OGMCOAL - Crandall polymer test, NSF60 info

From: Kevin Lundmark
To: Steve Christensen
Date: 2/15/2011 6:56 AM
Subject: Crandall polymer test, NSF60 info
CC: Dana Marrelli; OGMCOAL
Attachments: NSF60BrenntagFeCl3.pdf

Good morning Steve,
I wanted to close the loop on a few outstanding issues for Crandall and get this info into the file.

1. Polymer test part 1 - I spoke with Randy Wilcox of WaterSolve last Wednesday regarding the 1 ppm assumption for the polymer test. The January 2011 total Al result for the effluent at Crandall (emailed by Dana M 2/9) was 0.1 mg/L, which compares well with the laboratory analyses of a 1 ppm coagualant solution. Assuming that total Al concentrations remain at about 0.1 mg/L in the effluent at Crandall, then the 1 ppm coagulant assumption for the polymer test seems reasonable.

2. Solve 3 NSF60 - Genwal is considering switching from NALCO aluminum-based coagulant (8187) to a WaterSolve iron-based product (Solve 3). The MSDS for Solve 3 does not have NSF60 information. I checked the NSF website (http://www.nsf.org/certified/PwsChemicals/) and could not find Solve 3 listed. Randy W informed me that Solve 3 is manufactured by another company, and followed up with an email identifying the manufacturer (Brenntag Great Lakes, LLC). I have attached a .pdf of the NSF60 certification for the Brenntag Lakes LLC ferric chloride product, which is 250 mg/L and agrees with the value that Dana M had reported in her original email notifying Daron Haddock about the potential change in chemicals at Crandall.

3. Polymer test part 2 - If Genwal switches to the WaterSolve iron-based coagulant (Solve 3), then we will expect that a check be performed for confounding effects on the polymer titration test. If the flocculant is switched from Nalco 7763 to Watersolve Solve 151 (both are polyacrylamide products) then at a minimum a new calibration curve for the residual polymer titration test must be prepared.
Thanks and let me know if you have any questions,
Kevin

>>> Randy Wilcox <randyw@gowatersolve.com> 2/9/2011 2:46 PM >>>
Kevin,
It was a pleasure speaking with your earlier. The NSF listing for this product is under Brenntag Great Lakes, LLC and is listed as Ferric Chloride (38-42%). We will likely have this product manufactured at another location for longer term use and will provide the NFS listings.
Per our conversation, assuming that the recommended products perform as expected and the facility elects to use them on an on-going basis, the residual coagulant and flocculent determinations will be made in a similar manner.
Thanks,
Randy

On Thu, Feb 3, 2011 at 9:56 AM, Kevin Lundmark <kevinlundmark@utah.gov> wrote:

> Hi Dana,
> Thanks for getting this analysis performed and sending the results along. I wanted to provide Genwal some feedback on these and ask some follow up questions.
> The reason that I requested the analysis of a 1 ppm Nalco 8187 (coagulant) solution was to corroborate the assumed 1 ppm coagulant concentration for the polymer titration test. Based on the work performed by WaterSolve, the settling curve for the polymer clay test is dependent on the coagulant concentration in the water used to prepare the standards (and the water being tested). I understand that WaterSolve was instructed by Genwal to use a 1 ppm coagulant concentration; however, basis for selecting 1 ppm was not clear to me.
> The results from the January 2011 analysis of a 1 ppm Nalco 8187 solution (the SGS report your provided

1/31) indicate that the total aluminum concentration of a 1 ppm coagulant solution is 0.13 mg/L. The total aluminum concentration in treated minewater samples analyzed by Genwal between March and November 2010 have ranged from 0.27 mg/L to 2.34, with most results being greater than or equal to 0.5 mg/L. The pH reported by SGS for the 1 ppm coagulant solution (7.80) is generally comparable with the pH values reported for treated minewater between March and November 2010 (7.06 to 8.07).
Based on the information available, and absent any other explanation from Genwal or your consultants, the 1 ppm coagulant concentration assumption for the polymer test seems questionable. It may be more appropriate to use a higher concentration, say 5 ppm. Can you please discuss with WaterSolve, SGS or NALCO, as appropriate, and get back to us with either an explanation of why 1 ppm is appropriate or a plan to modify the polymer test procedure. I'd also like to get an explanation of the 2nd page of the scan you sent 1/31, as that does not appear to be a laboratory report.
Please feel free to call if you have any questions.
Regards,
Kevin
Kevin Lundmark
Environmental Scientist II
Division of Oil, Gas & Mining
kevinlundmark@utah.gov
(801)538-5352

>>> "Marrelli, Dana" <dmarrelli@coalsource.com> 1/31/2011 12:13 PM >>>
Hello Kevin,
Here is the Aluminum and pH information you requested on the 1ppm coagulant.
Please let me know if you need anything else.
Thank you,
Dana

-----Original Message-----
From: Xerox_UEI@coalsource.com [mailto:Xerox_UEI@coalsource.com]
Sent: Monday, January 31, 2011 12:00 PM
To: Marrelli, Dana
Subject: Scan from West Ridge Main Office

Please open the attached document.

Attachment File Type: PDF

Device Name: WRMainColorXerox

UtahAmerican Energy, Inc.
West Ridge Resources, Inc.
435.888.4000

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Alert: NSF is concerned about fraudulent downloading and manipulation of website text. Always confirm this information by clicking on the below link for the most accurate information: http://www.nsf.org/Certified/PwsChemicals/Listings.asp?CompanyName=Brenntag+Great+Lakes+LLC+&ChemicalName=Ferric+Chloride&

NSF/ANSI STANDARD 60
Drinking Water Treatment Chemicals - Health Effects

Brenntag Great Lakes LLC

4420 North Harley Davidson Avenue
Wauwatosa, WI 53225
United States
262-252-3550
Visit this company's website

Facility : Ft. Wayne, IN

Ferric Chloride

Trade Designation	*Product Function*	*Max Use*
Ferric Chloride 37-42%	Coagulation & Flocculation	250mg/L
Ferric Chloride Liquid 38-42%	Coagulation & Flocculation	250mg/L

Number of matching Manufacturers is 1
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