



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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July 23, 2013

Chevron Environmental Management Company
c/o Eric Hetrick
6101 Bollinger Canyon Road
San Ramon, CA 94583

SAIC Environmental Management Company
c/o Russ Shropshire
18912 North Creek Parkway, Suite 101
Bothell, WA 98011

RE: Ecology Comments on Supplemental Site Assessment Work Plan, June 12, 2013

- Site Name: Chevron Service Station No. 9-6590
- Site Address: 232 East Woodin Avenue, Chelan
- Facility/Site ID No.: 77751227
- Cleanup Site ID No.: 6660

Dear Eric and Russ:

Thank you for the opportunity to comment on the above-referenced document, which was completed as an independent remedial action for the Chelan Chevron Site in Chelan, WA. Ecology appreciates Chevron's willingness to move forward with cleanup items or concerns raised in the agency's November 1, 2012 letter and March 27, 2013 meeting.

The vapor intrusion assessment, Section 3, of the report appears comprehensive and well-planned. Ecology has only a few comments:

- Section 3.2.3.2- tracer leak detection - Ecology recommends maintaining greater than 50% helium (rather than approximately 10%) for the tracer leak test. In addition, sample acceptance criteria should be established (ex. <10%). These recommendations are based on ASTM standard: Standard Practice for Active Soil Gas Sampling in the Vadose Zone for Vapor Intrusion Evaluations, 2013.
- Section 3.2 – sample locations – Ecology understands Chevron approach to limit the vapor intrusion to structures within the NAPL plume that have concrete basements. We



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recommend including at least one location with a dirt basement (ex. 138 and/or 136 East Woodin Avenue) in the vapor intrusion sampling.

Chevron has mentioned the possibility of requesting Ecology's assistance with access agreements and public communication efforts. Ecology is available to provide assistance if needed.

Soil vapor monitoring well decommissioning, Section 5 - This proposal seems reasonable. However, depending upon results of the Tier 2 assessment, future sampling or mitigation may be determined necessary.

NAPL mobility and recoverability assessment, Section 4 -

- Ecology encourages the use of any additional recovery testing to be aimed at evaluating more aggressive recovery measures. Because the current recovery well network is currently providing NAPL recovery, exploration of techniques to intersect a greater portion of the water table and NAPL zone (ex. trenching or horizontal borings) is viewed as promising and is recommended to provide for greater NAPL recovery and contaminant treatment.
- Should Chevron pursue transmissivity testing from existing recovery wells, Ecology provides the following input:
 - Ecology recognizes the uncertainty in using transmissivity measurements from existing recovery wells for extrapolation to the remainder of the untreated site. Transmissivity is dependent upon the LNAPL quantity (thickness, saturation). A common treatment object at other sites is to reduce LNAPL plume transmissivity and mobility through LNAPL recovery. The zone of influence around each of the recovery wells at the Chelan Chevron site, after repeated monthly recovery events, may have already reduced localized LNAPL volume or thickness, and therefore reduced localized transmissivity as well.
 - Ecology recommends surging wells prior to testing, allowing sufficient time for recovery before testing.
 - Consider additional, longer duration NAPL recovery testing. For example, absorbent testing (ex. Tiger Oil, Yakima, WA), selectively permeable collectors, etc. as more effective in collection of low-volume or low-flow NAPL volumes.

We look forward to working with you towards site cleanup. Ecology is currently working on modifications to the draft Agreed Order and hopes to share this with Chevron soon. Once that is received by Chevron, we suggest scheduling a teleconference or meeting to discuss any questions. In addition, we would like to resolve other concerns raised in the above-mentioned

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November 1, 2012 letter and March 27, 2013 meeting such as uncertainty regarding the ultimate groundwater flow and contaminant migration pathway for the shallow aquifer, institutional controls and soil management plan with the City of Chelan, and monitoring and reporting (network, frequencies, MNA parameters).

Please do not hesitate to contact me with questions. I can be reached at 509.454.7833 or laura.klasner@ecy.wa.gov.

Regards,



Laura Klasner, P.E.
Site Manager

cc: Valerie Bound, Ecology-CRO/TCP
Norm Peck, Ecology-CRO/TCP