



Department of Toxic Substances Control



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Date: August 11, 2008

Subject: Area IV Santa Susana Field Laboratory
Environmental Impact Statement
Data Gap Analysis Report, dated June 1, 2008

PCA: 22120

Site Code: 300381-48

MPC: 37

The Geological Services Unit (GSU) of the Department of Toxic Substances Control (DTSC) reviewed the above-referenced report (report). The report was prepared by CDM for the Department of Energy (DOE). The review focused on portions of the report related to groundwater.

It should be clearly noted that the groundwater investigation activities at the site are ongoing. The groundwater conditions at the site are complex and are not well understood. Therefore, the information presented and the conclusions reached in the report regarding the extent of contaminants and the need for additional data should be considered as an approximation based on current understandings. It is certain that as additional groundwater data is collected and the RCRA Facility Investigation (RFI) reports are submitted, additional data gaps will be identified and additional investigation work will need to be conducted.

Specific Comments

1.7.8 Seeps, page 1-16

"Groundwater Seeps have been identified by prior investigations at locations downslope for Area IV."

Artesian conditions have been reported in the RMHF drainage. There has not been sufficient evaluation completed to assess if these conditions may result in a seep in the vicinity of this area. The presence of a distinct lineament and reported fractures

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strongly suggest the presence of a fault within the RMHF drainage that extends to the SRE area. A seep(s) therefore may be present within Area IV, that is, within this drainage during periods of high groundwater elevation.

1.7.8 Seeps, page 1-16

"It is important to note that because the investigation record indicates that seeps are only present in the rainy season, sampling of seeps, like surface water, is an opportunistic activity."

Many of the seeps do not flow much beyond the rainy season, however, numerous seeps flow well into the late summer and many flow year round. This statement should be revised.

2.1 Location, page 2-1

"It is bound on the north and south by undeveloped land owned by Boeing and to the west by property owned by the Brandeis-Bardin Institute."

Please verify the current name of the Brandeis-Bardin Institute. Also, the KB Homes/Runkle Canyon property borders the property to the west. Please revise as necessary.

2.3.2.1 Geology, page 2-4

"Fractures and joints are widespread in the Chatsworth Formation and are important conduits for groundwater and contaminant movement."

The nature of the fractures and joints is under evaluation. The term conduit implies significant flow and may give the false impression of the true nature and behavior of the faults. This statement should be revised.

2.3.2.2 Hydrogeology, page 2-5

"Also, sitewide recharge is estimated to be 2 centimeters (0.95 inches) per year (about 5 percent of 46 centimeters (18 inches) using the chloride mass balance method."

A range of recharge values have been calculated for the site ranging from 2 to 12 percent. This statement should be revised.

3.3.1.2 Potential Exposure Pathways, Groundwater Exposure Pathways, page 3-15

"Direct exposure to groundwater is an incomplete pathway for future industrial workers and recreational visitors, since neither would have access to water supply wells."

Direct exposure to groundwater should be considered a complete pathway due to occurrence of artesian conditions in Area IV and the possible presence of seeps. In addition, it should be noted that the California Regional Water Quality Control Board – Los Angeles Region (CRWQCB-LAR) Basin Plan designates the groundwater as beneficial use.

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3.5.2 Groundwater, page 3-27

"Data gaps related to groundwater media are being addressed as two media: near surface (or shallow) groundwater and the deep groundwater associated with bedrock"
Data should be evaluated dividing groundwater into perched groundwater and regional Chatsworth groundwater rather than the arbitrary divisions of "near-surface" and "Chatsworth".

3.5.11 Bedrock

"Bedrock in some instances can act as a barrier to contaminant migration or can harbor contaminants (i.e., be media of concern)."
The bedrock at the site is permeable and is highly fractured so the term "barrier" is not appropriate. This statement should be revised.

3.6.1.1 Review of the RCRA Program Documents, RCRA Facility Investigation, page 3-30

"In 1999 the DTSC identified two Operable Units (OUs) at the SSFL.."
The two OUs were proposed by Boeing and agreed upon by DTSC.

3.7.1 Identification of Groundwater COIs, page 3-42

"Groundwater COIs were identified by screening reported groundwater concentrations of all detected constituents against one-tenth the EPA Region 9 PRGs and one-tenth the MCLs."

Any detected anthropogenic chemical should be identified as a COI. For naturally-occurring constituents, any concentration above the approved Groundwater Comparison Concentrations should be considered a COI.

3.7.4 Evaluation of Efficacy of Groundwater Monitoring Network, page 3-43

"Are monitoring wells installed in locations and at depths to properly delineate plumes of detected groundwater contamination?"

Please clarify how this will be determined when groundwater flow directions at the site are not known.

Figure 3-2 SSFL Area IV Preliminary Conceptual Model for Ecological Receptors
The figure implies that onsite groundwater will not be assessed. Please clarify why.

4.2.4 Data Gaps in Groundwater Monitoring Network, page 4-19

"If contamination at concentrations significantly above an MCL is detected, the multi-channel well (DOE7) in rock shall be installed."

Please clarify what concentrations would be deemed "significant". The GSU would consider any concentration above MCL significant.

4.2.4 Data Gaps in Groundwater Monitoring Network, page 4-19

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“Collect a shallow groundwater sample (via a new monitoring well or temporary point); if elevated constituents are detected, install a deeper monitoring well)”

Temporary points do not provide temporal data that is often critical in understanding the overall groundwater quality. Therefore, DTSC does not recommend the use of temporary points beyond that of a screening tool.

4.7.2.4 Offsite Surface Water and Sediment, page 4-23

“There is a potential data gap for the ERA for bodies of water located outside the boundaries of Area IV that both contain water for sufficient duration to support aquatic life and are potentially impacted by migration of contaminants from Area IV. Pond R2 in Area II and Silvernale Pond in Area III are potential offsite locations that will require samples to be analyzed for radionuclides.”

There is connectivity between these surface water bodies and the groundwater that needs be evaluated. Groundwater wells adjacent to the R2 and Silvernale Ponds should be also be sampled for radionuclides.

If you have any questions, please contact me at 714-484-5424.

Reviewer: Laura Rainey