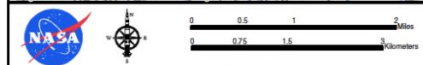
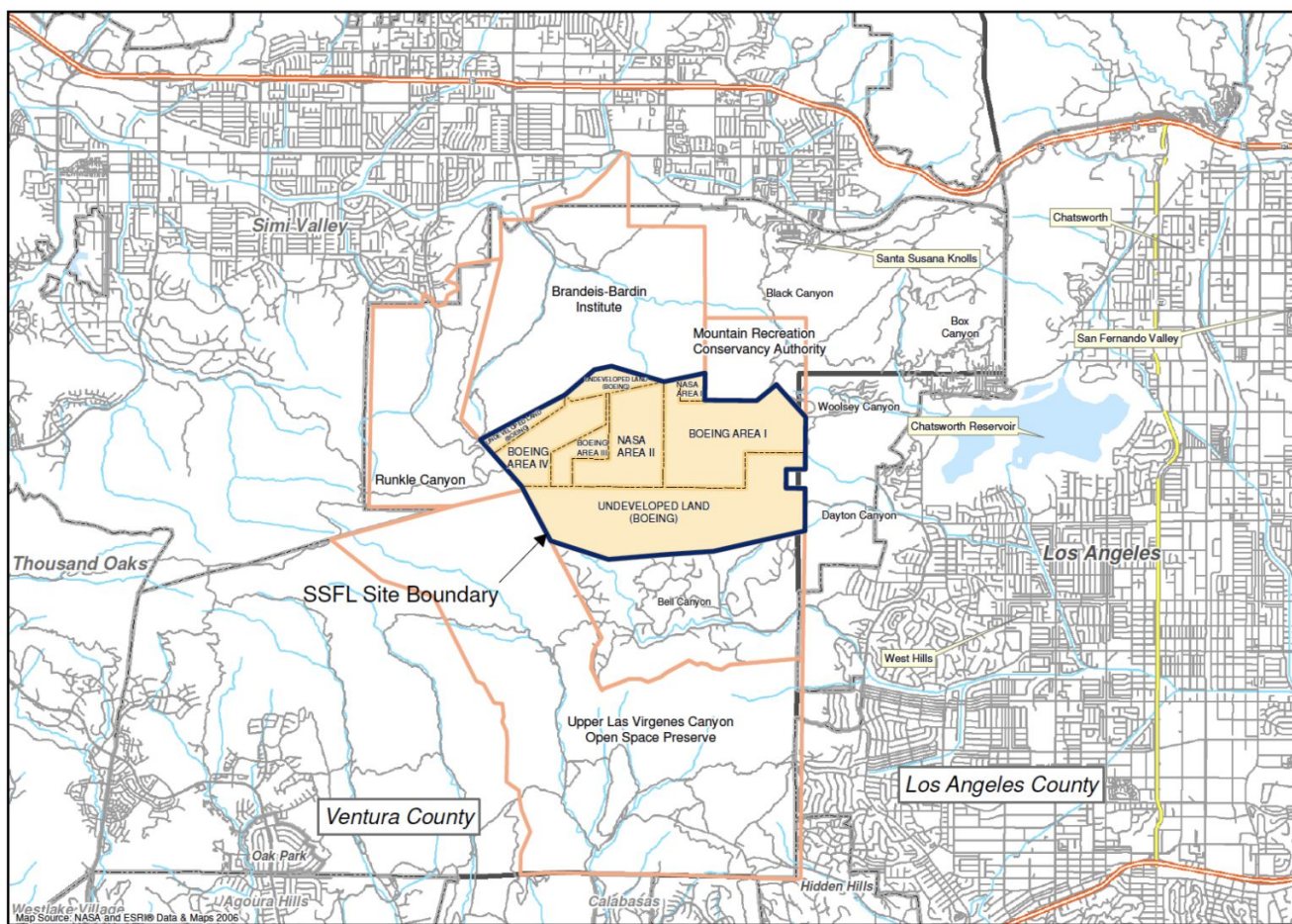


The Trump Administration's Nomination of
the Contaminated Santa Susana Field
Laboratory Is An Attempt to Break the
Federal Government's Cleanup Agreement
for the Site, Does Not Meet the
Requirements for Listing on the NRHP, and
Should Be Rejected

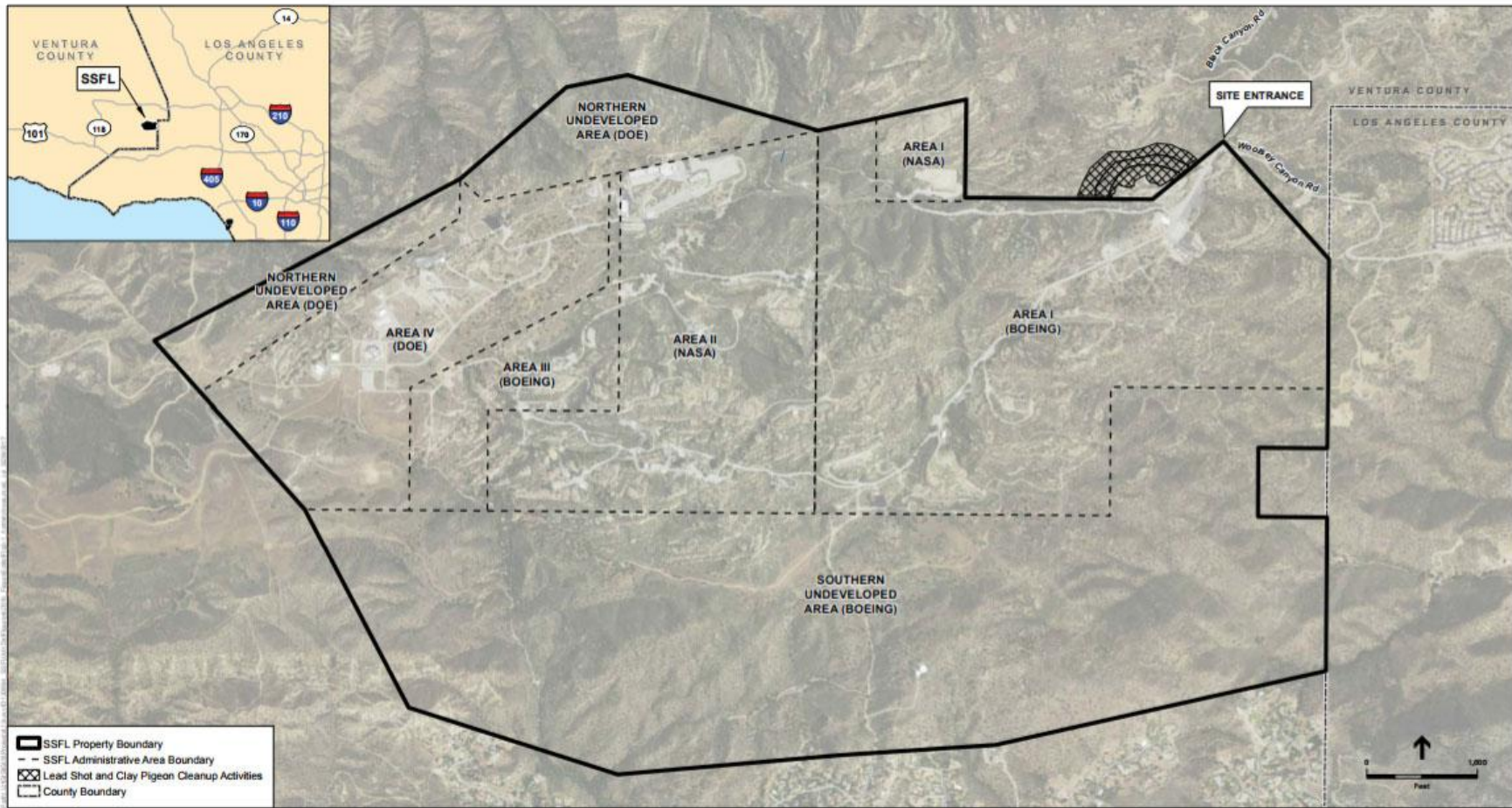
August 12, 2020



Map Document: O:\NASA\SSFL\maps\EIS_2011\EIS_SiteLocation.mxd

10 Jul 2013
 09:51:30
 A. Conroy

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



Decades of nuclear reactor accidents, including a partial meltdown, and tens of thousands of rocket tests have made the Santa Susana Field Laboratory **one of the most contaminated places in the nation.**

The parties responsible for the contamination--Boeing, the Department of Energy, and NASA--signed legally binding agreements to fully clean up the radioactive and toxic chemical contamination by 2017, but the soil **cleanup has not even begun.**

STATE OF CALIFORNIA
ENVIRONMENTAL PROTECTION AGENCY
DEPARTMENT OF TOXIC SUBSTANCES CONTROL

In the Matter of:)	Docket No. HSA-CO 10/11 - 038
Santa Susana Field Laboratory)	
Simi Hills)	ADMINISTRATIVE ORDER ON
Ventura County, California)	CONSENT FOR REMEDIAL ACTION
CA1800090010 (NASA))	
)	
)	Health and Safety Code Sections
The United States National Aeronautics)	25355.5(a)(1)(B), 58009 and 58010
and Space Administration)	
)	
(Respondent))	

Recently, all three Responsible Parties have taken actions to break out of their cleanup agreements and instead leave **the great majority of the contaminated soil not cleaned up.**

Three weeks ago NASA issued a Final SEIS saying its preferred alternative is to breach its cleanup agreement, and instead leave the majority of its contaminated land not cleaned up. The Department of Energy made the same announcement earlier.

You are now being asked to sign off on a key part of the Trump Administration's efforts to walk away from the contamination the federal government created and promised to clean up.

Let's Be Clear: Native American Artifacts at SSFL Are Already Protected

The Administrative Orders on Consent (AOCs) require returning SSFL to the condition it was in before it was contaminated (“cleanup to background”) and has special protections for Native American artifacts:

**Agreement in Principle
between
The National Aeronautics and Space Administration and the
State of California**

**Regarding Cleanup of Areas I and II of the
Santa Susana Field Laboratory Administered by NASA**

SUMMARY: The end state after cleanup of Areas I and II of the site administered by NASA will be background (i.e., at the completion of the cleanup, no contaminants will remain in the soil above local background levels), subject to any special considerations specified below.

- Clean up chemical contaminants to local background concentrations
Possible exceptions (where unavoidable by other means):
 - Native American artifacts that are formally recognized as Cultural Resources

NASA's Strategy to Break Out of its SSFL Cleanup Obligations

NASA has proposed expanding the Burro Flats site by more than 200-fold, to –coincidentally– cover the entire 2850 acres of SSFL soil--and then those thousands of acres of *soil* to be a Native American “artifact” exempt from cleanup under the AOC artifact exemption.

This strategy to using NRHP listing to breach the AOC's cleanup requirements was made clear in a NASA Senate Appropriations Committee Report a few years ago:

Preservation of Tribal Artifacts at Santa Susana Field Laboratory.—As NASA works to meet the requirements of the 2010 Administrative Order on Consent for Remedial Action, along with preceding agreements and court orders, the agency is encouraged to protect the unique and historically significant Native American sites on the property, including but not limited to the Burro Flats Painted Cave. To the maximum extent practicable, NASA shall include all Traditional Cultural Properties and Traditional Cultural Landscapes (as defined by 30 CFR 60.4 and National Park Service Bulletin 38) as “Native American artifacts that are formally recognized as Cultural Resources,” for the purposes of the Administrative Order.

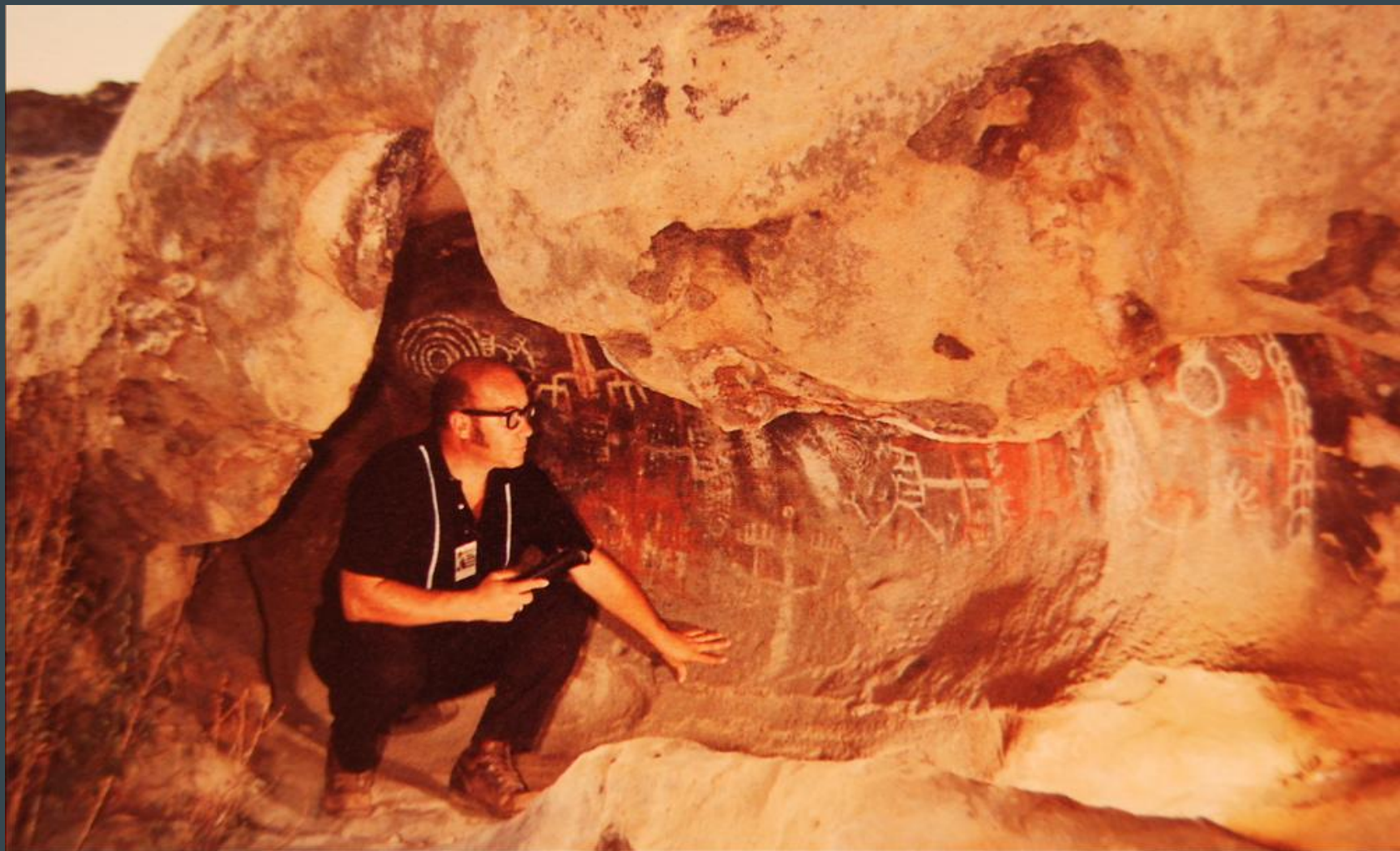
2850 acres of soil are clearly not an “artifact,” but NASA’s longstanding plan is to claim it as exempt under the “Native American Artifact” Exemption of the AOC. The California Department of Toxic Substances Control could object, but that merely triggers the dispute resolution process in the AOC, which could take a couple of years, followed by years of litigation. NASA’s proposal, which they are asking you to be complicit in, would delay the cleanup by a decade, and in real terms, potentially forever.

The Trump Administration's intention is simple: to provide another excuse to breach its cleanup commitments. **You should not allow this to occur; the health of future visitors to the site, including Native Americans, and the people living in the area is at stake** if the contamination which migrates off-site is not fully cleaned up as promised.

On its Face, This is Primarily About the Protection of the Burro Flats Cave Paintings & Solstice Observation Site

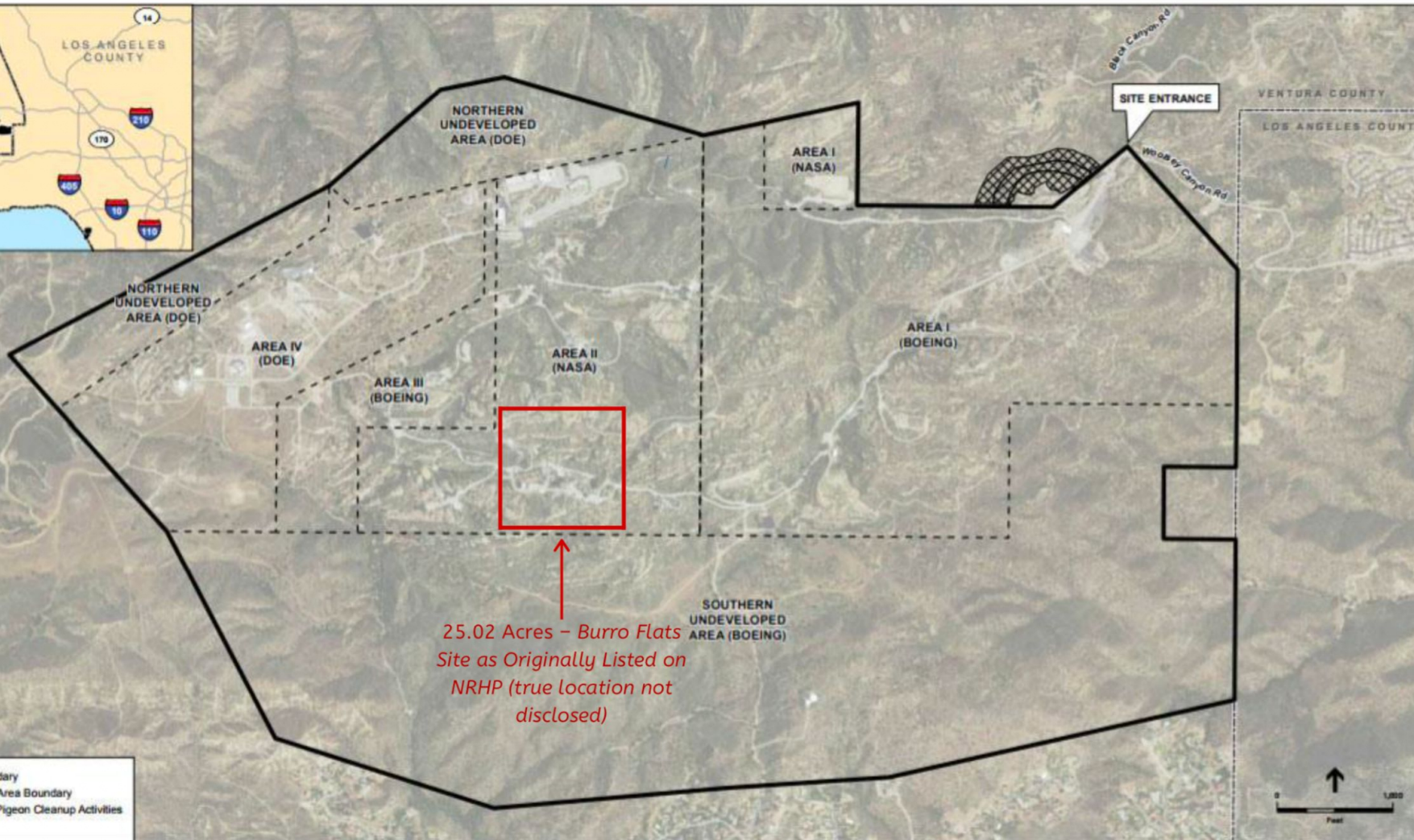
The Burro Flats Painted Cave is a small cave with paintings. There are markings inside recording where sunlight entering through a hole in the cave hits during summer and winter solstice. The paintings and solstice markings are ethnographically valuable.

Native Americans had requested that NASA enclose the cave in glass to protect it from vandals and weather, but NASA declined to do so.



Let's be clear: The Burro Flats Site *should* be listed on the National Register of Historic Places. *But it already is.*

In 1976 the National Park Service added it to the NRHP (CA-VEN-1072). The site includes the Burro Flats Painted Cave and the solstice site. They are thus already protected.



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

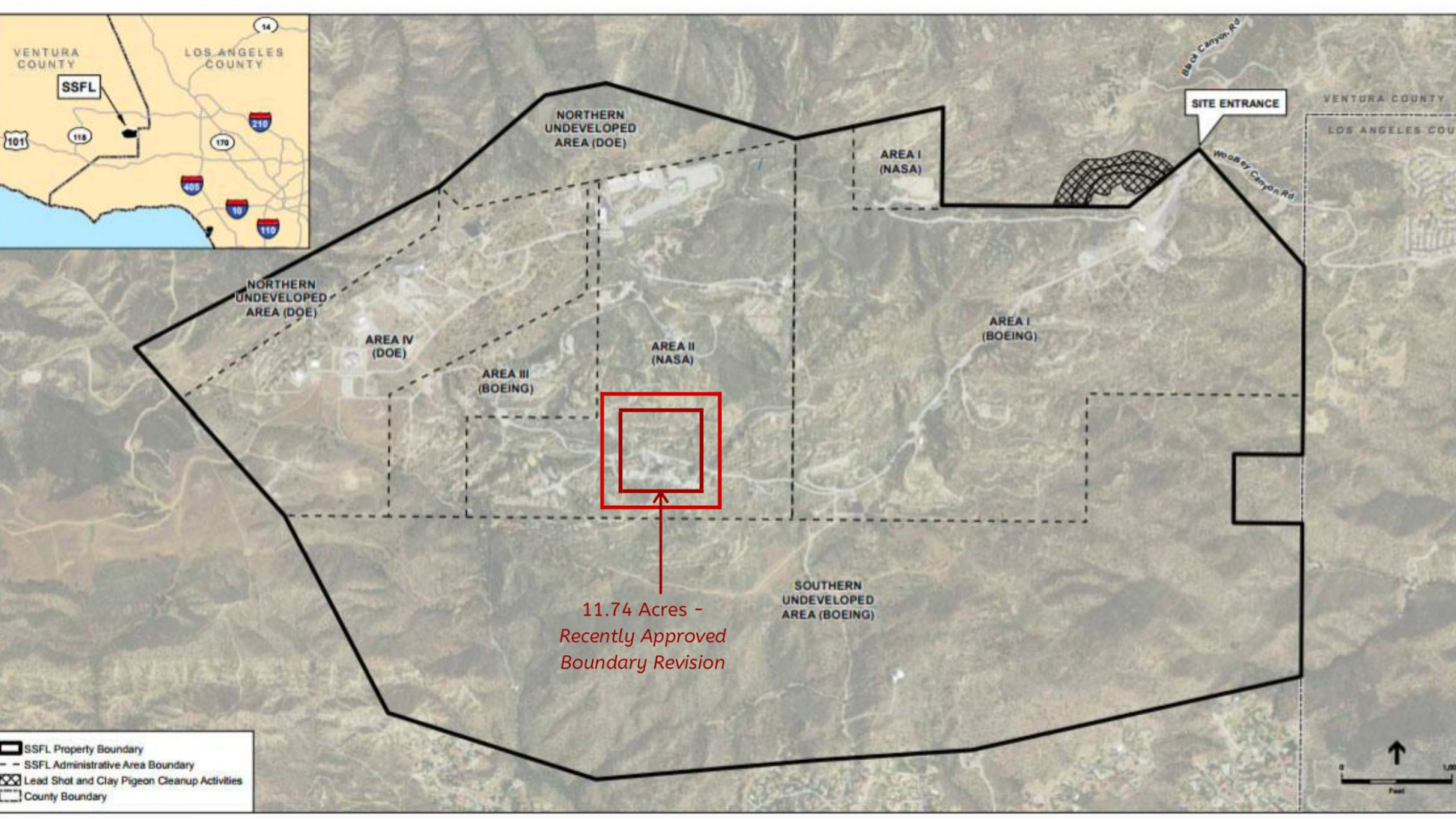


The Burro Flats Boundary Should Be Revisited, But It Already Has Already Been

“Researchers have since suggested that the 1976 boundary of the site does not adequately reflect the number, density, and distribution of loci associated with the site. **An updated nomination includes four additional loci and reduces the overall site footprint from 25.02 acres to 11.74 acres,** resulting from data gathered during pedestrian surveys (Corbett et al., 2013, 2016b) and the testing of loci boundaries in some locations (Corbett et al., 2016b).”

NASA Draft SEIS, p. 3-8, emphasis added.

SHPO approved the boundary reduction for the Burro Flats site last year, and the reduction was made official on the NRHP last month.



11.74 Acres -
Recently Approved
Boundary Revision

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



**BUT NOW THE TRUMP ADMINISTRATION PROPOSES PLACING
ON THE NRHP THE ENTIRE CONTAMINATED SANTA SUSANA
FIELD LABORATORY**

Whether that brazen move to help get out of cleanup obligations should be approved is the matter before the Commission today.



SSFL Property Boundary

SSFL Administrative Area Boundary

Lead Shot and Clay Pigeon Cleanup Activities

County Boundary



NASA's Proposal is based on NRHP Criteria
Consideration A: “*Religious Properties as a clearly
defined property whose importance has been
ethno-historically documented*” (p. 41, emphasis added)

However, the Burro Flats religious property has long been clearly defined, and already listed on the NRHP, and more recent research has refined the boundary by reducing its size. No defensible basis has been provided for increasing the size more than 200-fold.

NASA's Sole Justification for the Boundary

“Consultants indicated the boundary of the TCP coincides with the SSFL boundary because the construction of the field lab and its restricted access has protected this part of the Simi Hills from exposure to human housing developments, vandalism, and other impacts that occur in well-populated places.”

NASA NRHP Registration Form, “Boundary Justification,” pg. 63 (public version)

This of course is not true

SSFL is heavily impacted, and indeed, the area immediately outside its boundary is far less impacted than is the area inside.

NASA Falsely Claims SSFL Retains “Excellent Site Integrity,” A Requirement for Listing

“ INTEGRITY

Consultants indicated that although the district has been used for various scientific purposes since the 1940s, **overall integrity is still excellent**. The use of SSFL by the government and Boeing resulted in keeping the area in a state similar to when the consultants’ ancestors used and occupied the area.”

“The district retains all aspects of integrity .” NRHP Nomination p. 7

The Facts However Show “Extreme” Impacts at SSFL

“Over the course of its use as a testing and development facility, NASA and other agencies and private companies **have made extreme changes to the landscape at SSFL** to carry out their various missions. Roads, buildings, infrastructure, and testing facilities have altered the landscape...”(Nomination p. 32).

There has been “**extreme soil movement during the construction of the test stands and other buildings throughout SSFL**”(Nomination p. 36).













**Most Importantly, SSFL is
in fact one of the Most
Contaminated Sites in the
Country**

**There is Not a Word in the
Nomination Disclosing
Decades of Radioactive and
Chemical Contamination**

Briefly, here is the truth
that is missing from the
NASA Nomination Form...

SSFL History

Established in late 1940s for rocket testing and nuclear reactor development too dangerous to do in populated areas

UNCLASSIFIED

NAA-SR-30

Subject Category: BIOLOGY

UNITED STATES ATOMIC ENERGY COMMISSION

GENERAL REACTOR SITE SURVEY OF THE
LOS ANGELES AREA

By
R. G. Chalker

UNIVERSITY OF CALIFORNIA
LIBRARY
MAY 9 1953
LIBRARY
GOVT. BLDG. ROOM

June 1, 1949

North American Aviation, Inc.
Los Angeles

Technical Information Service, Oak Ridge, Tennessee



Intensive Nuclear Operations

- 10 nuclear reactors
- 7 nuclear “criticality” facilities
- Plutonium Fuel Fabrication facility
- “Hot Lab” to Cut Apart Highly Irradiated Nuclear Fuel from Around the Country
- Radioactive Materials Handling Facility

SSFL NUCLEAR WORK OCCURRED OVER FOUR DECADES



PARTIAL NUCLEAR REACTOR MELTDOWN IN 1959

LARGE AMOUNTS OF
RADIOACTIVITY RELEASED INTO
THE ENVIRONMENT



MELTED
BLOB

The photograph shows a horizontal zirconium rod with a central irregularly shaped melted blob. A dimension line below the rod is divided into three segments. The left segment is labeled 6-3/4", the middle segment is labeled 5", and the right segment is labeled 6-1/4". The rod is positioned against a background with a hatched area on the left and a vertical line on the right.

6-3/4"

5"

6-1/4"

ZIRCONIUM

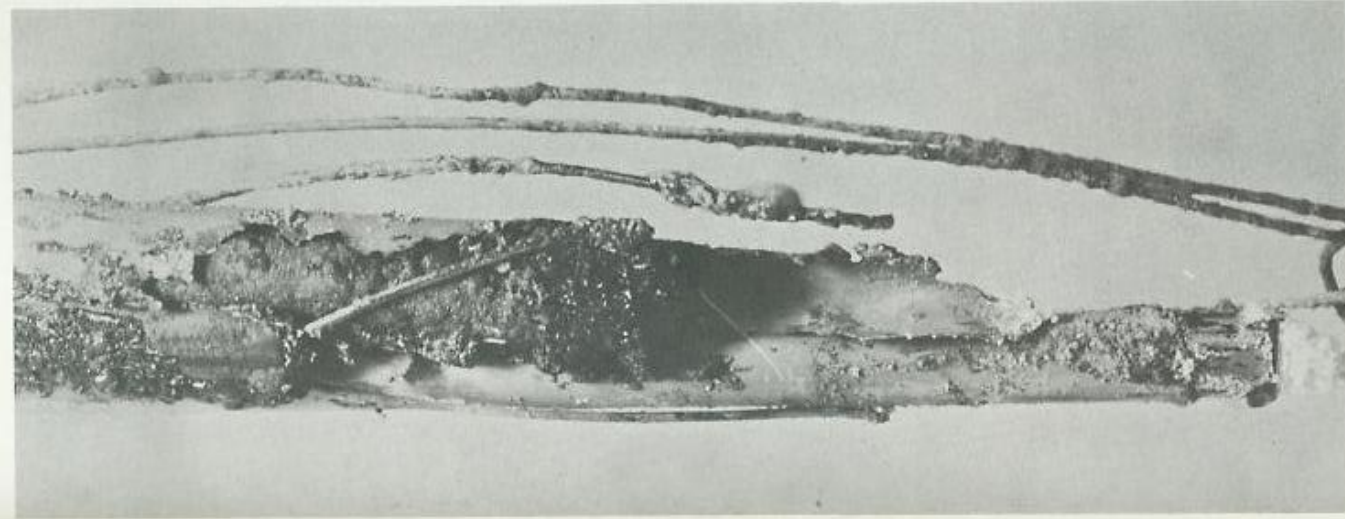
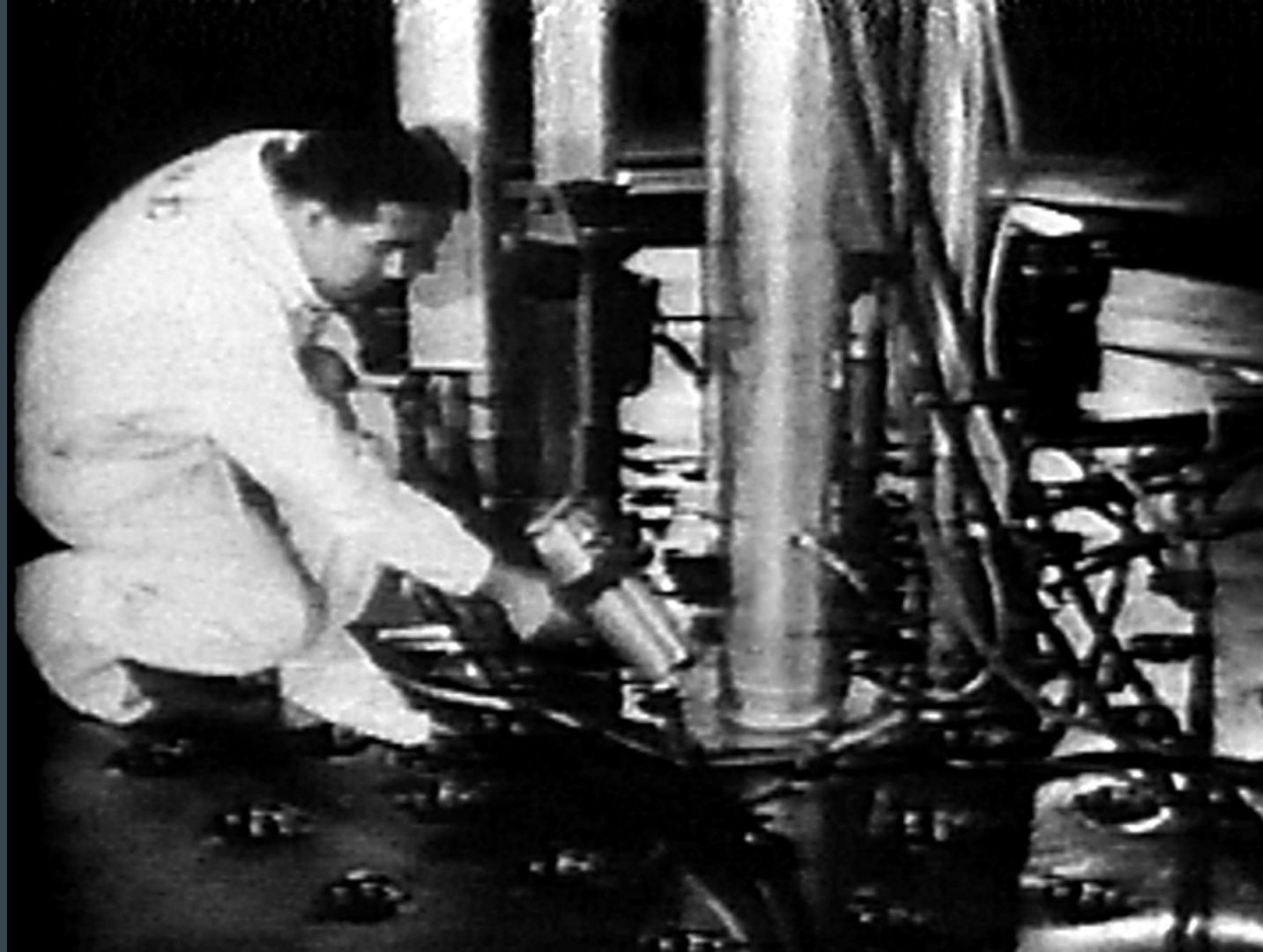


Figure IV-A-6. Bottom of Damaged Element in Channel 55



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.







HISTORY OF IMPROPER DISPOSAL OF HAZARDOUS MATERIALS

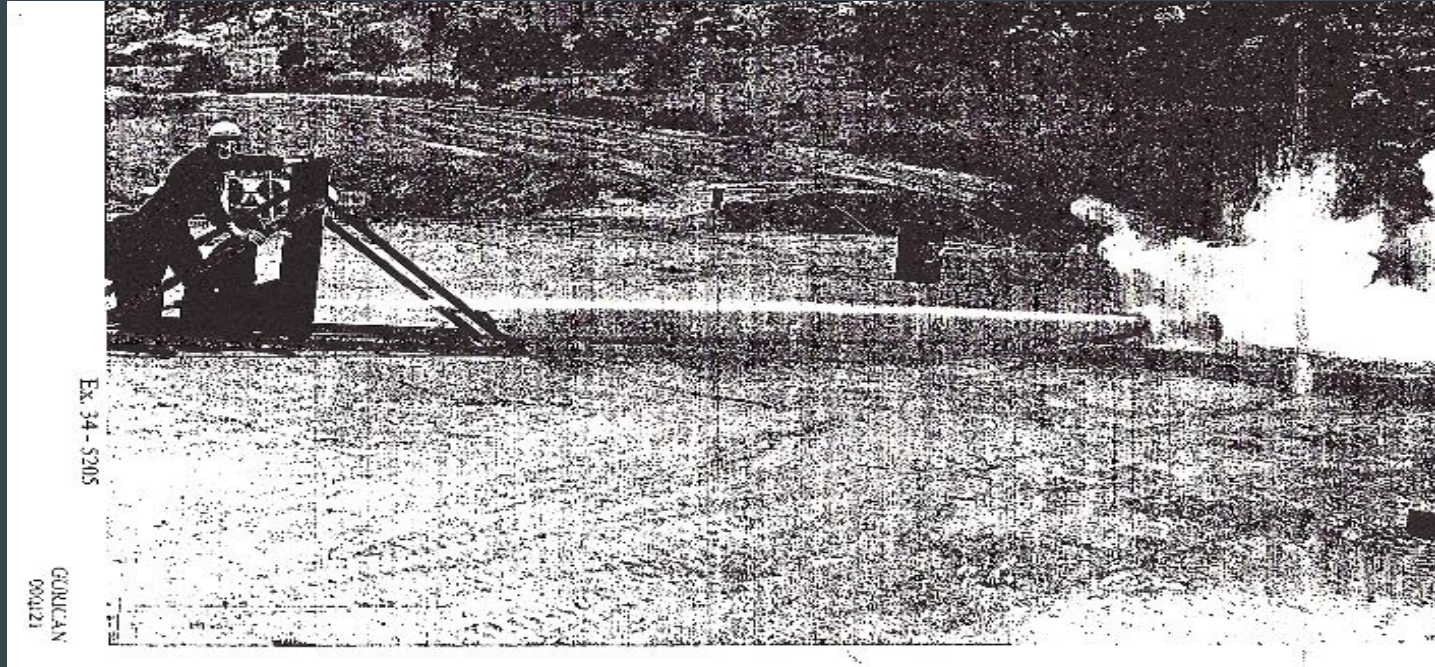
- Radioactive and chemical materials burned in Area IV sodium burn pit against rules for decades
- Rocketdyne cited for unpermitted burning of hazardous materials in Area I
- In mid-1990s two workers were killed in an explosion caused by illegal disposal of hazardous materials. FBI raided SSFL and US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





Fx 34-5

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 - 5204

GURICAN
000120



Extremely Toxic Chemicals Were Released in the Rocket Work

For example, 1 million gallons of TCE were used to flush rocket engines after tests, and then to percolate into the ground and groundwater. The TCE plume covers much of the site and has migrated offsite.

Tons of perchlorate, a component of solid rocket fuels, were used. It has migrated offsite contaminating numerous wells. Both TCE and perchlorate are dangerous in parts per billion.

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.

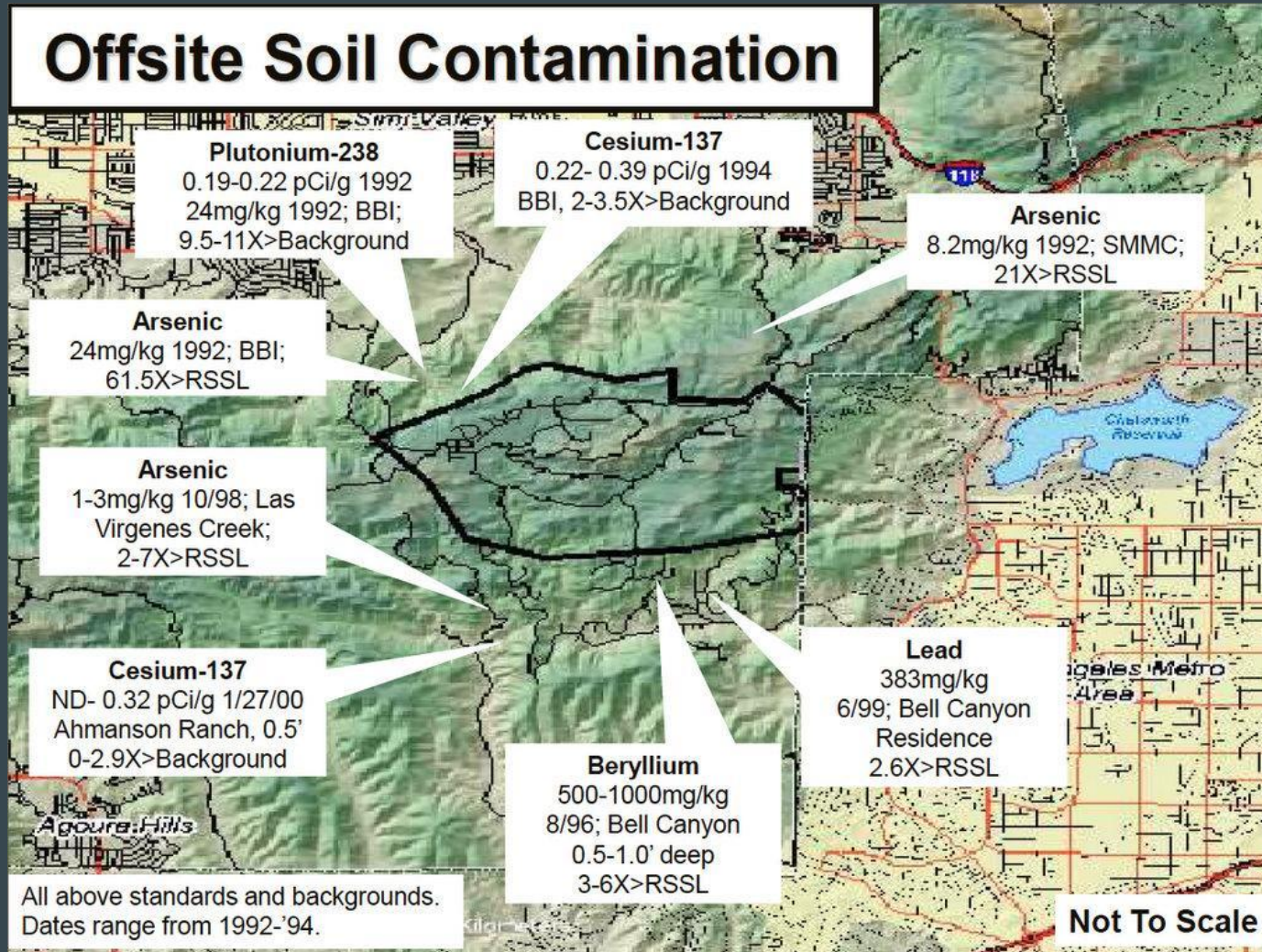
Radionuclide	Health/Environmental Effects
Tritium	Linked to developmental problems, reproductive problems, genetic abnormalities.
Radium	Lymphoma, bone cancer, leukemia, aplastic anemia linked with inhalation. Other cancers with external exposure.
Technetium-99	Cancer linked to ingestion (contaminated food and water).
Iodine-131	Linked to thyroid malfunction/cancer. Combines with soil and organic materials easily.
Cesium-137	Can cause cancer 10 – 30 years after ingestion, inhalation, or absorption. Moves easily in environment, difficult to clean up.
Strontium-90	Chemically similar to calcium. Can cause bone cancer, cancer near bones, and leukemia.
Plutonium	Contaminant in dust. Extreme risk of cancers, kidney damage. Can stay in the body for decades.

Chemical	Health/Environmental Effects
TCE	Impaired immune system function, damage liver and kidney, impaired fetal development. In larger amounts it may cause impaired heart function, unconsciousness and death
Perchlorate	Interferes with iodide uptake into the thyroid gland, causing hypothyroidism in mothers and negatively impacting proper childhood development such as decreased learning capability.
Dioxins	Carcinogenic and can cause reproductive, developmental, immunological, and endocrine side effects
PCBs	Can serious effects on the liver, immune, endocrine, and reproductive are classified as a probable carcinogen
Lead	Linked with learning disabilities, infertility, cancer, and increased risk of heart attacks

UCLA Study Found SSFL Contaminants Have Migrated Offsite

Half a million people live within 10 miles of the site.

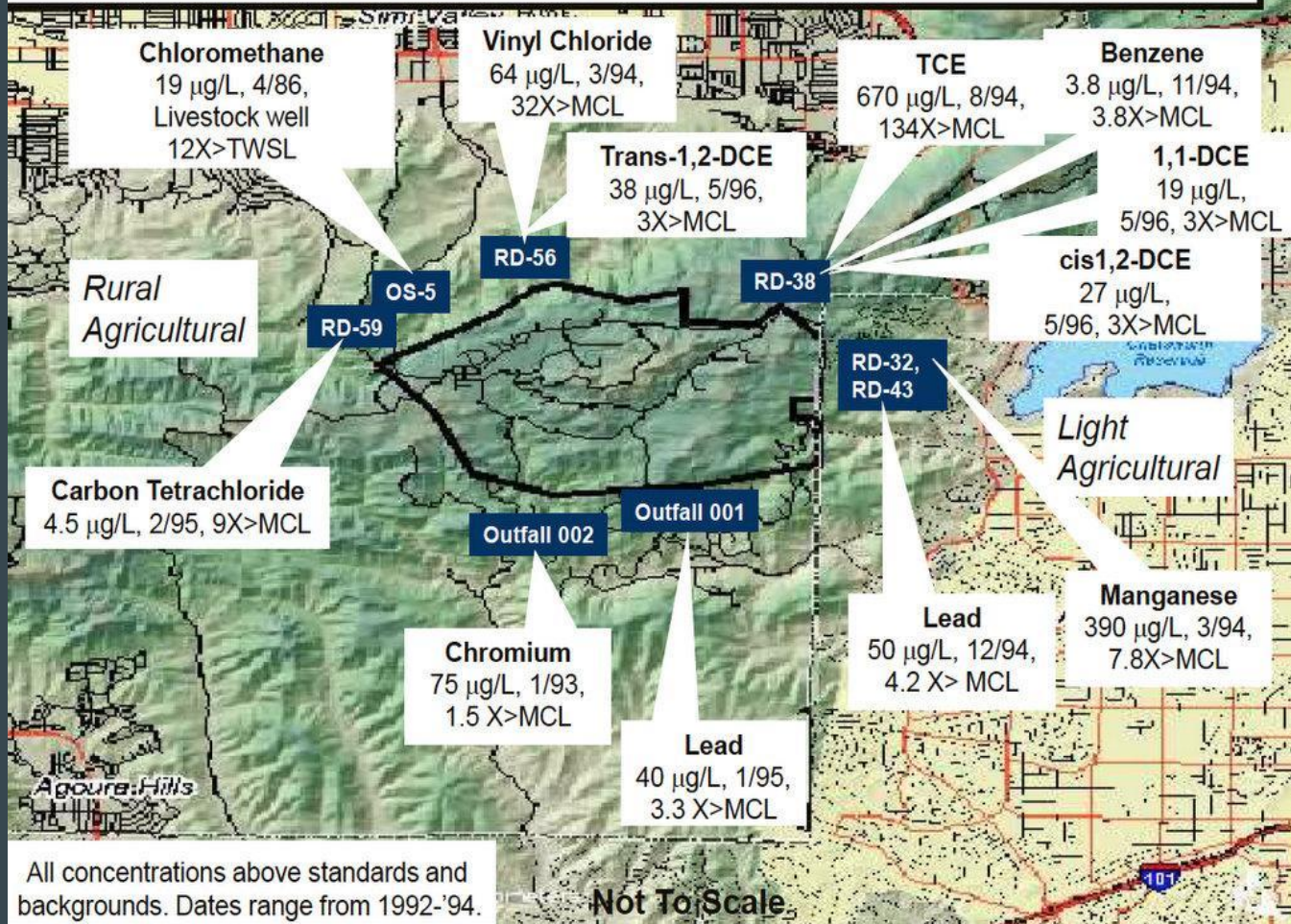
Offsite Soil Contamination



All above standards and backgrounds.
Dates range from 1992-'94.

Not To Scale

Offsite Wells or Spring Contamination



SSFL HEALTH STUDIES

- An extensive, multi-year epidemiological study by the UCLA School of Public Health found significant increases in death rates among the most exposed workers from cancers of the lung, lymph, and blood systems.
- Independent federally-funded studies found increased incidence of key cancers in the offsite population associated with proximity to SSFL, and that SSFL contamination has migrated offsite at concentrations above EPA levels of concern.

“For the period 1988 through 1995, we found that the incidence of cancer was more than 60% greater among residents living with 2 miles of SSFL than among residents living more than 5 miles for the following types of cancer: thyroid, upper aerodigestive tract, bladder, and blood and lymph tissue.”

Professor Hal Morgenstern

If the Responsible Parties fail to comply with the 2007 Consent Order and 2010 Administrative Orders on Consent to fully clean up SSFL, long supported by Ventura County, **contaminants will continue to migrate offsite.** Failure to remediate the site would place offsite residents and well as onsite visitors at risk.

Until the site is restored to the condition it was in before it was so badly contaminated, consideration of listing the full site on the NRHP could interfere with the cleanup and pose a risk to public health. Such a listing proposal should only be considered once full cleanup, as required by the agreements, has been completed.

THREE KEY FINDINGS THE COMMISSION SHOULD MAKE

The Trump Administration's proposal for expanding Burro Flats on the NRHP to cover the entire 2850 acres of the contaminated SSFL should be denied at this time because it:

- (1) FAILS TO MEET THE NRHP NOMINATIONS REQUIREMENTS FOR COMPLETENESS, ACCURACY, SITE INTEGRITY, & BOUNDARY JUSTIFICATION
- (2) COULD FACILITATE EFFORTS TO AVOID CLEANUP COMMITMENTS AND THUS IMPACT PUBLIC HEALTH AND THE ENVIRONMENT
- (3) IS NOT TIMELY, BUT MAY BE RE-SUBMITTED ONCE THE PROMISED SITE RESTORATION AND FULL CLEANUP ARE COMPLETED

Conclusions

Burro Flats is already on the NRHP and Native American artifacts are already protected.

Expanding Burro Flats on the Registry to encompass the entire SSFL does not meet the requirements for inclusion, including for integrity and non-impacted nature of the land.

NASA's Nomination failed to disclose the intense damage it and other Responsible Parties have done to the property and the radioactive and chemical contamination.

In Order for a Nomination to Qualify for NRHP Listing, it Must:

1. Be “adequately documented, technically and professionally correct and sufficient.” (54 U.S. Code § 302104.)
2. The site must have maintained integrity (be “*substantially unchanged since the period of significance*”) (NRHP, *How to Apply the National Register Criteria*, 46)
3. The proposed boundary must be factually based and defensible: “A district must be a definable geographic area that can be distinguished from surrounding properties...***It is seldom defined, however, by the limits of current parcels of ownership*** , management, or planning boundaries.” (*ibid*, 6)

Recommendations:

1. Find that the proposal for listing the heavily contaminated 2850-acre **SSFL facility on the NRHP does not at present meet the requirements for listing:**
 - i. The nomination is inaccurate, as it incorrectly describes the site as unimpacted and intact (e.g., pp. 49, 63) when in fact SSFL is one of the most contaminated sites in the nation.

ii. The nomination is incomplete, as it fails to include any information about the **extensive radioactive and toxic chemical contamination** and the intensive history of nuclear and rocket testing at the site.

iii. The nomination provides no defensible rationale for the proposed boundary coinciding with that of SSFL—the sole justification is the claim that the ownership of SSFL resulted in the area within the boundary being unimpacted and the area outside the boundary being impacted—whereas the opposite is true as SSFL is one of the country's most polluted places. Furthermore, the boundary was chosen based on ownership lines, which is generally not allowed.

iv. The site has not maintained integrity, and is not “substantially unchanged since the period of significance,” as it is extensively contaminated. (Native Americans did not pollute the site with plutonium-239, cesium-137, strontium-90, PCBs, perchlorate, TCE, etc.-- NASA and the other Responsible Parties did.)

The Commission Would Be Violating CEQA Were it to Approve the Proposal

CEQA REQUIRES ENVIRONMENTAL REVIEW PRIOR TO MAKING A DISCRETIONARY DECISION THAT COULD EVEN INDIRECTLY SIGNIFICANTLY IMPACT THE ENVIRONMENT. SHPO ADMITS THIS IS A DISCRETIONARY ACT, BUT HAS BARRED CONSIDERATION OF ITS ENVIRONMENTAL IMPACTS. THIS PLACES THE COMMISSION & SHPO SQUARELY AT RISK OF VIOLATING CEQA WERE THEY TO APPROVE THE PROPOSAL.

THE COMMISSION IS BARRED FROM ACTING, BECAUSE VENTURA COUNTY FORMALLY OPPOSES THE NOMINATION

The National Historic Preservation Act states that “If both the [local] commission and the chief local elected official recommend that a property not be nominated to the National Register, *the State Historic Preservation Officer shall take no further action.*” 54 U.S.C. § 302504 (emphasis added).

Here, by a unanimous vote of the Ventura County Cultural Board, its findings were that it could only affirm that *portions* of SSFL met criteria for listing, and the Ventura Board of Supervisors (the chief local elected official in Ventura), also by unanimous vote, formally declared that the nomination does not meet listing requirements and could impair public health and that the nomination should be rejected. Thus, the State Historic Preservation Officer and the State Historic Preservation Commission should not be holding a hearing on this nomination and cannot legally act on it.

Listing it without it first being fully cleaned up as promised could pose a health and safety risk to the public offsite and to members of the public, including Native Americans, who might wish to visit.

FUNDAMENTAL RECOMMENDATION:

Decline to approve the nomination as it doesn't meet the NRHP requirements, Ventura County has opposed it, and approval would violate CEQA. Declare that the site needs to be fully cleaned up and restored to the condition it was in before being so severely polluted, as required in the cleanup agreements with the State of California, and that after such cleanup is completed, a new nomination can be considered.

The nomination should be rejected at this time, without prejudice to reapplying when the cleanup is complete, integrity is restored, and the site returned to the condition it was in before being contaminated.