



FILE COPY

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

15 West Yakima Avenue, Suite 200 • Yakima, Washington 98902-3452 • (509) 575-2490

February 12, 2004

Mr. Brett Hunter
Chevron Products Corporation
PO Box 6004
San Ramon, CA 94583-0904

RE: Draft Remedial Investigation/Feasibility Study, Chevron Service Station #9-6590,
Chelan, Washington

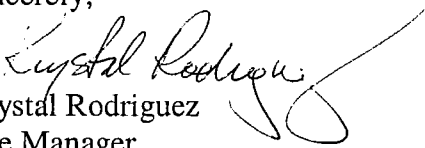
Dear Mr. Hunter:

The Washington State Department of Ecology (Ecology) has reviewed the above referenced document dated October/November 2003. Ecology concerns are addressed in the comments enclosed.

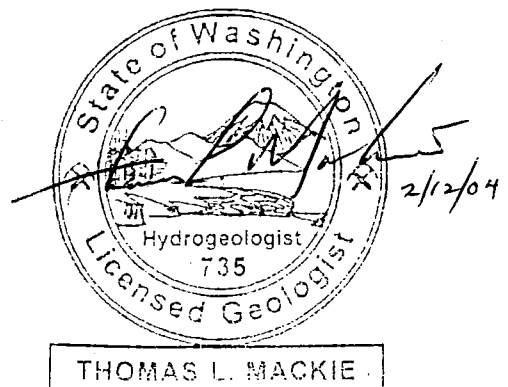
To expedite the revision process, I would like to invite you and Tom Dube to meet with me and discuss the comments attached to this letter.

I look forward to hearing from you.

Sincerely,


Krystal Rodriguez
Site Manager
Toxics Cleanup Program – CRO

cc: Tom Dube, Science Application International Corporation



ECOLOGY COMMENTS ON

Draft Remedial Investigation/Feasibility Study Chevron Service Station #9-6590

The following is a list of comments for the Draft Remedial Investigation.

General Comments:

1. Many of the decisions made in the RI/FS are based on SAIC's interpretation of the geology and hydrogeology at the site. SAIC has concluded that the contaminated aquifer could not be a potential future source for drinking water (i.e. it has been labeled non-potable). Ecology does not agree with this interpretation and has determined that the contaminated groundwater at the Chevron site is, in fact, hydrogeologically connected to an aquifer that is a current and potential future source of drinking water. Because this determination has been made, the Model Toxic Control Act's (MTCA) Method A cleanup levels apply to this site. Please revise the RI/FS report where appropriate.
2. The remedial investigation is lacking a site conditions map with detailed information about utility lines, dry wells, and the storm water system, if one exists. This map should also include locations of irrigation lines that stem from the pump station. Please include a site conditions map in the next draft.
3. In the report, SAIC states that the soil is tightly packed and doesn't support quick groundwater movement. The report also indicates that water levels in MW-5 fluctuate between 5 and 6 feet within a relatively short amount of time. Please explain this possible discrepancy.
 - MW-5: ~6 feet (May – July 2002) and ~5.5 feet (February – May 2001)
4. Please provide a hydrograph containing groundwater elevations for each monitoring well overlying a lake level/elevation hydrograph.

Specific Comments:

1. **Section 1.1, Page 1, 1st paragraph** – Please include the physical address (232 E. Woodin Avenue) for the service station with its location.
2. **Section 1.2.1 (the first one), Page 2, 4th paragraph** – Please include the type of fuel each tank stored and be specific about whether it was leaded or unleaded gasoline. This information is presented in Figure 1-3. Please include it in the written report as well.
3. **Section 1.2.1 (the first one), Page 3, 3rd paragraph** – According to Ecology records, the three gasoline underground storage tanks (USTs) currently in place were installed in 1975 and not replaced in 1998. Additional information to support this includes a checklist that was completed during a November 1997 UST inspection. On the checklist, the inspector checked "no" when asked if the USTs had been installed after 12/22/88. The confusion may have originated from the service station meeting 1998 upgrade requirements. Because the tanks were not removed, it is more appropriate to remove the last sentence in the paragraph, which

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achieved when contaminant concentrations are below the MTCA Method A cleanup levels, as stated in the General Comments.

14. **Section 4.7.2, Page 40, Chart** – “Protection of groundwater” as a potential exposure pathway is not limited to potable groundwater. Please present Ecology with a Site-Specific Point of Compliance
15. **Table 4-3, Lab Results for NAPL Samples from Chelan** – If the original analytical report is not currently available, please include a statement that indicates where you obtained this information.
16. **Figure 1-3, Chevron Station Map** – Please change “former waste oil UST” to “waste oil UST closed-in-place”. The waste oil tank on the property was closed-in-place, not removed, which the map implies.
17. **Appendix D, Misc. Field and Analytical Info, MW-10** – Please specify on this graph how groundwater elevations were calculated when the groundwater was known to be deeper than the current bottom of the monitoring well.

The following comments are for the Feasibility Study.

General Comments:

1. Cleanup alternatives are based on assumption that no potable water supplies will be impacted (i.e. no human health risk). However, Ecology has determined that the groundwater being impacted by the facility is a current and future source of drinking water.
2. Before monitored natural attenuation (MNA) can be considered as a feasible cleanup alternative, Chevron must provide data that indicates the site has favorable conditions to naturally reduce the concentration of contaminants. This may require a detailed understanding of the site's groundwater geochemistry and microbial activity, including but not limited to a spatial and temporal analysis of analytical parameters used to assess MNA such as dissolved oxygen, nitrate, sulfate, iron, alkalinity, pH, temperature, redox potential sulfide, methane, total organic carbon, nitrogen, nitrite, and phosphorus.
3. There has been no estimate/prediction of the time it would take to remediate the site using any of the cleanup alternatives. Modeling is available to estimate cleanup times for natural attenuation. At a minimum, you must provide Ecology with relative timeframes for each of the proposed alternatives.
4. The feasibility study requires major revision to consider treatment of a potable groundwater aquifer. Table 6-1 and accompanying discussion in the feasibility study section requires revision. The following cleanup actions must be included in the next draft.
 - a) Soil
 1. **Deed restrictions** – For soil cleanup, deed restrictions may be an effective means to protect human receptors. Although deed restrictions are difficult to obtain from multiple property owners, it is administratively possible.

2. **Containment** – Pavement offers an effective containment in concert with deed restrictions. Deed restrictions may help ensure that proper protective measures are taken during any construction/demolition activities.
3. **Removal** – It may be appropriate to remove contaminated soil that continues to contribute to groundwater contamination. Adequate information is not provided in the document to assess whether contaminated soil plumes are present at the site.

b) NAPL/Groundwater

1. **Institutional Controls** – The City of Chelan should be approached on whether an ordinance currently exists preventing the drilling of wells within the City limits and/or whether such an ordinance is possible.
2. **Removal, Hand Bailing** – Hand bailing may be an appropriate method for a remedial action if NAPL recovery rates in the wells are very low.

Specific Comments:

1. **Section 5.1, Page 1** – Provide a detailed figure showing all soil sampling locations and results. Provide the rationale for concluding that only three “hot spots” of contamination are present and the confidence that other “undiscovered” hot spots do not exist.
2. **Section 7.1.1, Page 7** – Provide greater detail for the assertion that “hot spot” soil contamination will not contribute significantly to groundwater contamination. Provide quantities remaining in soil and an estimated time for them to travel to groundwater.
3. **Table 8-1, Reduction or elimination of releases or sources of releases** – Provide a summary of the actions taken prior to this RI/FS.
4. **Table 8-2, Cost** – Provide justification for the 5% rate of return proposed or modify the rate to a more appropriate value. Based on my review of current inflation indexed government securities, a rate of 2.2% appears to be a more appropriate rate of return in the 3 – 5 year timeframe. If a different or variable rate of return is proposed between alternatives, e.g., 2.2% for all alternatives for the first 5 years and 5% for the next 15 years, provide a basis for the rates chosen.