



Thomas J. Roberts, President and Chief Operating Officer

O: 919.653.5770 • F: 919.460.1788 • TJRoberts@AquaAmerica.com

March 10, 2016

Mr. W. Allen Hardy
Engineering Supervisor
Public Water Supply Section
1628 Mail Service Center
Raleigh, NC 27699-1628

Re: Notice of Deficiency
Iron and Manganese Concentration
Bayleaf Master System/Ethan's Glen Well #19 and #20, P97
Wake County, Water System No: NC0392373

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated February 8, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Bayleaf Master System/Ethan's Glen Well #19 and Well #20. This Bayleaf Master System/Ethan's Glen water system is comprised of six wells and four points of entry (POE). The current number of customers served is 170 and is approved to serve 241 connections. The table below outlines the run time and the latest iron and manganese concentrations collected as part of the ongoing Inorganic Chemical Analysis (IOC) sample collected at Ethan's Glen, Well #19 and Well #20, P97.

TABLE 1: Run Time and IOC Analysis

Well Name and No.	Capacity (gpm)	12-Month Avg. Pump Runtime (hrs/day)	Most Recent Inorganic Sampling Results	
	Approved		Fe (mg/L)	Mn (mg/L)
Ethan's Glen Well #19, P97	18	0	1.87	0.0179
Ethan's Glen Well #20, P97	11	7.8	1.87	0.0179

Aqua is unsure why the sample collected on September 9, 2014, showed elevated results for iron. Currently, the pump at Well #19 is out of service. Aqua currently plans to replace the well pump during the week of March 21, 2016. Following installation of the new well pump, Aqua will collect a raw water

Page Two

Bayleaf Master System/Ethan's Glen Well #19 and #20, P97
March 10, 2016

sample from each well and depending on the results will pursue additional treatment, if warranted. It should be noted that Aqua does not receive water quality complaints from this system.

Aqua is committed to providing water to its customers that meets their expectations at a reasonable cost. If you have any questions or comments, please contact Rob Bonne at (919) 653-6982.

Sincerely,

A handwritten signature in black ink, appearing to read "Thomas J. Roberts". The signature is fluid and cursive, with a large initial "T" and "R".

Thomas J. Roberts
President and COO

TJR/rf

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Sep 19 2018



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March 10, 2016

Mr. W. Allen Hardy
Engineering Supervisor
Public Water Supply Section
1628 Mail Service Center
Raleigh, NC 27699-1628

Re: Notice of Deficiency
Iron and Manganese Concentration
Cambridge Subdivision Well #2, P02
Wake County, Water System No: NC 0392251

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated February 8, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Cambridge Well #2, P02. The Cambridge water system is comprised of two wells and two points of entry (POE). The current number of customers served is 74 and the system is approved to serve 74 connections. The table below outlines the run time and the latest iron and manganese concentrations collected as part of the ongoing Inorganic Chemical Analysis (IOC) sample collected at Well #2, P02.

TABLE 1: Run Time and IOC Analysis

Well Name and No.	Capacity (gpm)	12-Month Avg. Pump Runtime (hrs/day)	Most Recent Inorganic Sampling Results	
	Approved		Fe (mg/L)	Mn (mg/L)
Cambridge Well #2, P02	37	6.5	0.70	2.2

Aqua is unsure why the sample collected on April 1, 2013, showed elevated results for iron and manganese. Aqua will perform another IOC compliance sample during the second quarter of 2016 and depending on the results will schedule tank cleaning and pursue additional treatment, if warranted. It should be noted that Aqua does not receive water quality complaints from this system.

Page 2
Cambridge Subdivision Well #2, P02
March 10, 2016

Aqua is committed to providing water to its customers that meets their expectations at a reasonable cost. If you have any questions or comments, please contact Rob Bonne at (919) 653-6982.

Sincerely,

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President and COO

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March 10, 2016

Mr. W. Allen Hardy
Engineering Supervisor
Public Water Supply Section
1628 Mail Service Center
Raleigh, NC 27699-1628

Re: Notice of Deficiency
Iron and Manganese Concentration,
Cotesworth Down/Kensington Manor Well #1, P04
Wake County, Water System No: NC0392125

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated February 8, 2016, regarding elevated concentrations of iron (Fe) and manganese (Mn) at Cotesworth Down/Kensington Manor Well #1, P04. The Cotesworth Down/Kensington Manor master system is comprised of four wells and four points of entry (POE). The current number of customers served is 192 and the system is approved to serve 192 connections. The table below outlines the run time and the latest iron and manganese concentration collected as part of the ongoing Inorganic Chemical Analyses (IOC) at Well #1, P04.

TABLE 1: Run Time and IOC Analysis

Well Name and No.	Capacity (gpm)	12-Month Avg. Pump Runtime (hrs/day)	Most Recent Inorganic Sampling Results	
	Approved		Fe (mg/L)	Mn (mg/L)
Cotesworth Down/ Kensington Manor Well #1 (P04)	33	5.0	2.0	0

Currently there is no treatment at Cotesworth Down/Kensington Manor Well #1 (P04). Aqua is unsure why the sample collected on February 4, 2014, showed elevated levels of iron. On March 1, 2015, Aqua took a field measurement from the raw water and the sample measured 0.02 mg/L for iron and 0.012 mg/L for manganese. In April 2016, Aqua will clean and inspect the 5,400 gallon hydro-tank at

Page Two
Cotesworth Down/Kensington Manor Well #1, P04
March 10, 2016

Well #1. After the tank is cleaned, another compliance IOC sample will be collected. Depending on the results of the IOC sample taken in April 2016 Aqua will pursue additional treatment, if warranted.

Aqua is committed to providing water to its customers that meets their expectations at a reasonable cost. If you have any questions or comments, please contact Rob Bonne at (919) 653-6982.

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Thomas J. Roberts
President and COO

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March 10, 2016

Mr. W. Allen Hardy
Engineering Supervisor
Public Water Supply Section
1628 Mail Service Center
Raleigh, NC 27699-1628

Re: Notice of Deficiency
Iron and Manganese Concentration
Fairview Wooded Acres Well #2, P02
Wake County, Water System No: NC0392129

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated February 8, 2016, regarding elevated concentrations of iron (Fe) and manganese (Mn) at Fairview Wooded Acres Well #2, P02. The Fairview Wooded Acres water system is comprised of four wells and four points of entry (POE). The current number of customers served is 119 and the system is approved to serve 134 connections. The table below outlines the run time and the latest iron and manganese concentrations collected as part of the ongoing Inorganic Chemical Analyses (IOC) samples collected at Well #2, P02.

TABLE 1: Run Time and IOC Analysis

Well Name and No.	Capacity (gpm)	12-Month Avg. Pump Runtime (hrs/day)	Most Recent Inorganic Sampling Results	
	Approved		Fe (mg/L)	Mn (mg/L)
Well #2, P02	16	0	1.2	0.06

Well #2 exceeded the secondary maximum contaminant level (sMCL) for iron. This well does not run on a regular basis and operates in back-up mode. Aqua will continue to sample at the entry point as required and will ensure that Well #2 will be ready for use if this well needs to be placed into service. Aqua is revising our Operator Sampling Procedure to ensure all wells are properly being exercised on a

Page Two
Fairview Wooded Acres Well #2, P02
March 10, 2016

routine basis. In the event a back-up well is needed, the well will be ready for use if it needs to be placed into service. Also, it should be noted that Aqua does not receive water quality complaints from this system.

Aqua is committed to providing water to its customers that meets their expectations at a reasonable cost. If you have any questions or comments, please contact Rob Bonne at (919) 653-6982.

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March 10, 2016

Mr. W. Allen Hardy
Engineering Supervisor
Public Water Supply Section
1628 Mail Service Center
Raleigh, NC 27699-1628

Re: Notice of Deficiency
Iron and Manganese Concentration
Fox Run Well #1, P01
Durham County, Water System No: NC0332116

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated February 8, 2016, regarding elevated concentrations of iron (Fe) at Fox Run Well #1, P01. The Fox Run water system is comprised of two wells and two points of entry (POE). The current number of customers served is 111 and the system is approved to serve 141 connections. The table below outlines the run time and the latest iron and manganese concentrations collected as part of the ongoing Inorganic Chemical Analyses (IOC) samples collected at Well #1, P01.

TABLE 1: Run Time and IOC Analysis

Well Name and No.	Capacity (gpm)	12-Month Avg. Pump Runtime (hrs/day)	Most Recent Inorganic Sampling Results	
	Approved		Fe (mg/L)	Mn (mg/L)
Well #1, P01	26.5	0	2.3	0.0

Fox Run Well #1, P01 is the only well in this system that exceeded the secondary maximum contaminant level (sMCL) for iron. This well does not run on a regular basis because of system demand and operates in back-up mode. Field samples taken on March 1, 2016, show an iron concentration at 0.012 mg/L. Aqua is revising our Operator Sampling Procedure to ensure that all wells are properly being

Page Two
Fox Run Well #1, P01
March 10, 2016

exercised on a routine basis. In the event a back-up well is needed, the well will be ready for use. Also, it should be noted that Aqua has not received water quality complaints from this system in the past six months.

At this time, Aqua is planning to perform another IOC compliance sample and depending on the results will pursue additional treatment, if warranted. Aqua is committed to providing water to its customers that meets their expectations at a reasonable cost.

If you have any questions or comments, please contact Rob Bonne at (919) 653-6982.

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March 10, 2016

Mr. W. Allen Hardy
Engineering Supervisor
Public Water Supply Section
1628 Mail Service Center
Raleigh, NC 27699-1628

Re: Notice of Deficiency
Iron and Manganese Concentration
Wakefield Plantation Well #7, P07
Wake County, Water System No: NC0392155

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated February 8, 2016, regarding elevated concentrations of iron (Fe) and manganese (Mn) at Wakefield Plantation Well #7, P07. The Wakefield Plantation water system is comprised of four wells and four points of entry (POE). The current number of customers served is 156 and the system is approved to serve 174 connections. The table below outlines the run times and the latest iron and manganese concentrations collected as part of the ongoing Inorganic Chemical Analyses (IOC) samples collected at each POE.

TABLE 1: Run Time and IOC Analysis

Well Name and No.	Capacity (gpm)	12-Month Avg. Pump Runtime (hrs/day)	Most Recent Inorganic Sampling Results	
	Approved		Fe (mg/L)	Mn (mg/L)
Well #4	29	4.8	0	0.15
Well #6	88	6.8	2	0.2
Well #7	66	0	1.1	0.2
Well #8	160	4.1	0.7	0.21

Aqua has received approval for Manganese Oxide filters at Wells #6 and Well #8 from the North Carolina Utilities Commission. Estimated completion date for the installation of these filters is September 2016. Aqua will keep Well #7 and operate in back-up mode since demand for the system can be met with

Page Two
Wakefield Plantation Well #7, P07
March 10, 2016

Well #4, Well #6, and Well #8. Aqua will continue feeding SeaQuest at Well #4. In July 2013, Aqua cleaned the hydro-tank at Well #6 and Well #7. Please note that even when Well #7 is not used, the hydro-tank at the station provides storage for the customers. Also, Aqua has tried two alternative polyphosphates, Ferroquest and most recently SeaQuest, to determine if the polyphosphate could improve the color of the water and decrease customer complaints. This type of treatment does not physically remove the iron and manganese, but only serves to keep it in solution. In addition to the steps listed in this paragraph, Aqua has performed a system wide flush annually since 2013. We are optimistic these improvements will be effective and minimize the discolored water complaints.

Aqua is committed to providing water to its customers that meets their expectations at a reasonable cost. If you have any questions or comments, please contact Rob Bonne at (919) 653-6982.

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March 10, 2016

Mr. W. Allen Hardy
Engineering Supervisor
Public Water Supply Section
1628 Mail Service Center
Raleigh, NC 27699-1628

Re: Notice of Deficiency
Iron and Manganese Concentration
Windhaven Subdivision Well #1, P03
Wake County, Water System No: NC0392335

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated February 8, 2016, regarding elevated concentrations of iron (Fe) and manganese (Mn) at Windhaven Well #1, P03. The Windhaven water system is comprised of four wells and four points of entry (POE). The current number of customers served is 205 and the system is approved to serve 209 connections. The table below outlines the run time and the latest iron and manganese concentrations collected as part of the ongoing Inorganic Chemical Analyses (IOC) samples collected at Well #1, P03.

TABLE 1: Run Time and IOC Analysis

Well Name and No.	Capacity (gpm)	12-Month Avg. Pump Runtime (hrs/day)	Most Recent Inorganic Sampling Results	
	Approved		Fe (mg/L)	Mn (mg/L)
Windhaven Well #1, P03	25	0	1.01	0.015

Windhaven Well #1, P03 is the only well in this system that exceeded the secondary maximum contaminant level (sMCL) for iron. This well does not run on a regular basis because of system demand and operates in back-up mode. Field samples taken on February 25, 2016, after the well was flushed, show an iron concentration of 0.06 mg/L and a manganese concentration at 0.028 mg/L. Aqua is revising

Page Two
Windhaven Subdivision Well #1, P03
March 10, 2016

our Operator Sampling Procedure to ensure all wells are properly being exercised on a routine basis. In the event a back-up well is needed, the well will be ready for use if it needs to be placed into service. Also, it should be noted that Aqua does not receive water quality complaints from this system.

At this time, Aqua is planning to perform another IOC compliance sample and depending on the results will pursue additional treatment, if warranted. Aqua is committed to providing water to its customers that meets their expectations at a reasonable cost.

If you have any questions or comments, please contact Rob Bonne at (919) 653-6982.

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March 10, 2016

Mr. W. Allen Hardy
Engineering Supervisor
Public Water Supply Section
1628 Mail Service Center
Raleigh, NC 27699-1628

Re: Notice of Deficiency
Iron and Manganese Concentration
Woods of Ashbury Well #2, P02
Water System No: NC0392388
Wake County

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated February 8, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Woods of Ashbury Well #2, P02. The Woods of Ashbury water system is comprised of two wells and two points of entry (POE). The current number of customers served is 56 and the system is approved to serve 56 connections. The table below outlines the run time and the latest iron and manganese concentrations collected as part of the ongoing Inorganic Chemical Analyses (IOC) sample collected at Well #2, P02.

TABLE 1: Run Time and IOC Analysis

Well Name and No.	Capacity (gpm)	12-Month Avg. Pump Runtime (hrs/day)	Most Recent Inorganic Sampling Results	
	Approved		Fe (mg/L)	Mn (mg/L)
Well #2, P02	28	0	2.0	0.06

Woods of Ashbury Well #2, P02 is the only well in this system that exceeded the secondary maximum contaminant level (sMCL) for iron. This well does not run on a regular basis because of system demand and operates in back-up mode. Aqua is revising our Operator Sampling Procedure to ensure all wells are properly being exercised on a routine basis. In the event a back-up well is needed, the well will

Page Two
Woods of Ashbury Well #2, P02
March 10, 2016

for use if it needs to be placed into service. Also, it should be noted that Aqua does not receive water quality complaints from this system.

At this time, Aqua is planning to perform another IOC compliance sample and depending on the results will pursue additional treatment, if warranted. Aqua is committed to providing water to its customers that meets their expectations at a reasonable cost.

If you have any questions or comments, please contact Rob Bonne at (919) 653-6982.

Sincerely,

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President and COO

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March 24, 2016

Mr. W. Allen Hardy
Engineering Supervisor
Public Water Supply Section
1628 Mail Service Center
Raleigh, NC 27699-1628

Re: Notice of Deficiency
Iron and Manganese Concentration
Bayleaf Master System
WSF ID No.: Barton Creek Bluffs Well #10 - P67
WSF ID No.: Ravenwood Well #1 - P1A
WSF ID No.: Woodvalley Well #11 - P93
Water System No: NC0392373
Wake County

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated February 24, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at the following wells in the Bayleaf Master System: Barton Creek Bluffs Well #10 – P67, Ravenwood Well #1 – P1A, Woodvalley Well #11 – P93. The Bayleaf Master System/Barton Creek Bluffs/Ravenwood/Woodvalley water systems are comprised of 120 active wells and 109 points of entry (POE). The current number of customers served is 5,930 and the system is approved to serve 6,246 connections. The table below outlines the run time and the latest iron and manganese concentrations collected as part of the ongoing Inorganic Chemical Analyses (IOC) samples collected at Well #10 – P67, Well #1 – P1A, and Well #11 – P93.

TABLE 1: Run Time and IOC Analysis

Well Name and No.	Capacity (gpm)	12-Month Avg. Pump Runtime (hrs/day)	Most Recent Inorganic Sampling Results	
	Approved		Fe (mg/L)	Mn (mg/L)
Barton Creek Bluffs Well #10 – P67	15	9.4	0	0.2
Ravenwood Well #1 – P1A	35	0	0.3	0.14
Woodvalley Well #11 – P93	29	7.3	0.18	0.285

Page Two
Barton Creek Bluffs Well #10 - P67
Ravenwood Well #1 - P1A
Woodvalley Well #11 - P93
March 24, 2016

Barton Creek Bluffs Well #10, P67

The IOC results taken in June 2013, showed elevated levels of manganese. In February 2016, Aqua began treating Well #10 with SeaQuest. Aqua will perform another IOC compliance sample in the second quarter of 2016 to determine the effectiveness of the treatment of SeaQuest and depending on the results will pursue additional treatment, if warranted. The flushing of the Barton Creek Bluffs water system will be completed by April 15, 2016.

Ravenwood Well #1, P1A

This well does not run on a regular basis and operates in back-up mode. Aqua will continue to sample at the entry point as required and will ensure that Well #1 will be ready for use if this well needs to be placed into service. Aqua is revising our Operator Sampling Procedure to ensure all wells are properly being exercised on a routine basis. In the event a back-up well is needed, the well will be ready for use if it needs to be placed into service.

Aqua will take field measurements from raw water in the second quarter of 2016 and depending on the results will pursue additional treatment, if warranted.

Woodvalley Well #11, P93

The IOC results taken on December 10, 2015, showed elevated levels of manganese. Aqua will take field measurements from raw water in the second quarter of 2016 and depending on the results will pursue additional treatment, if warranted.

Aqua is committed to providing water to its customers that meets their expectations at a reasonable cost.

If you have any questions or comments, please contact Rob Bonne at (919) 653-6982.

Sincerely,



Thomas J. Roberts
President and COO

TJR/rl

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Sep 19 2018



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March 24, 2016

Mr. W. Allen Hardy
Engineering Supervisor
Public Water Supply Section
1628 Mail Service Center
Raleigh, NC 27699-1628

Re: Notice of Deficiency
Iron and Manganese Concentration
Cambridge Subdivision, Wake County
WSF ID No.: Well #1, P01
Water System No: NC0392387

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated February 24, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Cambridge Well #1, P01. The Cambridge water system is comprised of two active wells and two points of entry (POE). The current number of customers served is 74 and the system is approved to serve 74 connections. The table below outlines the run time and the latest iron and manganese concentrations collected as part of the ongoing Inorganic Chemical Analyses (IOC) samples collected at Well #1, P01.

TABLE 1: Run Time and IOC Analysis

Well Name and No.	Capacity (gpm)	12-Month Avg. Pump Runtime (hrs/day)	Most Recent Inorganic Sampling Results	
	Approved		Fe (mg/L)	Mn (mg/L)
Cambridge Well #1, P01	27	6.5	0.6	0.02

Aqua is unsure why the sample collected on April 1, 2013, showed elevated results for iron. Aqua will perform another IOC compliance sample during the second quarter of 2016 and depending on the results will pursue additional treatment, if warranted. It should be noted that Aqua does not receive water quality complaints from this system.

Page Two
Cambridge Subdivision Well #1, P01
March 24, 2016

Aqua is committed to providing water to its customers that meets their expectations at a reasonable cost.

If you have any questions or comments, please contact Rob Bonne at (919) 653-6982.

Sincerely,

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March 24, 2016

Mr. W. Allen Hardy
Engineering Supervisor
Public Water Supply Section
1628 Mail Service Center
Raleigh, NC 27699-1628

Re: Notice of Deficiency
Iron and Manganese Concentration
Camelot Subdivision, Wake County
WSF ID No.: Well #4, P04
Water System No: NC0392111

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated February 24, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Camelot Well #4, P04. The Camelot water system is comprised of four active wells and four points of entry (POE). The current number of customers served is 243 and the system is approved to serve 243 connections. The table below outlines the run time and the latest iron and manganese concentrations collected as part of the ongoing Inorganic Chemical Analyses (IOC) samples collected at Well #4, P04.

TABLE 1: Run Time and IOC Analysis

Well Name and No.	Capacity (gpm)	12-Month Avg. Pump Runtime (hrs/day)	Most Recent Inorganic Sampling Results 4/17/13	
	Approved		Fe (mg/L)	Mn (mg/L)
Camelot Well #4, P04	Not Specified in Approval Letter	8.4	0.07	0.128

Camelot Well #4, P04 is the only well in this system that exceeded the secondary maximum contaminant level (sMCL) for manganese. At this time Aqua is planning to perform another IOC compliance sample in April 2016 and depending on the results will pursue additional treatment, if warranted. Also, it should be noted that Aqua has received one water quality complaint from this system in the past six months.

Page Two
Camelot Well #4, P04
March 24, 2016

Aqua is committed to providing water to its customers that meets their expectations at a reasonable cost.

If you have any questions or comments, please contact Rob Bonne at (919) 653-6982.

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March 24, 2016

Mr. W. Allen Hardy
Engineering Supervisor
Public Water Supply Section
1628 Mail Service Center
Raleigh, NC 27699-1628

Re: Notice of Deficiency
Iron and Manganese Concentration
Foxmoor Subdivision, Wake County
WSF ID No.: Well #2, P02
Water System No: NC4392163

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated February 24, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Foxmoor Well #2, P02. The Foxmoor water system is comprised of two active wells and two points of entry (POE). The current number of customers served is 78 and the system is approved to serve 79 connections. The table below outlines the run time and the latest iron and manganese concentrations collected as part of the ongoing Inorganic Chemical Analyses (IOC) samples collected at Well #2 P02.

TABLE 1: Run Time and IOC Analysis

Well Name and No.	Capacity (gpm)	12-Month Avg. Pump Runtime (hrs/day)	Most Recent Inorganic Sampling Results	
	Approved		Fe (mg/L)	Mn (mg/L)
Foxmoor Well #2, P02	15	0.6	0.5	2.3

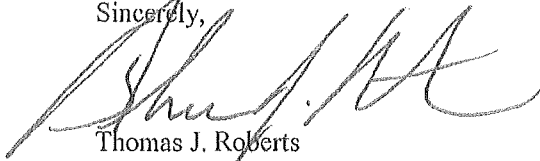
Foxmoor Well #2 exceeded the secondary maximum contaminant level (SMCL) for iron and manganese. This well does not run on a regular basis and operates in back-up mode. Aqua will continue to sample at the entry point as required and will ensure that Well #2 will be ready for use if this well needs to be placed into service. Aqua is revising our Operator Sampling Procedure to ensure all wells are properly being exercised on a routine basis. In the event a back-up well is needed, the well will be ready for use if it needs to be placed into service. Also, it should be noted that Aqua does not receive water quality complaints from this system.

Page Two
Foxmoor Well #2, P02
March 24, 2016

Aqua is committed to providing water to its customers that meets their expectations at a reasonable cost.

If you have any questions or comments, please contact Rob Bonne at (919) 653-6982.

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President and COO

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Public Water Supply Section
1628 Mail Service Center
Raleigh, NC 27699-1628

Re: Notice of Deficiency
Iron and Manganese Concentration
Glendale Master System Subdivision, Wake County
WSF ID No.: Well #1, TP1
Water System No: NC0392293

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated February 24, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Glendale Master System Well #1, TP1. The Glendale Master System is comprised of six active wells and six points of entry (POE). The current number of customers served is 250 and the system is approved to serve 253 connections. The table below outlines the run time and the latest iron and manganese concentrations collected as part of the ongoing Inorganic Chemical Analyses (IOC) samples collected at Well #1, TP1.

TABLE 1: Run Time and IOC Analysis

Well Name and No.	Capacity (gpm)	12-Month Avg. Pump Runtime (hrs/day)	Most Recent Inorganic Sampling Results	
	Approved		Fe (mg/L)	Mn (mg/L)
Glendale Well #1, TP1	45	0	1.3	0.175

Glendale Well #1 exceeded the secondary maximum contaminant level (SMCL) for iron and manganese. This well does not run on a regular basis because of system demand and operates in back-up mode. Aqua will continue to sample at the entry point as required and will ensure that Well #1 will be ready for use if this well needs to be placed into service.

Aqua is revising our Operator Sampling Procedure to ensure all wells are properly being exercised on a routine basis. In the event a back-up well is needed, the well will be ready for use if it

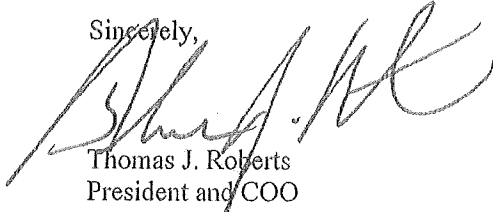
Page Two
Glendale Master System Well #1, TP1
March 24, 2016

needs to be placed into service. Also, it should be noted that Aqua does not receive water quality complaints from this system.

Aqua is committed to providing water to its customers that meets their expectations at a reasonable cost.

If you have any questions or comments, please contact Rob Bonne at (919) 653-6982.

Sincerely,

A handwritten signature in black ink, appearing to read 'Thomas J. Roberts', is written over the printed name and title.

Thomas J. Roberts
President and COO

TJR/rl

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Sep 19 2018



Thomas J. Roberts, President and Chief Operating Officer

O: 919.653.5770 • F: 919.460.1788 • TJRoberts@AquaAmerica.com

March 24, 2016

Mr. W. Allen Hardy
Engineering Supervisor
Public Water Supply Section
1628 Mail Service Center
Raleigh, NC 27699-1628

Re: Notice of Deficiency
Iron and Manganese Concentration
Jamison Park Subdivision, Wake County
WSF ID No.: Well #6, P03
Water System No: NC4392188

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated February 24, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Jamison Park Well #6, P03. The Jamison Park water system is comprised of four active wells and four points of entry (POE). The current number of customers served is 209 and the system is approved to serve 220 connections. The table below outlines the run time and the latest iron and manganese concentrations collected as part of the ongoing Inorganic Chemical Analyses (IOC) samples collected at Well #6, P03.

TABLE 1: Run Time and IOC Analysis

Well Name and No.	Capacity (gpm)	12-Month Avg. Pump Runtime (hrs/day)	Most Recent Inorganic Sampling Results	
	Approved		Fe (mg/L)	Mn (mg/L)
Jamison Park Well #6, P03	150	4.9	0.2	0.0508

Jamison Park Well #6, P03 is the only well in this system that exceeded the secondary maximum contaminant level (sMCL) for manganese. Aqua took field measurements from raw water on March 8, 2016, and the sample measured 0.40 mg/L for iron and 0.001 mg/L for manganese. In August 2015, Aqua began feeding SeaQuest at Well #6 and will continue with this treatment. Also, it should be noted that Aqua does not receive water quality complaints from this system.

Page Two
Jamison Park Well #6, P03
March 24, 2016

Aqua is committed to providing water to its customers that meets their expectations at a reasonable cost. If you have any questions or comments, please contact Rob Bonne at (919) 653-6982.

Sincerely,

A handwritten signature in black ink, appearing to read 'Thomas J. Roberts', written over the word 'Sincerely,'.

Thomas J. Roberts
President and COO

TJR/rl

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Sep 19 2018



Thomas J. Roberts, President and Chief Operating Officer

O: 919.653.5770 • F: 919.460.1788 • TJRoberts@AquaAmerica.com

March 24, 2016

Mr. W. Allen Hardy
Engineering Supervisor
Public Water Supply Section
1628 Mail Service Center
Raleigh, NC 27699-1628

Re: Notice of Deficiency
Iron and Manganese Concentration
Lake Ridge Aero Park Subdivision, Durham County
WSF ID No.: Well #1, P01
Water System No: NC0332135

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated February 24, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Lake Ridge Aero Park Well #1, P01. The Lake Ridge Aero Park water system is comprised of one active well and one point of entry (POE). The current number of customers served is 46 and the system is approved to serve 49 connections. The table below outlines the run time and the latest iron and manganese concentrations collected as part of the ongoing Inorganic Chemical Analyses (IOC) samples collected at Well #1, P01.

TABLE 1: Run Time and IOC Analysis

Well Name and No.	Capacity (gpm)	12-Month Avg. Pump Runtime (hrs/day)	Most Recent Inorganic Sampling Results	
	Approved		Fe (mg/L)	Mn (mg/L)
Lake Ridge Aero Park Well #1, P01	50	2.4	0	0.062

Lake Ridge Aero Park Well #1 exceeded the secondary maximum contaminant level (sMCL) for manganese. Field samples taken on March 8, 2016, show an iron concentration at 0.039 mg/L and manganese concentration at 0.0016 mg/L. Aqua will perform another IOC compliance sample during the second quarter of 2016 and depending on the results will pursue additional treatment, if warranted.

Page Two
Lake Ridge Aero Park Well #1, P01
March 24, 2016

Aqua is committed to providing water to its customers that meets their expectations at a reasonable cost.

If you have any questions or comments, please contact Rob Bonne at (919) 653-6982.

Sincerely,

A handwritten signature in black ink, appearing to read 'Thomas J. Roberts', written over the printed name.

Thomas J. Roberts
President and COO

TJR/rl

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Sep 19 2018



Thomas J. Roberts, President and Chief Operating Officer
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March 24, 2016

Mr. W. Allen Hardy
Engineering Supervisor
Public Water Supply Section
1628 Mail Service Center
Raleigh, NC 27699-1628

Re: Notice of Deficiency
Iron and Manganese Concentration
Lakewood Estates Subdivision, Wake County
WSF ID No.: Well #1, P01
Water System No: NC0392294

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated February 24, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Lakewood Estates Well #1 P01. The Lakewood Estates water system is comprised of two active wells and two points of entry (POE). The current number of customers served is 37 and the system is approved to serve 50 connections. The table below outlines the run time and the latest iron and manganese concentrations collected as part of the ongoing Inorganic Chemical Analyses (IOC) samples collected at Well #1, P01.

TABLE 1: Run Time and IOC Analysis

Well Name and No.	Capacity (gpm)	12-Month Avg. Pump Runtime (hrs/day)	Most Recent Inorganic Sampling Results	
	Approved		Fe (mg/L)	Mn (mg/L)
Lakewood Well #1, P01	Not on Original Approval Letter	2.8	0	0.13

Lakewood Well #1, P01 is the only well in this system that exceeded the secondary maximum contaminant level (sMCL) for manganese. This well does not run on a regular basis and operates in back-up mode. Aqua will continue to sample at the entry point as required and will ensure that Well #1 will be ready for use if this well needs to be placed into service. Aqua is revising our Operator Sampling Procedure to ensure all wells are properly being exercised on a routine basis. In the event a back-up well is needed, the well will be ready for use if it needs to be placed into service. In September 2015, Aqua began feeding SeaQuest at Well #1 and will continue with this treatment.

Page Two
Lakewood Estates Well #1, P01
March 24, 2016

Aqua is committed to providing water to its customers that meets their expectations at a reasonable cost. If you have any questions or comments, please contact Rob Bonne at (919) 653-6982.

Sincerely,

A handwritten signature in black ink, appearing to read "Thomas J. Roberts". The signature is fluid and cursive, with a large initial "T" and "J".

Thomas J. Roberts
President and COO

TJR/rl

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Sep 19 2018



Thomas J. Roberts, President and Chief Operating Officer

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March 24, 2016

Mr. W. Allen Hardy
Engineering Supervisor
Public Water Supply Section
1628 Mail Service Center
Raleigh, NC 27699-1628

Re: Notice of Deficiency
Iron and Manganese Concentration
Lynnbank Estates Subdivision, Vance County
WSF ID No.: Well #1, P02
Water System No: NC0291121

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated February 24, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Lynnbank Estates Well #1, P02. The Lynnbank Estates water system is comprised of one active well and one point of entry (POE). The current number of customers served is 47 and the system is approved to serve 63 connections. The table below outlines the run time and the latest iron and manganese concentrations collected as part of the ongoing Inorganic Chemical Analyses (IOC) samples collected at Well #1, P02.

TABLE 1: Run Time and IOC Analysis

Well Name and No.	Capacity (gpm)		12-Month Avg. Pump Runtime (hrs/day)	Most Recent Inorganic Sampling Results	
	App.	Current		Fe (mg/L)	Mn (mg/L)
Lynnbank Well #1, P02	60	53	2.2	.06	.109

It should be noted that Aqua did not receive any water quality complaints from this system in 2015. Aqua will collect a special raw water sample for manganese, and depending on the results will pursue additional treatment, if warranted. Aqua is committed to providing water to its customers that meets their expectations at a reasonable cost.

Page Two
Lynnbank Estates Well #1, P02
March 24, 2016

If you have any questions or comments, please contact Rob Bonne at (919) 653-6982.

Sincerely,

A handwritten signature in black ink, appearing to read "Thomas J. Roberts", written over a horizontal line.

Thomas J. Roberts
President and COO

TJR/rl

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Sep 19 2018



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March 24, 2016

Mr. W. Allen Hardy
Engineering Supervisor
Public Water Supply Section
1628 Mail Service Center
Raleigh, NC 27699-1628

Re: Notice of Deficiency
Iron and Manganese Concentration
Red Mountain Subdivision, Durham County
WSF ID No.: Well #2, P02
Water System No: NC0332136

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated February 24, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Red Mountain Well #2, P02. The Red Mountain water system is comprised of three active wells and three points of entry (POE). The current number of customers served is 64 and the system is approved to serve 117 connections. The table below outlines the run time and the latest iron and manganese concentrations collected as part of the ongoing Inorganic Chemical Analyses (IOC) samples collected at Well #2 P02.

TABLE 1: Run Time and IOC Analysis

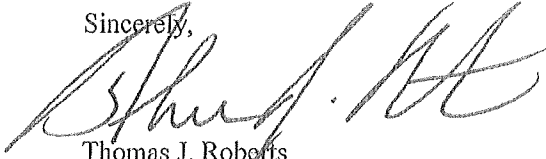
Well Name and No.	Capacity (gpm)	12-Month Avg. Pump Runtime (hrs/day)	Most Recent Inorganic Sampling Results	
	Approved		Fe (mg/L)	Mn (mg/L)
Red Mountain Well #2, P02	22	1.9	0	0.077

Red Mountain Well #2, P02 exceeded the secondary maximum contaminant level (sMCL) for manganese. On March 10, 2016, Aqua took a field measurement from the raw water and the sample measured 0.0021 mg/L for manganese. In October 2015, Aqua began feeding SeaQuest at Well #2 and will continue with this treatment. Also, it should be noted that Aqua does not receive water quality complaints from this system.

Page Two
Red Mountain Well #2, P02
March 24, 2016

Aqua is committed to providing water to its customers that meets their expectations at a reasonable cost. If you have any questions or comments, please contact Rob Bonne at (919) 653-6982.

Sincerely,

A handwritten signature in black ink, appearing to read "Thomas J. Roberts". The signature is fluid and cursive, with a large initial "T" and "R".

Thomas J. Roberts
President and COO

TJR/rl

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Sep 19 2018



Thomas J. Roberts, President and Chief Operating Officer

O: 919.653.5770 • F: 919.460.1788 • TJRoberts@AquaAmerica.com

March 24, 2016

Mr. W. Allen Hardy
Engineering Supervisor
Public Water Supply Section
1628 Mail Service Center
Raleigh, NC 27699-1628

Re: Notice of Deficiency
Iron and Manganese Concentration
Ridgebrook Bluffs/Westbury Subdivision, Wake County
WSF ID No.: Well #1, P01
Water System No.: NC4392101

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated February 24, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Ridgebrook Bluffs/Westbury Well #1, P01. The Ridgebrook Bluffs/Westbury water system is comprised of three active wells and three points of entry (POE). The current number of customers served is 92 and the system is approved to serve 108 connections. The table below outlines the run time and the latest iron and manganese concentrations collected as part of the ongoing Inorganic Chemical Analyses (IOC) samples collected at Well #1, P01.

TABLE 1: Run Time and IOC Analysis

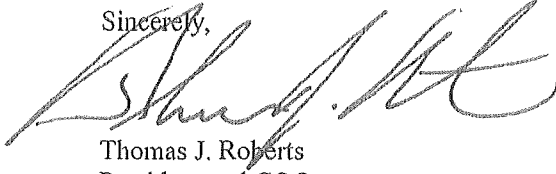
Well Name and No.	Capacity (gpm)	12-Month Avg. Pump Runtime (hrs/day)	Most Recent Inorganic Sampling Results	
	Approved		Fe (mg/L)	Mn (mg/L)
Ridgebrook Bluffs/ Westbury Well #1, P01	30	6.2	0	0.9

Ridgebrook Bluffs/Westbury Well #1, P01 exceeded the secondary maximum contaminant level (sMCL) for manganese. Field samples taken on March 8, 2016, show 0.000 mg/L for iron and 0.03 mg/L for manganese. In September 2015, Aqua began feeding SeaQuest at Well #1 and will continue with this treatment. In June, 2016, Aqua will clean and inspect the 10,000 gallon storage tank at Well #1. Also, it should be noted that Aqua has received one water quality complaint from this system in the past six months.

Page Two
Ridgebrook Bluff/Westbury Well #1, P01
March 24, 2016

Aqua is committed to providing water to its customers that meets their expectations at a reasonable cost. If you have any questions or comments, please contact Rob Bonne at (919) 653-6982.

Sincerely,

A handwritten signature in dark ink, appearing to read "Thomas J. Roberts", written over a horizontal line.

Thomas J. Roberts
President and COO

TJR/rl

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Sep 19 2018



Thomas J. Roberts, President and Chief Operating Officer

O: 919.653.5770 • F: 919.460.1788 • TJRoberts@AquaAmerica.com

March 24, 2016

Mr. W. Allen Hardy
Engineering Supervisor
Public Water Supply Section
1628 Mail Service Center
Raleigh, NC 27699-1628

Re: Notice of Deficiency
Iron and Manganese Concentration
Royal Senter Ridge/Whitehart Subdivision, Wake County
WSF ID No.: Well #1, P04
Water System No: NC4392140

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated February 24, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Royal Senter Ridge/Whitehart Well #1, P04. The Royal Senter Ridge/Whitehart water system is comprised of four active wells and three points of entry (POE). The current number of customers served is 249 and the system is approval to serve 252 connections. The table below outlines the run time and the latest iron and manganese concentrations collected as part of the ongoing Inorganic Chemical Analyses (IOC) samples collected at Well #1, P04.

TABLE 1: Run Time and IOC Analysis

Well Name and No.	Capacity (gpm)	12-Month Avg. Pump Runtime (hrs/day)	Most Recent Inorganic Sampling Results	
	Approved		Fe (mg/L)	Mn (mg/L)
Royal Senter Ridge / Whitehart Well #1, P04	8	0.6	3.0	0.075

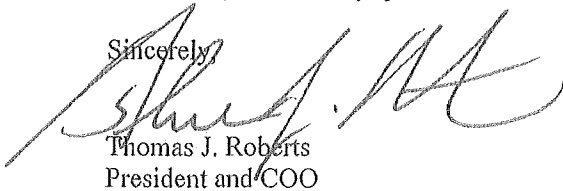
Royal Senter Ridge/Whitehart Well #1, P04 is the only well in this system that exceeded the secondary maximum contaminant level (sMCL) for iron and manganese. This well does not run on a regular basis because of system demand and operates in back-up mode. Aqua will continue to sample at the entry point as required and will ensure that Well #1 will be ready for use if this well needs to be placed into service and depending on the IOC sample results, Aqua will pursue additional treatment, if warranted. Aqua is revising our Operator Sampling Procedure to ensure that all wells are properly being exercised on a routine basis. In the event a back-up well is needed, the well will be ready for use.

Page Two
Royal Senter Ridge/Whitehart Well #1, P04
March 24, 2016

It should be noted that Aqua does not receive water quality complaints from this system. Aqua is committed to providing water to its customers that meets their expectations at a reasonable cost.

If you have any questions or comments, please contact Rob Bonne at (919) 653-6982.

Sincerely,

A handwritten signature in black ink, appearing to read "Thomas J. Roberts", is written over the word "Sincerely,".

Thomas J. Roberts
President and COO

TJR/rl

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Sep 19 2018



Thomas J. Roberts, President and Chief Operating Officer

O: 919.653.5770 • F: 919.460.1788 • TJRoberts@AquaAmerica.com

March 24, 2016

Mr. W. Allen Hardy
Engineering Supervisor
Public Water Supply Section
1628 Mail Service Center
Raleigh, NC 27699-1628

Re: Notice of Deficiency
Iron and Manganese Concentration
Weekend Retreat/Southern Oaks Subdivision, Wake County
WSF ID No.: Well #1, P01
Water System No: NC0392387

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated February 24, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Weekend Retreat/Southern Oaks Well #1, P01. The Weekend Retreat/Southern Oaks water system is comprised of four active wells and three points of entry (POE). The current number of customers served is 210 and the system is approved to serve 242 connections. The table below outlines the run time and the latest iron and manganese concentrations collected as part of the ongoing Inorganic Chemical Analyses (IOC) samples collected at Well #1, P01.

TABLE 1: Run Time and IOC Analysis

Well Name and No.	Capacity (gpm)	12-Month Avg. Pump Runtime (hrs/day)	Most Recent Inorganic Sampling Results 11/11/14	
	Approved		Fe (mg/L)	Mn (mg/L)
Weekend Retreat / Southern Oaks Well #1, P01	70	0.2	0.675	Non- Detect

This well does not run on a regular basis and operates in back-up mode. Aqua will continue to sample at the entry point as required and will ensure that Well #1 will be ready for use if this well needs to be placed into service. Aqua is revising our Operator Sampling Procedure to ensure that all wells are properly being exercised on a routine basis. In the event a back-up well is needed, the well will be ready for use.

Page Two
Weekend Retreat/Southern Oaks Well #1, P01
March 24, 2016

Aqua took a field measurement from the raw water on March 4, 2016, and the sample measured 0.01 mg/L for iron and 0.003 mg/L for manganese. Aqua will perform another IOC compliance sample during the second quarter of 2016 and depending on the results will pursue additional treatment, if warranted.

Aqua is committed to providing water to its customers that meets their expectations at a reasonable cost.

If you have any questions or comments, please contact Rob Bonne at (919) 653-6982.

Sincerely,

A handwritten signature in black ink, appearing to read 'Thomas J. Roberts', written over a horizontal line.

Thomas J. Roberts
President and COO

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Sep 19 2018