



Protecting, Maintaining and Improving the Health of All Minnesotans

To: Community Water Supply Owner/Operator

From: Community Water Supply Unit
Section of Drinking Water Protection

Subject: Sample Analysis Results for your Public Water Supply (PWS)

Your PWS is required by the Lead and Copper Rule of the Safe Drinking Water Act to monitor for Water Quality Parameters. Enclosed are the results of analyses performed on water samples collected from your PWS. These results must be kept in your files for a minimum of ten (10) years.

If you have any questions concerning these results, please contact Tareq Bastawisy at 651-368-1235, or your Department of Health district engineer.

Bemidji

Eric Weller 218/308-2107

Rochester

Kate Novy 507/206-2724

Duluth

Jennifer Showers 320/223-7340

St. Cloud

Hunter Blommer 320/223-7339
Collin Fetters 320/470-8033

Fergus Falls

Lucas Hoffman 218/332-5146

St. Paul

Lucas Martin 651/201-4144
Brian Noma 651/201-3971
Andrew Karp 320/428-5249

Mankato

Amy Lynch 507/344-2713

Marshall

Kim Larsen 320/223-7330

PWSID: 1720006
System Name: Henderson
City: Henderson

Program Code: HZ

Type: B

Date Received: 11/14/23 08:29
Rep. Temp. (°C): 10.0

Collector Name: James Kroehler
Collector ID: None

MDH Sample Number: 23K0625-01

Location ID: 00024
Sampling Point: D-001

Collect Date: 11/14/23
Collect Time: 07:00
Matrix: Drinking Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: 7.4
Field PO₄ Result: None

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

General Chemistry Parameters

Analyte	Result	Reporting Limit	Units	Batch	Prepared	Analyzed	Init.	Method	Qualifiers
Orthophosphate Phosphate	1.27	0.015	mg/L	B3K0777	11/14/23 13:18	11/14/23 16:48	INB	EPA 365.1	
Phosphorus as Phosphate, Total	3.80	0.027	mg/L	B3K0987	11/27/23 12:31	11/28/23 11:39	JNO	EPA 365.1	D2

MDH Sample Number: 23K0625-02RE1

Location ID: 00025
Sampling Point: D-002

Collect Date: 11/14/23
Collect Time: 06:30
Matrix: Drinking Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: 7.3
Field PO₄ Result: None

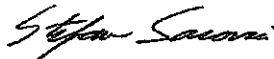
Results were produced by the Minnesota Department of Health, except where noted.

General Chemistry Parameters

Analyte	Result	Reporting Limit	Units	Batch	Prepared	Analyzed	Init.	Method	Qualifiers
Phosphorus as Phosphate, Total	16.8	0.269	mg/L	B3K0987	11/27/23 12:31	11/28/23 12:51	JNO	EPA 365.1	D2

Authorized by:

*The results in this report apply only to the samples analyzed.
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Stefan Saravia, Environmental Laboratory Manager
Public Health Laboratory, Minnesota Department of Health

PWSID: 1720006

MDH Sample Number: 23K0625-02RE3

Location ID: 00025
Sampling Point: D-002

Collect Date: 11/14/23
Collect Time: 06:30
Matrix: Drinking Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: 7.3
Field PO4 Result: None

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

General Chemistry Parameters

Analyte	Result	Reporting Limit	Units	Batch	Prepared	Analyzed	Init.	Method	Qualifiers
Orthophosphate Phosphate	7.02	0.030	mg/L	B3K0777	11/14/23 13:18	11/14/23 18:24	INB	EPA 365.1	D2

MDH Sample Number: 23K0625-03

Location ID: 00026
Sampling Point: D-003

Collect Date: 11/14/23
Collect Time: 06:45
Matrix: Drinking Water

Field Residual Chlorine Result: None
Field Fluoride Result: None
Field pH Result: 7.4
Field PO4 Result: None

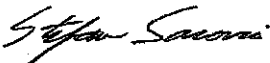
Results were produced by the Minnesota Department of Health, except where noted.

General Chemistry Parameters

Analyte	Result	Reporting Limit	Units	Batch	Prepared	Analyzed	Init.	Method	Qualifiers
Orthophosphate Phosphate	0.873	0.015	mg/L	B3K0777	11/14/23 13:18	11/14/23 16:52	INB	EPA 365.1	
Phosphorus as Phosphate, Total	1.26	0.027	mg/L	B3K0987	11/27/23 12:31	11/28/23 11:41	JNO	EPA 365.1	D2

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

PWSID: 1720006

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

Batch B3K0777 - Orthophosphate Prep

Blank (B3K0777-BLK1)

Prepared: 11/14/23 13:18 Analyzed: 11/14/23 16:47

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Orthophosphate Phosphate	<	0.015	mg/L							INB	

LCS (B3K0777-BS1)

Prepared: 11/14/23 13:18 Analyzed: 11/14/23 16:47

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Orthophosphate Phosphate	1.52	0.015	mg/L	1.5		101	90-110			INB	

Duplicate (B3K0777-DUP1)

Source: 23K0625-01

Prepared: 11/14/23 13:18 Analyzed: 11/14/23 16:49

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Orthophosphate Phosphate	1.24	0.015	mg/L		1.27			2	10	INB	

Matrix Spike (B3K0777-MS2)

Source: 23K0631-03

Prepared: 11/14/23 13:18 Analyzed: 11/14/23 17:01

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Orthophosphate Phosphate	3.45	0.015	mg/L	1.5	1.93	101	90-110			INB	

Matrix Spike (B3K0777-MS5)

Source: 23K0625-02RE3

Prepared: 11/14/23 13:18 Analyzed: 11/14/23 18:25

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Orthophosphate Phosphate	9.96	0.030	mg/L	3	7.02	98	90-110			INB	D2

Batch B3K0987 - Phosphorus, Total Prep

Blank (B3K0987-BLK1)

Prepared: 11/27/23 12:31 Analyzed: 11/28/23 11:16

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Phosphorus as Phosphate, Total	<	0.009	mg/L							JNO	

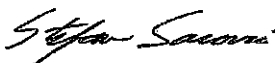
FINAL REPORT

Report ID: 12072023121936

Generated: 12/7/2023 12:19:33PM

Authorized by:

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

PWSID: 1720006

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

Batch B3K0987 - Phosphorus, Total Prep

LCS (B3K0987-BS1)

Prepared: 11/27/23 12:31 Analyzed: 11/28/23 11:17

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Phosphorus as Phosphate, Total	0.618	0.009	mg/L	0.6		103	90-110			JNO	

Duplicate (B3K0987-DUP1)

Source: 23K0469-01

Prepared: 11/27/23 12:31 Analyzed: 11/28/23 11:19

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Phosphorus as Phosphate, Total	1.67	0.027	mg/L		1.64			2	20	JNO	D2

Matrix Spike (B3K0987-MS1)

Source: 23K0469-02

Prepared: 11/27/23 12:31 Analyzed: 11/28/23 11:21

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Phosphorus as Phosphate, Total	3.56	0.027	mg/L	1.79	1.76	100	90-110			JNO	D2

Matrix Spike (B3K0987-MS2)

Source: 23K0500-03

Prepared: 11/27/23 12:31 Analyzed: 11/28/23 11:34

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Phosphorus as Phosphate, Total	3.30	0.027	mg/L	1.79	1.43	104	90-110			JNO	D2

Data Qualifiers and Definitions

D2 Sample required dilution due to high concentration of target analyte(s). Reporting limit has been raised.

Work Order Comments

Samples were received in proper condition.

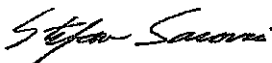
FINAL REPORT

Report ID: 12072023121936

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



Subject: Water Quality Parameters

Date: 12/19/2023

PWSID: 1720006

System Name: Henderson

The system is responsible for providing consistent orthophosphate residuals within the distribution system to maintain its corrosion control program. Currently, Henderson uses blended phosphate treatment for corrosion control and sequestration. Minnesota Department of Health (MDH) had recommended the system maintain a minimum orthophosphate residual level of 1.0 mg/L for optimal corrosion control treatment.

In the **previous quarter (Quarter 3)**, Henderson had an average orthophosphate residual of 2.02 mg/L, total phosphate level of 5.7 mg/L, and pH of 7.5.

In this **current quarter (Quarter 4)**, Henderson had an average orthophosphate residual of 3.05 mg/L, total phosphate level of 7.3 mg/L, and pH of 7.4.

It is to be noted, one of the sites (D-002), had drastically higher orthophosphate levels (7.02 mg/L) and the total phosphates exceeded the state standard of 10 mg/L (16.8 mg/L). MDH recommends the system to ensure the orthophosphate residual levels are consistent throughout the system and that the total phosphate levels remain below 10 mg/L to maintain the 10-state standard policy.

Please contact the Compliance Engineer with questions regarding corrosion control treatment and pre-notify them of any treatment modifications or changes. Thank you.

Tareq Bastawisy (Phone: 651-368-1235 | Email: tareq.bastawisy@state.mn.us)

