Beggs, Tauren R - DNR

From: Halbur, Kathy <halbur.kathy@epa.gov>
Sent: Monday, April 06, 2015 12:16 PM
To: Beggs, Tauren R - DNR; Merry, JaNelle P - DNR
Cc: Kondreck, Robert
Subject: As+3 Treatment System for Aniwa, WI resident
Attachments: WIRothschild150402.xls; Application Worksheet spreadsheet.xlsx

Hi Tauren/Janelle:

Can you please provide me your input on this matter? Whatever system we put in place needs to be good with you guys...

Thanks!
Kathy

Kathy Halbur
Federal On-Scene Coordinator
United States Environmental Protection Agency, Region 5
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Report spills to the National Response Center at:
-800-424-8802, or
-www.nrc.uscg.mil.

From: Kondreck, Robert [mailto:robert.kondreck@tetratech.com]
Sent: Monday, April 06, 2015 10:04 AM
To: Halbur, Kathy
Subject: FW: As+3 Treatment System for Aniwa, WI resident

Hi Kathy,
I have two questions and a comment before I can respond back to culligan:

1) Culligans recommendation did not include the WDNR approved As III system instead they have an RO system with an AS III filter. Do we need to use the approved AS III system?
2) Is a water softener an available option or is this considered water quality improvement. Culligan does say it is used as a pretreatment.

The comment: Culligan suggest the coliform was due to sampling error on the faucet. I did a little research and faucets should have the aerators removed and decontaminated with a 50-50 bleach solution (WDNR suggest heating although it

would have burned the faucet) prior to sampling. None of which I did when I collected a sample. Therefore the coliform could be a product of bacteria within the faucet.

See below for Culligan response.
Thanks,
Rob

From: Tim F. James [mailto:Tim.James@culliganh2o.com]
Sent: Monday, April 06, 2015 9:16 AM
To: Kondreck, Robert
Subject: FW: As+3 Treatment System for Aniwa, WI resident

Robert,
Attached is the email from Chris Fikins which is one of the more senior engineers with Culligan Int'l. with his recommendations to treat the water source we discussed. Once you have reviewed his data and feel confident with his recommendation I can proceed with pricing the equipment to remedy your concerns.

From: Filkins, Chris [mailto:Chris.Filkins@culligan.com]
Sent: Thursday, April 02, 2015 11:27 AM
To: Tim F. James
Subject: RE: As+3 Treatment System for Aniwa, WI resident

Tim,

Depending on where you look on the analysis, the arsenic level varies from 11.1 ppb to less than 4 ppb. The arsenic speciation test shows 4.41 ppb total inorganic arsenic, with 4.03 ppb (91%) present as As III. I suspect varying numbers may be due to the presence of iron that, in its oxidized form, can adsorb arsenic from the water. Depending on how the sample is processed, the arsenic level could be higher or lower than the actual level.

If this was my water supply, I would want a Softener-Cleer softener to reduce levels of hardness, soluble iron, and manganese; and an Aqua-Cleer RO system with an AS3 specialty cartridge for reducing levels of arsenic. The chlorine generator in the softener should prevent growth of iron bacteria in the media tank and removal of soluble iron should prevent IB growth after the softener.

For whole-house treatment, the Softener-Cleer softener would be used as pretreatment for an Arsenic Reduction Smart filter. Sizing and estimated media life would involve filling out the Arsenic Filter Application worksheet (copy attached) and sending it to carolyn@adedgetechnologies.com . Carolyn Spencer will return a site profile with the recommended filter size (based primarily on flow rate) and estimated media life (based primarily on water chemistry). I have attached a summary spreadsheet for you to forward to Carolyn so she will not have to wade through the original analysis.

I believe the positive Total Coliform result from the kitchen faucet was due to a sampling error (faucet not sterilized), but the test should be repeated to be sure.

Chris Filkins

Problem Water Engineer

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From: Tim F. James [mailto:Tim.James@culliganh2o.com]
Sent: Thursday, April 02, 2015 7:09 AM
To: Filkins, Chris
Subject: FW: As+3 Treatment System for Aniwa, WI resident

Good Morning Chris,
Attached is a water analysis that was sent to me by a consumer with concerns relating to the arsenic in their water. I was wondering if you could look this analysis over and make a recommendation for the treatment of their water. Thanks Chris

Tim James
Operations Manager
Sterling Water / Culligan
715-355-7060

From: Kondreck, Robert [mailto:robert.kondreck@tetratech.com]
Sent: Wednesday, April 01, 2015 5:56 PM
To: Tim F. James
Subject: As+3 Treatment System for Aniwa, WI resident

Hi Tim,
As discussed on the telephone earlier today; I'm looking to install a WDNR approved POE Arsenic +3 treatment system at a single residential home in Aniwa, WI. Laboratory samples were collected from the first entry point (before any pumps) into the building (TIMM-0315A) and at the kitchen faucet (TIMM-0315B).

We did not take flow rates however I do know the pipe leading from the potable well to the pressure tank was <1" copper. We can have someone do a flow rate if the size of the pipe does not tell us enough. Please let me know if you need more information or when we will be able to get an estimate.
Thank you,
Rob

Robert Kondreck, PG | Geologist
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CWC, Rothschild, WI

NTU							
Cond.				TDS			
Color							
pH	7.5		7.45				
Cations				Anions			
	element	CaCO3			element	CaCO3	
Ca	58.7	146.8	58.1	Cl		0.0	
Mg	29.3	120.7	29.5	NO3 (N)	0.2	0.6	<0.04
Na	1.46	3.1	2.43	SO4		0.0	
K	2.4	3.1	1.5	HCO3	0.0		
Ba	0.0203			CO3			
Sr				NO2 (N)			
Fe	3.1		3.23	F		0.0	
Mn	0.19			SiO2			
Cu	0.0038		0.0017	As	0.0112		(91.3% As III)
Zn	0.0307		0.0162	V	<0.0008		
Al	<0.006						
Pb	<0.0014						
Tot. Cations		273.6		Tot. Anions		0.6	
TH		267.5					
TH (gpg)		15.6		CO2			

T.Coliform	Absent	
E.coli	Absent	(present at kitchen faucet)
Iron Bact	Present	
SRB	Absent	

Culligan®

Residential Arsenic Reduction Systems

Point-of-Entry Application / Site Profile

For Culligan Systems Only

Contact Information

Customer:		Date (mm/dd/yy) :	
Location:		Dealer Contact:	
Dealership:		Phone:	
Dealer #:		Fax:	
Desired Install Date:		Email:	
Other pertinent Notes:			

System Parameters

Application:		Residential, commercial, other
Size / Type:		Single family, multiple family, etc.
Design Flow (GPM):		(Max design flow rate)
Ave Flow (GPM):		(Typical demand)
Gallons per day usage:		(Ave throughput per day)
Est. Gals per Year:		(Best estimate)
Existing Water Treatment:		
Planned Pretreatment:		
Sample Location:		

Site specific notes

Water Analysis

(enter all available)

** priority parameters

pH **			Tannins**		mg/L
Total As **		mg/L	Silica **		mg/L
As(III)		mg/L	Sulfides**		mg/L
Alkalinity		mg/Las $CaCO_3$	Sulfate		mg/L
Hardness		mg/L as $CaCO_3$	Iron **		mg/L
Turbidity		NTU	Manganese **		mg/L
Phosphate **		mg/L	Vanadium		mg/L