Aqua's Late Filed Exhibit #2 Quarterly Reports to DEQ W-218 Sub 497



September 29, 2017

Mr. W. Allen Hardy Engineering Supervisor Public Water Supply Section Raleigh Regional Office, NCDEQ 1628 Mail Service Center Raleigh, NC27699-1628

> Re: Notice of Deficiency - Quarterly Update Iron and Manganese Concentration Avocet Subdivision, Wake County WSF ID No.: Well #1, PO1 Water System No: NC4092107

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated July 12, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Avocet Well #1, PO1. The current number of customers served is 154 and the system is approved to serve 155 connections. Four approved and active wells are needed to maintain sufficient capacity to serve this system. Well #1 along with Wells #3 and #4, which are a combined entry, are all treated with chlorine and SeaQuest. Well #2 utilizes a greensand filtration unit to address heightened contaminant levels. Use of Well #1 is minimized and only used to facilitate capacity needs during periods of high demand.

Aqua has compiled the requested information for Well #1, PO1 in a table format on the following pages:

- Table 1 provides a summarization of well specifications, sample results, and customer complaints since the last quarterly update.
- Table 2 provides a summary of POE and distribution iron and manganese samples that has begun to be taken on a bi-weekly basis starting September 2017 to further show positive results of our ongoing efforts to improve the clarity of the water we provide and eliminating customer complaints.
- Table 3 provides a summary of completed and planned action items.

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UPDATED QUARTERLY STATUS REPORT

	Т	able 1 - Well a	and Custon	ier Com	plaint D	ata:		
				m	g/L	N	TU*	
Well Name and No.	Approved (gpm)	Date	Ave. Run Time	Fe	Mn	Well Head	POE	Customer Complaints In Q3 2017
		4/26/2016	5.5	1.60	0.112		-	
Avocet, Well #1	30	11/7/2016	0.0	-	-	35	16	0
(P01)	54	4/4/2017	0.0	-		9.2	2.0	U
		7/18/2017	0.0	-		7.6	4.6	
* NTU <1 is a measu	re used to dete	ermine turbidity	and effection	veness o	f sequest	ration, Ac	lua agreed t	o begin taking

soluble/insoluble samples to determine the effectiveness of sequestration starting in September 2017.

	Table 2	2 - Avo	cet, Well #1	(P0l) P	OE and Dis	tributio	n Iron and N	/Ianganese	e Data:	
				MAAA		Tota	al/Soluble			
Date	Ave. Run	gpm	Total Fe	Sol. Fe	Total Fe	Sol. Fe	Total Mn	Sol. Mn	Total Mn	Sol. Mn
	Time		POE	POE	Dist.	Dist.	POE	POE	Dist.	Dist.
9/13/2017	.23	32	1.54	0.187	0.302	0.083	0.103	0.0937	0.119	0.113
Comment.	n	antaliza ad	Charte harre h	0.040.071.0.0	and it in non	annin a T	20/ of the tot	tal inon Pr		

Comment: Recent flushing efforts have been successful in removing 73% of the total iron & manganese particulates our distribution system. Sequestration continues to aid in the process as well

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Table 3 -	Completed	Activities	and Planned	Activities

Well Name and No.	Completed Activities	Planned Activities
Avocet, Well #1 (P0l)	 September 2015 – Starting using SeaQuest April 2017 – Flushed system September 2017 – Started distribution and POE total and soluble sampling 	 Q2-2018 – Perform annual flushing Continue to minimize usage of this well. We will continue to optimize SeaQuest based on bi-weekly total and soluble sampling
Comments: A greensand approximately \$40,000.	I filter installed at Well #2 was replaced in Well #12 is a new well that is expected to 1	July, 2017 at a cost of be placed on-line in the

approximately \$40,000. Well #12 is a new well that is expected in July, 2017 at a cost of fourth quarter of 2017. This well will be interconnected with Well #2 to benefit from the greensand filtration. These efforts will allow Aqua to further minimize the use of Well #1 and realize improved water quality within 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 me at (919) 653-6964.

Sincerely

Moses A. Thompson Director of Operations Aqua North Carolina, Inc.

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September 29, 2017

Mr. W. Allen Hardy 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. P12, P16, P19, P28, P39, P63, P67, P75, P76, P92, P93, P97, P3B, P4B, P7B Water System No: NC0392373

Dear Mr. Hardy:

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 Pl2, Pl6, Pl9, P28, P39, P63, P75, P76, P92, P3B, P4B, P7B. The Bayleaf Master water system is comprised of 122 active wells and 117 points of entry (POE). The current number of customers 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 for WSF ID Nos. Pl2, Pl 6, Pl 9, P28, F'39, P63, P75, P76, P92, P3B, P4B, P7B in table format on the following pages:

- Table 1 provides a summarization of well specifications, sample results, and customer complaints since the last quarterly update.
- Table 2 provides a summary of POE and distribution iron and manganese samples that will be taken on a bi-weekly basis as of September 2017 to further show positive results of our ongoing efforts to improve the clarity of the water we provide and eliminating customer complaints.
- Table 3 provides a summary of completed and planned action items.
- Table 4 provides a summary of customer complaint information.

		· · · · · · · · · · · · · · · · · · ·	Table	1 - Well a	and Custom	ner Com	nlaint D	ata:		t		
			1 10010									
			Ave. mg		ng/L	g/L NTU*				stomer		
Well Name	e and No		(gpm)	n) Date		e Fe	Mn	Wel Head	l E d	ntry Pt.	Con In C	nplaints)3 2017
				3/24/201	5 0	7.8	0.02	-		*		.
Swans Mill	Well #	1	00	12/20/20	16 13.5	-	-	0.18	0).13]	0
(P1	6)	[ou [3/23/201	7 5.7	-		<.10	C	0.10	}	0
				6/8/201′	7 10.2		-	0.15	C).26		
* NTU <1 is soluble/insol	a measu uble sarr	re used uples to	to determine determine th	e turbidity ie effectiv	and effectiveness of sec	veness o juestratio	f sequest on startin	ration. A	Aqua ag otember	greed to r 2017.	o begin	taking
	17 10 34											
	Table 2	– Swar	s Mill Well	#1 (P16)	POE and I	Distribu	tion Iron	and M	langan	ese Da	ta:	
	Ave.					Tot	al/Solubl	e				
Date	Run Time	gpm	Total Fe	Sol. Fe	Total Fe	Sol. Fe	Total	Mn Sol. Mn		Total Mn		Sol. Mn
			POE	POE	Dist.	Dist.	PO	E	POE	Di	st.	Dist.
09/15/2017	10,21	80	.0409	<.022	<.022	<.022	<,00	01	<.001	<,()01	.0016
Comments: Recent flushi distribution sy	ng effort ystem. S	s have t Sequestr	been success ation contin	ful in rem ues to aid	oving 45% in the proce	of the to ess as we	otal iron a 11	& mang	anese p	articul	ates ou	r
			Table 3 - C	ompleted	I Activities	and Pla	nned Ac	tivities	ar de la composition			
Well Name	and No).	Co	mpleted A	Activities		1	P	lanned	Activi	ties	
Swans Mil	Well #	1 .	Sept 2015	- Started	using SeaQ	uest	• Q1	/Q2 20	18 – Pe	rform	annual	flushing
(P1	6)		Jan - Apri	1 2016 <i>-</i> Fl	ushed syste	m	• W	e will c	ontinue	to opti	imize S	eaQuest
		8	Septembe Septembe	r 2017- Fl r 2017 – S	ushing com Started Distr	pleted ibution	ba: sai	sed on l npling	bi-week	ly tota	l and so	oluble
			and POE (otal and s	oluble samp	oling						

Comments:

Several Bayleaf system wells are interconnected. The recent replacement and upgrade completed on the filter at Coachman's Trail Well #4 has generally improved water in the Bayleaf system, including Swan's Mill.

	<u></u>		Tabl	e 1 - Well a	and Custom	er Com	plaint D	ata:		-		<u></u>
			d		Ave	. n	ng/L		NTU*		Cu	stomer
Well Name	e and No), Al	(gpm)	Date	Run Time	e Fe	Mn	We Hea	ell E ad	ntry Pt.	Con In (nplaints D3 2017
				1/6/201	4 11	1.0	0.47	-				
			ľ	9/20/201	16 14.9	-		4,4	1	1.6		
			Γ	01/16/20	-							
Barony We	ll #5 (P6	(3)	77	3/23/201	7 5.5	-	-	14		1.4		0
v		í l	Γ	6/8/201	7 8.5	-	-	6,2	2	2		
			F	4/19/201	7 6.2	1.53	.62	-		-		
		1	F	4/19/201	7 6.2		-	22	, ,	6.7		
* NTU <1 is	a measu	ire used	to determin	ne turbidity	and effectiv	veness of	sequesti	ration.	Aqua a	preed to	begin	taking
soluble/insol	uble san	iples to	determine	the effectiv	eness of sea	uestratio	n startin	g in Se	eptember	r 2017.		
The second second	and the second	T. C.										
A CONTRACTOR OF	Table	2 - Bar	ronv Well	#5 (P63) P	OE and Dis	stributio	n Iron a	nd Ma	anganes	e Data	tilster og som en s E	Sector States and
	* ******	he - arra	. Ong 1, 0	110 (x 00) -		141 AD 1844.G.		****		V Duta	•	
i	Ave,					Tota	l/Solubl	e				
Date	Run Time	gpm	Total Fe	Sol. Fe	Total Fe	Sol. Fe	Total	Mn	Sol. Mn	Tota	otal Mn	
!		1 '	POE	POE	Dist,	Dist.	PO	E	POE	Dist.		Dist.
09/15/2017	9.93	77	1.71	<.022	.0322	.0254	.55	0	.424	.01	56	.0044
Comments: Aqua's instal particulates fi well.	lation of rom ente	`a cartric ring the	dge filter h distributio	as been suc in system.	cessful in re Sequestratio	moving son and flu	98% of ishing c	the tot	al iron & es to aid	k mang in this	anese proces	s as
<u></u>		<u> </u>	Table 3 -	Completed	I Activities :	and Plan	ned Act	tivities	5			
Well Name	e and No).	<u> </u>	ompleted A	Activities		<u> </u>	F	Planned	Activit	ies	. <u> </u>
		•	Sept. 207	15 Started u	using SeaQu	est	• Q1	/Q2 2	018 - Pe	erform a	nnual	flushing
		0	JanApr	il 2016 Flu	shed system		• Wa	e will o	continue	to opti	mize S	eaQuest
Rarony We	11 #5 (P6	3) •	Septemb	er 2017 – C	Cartridge filt	er	bas	sed on	bi-week	ly total	and so	luble
Darony mon	JTJUTU	5)	installed				sar	npling	5			
			Septemb	er 2017 – S	started Distri	ibution						
			and POE	total and s	oluble samp	ling						
Comments:				· · · · · · · · · · · · · · · · · · ·								
Several Bayle	eaf syste	m wells	are interc	connected.	The recent	replacem	nent and	upgra	ade com	pleted	on the	filter at
Coachman's T	Irail We	11 #4 ha:	s generally	[,] improved	water in the	Bayleaf	`system,	inclu	ding Ba	rony. A	qua in	stalled a
cartridge filte	r (rated f	r 210 r	si) in Barc	my on well	$#5 in O3 2^{1}$	017						

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			nnroved		Ave.	m	g/L		NTU*	}	Cu	stomer
Well Nam	e and N	0. 7.	(gpm)	Date	Run Time	Fe	Mn	We Hes	ell E ad	ntry Pt.	Con In (nplaint 03 201'
				10/9/201	3 8,1	1.0	.29			-		
				10/12/20	16 10.46	5 1.49	.348	**				
Enclave a	t Bartor	1		12/20/2016 12.8		-	-	3,2	2	1.5		
Creek Blu	ffs Wel	1	75	3/23/2017 6.9 -		-	2,6	2.4			0	
#18 (1	275)			4/26/201	7 6.4			13		3.1		
				6/8/201	7 7.6			6	6 5.1			
NTU <1 is oluble/insol	a measu uble san	ire used	to determine determine th	e turbidity e effectiv	and effective eness of seq	veness of a uestration	sequestr starting	ation. g in Se	Aqua ag eptember	 greed to r 2017.	begin	taking
									1.00			
Table 2 - 1	Enclave	at Bart	on Creek B	luffs Wel	1 #18 (P75) 🛛	POE and	Distrib	oution	Iron ar	ıd Man	ganes	e Data:
		r	·····									
	4.00					Total	/Soluble	е				
Date	Run	anm		Sol.		Sol.		otal Mn Sol. Total				Sol.
Dau	m	6 Bhu	Total Fe	e <mark>Fe</mark> Total Fe Fe		Total	Mn	~ ~ ~ ~	Total	Mn	1.4	
	lime		1	POF Dist Dist		Fe			Mn			ivin
	Time		POE	Fe POE	Dist.	Fe Dist.	POI	E	Mn POE	Dis	st.	Dist.
9/13/2017	7.6	75	POE 1.03	POE .151	Dist. <.022	Fe Dist. <.022	PO	E 5	Mn POE 0.241	Dis 0.03	a t. 04	Dist. 0.027
)9/13/2017 Comments:	7.6	75	POE 1.03	POE .151	Dist. <.022	Fe Dist. <.022	PO .250	E 6	Mn POE 0.241	Dis 0.03	o t. 04	Dist. 0.027
09/13/2017 Comments: DIST sample	7.6 s show I	75 Fe and M	POE 1.03	POE .151	Dist. <.022 .qua's install	Fe Dist. <.022	POI ,250	E 5 ge filte	Mn POE 0.241 er has be	Dis 0.03	essful	Mn Dist. 0.027
09/13/2017 Comments: DIST sample emoving 966	7.6 s show I	75 Fe and M total irc	POE 1.03 In are below on & mangar	POE .151 limits. A	Dist. <.022 qua's install culates from	Fe Dist. <.022 ation of a entering	PO .250 . cartridg the distr	E 5 ge filte ibutio	Mn POE 0.241 er has be n systen	Dis 0.03 en succe 1. Sequ	essful estrat	Dist. 0.027 in ion and
9/13/2017 Comments: DIST sample emoving 966 ushing cont	7.6 7.6 s show I % of the inues to	75 Fe and N total irc aid in th	POE 1.03 In are below on & mangar nis process as	POE .151 limits. A nese parties s well.	Dist. <.022 .qua's install culates from	Fe Dist. <.022 ation of a entering	POJ .250 . cartridg the distr	E 5 ge filte ibutio	Mn POE 0.241 er has be n systen	Dis 0.03 en succe 1. Sequ	essful essful	Dist. 0.027 in ion and
)9/13/2017 Comments:)IST sample emoving 964 lushing cont	7.6 7.6 s show I % of the inues to	75 Fe and N total iro aid in th	POE 1.03 In are below on & mangar his process as	POE .151 / limits. A nese partic s well.	Dist. <.022 qua's install culates from	Fe Dist. <.022 ation of a entering	POI .250 cartridg the distr	E 5 ge filte ibutio	Mn POE 0.241 er has be n systen	Dis 0,03 en succe a. Sequ	essful essful	Dist. 0.027 in ion and
09/13/2017 Comments: DIST sample emoving 96 ushing cont	7.6 7.6 s show I % of the inues to	75 Fe and M total irc aid in th	POE 1.03 In are below on & mangar is process as Table 3 - C	Fe POE .151 limits. A nese partie s well.	Dist. <.022 .qua's install culates from I Activities a	Fe Dist. <.022 ation of a entering and Plann	POI ,256 . cartridg the distr	E 5 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	Mn POE 0.241 er has be n systen	Dis 0.03 en succe	essful essful	Dist. 0.027
09/13/2017 Comments: DIST sample emoving 966 ushing cont Well Name	7.6 s show I % of the inues to	75 Fe and N total iro aid in th	POE 1.03 In are below on & mangar is process as Table 3 - C Co	Fe POE .151 limits. A nese partic s well. ompleted pompleted	Dist. <,022 .qua's install culates from Activities a Activities	Fe Dist. <.022 ation of a entering	PO ,256 . cartridg the distr ned Act	E 5 ge filte ibutio ivities F	Mn POE 0.241 er has be n systen s Planned	Dis 0,03 en succe n. Sequ Activiti	it. 04 essful iestrat	Dist. 0.027 in ion and
09/13/2017 Comments: DIST sample emoving 96 ushing cont Well Name	7.6 s show I % of the inues to	75 Fe and N total irc aid in th	POE 1.03 An are below on & mangar is process as Table 3 - C Con Oct. 2015	POE .151 limits. A nese parties well. ompleted - Started	Dist. <.022 qua's install culates from Activities using SeaQu	Fe Dist. <.022	PO .250 . cartridg the distr ned Act	E 5 je filte ibutio ivities <u>I</u> /Q2 20	Mn POE 0.241 er has be n systen s s Planned 018 – Pe	Dis 0.03 en succe h. Sequ Activiti	it. 04 essful iestrat: ies nnual	Min Dist. 0.027 in ion and flushing
09/13/2017 Comments: DIST sample emoving 96 ushing cont Well Name	7.6 5 show I % of the inues to 2 and No	75 Fe and N total irc aid in th	POE 1.03 In are below on & mangar is process as Table 3 - C Con Oct. 2015 Jan - April	POE .151 .151 .151 	Dist. <.022 qua's install culates from Activities using SeaQu lushed syste	Fe Dist. <.022 ation of a entering and Plann nest m	POI .250 cartridg the distr ned Act • Q1. • Det	E 5 ge filte ibutio ivities I /Q2 20 termir	Mn POE 0.241 er has be n system s Planned 018 – Pe ne effect:	Dis 0.03 en succe n. Sequ Activiti erform a iveness	it. 04 essful estrat ies nnual of cart	Min Dist. 0,027 in ion and flushin tridge
09/13/2017 Comments: DIST sample emoving 966 ushing cont Well Namo Enclave a	7.6 7.6 s show I % of the inues to 2 e and No t Bartor	75 Fe and M total irc aid in th	POE 1.03 In are below on & mangar is process as Table 3 - C Con Oct. 2015 Jan - Apri Feb. 2017	POE .151 .151 .151 .151 	Dist. <.022 qua's install culates from Activities using SeaQu lushed syste i system	Fe Dist. <.022 ation of a entering and Plan nest m	POI ,250 cartridg the distr ned Act • Q1, • Det filte	E 5 je filte ibutio ivities F /Q2 20 termir er with	Mn POE 0.241 er has be n system S Planned 018 – Pe ne effect h ongoir	Dis 0.03 en succe n. Sequ Activiti prform a iveness of g monit	ies nnual of cart	Mn Dist. 0,027 in ion and flushin tridge
09/13/2017 Comments: DIST sample emoving 966 ushing cont Well Name Enclave a Creek Bluff	7.6 7.6 s show I % of the inues to and Ne and Ne t Bartor s Well #	75 Fe and N total iro aid in th	POE 1.03 In are below on & mangar is process as Table 3 - C Con Oct. 2015 Jan - April Feb. 2017 June 2017	POE .151 limits. A nese parties s well. completed - Started 1 2016 - F - Flushec - Installe	Dist. <.022 .qua's install culates from Activities using SeaQu lushed syste d cartridge f	Fe Dist. <.022 ation of a entering and Plan mest m ilter	POI ,256 cartridg the distr ned Act • Q1. • Det filt. • We	E 5 ge filto ibutio ivities <u>ivities</u> <u>F</u> /Q2 20 termir er with will o	Mn POE 0.241 er has be n systen s Planned 018 – Pe ne effect h ongoin continue	Dis 0.03 en succe a. Sequ Activiti orform a iveness ag monit to optir	ies nnual of cart coring nize S	MIN Dist. 0.027 in ion and flushin tridge eaQues
9/13/2017 Comments: PIST sample emoving 96 ushing cont Well Name Enclave a Creek Bluff (P7	7.6 s show I 6 of the inues to and No and No t Bartor s Well # 5)	75 Fe and N total iro aid in th	POE 1.03 In are below on & mangar is process as Table 3 - C Con Oct. 2015 Jan - Apri Feb. 2017 June 2017 September	Fe POE .151 limits. A hese partial s well. ompleted - Started 1 2016 - F - Flushed - Installe : 2017 - S	Dist. <.022 qua's install culates from Activities using SeaQu lushed syste d system d cartridge f Started Distri	Fe Dist. <.022 ation of a entering and Plann nest m ilter bution	POI .256 . cartridg the distr ned Act • Q1. • Det filte • We bas	E 5 ge filto ibutio ivities I /Q2 20 termir er with will o ed on	Mn POE 0.241 er has be n systen S Planned 018 – Pe ne effect h ongoir continue bi-week	Dis 0.03 en succe n. Sequ Activiti erform a iveness to optin ly total	it. 04 essful iestrat ies nnual of cart coring nize S and sc	Min Dist. 0.027 in ion and flushin tridge eaQues pluble
9/13/2017 Comments: PIST sample moving 96 ushing cont Well Name Enclave a Creek Bluff (P7	7.6 s show I % of the inues to e and No e and No t Bartor s Well # 5)	75 Fe and N total iro aid in th	POE 1.03 In are below on & mangar is process as Table 3 - C Con Oct. 2015 Jan - Apri Feb. 2017 June 2017 September and POE t	Fe POE .151 limits. A hese partic s well. ompleted - Started 1 2016 - F - Flushed - Installe 2017 - S otal and s	Dist. <.022 .qua's install culates from I Activities a Activities using SeaQu 'lushed system d cartridge f Started Distri- soluble samp	Fe Dist. <.022 ation of a entering and Plann nest m ilter bution ling	POI .250 . cartridg the distr ned Act • Q1. • Det filte • We bas san	E 5 ge filte ibutio ivities ivities F /Q2 20 termir er with e will c ed on upling	Mn POE 0.241 er has be n system Planned 018 – Pe ne effect h ongoin continue bi-week	Dis 0,03 en succe n. Sequ Activiti erform a iveness ing monit to optir ly total	it. 04 essful iestrat: ies nnual of cart coring nize S and so	MIN Dist 0,02' in ion and flushin tridge eaQues oluble
9/13/2017 Comments: DIST sample emoving 966 ushing cont Well Name Enclave a Creek Bluff (P7: omments:	Time 7.6 s show I % of the inues to e and Ne e and Ne t Bartor s Well # 5)	75 Fe and N total irc aid in th	POE 1.03 In are below on & mangar is process as Table 3 - C Con Oct. 2015 Jan - Apri Feb. 2017 June 2017 September and POE t	re POE .151 limits. A hese parties s well. ompleted - Started l 2016 - F - Flushed - Installe 2017 - S otal and s	Dist. <.022 qua's install culates from Activities in Activities using SeaQu lushed systee d cartridge f Started Distri coluble samp	Fe Dist. <.022 ation of a entering and Plan mest m ilter bution ling	POI .250 . cartridg the distr ned Act • Q1. • Det filte • We bas sam	E 5 1 1 1 1 1 1 1 1	Mn POE 0.241 er has be n system S Planned 018 – Pe ne effect h ongoin continue bi-week	Dis 0.03 en succe n. Seque Activiti erform a iveness of ig monit to optin ly total	ies nnual of cart coring nize S and sc	Min Dist 0,02' in ion and flushin tridge eaQues oluble
9/13/2017 Comments: DIST sample emoving 966 ushing cont Well Name Enclave a Creek Bluff (P7: omments: everal Bayle	7.6 7.6 s show I % of the inues to and No and No t Bartor s Well # 5)	75 Fe and N total iro aid in th	POE 1.03 In are below on & mangar is process as Table 3 - C Con Oct. 2015 Jan - April Feb. 2017 June 2017 September and POE t	Fe POE .151 limits. A hese particles s well. completed pleted 2016 - F - Flushec - Installe c 2017 - S otal and s nnected.	Dist. <.022 Qua's install culates from Activities Using SeaQu Using SeaQu Ushed syste d cartridge f Started Distri- soluble samp The recent	Fe Dist. <.022	POI .250 . cartridg the distr ned Act • Q1. • Det filt. • We bas sam ent and	E 5 ge filte ibutio ivities F /Q2 20 termir er with will c ed on npling upgra	Mn POE 0.241 er has be n system s Planned 018 – Pe ne effect h ongoin continue bi-week	Dis 0.03 en succo n. Sequ Activiti orform a iveness of g monit to optim ly total pleted of	essful essful estrat ies nnual of cart coring nize S and so on the	Min Dist 0,02 in ion and flushin tridge eaQue: oluble

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			manad		Av	e, n	ıg/L		NTU*		Custome		
Well Nam	e and No). A	(gpm)	Date	Ru Tin	n Ie Fe	Mn	We He	ell E ad	ntry Pt.	Complair In O3 20		
				5/19/201	16 10.	7 1.01	0.53	-		-	<u> </u>		
Hawthorn	e Well #	1		9/20/2016 14.2 22 1.7									
and Well	#2 (P76)		3/23/2017 10.3 14 3.9										
		, 	73 6/8/2017 0 - 12						2	11	0		
(Well #2 is disco	onnected due	ected due to											
high FE a	FE and MN).												
* NTU <1 is	a measu	re used	to determin	turbidity	and effecti	veness of	sequestr	ation	<u>A gua ag</u>		egin taking		
soluble/inso	uble sam	no useu	determine t	e effectiv	veness of se	ouestratio	n starting	$\frac{1}{2}$ in S	entember	r 2017.	egin taking		
	a prima					laconane			<u></u>				
Table	2 – Haw	thorne	Well #1 and	Wells #2	2 (P76) PC	E and Di	stributio	on Ire	on and M	langanes	se Data:		
		[Tota	l/Solubl	e					
	Ave.						T			1			
Date	Run	gpm	Total Fe	Sol.	Total	Sol.	Total	Mn	Sol.	Total I	Mn So		
	Time		DOF	Fe BOF	<u>Fe</u> Dist	Fe		6	Mn	Dist			
0/15/2017	16.0		<u>4 02</u>	0.246	20.022	-Dist.	<u>PU</u>	<u>ь</u>	0 306		$\frac{Dis}{7}$		
9/28/2017	21 72	73	0.833	0.164	0.022	10.022	0.50	2	0,390	0.033			
712012011	21.12		01000		1 11119	< 0.022	2 0.531 0.184 0.0108 0						
Comments:			· · · · · · · · · · · · · · · · · · ·	0.104	0.039	<0,022	0.55	1	0,184	0.010	0.00		
C omments: Aqua's instal	lation of	`a cartri	dge filter ha	s been suc	ccessful in 1	emoving	95% of 1	the to	0.184 tal iron <i>8</i>	k mangan	08 0.00		
C omments: Aqua's instal particulates f	lation of rom ente	a cartri ring the	dge filter ha distributior	s been suc	ccessful in 1 Sequestrat	emoving	95% of 1	the to ontinu	0.184 tal iron & les to aid	t mangan in this pi	1656 Notese Notess as		
Comments: Aqua's instal particulates f vell.	lation of rom ente	`a cartri ring the	dge filter ha distribution	s been suc system.	ccessful in 1 Sequestrat	emoving tion and flu	95% of the second secon	the to ontinu	tal iron 8 tes to aid	t mangan in this pi	08 0.00 nese rocess as		
Comments: Aqua's instal particulates f well.	llation of rom ente	a cartri ring the	dge filter ha distribution	s been suc system.	ccessful in 1 Sequestrat	emoving tion and flu	95% of the second secon	the to ontinu	tal iron 8 tes to aid	t mangan in this pi	98 0.00 nese rocess as		
Comments: Aqua's instal particulates f vell.	lation of rom ente	a cartri ring the	dge filter ha distributior Table 3 - C	s been suc system.	Cocessful in a Sequestrat	emoving ion and flu and Plan	95% of t ushing co ned Act	the to ontinu	tal iron &	t mangan in this pr	nese rocess as		
Comments: Aqua's instal particulates f well. Well Nam	llation of rom ente	a cartri ring the	dge filter ha distributior Table 3 - C Co	s been suc system.	Cocessful in 1 Sequestrat	removing ion and flu and Plan	95% of the second secon	the to ontinu	0.184 tal iron & les to aid s Planned	t mangan in this pr Activitie	0.00 nese rocess as		
Comments: Aqua's instal particulates f well. Well Nam	llation of rom ente	a cartri ring the	dge filter ha distributior Table 3 - C Co Feb. 2016	s been suc system. completed -Started	ccessful in 1 Sequestrat	removing ion and flu and Plan Quest	95% of t ushing co ned Act • Q1	the to ontinu ivitie	0.184 tal iron & ies to aid s Planned 018 – Pe	t mangan in this pu Activitie	28 0.00 nese rocess as s s nual flushi		
Comments: Aqua's instal particulates f well. Well Nam Hawthorn and Well	llation of rom ente e and No e Well #	a cartri ring the	dge filter ha distribution Table 3 - C Co Feb. 2016 Jan - Apri	s been suc system. <u>completed</u> -Started 1 2016 - F	Coessful in 1 Sequestrat Activities Using SeaQ Plushed syst	removing to and flucture and Plan Quest em	0.53 95% of t ushing co ned Act • Q1 • De	the to ontinu ivitie /Q2 2 termin	0.184 tal iron & les to aid s s Planned 018 – Pe ne effecti	t mangan in this pr Activitie orform an iveness o	nese rocess as s nual flushin f cartridge		
Comments: Aqua's instal particulates f well. Well Nam Hawthorn and Well	llation of rom ente e and No e Well # #2 (P76)	a cartri ring the	dge filter ha distribution Table 3 - C Co Feb. 2016 Jan - Apri Feb. 2017	s been suc system. Completed mpleted A -Started 1 2016 - F -Flushed	Cocessful in a Sequestrat Activities Activities Using SeaQ Plushed syst system	removing tion and flu and Plan Quest em	 0.55 95% of flags ned Act Q1 De filt 	the to ontinu ivitie /Q2 2 terminer wit	0.184 tal iron & les to aid s Planned 018 – Pe ne effecti h ongoin	t mangan in this pr Activitie orform an iveness o	nese rocess as es nual flushi f cartridge oring		
Comments: Aqua's instal particulates f well. Well Nam Hawthorn and Well (Well #2 is disco	llation of rom ente e and No e Well # #2 (P76) nnccted due	a cartri ring the	dge filter ha distribution Table 3 - C Co Feb. 2016 Jan - Apri Feb. 2017 June 2017	s been suc system. completed -Started 1 2016 - F -Flushed - Installe	Cocessful in a Sequestrat Activities Activities Using SeaQ Ushed system ad cartridge	removing ion and flu and Plan Quest em	0.55 95% of f ashing co ned Act • Q1 • De filt • We	the to ontinu ivitie /Q2 2 terminer with will	tal iron & tal iron & tal iron &	2 mangan in this pr Activitie rform an iveness o ag monito to optim	28 0.00 nese rocess as s nual flushi f cartridge pring ize SeaQue		
Comments: Aqua's instal particulates f vell. Well Nam Hawthorn and Well (Well #2 is disco high FE at	llation of rom ente <u>e and No</u> e Well # #2 (P76) nnccted due nd MN).	a cartri ring the	dge filter ha distribution Table 3 - C Co Feb. 2016 Jan - Apri Feb. 2017 June 2017 Septembe	s been suc system. Completed -Started 1 2016 - F -Flushed - Installe r 2017 - S	Cocessful in 1 Sequestrat Activities Using SeaQ Using SeaQ Ushed system ad cartridge Started Dist	removing ion and flu and Plan Quest em filter ribution	 0.35 95% of the second sec	the to ontinu ivitie /Q2 2 terminer wite will ed on	tal iron & tal iron & tes to aid s Planned 018 – Pe ne effecti h ongoin continue bi-week	c mangan in this pr Activitie orform an iveness o ng monito to optim ly total a	28 0.00 nese rocess as s nual flushin f cartridge oring ize SeaQue nd soluble		
Comments: Aqua's instal particulates f well. Well Nam Hawthorn and Well (Well #2 is disco high FE au	llation of from ente <u>e and No</u> e Well # #2 (P76) nnected due nd MN).	a cartri ring the	dge filter ha distribution Table 3 - C Co Feb. 2016 Jan - Apri Feb. 2017 June 2017 Septembe and POE	s been suc system. completed -Started 1 2016 - F -Flushed - Installe r 2017 - S otal and s	ccessful in 1 Sequestrat Activities Using SeaQ Using SeaQ Ushed system ad cartridge Started Dist	removing tion and flucture and Plan Quest em filter ribution pling	 0.33 95% of the shing constrained Action 0.11 0.12 0.13 0.14 0.14	ivitie ivitie /Q2 2 termin er wit e will ed on apling	tal iron & tal iron & les to aid s Planned 018 – Pe ne effecti h ongoine bi-week	à mangan in this pr Activitie orform an iveness o ag monito to optim ly total a	nese rocess as nual flushin f cartridge oring ize SeaQue nd soluble		
Comments: Aqua's instal particulates f vell. Well Nam Hawthorn and Well (Well #2 is disco high FE an Comments: Vall #1 is out	llation of rom ente e and No e Well # #2 (P76) nnccted due nd MN).	a cartri ring the	dge filter ha distribution Table 3 - C Co Feb. 2016 Jan - Apri Feb. 2017 June 2017 Septembe and POE	s been suc system. completed -Started 12016 - F -Flushed - Installe r 2017 - S otal and s	ccessful in r Sequestrat Activities Activities Using SeaQ Ushed syst system ad cartridge Started Dist soluble sam	removing ion and flu and Plan Quest em filter ribution pling	95% of t ashing co ned Act • Q1 • De filt • We bas san	the to ontinu ivitie ivitie /Q2 2 terminer wite e will ed on opling	tal iron & tal iron & tal iron & tal iron & s Planned 018 – Pe ne effecti h ongoin continue bi-week	2 mangan in this pr Activitie orform an iveness o ag monito to optim ly total a	28 0.00 nese rocess as es nual flushi f cartridge oring ize SeaQue nd soluble		
Comments: Aqua's instal particulates f vell. Well Nam Hawthorn and Well (Well #2 is disco high FE an Comments: Vell #1 is cu:	e and No e Well # #2 (P76) nnected due ad MN).	a cartri ring the	dge filter ha distribution Table 3 - C Co Feb. 2016 Jan - Apri Feb. 2017 June 2017 Septembe and POE	s been suc system. Completed -Started 1 2016 - F -Flushed - Installe r 2017 - S total and s	ccessful in 1 Sequestrat Activities Activities Using SeaQ Using SeaQ Ushed system ad cartridge Started Dist soluble sam	removing ion and flu and Plan Quest em filter ribution pling or repair v line with	 0.55% of the second s	the to ontinu ivitie /Q2 2 terminer with ed on opling pred an	tal iron & tal iron & tes to aid s Planned 018 – Pe ne effecti h ongoin continue bi-week s nd receiv ng it bac	2 mangan in this pu Activitie orform an iveness o og monito to optim ly total a red. The v	 0.00 0.00 1ese rocess as 1.1 2.5 nual flushing ize SeaQue nd soluble well repair (so as to 		

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			Table	1 - Well a	and Custom	er Com	plaint D	ata:				,
					Ave	n	ng/L		NTU*		Cu	stomer
Well Name	and No). ^A	(gpm)	Date	Run	Fo	Mn	Wel	II E	ntry	Con	plaints
					Time			Hea	d	Pt.	In Q	23 2017
				10/7/201	5 8.39	0.8	0.5	-				
				12/19/20	16 12.9			4).91		
			3/23/2017 7.3				11		2.9	-		
Woodvalley	* #9 (P 92	2)	38	6/16/201	7 0			0.1		0.1		0
* NTTI <1 :-			to determin	o turbidity	und affactir	ion and of	'a a gra a at	l			booin	toleing
* NIU <1 is	a measu	re usec	to determine t	e turbiaity	and effective	eness of	sequest	ration,	Aqua ag	$\frac{1}{2}$	begin	taking
soluble/illson	uble sam	ipies to			eness of seq		<u>n startin</u>	<u>g m 3e</u>	ptember	2017.	a de la compaña	11-11-11-11-11-11-11-11-11-11-11-11-11-
Contract Argent Argent	Table	2 XX	<u>eadvallar</u> #	0 (D03) D	OF and Dia	tributio	n Iron a	nd Mo	nganag	o Data.		
	Table	4 VV	oouvancy #	9 (1 94) 1	OF and Dis	u ibuio.	li li uli a	nu ma	nganes	e Data:		
	Avo	- Conditional Providence of the				Tota	l/Solub	le			. <u></u>	
Date	Run	ønm	20 () 33	Sol.		Sol.		3.4	Sol.		3.47	Sol.
Dutt	Time	8F	Total Fe	Fe	Total Fe	Fe	Total Mn		Mn	An ^{10ta}		Mn
			POE	POE	Dist.	Dist.	PO	E	POE	Dis	st.	Dist.
09/14/2017	9.54	38	.221	<.022	.0910	<.022	.344		.264	.013	30	.0011
Comments: DIST samples	s show F	e and l	Mn are below	v limits. C	artridge Filt	er is wor	king in 1	removir	ng some	of the i	ron an	d
manganese be	eiore it e	nters 11	<u>nto the distri</u>	<u>oution sys</u>	iem,			and the second	<u></u>	AN LONG THE		ALL DEPENDENTS
	erse ti sonesi		Table 2 (⁷ omnlotor	A ativitias	and Dlay	nod Ao	tivitios	2008 - 17 60 1			and the second
Well Name	and No			mpleted	Activities			n vines P	lanned	Activit	ies	
() CH I (unit	unu 11	<u> </u>	Feb 201	5 - Started	using SeaO	uest	• 0	$\frac{1}{1/0220}$	118 - Pe	erform a	nnual	flushing
			Ian -Anri	1 2016 - F	lushed syste	m		etermin	e effect	iveness	of cart	ridge
			Eeb 201	7 - Flusher	i svetem		fil	ter with	ongoir	ng monit	toring	inago
			100, 201	7 - Well w	as treated v		e W	e will c	ontinue	to optiv	nize S	eaOuest
Woodvalley	y #9 (P9:	2) [free	/ // 011 //		a riqua	ba	sed on	bi-week	lv total	and so	luble
		Í	June 2014	7 - Installe	d cartridge f	ilter	sa	mpling	01 // 001	uj totui	4444 00	
			Sentembe	$7 = 113 \tan 0$	Started Distr	ibution	• W	e are st	arting th	ie execu	itive si	immary
		1	and POE	total and s	soluble samn	ling	for	possih	le greer	1 sand fi	Itratio	n
Comments.		L				B		<u></u>				
C C - MARANAN VI I			•	.					•			

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Table 1 - Well and Customer Complaint Data: NTU* Ave. mg/L Customer Approved Date Run Well Complaints Entry (gpm) Fe Mn Time Head In Q3 2017 Pt. 10/7/2015 8.5 2.0 0.67 ... •• 9/20/2016 11.7 ** 18 1.3 10/3/2016 10.5 1.21 .68 ** -73 3/23/2017 5.6 1 ter. *** 5,1 2.6 6/9/2017 8.6 -2.4 2.3 80 * NTU <1 is a measure used to determine turbidity and effectiveness of sequestration. Aqua agreed to begin taking soluble/insoluble samples to determine the effectiveness of sequestration starting in September 2017. Table 2 – Carlyle Manor Well #4 (P3B) POE and Distribution Iron and Manganese Data: Total/Soluble Sol. Total Sol. Total Sol. Sol. **Total Fe** Total Mn Fe Fe Fe Mn Mn Mn POE POE Dist. Dist. POE POE Dist. Dist. 1.27 0.0475 0.491 0.0485 0.791 0.690 0.0968 0.0136 Aqua's installation of a cartridge filter has been successful in removing 71% of the total iron & manganese particulates from entering the distribution system. Sequestration and flushing continues to aid in this process as well.

	Table 3 - Completed Activities and Plan	ned Activities
Well Name and No.	Completed Activities	Planned Activities
Carlyle Manor Well #4 (P3B)	 Sept. 2015 - Started using SeaQuest JanApril 2016 - Flushed system June 2017 - Installed cartridge filter September 2017 Flushing completed September 2017 - Started Distribution and POE total and soluble sampling 	 Q1 2018 – Perform annual flushing Determine effectiveness of cartridge filter with ongoing monitoring We will continue to optimize SeaQuest based on bi-weekly total and soluble sampling

Comments:

Date

9/24/2017

Comments:

Well Name and No.

Carlyle Manor Well

#4 (P3B)

Ave.

Run

Time

6.04

gpm

73

Several Bayleaf system wells are interconnected. The recent replacement and upgrade completed on the filter at Coachman's Trail Well #4 has generally improved water in the Bayleaf system, including Carlyle Manor. Addition of filters at Coachman's Trail Well #4, Devon wells #1 and #3, Stonebridge Well #17, and Stone Creek #18 has improved water quality.

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			Annroved		Av	e.	m	g/L	N	TU*		Cus	stomer
Well Name	e and No).	(gpm)	Date	Ru	n	Fe	Mn	Well	En	try	Com	plaints
						ne		17.411	Head	<u>P</u>	't.	In Q	3 2017
				1/9/201	6 7.2	.5	1.0	0.5	11	-	-		
				9/20/201	16 14.	1		-	3.8	0,	84		
				1/19/201	7.4	3	1.02	.557	120 *****		-		
Seville Well	#1 (P 4E	3)	44	3/23/201	7 5.8	3	-	-	2.3	0.8	85		0
				6/8/201	7 8.5	5	-	-	2.5	3.	.6		
									_				
* NTU <1 is	a measur	e use	ed to determin	ne turbidity	and effecti	vene	ss of s	equestra	ation. Aqu	ia agre	ed to b	egin t	aking
soluble/insolu	ible sam	ples	to determine t	he effective	eness of sec	quest	ration	starting	in Septer	nber 2	017.		
			n Rolenska					George States					
	Table	2 – 8	Seville Well #	1 (P4B) P	OE and D	istrił	oution	Iron a	nd Manga	anese	Data:		
							Total	/Solubl	e				
	Ave.				·····-							r	
Date	Run Time	gp	m Total F	e Sol. Fe	Total Fe		Sol. Fe	Total	$Mn \begin{vmatrix} S \\ N \end{vmatrix}$	ol. In	Total]	Mn	Sol. Mn
	1		POE	POE	Dist.	I	Dist.	PO	E P	OE	Dist		Dist.
09/15/2017	9,81	44	,947	.0915	.495	,	246	.46	7.4	21	.054	0	.0599
Comments:					······								
Recent flushir	ng efforts	s hav	e been succes	sful in rem	oving <mark>61%</mark>	oftl	he tota	l iron &	mangane	se par	ticulate	s our	
distribution sy	stem. S	eque	stration conti	nues to aid	in the proce	ess a	s well		-	-			
					in an the								
			Table 3 -	Completed	Activities	and	Planr	ned Act	ivities				
Well Name	and No).	C	ompleted A	Activities				Plan	ned A	ctivitio	es	
			• Aug. 20	15 - Started	lusing Sea	Ques	st	• Q1	2018 – P	erforn	n annua	l flusł	ning
			 Jan,-Ap 	ril 2016 - F	lushed syst	em		• We	will con	tinue t	o optim	nize Se	eaOuest
0 10 XX2.0			• Septemb	oer 2017 Fh	ushing com	plete	ed	bas	ed on bi-	weekly	v total a	ind so	luble
sevine well	• September 2017 – Started Distribution sampling												
			and POI	E total and s	soluble sam	plin	g	• Inv	estigating	the fe	easibilit	y of	
						1 .		ins	talling a c	artride	ge filter		
Comments:		J											

Table 1 - Well and Customer Complaint Data:

Several Bayleaf system wells are interconnected. The recent replacement and upgrade completed on the filter at Coachman's Trail Well #4 has generally improved water in the Bayleaf system, including Seville. Addition of filters at Coachman's Trail Well #4, Devon wells #1 and #3, Stonebridge Well #17, and Stone Creek #18 has improved water quality. Aqua is investigating the option of installing a cartridge filter at this location.

Sep-19-2048

			Tab	le 1 - Well	and Custon	ner Com	plaint D	ata:						
			Annarad		Ave	. n	ng/L	1	NTU*	* *	Cu	stomer		
Well Nam	e and No	D.	(gpm)	Date	Rur Tim	e Fe	Mn	We Hea	ll I d	Entry Pt.	Cor In C	nplaints Q3 2017		
				7/16/20	15 6.16	1.3	0.63							
		1		12/20/20	16 15	-	-	15		2.4	1			
				3/23/201	17 5.5		-	6.4		2.7]			
George's G	rant We		66	6/8/201	7 8.5	-	-	9.6		7.2	1	0		
#1 (P	7 B)			•							1			
											1			
* NTU <1 is	a measu	ire use	ed to determ	ine turbidity	and effecti	veness of	fsequest	ration.	Aqua a	greed to	begin	taking		
soluble/insol	uble san	ples	to determine	the effectiv	eness of sec	uestratic	on startin	g in Se	ptembe	er 2017.	Ū.	U		
				and parts of				ares a						
T٤	ble 2 –	Geor	ge's Grant V	Well #1 (P7	B) POE an	d Distri	bution I	ron and	d Man _i	ganese	Data:			
	Ave.					Tota	al/Solub)	le		· <u> </u>				
Date	Run	gpn		Sol.	m	Sol.	1	NA	Sol.		1 7 4	Sol.		
	Time	Br	- Total F	e Fe	1 otal Fe	Fe	Total	win	Mn	Tota	li Min	Mn		
			POE	POE	Dist.	Dist.	PO	E	POE	Di	ist.	Dist.		
09/15/2017	9.46	66	1,32	.0328	1.15	.0275	.58	2	.484	.2	66	,127		
Comments:						<u> </u>								
Cartridge Filt	ter is wo	rking	in removing	some of th	e iron and m	anganes	e before	it enter	s into tl	he distr	ibution	system.		
Sequestration	is also a	assisti	ng in the sol	uble vs inso	oluble deviat	ion.								
						tan se pa	d and the second				14 A 19			
			Table 3 -	Table 3 - Completed Activities and Planned Activities										
Well Nam	e and No) ,	(completed .	Activities			P	lanned	l Activi	ties			
			• Oct. 20	Oct. 2015 - Started Using SeaOuest • O1 2018 – Perform annual flushing										
			• JanAp	ril 2016 - F	lushed syste	m	• W	e will c	ontinue	e to opt	imize S	leaQuest		
George's Gra	ant Well	#1	• June 20	17 - Installe	d cartridge	filter	ba	sed on	bi-weel	kly tota	l and so	oluble		

sampling

(P7B)

Comments:

Aqua will add hydro-pneumatic tank cleaning to this system if applicable

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September 2017 Flushing completed

and POE total and soluble sampling

September 2017 – Started Distribution

Sep-19-2018

			Tab	le 1 - Well :	and Cust	tomer	Comp	laint D	ata:				
		T	Ammunund		A	Ave.	m	g/L		NTU*		Cu	stomer
Well Nam	e and No).	(gpm)	Date	F T	Run 'ime	Fe	Mn	Wel Hea	ll E d	Entry Pt.	Cor In C	nplaints Q3 2017
				12/10/20	15 '	7.3	.18	.285					
				9/22/201	16 9	9.7	н	-	ND	0	.151	1	
XXI J				3/6/201	7 7	.91	-	-	10		.61		
	vaney		29	4/26/201	17 10	0.13	-	-	8		,41		0
vven#1	1 - 195			5/24/201	7 1	0,4	-		8.4		.22	3	
1				6/9/201	7 1	1.8	-	-	7.6		.36		
* NTU <1 is	a measu	re use	d to determi	ne turbidity	v and effe	ectiver	ness of a	sequesti	ation,	Aqua a	greed to) begin	taking
soluble/insol	luble san	ples t	o determine	the effectiv	eness of	seque	stration	<u>n startin</u>	g in Se	ptembe	<u>r 2017.</u>		i
		10.5 m - 5 h 10.0 k - 5 h											
ſ	Fable 2 -	- Woo	dvalley We	ll #11 (P93) POE a	nd Di	stribut	tion Iro	n and l	Manga	nese D	ata:	
	Avo						Total	/Solubl	e				
Date	Run Time	gpn	¹ Total F	e Sol. Fe	Total I	Fe	Sol. Fe	Total	Mn	Sol. Mn	Tota	l Mn	Sol. Mn
			POE	POE	Dist.		Dist.	PO	E	POE	Di	st.	Dist.
09/15/2017	9.74	29	<.0220	<.022	.720		0420	.032	5	.0248	.30	61	.0110
Comments:													
Sequestration	1 is also a	assisti	ng in the sol	uble vs insc	oluble de	viatio	1, Aqu	a will pi	ursue c	leaning	of hyd	ro pnei	umatic
tanks in the s	ystem.				····								
Olarical St.				Martin 22, 10-1						$(\mathbf{x}_{i}, \mathbf{x}_{i})$			
			Table 3 -	Completed	d Activit	ies an	d Plan	ned Act	ivities				
Well Name	e and No),	(Completed A	Activitie	<u>s</u>			P	lanned	Activi	ties	
			 December 	oer 2016 – S	Started us	ing		• Q1	2018 -	- Perfo	rm annı	ual flus	hing
	SeaQuest • We will continue to optimize SeaQuest												

Comments:

Woodvalley

Well #11 – P93

No new comments for this 3rd quarter response.

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February 2017 - Flushed system

September 2017 – Started distribution

and POE total and soluble sampling

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based on bi-weekly total and soluble

Cleaning of Hydro-Pneumatic Tank

sampling

			Table	1 - Well a	and Custom	er Comp	laint Da	ita:			
<u></u>					Ave.	m	g/L		NTU*		ustomer
Well Nam	e and N	o. Apr	proved (pm)	Date	Run Time	Fe	Mn	Well Head	E	ntry Co Pt. In	mplaints Q3 2017
				6/2013	9.4	0	0.2				
			Γ	5/31/201	16 9.8	0	0.23			-	
Barton Cre	ek Bluf	fs	Γ	4/26/201	7.82			5.7	1	3.5	
Well #10) – P67		15	5/17/201	17 10.8	-	-	5.7		25	0
				6/8/201	7 12.6		-	10.5		15	
					·						
* NTU <1 is soluble/insol	a measu uble san	re used to	determine etermine th	e turbidity le effectiv	v and effective veness of seq	eness of uestration	sequestra 1 starting	ation. A	Aqua agotember	reed to begin 2017.	n taking
Table	e 2 – Ba	rton Cree	ek Bluiis V	vell #10 ((P67) POE	and Disti	ribution	Iron a	nd Ma	nganese Da	
	Ave					Total	l/Soluble	•			
Date	Run Time	gpm	Total Fe	Sol. Fe	Total Fe	Sol. Fe	Total	Mn	Sol. Mn	Total Mn	Sol. Mn
			POE	POE	Dist.	Dist.	POI	C _	POE	Dist.	Dist.
09/15/2017	9.56	15	.0390	<.022	<.022	<.022	.098	1	.0959	<.00110	<.001
Comments: DIST sample	s show l	Fe and Mn	are below	v limits. S	equestration	is also as	sisting i	1 the sc	oluble v	s insoluble c	leviation.
Sar Stand	eve avai	<u>יי אין אין</u> יי	Cable 2 C	lomnloto.	d A attruition	and Dian	nod A of	wition			
Woll Nom	and N		Co	mleted	A ofivition		neu Aci	DI	annad	Activities	<u></u>
Wen Nam	e anu ivi	0,	March 20	16 Stort	Activities	Ougat	a 01	2018	Porfor	m annual fly	ahina
	1 201 6		February	10 – Start 2017 – El	uched aveter	Quesi		2010 -	- renoi	to optimize	SaaOyaat
Barton Cro	ek Blui	IS	Sentembe	v 2017 - 11	Took soluble	.1	bas	ed on h	vi-week	ly total and a	soluble
insoluble well head and distribution sampling									Solutio		
			samples								
Comments:			samples		- <u></u>]	<u></u>				
Comments: No new comr	nents for	r this 3rd o	quarter res	ponse.]					

E

			Tabl	e 1 - Well	and Custom	er Con	ıpl	aint Da	ita:					
			Annuarad		Ave		mg	/L		NTI	J*		Cu	stomer
Well Name	e and No	D.	(gpm)	Date	Run Tim	e Fe	,	Mn	We	ell ad	Er F	ntry Pt.	Con In (nplaints 03 2017
				9/17/20	14 7.22	1.8	7	0.01 79				-		
Ethan's G	len Wel	1	Ē	9/22/202	16 10.6	.08	0	.078	**					
#19,1	·97	4.	10	3/8/201	7 7.5	-		55				-		0
(Combined	well wit	'n	10	4/26/201	17 7.8	-		-	.13	3		31		0
Ethai Clan f	1'S 420)		[
Gien f	+20)													
				·····										
* NTU <1 is soluble/insol	a measu uble san	re us ples	ed to determine to determine	ne turbidity the effectiv	/ and effectiv /eness of seq	veness o uestrati	of so on	equestr starting	ation. 7 in S	Aqua epteml	agi ber	reed to b 2017.	begin	taking
a de la marca		A.		de company								17 17 17		
Table 2 - E	than's (Glen	Well #19 (P9	7) – (Com and	bined well y I Manganes	vith Etl e Data:	ıar	ı's Glei	n #20) POE	2 an	d Distr	ibuti	on Iron
	Ave.				0	Tot	al/	Soluble	•					
Date	Run Time	gpı	n Total Fe	Sol. Fe	Total Fe	Sol. Fe		Total	Mn	Sol. Mn		Total]	Mn	Sol. Mn
			POE	POE	Dist.	Dist.	_	POI	2	POI		Dist		Dist.
09/14/2017	6,8		<,022		<.022	<.022	_	.002	8	<.00	1	<.001	1	<.001
Comments:]	POE and	I DIS	T samples she	ow Fe and	Mn are belov	w limits	•							
		19.02 (P. 19.31)							$\langle M_{ij} \rangle_{ij}$					
			Table 3 -	Complete	d Activities	and Pla	nn	ed Act	ivitie	s				
Well Name	e and No	D.	C	ompleted.	Activities]	Plann	ed A	Activitie	es	
Ethan's G	len Wel	u	• Dec 201	6 Submitte	ed request for	r		• Q1	2018	– Per	forr	n annua	l flus	hing
#19,]	297		feeding	SeaQuest				• We	will	contin	ue	to optim	nize S	eaQuest
(Combined	well wit	th	 Septemb 	er 2017 - '	Took soluble	Э		bas	ed on	ı bi-we	ekl	y total a	ind so	oluble
Ètha	n's		insoluble	e well head	l and distribu	ition		san	ıpling	3				
Glen #	#20)		samples											
Comments:		I.		·		·····								
Request that t	his syste	em be	taken off the	list of NO	Ds									

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			Tabl	e 1 - Well	and Custon	ier Co	npl	laint Da	ata:			<u></u>	
					Ave	•	mg	g/L		NTU	*	Cu	stomer
Well Name	e and No	D.	(gpm)	Date	Rui Tim	e F	e	Mn	We Hea	11 d	Entry Pt.	Con In	mplaints O3 2017
Ethan's G #20, I (Combine with Etl Glen #	len Wel 297 ed well nan's 19)	1	11	9/17/20 9/22/20 3/8/201 4/26/201 09/14/20	14 9.6 16 10.6 7 7.5 17 7.8 17 6.3	<u> </u>	87	0,01 79 .035 - - -	.51				0
* NTU <1 is soluble/insolution	a measu uble san	re used	l to determi determine	ne turbidity the effectiv	v and effectiveness of sec	veness	of s ion	sequestr starting	ation. g in Se	Aqua a	ngreed t er 2017	o begin	ı taking
Table 2 – E	than's (Glen W	⁷ ell #20 (P9	7) – (Com) and	bined well y Manganes	vith Et e Data	han	ı's Gleı	n #19)	POE	and Di	stribut	ion Iron
- <u>, </u>	Awa					To	tal/	Soluble	e				
Date	Run Time	gpm	Total F	e Sol. Fe	Total Fe	Sol. Fe		Total	Mn	Sol. Mn	Tota	al Mn	Sol, Mn
09/14/2017	6.8	11	\underline{POE}	<u>POE</u>	Oist.	Oist	$\frac{1}{2}$	\underline{PO}	E	POE < 001	$\frac{D}{<0}$	<u>ist.</u>	Dist.
Comments:	POE and	I DIST	samples sh	ow Fe and	Mn are belo	w limit	 S.		i viti or				
Well Name	and No) ,	C	ompleted	Activities	anu 11		icu Aci	P	lanne	l Activi	ties	
Ethan's Glen Well #20, P97• Dec 2016 Submitted request for feeding SeaQuest• Q1 2018 - Perform annual flushing • We will continue to optimize SeaQu based on bi-weekly total and soluble samples(Combined well with Ethan's Glen #19)• Dec 2016 Submitted request for feeding SeaQuest insoluble well head and distribution samples• Q1 2018 - Perform annual flushing • We will continue to optimize SeaQu based on bi-weekly total and soluble sampling								shing SeaQuest oluble					
Comments: Request that this system be taken off the list of NODs													

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Table 4 – Water Quality Complaints 6/1/2017 – 9/21/2017										
SO Type	CSR Notes	Date of SO	Completion Date	Address	City State Zip	Subdivision	FSR Notes			
LABD- S	Brown water still, cust adv plumber will be there all day she req for you to speak with plumber. Gate broken, push only the gate on right	6/13/2017	6/15/2017	Corner of Bayleaf Church	Raleigh, NC 27614	Carlyle Manor	Cl = 1.65 $Po4 = 1.8$ $pH = 7.3$ Hardness = 153.9 Iron (Fe) = 0.13 Manganese (Mn) = 0.035 Customer flushing both hot. Water heaters. Was requesting a courtesy credit. I told customer I would req			

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) 653-6964.

Sincerely.

Moses A. Thompson Director of Operations Aqua North Carolina, Inc.

MAT/rl



September 29, 2017

Mr. W. Allen Hardy 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 Belle Ridge Subdivision, Wake County WSF ID No.: Well #2, P02 Water System No: NC0392358

Dear Mr, Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated July 12, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Belle Ridge Well #2, P02. The Belle Ridge water system is comprised of two active wells and two points of entry (POE). The current number of customers served is 55 and the system is approved to serve 55 connections.

Aqua has compiled the requested information for Well #2, PO1 in a table format on the following pages:

- Table 1 provides a summarization of well specifications, sample results, and customer complaints since the last quarterly update.
- Table 2 provides a summary of POE and distribution iron and manganese samples that will be taken on a bi-weekly basis as of September 2017 to further show positive results of our ongoing efforts to improve the clarity of the water we provide and eliminating customer complaints.
- Table 3 provides a summary of completed and planned action items.

Aqua's Late Filed Exhibit #2 Quarterly Reports to DEQ W-218 Sub 497

UPDATED QUARTERLY STATUS REPORT

				m	g/L	N'	ΓU*	
Well Name and No.	Approved (gpm)	Date	Ave. Run Time	Fe	Mn	Well Head	Entry Pt.	Customer Complaints In Q3 2017
		10/23/2013	1.5	1.0	0,22	-	-	<u> </u>
Belle Ridge,	20	7/27/2016	1.14	0,48	0.21	-		
(P02)		12/22/2016	2.55	-	-	1.1	0.71	0
		4/20/2017	1.73	-	-	2.0	0.40	
		7/13/2017	1.8	-	-	1.9	0.82	

Tal	ble 2 - B	elle Rid	ge, Well #	#2 (P02) I	POE and I	Distribution	n Iron and	Mangane	se Data:	
						Total/	Soluble			
Date	Ave. Run Time	gpm	Total Fe	Sol. Fe	Total Fe	Sol. Fe	Total Mn	Sol. Mn	Total Mn	Sol. Mn
			POE	POE	Dist.	Dist.	POE	POE	Dist.	Dist.
09/14/2017	16.8	30	0.885	0.247	0.096	<0.022	0.201	0.193	0.004	<0.001
9/26/2017	1.43		1.44	0.646	0.663	0.234	0.338	0.255	0.065	0.049
Comments: A	qua's in:	stallatic	on of a ca	irtridge f	ilter has b	been succe	essful in re	moving 5	59% of the	; total
iron & mangan	iese par	ticulate	s from e	ntering tl '	he distrib	ution syste	em. Sequ	estration	and flushi	ing
continues to a	ia in unis	s proces	ss as wet	ι.						

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Sep-19-2018---

Table 3 - Completed Activities and Planned Activities

Well Name and No.	Completed Activities	Planned Activities
Belle Ridge, Well #2 (P02)	 August 2015 – Started using SeaQuest June 2017 – Flushed System September 2017 – Installed cartridge filter. September 2017 – Started distribution and POE total and soluble sampling 	 Q2-2018 – Perform annual flushing We will continue to optimize SeaQuest based on bi-weekly total and soluble sampling

Comments:

Aqua limits the use of this well and significantly relies on Well #1 to meet system demand and maintain water quality.

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) 653-6964.

Sincerely

Moses A. Thompson Director of Operations Aqua North Carolina, Inc.

MAT/rl

September 29, 2017

Mr. W. Allen Hardy 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 Branston Subdivision, Wake County WSF ID No.: Well #2, TP1 Water System No: NC4092076

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated July 12, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Branston Well #2, TP1. The Branston water system is comprised of one active well and one point of entry (POE). The current number of customers served is 44 and the system is approved to serve 44 connections.

Aqua has compiled the requested information for Well #2, TP1 in a table format on the following pages:

- Table 1 provides a summarization of well specifications, sample results, and customer complaints since the last quarterly update.
- Table 2 provides a summary of POE and distribution iron and manganese samples that will be taken on a bi-weekly basis as of September 2017 to further show positive results of our ongoing efforts to improve the clarity of the water we provide and eliminating customer complaints.
- Table 3 provides a summary of completed and planned action items.
- Table 4 provides customer complaint information.

UPDATED QUARTERLY STATUS REPORT

	Т	able 1 - Well a	nd Custom	er Comj	plaint Da	ata:		
				m	g/IL	N	TU*	
Well Name and No.	Approved (gpm)	Date	Ave. Run Time	Fe	Mn	Well Head	Entry Pt.	Customer Complaints In Q3 2017
		1/5/2016	6.5	.70	0.30		-	A <u>n an an</u>
Branston, Well #2	40	11/04/16	3.0	-		0.73	I	2
(111)	49	3/12/2017	5.2			< 0.5	H	2
		4/20/2017	4.5	e2	-	<0,79	0.382	
		7/18/2017	5.8	-		3.3	1.1	
* NTU <1 is a measure	e used to deter	mine turbidity	and effectiv	reness of	sequestr	ation. Aqu	a agreed to	begin taking

soluble/insoluble samples to determine the effectiveness of sequestration starting in September 2017.

Table 2 - Branston, Well #2 (TP1) POE and Distribution Iron and Manganese Data:

	:		Total/Soluble									
Date	Ave. Run Time	gpm	Total Fe	Sol. Fe	Total Fe	Sol. Fe	Total Mn	Sol. Mn	Total Mn	Sol. Mn		
			POE	POE	Dist.	Dist.	POE	POE	Dist.	Dist.		
9/14/2017	8.51	49	0.545	0.0413	0.174	<0.022	0.380	0.34	0.043	0.018		
9/28/2017	10.94		0.470	0.101	0.2	0.0682	0.401	0.366	0.138	0.066		

Comments: Recent flushing efforts have been successful in removing **76**% of the total iron & manganese particulates our distribution system. Sequestration continues to aid in the process as well

Sep 19 2018

Table 3 - Completed Activities and Planned Activities

Well Name and No.	Completed Activities	Planned Activities
Branston, Well #2 (TP1)	 July 2013 – Started using SeaQuest September 2016 – Flushed System March 2017 – Flushed system July 2017 – Flushed System September 2017 – Started Distribution and POE total and soluble sampling 	 Q3 2018 - Perform annual flushing We will continue to optimize SeaQuest based on bi-weekly total and soluble sampling Install Cartridge Filter in Q1 2018
Comments: Aqua will investigate th	he feasibility of installing a cartridge filter in se	ries at this location to aid in our water

quality efforts.

SO Type	CSR Notes	Date of SO	Completion Date	Address	City State Zip	Subdivision	FSR Notes
							C1 = 0.8
							Po4 = 1.2
							pH = 7.2
	ריו ופיד ססדיפ						Hardness = 102
	BIACK						Iron (Fe) $= 0.48$
	WATED IN						Manganese (Mn) =
LABD.	THE			2728	APEX,		0.206
S	BATHROOM	7/11/2017	7/11/2017	BRANSTON	NC	BRANSTON	Water was discolored
	AND			WAY	27539		Upon arrival. Flushed
	THROUGH						service and opened
	OUT						blow -off at end of
							cul de sac. Told
						1	customer system
							would be added to
	<u> </u>					<u> </u>	flushing schedule.

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CHECK		WAY	27539	pH = 7.2
				Hardness = 85
				Iron (Fe) $= 1.01$
				Manganese (Mn) $= 0.623$
				Water is discolored upon arrival and would not clear. System needs flushed sent email to office to schedule this Opened blow-off at end of cul de sac.

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) 653-6964.

Sincerely,

Moses A. Thompson Director of Óperations Aqua North Carolina, Inc.

MAT/rl



September 29, 2017

Mr. W. Allen Hardy 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 Briarwood/Kildaire Subdivision, Wake County WSF ID No.: Well #1, P04 Water System No: NC0392383

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated July 12, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Briarwood/Kildaire Well #1, P04. The Briarwood/Kildaire water system is comprised of five active wells and five points of entry (POE). The current number of customers served is 160 and the system is approved to serve 168 connections. Aqua has compiled the requested information for Well #1, P04 in a table format on the following pages:

- Table 1 provides a summarization of well specifications, sample results, and customer complaints since the last quarterly update.
- Table 2 provides a summary of POE and distribution iron and manganese samples that will be taken on a bi-weekly basis as of September 2017 to further show positive results of our ongoing efforts to improve the clarity of the water we provide and eliminating customer complaints.
- Table 3 provides a summary of completed and planned action items.
- Table 4 provides customer complaint information.

Aqua's Late Filed Exhibit #2 Quarterly Reports to DEQ W-218 Sub 497

UPDATED QUARTERLY STATUS REPORT

	1:			m m	g/L	N'	TU*		
Well Name and No.	Approved (gpm)	Date	Ave. Run Time	Fe	Mn	Well Head	Entry Pt.	Customer Complaints In Q3 2017	
Driemwood/Kildeine		1/6/2016	5,8	0.95	0.17	-			
Well #1	30	11/8/2016	7.5			<0.50	<.50	5	
	00	4/18/2017	6.9		-	2.3	1.6	5	
(P04)		7/18/2017	H		P	4.3	2.9		
* NTU <1 is a measure used to determine turbidity and effectiveness of sequestration. Aqua agreed to begin taking soluble/insoluble samples to determine the effectiveness of sequestration starting in September 2017.									

Tal	ole 2 - E	Briarwoo	od/Kildaire	Well #1	(P04) POE	and Distr	ibution Iron	and Ma	inganese Dat	a:
						Total	/Soluble			
Date	Ave, Run Time	gpm	Total Fe	Sol. Fe	Total Fe	Sol. Fe	Total Mn	Sol. Mn	Total Mn	Sol. Mn
			POE	POE	Dist.	Dist.	POE	POE	Dist.	Dist.
9/13/2017	6.26	30	0.558	0.157	0.430	0.0269	0.151	0.128	0.118	0,0885
Comment: Recent flushing efforts have been successful in removing 23% of the total iron & manganese particulates our distribution system. Sequestration continues to aid in the process as well										
manganese particulates our distribution system. Sequestration continues to aid in the process as well										

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Sep 19 2018

Table 3 - Completed Activities and Planned Activities

Well Name and No.		Completed Activities		Planned Activities
Briarwood/Kildaire, Well #1 (P04)	8	June 2015 – Started using SeaQuest June 2017 – Flushed system August 2017 – Installed Blow-off September 2017 – Started distribution and POE total and soluble sampling	6	Q2-2018 – Perform annual flushing We will continue to optimize SeaQuest based on bi-weekly total and soluble sampling

Comments:

An automatic blow-off was installed at the wellhead which is equipped with a solenoid valve and actuator to discharge water at the beginning of each pump cycle. The installation of this equipment will allow the water to clear before entering treatment, subsequently allowing the treatment to be more effective by lessening the mineral concentration needed to be sequestered. Aqua is looking into the feasibility of installing a cartridge filter at this site in Q1-2018.

SO Type	Ta CSR Notes	ble 4 – Wat Date of SO	er Quality Cor Completion Date	Address	7/1/2017 City State Zip	- 9/30/2017 Subdivision	FSR Notes
LABD-S	CUST STATES BROWN WATER	7/21/2017	7/21/2017	3304 FERRINGTON CT	APEX, NC 27539- 8879	KILDAIRE ESTATES	Cl = 1.3 $Po4 = 1.0$ $pH = 7.6$ Hardness = 102 Iron (Fe) = 0.27 Manganese (Mn) = 0.44 Auto blow offs scheduled to be installed
LABD-S	BROWN WTR PLEASE INVESTIGATE	8/25/2017	8/25/2017	4125 SUMMER RIDGE CT	APEX, NC 27539- 8800	KILDAIRE ESTATES	Cl = 1.4 $Po4 = 0.9$ $pH = 7.3$ Hardness = Iron (Fe) = 0.27 Manganese (Mn) = 0.033 Water was clear customer may need t flush hot water beate

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ab Discolored Service Ord	er					
BRENT; ASSOCIATE PASTOR; CALLED REPORTING BROWN WATER; PLZ CHECK; CUSTOMER WANTS CALL AHEAD BECAUSE WANTS TO BE THERE WHEN TECHNICIAN COMES OUT.	9/13/2017	9/14/2017	4224 BROOK CROSS DRIVE1 INCH	APEX, NC 27539	KILDAIRE ESTATES	Cl = Po4 = pH = Hardness = Iron (Fe) = Manganese (Mn) = Flushed meter out of back flow to clear from main line. Water was clear and never discolored. Training opportunity for FSR in post investigative reporting
	[]					C1 = 0.8
SADIE REPORTED BROWN WATER WITH SEDIMENT PLS CL CUST PRIOR TO ARRIVAL	9/14/2017	9/14/2017	4232 BROOK CROSS DR	APEX, NC 27539- 8112	KILDAIRE ESTATES	Po4 = 1.0 pH = 7.2 Hardness = 85.5 Iron (Fe) = 1.37 Manganese (Mn) = 0.237 After Flushing water was discolored upon arrival and A. Bailey is going to set up flush on timer to clear main to meter/to home service.
	r	······		J	<u></u>	C1=
PAT REPORTS BROWN WATER	9/20/2017		4205 BROOK CROSS DR	APEX, NC 27539- 8111	KILDAIRE ESTATES	Po4 = pH = Hardness = Iron (Fe) = Manganese (Mn) = FSR Training Issue Identified in post investigative documentation
	BRENT; ASSOCIATE PASTOR; CALLED REPORTING BROWN WATER; PLZ CHECK; CUSTOMER WANTS CALL AHEAD BECAUSE WANTS TO BE THERE WHEN TECHNICIAN COMES OUT. SADIE REPORTED BROWN WATER WITH SEDIMENT PLS CL CUST PRIOR TO ARRIVAL	BRENT; ASSOCIATE PASTOR; CALLED REPORTING BROWN WATER; PLZ CHECK; CUSTOMER BECAUSE WANTS CALL AHEAD BECAUSE WANTS TO BE THERE WHEN TECHNICIAN COMES OUT.9/13/2017SADIE REPORTED BROWN WATER WITH SEDIMENT PLS CL CUST PRIOR TO ARRIVAL9/14/2017PAT REPORTS BROWN WATER9/20/2017	Brent; Associate Pastor; Called REPORTING BROWN WATER; PLZ CHECK; CUSTOMER BECAUSE WANTS CALL AHEAD BECAUSE WANTS TO BE THERE WHEN TECHNICIAN COMES OUT.9/13/20179/14/2017SADIE REPORTED BROWN WATER WITH SEDIMENT PLS CL CUST PRIOR TO ARRIVAL9/14/20179/14/2017PAT REPORTS BROWN WATER9/14/20179/14/2017	BRENT; ASSOCIATE PASTOR; CALLED REPORTING BROWN WATER; PLZ CHECK; CUSTOMER WANTS CALL AHEAD BECAUSE WANTS TO BE THERE WHEN COMES OUT.9/13/2017 9/14/20179/14/2017 (ROSS DRIVE1 INCHSADIE REPORTED BROWN WATER WITH SEDIMENT PLS CL CUST PRIOR TO ARRIVAL9/14/20179/14/20174232 BROOK CROSS DRPAT REPORTS BROWN WATER9/20/20179/14/20174205 BROOK CROSS DR	BRENT; ASSOCIATE PASTOR; CALLED REPORTING BROWN WATER; PLZ CHECK; CUSTOMER WANTS CALL AHEAD BECAUSE WANTS TO BE THERE WHEN TECHNICIAN COMES OUT.9/13/20179/14/20174224 BROOK CROSS DRIVEI INCHAPEX, NC 27539SADIE REPORTED BROWN WATER WITH SEDIMENT PLS CL CUST PRIOR TO ARRIVAL9/14/20179/14/20174232 BROOK CROSS DRAPEX, NC 27539PAT REPORTS BROWN WATER9/14/20179/14/20174232 BROOK CROSS DRAPEX, NC 27539- 8112PAT REPORTS BROWN WATER9/20/201714205 BROOK CROSS DRAPEX, NC 27539- 8111	BRENT: ASSOCIATE PASTOR; CALLED REPORTING BROWN WATER; PLZ CHECK; CUSTOMER WANTS CALL AHEAD BECAUSE WANTS TO DE THERE WHEN TECHNICIAN COMES OUT.9/13/20179/14/20174224 BROOK CROSS DRIVE1 INCHAPEX, 27539KILDAIRE ESTATESSADIE REPORTED BROWN WATER WITH SEDIMENT PRIOR TO ARRIVAL9/14/20179/14/20174232 BROOK CROSS DRAPEX, 27539KILDAIRE ESTATESPAT REPORTS BROWN WATER9/14/20179/14/20174232 BROOK CROSS DRAPEX, 27539- 8112KILDAIRE ESTATESPAT REPORTS BROWN WATER9/20/20174205 BROOK CROSS DRAPEX, 27539- 8111KILDAIRE ESTATES

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) 653-6964.

Sincerely

Moses A. Thompson Director of Operations Aqua North Carolina, Inc.

MAT/rl

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September 29, 2017

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

> Re: Notice of Deficiency- Quarterly Status Report Iron and Manganese Concentration, Cotesworth Down/Kensington Manor Well#2, P05 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 #2, P05. 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.

Aqua has compiled the requested information for Well #2, P05 in a table format on the following pages:

- Table 1 provides a summarization of well specifications, sample results, and customer complaints since the last quarterly update.
- Table 2 provides a summary of POE and distribution iron and manganese samples that will be taken on a bi-weekly basis as of September 2017 to further show positive results of our ongoing efforts to improve the clarity of the water we provide and eliminating customer complaints.
- Table 3 provides a summary of completed and planned action items.
- Table 4 provides a summary of customer complaint information.

UPDATED QUARTERLY STATUS REPORT

Table 1 - Well and Customer Complaint Data:									
				mg/L		N	TU*		
Well Name and No.	Approved (gpm)	Date	Ave. Run Time	Fe	Mn	Well Head	Entry Pt.	Customer Complaints In Q3 2017	
		2/14/2014	4.2	0.8	0.20		-		
Cotesworth	22	1/16/2017	3.9		-	5.7	.047		
Down, well	33	2/6/2017	4.1	1.17	0.232	-	ita-	6	
<i>#2, IUJ</i>		5/10/2017	3.8	-	-	6.5	.46		
* NTU <1 is a measure used to determine turbidity and effectiveness of sequestration. Aqua agreed to begin taking soluble/insoluble samples to determine the effectiveness of sequestration starting in September 2017.									

Tabl	e 2 - C	oteswoi	th Down,	Well #2	, P05 POE	and Dis	tribution Iro	n and Ma	inganese Data	1:
						To	tal/Soluble			
Date	Ave. Run	gpm	Total Fe	Sol. Fe	Total Fe	Sol. Fe	Total Mn	Sol. Mn	Total Mn	Sol. Mn
	Time		POE	POE	Dist.	Dist.	POE	POE	Dist.	Dist.
09/13/2017	7.52	33	1.82	.0257	.0625	.0258	,263	.160	.0125	.00414
Comments: Aqua's installation of a cartridge filter has been successful in removing 96% of the total iron & manganese particulates from entering the distribution system. Sequestration and flushing continues to aid in this process as well.										

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Table 3 - Completed Activities and Planned Activities

Well Name and No.	Completed Activities	Planned Activities			
Cotesworth Down, Well #2, P05	 February 2014 – Started using SeaQuest February 2015 – Installed cartridge filter April 2017 – Flushed system September 2017 – Started Distribution and POE total and soluble sampling 	 Q2-2018 – Perform annual flushing We will continue to optimize SeaQuest based on bi-weekly total and Soluble Sampling 			

Comment: The cartridge filter installed on this well is removing significant amounts of iron and manganese. Distribution results of Fe and Mn are being managed to within water quality standards.

Aqua reassessed the priority of cleaning of the 5,400 gallon hydro pneumatic tank located at well #1 after the Distribution samples revealed very little concentration of iron and manganese. The tank cleaning and inspection will be prioritized with the tank cleaning initiative.

	Table 4 – Water Quality Complaints From 6/1/2017 - 9/21/2017									
SO Type	CSR Notes	Date of SO	Completion Date	Address	City State Zip	Subdivision	FSR Notes			
LABD-S	CUSTOMER REPORTS BROWN WATER	6/14/2017	6/15/2017	8612 WINDSONG VALLEY DR	WAKE FORREST, NC 27587	KIMMON PLACE	Cl = 1.19 $Po4 = 1.09$ $pH = 7.3$ Hardness = 136.8 Iron (Fe) = 0.21 Manganese (Mn) = 0.15 Flushed 2 faucets 25min until clear. Left d/h. FSR:cottonc, EVT:Lab			
LABD-S	CUST STATES WATER IS STILL BROWN	6/29/2017	6/30/2017	8600 WIND SONG DR	WAKE FOREST, NC 27587	KIMMON PLACE	C1 = 0.96 $Po4 = 1.01$ $pH = 7.3$ Hardness = 136.8 Iron (Fe) = 0.00 Manganese (Mn) = 0.101 Met customer. Flushed Smin until clear. FSR:cottonc, EVT:Lab			

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	1		1	1	1		Cl = 1,19
			6/30/2017		WAKE FOREST, NC 27587- 5474		Po4 = 0.98
1				0(10			pH = 7.3
	WATER IS A			SUNFLOWER MEADOWS LN		KIMMON PLACE	Hardness = 136.8
LABD-S	LIGHT TAN	6/29/2017					Iron (Fe) $= 0.44$
	COLOR						Manganese $(Mn) = 0.153$
							Met customer, Flushed
	}						15min until clear.
		<u> </u>					FSR:cottonc, EVT:Lab
	T	·······	· · · · · · · · · · · · · · · · · · ·		T		
							CI = 0.87
							Po4 = 1.21
	BROWN						pH = 6.6
	WATERCUST				WAKE		Hardness = 102.0
LADDO	OUTSIDE TO	7/20/2017	7/20/2017	8001	FOREST	KENSINGTON	$\frac{100}{100} (Fe) = 0.98$
LADD-S	FILIER	112012011	//20/2017	SHORREY PL	NC 27587	MANOR	$\frac{1}{100}$
	WATER STILL BROWN				NC 27507		alagred since filling kiddie
							nool Home has filter
							FSR cottone EVT Lab
	· · · · · · · · · · · · · · · · · · ·		•				
							Cl = 0.89
	WATER IS DIRTY AND BROWN			9201	WAKE FOREST,	KIMMON PLACE	Po4 = 1.21
							pH = 7.3
				SUNELOWER			Hardness = 136.8
LABD-S		8/31/2017	8/31/2017	MEADOWS	NC		Iron (Fe) = 0.06
	WATER			LN	27587-		Manganese $(Mn) = 0.105$
)					5479		Met customers. Flushed
							15min until clear.
							FSR:cottonc, EVT:Lab
				······			CI 0.00
		ATER IS 9/11/2017	9/11/2017				CI = 0.88
							P04 = 1.18
LABD-S	WATER IS BROWN						$p_{H} = 7.3$
				3201 DONLIN DR	WAKE	VIMON	$\frac{\text{Hardness} = 136.8}{\text{Lyan}(R_{0}) = 0.05}$
					FOREST,	PLACE	$\frac{11011 (re) = 0.03}{Manganaga (Ma) = 0.064}$
					NC 27587	I DAUB	Mat austomer House has
							heen vacant 1 mo Elushed
							10min until clear
							FSR cottone RVT Lab
I ADD O. I.I	Discolars d Banalas C	. <u></u>	i		l		A SECONDIDI DI TIDUD

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) 653-6964.

Sincerely,

Moses A. Thompson Director of Operations Aqua North Carolina, Inc.

MAT/rl

Sep 19-2018.

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Sep-19-2018



September 29, 2017

Mr. W. Allen Hardy 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 Duncan Ridge Subdivision, Wake County WSF ID No.: Well #5, P05 Water System No: NC4092063

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated July 12, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Duncan Ridge Well #5, P05. The Duncan Ridge water system is comprised of three active wells and two points of entry (POE). The current number of customers served is 88 and the system is approved to serve 90 connections. Aqua has compiled the requested information for Well #5, P05 in a table format on the following pages:

- Table 1 provides a summarization of well specifications, sample results, and customer complaints since the last quarterly update.
- Table 2 provides a summary of POE and distribution iron and manganese samples that will be taken on a bi-weekly basis as of September 2017 to further show positive results of our ongoing efforts to improve the clarity of the water we provide and eliminating customer complaints.
- Table 3 provides a summary of completed and planned action items.

Aqua's Late Filed Exhibit #2 Quarterly Reports to DEQ W-218 Sub 497

UPDATED QUARTERLY STATUS REPORT

mg/L NTU*									
Well Name and No.	Approved (gpm)	Date	Ave. Run Time	Fe	Mn	Well Head	Entry Pt.	Customer Complaints In Q3 2017	
		nen - 14]				
Duncan Ridge, Well #5 (P05)	33	4/29/2015	2.8	1,08	0.3	-	-		
		11/8/2016	.97	_	-	6.3	-	0	
		3/8/2017	.97		-	-	1.8		
		5/16/2017	1.66	-	-	9.1	,83		
* NTU <1 is a measu soluble/insoluble sar	ure used to determ	ermine turbidity	v and effect veness of se	iveness o questratio	f sequest	tration. Aq	ua agreed to mber 2017.	o begin taking	

Table 2 - Duncan Ridge, Well #5(P05) POE and Distribution Iron and Manganese Data:										
Total/Soluble										
Date	Ave. Run Time	gpm	Total Fe	Sol. Fe	Total Fe	e Sol. Fe Total Mn	Sol. Mn	Total Mn	Sol. Mn	
			POE	POE	Dist.	Dist.	POE	POE	Dist.	Dist.
9/13/2017	2.37	33	1.59	0.114	<0.0220	<0.0220	0.407	0.299	0.115	0.0683
Comment: System flushing and automatic blow-off valves is aiding in lowering iron and manganese levels.										

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Table 3 - Completed Activities and Planned Activities

Well Name and No.	Completed Activities	Planned Activities
Duncan Ridge, Well #5 (P05)	 August 2014 – Starting using SeaQuest March 2017 – Installed auto blow-off April 2017 – Flushed system September 2017 – Started Distribution and POE total and soluble sampling 	 Q2-2018 – Perform annual flushing We will continue to optimize SeaQuest based on bi-weekly total and soluble sampling

Comments:

The use of well #5 is very limited. On March 3, 2017, Aqua installed an automatic blow-off at the wellhead, which is equipped with a solenoid valve and actuator to discharge water at the beginning of each pump cycle. The installation of this equipment will allow the water to clear before entering the treatment, subsequently allowing the treatment to be more effective.

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) 653-6964.

Sincerely

Moses A. Thompson Director of Operations Aqua North Carolina, Inc.

MAT/rl



September 29, 2017

Mr. W. Allen Hardy 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 Eagle Creek Subdivision, Wake County WSF ID No.: Well #3, P03 Water System No: NC4392128

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated July 12, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Eagle Creek Well #3, P03. The Eagle Creek water system is comprised of three active wells and three points of entry (POE). The current number of customers served is 89 and the system is approved to serve 89 connections.

Aqua has compiled the requested information for Well #3, P03 in a table format on the following pages:

- Table 1 provides a summarization of well specifications, sample results, and customer complaints since the last quarterly update.
- Table 2 provides a summary of POE and distribution iron and manganese samples that will be taken on a bi-weekly basis as of September 2017 to further show positive results of our ongoing efforts to improve the clarity of the water we provide and eliminating customer complaints.
- Table 3 provides a summary of completed and planned action items.

UPDATED QUARTERLY STATUS REPORT
Table 1 - Well and Customer Complaint Data:											
				mg/L		N	TU*				
Well Name and No.	Approved (gpm)	Date	Ave. Run Time	Fe	Mn	Well Head	POE	Customer Complaints In Q3 2017			
		2/19/2014	9.7	0.9	0.13	-	**				
Eagle Creek, Well #3 (P03)	29	11/11/2016	6.75		-	<0.50	-	0			
		11/11/2016	4.5	-		1.4	1.5				

* NTU <1 is a measure used to determine turbidity and effectiveness of sequestration. Aqua agreed to begin taking soluble/insoluble samples to determine the effectiveness of sequestration starting in September 2017.

Table	Table 2 - Eagle Creek Well #3 (P03) POE and Distribution Iron and Manganese Data:											
			Total/Soluble									
Date	Ave. Run	gpm	Total Fe	Sol. Fe	Total Fe	Sol. Fe	Total Mn	Sol. Mn	Total Mn	Sol. Mn		
	Time		POE	POE	Dist.	Dist.	POE	POE	Dist.	Dist.		
9/15/2017	4.65	29	0.710	0,599	0.328	0.259	0.142	0.126	0.032	0.022		
9/27/2017	6.95		0.814	0.796	0.278	0.261	0.161	0.163	0.015	0.011		
Comment : Recent particulates our dist	Comment: Recent flushing efforts have been successful in removing 70% of the total iron & manganese particulates our distribution system. Sequestration continues to aid in the process as well											

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Table 3 - Completed Activities, Customer Complaints, and Planned Activities

Well Name and No.	Completed Activities	Planned Activities
Eagle Creek, Well #3 (P03)	 September 2015 – Started using SeaQuest April 2017 – Flushed system June 2017 – Installed automatic blow- off at the well. September 2017 – Started distribution and POE total and soluble sampling 	 Q2-2018 – Perform annual flushing We will continue to optimize SeaQuest based on bi-weekly total and soluble sampling

Comments:

Aqua installed an automatic blow-off at the wellhead which is equipped with a solenoid valve and actuator to discharge water at the beginning of each pump cycle. The installation of this equipment will allow the water to clear before entering treatment, subsequently allowing the treatment to be more effective.

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) 653-6964.

Sincerely,

Moses A. Thompson Director of Operations Aqua North Carolina, Inc.

MAT/rl



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

> Re: Notice of Deficiency – Quarterly Status Report Iron and Manganese Concentration Fairview Wooded Acres Subdivision, Wake County WSF ID No.: Well #2, P02 Water System No: NC0392129

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 Fairview Wooded Acres Well #2, P02. The Fairview Wooded Acres water system is comprised of four active wells and three points of entry (POE). The current number of customers served is 118 and the system is approved to serve 134 connections. Aqua has compiled the requested information for Well #2, P02 in a table format on the following pages:

- Table 1 provides a summarization of well specifications, sample results, and customer complaints since the last quarterly update.
- Table 2 provides a summary of POE and distribution iron and manganese samples that will be taken on a bi-weekly basis as of September 2017 to further show positive results of our ongoing efforts to improve the clarity of the water we provide and eliminating customer complaints.
- Table 3 provides a summary of completed and planned action items.

Aqua's Late Filed Exhibit #2 Quarterly Reports to DEQ W-218 Sub 497

UPDATED QUARTERLY STATUS REPORT

Table 1 - Well and Customer Complaint Data:											
				mg/L		N	TU*				
Well Name and No.	Approved (gpm)	Date	Ave. Run Time	Fe	Mn	Well Head	POE	Customer Complaints In Q3 2017			
Fairview Well #2, (P02)	16	1/20/2015	0	1,24	.0642			0			
* NTU <1 is a measure used to determine turbidity and effectiveness of sequestration. Aqua agreed to begin taking soluble/insoluble samples to determine the effectiveness of sequestration starting in September 2017.											

			Total/Soluble							
Date	Ave. Run	gpm	Total Fe	Sol. Fe	Total Fe	Sol. Fe	Total Mn	Sol. Mn	Total Mn	Sol. Mn
	Time		POE	POE	Dist.	Dist.	POE	POE	Dist.	Dist.
Samples taken 09/15/2017 but have not been received.	0	16								

Sep 19 2018

Table 3 - Completed Activities, Customer Complaints, and Planned Activities

Well Name and No.	Completed Activities	Planned Activities
Fairview Well #2, (P02)	 June 2016 – Flushed system September 2017 – Started distribution and POE total and soluble sampling 	 Q2-2018 – Perform annual flushing We will continue to optimize SeaQuest based on bi-weekly total and soluble sampling
Comments: Aqua is currently not	utilizing this well to meet capacity; therefore n	to improvements or changes are

recommended at this time.

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) 653-6964.

Sincerely,

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Moses A. Thompson Director of Operations Aqua North Carolina, Inc.

MAT/rl

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September 29, 2017

Mr. W. Allen Hardy 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 Forest Glen Subdivision, Wake County WSF ID No.: Well #1, P01 Water System No: NC4392142

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated July 12, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Forest Glen Well #1, P01. The Forest Glen water system is comprised of two active wells and two points of entry (POE). The current number of customers served is 108 and the system is approved to serve 109 connections.

Aqua has compiled the requested information for Well #1, P01 in a table format on the following pages:

- Table 1 provides a summarization of well specifications, sample results, and customer complaints since the last quarterly update.
- Table 2 provides a summary of POE and distribution iron and manganese samples that will be taken on a bi-weekly basis as of September 2017 to further show positive results of our ongoing efforts to improve the clarity of the water we provide and eliminating customer complaints.
- Table 3 provides a summary of completed and planned action items.

UPDATED QUARTERLY STATUS REPORT

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	ŕ			mg/L		NTU*			
Well Name and No.	Approved (gpm)	Date	Ave. Run Time	Fe	Mn	Well Head	Entry Pt.	Customer Complaints In Q3 2017	
Forest Glen Master Well #1, P01		4/13/2015	,5	1,39	0,155			8	
	34	9/15/2015	.5	2.84	0,167	*	-		
		8/8/2017	.58	1.3 (Field)	0.2 (Field)				

Table 2 Found Clay Martey Well 101 Well Detail												
	Table 2 - Forest Gien Master Well #1, P01 Well Data;											
			Total/Soluble									
Date	Ave. Run Time	gpm	Total Fe	Sol. Fe	Total Fe	Sol. Fe	Total Mn	Sol. Mn	Total Mn	Sol. Mn		
		Time	POE	POE	Dist.	Dist.	POE	POE	Dist.	Dist.		
9/22/17	1.49	34	1.3	0.0861	2.37	0.0482	0.171	0.0647	0.193	0.0023		

Comment: Recent flushing efforts have not been successful in removing the total iron & manganese particulates from this distribution system. Aqua will schedule cleaning of any hydro-pneumatic tank(s) in this system (if applicable). Sequestration efforts continue to aid in the process and recalibrations are being made. Aqua will also investigate the feasibility of installing an additional cartridge filter in series with a 10 micron filter bag.

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Well Name and No.	Completed Activities	Planned Activities				
Forest Glen Master, Well #1, P01	 June 2014 – Starting using SeaQuest Feb 2015 - Hydro-pneumatic tank cleaned Feb 2015 – Installed 5 micron filter (collapsed due to high concentrations of iron). Feb 2015 – Installed 20 micron filter July 2106 – Sent greensand filtration request to public staff. August 2016 - Denied approval by Public Staff for Greensand Filtration. Aqua continues to express a need for this filtration and it will be looked at again in the future. March 2017 - Flushed system March 2017 – Removed auto flush valve (caused flooding issues) July 2017 - Flushed system September 2017 – September 2017 – Started Distribution and POE total and poly and poly and poly approximation. 	 Q3-2018 – Perform annual flushing We will continue to optimize SeaQuest based on bi-weekly total and Soluble Sampling 				

Table 3 - Completed Activities and Planned Activities

Comments:

Aqua prepared a request to the Public Staff of the North Carolina Utilities Commission for a greensand filtration system at Well #2, which has the larger capacity of the two wells. This information was provided by Aqua on July 18, 2016 and additional filtration is still being considered but Aqua and the Public Staff have not yet reached agreement to proceed. Aqua intends to limit the use of well #1, which will be used as a backup well. Aqua will continue to flush the system at least annually and optimize the sequestration at well #1 and #2 in Forest Glen.

	Table 4 – Water Quality Complaints From 7/1/2017 - 9/30/2017									
SO Type	CSR Notes	Date of SO	Completion Date	Address	City State Zip	Subdivision	FSR Notes			
LABD-S	PUC COMPLAINT DISCOLORED WATER - MUDDY AND DIRTY. PLS INVESTIGATE.TELE 919-961-6420	7/10/2017	7/10/2017	1141 FOREST GLEN DR	RALEIGH, NC 27603-7908	FOREST GLEN	Cl = Po4 = pH = Hardness = Iron (Fe) = Manganese (Mn) = Customer called the util. commisioner today/water not getting fixed/Ruining her clothes/ i cant make the fe and mn go away/ i put a new filterOn at the well			
LABD-S	OVER THE WEEKEND WATER WAS THE COLOR OF CLAY MUD THIS MORNING WATER IS STILL RED	8/22/2017	8/22/2017	1141 FOREST GLEN DR	RALEIGH, NC 27603-7908	FOREST GLEN	CI = 1.4 Po4 =0.83 pH =7.5 Hardness = Iron (Fe) =0.57 Manganese (Mn) =0.2 water was very dingyflushed for several minutes outside tap to silghtly dingyleft door tag with fe/mn info sheet			
LABD-S	DIRTY WATER PLS DELIVER IRON OUT	9/6/2017	9/6/2017	1105 FOREST GLEN DR	RALEIGH, NC 27603-7908	FOREST GLEN	Cl = 1.2 $Po4 = 1.0$ $pH = 7.3$ Hardness = Iron (Fe) = 0.4 Manganese (Mn) = 0.2 Delivered 2 bottles of iron out/ New filters installed 2 weeks ago//just replaced due to collapseFSR:moodyc, EVT:Lab			
LABD-S	CUSTOMER CLD TO REPORT TODAY THE WATER IS BLACK PLS INVESTIGATE	7/13/2017	7/13/2017	6516 EGRETS NEST LN	RALEIGH, NC 27603-7944	glen Meadows	Cl = Po4 = pH = Hardness = Iron (Fe) = Manganese (Mn) = Told son we are flushing sub mon/ talked to mom 2 days ago/flushedB/ o beside house/ never cleated up/told to try and flush linesFSR:moodyc, EVT:Lab			

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LABD-S	ESCALATED COMPLT FRM VP CHIEF OF STAFF CUST STATES WATER CONTINUES TOBE MUDDY. PLS INVESTIGATE AND SPEAK WITH CUST.	8/3/2017	8/3/2017	1141 FOREST GLEN DR	RALEIGH, NC 27603-7908	FOREST GLEN	Cl = Po4 = pH = Hardness = Iron (Fe) = Manganese (Mn) = We tested a few faucets/it was clear right now/i gave her a bottle to Collect a sample when it looks brown/we flushed the sub. a week ago/ it was Very brown/it was yellow a few days ago for the bact Cl =2 6
LABD-S	BROWN WATER OFFAND ON FOR 4 WEEKS	7/10/2017	7/10/2017	6516 EGRETS NEST LN	RALEIGH, NC 27603-7944	GLEN MEADOWS	$C_{1} = 2.6$ $Po4 = 1.1$ $pH = 7.6$ Hardness = Iron (Fe) = 2.0 Manganese (Mn) = 0.5 House is at the end of a street/opened b/o/ told customer I was flushingAt b/o// just flushed system in march//getting dirty water calls weekly/ B/o dirty/ran for 15 min
LABD-L	BROWN WTR PER CHAD (CALLW/RESULTS)	7/11/2017	7/12/2017	6401 MCELVEEN CT	RALEIGH, NC 27603-7335	FOREST GLEN	Cl =0.6 Po4 =2.0 pH =7.6 Hardness = Iron (Fe) =2.3 Manganese (Mn) =>Off Scale Got w.o late tues/finlshed well I was at 4.45/called customer and sald I Will test wed/ran faucet for 10 min/lt never cleared up/ ran b/o/not clearing up/dark brown/fiush on mon
LABD-S	WATER IS BROWN	9/6/2017	9/6/2017	1105 FOREST GLEN DR	RALEIGH, NC 27603-7908	FOREST GLEN	Cl =1.2 Po4 =1.0 pH =7.3 Hardness = Iron (Fe) =0.4 Manganese (Mn) =0.2 Left iron out/ //// FSR:moodyc, EVT:Lab

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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) 653-6964.

Sincerely

Moses A. Thompson Director of Operations Aqua North Carolina, Inc.

MAT/rl



Mr. W. Allen Hardy Engineering Supervisor Public Water Supply Section Raleigh Regional Office, NCDEQ 1628 Mail Service Center Raleigh, NC27699-1628

> Re: Notice of Deficiency – Quarterly Update Iron and Manganese Concentration Galloway Subdivision, Wake County WSF ID No.: Well #2, P02 Water System No: NC4092027

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated July 12, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Galloway Well #2, P02. The Galloway water system is comprised of two active wells and two points of entry (POE). The current number of customers served is 91 and the system is approved to serve 91 connections. Aqua has compiled the requested information for Well #2, P02 in a table format on the following pages:

- Table 1 provides a summarization of well specifications, sample results, and customer complaints since the last quarterly update.
- Table 2 provides a summary of POE and distribution iron and manganese samples that will be taken on a bi-weekly basis as of September 2017 to further show positive results of our ongoing efforts to improve the clarity of the water we provide and eliminating customer complaints.
- Table 3 provides a summary of completed and planned action items.

UPDATED QUARTERLY STATUS REPORT

				mg/L		N	TU*		
Well Name and No.	Approved (gpm)	Date	Ave. Run Time	Fe	Mn	Well Head	Entry Pt.	Customer Complaints In Q3 2017	
Galloway, Well #2, P02	31	4/23/2015	.25	1.7	.27		ы.	0	
		12/21/2016	0	1.54	.34	-	-		
		2/1/2017	0	-	**	9.0	-		
		4/27/2017	.6	64	-	11	1.8		
		8/10/2017	,5	-	-	16	<.50		

* NTU <1 is a measure used to determine turbidity and effectiveness of sequestration. Aqua agreed to begin taking soluble/insoluble samples to determine the effectiveness of sequestration starting in September 2017.

Ta	Table 2Galloway, Well #2, P02 POE and Distribution Iron and Manganese Data:											
	· · · · · · · · · · · · · · · · · · ·		Total/Soluble									
Date	Ave. Run	gpm	Total Fe	Sol. Fe	Total Fe	Sol. Fe	Total Mn	Sol. Mn	Total Mn	Sol. Mn		
	Time		POE	POE	Dist,	Dist.	POE	POE	Dist.	Dist.		
09/13/2017	0.5	31	1.16	0.321	0.0424	<0.022	0.411	0.341	0.0931	0.0454		
Comment: Aqua manganese partic process as well.	Comment: Aqua's installation of a cartridge filter has been successful in removing 91% of the total iron & manganese particulates from entering the distribution system. Sequestration and flushing continues to aid in this process as well											

Table 3 - Completed Activities, Customer Complaints, and Planned Activities

	·	P
Well Name and No.	Completed Activities	Planned Activities
Galloway, Well #2, P02	 September 2015 – Started using SeaQuest February 2016 – Cleaned hydro tank Dec. 2016 – Installed cartridge filter June 2017 – Flushed system September 2017 – Started Distribution and POE total and soluble sampling 	 Q2-2018 – Perform annual flushing We will continue to optimize SeaQuest based on bi-weekly total and soluble Sampling Installing drip irrigation system by Q1 - 2018

Comments:

Well #2 only runs when there is very low pressure experienced at the Galloway water system. Going forward, Aqua will collect both a total and soluble POE and distribution samples to determine the effectiveness of the cartridge filter, which was installed as a temporary solution in case Well #2 was needed during high peak demands in the Galloway water system. Engineering plans and specifications were initially planned to be submitted to NCDEQ in the second quarter of 2017 for the addition of a greensand filter at Well #2; however, Aqua identified a more cost effective solution incorporating the use of a drip irrigation system for the backwash water that required a change to the permitting and its timing. This filter is now scheduled to be completed in the first quarter of 2018.

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) 653-6964.

Sincerely,

Moses A. Thompson Director of Operations Aqua North Carolina, Inc.

MAT/rl

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

> Re: Notice of Deficiency – Quarterly Update Iron and Manganese Concentration Glendale Master System Subdivision Wake County WSF ID No.: Well # 1, TPl Water System No: NC0392293 Dear

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 Hickory Creek Well #1, TPl. The Glendale Master System is comprised of six active wells and six points of entry (POE). Thecurrent number of customers served is 253 and the system is approved to serve 253 connections.

Aqua has compiled the requested information for Glendale Master Hickory Creek Well #1, TPl in table format on the following pages:

- Table 1 provides a summarization of well specifications, sample results, and customer complaints since the last quarterly update.
- Table 2 provides a summary of POE and distribution iron and manganese samples that will be taken on a bi-weekly basis as of September 2017 to further show positive results of our ongoing efforts to improve the clarity of the water we provide and eliminating customer complaints.
- Table 3 provides a summary of completed and planned action items.

Table 4 provides a summary of customer complaint information.

UPDATED QUARTERLY STATUS REPORT

				mg/L		N	TU*		
Well Name and No.	Approved (gpm)	Date	Ave. Run Time	Fe	Mn	Well Head	POE	Customer Complaints In Q3 2017	
	45	10/2014	4.0	0.12	0.809	63		1	
Glendale Master Hickory Creek Well		10/6/2016	4.36	0.72	0.085	644	pad		
# 1 (TP#1)		11/4/2016	4.36	64	-	<0.50			
		-		_		-			

* NTU <1 is a measure used to determine turbidity and effectiveness of sequestration. Aqua agreed to begin taking soluble/insoluble samples to determine the effectiveness of sequestration starting in September 2017.

re Sol. Fe Total Mn Sol. Mn Total Mn M
Dist. POE POE Dist. Dis
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Table 3 - Completed Activities and Planned Activities

Well Name and No.	Completed Activities	Planned Activities
Glendale Master	 September 2015 - Starting feeding	 Q1 2018 – Perform annual flushing We will continue to optimize
Hickory Creek Well # 1	SeaQuest March 2017 – Flushed system September 2017 – Started distribution	SeaQuest based on bi-weekly total
(TP#l)	and POE total and soluble sampling	and soluble sampling

Comments: Well is not used regularly to meet capacity. Customer complaint was for discolored water due to air in the lines, not Fe or Mn concentrations.

	Table 4 – Water Quality Complaints From 7/1/2017 - 9/30/2017											
SO Type	CSR Notes	Date of SO	Completion Date	Address	City State Zip	Subdivision	FSR Notes					
LABD-S	CLOUDY WATER PLEASE CHECK	9/18/2017	9/18/2017	2760 BRANTLEY DR	APEX, NC 27539-9707	BELMONT	Cl = Po4 = pH = Hardness = Iron (Fe) = Manganese (Mn) = Cloudy water due to air in line., cleared up. Need for further FSR training on post investigative 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) 653-6964.

Sincerely, Ċ

Moses A. Thompson Director of Operations Aqua North Carolina, Inc.

MAT/rl



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

> Re: Notice of Deficiency – Quarterly Update Iron and Manganese Concentration Glendale Master System Subdivision
> WSF ID No.: Well #1 (Glendale) P01 and Well #1 (Chari Heights) P02 Water System No: NC0392293

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated July 12, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Glendale Well #1, PO1. The Glendale water system is comprised of four active wells and three points of entry (POE). The current number of customers served is 253 and the system is approved to serve 253 connections.

Aqua has compiled the requested information for Well #1 (Glendale) P01 and Well #1 (Chari Heights) P02in table format on the following pages:

- Table 1 provides a summarization of well specifications, sample results, and customer complaints since the last quarterly update.
- Table 2 provides a summary of POE and distribution iron and manganese samples that will be taken on a bi-weekly basis as of September 2017 to further show positive results of our ongoing efforts to improve the clarity of the water we provide and eliminating customer complaints.
- Table 3 provides a summary of completed and planned action items.
 - Table 4 provides a summary of customer complaint information.

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UPDATED QUARTERLY STATUS REPORT

				m	g/L	N	TU*	-	
Well Name and No.	Approved (gpm)	Date	Ave. Run Time	Fe	Mn	Well Head	POE	Customer Complaints Since Last Quarter 2017	
Glendale Master Well #1 (P01)	45	10/2014	0	1.3	0.175	-	-		
		10/2014	3.5	1.99	0.024	-	-		
		11/4/2016	5	•	-	<0.5			
Chari Heights Well #1 (P02)	40	1/6/2017	5	-	-	1.4			
		4/18/2017	5.7	-	-	1.6	<0.50		
		8/9/2017	5.9	-	-	0.88	0.81	-	

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		(P02)	Tal POE an	ole 2 - (d Distril	Chari H bution Ir	eights V on and I	Vell #1 Mangano	ese Data :												
-		m	g/L	Total/Soluble																
Date	Ave. Run Time	Ave. Run	Ave. Run	Ave. Run	Ave. Run	Ave. Run	Ave. Run	Ave. Run	Ave. Run	Ave. Run)IZ a	ЪЛ	Total Fe	Sol. Fe	Total Fe	Sol. Fe	Total Mn	Sol. Mn	Total Mn	Sol. Mn
		Fe IVII	1411	POE	POE	Dist.	Dist.	POE	POE	Dist.	Dist.									
9/14/2017	6.36	6	ini .	0.758	0.135	2.28	0.572	0.0597	0.0422	0.204	0.0371									

Table 3 - Completed Activities, Customer Complaints, and Planned Activities							
Well Name and No.	Completed Activities	Planned Activities					
	 September 2015 – Started using SeaQuest March 2017 – Installed cartridge filter March 2017 – Flushed system September 2017 – Started Distribution and POE total and soluble sampling 	 Q1 2018 – Perform annual flushing We will continue to optimize SeaQuest based on bi-weekly total and soluble sampling 					

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SO Type	CSR Notes	Date of SO	Completion Date	Address	City State Zip	Subdivision	FSR Notes
							Cl =
							Po4 =
							pH =
							Iron (Fe) =
LABD-	CLOUDY WATER	Y WATER	0/19/0017	2760	APEX, NC		Manganese (Mn)
S	PLEASE CHECK	9/18/2017	9/18/2017	BRANILEI	27539-9707	BELMONT	Cloudy H2o
				DR			due to air in
							line cleared

Aqua's Late Filed Exhibit #2 Quarterly Reports to DEQ W-218 Sub 497

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) 653-6964.

Sincerely, L

Moses A. Thompson Director of Operations Aqua North Carolina, Inc.

MAT/rl

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Mr. W. Allen Hardy 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 Hampton Park Subdivision, Wake County WSF ID No.: Well #6, TP2 Water System No: NC4092084

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated July 12, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Hampton Park Well #6, TP2. The Hampton Park water system is comprised of two active wells and two points of entry (POE). The current number of customers served is 101 and the system is approved to serve 101 connections. Aqua has compiled the requested information for Well #6, TP2 in a table format on the following pages:

- Table 1 provides a summarization of well specifications, sample results, and customer complaints since the last quarterly update.
 - Table 2 provides a summary of POE and distribution iron and manganese samples that will be taken on a bi-weekly basis as of September 2017 to further show positive results of our ongoing efforts to improve the clarity of the water we provide and eliminating customer complaints.
- Table 3 provides a summary of completed and planned action items.
- Table 4 provides a summary of customer complaint information.

Updated Quarterly Status Report

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	ŋ	fable 1 - Well :	and Custor	ner Com	ıplaint D	ata:			
				m	g/L	N	TU*		
Well Name and No.	Approved (gpm)	Date	Ave. Run Time	Fe	Mn	Well Head	Entry Pt.	Customer Complaints In Q3 2017	
Hampton Park, Well #6, TP2	88	1/12/2015	1,3	.9	.23		~	8	
		5/26/2016	1.5	1.28	.23	-	-		
		4/27/2017	1.2	1.3	.262		-		
* NTU <1 is a measu	are used to dete	ermine turbidity	and effect	iveness o	f sequest	ration. Ac	ua agreed to	o begin taking	

soluble/insoluble samples to determine the effectiveness of sequestration starting in September 2017.

		Tal	ole 2 - Ham	pton Parl	k, Well #6	, тр2 W	ell and Data		<u></u>			
		[Total/Soluble									
Date Run Tim	Ave. Run	e gpm	Total Fe	Sol. Fe	Total Fe	Sol. Fe	Total Mn POE	Sol. Mn	Total Mn	Sol. Mn		
	Time		POE	POE	Dist.	Dist.		POE	Dist.	Dist.		
1/12/2015	1,3		.9	_	ч	-	.23	-		-		
5/26/2016	1.5		1.28		-	-	.23	-	-	-		
4/27/2017	1.2	88	1.3	-	-	-	.262		-	-		
09/21/2017	1.25		1.39	0.608			0.262	0.220				
Comment: Distr	ibution r	eadings	missing at ti	me of repo	ort					·		

 Table 3 - Completed Activities and Planned Activities

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Well Name and No.	Completed Activities	Planned Activities
Hampton Park, Well #6, TP2	 October 2014 – Starting using SeaQuest November 2016 – Flushed system December 2016 – Submitted request for greensand filtration January 2017 – Approval received for greensand filtration September 2017 – Started distribution and POE total and soluble sampling 	 Greensand filtration system installation by Q1 - 2018 Q4-2018 – Perform annual flushing We will continue to optimize SeaQuest based on bi-weekly total and soluble sampling
Comments:		· · · · · · · · · · · · · · · · · · ·
Installation of greensa	nd filtration unit in Q1, 2018 is expected to in	nprove water quality significantly.

Table 4 – Water Quality Complaints From 7/1/2017 - 9/30/2017								
SO Type	CSR Notes	Date of SO	Completion Date	Address	City State Zip	Subdivision	FSR Notes	
LABD-S	CUST STATES BROWN WATER	8/31/2017	8/31/2017	7933 PARKER MILL TRL	FUQUAY- VARINA, NC 27526	HAMPTON PARK	Cl = 1.1 Po4 = 2.3 pH = 7.6 Hardness = Iron (Fe) = 0.48 Manganese (Mn) = 0.157 Water was clear outside, customer flushed inside & it cleared up. Will check wells! Po4, Fe, & Mn =should not be that high will further investigate.	
LABD-S	CUST STATES BROWN WTR	8/31/2017	8/31/2017	7937 PARKER MILL TRL	FUQUAY- VARINA, NC 27526	HAMPTON PARK	C1 = 1.0 Po4 = 2.3 pH = 7.5 Hardness = 153.9 Iron (Fe) = 0.46	

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		1		1	1		<i>B</i>
							Water outside was clear, customer flushed inside & it cleared up. Will check wells! Po4, Fe,& Mn = should not be that high will further investigate
		T			·····		
							P04 =
					2		Hardness =
	CUST STATES			7933	FUOUAY-		Iron (Fe) =
LABT-S	BROWN	9/11/2017	9/11/2017	PARKER	VARINA,	HAMPTON	Manganese (Mn) =
	WATER			MILL TRL	NC 27526	PARK	Water was clear when I got here, but I did find that contractor had open Valve to get ready for pressure test on lines @ the end of this main.
	1		I	1	- <u> </u>	1	
							$C_1 = 0.9$ $P_0 4 = 1.0$
	CUSTOMER						$r_{04} = 1.9$ $r_{H} = 7.7$
	CLD TO			1000	FUOTIAN	Ì	Hardness =
LABD-S	REPORT	8/10/2017	8/14/2017	1008 IENSEN	FUQUAY-	HAMPTON	Iron (Fe) $= 0.2$
	DISCOLORED	0/10/2017	0/14/2017	GROVE CT	NC 27526	PARK	Manganese (Mn) = 0.05
	WATER						Spoke with customer , water is clear now FSR:stanfir, EVT:Lab
LABD-S	WATER IS GRAY/ BROWN SEDIMENTS IN THE WATER ALSO 919-946-3664	8/18/2017	8/18/2017	4121 HAMPTON PARK WAY	FUQUAY- VARINA, NC 27526	HAMPTON PARK	Well issues (U.T. fixed) I got a B/O running over the weekend to clear up
LABD-S	CUSTOMER REPORTING BLACK WATER AGAIN ALL AREAS OF HOME; PLZ CHECK	8/18/2017	8/18/2017	7901 PARKER MILL TRL	FUQUAY- VARINA, NC 27526	HAMPTON PARK	Well issues (U.T. fixed) I got a B/O running over the weekend to clear up
LABD-S	CUSTOMER REPORTS DISCOLORED WATER AND HE ADV IT TASTES HORRIBLE, HE ADV IT ISAFFECTING NEIGHBORS AS WELL	8/18/2017	8/18/2017	7913 PARKER MILL TRL	FUQUAY- VARINA, NC 27526	HAMPTON PARK	Well issues (U.T. fixed) I got a B/O running over the weekend to clear up
LABD-S	CUSTOMER STATES LIGHT BROWN WATER- ESPECIALY SEEN IN TOILET Director Service	8/18/2017	8/18/2017	1008 JENSEN GROVE CT	FUQUAY- VARINA, NC 27526	HAMPTON PARK	Well issues (U.T. fixed) I got a B/O running over the weekend to clear up

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

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If you have any questions or comments, please contact me at (919) 653-6964.

Sincerely,

Moses A. Thompson Director of Operations Aqua North Carolina, Inc.

MAT/rl



Mr. W. Allen Hardy 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 High Grove Subdivision, Wake County WSF ID No.: Well #1, P01 Water System No: NC4092096

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated July 12, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at High Grove Well #1, P01. The High Grove water system is comprised of three active wells and three points of entry (POE). The current number of customers served is 149 and the system is approved to serve 155 connections.

Aqua has compiled the requested information for High Grove Well #1, P01 in table format on the following pages:

- Table 1 provides a summarization of well specifications, sample results, and customer complaints since the last quarterly update.
- Table 2 provides a summary of POE and distribution iron and manganese samples that will be taken on a bi-weekly basis as of September 2017 to further show positive results of our ongoing efforts to improve the clarity of the water we provide and eliminating customer complaints.
- Table 3 provides a summary of completed and planned action items.
- Table 4 provides a summary of customer complaint information.

Aqua's Late Filed Exhibit #2 Quarterly Reports to DEQ W-218 Sub 497

UPDATED QUARTERLY STATUS REPORT

Table 1 - Well and Customer Complaint Data:								
			Ave. Run Time	mg/L		NTU*		
Well Name and No.	Approved (gpm)	Date		Fe	Mn	Well Head	POE	Customer Complaints in Q3 2017
		5/4/2016	3.2	0.369	0.177	-		
High Grove, Well	48	10/13/2016	0	-	-	<0.50	0.72	1
#1 (P01)		3/8/2017	0	-	-	<0.50	<0.50	Ţ
		8/9/2017	0.5	-	-	<0.50	<0.50	
* NTU <1 is a measur soluble/insoluble sam	re used to dete ples to determ	rmine turbidity	and effecti eness of sec	veness of questratio	sequestr n starting	ation. Aq g in Septe	ua agreed to mber 2017.	begin taking

Table 2 - High Grove Well #1, (P01) POE and Distribution Iron and Manganese Data:										
						Tot	tal/Soluble			
Date	Ave. Run Time	Ave. Run gpm 'ime	Total Fe	Sol. Fe	Total Fe	Sol. Fe	Total Mn	Sol. Mn	Total Mn	Sol. Mn
			POE	POE	Dist.	Dist.	POE	POE	Dist.	Dist.
9-14-2017	1.27	18	0.181	0.138	0.476	0.090	0.0734	0.063	0.281	0.0258
9-28-2017	1.30	07	0.182	0.037	0.810	0,106	0.095	0.081	0.609	0.0259

Comment: Recent flushing efforts have not been successful in removing the total iron & manganese particulates from our distribution system. Aqua will schedule cleaning of any hydro-pneumatic tank(s) in this system and investigate the feasibility of installing a cartridge filter. Sequestration efforts continue to aid in the process and recalibrations are being made. Higher total Iron and Manganese in Distribution System – Continue to limit well run time.

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Table 3 - Completed Activities	, Customer Complaints,	and Planned Activities
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Well Name and No.	Completed Activities	Planned Activities
High Grove, Well #1 (P01)	 September 2015 – Started using SeaQuest May 2017 – Flushed system September 2017 – Started Distribution and POE total and soluble sampling 	 Q2-2018 – Perform annual flushing Executive summary for greensand filtration currently under internal review. We will continue to optimize SeaQuest based on bi-weekly total and soluble sampling.
Comments: No new com	ments for this 3rd quarter response.	

			Table 4 – Wa	iter Quality Con	nplaints From 7	7/1/2017 - 9/30/20	17	
SO	Туре	CSR Notes	Date of SO	Completion Date	Address	City State Zip	Subdivision	FSR Notes
LA	BD-S	CUST STATES WATER IS DISCOLORED.	8/23/2017	8/23/2017	3121 LEBRUN PATH	FUQUAY- VARINA, NC 27526	High Grove	Cl = Po4 = pH = Hardness = Iron (Fe) = Manganese (Mn) = System needs flushed. Need for further training of the FSR in post investigative 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) 653-6964.

Sincerely,

Moses A. Thompson Director of Operations Aqua North Carolina, Inc.

MAT /rl

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Mr. W. Allen Hardy 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 High Meadows Subdivision, Wake County WSF ID No.: Well #2, TM1 Water System No: NC0392334

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated July 12, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at High Meadows Well #2, TM1. The High Meadows water system is comprised of two active wells and one point of entry (POE). The current number of customers served is 133 and the system is approved to serve 149 connections. Aqua has compiled the requested information for Well #2, TM1 in a table format on the following pages:

- Table 1 provides a summarization of well specifications, sample results, and customer complaints since the last quarterly update.
- Table 2 provides a summary of POE and distribution iron and manganese samples that will be taken on a bi-weekly basis as of September 2017 to further show positive results of our ongoing efforts to improve the clarity of the water we provide and eliminating customer complaints.
- Table 3 provides a summary of completed and planned action items.
- Table 4 provides a summary of customer complaint information.

Aqua's Late Filed Exhibit #2 Quarterly Reports to DEQ W-218 Sub 497

UPDATED QUARTERLY STATUS REPORT

			Ave. Run Time	mg/L		Ň	TU*		
Well Name and No.	Approved (gpm)	Date		Fe	Mn	Well Head	Entry Pt.	Customer Complaints In Q3 2017	
		4/23/2015	4.7	.95	.13		-		
High Meadows,	64	12/20/2016	5,5	**	-	8.7	.95	1	
Well #2, TM1		3/7/2017	3,6		-	6.0	1,1		
		6/16/2017	4.2			16	.60		

			Table 2	- Well a	and Custom	er Compl	aint Data:			
						Total	/Soluble	where #10-2-1-4-4-4-4		
Date	Ave. Run	gpm	Total Fe	Sol. Fe	Total Fe	Sol. Fe	Total Mn	Sol. Mn	Total Mn	Sol. Mn
Time	Time		POE	POE	Dist.	Dist.	POE	POE	Dist.	Dist.
4/23/2015	4.7	64	.95				.13			
09/15/2017	6.46		.693	.0314	.755	<0.022	.139	.0647	.0957	.0170
Comment: Higher total Iron in Distribution System – Aqua will increase flushing of distribution system and clean										
hydro-pneum micron size i	hydro-pneumatic tank. Cartridge Filter is taking out some of the Manganese, Aqua will investigate decreasing micron size if possible.									

Table 3 - (Completed Activities, Customer Comple	aints, and Planned Activities
Well Name and No.	Completed Activities	Planned Activities
High Meadows, Well #2 (TM1)	 October 2013 – Starting using SeaQuest September 2014 – Installed cartridge filter April 2017 – Flushed system September 2017 – Started distribution and POE total and soluble sampling 	 Q2-2018 – Perform annual flushing We will continue to optimize SeaQuest based on bi-weekly total and soluble sampling

	Ta	ble 4 – Wa	ter Quality (Complaints	From 7/1/2	017 - 9/21/20	17
SO Type	CSR Notes	Date of SO	Completion Date	Address	City State Zip	Subdivision	FSR Notes
LABD-S	CUSTOMER STATES WATER IS SOMETIMES BROWN	7/13/2017	7/13/2017	7900 OLD STONE WAY	WAKE FOREST, NC 27587	HIGH MEADOWS	Cl = 0.81 $Po4 = 1.82$ $pH = 7.0$ Hardness = Iron (Fe) = 0.11 Manganese (Mn) = 0.18 cust states brown wtr after pulling mtr to flush. no one home left door hanger.

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) 653-6964.

Sincerely,

Moses A. Thompson Director of Operations Aqua North Carolina, Inc.

MAT/rl

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Mr. W. Allen Hardy 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 Middle Creek Acres Subdivision, Wake County WSF ID No.: Well #1, P01 Water System No: NC0392370

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated July 12, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Middle Creek Acres Well #1, P01. The Middle Creek Acres water system is comprised of one active well and one point of entry (POE). The current number of customers served is 12 and the system is approved to serve 23 connections. Aqua has compiled the requested information for Well #1, P01 in a table format on the following pages:

- Table 1 provides a summarization of well specifications, sample results, and customer complaints since the last quarterly update.
- Table 2 provides a summary of POE and distribution iron and manganese samples that will be taken on a bi-weekly basis as of September 2017 to further show positive results of our ongoing efforts to improve the clarity of the water we provide and eliminating customer complaints.
- Table 3 provides a summary of completed and planned action items.

Aqua's Late Filed Exhibit #2 Quarterly Reports to DEQ W-218 Sub 497

UPDATED QUARTERLY STATUS REPORT

Table 1 - Well and Customer Complaint Data:									
	Approved (gpm)	Date	Ave. Run Time	mg/L		NTU*			
Well Name and No.				Fe	Mn	Well Head	Entry Pt.	Customer Complaints In Q3 2017	
		11/12/2014	1.6	1.13	0				
		7/29/2016	••		-	26	17		
1		12/16/2016	-	-	-	1.5	1.7		
Middle Creek Acres, Well #1, P01	Not specified, currently 15 gpm.	3/9/2017	-	-		1.2	.61	0	
		4/24/2017	-	-		1.1	<.50	Ŭ	
		5/10/2017	-			5.5	1.3		
		6/5/2017	-		-	1.3	,89		
	ŀ	7/7/2017		-		2.7	1.5		
* NTU <1 is a measure	* NTU <1 is a measure used to determine turbidity and effectiveness of sequestration. Aqua agreed to begin taking								

soluble/insoluble samples to determine the effectiveness of sequestration starting in September 2017.

	Table	e 2 - Middle C	reek Acr	es, Well	#1, P01	Well and	l Data:				
			Total/Soluble								
	Ave. Run		Total	Sol.	Total	Sol.	Total	Sol.	Total	Sol.	
Date		gpm	Fe	Fe	Fe	Fe	Mn	Mn	Mn	Mn	
·	Time		POE	POE	Dist.	Dist.	POE	POE	Dist.	Dist.	
8/4/2017	1.7	15	0.07		0.03		0.003		0.001		

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8/30/2017	1.7	15	0.52		0.004		0.08		0.003	
9/18/17	1.68	15	0.074	0.149	0.055	0.070	0.036	.003	.0023	.0019
Comment: Aqua's ir	nstallation	of a cartridge	filter h	as been	success	sful in re	moving	48% of	the tot	al iron
& manganese parti	culates fro	om entering th	ne distril	oution s	ystem.	Seques	tration a	and flus	hing	
continues to aid in	this proce	ss as well.								

	Table 3 - Completed Activities and Plan	med Activities
Well Name and No.	Completed Activities	Planned Activities
Middle Creek Acres, Well #1, P01	 September 2015 – Started using SeaQuest October 2016 – Flushed system October 2016 - Installed auto blow-off at well head March 2017 – Installed cartridge filter September 2017 – Started Distribution and POE total and soluble sampling 	 Q4-2018 – Perform annual flushing We will continue to optimize SeaQuest based on bi-weekly Insoluble and Soluble Sampling Continue to test the effectiveness of the flushing valve and adjusting the time to optimize the water quality
Comments:	1	

The cartridge filter, flushing, and automatic blow-off are effectively removing levels of iron to below water quality limits (POE & DIST samples of Mn are already below water quality limits).

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) 653-6964.

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Moses A. Thompson Director of Operations Aqua North Carolina, Inc.

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Sep 19 2018



September 29, 2017

Mr. W. Allen Hardy 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 Northgate Subdivision, Wake County WSF ID No.: Well #1, P01 Water System No: NC0392217

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated July 12, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Northgate Well #1, P01. The Northgate water system is comprised of one active well and one point of entry (POE). The current number of customers served is 30 and the system is approved to serve 39 connections. Aqua has compiled the requested information for Well #1, P01 in a table format on the following pages;

- Table 1 provides a summarization of well specifications, sample results, and customer complaints since the last quarterly update.
- Table 2 provides a summary of POE and distribution iron and manganese samples that will be taken on a bi-weekly basis as of September 2017 to further show positive results of our ongoing efforts to improve the clarity of the water we provide and eliminating customer complaints.
- Table 3 provides a summary of completed and planned action items.
- Table 4 provides a summary of customer complaint information.
Aqua's Late Filed Exhibit #2 Quarterly Reports to DEQ W-218 Sub 497

Well Name and No.			Ave. Run Time	mg/L		N	ΓU*	
	Approved (gpm)	Date		Fe	Mn	Well Head	POE	Customer Complaints In Q3 2017
	Not	5/24/2016	1.1	1.43	0.393		ш	
		9/1/2016	.8	~	-	0.7		
Northgate, Well #1, (P01)		12/20/2016	0.85		-	4.2	0.82	1
	•	3/8/2017	0.83		-	5.8	0.75	
		7/18/2017	1,1	-	-	3.8	0.95	

	Table 2	- Nori	thgate, Well	#1, (P01)	POE and I	Distributio	n Iron and N	Iangane	se Data:			
				Total/Soluble								
Dete	Ave,		Total Fe	Sol.		Sol.	Total Mn	Sol.	Total Mn	Sol.		
Date	Kun Time	gpm	1 Otar 1 C	Fe	i otai re	Fe	i otai ivin	Mn		Mn		
			POE	POE	Dist.	Dist.	POE	POE	Dist.	Dist.		
9/13/2017	1.48		0.168	<0.022	0.0610	<0.022	0.440	0.303	0.386	0.293		
Comment:	Aqua's l	nstalla	tion of a ca	rtridge fil	ter has bee	n succes	sful in remo	ving 27 %	% of the tota	liron		
& mangane	ese part	iculates	s from ente	ring the o	distribution	system.	Sequestrat	ion and	flushing			
continues t	o aid in	this pr	ocess as we	ອແ.								

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	med Activities				
Well Name and No.	Completed Activities	Planned Activities			
Northgate, Well #1, (P01)	 September 2015 – Started using SeaQuest September 2016 – Flushed system December 2016 – Filed for approval of greensand filtration January 2017 – Approval received for greensand filtration January 2017 – Greensand filtration project put on hold March 2017 – Installed cartridge filter June 2017 – Flushed system September 2017 – Started distribution and POE total and soluble sampling 	 Q4-2018 – Perform annual flushing We will continue to optimize SeaQuest based on bi-weekly total and soluble sampling 			
Comments:					

Aqua filed for approval from the North Carolina Utilities Commission for the installation of a filtration system at Northgate Well #1 on December 30, 2016. This request was approved by the Commission in the Order issued January 18, 2017. This project to install greensand filtration has been placed on hold. This well is located near the Guilford Fibers Facility, which is subject to a Remedial Action Plan being formulated by the owner of the Facility with the Division of Waste Management of the North Carolina Department of Environmental Quality. The Facility's owner recently contacted Aqua to request that Aqua's well be closed so as to limit any impact it may have on the remedial activities. The Facility owner also claims to have arranged for alternative water service to Aqua's customers through the water system operated by the Town of Fuquay Varina, which is within feet of Aqua's distribution system. Aqua is trying to clarify whether the closing of this well will facilitate the Remedial Action Plan, whether an alternative water supply is - in fact - available and the proposed timing for providing alternative water service to Aqua's customers. While Aqua has not yet determined whether it is appropriate to close this well and allow customers to be served through an alternative source, we believe it would not be prudent to proceed with adding additional filtering for this system until we have had a chance to fully review what the Facility Owner is proposing. Discussions with the facility owner's attorneys are currently in progress. (Please note that we believe the current filtering on the well is working to effectively limit Fe from entering the system, but Mn continues to exceed water quality standards.

	Table 4 – Water Quality Complaints From 7/1/2017 - 9/30/2017										
SO Type	CSR Notes	Date of SO	Completion Date	Address	City State Zip	Subdivision	FSR Notes				
LABD- S	CUSTOMER REPORTED BROWN WATER	9/20/2017	9/20/2017	2009 JAMES SLAUGHTER RD	FUQUAY VARINA, NC 27526- 7802	NORTHGATE	Cl = 1.3 $Po4 = 1.2$ $pH = 7.2$ Hardness = Iron (Fe) = 0.62 Manganese (Mn) = 0.122 water had cleared upon arrival. No issue with the well.				

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) 653-6964.

Sincerety,

Moses A. Thompson Director of Operations Aqua North Carolina, Inc.

MAT/rl



Mr. W. Allen Hardy 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 Olde South Trace Subdivision, Wake County WSF ID No.: Well #1, P01 Water System No: NC4392131

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated July 12, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Olde South Trace Well #1, P01. The Olde South Trace water system is comprised of one active well and one point of entry (POE). The current number of customers served is 30 and the system is approved to serve 32 connections. Aqua has compiled the requested information for Well #1, P01 in a table format on the following pages:

- Table 1 provides a summarization of well specifications, sample results, and customer complaints since the last quarterly update.
- Table 2 provides a summary of POE and distribution iron and manganese samples that will be taken on a bi-weekly basis as of September 2017 to further show positive results of our ongoing efforts to improve the clarity of the water we provide and eliminating customer complaints.
- Table 3 provides a summary of completed and planned action items.

Aqua's Late Filed Exhibit #2 Quarterly Reports to DEQ W-218 Sub 497

UPDATED QUARTERLY STATUS REPORT

		Та	ble 1 - We	ll Data:	····	алдонартан (так)		
				mg/L		N	TU*	
Well Name and No.	Yell Name and Approved No. (gpm)		Ave. Run Time	Fe	Mn	Well Head	POE	Customer Complaints In Q3 2017
Olde South Trace Well #1 (P01)	34	7/16/2016	1.9	1.33	0.3	1	-	
		11/11/2016	2	-	1	7.6	-	0
		4/20/2017	2.2	-	-	14	0.81	U
		6/18/2017	2.4	-	-	1.6	1.4	
* NTU <1 is a measured	re used to dete	rmine turbidity	and effecti	veness o	f sequest	ration. Ac	ua agreed t	o begin taking

* NTU <1 is a measure used to determine turbidity and effectiveness of sequestration. Aqua agreed to begin taking soluble/insoluble samples to determine the effectiveness of sequestration starting in September 2017.

Table 2 - Olde South Trace Well #1 (P01)Well Data:													
				Total/Soluble									
Date	Ave. Run Time	Ave. Run gpm Time	Total Fe	Sol. Fe	Total Fe	Sol. Fe	Total Mn	Sol. Mn	Total Mn Dist.	Sol. Mn Dist.			
			POE	POE	Dist.	Dist.	POE	POE					
Samples taken 09/15/2017 but have not been received	2.20	34											
	,		I						d				

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Table 3 - Completed Activities and Planned Activities

Well Name and No.	Completed Activities	Planned Activities
Olde South Trace Well #1 (P01)	 July 2014 – Started using SeaQuest December 2016 – Flushed system March 2017 – Installed cartridge filter September 2017 – Started distribution and POE total and soluble sampling 	 Q1 2018 – Perform annual flushing We will continue to optimize SeaQuest based on bi-weekly total and soluble sampling

Comments:

No new comments for this 3rd quarter response.

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) 653-6964.

Sincerely,

Moses A. Thompson Director of Operations Aqua North Carolina, Inc.

MAT/rl



Mr. W. Allen Hardy 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 River Oaks Subdivision, Wake County WSF ID No.: Well #3, P02 Water System No: NC0392096

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated July 12, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at River Oaks Well #3, P02. The River Oaks water system is comprised of two active wells and two points of entry (POE). The current number of customers served is 47 and the system is approved to serve 47 connections.

Aqua has compiled the requested information for Well #3, P02 in a table format on the following pages:

- Table 1 provides a summarization of well specifications, sample results, and customer complaints since the last quarterly update.
- Table 2 provides a summary of POE and distribution iron and manganese samples that will be taken on a bi-weekly basis as of September 2017 to further show positive results of our ongoing efforts to improve the clarity of the water we provide and eliminating customer complaints.
- Table 3 provides a summary of completed and planned action items.
- Table 4 provides a summary of customer complaint information.

Aqua's Late Filed Exhibit #2 Quarterly Reports to DEQ W-218 Sub 497

UPDATED QUARTERLY REPORT

Well Name and No.		Date	Ave. Run Time	mg/L		N	TU*		
	Approved (gpm)			Fe	Mn	Well Head	Entry Pt.	Customer Complaints In Q3 2017	
	50	5/31/2016	0.0	1.0	.077		-		
River Oaks, Well		12/5/2016	0.20	-	-	13	13	1	
#3 (P02)		3/7/2017	0.0			21	36		
		5/26/2017	0.0	-	-	<.50	.51		

		7	Table 2 - Ri	ver Oal	s, Well #	3 (P02) W	ell Data:					
				Total/Soluble								
Date	Ave. Run	gpm	Total Fe	Sol. Fe	Total Fe	Sol. Fe	Total Mn	Sol. Mn	Total Mn	Sol. Mn		
	Time		POE	POE	Dist.	Dist.	POE	POE	Dist.	Dist.		
5/31/2016	.77	50	1.0				.077					
9/15/2017			1.23	.832	.183	<0.022	.185	.177	.0219	<0.0011		
Comment: Rece 86% of the tota in the process a	ent flush l iron & s well.	ing effo mangar	orts and min nese partic	nimizing ulates o	y the use our distrik	of this we oution sys	ell have bee tem. Seque	n succe stration	essful in r n continu	emoving es to aid		

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Table 3 - Completed Activities and Planned Activities

Well Name and No.	Completed Activities	Planned Activities
River Oaks, Well #3 (P02)	 September 2015 – Starting using SeaQuest May – June 2017 – Flushed system September 2017 – Started distribution and POE total and soluble sampling 	 Q2-2018 – Perform annual flushing Greensand filtration system installation By Q1 - 2018 We will continue to optimize SeaQuest based on bi-weekly total and soluble sampling
Comments:		
Well #3 runs less than 1 he	our per day on average. It will operate in the l	ag mode and is only used during heavy

Well #3 runs less than 1 hour per day on average. It will operate in the lag mode and is only used during heavy peak demand. The water quality in this system is effectively managed to within water quality limits as verified by the DIST samples for Fe and Mn in the tables above.

	Table 4	4 – Water	Quality Con	plaints From	7/1/2017 - 9/21/	2017	
SO Type	CSR Notes	Date of SO	Completion Date	Address	City State Zip	Subdivision	FSR Notes
LABD-S	CUST REPORTS WTR IS BLACK/STATES ISSUE IS HAPPENING IN ALL FAUCETS OF HOME/PLEASE INVESTIGATE, THANK YOU	8/2/2017	8/2/2017	1121 SILVER OAKS CT	RALEIGH, NC 27614-9359	RIVER OAKS	Cl = 2 $Po4 = 0.6$ $pH = 7.4$ Hardness = 6 Iron (Fe) = 0.09 Manganese (Mn) = 0.005 Need for further FSR training on post investigative reporting; however, samples are within limits

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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) 653-6964.

Sincerely,

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Moses A. Thompson Director of Operations Aqua North Carolina, Inc.

MAT/rl

Sep 19 2018



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

> Notice of Deficiency - Quarterly Update Re: Iron and Manganese Concentration Saddleridge Subdivision, Wake County WSF ID No.: Well #20, P20 Water System No: NC4392103

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated July 12, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Saddleridge Well #20, P20. The Saddleridge water system is comprised of six active wells and five points of entry (POE). The current number of customers served is 169 and the system is approved to serve 194 connections.

Aqua has compiled the requested information for Well #20, P20 in a table format on the following pages:

- Table 1 provides a summarization of well specifications, sample 0 results, and customer complaints since the last quarterly update.
- Table 2 provides a summary of POE and distribution iron and Ģ manganese samples that will be taken on a bi-weekly basis as of September 2017 to further show positive results of our ongoing efforts to improve the clarity of the water we provide and eliminating customer complaints,
- Table 3 provides a summary of completed and planned action items.

UPDATED QUARTERLY STATUS REPORT

			Ave. Run Time	mg/L		Ň	TU*		
Well Name and No.	Approved (gpm)	Date		Fe	Mn	Well Head	Entry Pt.	Customer Complaints In Q3 2017	
	5	4/14/2015	8.14	4.5	.032		-		
Saddleridge, Well		11/11/2016	5.5			38	25		
#20 (P20)		3/6/2017	3.1	es.	La la	0,5	1.5	0	
		4/26/2017	4.7	20		0.0	0.0		

	Table 2 - Saddleridge, Well #20 (P20)Well Data:											
Total/Soluble												
Date	Ave. Run	gpm	Total Fe	Sol. Fe	Total Fe	Sol. Fe	Total Mn	Sol. Mn	Total Mn	Sol. Mn		
	Time		POE	POE	Dist.	Dist.	POE	POE	Dist.	Dist.		
09/14/2017	5.83	5	.722	<0.022	<0.022	<0.022	.00232	.00122	<0.011	<0.0110		
Comment: Aqua's installation of a cartridge filter has been successful in removing 95% of the total iron												
& manganese particulates from entering the distribution system. Sequestration and flushing												
continues to	b aid in [.]	this pro	cess as w	ell.								

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Table 3 - Completed Activities, Customer Complaints, and Planned Activities

Well Name and No.	Completed Activities	Planned Activities
Saddleridge, Well #20 (P20)	 February 2016 – Starting using SeaQuest June 2017 – Flushed system December 2016 – Cartridge filter installed September 2017 – Started distribution and POE total and soluble sampling 	 Q2-2018 – Perform annual flushing We will continue to optimize SeaQuest based on bi-weekly total and soluble sampling

Comments:

The pressure settings at Well #20 have been changed to allow the well to operate in lag mode.

As noted by the DIST sample results above, the cartridge filter, along with minimizing the usage of this well and flushing, have effectively reduced Fe and Mn levels to within water quality standards.

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) 653-6964.

Sincerely,

Moses A. Thompson Director of Operations Aqua North Carolina, Inc.

MAT/rl



Mr. W. Allen Hardy 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 Southwood-Surry Ridge Subdivision, Wake County WSF ID No.: Well #1 (Southwood) P01 and Well #3 (Cary Oaks) P03 Water System No: NC0392338

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated July 12, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Well #1 (Southwood) P01 and Well #3 (Cary Oaks) P03. The Southwood-Surry Ridge water system is comprised of these two active wells and two points of entry (POE); a new Surry Point Well #3 was just re-drilled to serve this system, but is currently off-line. The current number of customers served is 121 and the system is approved to serve 154 connections.

Aqua has compiled the requested information for Southwood Well #1 P01 and Cary Oaks Well #3 P03 in a table format on the following pages:

- Table 1 provides a summarization of well specifications, sample results, and customer complaints since the last quarterly update.
- Table 2 provides a summary of POE and distribution iron and manganese samples that will be taken on a bi-weekly basis as of September 2017 to further show positive results of our ongoing efforts to improve the clarity of the water we provide and eliminating customer complaints.
- Table 3 provides a summary of completed and planned action items.
- Table 4 provides a summary of customer complaint information.

Aqua's Late Filed Exhibit #2 Quarterly Reports to DEQ W-218 Sub 497

UPDATED QUARTERLY STATUS REPORT

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	Т	'able 1 - Well a	nd Custor	ner Com	plaint D	ata:			
				m	g/L	N	TU*		
Well Name and No.	Approved (gpm)	Date	Ave. Run Time	Fe	Mn	Well Head	POE	- Customer Complaints Since Last Quarter 2017	
		4/2014	16.2	1.1	0.6	-	•••		
		9/1/2016	18		-	1.1			
Southwood Well #1 (P01)	27	3/22/2017	14	-		4.8	1.8		
		4/20/2017	15.5	-	-	6.7	0.71		
		8/9/2017	16.7	-	•	27	0.5		
		4/2014	2.5	1.39	0.1		•••		
	P		11/3/2016	8.5	-	-	13.0		
Cary Oaks Well #3 (P03)	40	3/23/2017	.27	-	t a	4.1	2.2		
		4/20/2017	0.5		**	0.92	0.69		
		8/9/2017	3.2	-	42	1.1	0.85		
* NTU <1 is a measur soluble/insoluble sam	e used to dete ples to determ	rmine turbidity ine the effective	and effecti eness of sec	veness or questratic	f sequest on startin	ration. Aq g in Septe	ua agreed t mber 2017.	o begin taking	

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Table 2 - Southwood Well #1 (P01) POE and Distribution Iron and Manganese Data: Total & Soluble (mg/L) Ave. Total Sol. Total Sol. Total Sol. Sol. Fe **Total Fe** Date Run gpm Fe Fe Mn Mn Mn Mn Time POE POE POE Dist. Dist. POE Dist. Dist. 9/14/2017 16.88 27 0.553 0.114 1.12 0.0592 0.606 0.554 0.293 0.0903 Comment: Aqua's use of the existing cartridge filter has shown little success in removing total iron particulates before they enter the distribution system. Aqua is investigating the utilization of a smaller micron filter at this time before requesting a Greensand Filtration System to the Public Staff for review. Aqua will schedule cleaning of any hydro-pneumatic tank(s) in this system and investigate the feasibility of installing an additional cartridge filter in

series. Sequestration and flushing continue to aid in the process and recalibrations are being made.

	Table	2 - Cary ()aks #3 (P03) F	'OE and Dis	stributio	n Iron and	l Manga	nese Da	ta:	
			<u></u>		Total &	k Soluble	(mg/L)			
Date	Ave. Run	gpm	Total Fe	Sol. Fe	Total Fe	Sol. Fe	Total Mn	Sol. Mn	Total Mn	Sol. Mn
	Time	91	POE	POE	Dist.	Dist.	POE	POE	Dist.	Dist.
9/14/2017	.63	40	0.325	0.071	0.079	<0.022	0.148	0.128	0.060	0.0523
in Distributi	Lower tota on System	t l Iron & to . SeaOues	tal Manganese : t may be workii	i n Distributio ng.	on Systen	n. Lower S	loluble of	Fboth Irc	m & Ma	nganese

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Table 3 - Completed Activities and Planned Activities

Well Name and No.	Completed Activities	Planned Activities
Southwood Well #1 (P01) Cary Oaks Well #3 (P03)	 August 2013 – Started using SeaQuest September 2015- Installed cartridge filter on Southwood well #1 June 2016 – Flushed system December 2016 – Filed for approval of greensand filtration January 2017 – Received approval for greensand filtration June 2017 – Flushed system November 2017 – Greensand filter installed (start- up scheduled for 11/1/2017) September 2017 – Started Distribution and POE total and soluble sampling 	 Q2-2018 – Perform annual flushing We will continue to optimize SeaQuest based on bi-weekly total and soluble sampling
Comments: On December (Commission) for the insta Commission in the Order is system is this coming Win be placed in a backup mod there is a need for these to optimization of Seaquest as system.	r 30, 2016, Aqua filed for approval from the N ullation of a filtration system at Surry Point We ssued January 18, 2017. Anticipated completi- ter. Once this is complete Well #1 (Southwood e of operation. In the event a back-up well is 1 be placed in service. Addition of greensand fi nd regular flushing is expected to substantially	forth Carolina Utilities Commission 11 #3. This request was approved by the on date for the installation of the filtration d) P01 and Well #3 (Cary Oaks) P03 will needed, both wells will be ready for use if ltration in September, along with address water quality issues within this

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	Table	4 – Water Q	Quality Comp	laints From	7/1/2017 - 9/	30/2017	
SO Type	CSR Notes	Date of SO	Completion Date	Address	City State Zip	Subdivision	FSR Notes
LABD-S	WATER HAS BLACK SEDIMENT PLEASE CALL 919-3627893	9/15/2017	9/15/2017	4221 SURRY RIDGE CIR	APEX, NC 27539-7679	SURRY RIDGE	Cl = Po4 = pH = Hardness = Iron (Fe) = 0.9 Manganese (Mn) = 0.167 Incomplete Notes - FO Training Needed on Post Investigation Documentation
LABD-S	CUST REPORTS SEDIMENT IN THE WATER	7/10/2017	7/10/2017	4221 SURRY RIDGE CIR	APEX, NC 27539-7679	SURRY RIDGE	Cl = Po4 = pH = Hardness = Iron (Fe) = 0.05 Manganese (Mn) = 0.156 Incomplete Notes - FO Training Needed on Post Investigation Documentation

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) 653-6964.

Sincerely

Moses A. Thompson Director of Operations Aqua North Carolina, Inc.

MAT/rl

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Mr. W. Allen Hardy 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 Trapper's Creek Subdivision, Durham County WSF ID No.: Well #2, P02 Water System No: NC0332132

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated July 12, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Trapper's Creek Well #2, P02. The Trapper's Creek water system is comprised of two active wells and two points of entry (POE). The current number of customers served is 63 and the system is approved to serve 84 connections. Aqua has compiled the requested information for Well #2, P02 in a table format on the following pages:

- Table 1 provides a summarization of well specifications, sample results, and customer complaints since the last quarterly update.
- Table 2 provides a summary of POE and distribution iron and manganese samples that will be taken on a bi-weekly basis as of September 2017 to further show positive results of our ongoing efforts to improve the clarity of the water we provide and eliminating customer complaints.
- Table 3 provides a summary of completed and planned action items.
- Table 4 provides a summary of customer complaint information.

UPDATED QUARTERLY STATUS REPORT

Table 1 - Well and Customer Complaint Data:

			Ave. Run Time	m	g/L	N	TU*	
Well Name and No.	Approved (gpm)	Date		Fe	Mn	Well Head	POE	Customer Complaints In Q3 2017
		4/15/2014	2.4	0.8	0.29		**	
	75	12/21/2016	1.5	0.0392	0.0023			
Trappers Creek, Well #2 (P03)		3/24/2017	2	r.	54	0.0	<0.5	1
		5/31/2017	2,16	-		11	9.3	
		7/21/2017	1.3	-	-	2.7	3.2	

* NTU <1 is a measure used to determine turbidity and effectiveness of sequestration. Aqua agreed to begin taking soluble/insoluble samples to determine the effectiveness of sequestration starting in September 2017.

	Table 2 - Trappers Creek, Well #2 (P03) Well Data:											
Total/Soluble												
Date	Ave. Run Timo	gpm	Total Fe	Sol. Fe	Total Fe	Sol. Fe	Total Mn	Sol. Mn	Total Mn	Sol. Mn		
	IIIIt		POE	POE	Dist.	Dist.	POE	POE	Dist.	Dist.		
12/21/2016	1.5	75	.0392				.0023					
9/15/2017	0.0	75	0.598	0.032	0.501	<0.22	0.313	0.30	0.314	0.331		
9/28/2017	10.07		0.355	0.063	0.426	0.025	0.301	0.308	0.311	0.294		

Comment: Recent flushing efforts have not been successful in removing the total iron & manganese particulates from our distribution system. Aqua will schedule cleaning of any hydro-pneumatic tank(s) in this system and investigate the feasibility of installing a cartridge filter. Sequestration efforts continue to aid in the process and recalibrations are being made.

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Table 3 - Completed Activities and Planned Activities

Well Name and No.	Completed Activities	Planned Activities
Trappers Creek, Well #2 (P03)	 February 2016 – Started using SeaQuest May 2017 – Flushed system September 2017 – Started distribution and POE total and soluble sampling 	 Q2-2018 – Perform annual flushing We will continue to optimize SeaQuest based on bi-weekly total and soluble sampling Cleaning of Hydro-Pneumatic Tank Feasibility of Installing Cartridge Filter Q1-2018
Comments:		

No Aqua will schedule cleaning of any hydro-pneumatic tank(s) in this system and investigate the feasibility of installing a cartridge filter. Sequestration efforts continue to aid in the process and recalibrations are being made.

	Table 4 – Water Quality Complaints From 7/1/2017 - 9/30/2017										
SO Type	CSR Notes	Date of SO	Completion Date	Address	City State Zip	Subdivision	FSR Notes				
							Cl = 1.0				
		7/14/2017	7/14/2017				Po4 = 1.2				
					DY DI LA C	TRAPPER~S	pH = 7.1				
	DIRTY WATER			III N RIVERDALE	DURHAM, NC 27712-		Hardness = 6				
LABD-S	PLS CHECK					CREEK	Iron (Fe) = 0.09				
	TED OTHOR			DR	2067	UTID DIT	Manganese (Mn) = 0.002				
							Spoke to cust.				

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) 653-6964.

Sincerely

Moses A. Thompson Director of Operations Aqua North Carolina, Inc.

MAT/rl



Mr. W. Allen Hardy 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 Tyndrum Subdivision, Durham County WSF ID No.: Well #1, P01 Water System No: NC0332138

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated July 12, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Tyndrum Well #1, P01. The Tyndrum 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 49 connections.

Aqua has compiled the requested information for Well #1, P01 in a table format on the following pages:

- Table 1 provides a summarization of well specifications, sample results, and customer complaints since the last quarterly update.
- Table 2 provides a summary of POE and distribution iron and manganese samples that will be taken on a bi-weekly basis as of September 2017 to further show positive results of our ongoing efforts to improve the clarity of the water we provide and eliminating customer complaints.
- Table 3 provides a summary of completed and planned action items.

Aqua's Late Filed Exhibit #2 Quarterly Reports to DEQ W-218 Sub 497

UPDATED QUARTERLY STATUS REPORT

				1		.			
				m	g/L	N'	ΓU*		
Well Name and No.	Approved (gpm)	Date	Ave. Run Time	Fe	Mn	Well Head	POE	Customer Complaints In Q3 2017	
		4/10/2014	1.4	1.3	0,4		-		
Tyndrum, Well #1		3/21/2017	1.0	53	-	5.6			
(P01)	17	8/28/2017	••	No.		4.5	20	0	
		-	-	-	-	-	-		

soluble/insoluble samples to determine the effectiveness of sequestration starting in September 2017.

		Т	able 2 - PC)E and D	istribution	Iron and l	Manganese I	Data:			
						Total	Soluble				
Date	Ave. Run	gpm	Total Fe	Sol. Fe	Total Fe	Sol. Fe	Total Mn	Sol. Mn	Total Mn	Sol. Mn	
	Time		POE	POE	Dist.	Dist.	POE	POE	Dist.	Dist.	
9/14/2017	0	17	0,437	0.049	0.0474	<0.022	0.0752	0.052	0.0307	0.00184	
Comment: removing 8 continues t	Comment: Recent flushing efforts along with minimizing well run time have been successful in removing 85% of the total iron & manganese particulates our distribution system. Sequestration continues to aid in the process as well										

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Table 3 - Completed Activities and Planned Activities

Well Name and No.	Completed Activities	Planned Activities
Tyndrum, Well #1 (P01)	 February 2016 – Started using SeaQuest May 2017 – Flushed system September 2017 – Started distribution and POE total and soluble sampling 	 Q2-2018 – Perform annual flushing We will continue to optimize SeaQuest based on bi-weekly total and soluble sampling
Comments.		

As noted by the DIST sample results above, minimized use of Well #1 along with flushing have effectively reduced Fe and Mn levels to within water quality standards.

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) 653-6964.

Sincerely

Moses A. Thompson Director of Operations Aqua North Carolina, Inc.

MAT/rl



Mr. W. Allen Hardy 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 Upchurch Place Subdivision, Wake County WSF ID No.: Wells #1 and Well #4, P01 Water System No: NC4092038

Dear Mr. Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated July 12, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Upchurch Place Wells #1 and Well #4, P01. The Upchurch Place water system is comprised of two active wells and one point of entry (POE). The current number of customers served is 52 and the system is approved to serve 64 connections.

Aqua has compiled the requested information for Upchurch Place Wells #1 and Well #4, P01 in table format on the following pages:

- Table 1 provides a summarization of well specifications, sample results, since the last quarterly update.
- Table 2 provides a summary of POE and distribution iron and manganese samples that will be taken on a bi-weekly basis as of September 2017 to further show positive results of our ongoing efforts to improve the clarity of the water we provide and eliminating customer complaints.
- Table 3 provides a summary of completed and planned action items.
- Table 4 provides a summary of customer complaint information.

UPDATED QUARTERLY STATUS REPORT

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Table 1*

		Tabl	e 2 - POE a	and Dist	ribution Iro	n and M	anganese Da	nta:	- (· · · · · · · · · · · · · · · · · · ·		
			Total/Soluble								
Date	gpm	Ave. Run	Total Fe	Sol. Fe	Total Fe	Sol. Fe	Total Mn	Sol. Mn	Total Mn	Sol. Mn	
		Time	POE	POE	Dist.	Dist.	POE	POE	Dist.	Dist.	
9/13/2017 - #1	62	2.8	1,190	0.129	0.607	0.102	0.225	0.224	0.281	0.037	
9/25/2017 - #1	62	2.75	1.100	0.465	0.288	0.029	0.238	0.238	0.041	0.007	
9/25/2017 - #4	27	0	1,100	0.465	0.288	0.029	0.238	0.238	0.041	0.007	
Comments: Lo	wer con	centratic	on of Iron &	Mangan	ese in the dis	tribution	system post	flushing	in September	r shows	

that the flushing initiative has helped in decreasing the mineral buildup in the system.

Table 3 - Completed Activities, Customer Complaints, and Planned Activities

Well Name and No.	Completed Activities	Planned Activities
Upchurch Place, Well #1 and Well #4 (P01)	 March 2014 – Started using SeaQuest November 2015 – Flushed hydro tank February 2017 – Flushed system July 2017 – Flushed system September 2017 – Flushed system 	 Q1-2018 – Perform annual flushing We will continue to optimize SeaQuest based on bi-weekly total and soluble sampling

Comments:

Well #1, which has the lesser levels of iron and manganese concentrations, is supplying all the water to the system at this time; Aqua limits the run time at Well #4, which has the higher concentration of iron and manganese. Aqua only runs Well #4, when compliance sampling is needed. Aqua will continue to flush the system on an annual basis and optimize the current treatment. Aqua and the Public Staff continue to work together to seek approval for greensand filtration at this entry point.

*Table 1 was omitted from this report since it did not align with the new data gathering and formatting direction

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Sep 19 2018

	Table 4 – Water Quality Complaints From 7/1/2017 - 9/30/2017									
SO Type	CSR Notes	Date of SO	Completion Date	Address	City State Zip	Subdivision	FSR Notes			
LABD-S	CUSTOMER IS AWARE OF FLUSHING BUT WANTED TO SPEAK TO WATER QUALITY ANYWAYS REGARDING BROWN WATER	7/7/2017	7/7/2017	1559 UPCHURCH WOODS DR	RALEIGH, NC 27603	UPCHURCH PLACE	Cl = Po4 = pH = Hardness = Iron (Fe) = Manganese (Mn) = New customer/water is bad/wants filters/wants to talk to supervisor and State representative about why we can't have them after testing and Samples show fe and mn			
LABD- S	CUST ADV WATER IS BROWN IN HER TOILET.	7/6/2017	7/6/2017	1512 UPCHURCH WOODS DR	RALEIGH, NC 27603	UPCHURCH PLACE	CI = Po4 = pH = Hardness = Iron (Fe) = Manganese (Mn) = Sub, is being flushed/left door hanger/knocked on door/no answer/told Them to call if they did not get notified/told them to flush their lines at the end of the day			
LABD- S	CUST REPORTS SEDIMENT IN WATER WAS ADVISED FROM SEPTIC PLS CHECK.	8/4/2017	8/4/2017	1512 UPCHURCH WOODS DR	RALEIGH, NC 27603	UPCHURCH PLACE	Cl = Po4 = pH = Hardness = Iron (Fe) = Manganese (Mn) = She will contact Lorrie on Monday about water quality/she knows about dem/She use to be a commisionerFSR:moodyc, EVT:Lab			
LABD- S	CUSTOMER IS REPORTING BROWN WTR AND NEIGHBORS HAVING SAME ISSUE EVEN AFTERFILTERS WERE EXCHANGE AND IS CONSISTENLY BROWN	8/11/2017	8/11/2017	2021 SAGE LEAF CT	RALEIGH, NC 27603	UPCHURCH PLACE	Cl = 1.23 Po4 = 1.1 pH =7.3 Hardness = 3 Iron (Fe) =0.53 Manganese (Mn) = 0.014 LEFT TAG/ SPOKE WITH CUST.FSR:rhinerb, EVT:Lab			
LABD- S	EMAIL FROM LOUIS REPORTING DARK BROWN WATER FILLED WITH DEBRISCUST STATES HOT WATER TANK HAS BEEN FLUSHED GETTING WORST	9/21/2017	9/21/2017	1409 UPCHURCH WOODS DR	RALEIGH, NC 27603	UPCHURCH PLACE	CI = 0.8 PO4 = 2.8 pH = Hardness = Iron (Fe) = 2.8 Manganese (Mn) = mn could not be read//too high//l will open b/o in this cul de Sac for 2 days//told customer about plan			

3

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) 653-6964.

Sincerely,

Moses A. Thompson Director of Operations Aqua North Carolina, Inc.

MAT/rl

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Mr. W. Allen Hardy 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 Wakefield Plantation Subdivision, Wake County WSF ID No.: Well #6, P06 Water System No: NC0392155

Dear Mr, Hardy:

Aqua North Carolina, Inc. (Aqua) received the above-referenced letter dated July 12, 2016, regarding elevated concentrations of Iron (Fe) and Manganese (Mn) at Wakefield Well #6, P06. The Wakefield water system is comprised of four active wells and four points of entry (POE). The current number of customers served is 160 and the system is approved to serve 174 connections.

Aqua had compiled the requested information for Wakefield Well #6, P06 in table format on the following pages:

- Table 1 provides a summarization of well specifications, sample results, and customer complaints since the last quarterly update.
- Table 2 provides a summary of POE and distribution iron and manganese samples that will be taken on a bi-weekly basis as of September 2017 to further show positive results of our ongoing efforts to improve the clarity of the water we provide and eliminating customer complaints.
- Table 3 provides a summary of completed and planned action items.
- Table 4 provides a summary of customer complaint information.

Aqua's Late Filed Exhibit #2 Quarterly Reports to DEQ W-218 Sub 497

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UPDATED QUARTERLY STATUS REPORT

		}		mg/L		NTU*			
Well Name and No.	Approved (gpm)	Date	Ave. Run Time	Fe	Mn	Well Head	Entry Pt.	Customer Complaints In Q3 2017	
Wakefield Well #6, (P06)	88	4/25/2016	6.8	1.53	,23	-	944-1931-1947-1947-1947-1947-1947-1947-1947-194		
		12/21/2016	3.9	1.72	.27	-	-	1	
		4/27/2017	5.7	-		2,1	0.0		
		8/10/2017	3.39	-	-	4.8	.75		
* NTU <1 is a measure	e used to deter	mine turbidity	and effectiv	reness of	sequestra	ation. Aqu	a agreed to	begin taking	

soluble/insoluble samples to determine the effectiveness of sequestration starting in September 2017.

1

		Ta	ble 2 - POI	E and Di	stribution l	fron and	Manganese	Data:			
			Total/Soluble								
Date	Ave. Run	gpm	Total Fe	Sol. Fe	Total Fe	Sol. Fe	Total Mn	Sol. Mn	Total Mn	Sol. Mn	
	Time		POE	POE	Dist.	Dist.	POE	POE	Dist.	Dist.	
09/13/2017	3.39	88	1.84	0.137	1.40	0.317	0.200	0.252	0.126	0.0989	
Comment: Co	ontinue t	o flush s	system until	Greensa	nd Filtration	System	is installed				

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Table 3 - Completed Activities, Customer Complaints, and Planned Activities

Well Name and No.	Completed Activities	Planned Activities
Wakefield Well #6, (P06)	 March 2013 - Cleaned hydro tank October 2014 - Starting using SeaQuest March 2016 - Received approval for greensand filtration March 2017 - Flushed system September 2017 - Started Distribution and POE total and soluble sampling 	 Q1-2018 – Perform annual flushing Greensand filtration system installation By – 2018 We will continue to optimize SeaQuest based on bi-weekly total and soluble sampling
Comments: Because of challenges wells, installation of a	Aqua has encountered in obtaining the necess filtration system has been delayed until at least	ary water line easement between these two st 2018.

SO Type	CSR Notes	Date of SO	Completion Date	Address	City State Zip	Subdivision	FSR Notes
LABD- S	CUST STATED DISCOLORED WTR PLEASE INVESTIGATE	7/7/2017	7/10/2017	6200 STONEY BLUFF CT	WAKE FOREST, NC 27587-6206	WAKEFIELD PLANTATION	Cl = 0.17 $Po4 = 1.52$ $pH = 6.9$ Hardness = 0.00 Iron (Fe) = 0.11 Manganese (Mn) = 0.016 Water clear at this time. Must have filter/softener. Left d/h.FSR:cottone, EVT:Lab

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) 653-6964.

Sincerely

Moses A. Thompson Director of Operations Aqua North Carolina, Inc.

MAT/rl