
From: BAYUK Dana <Dana.BAYUK@state.or.us>
Sent: Wednesday, September 23, 2020 2:05 PM
To: John Renda <jrenda@anchorqea.com>
Cc: Bob Wyatt <rjw@nwnatural.com>; Patty Dost <pdost@pearllegalgroup.com>; Sarah Riddle <sriddle@pearllegalgroup.com>; Ben Hung (ben@coalitionenv.com) <ben@coalitionenv.com>; Ryan Barth <rbarth@anchorqea.com>; Halah Voges <hvoges@anchorqea.com>; Tim Stone <tstone@anchorqea.com>; 'Jen Mott' <jmott@anchorqea.com>; LARSEN Henning <Henning.LARSEN@state.or.us>; Heidi Nelson (Heidi.NELSON@state.or.us) <Heidi.NELSON@state.or.us>; Hunter Young (young.hunter@epa.gov) <young.hunter@epa.gov>; Lance Peterson (PetersonLE@cdmsmith.com) <PetersonLE@cdmsmith.com>; Scott Coffey (coffeyse@cdmsmith.com) <coffeyse@cdmsmith.com>; Mike Gefell <mgefell@anchorqea.com>
Subject: RE: PW-8Ub Design and Installation Plan

Hello John.

DEQ reviewed the “Design for PW-8-39 Replacement Extraction Well, NW Natural Gasco Site, Portland, Oregon” technical memorandum dated August 17, 2020. The memorandum proposes the design and provides drilling and construction information for an extraction well to replace PW-8-39 (designated PW-8Ub). The memorandum also provides supporting documentation, including the logs for borings drilled in the vicinity of PW-8-39, grain-size testing results for material collected from certain of these borings, and estimates of hydraulic conductivity for the screen depth interval based on the results of grain-size testing. Anchor QEA, LLC prepared the memorandum on behalf of NW Natural.

DEQ verbally approved the design of PW-8Ub during a phone call on September 14, 2020, including the well diameter, screen length, screen depth interval, and use of a pre-packed well screen (i.e., a well screen manufactured with the filter pack contained between two continuous wire-wrap well screens). This e-mail provides written approval of the design,

DEQ approves the drilling and construction of PW-8Ub, and the decommissioning of PW-8-39 subject to the following comments:

1. The memorandum should discuss NW Natural’s reasons for replacing extraction well PW-8-39.
2. The memorandum indicates that cable-tool drilling equipment will be used to advance a 12-inch casing to 40-feet below ground surface. Construction of PW-8Ub will occur within the 12-inch casing. Observations of sheen and oil blebs in borings GP-PW8Ub2 and/or GP-PW8Ub3 at the base of the fill indicate that use of the double-case method to seal off the fill is warranted. DEQ recommends setting and sealing a larger than 12-inch casing through the fill, then advancing the 12-casing to the bottom of the borehole.
3. During construction, DEQ recommends the depth interval exhibiting sheen and oil blebs be sealed

using the organo-clay and bentonite slurry approved for use in these situations. Consistent with previous use of the slurry, the mud-weight and volume of slurry use should be recorded.

4. DEQ requests that the memorandum include figures showing the design and construction details for PW-8Ub, including a figure of the length of the installation and cross-sectional views. The figure of the overall construction should include, but not be limited to details of the relationship of construction to the geology; borehole and casing diameters; depth interval and diameter of the sump and pre-packed well screen; and depth intervals of sand pack (with gradations) and sealants (types) used for construction. Cross-sectional views should provide representative views of changes in the borehole, casing, screen, and sump diameters with depth and with annular construction material labeled accordingly.
5. The description of decommissioning PW-8-39 is incomplete. DEQ requests that the memorandum be revised to include the details and steps of well decommissioning. Alternatively, the memorandum should include a reference to a previously approved extraction well decommissioning plan(s) with supplemental information specific to PW-8-39, as appropriate.

DEQ requests that the memorandum be revised and resubmitted on or before October 9, 2020, or no less than a week before field work is schedule to begin.

DEQ appreciates and acknowledges the proactive approach NW Natural is taking to monitor extraction wells in the HC&C system, and replace installations based on performance monitoring.

Please feel free to contact me with questions regarding the e-mail.

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From: Jen Mott <jmott@anchorqea.com>
Sent: Monday, August 17, 2020 10:50 AM
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Cc: Bob Wyatt <rjw@nwnatural.com>; Patricia Dost <pdost@pearllegalgroup.com>; Sarah Riddle <sriddle@pearllegalgroup.com>; Ben Hung (ben@coalitionenv.com) <ben@coalitionenv.com>; John Renda <jrenda@anchorqea.com>; Ryan Barth <rbarth@anchorqea.com>; Halah Voges <hvoges@anchorqea.com>; Tim Stone <tstone@anchorqea.com>; LARSEN Henning <Henning.LARSEN@state.or.us>; Heidi Nelson (Heidi.NELSON@state.or.us)

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Subject: PW-8Ub Design and Installation Plan

Dana,

Attached is the PW-8Ub design memorandum for an Upper Alluvium WBZ extraction well to replace PW-8-39. The memorandum presents the results of pilot borings and grain size testing used to select the location, depth interval, screen slot size, and filter pack gradation for the replacement well.

Please let us know if you have any questions. We would like to get the installation on the schedule for late September and there is an approximately 3-week lead time for pre-packed well screen.

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