SANFORD LAW OFFICE, PLLC

Jo Anne Sanford, Attorney at Law

April 12, 2023

Via Electronic Filing

Ms. A. Shonta Dunston, Chief Clerk
North Carolina Utilities Commission
4325 Mail Service Center
Raleigh, North Carolina 27699-4325

Re: Docket No. W-218, Sub 526A
REPORTING REQUIREMENT DOCKET
First Quarter 2023 Notice of Deficiency Reports Provided to the North Carolina Department of Environmental Quality

Dear Ms. Dunston:

Attached for filing please find Aqua North Carolina, Inc.'s First Quarter 2023 Notice of Deficiency Reports; these were provided to the North Carolina Department of Environmental Quality and the Public Staff on April 10, 2023.

I hereby certify that I have served a copy of this filing on all parties of record in the docket.

As always, thank you and your staff for your assistance and please feel free to contact me if there are any questions.

Sincerely,

Electronically Submitted
/s/ Jo Anne Sanford
Sanford Law Office, PLLC
State Bar No. 6831

Attorney for Aqua North Carolina, Inc.

c: Parties of Record

P.O. Box 28085, Raleigh, NC 27611-8085 sanford@sanfordlawoffice.com
Tel: 919.210.4900

April 10, 2023

Mr. Shawn F. Guyer, P.E.
Engineering Supervisor
Public Water Supply Section
Raleigh Regional Office, NCDEQ
1628 Mail Service Center
Raleigh, NC 27699-1628

Re Notice of Deficiency – Quarterly Update
Iron and Manganese Concentration

Dear Mr. Guyer:

Attached are the remaining secondary water quality Notice of Deficiencies. Based on the attached information Aqua respectfully requests that these remaining systems to be removed from quarterly reporting.

- Barton Creek Bluffs well #10
- Hawthorne well #1 and #2

If you have any questions, please feel free to contact me at (919)-653-6982.

Sincerely,

Robert Krueger

Robert Krueger
Area Manager
Aqua North Carolina, Inc.

cc: Joseph Pearce
Amanda Berger
Shannon Becker
State of North Carolina
Utilities-Public Staff

Well Name	Date	Avg. Sample Week Run Time	Raw-Fe Lab	Raw-Fe-Diss	Fe Lab	Fe-Diss	Distribution System-Fe Lab	Distribution System-Fe-Diss	Raw-Mn Lab	Raw-Mn Diss	Mn Lab	Mn-Diss	Distribution System-Mn Lab	Distribution System-Mn-Diss
Barton Creek Bluffs #10	6/1/2013	9.4									0.2			
P67	5/31/2016	9.8									0.232			
	4/26/2017	7.82												
	5/17/2017	10.8												
	6/8/2017	12.6												
	9/15/2017	9.56			0.039	<0.022	<0.022	<0.022			0.0981	0.0959	<0.00110	<0.001
	9/27/2017	10.38			0.0483	<0.0220	0.0274	<0.0220			0.0972	0.123	0.00439	0.00146
	10/5/2017	17.59			0.0643	<0.0220	0.105	0.0434			0.176	0.0357	0.0339	0.0105
	10/23/2017	1.33			0.146	0.0371	0.518	0.0284			0.0451	0.36	0.543	0.015
	12/12/2018		0.13	<0.0220	0.128	<0.0220	0.511	<0.0220	0.217	0.216	0.214	0.201	1.17	0.00311
	1/22/2018	9.7	0.0969	<0.0220	0.198	<0.0220	0.0553	<0.0220	0.23	0.224	0.263	0.234	0.0293	0.00255
	2/8/2018	7.3	0.107	<0.0220	0.152	<0.0220	0.134	<0.0220	0.163	0.156	0.184	0.164	0.0489	0.0228
	3/15/2018	7.4	0.322	<0.0220	0.368	<0.0220	0.068	0.333	0.141	0.137	0.171	0.139	0.00613	0.00636
	4/18/2018	12.68	0.102	<0.0220	0.107	<0.0220	0.202	<0.0220	0.255	0.251	0.252	0.199	0.0499	0.0575
	5/9/2018	9.57	0.409	<0.0220	0.784	<0.0220	0.0505	<0.0220	0.232	0.221	0.241	0.178	0.203	0.0934
	6/21/2018	13.39	0.0373	<0.0220	0.0354	0.0335	0.0516	<0.0220	0.223	0.218	0.221	0.218	0.0142	0.00973
	7/12/2018	13.01	0.0353	<0.0220	0.0428	0.0368	0.501	<0.0220	0.208	0.207	0.207	0.205	0.0595	0.00983
	9/8/2018	10.98	<0.0220	<0.0220	<0.0220	<0.0220	0.253	0.0681	0.148	0.153	0.151	0.079	0.0546	0.0352
	10/19/2018	20.74	<0.0220	0.0388	0.0227	<0.0220	0.287	<0.0220	0.14	0.00318	0.141	0.00316	0.0771	0.00245
	11/16/2018	11.48	0.0580	<0.0220	0.213	<0.0220	0.0452	<0.0220	0.138	0.142	0.760	0.626	0.0124	0.0112
	12/5/2018	9.29	0.311	<0.0220	0.125	<0.0220	0.0829	<0.0220	0.145	0.0151	0.106	0.0759	0.0134	0.00617
	1/24/2019	8.82	0.336	<0.0220	0.414	<0.0220	0.0904	<0.0220	0.213	0.112	0.303	0.120	0.0423	0.0357
	2/7/2019	6.8	0.668	<0.0220	0.338	<0.0220	0.271	<0.0220	0.489	0.0170	0.151	0.0368	0.0712	0.0513
	3/15/2019	7.97	0.605	<0.0220	0.262	<0.0220	0.0615	<0.0220	0.160	0.0505	0.150	0.115	0.0187	0.0176
	4/25/2019	10.67	0.0360	<0.0220	0.0300	0.0220	0.0455	<0.0220	0.149	0.0145	0.141	0.138	0.0304	0.0157
	5/10/2019	10.06	0.248	<0.0220	0.329	0.0234			0.127	0.0847	0.122	0.110		
	6/14/2019	15.17	0.161	<0.0220	0.185	<0.0220			0.162	0.125	0.140	0.121		
	7/12/2019	14.26	0.0403		0.0351				0.139		0.138	0.126		
	8/15/2019	12.8	0.0303	<0.0220	0.0316	<0.0220			0.128	0.124	0.131	0.128		
	12/31/2019	8.86	0.0582	<0.0220	0.0709	<0.0220			0.118	0.112	0.109	0.107		
	2/14/2020	7.02	0.0408	<0.0220	0.0375	<0.0220			0.0589	0.059	0.0651	0.054		
	4/22/2020	8.53	0.0521	<0.0220	0.0484	<0.0220			0.096	0.090	0.0974	0.106		
	5/28/2020	8.56	0.0308	<0.0220	0.0327	<0.0220			0.185	0.151	0.1530	0.124		
	6/9/2020	8.53	0.0657	<0.0220	0.201	<0.0220			0.0162	0.012	0.0384	0.004		
	8/31/2020	10.5	0.0252	<0.0220	0.0475	<0.0220			0.0251	0.022	0.0262	0.026		
	10/22/2020	9.6	0.0283	<0.0220	0.0323	<0.0220			0.0765	0.070	0.0767	0.075		
	11/19/2020	7.5	0.0292	<0.0220	0.0247	<0.0220			0.141	0.144	0.1410	0.135		

Well Name	Date	Avg. Sample Week Run Time	Raw-Fe Lab	Raw-Fe-Diss	Fe Lab	Fe-Diss	Distribution System-Fe Lab	Distribution System-Fe-Diss	Raw-Mn Lab	Raw-Mn Diss	Mn Lab	Mn-Diss	Distribution System-Mn Lab	Distribution System-Mn-Diss
Bayleaf # 1 & 2	5/19/2016	10.7			1.01						0.53			
P76	9/20/2016	14.2												
	3/23/2017	10.3												
	6/8/2017	15.51												
	9/15/2017	16.9												
	9/28/2017	21.72			0.833	0.164	0.0585	<0.0220			0.531	0.184	0.0108	0.00122
	10/6/2017	23.6			0.882	0.309	<.0220	<.0220			0.417	0.343	0.00236	0.00161
	10/23/2017	18.38			0.892	0.0559	0.139	<0.0220			0.32	0.225	0.0308	0.00597
	11/7/2017	11.86			0.634	0.0331	0.0234	<0.0220			0.202	0.134	0.0029	0.00128
	11/16/2017	8.38			0.814	<0.0220	0.736	<0.0220			0.233	0.104	0.269	0.141
	12/14/2018	9.8	13.9	0.0298	2.38	0.171	<.0220	<0.0220	0.391	0.362	0.423	0.181	0.00136	0.0011
	1/22/2018	10.1	6.96	<0.022	1.42	0.102	0.116	0.0572	0.54	0.5	0.478	0.102	0.0196	0.00319
	2/26/2018	12.2	1.24	0.15	1.07	0.0817	0.0482	<0.0220	0.693	0.489	0.693	0.276	0.144	0.304
	3/28/2018	6.7	1.08	0.0386	1.1	<0.0220	0.87	0.217	0.582	0.614	0.586	0.547	0.402	0.287
	4/5/2018	8.19	0.941	<0.022	0.775	0.0407	<.0220	<.0220	0.847	0.578	0.457	0.353	0.0852	0.507
	5/2/2018	7.56	0.828	<.00600	0.952	0.0163	0.206	<.00600	0.531	0.518	0.526	0.486	0.531	0.518
	6/21/2018	12.67	0.793	0.0871	0.477	<0.0220	0.354	<0.0220	0.504	0.492	0.266	0.184	0.00875	<0.0015
	7/12/2018	12.94	0.786	0.075	0.736	0.433	0.0445	<0.0220	0.476	0.48	0.445	0.433	0.00616	0.00237
	8/9/2018	5.21	0.707	0.0551	1.18	0.271	0.21	0.0286	0.234	0.312	0.239	0.162	0.0289	0.00614
	9/8/2018	8.97	1.53	<.0220	0.118	0.0246	0.0462	<0.0220	0.372	0.343	0.0205	0.00665	0.0151	0.00675
	10/19/2018	8.92	1.10	<0.0220	0.667	<0.0220	0.0641	<0.0220	0.425	0.326	0.425	0.326	0.175	0.00599
	11/16/2018	10.33	6.73	<0.0220	0.433	<0.0220	0.0905	<0.0220	0.351	0.297	0.184	<0.00150	0.0121	<0.00150
	12/5/2018	7.18	1.27	<0.0220	0.594	0.0248	0.0477	<0.0220	0.485	0.496	0.294	0.206	0.00557	<0.00150
	1/24/2019	5.04	0.901	0.0608	0.595	<0.0220	0.104	<0.0220	0.501	0.501	0.315	0.188	0.0730	0.00325
	2/7/2019	3.21	0.915	<0.0220	0.504	<0.0220	0.272	0.102	0.494	0.499	0.238	0.108	0.0677	0.0549
	5/10/2019	6.47			0.584	0.0454					0.296	0.229		
	9/19/2019	9.46			5.25	<0.0220					0.635	0.616		
	1/31/2020	16.3			1.21	<0.0220					0.483	0.487		
	2/27/2020	0	1.38	0.336	7.49	0.25			0.485	0.486	0.613	0.479		
	4/20/2020	0		<0.0220	1.32	<0.0220			2.07	0.799	0.500	0.483		
	10/29/2020	23.67	0.884	<0.0220	0.719	<0.0220			0.524	0.525	0.503	0.420		

April 10, 2023

Mr. Shawn F. Guyer, P.E.
Engineering Supervisor
Public Water Supply Section
Raleigh Regional Office
NCDEQ
1628 Mail Service Center
Raleigh, NC 27699-1628

Re: Notice of Deficiency
Iron and Manganese Concentration
Bayleaf Master System
Wake County
WSF ID Nos: P67, P76
Water System No: NC039373

Dear Mr. Guyer:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated July 12, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Bayleaf Master System, P67, P76. The Bayleaf Master water system is comprised of 122 active wells and 117 points of entry (POE). The current number of connections served is 6,112 and the system is approved to serve 6,356 connections.

Due to the number of wells associated with our Bayleaf Master System Notice of Deficiencies, Aqua has compiled the requested information in a table format as follows:

- Table 1 provides a summary of well information, completed activities and planned activities.

- Table 2 (Attachment 2) provides a summary of raw, POE and distribution iron and manganese samples collected at WSF ID Nos. P67, P76 as part of the ongoing Inorganic Chemical Analyses (IOC).

- Table 3 (Attachment 3) Aqua has received zero customer complaints.

Table 3 - Bayleaf Customer Complaints

Water_Quality_Complaints From 1/1/2023 - 3/31/2023

Zero Water Quality Complaints in Q1 2023

UPDATED QUARTERL Y STATUS REPORT

<table>
<tr><th colspan="3">Table 1 – Well Information, Completed Activities and Planned Activities</th></tr>
<tr><th>Well Name and No.</th><th>Completed Activities</th><th>Planned Activities</th></tr>
<tr><td>Hawthorne Well #1 & #2

(P76)</td><td rowspan="3">• February 2016 -Started Using SeaQuest
• Jan - Apr 2016 - Flushed system
• February 2017 - Flushed system
• June 2017 - Installed cartridge filter
• September 2017 – Started Distribution and POE total and soluble sampling
• December 2017 - Added raw sample data
• March 2018 - Storage tank was cleaned
• Q2-2018 system flushed
• July 2018 - Adjusted Seaquest feed rate</td><td rowspan="3">• Continued investigation of well #1 and #2 production and water quality
•Well 1 has been offline (not actively feeding distribution) since May 1, 2022
•Evaluate alternative options (drilling new well, cleaning, etc.) to remediate the supply loss</td></tr>
<tr><td>Approved GPM (73)</td></tr>
<tr><td>Avg. Quarterly Runtime (0)</td></tr>
<tr><td></td><td>• Q4- 2018 performed jar testing at well #1 and adjusted sequestration feeds</td><td></td></tr>
<tr><td>Comments:</td><td></td><td></td></tr>
<tr><td colspan="3">Aqua keep these wells offline as much as possible. When peak demands exceed 14 hours, well #1 is utilized as it is the only source on a 5,000-gallon ground storage tank. Aqua is currently investigating multiple options to address the source water quality issues. Well #1 is currently only producing an average of 7 gpm which does not warrant filter installation. Aqua is evaluating well #2 water quality and the possibility of putting it back in-service. Well 1 has been offline (not actively feeding distribution) since May 1, 2022. Aqua will evaluate alternative options (drilling new well, cleaning, etc.) to remediate the supply loss to the Bayleaf master system. Aqua respectfully asks for this well be removed from quarterly reporting with the understanding that any use of this well will require the quarterly reporting to continue.</td></tr>
</table>

UPDATED QUARTERL Y STATUS REPORT

Table 1 – Well Information, Completed Activities and Planned Activities		
Well Name and No.	**Completed Activities**	**Planned Activities**
Barton Creek Bluffs Well #10 (67)	•March 2016 – Started using SeaQuest • February 2017 – Flushed system • September 2017 – Took soluble and insoluble well head and distribution samples • December 2017 – Added raw sample data distribution soluble and insoluble iron • Q2 – 2018 Flushed system • Q4- 2018 performed jar testing at this well and adjusted sequestration feeds.	• Continue to monitor the effectiveness of sequestration
Approved GPM (15)		
Avg. Quarterly Runtime (6.5)		
Aqua has received zero customer complaints in the last year of quarterly reporting for this well and respectfully requests that this system be removed from quarterly reporting.		

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 me at (919) 653-6982.

Sincerely,

Robert Krueger

Robert Krueger
Area Manager
Aqua North Carolina, Inc.

Cc: Joseph Pearce
Amanda Berger
Shannon Becker
State of North Carolina
Utilities-Public Staff