

PWSID: 1020029 Program Code: HC Type: B
System Name: Spring Lake Park
City: Spring Lake Park
Date Received: 10/05/22 11:35 Collector Name: Terry Randall
Rep. Temp. (°C): 15.5 Collector ID: None

MDH Sample Number: 22J0135-01

Location ID: E01 Collect Date: 10/05/22 Field Residual Chlorine Result: .70
Sampling Point: Terrace Park Treatment Plant Collect Time: 08:30 Field Fluoride Result: None
Matrix: Drinking Water Field pH Result: None
Field PO₄ Result: None

Results were produced by the Minnesota Department of Health, except where noted.

Radiochemical Parameters

Analyte	Result	Reporting Limit	Counting Uncertainty	Units	Batch	Prepared	Analyzed	Init.	Method	Qualifiers
Gross Alpha	7.8	3.0	3.1208	pCi/L	B2J1127	10/28/22 15:42	12/06/22 00:00	JJF	EPA 900.0	
Radium-226	1.7	1.0	0.6129	pCi/L	B2K0576	11/07/22 11:54	12/05/22 18:27	SAP	EPA 903.0 Rev 1/ 904.0	
Radium-228	2.4	1.0	0.7806	pCi/L	B2K0576	11/07/22 11:54	12/01/22 18:05	SAP	EPA 903.0 Rev 1/ 904.0	

MDH Sample Number: 22J0135-02

Location ID: E05 Collect Date: 10/05/22 Field Residual Chlorine Result: .70
Sampling Point: Arthur Street Treatment Plant Collect Time: 08:45 Field Fluoride Result: None
Matrix: Drinking Water Field pH Result: None
Field PO₄ Result: None

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Radiochemical Parameters

Analyte	Result	Reporting Limit	Counting Uncertainty	Units	Batch	Prepared	Analyzed	Init.	Method	Qualifiers
Gross Alpha	7.8	3.0	3.0861	pCi/L	B2J1127	10/28/22 15:42	12/06/22 00:00	JJF	EPA 900.0	
Radium-226	1.9	1.0	0.6581	pCi/L	B2K0594	11/08/22 08:48	12/01/22 14:24	KAC	EPA 903.0 Rev 1/ 904.0	
Radium-228	2.0	1.0	0.8163	pCi/L	B2K0594	11/08/22 08:48	11/30/22 16:05	KAC	EPA 903.0 Rev 1/ 904.0	

Authorized by:

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Stefan Saravia, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

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Batch B2J1127 - Radiochemistry Alpha/Beta Prep

Blank (B2J1127-BLK1) Prepared: 10/28/22 15:42 Analyzed: 12/06/22 00:00

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Gross Alpha	<	3.0	pCi/L							JJF	

LCS (B2J1127-BS1) Prepared: 10/28/22 15:42 Analyzed: 12/06/22 00:00

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Gross Alpha	12.4	3.0	pCi/L	13.92		89	70-130			JJF	

Duplicate (B2J1127-DUP1) Prepared: 10/28/22 15:42 Analyzed: 12/06/22 00:00

Source: 22I2120-18

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Gross Alpha	5.4	3.0	pCi/L		3.8			34	20	JJF	WB

Matrix Spike (B2J1127-MS1) Prepared: 10/28/22 15:42 Analyzed: 12/06/22 00:00

Source: 22I2120-17

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Gross Alpha	21.4	3.0	pCi/L	13.92	6.4	108	70-130			JJF	

Batch B2K0576 - Radiochemistry Ra-226 Ra-228 Prep

Blank (B2K0576-BLK1) Prepared: 11/07/22 11:54 Analyzed: 12/05/22 18:27

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Radium-226	<	1.0	pCi/L							SAP	
Radium-228	<	1.0	pCi/L							SAP	

LCS (B2K0576-BS1) Prepared: 11/07/22 11:54 Analyzed: 12/01/22 18:05

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Radium-226	<	1.0	pCi/L				90-110			SAP	
Radium-228	3.9	1.0	pCi/L	3.95		98	80-120			SAP	

FINAL REPORT

Report ID: 12192022145448

Generated: 12/19/2022 2:54:38PM

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Batch B2K0576 - Radiochemistry Ra-226 Ra-228 Prep

LCS (B2K0576-BS2)

Prepared: 11/07/22 11:54 Analyzed: 12/05/22 18:27

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Radium-226	4.5	1.0	pCi/L	4.66		97	90-110			SAP	
Radium-228	<	1.0	pCi/L				80-120			SAP	

Duplicate (B2K0576-DUP1)

Source: 22I2275-01

Prepared: 11/07/22 11:54 Analyzed: 12/05/22 18:27

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Radium-226	1.4	1.0	pCi/L		1.2			12	20	SAP	
Radium-228	1.9	1.0	pCi/L		1.6			22	20	SAP	QT

Matrix Spike (B2K0576-MS1)

Source: 22I2120-24

Prepared: 11/07/22 11:54 Analyzed: 12/01/22 18:05

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Radium-226	<	1.0	pCi/L		1.9		80-120			SAP	
Radium-228	6.4	1.0	pCi/L	7.90	<	75	70-130			SAP	

Matrix Spike (B2K0576-MS2)

Source: 22I2120-25

Prepared: 11/07/22 11:54 Analyzed: 12/05/22 18:27

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Radium-226	11.2	1.0	pCi/L	9.32	3.4	84	80-120			SAP	
Radium-228	<	1.0	pCi/L		1.8		70-130			SAP	

Batch B2K0594 - Radiochemistry Ra-226 Ra-228 Prep

Blank (B2K0594-BLK1)

Prepared: 11/08/22 08:48 Analyzed: 12/01/22 14:24

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Radium-226	<	1.0	pCi/L							KAC	
Radium-228	<	1.0	pCi/L							KAC	

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Batch B2K0594 - Radiochemistry Ra-226 Ra-228 Prep

LCS (B2K0594-BS1)

Prepared: 11/08/22 08:48 Analyzed: 11/30/22 16:05

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Radium-228	3.2	1.0	pCi/L	3.95		80	80-120			KAC	

LCS (B2K0594-BS2)

Prepared: 11/08/22 08:48 Analyzed: 12/01/22 14:24

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Radium-226	4.9	1.0	pCi/L	4.66		105	90-110			KAC	

Duplicate (B2K0594-DUP1)

Source: 22J0233-01

Prepared: 11/08/22 08:48 Analyzed: 12/01/22 14:24

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Radium-226	1.8	1.0	pCi/L		1.7			5	20	KAC	
Radium-228	1.2	1.0	pCi/L		1.1			9	20	KAC	

Matrix Spike (B2K0594-MS1)

Source: 22J0233-02

Prepared: 11/08/22 08:48 Analyzed: 11/30/22 16:05

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Radium-228	6.9	1.0	pCi/L	7.90	1.2	72	70-130			KAC	

Matrix Spike (B2K0594-MS2)

Source: 22J0320-01

Prepared: 11/08/22 08:48 Analyzed: 12/01/22 14:24

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Radium-226	11.6	1.0	pCi/L	9.32	4.3	78	80-120			KAC	M2

Data Qualifiers and Definitions

- M2 Matrix spike and/or matrix spike duplicate recovery was low; the associated laboratory control sample and/or laboratory control sample duplicate recovery was acceptable.
- QT RPD between sample duplicates not within acceptance limits. Analyte concentration within range for RER comparison and RER within acceptance limits.
- WB Relative percent difference exceeded the laboratory acceptance limit. Result less than 5 times the RL.

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Work Order Comments

Samples were received in proper condition.

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