

Minnesota Department of Health
Drinking Water Protection
Community Public Water Supply Section
625 Robert St. N.
St. Paul, MN 55155

Subject: Water Quality Parameters

Date: 07/26/2023

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** (05/10/23), Henderson had an average orthophosphate residual of 1.19 mg/L, total phosphate level of 3.49 mg/L, and pH of 7.6.

In this **current quarter**, Henderson had an average orthophosphate residual of 2.02 mg/L, total phosphate level of 5.7 mg/L, and pH of 7.5.

Currently, no further changes to the corrosion control treatment are needed for these parameters.

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)



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:

07/26/23 09:53

Rep. Temp. (°C):

8.1

Program Code:

HZ

Type: B

Collector Name:

James Kroehler

Collector ID:

None

MDH Sample Number: 23G1710-01

Location ID: 00024

Sampling Point: D-001

Collect Date: 07/26/23

Collect Time: 08:00

Matrix: Drinking Water

Field Residual Chlorine Result: None

Field Fluoride Result: None

Field pH Result: 7.5

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	2.07	0.015	mg/L	B3G1580	07/26/23 13:37	07/26/23 15:59	INB	EPA 365.1	

MDH Sample Number: 23G1710-01RE1

Location ID: 00024 Sampling Point: D-001 Collect Date: 07/26/23

Collect Time: 08:00

Matrix: Drinking Water

Field Residual Chlorine Result: None

Field Fluoride Result: None

Field pH Result: 7.5

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	5.87	0.054	mg/L	B3H1493	08/17/23 09:53	08/18/23 12:43	JNO	EPA 365.1	D2

FINAL REPORT

Report ID: 08232023103414

Generated: 8/23/2023 10:33:51AM

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

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PWSID: 1720006

MDH Sample Number: 23G1710-02

Location ID: 00025 Sampling Point: D-002 Collect Date: 07/26/23 Collect Time: 08:10 Matrix: Drinking Water Field Residual Chlorine Result: None

Field Fluoride Result: None Field pH Result: 7.6 Field PO4 Result: None

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

General Chemistry Parameters

Reporting Units Analyzed lnit. Method Qualifiers Analyte Result Batch Prepared Limit INB EPA 365.1 B3G1580 07/26/23 16:01 07/26/23 13:37 Orthophosphate Phosphate 2.06 0.015

MDH Sample Number: 23G1710-02RE1

Location ID: 00025 Sampling Point: D-002 Collect Date: 07/26/23
Collect Time: 08:10
Matrix: Drinking Water

Field Residual Chlorine Result: None

Field Fluoride Result: None Field pH Result: 7.6 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	lnít.	Method	Qualifiers
Phosphorus as Phosphate, Total	5,64	0.054	mg/L	B3H1493	08/17/23 09:53	08/18/23 12:45	JNO	EPA 365.1	D2

MDH Sample Number: 23G1710-03

Location ID: 00026

Sampling Point: D-003

Collect Date: 07/26/23 Collect Time: 08:16

Matrix: Drinking Water

Field Residual Chlorine Result: None

Field Fluoride Result: None Field pH Result: 7.5 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	1.93	0.015	mg/L	B3G1580	07/26/23 13:37	07/26/23 16:02	INB	EPA 365.1	· .

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PWSID: 1720006

MDH Sample Number: 23G1710-03RE1

Location ID: 00026 Sampling Point: D-003 Collect Date: 07/26/23 Collect Time: 08:16 Matrix: Drinking Water Field Residual Chlorine Result: None Field Fluoride Result: None

Field pH Result: 7.5
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	5.59	0.054	mg/L	B3H1493	08/17/23 09:53	08/18/23 12:47	JNO	EPA 365.1	D2

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Final Report

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PWSID: 1720006

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

Batch B3G1580 - Orthophosph	ate Prep										
Blank (B3G1580-BLK1)					Prepare	d: 07/26/	/23 13:37 Analyz	ed: 07/26	/23 15:56		
Analyte	Result	Reporting . Limit	Units	Spike Level		%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Orthophosphate Phosphate	<	0.015	mg/L	LOTO	Hoodit				Lillin	INB	
.CS (B3G1580-BS1)					D	J. 07/06/	72 42:27 Analysis	-4- 02/2C	(02 AE.E7		
200 (200 1300 201)		Reporting		Spike	•		23 13:37 Analyz	9u: V//20	RPD		
Analyte	Result	Limit	Units	Level	Result	%REC	%REC Limits	RPD	Limit	Init.	Qualifiers
Orthophosphate Phosphate	1.59	0.015	mg/L	1.5		106	90-110	•		INB	
		4									
uplicate (B3G1580-DUP1)		Source: 23	G1705-02		Prepare	d: 07/26/	23 13:37 Analyz	ed: 07/26	/23 15:59		***
	Boult	Reporting	I India	Spike	Source	%REC	%REC Limits	DDD	RPD	lnit	Qualifiers
Analyte	Result	Limit	Units mg/L	Level	Result	MEU	/BREU LIIIIIS	RPD	Limit	Init.	Qualifiers
Orthophosphate Phosphate	2.60	0.015	mg/L		2.60			0.1	10	INB	
atrix Spike (B3G1580-MS1)		Source: 230	G1710-01		Prepare	d: 07/26/2	23 13:37 Analyzo	ed: 07/26	23 16:00		
nalyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
rthophosphate Phosphate	3.69	0.015	mg/L	1.5	2.07	108	90-110			INB	
•											
Batch B3H1493 - Phosphorus,	Total Prep								-		-
iank (B3H1493-BLK1)					Prepare	d: 08/17/2	23 09:53 Analyze	ed: 08/18/	23 11:03		
	D 11	Reporting		Spike	Source		_		RPD		O
nalyte	Result	Limit	Units	Level	Result	%REC	%REC Limits	RPD	Limit	Init.	Qualifiers
hosphorus as Phosphate, Total	<	0.009	mg/L		•					JNO	
							•		÷		
		-									
CS (B3H1493-BS1)					Prepare	1: 08/17/2	23 09:53 Analyze	d: 08/18/	23 11:04		
nalyte	Result	Reporting	Units	- 1-11-10	Source	%REC	%REC Limits	RPD	RPD	Init.	Qualifiers
nosphorus as Phosphate, Total	0.627	0.009	mg/L	Level 0.6	Result	104	90-110	M.D	Limit	JNO	~~~
isspirate as i mospitate, total	0.021	0.000	- · · · · · · ·				50 110			0.10	
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Phosphorus as Phosphate, Total 5.84 0.054 mg/L 5.87 0.6 20 JNO D2	Ouplicate (B3H1493-DUP2)		Source: 23	3G1710-01	RE1	Prepare	d: 08/17/2	23 09:53 Analyz	ed: 08/18/	23 12:44		
Matrix Spike (B3H1493-MS2) Source: 23H0024-01 Prepared: 08/17/23 09:53 Analyzed: 08/18/23 11:22 Analyte Result Limit Units Level Result Reporting Limit Spike Source Result Reporting Limit %REC %REC Limits RPD Limit Init. Init. Qualifitions Phosphorus as Phosphate, Total 2.73 0.027 mg/L 1.79 0.852 105 90-110 90-110 JNO D2 Matrix Spike (B3H1493-MS3) Source: 23G1710-02RE1 Prepared: 08/17/23 09:53 Analyzed: 08/18/23 12:46 Reporting Limit Units Spike Source Result %REC %REC Limits RPD Limit Init. Qualifit Qualifit Phosphorus as Phosphate, Total 7.34 0.054 mg/L 1.79 5.64 95 90-110 90-110 JNO D2 Data Qualifiers and Definitions Sample required dilution due to high concentration of target analyte(s). Reporting limit has been raised. Sample required dilution due to high concentration of target analyte(s). Reporting limit has been raised.	Analyte	Result		Units	-		%REC	%REC Limits	RPD		init.	Qualifiers
Analyte Result Limit Units Spike Source Result Reporting Limit Units Level Result Result Reporting Limit Units Level Result Result Reporting Limit Units Spike (B3H1493-MS3) Source: 23G1710-02RE1 Prepared: 08/17/23 09:53 Analyzed: 08/18/23 12:46 Analyte Result Limit Units Spike Result Reporting Limit Units Level Result Re	Phosphorus as Phosphate, Total	5.84	0.054	mg/L		5.87			0.6	20	JNO	D2
Analyte Result Limit Units Spike Source Result Reporting Limit Units Level Result Result Result Reporting Limit Units Level Result Result Result Result Result Value Result Result Value Result Value Result Value Result Reporting Limit Units Spike Result Value Va												
Analyte Result Limit Units Level Result Reporting Limit Units Level Result Reporting Level Result Reporting Level Result Reporting Level Result Reporting Limit Units Spike (B3H1493-MS3) Source: 23G1710-02RE1 Prepared: 08/17/23 09:53 Analyzed: 08/18/23 12:46 Analyte Result Limit Units Spike Source Result Reporting Limit Units Level Result Res												
Analyte Result Limit Units Level Result WREC WREC Limits RPD Limit Init. Qualifications as Phosphate, Total 2.73 0.027 mg/L 1.79 0.852 105 90-110 JNO D2 Matrix Spike (B3H1493-MS3) Source: 23G1710-02RE1 Prepared: 08/17/23 09:53 Analyzed: 08/18/23 12:46 Reporting Units Spike Source Result WREC WREC Limits RPD Limit Init. Qualification of Limit Units Spike Result R	Matrix Spike (B3H1493-MS2)		Source: 23	3H0024-01		Prepare	d: 08/17/2	3 09:53 Analyze	d: 08/18/	23 11:22		
Phosphorus as Phosphate, Total 2.73 0.027 mg/L 1.79 0.852 105 90-110 JNO D2 Matrix Spike (B3H1493-MS3) Source: 23G1710-02RE1 Prepared: 08/17/23 09:53 Analyzed: 08/18/23 12:46 Reporting Spike Source RPD Limit Units Level Result REC REC Limits RPD Limit Init. Qualifier Phosphorus as Phosphate, Total 7.34 0.054 mg/L 1.79 5.64 95 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.	Analyte	Result		Units			%REC	%REC Limits	RPD		init.	Qualifiers
Analyte Result Reporting Units Spike Source Result Reporting New Records Republic Republic Result Republic Result Republic Records Republic Republi	•	2.73								LHTHL	JNO	D2
Analyte Result Reporting Units Spike Source REC Limits RPD Limit Init. Qualification Phosphorus as Phosphate, Total 7.34 0.054 mg/L 1.79 5.64 95 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.												
Analyte Result Reporting Units Spike Source REC Limits RPD Limit Init. Qualification Phosphorus as Phosphate, Total 7.34 0.054 mg/L 1.79 5.64 95 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.												
Analyte Result Reporting Units Level Result REC REC Limits RPD Limit Init. Qualification Phosphorus as Phosphate, Total 7.34 0.054 mg/L 1.79 5.64 95 90-110 JNO D2 Data Qualifiers and Definitions Data Qualifiers and Definition due to high concentration of target analyte(s). Reporting limit has been raised.	fatrix Spike (B3H1493-MS3)		Source: 23	G1710-02F	RE1	Prenared	4- 08/17/2	3 09-53 Analyza	d: 08/18/	23 12:46		
Data Qualifiers and Definitions D2 Sample required dilution due to high concentration of target analyte(s). Reporting limit has been raised.	nalyte	Result		Units	-	Source		-		RPD	Init.	Qualifiers
Sample required dilution due to high concentration of target analyte(s). Reporting limit has been raised.	Phosphorus as Phosphate, Total	7.34	0.054	mg/L	1.79	5.64	95	90-110	•		JNO	D2
Sample required dilution due to high concentration of target analyte(s). Reporting limit has been raised.												
Sample required dilution due to high concentration of target analyte(s). Reporting limit has been raised.												
D2 Sample required dilution due to high concentration of target analyte(s). Reporting limit has been raised.	Nata Ovalifians and Definitions											
	Data Quainiers and Definitions											
	2 Sample required dilution due to	high conce	ntration of ta	arget analyi	te(s). Re	oorting lin	nit has be	en raised.				
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Work Order Comments	Work Order Comments											

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