CON: 12-15
Doc # 15255

**From:** Dan Cook
**To:** DavidBrown@lbgmn.com
**Subject:** RE: FW: Dubuque Terminal

Hi Dave

Going over your message below I offer the following comments:

#3 - Moving the two proposed boring locations off the pavement is fine, just move them in a logical direction to help support and not duplicate what you are looking for.

#4 - I don't like the idea of eliminating any of the borings, try to get all of them.

#5 - In my response to the 2006 Annual Site Status Report I requested enough samples be analyzed for to determine the vertical and horizontal extent of the petroleum contaminated soil. The number of soil samples you collect for lab analysis is up to you, just collect enough to map out the petroleum contaminated soil - if any.

#6 - It was my understanding the soil borings were just for soil, it is up to you if you want to collect groundwater samples from the soil borings.

#8 - The data collected for test points SA, SB, SC, SD, D2, D3, and D4 indicate free product is no longer present and the requirements of IAC-567-135 have been met. Test points SA, SB, SC, SD, D2, D3, and D4 can be abandoned.

If you have any further questions please ask.

Dan

>>> <DavidBrown@lbgmn.com> 4/24/2007 10:49 AM >>>
Hi Dan:

We will be conducting the soil confirmation borings this coming Monday April 30, 2007 at the Dubuque, IA Terminal. Dane Olson from our St. Paul, MN office will be providing oversight services for LBG. Following, please find some additional information:

1) Field work is expected to be conducted from April 30-May 3 (perhaps into Friday May 4th).

2) Dane will arrive in Dubuque Sunday night 4/29/07. On Monday 4/30/07, he'll mark locations for drilling, and gather with the public and private utility locators and on-site Magellan personnel for a 10 am site utility meet. Boart-Longyear will be doing the drilling and we have retained a private firm to conduct pre-clearing vacuum excavation services for us.

3*) We will likely be moving the location of several borings very slightly. Primarily, we will try to avoid drilling through any paved areas. A review of our Figure 8 (2006 Annual Site Status Report) indicates that two borings will need to be moved less than 5-6 feet, to be off of pavement.

4*) Based on field observations, the final locations (and final number

of borings) may be slightly different than what is shown on Figure 8. Our goal is to confirm soil conditions just above unweathered bedrock, and we will strive to advance sufficient numbers of borings to achieve that goal under this single mobilization. Dane's field decisions will dictate final boring locations.

5*) We plan on submitting up to two soil samples per boring for lab analyses. A Mini-Sonic rig will provide us with continuous soil cores and will give us good definition on the overburden/weathered bedrock and weathered/unweathered bedrock interfaces. We will likely advance soil borings to refusal upon unweathered bedrock, and will have the capability to collect up to two soil samples from each boring: 1) highest PID reading/olfactory evidence of impacts; and 2) immediately above the top of unweathered bedrock. All soil samples will be analyzed for BTEX, OA-1 and OA-2.

6*) Currently, we are not planning on collecting "grab" samples of groundwater from open boreholes, if water is encountered above the final boring depth. Please advise if this water sampling is required.

7) If Dane has sufficient time, he'll sample all site groundwater monitoring wells for our annual sampling event. If the time required to complete soil boring activities prevents monitoring well sampling, we'll send Craig Hegna down to Dubuque by the end of May to complete our annual mw sampling. In our report, we also mention some dry monitoring wells and the potential need to redevelop one or more of the dry wells (MW-1, MW-7, and MW-9 were dry last year). That work will be done concurrent with mw sampling activities, whenever they occur, but no later than late May 2007.

8*) As our report discusses, no measureable free product has been encountered in test point SA or any other monitoring points since April 2004. With that history, LBG requests permission to abandon test points SA, SB, SC, SD, D2, D3, and D4. Please reply and advise asap, thank you. Biovent points BV-1, BV-2, BV-3, BV-4, and BV-5 will be retained.

If you'd like, I'd be happy to discuss any of these items with you ((651) 490-1405 ex. 213), but I do request a response in writing, via a reply here, on items with an asterisk above (#3-6, #8). In particular, item #8 is especially time sensitive. Thanks very much,

Dave Brown
LBG - St. Paul, MN

-----Original Message-----
From: Dan Cook [mailto:Dan.Cook@dnr.state.ia.us]
Sent: Tuesday, February 06, 2007 4:02 PM

To: Dave Brown
Cc: Dane Olson
Subject: Re: FW: Dubuque Terminal

Hi David

We require soil sampling to continue through the weathered bedrock to the solid bedrock because the weathered bedrock is usually a highly permeable type of material. Direct push equipment may be kind of difficult to push through up to 20 feet of weathered bedrock.

Unless you are using larger direct push equipment, hollow stem auger would most likely save you a lot of time.

The type of equipment is up to you but you do need to get through the weathered material.

Dan

>>> <DavidBrown@lbgmn.com> 2/6/2007 3:17 PM >>>
Hi Dan:

Just trying to firm up a Work Scope for our prospective drillers down in Dubuque.

Can you clarify what your expectations are for TD of these borings??? I'm going under the assumption that, with either direct push or HSA, we'll be taking samples throughout the vertical sequence of clay material and then, perhaps, will be able to advance/take samples within some or all of the weathered dolostone bedrock. At some point, either still within (less) weathered dolostone or in totally unweathered and competent rock, we'll hit refusal. In any event, we'll still be above the depth of the water table.

HSA may allow us greater depth into that weathered bedrock - and thus provide a deeper profile of the remaining contamination. Direct push methods, while having certain logistical advantages, may encounter refusal at a shallower horizon due to less downhole torque.

Please clarify your requirements. Depending on our method utilized, the final TD of the borings may differ. RE: your letter.....because we won't be able to confirm sub-Tier 1 contaminant levels in the field, and because we can't reach the water table without drilling into competent bedrock with a rotary rig (see attached log), our understanding is that the TD of these borings = refusal of the downhole equipment. Just want to make sure we're approaching this with your ultimate intentions in mind, thanks.

djbrown

From: Dane Olson
Sent: Tuesday, February 06, 2007 3:02 PM
To: Dave Brown
Subject: Dubuque Terminal

Dave,

The previous well logs indicate that refusal by the hollow stem auger (HSA) drilling method was generally at some point in the "weathered dolostone" which is above the bedrock water table. The wells
were advanced to the water table using air rotary. We should clarify with Dan if refusal using HSA or Geoprobe is going to satisfy his intent
of competent bedrock as we will not hit the water table.

-Dane

Dane Olson
Hydrogeologist II
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