



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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June 17, 2014

Ms. Tracey Mulhern, L.G.
Farallon Consulting, LLC
1201 Cornwall Avenue, Suite 105
Bellingham, WA 98225

**RE: CHS Quincy Site: Ecology Comments on Groundwater Sampling
Documentation and Conditional Approval**

Dear Ms. Mulhern:

Thank you for the June 5, 2014 submittal of the Technical Memorandum and letter. These documents respectively address domestic well sampling (Don Low well) and supplemental groundwater sampling at several wells in the monitoring network which have been inactive for several years.

Ecology has reviewed both documents and has developed a small body of comments specific to each. Our comments are presented below:

**June 5, 2014 Technical Memorandum – Domestic Well Sampling, 16099 Highway 28,
Quincy, Washington [Don Low Well]**

1. Please provide a brief description of the well construction details for this well. Ecology is aware of two well logs indicating Don Low as the owner. The 1975 well log indicates a well depth of 65 feet; the other well log (1980) indicates a well depth of 83 feet. Both wells include 6-inch casing. Please also include any known information regarding the depth of the pump intake.
2. The purge volume should be sufficient to trigger the operation of the well pump. Please modify the proposed sampling protocol to ensure collection of groundwater that has had minimal storage time in the pressure tank and the on-site distribution piping. For example, a 50 foot length of pump column (2" diameter) and a 40 foot length of conveyance line (2" diameter) would hold approximately 15 gallons of water. Ecology recommends collection of a water sample after the pump has been actively triggered, and after the distribution system has been purged of at least one purge volume – along with the suggested protocol of taking periodic field parameter measurements (temp, pH, specific conductance, DO, ORP) to verify general geochemical stability.
3. Ecology recommends the use of a flow-through cell when collecting field parameter measurements – particularly DO and ORP, which can be very sensitive to atmospheric influences.



4. Ecology recommends the use of a flow splitter (T-fitting) and a stopcock valve to better control the flow from the spigot. This can help minimize sample splashing, agitation or overfilling of the VOA vials.
5. Will the MRLs for the standard 8260C methods achieve a level of quantitation below the current cleanup levels, or will SIM methods be used to achieve lower reporting limits?

**June 5, 2014 Letter – Sampling Schedule – Additional Monitoring Wells, CENEX
Harvest States Cooperative Site, Quincy, WA**

1. Ecology acknowledges the efforts by Farallon/CHS to evaluate apparent trends in groundwater contaminant concentrations over the previous 5 years of sampling (2009-2013). We recognize the presence of some apparent seasonality effects on groundwater quality, as inferred from the suite of wells selected for the analysis. Looking at the relative difference in concentration values during any given annual sampling cycle shows that seasonal concentration variations for most of the wells used for this analysis typically fall in the range of 20 to 30 percent; some wells show a somewhat greater degree of apparent seasonality effects (e.g., MW-29).

Given the apparent trend patterns, and Ecology's desire to initiate this supplemental groundwater sampling work as soon as possible, we believe the sampling objectives can be achieved with two consecutive sampling events in June and September 2014. Having two sampling events will address (to a limited degree) anticipated seasonality effects, provide additional confirmation of the relative repeatability of the sampling results, and provide a more robust basis for determining if any changes to the existing monitoring well suite are needed.

The June and September sampling events would be unlikely to miss any wells where IHS constituents are present – even if these events do not capture the anticipated seasonal “high” event. Recent groundwater sampling data from MW-17 (and MW-12) also could serve as possible indicator wells for MW-10 and MW-14. Trends at MW-17 typically show the highest concentrations in September. Data for MW-12 (where 1,2-DCP concentrations are typically low) do not show a strong seasonal trend. Please add MW-10, MW-14, MW-19, MW-22 and MW-27 to the June and September 2014 groundwater sampling events.

2. Some of the proposed wells have not been sampled for many years. Please indicate what additional purging or well cleanout protocols (if any) will be used to ensure that representative groundwater samples will be collected from these previously inactive wells.
3. Please specify the type of groundwater sampling pump that will be used to collect the samples from these additional five wells.

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Ecology believes these comments will not substantively affect the proposed sampling approaches of either sampling program (domestic well and monitoring wells), and should require only limited modifications to the currently proposed sampling protocols. This letter provides Ecology's conditional approval of the two documents. Provided CHS agrees to incorporate these suggested changes into the forthcoming sampling programs, Ecology will consider both documents as final and sampling can proceed, as proposed. Please submit revised documents reflecting Ecology's requested changes within the next three weeks.

If you have any questions about these comments, please contact me at 509-329-3439.

Sincerely,



Chuck Gruenenfelder
Site Manager
Toxics Cleanup Program

CG:ew

cc: Jerry Eide/CHS Inc.
Jeremy Schmidt/TCP-ERO
Bill Fees/TCP-ERO

