

# **Reject the Grossly Non-Protective Boeing/Santa Susana Field Laboratory Proposed Permit to Release Pollution**

Presentation to the LA Regional Water Quality Control Board

by

Committee to Bridge the Gap

Parents Vs. SSFL

Physicians for Social Responsibility-LA

Public Employees for Environmental Responsibility

Rocketdyne Cleanup Coalition

FEBRUARY 10, 2022

## **Today's Matter is Very Different Than Permits Normally Considered by the Board**

1. SSFL, where a partial nuclear meltdown occurred, is one of the most contaminated sites in the nation, and is arguably the most contaminated site in the Board's jurisdiction.
1. We are dealing with a witches' brew of radionuclides such as plutonium-239, cesium-137, and strontium-90, and hundreds of toxic chemicals such as perchlorate, PCBs, dioxins, SVOCs, PAHs, and much more.
1. SSFL is the headwaters of the LA River.

More than  
700,000  
people live  
within 10  
miles

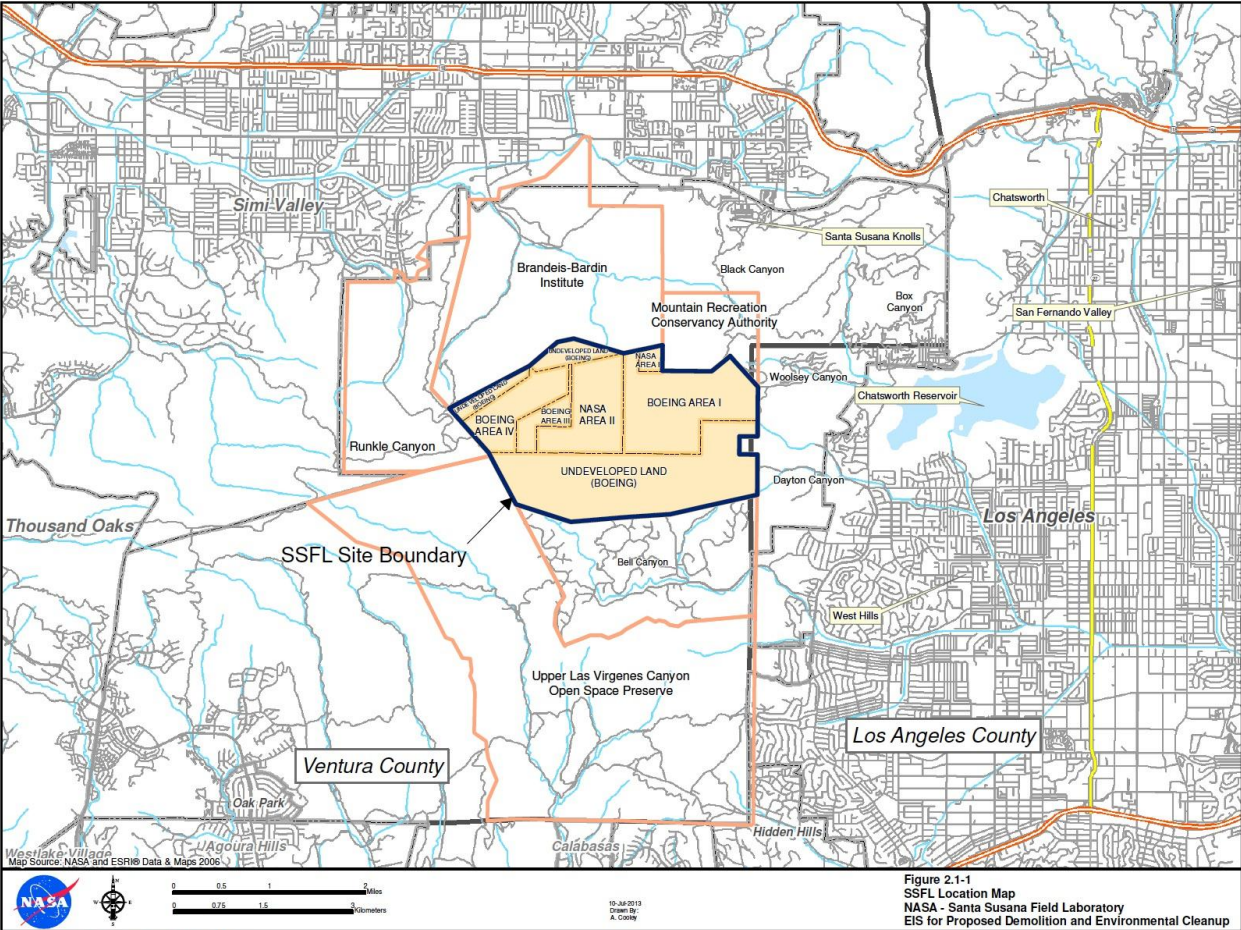
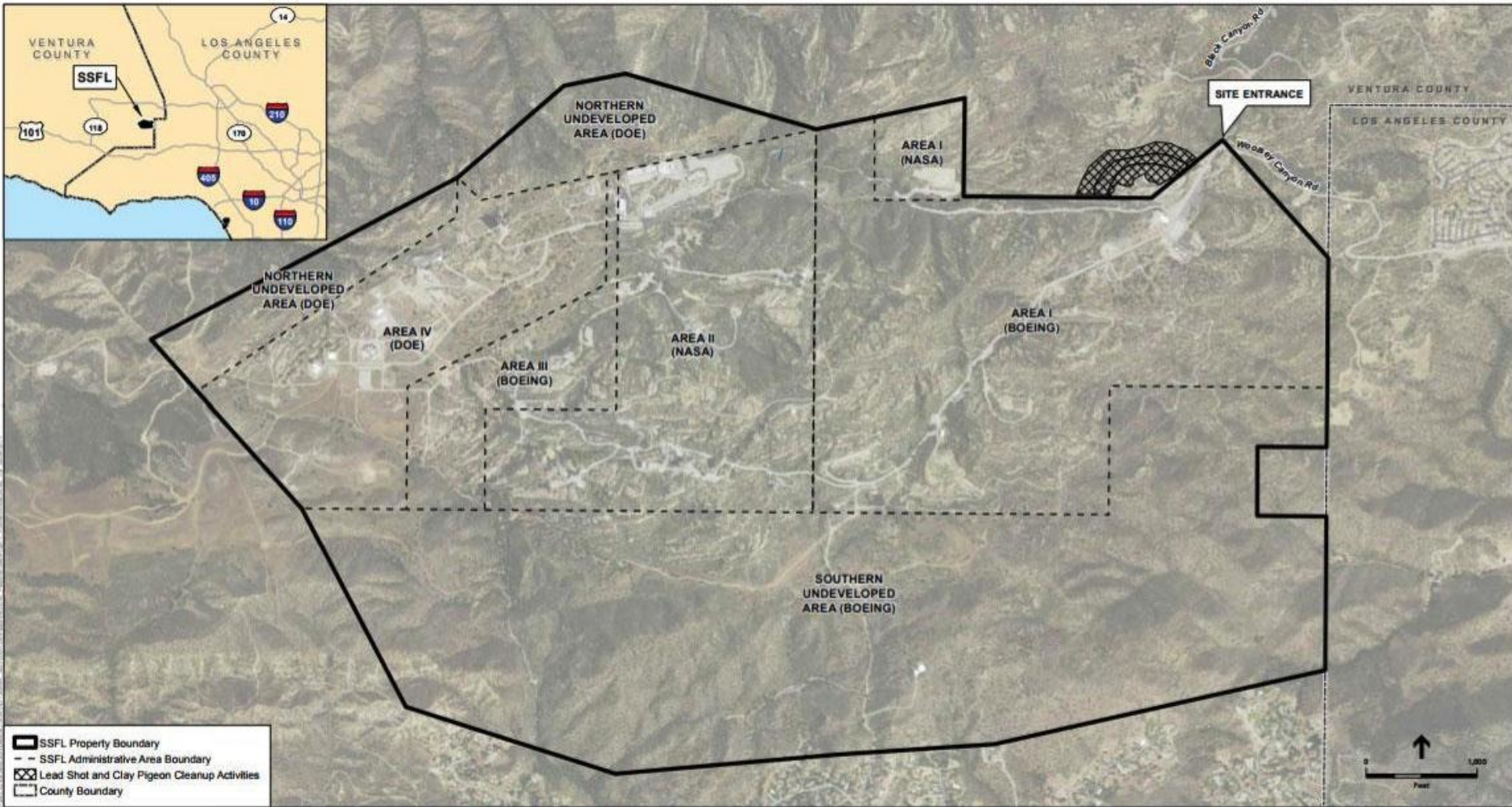


Figure 2.1-1  
SSFL Location Map  
NASA - Santa Susana Field Laboratory  
EIS for Proposed Demolition and Environmental Cleanup



- SSFL Property Boundary
- SSFL Administrative Area Boundary
- Lead Shot and Clay Pigeon Cleanup Activities
- County Boundary



Space Preserve

Bell Canyon

SSFL

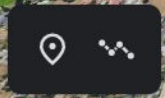
Brandeis

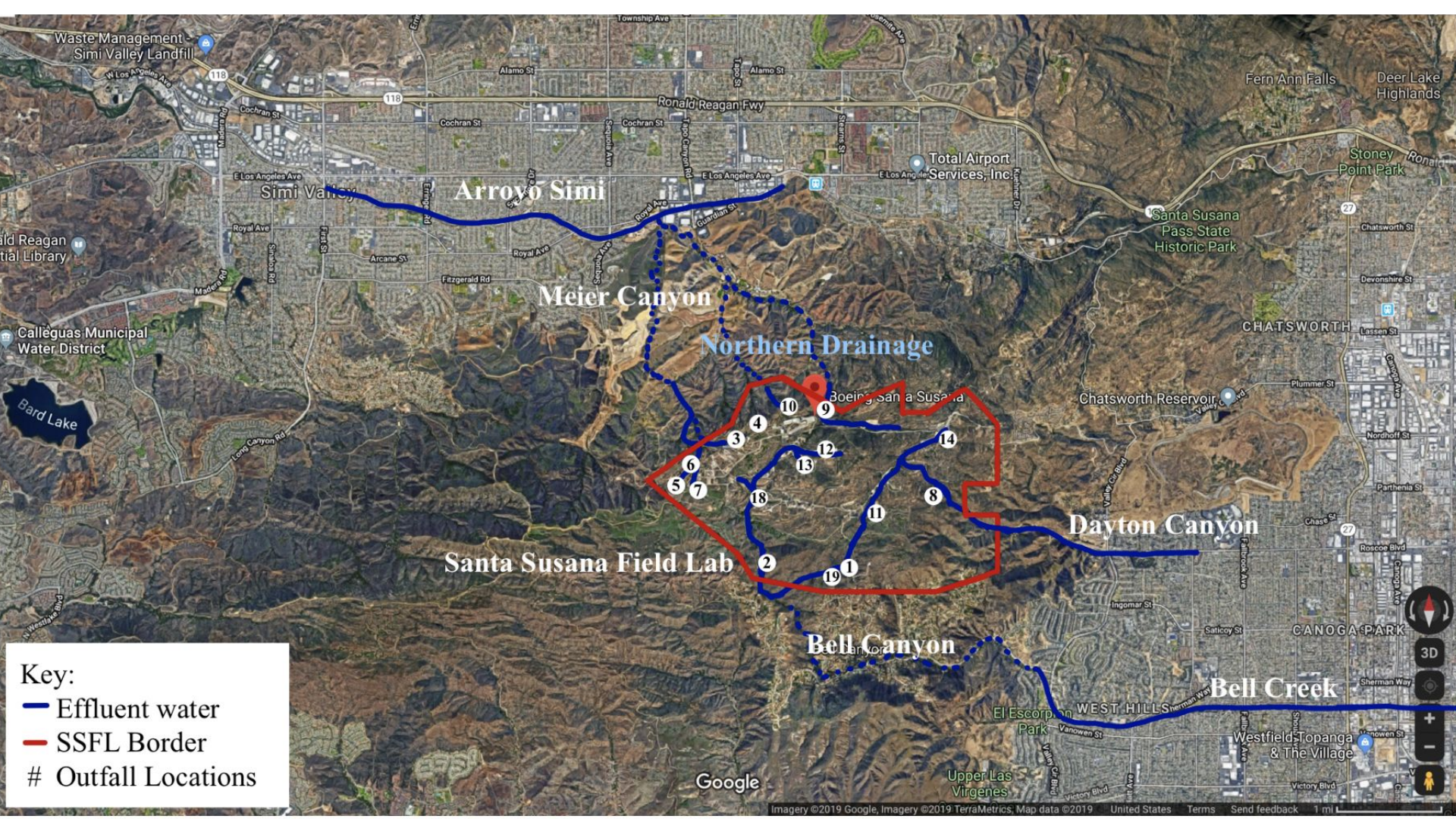
Callahan Field

Simi Valley Cu

Sequoia Park

Garden Grove





**Key:**

- Effluent water
- SSFL Border
- # Outfall Locations



MELTED  
BLOB

The image shows a horizontal zirconium rod with a central irregularly shaped mass labeled 'MELTED BLOB'. Below the rod are three dimension lines with arrows indicating lengths: 6-3/4" for the left section, 5" for the central section containing the blob, and 6-1/4" for the right section. A hatched rectangular area is visible in the top-left corner, and a vertical line is on the top-right. The word 'ZIRCONIUM' is printed at the bottom left.

6-3/4"

5"

6-1/4"

ZIRCONIUM

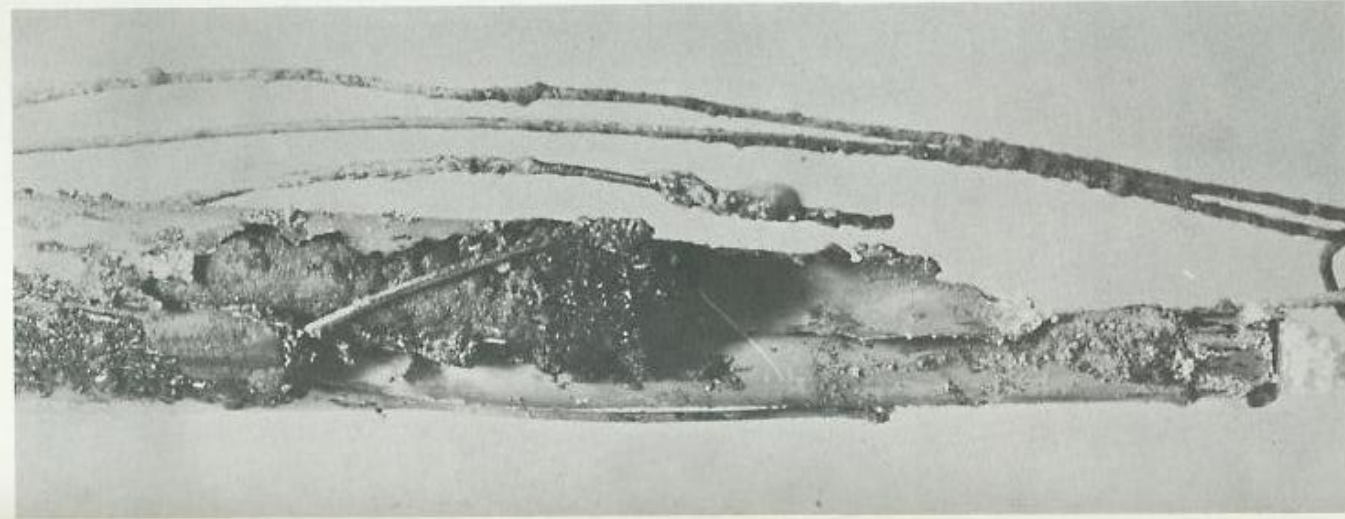


Figure IV-A-6. Bottom of Damaged Element in Channel 55

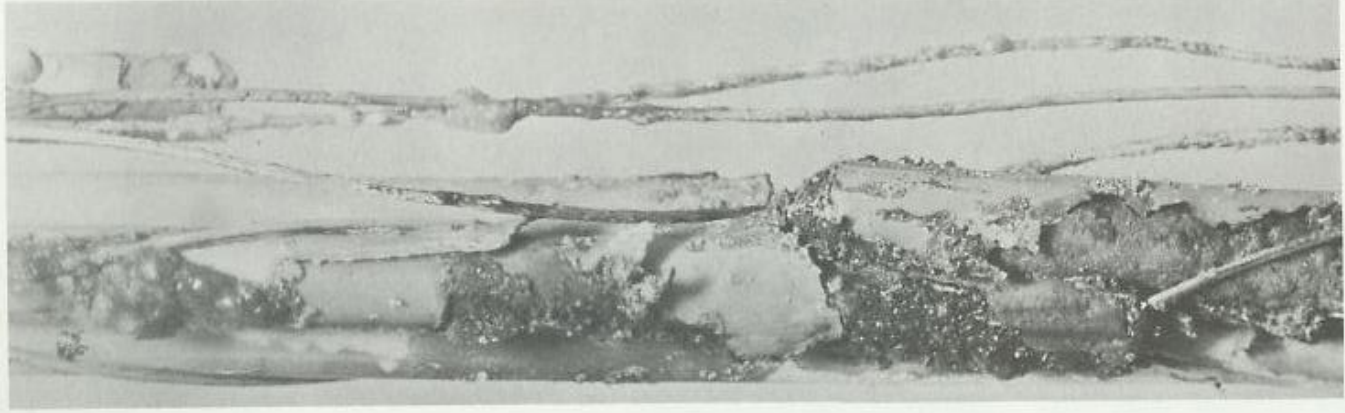
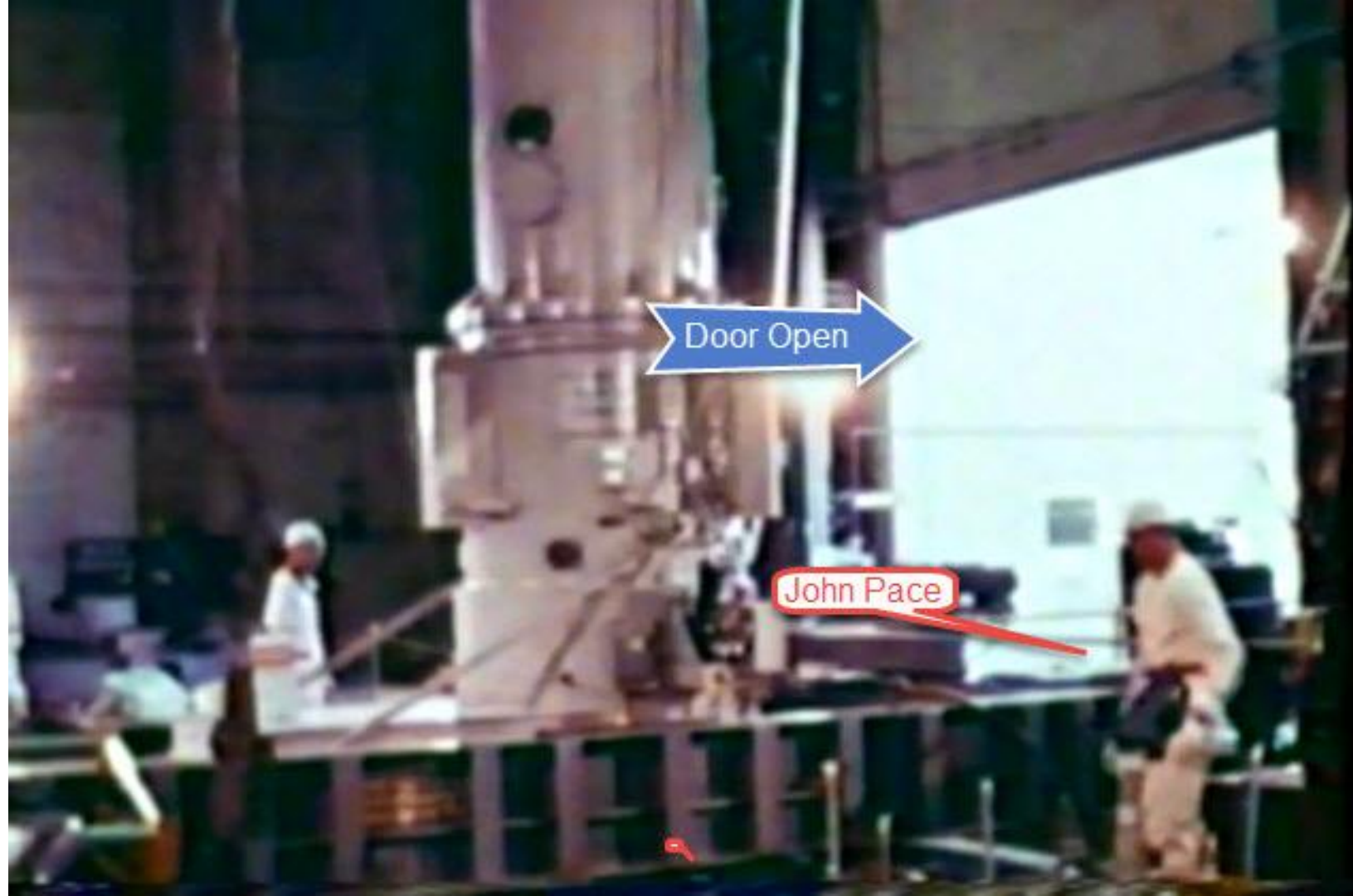


Figure IV-A-7. Midsection of Damaged Element in Channel 55



Door Open

John Pace

# NUMEROUS OTHER ACCIDENTS AND RELEASES

At least 3 other reactors suffered accidents:

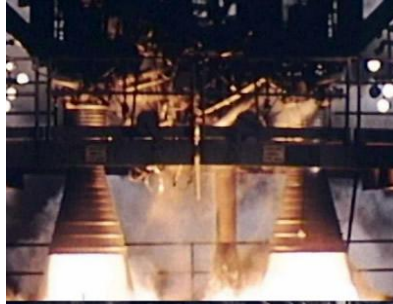
- SNAP8ER—80% of nuclear fuel damaged
- SNAP8DR—35% of fuel damaged
- AE6—release of fission gases

Radioactive Fires at the Hot Lab

Releases from Plutonium Fuel Fabrication

Numerous Other Spills and Releases

Over 30,000  
rocket engine  
tests took place  
over five decades,  
releasing large  
amounts of toxic  
chemicals into the  
environment.

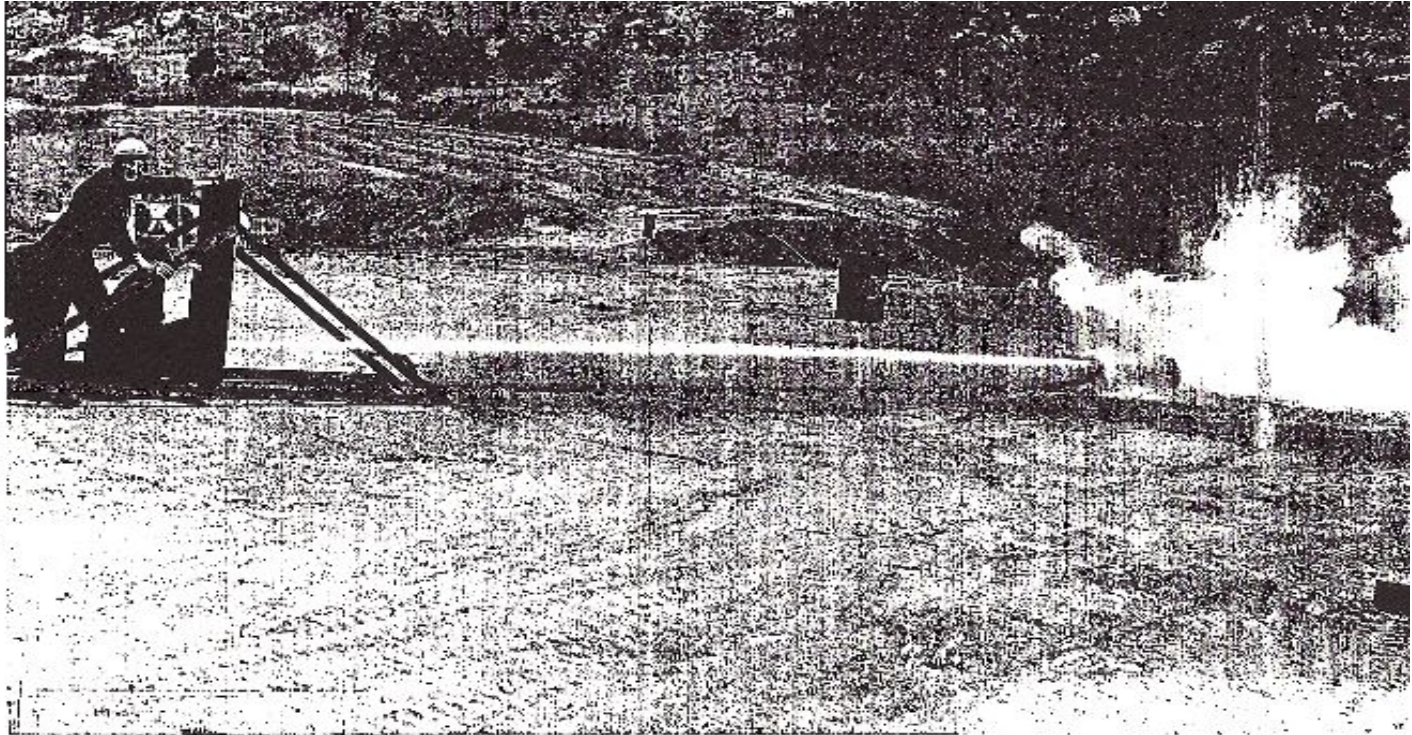


# HISTORY OF IMPROPER DISPOSAL OF HAZARDOUS MATERIALS

- Radioactive and chemical materials burned in Area IV sodium burn pit against rules for decades
- Rocketdyne cited for unpermitted burning of hazardous materials in Area I
- In mid-1990s two workers were killed in an explosion caused by illegal disposal of hazardous materials. FBI raided SSFL and US Attorney charged Rocketdyne with 3 felonies, largest environmental fine at the time.



Workers “disposed” of highly toxic waste in barrels by shooting at them, causing them to explode and release contents into the environment, with the contaminants spread widely by toxic smoke.



EX. 34 - S205

GEORGEAN  
000121

Ex. 34 - 5204

GURICAN  
000120

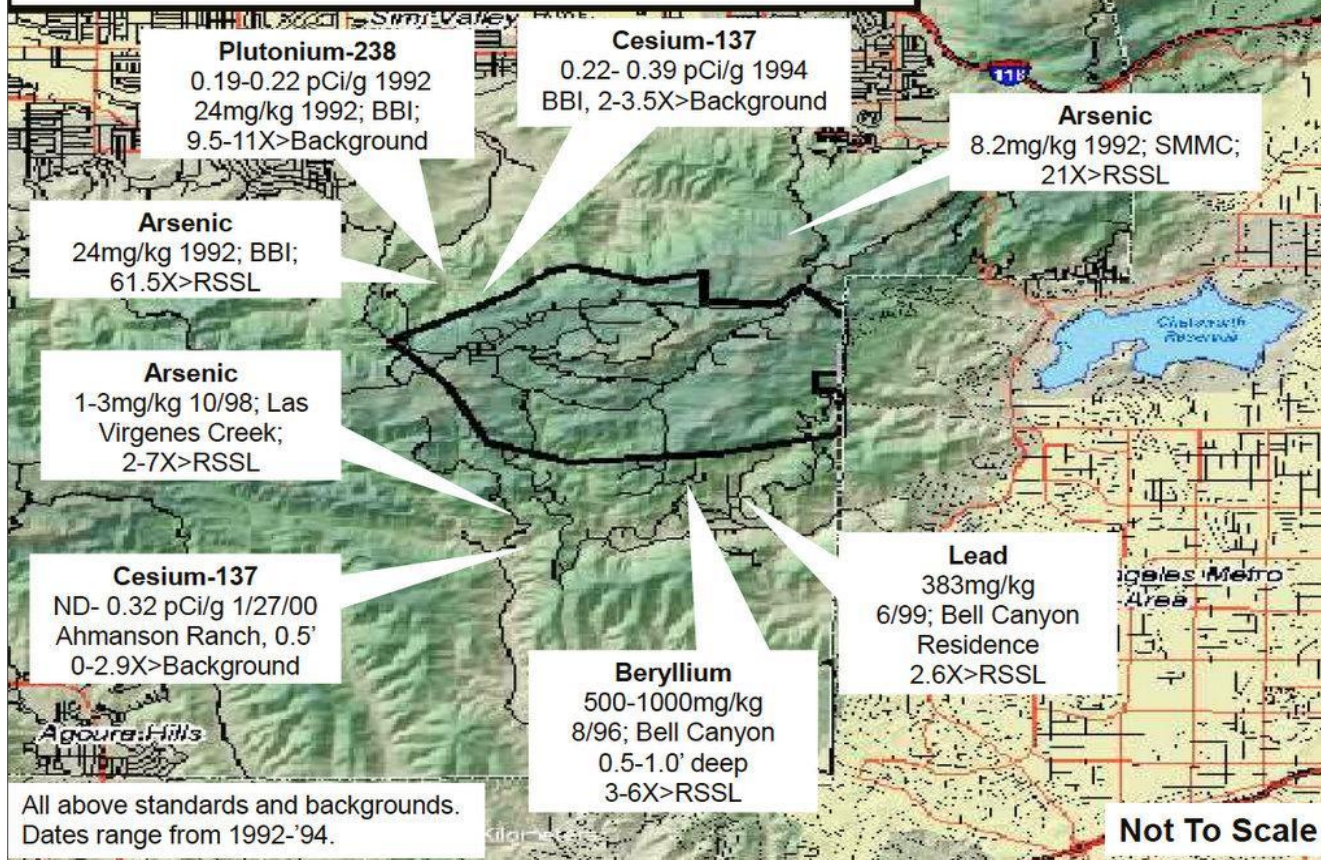


# SSFL Contaminants of Concern

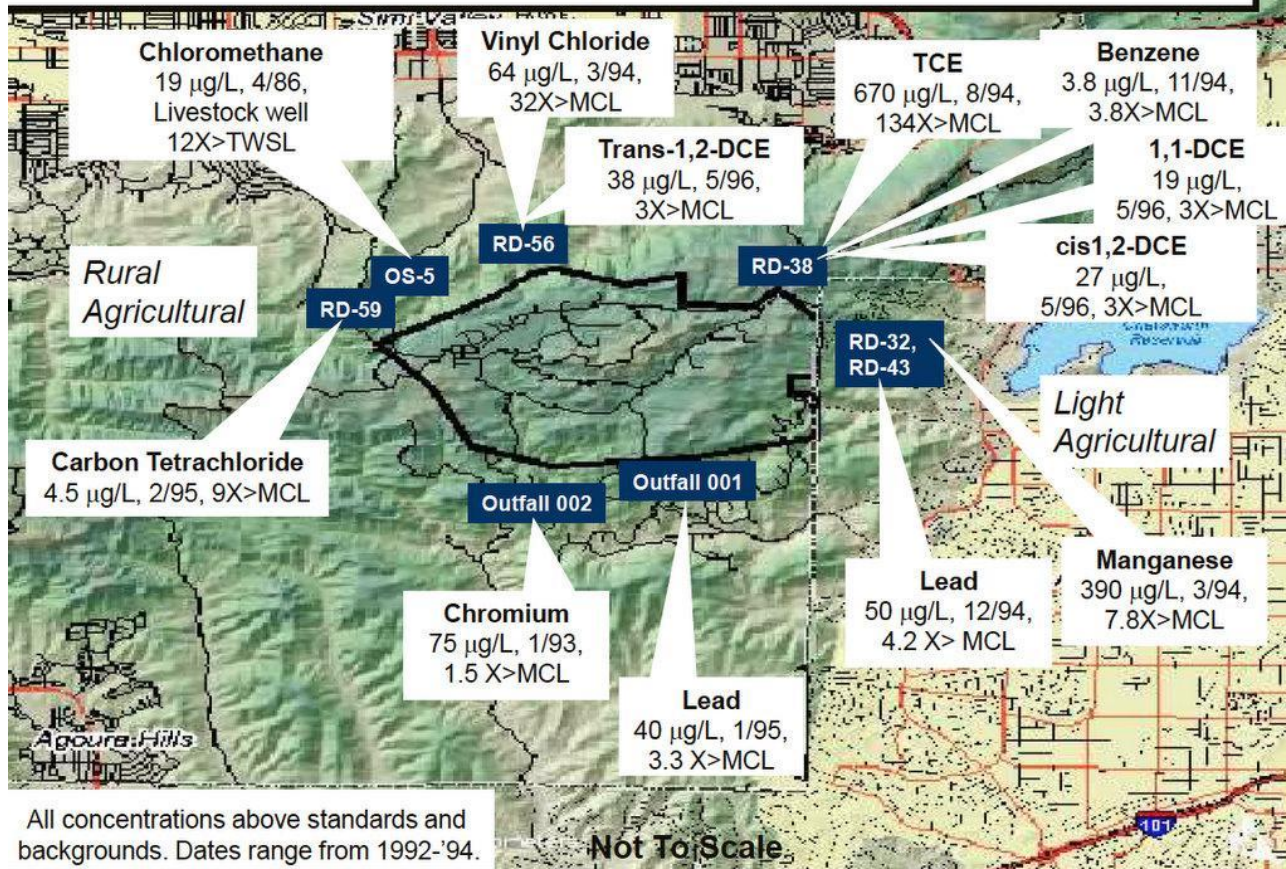
**Radionuclides:** cesium-137, strontium-90, plutonium-239, tritium, among other radioactive materials. In 2012, the EPA found radiation in hundreds of samples at SSFL, in some places over 1,000 times background. The National Academy of Scientists has concluded there is no safe level of exposure to radiation.

**Chemicals:** TCE, perchlorate, dioxins, heavy metals, PCBs, and various other volatile and semi-volatile organics. Many are regulated at a few parts per billion (ppb), yet there are very large quantities present in the soil at SSFL. SSFL disposed of tons of perchlorate in open-air burn pits which polluted soil, groundwater and surface water. At SSFL, 500,000 gallons of TCE are estimated to be in the soil column and aquifer.

# Offsite Soil Contamination



# Offsite Wells or Spring Contamination



# **SSFL CONTAMINATION LEAKS OFFSITE AND WILL CONTINUE TO DO SO UNTIL CLEANED UP**



**SSFL contamination has migrated offsite for years--approximately 350 exceedances of NPDES limits and benchmarks over the decade before the Woolsey Fire. Fines in excess of \$1 million have been imposed over the years, trivial to Boeing--the equivalent of a nickel for an average family.**

## 2007 Consent Order and 2010 Administrative Orders on Consent Between DTSC and the Responsible Parties

The legally binding orders require soil cleanup be completed by 2017 and the permanent groundwater remedy be in place by the same date. But Boeing, Dept. of Energy, and NASA—the three Responsible Parties—have all resisted complying.

Despite the requirement  
for full cleanup by 2017,  
it is 2022 and the  
promised soil cleanup  
hasn't even begun.

## Comment 3

(as numbered by Staff Response to Comments; refers to Comment 1 as numbered in our comment letter)

**90% of the contaminants that Boeing and DTSC have identified as detected at SSFL are exempt from any limits whatsoever in the Tentative Permit.** Boeing and DTSC identified ~314 contaminants at SSFL;<sup>1</sup> the permit provides limits for only 33 of these distinct chemicals. The other 280 (~90%) are allowed to be released at unlimited levels, which is wholly unacceptable from a public health and environmental perspective.

<sup>1</sup> See SRAM 2 Addendum, prepared by Boeing and approved by DTSC in August 2014; see “List of Chemicals Historically Detected at the SSFL - by Media” (PDF pp. 1408-1412), included as an attachment to these comments. We have highlighted (yellow) those constituents that are included as limits in the Tentative Permit compared to the great majority for which there are no limits included. [See also the similar number of toxic chemicals for which Risk Based Screening Levels (RBSLs) for soil contamination have been put forward for human health, SRAM, PDF pp. 1071-1073, and ecological receptors, SRAM, PDF pp. 1589-1597.]

## Reply to Staff Response 3

**Staff does not dispute that 90% of the contaminants detected at SSFL are allowed unlimited concentrations in surface water discharges in the proposed permit.** Staff claims that some–VOCs–are unlikely to be in surface water. However, that accounts for a minority of the SSFL contaminants, and numerous VOCs have been detected in SSFL surface water.

Staff also claims that some of the unlimited pollutants have not been detected in surface water, but **70% of the 300+ contaminants detected at SSFL have in fact *been* detected in surface water**, and there is no evidence that surface water has even been tested for most of the rest.

## Comment 4

Of the limits that are in the existing permit, nearly one quarter are proposed to be changed in the new permit.<sup>2</sup> **Of those proposed changes, 95% either weaken or fully eliminate the limits in the existing permit.**<sup>3</sup>

<sup>2</sup> Final Limits Comparison Table, released by Board staff in early January 2022 upon request by Melissa Bumstead for identification of changes proposed in the Tentative Permit. (This is based on counting the same chemical multiple times if there is a limit for it at different groups of outfalls and/or if there is a limit both for concentration and for lbs/day.)

<sup>3</sup> *ibid.*

## Reply to Staff Response 4

**Staff does not dispute our numbers—that the tentative permit proposed changing 25% of the permit limits and that 95% of the proposed changes weakened or eliminated limits.** Staff, nonetheless denies that the proposed permit made “extensive” changes and remarkably asserts that none of the changes “weaken the permit,” despite the proposed higher concentrations allowed for various pollutants.

Implicitly conceding the correctness of the criticism, Staff has now proposed walking back some of the changes in the revised tentative permit. Had we not called attention to the huge increase in the first draft, for example, lead would have been skyrocketed from a limit of 5.2 µg/L to 94 µg/L. **However, approximately three dozen limits in the current permit would *still* be weakened or eliminated entirely in the revised tentative permit.**

## Comment 5

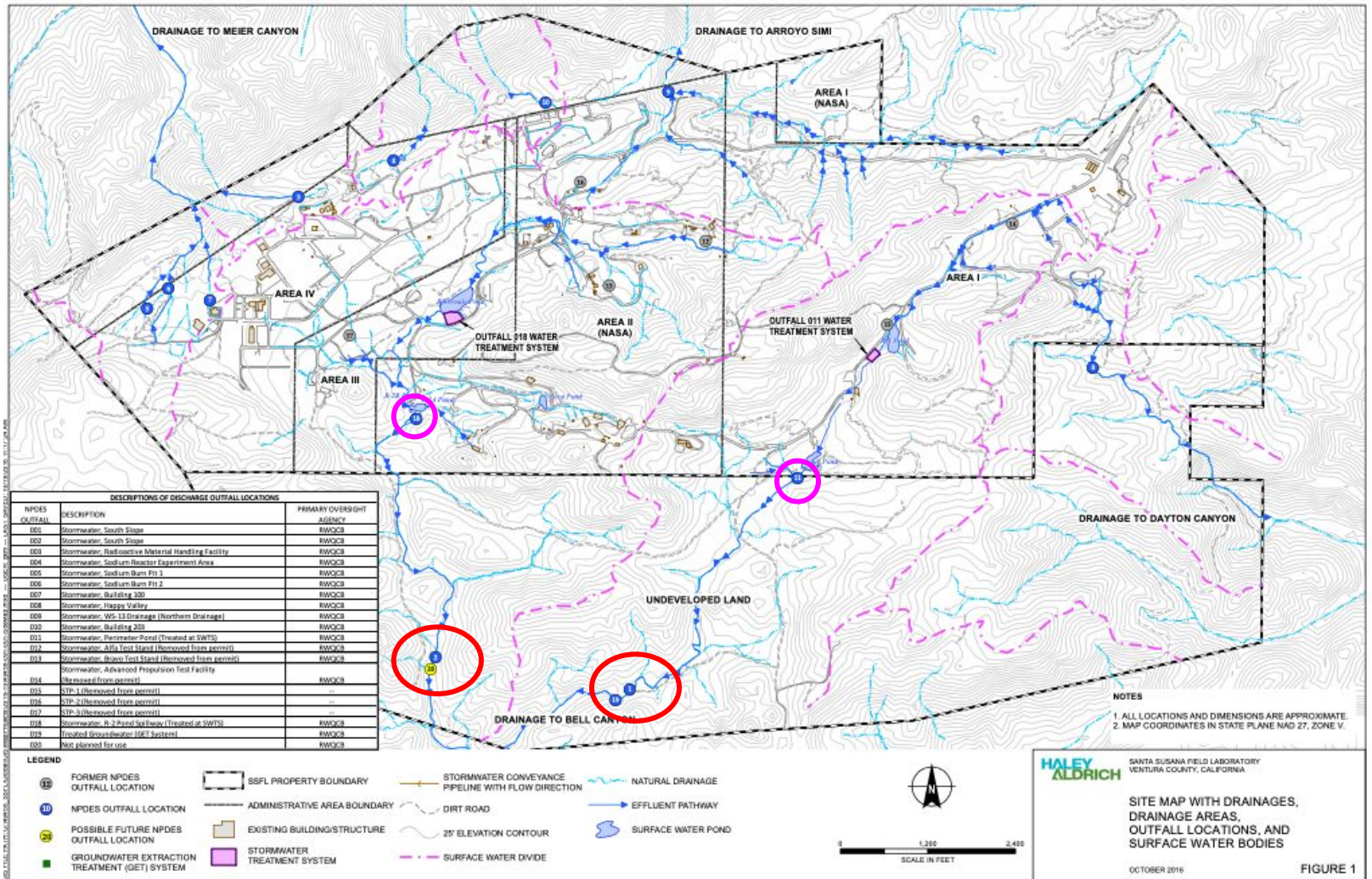
**Two of the primary outfalls (001 and 002) have no enforceable numeric limits whatsoever.** Instead, “benchmarks” apply, the breach of which does not constitute a violation and for which no fines can be issued. One of these outfalls (002) with no enforceable limits is the location of the largest number of exceedances in the last several years. (The benchmarks are identical numerically to the enforceable limits, but don’t trigger violations or fines.)

## Reply to Staff Response 5

Staff says Boeing asked the State Board to block enforceable limits at Outfalls 1 and 2 in the 2004 permit, and the State Board in 2006 remanded the matter for reconsideration by the Regional Board with direction “to ensure that numeric effluent limitations for different outfalls do not count the same violation twice in such a manner as to treat a single violation as multiple violations.” That was 16 years and several permits ago, and the actual measured data show that there isn’t duplication, so there is no basis for allowing large numbers of exceedances at these critical Outfalls without penalty or enforcement.

**60% of the surface water leaving the 2850 acre SSFL site goes through Outfalls 1 and 2.** They are half a mile downgradient from Outfalls 11 and 18, and are thus fed by vast watersheds that are potentially contaminated below 11 and 18, and thus failure to regulate them is a serious risk.

**The actual data demonstrate that regulating them would not result in duplication. For example, during the six months after the Woolsey Fire, there was only 1 exceedance at Outfall 18, whereas there were 27 at Outfall 2 below it.**



**DESCRIPTIONS OF DISCHARGE OUTFALL LOCATIONS**

NPDES OUTFALL	DESCRIPTION	PRIMARY OVERSIGHT AGENCY
001	Stormwater, South Slope	BWQCB
002	Stormwater, South Slope	BWQCB
003	Stormwater, Backwash Material Handling Facility	BWQCB
004	Stormwater, Sodium Hexafluoride Experiment Area	BWQCB
005	Stormwater, Sodium Barn Pit 1	BWQCB
006	Stormwater, Sodium Barn Pit 2	BWQCB
007	Stormwater, Building 200	BWQCB
008	Stormwater, Hanga Valley	BWQCB
009	Stormwater, MS-13 Drainage (Northern Drainage)	BWQCB
020	Stormwater, Building 200	BWQCB
021	Stormwater, Perimeter Pond (Treated at SWS)	BWQCB
022	Stormwater, Alpha Test Stand (Removed from permit)	BWQCB
023	Stormwater, Beta Test Stand (Removed from permit)	BWQCB
024	Stormwater, Advanced Propulsion Test Facility (Removed from permit)	BWQCB
025	STP-1 (Removed from permit)	---
026	STP-2 (Removed from permit)	---
027	STP-3 (Removed from permit)	---
028	Stormwater, R-2 Phased Solid Waste (Treated at SWS)	BWQCB
029	Treated Sewer Effluent (GET) System	BWQCB
030	Not planned for use	BWQCB

**LEGEND**

FORMER NPDES OUTFALL LOCATION	SSFL PROPERTY BOUNDARY	STORMWATER CONVEYANCE PIPELINE WITH FLOW DIRECTION	NATURAL DRAINAGE
NPDES OUTFALL LOCATION	ADMINISTRATIVE AREA BOUNDARY	DIRT ROAD	EFFLUENT PATHWAY
POSSIBLE FUTURE NPDES OUTFALL LOCATION	EXISTING BUILDING/STRUCTURE	20' ELEVATION CONTOUR	SURFACE WATER POND
GROUNDWATER EXTRACTION TREATMENT (GET) SYSTEM	STORMWATER TREATMENT SYSTEM	SURFACE WATER DIVIDE	

**NOTES**

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.  
 2. MAP COORDINATES IN STATE PLANE NAD 27, ZONE V.

**HALEY ALDRICH** SANTA SUSANA FIELD LABORATORY  
 VENTURA COUNTY, CALIFORNIA

**SITE MAP WITH DRAINAGES, DRAINAGE AREAS, OUTFALL LOCATIONS, AND SURFACE WATER BODIES**

OCTOBER 2016 **FIGURE 1**

## Comment 6

**Even though the Reasonable Potential Analysis (RPA) identified seven unique chemicals that should be added to the permit (for a total of ten new limits given their presence at multiple groups of outfalls), the Tentative Permit fails to add them.** [Although the Tentative Permit (F-34) claims that the reasons for refusing to add the new toxic constituents found by the RPA is detailed in Section 4.4, there is no such discussion found therein.]

## Reply to Staff Response 6

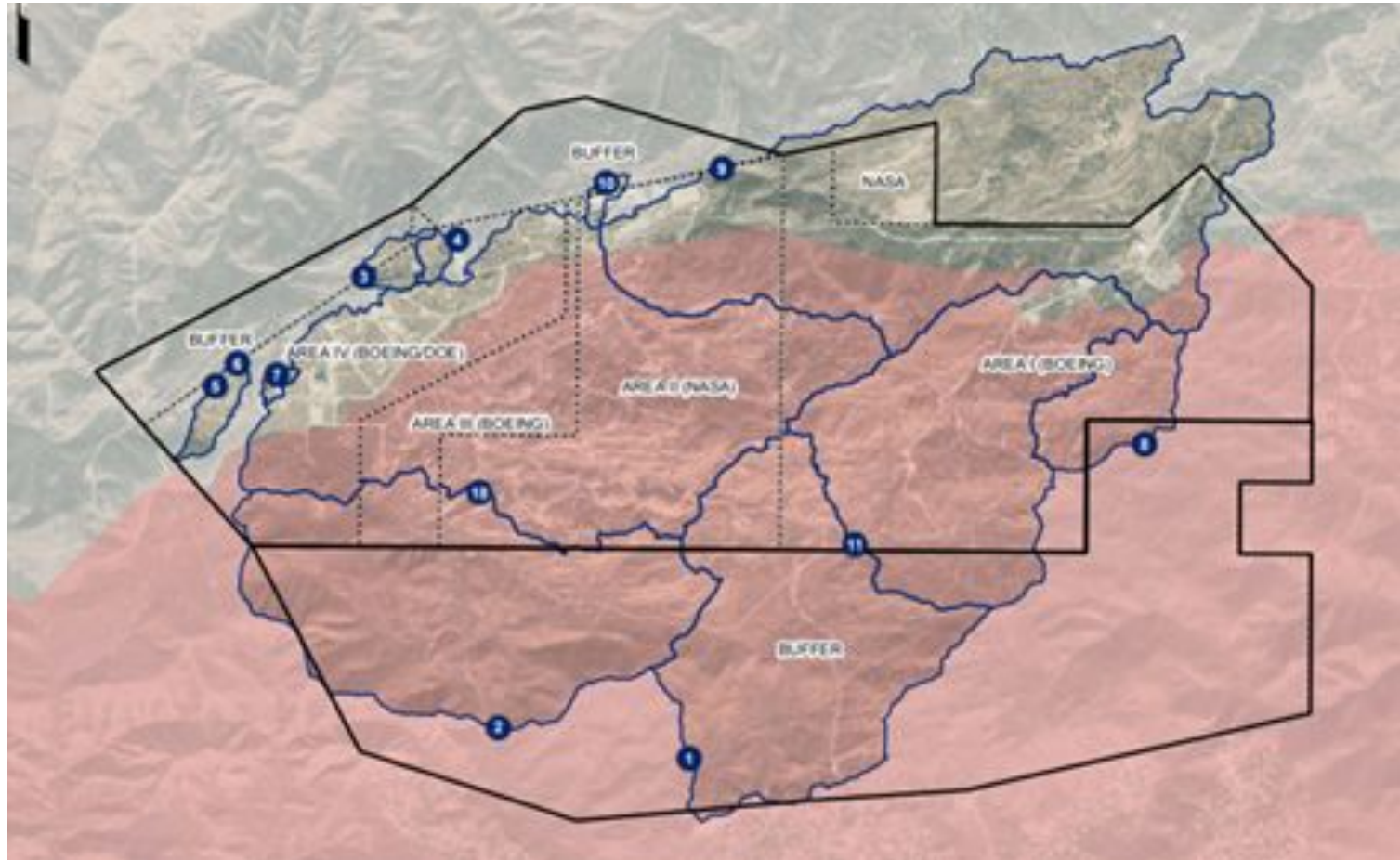
**Staff concedes we were right.** It has now added in limits for almost all the contaminants we identified as Staff having failed to include in the permit despite its own Reasonable Potential Analysis showing they should be.

It is troubling to think what would have occurred had there not been public review, and raises questions about the short time allowed for public review of the Revised Tentative Permit, released with less than the 10 day period promised by the Board and prohibiting written comments thereon.

# WOOLSEY FIRE STARTED AT SSFL NOVEMBER 8, 2018



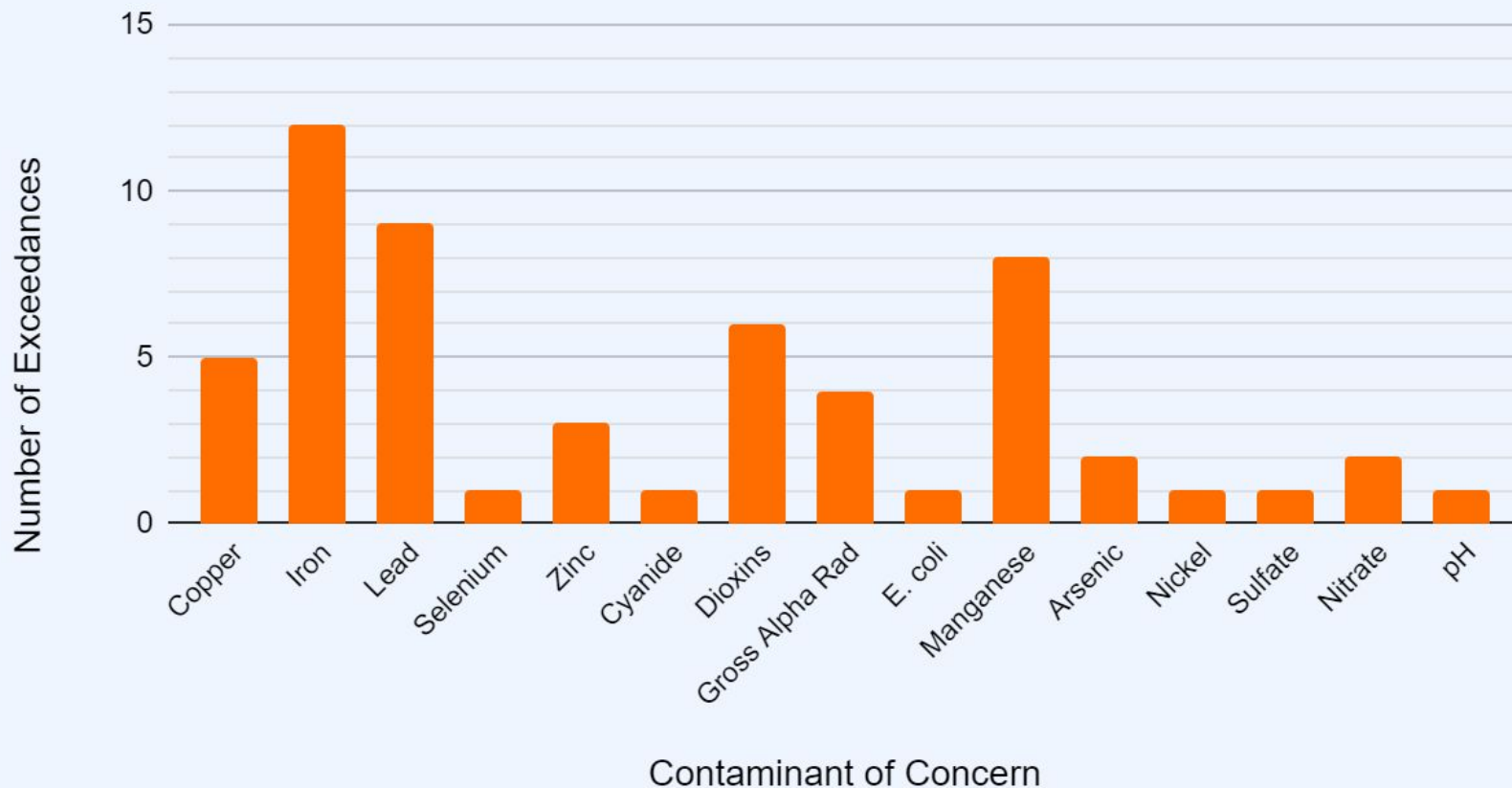
# THE FIRE BURNED 80% OF SSFL AND ALL THE WAY TO MALIBU



There were **57 exceedances** of NPDES limits in surface water leaving SSFL in the 5 months after the Woolsey Fire but almost all of the fines were waived.

# Number of Reported Exceedances per Contaminant

Data collection period: December 2018 - March 2019



## Comment 7

**The Board staff, without opportunity for public comment, waived virtually all of Boeing’s fines for its violations of permit limits after the 2018 Woolsey Fire**, arguing that it was an act of God and Boeing and the other SSFL RPs had no responsibility for the violations. However, had Boeing lived up to its obligations under the cleanup agreement to complete soil cleanup by 2017 (which it hasn’t even begun), there would have been no violations in 2018. Furthermore, had the fire station that had long been located within a few hundred feet of the starting place for the fire not been torn down and nearby fire hydrants and piping not removed before the fire, and had Boeing’s remaining ancient fire engine at the site entrance not broken down before getting to the fire, the fire may never have spread beyond an acre.<sup>4</sup>

<sup>4</sup> See Hirsch, Caine, and Ford, “The Santa Susana Field Laboratory and the Woolsey Fire: Migration of Contaminants” and Hirsch, Pomerantz, and Caine, “The Santa Susana Field Laboratory and the Woolsey Fire: Could the Fire Spread Have Been Prevented?”, both January 8, 2020, attached hereto.

## Reply to Staff Response 7

Staff provides no substantive response to, nor any denial of, the facts we cited that the waiver of the fines was improper. California Water Code §13385(j)(1)(B) cited allows fine waivers only in the case of **“An unanticipated, grave natural disaster or other natural phenomenon of an exceptional, inevitable, and irresistible character, the effects of which could not have been prevented or avoided by the exercise of due care or foresight.”**

We demonstrated that, contrary to the staff claim that the releases were an act of God and that nothing Boeing could have done could have prevented them, **Boeing’s failure to meet the 2017 deadline for soil cleanup (or even begin it) resulted in the releases in 2018 of contaminants that should no longer have been there.**

Furthermore, the SSFL Responsible Parties may have contributed to the spread of the fire itself. The staff, in waiving the fines, claims “Boeing has a fire station onsite that immediately responded when the Woolsey Fire began.” In fact, there *had* long been a modern, well-equipped fire station a few hundred yards from where the fire started– but it had been torn down a couple of years before the fire.

Additionally, the one ancient Boeing fire engine that remained was stationed far away, at the entrance to the site, and the LA Times reports it broke down before even reaching the fire. Had the modern fire station not been torn down and had the old fire truck at the entrance been properly maintained so it could reach the fire, it might never have gone beyond an acre.

# Woolsey Fire Began at SSFL



Twitter Post by Stu Mundel, KCBS-KCAL, November 8, 2018



SRE Site of 1959 Partial Nuclear Meltdown

Chatsworth Substation

Apparent start of Woolsey Fire

15th St  
20th St  
15th St

Hill St

Hill Rd

15th Ave Rd

Hill Rd

Altamonte Rd

Skyline

1994

34°14'25.58" N 118°42'17.46" W elev 1364 ft eye alt 6515 ft

Google Earth





Fire Station (lower left) in 2015



Fire Station Gone (lower left) in 2016





THE LA TIMES HAS REVEALED THAT

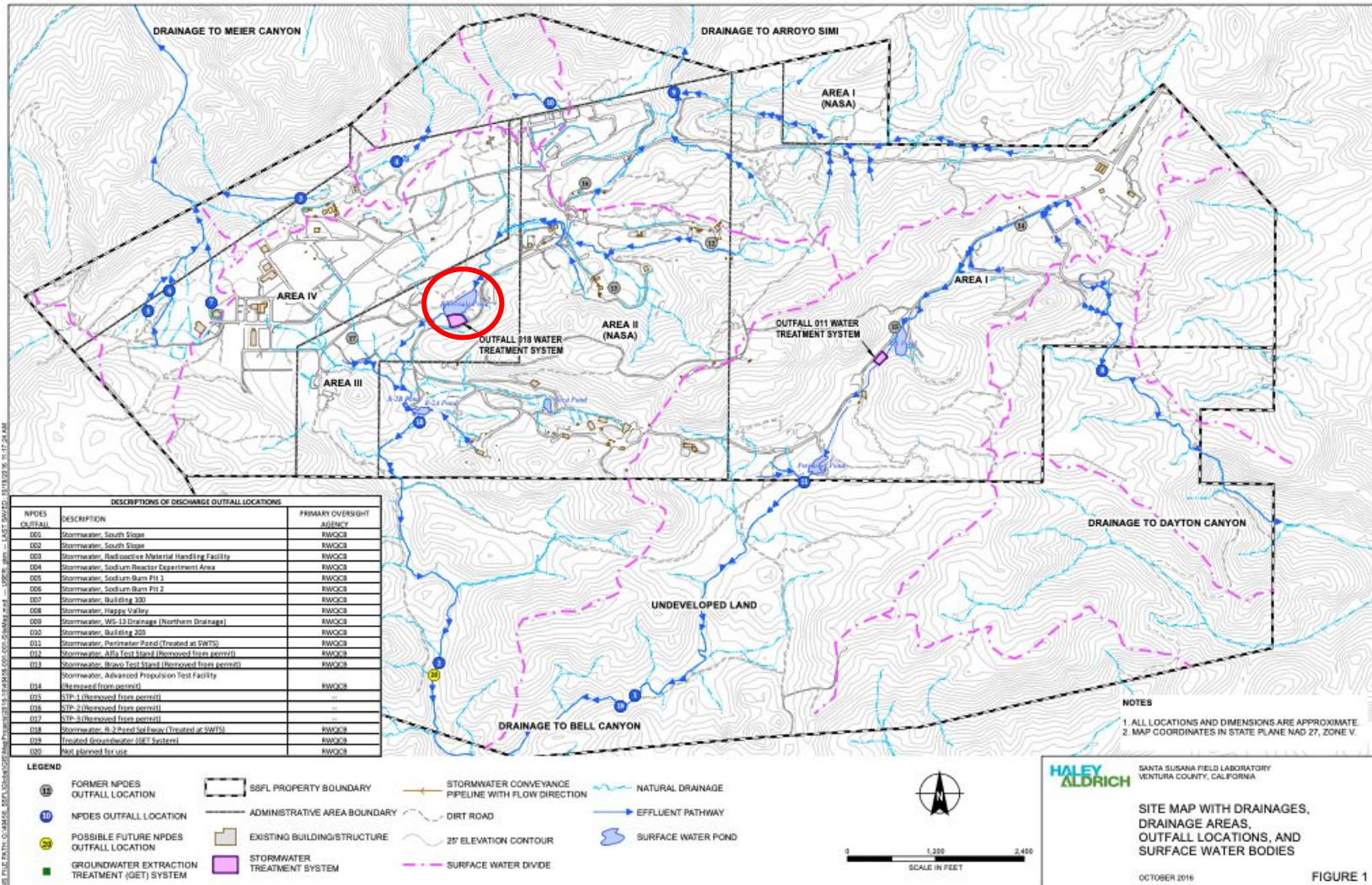
the Boeing fire engine broke  
down before it could even  
reach the fire.

Despite All These Failures Contributing to the Spread of the Fire and the Release of Contaminants That Were Supposed to Have Been Cleaned Up by 2017, the Board waived \$126,250 in fines for Boeing's violations of its NPDES permit.

**The fines were eliminated without public notice, opportunity for public comment, notification of the majority of the Board, or a hearing and Board vote. The waiver of the fine was, however, reportedly done in consultation with then-Chair Irma Muñoz.**

## Comment 8

**The Tentative Permit fails to disclose a scandalous aspect of a major action by Boeing, allowed by Board staff, that re-routes much of the contaminated surface water flow at the site to unlined ponds such as the Silvernale Reservoir, where contaminated water infiltrates into the groundwater, contaminating it further.** While some of the polluted water in the unlined ponds is removed to prevent overflow and partially treated for release down surface drainages, much of the contaminated water remains in the unlined ponds and pollutants thus seep into the aquifer. [Also of concern is that the partial treatment for what water is taken out of the pond(s) appears not capable of removing most of the toxic chemicals that have been detected at SSFL.] Trying to reduce Boeing fines for surface water contamination discharges by instead allowing it to discharge into and further pollute groundwater is deeply troubling.



**HALEY ALDRICH**

SANTA SUSANA FIELD LABORATORY  
VENTURA COUNTY, CALIFORNIA

**SITE MAP WITH DRAINAGES,  
DRAINAGE AREAS,  
OUTFALL LOCATIONS, AND  
SURFACE WATER BODIES**

SCALE IN FEET  
0 1,200 2,400

OCTOBER 2016

**FIGURE 1**

## Reply to Staff Response 8

**Staff does not dispute that it has allowed Boeing to re-route contaminated surface water to unlined ponds, nor does it dispute that contaminated water can infiltrate into the groundwater, further contaminating it.** All staff does is repeat a claim by Boeing consultants that infiltration was “minimal.” No one is talking about the entire water in the unlined ponds percolating into the groundwater—this isn’t a bathtub with the plug removed. Years and years of contaminated water piped to and sitting in unlined ponds will result in contamination seeping into groundwater. Indeed, there is very large contamination of groundwater at SSFL that the Responsible Parties are responsible for (and are in secret negotiations with DTSC and Board staff to walk away from remediating). **It got contaminated through precisely the same mechanism—contaminated surface water migrating into the aquifer below.**

Furthermore, staff suggests there is treatment of Silvernale water, implying treatment before the contaminated water reaches the reservoir or treatment of water in it. That is not the case; the treatment is for some water that is removed from the reservoir to prevent it overflowing, and the treatment cannot remove many of the SSFL contaminants, and that water then flows down to Bell Creek and the LA River.

## Comment 9

**The Tentative Permit removes a series of “dry weather” limits,** asserting that dry weather discharges will now be prohibited because Boeing intends to reinject water from the Groundwater Extraction Treatment System (GETS) rather than release it into drainages. However, the Tentative Permit (pp. 10, 17) defines “wet weather” as “days when the maximum daily flow in the Los Angeles River is equal to or greater than 500 cubic feet per second (cfs).” As best as can be determined from the permit, however, Boeing, during periods that don’t meet that definition, removes some of the water from the unlined Silvernale Reservoir (and perhaps other ponds as well) and releases it into surface drainages leading to outfalls so as to keep the ponds having a capacity to receive additional water during subsequent times when there may be heavy rains. **The removal of the dry weather limits is thus inappropriate.**

## Reply to Staff Response 9

Staff essentially admits we were right with this comment, and then, rather than fix the problem, they throw out the “dry weather” definition and restriction.

## Comment 10

**Filtering samples is apparently allowed for many constituents, which can artificially reduce the measured values. A great many of the potential pollutants are not required to be measured at all, and the monitoring frequency for many pollutants is a single sample per year, grossly inadequate.**

## Reply to Staff Response 10

**Staff appears to admit that, with the exception of some metals, it is allowing Boeing to first filter the sample before measuring it, which has the potential to dramatically understate the actual amount of contamination in the sample.** The late Gregg Dempsey, who oversaw EPA's \$40 million radiation survey of SSFL, repeatedly warned that Boeing's use of filtering was inappropriate. If filtering were done, he said, one should then add the contaminant found on the filter to the amount found in the filtrate.

## Comment 11

**The Tentative Permit does not disclose that the Board has been engaged in secret negotiations with Boeing and DTSC over Boeing's desire to walk away from much of its obligations to clean up the contaminated soil and its objections to restoring the contaminated groundwater.**

Those entities with an interest in and long history of trying to assure the cleanup agreements are carried out, such as the Counties of Ventura and Los Angeles, the City of Los Angeles, and groups such as ours are frozen out of these secret negotiations aimed at gutting cleanup requirements.

## Reply to Staff Response 11

Staff admits the Board has been in secret negotiations with Boeing and DTSC for over a year. It claims the negotiations aren't secret because it placed a note on its website that it was having the confidential mediation—after PEER issued a news release revealing it. But the issue is that the negotiations themselves are being conducted in secret, with interested parties such as Ventura and LA Counties and LA City and impacted community groups frozen out. No one ever said the negotiations were about the pending NPDES permit—they are about Boeing's demand to walk away from its obligations to clean up the soil and groundwater at SSFL. **We strongly recommend that the Board get fully briefed about the matters related to the confidential mediation and not allow sign-off on any deal for weakening of the cleanup obligations.**

Staff conflates concern about the above secret negotiations and separate community concerns that the staff met secretly with Boeing over the last two years to sign off on Boeing's proposals for weakening the NPDES permit. Because of the lack of transparency and genuine opportunity for public input, **we urge the Board to send the proposed permit back to the staff with direction to strengthen rather than weaken it and to come up with a revised proposed permit in a public fashion with genuine consultation with non-Boeing stakeholders and real input from the impacted community.**

## Comment 12

**At the core of all of this is that there are legally binding cleanup agreements that require a full cleanup of the contaminated soil and a permanent remedy in place to restore the contaminated aquifer, and the Responsible Parties (RPs) have failed to carry out their obligations.** The entire issue of pollution discharge limits being violated would not be occurring if the source of the contamination had been cleaned up by 2017 as promised.

The Board should make clear it strongly supports those clean up agreements, will not tolerate any action that further delays or weakens those obligations, and will vigorously use its authority to issue fines and take other actions to enforce pollution limits. **Further weakening the permit, as proposed here, can only remove incentives for Boeing to comply with the cleanup agreements, and the public and environment will remain perpetually at risk.** The Regional Board should pass a resolution directly calling on DTSC to rigorously and completely enforce the 2007 and 2010 agreements, end the long delays, and for the RPs to stop resisting their cleanup commitments.

## Reply to Staff Response 12

Staff says it agrees that the cleanup agreements should be expeditiously carried out and that so long as there is failure to carry out the promised cleanup results in potential for contaminants to be carried offsite in stormwater runoff.

For these reasons, however, **this is the last moment one should be considering weakening the stormwater pollution limits, thus rewarding Boeing for failure to clean up the source of contamination and further reducing its incentive to live up to its cleanup obligations.** Staff notes that the cleanup is largely DTSC's responsibility. But that is why the community is so concerned that the Board is participating in secret negotiations with DTSC and Boeing over letting Boeing walk away from its obligations to clean up the source of the contamination.

**We recommend that the Board write DTSC, express concern that the promised cleanup that was supposed to be completed by 2017 hasn't even begun, and urge that it take prompt action to rigorously enforce the 2007 and 2010 cleanup agreements and take no action to further weaken or delay the cleanup.**

## Recommendations to the Board

**#1:** The Board should reject the proposed weakened permit.

**#2:** The Board should instead direct Staff to come back with a markedly strengthened permit, along the lines identified in these comments.

**#3:** This should be done in a transparent fashion that allows for genuine and meaningful input from the community.

**#4:** The Board should send a letter to DTSC and the Responsible Parties calling for full compliance with the 2007 and 2010 cleanup agreements and an end to further delays, so as, in part, to finally address the source of the continuing violations of pollution limits in water migrating offsite.

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