



Tom Seckington, Senior Engineering Geologist

2/16/2010

Department of Toxic Substances Control (DTSC) 5796 Corporate Avenue - Cypress, California 90630-4732 (Via Electronic Mail)

Dear Mr. Seckington,

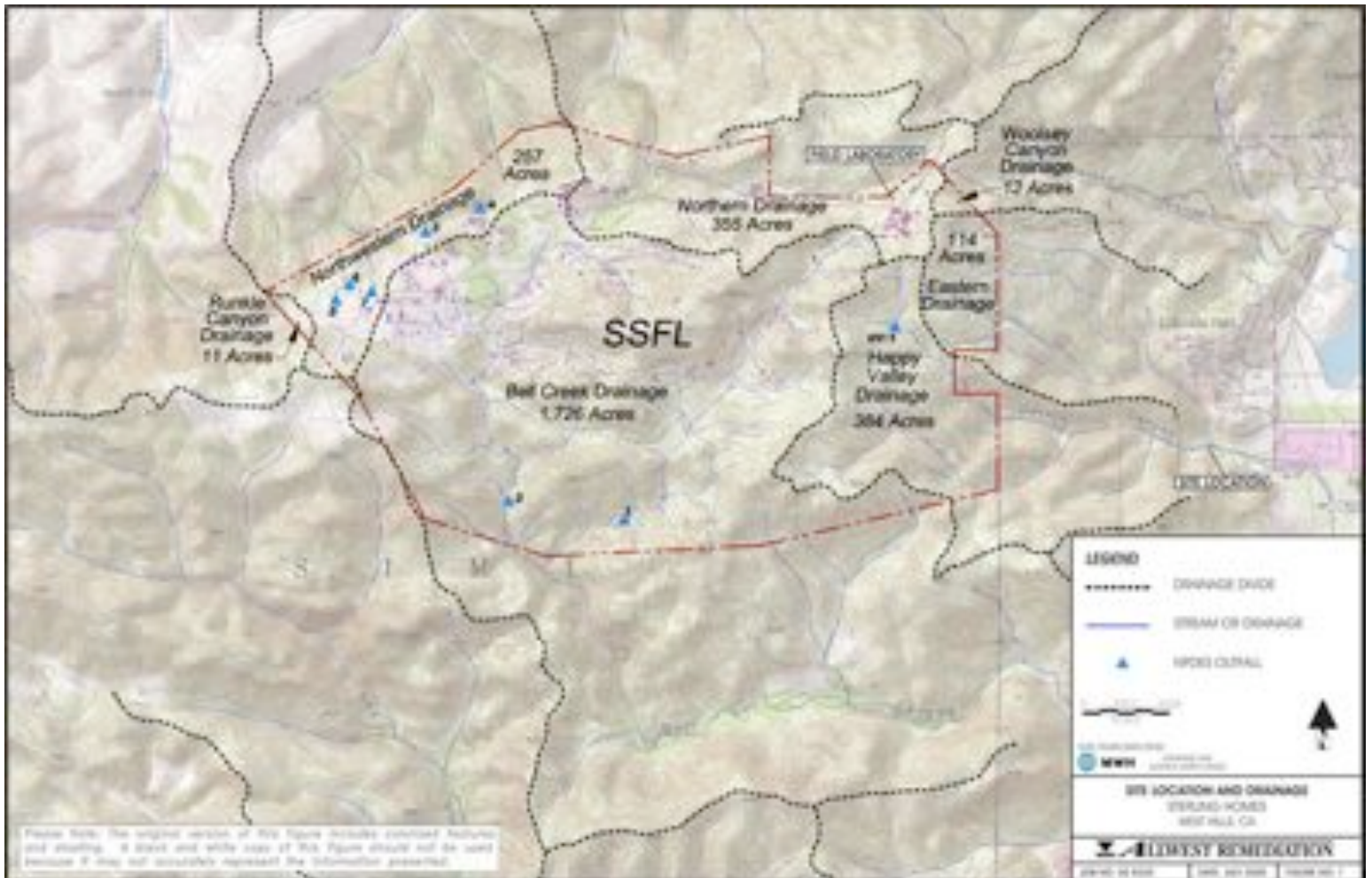
Enclosed please find comments from ACME (Aerospace Cancer Museum of Education) regarding the DTSC Site-Wide Water Quality Sampling and Analysis Plan (WQSAP). There have been many numbers thrown at the public over the years reference gallons of Trichloroethylene (TCE) in the groundwater beneath the SSFL. This number has ranged from 8,000 gallons to 800,000 gallons when in fact it could be over 1,000,000 gallons. Many of these numbers are based on reports written regarding the number of Rocket Engine tests that were flushed with TCE. A number of these reports claim that the TCE use was stopped prior to the NASA Space Shuttle Main Engine (SSME) Phase B preliminary design in 1969, yet the Boeing/Rocketdyne Worker Health Study indicate that TCE use was eliminated in 1994 at the NASA owned AREA II ALFA test stands. This was concurred with a site visit to this area with a former Rocketdyne employee accompanied by ACME, NASA, DTSC and the Environmental Protection Agency (EPA).



In your February 8, 2007 report "Santa Susana Field Laboratory Groundwater Investigation" it is stated that TCE was detected in 355 of the monitoring wells sampled at the site, some of which is pure product. What has this contaminant done since the decision was made to turn off the groundwater treatment systems almost a decade ago? Has the plumes of contamination retained themselves onsite as hoped? Please click on the link below to a letter written on March 7 of 2008 from then LADWP Chief/General Manager H. David Nahai to EPA Administrator, Wayne Nastri that says "The City of Los Angeles has lost the ability to pump 47 percent of its wells in the SFB (San Fernando Basin)" due to "Increased concentrations of primarily Trichloroethylene"

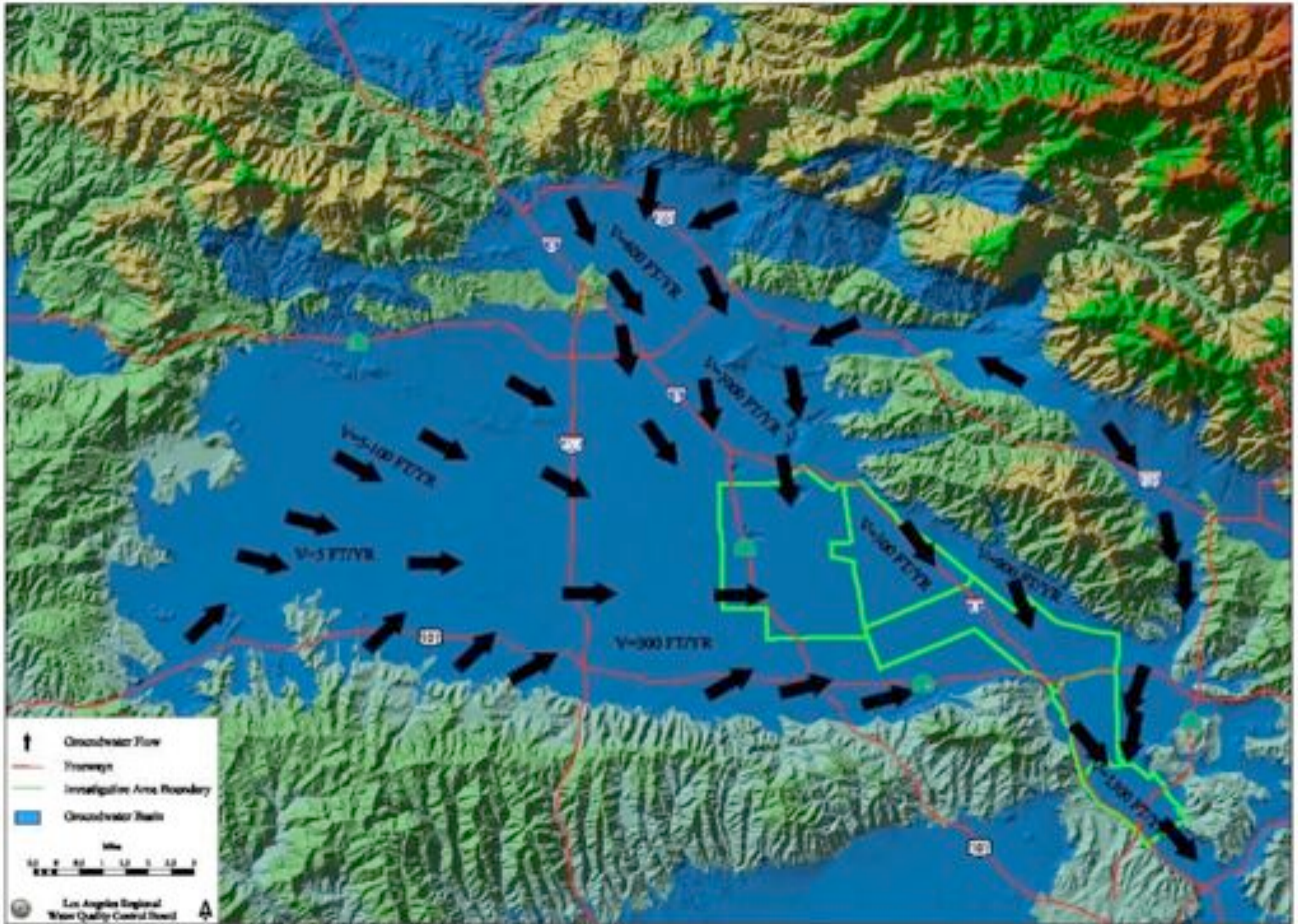
http://acmela.org/images/DWP_Nahai_to_EPA_Nastri_San_Fernando_Groundwater_March_7_of_2008.pdf

When you have a site such as the SSFL, that sits at 1600 to 2200 feet above sea level and the San Fernando (Valley) Basin is by sea level 1000 feet below, there could be a potential connection. I would also like to add that many of the facilities of the SSFL that employed the use of TCE drain into the NASA AREA II R-2 Pond which is the headwaters to the Los Angeles River. Over 1700 acres of the 2850 acres of the Santa Susana Field Lab drain into Bell Creek past Canoga Park High School, through the Sepulveda Basin and 52 miles later end up in the oceans of Long Beach. Validating Mr. Nahai's letter.



With that said, looking at Section 1.1 of the WQSAP Facility historical description does not adequately describe the degree and magnitude of the contaminated groundwater below the site, nor does it adequately describe the ongoing seep and spring issue which potentially brings these contaminants into contact with people and the surrounding wildlife.

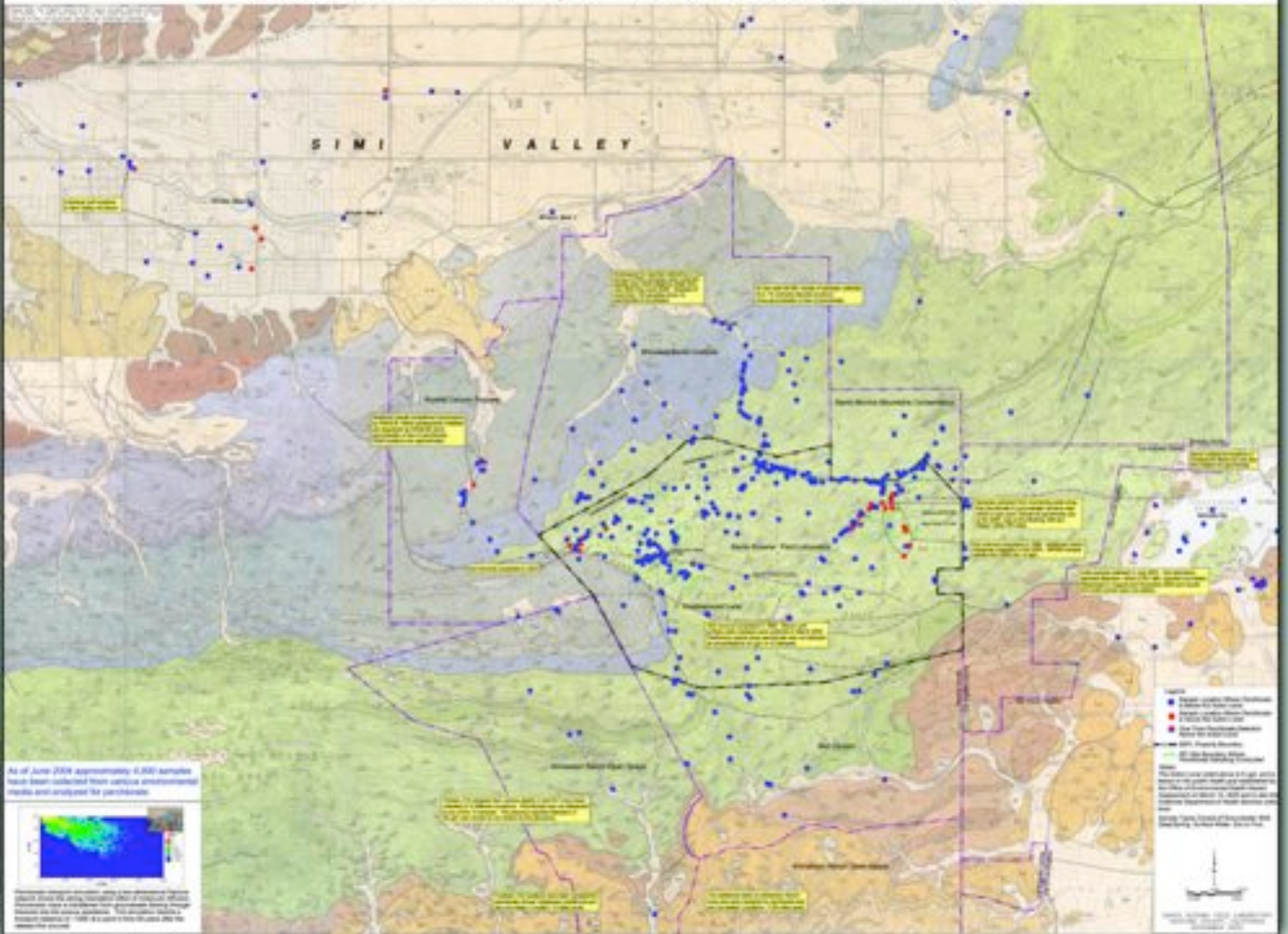
SAN FERNANDO VALLEY: GROUNDWATER FLOW DIRECTIONS



The Site Conceptual Model (Cherry, et al, 2007) does not adequately support the conclusions that groundwater movement is not an issue that requires remediation due to the retardation into the surrounding bedrock. We ask that isotopic tracing be implemented to better determine whether these conclusions are supported. The pumping required to keep areas from flowing, may have impacts on other flow areas, that are not being adequately studied. This is the primary area of concern for us: how to protect the people below from flow that is not understood by the scientific consultants involved in the project.

TCE is just one of the major concerns at the site. Perchlorate is a very large problem at the SSFL, both on and Offsite in similar fashion to the TCE pathway.

Where Have Perchlorate Samples Been Collected at and Around the SSFL?



We see as indicated on the above map, above background concentrations of Perchlorate in Runkle Canyon, a proposed development site.

We must also not forget the Major Chemicals that could have a potential impact to the Health & Safety of the Surrounding Communities such as other Solvents, Petroleum (RP-1, RJ-1), Oils/PCBs, Metals/Inorganics, Energetics, Dioxins, Hydrazines, Fluorene, Acids and even certain Pesticides. One should ask Who is taking care of the Tritium? There have been several documented reports of Tritium in the Groundwater in Simi Valley and should be investigated further. The photo below shows the TCE contamination areas of the Boeing AREA I Laser Engineering Test Facility (LETF) that recently unearthed a discovery of a Tritium Plume. Were they working with Tritium for the laser operations in AREA I? Laser is an acronym that stands for Light Amplification Stimulated Emission of Radiation. Will the EPA or the Department of Public Health be involved at all in this WQSAP?



In regards to a better understanding of the TCE use on the site, please make the following report available to the public online... Final Report, Santa Susana Field Laboratory (SSFL) Air Force Plant No. 57, Site Operations/Ownership History, Prepared for, U.S. Army Corps of Engineers, Omaha District prepared by, Techlaw, Inc. Oct. 4, 1990. There should be a call out to the United States Army Corps of Engineers (USACE) and the United States Air Force for their records as they could be one of the larger users of TCE on the site in past testing and cleaning operations. The USACE have pushed the limits of the Clean Water Act as they have continued to label the Los Angeles River as Non-Navigable, a move that many activists say could be direct relation of their past operations and how they have repeatedly avoided responsibility.

NASA claims Air Force isn't paying fair share of costs

By Lisa Mascaro
Daily News Staff Writer

SIMI VALLEY — NASA claims it has overpaid nearly \$20 million to clean up contaminated groundwater at Rocketdyne's Santa Susana Field Laboratory and that the Air Force isn't paying its fair share.

The space agency paid 79 percent of the \$24 million it cost to pump groundwater from the contaminated site from 1984 to 1997, while it should have paid just 12 percent, according to an audit prepared by NASA's Office of Inspector General.

And while the report doesn't spell out how much Rocketdyne and the U.S. Air Force paid for the cleanup, NASA believes the

military should be forced to pick up most of the tab because it was using the lab during the 1950s and early '60s when most of the toxic contamination occurred.

"As one of the owners, NASA has accepted responsibility for resolving SSFL contamination problems. However, NASA has in the past paid more than its fair share of remediation costs and will continue to do so in the future if it does not take appropriate steps," said the Sept. 30 report.

The National Aeronautics and Space Administration, which once tested the space shuttle engine at the lab in the hills above Simi Valley, could call in the U.S. Justice Department to settle the dispute if it is unable to recoup its losses and negotiate an agreement to pay a smaller share of future

costs.

The audit is compiled from records and field interviews from May 1997 to February 1998. It details a two-pronged problem of past and future costs to clean up trichloroethylene, which is believed to be a cancer-causing chemical and was used to wash down rocket engines at six test stands.

The groundwater project is just one aspect of a far-reaching federal cleanup at the 2,700-acre lab, where radiation and chemicals have been found in soil and water after decades of military research.

NASA claims it has paid Rocketdyne \$19.3 million to clean up the TCE, or more than five times the amount it should be

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NASA audit says military underpaying for cleanup

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paying. The space agency wants to recoup \$16.4 million from the Air Force.

NASA also says it has paid at least \$4 million too much for ongoing costs associated with the cleanup.

"NASA should pay no more than 12 percent of the TCE contamination clean-up costs, while the USAF should be responsible for 88 percent," the audit said. "(An) analysis may conclude that Rocketdyne is responsible for some of the remaining 88 percent of the liability for TCE contamination cleanup, even though Rocketdyne strongly believes it should not be responsible for any of the cleanup costs."

The audit details which agency had control of the field lab during the years when TCE was widely used to wash down the engines before recapture basins were installed in 1961. According to the audit, Rocketdyne owned most of the land and conducted Air Force-commissioned rocket engine tests from 1950-61, when 97 percent of the contamination occurred.

"Rocketdyne and USAF officials believed the TCE would evaporate into the atmosphere while doing no harm to the environment," the report said.

The space agency said it would

accept some responsibility for contamination prior to its use of the facility because tests on Atlas and Delta rocket engines resulted in benefits to NASA.

However, the Air Force maintains the cleanup is Rocketdyne's responsibility.

Representatives from the U.S. Army Corps of Engineers, which is representing the Air Force in the dispute, did not return phone calls.

According to the audit, however, the Air Force has maintained that Rocketdyne should be responsible for 92 percent of the cleanup, with the two government agencies splitting the remaining 8 percent.

Rocketdyne officials initially said the Air Force should pay, but when the military refused, the company charged NASA for the cleanup, the report said.

Rocketdyne spokesman Dan Beck said the company maintains that the government, primarily the Air Force, is responsible for cleanup because Rocketdyne was required to follow its procedures.

"We were operating at the time under the government, especially Air Force, guidelines, for the use of chemicals," Beck said. "Nothing we did went beyond the guidelines."

Beck added that procedures were so strict that when Rocketdyne decided to stop using TCE, it needed

government approval for the change.

"We actually had to go to the Air Force to get them to allow us to stop using TCE as a solvent," Beck said.

The second part of the audit outlines NASA's concerns about ongoing costs related to the cleanup.

Under the current formula, costs are shared among customers at Rocketdyne's Santa Susana facility and two facilities in the San Fernando Valley, rather than among those who benefited from or caused the preventive action, which auditors say should be the practice.

NASA is paying 71 percent, while the military pays 8 percent and Rocketdyne's commercial customers — namely Boeing-owned McDonnell Douglas — pay 20 percent. NASA said it has paid \$4.7 million of the \$6.5 million in ongoing costs to operate the pumping operations from 1996 and 1997, and will continue paying even though it has no new work scheduled at the site.

"In our opinion, NASA should seek to adjust the Rocketdyne allocation methodology so that SSFL preventive costs are allocated among SSFL users rather than among all Rocketdyne customers," the report said.

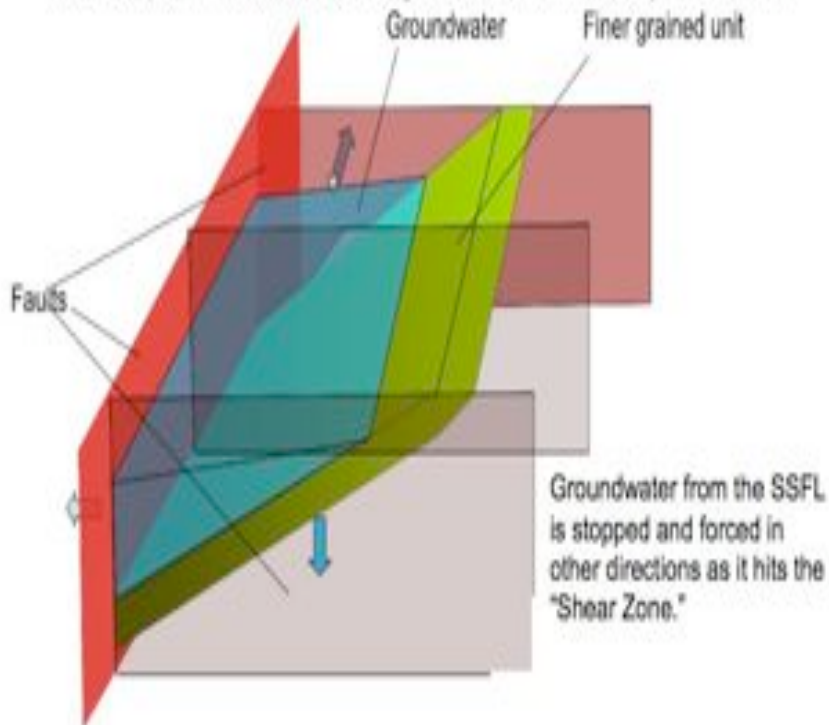
Several News articles have been written about past cleanups of the contaminated groundwater, yet with the millions spent, what was accomplished?

I would like to understand how the Westbay MOSDAX Sampler Probe - Model 2531 Operates as I have never heard of this being used at the Santa Susana Field Laboratory (SSFL) in past sampling operations. Has it been proven in geological formations similar to our complex Chatsworth Formation?

This Figure is from Page 19 of the February 8, 2007 Report "Santa Susana Field Laboratory Groundwater Investigation."

Prepared by Thomas Seckington, P.G., C.H.G. Department of Toxic Substance Control (DTSC)

An example of Faults and how the groundwater is directed by these faults.



Westbay MOSDAX Sampler Probe - Model 2531



Faults do NOT act as aquitards. Faults act as conduits for the movement of chemicals and rads down through the geology to the watersheds below the Rocketdyne hill. Gravity facilitates this movement down to the watersheds below the Rocketdyne hill. "Faults act as contaminant pathways." (from abstract: "Use of Three-Dimensional, High Resolution Seismic Technology to Optimize the location of remedial systems" Mary-Linda Adams, Robert Bainer, 1992). Fault and fracture zones are prominent at the site and are often expressed as surface lineaments that extend a mile or more. Three main strike directions are present for the lineaments: northwest to southeast, northeast to southwest, and east to west. A Shear zone trending northeast to southwest borders the area to the north where the pilot seismic study was performed. Ground water is present in a shallow, unconfined zone represented by alluvium, weathered bedrock, and faulted rock, and in a deeper regional system in the fractured Chatsworth Formation. The two zones are hydraulically interconnected. The shallow ground water is found mostly at depths of 30 ft. The zone is discontinuous and may be only seasonally wet. Since ground water is found only in eroded or fault zones in the bedrock, the knowledge of the location of these permeable zones, which act as contaminant pathways, may prove invaluable in understanding the hydraulic interconnections

Since groundwater flow rate and direction are influenced by other wells as demonstrated at the IEL fault wells in conjunction to Corehole 6 where very high concentrations of TCE exist, we ask that these lower wells be sampled with greater frequency as they identify potential migration to the residents living directly below the site on Woolsey and Dayton Canyons.

Test Area between February 1978 and June 1990.(64) These ranged in quantity from one pint to over 2,000 gallons TCE. The reports give cleanup details for some, but not all, of these spills. The first four reported spills are the most noteworthy, and the results of soil samples collected following these spills are listed in the "History of Releases" Section below.

- In February of 1978, approximately 1,500 gallons of TCE were spilled from a tank at the Alfa 2 Test Stand. TCE was detected in bottom water in the Alfa 2 spillway at 100 mg/ℓ and in the Alfa-Bravo Skim Pond (SWMU 5.12) at 0.063 mg/ℓ and also in the R-2A Discharge Pond (SWMU 5.26). Cleanup efforts are not described in the report.
- A spill of approximately 2,000 gallons of TCE from a tank occurred over the 1982-1983 Christmas holidays. In response, Rockwell removed 20,000 gallons of TCE contaminated water from the "Alfa Area drainage channel." Sample results indicated TCE was present in both the Alfa 2 and 3 spillways. It could not be determined in this review whether the TCE contaminated water was treated and disposed.
- Approximately 300 gallons of TCE were released from a tank at the Alfa Test Area (SWMU 5.12) in August of 1983 (this and the previous release prompted the installation of the new Alfa Test Area Tanks - SWMU 5.10). Some contaminated soil and water were removed from the Alfa 2 spillway.
- In May of 1986, 60-100 gallons of TCE were spilled and according to the report "almost all was contained in the Alfa 2 trench pond." Some contaminated soil was excavated.

We request that a more in-depth description of the newly constructed groundwater treatment system be provided, as well as the filtration systems currently being applied and the operational schedule envisioned. In closing, we appreciate your many years of dedication and quality of work on the many projects you have personally been involved in making the cleanup of the Santa Susana Field Laboratory possible.

Sincerely,

William Preston Bowling

Co-Founder/Director - ACME (Aerospace Cancer Museum of Education)

<http://www.ACMELA.org> 23350 Lake Manor Drive, Chatsworth, California 91311

cc: Tom Gallacher - Boeing, Allen Elliot - NASA, Craig Cooper - EPA, Cal EPA Secretary Linda Adams, Maziar Movassaghi & Rick Brausch - DTSC, Assemblymember Audra Strickland, Rebekah Rodriguez-Lynn for Senator Fran Pavley, Christina Walsh - CleanupRocketdyne.org, Phyllis Winger for Los Angeles County Supervisor Greig Smith, Los Angeles County Supervisor Dennis Zine, Shelly Backlar - Friends of the Los Angeles River, Millie Jones for Los Angeles County Supervisor Michael Antonovich. Ventura County Supervisors Peter Foy & Linda Parks, Jarrod DeGonia for Assemblymember Cameron Smyth, Louise Rishoff for Assemblywoman Julia Brownley and Billie Greer for Governor Arnold Schwarzenegger