STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
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September 11, 2019

Tim Bishop, Project Manager
Chevron Environmental Management Company
6001 Bollinger Canyon Rd.
San Ramon, CA 94583

RE: Ecology comments on the identification of a data gap based on work completed to present including the additional investigation from Phase 4 SRI fieldwork

- **Site Name:** Chelan Chevron
- **Site Address:** 232 E. Woodin Ave. Chelan
- **Facility/Site ID No.:** 77751227
- **Cleanup Site ID No.:** 6660
- **Agreed Order No.:** DE 10629

Dear Tim Bishop:

The results from your fieldwork in November 2018 provided sufficient information for the Department of Ecology (Ecology) to pursue investigation by the owner/operators of the gasoline stations at the east side of the intersection of Woodin Avenue and Emerson Street. Chapter 173-360A WAC (Underground Storage Tank Regulations and Statute) forms the basis for the investigation of the suspected release(s). We will communicate our findings to Chevron after each station performs a site check. Evidence of a release on either of these two gasoline stations will be sufficient to designate a new site under the Model Toxics Control Act (MTCA).

Chevron is still responsible under the current Agreed Order to investigate the contamination at the northwest portion of the Chelan Chevron Site. Data from the existing monitoring well network defines the area of contamination as currently known. In the situation of a commingled groundwater plume, the standard of liability is joint and several under MTCA (RCW 70.105D.040). As such, we are requiring that Chevron investigate this data gap at the northwest portion of the Site near MW-27.

Ecology has named Frontier Communication as a Potentially Liable Person (PLP) based on the totality of several lines of evidence, However, the presence of gasoline and associated volatile organic compounds as described in the boring log for MW-27 show Frontier Communication cannot be the sole source of the dissolved-phase contamination nor possibly of the light nonaqueous-phase liquid (LNAPL) in that well.

Information submitted by Chevron (Summary Groundwater Report 2015-2017, SRI Phase 2 Report) suggests that the appearance of LNAPL in the monitoring network is related to the interaction of formation NAPL to groundwater fluctuation under confining and/or perched conditions. This pattern characteristic of confined conditions as exhibited by increasing in-well NAPL thickness with rise in groundwater elevation is apparent at MW-16. As another line of evidence, the laser-induced fluorescence (LIF) log obtained near MW-16 supports this scenario. The LIF log shows a UVOST signature indicative of NAPL (98%RE with a characteristic gasoline waveform callout) at approximately 50 feet below ground surface (bgs), near the bottom of the screened interval. Under confined hydrologic conditions, a bottom-filling scenario determines the expression of LNAPL redistribution. The thickness of the in-situ mobile NAPL interval compared to the time series data of greater in-well NAPL thickness also supports this scenario. Finally, the geology as determined by the soil core sample near MW-16 confirms the interbedded nature of the fine-grained glaciolacustrine deposits down to a depth of approximately 55 feet bgs.

Your investigation during SRI Phase 4 identified two additional locations related to Chevron that may have served to contribute petroleum contamination to the groundwater plume. Ecology expects that the data gap identified herein will be addressed with the next planned field mobilization to be associated with the further investigation of the confirmed and suspected underground storage tanks (USTs) near MW-21 and MW-17.

Ecology also has identified another outstanding data gap as the lack or limited understanding of the vertical profile of hydraulic conductivity throughout the Site and of the distribution of formation NAPL with coincident identification of the mobile NAPL units. We suggest the use of nuclear magnetic resonance (NMR) and Miniaturized Well Profiling (e.g., the BESST system) or similar technology to address the issue of vertical profiling. Other potentially helpful tools to investigate the hydrologic conditions of the formation NAPL include hydrostratigraphs and diagnostic gauge plots.

Sincerely,

John Mefford

John Mefford, LHG
Cleanup Project Manager
Toxics Cleanup Program
Central Regional Office

cc: Phyllis Barney, Assistant Attorney General
Chris Dotson, Arcadis