To: Dave Larsen[dlarsen@reiengineering.com]
Cc: Egan, Robert[egan.robert@epa.gov]; KHanson@ldftribe.com[KHanson@ldftribe.com]; Robinson, John H - DNR[John.Robinson@wisconsin.gov]; Fassbender, Judy L - DNR[Judy.Fassbender@wisconsin.gov]
From: Saari, Christopher A - DNR
Sent: Fri 12/2/2016 9:39:27 PM
Subject: RE: Tower Standard Proposed Well Locations - PECFA Perspective

Hi Dave:

I took some time today to more fully evaluate your proposal as well as the recommendations forwarded by EPA and Bristol, and I'd like to provide you with some likely sideboards for drawing up a scope of work (for both drilling contractors and PECFA cost request purposes). I tend to agree with most of what has been proposed so far. My comments will follow the numbering scheme in Bob Egan's November 2 message.

1. I agree with the need for this well nest, as well as the proposed screen depths. I also agree with your recommendation to move the location slightly to the north and west. We should use data from the previous investigation to help inform our decisions.

2. I agree with the need for and location of this well nest, but there is a discrepancy between Bob's recommendation (shallow and mid-depth screens) and Tom Kady's recommendation (mid-depth and deep screens). I think the shallow and mid-depth screens would be more useful at this location, as the PID response from MIP2 pointed to smear zone contamination that decreased with depth.

3. I agree with the location and screen depths proposed here.

4. I agree with the need for and location of wells here, but I do not think a shallow well is essential for defining the degree and extent of contamination or as part of a post-remedial monitoring network, and my recommendation would be to not include the shallow well in the PECFA drilling scope of work. By this point in the plume configuration, dissolved contamination (per the PID readings in MIP 14) was found only at depth.

5. I agree with the need for these wells and the proposed screen depths, and I would concur with your proposal to relocate the nest slightly to the west.

6. Bristol background well nest – I would recommend that this well nest not be included in the PECFA drilling scope of work. I think this nest would be somewhat duplicative of the proposed #1 well nest, and I do not think it is an essential location for defining the degree and extent of contamination or as part of a post-remedial monitoring network.

With the completion of this proposed scope of work, we will have expended approximately $150,000 of PECFA funds on monitoring well installations at this site. I hope that you are able to arrange for the installation of these monitoring wells yet in December. I also hope that we can then begin to focus more on selecting, designing and implementing a remedy here.

Feel free to contact me if you have questions. I'd be happy to explain my recommendations/comments when we talk on Tuesday. Have a good weekend.

We are committed to service excellence.

Visit our survey at http://dnr.wi.gov/customersurvey to evaluate how I did.

Chris Saari

Phone: (715) 685-2920

Christopher.Saari@Wi.gov

From: Dave Larsen [mailto:dlarsen@reiengineering.com]
Sent: Tuesday, November 29, 2016 11:11 AM
To: Egan, Robert; KHanson@ldftribe.com; Saari, Christopher A - DNR; Robinson, John H - DNR; Fassbender, Judy L - DNR
Cc: Kamke, Sherry; Dee.allen@ldftribe.com; Faust, Matt
Subject: Proposed Well Locations
Importance: High

Hello all. REI has been in contact with drilling contractors to see if we can get the proposed wells installed in 2016. I heard back yesterday from one contractor that they have availability from December 7-16 and was hoping that we would be able to expedite an approval to allow the wells to be installed during that period of drilling availability. Can we arrange a conference call for tomorrow, Wednesday Nov 30th at 1:00 pm central? **Please respond with your availability, if this date/time does not work, please provide alternative(s).**

I have taken all the proposed locations (thank you to Bob Egan, Tom Kady and the folks at Bristol) and included them on the attachment.

- The well placements proposed by Tom Kady are identified in **RED**
- The well placements proposed by REI are identified in **Green**
- The well placements identified by Bristol are in **Blue**

For the most part we all are in agreement on the approximate locations of the proposed wells. I recommended moving the locations of EPA proposed Well #1 and #5. I recommend moving #1 nearer the REI proposed location mainly due to the historical location of nested wells MW6 and MW7 from the initial investigation (figure is attached). Both wells were essentially non-detect for each sampling event. REI also referenced historical well MW8 and it too was essentially non-detect for each sampling event. I split the difference between the Bristol recommended location (by MW8) and the EPA recommended location (by MW's 6-7). But the group can decide on final locations. I also recommend moving proposed well location #5 further west near the former locations of the MW13 historical well nest (FYI - these wells were also non-detect).

- Historic Investigation Well Construction Data

o MW6: 15' depth and 10' screen

o MW7: 40' depth and 5' screen

o MW8: 40' depth and 5' screen

o MW13s: 33' depth and 5' screen

o MW13d: 50' depth and 5' screen

I am not sure if we can get the #4 well location wells installed along the spit between the pond and the lake. The drillers equipment is very big and there may not be enough room for the rig, support truck and everything else needed to install and well. If we can agree to move forward I will provide the driller with the proposed locations and rely on his recommendations regarding accessibility to the proposed locations.

Timing is pretty critical, the driller is looking at up to 7 days to complete and I am trying to assist in reducing it to 5 days. We will need to notify the off-site property owners and get their blessing to access their property. We will also need to complete a diggers hotline locate (3

business day advance notice is required) and I will have to try to find a disposal option for the significant volume of water that will be generated.

Thank you,

David N. Larsen P.G

Hydrogeologist / Professional Geologist

REI
CIVIL & ENVIRONMENTAL ENGINEERING, SURVEYING
4080 N. 20th Avenue
Wausau, WI 54401
REIengineering.com

David N. Larsen, P.G.
Hydrogeologist
Dlarsen@REIengineering.com

Tel: 877-734-7745
715-675-9784
Cell: 715-551-3434
Fax: 715-675-4060

Connect with us :

Confidentiality Notice: This message is intended for the recipient only. If you have received this e-mail in error please disregard.

From: Egan, Robert [mailto:egan.robert@epa.gov]
Sent: Tuesday, November 29, 2016 8:16 AM
To: KHanson@ldftribe.com; Christopher A Saari <Christopher.Saari@Wisconsin.gov>; Dave Larsen <dlarsen@reiengineering.com>
Cc: Kamke, Sherry <Kamke.Sherry@epa.gov>; Dee.allen@ldftribe.com
Subject: Bristol recommendations on additional well locations

All,

I asked Matt Faust and Bob Allen at Bristol to look at our additional well recommendations. Matt's message back to me is copied below:

Bob Allen and I went over the recommended well locations in your email correspondence with Tom Kady and largely concur with all of the proposed wells.

At a lower priority, we would also recommend a true background well pair immediately up-gradient (north) of the plume. Somewhere in the vicinity of 272,500 N, 1,990,650 E. One of the potential benefits would be the data gathered on redox chemistry of the aquifer immediately before entering the impacted zone.

Please let me know if you have any questions.

Regards,

Bob

Bob Egan

Corrective Action Manager

Underground Storage Tanks Section

RCRA Branch

EPA Region 5

(312) 886-6212

(312) 692-2911 (fax)