To: KHanson@ldftribe.com[KHanson@ldftribe.com]; Egan, Robert[egan.robert@epa.gov]; Saari, Christopher A - DNR[Christopher.Saari@wisconsin.gov]
Cc: Kamke, Sherry[Kamke.Sherry@epa.gov]; Kady, Thomas[Kady.Thomas@epa.gov]; Dee.allen@ldftribe.com[Dee.allen@ldftribe.com]
From: Dave Larsen
Sent: Wed 11/9/2016 9:48:20 PM
Subject: RE: Recommendations for additional well locations at the Tower Standard site

I suggest we follows Chris's recommendation and try to have the discussion. All costs requests will need to be generated by REI and Chris and I can work through funding details when we have a better idea on number and location of wells along with construction details.

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.
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Fax: 715-675-4060

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From: Hanson, Kristen [mailto:KHanson@ldftribe.com]

Sent: Wednesday, November 09, 2016 2:16 PM
To: Egan, Robert <egan.robert@epa.gov>; Saari, Christopher A - DNR <Christopher.Saari@wisconsin.gov>; Dave Larsen <dlarsen@reiengineering.com>
Cc: Kamke, Sherry <Kamke.Sherry@epa.gov>; Kady, Thomas <Kady.Thomas@epa.gov>; Allen, Dee <dee.allen@ldftribe.com>
Subject: RE: Recommendations for additional well locations at the Tower Standard site

I prefer to schedule when Chris is available. This sounds to be next week. The comments may reflect in cost considerations.

Kristen

From: Egan, Robert [mailto:egan.robert@epa.gov]
Sent: Wednesday, November 09, 2016 2:07 PM
To: Saari, Christopher A - DNR; Dave Larsen; Hanson, Kristen
Cc: Kamke, Sherry; Kady, Thomas; Allen, Dee
Subject: RE: Recommendations for additional well locations at the Tower Standard site

I'm OK with going ahead if others feel the same.

Bob Egan

Corrective Action Manager

Underground Storage Tanks Section

RCRA Branch

EPA Region 5

(312) 886-6212

(312) 692-2911 (fax)

From: Saari, Christopher A - DNR [mailto:Christopher.Saari@wisconsin.gov]

Sent: Wednesday, November 09, 2016 1:37 PM
To: Dave Larsen <dlarsen@reiengineering.com>; KHanson@ldftribe.com; Egan, Robert <egan.robert@epa.gov>
Cc: Kamke, Sherry <Kamke.Sherry@epa.gov>; Kady, Thomas <Kady.Thomas@epa.gov>; Dee.allen@ldftribe.com
Subject: RE: Recommendations for additional well locations at the Tower Standard site

I am not available tomorrow or Friday. I have provided my thoughts on the wells already, so please have the call without me if you find a time that works for everyone else.

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: Wednesday, November 09, 2016 1:24 PM
To: Hanson, Kristen; Saari, Christopher A - DNR; Egan, Robert
Cc: Kamke, Sherry; Kady, Thomas; Allen, Dee
Subject: RE: Recommendations for additional well locations at the Tower Standard site

If we can schedule the discussion for 2-3 pm tomorrow, I should be able to make it.

Thank you,

David N. Larsen P.G

Hydrogeologist / Professional Geologist

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From: Hanson, Kristen [mailto:KHanson@ldftribe.com]
Sent: Wednesday, November 09, 2016 1:12 PM
To: Saari, Christopher A - DNR <Christopher.Saari@wisconsin.gov>; Dave Larsen <dlarsen@reiengineering.com>; Egan, Robert <egan.robert@epa.gov>
Cc: Kamke, Sherry <Kamke.Sherry@epa.gov>; Kady, Thomas <Kady.Thomas@epa.gov>; Allen, Dee <dee.allen@ldftribe.com>
Subject: RE: Recommendations for additional well locations at the Tower Standard site

Good Afternoon,

I am not available this afternoon. I am available tomorrow after 2 pm or next week.

Kristen

From: Saari, Christopher A - DNR [mailto:Christopher.Saari@wisconsin.gov]
Sent: Wednesday, November 09, 2016 12:58 PM
To: Dave Larsen; Egan, Robert; Hanson, Kristen
Cc: Kamke, Sherry; Kady, Thomas
Subject: RE: Recommendations for additional well locations at the Tower Standard site

I'm tied up on a call from 2 till 3 but otherwise open.

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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: Wednesday, November 09, 2016 11:27 AM
To: Egan, Robert; Saari, Christopher A - DNR; KHanson@ldftribe.com
Cc: Kamke, Sherry; Kady, Thomas; Robinson, John H - DNR
Subject: RE: Recommendations for additional well locations at the Tower Standard site

Just following up to see if there is a possibility of installing the remaining perimeter wells at Tower yet this year. Bob stated that he should be available to discuss well locations and construction details today, I also should be in the office all day. Prompt response is appreciated.

Thank you,

David N. Larsen P.G

Hydrogeologist / Professional Geologist

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From: Egan, Robert [mailto:egan.robert@epa.gov]
Sent: Friday, November 04, 2016 1:40 PM
To: Dave Larsen <dlarsen@reiengineering.com>; Saari, Christopher A - DNR <Christopher.Saari@wisconsin.gov>; KHanson@ldftribe.com
Cc: Kamke, Sherry <Kamke.Sherry@epa.gov>; Kady, Thomas <Kady.Thomas@epa.gov>; Robinson, John H - DNR <John.Robinson@wisconsin.gov>
Subject: RE: Recommendations for additional well locations at the Tower Standard site

Thanks for getting back to everyone.

We have not yet heard back from Kristen about her preferences on locations. I would like to discuss ideas about locations if everyone is available and ready.

I am available Monday through Wednesday next week.

Bob Egan

Corrective Action Manager

Underground Storage Tanks Section

RCRA Branch

EPA Region 5

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From: Dave Larsen [mailto:dlarsen@reiengineering.com]
Sent: Friday, November 04, 2016 1:22 PM
To: Egan, Robert <egan.robert@epa.gov>; Saari, Christopher A - DNR <Christopher.Saari@wisconsin.gov>; KHanson@ldftribe.com
Cc: Kamke, Sherry <Kamke.Sherry@epa.gov>; Kady, Thomas <Kady.Thomas@epa.gov>
Subject: RE: Recommendations for additional well locations at the Tower Standard site

Sounds good Bob and I do appreciate you taking the lead and providing a recommendation we can work from. Could we possibly have further discussion next week to firm up final locations, depths and screen lengths along with construction preferences? This will allow me to reach out to drilling firms to determine interest/availability and we may be able to get the wells installed yet this year.

Thank you,

David N. Larsen P.G

Hydrogeologist / Professional Geologist

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From: Egan, Robert [mailto:egan.robert@epa.gov]
Sent: Friday, November 04, 2016 12:08 PM
To: Dave Larsen <dlarsen@reiengineering.com>; Saari, Christopher A - DNR <Christopher.Saari@wisconsin.gov>; KHanson@ldftribe.com
Cc: Kamke, Sherry <Kamke.Sherry@epa.gov>; Kady, Thomas <Kady.Thomas@epa.gov>
Subject: RE: Recommendations for additional well locations at the Tower Standard site

Dave,

Thanks for the information. My locations were just to get the discussion started. I remember there also being a VAS location west of the 16 well nest and that the plume seems narrow in that area. I think we can all talk about whether there is a need to have wells near the edge of the plume. With the medium and deep wells at 16 being highly contaminated we would normally put wells outside this area but there is previous information in that area that shows that contaminant levels quickly drop off to the west.

Bob

Bob Egan

Corrective Action Manager

Underground Storage Tanks Section

RCRA Branch

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(312) 692-2911 (fax)

From: Dave Larsen [mailto:dlarsen@reiengineering.com]
Sent: Friday, November 04, 2016 9:18 AM
To: Saari, Christopher A - DNR <Christopher.Saari@wisconsin.gov>; Egan, Robert <egan.robert@epa.gov>; KHanson@ldftribe.com
Subject: RE: Recommendations for additional well locations at the Tower Standard site

Bob, I attached figures depicting locations of the MW13 well nest from the initial investigation along with summary lab tables. Is this sufficient to close the data gap west of MW16? I know the data is 10+ years old, but may be useful. The shallow well (13s) was screened from 33-28' and the deep (13d) was screened from 50-45'.

Assumed well depths:

Shallow wells: 15' depth with 10' screen lengths

Mid-Range: 40' depth with 5' screen

Deep: 60' depth with 5' screen. Well location #4 – well to be screened from 55-50' based on MIP data.

#4 location may need to be drilled with an ATV rig – I will need to discuss with drillers.

All PZ's to be blind drilled and grouted and MW's are to be logged.

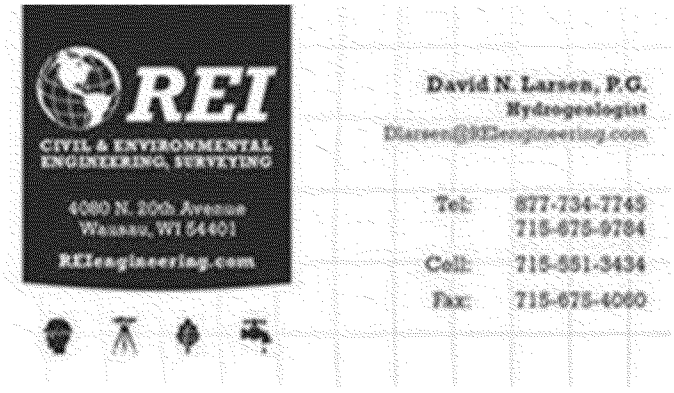
Any thoughts on flushmount versus stick-up wells?

Once we agree I will prepare cost approval request and hopefully schedule work.

Thank you,

David N. Larsen P.G

Hydrogeologist / Professional Geologist



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From: Saari, Christopher A - DNR [mailto:Christopher.Saari@wisconsin.gov]
Sent: Thursday, November 03, 2016 4:25 PM
To: Egan, Robert <egan.robert@epa.gov>; KHanson@ldftribe.com; Dave Larsen <dlarsen@reiengineering.com>
Cc: Kamke, Sherry <Kamke.Sherry@epa.gov>; Kady, Thomas <Kady.Thomas@epa.gov>
Subject: RE: Recommendations for additional well locations at the Tower Standard site

I would concur with these suggestions, and would add a shallow well to the nest proposed between MIP3 and MIP13, for data consistency purposes.

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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: Egan, Robert [mailto:egan.robert@epa.gov]
Sent: Wednesday, November 02, 2016 8:08 AM
To: KHanson@ldftribe.com; Saari, Christopher A - DNR; Dave Larsen
Cc: Kamke, Sherry; Kady, Thomas
Subject: Recommendations for additional well locations at the Tower Standard site

All,

Here are some suggestions for locations to fill in gaps in the well network:

1. A background well nest near Highway 70 with shallow and mid-depth range wells.

2. Shallow and mid-depth range wells at a location south and east (about 30-40 feet) of the MIP2 location.

3. A location between MIP13 and MIP3 where contamination is at depth. Mid-range and deeper wells.

4. If access is possible, wells near the MIP14 location. Shallow, mid-depth and deep.

5. A location somewhere to the west or northwest of the MW16 wells to try to find the edge of the plume in that area. Shallow, mid-depth and deep.

Bob

Bob Egan

Corrective Action Manager

Underground Storage Tanks Section

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