



# 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: 1020023 Program Code: HC Type: X  
System Name: Lino Lakes  
City: Lino Lakes

Date Received: 12/16/19 15:16 Collector Name: Brian Noma  
Rep. Temp. (°C): 3.3 Collector ID: 8091

## MDH Sample Number: 19L0978-01

Location ID: S01 Collect Date: 12/16/19 Field Residual Chlorine Result: None  
Sampling Point: Well #1 Collect Time: 08:45 Field Fluoride Result: None  
Field Number: BN1765 Matrix: Drinking Water Field pH Result: None  
Field PO<sub>4</sub> Result: None

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

### Metal Parameters

Analyte	Result	Reporting Limit	Units	Batch	Prepared	Analyzed	Init.	Method	Qualifiers
Manganese	158	10.0	ug/L	B9L0267	12/23/19 09:34	12/26/19 17:04	RCC	EPA 200.8	

## MDH Sample Number: 19L0978-02

Location ID: S02 Collect Date: 12/16/19 Field Residual Chlorine Result: None  
Sampling Point: Well #2 Collect Time: 08:25 Field Fluoride Result: None  
Field Number: BN1766 Matrix: Drinking Water Field pH Result: None  
Field PO<sub>4</sub> Result: None

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

### Metal Parameters

Analyte	Result	Reporting Limit	Units	Batch	Prepared	Analyzed	Init.	Method	Qualifiers
Manganese	527	10.0	ug/L	B9L0267	12/23/19 09:34	12/26/19 17:07	RCC	EPA 200.8	

Authorized by:

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



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PWSID: 1020023

## MDH Sample Number: 19L0978-03

Location ID: S03  
Sampling Point: Well #3  
Field Number: BN1767

Collect Date: 12/16/19  
Collect Time: 09:25  
Matrix: Drinking Water

Field Residual Chlorine Result: None  
Field Fluoride Result: None  
Field pH Result: None  
Field PO<sub>4</sub> Result: None

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### Metal Parameters

Analyte	Result	Reporting Limit	Units	Batch	Prepared	Analyzed	Init.	Method	Qualifiers
Manganese	322	10.0	ug/L	B9L0267	12/23/19 09:34	12/26/19 17:10	RCC	EPA 200.8	

## MDH Sample Number: 19L0978-04

Location ID: S04  
Sampling Point: Well #4  
Field Number: BN1768

Collect Date: 12/16/19  
Collect Time: 09:40  
Matrix: Drinking Water

Field Residual Chlorine Result: None  
Field Fluoride Result: None  
Field pH Result: None  
Field PO<sub>4</sub> Result: None

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

### Metal Parameters

Analyte	Result	Reporting Limit	Units	Batch	Prepared	Analyzed	Init.	Method	Qualifiers
Manganese	83.7	10.0	ug/L	B9L0267	12/23/19 09:34	12/26/19 17:12	RCC	EPA 200.8	

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PWSID: 1020023

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Batch B9L0267 - EPA 200 Series Prep

**Blank (B9L0267-BLK1)** Prepared: 12/23/19 09:34 Analyzed: 12/26/19 16:49

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Manganese	<	10.0	ug/L							RCC	

**LCS (B9L0267-BS1)** Prepared: 12/23/19 09:34 Analyzed: 12/26/19 16:52

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Manganese	47.0		ug/L	50		94	85-115			RCC	

**Duplicate (B9L0267-DUP1)** Prepared: 12/23/19 09:34 Analyzed: 12/26/19 16:58

Source: 19L0920-01

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Manganese	<	10.0	ug/L		<				20	RCC	

**Duplicate (B9L0267-DUP2)** Prepared: 12/23/19 09:34 Analyzed: 12/26/19 17:30

Source: 19L0988-01

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Manganese	1.44	10.0	ug/L		<			0.6	20	RCC	

**Matrix Spike (B9L0267-MS1)** Prepared: 12/23/19 09:34 Analyzed: 12/26/19 17:01

Source: 19L0920-01

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Manganese	47.4		ug/L	50		95	85-115			RCC	

**Matrix Spike (B9L0267-MS2)** Prepared: 12/23/19 09:34 Analyzed: 12/26/19 17:33

Source: 19L0988-01

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Manganese	51.2		ug/L	50		99	85-115			RCC	

FINAL REPORT

Report ID: 12302019130239

Generated: 12/30/2019 1:02:38PM

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PWSID: 1020023

## Work Order Comments

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Samples were received in proper condition.

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System Name: Lino Lakes  
City: Lino Lakes

Date Received: 12/16/19 15:16 Collector Name: Brian Noma  
Rep. Temp. (°C): 3.3 Collector ID: 8091

## MDH Sample Number: 19L0979-01

Location ID: S07 Collect Date: 12/16/19 Field Residual Chlorine Result: None  
Sampling Point: Well #5 Collect Time: 08:55 Field Fluoride Result: None  
Field Number: BN1769 Matrix: Drinking Water Field pH Result: None  
Field PO<sub>4</sub> Result: None

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

### Metal Parameters

Analyte	Result	Reporting Limit	Units	Batch	Prepared	Analyzed	Init.	Method	Qualifiers
Manganese	143	10.0	ug/L	B9L0267	12/23/19 09:34	12/26/19 17:15	RCC	EPA 200.8	

## MDH Sample Number: 19L0979-02

Location ID: S12 Collect Date: 12/16/19 Field Residual Chlorine Result: None  
Sampling Point: Well #6 Collect Time: 09:10 Field Fluoride Result: None  
Field Number: BN1770 Matrix: Drinking Water Field pH Result: None  
Field PO<sub>4</sub> Result: None

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

### Metal Parameters

Analyte	Result	Reporting Limit	Units	Batch	Prepared	Analyzed	Init.	Method	Qualifiers
Manganese	408	10.0	ug/L	B9L0267	12/23/19 09:34	12/26/19 17:18	RCC	EPA 200.8	

FINAL REPORT

Report ID: 12302019130218

Generated: 12/30/2019 1:02:16PM

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Batch B9L0267 - EPA 200 Series Prep

**Blank (B9L0267-BLK1)**

Prepared: 12/23/19 09:34 Analyzed: 12/26/19 16:49

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Manganese	<	10.0	ug/L							RCC	

**LCS (B9L0267-BS1)**

Prepared: 12/23/19 09:34 Analyzed: 12/26/19 16:52

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Manganese	47.0		ug/L	50		94	85-115			RCC	

**Duplicate (B9L0267-DUP1)**

Source: 19L0920-01

Prepared: 12/23/19 09:34 Analyzed: 12/26/19 16:58

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Manganese	<	10.0	ug/L		<				20	RCC	

**Duplicate (B9L0267-DUP2)**

Source: 19L0988-01

Prepared: 12/23/19 09:34 Analyzed: 12/26/19 17:30

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Manganese	1.44	10.0	ug/L		<			0.6	20	RCC	

**Matrix Spike (B9L0267-MS1)**

Source: 19L0920-01

Prepared: 12/23/19 09:34 Analyzed: 12/26/19 17:01

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Manganese	47.4		ug/L	50		95	85-115			RCC	

**Matrix Spike (B9L0267-MS2)**

Source: 19L0988-01

Prepared: 12/23/19 09:34 Analyzed: 12/26/19 17:33

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
Manganese	51.2		ug/L	50		99	85-115			RCC	

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