



STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

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April 9, 2015

Mr. Eric Roehl
Chevron Environmental Management Company
Marketing Business Unit
145 S. State College Blvd
Brea, CA 92821

Re: Chevron Camas Cleanup site (FSID: #1043)
Acceptance of Supplemental Vadose-Zone Investigation
Path-forward Milestones

Dear Mr. Roehl:

The Washington State Department of Ecology (Ecology) has reviewed the December 3, 2014 *Additional Soil Investigation Report* prepared and submitted by Leidos Engineering on behalf of Chevron. Ecology accepts this report because it believes Chevron has satisfied the agency's April 11, 2014 requirement to determine residual soil-contaminant concentrations below the depth of the initial remediation excavations and above the water table. The investigation was supplemental to the primary remedial investigation (RI).

Ecology's desire for current-condition concentration data was twofold: to assess the likelihood of a downward contaminant migration threat to groundwater, and to determine the extent of natural attenuation that had occurred since same-location data were obtained one and two decades earlier. The investigation results revealed greatly reduced concentrations with all newly collected samples exhibiting concentrations below or near cleanup levels (CULs). These data indicate the threat to underlying groundwater is essentially negligible, and that natural attenuation has occurred at a reasonable rate.

During the ten-year period from 2004 to 2014 the concentrations have diminished by an average of 83% (median: 90%; range: 52-100%). These data justify the inclusion of *monitored* natural attenuation (MNA) as a remediation-alternative finalist in Chevron's feasibility study (FS) report.

Ecology accepts the December report's conclusion that MNA is a "further supported and validated" remediation candidate for the Camas site cleanup. Chevron may now revise the draft RI/FS report (incorporating input from Ecology's 6/24/13 comment letter on the draft report) and submit it as a final document.

The laboratory results for *groundwater* from all the monitoring wells sampled indicate consistent compliance with MTCA Method A cleanup levels over the last six calendar quarters (14 quarters if a single set of duplicate samples at one well are averaged). The site appears essentially clean, but such a declaration can't be made until administrative mechanisms are exercised and public input is received. Quarterly monitoring shall continue.

The following milestones comprise the site's path forward:

- Continued quarterly groundwater monitoring. Chevron shall continue the current schedule.
- A revised RI/FS report for Ecology approval. Please revise and submit.

- Ecology's issuance of an *Agreed Order Satisfaction* letter to Chevron. After Ecology reviews and approves the revised/resubmitted RI/FS report, it will send Chevron a letter declaring the provisions of the *existing* agreed order to have been satisfied.
- A draft cleanup action plan (dCAP). Chevron/Leidos may now commence preparation of a dCAP. The document should include descriptions of historical remediation actions (the early excavation work essentially constituted what MTCA would consider an "interim action," but because it occurred prior to the site's having Ecology oversight, that term is not exactly applicable). The need for soil caps (plus their maintenance) and restrictive covenants until it is certain that all contaminants in vadose-zone soil are below CULs should be discussed.
- A final CAP document. Because the *final* CAP that will be subject to public comment is an Ecology document, Ecology will prepare the final document using the draft CAP prepared by Chevron/Leidos as a basis.
- Development of an agreed order (AO) for implementation of the final CAP.
- Associated public-notice and document-repository efforts related to the AO for CAP implementation—i.e., providing copies of documents, Ecology web page preparation (by Ecology), etc.
- A public comment period.
- Preparation of a comment-response summary (by Ecology, but Chevron/Leidos input may be necessary for certain types of comments/questions).
- Execution of the AO. Actual active, targeted remediation efforts are not likely to be employed because:
 - groundwater has already exceeded the generally accepted time-period criterion of "four quarters below CULs,"
 - contaminants in soil are at concentrations below or near CULs, and empirically documented natural-attenuation rates are reasonable at the site, and
 - *Monitored* natural attenuation (MNA) is very likely to be selected as the most appropriate remediation approach.

Ecology has genuinely appreciated the cooperation displayed by Chevron/Leidos during the long-term site remediation project and its willingness to perform additional tasks and make procedural changes requested by the agency.

If you have questions or comments, please contact me.

Sincere regards,



Rod Schmall, Site Manager
Toxics Cleanup Program / Washington State Department of Ecology

cc: Alex Shook / Leidos
Dan Wyll / Leidos
Andrew Smith, Unit Supervisor / TCP-SWRO
Iloba Odum, Director / SWRO-Vancouver Field Office
Kay Shirey / State Attorney General Office

Attachment: Table 1 – Groundwater Data Summary through Dec 2014

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