Simi Valley Groundwater Quotes Taken from

THREE-DIMENSIONAL GROUNDWATER FLOW MODEL REPORT

SANTA SUSANA FIELD LABORATORY
VENTURA COUNTY, CALIFORNIA.

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https://www.dtsc-ssfl.com/files/lib_rcra_groundwater/3d_report/3dreport/REPORT/ThreeDimensionalGroundwaterFlowModelReportNov2007.pdf

Page 8 - The groundwater system is recharged by precipitation. Recharge occurs throughout the Simi Hills and rates vary with the type of geologic material, slope and precipitation. In this setting the depth below the land surface to groundwater is relatively shallow (50-75 feet or 15 to 23 meters).The elevation of groundwater at the SSFL is up to 900 feet (275 meters) higher than the groundwater levels in the surrounding alluvial valleys (Simi and San Fernando Valleys). Consequently a simple comparison of area water levels would imply that general groundwater flow is from the higher elevations (Simi Hills) towards the topographically lower areas (alluvial valleys).

Page 18 - At the SSFL perennial streams do not exist, but to the south of the site Malibu Creek appears to flow year round suggesting that a portion of the flow is derived from local groundwater discharge. Most drainages are dry for the majority of the year, with flow occurring during rainfall events composed primarily of runoff rather than groundwater discharge. However, a number of perennial seeps and springs have been mapped on the slopes of the Simi Hills (MWH, 2003) and the Santa Susana Mountains (Dibblee, 1992). Seeps and spring features are observed or mapped in areas where groundwater emerges at topographic lows in the ground surface, or due to the pinching-out of geologic units along bedding planes or at locations of faults.

Page 19 - **3.3.8 Groundwater Use**

Within the regional study area the most common use for groundwater is for domestic supply for the few homes that exist outside the alluvial valleys. Historically groundwater pumping occurred in the Simi Valley for irrigation that significantly lowered groundwater levels in the alluvium in the 1950s and 1960s (Evensen, 1997). When irrigation use was reduced groundwater levels in the alluvium recovered and some dewatering was necessary in the west end of the valley where artesian conditions developed.

Groundwater was pumped at the SSFL as early as 1949 for use for use in operations. Groundwater pumping on-site was greatest in the 1950s and 1960s, and pumping ceased in the early 1960s when water started to be imported to the site. In the 1980s pumping recommenced at a number of locations (Table 8). At date of this report on-site pumping occurs at the well labeled as WS-9A.

From a water balance perspective, on-site groundwater extraction removes a large portion of the local groundwater recharge. In the late 1990s it was estimated to be up to 30% of the average recharge (section 3.5.5). The domestic use of groundwater off-site is considered non-consumptive (returned back through septic systems) and is likely to be on the order of 400 gallons/day/household for those locations using groundwater outside of the alluvial valleys. The rate of groundwater pumping from the dewatering wells in Simi Valley is on the order of 1290 gpm (Evensen, 1997).

Page 33 - On the perimeter model boundary, groundwater is expected to discharge to areas outside the domain. This interpretation is based on a limited set of hydraulic head measurements off-site and flow directions simulated in the RSGFM. Groundwater is interpreted to the leave the mountain scale area across the entire thickness of the freshwater system in the Simi and San Fernando Valleys as well as in Box, Bell, and Runkle Canyons (Figure 14 and Figure 29). Groundwater flow is also interpreted to the leave the model domain along Las Virgenes Canyon through seeps and shallow groundwater flow.

Page 42 - Groundwater that recharged at SSFL will move off-site to discharge at seeps or distant surface water features.

- Pumping captures water that otherwise would flow off-site.

Please Note that NASA and The Boeing Co. turned off their Groundwater Pumping System from the year 2000.

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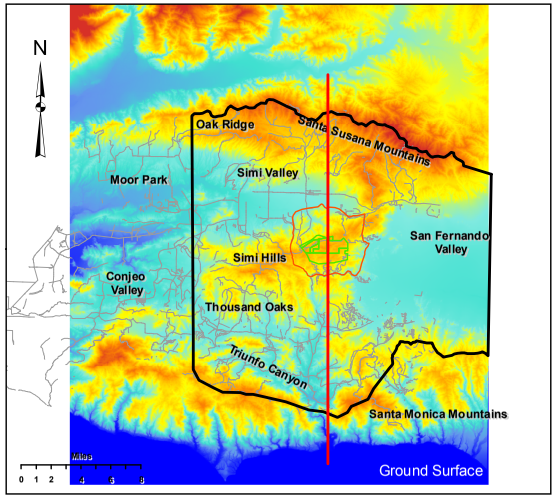
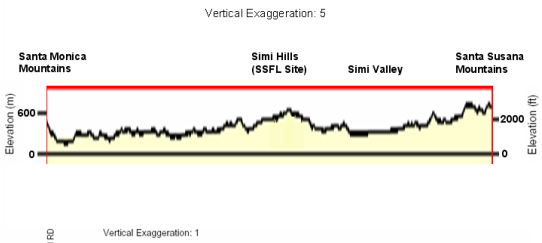
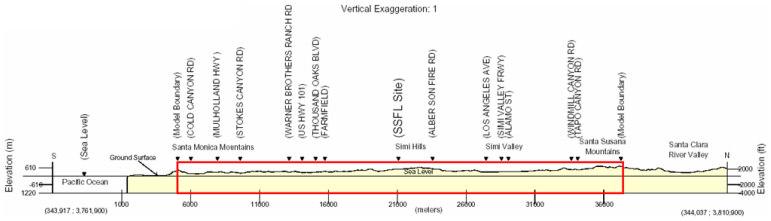
Note: Original printed in color

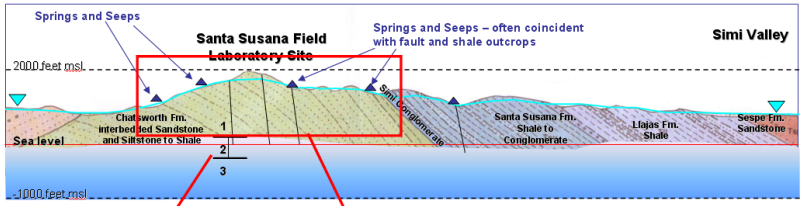
Model Domain - Regional Model

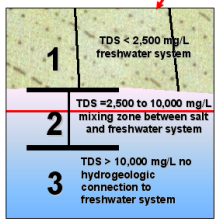


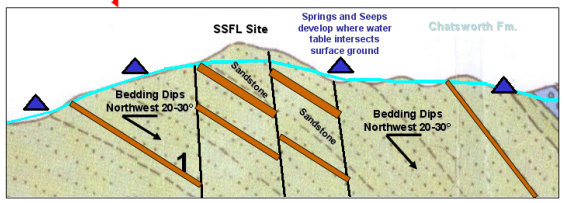




Schematic of Water Table and Seep Locations and Geologic Features







Source: Modified from Dibblee, 1992.

Please Note: The original version of this figure includes colorized features. A black and white copy of the figure may not represent all information.

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Figure 2.

Regional Topography and Schematic Cross-Sections

Filename: SSFL_Figure02_RegCrossSections_TL(01).mxd Date: April 25, 2007