AGENDA
SHAKOPEE PUBLIC UTILITIES COMMISSION
REGULAR MEETING
JANUARY 3, 2022
at 5:00 PM

To watch this meeting live click or copy the link: https://tinyurl.com/SPU-YouTube-Live

1. **Call to Order** at 5:00pm in the SPU Service Center, 255 Sarazin Street
   1a) Roll Call

2. **Communications**

3. **Consent Agenda**
   C=> 3a) Approval of December 6, 2021 Minutes (GD)
   C=> 3b) Approval of January 3, 2022 Agenda (KM)
   C=> 3c) December 6, 2021 Warrant List
   Account Credit Request/Deposit Refunds
   C=> 3d) December 20, 2021 Warrant List (JM)
   C=> 3e) January 3, 2022 Warrant List (JM)
   C=> 3f) MMPA December Meeting Update (GD)
   C=> 3g) Monthly Dashboard as of November 2021 (LS)
   C=> 3h) Nitrate Results (LS)
   C=> 3i) Emergency Response Plan Certification (LS)
   C=> 3j) Director of Finance and Administration & IT Supervisor (GD)
   C=> 3k) Res#2022-01 Resolution Establishing Water Meter and Installation Fees (LS)
   C=> 3l) Res#2022-02 Resolution Adjusting Fees Applied Under the Installation of Underground Electrical Distribution Systems Policy (JA)
   C=> 3m) Res#2022-03 Resolution Approving the Payment for the Pipe Oversizing Costs on the Watermain Project – Summerland 1st Addition (JA)

4. **Liaison Report** (JB)

5. **Public Comment Period.** The public comment period provides an opportunity for the public to address the Commission on items that are not on the agenda. Comments should **not** exceed five minutes. The SPU President may adjust that time limit based upon the number of persons seeking to comment. This comment period may not be used to make personal attacks, to air personality grievances, or for political endorsements or campaigns. The public comments are intended for informational purposes only; Commissioners will not enter into a dialogue with commenters, and questions from Commissioners will be for clarification only.

6. **General Manager Report**
   6a) General Manager Report – Verbal (GD)

7. **Reports: Water Items**
   7a) Water System Operations Report – Verbal (LS)
   7b) Minnesota Department of Health PFAS Sampling Results (LS)

8. **Reports: Electric Items**
   8a) Electric System Operations Report – Verbal (BC)
   8b) Authorized Vehicle & Equipment Purchasing to be delivered in 2023 (BC)

9. **Reports: Human Resources**

10. **Reports: General**
   10a) Marketing/Customer Service Report – Verbal (SW)
   10b) General Manager Performance Evaluation (KM) **

11. **Items for Future Agendas**
   11a) MN Department of Health answering question on PFAS Results presented on 1-3-22

12. **Tentative Dates for Upcoming Meetings****
   - January 18, 2022 (Tuesday)
   - February 7, 2022
   - February 22, 2022 (Tuesday)

13. **Adjournment**

** A portion of this meeting may be closed under Minnesota Statutes, Section 13D.05, subd.3(a) to to evaluate the performance of the General Manager.

MINUTES OF THE
SHAKOPEE PUBLIC UTILITIES COMMISSION
DECEMBER 6, 2021
Regular Meeting

1. Call to Order. President Mocol called the December 6, 2021 meeting of the Shakopee Public Utilities Commission to order at 5:00 PM. President Mocol, Vice President Fox, Commissioner Brennan, Commissioner Krieg, and Commissioner Letourneau were present.

2. Approval of Consent Agenda. Commissioner Brennan asked to pull items (3i) and (3k) from the Consent Agenda. Vice President Fox moved approval all other items on the Consent Agenda: (3a) November 15, 2021 Minutes; (3b) December 6, 20021 Agenda; (3c) December 6, 2021 Warrant List; (3d) MMPA November Meeting Update; (3e) Res#2021-25 – A Resolution of Appreciation to Roger Hennen; (3f) Res#2021-26 – A Resolution of Appreciation to Chuck Vest; (3f) Res#2021-27 – Adjusting Fees Applied Under the Water Capacity Charges; (3h) Res#2021-28 – Adjusting Fees Under the Trunk Water Charges; (3j) Purchasing Policy Changes; (3l) Res#2021-32 Resolution Regulating Wage Ranges; and (3m) Bids Notice for West Shakopee Substation Transformer. Commissioner Letourneau seconded the motion. Ayes: Mocol, Fox, Brennan, Krieg, and Letourneau. Nays: None. Motion carried.

For item (3i), Commissioner Brennan asked why the hydrant fee increased from $25 to $100. She proposed that the fee should change to $50. Commissioner Brennan moved to approve item (3i) Res#2021-33 Resolution Adopting Fees and Charges for 2022, as modified with hydrant fees of $50. Commissioner Krieg seconded the motion. Ayes: Mocol, Fox, Brennan, Krieg, and Letourneau. Nays: None. Motion carried. As to item (3k), Commissioner Brennan requested an annual audit for the credit card policy by the SPU Auditors. Commissioner Brennan moved to approve item (3k) SPU Credit Card Policy, including the audit requirement. Commissioner Letourneau seconded the motion. Ayes: Mocol, Fox, Brennan, Krieg, and Letourneau. Nays: None. Motion carried.

3. Liaison Report. Commissioner Brennan noted that the City Council will hold a public hearing on the City's budget and tax levy on December 7, 2021.

4. Public Comment Period. No public comments were offered.

5. General Manager Report. Greg Drent, General Manager, provided an update on current projects, including the PILOT proposed agreement, electric service territory discussions with MVEC, billing software, rate design, and SPU staff meeting with City staff about 2022 projects. In terms of supplies and lead times, Mr. Drent noted that staff has been reviewing these issues and increasing orders on materials to allow for longer lead times. Mr. Drent noted that he is discussing with Mr. Reynolds a potential joint Commission/City Council meeting in the first quarter of 2022.

6. Water Report. Lon Schemel, Water Superintendent, noted that there is a delay at Tank #8 due to concrete issues, and that substantial completion is expected by the third or fourth week in February. Mr. Schemel reported that the PFAS testing results from the Minnesota Department of Health indicate that SPU is well below any health-based value in all of the wells. He noted that the results will be posted on the SPU website, and that the Department of Health has been asked to attend a Commission meeting in January to discuss these issues. Mr. Schemel also noted that the well houses have been winterized and that the department is working on winter projects.

Cty Rd. 83 Bids and Agreement Amendment. Joseph Adams, Director of Planning and Engineering, presented the proposed First Amendment to the Construction Cooperative Agreement between SPU and Scott County. He noted that the County Attorney's Office is in the process of reviewing this document, but in the interest of time, the County Board approved it subject to legal review. Mr. Adams recommended a similar approval process for the Commission. He also noted that bid responses are approximately 19% below the engineer's estimate for the project. Commissioner Brennan moved to approve and authorize execution of the First Amendment, subject to attorney review, in a form substantially consistent with the terms in the draft presented. Commissioner Krieg seconded the motion. Ayes: Mocol, Fox, Brennan, Krieg, and Letourneau. Nays: None. Motion carried.

7. Electric Report. Brad Carlson, Electric Superintendent, reported seven outages (four animal-related) since the last Commission meeting. He also provided an update on current projects, including Windemere 4th second phase, repairs to the overhead line on Blue Lake 22, and Summerland Addition underground work.

8. Customer Service/Marketing Update. Sharon Walsh, Marketing/Customer Relations Director, reported that the Holiday Fest was a success; she estimated that SPU staff interacted with 3,000 customers. She presented pictures of the SPU gingerbread house float. Ms. Walsh noted that for 2022, she is working on a year-in-review report to customers. She is also exploring options to allow customers to assist other customers with utility bills, such as rounding up.

9. Final Rate Study. Dave Berg, Dave Berg Consulting, LLC, presented the final report for the Water and Electric Cost of Service and Rate Design Study. For electric rates, Mr. Berg's recommendations included a 1% increase each year for 2022-2025, establishing a large residential rate, and revising the power cost adjustment rate. For water rates, Mr. Berg recommended a 5% increase annually for 2022-2025. After discussion, Vice-President Fox moved approval of the final Electric Cost of Service and Rate Design Study and the final Water Cost of Service and Rate Design Study, as presented. Commissioner Letourneau seconded the motion. Ayes: Mocol, Fox, Brennan, Krieg, and Letourneau. Nays: None. Motion carried.

10. 2022 – 2026 Capital Improvement Plan. Mr. Adams presented the final 2022 – 2026 Capital Improvement Plan. He explained that there were no changes to the preliminary plan

presented to the Commission. Commissioner Letourneau moved to accept the 2022 - 2026 Capital Improvement Plan. Commissioner Brennan seconded the motion. Ayes: Mocol, Fox, Brennan, Krieg, and Letourneau. Nays: None. Motion carried.

11. 2022 Capital Project and Equipment Plan. Mr. Adams presented the 2022 Administration, Electric, and Water Capital Projects. Vice President Fox moved to approve the 2022 Administration, Electric, and Water Capital Projects as presented. Commissioner Krieg seconded the motion. Ayes: Mocol, Fox, Brennan, Krieg, and Letourneau. Nays: None. Motion carried.

12. 2022 Final Budget Approval. Jean McGann, AEM, presented the 2022 SPU Final Budget, which incorporated the final rate study recommendations. Vice President Fox moved to approve the 2002 Final Budget as presented. Commissioner Letourneau seconded the motion. Ayes: Mocol, Fox, Brennan, Krieg, and Letourneau. Nays: None. Motion carried.

13. Resolution #2021-29 A Resolution Establishing Electric Rates for Customer Served by Shakopee Public Utilities. Jean McGann, AEM, presented the Resolution. Commissioner Letourneau moved to approve Resolution 2021-29 A Resolution Establishing Electric Rates for Customer Served by Shakopee Public Utilities. Commissioner Brennan seconded the motion. Ayes: Mocol, Fox, Brennan, Krieg, and Letourneau. Nays: None. Motion carried.

14. Resolution #2021-30 A Resolution Establishing Water Rates in and for the City of Shakopee. Jean McGann, AEM, presented the Resolution. Commissioner Brennan moved to approve Resolution 2021-30 A Resolution Establishing Water Rates in and for the City of Shakopee. Vice President Fox seconded the motion. Ayes: Mocol, Fox, Brennan, Krieg, and Letourneau. Nays: None. Motion carried.

15. Res#2021-31 A Resolution Establishing the Power Cost Adjustment Charge, Setting the Power Cost Adjustment Base, and Other Terms. Jean McGann, AEM, presented the Resolution. Commissioner Krieg moved to approved Resolution 2021-31 A Resolution Establishing the Power Cost Adjustment Charge, Setting the Power Cost Adjustment Base, and Other Terms. Commissioner Letourneau seconded the motion. Ayes: Mocol, Fox, Brennan, Krieg, and Letourneau. Nays: None. Motion carried.

16. PILOT Agreement. Mr. Drent provided an update of the Transfer/Payment in Lieu of Taxes (PILOT) discussions and presented the proposed Agreement and Commission Resolution. He noted a difference in language between the two documents as to streetlights. The consensus was to use the language from the Agreement. Vice President Fox moved to approve Resolution 2021-35, as modified, authorizing certain payments from the Shakopee Public Utilities Commission to the City of Shakopee and the PILOT Agreement. Commissioner Letourneau

seconded the motion. Ayes: Mocol, Fox, Brennan, Krieg, and Letourneau. Nays: None. Motion carried.

17. Project Update (Electric and Water). Jean McGann, AEM, presented a current list of water and electric projects, including financial and completion status.

18. Electric Service Territory Discussions. Commissioner Letourneau moved, seconded by Vice President Fox, that the Commission go into closed session under Minnesota Statutes, Section 13D.05, subdivision 3(c) to develop or consider offers for the purchase of electric service territory rights and facilities of Minnesota Valley Electric Cooperative. Ayes: Mocol, Fox, Brennan, Krieg, and Letourneau. Nays: None. Motion carried. In open session, President Mocol noted that the Commissioners gave direction to staff to proceed in negotiations with MVEC representatives.

19. Adjourn. Motion by Vice President Fox, seconded by Commissioner Letourneau, to adjourn to the January 3, 2022 meeting. Ayes: Mocol, Fox, Brennan, Krieg, and Letourneau. Nays: None. Motion carried.

Greg Drent, Commission Secretary

Proposed As Consent Item **3b**

AGENDA
SHAKOPEE PUBLIC UTILITIES COMMISSION
REGULAR MEETING
JANUARY 3, 2022
at 5:00 PM

To watch this meeting live click or copy the link: https://tinyurl.com/SPU-YouTube-Live

1. **Call to Order** at 5:00pm in the SPU Service Center, 255 Sarazin Street
   1a) Roll Call

2. **Communications**

3. **Consent Agenda**
   C=> 3a) Approval of December 6, 2021 Minutes (GD)
   C=> 3b) Approval of January 3, 2022 Agenda (KM)
   C=> 3c) December 6, 2021 Warrant List
   Account Credit Request/Deposit Refunds
   C=> 3d) December 20, 2021 Warrant List (JM)
   C=> 3e) January 3, 2022 Warrant List (JM)
   C=> 3f) MMPA December Meeting Update (GD)
   C=> 3g) Monthly Dashboard as of November 2021 (LS)
   C=> 3h) Nitrate Results (LS)
   C=> 3i) Emergency Response Plan Certification (LS)
   C=> 3j) Director of Finance and Administration & IT Supervisor (GD)
   C=> 3k) Res#2022-01 Resolution Establishing Water Meter and Installation Fees (LS)
   C=> 3l) Res#2022-02 Resolution Adjusting Fees Applied Under the Installation of Underground Electrical Distribution Systems Policy (JA)
   C=> 3m) Res#2022-03 Resolution Approving the Payment for the Pipe Oversizing Costs on the Watermain Project – Summerland 1st Addition (JA)

4. **Liaison Report** (JB)

5. **Public Comment Period.** The public comment period provides an opportunity for the public to address the Commission on items that are not on the agenda. Comments should **not** exceed five minutes. The SPU President may adjust that time limit based upon the number of persons seeking to comment. This comment period may not be used to make personal attacks, to air personality grievances, or for political endorsements or campaigns. The public comments are intended for informational purposes only; Commissioners will not enter into a dialogue with commenters, and questions from Commissioners will be for clarification only.

6. **General Manager Report**
   6a) General Manager Report – Verbal (GD)

7. **Reports: Water Items**
   7a) Water System Operations Report – Verbal (LS)
   7b) Minnesota Department of Health PFAS Sampling Results (LS)

8. **Reports: Electric Items**
   - 8a) Electric System Operations Report – Verbal (BC)
   - 8b) Authorized Vehicle & Equipment Purchasing to be delivered in 2023 (BC)

9. **Reports: Human Resources**

10. **Reports: General**
   - 10a) Marketing/Customer Service Report – Verbal (SW)
   - 10b) General Manager Performance Evaluation (KM) **

11. **Items for Future Agendas**
   - 11a) MN Department of Health answering question on PFAS Results presented on 1-3-22

12. **Tentative Dates for Upcoming Meetings****
   - January 18, 2022 (Tuesday)
   - February 7, 2022
   - February 22, 2022 (Tuesday)

13. **Adjournment**

** A portion of this meeting may be closed under Minnesota Statutes, Section 13D.05, subd.3(a) to to evaluate the performance of the General Manager.

Proposed As Consent Item

3c

SHAKOPEE PUBLIC UTILITIES COMMISSION

Warrant List
Account Credit Request/Deposit Refunds
December 6, 2021

By direction of the Shakopee Public Utilities Commission, the Secretary does hereby authorize the following warrants drawn upon the Treasury of Shakopee Public Utilities

AHMED, ALI	53.24
ALMAZAN SOTO, ALFREDO	58.15
ANDERSON, BRYNA	35.84
ANDERSON, KRISTEN	42.97
BD INVESTORS	3.64
BIO-CAT MICROBIALS LLC	16,001.32
BJELLAND, DOUGLAS	41.46
BOULEY, MARY	68.31
BRAKEMEIER, DUSTIN	70.23
CHATTERJEE, SUMON & SANHITA	39.75
CHEN, XIJIAN	46.55
COATS, MAKAYLA	40.83
DE HOOG, BERNARD	21.40
DIRCKS, CHANCE	96.05
DOROSHENKO, YEKATERINA S	48.54
DRAYNA, CAITLIN	63.57
FOSTER, STEPHANIE	27.57
FUCHS, ROSS	66.92
GATICA-ROMERO, GUADALUPE	8.53
GRASS, ANDREW	56.00
GREISCHAR, VANA	40.01
GRINBERG, MINA	86.96
HAZE BATTERY USA	3,153.22
HISLOP, SCOTT & CORTNEY	99.04
HOLTGREWE, TIFFANY	22.20
HOVELSON, DOUGLAS	82.43
HUMKE, JENNA	19.86
HUNTINGTON PARK APARTMENTS	30.01
HUNTINGTON PARK APTS	23.43
I STORAGE LLC	3,026.32
ISAKSON, ERIC O	68.80
JOHNSON, AARON	17.00
KINKEL, AMANDA	31.00
KOOPMAN, PAMELA & MICHAEL	26.45
KOZLOWSKI, JOELLEN M	68.40
KRUEGER, MARY LOU & THOMAS	32.00
LANTINEN, MARTIN M & ANGELA	72.00
LEBENS, EDWARD	20.80
LENNAR	39.81
LEON, LUZ E	9.09
LOPEZ, ALEJANDRA TORRES	37.71
MANSON, COLIN	4.11
MARTINEZ, ELIA ELIZABETH	39.00
MARYSTOWN VILLAGE LLC	14.43
MINNESOTA HOUSING FINANCE AGEN	448.30
MINNESOTA HOUSING FINANCE AGEN	275.83
MINNESOTA HOUSING FINANCE AGEN	950.79
MORALES MARRON, ELIEZER	17.46

MTR OUTDOOR SOLUTION LLC	136.14
MURPHY WAREHOUSE	9,848.52
MURPHY, JOHN T	25.00
NANCLARES, MAYRA	70.79
NATL CORP HOUSING	55.45
NGUYEN, TO ANH	81.76
NUNN, AMY	16.65
ONEIL, LISA	58.77
OPENDOOR LABS INC	602.33
PARKER, KIM & GREGORY	49.35
PAWLAK, MICHELLE K	46.19
PULTE HOMES OF MN	18.50
RAHMAN, NICK	45.63
REISDORFF, GEORGE	11.19
ROSENDAHL, GARY	1.70
SCHINDELDECKER, RICK	126.12
SMITH, SCOTT	2.32
STARK, ADRIENNE	66.69
SUMMERGATE DEVELOPMENT LLC	10.07
TRADER, MARYJO	7.95
TRAN, DIEM-THUY T	61.43
TULLEMANS, MARC	1.01
WEISSER, CHELSIE & SHIRLYCE	53.75
WERY, STEVEN & LONNI	3.64
WESSON, LANGSTON	20.27
WHISPERING HEIGHTS APTS LLC	1.09
WIESE, ZACHARY	166.42
WORRE, KATHRYN	62.78
ZILLOW HOMES INC	42.03
TOTAL	$37,340.87

Presented for approval by: Interim Director of Finance & Administration

Approved by General Manager

Approved by Commission President

Proposed As Consent Item **3d**

SHAKOPEE PUBLIC UTILITIES COMMISSION

WARRANT LISTING

December 20, 2021

By direction of the Shakopee Public Utilities Commission, the Secretary does hereby authorize the following warrants drawn upon the Treasury of Shakopee Public Utilities Commission:

Canterbury Park Catering & Events	5,562.39
Yusuf Ibrahim	119.50
OKTA, INC.	4,500.72
American Messaging Services, LLC	1,547.39
AGC NETWORKS INC.	901.99
ALLEN, ROGER & KATHY	325.00
ALLSTREAM BUSINESS US, INC	2,482.15
AMARIL UNIFORM CO.	566.22
AMELCHENKO, ANDREY	50.00
ANCOM TECHNICAL CENTER INC	173.53
ANNETTE STANEK dba A GRAPHIX DESIGN	2,293.75
APPLE FORD OF SHAKOPEE	491.54
APPLIED TECHNOLOGY GROUP, INC.	8,653.78
ARAMARK REFRESHMENT SERVICES INC	297.48
ARROW ACE HARDWARE	190.21
ASPEN EQUIPMENT CO	3,161.63
B & B TRANSFORMER INC	3,274.00
B & L TRUCK REPAIR INC	12,518.34
BDH2-MARSHALL, LLC	896.13
BEHRENS, MARSHA	50.00
BERLIN PACKAGING LLC	334.66
BERNDTSON, ROBERT	153.44
BOLTON & MENK, INC	5,966.50
BORDER STATES ELECTRIC SUPPLY INC	138,732.64
BRAUN INTERTEC CORP.	2,720.00
CALDWELL TANK, INC.	47,922.75
CARLSON, BRADLEY	46.13
CDW LLC	1,130.00
CENTERPOINT ENERGY	2,275.17
CHOICE ELECTRIC INC	1,838.80
CITY OF SAVAGE	38.52
CITY OF SHAKOPEE	4,936.41
CITY OF SHAKOPEE	440,664.97
CITY OF SHAKOPEE	9,133.75
CM CONSTRUCTION COMPANY	24,746.17
COMCAST CABLE COMMUNICATIONS, INC.	2.25
CPS TECHNOLOGY SOLUTIONS INC	1,610.63
CRIST, JONATHAN	25.00
DAILY PRINTING, INC.	4,010.00
DAVE A BERG	10,000.00
DEL'S CONSTRUCTION COMPANY INC.	48,108.33
DELTA DENTAL PLAN OF MN	5,187.14
DEUTH, ROBERT & TRISHA	150.00
EDWARDS, JOSEPH	500.00
ERLICH DESIGN BUILDERS	55.00
FASTENAL IND & CONST SUPPLIES	400.52
FEILMEYER JEREMY	125.00
FERGUSON US HOLDINGS, INC.	7,543.81
FLYTE HCM LLC	50.00
FRIENDSHUH, GRANT	124.38
FRONTIER ENERGY, INC.	4,494.51
FS3 INC	16,525.01
FURTHER	1,507.11
GOPHER STATE ONE-CALL	602.10
GRAINGER	1,901.57

SHAKOPEE PUBLIC UTILITIES COMMISSION

WARRANT LISTING

December 20, 2021

By direction of the Shakopee Public Utilities Commission, the Secretary does hereby authorize the following warrants drawn upon the Treasury of Shakopee Public Utilities Commission:

GURSTEL LAW FIRM PC	10,008.87
HARRIS ST PAUL., INC	17,335.56
HAWKINS INC	814.40
HEALTHPARTNERS	77,540.93
HENNEN'S AUTO SERVICE, INC.	794.00
HERMAN'S LANDSCAPE SUPPLIES INC	56.00
HIGH FIVE ERECTORS II, INC.	25,426.75
HOYD, AMY	150.00
IMPACT MAILING OF MINNESOTA, INC.	15,229.94
INDELCO PLASTICS CORP	128.01
INNOVATIVE OFFICE SOLUTIONS LLC	2,667.65
INTERSTATE ALL BATTERY CTR	15,978.46
IRBY - STUART C IRBY CO	4,801.00
IRBY TOOL & SAFETY	4,915.61
IVANCA DROUILLARD, MARTIN	2,167.15
JACK HENRY & ASSOCIATES, INC.	479.34
JAMES, TIM & TRACI	24.36
JOHNSON-ANDERSON & ASSOC	27,215.00
JOHNSON/ANDERSON & ASSOC., INC.	1,809.43
KENDELL DOORS & HARDWARE, INC.	2,563.00
KRUEGER EXCAVATING INC.	41,060.95
KRUG, JONATHAN & REBEKKA	500.00
L & S ELECTRIC INC	555.25
LARKSTUR ENGINEERING AND SUPPLY, INC	560.52
LATOUR, ERIC	175.00
LE, DAI	100.00
LOCATORS & SUPPLIES INC	343.03
MALECHA, DIANE J	500.00
MENDEN, MICHAEL	127.99
MENDEN, TYLER	175.00
MIKE'S AUTO REPAIR INC	217.35
MINN DEPT OF COMMERCE	10,735.49
MINN VALLEY TESTING LABS INC	435.00
MINNESOTA EQUIPMENT INC.	61.66
MINNESOTA LIFE	1,400.65
MMPA c/o Avant Energy	2,875,597.27
MMUA	616.00
MN DEPT OF REVENUE ACH PAYMENTS	201,195.00
MYERS, TONY	109.95
MICHELS UTRILITY SERVICES	40,330.32
NAPA AUTO PARTS	327.16
NCPERS GROUP LIFE INSURANCE	176.00
NEVILLE, GERRY	202.72
NICKOLAY, CINDY	318.64
NORTH COUNTRY CONCRETE, INC.	102,270.35
NORTHERN STATES POWER CO.	4,002.93
OLDCASTLE INFRASTRUCTURE INC	4,148.92
ORACLE AMERICA INC.	34,556.02
Principal Financial Group	3,631.73
PAYMENTUS CORPORATION	53,242.05
PITNEY BOWES INC	1,214.52
PLUNKETT'S PEST CONTROL, INC.	135.79
PRAYER WELWEAN	1,000.00
PRIORITY 1 OUTDOORS INC.	2,284.77
PULTE HOMES	107.38
RIES, CHAD	150.00

SHAKOPEE PUBLIC UTILITIES COMMISSION

WARRANT LISTING

December 20, 2021

By direction of the Shakopee Public Utilities Commission, the Secretary does hereby authorize the following warrants drawn upon the Treasury of Shakopee Public Utilities Commission:

ROSE, WILLIAM	139.99
RW Beck Group,Inc, Leidos Eng. LLC	27,612.25
SCHAEFER, BRIAN	500.00
SCHILZ ORNAMENTAL IRON INC	125.00
SCOTT COUNTY GOVT. CENTER WEST	72,475.00
SCOTT COUNTY PHYSICAL DEVELOPMENT	162.00
SHERWIN WILLIAMS	69.53
SHORT ELLIOTT HENDRICKSON INC	43,403.40
SKOUG, MICHAEL	17.16
SOUTHBRIDGE 2009 I LLC	14,009.00
SOUTHWEST NEWS MEDIA DBA DIV. OF RED	692.78
TRIPLETT, GREG	233.52
ULINE, INC.	395.04
UNITED SYSTEMS & SOFTWARE, INC.	246.78
UPS STORE # 4009	28.26
VERIZON CONNECT NWF INC.	339.99
VILLALOBOS, RAFAEL	500.00
WALSH, SHARON	1,443.18
WESCO DISTRIBUTION INC	11,612.86
WILLEMSSEN, KELLEY	150.00
ZIEGLER INC	1,130.91
	4,599,575.54

Jean McLaun

Presented for approval by: Interim Director of Finance & Administration

Approved by General Manager

Approved by Commission President

SHAKOPEE PUBLIC UTILITIES COMMISSION

WARRANT LISTING

December 20, 2021

By direction of the Shakopee Public Utilities Commission, the Secretary does hereby authorize the following warrants drawn upon the Treasury of Shakopee Public Utilities Commission:

Canterbury Park Catering & Events	5,562.39	Annual Review Meeting
Yusuf Ibrahim	119.50	Lost original check, void and reissue
OKTA, INC.	4,500.72	Address correction
American Messaging Services, LLC	1,547.39	Dec. Smartswitch 12/1-12/31/21
AGC NETWORKS INC.	901.99	phone licenses for drive thru
ALLEN, ROGER & KATHY	325.00	2021 Res. Energy Star Appliance
ALLSTREAM BUSINESS US, INC	2,482.15	Shak Sub, Pike Lake, S.Sub, and SPU
AMARIL UNIFORM CO.	566.22	Clothing for MM in Water, logos for T.B.
AMELCHENKO, ANDREY	50.00	2021 Res. Energy Star Appliance
ANCOM TECHNICAL CENTER INC	173.53	Trk 621 & 642 repair work
ANNETTE STANEK dba A GRAPHIX DESIGN	2,293.75	Business Card design, paper & #9 envelopes
APPLE FORD OF SHAKOPEE	491.54	Elect. Dept. Trk #618 repair, Trk 634, #651, #626 Oil changes
APPLIED TECHNOLOGY GROUP, INC.	8,653.78	Bluebeam Revu, CAD Perpetual License
ARAMARK REFRESHMENT SERVICES INC	297.48	Coffee for Nov. & Dec.
ARROW ACE HARDWARE	190.21	Horiz Flip Cover, Tamp Receptacle, batteries, caulk, nozzle
ASPEN EQUIPMENT CO	3,161.63	Full sizes Tool box
B & B TRANSFORMER INC	3,274.00	25KVA transformers
B & L TRUCK REPAIR INC	12,518.34	DOT for trucks
BDH2-MARSHALL, LLC	896.13	Lodging for GF, TO, and TH
BEHRENS, MARSHA	50.00	2021 WATER SENSE TOILET
BERLIN PACKAGING LLC	334.66	case of 30 count #GLA-00958
BERNDTSON, ROBERT	153.44	238 Miles reimb.
BOLTON & MENK, INC	5,966.50	WO#2568 West End Lower Bluff Trunk
BORDER STATES ELECTRIC SUPPLY INC	138,732.64	WO#2464 - $9871.07 - CENTRON meters,$102.41 - Water dept. tools, $3508.43 - Inventory items, ground rod clamps, conduit straps, washer, cable zip ties, $119282.40 - Cable, WO#2464 - $5968.33 Meters
BRAUN INTERTEC CORP.	2,720.00	WO#2470 - Concrete Observation & Testing thru 11/27/2021
CALDWELL TANK, INC.	47,922.75	WO#2259 - Payment #9 for Tank #8
CARLSON, BRADLEY	46.13	Caulk reimb. for Holiday Parade
CDW LLC	1,130.00	IP Console Switch
CENTERPOINT ENERGY	2,275.17	Nov. service for SPU bldg.
CHOICE ELECTRIC INC	1,838.80	Marschall Rd & 150th St. Relocated pole
CITY OF SAVAGE	38.52	Preserve Trl Oct. service
CITY OF SHAKOPEE	4,936.41	Nov. fuel usage
CITY OF SHAKOPEE	440,664.97	Nov. SW ($343,612.00) & SD ($97,052.97)
CITY OF SHAKOPEE	9,133.75	Permits - WO#2559 - $165.00, WO#2475 $1941.25, - WO#2477 - $195.00, WO#2514 - $390.00, Water dept. $315.00, WO#2559 - $180.00, WO#2536 - $5595.00, WO#2239 - $2239
CM CONSTRUCTION COMPANY	24,746.17	WO#2470 - Application 4, thru Nov. 30, 2021
COMCAST CABLE COMMUNICATIONS, INC.	2.25	Dec. cable for lunchrooms
CPS TECHNOLOGY SOLUTIONS INC	1,610.63	PERFORM CUMULATIVE PTF'S
CRIST, JONATHAN	25.00	2021 Res. Energy Star Lighting
DAILY PRINTING, INC.	4,010.00	Cold weather Rule Brochure
DAVE A BERG	10,000.00	11/4-12/6/21 Professional Services
DEL'S CONSTRUCTION COMPANY INC.	48,108.33	WO#2470 - Application #3, thru 11/30/21
DELTA DENTAL PLAN OF MN	5,187.14	Dental Insurance premiums for Dec.
DEUTH, ROBERT & TRISHA	150.00	2021 Res. Energy Star Appliance
EDWARDS, JOSEPH	500.00	2021 Res. Cooling & Heating Rebate
ERLICH DESIGN BUILDERS	55.00	Credit for meter returned
FASTENAL IND & CONST SUPPLIES	400.52	Torx security bit
FEILMEYER JEREMY	125.00	2021 STAR CLOTHES WASHER
FERGUSON US HOLDINGS, INC.	7,543.81	Couplings, bush, tubes, screw type, WO#2451 - $4100.00 - Meters
FLYTE HCM LLC	50.00	Nov. Cobra notices
FRIENDSHUH, GRANT	124.38	School reimb.
FRONTIER ENERGY, INC.	4,494.51	Nov. C&I Implementation
FS3 INC	16,525.01	PIPE 2 INNERDUCT
FURTHER	1,507.11	Flex Dependent reimb. & Dec. Adm. Fee

SHAKOPEE PUBLIC UTILITIES COMMISSION

WARRANT LISTING

December 20, 2021

By direction of the Shakopee Public Utilities Commission, the Secretary does hereby authorize the following warrants drawn upon the Treasury of Shakopee Public Utilities Commission:

GOPHER STATE ONE-CALL	602.10	Nov. locates
GRAINGER	1,901.57	Crimper, filters, plumb for bucket truck, heater thermostat
GURSTEL LAW FIRM PC	10,008.87	Garnishment payoff
HARRIS ST PAUL., INC	17,335.56	WO#2470-Application #3, thru 11/30/21
HAWKINS INC	814.40	CYLINDERS OF CHLORINE
HEALTHPARTNERS	77,540.93	December Health Ins. Premiums
HENNEN'S AUTO SERVICE, INC.	794.00	Tires, oil change
HERMAN'S LANDSCAPE SUPPLIES INC	56.00	Black Dirt
HIGH FIVE ERECTORS II, INC.	25,426.75	WO#2470 - Application #1, thru 11/30/21
HOYD, AMY	150.00	2021 Res. Star appliance
IMPACT MAILING OF MINNESOTA, INC.	15,229.94	Collection Letters 11/24 file
INDELCO PLASTICS CORP	128.01	Tube connector
INNOVATIVE OFFICE SOLUTIONS LLC	2,667.65	Office supplies
INTERSTATE ALL BATTERY CTR	15,978.46	Batteries, WO#2544 -$15643.18 - Batteries & rack for substation
IRBY - STUART C IRBY CO	4,801.00	Cable and hot clamps
IRBY TOOL & SAFETY	4,915.61	Laser level, Hex key wrench set, splicer knife, hammer, ratchet cable cutters, torch
IVANCA DROUILLARD, MARTIN	2,167.15	Reimb. for Milsoft Windmil Trng/TX
JACK HENRY & ASSOCIATES, INC.	479.34	double paid
JAMES, TIM & TRACI	24.36	2021 Res. Appliance recycling
JOHNSON-ANDERSON & ASSOC	27,215.00	2021 Compressed Air Rebate
JOHNSON/ANDERSON & ASSOC., INC.	1,809.43	#10 Window Envelopes
KENDELL DOORS & HARDWARE, INC.	2,563.00	WO#2470 -Door, gasketing, surface closer, rain guard, hinge, lock, silencer, wall stop
KRUEGER EXCAVATING INC.	41,060.95	WO#2470 -Work done thru 11/30/21 Application #4
KRUG, JONATHAN & REBEKKA	500.00	2021 Res. Cooling & Heating Rebate
L & S ELECTRIC INC	555.25	Field Service hours - testing of circuit breaker at South Sub.
LARKSTUR ENGINEERING AND SUPPLY, INC	560.52	Repairs for unit #637 & #624
LATOUR, ERIC	175.00	Res. Energy Star Appliance
LE, DAI	100.00	2021 WATER SENSE TOILET
LOCATORS & SUPPLIES INC	343.03	Ear Plugs
MALECHA, DIANE J	500.00	2021 Res. Cooling & Heating Rebate
MENDEN, MICHAEL	127.99	Safety boots reimbursement
MENDEN, TYLER	175.00	2021 Res. Star appliance
MIKE'S AUTO REPAIR INC	217.35	Elec. Dept. oil change
MINN DEPT OF COMMERCE	10,735.49	3rd Qtr. Fiscal yr. 2022 Indirect Assessm
MINN VALLEY TESTING LABS INC	435.00	Nitrate & Nitrite
MINNESOTA EQUIPMENT INC.	61.66	Skid shoe for Elec. Dept.
MINNESOTA LIFE	1,400.65	December Life Ins. premiums
MMPA c/o Avant Energy	2,875,597.27	Nov. Power bill
MMUA	616.00	Lineman college for T.O. Power delivery
MN DEPT OF REVENUE ACH PAYMENTS	201,195.00	Sales & Use Tax for Nov.
MYERS, TONY	109.95	Safety boot reimb.
MICHELS UTRILITY SERVICES	40,330.32	WO#2493 - Summerland Place
NAPA AUTO PARTS	327.16	Elec. Dept. Butt connector
NCPERS GROUP LIFE INSURANCE	176.00	Dec. Life Ins.
NEVILLE, GERRY	202.72	93 Miles reimb.
NICKOLAY, CINDY	318.64	172 Miles reimb.
NORTH COUNTRY CONCRETE, INC.	102,270.35	WO#2470 -Application #21312-2
NORTHERN STATES POWER CO.	4,002.93	Nov. power bill
OLDCASTLE INFRASTRUCTURE INC	4,148.92	sets of slings for vault cover handling
ORACLE AMERICA INC.	34,556.02	Opower energy efficiency cloud,channel fee
Principal Financial Group	3,631.73	Dec. premiums for LTD
PAYMENTUS CORPORATION	53,242.05	Oct. Transaction fee
PITNEY BOWES INC	1,214.52	4th Qtr. Postage machine contract
PLUNKETT'S PEST CONTROL, INC.	135.79	Pest Control Valley Park Dr.
PRAYER WELWEAN	1,000.00	2021 Res. Solar Rebate
PRIORITY 1 OUTDOORS INC.	2,284.77	Parts and labor
PULTE HOMES	107.38	Refund temp electric fee
RIES, CHAD	150.00	2021 Res. Energy Star Appliance
ROSE, WILLIAM	139.99	Reimb. for Safety boots
RW Beck Group,Inc, Leidos Eng. LLC	27,612.25	WO#2483 - Nov. 21 - SPU West Shak. Sub.
SCHAEFER, BRIAN	500.00	2021 Res. Energy Cooling & Heating

SHAKOPEE PUBLIC UTILITIES COMMISSION

WARRANT LISTING

December 20, 2021

By direction of the Shakopee Public Utilities Commission, the Secretary does hereby authorize the following warrants drawn upon the Treasury of Shakopee Public Utilities Commission:

SCHILZ ORNAMENTAL IRON INC	125.00	Weld chain hook on trailer
SCOTT COUNTY GOVT. CENTER WEST	72,475.00	2021 LED Interior Lighting West Bldg.
SCOTT COUNTY PHYSICAL DEVELOPMENT	162.00	WO#2514 - Boring Mystic Lake
SHERWIN WILLIAMS	69.53	Water dept. paint supplies
SHORT ELLIOTT HENDRICKSON INC	43,403.40	WO#2467 - $601.22 Am. Water Infracstructure Act thru Sept., WO#2484, $43.50 Southwest Logistics, WO#2492, $994.00 Summerland Place 1st Addition, WO#2476, $11,144.00 - Whispering Waters, WO#2516, $8520.00 Valley Crest (Schneider Property), WO#2537, $7100.00 Windermere 5th Addition, WO#2524, $868.00 Jefferson Court, WO#2312, $4856.04 Shakopee Flats, WO#2569, $5628.00 Triple Crown 2nd Addition, WO#2467, $1405.84 Am .Water Infrastructure thru Oct., WO#2467, $2242.80 - Am. Water Infrastructure thru Nov.
SKOUG, MICHAEL	17.16	Fuse connectors for salt truck
SOUTHBRIDGE 2009 I LLC	14,009.00	2021 Ext. LED Lighting Southbridge 2009
SOUTHWEST NEWS MEDIA DBA DIV. OF RED	692.78	Nov. legals
TRIPLETT, GREG	233.52	152 Miles reimb.
ULINE, INC.	395.04	Heavy duty T-post fence posts
UNITED SYSTEMS & SOFTWARE, INC.	246.78	WO#2451 Mounting Kit, encoder remote with 10" cable
UPS STORE # 4009	28.26	Meter repair
VERIZON CONNECT NWF INC.	339.99	Nov. monthly service
VILLALOBOS, RAFAEL	500.00	2021 Res. Cooling & Heating Rebate
WALSH, SHARON	1,443.18	Holiday Fest Expenses
WESCO DISTRIBUTION INC	11,612.86	$4342.25 PTs for Canterbury Park, Clamp Hot line, connector for arrester, cable, splicing kit, grounding trans lug, elbow, meter seals
WILLEMSSEN, KELLEY	150.00	Reimb. for Acct. Sup Ad placed in GFOA
ZIEGLER INC	1,130.91	Water dept.Engine/Amberglen
	4,599,575.54	

Presented for approval by: Interim Director of Finance & Administration

Approved by General Manager

Approved by Commission President

Proposed As Consent Item

3e

SHAKOPEE PUBLIC UTILITIES COMMISSION

WARRANT LISTING

January 3, 2022

By direction of the Shakopee Public Utilities Commission, the Secretary does hereby authorize the following warrants drawn upon the Treasury of Shakopee Public Utilities Commission:

AGC NETWORKS INC.	$5,581.35
AMARIL UNIFORM CO.	$551.04
ANDREA AMANDA RAMNAUTH	$3,718.41
APPLE FORD OF SHAKOPEE	$78.09
ASTLEFORD INTL TRUCKS	$94,009.00
BERNDTSON, ROBERT	$34.72
BEST BUY FOR BUSINESS	$48.32
BORDER STATES ELECTRIC SUPPLY INC	$1,825.94
BREZINA, ANTHONY	$150.00
CDW LLC	$2,049.60
CITY OF SHAKOPEE	$355,617.80
DEWILD GRANT RECKERT AND ASSOCIATES	$1,490.46
DLT SOLUTIONS LLC	$4,196.92
DUBYA UNDERGROUND, INC.	$158.00
DYNAMIZE LLC	$3,327.27
EATONS COOPER POWER SYSTEMS INC	$10,841.06
FURTHER	$76.43
GENERAL SECURITY SERVICES CORP	$442.92
GRAINGER	$292.59
HANSON, TYLER	$84.10
HARRIS ST PAUL., INC	$2,797.00
HD SUPPLY FACILITIES MAINTENANCE LTD	$129.85
INTERSTATE ALL BATTERY CTR	$25.75
IRBY TOOL & SAFETY	$29.04
MILSOFT UTILITY SOLUTIONS, INC.	$5,073.75
MINN VALLEY TESTING LABS INC	$241.00
MMUA	$1,875.00
MN DEPT OF LABOR & INDUSTRY	$60.00
MRA-THE MANAGEMENT ASSOCIATION	$1,150.00
NAPA AUTO PARTS	$173.60
NCPERS GROUP LIFE INSURANCE	$176.00
NETTESHEIM, PAUL & SANDRA	$50.00
NEVILLE, GERRY	$59.36
NICKOLAY, CINDY	$82.88
O'BRIEN, TYLER	$87.58
PDQ.COM CORPORATION	$966.38
RESCO	$530.86
SHERWIN WILLIAMS	$139.61
SUBSURFACE SOLUTIONS	$120.53
SUMMERGATE DEVELOPMENT LLC	$202,929.00
TRIPLETT, GREG	$70.56
UNITED SYSTEMS & SOFTWARE, INC.	$7,221.78
VALLEY-RICH CO., INC	$16,842.47
WESCO DISTRIBUTION INC	$3,500.39
XCEL ENERGY	$2,956.03
	$731,862.44

Kelley Williamson

Presented for approval by: Director of Finance & Administration

Approved by General Manager

Approved by Commission President

SHAKOPEE PUBLIC UTILITIES COMMISSION

WARRANT LISTING

January 3, 2022

By direction of the Shakopee Public Utilities Commission, the Secretary does hereby authorize the following warrants drawn upon the Treasury of Shakopee Public Utilities Commission:

AGC NETWORKS INC.	$5,581.35	Guardian support 1/21/22-1/20/23
AMARIL UNIFORM CO.	$551.04	FR clothing for Water & Elec. Dept.
ANDREA AMANDA RAMNAUTH	$3,718.41	Jan. cleaning service
APPLE FORD OF SHAKOPEE	$78.09	Water dept. Trk #622 Oil change
ASTLEFORD INTL TRUCKS	$94,009.00	WO#2469 - 2022 International truck Chassis 4x4
BERNDTSON, ROBERT	$34.72	62 miles reimb.
BEST BUY FOR BUSINESS	$48.32	Keyboard and Mouse
BORDER STATES ELECTRIC SUPPLY INC	$1,825.94	LITHIUM ION BATTERY
BREZINA, ANTHONY	$150.00	Safety boot reimb.
CDW LLC	$2,049.60	BCDA Essentials Security for 2022
CITY OF SHAKOPEE	$355,617.80	WO#2489 - $329,649.80 Utility Recon & WO#2489 - $2748.00 - Utility Recon - WO#2489 - 2021 Bituminous Pavement Rehab
DEWILD GRANT RECKERT AND ASSOCIATES	$1,490.46	WO#2239 - Prof. service thru 11/30/21
DLT SOLUTIONS LLC	$4,196.92	AutoCAD single user Annual subscription for 2022
DUBYA UNDERGROUND, INC.	$158.00	Credit for meter returned
DYNAMIZE LLC	$3,327.27	RipJack battery
EATONS COOPER POWER SYSTEMS INC	$10,841.06	Lic. software ASP Hosted 1/1/22-12/31/22
FURTHER	$76.43	Flex dental reimb.
GENERAL SECURITY SERVICES CORP	$442.92	NVR Extended warranty 11/1-1/31/2022
GRAINGER	$292.59	Flap Disc,Nozzle, lock ring, angle grinder blade
HANSON, TYLER	$84.10	Transformer school reimbursement
HARRIS ST PAUL., INC	$2,797.00	Heatwheel bypass
HD SUPPLY FACILITIES MAINTENANCE LTD	$129.85	100 count pack marking whiskers blue
INTERSTATE ALL BATTERY CTR	$25.75	6 volt 4.5 amp
IRBY TOOL & SAFETY	$29.04	PLUG, cutton, button spring, pin
MILSOFT UTILITY SOLUTIONS, INC.	$5,073.75	WindMil Support 1/22-12/22 & LightTable
MINN VALLEY TESTING LABS INC	$241.00	Manganese, Coliform, Nitrate & Nitrite
MMUA	$1,875.00	2021 Leadership for MV
MN DEPT OF LABOR & INDUSTRY	$60.00	Pressure Vessel for Elec. & Water dept.
MRA-THE MANAGEMENT ASSOCIATION	$1,150.00	Annual Membership 1/1/2022-12/31/22
NAPA AUTO PARTS	$173.60	Elec. Dept. anti-freeze
NCPERS GROUP LIFE INSURANCE	$176.00	Jan. Life ins. premiums
NETTESHEIM, PAUL & SANDRA	$50.00	2021 Water Sense Toilet
NEVILLE, GERRY	$59.36	106 Miles reimb.
NICKOLAY, CINDY	$82.88	148 Miles reimb.
O'BRIEN, TYLER	$87.58	Transformer school reimbursement
PDQ.COM CORPORATION	$966.38	PDQ Deploy & PDQ Inventory 1 year
RESCO	$530.86	Transformer connnector
SHERWIN WILLIAMS	$139.61	Well #9, paint
SUBSURFACE SOLUTIONS	$120.53	Connection Leads
SUMMERGATE DEVELOPMENT LLC	$202,929.00	Pipe oversizing cost
TRIPLETT, GREG	$70.56	126 Miles reimb.
UNITED SYSTEMS & SOFTWARE, INC.	$7,221.78	WO#2451 - Encoder Remote with cable
VALLEY-RICH CO., INC	$16,842.47	Jefferson St/Shakopee trench
WESCO DISTRIBUTION INC	$3,500.39	Fuse Holder, Compressor, wire tie
XCEL ENERGY	$2,956.03	11/18-12/21/21 Amberglen Cir. Gas service & Valley Park Elec. Service
	$731,862.44	

Presented for approval by: Director of Finance & Administration

Approved by General Manager

Approved by Commission President

Proposed As Consent Item

3f

SPU
Shakopee Public Utilities

PO Box 470 • 255 Sarazin Street
Shakopee, Minnesota 55379
Main 952.445-1988 • Fax 952.445-7767
www.shakopeeutilities.com

To: SPU Commissioners

From: Greg Drent, General Manager

Date: December 27, 2021

Subject: MMPA December Meeting Update

The Board of Directors of the Minnesota Municipal Power Agency (MMPA) met on December 21, 2021, at Chaska City Hall in Chaska, Minnesota and via videoconference.

The Board reviewed the Agency's financial and operating performance for November 2021.

The Board discussed COVID-19 and its effects on supply chains, labor markets, and inflation, which is projected to be 7% from 2021 to 2022.

The Board engaged in a long-term planning session on energy storage.

The Board discussed Xcel's request for a more than 21% electric rate increase over the next three years. The PUC approved a 2022 interim rate increase of 6.4% for residential customers and 9.4% for all other customers.

The Board approved rates for 2022, which are 3.0% lower than actual 2021 rates. They are 3.1% higher than the budgeted 2021 rates.

There was a decrease of two customers participating in MMPA's residential Clean Energy Choice program from October to November. Customer penetration of the program for residential customers remains at 3.8%.

The following officers were elected for 2022: Matt Podhradsky – Chairman, Keith Mykleseth – Vice Chairman, Greg Drent – Treasurer, Brian Frandle – Secretary.

Proposed As Consent Item

3g

Monthly Water Dashboard

As of: November 2021

Shakopee Public Utilities Commission

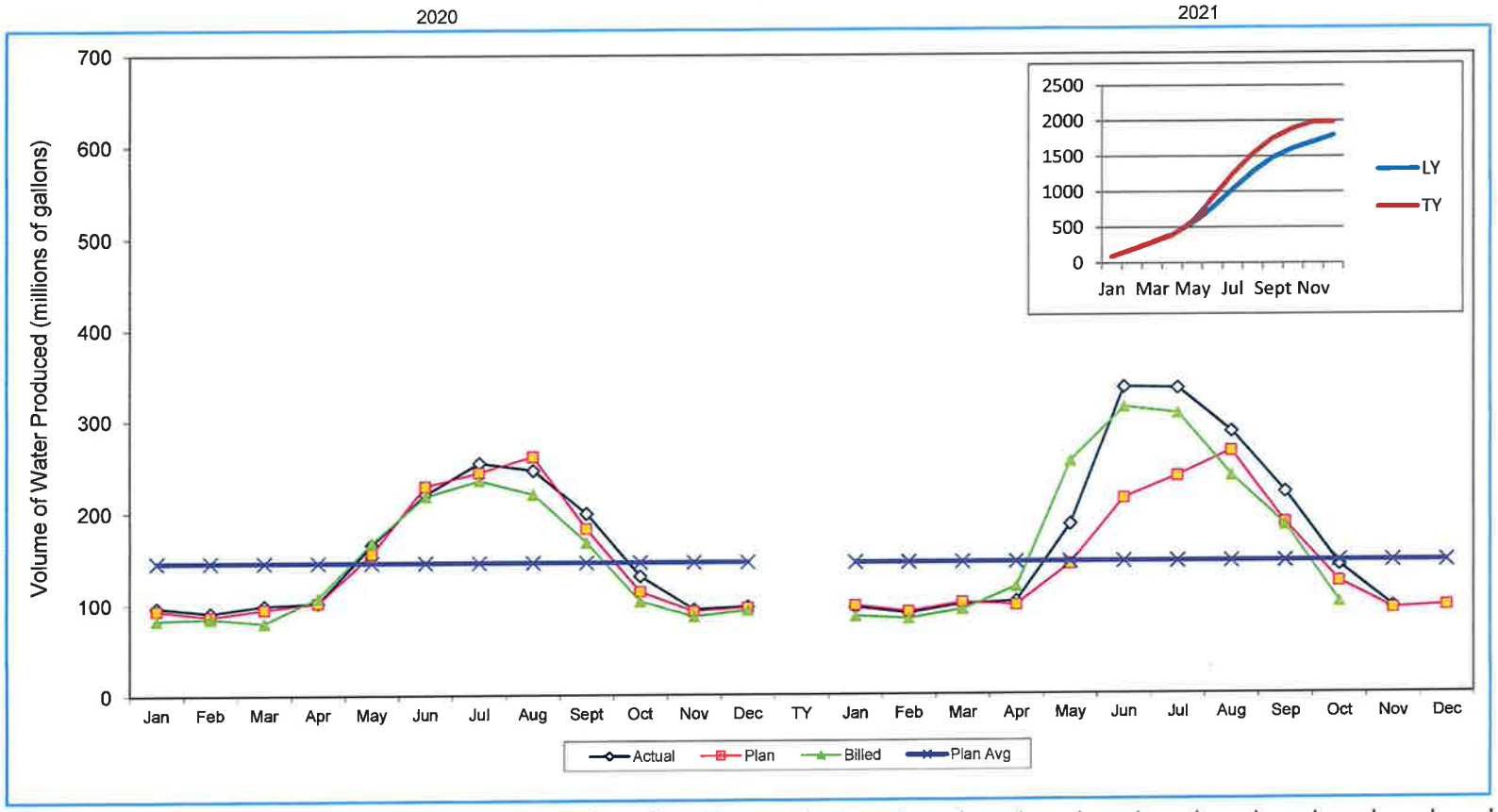
ALL VALUES IN MILLIONS OF GALLONS

Element/Measure Water Pumped/Metered

Last 6 months actuals	335	334	286	220	141	95

Averages

2018	153
2019	139
2020	150



LY	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Actual	97	91	99	102	166	220	254	246	199	131	94	97
Plan	94	87	95	102	156	229	244	261	183	114	92	96
YTD % *												
Billed	83	85	80	108	168	218	235	220	168	103	86	93

TY	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Actual	96	89	99	102	186	335	334	286	220	141	95	
Plan	98	91	101	98	143	214	238	265	187	123	93	96
YTD % *	98%	98%	98%	99%	108%	122%	126%	122%	122%	121%	120%	
Billed	86	83	93	118	254	313	306	238	184	100		

* Actual gallons pumped vs. Plan

Proposed As Consent Item **3h**

Shakopee Public Utilities

PO Box 470 • 255 Sarazin Street
Shakopee, Minnesota 55379
Main 952.445-1988 • Fax 952.445-7767
www.shakopeeutilities.com

TO: Greg Drent, General Manager

FROM: Lon R. Schemel, Water Superintendent

SUBJECT: Nitrate Results -- Advisory

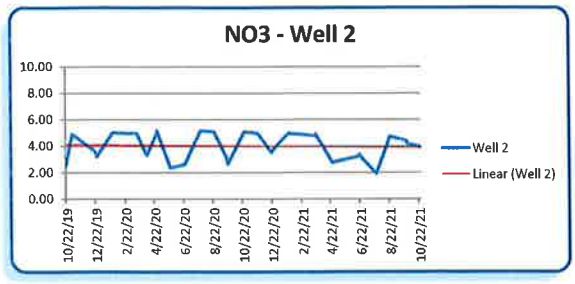
DATE: December 21, 2021

Attached are the latest nitrate test results for the wells. The analyses provided are for the prior 2 years of data collected with trend graphs.

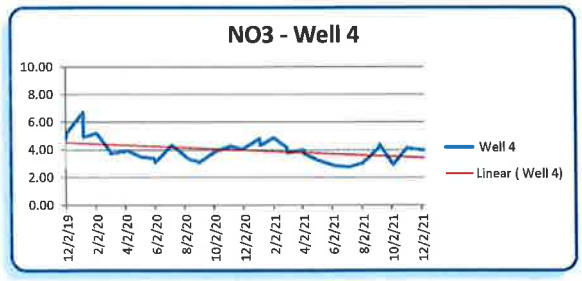
MN Department of Health
800-818-9318

Shakopee Public Utilities Commission
Water Department
Nitrate Results
Reported in mg/L

Location	Sample Collected	Results Received	Results	Lab	Run Time
2	10/22/19	11/12/19	2.52	MVTL	168 hrs prior
2	11/5/19	11/14/19	4.91	MVTL	168 hrs prior
2	12/23/19	1/23/20	3.60	MDH	
2	12/26/19	1/23/20	3.20	MVTL	168 hrs prior
2	1/28/20	2/21/20	5.02	MVTL	168 hrs prior
2	2/25/20	3/19/20	4.98	MVTL	168 hrs prior
2	3/17/20	3/24/20	4.99	MVTL	168 hrs prior
2	4/7/20	4/12/20	3.30	MDH	
2	4/28/20	4/30/20	5.18	MVTL	168 hrs prior
2	4/27/20	6/5/20	4.90	MDH	
2	5/26/20	5/29/20	2.36	MVTL	168 hrs prior
2	6/25/20	6/30/20	2.62	MVTL	168 hrs prior
2	7/28/20	7/30/20	5.17	MVTL	168 hrs prior
2	8/25/20	11/25/20	5.10	MVTL	
2	9/21/20	11/25/20	3.00	MDH	
2	9/22/20	9/24/20	2.65	MVTL	168 hrs prior
2	10/27/20	11/25/20	5.10	MVTL	168 hrs prior
2	11/24/20	12/9/20	4.97	MVTL	168 hrs prior
2	12/22/20	12/28/20	3.52	MVTL	168 hrs prior
2	12/22/20	1/29/21	3.60	MDH	
2	1/26/21	1/29/21	4.98	MVTL	168 hrs prior
2	2/23/21	3/23/21	4.91	MVTL	168 hrs prior
2	3/23/21	3/25/21	4.92	MVTL	168 hrs prior
2	3/22/21	5/24/21	4.80	MDH	
2	4/27/21	5/12/21	2.76	MVTL	168 hrs prior
2	6/22/21	6/29/21	3.25	MVTL	168 hrs prior
2	6/22/21	7/12/21	3.40	MDH	168 hrs prior
2	6/22/21	8/2/21	3.30	MDH	
2	7/27/21	8/12/21	1.92	MVTL	168 hrs prior
2	8/24/21	9/7/21	4.73	MVTL	168 hrs prior
2	9/27/21	11/8/21	4.40	MDH	
2	9/28/21	10/4/21	4.19	MVTL	168 hrs prior
2	10/26/21	11/5/21	3.93	MVTL	168 hrs prior



Location	Sample Collected	Results Received	Results	Lab	Run Time
4	12/2/19	1/23/20	4.80	MDH	
4	12/3/19	12/13/19	5.18	MVTL	168 hrs prior
4	1/7/20	1/23/20	6.69	MVTL	168 hrs prior
4	1/7/20	3/24/20	4.90	MDH	
4	2/4/20	2/21/20	5.19	MVTL	168 hrs prior
4	3/3/20	3/19/20	3.76	MVTL	168 hrs prior
4	3/2/20	3/11/20	3.90	MDH	
4	4/7/20	4/10/20	3.94	MVTL	168 hrs prior
4	5/5/20	5/9/20	3.51	MVTL	168 hrs prior
4	6/2/20	6/5/20	3.12	MVTL	168 hrs prior
4	6/1/20	6/11/20	3.40	MDH	
4	7/7/20	7/9/20	4.35	MVTL	168 hrs prior
4	8/11/20	8/13/20	3.36	MVTL	168 hrs prior
4	9/1/20	11/25/20	3.16	MVTL	
4	9/1/20	11/25/20	3.10	MDH	
4	10/6/20	10/8/20	3.93	MVTL	168 hrs prior
4	11/3/20	11/25/20	4.26	MVTL	168 hrs prior
4	11/3/20	11/25/20	4.30	MDH	
4	12/1/20	12/9/20	4.06	MVTL	168 hrs prior
4	12/1/20	1/29/21	4.10	MDH	
4	1/4/21	3/25/21	4.80	MDH	
4	1/5/21	1/8/21	4.35	MVTL	168 hrs prior
4	2/2/21	2/8/21	4.85	MVTL	168 hrs prior
4	3/1/21	5/12/21	4.20	MDH	
4	3/2/21	3/23/21	3.83	MVTL	168 hrs prior
4	4/5/21	5/12/21	4.00	MDH	
4	4/6/21	5/12/21	3.73	MVTL	168 hrs prior
4	5/4/21	5/12/21	3.26	MVTL	168 hrs prior
4	6/8/21	6/16/21	2.87	MVTL	168 hrs prior
4	7/6/21	7/12/21	2.78	MVTL	168 hrs prior
4	8/3/21	8/11/21	3.04	MVTL	168 hrs prior
4	9/7/21	9/29/21	4.21	MVTL	168 hrs prior
4	9/7/21	9/30/21	4.40	MDH	
4	10/5/21	10/14/21	2.94	MVTL	168 hrs prior
4	11/2/21	11/8/21	4.15	MVTL	168 hrs prior
4	12/7/21	12/15/21	3.99	MVTL	168 hrs prior



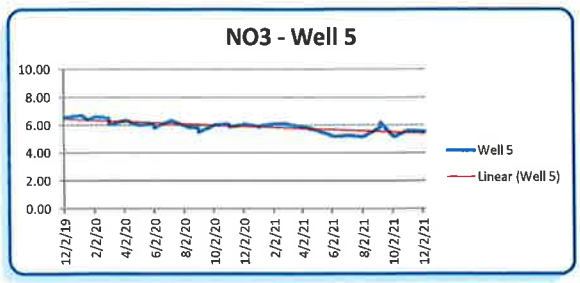
MVTL = Minnesota Valley Testing Laboratories
MDH = Minnesota Department of Health
TCWC = Twin City Water Clinic

Run times will represent the well being in step 1 for one week (168 hrs)

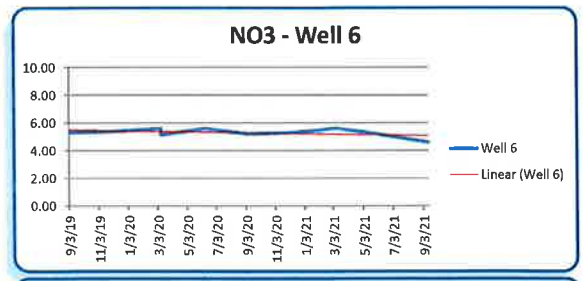
MN Department of Health
800-818-9318

Shakopee Public Utilities Commission
Water Department
Nitrate Results
Reported in mg/L

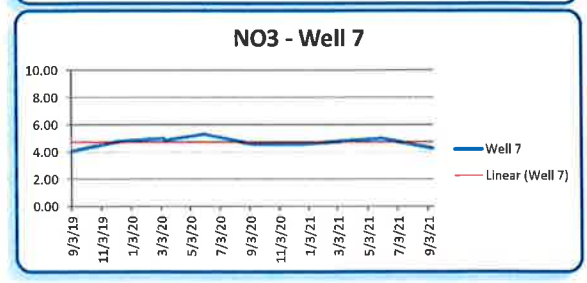
Location	Sample Collected	Results Received	Results	Lab	Run Time
5	12/2/19	1/23/20	6.60	MDH	
5	12/3/19	12/13/19	6.53	MVTL	168 hrs prior
5	1/7/20	1/23/20	6.69	MVTL	168 hrs prior
5	1/20/20	3/24/20	6.40	MDH	
5	2/4/20	2/21/20	6.60	MVTL	168 hrs prior
5	3/3/20	3/19/20	6.05	MVTL	168 hrs prior
5	3/2/20	3/11/20	6.50	MDH	
5	4/7/20	4/10/20	6.34	MVTL	168 hrs prior
5	5/5/20	5/9/20	5.98	MVTL	168 hrs prior
5	6/2/20	6/5/20	5.82	MVTL	168 hrs prior
5	6/1/20	6/11/20	6.10	MDH	
5	7/7/20	7/9/20	6.32	MVTL	168 hrs prior
5	8/11/20	8/13/20	5.87	MVTL	168 hrs prior
5	9/1/20	11/25/20	5.81	MVTL	
5	9/1/20	11/25/20	5.50	MDH	
5	10/6/20	10/8/20	6.03	MVTL	168 hrs prior
5	11/3/20	11/25/20	6.07	MVTL	168 hrs prior
5	11/3/20	11/25/20	5.90	MDH	
5	12/1/20	2/9/20	6.02	MVTL	168 hrs prior
5	12/1/20	1/29/21	6.10	MDH	
5	1/4/21	3/25/21	5.90	MDH	
5	1/5/21	1/8/21	5.96	MVTL	168 hrs prior
5	2/2/21	2/8/21	6.09	MVTL	168 hrs prior
5	3/1/21	5/12/21	6.10	MDH	
5	3/2/21	3/23/21	6.07	MVTL	168 hrs prior
5	4/6/21	5/12/21	5.88	MVTL	168 hrs prior
5	5/4/21	5/12/21	5.62	MVTL	168 hrs prior
5	6/8/21	6/16/21	5.18	MVTL	168 hrs prior
5	7/6/21	7/12/21	5.25	MVTL	168 hrs prior
5	8/3/21	8/11/21	5.16	MVTL	168 hrs prior
5	9/7/21	9/29/21	5.83	MVTL	168 hrs prior
5	9/7/21	9/30/21	6.20	MDH	
5	10/5/21	10/14/21	5.17	MVTL	168 hrs prior
5	11/2/21	11/8/21	5.62	MVTL	168 hrs prior
5	12/7/21	12/15/21	5.56	MVTL	168 hrs prior



6	9/3/19	11/12/19	5.30	MDH	
6	12/10/19	1/23/20	5.40	MDH	
6	3/9/20	3/15/20	5.60	MDH	
6	3/8/21	5/12/21	5.60	MDH	
6	3/10/20	3/19/20	5.13	MVTL	168 hrs prior
6	6/8/20	6/20/20	5.60	MDH	
6	9/8/2020	1/29/21	5.20	MDH	
6	12/7/2020	1/29/21	5.30	MDH	
6	6/1/2021	8/2/21	5.20	MDH	
6	9/13/2021	9/29/21	4.60	MDH	



7	9/3/19	11/12/19	4.10	MDH	
7	12/10/19	1/23/20	4.80	MDH	
7	3/8/21	5/12/21	4.80	MDH	
7	3/9/20	3/15/20	5.00	MDH	
7	3/10/20	3/19/20	4.84	MVTL	168 hrs prior
7	6/1/20	6/11/20	5.30	MDH	
7	9/8/20	1/29/21	4.60	MDH	
7	12/22/20	1/29/21	4.60	MDH	
7	6/1/21	8/2/21	5.00	MDH	
7	9/13/21	9/29/21	4.30	MDH	



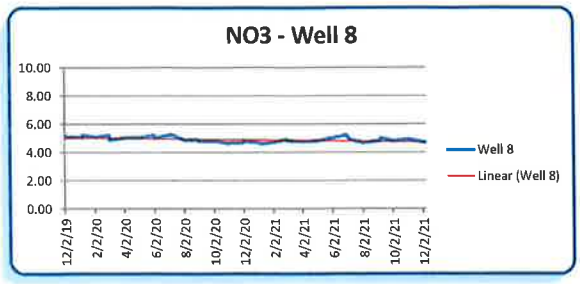
MVTL = Minnesota Valley Testing Laboratories
MDH = Minnesota Department of Health
TCWC = Twin City Water Clinic

Run times will represent the well being in step 1 for one week (168 hrs)

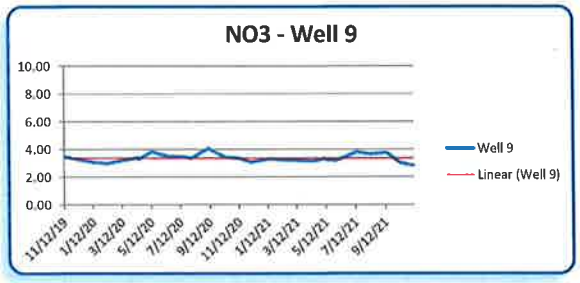
MN Department of Health
800-818-9318

Shakopee Public Utilities Commission
Water Department
Nitrate Results
Reported in mg/L

Location	Sample Collected	Results Received	Results	Lab	Run Time
8	12/2/19	1/23/20	5.20	MDH	
8	12/3/19	12/13/19	5.08	MVTL	168 hrs prior
8	1/7/20	1/23/20	5.07	MVTL	168 hrs prior
8	1/7/20	3/24/20	5.20	MDH	
8	2/4/20	2/21/20	5.08	MVTL	168 hrs prior
8	3/3/20	3/19/20	4.89	MVTL	168 hrs prior
8	3/2/20	3/11/20	5.20	MDH	
8	4/7/20	4/10/20	5.06	MVTL	168 hrs prior
8	5/5/20	5/9/20	5.05	MVTL	168 hrs prior
8	6/2/20	6/5/20	5.02	MVTL	168 hrs prior
8	6/1/20	6/11/20	5.20	MDH	
8	7/7/20	7/9/20	5.25	MVTL	168 hrs prior
8	8/4/20	8/6/20	4.85	MVTL	168 hrs prior
8	9/1/20	11/25/20	4.87	MVTL	
8	9/1/20	11/25/20	4.80	MDH	
8	10/6/20	10/8/20	4.80	MVTL	168 hrs prior
8	11/3/20	11/25/20	4.62	MVTL	168 hrs prior
8	11/3/20	11/25/20	4.70	MDH	
8	12/1/20	12/9/20	4.70	MVTL	168 hrs prior
8	12/1/20	1/29/21	4.80	MDH	
8	1/4/21	3/25/21	4.70	MDH	
8	1/5/21	1/8/21	4.60	MVTL	168 hrs prior
8	2/2/21	2/8/21	4.72	MVTL	168 hrs prior
8	3/1/21	5/12/21	4.90	MDH	
8	3/2/21	3/23/21	4.82	MVTL	168 hrs prior
8	4/6/21	5/12/21	4.77	MVTL	168 hrs prior
8	5/4/21	5/12/21	4.82	MVTL	168 hrs prior
8	6/29/21	8/2/21	5.20	MDH	
8	7/6/21	7/12/21	4.90	MVTL	168 hrs prior
8	8/3/21	8/11/21	4.68	MVTL	168 hrs prior
8	9/7/21	9/29/21	4.83	MVTL	168 hrs prior
8	9/7/21	9/30/21	5.00	MDH	
8	10/5/21	10/14/21	4.80	MVTL	168 hrs prior
8	11/2/21	11/8/21	4.92	MVTL	168 hrs prior
8	12/7/21	12/15/21	4.70	MVTL	168 hrs prior



Location	Sample Collected	Results Received	Results	Lab	Run Time
9	11/12/19	12/9/19	3.48	MVTL	168 hrs prior
9	1/14/20	2/3/20	3.07	MVTL	168 hrs prior
9	2/11/20	2/21/20	2.99	MVTL	168 hrs prior
9	3/10/20	3/19/20	3.20	MVTL	168 hrs prior
9	4/14/20	4/17/20	3.41	MVTL	168 hrs prior
9	4/14/20	4/29/20	3.30	MDH	
9	5/12/20	5/15/20	3.81	MVTL	168 hrs prior
9	6/16/20	6/19/20	3.51	MVTL	168 hrs prior
9	7/14/20	7/16/20	3.48	MVTL	168 hrs prior
9	8/4/20	8/6/20	3.38	MVTL	168 hrs prior
9	9/8/20	11/25/20	4.07	MVTL	168 hrs prior
9	10/13/20	11/25/20	3.44	MVTL	168 hrs prior
9	11/10/20	11/25/20	3.39	MVTL	168 hrs prior
9	12/8/20	12/28/20	3.09	MVTL	168 hrs prior
9	1/12/21	1/14/21	3.32	MVTL	168 hrs prior
9	4/13/21	4/26/21	3.16	MVTL	168 hrs prior
9	5/11/21	5/18/21	3.35	MVTL	168 hrs prior
9	5/11/21	5/24/21	3.30	MDH	
9	6/1/21	6/7/21	3.19	MVTL	168 hrs prior
9	7/13/21	8/2/21	3.80	MVTL	168 hrs prior
9	8/10/21	8/27/21	3.66	MVTL	168 hrs prior
9	9/14/21	9/29/21	3.75	MVTL	168 hrs prior
9	10/12/21	10/20/21	3.03	MVTL	168 hrs prior
9	11/9/21	11/16/21	2.84	MVTL	168 hrs prior



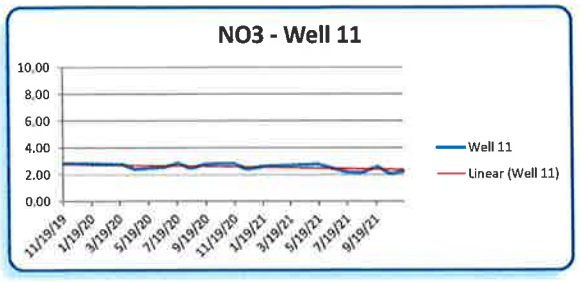
MVTL = Minnesota Valley Testing Laboratories
MDH = Minnesota Department of Health
TCWC = Twin City Water Clinic

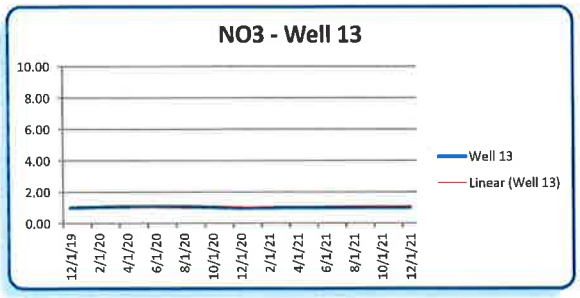
Run times will represent the well being in step 1 for one week (168 hrs)

MN Department of Health
800-818-9318

Shakopee Public Utilities Commission
Water Department
Nitrate Results
Reported in mg/L

Location	Sample Collected	Results Received		Results	Lab	Run Time
10	4/17/12	4/20/12	<	**1.00**	TCWC	158 hrs prior
10	1/21/14	1/29/14	<	**1.00**	TCWC	144 hrs prior
10	3/25/14	4/1/14		**3.61**	MVTL	96 hrs prior
10	4/23/14	5/7/14	<	**0.20**	MVTL	24 hrs prior
10	4/23/14	6/16/14	<	**0.05**	MDH	*
10	6/16/15	6/26/15	<	**0.05**	MVTL	144 hrs prior
10	4/11/17	4/17/17	<	**0.05**	MVTL	168 hrs prior
10	1/8/19	1/14/19	<	**0.05**	MVTL	168 hrs prior
10	7/9/19	7/24/19	<	**0.05**	MVTL	168 hrs prior
10	10/12/21	10/20/21	<	**0.05**	MVTL	
11	11/19/19	12/9/19		**2.84**	MVTL	168 hrs prior
11	3/24/20	3/29/20		**2.76**	MVTL	168 hrs prior
11	4/21/20	4/24/20		**2.41**	MVTL	168 hrs prior
11	4/21/20	6/5/20		**2.40**	MDH	
11	6/23/20	6/26/20		**2.58**	MVTL	168 hrs prior
11	7/21/20	7/23/20		**2.86**	MVTL	168 hrs prior
11	8/18/20	8/20/20		**2.47**	MVTL	168 hrs prior
11	9/15/20	9/24/20		**2.78**	MVTL	168 hrs prior
11	10/20/20	11/25/20		**2.81**	MVTL	168 hrs prior
11	11/17/20	11/25/20		**2.82**	MVTL	168 hrs prior
11	12/15/20	12/18/20		**2.41**	MVTL	168 hrs prior
11	1/19/21	1/25/21		**2.64**	MVTL	168 hrs prior
11	4/20/21	4/26/21		**2.75**	MVTL	168 hrs prior
11	5/17/21	5/28/21		**2.80**	MDH	
11	5/18/21	5/28/21		**2.78**	MVTL	168 hrs prior
11	6/15/21	6/29/21		**2.48**	MVTL	168 hrs prior
11	7/20/21	8/2/21		**2.18**	MVTL	168 hrs prior
11	8/17/21	8/27/21		**2.14**	MVTL	168 hrs prior
11	9/21/21	9/29/21		**2.58**	MVTL	168 hrs prior
11	10/19/21	11/8/21		**2.06**	MVTL	168 hrs prior
11	11/16/21	12/2/21		**2.27**	MVTL	168 hrs prior
12	9/9/19	10/3/19		**0.65**	MVTL	168 hrs prior
12	12/10/19	12/19/19		**0.74**	MVTL	168 hrs prior
12	3/10/20	3/19/20		**0.73**	MVTL	168 hrs prior
12	6/9/20	6/12/20		**0.62**	MVTL	168 hrs prior
12	9/8/20	11/25/20		**0.63**	MVTL	168 hrs prior
12	12/8/20	12/28/20		**0.69**	MVTL	168 hrs prior
12	3/9/21	3/23/21		**0.60**	MVTL	168 hrs prior
12	6/1/21	6/7/21		**0.57**	MVTL	168 hrs prior
12	9/14/21	9/29/21		**0.59**	MVTL	168 hrs prior
13	12/3/19	12/13/19		**1.00**	MVTL	168 hrs prior
13	3/3/20	3/19/20		**1.08**	MVTL	168 hrs prior
13	6/2/20	6/5/20		**1.11**	MVTL	168 hrs prior
13	9/1/20	11/25/20		**1.08**	MVTL	168 hrs prior
13	12/1/20	12/9/20		**0.98**	MVTL	168 hrs prior
13	3/2/21	3/23/21		**1.02**	MVTL	168 hrs prior
13	12/7/21	12/15/21		**1.03**	MVTL	168 hrs prior
14	4/23/14	6/16/14	<	**0.05**	MDH	*
14	4/11/17	4/17/17	<	**0.05**	MVTL	20 hrs prior
14	9/5/17	9/26/17	<	**0.05**	MVTL	24 hrs prior
14	12/5/17	12/22/17	<	**0.05**	MVTL	168 hrs prior
14	3/6/18	3/26/18	<	**0.05**	MVTL	168 hrs prior
14	6/5/18	6/14/18	<	**0.05**	MVTL	24 hrs prior





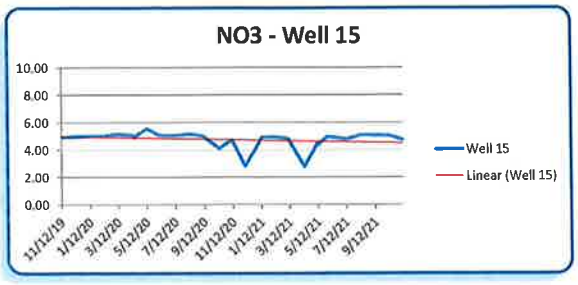
MVTL = Minnesota Valley Testing Laboratories
MDH = Minnesota Department of Health
TCWC = Twin City Water Clinic

Run times will represent the well being in step 1 for one week (168 hrs)

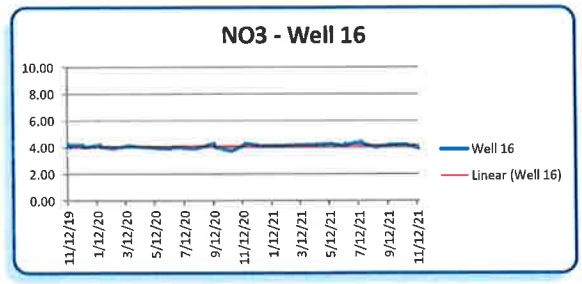
MN Department of Health
800-818-9318

Shakopee Public Utilities Commission
Water Department
Nitrate Results
Reported in mg/L

Location	Sample Collected	Results Received	Results	Lab	Run Time
15	11/12/19	12/9/19	**4.93**	MVTL	168 hrs prior
15	1/14/20	2/3/20	**5.01**	MVTL	168 hrs prior
15	2/11/20	2/21/20	**5.01**	MVTL	168 hrs prior
15	3/10/20	3/19/20	**5.13**	MVTL	168 hrs prior
15	4/14/20	4/17/20	**5.05**	MVTL	168 hrs prior
15	4/14/20	4/28/20	**4.90**	MDH	
15	5/12/20	5/15/20	**5.54**	MVTL	168 hrs prior
15	6/9/20	6/12/20	**5.05**	MVTL	168 hrs prior
15	7/14/20	7/16/20	**5.04**	MVTL	168 hrs prior
15	8/11/20	8/13/20	**5.15**	MVTL	168 hrs prior
15	9/8/20	11/25/20	**5.00**	MVTL	168 hrs prior
15	10/13/20	11/25/20	**4.14**	MVTL	168 hrs prior
15	11/10/20	11/25/20	**4.72**	MVTL	168 hrs prior
15	12/8/20	12/28/20	**2.82**	MVTL	168 hrs prior
15	1/12/21	1/14/21	**4.92**	MVTL	168 hrs prior
15	2/9/21	4/2/21	**4.96**	MVTL	
15	3/9/21	3/23/21	**4.81**	MVTL	168 hrs prior
15	4/13/21	4/26/21	**2.79**	MVTL	168 hrs prior
15	5/11/21	5/18/21	**4.56**	MVTL	168 hrs prior
15	5/11/21	5/24/21	**4.40**	MDH	
15	6/1/21	6/7/21	**4.95**	MVTL	168 hrs prior
15	7/13/21	8/2/21	**4.76**	MVTL	168 hrs prior
15	8/10/21	8/27/21	**5.05**	MVTL	168 hrs prior
15	9/21/21	9/29/21	**5.04**	MVTL	168 hrs prior
15	10/12/21	10/20/21	**5.02**	MVTL	168 hrs prior
15	11/9/21	11/16/21	**4.72**	MVTL	168 hrs prior



16	11/12/19	1/23/20	**4.30**	MDH	
16	11/19/19	12/9/19	**4.04**	MVTL	168 hrs prior
16	11/20/19	12/26/19	**4.20**	MDH	
16	12/16/19	1/23/20	**4.20**	MDH	
16	12/17/19	12/26/19	**3.99**	MVTL	168 hrs prior
16	1/20/20	3/24/20	**4.20**	MDH	
16	1/21/20	2/3/20	**4.05**	MVTL	168 hrs prior
16	2/18/20	3/19/20	**3.95**	MVTL	168 hrs prior
16	3/17/20	3/24/20	**4.14**	MVTL	168 hrs prior
16	3/16/20	3/26/20	**4.10**	MDH	
16	4/21/20	4/24/20	**4.03**	MVTL	168 hrs prior
16	6/16/20	6/19/20	**4.01**	MVTL	168 hrs prior
16	6/15/20	7/29/20	**3.90**	MDH	
16	7/7/20	7/9/20	**4.00**	MVTL	168 hrs prior
16	8/4/20	8/6/20	**3.91**	MVTL	168 hrs prior
16	9/14/20	11/25/20	**4.30**	MDH	
16	9/15/20	9/24/20	**4.05**	MVTL	168 hrs prior
16	10/20/20	11/25/20	**3.73**	MVTL	168 hrs prior
16	11/17/20	11/25/20	**4.21**	MVTL	168 hrs prior
16	11/17/20	3/25/21	**4.30**	MDH	
16	12/14/20	1/29/21	**4.20**	MDH	
16	12/15/20	12/18/20	**4.09**	MVTL	168 hrs prior
16	6/17/21	8/2/21	**4.20**	MDH	
16	5/18/21	5/28/21	**4.26**	MVTL	168 hrs prior
16	6/14/21	8/2/21	**4.10**	MDH	
16	6/15/21	6/29/21	**4.29**	MVTL	168 hrs prior
16	7/19/21	8/12/21	**4.40**	MDH	
16	7/20/21	8/2/21	**4.29**	MVTL	168 hrs prior
16	8/17/21	8/27/21	**4.02**	MVTL	168 hrs prior
16	9/20/21	11/8/21	**4.20**	MDH	
16	9/21/21	9/29/21	**4.18**	MVTL	168 hrs prior
16	10/19/21	11/8/21	**4.23**	MVTL	168 hrs prior
16	11/16/21	12/2/21	**3.93**	MVTL	168 hrs prior



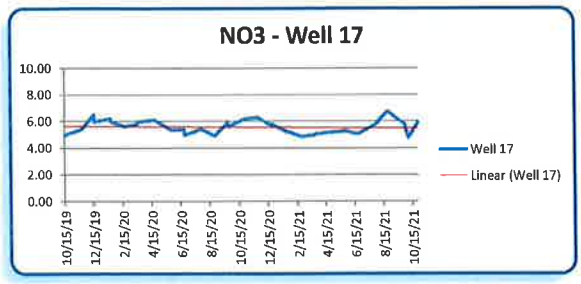
MVTL = Minnesota Valley Testing Laboratories
MDH = Minnesota Department of Health
TCWC = Twin City Water Clinic

Run times will represent the well being in step 1 for one week (168 hrs)

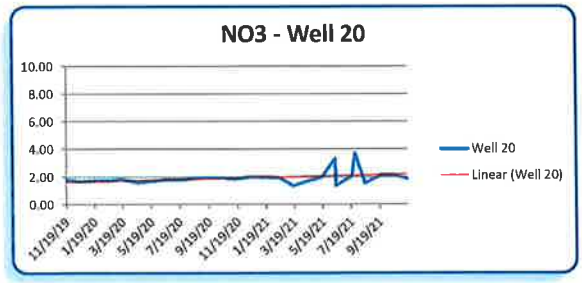
MN Department of Health
800-618-9318

Shakopee Public Utilities Commission
Water Department
Nitrate Results
Reported in mg/L

Location	Sample Collected	Results Received	Results	Lab	Run Time
17	10/15/19	11/12/19	4.89	MVTL	168 hrs prior
17	10/15/19	12/9/19	5.00	MDH	
17	11/19/19	12/9/19	5.38	MVTL	168 hrs prior
17	12/16/19	1/23/20	6.50	MDH	
17	12/17/19	12/26/19	5.98	MVTL	168 hrs prior
17	1/20/20	3/24/20	6.20	MDH	
17	1/21/20	2/3/20	5.98	MVTL	168 hrs prior
17	2/18/20	3/19/20	5.64	MVTL	168 hrs prior
17	3/17/20	3/24/20	5.95	MVTL	168 hrs prior
17	3/16/20	3/26/20	5.80	MDH	
17	4/21/20	4/24/20	6.09	MVTL	168 hrs prior
17	5/26/20	5/29/20	5.37	MVTL	168 hrs prior
17	6/23/20	6/26/20	4.98	MVTL	168 hrs prior
17	6/22/20	7/29/20	5.40	MDH	
17	7/28/20	7/30/20	5.43	MVTL	168 hrs prior
17	8/25/20	11/25/20	4.94	MVTL	
17	9/21/20	11/25/20	5.90	MDH	
17	9/22/20	9/24/20	5.63	MVTL	168 hrs prior
17	10/27/20	11/25/20	6.17	MVTL	168 hrs prior
17	11/24/20	12/9/20	6.30	MVTL	168 hrs prior
17	12/22/20	12/28/20	5.67	MVTL	168 hrs prior
17	12/22/20	1/29/21	5.80	MDH	
17	1/25/21	3/25/21	5.20	MDH	
17	1/26/21	1/29/21	5.22	MVTL	168 hrs prior
17	2/23/21	3/23/21	4.86	MVTL	168 hrs prior
17	3/22/21	5/24/21	5.00	MDH	
17	3/23/21	3/25/21	5.07	MVTL	168 hrs prior
17	5/25/21	6/1/21	5.27	MVTL	168 hrs prior
17	6/14/21	8/2/21	5.10	MDH	
17	6/22/21	6/29/21	5.08	MVTL	168 hrs prior
17	7/27/21	8/12/21	5.75	MVTL	168 hrs prior
17	8/24/21	9/7/21	6.73	MVTL	168 hrs prior
17	9/27/21	11/8/21	5.80	MDH	
17	9/28/21	10/4/21	5.60	MVTL	168 hrs prior
17	10/5/21	10/14/21	4.79	MVTL	168 hrs prior
17	10/26/21	11/5/21	5.98	MVTL	168 hrs prior



Location	Sample Collected	Results Received	Results	Lab	Run Time
20	11/19/19	12/9/19	1.78	MVTL	168 hrs prior
20	12/17/19	12/26/19	1.67	MVTL	168 hrs prior
20	1/21/20	2/3/20	1.73	MVTL	168 hrs prior
20	2/18/20	3/19/20	1.72	MVTL	168 hrs prior
20	3/17/20	3/24/20	1.82	MVTL	168 hrs prior
20	4/21/20	4/24/20	1.59	MVTL	168 hrs prior
20	4/20/20	6/5/20	1.60	MDH	
20	6/23/20	6/26/20	1.81	MVTL	168 hrs prior
20	7/21/20	7/23/20	1.79	MVTL	168 hrs prior
20	8/18/20	8/20/20	1.92	MVTL	168 hrs prior
20	9/15/20	9/24/20	1.94	MVTL	168 hrs prior
20	10/20/20	11/25/20	1.93	MVTL	168 hrs prior
20	11/10/20	11/25/20	1.85	MVTL	168 hrs prior
20	12/15/20	12/18/20	2.01	MVTL	168 hrs prior
20	1/19/21	1/25/21	1.98	MVTL	168 hrs prior
20	2/16/21	2/19/21	1.93	MVTL	168 hrs prior
20	3/16/21	3/23/21	1.36	MVTL	168 hrs prior
20	4/20/21	4/26/21	1.74	MVTL	168 hrs prior
20	5/17/21	5/28/21	2.00	MDH	
20	5/18/21	5/28/21	2.05	MVTL	168 hrs prior
20	6/14/21	8/2/21	3.30	MDH	
20	6/15/21	6/29/21	1.36	MVTL	168 hrs prior
20	7/20/21	8/2/21	2.03	MVTL	168 hrs prior
20	7/27/21	8/12/21	3.71	MVTL	168 hrs prior
20	8/17/21	8/27/21	1.53	MVTL	168 hrs prior
20	9/21/21	9/29/21	2.13	MVTL	168 hrs prior
20	10/19/21	11/8/21	2.13	MVTL	168 hrs prior
20	11/16/21	12/2/21	1.85	MVTL	168 hrs prior



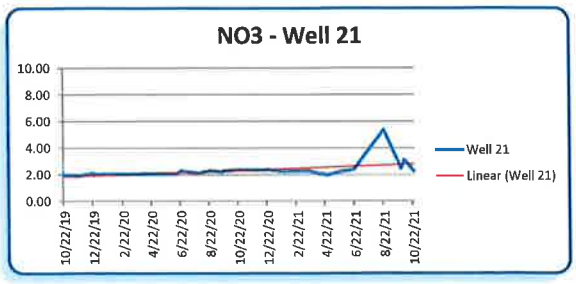
MVTL = Minnesota Valley Testing Laboratories
MDH = Minnesota Department of Health
TCWC = Twin City Water Clinic

Run times will represent the well being in step 1 for one week (168 hrs)

MN Department of Health
800-818-9318

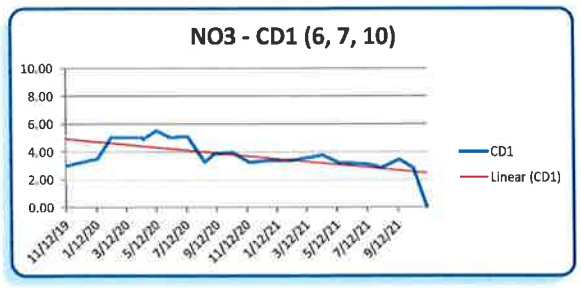
Shakopee Public Utilities Commission
Water Department
Nitrate Results
Reported in mg/L

Location	Sample Collected	Results Received		Results	Lab	Run Time
21	10/22/19	11/12/19		1.99	MVTL	168 hrs prior
21	11/26/19	12/13/19		1.94	MVTL	168 hrs prior
21	12/23/19	1/23/20		2.10	MDH	
21	12/26/19	1/23/20		2.04	MVTL	168 hrs prior
21	6/16/20	6/19/20		2.08	MVTL	168 hrs prior
21	6/16/20	7/29/20		2.10	MDH	
21	6/24/20	7/9/20		2.30	MDH	
21	7/28/20	7/30/20		2.10	MVTL	168 hrs prior
21	8/25/20	11/25/20		2.30	MVTL	168 hrs prior
21	9/21/20	11/25/20		2.20	MDH	
21	9/22/20	9/24/20		2.30	MVTL	168 hrs prior
21	10/27/20	11/25/20		2.38	MVTL	168 hrs prior
21	11/24/20	12/9/20		2.37	MVTL	168 hrs prior
21	12/22/20	12/28/20		2.35	MVTL	168 hrs prior
21	12/22/20	1/29/21		2.40	MDH	
21	1/26/21	1/29/21		2.24	MVTL	168 hrs prior
21	2/23/21	3/23/21		2.28	MVTL	168 hrs prior
21	3/23/21	3/25/21		2.24	MVTL	168 hrs prior
21	3/22/21	5/24/21		2.30	MDH	
21	4/27/21	5/12/21		1.97	MVTL	168 hrs prior
21	5/25/21	6/1/21		2.22	MVTL	168 hrs prior
21	5/24/21	6/15/21		2.20	MDH	
21	6/22/21	6/29/21		2.39	MVTL	168 hrs prior
21	8/24/21	9/7/21		5.39	MVTL	168 hrs prior
21	9/27/21	11/8/21		2.60	MDH	
21	9/28/21	10/4/21		2.45	MVTL	168 hrs prior
21	10/5/21	10/14/21		3.12	MVTL	168 hrs prior
21	10/26/21	11/5/21		2.22	MVTL	168 hrs prior



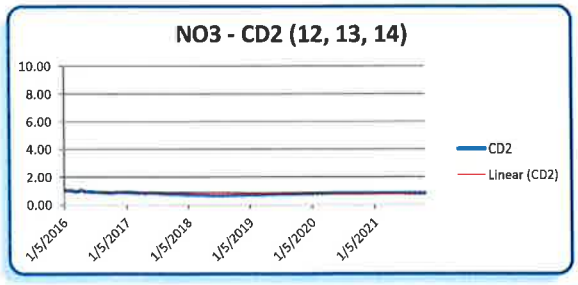
Combined Discharge - Wells 6-7-10

CD 1	11/12/19	12/9/19		3.00	MVTL	168 hrs prior
CD 1	1/14/20	2/3/20		3.51	MVTL	168 hrs prior
CD 1	2/11/20	2/21/20		5.05	MVTL	168 hrs prior
CD 1	4/14/20	4/17/20		5.03	MVTL	168 hrs prior
CD 1	4/14/20	4/29/20		4.90	MDH	
CD 1	5/12/20	5/15/20		5.52	MVTL	168 hrs prior
CD 1	6/9/20	6/12/20		5.04	MVTL	168 hrs prior
CD 1	7/14/20	7/16/20		5.12	MVTL	168 hrs prior
CD 1	8/18/20	8/20/20		3.29	MVTL	168 hrs prior
CD 1	9/8/20	11/25/20		3.90	MVTL	168 hrs prior
CD 1	10/13/20	11/25/20		3.99	MVTL	168 hrs prior
CD 1	11/17/20	11/25/20		3.26	MVTL	168 hrs prior
CD 1	12/22/20	12/28/20		3.38	MVTL	168 hrs prior
CD 1	2/9/21	4/2/21		3.39	MVTL	168 hrs prior
CD 1	4/13/21	4/26/21		3.80	MVTL	168 hrs prior
CD 1	5/17/21	5/28/21		3.20	MDH	
CD 1	6/1/21	6/7/21		3.20	MVTL	168 hrs prior
CD 1	7/13/21	8/2/21		3.11	MVTL	168 hrs prior
CD 1	8/10/21	8/27/21		2.87	MVTL	168 hrs prior
CD 1	9/14/21	9/29/21		3.46	MVTL	168 hrs prior
CD 1	10/12/21	10/20/21		2.86	MVTL	168 hrs prior
CD 1	11/9/21	11/16/21	<	0.05	MVTL	168 hrs prior



Combined Discharge - Wells 12-13-14

CD 2	1/5/2016	1/13/2016		1.08	MVTL	192 hrs prior
CD 2	2/23/2016	2/29/2016		1.03	MVTL	208 hrs prior
CD 2	3/22/2016	3/28/2016		0.96	MVTL	288 hrs prior
CD 2	4/12/2016	4/19/2016		1.07	MVTL	120 hrs prior
CD 2	5/10/2016	5/16/2016		0.98	MVTL	165 hrs prior
CD 2	5/10/2016	6/2/2016		0.97	MDH	
CD 2	7/12/2016	7/18/2016		0.93	MVTL	170 hrs prior
CD 2	10/11/2016	10/17/2016		0.87	MVTL	168 hrs prior
CD 2	11/8/2016	11/17/2016		0.91	MVTL	168 hrs prior
CD 2	1/10/2017	1/20/2017		0.92	MVTL	216 hrs prior
CD 2	4/11/2017	4/17/2017		0.85	MVTL	144 hrs prior
CD 2	6/8/2017	6/28/2017		0.86	MDH	144 hrs prior
CD 2	6/22/2018	7/18/2018		0.67	MDH	528 hrs prior
CD 2	4/16/2019	5/1/2019		0.78	MDH	165 hrs prior
CD 2	4/27/2020	6/5/2020		0.86	MDH	165 hrs prior
CD 2	10/25/2021	11/15/2021		0.87	MDH	168 hrs prior



MVTL = Minnesota Valley Testing Laboratories
MDH = Minnesota Department of Health
TCWC = Twin City Water Clinic

Run times will represent the well being in step 1 for one week (168 hrs)

Proposed As Consent Item **3i**

SPU
Shakopee Public Utilities

PO Box 470 • 255 Sarazin Street
Shakopee, Minnesota 55379
Main 952.445-1988 • Fax 952.445-7767
www.shakopeeutilities.com

TO: Greg Drent, General Manager

FROM: Lon R. Schemel, Water Superintendent

SUBJECT: Emergency Response Plan Certification

DATE: December 20, 2021

America's Water Infrastructure Act (AWIA), signed into law on October 23, 2018, amends the Bioterrorism Act of 2002 and Safe Drinking Water Act (SDWA) requiring community water systems serving populations larger than 3,300 people to create or update a Risk and Resilience Assessment (RRA), as well as an Emergency Response Plan (ERP) no later than six (6) months after certifying completion of the RRA.

The RRA and ERP reports were completed by Short Elliott Hendrickson (SEH) and reviewed by SPU staff. SPU's RRA was certified on June 18, 2021, and the ERP was certified on December 13, 2021, meeting the AWIA requirements.

The RRA and ERP documents are considered privileged and confidential. The documents are also secured and not subject to public release and access being extremely limited. In addition to the digital copies, SPU will maintain two (2) additional hard copies of the ERP; one with the General Manager and one with the Water Superintendent. Questions from the Commission on either report should be kept general in nature.

Both the RRA and the ERP are working documents, with a continuous security improvement program involved with each facility added. Each community water system serving more than 3,300 persons must review both documents at least once every five (5) years to determine if it should be revised. Upon completion of such a review, the system must submit to the EPA a certification that it has reviewed its assessments and revised it, if applicable.

Executive Summary

Following the terrorist attacks on September 11, 2001, the Bioterrorism Act of 2002 was signed into law, which required community water systems to develop vulnerability assessments and develop emergency response plans to protect the systems against terrorist attacks. With other threats impacting the water sector, old and new, such as natural disasters and cybersecurity threats, the focus of the water sector has expanded from focusing on terrorist attacks to taking an all-hazards approach.

With this new expanded focus, America's Water Infrastructure Act (AWIA) was signed into law on October 23, 2018 to replace the Bioterrorism Act of 2002. This law requires community water systems (CWS) serving more than 3,300 people to conduct a Risk and Resilience Assessment (RRA), prepare or revise an Emergency Response Plans (ERP), and certify to the Environmental Protection Agency (EPA) that this work has been completed.

The required due date for the certifying completion of the Shakopee Public Utilities (SPU) RRA was June 30, 2021, which was certified online by Lon Schemel using EPA's secure online portal on June 18, 2021. Per the AWIA requirements, the required due date for certifying completion of the ERP was six (6) months after the date of the RRA certification, which was met by completing the same online certification procedure by Lon Schemel using EPA's secure online portal on December 13, 2021.

This ERP document was completed by Short Elliott Hendrickson Inc. (SEH) and was developed specifically for the SPU community water system to protect employees and infrastructure during emergency situations as well as to comply with AWIA requirements and applies only to the water system's functions but may be incorporated into or referenced by other emergency plans and procedures.

This ERP follows the completion of SPU's RRA required by AWIA, and incorporates the findings of the assessment as well as details the Utility's strategies, resources, contact information of critical staff and partners as well as the roles that they play in an emergency, plans and procedures to prepare for and respond to an incident, natural or man-made, that threatens life, property, or the environment. Some incident specific emergencies included in this report are as follows:

- Watermain break
- Fire
- Severe Weather
- Power Outage
- Water Contamination
- Assault
- Bomb Threat
- Cyber Attack

When an incident occurs that requires response, you will need to activate the procedures and protocols described in your ERP. This can include implementing personnel emergency roles and responsibilities, standing up your Utility's Incident Command System (ICS) structure, recalling personnel on vacations, and notifying external agencies such as your local emergency management agency, police, fire department, and state regulatory agency.

To meet AWIA certification requirements, **you must maintain a copy of your ERP for five (5) years after the certification date**. Since your ERP may contain sensitive information, it should be stored safely and securely. Consider storing one copy on site and one copy off site in case you are unable to access your offices or facilities during an incident. You may also store an electronic copy on a shared drive or other digital platform (protected by a firewall) easily accessible by your utility personnel. Similarly, up-to-date plans and schematics of your treatment and distribution systems, as well as current operations manuals, could be maintained and kept in at least two secure locations.

Both the RRA and the ERP should be viewed as living and evolving documents with established maintenance guidelines for routine and non-routine updates. As practices, policies, roles/responsibilities, and Utility's assets change, so will the associated risks and emergency response procedures. That is why AWIA requirements state that utilities serving a population of 3,300 persons or more review, update and re-certify their RRA once every five (5) years, as well as their ERP within six (6) months thereafter.

Completed Certification Dates:

- Risk and Resilience Assessment (RRA)
    - Due: June 30, 2021
    - Completed: June 18, 2021
- Emergency Response Plan (ERP)
    - Due December 31, 2021
    - Completed: December 13, 2021

Upcoming Certification Dates:

- Five (5) year review of Risk and Resilience Assessment (RRA)
    - Due: June 30, 2026
    - Completed: TBD
- Five (5) year review of Emergency Response Plan (ERP)
    - Due: December 31, 2026
    - Completed: TBD

United States Environmental Protection Agency

SCS Advanced Shared Services (/AWIA/Home/SCSHandoff)

Contact Us (/AWIA/Home/Contact)

America's Water Infrastructure Act (Sec. 2013(b)) / Emergency Response Plan Certification Statement

I **Lon Schemel** hereby certify that **Shakopee** , serving a population of **40610** , Wholesaler No , has completed an emergency response plan that incorporates findings of the risk and resilience assessment conducted under Section 2013(a) of America's Water Infrastructure Act of 2018 for such system (and any revisions thereto). This emergency response plan includes:

- Strategies and resources to improve the resilience of the system, including the physical security and cyber security of the system;
- Plans and procedures that can be implemented, and identification of equipment that can be utilized, in the event of a malevolent act or natural hazard that threatens the ability of the community water system to deliver safe drinking water;
- Actions, procedures, and equipment which can obviate or significantly lessen the impact of a malevolent act or natural hazard on the public health and the safety and supply of drinking water provided to communities and individuals, including the development of alternative source water options, relocation of water intakes, and construction of flood protection barriers; and
- Strategies that can be used to aid in the detection of malevolent acts or natural hazards that threaten the security or resilience of the system.

Date of certification: **12/13/2021**

The U.S. EPA and the authorized official signing this document agree that this certification may be signed electronically. The parties agree that the typed electronic signature that appears on this certification is the same as a handwritten signature for the purposes of validity, enforceability, and admissibility.

Once you have submitted your emergency response plan certification, EPA will send an email acknowledging receipt of your certification. If you have any problems, please email us at dwresilience@epa.gov (mailto:dwresilience@epa.gov).

Cancel Certify

Proposed As Consent Item

3j

Shakopee Public Utilities

PO Box 470 • 255 Sarazin Street
Shakopee, Minnesota 55379
Main 952.445-1988 • Fax 952.445-7767
www.shakopeeutilities.com

DATE: December 27, 2021

TO: SPU Commissioners

FROM: Greg Drent, General Manager

Subject: Director of Finance and Administration and IT Supervisor position

Background: The Director of Finance and Administration retired in 2020, and the position remained open. SPU has contracted with Abdo Financial Solutions for the SPU Finance Director position since October 2020. SPU commission approved a new organization structure, and now the Director of Finance and Administration will have finance, billing, customer service, and meter reading. Commissioner Krieg was involved in the hiring process. Kelley Willemessen accepted the Director of Finance and Administration position. Kelley will be working on a transition schedule and hiring an Accounting Supervisor before taking on her new role. Kelley has her Bachelor's degree in Business Administration and is taking her final classes this spring to obtain her Master's degree with a focus on Data Analytics.

Bob Romansky will be retiring at the end of the year, and James Keltgen will be joining SPU as the IT Supervisor starting December 30th. James worked for Owatonna Public Utilities as the CIO for 9 years and has his Master's degree in IT Leadership.

Action: No action needed information only

RESOLUTION #2022-01

RESOLUTION ESTABLISHING
WATER METER AND INSTALLATION FEES

BE IT RESOLVED by the Shakopee Public Utilities Commission at meeting duly assembled on the 3rd day of January, 2022, that Resolution #1220 is repealed upon this resolution taking effect, and that the following fees are set to cover water meters and installation costs and that such charges are payable before water service is started to new services:

Standard Meters

Meter Size	Type	Cost Includes Fittings & Wiring to outside recorder
3/4"	iPERL	$398.00
1"	iPERL	$596.00
1"	Fire Rated	$596.00
1.5"	T2	$1,355.00
	C2	$1,810.00
2"	T2	$1,528.00
	C2	$2,340.00
3"	T2	$1,673.00
	C2	$2,340.00
4"	T2	$3,140.00
	C2	$3,945.00
6"	T2	$5,261.00
	C2	$6,584.00
Specialty Meters		
8" Fire	F2	Call for Price
10" Fire	F2	Call for Price
Fire Detector Meter		$154.00

Requests for a 1" and larger meter and special meters require SPUC approval.

NOW THEREFORE, BE IT RESOLVED that the water meter and installation fees be increased effective February 1, 2022.

BE IT FURTHER RESOLVED, that all things necessary to carry out the terms and purpose of this resolution are hereby authorized and performed.

Passed in regular session of the Shakopee Public Utilities Commission this 3rd day of January, 2022.

_____
Commission President: Kathi Mocol

ATTEST:

_____
Commission Secretary: Greg Drent

RESOLUTION #2022-02

RESOLUTION ADJUSTING FEES
APPLIED UNDER THE INSTALLATION OF UNDERGROUND ELECTRICAL
DISTRIBUTION SYSTEMS POLICY

WHEREAS, the fees established in Resolution #1256 are intended to be adjusted effective on the first day of January each year, and

WHEREAS, the underground electrical distribution charge fee were last adjusted on December 16, 2019, effective January 2, 2020, and

WHEREAS, the "Construction Cost Index" as listed in the Engineering News Record was 11,326.10, as of October, 2019, and

WHEREAS, this index was 12,464.94 as of October, 2021.

NOW THEREFORE, BE IT RESOLVED, that the underground electrical distribution charge fees be increased to $723.00 per lot for single-family and twin home developments and $414.00 per living unit for other than twin home multi-family unit developments except apartment buildings (this represents a 10.1% increase over the 2019 fees) and that the fees shall remain to be 75% of the cost of material for all other developments including apartment buildings, effective January 1, 2022.

BE IT FURTHER RESOLVED, that all things necessary to carry out the terms and purpose of this resolution are hereby authorized and performed.

Passed in regular session of the Shakopee Public Utilities Commission, this 3rd day of January, 2022.

_____
Commission President: Kathi Mocol

ATTEST:

_____
Commission Secretary: Greg Drent

Proposed As Consent Item **3m**

RESOLUTION #2022-03

A RESOLUTION APPROVING PAYMENT FOR THE PIPE OVERSIZING COSTS ON THE WATERMAIN PROJECT:

SUMMERLAND 1ST ADDITION

WHEREAS, the Shakopee Public Utilities Commission had previously approved of an estimated amount of $190,305.00 with Resolution #2020-10 for oversizing on the above described watermain project, and

WHEREAS, the pipe sizes required for that project have been installed as shown on the engineering drawing by Pioneer Engineering Inc., and

WHEREAS, a part, or all, of the project contains pipe sizes larger than would be required under the current Standard Watermain Design Criteria as adopted by the Shakopee Public Utilities Commission, and

WHEREAS, the policy of the Shakopee Public Utilities Commission calls for the payment of these costs to install oversize pipe above the standard size.

NOW THEREFORE, BE IT RESOLVED, that the payment by the Shakopee Public Utilities Commission for the oversizing on this project is approved in the amount of $202,929.00, and

BE IT FURTHER RESOLVED, that all things necessary to carry out the terms and purpose of this Resolution are hereby authorized and performed.

Passed in regular session of the Shakopee Public Utilities Commission, this 3rd day of January, 2022.

_____

Commission President: Kathi Mocol

ATTEST:

_____

Commission Secretary: Greg Drent

7b

SPU
Shakopee Public Utilities

PO Box 470 • 255 Sarazin Street
Shakopee, Minnesota 55379
Main 952.445-1988 • Fax 952.445-7767
www.shakopeeutilities.com

TO: Greg Drent, General Manager

FROM: Lon R. Schemel, Water Superintendent

SUBJECT: Minnesota Department of Health PFAS sampling results

DATE: December 27, 2021

Attached are the results from the Minnesota Department of Health's PFAS sampling that was conducted in September of 2021. The State considers these values to be low-level detections with no follow-up sampling needed, however, utility Staff will be developing a monitoring plan for PFAS going forward. The State will be posting all of the PFAS sampling results for utilities on its website in early 2022.

A representative from the Minnesota Department of Health will be virtually attending the Commission's January 18, 2022 meeting to answer any questions about PFAS and PFAS sampling.

If you have any specific questions, please email them to me at lschemel@shakopeeutilities.com by January 12. I will make sure that the MDH will be able to answer them.

DEPARTMENT OF HEALTH

memo

DATE: December 2, 2021

TO: Lon Schemel
Shakopee Community Public Water Supply

FROM: Steve Robertson
Supervisor, Source Water Protection Unit

SUBJECT: Statewide PFAS Monitoring Project

Below please find your system's sampling results for the Statewide PFAS Monitoring Project. Sampling was conducted on 9/8/21.

Sampling results

Sample location	PFAS Contaminant detected	Concentration (µg /L)	MDH Health Value (µg/L)
Well #2 Entry Point	PFBS	0.0015	2
Well #2 Entry Point	PFBA	0.011	7
Well #2 Entry Point	PFHxS	0.00088	0.047
Well #2 Entry Point	PFHxA	0.0019	-
Well #2 Entry Point	PFOS	0.0016	0.015
Well #2 Entry Point	PFOA	0.00079	0.035
Well #2 Entry Point	PFPeA	0.0025	-
Well #2 Entry Point - DUPLICATE	PFBS	0.0014	2
Well #2 Entry Point - DUPLICATE	PFBA	0.011	7
Well #2 Entry Point - DUPLICATE	PFHxA	0.0019	-
Well #2 Entry Point - DUPLICATE	PFOS	0.0016	0.015
Well #2 Entry Point - DUPLICATE	PFOA	0.00082	0.035
Well #2 Entry Point - DUPLICATE	PFPeA	0.0025	-
Well #4 Entry Point	PFBS	0.0026	2
Well #4 Entry Point	PFBA	0.03	7
Well #4 Entry Point	PFHpA	0.0013	-
Well #4 Entry Point	PFHxS	0.0009	0.047
Well #4 Entry Point	PFHxA	0.02	-

Well #4 Entry Point	PFOS	0.0012	0.015
Well #4 Entry Point	PFOA	0.002	0.035
Well #4 Entry Point	PFPeA	0.0064	-
Well #5 Entry Point	PFBS	0.0031	2
Well #5 Entry Point	PFBA	0.036	7
Well #5 Entry Point	PFHpA	0.0015	-
Well #5 Entry Point	PFHxS	0.0012	0.047
Well #5 Entry Point	PFHxA	0.021	-
Well #5 Entry Point	PFOS	0.0018	0.015
Well #5 Entry Point	PFOA	0.0027	0.035
Well #5 Entry Point	PFPeA	0.0074	-
Well #8 Entry Point	PFBS	0.0015	2
Well #8 Entry Point	PFBA	0.017	7
Well #8 Entry Point	PFHpA	0.0012	-
Well #8 Entry Point	PFHxS	0.0016	0.047
Well #8 Entry Point	PFHxA	0.0029	-
Well #8 Entry Point	PFOS	0.0027	0.015
Well #8 Entry Point	PFOA	0.0012	0.035
Well #8 Entry Point	PFPeA	0.0047	-
Well #9 Entry Point	PFBS	0.00092	2
Well #9 Entry Point	PFBA	0.01	7
Well #9 Entry Point	PFPeA	0.00078	-
Well #11 Entry Point	PFBA	0.0054	7
Well #15 Entry Point	PFBS	0.0012	2
Well #15 Entry Point	PFBA	0.0094	7
Well #15 Entry Point	PFHxA	0.0011	-
Well #16 Entry Point	PFBS	0.0015	2
Well #16 Entry Point	PFBA	0.011	7
Well #17 Entry Point	PFBS	0.0016	2
Well #17 Entry Point	PFBA	0.011	7
Well #17 Entry Point	PFPeA	0.00093	-
Well #20 Entry Point	PFBS	0.001	2
Well #20 Entry Point	PFBA	0.011	7
Well #20 Entry Point	PFHxA	0.0014	-
Well #20 Entry Point	PFOA	0.0011	0.035
Well #20 Entry Point	PFPeA	0.0011	-
Well #21 Entry Point	PFBS	0.0015	2
Well #21 Entry Point	PFBA	0.014	7
Well #21 Entry Point	PFHpA	0.0014	-
Well #21 Entry Point	PFHxA	0.0043	-
Well #21 Entry Point	PFOA	0.0017	0.035

Well #21 Entry Point	PFPeA	0.0041	-
COMBINED DISCHARGE 1 (Wells 6, 7) + 10	PFBS	0.0017	2
COMBINED DISCHARGE 1 (Wells 6, 7) + 10	PFBA	0.017	7
COMBINED DISCHARGE 1 (Wells 6, 7) + 10	PFHpA	0.00098	-
COMBINED DISCHARGE 1 (Wells 6, 7) + 10	PFHxA	0.0024	-
COMBINED DISCHARGE 1 (Wells 6, 7) + 10	PFOS	0.0028	0.015
COMBINED DISCHARGE 1 (Wells 6, 7) + 10	PFOA	0.0017	0.035
COMBINED DISCHARGE 1 (Wells 6, 7) + 10	PFPeA	0.0029	-
COMBINED DISCHARGE 2 (Well 12) + 13	PFBA	0.0021	7

PFBA was detected in the sample at levels ranging from 0.0021 to 0.036 micrograms per liter (µg/L)[1]. This is below the health-based guidance value of 7 µg/L. A person drinking water at or below the guidance value would have little or no risk for health effects.

Perfluorobutyrate, or perfluorobutanoic acid, (PFBA) is one of a group of related chemicals known as perfluorinated alkylated substances (PFAS). This group of chemicals is commonly used in non-stick and stain-resistant consumer products, food packaging, fire-fighting foam, and industrial processes. PFBA can be a breakdown product of other PFAS. PFBA moves easily through the environment and is widely detected in groundwater, surface water and in nature. PFBA is the most commonly detected PFAS in Minnesota waters. PFBA is commonly found in drinking water at low levels.

PFBS was detected in the sample at levels ranging from 0.00092 to 0.0031 micrograms per liter (µg/L)[1]. This is below the health-based guidance value of 2 µg/L. A person drinking water at or below the guidance value would have little or no risk for health effects.

PFHxS was detected in the sample at levels ranging from 0.00088 to 0.0016 micrograms per liter (µg/L)[1]. This is below the health-based guidance value of 0.047 µg/L. A person drinking water at or below the guidance value would have little or no risk for health effects.

PFOS was detected in the sample at levels ranging from 0.0012 to 0.0028 micrograms per liter (µg/L)[1]. This is below the health-based guidance value of 0.015 µg/L. A person drinking water at or below the guidance value would have little or no risk for health effects.

PFOA was detected in the sample at levels ranging from 0.00079 to 0.0027 micrograms per liter (µg/L)[1]. This is below the health-based guidance value of 0.035 µg/L. A person drinking water at or below the guidance value would have little or no risk for health effects.

[1] One microgram per liter is the same as one part per billion (ppb).

PFPeA, PFHpA, and PFHxA were also detected in the samples. There are no health-based guidance values for these compounds in drinking water. This is an area of active research, and scientists at MDH and EPA have not yet determined whether these compounds in drinking water at this level poses a health concern. As we learn more about PFPeA, PFHpA, and PFHxA over time, we will let you know.

For more information on PFBA, visit https://www.health.state.mn.us/communities/environment/risk/docs/guidance/gw/pfbainfo.pdf

For more information on PFAS visit https://www.health.state.mn.us/communities/environment/hazardous/topics/pfcs.html

Health Risk Index (HRI) Calculation

Sample Location	PFBS (µg/L)	PFBA (µg/L)	PFHxS (µg/L)	PFOS (µg/L)	PFOA (µg/L)	HRI
Well #21 Entry Point	0.0015	0.014	0	0	0.0017	0.05
Well #20 Entry Point	0.001	0.011	0	0	0.0011	0.03
Well #8 Entry Point	0.0015	0.017	0.0016	0.0027	0.0012	0.25
Combined Discharge 1 (Wells 6, 7, & 10)	0.0017	0.017	0	0.0028	0.0017	0.24
Well #5 Entry Point	0.0031	0.036	0.0012	0.0018	0.0027	0.23
Well #4 Entry Point	0.0026	0.03	0.0009	0.0012	0.002	0.16
Well #2 Entry Point	0.0015	0.011	0.00088	0.0016	0.00079	0.15
Well #2 Entry Point Duplicate	0.0014	0.011	0	0.0016	0.0082	0.13

The Health Risk Index (HRI) is a calculation that takes into account the health risks of exposure to multiple PFAS. Exceedance of the HRI indicates a health concern for the combined PFAS exposure. The HRIs for these samples range from 0.0-0.25. A person drinking water at or below an HRI of 1 would have little or no risk for health effects.

Next Steps

Since PFAS sampling is not required by the EPA, you are not required to include these results in your consumer confidence report (CCR). However, MDH recommends that you include them in your next CCR and can provide resources to help you give context about what these results mean.

About the project

MDH has been studying the potential health impacts of PFAS in groundwater in Minnesota since 2002. This project is part of a larger effort at MDH to sample all community water systems (CWSs) for PFAS. MDH aims to cover 90% of CWS customers under its PFAS monitoring program by 2025. The project has been made possible through funding from the Clean Water Fund and U.S. Environmental Protection Agency. Sampling results from all systems that participated in the study will be included in an interactive mapping application on the MDH website. MDH will also be providing these results to the Minnesota Pollution Control Agency to make them aware of the contamination.

For more information about the PFAS monitoring in Minnesota, please visit PFAS Testing of Public Water Systems (https://www.health.state.mn.us/communities/environment/water/pfas.html).

For more information about Phase I of this project, see the infosheet Statewide PFAS Monitoring Project (PDF) (https://www.health.state.mn.us/communities/environment/water/docs/statewidepfas.pdf).

If you have any questions about the results, please contact Jane de Lambert, the Project Manager, at 612-247-8367.

cc: Jessie Kolar, MDH District Engineer
Attachment

Minnesota Department of Health
PO Box 64975
St. Paul, MN 55164-0975
651-201-4700
health.drinkingwater@state.mn.us
www.health.state.mn.us

12/2/2021

To obtain this information in a different format, call: 651-201-4700.

MINNESOTA MDH DEPARTMENT OF HEALTH

Final Report

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: 1700009
System Name: Shakopee
City: Shakopee

Program Code: JA

Type: X

Date Received: 09/09/21 08:08
Rep. Temp. (°C): 1.9

Collector Name: Cory Vowles
Collector ID: 8089

MDH Sample Number: 21I0356-01

Location ID: E01
Sampling Point: Well #2 Entry Point
Field Number: E01

Collect Date: 09/08/21
Collect Time: 11:25
Matrix: Drinking Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: None
Field PO_4 Result: None

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

PFAS in Water 533

Analyte	Result	Reporting Limit	Units	Batch	Prepared	Analyzed	Init.	Method	Qualifiers
11-Chloroeicosafluoro-3-oxaundecane (11Cl-PF3OUdS)	<	4.6	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:16	APM	EPA 533	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	<	4.6	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:16	APM	EPA 533	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	<	4.6	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:16	APM	EPA 533	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	<	4.6	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:16	APM	EPA 533	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<	4.6	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:16	APM	EPA 533	
9-Chlorohexadecafluoro-3-oxanonane-1-s(9Cl-PF3ONS)	<	4.6	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:16	APM	EPA 533	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	<	4.6	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:16	APM	EPA 533	
N-ethyl perfluorooctanesulfonamidoacetic(NEt	<	4.6	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:16	APM	EPA 533	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<	4.6	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:16	APM	EPA 533	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	<	4.6	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:16	APM	EPA 533	
Perfluoro-3-methoxypropanoic acid (PFMPA)	<	4.6	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:16	APM	EPA 533	
Perfluoro-4-methoxybutanoic acid (PFMBA)	<	4.6	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:16	APM	EPA 533	
Perfluorobutanesulfonate (PFBS)	**1.5**	4.6	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:16	APM	EPA 533	J
Perfluorobutanoic acid (PFBA)	**11**	9.2	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:16	APM	EPA 533	
Perfluorodecanoic acid (PFDA)	<	4.6	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:16	APM	EPA 533	
Perfluorododecanoic acid (PFDoA)	<	4.6	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:16	APM	EPA 533	
Perfluoroheptanoic acid (PFHpA)	<	4.6	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:16	APM	EPA 533	
Perfluoroheptasulfonate (PFHpS)	<	4.6	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:16	APM	EPA 533	

FINAL REPORT

Report ID: 10012021 81819

Generated: 10/1/2021 8:17:52AM

Authorized by:

The results in this report apply only to the samples analyzed.
This report must not be reproduced, except in full, without the written approval of the laboratory.

Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

MINNESOTA MDH DEPARTMENT OF HEALTH

Final Report

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: 1700009

MDH Sample Number: 21I0356-01

Location ID: E01
Sampling Point: Well #2 Entry Point
Field Number: E01

Collect Date: 09/08/21
Collect Time: 11:25
Matrix: Drinking Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: None
Field PO_4 Result: None

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

PFAS in Water 533 - Continued

Analyte	Result	Reporting Limit	Units	Batch	Prepared	Analyzed	Init.	Method	Qualifiers
Perfluorohexanesulfonate (PFHxS)	**0.88**	4.6	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:16	APM	EPA 533	J
Perfluorohexanoic acid (PFHxA)	**1.9**	4.6	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:16	APM	EPA 533	J
Perfluorononanoic acid (PFNA)	<	4.6	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:16	APM	EPA 533	
Perfluorooctanesulfonate (PFOS)	**1.6**	4.6	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:16	APM	EPA 533	J
Perfluorooctanoic acid (PFOA)	**0.79**	4.6	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:16	APM	EPA 533	J
Perfluoropentanoic acid (PFPeA)	**2.5**	4.6	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:16	APM	EPA 533	J
Perfluoropentasulfonate (PFPeS)	<	4.6	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:16	APM	EPA 533	
Perfluoroundecanoic acid (PFUnA)	<	4.6	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:16	APM	EPA 533	

20.17

Authorized by:

Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

MINNESOTA MDH DEPARTMENT OF HEALTH

Final Report

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: 1700009

MDH Sample Number: 21I0356-02

Location ID: none
Sampling Point: Field Blank
Field Number: 1700009FB01

Collect Date: 09/08/21
Collect Time: 10:11
Matrix: Drinking Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: None
Field PO_4 Result: None

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

PFAS in Water 533

Analyte	Result	Reporting Limit	Units	Batch	Prepared	Analyzed	Init.	Method	Qualifiers
11-Chloroeicosafluoro-3-oxaundecane (11Cl-PF3OUdS)	<	5.1	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:29	APM	EPA 533	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	<	5.1	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:29	APM	EPA 533	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	<	5.1	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:29	APM	EPA 533	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	<	5.1	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:29	APM	EPA 533	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<	5.1	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:29	APM	EPA 533	
9-Chlorohexadecafluoro-3-oxanonane-1-s(9Cl-PF3ONS)	<	5.1	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:29	APM	EPA 533	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	<	5.1	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:29	APM	EPA 533	
N-ethyl perfluorooctanesulfonamidoacetic(NEt	<	5.1	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:29	APM	EPA 533	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<	5.1	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:29	APM	EPA 533	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	<	5.1	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:29	APM	EPA 533	
Perfluoro-3-methoxypropanoic acid (PFMPA)	<	5.1	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:29	APM	EPA 533	
Perfluoro-4-methoxybutanoic acid (PFMBA)	<	5.1	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:29	APM	EPA 533	
Perfluorobutanesulfonate (PFBS)	<	5.1	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:29	APM	EPA 533	
Perfluorobutanoic acid (PFBA)	<	10	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:29	APM	EPA 533	
Perfluorodecanoic acid (PFDA)	<	5.1	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:29	APM	EPA 533	
Perfluorododecanoic acid (PFDoA)	<	5.1	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:29	APM	EPA 533	
Perfluoroheptanoic acid (PFHpA)	<	5.1	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:29	APM	EPA 533	
Perfluoroheptasulfonate (PFHpS)	<	5.1	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:29	APM	EPA 533	
Perfluorohexanesulfonate (PFHxS)	<	5.1	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:29	APM	EPA 533	
Perfluorohexanoic acid (PFHxA)	<	5.1	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:29	APM	EPA 533	
Perfluorononanoic acid (PFNA)	<	5.1	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:29	APM	EPA 533	
Perfluorooctanesulfonate (PFOS)	<	5.1	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:29	APM	EPA 533	
Perfluorooctanoic acid (PFOA)	<	5.1	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:29	APM	EPA 533	
Perfluoropentanoic acid (PFPeA)	<	5.1	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:29	APM	EPA 533	
Perfluoropentasulfonate (PFPeS)	<	5.1	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:29	APM	EPA 533	
Perfluoroundecanoic acid (PFUnA)	<	5.1	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:29	APM	EPA 533	

Authorized by:

Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

MINNESOTA MDH DEPARTMENT OF HEALTH

PWSID: 1700009

Final Report

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

Authorized by:

Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

MINNESOTA MDH DEPARTMENT OF HEALTH

Final Report

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: 1700009

MDH Sample Number: 21I0356-03

Location ID: E01
Sampling Point: Well #2 Entry Point - DUPLICATE
Field Number: E01DUP

Collect Date: 09/08/21
Collect Time: 11:25
Matrix: Drinking Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: None
Field PO_4 Result: None

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

PFAS in Water 533

Analyte	Result	Reporting Limit	Units	Batch	Prepared	Analyzed	Init.	Method	Qualifiers
11-Chloroeicosafluoro-3-oxaundecane (11Cl-PF3OUdS)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:43	APM	EPA 533	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:43	APM	EPA 533	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:43	APM	EPA 533	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:43	APM	EPA 533	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:43	APM	EPA 533	
9-Chlorohexadecafluoro-3-oxanonane-1-s(9Cl-PF3ONS)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:43	APM	EPA 533	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:43	APM	EPA 533	
N-ethyl perfluorooctanesulfonamidoacetic(NEt	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:43	APM	EPA 533	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:43	APM	EPA 533	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:43	APM	EPA 533	
Perfluoro-3-methoxypropanoic acid (PFMPA)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:43	APM	EPA 533	
Perfluoro-4-methoxybutanoic acid (PFMBA)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:43	APM	EPA 533	
Perfluorobutanesulfonate (PFBS)	**1.4**	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:43	APM	EPA 533	J
Perfluorobutanoic acid (PFBA)	**11**	9.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:43	APM	EPA 533	
Perfluorodecanoic acid (PFDA)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:43	APM	EPA 533	
Perfluorododecanoic acid (PFDoA)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:43	APM	EPA 533	
Perfluoroheptanoic acid (PFHpA)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:43	APM	EPA 533	
Perfluoroheptasulfonate (PFHpS)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:43	APM	EPA 533	
Perfluorohexanesulfonate (PFHxS)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:43	APM	EPA 533	
Perfluorohexanoic acid (PFHxA)	**1.9**	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:43	APM	EPA 533	J
Perfluorononanoic acid (PFNA)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:43	APM	EPA 533	
Perfluorooctanesulfonate (PFOS)	**1.6**	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:43	APM	EPA 533	J
Perfluorooctanoic acid (PFOA)	**0.82**	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:43	APM	EPA 533	J
Perfluoropentanoic acid (PFPeA)	**2.5**	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:43	APM	EPA 533	J
Perfluoropentasulfonate (PFPeS)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:43	APM	EPA 533	
Perfluoroundecanoic acid (PFUnA)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 17:43	APM	EPA 533	

Authorized by:

Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

MINNESOTA MDH DEPARTMENT OF HEALTH

PWSID: 1700009

Final Report

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

Authorized by:

Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

MINNESOTA MDH DEPARTMENT OF HEALTH

Final Report

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: 1700009

MDH Sample Number: 21I0356-04

Location ID: S04
Sampling Point: Well #4 Entry Point
Field Number: S04

Collect Date: 09/08/21
Collect Time: 10:25
Matrix: Drinking Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: None
Field PO_4 Result: None

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

PFAS in Water 533

Analyte	Result	Reporting Limit	Units	Batch	Prepared	Analyzed	Init.	Method	Qualifiers
11-Chloroeicosafluoro-3-oxaundecane (11Cl-PF3OUdS)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:10	APM	EPA 533	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:10	APM	EPA 533	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:10	APM	EPA 533	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:10	APM	EPA 533	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:10	APM	EPA 533	
9-Chlorohexadecafluoro-3-oxanonane-1-s(9Cl-PF3ONS)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:10	APM	EPA 533	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:10	APM	EPA 533	
N-ethyl perfluorooctanesulfonamidoacetic(NEt	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:10	APM	EPA 533	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:10	APM	EPA 533	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:10	APM	EPA 533	
Perfluoro-3-methoxypropanoic acid (PFMPA)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:10	APM	EPA 533	
Perfluoro-4-methoxybutanoic acid (PFMBA)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:10	APM	EPA 533	
Perfluorobutanesulfonate (PFBS)	**2.6**	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:10	APM	EPA 533	J
Perfluorobutanoic acid (PFBA)	**30**	9.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:10	APM	EPA 533	
Perfluorodecanoic acid (PFDA)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:10	APM	EPA 533	
Perfluorododecanoic acid (PFDoA)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:10	APM	EPA 533	
Perfluoroheptanoic acid (PFHpA)	**1.3**	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:10	APM	EPA 533	J
Perfluoroheptasulfonate (PFHpS)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:10	APM	EPA 533	
Perfluorohexanesulfonate (PFHxS)	**0.90**	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:10	APM	EPA 533	J
Perfluorohexanoic acid (PFHxA)	**20**	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:10	APM	EPA 533	
Perfluorononanoic acid (PFNA)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:10	APM	EPA 533	
Perfluorooctanesulfonate (PFOS)	**1.2**	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:10	APM	EPA 533	J
Perfluorooctanoic acid (PFOA)	**2.0**	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:10	APM	EPA 533	J
Perfluoropentanoic acid (PFPeA)	**6.4**	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:10	APM	EPA 533	
Perfluoropentasulfonate (PFPeS)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:10	APM	EPA 533	
Perfluoroundecanoic acid (PFUnA)	<	4.8	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:10	APM	EPA 533	

Authorized by:

Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

MINNESOTA MDH DEPARTMENT OF HEALTH

PWSID: 1700009

Final Report

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

Authorized by:

Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

MINNESOTA MDH DEPARTMENT OF HEALTH

Final Report

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: 1700009

MDH Sample Number: 21I0356-05

Location ID: S05
Sampling Point: Well #5 Entry Point
Field Number: S05

Collect Date: 09/08/21
Collect Time: 10:16
Matrix: Drinking Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: None
Field PO_4 Result: None

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

PFAS in Water 533

Analyte	Result	Reporting Limit	Units	Batch	Prepared	Analyzed	Init.	Method	Qualifiers
11-Chloroeicosafluoro-3-oxaundecane (11Cl-PF3OUdS)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:24	APM	EPA 533	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:24	APM	EPA 533	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:24	APM	EPA 533	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:24	APM	EPA 533	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:24	APM	EPA 533	
9-Chlorohexadecafluoro-3-oxanonane-1-s(9Cl-PF3ONS)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:24	APM	EPA 533	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:24	APM	EPA 533	
N-ethyl perfluorooctanesulfonamidoacetic(NEt	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:24	APM	EPA 533	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:24	APM	EPA 533	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:24	APM	EPA 533	
Perfluoro-3-methoxypropanoic acid (PFMPA)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:24	APM	EPA 533	
Perfluoro-4-methoxybutanoic acid (PFMBA)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:24	APM	EPA 533	
Perfluorobutanesulfonate (PFBS)	**3.1**	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:24	APM	EPA 533	J
Perfluorobutanoic acid (PFBA)	**36**	10	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:24	APM	EPA 533	
Perfluorodecanoic acid (PFDA)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:24	APM	EPA 533	
Perfluorododecanoic acid (PFDoA)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:24	APM	EPA 533	
Perfluoroheptanoic acid (PFHpA)	**1.5**	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:24	APM	EPA 533	J
Perfluoroheptasulfonate (PFHpS)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:24	APM	EPA 533	
Perfluorohexanesulfonate (PFHxS)	**1.2**	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:24	APM	EPA 533	J
Perfluorohexanoic acid (PFHxA)	**21**	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:24	APM	EPA 533	
Perfluorononanoic acid (PFNA)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:24	APM	EPA 533	
Perfluorooctanesulfonate (PFOS)	**1.8**	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:24	APM	EPA 533	J
Perfluorooctanoic acid (PFOA)	**2.7**	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:24	APM	EPA 533	J
Perfluoropentanoic acid (PFPeA)	**7.4**	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:24	APM	EPA 533	
Perfluoropentasulfonate (PFPeS)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:24	APM	EPA 533	
Perfluoroundecanoic acid (PFUnA)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:24	APM	EPA 533	

74.7

Authorized by:

Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

MINNESOTA MDH DEPARTMENT OF HEALTH

PWSID: 1700009

Final Report

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

Authorized by:

Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

MINNESOTA MDH DEPARTMENT OF HEALTH

Final Report

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: 1700009

MDH Sample Number: 21I0356-06

Location ID: E07
Sampling Point: Well #8 Entry Point
Field Number: E07

Collect Date: 09/08/21
Collect Time: 11:15
Matrix: Drinking Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: None
Field PO_4 Result: None

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

PFAS in Water 533

Analyte	Result	Reporting Limit	Units	Batch	Prepared	Analyzed	Init.	Method	Qualifiers
11-Chloroeicosafluoro-3-oxaundecane (11Cl-PF3OUdS)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:37	APM	EPA 533	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:37	APM	EPA 533	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:37	APM	EPA 533	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:37	APM	EPA 533	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:37	APM	EPA 533	
9-Chlorohexadecafluoro-3-oxanonane-1-s(9Cl-PF3ONS)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:37	APM	EPA 533	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:37	APM	EPA 533	
N-ethyl perfluorooctanesulfonamidoacetic(NEt	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:37	APM	EPA 533	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:37	APM	EPA 533	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:37	APM	EPA 533	
Perfluoro-3-methoxypropanoic acid (PFMPA)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:37	APM	EPA 533	
Perfluoro-4-methoxybutanoic acid (PFMBA)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:37	APM	EPA 533	
Perfluorobutanesulfonate (PFBS)	**1.5**	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:37	APM	EPA 533	J
Perfluorobutanoic acid (PFBA)	**17**	9.1	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:37	APM	EPA 533	
Perfluorodecanoic acid (PFDA)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:37	APM	EPA 533	
Perfluorododecanoic acid (PFDoA)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:37	APM	EPA 533	
Perfluoroheptanoic acid (PFHpA)	**1.2**	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:37	APM	EPA 533	J
Perfluoroheptasulfonate (PFHpS)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:37	APM	EPA 533	
Perfluorohexanesulfonate (PFHxS)	**1.6**	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:37	APM	EPA 533	J
Perfluorohexanoic acid (PFHxA)	**2.9**	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:37	APM	EPA 533	J
Perfluorononanoic acid (PFNA)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:37	APM	EPA 533	
Perfluorooctanesulfonate (PFOS)	**2.7**	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:37	APM	EPA 533	J
Perfluorooctanoic acid (PFOA)	**1.2**	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:37	APM	EPA 533	J
Perfluoropentanoic acid (PFPeA)	**4.7**	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:37	APM	EPA 533	
Perfluoropentasulfonate (PFPeS)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:37	APM	EPA 533	
Perfluoroundecanoic acid (PFUnA)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:37	APM	EPA 533	

32.8

FINAL REPORT

Report ID: 10012021 81819

Generated: 10/1/2021 8:17:52AM

Authorized by:

The results in this report apply only to the samples analyzed.
This report must not be reproduced, except in full, without the written approval of the laboratory.

Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

MINNESOTA MDH DEPARTMENT OF HEALTH

Final Report

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: 1700009

MDH Sample Number: 21I0356-07

Location ID: S09
Sampling Point: Well #9 Entry Point
Field Number: S09

Collect Date: 09/08/21
Collect Time: 12:17
Matrix: Drinking Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: None
Field PO_4 Result: None

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

PFAS in Water 533

Analyte	Result	Reporting Limit	Units	Batch	Prepared	Analyzed	Init.	Method	Qualifiers
11-Chloroeicosafluoro-3-oxaundecane (11Cl-PF3OUdS)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:51	APM	EPA 533	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:51	APM	EPA 533	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:51	APM	EPA 533	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:51	APM	EPA 533	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:51	APM	EPA 533	
9-Chlorohexadecafluoro-3-oxanonane-1-s(9Cl-PF3ONS)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:51	APM	EPA 533	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:51	APM	EPA 533	
N-ethyl perfluorooctanesulfonamidoacetic(NEt	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:51	APM	EPA 533	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:51	APM	EPA 533	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:51	APM	EPA 533	
Perfluoro-3-methoxypropanoic acid (PFMPA)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:51	APM	EPA 533	
Perfluoro-4-methoxybutanoic acid (PFMBA)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:51	APM	EPA 533	
Perfluorobutanesulfonate (PFBS)	**0.92**	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:51	APM	EPA 533	J
Perfluorobutanoic acid (PFBA)	**10**	9.9	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:51	APM	EPA 533	
Perfluorodecanoic acid (PFDA)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:51	APM	EPA 533	
Perfluorododecanoic acid (PFDoA)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:51	APM	EPA 533	
Perfluoroheptanoic acid (PFHpA)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:51	APM	EPA 533	
Perfluoroheptasulfonate (PFHpS)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:51	APM	EPA 533	
Perfluorohexanesulfonate (PFHxS)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:51	APM	EPA 533	
Perfluorohexanoic acid (PFHxA)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:51	APM	EPA 533	
Perfluorononanoic acid (PFNA)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:51	APM	EPA 533	
Perfluorooctanesulfonate (PFOS)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:51	APM	EPA 533	
Perfluorooctanoic acid (PFOA)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:51	APM	EPA 533	
Perfluoropentanoic acid (PFPeA)	**0.78**	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:51	APM	EPA 533	J
Perfluoropentasulfonate (PFPeS)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:51	APM	EPA 533	
Perfluoroundecanoic acid (PFUnA)	<	5.0	ng/L	B1I0963	09/17/21 09:28	09/21/21 18:51	APM	EPA 533	

FINAL REPORT 11.7 Report ID: 10012021 81819 Generated: 10/1/2021 8:17:52AM

Authorized by:

The results in this report apply only to the samples analyzed.
This report must not be reproduced, except in full, without the written approval of the laboratory.

Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

MINNESOTA MDH DEPARTMENT OF HEALTH

Final Report

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: 1700009

MDH Sample Number: 21I0356-08

Location ID: S11
Sampling Point: Well #11 Entry Point
Field Number: S11

Collect Date: 09/08/21
Collect Time: 12:25
Matrix: Drinking Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: None
Field PO_4 Result: None

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

PFAS in Water 533

Analyte	Result	Reporting Limit	Units	Batch	Prepared	Analyzed	Init.	Method	Qualifiers
11-Chloroeicosafluoro-3-oxaundecane (11Cl-PF3OUdS)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:05	APM	EPA 533	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:05	APM	EPA 533	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:05	APM	EPA 533	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:05	APM	EPA 533	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:05	APM	EPA 533	
9-Chlorohexadecafluoro-3-oxanonane-1-s(9Cl-PF3ONS)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:05	APM	EPA 533	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:05	APM	EPA 533	
N-ethyl perfluorooctanesulfonamidoacetic(NEt	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:05	APM	EPA 533	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:05	APM	EPA 533	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:05	APM	EPA 533	
Perfluoro-3-methoxypropanoic acid (PFMPA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:05	APM	EPA 533	
Perfluoro-4-methoxybutanoic acid (PFMBA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:05	APM	EPA 533	
Perfluorobutanesulfonate (PFBS)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:05	APM	EPA 533	
Perfluorobutanoic acid (PFBA)	**5.4**	9.4	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:05	APM	EPA 533	J
Perfluorodecanoic acid (PFDA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:05	APM	EPA 533	
Perfluorododecanoic acid (PFDoA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:05	APM	EPA 533	
Perfluoroheptanoic acid (PFHpA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:05	APM	EPA 533	
Perfluoroheptasulfonate (PFHpS)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:05	APM	EPA 533	
Perfluorohexanesulfonate (PFHxS)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:05	APM	EPA 533	
Perfluorohexanoic acid (PFHxA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:05	APM	EPA 533	
Perfluorononanoic acid (PFNA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:05	APM	EPA 533	
Perfluorooctanesulfonate (PFOS)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:05	APM	EPA 533	
Perfluorooctanoic acid (PFOA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:05	APM	EPA 533	
Perfluoropentanoic acid (PFPeA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:05	APM	EPA 533	
Perfluoropentasulfonate (PFPeS)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:05	APM	EPA 533	
Perfluoroundecanoic acid (PFUnA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:05	APM	EPA 533	

5.4

Authorized by:

Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

MINNESOTA MDH DEPARTMENT OF HEALTH

Final Report

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: 1700009

MDH Sample Number: 21I0356-09

Location ID: E14
Sampling Point: Well #15 Entry Point
Field Number: E14

Collect Date: 09/08/21
Collect Time: 13:11
Matrix: Drinking Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: None
Field PO_4 Result: None

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

PFAS in Water 533

Analyte	Result	Reporting Limit	Units	Batch	Prepared	Analyzed	Init.	Method	Qualifiers
11-Chloroeicosafluoro-3-oxaundecane (11Cl-PF3OUdS)	<	5.2	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:18	APM	EPA 533	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	<	5.2	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:18	APM	EPA 533	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	<	5.2	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:18	APM	EPA 533	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	<	5.2	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:18	APM	EPA 533	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<	5.2	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:18	APM	EPA 533	
9-Chlorohexadecafluoro-3-oxanonane-1-s(9Cl-PF3ONS)	<	5.2	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:18	APM	EPA 533	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	<	5.2	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:18	APM	EPA 533	
N-ethyl perfluorooctanesulfonamidoacetic(NEt	<	5.2	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:18	APM	EPA 533	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<	5.2	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:18	APM	EPA 533	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	<	5.2	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:18	APM	EPA 533	
Perfluoro-3-methoxypropanoic acid (PFMPA)	<	5.2	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:18	APM	EPA 533	
Perfluoro-4-methoxybutanoic acid (PFMBA)	<	5.2	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:18	APM	EPA 533	
Perfluorobutanesulfonate (PFBS)	**1.2**	5.2	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:18	APM	EPA 533	J
Perfluorobutanoic acid (PFBA)	**9.4**	10	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:18	APM	EPA 533	J
Perfluorodecanoic acid (PFDA)	<	5.2	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:18	APM	EPA 533	
Perfluorododecanoic acid (PFDoA)	<	5.2	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:18	APM	EPA 533	
Perfluoroheptanoic acid (PFHpA)	<	5.2	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:18	APM	EPA 533	
Perfluoroheptasulfonate (PFHpS)	<	5.2	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:18	APM	EPA 533	
Perfluorohexanesulfonate (PFHxS)	<	5.2	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:18	APM	EPA 533	
Perfluorohexanoic acid (PFHxA)	**1.1**	5.2	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:18	APM	EPA 533	J
Perfluorononanoic acid (PFNA)	<	5.2	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:18	APM	EPA 533	
Perfluorooctanesulfonate (PFOS)	<	5.2	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:18	APM	EPA 533	
Perfluorooctanoic acid (PFOA)	<	5.2	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:18	APM	EPA 533	
Perfluoropentanoic acid (PFPeA)	<	5.2	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:18	APM	EPA 533	
Perfluoropentasulfonate (PFPeS)	<	5.2	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:18	APM	EPA 533	
Perfluoroundecanoic acid (PFUnA)	<	5.2	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:18	APM	EPA 533	

Authorized by:

Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

MINNESOTA MDH DEPARTMENT OF HEALTH

Final Report

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: 1700009

MDH Sample Number: 21I0356-10

Location ID: E15
Sampling Point: Well #16 Entry Point
Field Number: E15

Collect Date: 09/08/21
Collect Time: 13:32
Matrix: Drinking Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: None
Field PO_4 Result: None

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

PFAS in Water 533

Analyte	Result	Reporting Limit	Units	Batch	Prepared	Analyzed	Init.	Method	Qualifiers
11-Chloroeicosafluoro-3-oxaundecane (11Cl-PF3OUdS)	<	5.3	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:32	APM	EPA 533	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	<	5.3	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:32	APM	EPA 533	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	<	5.3	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:32	APM	EPA 533	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	<	5.3	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:32	APM	EPA 533	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<	5.3	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:32	APM	EPA 533	
9-Chlorohexadecafluoro-3-oxanonane-1-s(9Cl-PF3ONS)	<	5.3	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:32	APM	EPA 533	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	<	5.3	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:32	APM	EPA 533	
N-ethyl perfluorooctanesulfonamidoacetic(NEt	<	5.3	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:32	APM	EPA 533	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<	5.3	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:32	APM	EPA 533	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	<	5.3	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:32	APM	EPA 533	
Perfluoro-3-methoxypropanoic acid (PFMPA)	<	5.3	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:32	APM	EPA 533	
Perfluoro-4-methoxybutanoic acid (PFMBA)	<	5.3	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:32	APM	EPA 533	
Perfluorobutanesulfonate (PFBS)	**1.5**	5.3	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:32	APM	EPA 533	J
Perfluorobutanoic acid (PFBA)	**11**	11	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:32	APM	EPA 533	
Perfluorodecanoic acid (PFDA)	<	5.3	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:32	APM	EPA 533	
Perfluorododecanoic acid (PFDoA)	<	5.3	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:32	APM	EPA 533	
Perfluoroheptanoic acid (PFHpA)	<	5.3	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:32	APM	EPA 533	
Perfluoroheptasulfonate (PFHpS)	<	5.3	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:32	APM	EPA 533	
Perfluorohexanesulfonate (PFHxS)	<	5.3	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:32	APM	EPA 533	
Perfluorohexanoic acid (PFHxA)	<	5.3	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:32	APM	EPA 533	
Perfluorononanoic acid (PFNA)	<	5.3	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:32	APM	EPA 533	
Perfluorooctanesulfonate (PFOS)	<	5.3	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:32	APM	EPA 533	
Perfluorooctanoic acid (PFOA)	<	5.3	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:32	APM	EPA 533	
Perfluoropentanoic acid (PFPeA)	<	5.3	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:32	APM	EPA 533	
Perfluoropentasulfonate (PFPeS)	<	5.3	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:32	APM	EPA 533	
Perfluoroundecanoic acid (PFUnA)	<	5.3	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:32	APM	EPA 533	

Authorized by:

Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

MINNESOTA MDH DEPARTMENT OF HEALTH

Final Report

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: 1700009

MDH Sample Number: 21I0356-11

Location ID: E16
Sampling Point: Well #17 Entry Point
Field Number: E16

Collect Date: 09/08/21
Collect Time: 13:45
Matrix: Drinking Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: None
Field PO_4 Result: None

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

PFAS in Water 533

Analyte	Result	Reporting Limit	Units	Batch	Prepared	Analyzed	Init.	Method	Qualifiers
11-Chloroeicosafluoro-3-oxaundecane (11Cl-PF3OUdS)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:45	APM	EPA 533	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:45	APM	EPA 533	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:45	APM	EPA 533	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:45	APM	EPA 533	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:45	APM	EPA 533	
9-Chlorohexadecafluoro-3-oxanonane-1-s(9Cl-PF3ONS)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:45	APM	EPA 533	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:45	APM	EPA 533	
N-ethyl perfluorooctanesulfonamidoacetic(NEt	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:45	APM	EPA 533	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:45	APM	EPA 533	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:45	APM	EPA 533	
Perfluoro-3-methoxypropanoic acid (PFMPA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:45	APM	EPA 533	
Perfluoro-4-methoxybutanoic acid (PFMBA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:45	APM	EPA 533	
Perfluorobutanesulfonate (PFBS)	**1.6**	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:45	APM	EPA 533	J
Perfluorobutanoic acid (PFBA)	**11**	9.4	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:45	APM	EPA 533	
Perfluorodecanoic acid (PFDA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:45	APM	EPA 533	
Perfluorododecanoic acid (PFDoA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:45	APM	EPA 533	
Perfluoroheptanoic acid (PFHpA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:45	APM	EPA 533	
Perfluoroheptasulfonate (PFHpS)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:45	APM	EPA 533	
Perfluorohexanesulfonate (PFHxS)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:45	APM	EPA 533	
Perfluorohexanoic acid (PFHxA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:45	APM	EPA 533	
Perfluorononanoic acid (PFNA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:45	APM	EPA 533	
Perfluorooctanesulfonate (PFOS)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:45	APM	EPA 533	
Perfluorooctanoic acid (PFOA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:45	APM	EPA 533	
Perfluoropentanoic acid (PFPeA)	**0.93**	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:45	APM	EPA 533	J
Perfluoropentasulfonate (PFPeS)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:45	APM	EPA 533	
Perfluoroundecanoic acid (PFUnA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:45	APM	EPA 533	

FINAL REPORT 13.53 Report ID: 10012021 81819 Generated: 10/1/2021 8:17:52AM

Authorized by:

The results in this report apply only to the samples analyzed.
This report must not be reproduced, except in full, without the written approval of the laboratory.

Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

MINNESOTA MDH DEPARTMENT OF HEALTH

Final Report

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: 1700009

MDH Sample Number: 21I0356-12

Location ID: E17
Sampling Point: Well #20 Entry Point
Field Number: E17

Collect Date: 09/08/21
Collect Time: 15:20
Matrix: Drinking Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: None
Field PO_4 Result: None

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

PFAS in Water 533

Analyte	Result	Reporting Limit	Units	Batch	Prepared	Analyzed	Init.	Method	Qualifiers
11-Chloroeicosafluoro-3-oxaundecane (11Cl-PF3OUdS)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:59	APM	EPA 533	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:59	APM	EPA 533	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:59	APM	EPA 533	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:59	APM	EPA 533	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:59	APM	EPA 533	
9-Chlorohexadecafluoro-3-oxanonane-1-s(9Cl-PF3ONS)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:59	APM	EPA 533	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:59	APM	EPA 533	
N-ethyl perfluorooctanesulfonamidoacetic(NEt	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:59	APM	EPA 533	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:59	APM	EPA 533	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:59	APM	EPA 533	
Perfluoro-3-methoxypropanoic acid (PFMPA)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:59	APM	EPA 533	
Perfluoro-4-methoxybutanoic acid (PFMBA)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:59	APM	EPA 533	
Perfluorobutanesulfonate (PFBS)	**1.0**	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:59	APM	EPA 533	J
Perfluorobutanoic acid (PFBA)	**11**	8.9	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:59	APM	EPA 533	
Perfluorodecanoic acid (PFDA)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:59	APM	EPA 533	
Perfluorododecanoic acid (PFDoA)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:59	APM	EPA 533	
Perfluoroheptanoic acid (PFHpA)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:59	APM	EPA 533	
Perfluoroheptasulfonate (PFHpS)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:59	APM	EPA 533	
Perfluorohexanesulfonate (PFHxS)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:59	APM	EPA 533	
Perfluorohexanoic acid (PFHxA)	**1.4**	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:59	APM	EPA 533	J
Perfluorononanoic acid (PFNA)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:59	APM	EPA 533	
Perfluorooctanesulfonate (PFOS)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:59	APM	EPA 533	
Perfluorooctanoic acid (PFOA)	**1.1**	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:59	APM	EPA 533	J
Perfluoropentanoic acid (PFPeA)	**1.1**	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:59	APM	EPA 533	J
Perfluoropentasulfonate (PFPeS)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:59	APM	EPA 533	
Perfluoroundecanoic acid (PFUnA)	<	4.5	ng/L	B1I0963	09/17/21 09:28	09/21/21 19:59	APM	EPA 533	

FINAL REPORT 15.6 Report ID: 10012021 81819 Generated: 10/1/2021 8:17:52AM

Authorized by:

The results in this report apply only to the samples analyzed.
This report must not be reproduced, except in full, without the written approval of the laboratory.

Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

MINNESOTA MDH DEPARTMENT OF HEALTH

Final Report

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: 1700009

MDH Sample Number: 21I0356-13

Location ID: E18
Sampling Point: Well #21 Entry Point
Field Number: E18

Collect Date: 09/08/21
Collect Time: 15:34
Matrix: Drinking Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: None
Field PO_4 Result: None

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

PFAS in Water 533

Analyte	Result	Reporting Limit	Units	Batch	Prepared	Analyzed	Init.	Method	Qualifiers
11-Chloroeicosafluoro-3-oxaundecane (11Cl-PF3OUdS)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 20:13	APM	EPA 533	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 20:13	APM	EPA 533	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 20:13	APM	EPA 533	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 20:13	APM	EPA 533	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 20:13	APM	EPA 533	
9-Chlorohexadecafluoro-3-oxanonane-1-s(9Cl-PF3ONS)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 20:13	APM	EPA 533	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 20:13	APM	EPA 533	
N-ethyl perfluorooctanesulfonamidoacetic(NEt	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 20:13	APM	EPA 533	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 20:13	APM	EPA 533	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 20:13	APM	EPA 533	
Perfluoro-3-methoxypropanoic acid (PFMPA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 20:13	APM	EPA 533	
Perfluoro-4-methoxybutanoic acid (PFMBA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 20:13	APM	EPA 533	
Perfluorobutanesulfonate (PFBS)	**1.5**	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 20:13	APM	EPA 533	J
Perfluorobutanoic acid (PFBA)	**14**	9.3	ng/L	B1I0963	09/17/21 09:28	09/21/21 20:13	APM	EPA 533	
Perfluorodecanoic acid (PFDA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 20:13	APM	EPA 533	
Perfluorododecanoic acid (PFDoA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 20:13	APM	EPA 533	
Perfluoroheptanoic acid (PFHpA)	**1.4**	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 20:13	APM	EPA 533	J
Perfluoroheptasulfonate (PFHpS)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 20:13	APM	EPA 533	
Perfluorohexanesulfonate (PFHxS)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 20:13	APM	EPA 533	
Perfluorohexanoic acid (PFHxA)	**4.3**	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 20:13	APM	EPA 533	J
Perfluorononanoic acid (PFNA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 20:13	APM	EPA 533	
Perfluorooctanesulfonate (PFOS)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 20:13	APM	EPA 533	
Perfluorooctanoic acid (PFOA)	**1.7**	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 20:13	APM	EPA 533	J
Perfluoropentanoic acid (PFPeA)	**4.1**	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 20:13	APM	EPA 533	J
Perfluoropentasulfonate (PFPeS)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 20:13	APM	EPA 533	
Perfluoroundecanoic acid (PFUnA)	<	4.7	ng/L	B1I0963	09/17/21 09:28	09/21/21 20:13	APM	EPA 533	

Authorized by:

Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

MINNESOTA MDH DEPARTMENT OF HEALTH

Final Report

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: 1700009

FINAL REPORT | Report ID: 10012021 81819 | Generated: 10/1/2021 8:17:52AM

Authorized by:

The results in this report apply only to the samples analyzed.
This report must not be reproduced, except in full, without the written approval of the laboratory.

Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

MINNESOTA MDH DEPARTMENT OF HEALTH

Final Report

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: 1700009

MDH Sample Number: 21I0356-14

Location ID: E19
Sampling Point: COMBINED DISCHARGE 1 (Wells 6, 7)
Field Number: E19

Collect Date: 09/08/21
Collect Time: 10:50
Matrix: Drinking Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: None
Field PO_4 Result: None

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

PFAS in Water 533

Analyte	Result	Reporting Limit	Units	Batch	Prepared	Analyzed	Init	Method	Qualifiers
11-Chloroeicosafluoro-3-oxaundecane (11Cl-PF3OUdS)	<	4.8	ng/L	B1I0980	09/20/21 06:19	09/21/21 21:48	JLD	EPA 533	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	<	4.8	ng/L	B1I0980	09/20/21 06:19	09/21/21 21:48	JLD	EPA 533	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	<	4.8	ng/L	B1I0980	09/20/21 06:19	09/21/21 21:48	JLD	EPA 533	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	<	4.8	ng/L	B1I0980	09/20/21 06:19	09/21/21 21:48	JLD	EPA 533	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<	4.8	ng/L	B1I0980	09/20/21 06:19	09/21/21 21:48	JLD	EPA 533	
9-Chlorohexadecafluoro-3-oxanonane-1-s(9Cl-PF3ONS)	<	4.8	ng/L	B1I0980	09/20/21 06:19	09/21/21 21:48	JLD	EPA 533	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	<	4.8	ng/L	B1I0980	09/20/21 06:19	09/21/21 21:48	JLD	EPA 533	
N-ethyl perfluorooctanesulfonamidoacetic(NEt	<	4.8	ng/L	B1I0980	09/20/21 06:19	09/21/21 21:48	JLD	EPA 533	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<	4.8	ng/L	B1I0980	09/20/21 06:19	09/21/21 21:48	JLD	EPA 533	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	<	4.8	ng/L	B1I0980	09/20/21 06:19	09/21/21 21:48	JLD	EPA 533	
Perfluoro-3-methoxypropanoic acid (PFMPA)	<	4.8	ng/L	B1I0980	09/20/21 06:19	09/21/21 21:48	JLD	EPA 533	
Perfluoro-4-methoxybutanoic acid (PFMBA)	<	4.8	ng/L	B1I0980	09/20/21 06:19	09/21/21 21:48	JLD	EPA 533	
Perfluorobutanesulfonate (PFBS)	**1.7**	4.8	ng/L	B1I0980	09/20/21 06:19	09/21/21 21:48	JLD	EPA 533	J
Perfluorobutanoic acid (PFBA)	**17**	9.6	ng/L	B1I0980	09/20/21 06:19	09/21/21 21:48	JLD	EPA 533	
Perfluorodecanoic acid (PFDA)	<	4.8	ng/L	B1I0980	09/20/21 06:19	09/21/21 21:48	JLD	EPA 533	
Perfluorododecanoic acid (PFDoA)	<	4.8	ng/L	B1I0980	09/20/21 06:19	09/21/21 21:48	JLD	EPA 533	
Perfluoroheptanoic acid (PFHpA)	**0.98**	4.8	ng/L	B1I0980	09/20/21 06:19	09/21/21 21:48	JLD	EPA 533	J
Perfluoroheptasulfonate (PFHpS)	<	4.8	ng/L	B1I0980	09/20/21 06:19	09/21/21 21:48	JLD	EPA 533	
Perfluorohexanesulfonate (PFHxS)	<	4.8	ng/L	B1I0980	09/20/21 06:19	09/21/21 21:48	JLD	EPA 533	
Perfluorohexanoic acid (PFHxA)	**2.4**	4.8	ng/L	B1I0980	09/20/21 06:19	09/21/21 21:48	JLD	EPA 533	J
Perfluorononanoic acid (PFNA)	<	4.8	ng/L	B1I0980	09/20/21 06:19	09/21/21 21:48	JLD	EPA 533	
Perfluorooctanesulfonate (PFOS)	**2.8**	4.8	ng/L	B1I0980	09/20/21 06:19	09/21/21 21:48	JLD	EPA 533	J
Perfluorooctanoic acid (PFOA)	**1.7**	4.8	ng/L	B1I0980	09/20/21 06:19	09/21/21 21:48	JLD	EPA 533	J
Perfluoropentanoic acid (PFPeA)	**2.9**	4.8	ng/L	B1I0980	09/20/21 06:19	09/21/21 21:48	JLD	EPA 533	J
Perfluoropentasulfonate (PFPeS)	<	4.8	ng/L	B1I0980	09/20/21 06:19	09/21/21 21:48	JLD	EPA 533	
Perfluoroundecanoic acid (PFUnA)	<	4.8	ng/L	B1I0980	09/20/21 06:19	09/21/21 21:48	JLD	EPA 533	

Authorized by:

Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

MINNESOTA MDH DEPARTMENT OF HEALTH

Final Report

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: 1700009

MDH Sample Number: 21I0356-15

Location ID: E20
Sampling Point: COMBINED DISCHARGE 2 (Well 12)
Field Number: E20

Collect Date: 09/08/21
Collect Time: 11:50
Matrix: Drinking Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: None
Field PO_4 Result: None

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

PFAS in Water 533

Analyte	Result	Reporting Limit	Units	Batch	Prepared	Analyzed	Init	Method	Qualifiers
11-Chloroeicosafluoro-3-oxaundecane (11Cl-PF3OUdS)	<	4.5	ng/L	B1I0980	09/20/21 06:19	09/21/21 22:02	JLD	EPA 533	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	<	4.5	ng/L	B1I0980	09/20/21 06:19	09/21/21 22:02	JLD	EPA 533	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	<	4.5	ng/L	B1I0980	09/20/21 06:19	09/21/21 22:02	JLD	EPA 533	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	<	4.5	ng/L	B1I0980	09/20/21 06:19	09/21/21 22:02	JLD	EPA 533	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<	4.5	ng/L	B1I0980	09/20/21 06:19	09/21/21 22:02	JLD	EPA 533	
9-Chlorohexadecafluoro-3-oxanonane-1-s(9Cl-PF3ONS)	<	4.5	ng/L	B1I0980	09/20/21 06:19	09/21/21 22:02	JLD	EPA 533	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	<	4.5	ng/L	B1I0980	09/20/21 06:19	09/21/21 22:02	JLD	EPA 533	
N-ethyl perfluorooctanesulfonamidoacetic(NEt	<	4.5	ng/L	B1I0980	09/20/21 06:19	09/21/21 22:02	JLD	EPA 533	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<	4.5	ng/L	B1I0980	09/20/21 06:19	09/21/21 22:02	JLD	EPA 533	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	<	4.5	ng/L	B1I0980	09/20/21 06:19	09/21/21 22:02	JLD	EPA 533	
Perfluoro-3-methoxypropanoic acid (PFMPA)	<	4.5	ng/L	B1I0980	09/20/21 06:19	09/21/21 22:02	JLD	EPA 533	
Perfluoro-4-methoxybutanoic acid (PFMBA)	<	4.5	ng/L	B1I0980	09/20/21 06:19	09/21/21 22:02	JLD	EPA 533	
Perfluorobutanesulfonate (PFBS)	<	4.5	ng/L	B1I0980	09/20/21 06:19	09/21/21 22:02	JLD	EPA 533	
Perfluorobutanoic acid (PFBA)	**2.1**	9.0	ng/L	B1I0980	09/20/21 06:19	09/21/21 22:02	JLD	EPA 533	J
Perfluorodecanoic acid (PFDA)	<	4.5	ng/L	B1I0980	09/20/21 06:19	09/21/21 22:02	JLD	EPA 533	
Perfluorododecanoic acid (PFDoA)	<	4.5	ng/L	B1I0980	09/20/21 06:19	09/21/21 22:02	JLD	EPA 533	
Perfluoroheptanoic acid (PFHpA)	<	4.5	ng/L	B1I0980	09/20/21 06:19	09/21/21 22:02	JLD	EPA 533	
Perfluoroheptasulfonate (PFHpS)	<	4.5	ng/L	B1I0980	09/20/21 06:19	09/21/21 22:02	JLD	EPA 533	
Perfluorohexanesulfonate (PFHxS)	<	4.5	ng/L	B1I0980	09/20/21 06:19	09/21/21 22:02	JLD	EPA 533	
Perfluorohexanoic acid (PFHxA)	<	4.5	ng/L	B1I0980	09/20/21 06:19	09/21/21 22:02	JLD	EPA 533	
Perfluorononanoic acid (PFNA)	<	4.5	ng/L	B1I0980	09/20/21 06:19	09/21/21 22:02	JLD	EPA 533	
Perfluorooctanesulfonate (PFOS)	<	4.5	ng/L	B1I0980	09/20/21 06:19	09/21/21 22:02	JLD	EPA 533	
Perfluorooctanoic acid (PFOA)	<	4.5	ng/L	B1I0980	09/20/21 06:19	09/21/21 22:02	JLD	EPA 533	
Perfluoropentanoic acid (PFPeA)	<	4.5	ng/L	B1I0980	09/20/21 06:19	09/21/21 22:02	JLD	EPA 533	
Perfluoropentasulfonate (PFPeS)	<	4.5	ng/L	B1I0980	09/20/21 06:19	09/21/21 22:02	JLD	EPA 533	
Perfluoroundecanoic acid (PFUnA)	<	4.5	ng/L	B1I0980	09/20/21 06:19	09/21/21 22:02	JLD	EPA 533	

Authorized by:

Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

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

Batch B1I0963 - PFAS in Water by 533

Blank (B1I0963-BLK1) **Prepared: 09/17/21 09:28 Analyzed: 09/21/21 12:32**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
11-Chloroeicosafluoro-3-oxaundecane (11Cl-PF3OUdS)	<	5.0	ng/L							APM	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	<	5.0	ng/L							APM	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	<	5.0	ng/L							APM	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	<	5.0	ng/L							APM	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<	5.0	ng/L							APM	
9-Chlorohexadecafluoro-3-oxanonane-1-s(9Cl-PF3ONS)	<	5.0	ng/L							APM	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	<	5.0	ng/L							APM	
N-ethyl perfluorooctanesulfonamidoacetic(NEtFOSAA)	<	5.0	ng/L							APM	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<	5.0	ng/L							APM	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	<	5.0	ng/L							APM	
Perfluoro-3-methoxypropanoic acid (PFMPA)	<	5.0	ng/L							APM	
Perfluoro-4-methoxybutanoic acid (PFMBA)	<	5.0	ng/L							APM	
Perfluorobutanesulfonate (PFBS)	<	5.0	ng/L							APM	
Perfluorobutanoic acid (PFBA)	<	10	ng/L							APM	
Perfluorodecanoic acid (PFDA)	<	5.0	ng/L							APM	
Perfluorododecanoic acid (PFDoA)	<	5.0	ng/L							APM	
Perfluoroheptanoic acid (PFHpA)	<	5.0	ng/L							APM	
Perfluoroheptasulfonate (PFHpS)	<	5.0	ng/L							APM	
Perfluorohexanesulfonate (PFHxS)	<	5.0	ng/L							APM	
Perfluorohexanoic acid (PFHxA)	<	5.0	ng/L							APM	
Perfluorononanoic acid (PFNA)	<	5.0	ng/L							APM	
Perfluorooctanesulfonate (PFOS)	<	5.0	ng/L							APM	
Perfluorooctanoic acid (PFOA)	<	5.0	ng/L							APM	
Perfluoropentanoic acid (PFPeA)	<	5.0	ng/L							APM	
Perfluoropentasulfonate (PFPeS)	<	5.0	ng/L							APM	
Perfluoroundecanoic acid (PFUnA)	<	5.0	ng/L							APM	

LCS (B1I0963-BS1) **Prepared: 09/17/21 09:28 Analyzed: 09/21/21 12:19**

Authorized by:

Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

MINNESOTA MDH DEPARTMENT OF HEALTH

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

Final Report

PWSID: 1700009

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

Batch B1I0963 - PFAS in Water by 533

LCS (B1I0963-BS1) **Prepared: 09/17/21 09:28 Analyzed: 09/21/21 12:19**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init	Qualifiers
11-Chloroeicosafluoro-3-oxaundecane (11Cl-PF3OUdS)	46	5.0	ng/L	47.2		98	70-130			APM	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	50	5.0	ng/L	48		104	70-130			APM	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	50	5.0	ng/L	46.9		106	70-130			APM	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	48	5.0	ng/L	47.6		100	70-130			APM	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	43	5.0	ng/L	47.2		92	70-130			APM	
9-Chlorohexadecafluoro-3-oxanonane-1-s(9Cl-PF3ONS)	45	5.0	ng/L	46.7		95	70-130			APM	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	50	5.0	ng/L	50		101	70-130			APM	
N-ethyl perfluorooctanesulfonamidoacetic(NEtFOSAA)	51	5.0	ng/L	50		101	70-130			APM	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	56	5.0	ng/L	50		113	70-130			APM	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	44	5.0	ng/L	44.6		99	70-130			APM	
Perfluoro-3-methoxypropanoic acid (PFMPA)	51	5.0	ng/L	50		101	70-130			APM	
Perfluoro-4-methoxybutanoic acid (PFMBA)	49	5.0	ng/L	50		99	70-130			APM	
Perfluorobutanesulfonate (PFBS)	44	5.0	ng/L	44.4		100	70-130			APM	
Perfluorobutanoic acid (PFBA)	52	10	ng/L	50		105	70-130			APM	
Perfluorodecanoic acid (PFDA)	52	5.0	ng/L	50		105	70-130			APM	
Perfluorododecanoic acid (PFDoA)	55	5.0	ng/L	50		110	70-130			APM	
Perfluoroheptanoic acid (PFHpA)	52	5.0	ng/L	50		104	70-130			APM	
Perfluoroheptasulfonate (PFHpS)	48	5.0	ng/L	47.7		101	70-130			APM	
Perfluorohexanesulfonate (PFHxS)	47	5.0	ng/L	45.6		104	70-130			APM	
Perfluorohexanoic acid (PFHxA)	52	5.0	ng/L	50		103	70-130			APM	
Perfluorononanoic acid (PFNA)	54	5.0	ng/L	50		108	70-130			APM	
Perfluorooctanesulfonate (PFOS)	47	5.0	ng/L	46.4		101	70-130			APM	
Perfluorooctanoic acid (PFOA)	51	5.0	ng/L	50		102	70-130			APM	
Perfluoropentanoic acid (PFPeA)	51	5.0	ng/L	50		102	70-130			APM	
Perfluoropentasulfonate (PFPeS)	48	5.0	ng/L	47		103	70-130			APM	
Perfluoroundecanoic acid (PFUnA)	57	5.0	ng/L	50		115	70-130			APM	

Authorized by:

Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

PWSID: 1700009

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

Batch B1I0963 - PFAS in Water by 533

Matrix Spike (B1I0963-MS1) Source: 21I0341-01 **Prepared: 09/17/21 09:28 Analyzed: 09/21/21 13:13**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
11-Chloroeicosafluoro-3-oxaundecane (11Cl-PF3OUdS)	38	5.1	ng/L	38.53	<	98	70-130			APM	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	39	5.1	ng/L	39.18	<	101	70-130			APM	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	41	5.1	ng/L	38.28	<	106	70-130			APM	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	41	5.1	ng/L	38.85	<	107	70-130			APM	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37	5.1	ng/L	38.53	<	97	70-130			APM	
9-Chlorohexadecafluoro-3-oxanonane-1-s(9Cl-PF3ONS)	39	5.1	ng/L	38.12	<	103	70-130			APM	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	43	5.1	ng/L	40.81	<	105	70-130			APM	
N-ethyl perfluorooctanesulfonamidoacetic(NEtFOSAA)	42	5.1	ng/L	40.81	<	103	70-130			APM	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	41	5.1	ng/L	40.81	<	101	70-130			APM	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	36	5.1	ng/L	36.40	<	98	70-130			APM	
Perfluoro-3-methoxypropanoic acid (PFMPA)	48	5.1	ng/L	40.81	<	118	70-130			APM	
Perfluoro-4-methoxybutanoic acid (PFMBA)	42	5.1	ng/L	40.81	<	103	70-130			APM	
Perfluorobutanesulfonate (PFBS)	38	5.1	ng/L	36.24	<	106	70-130			APM	
Perfluorobutanoic acid (PFBA)	64	10	ng/L	40.81	22	104	70-130			APM	
Perfluorodecanoic acid (PFDA)	42	5.1	ng/L	40.81	<	104	70-130			APM	
Perfluorododecanoic acid (PFDoA)	47	5.1	ng/L	40.81	<	116	70-130			APM	
Perfluoroheptanoic acid (PFHpA)	43	5.1	ng/L	40.81	<	106	70-130			APM	
Perfluoroheptasulfonate (PFHpS)	40	5.1	ng/L	38.93	<	104	70-130			APM	
Perfluorohexanesulfonate (PFHxS)	38	5.1	ng/L	37.22	<	103	70-130			APM	
Perfluorohexanoic acid (PFHxA)	43	5.1	ng/L	40.81	<	106	70-130			APM	
Perfluorononanoic acid (PFNA)	41	5.1	ng/L	40.81	<	101	70-130			APM	
Perfluorooctanesulfonate (PFOS)	38	5.1	ng/L	37.87	<	102	70-130			APM	
Perfluorooctanoic acid (PFOA)	45	5.1	ng/L	40.81	<	110	70-130			APM	
Perfluoropentanoic acid (PFPeA)	41	5.1	ng/L	40.81	<	100	70-130			APM	
Perfluoropentasulfonate (PFPeS)	41	5.1	ng/L	38.36	<	106	70-130			APM	
Perfluoroundecanoic acid (PFUnA)	42	5.1	ng/L	40.81	<	102	70-130			APM	

Matrix Spike Dup (B1I0963-MSD1) Source: 21I0341-01 **Prepared: 09/17/21 09:28 Analyzed: 09/21/21 13:27**

Authorized by:

Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

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: 1700009

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

Batch B1I0963 - PFAS in Water by 533

Matrix Spike Dup (B1I0963-MSD1) Source: 21I0341-01 **Prepared: 09/17/21 09:28 Analyzed: 09/21/21 13:27**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init	Qualifiers
11-Chloroeicosafluoro-3-oxaundecane (11Cl-PF3OUdS)	38	5.0	ng/L	37.76	<	100	70-130	0.7	30	APM	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	40	5.0	ng/L	38.4	<	104	70-130	1	30	APM	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	38	5.0	ng/L	37.52	<	102	70-130	6	30	APM	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	38	5.0	ng/L	38.08	<	99	70-130	9	30	APM	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	36	5.0	ng/L	37.76	<	95	70-130	3	30	APM	
9-Chlorohexadecafluoro-3-oxanonane-1-s(9Cl-PF3ONS)	38	5.0	ng/L	37.36	<	101	70-130	4	30	APM	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	42	5.0	ng/L	40	<	104	70-130	2	30	APM	
N-ethyl perfluorooctanesulfonamidoacetic(NEtFOSAA)	41	5.0	ng/L	40	<	103	70-130	2	30	APM	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	38	5.0	ng/L	40	<	94	70-130	9	30	APM	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	37	5.0	ng/L	35.68	<	103	70-130	2	30	APM	
Perfluoro-3-methoxypropanoic acid (PFMPA)	48	5.0	ng/L	40	<	120	70-130	0.5	30	APM	
Perfluoro-4-methoxybutanoic acid (PFMBA)	43	5.0	ng/L	40	<	107	70-130	2	30	APM	
Perfluorobutanesulfonate (PFBS)	37	5.0	ng/L	35.52	<	105	70-130	3	30	APM	
Perfluorobutanoic acid (PFBA)	63	10	ng/L	40	22	102	70-130	2	30	APM	
Perfluorodecanoic acid (PFDA)	41	5.0	ng/L	40	<	101	70-130	5	30	APM	
Perfluorododecanoic acid (PFDoA)	43	5.0	ng/L	40	<	107	70-130	10	30	APM	
Perfluoroheptanoic acid (PFHpA)	42	5.0	ng/L	40	<	104	70-130	4	30	APM	
Perfluoroheptasulfonate (PFHpS)	41	5.0	ng/L	38.16	<	108	70-130	2	30	APM	
Perfluorohexanesulfonate (PFHxS)	38	5.0	ng/L	36.48	<	104	70-130	1	30	APM	
Perfluorohexanoic acid (PFHxA)	41	5.0	ng/L	40	<	103	70-130	4	30	APM	
Perfluorononanoic acid (PFNA)	42	5.0	ng/L	40	<	105	70-130	1	30	APM	
Perfluorooctanesulfonate (PFOS)	37	5.0	ng/L	37.12	<	101	70-130	3	30	APM	
Perfluorooctanoic acid (PFOA)	42	5.0	ng/L	40	<	105	70-130	6	30	APM	
Perfluoropentanoic acid (PFPeA)	41	5.0	ng/L	40	<	102	70-130	0.4	30	APM	
Perfluoropentasulfonate (PFPeS)	39	5.0	ng/L	37.6	<	105	70-130	3	30	APM	
Perfluoroundecanoic acid (PFUnA)	43	5.0	ng/L	40	<	108	70-130	4	30	APM	

Authorized by:

Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

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

Batch B1I0980 - PFAS in Water by 533

Blank (B1I0980-BLK1) — **Prepared: 09/20/21 06:19 Analyzed: 09/21/21 21:35**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
11-Chloroeicosafluoro-3-oxaundecane (11Cl-PF3OUdS)	<	5.0	ng/L							JLD	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	<	5.0	ng/L							JLD	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	<	5.0	ng/L							JLD	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	<	5.0	ng/L							JLD	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<	5.0	ng/L							JLD	
9-Chlorohexadecafluoro-3-oxanonane-1-s(9Cl-PF3ONS)	<	5.0	ng/L							JLD	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	<	5.0	ng/L							JLD	
N-ethyl perfluorooctanesulfonamidoacetic(NEtFOSAA)	<	5.0	ng/L							JLD	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	<	5.0	ng/L							JLD	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	<	5.0	ng/L							JLD	
Perfluoro-3-methoxypropanoic acid (PFMPA)	<	5.0	ng/L							JLD	
Perfluoro-4-methoxybutanoic acid (PFMBA)	<	5.0	ng/L							JLD	
Perfluorobutanesulfonate (PFBS)	<	5.0	ng/L							JLD	
Perfluorobutanoic acid (PFBA)	<	10	ng/L							JLD	
Perfluorodecanoic acid (PFDA)	<	5.0	ng/L							JLD	
Perfluorododecanoic acid (PFDoA)	<	5.0	ng/L							JLD	
Perfluoroheptanoic acid (PFHpA)	<	5.0	ng/L							JLD	
Perfluoroheptasulfonate (PFHpS)	<	5.0	ng/L							JLD	
Perfluorohexanesulfonate (PFHxS)	<	5.0	ng/L							JLD	
Perfluorohexanoic acid (PFHxA)	<	5.0	ng/L							JLD	
Perfluorononanoic acid (PFNA)	<	5.0	ng/L							JLD	
Perfluorooctanesulfonate (PFOS)	<	5.0	ng/L							JLD	
Perfluorooctanoic acid (PFOA)	<	5.0	ng/L							JLD	
Perfluoropentanoic acid (PFPeA)	<	5.0	ng/L							JLD	
Perfluoropentasulfonate (PFPeS)	<	5.0	ng/L							JLD	
Perfluoroundecanoic acid (PFUnA)	1.1	5.0	ng/L							JLD	J

LCS (B1I0980-BS1) — **Prepared: 09/20/21 06:19 Analyzed: 09/21/21 21:21**

Authorized by:

Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

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

Batch B1I0980 - PFAS in Water by 533

LCS (B1I0980-BS1) **Prepared: 09/20/21 06:19 Analyzed: 09/21/21 21:21**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
11-Chloroeicosafluoro-3-oxaundecane (11Cl-PF3OUdS)	110	5.0	ng/L	94.4		111	70-130			JLD	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	94	5.0	ng/L	96		98	70-130			JLD	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	84	5.0	ng/L	93.8		90	70-130			JLD	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	91	5.0	ng/L	95.2		95	70-130			JLD	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	96	5.0	ng/L	94.4		102	70-130			JLD	
9-Chlorohexadecafluoro-3-oxanonane-1-s(9Cl-PF3ONS)	100	5.0	ng/L	93.4		109	70-130			JLD	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	110	5.0	ng/L	100		106	70-130			JLD	
N-ethyl perfluorooctanesulfonamidoacetic(NEtFOSAA)	110	5.0	ng/L	100		106	70-130			JLD	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	93	5.0	ng/L	100		93	70-130			JLD	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	86	5.0	ng/L	89.2		96	70-130			JLD	
Perfluoro-3-methoxypropanoic acid (PFMPA)	110	5.0	ng/L	100		108	70-130			JLD	
Perfluoro-4-methoxybutanoic acid (PFMBA)	110	5.0	ng/L	100		111	70-130			JLD	
Perfluorobutanesulfonate (PFBS)	91	5.0	ng/L	88.8		102	70-130			JLD	
Perfluorobutanoic acid (PFBA)	100	10	ng/L	100		104	70-130			JLD	
Perfluorodecanoic acid (PFDA)	110	5.0	ng/L	100		110	70-130			JLD	
Perfluorododecanoic acid (PFDoA)	110	5.0	ng/L	100		106	70-130			JLD	
Perfluoroheptanoic acid (PFHpA)	110	5.0	ng/L	100		105	70-130			JLD	
Perfluoroheptasulfonate (PFHpS)	100	5.0	ng/L	95.4		104	70-130			JLD	
Perfluorohexanesulfonate (PFHxS)	96	5.0	ng/L	91.2		105	70-130			JLD	
Perfluorohexanoic acid (PFHxA)	110	5.0	ng/L	100		105	70-130			JLD	
Perfluorononanoic acid (PFNA)	110	5.0	ng/L	100		107	70-130			JLD	
Perfluorooctanesulfonate (PFOS)	98	5.0	ng/L	92.8		106	70-130			JLD	
Perfluorooctanoic acid (PFOA)	100	5.0	ng/L	100		105	70-130			JLD	
Perfluoropentanoic acid (PFPeA)	110	5.0	ng/L	100		106	70-130			JLD	
Perfluoropentasulfonate (PFPeS)	95	5.0	ng/L	94		101	70-130			JLD	
Perfluoroundecanoic acid (PFUnA)	100	5.0	ng/L	100		101	70-130			JLD	

Authorized by:

Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

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

Batch B1I0980 - PFAS in Water by 533

Matrix Spike (B1I0980-MS1) Source: 21I0362-01 **Prepared: 09/20/21 06:19 Analyzed: 09/21/21 22:29**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
11-Chloroeicosafluoro-3-oxaundecane (11Cl-PF3OUdS)	38	4.5	ng/L	34.32	<	109	70-130			JLD	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	36	4.5	ng/L	34.90	<	104	70-130			JLD	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	33	4.5	ng/L	34.10	<	95	70-130			JLD	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	37	4.5	ng/L	34.61	<	108	70-130			JLD	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	33	4.5	ng/L	34.32	<	97	70-130			JLD	
9-Chlorohexadecafluoro-3-oxanonane-1-s(9Cl-PF3ONS)	37	4.5	ng/L	33.96	<	110	70-130			JLD	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	38	4.5	ng/L	36.36	<	104	70-130			JLD	
N-ethyl perfluorooctanesulfonamidoacetic(NEtFOSAA)	39	4.5	ng/L	36.36	<	106	70-130			JLD	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	26	4.5	ng/L	36.36	<	71	70-130			JLD	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	33	4.5	ng/L	32.43	<	103	70-130			JLD	
Perfluoro-3-methoxypropanoic acid (PFMPA)	45	4.5	ng/L	36.36	<	125	70-130			JLD	
Perfluoro-4-methoxybutanoic acid (PFMBA)	39	4.5	ng/L	36.36	<	107	70-130			JLD	
Perfluorobutanesulfonate (PFBS)	33	4.5	ng/L	32.29	<	103	70-130			JLD	
Perfluorobutanoic acid (PFBA)	39	9.1	ng/L	36.36	<	107	70-130			JLD	
Perfluorodecanoic acid (PFDA)	37	4.5	ng/L	36.36	<	101	70-130			JLD	
Perfluorododecanoic acid (PFDoA)	44	4.5	ng/L	36.36	<	121	70-130			JLD	
Perfluoroheptanoic acid (PFHpA)	38	4.5	ng/L	36.36	<	105	70-130			JLD	
Perfluoroheptasulfonate (PFHpS)	38	4.5	ng/L	34.69	<	111	70-130			JLD	
Perfluorohexanesulfonate (PFHxS)	34	4.5	ng/L	33.16	<	103	70-130			JLD	
Perfluorohexanoic acid (PFHxA)	37	4.5	ng/L	36.36	<	103	70-130			JLD	
Perfluorononanoic acid (PFNA)	39	4.5	ng/L	36.36	<	108	70-130			JLD	
Perfluorooctanesulfonate (PFOS)	35	4.5	ng/L	33.74	<	105	70-130			JLD	
Perfluorooctanoic acid (PFOA)	38	4.5	ng/L	36.36	<	106	70-130			JLD	
Perfluoropentanoic acid (PFPeA)	37	4.5	ng/L	36.36	<	103	70-130			JLD	
Perfluoropentasulfonate (PFPeS)	35	4.5	ng/L	34.18	<	102	70-130			JLD	
Perfluoroundecanoic acid (PFUnA)	40	4.5	ng/L	36.36	<	111	70-130			JLD	

Matrix Spike Dup (B1I0980-MSD1) Source: 21I0362-01 **Prepared: 09/20/21 06:19 Analyzed: 09/21/21 22:43**

Authorized by:

Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

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

Batch B1I0980 - PFAS in Water by 533

Matrix Spike Dup (B1I0980-MSD1) Source: 21I0362-01 **Prepared: 09/20/21 06:19 Analyzed: 09/21/21 22:43**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init	Qualifiers
11-Chloroeicosafluoro-3-oxaundecane (11Cl-PF3OUdS)	37	4.5	ng/L	33.71	<	109	70-130	2	30	JLD	
1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	36	4.5	ng/L	34.28	<	106	70-130	0.5	30	JLD	
1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	33	4.5	ng/L	33.5	<	99	70-130	2	30	JLD	
1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	34	4.5	ng/L	34	<	101	70-130	8	30	JLD	
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	33	4.5	ng/L	33.71	<	99	70-130	0.1	30	JLD	
9-Chlorohexadecafluoro-3-oxanonane-1-s(9Cl-PF3ONS)	37	4.5	ng/L	33.35	<	112	70-130	0.3	30	JLD	
Hexafluoropropylene oxide dimer acid (HFPO-DA)	39	4.5	ng/L	35.71	<	109	70-130	3	30	JLD	
N-ethyl perfluorooctanesulfonamidoacetic(NEtFOSAA)	36	4.5	ng/L	35.71	<	102	70-130	6	30	JLD	
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	33	4.5	ng/L	35.71	<	93	70-130	25	30	JLD	
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	31	4.5	ng/L	31.85	<	98	70-130	6	30	JLD	
Perfluoro-3-methoxypropanoic acid (PFMPA)	44	4.5	ng/L	35.71	<	124	70-130	3	30	JLD	
Perfluoro-4-methoxybutanoic acid (PFMBA)	39	4.5	ng/L	35.71	<	110	70-130	0.4	30	JLD	
Perfluorobutanesulfonate (PFBS)	33	4.5	ng/L	31.71	<	103	70-130	2	30	JLD	
Perfluorobutanoic acid (PFBA)	38	8.9	ng/L	35.71	<	107	70-130	1	30	JLD	
Perfluorodecanoic acid (PFDA)	41	4.5	ng/L	35.71	<	114	70-130	11	30	JLD	
Perfluorododecanoic acid (PFDoA)	42	4.5	ng/L	35.71	<	119	70-130	3	30	JLD	
Perfluoroheptanoic acid (PFHpA)	38	4.5	ng/L	35.71	<	106	70-130	0.2	30	JLD	
Perfluoroheptasulfonate (PFHpS)	36	4.5	ng/L	34.07	<	106	70-130	6	30	JLD	
Perfluorohexanesulfonate (PFHxS)	33	4.5	ng/L	32.57	<	101	70-130	3	30	JLD	
Perfluorohexanoic acid (PFHxA)	37	4.5	ng/L	35.71	<	103	70-130	2	30	JLD	
Perfluorononanoic acid (PFNA)	39	4.5	ng/L	35.71	<	110	70-130	0.5	30	JLD	
Perfluorooctanesulfonate (PFOS)	34	4.5	ng/L	33.14	<	103	70-130	4	30	JLD	
Perfluorooctanoic acid (PFOA)	37	4.5	ng/L	35.71	<	103	70-130	5	30	JLD	
Perfluoropentanoic acid (PFPeA)	37	4.5	ng/L	35.71	<	105	70-130	0.03	30	JLD	
Perfluoropentasulfonate (PFPeS)	34	4.5	ng/L	33.57	<	101	70-130	3	30	JLD	
Perfluoroundecanoic acid (PFUnA)	35	4.5	ng/L	35.71	<	99	70-130	13	30	JLD	

Authorized by:

Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

MINNESOTA MDH DEPARTMENT OF HEALTH

Final Report

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: 1700009

Data Qualifiers and Definitions

J Analyte was present between the method detection limit and reporting limit and should be considered an estimated value.

Work Order Comments

Samples were received in proper condition.

Authorized by:

Paul Moyer, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

Shakopee Public Utilities

PO Box 470 • 255 Sarazin Street
Shakopee, Minnesota 55379
Main 952.445-1988 • Fax 952.445-7767
www.shakopeeutilities.com

DATE: December 27, 2021

TO: Greg Drent, General Manager GD

FROM: Brad Carlson, Electric Superintendent BJC

Subject: Authorize Vehicle & Equipment Purchasing to be delivered in 2023

Background:

Vehicle purchases for the upcoming calendar year of 2022 have been affected by long lead times. Past practice has been to order vehicles when the CIP budget is released in January. We currently would fulfill that purchase in the calendar year. I have been made aware that is not going to be the same process going forward in the next few years.

For example, in recent inquiries for new pickup trucks for next year through state bid contracts, multiple dealerships noted that the state bid contracts for a regular pickup truck closed in August of 2021. Which means we will not be able to order a standard pick-up truck in 2022.

Furthermore, larger cab and chassis purchases are also affected. International, Freightliner, and Ford are noting lead times upwards to 70 weeks. Complete buildout quotes from Altec Industries (one of our bucket truck manufactures) can be up to 90 weeks. In recent talks with Altec, I had to reserve build slots in advance for 2023, and 2024 now. Altec Industries had almost 4000 units not completed in 2021 which pushed out buildout dates nationwide. We would have to purchase a cab and chassis in 2022 for 2023 - 2024 build date.

Currently, the Electric Department has three (3) vehicles which are supposed to be ordered in 2022. Two (2) pick-up truck for replacement, and one (1) cab and chassis for a new dump truck. These three purchases will not be received until 2023. Looking forward into 2023 the Electric Department CIP has one (1) small bucket truck for replacement, and one (1) pick-up truck for replacement. SPU staff will be reviewing all vehicles and equipment needs in the near future.

The Water Department has truck #615 that has been on order since January of 2021. We hope to receive it in 2022. Truck #636, water's hydrant truck, has been ordered in two phases. The Cab and chassis first followed by the utility body and crane. This truck should be completed in 2023. Two other trucks, #622 and an additional truck to the fleet, will be ordered in 2022 and hopefully received in 2023.

Action:

Authorization to purchase 2023 vehicles & equipment with long lead times. SPU staff wanted the commission to be aware of the long lead times, and would like some direction on purchasing future vehicles and equipment.

Shakopee Public Utilities
Capital Improvement Plan
Final
Dated: 12-6-2021
Electric Detail

	Item Description	Justification	2021 Carryover	2022	2023	2024
	Operating Fund					
	System Projects					
15	**Vehicles/Equipment**					
16	Construction-Related Equipment-New/Additional/Replacement	Tool Replacement	-	45,000	45,000	45,000
17	#616 Double Bucket	Life Cycle Replacement	156,000	100,000	-	-
18	Backyard Digger/Bucket Truck	New Equipment	-	190,000	-	-
19	Service Saver	New Equipment	-	4,500	-	-
20	Phase Identifier	Additional Service Saver	-	6,000	-	-
21	Skidsteer Trailer	Life Cycle Replacement	-	20,000	-	-
22	#617 Duty Truck	Life Cycle Replacement	-	40,000	-	-
23	Vac-Tron	Life Cycle Replacement	-	95,000		-
24	#637 Engineering Pick Up 4X4	Life Cycle Replacement	-	50,000	-	-
25	Dump Truck	New Equipment	-	120,000	-	-
26	Mini Skid Loader/Backhoe	Life Cycle Replacement	-	-	50,000	-
27	#610 F550 4x4 Service Truck	Life Cycle Replacement	-	-	175,000	-
28	Forklift	Life Cycle Replacement	-	-	30,000	-
29	#618 Duty Truck	Life Cycle Replacement	-	-	40,000	-
30	Digger Truck #612 Bucket	Life Cycle Replacement	-	-	-	300,000
31	Air Compressor #628	Life Cycle Replacement	-	-	-	-
32	Directional Bore Equipment	New Equip for UG Construction	-	-	-	-
33	Equipment Trailer 30,000 lbs	Life Cycle Replacement	-	-	-	-
34	Woodchipper	Life Cycle Replacement	-	-	-	-
35	Vac-Tron	Life Cycle Replacement	-	-	-	-
36	**Total Vehicles/Equipment**		**156,000**	**670,500**	**340,000**	**345,000**

Shakopee Public Utilities
Capital Improvement Plan
Final
Dated: 12-6-2021
Water Detail

	Item Description	Justification	2021 Carryover	2022	2023	2024
25	**Vehicles/Equipment**					
26	New Water Operator Truck	Customer Service	-	45,000	-	-
27	Replace Truck #622 (2011)	Life Cycle Replacement	-	40,000	-	-
28	Replace Truck #635 (2006)	Life Cycle Replacement	-	117,000	-	-
29	Replace Truck #630 (2014)	Life Cycle Replacement	-	-	-	-
30	Replace Truck #626 (2015)	Life Cycle Replacement	-	-	-	-
31	Replace Truck #634 (2015)	Life Cycle Replacement	-	-	-	-
32	**Total Vehicles/Equipment**		**-**	**202,000**	**-**	**-**
33						