02		
Broad Leaf-Grasses	542443003	4/27/2021 7:48	4/30/2021 22:15	Zinc-65	pCi/kg	-1.87E+00	1.18E+01	3.76E+01		U
Broad Leaf-Grasses	542443003	4/27/2021 7:48	4/30/2021 22:15	Zirconium-95	pCi/kg	-4.43E+00	8.14E+00	2.64E+01		U
Broad Leaf-Grasses	545727003	5/25/2021 7:37	6/1/2021 10:00	Barium-140	pCi/kg	-5.67E+00	2.19E+01	6.98E+01		U
Broad Leaf-Grasses	545727003	5/25/2021 7:37	6/1/2021 10:00	Beryllium-7	pCi/kg	3.12E+03	1.43E+02	1.23E+02		
Broad Leaf-Grasses	545727003	5/25/2021 7:37	6/1/2021 10:00	Cesium-134	pCi/kg	-1.68E+00	5.99E+00	1.82E+01		U

Broad Leaf-Grasses	545727003	5/25/2021 7:37	6/1/2021 10:00	Cesium-137	pCi/kg	-8.73E+00	5.58E+00	1.60E+01		U
Broad Leaf-Grasses	545727003	5/25/2021 7:37	6/1/2021 10:00	Cobalt-57	pCi/kg	1.66E+00	2.43E+00	7.86E+00		U
Broad Leaf-Grasses	545727003	5/25/2021 7:37	6/1/2021 10:00	Cobalt-58	pCi/kg	1.71E-01	5.14E+00	1.75E+01		U
Broad Leaf-Grasses	545727003	5/25/2021 7:37	6/1/2021 10:00	Cobalt-60	pCi/kg	1.34E+00	5.22E+00	1.75E+01		U
Broad Leaf-Grasses	545727003	5/25/2021 7:37	6/1/2021 10:00	Iodine-131	pCi/kg	2.24E+00	8.03E+00	2.70E+01		U
Broad Leaf-Grasses	545727003	5/25/2021 7:37	6/1/2021 10:00	Iron-59	pCi/kg	4.56E+00	1.14E+01	3.88E+01		U
Broad Leaf-Grasses	545727003	5/25/2021 7:37	6/1/2021 10:00	Lanthanum-140	pCi/kg	-3.96E+00	8.25E+00	2.51E+01		U
Broad Leaf-Grasses	545727003	5/25/2021 7:37	6/1/2021 10:00	Manganese-54	pCi/kg	8.29E+00	4.85E+00	1.81E+01		U
Broad Leaf-Grasses	545727003	5/25/2021 7:37	6/1/2021 10:00	Niobium-95	pCi/kg	-5.98E+00	5.15E+00	1.63E+01		U
Broad Leaf-Grasses	545727003	5/25/2021 7:37	6/1/2021 10:00	Potassium-40	pCi/kg	3.87E+03	2.23E+02	1.48E+02		
Broad Leaf-Grasses	545727003	5/25/2021 7:37	6/1/2021 10:00	Zinc-65	pCi/kg	-5.44E+00	1.27E+01	4.10E+01		U
Broad Leaf-Grasses	545727003	5/25/2021 7:37	6/1/2021 10:00	Zirconium-95	pCi/kg	-9.38E+00	9.79E+00	2.69E+01		U
Broad Leaf-Grasses	548822003	6/29/2021 9:17	7/7/2021 9:28	Barium-140	pCi/kg	-1.39E+01	2.15E+01	6.55E+01		U
Broad Leaf-Grasses	548822003	6/29/2021 9:17	7/7/2021 9:28	Beryllium-7	pCi/kg	3.52E+03	1.33E+02	1.08E+02		
Broad Leaf-Grasses	548822003	6/29/2021 9:17	7/7/2021 9:28	Cesium-134	pCi/kg	1.24E+01	4.84E+00	1.84E+01		U
Broad Leaf-Grasses	548822003	6/29/2021 9:17	7/7/2021 9:28	Cesium-137	pCi/kg	8.40E-01	4.92E+00	1.48E+01		U
Broad Leaf-Grasses	548822003	6/29/2021 9:17	7/7/2021 9:28	Cobalt-57	pCi/kg	-3.28E+00	3.30E+00	9.99E+00		U
Broad Leaf-Grasses	548822003	6/29/2021 9:17	7/7/2021 9:28	Cobalt-58	pCi/kg	-7.20E+00	4.10E+00	1.19E+01		U
Broad Leaf-Grasses	548822003	6/29/2021 9:17	7/7/2021 9:28	Cobalt-60	pCi/kg	8.70E-01	4.53E+00	1.55E+01		U
Broad Leaf-Grasses	548822003	6/29/2021 9:17	7/7/2021 9:28	Iodine-131	pCi/kg	-4.04E+00	7.20E+00	2.29E+01		U
Broad Leaf-Grasses	548822003	6/29/2021 9:17	7/7/2021 9:28	Iron-59	pCi/kg	-1.39E+00	9.94E+00	3.19E+01		U
Broad Leaf-Grasses	548822003	6/29/2021 9:17	7/7/2021 9:28	Lanthanum-140	pCi/kg	-5.83E+00	9.17E+00	2.55E+01		U
Broad Leaf-Grasses	548822003	6/29/2021 9:17	7/7/2021 9:28	Manganese-54	pCi/kg	-3.42E+00	4.71E+00	1.41E+01		U
Broad Leaf-Grasses	548822003	6/29/2021 9:17	7/7/2021 9:28	Niobium-95	pCi/kg	3.50E+00	4.47E+00	1.56E+01		U
Broad Leaf-Grasses	548822003	6/29/2021 9:17	7/7/2021 9:28	Potassium-40	pCi/kg	4.19E+03	1.99E+02	1.44E+02		
Broad Leaf-Grasses	548822003	6/29/2021 9:17	7/7/2021 9:28	Zinc-65	pCi/kg	1.35E+00	1.35E+01	3.66E+01		U
Broad Leaf-Grasses	548822003	6/29/2021 9:17	7/7/2021 9:28	Zirconium-95	pCi/kg	2.55E+00	7.01E+00	2.40E+01		U
Broad Leaf-Grasses	551022003	7/27/2021 8:21	8/5/2021 15:26	Barium-140	pCi/kg	1.01E+01	2.38E+01	8.04E+01		U
Broad Leaf-Grasses	551022003	7/27/2021 8:21	8/5/2021 15:26	Beryllium-7	pCi/kg	4.28E+02	9.30E+01	1.23E+02		
Broad Leaf-Grasses	551022003	7/27/2021 8:21	8/5/2021 15:26	Cesium-134	pCi/kg	-1.13E+00	5.34E+00	1.70E+01		U
Broad Leaf-Grasses	551022003	7/27/2021 8:21	8/5/2021 15:26	Cesium-137	pCi/kg	1.42E+00	4.87E+00	1.61E+01		U
Broad Leaf-Grasses	551022003	7/27/2021 8:21	8/5/2021 15:26	Cobalt-57	pCi/kg	-1.94E-01	3.07E+00	9.98E+00		U
Broad Leaf-Grasses	551022003	7/27/2021 8:21	8/5/2021 15:26	Cobalt-58	pCi/kg	-8.90E-01	4.33E+00	1.37E+01		U

Broad Leaf-Grasses	551022003	7/27/2021 8:21	8/5/2021 15:26	Cobalt-60	pCi/kg	8.19E-01	4.67E+00	1.57E+01		U
Broad Leaf-Grasses	551022003	7/27/2021 8:21	8/5/2021 15:26	Iodine-131	pCi/kg	-2.74E+00	8.39E+00	2.81E+01		U
Broad Leaf-Grasses	551022003	7/27/2021 8:21	8/5/2021 15:26	Iron-59	pCi/kg	1.34E+01	8.34E+00	3.12E+01		U
Broad Leaf-Grasses	551022003	7/27/2021 8:21	8/5/2021 15:26	Lanthanum-140	pCi/kg	6.42E+00	6.11E+00	2.25E+01		U
Broad Leaf-Grasses	551022003	7/27/2021 8:21	8/5/2021 15:26	Manganese-54	pCi/kg	6.01E-01	4.95E+00	1.60E+01		U
Broad Leaf-Grasses	551022003	7/27/2021 8:21	8/5/2021 15:26	Niobium-95	pCi/kg	-9.97E-01	4.56E+00	1.45E+01		U
Broad Leaf-Grasses	551022003	7/27/2021 8:21	8/5/2021 15:26	Potassium-40	pCi/kg	5.02E+03	2.09E+02	1.26E+02		
Broad Leaf-Grasses	551022003	7/27/2021 8:21	8/5/2021 15:26	Zinc-65	pCi/kg	6.26E+00	1.05E+01	3.67E+01		U
Broad Leaf-Grasses	551022003	7/27/2021 8:21	8/5/2021 15:26	Zirconium-95	pCi/kg	7.74E+00	8.33E+00	2.84E+01		U
Broad Leaf-Grasses	554766003	8/31/2021 6:31	9/4/2021 19:57	Barium-140	pCi/kg	-2.46E+01	2.97E+01	5.53E+01		U
Broad Leaf-Grasses	554766003	8/31/2021 6:31	9/4/2021 19:57	Beryllium-7	pCi/kg	1.33E+03	7.76E+01	1.05E+02		
Broad Leaf-Grasses	554766003	8/31/2021 6:31	9/4/2021 19:57	Cesium-134	pCi/kg	-2.97E+00	4.66E+00	1.46E+01		U
Broad Leaf-Grasses	554766003	8/31/2021 6:31	9/4/2021 19:57	Cesium-137	pCi/kg	2.55E-01	4.38E+00	1.43E+01		U
Broad Leaf-Grasses	554766003	8/31/2021 6:31	9/4/2021 19:57	Cobalt-57	pCi/kg	3.77E+00	2.32E+00	7.19E+00		U
Broad Leaf-Grasses	554766003	8/31/2021 6:31	9/4/2021 19:57	Cobalt-58	pCi/kg	4.66E+00	3.95E+00	1.32E+01		U
Broad Leaf-Grasses	554766003	8/31/2021 6:31	9/4/2021 19:57	Cobalt-60	pCi/kg	3.43E+00	4.11E+00	1.42E+01		U
Broad Leaf-Grasses	554766003	8/31/2021 6:31	9/4/2021 19:57	Iodine-131	pCi/kg	-5.30E-01	4.96E+00	1.67E+01		U
Broad Leaf-Grasses	554766003	8/31/2021 6:31	9/4/2021 19:57	Iron-59	pCi/kg	-3.61E+00	8.47E+00	2.81E+01		U
Broad Leaf-Grasses	554766003	8/31/2021 6:31	9/4/2021 19:57	Lanthanum-140	pCi/kg	4.20E+00	5.61E+00	1.92E+01		U
Broad Leaf-Grasses	554766003	8/31/2021 6:31	9/4/2021 19:57	Manganese-54	pCi/kg	-2.26E+00	4.22E+00	1.32E+01		U
Broad Leaf-Grasses	554766003	8/31/2021 6:31	9/4/2021 19:57	Niobium-95	pCi/kg	-1.41E+01	7.13E+00	1.41E+01		U
Broad Leaf-Grasses	554766003	8/31/2021 6:31	9/4/2021 19:57	Potassium-40	pCi/kg	3.89E+03	1.85E+02	1.35E+02		
Broad Leaf-Grasses	554766003	8/31/2021 6:31	9/4/2021 19:57	Zinc-65	pCi/kg	2.12E+01	1.00E+01	3.28E+01		U
Broad Leaf-Grasses	554766003	8/31/2021 6:31	9/4/2021 19:57	Zirconium-95	pCi/kg	1.01E+01	7.43E+00	2.51E+01		U
Broad Leaf-Grasses	557318003	9/28/2021 8:44	10/5/2021 13:22	Barium-140	pCi/kg	7.70E+01	4.56E+01	1.44E+02		U
Broad Leaf-Grasses	557318003	9/28/2021 8:44	10/5/2021 13:22	Beryllium-7	pCi/kg	3.07E+03	2.12E+02	2.29E+02		
Broad Leaf-Grasses	557318003	9/28/2021 8:44	10/5/2021 13:22	Cesium-134	pCi/kg	1.05E+01	1.02E+01	3.38E+01		U
Broad Leaf-Grasses	557318003	9/28/2021 8:44	10/5/2021 13:22	Cesium-137	pCi/kg	1.81E+01	8.94E+00	3.08E+01		U
Broad Leaf-Grasses	557318003	9/28/2021 8:44	10/5/2021 13:22	Cobalt-57	pCi/kg	2.90E+00	6.51E+00	2.08E+01		U
Broad Leaf-Grasses	557318003	9/28/2021 8:44	10/5/2021 13:22	Cobalt-58	pCi/kg	-1.89E+00	8.49E+00	2.67E+01		U
Broad Leaf-Grasses	557318003	9/28/2021 8:44	10/5/2021 13:22	Cobalt-60	pCi/kg	-9.52E+00	9.45E+00	2.96E+01		U
Broad Leaf-Grasses	557318003	9/28/2021 8:44	10/5/2021 13:22	Iodine-131	pCi/kg	2.36E+01	1.47E+01	5.09E+01		U
Broad Leaf-Grasses	557318003	9/28/2021 8:44	10/5/2021 13:22	Iron-59	pCi/kg	5.88E+00	1.78E+01	6.03E+01		U

Broad Leaf-Grasses	557318003	9/28/2021 8:44	10/5/2021 13:22	Lanthanum-140	pCi/kg	-8.73E+00	1.57E+01	4.95E+01		U
Broad Leaf-Grasses	557318003	9/28/2021 8:44	10/5/2021 13:22	Manganese-54	pCi/kg	-2.64E+00	9.05E+00	2.83E+01		U
Broad Leaf-Grasses	557318003	9/28/2021 8:44	10/5/2021 13:22	Niobium-95	pCi/kg	-8.47E+00	1.47E+01	2.93E+01		U
Broad Leaf-Grasses	557318003	9/28/2021 8:44	10/5/2021 13:22	Potassium-40	pCi/kg	7.36E+03	3.65E+02	2.87E+02		
Broad Leaf-Grasses	557318003	9/28/2021 8:44	10/5/2021 13:22	Zinc-65	pCi/kg	2.63E+01	1.97E+01	6.26E+01		U
Broad Leaf-Grasses	557318003	9/28/2021 8:44	10/5/2021 13:22	Zirconium-95	pCi/kg	-5.69E+00	1.59E+01	4.99E+01		U
Broad Leaf-Grasses	560325003	10/26/2021 12:24	11/1/2021 15:46	Barium-140	pCi/kg	3.91E+01	3.67E+01	1.27E+02		U
Broad Leaf-Grasses	560325003	10/26/2021 12:24	11/1/2021 15:46	Beryllium-7	pCi/kg	4.16E+03	2.02E+02	2.12E+02		
Broad Leaf-Grasses	560325003	10/26/2021 12:24	11/1/2021 15:46	Cesium-134	pCi/kg	3.14E+00	9.88E+00	3.24E+01		U
Broad Leaf-Grasses	560325003	10/26/2021 12:24	11/1/2021 15:46	Cesium-137	pCi/kg	-6.57E+00	9.53E+00	3.04E+01		U
Broad Leaf-Grasses	560325003	10/26/2021 12:24	11/1/2021 15:46	Cobalt-57	pCi/kg	2.15E+00	6.08E+00	1.98E+01		U
Broad Leaf-Grasses	560325003	10/26/2021 12:24	11/1/2021 15:46	Cobalt-58	pCi/kg	1.17E+00	8.76E+00	2.84E+01		U
Broad Leaf-Grasses	560325003	10/26/2021 12:24	11/1/2021 15:46	Cobalt-60	pCi/kg	1.46E+00	1.02E+01	3.43E+01		U
Broad Leaf-Grasses	560325003	10/26/2021 12:24	11/1/2021 15:46	Iodine-131	pCi/kg	-5.45E+00	1.28E+01	4.29E+01		U
Broad Leaf-Grasses	560325003	10/26/2021 12:24	11/1/2021 15:46	Iron-59	pCi/kg	-1.01E+01	1.61E+01	5.29E+01		U
Broad Leaf-Grasses	560325003	10/26/2021 12:24	11/1/2021 15:46	Lanthanum-140	pCi/kg	-3.76E+00	1.26E+01	4.07E+01		U
Broad Leaf-Grasses	560325003	10/26/2021 12:24	11/1/2021 15:46	Manganese-54	pCi/kg	5.85E+00	8.70E+00	2.88E+01		U
Broad Leaf-Grasses	560325003	10/26/2021 12:24	11/1/2021 15:46	Niobium-95	pCi/kg	-1.27E+00	8.29E+00	2.67E+01		U
Broad Leaf-Grasses	560325003	10/26/2021 12:24	11/1/2021 15:46	Potassium-40	pCi/kg	2.55E+03	3.20E+02	3.31E+02		
Broad Leaf-Grasses	560325003	10/26/2021 12:24	11/1/2021 15:46	Zinc-65	pCi/kg	2.63E+01	1.98E+01	6.42E+01		U
Broad Leaf-Grasses	560325003	10/26/2021 12:24	11/1/2021 15:46	Zirconium-95	pCi/kg	2.60E+00	1.56E+01	5.08E+01		U
Broad Leaf-Grasses	563530003	11/30/2021 12:24	12/3/2021 11:37	Barium-140	pCi/kg	-3.01E+01	2.97E+01	9.28E+01		U
Broad Leaf-Grasses	563530003	11/30/2021 12:24	12/3/2021 11:37	Beryllium-7	pCi/kg	2.33E+03	1.70E+02	2.18E+02		
Broad Leaf-Grasses	563530003	11/30/2021 12:24	12/3/2021 11:37	Cesium-134	pCi/kg	1.06E+00	8.49E+00	2.75E+01		U
Broad Leaf-Grasses	563530003	11/30/2021 12:24	12/3/2021 11:37	Cesium-137	pCi/kg	1.65E+01	1.33E+01	2.29E+01		U
Broad Leaf-Grasses	563530003	11/30/2021 12:24	12/3/2021 11:37	Cobalt-57	pCi/kg	-5.44E+00	5.13E+00	1.59E+01		U
Broad Leaf-Grasses	563530003	11/30/2021 12:24	12/3/2021 11:37	Cobalt-58	pCi/kg	1.19E+01	7.56E+00	2.66E+01		U
Broad Leaf-Grasses	563530003	11/30/2021 12:24	12/3/2021 11:37	Cobalt-60	pCi/kg	9.62E+00	8.17E+00	2.96E+01		U
Broad Leaf-Grasses	563530003	11/30/2021 12:24	12/3/2021 11:37	Iodine-131	pCi/kg	5.13E+01	2.00E+01	2.53E+01		UI
Broad Leaf-Grasses	563530003	11/30/2021 12:24	12/3/2021 11:37	Iron-59	pCi/kg	1.16E+01	1.68E+01	5.89E+01		U
Broad Leaf-Grasses	563530003	11/30/2021 12:24	12/3/2021 11:37	Lanthanum-140	pCi/kg	9.33E+00	9.99E+00	3.55E+01		U
Broad Leaf-Grasses	563530003	11/30/2021 12:24	12/3/2021 11:37	Manganese-54	pCi/kg	-5.82E+00	8.58E+00	2.63E+01		U
Broad Leaf-Grasses	563530003	11/30/2021 12:24	12/3/2021 11:37	Niobium-95	pCi/kg	-1.02E+00	7.75E+00	2.47E+01		U

Broad Leaf-Grasses	563530003	11/30/2021 12:24	12/3/2021 11:37	Potassium-40	pCi/kg	4.50E+03	3.24E+02	2.79E+02		
Broad Leaf-Grasses	563530003	11/30/2021 12:24	12/3/2021 11:37	Zinc-65	pCi/kg	1.94E+01	1.78E+01	6.36E+01		U
Broad Leaf-Grasses	563530003	11/30/2021 12:24	12/3/2021 11:37	Zirconium-95	pCi/kg	1.44E+01	1.30E+01	4.47E+01		U
Broad Leaf-Grasses	566090003	12/28/2021 8:43	1/3/2022 18:24	Barium-140	pCi/kg	1.58E+01	4.88E+01	1.64E+02		U
Broad Leaf-Grasses	566090003	12/28/2021 8:43	1/3/2022 18:24	Beryllium-7	pCi/kg	2.12E+03	1.87E+02	2.79E+02		
Broad Leaf-Grasses	566090003	12/28/2021 8:43	1/3/2022 18:24	Cesium-134	pCi/kg	-1.00E+01	1.27E+01	3.95E+01		U
Broad Leaf-Grasses	566090003	12/28/2021 8:43	1/3/2022 18:24	Cesium-137	pCi/kg	9.72E-01	1.04E+01	3.43E+01		U
Broad Leaf-Grasses	566090003	12/28/2021 8:43	1/3/2022 18:24	Cobalt-57	pCi/kg	-5.25E+00	7.58E+00	2.44E+01		U
Broad Leaf-Grasses	566090003	12/28/2021 8:43	1/3/2022 18:24	Cobalt-58	pCi/kg	8.66E+00	9.72E+00	3.29E+01		U
Broad Leaf-Grasses	566090003	12/28/2021 8:43	1/3/2022 18:24	Cobalt-60	pCi/kg	5.33E+00	1.17E+01	4.01E+01		U
Broad Leaf-Grasses	566090003	12/28/2021 8:43	1/3/2022 18:24	Iodine-131	pCi/kg	9.18E+00	1.57E+01	5.42E+01		U
Broad Leaf-Grasses	566090003	12/28/2021 8:43	1/3/2022 18:24	Iron-59	pCi/kg	-3.49E+01	2.06E+01	6.31E+01		U
Broad Leaf-Grasses	566090003	12/28/2021 8:43	1/3/2022 18:24	Lanthanum-140	pCi/kg	4.29E+01	2.17E+01	5.54E+01		U
Broad Leaf-Grasses	566090003	12/28/2021 8:43	1/3/2022 18:24	Manganese-54	pCi/kg	9.03E+00	9.76E+00	3.29E+01		U
Broad Leaf-Grasses	566090003	12/28/2021 8:43	1/3/2022 18:24	Niobium-95	pCi/kg	4.81E-01	1.29E+01	3.74E+01		U
Broad Leaf-Grasses	566090003	12/28/2021 8:43	1/3/2022 18:24	Potassium-40	pCi/kg	6.63E+03	4.11E+02	3.14E+02		
Broad Leaf-Grasses	566090003	12/28/2021 8:43	1/3/2022 18:24	Zinc-65	pCi/kg	2.62E+01	2.45E+01	7.87E+01		U
Broad Leaf-Grasses	566090003	12/28/2021 8:43	1/3/2022 18:24	Zirconium-95	pCi/kg	2.20E+01	1.90E+01	6.49E+01		U
Broad Leaf-Grasses	568665003	1/25/2022 9:23	2/1/2022 7:54	Barium-140	pCi/kg	-3.17E+01	3.56E+01	1.12E+02		U
Broad Leaf-Grasses	568665003	1/25/2022 9:23	2/1/2022 7:54	Beryllium-7	pCi/kg	2.15E+03	1.79E+02	2.41E+02		
Broad Leaf-Grasses	568665003	1/25/2022 9:23	2/1/2022 7:54	Cesium-134	pCi/kg	6.81E+00	1.00E+01	3.39E+01		U
Broad Leaf-Grasses	568665003	1/25/2022 9:23	2/1/2022 7:54	Cesium-137	pCi/kg	-9.44E+00	8.09E+00	2.43E+01		U
Broad Leaf-Grasses	568665003	1/25/2022 9:23	2/1/2022 7:54	Cobalt-57	pCi/kg	3.20E+00	5.99E+00	2.00E+01		U
Broad Leaf-Grasses	568665003	1/25/2022 9:23	2/1/2022 7:54	Cobalt-58	pCi/kg	-2.06E+00	6.75E+00	2.11E+01		U
Broad Leaf-Grasses	568665003	1/25/2022 9:23	2/1/2022 7:54	Cobalt-60	pCi/kg	-2.13E+00	7.66E+00	2.48E+01		U
Broad Leaf-Grasses	568665003	1/25/2022 9:23	2/1/2022 7:54	Iodine-131	pCi/kg	-6.25E+00	1.26E+01	4.20E+01		U
Broad Leaf-Grasses	568665003	1/25/2022 9:23	2/1/2022 7:54	Iron-59	pCi/kg	-1.90E+01	1.51E+01	4.54E+01		U
Broad Leaf-Grasses	568665003	1/25/2022 9:23	2/1/2022 7:54	Lanthanum-140	pCi/kg	-1.62E+01	1.27E+01	3.45E+01		U
Broad Leaf-Grasses	568665003	1/25/2022 9:23	2/1/2022 7:54	Manganese-54	pCi/kg	9.54E+00	7.92E+00	2.78E+01		U
Broad Leaf-Grasses	568665003	1/25/2022 9:23	2/1/2022 7:54	Niobium-95	pCi/kg	3.76E+00	7.81E+00	2.62E+01		U
Broad Leaf-Grasses	568665003	1/25/2022 9:23	2/1/2022 7:54	Potassium-40	pCi/kg	1.89E+03	2.53E+02	1.99E+02		
Broad Leaf-Grasses	568665003	1/25/2022 9:23	2/1/2022 7:54	Zinc-65	pCi/kg	-4.42E+01	2.05E+01	5.29E+01		U
Broad Leaf-Grasses	568665003	1/25/2022 9:23	2/1/2022 7:54	Zirconium-95	pCi/kg	-8.64E+00	1.22E+01	3.71E+01		U

Broad Leaf-Grasses	571371003	2/22/2022 8:03	2/25/2022 17:49	Barium-140	pCi/kg	-4.66E+00	2.52E+01	8.14E+01		U
Broad Leaf-Grasses	571371003	2/22/2022 8:03	2/25/2022 17:49	Beryllium-7	pCi/kg	3.67E+03	1.74E+02	1.85E+02		
Broad Leaf-Grasses	571371003	2/22/2022 8:03	2/25/2022 17:49	Cesium-134	pCi/kg	5.42E+00	7.42E+00	2.60E+01		U
Broad Leaf-Grasses	571371003	2/22/2022 8:03	2/25/2022 17:49	Cesium-137	pCi/kg	3.17E+00	6.64E+00	2.18E+01		U
Broad Leaf-Grasses	571371003	2/22/2022 8:03	2/25/2022 17:49	Cobalt-57	pCi/kg	-3.56E+00	4.88E+00	1.57E+01		U
Broad Leaf-Grasses	571371003	2/22/2022 8:03	2/25/2022 17:49	Cobalt-58	pCi/kg	6.98E-01	5.58E+00	1.90E+01		U
Broad Leaf-Grasses	571371003	2/22/2022 8:03	2/25/2022 17:49	Cobalt-60	pCi/kg	4.95E+00	7.49E+00	2.54E+01		U
Broad Leaf-Grasses	571371003	2/22/2022 8:03	2/25/2022 17:49	Iodine-131	pCi/kg	1.39E+00	8.57E+00	2.90E+01		U
Broad Leaf-Grasses	571371003	2/22/2022 8:03	2/25/2022 17:49	Iron-59	pCi/kg	-2.47E+01	1.30E+01	3.76E+01		U
Broad Leaf-Grasses	571371003	2/22/2022 8:03	2/25/2022 17:49	Lanthanum-140	pCi/kg	-7.14E+00	9.32E+00	2.96E+01		U
Broad Leaf-Grasses	571371003	2/22/2022 8:03	2/25/2022 17:49	Manganese-54	pCi/kg	-8.48E+00	5.78E+00	1.80E+01		U
Broad Leaf-Grasses	571371003	2/22/2022 8:03	2/25/2022 17:49	Niobium-95	pCi/kg	1.22E+01	6.48E+00	2.37E+01		U
Broad Leaf-Grasses	571371003	2/22/2022 8:03	2/25/2022 17:49	Potassium-40	pCi/kg	1.63E+03	2.14E+02	2.22E+02		
Broad Leaf-Grasses	571371003	2/22/2022 8:03	2/25/2022 17:49	Zinc-65	pCi/kg	9.31E-02	1.47E+01	4.84E+01		U
Broad Leaf-Grasses	571371003	2/22/2022 8:03	2/25/2022 17:49	Zirconium-95	pCi/kg	1.99E+01	1.17E+01	4.04E+01		U

Sample Data For: "BL-3"

Matrix	Lab ID	Collect Date	Run Date	Parmname	Units	Result	Uncertainty	MDC	LLD	Qualifier
Broad Leaf-Grasses	533501002	1/26/2021 8:43	2/4/2021 17:26	Barium-140	pCi/kg	-1.68E+01	2.14E+01	6.84E+01		U
Broad Leaf-Grasses	533501002	1/26/2021 8:43	2/4/2021 17:26	Beryllium-7	pCi/kg	4.73E+03	1.27E+02	1.22E+02		
Broad Leaf-Grasses	533501002	1/26/2021 8:43	2/4/2021 17:26	Cesium-134	pCi/kg	5.28E+00	4.84E+00	1.63E+01	6.00E+01	U
Broad Leaf-Grasses	533501002	1/26/2021 8:43	2/4/2021 17:26	Cesium-137	pCi/kg	1.14E+01	5.81E+00	1.23E+01	8.00E+01	U
Broad Leaf-Grasses	533501002	1/26/2021 8:43	2/4/2021 17:26	Cobalt-57	pCi/kg	2.21E+00	2.90E+00	9.55E+00		U
Broad Leaf-Grasses	533501002	1/26/2021 8:43	2/4/2021 17:26	Cobalt-58	pCi/kg	-6.29E+00	4.25E+00	1.26E+01		U
Broad Leaf-Grasses	533501002	1/26/2021 8:43	2/4/2021 17:26	Cobalt-60	pCi/kg	-4.77E-01	4.45E+00	1.47E+01		U
Broad Leaf-Grasses	533501002	1/26/2021 8:43	2/4/2021 17:26	Iodine-131	pCi/kg	-3.41E+00	8.05E+00	2.69E+01	6.00E+01	U
Broad Leaf-Grasses	533501002	1/26/2021 8:43	2/4/2021 17:26	Iron-59	pCi/kg	-8.28E-01	7.56E+00	2.53E+01		U
Broad Leaf-Grasses	533501002	1/26/2021 8:43	2/4/2021 17:26	Lanthanum-140	pCi/kg	-1.50E+01	8.65E+00	2.50E+01		U
Broad Leaf-Grasses	533501002	1/26/2021 8:43	2/4/2021 17:26	Manganese-54	pCi/kg	-1.48E+00	4.22E+00	1.33E+01		U
Broad Leaf-Grasses	533501002	1/26/2021 8:43	2/4/2021 17:26	Niobium-95	pCi/kg	-7.49E+00	4.41E+00	1.31E+01		U
Broad Leaf-Grasses	533501002	1/26/2021 8:43	2/4/2021 17:26	Potassium-40	pCi/kg	1.43E+03	1.47E+02	1.32E+02		
Broad Leaf-Grasses	533501002	1/26/2021 8:43	2/4/2021 17:26	Zinc-65	pCi/kg	1.67E+01	8.71E+00	2.95E+01		U

Broad Leaf-Grasses	533501002	1/26/2021 8:43	2/4/2021 17:26	Zirconium-95	pCi/kg	8.00E+00	7.08E+00	2.41E+01		U
Broad Leaf-Grasses	535857002	2/23/2021 8:59	3/6/2021 15:50	Barium-140	pCi/kg	2.47E+01	4.03E+01	1.39E+02		U
Broad Leaf-Grasses	535857002	2/23/2021 8:59	3/6/2021 15:50	Beryllium-7	pCi/kg	6.49E+03	1.83E+02	1.92E+02		
Broad Leaf-Grasses	535857002	2/23/2021 8:59	3/6/2021 15:50	Cesium-134	pCi/kg	7.91E-01	7.72E+00	2.56E+01		U
Broad Leaf-Grasses	535857002	2/23/2021 8:59	3/6/2021 15:50	Cesium-137	pCi/kg	1.36E+01	9.29E+00	2.09E+01		U
Broad Leaf-Grasses	535857002	2/23/2021 8:59	3/6/2021 15:50	Cobalt-57	pCi/kg	-3.13E+00	4.45E+00	1.44E+01		U
Broad Leaf-Grasses	535857002	2/23/2021 8:59	3/6/2021 15:50	Cobalt-58	pCi/kg	-2.87E+00	6.88E+00	2.23E+01		U
Broad Leaf-Grasses	535857002	2/23/2021 8:59	3/6/2021 15:50	Cobalt-60	pCi/kg	1.08E+00	6.40E+00	2.05E+01		U
Broad Leaf-Grasses	535857002	2/23/2021 8:59	3/6/2021 15:50	Iodine-131	pCi/kg	-2.51E+01	1.84E+01	4.99E+01		U
Broad Leaf-Grasses	535857002	2/23/2021 8:59	3/6/2021 15:50	Iron-59	pCi/kg	-9.31E+00	1.54E+01	4.82E+01		U
Broad Leaf-Grasses	535857002	2/23/2021 8:59	3/6/2021 15:50	Lanthanum-140	pCi/kg	-2.67E+01	1.31E+01	3.86E+01		U
Broad Leaf-Grasses	535857002	2/23/2021 8:59	3/6/2021 15:50	Manganese-54	pCi/kg	-6.06E-01	6.93E+00	2.27E+01		U
Broad Leaf-Grasses	535857002	2/23/2021 8:59	3/6/2021 15:50	Niobium-95	pCi/kg	1.31E+01	7.46E+00	2.61E+01		U
Broad Leaf-Grasses	535857002	2/23/2021 8:59	3/6/2021 15:50	Potassium-40	pCi/kg	3.06E+03	2.44E+02	1.72E+02		
Broad Leaf-Grasses	535857002	2/23/2021 8:59	3/6/2021 15:50	Zinc-65	pCi/kg	-3.00E+01	1.71E+01	5.10E+01		U
Broad Leaf-Grasses	535857002	2/23/2021 8:59	3/6/2021 15:50	Zirconium-95	pCi/kg	-3.24E+01	1.21E+01	3.58E+01		U
Broad Leaf-Grasses	539604002	3/30/2021 9:35	4/7/2021 7:19	Barium-140	pCi/kg	2.19E+01	2.48E+01	8.44E+01		U
Broad Leaf-Grasses	539604002	3/30/2021 9:35	4/7/2021 7:19	Beryllium-7	pCi/kg	1.10E+04	1.88E+02	1.40E+02		
Broad Leaf-Grasses	539604002	3/30/2021 9:35	4/7/2021 7:19	Cesium-134	pCi/kg	1.05E+01	5.90E+00	2.01E+01		U
Broad Leaf-Grasses	539604002	3/30/2021 9:35	4/7/2021 7:19	Cesium-137	pCi/kg	5.66E+00	5.03E+00	1.70E+01		U
Broad Leaf-Grasses	539604002	3/30/2021 9:35	4/7/2021 7:19	Cobalt-57	pCi/kg	-2.75E+00	3.86E+00	1.24E+01		U
Broad Leaf-Grasses	539604002	3/30/2021 9:35	4/7/2021 7:19	Cobalt-58	pCi/kg	-7.34E+00	4.88E+00	1.47E+01		U
Broad Leaf-Grasses	539604002	3/30/2021 9:35	4/7/2021 7:19	Cobalt-60	pCi/kg	5.91E-02	5.51E+00	1.83E+01		U
Broad Leaf-Grasses	539604002	3/30/2021 9:35	4/7/2021 7:19	Iodine-131	pCi/kg	4.44E+00	9.51E+00	3.26E+01		U
Broad Leaf-Grasses	539604002	3/30/2021 9:35	4/7/2021 7:19	Iron-59	pCi/kg	1.17E+01	1.06E+01	3.73E+01		U
Broad Leaf-Grasses	539604002	3/30/2021 9:35	4/7/2021 7:19	Lanthanum-140	pCi/kg	-9.63E+00	9.03E+00	2.78E+01		U
Broad Leaf-Grasses	539604002	3/30/2021 9:35	4/7/2021 7:19	Manganese-54	pCi/kg	3.91E+00	5.18E+00	1.71E+01		U
Broad Leaf-Grasses	539604002	3/30/2021 9:35	4/7/2021 7:19	Niobium-95	pCi/kg	1.06E+01	5.27E+00	1.82E+01		U
Broad Leaf-Grasses	539604002	3/30/2021 9:35	4/7/2021 7:19	Potassium-40	pCi/kg	2.88E+03	2.05E+02	1.58E+02		
Broad Leaf-Grasses	539604002	3/30/2021 9:35	4/7/2021 7:19	Zinc-65	pCi/kg	-5.48E+00	1.11E+01	3.65E+01		U
Broad Leaf-Grasses	539604002	3/30/2021 9:35	4/7/2021 7:19	Zirconium-95	pCi/kg	4.01E+00	9.13E+00	3.00E+01		U
Broad Leaf-Grasses	542443002	4/27/2021 9:10	4/30/2021 20:15	Barium-140	pCi/kg	2.15E+01	2.50E+01	8.89E+01		U
Broad Leaf-Grasses	542443002	4/27/2021 9:10	4/30/2021 20:15	Beryllium-7	pCi/kg	1.52E+03	1.29E+02	1.49E+02		

Broad Leaf-Grasses	542443002	4/27/2021 9:10	4/30/2021 20:15	Cesium-134	pCi/kg	4.91E+00	6.89E+00	2.40E+01		U
Broad Leaf-Grasses	542443002	4/27/2021 9:10	4/30/2021 20:15	Cesium-137	pCi/kg	-1.53E+00	8.14E+00	2.60E+01		U
Broad Leaf-Grasses	542443002	4/27/2021 9:10	4/30/2021 20:15	Cobalt-57	pCi/kg	1.79E+00	4.92E+00	1.63E+01		U
Broad Leaf-Grasses	542443002	4/27/2021 9:10	4/30/2021 20:15	Cobalt-58	pCi/kg	1.59E+00	6.53E+00	2.16E+01		U
Broad Leaf-Grasses	542443002	4/27/2021 9:10	4/30/2021 20:15	Cobalt-60	pCi/kg	2.44E+00	6.29E+00	2.21E+01		U
Broad Leaf-Grasses	542443002	4/27/2021 9:10	4/30/2021 20:15	Iodine-131	pCi/kg	7.44E+00	7.57E+00	2.73E+01		U
Broad Leaf-Grasses	542443002	4/27/2021 9:10	4/30/2021 20:15	Iron-59	pCi/kg	1.02E+01	1.37E+01	4.97E+01		U
Broad Leaf-Grasses	542443002	4/27/2021 9:10	4/30/2021 20:15	Lanthanum-140	pCi/kg	4.65E+00	6.73E+00	2.52E+01		U
Broad Leaf-Grasses	542443002	4/27/2021 9:10	4/30/2021 20:15	Manganese-54	pCi/kg	4.89E+00	6.57E+00	2.28E+01		U
Broad Leaf-Grasses	542443002	4/27/2021 9:10	4/30/2021 20:15	Niobium-95	pCi/kg	4.97E+00	6.71E+00	2.32E+01		U
Broad Leaf-Grasses	542443002	4/27/2021 9:10	4/30/2021 20:15	Potassium-40	pCi/kg	3.99E+03	3.00E+02	2.02E+02		
Broad Leaf-Grasses	542443002	4/27/2021 9:10	4/30/2021 20:15	Zinc-65	pCi/kg	1.89E+00	1.45E+01	4.96E+01		U
Broad Leaf-Grasses	542443002	4/27/2021 9:10	4/30/2021 20:15	Zirconium-95	pCi/kg	-2.33E+00	1.24E+01	3.96E+01		U
Broad Leaf-Grasses	545727002	5/25/2021 8:24	6/1/2021 9:59	Barium-140	pCi/kg	-2.07E+01	2.49E+01	7.46E+01		U
Broad Leaf-Grasses	545727002	5/25/2021 8:24	6/1/2021 9:59	Beryllium-7	pCi/kg	3.54E+03	1.45E+02	1.45E+02		
Broad Leaf-Grasses	545727002	5/25/2021 8:24	6/1/2021 9:59	Cesium-134	pCi/kg	2.69E+00	6.36E+00	2.17E+01		U
Broad Leaf-Grasses	545727002	5/25/2021 8:24	6/1/2021 9:59	Cesium-137	pCi/kg	4.78E+00	5.76E+00	2.03E+01		U
Broad Leaf-Grasses	545727002	5/25/2021 8:24	6/1/2021 9:59	Cobalt-57	pCi/kg	8.75E-01	4.55E+00	1.33E+01		U
Broad Leaf-Grasses	545727002	5/25/2021 8:24	6/1/2021 9:59	Cobalt-58	pCi/kg	-1.70E+00	5.15E+00	1.67E+01		U
Broad Leaf-Grasses	545727002	5/25/2021 8:24	6/1/2021 9:59	Cobalt-60	pCi/kg	1.04E+01	5.93E+00	2.28E+01		U
Broad Leaf-Grasses	545727002	5/25/2021 8:24	6/1/2021 9:59	Iodine-131	pCi/kg	-2.91E+00	8.86E+00	2.85E+01		U
Broad Leaf-Grasses	545727002	5/25/2021 8:24	6/1/2021 9:59	Iron-59	pCi/kg	-9.58E+00	9.76E+00	2.83E+01		U
Broad Leaf-Grasses	545727002	5/25/2021 8:24	6/1/2021 9:59	Lanthanum-140	pCi/kg	2.22E-01	8.22E+00	2.73E+01		U
Broad Leaf-Grasses	545727002	5/25/2021 8:24	6/1/2021 9:59	Manganese-54	pCi/kg	-5.12E+00	6.03E+00	1.89E+01		U
Broad Leaf-Grasses	545727002	5/25/2021 8:24	6/1/2021 9:59	Niobium-95	pCi/kg	1.27E+01	1.05E+01	1.88E+01		U
Broad Leaf-Grasses	545727002	5/25/2021 8:24	6/1/2021 9:59	Potassium-40	pCi/kg	2.81E+03	2.31E+02	2.02E+02		
Broad Leaf-Grasses	545727002	5/25/2021 8:24	6/1/2021 9:59	Zinc-65	pCi/kg	-1.07E+01	1.35E+01	4.09E+01		U
Broad Leaf-Grasses	545727002	5/25/2021 8:24	6/1/2021 9:59	Zirconium-95	pCi/kg	1.87E+00	1.04E+01	3.26E+01		U
Broad Leaf-Grasses	548822002	6/29/2021 10:05	7/7/2021 7:05	Barium-140	pCi/kg	4.03E+01	2.87E+01	9.90E+01		U
Broad Leaf-Grasses	548822002	6/29/2021 10:05	7/7/2021 7:05	Beryllium-7	pCi/kg	5.05E+03	1.88E+02	1.33E+02		
Broad Leaf-Grasses	548822002	6/29/2021 10:05	7/7/2021 7:05	Cesium-134	pCi/kg	1.37E+01	5.85E+00	2.21E+01		U
Broad Leaf-Grasses	548822002	6/29/2021 10:05	7/7/2021 7:05	Cesium-137	pCi/kg	9.08E+00	6.06E+00	2.09E+01		U
Broad Leaf-Grasses	548822002	6/29/2021 10:05	7/7/2021 7:05	Cobalt-57	pCi/kg	2.49E+00	3.27E+00	1.06E+01		U

Broad Leaf-Grasses	548822002	6/29/2021 10:05	7/7/2021 7:05	Cobalt-58	pCi/kg	6.71E+00	5.90E+00	2.11E+01		U
Broad Leaf-Grasses	548822002	6/29/2021 10:05	7/7/2021 7:05	Cobalt-60	pCi/kg	4.13E+00	5.95E+00	2.05E+01		U
Broad Leaf-Grasses	548822002	6/29/2021 10:05	7/7/2021 7:05	Iodine-131	pCi/kg	-1.46E+00	8.76E+00	2.89E+01		U
Broad Leaf-Grasses	548822002	6/29/2021 10:05	7/7/2021 7:05	Iron-59	pCi/kg	2.21E+01	2.22E+01	4.38E+01		U
Broad Leaf-Grasses	548822002	6/29/2021 10:05	7/7/2021 7:05	Lanthanum-140	pCi/kg	4.42E+01	1.49E+01	3.48E+01		UI
Broad Leaf-Grasses	548822002	6/29/2021 10:05	7/7/2021 7:05	Manganese-54	pCi/kg	-1.62E+00	5.15E+00	1.72E+01		U
Broad Leaf-Grasses	548822002	6/29/2021 10:05	7/7/2021 7:05	Niobium-95	pCi/kg	3.53E-01	9.22E+00	2.07E+01		U
Broad Leaf-Grasses	548822002	6/29/2021 10:05	7/7/2021 7:05	Potassium-40	pCi/kg	3.01E+03	2.11E+02	1.52E+02		
Broad Leaf-Grasses	548822002	6/29/2021 10:05	7/7/2021 7:05	Zinc-65	pCi/kg	9.18E+00	1.43E+01	4.90E+01		U
Broad Leaf-Grasses	548822002	6/29/2021 10:05	7/7/2021 7:05	Zirconium-95	pCi/kg	2.39E+01	1.10E+01	3.89E+01		U
Broad Leaf-Grasses	551022002	7/27/2021 8:48	8/5/2021 14:51	Barium-140	pCi/kg	3.77E+01	2.35E+01	8.03E+01		U
Broad Leaf-Grasses	551022002	7/27/2021 8:48	8/5/2021 14:51	Beryllium-7	pCi/kg	5.06E+03	1.33E+02	1.18E+02		
Broad Leaf-Grasses	551022002	7/27/2021 8:48	8/5/2021 14:51	Cesium-134	pCi/kg	4.43E+00	5.09E+00	1.67E+01		U
Broad Leaf-Grasses	551022002	7/27/2021 8:48	8/5/2021 14:51	Cesium-137	pCi/kg	-4.46E+00	4.53E+00	1.41E+01		U
Broad Leaf-Grasses	551022002	7/27/2021 8:48	8/5/2021 14:51	Cobalt-57	pCi/kg	6.06E+00	3.44E+00	1.05E+01		U
Broad Leaf-Grasses	551022002	7/27/2021 8:48	8/5/2021 14:51	Cobalt-58	pCi/kg	2.56E+00	4.68E+00	1.52E+01		U
Broad Leaf-Grasses	551022002	7/27/2021 8:48	8/5/2021 14:51	Cobalt-60	pCi/kg	-9.35E-04	4.63E+00	1.53E+01		U
Broad Leaf-Grasses	551022002	7/27/2021 8:48	8/5/2021 14:51	Iodine-131	pCi/kg	1.36E+01	8.92E+00	3.07E+01		U
Broad Leaf-Grasses	551022002	7/27/2021 8:48	8/5/2021 14:51	Iron-59	pCi/kg	-8.00E+00	9.60E+00	3.12E+01		U
Broad Leaf-Grasses	551022002	7/27/2021 8:48	8/5/2021 14:51	Lanthanum-140	pCi/kg	-1.70E+01	7.51E+00	2.09E+01		U
Broad Leaf-Grasses	551022002	7/27/2021 8:48	8/5/2021 14:51	Manganese-54	pCi/kg	-1.15E-01	4.73E+00	1.50E+01		U
Broad Leaf-Grasses	551022002	7/27/2021 8:48	8/5/2021 14:51	Niobium-95	pCi/kg	3.35E+00	5.03E+00	1.64E+01		U
Broad Leaf-Grasses	551022002	7/27/2021 8:48	8/5/2021 14:51	Potassium-40	pCi/kg	4.65E+03	2.01E+02	1.41E+02		
Broad Leaf-Grasses	551022002	7/27/2021 8:48	8/5/2021 14:51	Zinc-65	pCi/kg	9.07E+00	9.83E+00	3.39E+01		U
Broad Leaf-Grasses	551022002	7/27/2021 8:48	8/5/2021 14:51	Zirconium-95	pCi/kg	-4.27E+00	7.85E+00	2.45E+01		U
Broad Leaf-Grasses	554766002	8/31/2021 9:29	9/4/2021 19:57	Barium-140	pCi/kg	-5.46E-01	4.17E+01	1.39E+02		U
Broad Leaf-Grasses	554766002	8/31/2021 9:29	9/4/2021 19:57	Beryllium-7	pCi/kg	1.07E+04	2.78E+02	2.65E+02		
Broad Leaf-Grasses	554766002	8/31/2021 9:29	9/4/2021 19:57	Cesium-134	pCi/kg	-1.72E+01	1.13E+01	3.62E+01		U
Broad Leaf-Grasses	554766002	8/31/2021 9:29	9/4/2021 19:57	Cesium-137	pCi/kg	2.99E+00	1.05E+01	3.46E+01		U
Broad Leaf-Grasses	554766002	8/31/2021 9:29	9/4/2021 19:57	Cobalt-57	pCi/kg	-7.02E-02	6.07E+00	1.99E+01		U
Broad Leaf-Grasses	554766002	8/31/2021 9:29	9/4/2021 19:57	Cobalt-58	pCi/kg	-1.10E+01	1.08E+01	3.00E+01		U
Broad Leaf-Grasses	554766002	8/31/2021 9:29	9/4/2021 19:57	Cobalt-60	pCi/kg	4.99E+00	1.16E+01	3.94E+01		U
Broad Leaf-Grasses	554766002	8/31/2021 9:29	9/4/2021 19:57	Iodine-131	pCi/kg	-2.52E+00	1.40E+01	4.50E+01		U

Broad Leaf-Grasses	554766002	8/31/2021 9:29	9/4/2021 19:57	Iron-59	pCi/kg	-3.89E+00	2.32E+01	7.46E+01		U
Broad Leaf-Grasses	554766002	8/31/2021 9:29	9/4/2021 19:57	Lanthanum-140	pCi/kg	6.42E-02	1.57E+01	5.10E+01		U
Broad Leaf-Grasses	554766002	8/31/2021 9:29	9/4/2021 19:57	Manganese-54	pCi/kg	-4.80E+00	1.02E+01	3.35E+01		U
Broad Leaf-Grasses	554766002	8/31/2021 9:29	9/4/2021 19:57	Niobium-95	pCi/kg	-2.04E+00	1.18E+01	3.45E+01		U
Broad Leaf-Grasses	554766002	8/31/2021 9:29	9/4/2021 19:57	Potassium-40	pCi/kg	2.60E+03	3.50E+02	3.44E+02		
Broad Leaf-Grasses	554766002	8/31/2021 9:29	9/4/2021 19:57	Zinc-65	pCi/kg	-6.09E+01	2.47E+01	7.16E+01		U
Broad Leaf-Grasses	554766002	8/31/2021 9:29	9/4/2021 19:57	Zirconium-95	pCi/kg	1.42E+01	1.75E+01	6.05E+01		U
Broad Leaf-Grasses	557318002	9/28/2021 10:02	10/5/2021 13:14	Barium-140	pCi/kg	-2.11E+00	2.13E+01	7.01E+01		U
Broad Leaf-Grasses	557318002	9/28/2021 10:02	10/5/2021 13:14	Beryllium-7	pCi/kg	1.35E+03	8.25E+01	1.17E+02		
Broad Leaf-Grasses	557318002	9/28/2021 10:02	10/5/2021 13:14	Cesium-134	pCi/kg	4.19E+00	4.85E+00	1.61E+01		U
Broad Leaf-Grasses	557318002	9/28/2021 10:02	10/5/2021 13:14	Cesium-137	pCi/kg	-1.74E+00	4.60E+00	1.47E+01		U
Broad Leaf-Grasses	557318002	9/28/2021 10:02	10/5/2021 13:14	Cobalt-57	pCi/kg	1.11E+00	3.00E+00	9.74E+00		U
Broad Leaf-Grasses	557318002	9/28/2021 10:02	10/5/2021 13:14	Cobalt-58	pCi/kg	-4.29E+00	4.34E+00	1.33E+01		U
Broad Leaf-Grasses	557318002	9/28/2021 10:02	10/5/2021 13:14	Cobalt-60	pCi/kg	2.80E+00	4.56E+00	1.56E+01		U
Broad Leaf-Grasses	557318002	9/28/2021 10:02	10/5/2021 13:14	Iodine-131	pCi/kg	2.51E+01	1.28E+01	2.35E+01		UI
Broad Leaf-Grasses	557318002	9/28/2021 10:02	10/5/2021 13:14	Iron-59	pCi/kg	1.03E+01	9.77E+00	3.43E+01		U
Broad Leaf-Grasses	557318002	9/28/2021 10:02	10/5/2021 13:14	Lanthanum-140	pCi/kg	-6.99E+00	7.85E+00	2.43E+01		U
Broad Leaf-Grasses	557318002	9/28/2021 10:02	10/5/2021 13:14	Manganese-54	pCi/kg	5.76E-01	4.44E+00	1.43E+01		U
Broad Leaf-Grasses	557318002	9/28/2021 10:02	10/5/2021 13:14	Niobium-95	pCi/kg	8.22E+00	4.64E+00	1.60E+01		U
Broad Leaf-Grasses	557318002	9/28/2021 10:02	10/5/2021 13:14	Potassium-40	pCi/kg	5.79E+03	2.25E+02	1.66E+02		
Broad Leaf-Grasses	557318002	9/28/2021 10:02	10/5/2021 13:14	Zinc-65	pCi/kg	5.02E+00	9.69E+00	3.33E+01		U
Broad Leaf-Grasses	557318002	9/28/2021 10:02	10/5/2021 13:14	Zirconium-95	pCi/kg	-4.84E+00	7.93E+00	2.49E+01		U
Broad Leaf-Grasses	560325002	10/26/2021 9:21	11/1/2021 15:46	Barium-140	pCi/kg	-8.53E+00	3.11E+01	9.23E+01		U
Broad Leaf-Grasses	560325002	10/26/2021 9:21	11/1/2021 15:46	Beryllium-7	pCi/kg	5.60E+03	1.60E+02	1.65E+02		
Broad Leaf-Grasses	560325002	10/26/2021 9:21	11/1/2021 15:46	Cesium-134	pCi/kg	3.94E+00	6.58E+00	2.19E+01		U
Broad Leaf-Grasses	560325002	10/26/2021 9:21	11/1/2021 15:46	Cesium-137	pCi/kg	4.84E+00	5.82E+00	1.98E+01		U
Broad Leaf-Grasses	560325002	10/26/2021 9:21	11/1/2021 15:46	Cobalt-57	pCi/kg	-7.93E-01	4.59E+00	1.49E+01		U
Broad Leaf-Grasses	560325002	10/26/2021 9:21	11/1/2021 15:46	Cobalt-58	pCi/kg	-6.74E+00	5.75E+00	1.78E+01		U
Broad Leaf-Grasses	560325002	10/26/2021 9:21	11/1/2021 15:46	Cobalt-60	pCi/kg	2.24E+00	6.08E+00	2.09E+01		U
Broad Leaf-Grasses	560325002	10/26/2021 9:21	11/1/2021 15:46	Iodine-131	pCi/kg	-1.93E+01	9.38E+00	3.06E+01		U
Broad Leaf-Grasses	560325002	10/26/2021 9:21	11/1/2021 15:46	Iron-59	pCi/kg	2.37E-01	1.26E+01	4.01E+01		U
Broad Leaf-Grasses	560325002	10/26/2021 9:21	11/1/2021 15:46	Lanthanum-140	pCi/kg	-5.89E+00	9.52E+00	3.05E+01		U
Broad Leaf-Grasses	560325002	10/26/2021 9:21	11/1/2021 15:46	Manganese-54	pCi/kg	4.25E+00	5.96E+00	1.99E+01		U

Broad Leaf-Grasses	560325002	10/26/2021 9:21	11/1/2021 15:46	Niobium-95	pCi/kg	2.24E+01	1.07E+01	1.84E+01		UI
Broad Leaf-Grasses	560325002	10/26/2021 9:21	11/1/2021 15:46	Potassium-40	pCi/kg	2.83E+03	2.06E+02	1.82E+02		
Broad Leaf-Grasses	560325002	10/26/2021 9:21	11/1/2021 15:46	Zinc-65	pCi/kg	-2.91E+00	1.62E+01	4.54E+01		U
Broad Leaf-Grasses	560325002	10/26/2021 9:21	11/1/2021 15:46	Zirconium-95	pCi/kg	6.18E+00	1.11E+01	3.71E+01		U
Broad Leaf-Grasses	563530002	11/30/2021 9:21	12/3/2021 11:10	Barium-140	pCi/kg	-1.20E+01	4.39E+01	1.43E+02		U
Broad Leaf-Grasses	563530002	11/30/2021 9:21	12/3/2021 11:10	Beryllium-7	pCi/kg	3.97E+03	2.55E+02	3.06E+02		
Broad Leaf-Grasses	563530002	11/30/2021 9:21	12/3/2021 11:10	Cesium-134	pCi/kg	-2.27E+01	1.45E+01	4.21E+01		U
Broad Leaf-Grasses	563530002	11/30/2021 9:21	12/3/2021 11:10	Cesium-137	pCi/kg	7.51E+00	1.17E+01	3.95E+01		U
Broad Leaf-Grasses	563530002	11/30/2021 9:21	12/3/2021 11:10	Cobalt-57	pCi/kg	-9.97E-01	6.46E+00	2.08E+01		U
Broad Leaf-Grasses	563530002	11/30/2021 9:21	12/3/2021 11:10	Cobalt-58	pCi/kg	1.60E+01	1.18E+01	4.08E+01		U
Broad Leaf-Grasses	563530002	11/30/2021 9:21	12/3/2021 11:10	Cobalt-60	pCi/kg	-4.63E+00	1.20E+01	3.86E+01		U
Broad Leaf-Grasses	563530002	11/30/2021 9:21	12/3/2021 11:10	Iodine-131	pCi/kg	3.16E+00	1.34E+01	4.57E+01		U
Broad Leaf-Grasses	563530002	11/30/2021 9:21	12/3/2021 11:10	Iron-59	pCi/kg	-8.55E+00	2.31E+01	7.60E+01		U
Broad Leaf-Grasses	563530002	11/30/2021 9:21	12/3/2021 11:10	Lanthanum-140	pCi/kg	-2.51E+01	1.55E+01	4.21E+01		U
Broad Leaf-Grasses	563530002	11/30/2021 9:21	12/3/2021 11:10	Manganese-54	pCi/kg	-1.14E+01	1.26E+01	3.80E+01		U
Broad Leaf-Grasses	563530002	11/30/2021 9:21	12/3/2021 11:10	Niobium-95	pCi/kg	3.92E+01	2.11E+01	3.66E+01		UI
Broad Leaf-Grasses	563530002	11/30/2021 9:21	12/3/2021 11:10	Potassium-40	pCi/kg	2.04E+03	4.50E+02	3.88E+02		
Broad Leaf-Grasses	563530002	11/30/2021 9:21	12/3/2021 11:10	Zinc-65	pCi/kg	-4.35E+01	2.87E+01	8.84E+01		U
Broad Leaf-Grasses	563530002	11/30/2021 9:21	12/3/2021 11:10	Zirconium-95	pCi/kg	9.17E+00	2.28E+01	7.52E+01		U
Broad Leaf-Grasses	566090002	12/28/2021 9:45	1/3/2022 18:24	Barium-140	pCi/kg	9.34E-01	4.72E+01	1.60E+02		U
Broad Leaf-Grasses	566090002	12/28/2021 9:45	1/3/2022 18:24	Beryllium-7	pCi/kg	4.75E+03	2.84E+02	2.97E+02		
Broad Leaf-Grasses	566090002	12/28/2021 9:45	1/3/2022 18:24	Cesium-134	pCi/kg	-5.21E+00	2.00E+01	4.40E+01		U
Broad Leaf-Grasses	566090002	12/28/2021 9:45	1/3/2022 18:24	Cesium-137	pCi/kg	1.06E+01	1.14E+01	3.95E+01		U
Broad Leaf-Grasses	566090002	12/28/2021 9:45	1/3/2022 18:24	Cobalt-57	pCi/kg	6.19E+00	7.47E+00	2.59E+01		U
Broad Leaf-Grasses	566090002	12/28/2021 9:45	1/3/2022 18:24	Cobalt-58	pCi/kg	4.36E+00	1.02E+01	3.44E+01		U
Broad Leaf-Grasses	566090002	12/28/2021 9:45	1/3/2022 18:24	Cobalt-60	pCi/kg	-1.05E+01	1.11E+01	3.53E+01		U
Broad Leaf-Grasses	566090002	12/28/2021 9:45	1/3/2022 18:24	Iodine-131	pCi/kg	1.94E+00	1.75E+01	5.68E+01		U
Broad Leaf-Grasses	566090002	12/28/2021 9:45	1/3/2022 18:24	Iron-59	pCi/kg	3.31E+00	2.37E+01	7.69E+01		U
Broad Leaf-Grasses	566090002	12/28/2021 9:45	1/3/2022 18:24	Lanthanum-140	pCi/kg	-1.97E+01	1.92E+01	5.95E+01		U
Broad Leaf-Grasses	566090002	12/28/2021 9:45	1/3/2022 18:24	Manganese-54	pCi/kg	5.73E+00	1.08E+01	3.64E+01		U
Broad Leaf-Grasses	566090002	12/28/2021 9:45	1/3/2022 18:24	Niobium-95	pCi/kg	2.74E+01	2.55E+01	3.43E+01		U
Broad Leaf-Grasses	566090002	12/28/2021 9:45	1/3/2022 18:24	Potassium-40	pCi/kg	2.62E+03	3.15E+02	3.37E+02		
Broad Leaf-Grasses	566090002	12/28/2021 9:45	1/3/2022 18:24	Zinc-65	pCi/kg	4.59E+01	2.60E+01	9.07E+01		U

Broad Leaf-Grasses	566090002	12/28/2021 9:45	1/3/2022 18:24	Zirconium-95	pCi/kg	2.07E+01	1.87E+01	6.48E+01		U
Broad Leaf-Grasses	568665002	1/25/2022 9:56	2/1/2022 7:53	Barium-140	pCi/kg	-4.50E+01	4.02E+01	1.28E+02		U
Broad Leaf-Grasses	568665002	1/25/2022 9:56	2/1/2022 7:53	Beryllium-7	pCi/kg	2.69E+03	1.97E+02	2.61E+02		
Broad Leaf-Grasses	568665002	1/25/2022 9:56	2/1/2022 7:53	Cesium-134	pCi/kg	-1.69E+01	9.61E+00	2.78E+01		U
Broad Leaf-Grasses	568665002	1/25/2022 9:56	2/1/2022 7:53	Cesium-137	pCi/kg	1.55E+01	8.00E+00	2.79E+01		U
Broad Leaf-Grasses	568665002	1/25/2022 9:56	2/1/2022 7:53	Cobalt-57	pCi/kg	6.68E+00	6.26E+00	2.21E+01		U
Broad Leaf-Grasses	568665002	1/25/2022 9:56	2/1/2022 7:53	Cobalt-58	pCi/kg	-7.62E+00	8.18E+00	2.51E+01		U
Broad Leaf-Grasses	568665002	1/25/2022 9:56	2/1/2022 7:53	Cobalt-60	pCi/kg	5.43E+00	9.37E+00	3.30E+01		U
Broad Leaf-Grasses	568665002	1/25/2022 9:56	2/1/2022 7:53	Iodine-131	pCi/kg	-2.31E+00	1.54E+01	4.95E+01		U
Broad Leaf-Grasses	568665002	1/25/2022 9:56	2/1/2022 7:53	Iron-59	pCi/kg	-2.42E+00	1.64E+01	5.21E+01		U
Broad Leaf-Grasses	568665002	1/25/2022 9:56	2/1/2022 7:53	Lanthanum-140	pCi/kg	-7.91E+00	1.19E+01	3.61E+01		U
Broad Leaf-Grasses	568665002	1/25/2022 9:56	2/1/2022 7:53	Manganese-54	pCi/kg	-1.18E+01	9.29E+00	2.80E+01		U
Broad Leaf-Grasses	568665002	1/25/2022 9:56	2/1/2022 7:53	Niobium-95	pCi/kg	5.29E+00	9.60E+00	3.28E+01		U
Broad Leaf-Grasses	568665002	1/25/2022 9:56	2/1/2022 7:53	Potassium-40	pCi/kg	1.91E+03	2.54E+02	2.92E+02		
Broad Leaf-Grasses	568665002	1/25/2022 9:56	2/1/2022 7:53	Zinc-65	pCi/kg	-2.84E+01	2.01E+01	5.65E+01		U
Broad Leaf-Grasses	568665002	1/25/2022 9:56	2/1/2022 7:53	Zirconium-95	pCi/kg	-7.42E+00	1.47E+01	4.69E+01		U
Broad Leaf-Grasses	571371002	2/22/2022 8:32	2/25/2022 17:48	Barium-140	pCi/kg	7.94E+01	3.11E+01	1.11E+02		U
Broad Leaf-Grasses	571371002	2/22/2022 8:32	2/25/2022 17:48	Beryllium-7	pCi/kg	4.43E+03	1.87E+02	1.91E+02		
Broad Leaf-Grasses	571371002	2/22/2022 8:32	2/25/2022 17:48	Cesium-134	pCi/kg	-5.60E-01	8.46E+00	2.84E+01		U
Broad Leaf-Grasses	571371002	2/22/2022 8:32	2/25/2022 17:48	Cesium-137	pCi/kg	-9.08E+00	8.91E+00	2.69E+01		U
Broad Leaf-Grasses	571371002	2/22/2022 8:32	2/25/2022 17:48	Cobalt-57	pCi/kg	5.30E-01	5.59E+00	1.76E+01		U
Broad Leaf-Grasses	571371002	2/22/2022 8:32	2/25/2022 17:48	Cobalt-58	pCi/kg	2.32E+00	6.88E+00	2.35E+01		U
Broad Leaf-Grasses	571371002	2/22/2022 8:32	2/25/2022 17:48	Cobalt-60	pCi/kg	3.58E+00	8.49E+00	2.84E+01		U
Broad Leaf-Grasses	571371002	2/22/2022 8:32	2/25/2022 17:48	Iodine-131	pCi/kg	3.61E+00	9.93E+00	3.31E+01		U
Broad Leaf-Grasses	571371002	2/22/2022 8:32	2/25/2022 17:48	Iron-59	pCi/kg	-3.41E+00	1.79E+01	5.08E+01		U
Broad Leaf-Grasses	571371002	2/22/2022 8:32	2/25/2022 17:48	Lanthanum-140	pCi/kg	-8.45E+00	8.94E+00	2.77E+01		U
Broad Leaf-Grasses	571371002	2/22/2022 8:32	2/25/2022 17:48	Manganese-54	pCi/kg	-2.35E+00	8.03E+00	2.66E+01		U
Broad Leaf-Grasses	571371002	2/22/2022 8:32	2/25/2022 17:48	Niobium-95	pCi/kg	1.40E+01	8.88E+00	3.17E+01		U
Broad Leaf-Grasses	571371002	2/22/2022 8:32	2/25/2022 17:48	Potassium-40	pCi/kg	2.23E+03	2.58E+02	2.62E+02		
Broad Leaf-Grasses	571371002	2/22/2022 8:32	2/25/2022 17:48	Zinc-65	pCi/kg	-4.95E+00	2.17E+01	6.15E+01		U
Broad Leaf-Grasses	571371002	2/22/2022 8:32	2/25/2022 17:48	Zirconium-95	pCi/kg	-7.96E+00	1.33E+01	4.36E+01		U

Appendix B

Comanche Peak Nuclear Power Plant
Land Use Census
2021

LAND USE CENSUS 2021

The Land Use Census identified receptors within a five (5) mile radius of the plant in each of the sixteen (16) meteorological sectors. The Land Use Census was conducted June 1-2, 2021 and includes the following items:

1. Evaluation of the 2021 Land Use Census
2. Nearest Resident by Sector, Distance, X/Q and D/Q
3. Nearest Garden by Sector, Distance and D/Q
4. Nearest Milk Animal by Sector, Distance and D/Q
5. Population by Sector and Distance
6. Environmental Sample Locations Table
7. Environmental Monitoring Locations Map – 2 Mile Radius
8. 5 Mile Sector and Road Map with Field Data*
9. Environmental Monitoring Locations Map – all sample locations*

*These maps are vaulted along with this census. Copies of this census will not contain a copy of these maps unless specifically requested.

Evaluation of the 2021 Land Use Census

The results of the 2021 Land Use Census were reviewed for impact on the Radiological Environmental Monitoring Program (REMP). The specific areas reviewed, that could be affected by changes found in the land use census, were the sampling requirements for milk, broadleaf vegetation and food products.

Reviewing the milk sampling requirements from the ODCM Table 3.12-1 requires that samples are to be obtained from milking animals in three locations within a 5 km distance having the highest potential dose. If none are available, samples are acceptable from milking animals in locations 5 to 8 km distance where doses are calculated to be greater than 1 mRem per year. A sample is also required at a control location. There are currently no identified milking animals (cow or goat) within the specified distances therefore; there are no current milk samples during the year 2021.

If no milk samples are available, the broadleaf vegetation sampling specified in ODCM Table 3.12-1 will be performed. Broadleaf sample requirements are such that samples of broadleaf vegetation are to be collected from each of two offsite locations of the highest predicted annual average D/Q if milk sampling is not performed at all the required locations. Currently, broadleaf vegetation samples are collected at two indicator locations (N - 1.45 and SW - 1.0) and one control location (SW - 13.5). These indicator locations are near the site boundary in sectors where broadleaf vegetation is available, and D/Q is high. Therefore, no change to the broadleaf sampling program is required.

Food product sample requirements of ODCM Table 3.12-1 requires that one sample of each principal class of food product be collected from any area that is irrigated with water in which liquid plant waste has been discharged. Of the gardens identified in the land use census, no gardens are located in any area that irrigates with water in which liquid plant wastes are discharged. Currently, food products are sampled from two locations (ENE - 9.0) and (E-4.2) when in season. The location ENE-9.0 is for pecans at time of harvest and location E-4.2 will continue to be a major source of food products sold to the public.

The location E-4.2 had cucumbers which were collected from this location as a conservative measure. This garden does not meet the ODCM Table 3.12-1 requirements because the products are not irrigated by water in which liquid plant wastes have been discharged.

Happy Hills Farm located in Sector E-4, holds 280 residents year-round. Due to Covid the school was closed at the time the land use census was completed. The students are due back August 15th of 2021. Tracking Report 2021-003892 documents conditions.

Calculated values for the associated X/Q and D/Q values for each controlling receptor location and pathway are included along with the receptor distances in the data tables of this land use census. The values used to determine potential dose due to radioactive effluent discharges are the highest calculated values based on annual average values. The following values are based on the original pre-operational and subsequent Comanche Peak 3 and 4 new build calculations which identified predominant wind direction, structures affecting potential release patterns, and area population. The annual average X/Q used for dose calculations is 3.30E-6, tritium X/Q is 4.36E-6, and the D/Q value is 3.34 E-8. All these values are conservative based on the 2017 Land Use Census data and therefore no changes are required in the dose calculation parameters as verified by the field data.

* X/Q units are Sec/cubic meter * D/Q units are inverse square meters

Nearest Resident by Sector, Distance, X/Q and D/Q

Sector	Distance (Miles)	X/Q	D/Q
N	2.6	6.39E-07	3.50E-09
NNE	2.5	4.20E-07	2.00E-09
NE	2.5	2.90E-07	1.00E-09
ENE	2.6	2.20E-07	5.77E-10
E	2.5	2.70E-07	5.80E-10
ESE	2.2	4.02E-07	9.00E-10
SE	2.0	7.1E-07	2.80E-09
SSE	1.5	1.10E-06	6.60E-09
S	1.5	8.50E-07	5.20E-09
SSW	1.8	5.04 E-7	2.42 E-9
SW	0.8	3.56E-06	1.85E-08
WSW	0.8	3.92E-06	1.63E-08
W	1.6	7.64E-07	2.50E-09
WNW	2.5	4.70E-07	1.40E-09
NW	4.8	2.52E-07	6.20E-10
NNW	2.2	1.12E-06	5.16E-09

Note: The Annual Average X/Q used for dose calculations is 3.30E-06 sec/cubic meter.
The Tritium value X/Q used for dose calculations is 4.36E-06 sec/cubic meter.
The Annual Average D/Q used for dose calculations is 3.34E-08 inverse square meters.

Nearest Garden by Sector, Distance and D/Q

Sector	Distance (Miles)*	D/Q
N	None	None
NNE	None	None
NE	None	None
ENE	None	None
E	4.2	2.00E-10
ESE	None	None
SE	None	None
SSE	None	None
S	None	None
SSW	None	None
SW	None	None
WSW	None	None
W	None	None
WNW	None	None
NW	None	None
NNW	None	None

Nearest Milk Animal by Sector, Distance and D/Q

Sector	Distance (Miles)*	D/Q
N	None	None
NNE	None	None
NE	None	None
ENE	None	None
E	None	None
ESE	None	None
SE	None	None
SSE	None	None
S	None	None
SSW	None	None
SW	None	None
WSW	None	None
W	None	None
WNW	None	None
NW	None	None
NNW	None	None

*No Milk samples are currently being collected.

Population by Sector and Distance

Sector	0-1	1-2	2-3	3-4	4-5	Total
N	-	-	13	77	111	201
NNE	-	-	8	74	69	151
NE	-	-	182	179	320	681
ENE	-	-	111	31	57	199
E	-	-	195	200	40	435
ESE	-	-	101	121	164	386
SE	-	-	238	418	142	798
SSE	-	102	139	127	2786	3154
S	-	30	130	64	307	531
SSW	-	6	8	11	80	105
SW	8	134	14	98	62	316
WSW	36	161	11	11	-	219
W	-	112	10	23	15	160
WNW	-	-	14	64	155	233
NW	-	-	-	-	7	7
NNW	-	-	5	46	52	103
TOTAL	44	545	1179	1544	4367	7679

The average number of residents per house was obtained from North Central Texas Council of Governments for Hood and Somervell Counties. The number of residents per house is 2.56 and 2.60, respectively. (http://www.indexmundi.com/facts/united-states/quick-facts/texas/average-household-size#table)

Hood County, Texas/ Somervell County, Texas

Age

- Persons under 5 years 5.6% / 5.0%
- Persons under 18 years 21.3% / 22.4%
- Persons 65 years and older 24.6% / 18.9%

(Population estimates as of July,1 2018)

Environmental Sample Locations Table

Sampling Point	Location	Sample Type*
A1	N-1.45 (Squaw Creek Park)	A
A2	N-9.4 (Granbury)	A
A3	E-3.5 (Children's Home)	A
A4	SSE-4.5 (Glen Rose)	A
A5	S/SSW-1.2	A
A6	SW-12.3 (CONTROL)	A
A7	SW/WSW-0.95	A
A8	NW-1.0	A
R1	N-1.45 (Squaw Creek Park)	R
R2	N-4.4	R
R3	N-6.5	R
R4	N-9.4 (Granbury)	R
R5	NNE-1.1	R
R6	NNE-5.65	R
R7	NE-1.7	R
R8	NE-4.8	R
R9	ENE-2.5	R
R10	ENE-5.0	R
R11	E-0.5	R
R12	E-1.9	R
R13	E-3.5 (Children's Home)	R
R14	E-4.2	R
R15	ESE-1.4	R
R16	ESE-4.7	R
R17	SE-1.3	R
R18	SE-3.85	R

*Sample Type: A - Air Sample; R - Direct Radiation; SW - Surface Water; DW - Drinking Water GW - Ground Water; SS – Shoreline Sediments; M - Milk; F - Fish; FP - Food Products; BL - Broadleaf Vegetation

Environmental Sample Locations Table (cont.)

Sampling Point	Location	Sample Type*
R19	SE-4.6	R
R20	SSE-1.3	R
R21	SSE-4.4 (Glen Rose)	R
R22	SSE-4.5 (Glen Rose)	R
R23	S-1.5	R
R24	S-4.2	R
R25	S/SSW-1.2	R
R26	SSW-4.4 (State Park)	R
R27	SW-0.9	R
R28	SW-4.8 (Girl Scout Camp)	R
R29	SW-12.3 (CONTROL)	R
R30	WSW-1.0	R
R31	WSW-5.35	R
R32	WSW-7.0 (CONTROL)	R
R33	W-1.0	R
R34	W-2.0	R
R35	W-5.5	R
R36	WNW-1.0	R
R37	WNW-5.0	R
R38	WNW-6.7	R
R39	NW-1.0	R
R40	NW-5.7	R
R41	NW-9.9 (Tolar)	R
R42	NNW-1.35	R
R43	NNW-4.6	R
R44	SE-0.6	R
R45	SE-0.6	R
R46	SE-0.6	R
R47	SE-0.6	R

*Sample Type: A - Air Sample; R - Direct Radiation; SW - Surface Water; DW - Drinking Water GW - Ground Water; SS – Shoreline Sediments; M - Milk; F - Fish; FP - Food Products; BL - Broadleaf Vegetation

Environmental Sample Locations Table (cont.)

Sampling Point	Location	Sample Type*
SW1	N-1.5 (Squaw Creek Reservoir Marina)	SW
SW2	N-9.9 (Lake Granbury)	SW/DW[1]
SW3	N-19.3 (CONTROL-Brazos River)	SW
SW4	NE-7.4 (Lake Granbury)	SW
SW5	ESE-1.4 (Squaw Creek Reservoir)	SW[2]
SW6	NNW-0.1 (Squaw Creek Reservoir)	SW/DW[2, 3]
GW1	W-1.2 (Security Rifle Range)	GW[7]
GW2	WSW-0.1 (Somerville Water district)	GW[3, 4,6]
GW3	SSE-4.6 (Glen Rose – Somerville Water District)	GW[4]
GW4	N-9.8 (Granbury)	GW[1, 4,6]
GW5	N-1.45 (Squaw Creek Park)	GW[4]
SS1	NNE-1.0 (Squaw Creek Reservoir)	SS
SS2	N-9.9 (Lake Granbury)	SS
SS3	NE-7.4 (Lake Granbury)	SS
SS4	SE-5.3 (Squaw Creek)	SS
F1	SE-0.1 (Squaw Creek Reservoir)	F
F2	NNE-8.0 (Lake Granbury)	F
FP1	ENE-9.0 (Leonard Bros. Pecan Farm)	FP
FP2	E-4.2 (Hornick's Produce Farm)	FP

*Sample Type: A - Air Sample; R - Direct Radiation; SW - Surface Water; DW - Drinking Water GW - Ground Water; SS – Shoreline Sediments; M - Milk; F - Fish; FP - Food Products; BL - Broadleaf Vegetation

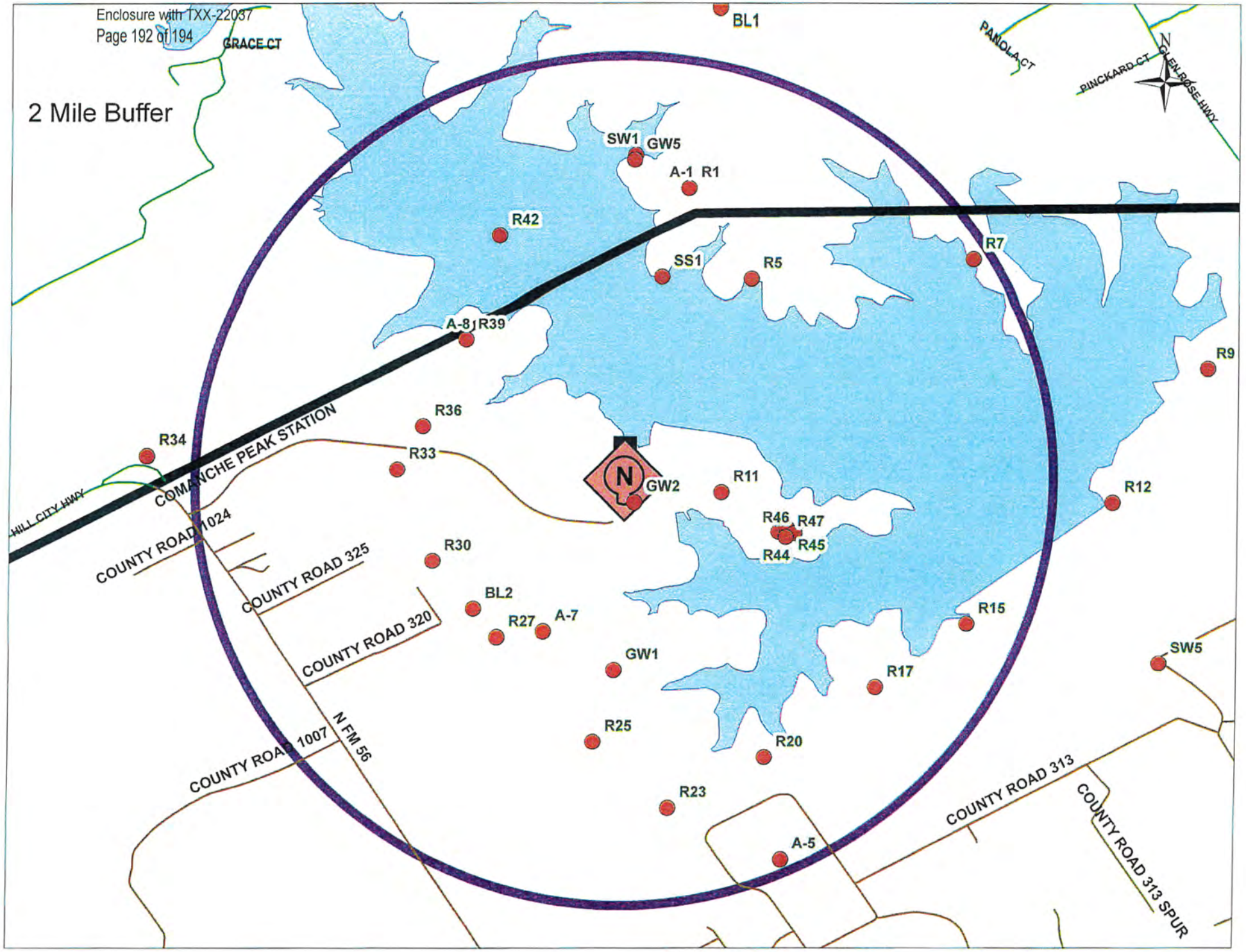
Environmental Sample Locations Table (cont.)

Sampling Point	Location	Sample Type*
BL1	N-1.45	BL
BL2	SW-1.0	BL[5]
BL3	SW-13.5 (CONTROL)	BL[5]

*Sample Type: A - Air Sample; R - Direct Radiation; SW - Surface Water; DW - Drinking Water GW - Ground Water; SS – Shoreline Sediments; M - Milk; F - Fish; FP - Food Products; BL - Broadleaf Vegetation

NOTES:

1. The municipal water system for the City of Granbury is supplied by surface water from Lake Granbury (location SW2) and ground water (location GW4). Each of these supplies is sampled. These samples are not required for compliance with Radiological Effluent Control 3/4.12.1, Table 3.12-1, because they are not affected by plant discharges.
2. This sample (location SW6) is representative of discharges from Squaw Creek Reservoir both down Squaw Creek and to Lake Granbury via the return line to Lake Granbury if used.
3. Plant potable water could be supplied by surface water from Squaw Creek Reservoir (location SW6) or ground water from onsite wells (location GW2) but is currently supplied by the Somerville County Water District from the Wheeler Branch Reservoir. Each of these possible sources of water were sampled.
4. Ground water supplies in the plant site area are not affected by plant liquid effluents as discussed in CPSES FSAR Section 2.4.13. However, they are monitored for radioactivity IAW the requirements of the Radiological Effluent Control 3/4.12.1, Table 3.12-1.
5. Broadleaf sampling will be performed at the specified locations if milk samples are unavailable from any location.
6. Plant Potable Water (GW2) and Glen Rose (GW3) are supplied from surface water by the Somerville Water District from the Wheeler Branch Reservoir.
7. CPNPP Security Rifle Range (GW1) is supplied by a local Well.
8. North Central Texas Academy until the Fall 2021 school session. Part of the Annual Land Use Census is to provide an estimated population at defined distances and sector locations from CPNPP. The North Central Texas Academy has not contained all of the normal 200 students and adults residents in the current year of 2021 and is not expected to be occupied until the Fall of 2021.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PINCKARD CT
GLEN ROSE HWY
N
SW1
GW5
A-1
R1
R42
SS1
R5
R7
A-8
R39
R9
R36
R34
R33
COMANCHE PEAK STATION
HILL CITY HWY
N
GW2
R11
R12
COUNTY ROAD 1024
R46
R47
R45
R44
R30
COUNTY ROAD 325
BL2
R27
A-7
COUNTY ROAD 320
R15
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R17
R25
R20
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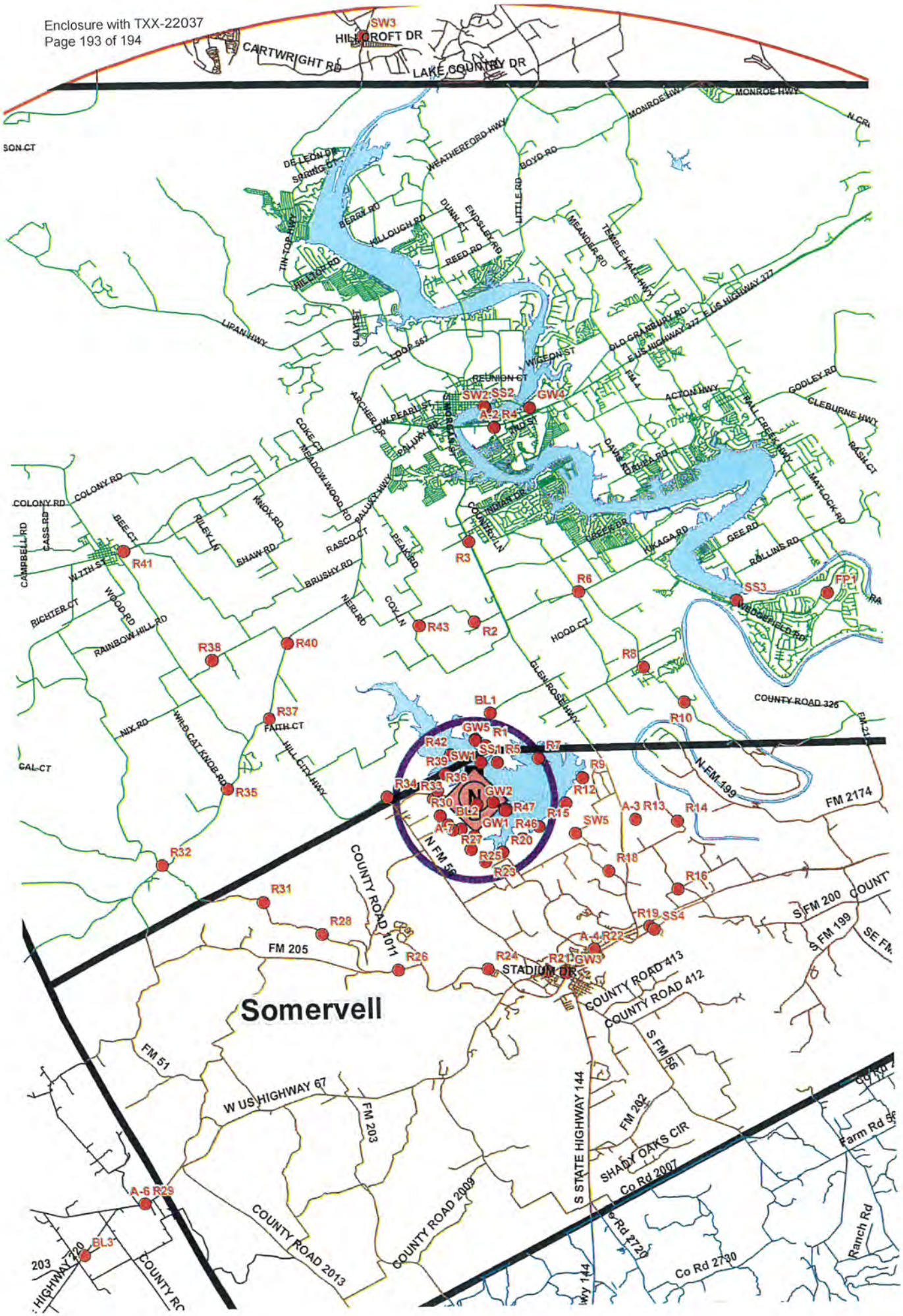
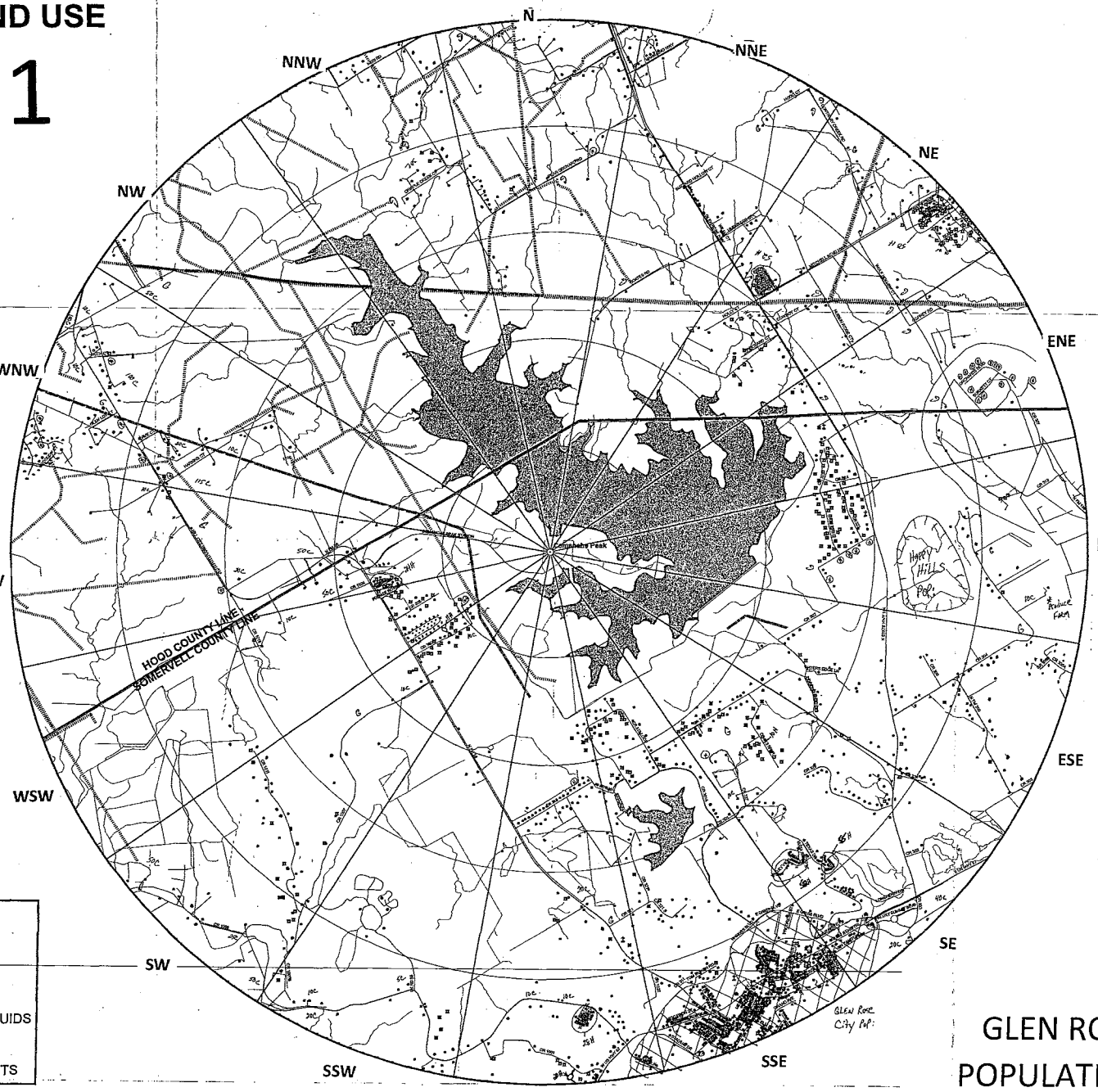
N FM 56
R23
COUNTY ROAD 313
COUNTY ROAD 313 SPUR
A-5


SW3
HILLCROFT DR
CARTWRIGHT RD
LAKE COUNTRY DR
MONROE HWY
WEATHERFORD HWY
BOYD RD
LITTLE RD
MEANDER RD
TEMPLE HALL HWY
DE LEON DR
SPRING CT
TIN TOP RD
BERRY RD
KILLOUGH RD
DUNN CT
ENDSLEY RD
REED RD
HILLTOP RD
LIPAN HWY
LOOP 567
OLD GRANBURY RD
E US HIGHWAY 377
SH 4
WIGEON ST
REUNION CT
SW2 SS2
GW4
A-2 R4
2ND ST
ARCHER DR
W PEARL ST
PALUXY RD
COKE CT
MEADOWWOOD RD
ACTON HWY
GODLEY RD
CLEBURNE HWY
RASH CT
MATLOCK RD
RALL CREEK HWY
DAVIS RD
RIVERA RD
INDIAN DR
COUNTRY LN
CREEK DR
HIKAGA RD
GEE RD
ROLLINS RD
COLONY RD
CAMPBELL RD
CASS RD
BEE CT
W 11TH ST
R41
RILEY LN
KNOX RD
SHAW RD
RASCO CT
PEAK RD
BRUSHY RD
R3
R6
SS3
FP1
WILDCAT CREEK RD
RICHTER CT
WOOD RD
RAINBOW HILL RD
NERU RD
COY LN
R43
R2
HOOD CT
R38
R40
R8
GLEN ROSE HWY
COUNTY ROAD 326
BL1
R10
NIX RD
WILD CAT KNOB RD
R37
FAITH CT
HILL CITY HWY
GW5
R1
R42
SS1
R5
R7
R39
SW1
R9
R36
R34
R33
R12
R30
GW2
R47
R15
A-3 R13
R14
FM 2174
N FM 199
BL2
A-7
GW1
R46
SW5
R27
R20
R25
R23
R18
R16
R32
COUNTY ROAD 1011
R31
R28
R19 SS4
S FM 200
S FM 199
SE FM
FM 205
R26
R24
R21 GW3
A-4 R22
STADIUM DR
COUNTY ROAD 413
COUNTY ROAD 412
Somervell
S FM 56
FM 51
W US HIGHWAY 67
FM 203
S STATE HIGHWAY 144
FM 282
SHADY OAKS CIR
Co Rd 2007
Farm Rd 56
A-6 R29
BL3
COUNTY ROAD 2009
COUNTY ROAD 2013
Co Rd 2720
Co Rd 2730
Ranch Rd
203
HIGHWAY 144

CPNPP LAND USE

2021



N
W E
S

H = NEW HOUSE
#C = COWS
G = NATURAL GAS WELL/PUMP

Text/note: This product is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries.

Hood County does not guarantee the correctness or accuracy of any features on this product and assumes no responsibility for the content. This product may be revised at any time without notification to any user.

Pipelines_5_Mile
CMDTY_DESC
- CRUDE OIL
- NATURAL GAS
- NATURAL GAS LIQUIDS
- RAW LPG
- REFINED PRODUCTS

Date: 6/6/2014

0 0.75 1.5 3 4.5 6 Miles

GLEN ROSE CITY
POPULATION: 2765