

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

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 PO4 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 PO4 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	

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Paul Moyer, Environmental Laboratory Manager

Public Health Laboratory, Minnesota Department of Health

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PWSID: 1020023

Location ID: S03

Sampling Point: Well #3

Field Number: BN1767

MDH Sample Number: 19L0978-03

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 PO4 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

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 PO4 Result: None

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Metal Parameters

Location ID: S04

Sampling Point: Well #4

Field Number: BN1768

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

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	es Prep										
Blank (B9L0267-BLK1)						d: 12/23/	19 09:34 Analyze	ed: 12/26			
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)					Prepare	d: 12/23/ <i>*</i>	19 09:34 Analyzo	ed: 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	LIIIII	ug/L	50	Result	94	85-115		LIIIII	RCC	
Duplicate (B9L0267-DUP1)		Source: 19L	_0920-01		Prepare	d: 12/23/²	19 09:34 Analyze	ed: 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	Level	<				20	RCC	
Analyte	Result	Source: 19L Reporting <u>Limit</u> 10.0	Units ug/L	Spike Level	Source	d: 12/23/ ² %REC	%REC Limits	RPD 0.6	RPD Limit 20	Init.	Qualifiers
Analyte Manganese	1.44	Reporting Limit 10.0 Source: 19L	Units ug/L	Level	Source Result <	%REC	-	0.6	RPD Limit 20		Qualifiers
Analyte Manganese Matrix Spike (B9L0267-MS1)	1.44	Reporting Limit 10.0	Units ug/L		Source Result <	%REC	%REC Limits	0.6	RPD <u>Limit</u> 20		
Duplicate (B9L0267-DUP2) Analyte Manganese Matrix Spike (B9L0267-MS1) Analyte Manganese	1.44	Reporting Limit 10.0 Source: 19L Reporting	Units ug/L 	Level	Source Result <	%REC	%REC Limits	RPD 0.6 ed: 12/26	RPD Limit 20 29 17:01 RPD	RCC	Qualifiers Qualifiers
Analyte Manganese Matrix Spike (B9L0267-MS1) Analyte	Result 1.44 Result	Reporting Limit 10.0 Source: 19L Reporting	Units ug/L .0920-01 Units ug/L	Level Spike Level	Source Result Prepare Source Result	%REC d: 12/23/ %REC 95	%REC Limits 19 09:34 Analyzo %REC Limits	RPD 0.6 ed: 12/26 / RPD	RPD Limit 20 29 17:01 RPD Limit	RCC	
Analyte Manganese Matrix Spike (B9L0267-MS1) Analyte Manganese	Result Result 47.4	Reporting Limit 10.0 Source: 19L Reporting Limit	Units ug/L .0920-01 Units ug/L	Level Spike Level	Source Result Prepare Source Result Prepare	%REC d: 12/23/ %REC 95	%REC Limits 19 09:34 Analyze %REC Limits 85-115	RPD 0.6 ed: 12/26 / RPD	RPD Limit 20 29 17:01 RPD Limit	RCC	

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PWSID: 1020023

Work Order Comments

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 PO4 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 PO4 Result: None

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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	

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PWSID: 1020023

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Blank (B9L0267-BLK1)					Prepared: 1	12/23/1	19 09:34 Analyze	d: 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: 1	12/23/1	19 09:34 Analyze	ed: 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	LIIIII	ug/L	50	Result	94	85-115		LIIIII	RCC	
Duplicate (B9L0267-DUP1)		Source: 19	L0920-01		Prepared: 1	12/23/1	19 09:34 Analyze	ed: 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	20401	<				20	RCC	
Duplicate (B9L0267-DUP2)		Source: 19	L0988-01		Prepared: 1	12/23/1	19 09:34 Analyze	ed: 12/26/	19 17:30		
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result %	REC	%REC Limits	RPD	RPD Limit	Init.	Qualifiers
	1.44	10.0	ug/L	2010.	<			0.6	20	RCC	
Manganese											
		Source: 19	L0920-01		Prepared: 1	12/23/1	19 09:34 Analyze	ed: 12/26/	19 17:01		
Matrix Spike (B9L0267-MS1)	Result	Reporting		Spike	Source		•		RPD	Init.	Qualifiers
Matrix Spike (B9L0267-MS1) Analyte Manganese	Result 47.4		L0920-01 Units ug/L	Spike Level 50	Source	1 2/23/1 REC 95	19 09:34 Analyze %REC Limits 85-115	ed: 12/26 / RPD		Init.	Qualifiers
Matrix Spike (B9L0267-MS1) Analyte		Reporting	Units ug/L	Level	Source Result %	95	%REC Limits	RPD	RPD Limit		Qualifiers
Matrix Spike (B9L0267-MS1) Analyte Manganese		Reporting Limit	Units ug/L	Level	Source Result % Prepared: 1 Source	95	%REC Limits 85-115	RPD	RPD Limit		Qualifiers

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