

Minnesota Department of Health Public Health Laboratory Environmental Laboratory Section 601 Robert St. N., P.O. Box 64899 St. Paul, MN 55164-0899 651-201-5300

PWSID: 1020029 Program Code: HC Type: B

System Name: Spring Lake Park
City: Spring Lake Park

 Date Received:
 07/12/22 11:21
 Collector Name:
 Ken Prokott

 Rep. Temp. (°C):
 15.1
 Collector ID:
 None

MDH Sample Number: 22G0493-01

Location ID: E01 Collect Date: 07/12/22 Field Residual Chlorine Result: None

Sampling Point: Terrace Park Treatment Plant Collect Time: 09:40 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 | 3.5 | 3.0 | 2.1445 | pCi/L | B2H1322 | 08/17/22 10:10 | 08/24/22 00:00 | JJF | EPA 900.0 | |

MDH Sample Number: 22G0493-01RE1

Location ID: E01 Collect Date: 07/12/22 Field Residual Chlorine Result: None

Sampling Point: Terrace Park Treatment Plant Collect Time: 09:40 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 |
|------------|--------|--------------------|-------------------------|-------|---------|----------------|----------------|-------|---------------------------|------------|
| Radium-226 | 1.3 | 1.0 | 0.5473 | pCi/L | B2I0665 | 08/24/22 12:44 | 09/14/22 19:21 | SAP | EPA 903.0 Rev 1/ 904.0 | |
| Radium-228 | 1.2 | 1.0 | 0.7501 | pCi/L | B2I0665 | 08/24/22 12:44 | 09/13/22 18:49 | SAP | EPA 903.0 Rev 1/ 904.0 | |

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MDH Sample Number: 22G0493-02

Location ID: E05

PWSID: 1020029

Sampling Point: Arthur Street Treatment Plant

Collect Date: 07/12/22 Collect Time: 10:40

Field Fluoride Result: None Matrix: Drinking Water

Field Residual Chlorine Result: None

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 | <3.00 | 3.0 | 1.8848 | pCi/L | B2H1322 | 08/17/22 10:10 | 08/24/22 00:00 | JJF | EPA 900.0 | |
| Radium-228 | 2.5 | 1.0 | 1.0632 | pCi/L | B2H1477 | 08/24/22 12:44 | 08/30/22 18:38 | SAP | EPA 903.0 Rev 1/ 904.0 | |

MDH Sample Number: 22G0493-02RE1

Location ID: E05

Sampling Point: Arthur Street Treatment Plant

Collect Date: 07/12/22 Collect Time: 10:40 Matrix: Drinking Water

Field Residual Chlorine Result: None

Field Fluoride Result: None 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 |
|------------|--------|--------------------|-------------------------|-------|---------|----------------|----------------|-------|---------------|------------|
| Radium-226 | 1.8 | 1.0 | 0.6568 | pCi/L | B2I0848 | 08/24/22 12:44 | 09/22/22 20:01 | SAP | EPA 903.0 Rev | QT |

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PWSID: 1020029

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| Blank (B2H1322-BLK1) | | | | | Prepare | d: 08/17/2 | 22 10:10 Ana | yzed: 08/24 | 22 00:00 | | |
|--|-----------------|--------------------|----------------|----------------|------------------|------------|---------------|--|--------------|-------|------------|
| Analyte | Result | Reporting | Units | • | Source Result | %REC | %REC Limit | s RPD | RPD | Init. | Qualifiers |
| Gross Alpha | < | Limit 3.0 | pCi/L | Level | Result | | | | Limit | JJF | |
| LCS (B2H1322-BS1) | | | | | Prepare | d: 08/17/2 | 22 10:10 Ana | yzed: 08/24 | /22 00:00 | | |
| Analyte | Result | Reporting | Units | | Source | %REC | %REC Limit | s RPD | RPD | Init. | Qualifiers |
| Gross Alpha | 10.9 | 3.0 | pCi/L | 13.92 | Result | 78 | 70-130 | THE STATE OF THE S | Limit | JJF | Quamore |
| Duplicate (B2H1322-DUP1) | | Source: 22 | F1653-01 | | Dronaro | 4· 08/17/3 | 22 10:10 Anal | vzed: 08/24 | /22 00:00 | | |
| | | Reporting | | Spike | Source | | | = | RPD | | |
| Analyte | Result | Limit | Units pCi/L | Level | Result | %REC | %REC Limit | | Limit | Init. | Qualifiers |
| Gross Alpha | 3.6 | 3.0 | pGi/L | | 7.2 | | | 67 | 20 | JJF | W8 |
| Matrix Spike (B2H1322-MS1) | | Source: 22 | F1501-01 | | Prepare | d: 08/17/2 | 22 10:10 Ana | yzed: 08/24 | /22 00:00 | | |
| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limit | s RPD | RPD Limit | Init. | Qualifiers |
| Gross Alpha | 15.2 | 3.0 | pCi/L | 13.92 | < | 109 | 70-130 | | LIIIII | JJF | |
| Batch B2H1477 - Radiochem | istry Ra-226 Ra | a-228 Pre | ер | | | | | | | | |
| Blank (B2H1477-BLK1) | | | | | - | d: 08/24/2 | 22 12:44 Ana | yzed: 08/30 | | | |
| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limit | s RPD | RPD Limit | Init. | Qualifiers |
| Radium-228 | < | 1.0 | pCi/L | 2010. | roount | | | | | SAP | |
| | | | | | Prepare | d: 08/24/2 | 22 12:44 Ana | yzed: 08/30 | /22 18:38 | | |
| LCS (B2H1477-BS1) | 5 " | Reporting Limit | Units | | Source | %REC | %REC Limit | s RPD | RPD Limit | Init. | Qualifiers |
| | Result | | | Level | Result | | 80-120 | 2 | Limit | SAP | |
| Analyte | Result 4.4 | 1.0 | pCi/L | 4.07 | | 109 | 00-120 | | | ٥, ١ | |
| LCS (B2H1477-BS1) Analyte Radium-228 | | | pCi/L | 4.07 | | 109 | 00-120 | | | O/ 11 | |

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| | ry Ra-226 Ra | 1-220 PI | ер | | | | | | | | |
|--|--------------|--------------------|----------------|----------------|---|---------------------------|--------------------|------------|----------------------------------|------------|------------|
| LCS (B2H1477-BS2) | | | | | Prepared: 08/24/22 12:44 Analyzed: 08/31/22 19:01 | | | | | | |
| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Init. | Qualifiers |
| Radium-228 | < | 1.0 | pCi/L | | | | 80-120 | | | SAP | |
| Duplicate (B2H1477-DUP1) | | Source: 22 | G0497-04 | | Prepare | d: 08/24/2 | 22 12:44 Analyzo | ed: 08/30 | /22 18:38 | | |
| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Init. | Qualifiers |
| Radium-228 | < | 1.0 | pCi/L | | < | | | | 20 | SAP | |
| Matrix Spike (B2H1477-MS1) | | Source: 22 | G0497-02 | | Prepare | d: 08/24/2 | 22 12:44 Analyze | ed: 08/30/ | /22 18:38 | | |
| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Init. | Qualifiers |
| Radium-228 | 7.3 | 1.0 | pCi/L | 8.15 | 2.0 | 65 | 70-130 | | | SAP | M2 |
| Matrix Spike (B2H1477-MS2) | | Source: 22 | G0497-03 | | - | d: 08/24/2 | 22 12:44 Analyze | ed: 08/31/ | | | |
| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Init. | Qualifiers |
| Radium-228 | < | 1.0 | pCi/L | | 1.6 | | 70-130 | | | SAP | |
| Batch B2l0665 - Radiochemistr | y Ra-226 Ra | -228 Pre | p | | | | | | | | |
| Blank (B2l0665-BLK1) | | | | | • | d: 09/06/2 | 22 13:56 Analyze | ed: 09/14 | | | |
| 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 (B2l0665-BS1) | | | | | Prepare | d: 09/06/2 | 22 13:56 Analyze | ed: 09/13/ | | | |
| , | Result | Reporting Limit | Units | Spike Level | Prepare Source Result | d: 09/06/2 %REC | 22 13:56 Analyzo | ed: 09/13/ | /22 18:49 RPD Limit | Init. | Qualifiers |
| Analyte | Result < | | pCi/L | Level | Source | %REC | • | | RPD | Init. | Qualifiers |
| Analyte Radium-226 | | Limit | | • | Source | | %REC Limits | | RPD | | Qualifiers |
| LCS (B2I0665-BS1) Analyte Radium-226 Radium-228 FINAL REPORT | < | Limit 1.0 | pCi/L pCi/L | 4.05 | Source | %REC 81 | %REC Limits 90-110 | RPD | RPD | SAP SAP | |

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| LCS (B2I0665-BS2) | | | | | Prepared: 09/ | 06/22 13:56 Analyz | zed: 09/14 | /22 19:21 | | |
|--------------------------------|-------------|-----------------------|----------|----------------|----------------------------------|--------------------|------------|--------------|-------|------------|
| Analyte | Result | Reporting Limit | Units | Spike Level | | | RPD | RPD Limit | Init. | Qualifiers |
| Radium-226 | 5.1 | 1.0 | pCi/L | 4.66 | 10 | 09 90-110 | | | SAP | |
| Radium-228 | < | 1.0 | pCi/L | | | 80-120 | | | SAP | |
| Duplicate (B2l0665-DUP1) | | Source: 22 | G0230-01 | | Prepared: 09/ | 06/22 13:56 Analyz | zed: 09/14 | /22 19:21 | | |
| Analyta | Result | Reporting | Units | • | Source %RE | C %REC Limits | RPD | RPD | Init. | Qualifiers |
| Analyte | 0.5 | Limit | pCi/L | Level | Result ^{76 RE} | 701NEC EIIIIIIS | 14 | Limit 20 | SAP | Qualificis |
| Radium-226 Radium-228 | 1.2 | 1.0 1.0 | pCi/L | | 1.0 | | 20 | 20 | SAP | QT |
| Matrix Spike (B2l0665-MS1) | | Source: 22 | G0295-01 | | Prepared: 09/ | 06/22 13:56 Analyz | zed: 09/13 | /22 18:49 | | |
| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result %RE | C %REC Limits | RPD | RPD Limit | Init. | Qualifiers |
| Radium-226 | < | 1.0 | pCi/L | | < | 80-120 | | | SAP | |
| Radium-228 | 7.2 | 1.0 | pCi/L | 8.11 | < 1 | 33 70-130 | | | SAP | |
| Matrix Spike (B2I0665-MS2) | | Source: 22 | G0218-01 | | - | 06/22 13:56 Analyz | zed: 09/14 | | | |
| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result ^{%RE} | C %REC Limits | RPD | RPD Limit | Init. | Qualifiers |
| Radium-226 | 8.2 | 1.0 | pCi/L | 9.33 | | 33 80-120 | | | SAP | |
| Radium-228 | < | 1.0 | pCi/L | | < | 70-130 | | | SAP | |
| Batch B2l0848 - Radiochemistry | ⁄ Ra-226 Ra | -228 Pre _l |) | | | | | | | |
| Blank (B2l0848-BLK1) | | | | | - | 13/22 11:28 Analyz | zed: 09/22 | | | |
| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result [%] RE | C %REC Limits | RPD | RPD Limit | Init. | Qualifiers |
| Radium-226 | < | 1.0 | pCi/L | | | | | | SAP | |

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| | Results were | e produce | ed by Mir | nesota | Depar | tment | of Heal | th, except w | here no | oted. | | |
|-----------------------------------|---|----------------|----------------------------------|----------------|-----------------------|-----------------------------|---------------------------|-----------------------|---------------------------|----------------------------------|--------------|------------|
| Batch B2I0 | 848 - Radiochemistry Ra | a-226 Ra- | -228 Pre | р | | | | | | | | |
| LCS (B210848-E | SS2) | | | | | Prepare | d: 09/13/ 2 | 22 11:28 Analyz | ed: 09/22 | /22 20:01 | | |
| Analyte | | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Init. | Qualifiers |
| Radium-226 | | 4.3 | 1.0 | pCi/L | 4.66 | | 93 | 90-110 | | | SAP | |
| | | | | | | | | | | | | |
| Duplicate (B2I0 | 848-DUP1) | | Source: 22 | G0493-02 | RE1 | • | d: 09/13/2 | 22 11:28 Analyz | ed: 09/22 | | | |
| Analyte | | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Init. | Qualifiers |
| Radium-226 | | 2.9 | 1.0 | pCi/L | | 1.8 | | | 44 | 20 | SAP | QT |
| Matrix Spike (B Analyte | 210848-MS2) | Result | Source: 22 Reporting Limit | G0497-01 | RE1 Spike Level | Prepare Source Result | d: 09/13/2 %REC | 22 11:28 Analyz | ed: 09/22 / RPD | /22 20:01 RPD Limit | Init. | Qualifiers |
| Analyte Radium-226 | | Result 11.1 | | Units pCi/L | • | | %REC 106 | %REC Limits 80-120 | RPD | Limit | Init. SAP | Qualifiers |
| | | | | | | | | | | | o, | |
| | | | | | | | | | | | | |
| Data Qualifi | ers and Definitions | | | | | | | | | | | |
| M2 | Matrix spike and/or matrix spik duplicate recovery was accept | | ecovery was | s low; the a | associate | d laborate | ory contro | ol sample and/or l | aboratory | control sa | mple | |
| QT | RPD between sample duplicat acceptance limits. | es not within | acceptance | e limits. Ar | nalyte cor | ncentratio | n within r | ange for RER coi | mparison | and RER v | within | |
| W8 | Sample/sample duplicate relat | ive percent o | difference ex | ceeded th | e laborat | ory accep | tance lim | it. | | | | |
| | | | | | | | | | | | | |

Work Order Comments

Collector is Ken Prokott per N. Kadrlik. -CTS 7/12/22

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