

Attachment B:
DEQ Summary Comments on
Review and Comments for Ethylene Dibromide in Groundwater –Occurrence, Hydrogeology and Possible Sources, by EVREN Northwest, prepared by GSI Water Solutions, Inc. for Mr. Allan Berry and Mr. Derick Yates, City Of Fairview, dated May 11, 2017.

Groundwater Solutions, Inc. a local consulting company with Hydrogeology expertise reviewed the EVREN NW report of behalf of the City of Fairview and provided comments on the report to Fairview for the purpose of source water protection.

A key focus of the GSI comments as well as the EVREN, NW report is the predominant direction of groundwater flow. It is assumed in the GSI comments, as supported by modeling to be to be primarily southerly and in the EVREN NW report to be primarily northerly.

GSI comments consider the hydrogeologic conceptual model, well completion information for City of Fairview wells, and capture zone analysis, since these factors are the key pertinent factors supporting conclusions regarding groundwater flow direction.

GSI clarifies that City Wells 5,6,8 and 9 are completed in the sand and gravel aquifer (SGA) rather than the shallower troutdale sand and gravel aquifer (TSA), with City of Fairview wells 5 and 6 being the shallower of the City wells. The TSA is indicated in the EVREN NW report to have a primarily northerly flow direction, and this inference is used as support for a source of EDB to the south of the Townsend Farms, Inc. property.

GSI clarifies that the SGA and TSA aquifers historically did have a northerly flow. However, development of the groundwater resource starting in the 1980's resulted in season reversal in flow directions. Pumping of regional wells has apparently reduced or eliminated the natural pre-development flow gradients to the north.

GSI has developed a 3- dimensional numerical flow model to account for the lower groundwater surface and effects of regional pumping. Using the model, capture zones were developed for the City of Fairview wells. Notably, the capture zones for City wells, 3, 5, 6 and 9 encompass historic agricultural land to the north and east. The capture zones presented in the EVREN NW report are derived from DEQs facility profiler site and GSI discusses the derivation of these capture zones, and presents a rationale why the Deep Aquifer Yield (DAY) model interpretations are believed to be accurate and correct.

GSI concludes that the source and distribution of EDB contamination in the upper SGA (where City wells are completed) are not understood; however, capture zone analysis and the timing of the EDB detections in the City's wells suggest the presence of a source located in a northeasterly direction from the City's wells 5 and 6.