

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 Michael Bourland at 651-201-5928, or your Department of Health district engineer.

Bemidji		Marshall	·
Todd Johnson	218/308-2110	John Blomme	507/476-4238
Eric Weller	218/308-2107		
		Rochester	
Duluth		Kate Novy	507/206-2724
Mike Luhrsen	218/302-6178		
	•	St. Cloud	
Fergus Falls		Hunter Blomme	er 320/223-7339
Lucas Hoffman	218/332-5146	Kim Larsen	320/223-7330
		Jennifer Soltys	320/223-7340
Mankato		•	
Amy Lynch	507/344-2713	St. Paul	·
		Lucas Martin	651/201-4144
		Brian Noma	651/201-3971
	•	Jessie Kolar	651/201-4562

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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:

1720006

System Name:

Henderson

City:

Henderson

Date Received:

03/29/23 09:21

Rep. Temp. (°C):

Program Code:

ΗZ

Type: B

Collector Name:

James Kroehler

Collector ID:

None

MDH Sample Number: 23C1305-01

Location ID: 00024

Sampling Point: D-001

Collect Date: 03/29/23

Collect Time: 08:00

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	lnit.	Method	Qualifiers
Orthophosphate Phosphate	0.786	0.015	mg/L	B3C0852	03/29/23 13:15	03/29/23 14:36	INB	EPA 365.1	
Phosphorus as Phosphate, Total	3.04	0.027	mg/L	B3D0643	04/05/23 08:33	04/06/23 11:10	ONL	EPA 365.1	D2

MDH Sample Number: 23C1305-02

Location ID: 00025

Sampling Point: D-002

Collect Date: 03/29/23

Collect Time: 08:10 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	lnit.	Method	Qualifiers
Orthophosphate Phosphate	0.945	0.015	mg/L	B3C0852	03/29/23 13:15	03/29/23 14:38	INB	EPA 365.1	
Phosphorus as Phosphate, Total	3.32	0.027	mg/L	B3D0643	04/05/23 08:33	04/06/23 11:11	JNO	EPA 365.1	D2

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

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Location ID: 00026

Sampling Point: D-003

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: 1720006

MDH Sample Number: 23C1305-03

Collect Date: 03/29/23

Collect Time: 08:15

Matrix: Drinking Water

Field Residual Chlorine Result: None

Field Fluoride Result: None

Field pH Result: 7.2

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	1,18	0.015	mg/L	B3C0852	03/29/23 13:15	03/29/23 14:39	INB	EPA 365.1	
Phosphorus as Phosphate, Total	3.99	0.027	mg/L	B3D0643	04/05/23 08:33	04/06/23 11:12	JNO	EPA 365.1	D2

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

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Final Report

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PWSID: 1720006

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Batch B3C0852 - Orthophosphate F	Prep									-	
Blank (B3C0852-BLK1)					Prepare	d: 03/29/	23 13:15 Analyz	ed: 03/29	/23 14:34		
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Orthophosphate Phosphate	<	0.015	mg/L							INB	
											e.
CO (DOCOREA DOA)			,								
_CS (B3C0852-BS1)		Reporting		Spike	Prepare Source	d: 03/29/.	23 13:15 Analyz	ed: 03/29	/23 14:35 RPD		
Analyte	Result	Limit	Units	Level	Result	%REC	%REC Limits	RPD	Limit	Init.	Qualifiers
Orthophosphate Phosphate	1.52	0.015	mg/L	1.5		101	90-110			INB	•
								-			
Ouplicate (B3C0852-DUP1)		Source: 23	C1305-01		Prepare	d: 03/29/;	23 13:15 Analyz	ed: 03/29	/23 14:37		•
Analyte	Result	Reporting	Units	Spike	Source	%REC	%REC Limits	RPD	RPD	Init.	Qualifiers
Orthophosphate Phosphate	0.786	<u>Limit</u> 0.015	mg/L	Level	Result 0.786	, <u>LU</u>	= = = = = = = = = = = = = = = = =	0	<u>Limit</u> 10	INB	Quantitio
						٠		Ť	10		
Matrix Spike (B3C0852-MS1)		Source: 23	C1305-02		Prepared	4: 03/29/2	23 13:15 Analyze	ed: 03/29/	/23 14:38		
		The second second		0-11							
analyte .	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Analyte Orthophosphate Phosphate	Result 2.46		Units mg/L		Source		, -	RPD		Init.	Qualifiers
· · · · · · · · · · · · · · · · · · ·	Result	Limit		Level	Source Result	%REC	%REC Limits	RPD			Qualifiers
· · · · · · · · · · · · · · · · · · ·	Result	Limit		Level	Source Result	%REC	%REC Limits	RPD			Qualifiers
Orthophosphate Phosphate	2,46	Limit		Level	Source Result	%REC	%REC Limits	RPD			Qualifiers
Orthophosphate Phosphate Batch B3D0643 - Phosphorus, Total	2,46	Limit		Level	Source Result	%REC	%REC Limits	RPD	Limit		Qualifiers
Orthophosphate Phosphate Batch B3D0643 - Phosphorus, Total	2.46	Limit 0.015		Level 1.5	Source Result 0.945	%REC 101	%REC Limits		Limit 23 10:58		Qualifiers
Orthophosphate Phosphate Batch B3D0643 - Phosphorus, Total Blank (B3D0643-BLK1)	2.46	Limit		1.5 Spike	Source Result 0.945	%REC 101	%REC Limits 90-110		Limit 23 10:58 RPD		Qualifiers Qualifiers
Orthophosphate Phosphate Batch B3D0643 - Phosphorus, Total Blank (B3D0643-BLK1) malyte	2.46	Limit 0.015	mg/L	Level 1.5	Source Result 0.945	%REC 101 101 1: 04/05/2	%REC Limits 90-110	d: 04 /06/	Limit 23 10:58	INB .	
Orthophosphate Phosphate Batch B3D0643 - Phosphorus, Total Blank (B3D0643-BLK1)	2.46 Prep	Limit 0.015 Reporting Limit	mg/L Units	1.5 Spike	Source Result 0.945	%REC 101 101 1: 04/05/2	%REC Limits 90-110	d: 04 /06/	Limit 23 10:58 RPD	INB	
·	2.46 Prep	Limit 0.015 Reporting Limit	mg/L Units	1.5 Spike	Source Result 0.945	%REC 101 101 1: 04/05/2	%REC Limits 90-110	d: 04 /06/	Limit 23 10:58 RPD	INB	
Orthophosphate Phosphate Batch B3D0643 - Phosphorus, Total Blank (B3D0643-BLK1) unalyte hosphorus as Phosphate, Total	2.46 Prep	Limit 0.015 Reporting Limit	mg/L Units	1.5 Spike	Source Result 0.945 Prepared Source Result	%REC 101 1: 04/05/2 %REC	%REC Limits 90-110 23 08:33 Analyze %REC Limits	d: 04/06/ RPD	23 10:58 RPD Limit	INB	
Orthophosphate Phosphate Batch B3D0643 - Phosphorus, Total Blank (B3D0643-BLK1) analyte control of the property of the pro	Prep Result <	Limit 0.015 Reporting Limit 0.009	mg/L Units	1.5 Spike	Prepared Source Result	%REC 101 1: 04/05/2 %REC	%REC Limits 90-110 23 08:33 Analyze %REC Limits	d: 04/06/ RPD	23 10:58 RPD Limit	INB Init. JNO	Qualifiers
Drthophosphate Phosphate Batch B3D0643 - Phosphorus, Total Blank (B3D0643-BLK1) analyte Phosphorus as Phosphate, Total CS (B3D0643-BS1)	Prep Result Result	Limit 0.015 Reporting Limit 0.009	units mg/L Units	1.5 Spike Level	Prepared Source Result	%REC 101 1: 04/05/2 %REC	%REC Limits 90-110 23 08:33 Analyze %REC Limits 3 08:33 Analyze %REC Limits	d: 04/06/ RPD	23 10:58 RPD Limit	INB	
Orthophosphate Phosphate Batch B3D0643 - Phosphorus, Total Blank (B3D0643-BLK1) Analyte Phosphorus as Phosphate, Total CS (B3D0643-BS1) Analyte	Prep Result <	Limit 0.015 Reporting Limit 0.009	mg/L Units mg/L	1.5 Spike Level	Prepared Source Source Source Source Result	%REC 101 1: 04/05/2 %REC	%REC Limits 90-110 23 08:33 Analyze %REC Limits	d: 04/06/ RPD d: 04/06/	23 10:58 RPD Limit	INB Init. JNO	Qualifiers
Orthophosphate Phosphate Batch B3D0643 - Phosphorus, Total Plank (B3D0643-BLK1) Inalyte Phosphorus as Phosphate, Total CS (B3D0643-BS1) Inalyte	Prep Result Result	Limit 0.015 Reporting Limit 0.009	units mg/L Units	1.5 Spike Level	Prepared Source Source Source Source Result	%REC 101 1: 04/05/2 %REC	%REC Limits 90-110 23 08:33 Analyze %REC Limits 3 08:33 Analyze %REC Limits	d: 04/06/ RPD d: 04/06/	23 10:58 RPD Limit	INB Init. JNO	Qualifiers
Orthophosphate Phosphate Batch B3D0643 - Phosphorus, Total Blank (B3D0643-BLK1)	Prep Result Result	Limit 0.015 Reporting Limit 0.009	units mg/L Units	1.5 Spike Level	Prepared Source Source Source Source Result	%REC 101 1: 04/05/2 %REC	%REC Limits 90-110 23 08:33 Analyze %REC Limits 3 08:33 Analyze %REC Limits	d: 04/06/ RPD d: 04/06/	23 10:58 RPD Limit	INB Init. JNO	Qualifiers
Orthophosphate Phosphate Batch B3D0643 - Phosphorus, Total Blank (B3D0643-BLK1) Analyte Phosphorus as Phosphate, Total CS (B3D0643-BS1) Analyte	Prep Result Result	Limit 0.015 Reporting Limit 0.009	Units mg/L Units mg/L	Spike Level Spike Level 0.6	Prepared Source Source Source Source Result	%REC 101 1: 04/05/2 %REC 1: 04/05/2 %REC	%REC Limits 90-110 23 08:33 Analyze %REC Limits 3 08:33 Analyze %REC Limits	d: 04/06/ RPD d: 04/06/ RPD	23 10:58 RPD Limit	Init. JNO	Qualifiers

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Stefan Saini

Stefan Saravia, Environmental Laboratory Manager Public Health Laboratory, Minnesota 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: 1720006

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

Duplicate (B3D0643-DUP1)		Source: 23C1257-01			Prepared: 04/05/23 08:33 Analyzed: 04/06/23 11:01						
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Phosphorus as Phosphate, Total	1,28	0.027	mg/L		1.25			2	. 20	JNO	D2
Matrix Spike (B3D0643-MS1)	1 200	Source: 23	C1257-02		Prepare	d: 04/05/2	23 08:33 Analyze	ed: 04/06	/23 11:03		
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Phosphorus as Phosphate, Total	3,09	0.027	mg/L	1.79	1.30	100	90-110			JNO	D2
		,									,
Matrix Spike (B3D0643-MS2)		Source: 23l	00043-02		-	d: 04/05/2	23 08:33 Analyze	d: 04/06			
nalyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Phosphorus as Phosphate, Total	2.70	0.027	mg/L.	1.79	0.866	103	90-110			JNO	D2
									,		
Data Qualifiers and Definitions	-									•	
2 Sample required dilution due	to high conce	ntration of ta	rget analy	e(s). Re	porting lin	nit has be	en raised.				

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Stefan Saconi

Samples were received in proper condition.

Stefan Saravia, Environmental Laboratory Manager Public Health Laboratory, Minnesota Department of Health 04/24/2023 PWSID 1720006

PWS NAME: Henderson

Subject: Water Quality Parameters

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

The most recent water quality parameter (WQP) results show an average orthophosphate level of 0.97 mg/L, and an average total phosphate level of 3.45 mg/L, and an average pH level of 7.3. Henderson should review and calibrate its chemical feed to increase its phosphate levels to meet the minimum recommendation throughout the distribution.

Please contact your Compliance Engineer, Michael Bourland at 651-201-5928 with questions on corrosion control treatment and pre-notify him of any treatment modifications or changes by emailing him at michael.bourland@state.mn.us