Tuesday November 24, 2015
Hosted by the DEC
1st floor conference room 555 Cordova St. Anchorage with teleconference

Attendees in Anchorage: Charley Palmer (DEC), Chris Miller (DEC), Rebecca Baril (DEC), Bill Kranich (WWC), Jeff Warner (DEC), Roy Robertson (DEC), Wayne Westberg (WWC), David Schade (DNR), Jim Munter (Hydrogeologist/Consultant), Angela Bolton (AWWU).

Attendees via teleconference line: John Craven (Public Water System Officer/Operator), Jacob Dilley (DEC), Pamela Goode (Private Citizen), James Squyres (Private Citizen), Craig Seime (WWC)

Absent: Dan Brotherton (WWC), Jeff Ellison (WWC), Ted Schacle (WWC), Lee Ice (WWC), Chuck Ice (WWC)

Meeting Minutes

Facilitator: Jeff Warner

Introduction

- Roll Call
- **Definitions**: Yellow highlights are definitions used in the decommissioning document, green highlights are changes made from the previously distributed version.
    - Charley: Some of the definitions that are highlighted all green were added and may not be used in the Decommissioning BMPs.
    - Charley: The definitions for existing aquifer types were modified. Does anyone have issues with these?
        - John Craven expressed concern that using the phrase "freely communicated to the aquifer" as it seems non descriptive for the average public reader.
        - Bill added that it is a phrase often used in technical documents.
        - Jim: We could say that it is a condition of the aquifer where the upper surface of the aquifer is at atmospheric pressure.
        - Charley added that it would also include where the upper layer has no confining layer.
        - John asked if that was still clear and understandable for the audience to understand when reading this document.
        - It was decided to leave as it is currently written.
    - John noted that we removed "well" from "artesian well" and "flowing artesian well", but we still refer to the entire term (with well included) in the definitions.
        - Charley clarified that "well" was removed because in the Best Management Practices (BMP) we refer to an artesian condition. We don't specifically reference an artesian well. Charley added that he would double check the document and correct the instances that still included "well" in the term.
    - Charley: We added many other definitions such as "aquifer-consolidated", "aquifer-unconsolidated", "confining layer", "contamination", "formation", "permafrost", "permeable", and "permeability".
        - Jim Munter addressed "permeability" as it is typically used interchangeably with hydraulic conductivity and is more a measure of quantity. It is a measure of how

permeable something is. We should define it as a measure of how permeable a material is.
    - Angela Bolton volunteered to develop a definition for "permeability" in reference to its use in the construction BMPs.
  - David pointed out that the current title and makeup of the Definitions document does not clarify what BMPs it references. It is vague and if it is a standalone document, no one would know what it is referencing.
    - Charley proposed adding it into the purpose as it could create a very lengthy title. The reason we created this as a standalone document was that so we were not keeping separate versions of the group of definitions with conflicting terms.
    - Jim proposed adding it all in the title and if the documents are reworked we would change the title accordingly.
    - Agreed to add the BMP titles into the Definitions title.
- **Decommissioning Document:** Green highlighting indicates changes from previous distribution of the document.
  - Charley: If you look back at the agenda, we were going to work on a trigger where grouting the annulus would be recommended. We wanted a wording for high risk situations. We were unable to come up with a final agreed upon wording, but we have some proposed wording in the current document.
  - Charley: **5.0.1 (C)** - we changed <u>discourage</u> to <u>prevent</u> for downward migration of water or contaminants, and rather than <u>near the well</u> we changed it to <u>in the annular space of the well</u>.
    - Jim: To be consistent we should say "for positive grading to <u>direct</u> (instead of <u>encourage</u>) the drainage of surface water away from the well."
    - Agreed
  - Charley: **5.0.1 (D)** - we changed it to say that they should be <u>kept away from the well</u>, rather than <u>not stored near the well</u>.
    - Agreed
  - Charley: **5.0.2** - we removed "borehole", but should we keep it? The general concept should still apply to boreholes in addition to wells.
    - Wayne: Yes, they still need to be decommissioned.
    - Agreed to keep "borehole".
  - Jim: **5.0.2 (A)(1)** – Could someone possibly interpret this for pitless adapters? There is a small piece that sticks out. Someone may say that someone would have to take that out and weld a piece of steel over it. It could be interpreted as an obstruction.
    - Charley proposed adding "(excluding pitless adapters)" after "accessories".
    - Agreed
  - Charley: **5.0.2 (B)** – This is the section where we are trying to address high risk situations. For this iteration we decided to add in two different parts: "Vulnerable aquifer" and "Multiple aquifers". Another option we can use is to consolidate this into a generic paragraph and be less prescriptive.
  - Jim: **5.0.2 (B)(1)** - Does this include natural contaminants? What about secondary contaminants?
    - Charley: We currently are talking about vulnerable situations where the water would be made unfit for human consumption, so others should be included.
    - Jim: We would have to define primary contaminant versus a secondary contaminant.
    - Wayne: This is why we endorse testing for contaminants.

- Charley: What if you decommission a well and 10 years down the road, a septic system is put nearby, or another source of contamination is introduced? This is just something to consider. We have some anecdotal evidence of areas where there is no concern when decommissioned, but new threats are introduced. For most of the wells out there, these conditions won't apply.
- Jim proposed the concern of having a dividing line between primary and secondary contaminants. Someone could interpret a secondary contaminant as a contaminant in this wording.
- Charley quoted the current ANSI/AWWA A100 standard, *"If alternate concrete plugs or bridges are used, they should be placed in known nonproducing horizons or, if locations of the nonproducing horizons are not known, at frequent intervals. Sometimes when the casing is not grouted or the formation is non-caving, it may be necessary to break, slit, or perforate the casing to fill any annular space on the outside."* This is an example of more generic text, and we wouldn't have to worry about prescriptive methods and separation distances. Is it a risky situation? If we have the information versus there being no information and we should be careful how we decommission. It just depends on the approach we want to take and whether the approach we are taking is something the State can endorse. If we want to prescribe it in specific situations, or whether we want to generalize the situations.
- Jim: This brings into consideration collapsing or non-collapsing formations. For bedrock wells with a liner, it's not likely to collapse. There are also situations with partial collapses. Do we want to address the collapsing versus non-collapsing here?
- Wayne: If we make it so we need to perforate everything, the homeowner won't want to pay for it, and all of a sudden they stop contacting us and when you return the well isn't there anymore.
- Roy: The problem with the wording as it is now is that if the well does not meet these certain situations, it effectively is saying that we endorse not sealing the annular space.
- Jim: How often does the situation occur in a private well (versus a public well), that the DEC gets involved?
- Chris responded: typically when the well is within the Zone A for a public water system drinking water protection area.
- Wayne added that down the road when these are finalized, the boroughs will see these documents and realize it is something that they need to incorporate.
- Charley proposed that we should consider putting together a focus group to discuss this issue. The current prescribed method addresses a lot of existing land use issues. The other method, that AWWA uses, is looking at the risk itself from the hole, which accounts for existing and future land use issues.
- David: If these are best management practices, then isn't the best practice to close of the hole completely?
- Jim: That's true, but we don't have 100% enforcement, and we want to make practices that will cover more and encourage the public to follow them. If it is too difficult and too expensive, people will find other ways of doing it or not do it at all.
- James: When you perforate a well, do you have to have the rig over the well? These practices were to put together in a way that anyone could perform them.

If we get into methods that not everyone can perform, proper methods won't be followed.
        - Wayne: There are cheaper alternatives, but they still are not a process for a homeowner.
        - Jim proposed the focus group work on the document as they can develop methods that are cost effective instead of prohibitive, and are something they are comfortable endorsing.
            - Agreed.
            - Charley will initiate focus group collaboration.
        - Bill: I'm not sure "vulnerable aquifer" has any real meaning, since the well could become vulnerable in the future.
        - Jim responded that the purpose of using vulnerable was for occasions where you could have a well next to a contaminated site and are unsure if it has an annulus.
    - Wayne asked how is "nearby" defined in **5.0.2 (B)(2)**.
        - Jim responded that it's fuzzy because a well can be up gradient or down gradient of the contaminated site, so you can't set a specific distance.
        - James asked whether we were concerned about the contaminated groundwater coming up through the annulus.
        - Jim responded that yes, if the well is next to contamination and is travelling towards the well, the contamination can enter through the annulus and connect to other aquifers.
    - Charley: **5.0.2 (B)(3)** – edited parts of the "flowing artesian" section.
        - No comments.
    - Charley: **5.0.2 (D) -** added changes on records.
        - James proposed removal of the "submittal to regulating authorities". The document currently addresses following existing regulations in **2.0 Disclaimer**. The current well log regulation is under review, and it should not be supported in these documents.
        - John responded that he believes it should be kept in and is not strong enough. It should be noted that well logs are currently a required submittal, and that in the future we are going to regret not having that information.
        - Pamela: These issues should be addressed through the local municipalities and boroughs. The information belongs to the homeowner.
        - Wayne responded that these disagreements are based on the belief that when a homeowner drills the well they own the well and they own the water they are tapping. The water is written into the state constitution as belonging to the State of Alaska.
        - David asked that the arguments be set aside to be discussed at a later date with the DNR as they will be revising their regulations. He agreed that we do cover the regulations in the disclaimer at the beginning of the document and that for the purposes of moving forward, the sentence suggesting "submittal to a regulating authority" be removed.

Wrap-up and next Meeting

- Dates for the next meeting were discussed. The group agreed that the next meeting will be held **Tuesday January 12, 2016, 6:00pm – 8:00 pm.**

Action Items:

- Definitions for BMPs
    - Angela Bolton agreed to work on a definition for “permeability” that would match with its use in the Construction BMP document.
    - Charley to change title of document to include the specific BMPs referenced.
    - Charley to make other minor proposed changes.
- Decommissioning BMPs
    - Charley to coordinate a focus group to work on proposed wording for the high risk trigger for sealing the annulus.
    - Charley to make other minor proposed changes.
- Construction BMPs
    - Charley to remove “submittals to regulating authority” from well log section.
    - Continue to review and prepare for the next meeting.

- **Next Meeting is Tuesday January 12, 2015 6:00-8:00pm**