Element	Reference Range	TMPL	Reference Range
Lead	0.5		<= 1.4
Mercury	<dl		<= 2.19
Aluminum	15.4		<= 22.3
Antimony	<dl		<= 0.149
Arsenic		>231	<= 50
Barium	3.6		<= 6.7
Bismuth	<dl		<= 2.28
Cadmium	0.98		<= 0.64
Cesium	5.3		<= 10.5
Gadolinium	<dl		<= 0.019
Gallium	<dl		<= 0.028
Nickel	2.17		<= 3.88
Niobium	<dl		<= 0.084
Platinum	<dl		<= 0.033
Rubidium	1,391		<= 2.263
Thallium	0.980		<= 0.298
Thorium	<dl		<= 4.189
Tin	0.20		<= 2.04
Tungsten	0.392		<= 0.211
Uranium	0.023		<= 0.026

Element	Reference Range	Reference Range
Chromium	4.3	0.6-9.4
Cobalt	2.05	0.01-2.60
Copper	11.6	4.0-11.4
Iron	29	5-64
Lithium	32	9-129
Manganese	3.01	0.03-1.16
Molybdenum	70	15-175
Selenium	77	32-333
Strontium	368	47-346
Vanadium	9.5	0.1-3.2
Zinc	646	63-688

Results in mg/g creatinine

Element	Reference Range	Reference Range
Calcium	207	37-313
Magnesium	162	41-267
Potassium	2,609	759-4,653
Sulfur	794	367-1,328

Collection Information

B
C
D
E
E-2
LANDFILL
(IR-01/21)
EXPERIMENTAL
SKEETMID
RANGE
GUN MOLE
DRYDOCK 3
DRYDOCK 4
SAN FRANCISCO BAY
Radionuclide of Concern
NAVY PR
PARCEL
IMPACTED
DEMOLISH
DEMOLISH
IMPACTED
IMPACTED
IMPACTED
IMPACTED
IMPACTED
IMPACTED
Uranium
Cesium
Cobalt-60
Thallium
Radium-226
Strontium-90
Cadmium
NOTE:
FOR PLANNING PURPOSES, THE S
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STORM DRAIN AND SANITARY SEW
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WAREHOUSE 418

Keeping the Community Informed

Why Clean It Up?

To date, only low-level radioactive materials have been found at Hunters Point Shipyard. The Navy will continue to remove radioactive materials from the shipyard for two reasons:

1. To ensure the long-term protection of the public's health and the environment, and
2. To facilitate the transfer of the property.

WHAT'S NEXT

After the Metal Debris Reef and Metal Slag Area have been characterized, work plans for the cleanup action will be created by the Navy and presented to the regulatory agencies and the public for review and comment.

The Navy will also continue to prioritize radiological surveys, investigations and cleanup actions at HPS based on the information provided in the HRA. Just like at the Metal Debris Reef and Metal Slag Area, any site where radiological operations may have been performed or radioactive materials may have been stored or disposed of will be investigated.

The Navy will ensure that all work follows current health and safety standards established by EPA. The public will be kept apprised of radiological actions as information is available.

WHERE TO GET INFORMATION

The Draft Final HRA and Navy documents and reference materials about HPS are available to the public at two different locations. The Main Library in downtown San Francisco contains a nearly complete record of all the documents related to the investigation and cleanup actions under way at HPS. The Bayview / Anna E. Waden Branch Library contains a smaller collection of documents and copies of current investigation reports. It also holds historic documents related to the HRA. The Draft Final HRA is also posted on the Navy's Hunters Point Shipyard Web site.

The Navy invites you to visit the libraries and read the reports to gain a more complete understanding of the cleanup activities. Addresses for the two Information Repository locations are:

City of San Francisco Main Library
Government Information Center, 5th floor
100 Larkin Street
San Francisco, CA 94102
(415) 557-4500

Bayview / Anna E. Waden Branch Library
5075 Third Street
San Francisco, CA 94124
(415) 715-4100

FOR MORE INFORMATION CONTACT:

Mr. Keith Forman
BRAC Environmental Coordinator
Naval Facilities Engineering Command Southwest Division
BRAC Operations
1230 Columbia Street, Suite 1100
San Diego, CA 92101
Phone: (415) 308-1458
Fax: (619) 532-0995
E-mail: keith.s.forman@navy.mil

Mr. Lee Saunders
Environmental Public Affairs Officer
Phone: (619) 532-3100
Fax: (619) 532-1190
E-mail: lee.saunders@navy.mil

HPS ENVIRONMENTAL WEB SITE: http://www.efdsw.navfac.navy.mil/environmental/hunterspoint.htm

Printed on 100% recycled paper

Hunters Point Shipyard

Historical Radiological Assessment

Metal Debris Reef and Metal Slag Area

NAVFAC Naval Facilities Engineering Command SOUTHWEST DIVISION

Fact Sheet No. 6 March 2004

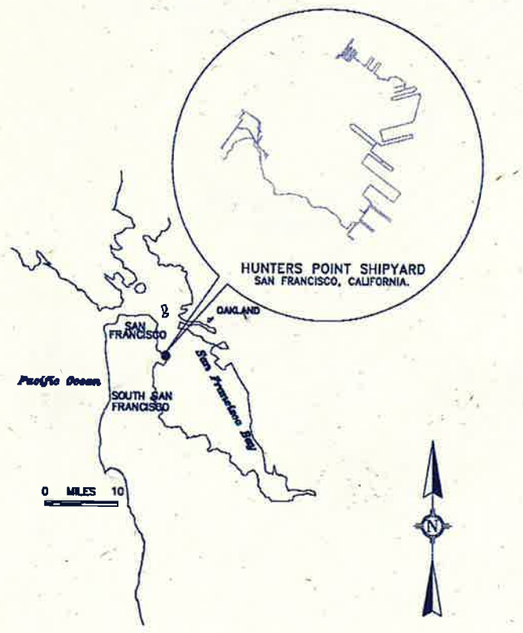
The Navy has made a commitment to keep the local community, Hunters Point Shipyard tenants, and federal, state and local regulators informed during preparation of the Final Historical Radiological Assessment.

INTRODUCTION

The U.S. Navy, as part of its Installation Restoration Program, has prepared the Hunters Point Shipyard (HPS) Draft Final Historical Radiological Assessment (HRA). This HRA fact sheet is the sixth in a continuing series to update the community on radiological matters at HPS.

The HRA documents past radiological activities and investigations at HPS. The HRA provides:

1. A baseline document for investigating the presence and extent of residual radioactive materials,
2. Assessment of past and continuing radiological investigations, and
3. Recommendations for future actions at each impacted site.



This fact sheet also reports on activities being conducted as part of the Navy's continuing radiological investigation program. This issue focuses on investigation activities scheduled for two sites located in Parcel E – the Metal Debris Reef and the Metal Slag Area. The Metal Debris Reef is located in the southeastern portion of a site called Installation Restoration (IR)-02. The Metal Slag Area is located in the southwestern portion of a site called IR-01/21 (see map page 2). Definitions are provided on page 3.

HRA UPDATE

HRA Finalization Schedule – The Navy is committed to producing an accurate and comprehensive HRA. After months of researching historical documents and conducting in-depth interviews, the Draft Final HRA was released for public and regulatory review in February 2004. Comments can be mailed to Mr. Keith Forman to the address on the back page and postmarked no later than **April 27, 2004**, to be considered. Comments may also be sent in an e-mail to keith.s.forman@navy.mil as late as midnight (PST) on **April 27, 2004**.

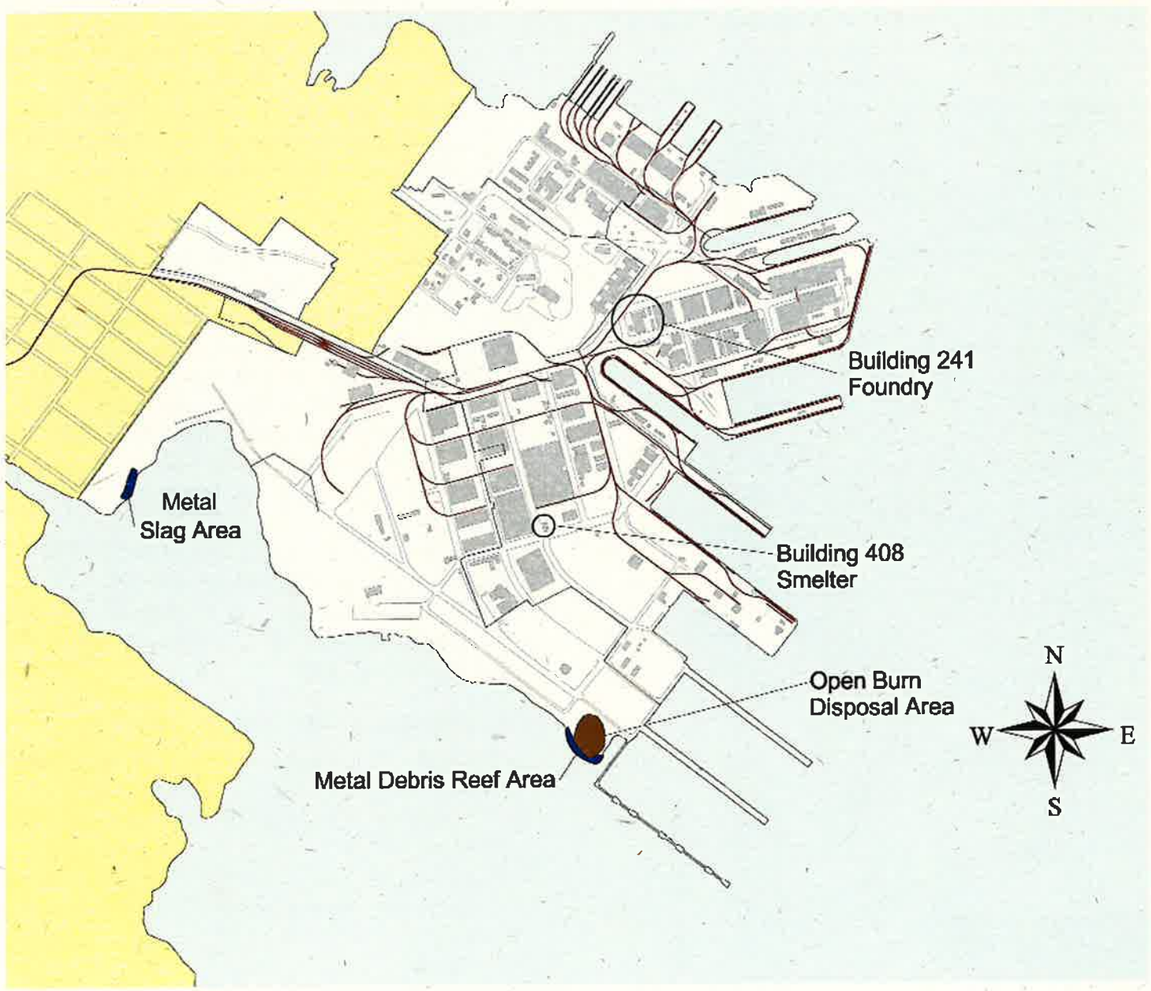
A formal Response to Comments document will be released within 45 days of the closing of the comment period and made available at the two Information Repository locations (see back page). The Final HRA is scheduled for release in late summer 2004.

METAL DEBRIS REEF AND METAL SLAG AREA

Radiological investigations at HPS focus on sites where radioactive materials have been used, stored or disposed of in the past. During radiological surface investigations conducted in 1991 and in 2001, low-level radioactive materials were identified at two sites in Parcel E, the Metal Debris Reef and the Metal Slag Area. The public and the environment are safe from low-level radioactive materials found at both sites.

Keeping the Community Informed

Metal Debris Reef – The Metal Debris Reef, an area located in the southeast portion of Parcel E, is about 28,000 square feet in size and with an average thickness of five feet. The reef consists of concrete debris, metal scrap and metal slag. The reef formed from materials that were burned at the nearby Open Burn Disposal Area and from materials that were disposed of from the metal foundry (Building 241) and the smelter (Building 408) when the shipyard was active. The Metal Debris Reef is shown in the photograph at left.



Keeping the Community Informed

Metal Slag Area – The Metal Slag Area, located in the southwest portion of Parcel E, is about 21,000 square feet in size and with an average thickness of five feet. The slag area is composed of wastes disposed of from Building 241 and Building 408. These discarded wastes included industrial debris and metal slag. The Metal Slag Area is shown in the photograph at right.

WHAT'S BEING DONE

The Navy will perform a cleanup action for the Metal Debris Reef and Metal Slag Area to remove the slag, debris and radioactive materials from the sites. These materials are being removed as a first step toward preparing the sites for reuse as open space and to eliminate any potential future risk due to the presence of radioactive materials in areas that may be affected by wind, erosion and tidal action. The public and the environment are, and will continue to be, safe during the investigation and cleanup processes.

Before the cleanup action begins, a site characterization must be conducted. This step is described below.

Site Characterization

Radiological characterization activities at HPS follow a strict process designed to ensure the protection of human health and the environment. This process is overseen by the U.S. Environmental Protection Agency (EPA).

The site characterization will determine the specific levels (how much) and extent (how far, how deep and what kind) of radioactive materials that are present at the Metal Debris Reef and Metal Slag Area. This step is important because the information collected will be used to create a safe and thorough cleanup plan for both sites.

The site characterization process will involve:

1. understanding the underwater shape and physical features of the Metal Debris Reef and the Metal Slag Area, and
2. sampling sediments beneath the metal slag and debris to see what types of materials may be present.

DEFINITIONS

EPA – U.S. Environmental Protection Agency.

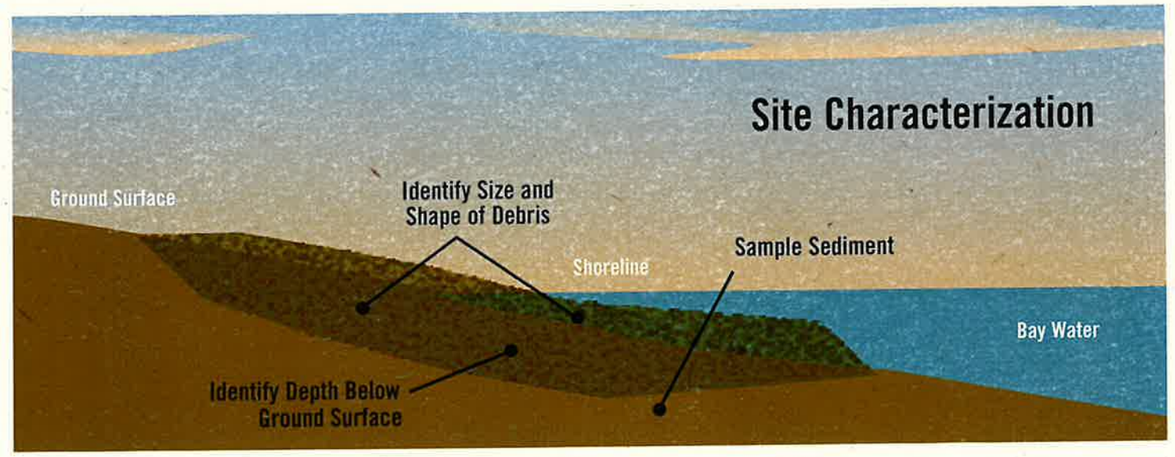
HPS – Hunters Point Shipyard.

HRA – Historical Radiological Assessment.

Metal Reef – A partially submerged, reef-like formation composed of metal scrap, metal slag and concrete debris.

Metal Scrap– Discarded pieces of metal material.

Metal Slag– Material remaining after metal has been burned at very high temperatures.



From:	Angelique Tompkins
To:	Cabrera, Stephanie (BOS)
Cc:	Cecile Hughes; Gee, Natalie (BOS)
Subject:	GAO Committee - 09/29/22 - ITEM 220720 - Hearing - Civil Grand Jury Report - "Buried Problems and a Buried Process - The Hunters Point Naval Shipyard in a Time of Climate Change."
Date:	Thursday, September 29, 2022 1:57:13 PM
Attachments:	BVAResponseGAOCommitteeBOS09292022.pdf

This message is from outside the City email system. Do not open links or attachments from untrusted sources.

Please see attached for public comment and placement in the record for agenda item 220720 - Hearing - Civil Grand Jury Report - "Buried Problems and a Buried Process - The Hunters Point Naval Shipyard in a Time of Climate Change."

Thank you,
Angelique Tompkins
Bayview Alliance

San Francisco Board of Supervisors, Government Audit & Oversight Committee - Supervisors Chan, Preston, and President Walton,

The Bayview Alliance is a community-led and informal monthly forum of Bayview residents, CBOs, and others spanning over 12 years who are committed to the community reaching its highest potential and sustained excellence while addressing historical inequities and legacy issues that often prevent its residents, businesses, and other organizations from success.

The Bayview Alliance serves through collective agreement of its members on the priorities for the neighborhood acting with unity of purpose.

As such, we submit that Proposition P passed by 86% in 2000, and the subsequent Board of Supervisors resolution declared the official policy of the City and County is enforced such that the Hunters Point Naval Shipyard Superfund Site is cleaned up to the most protective residential standard without land use restrictions or barriers. Since then, there's been time for a generation to have been born and reach young adulthood after decades of community exposure to radioactive and hazardous waste contamination.

No more time needs to pass with delays and insufficient remediation by the Navy which thwarts the will of the people and subverts the integrity of our democracy furthering environmental injustices imposed upon this community known to limit life expectancy.

More has been revealed by the threat of sea level and groundwater rise, scientifically validated, and duly supported by the San Francisco Civil Grand Jury Report, "Buried Problems and a Buried process: The Hunters Point Naval Shipyard in a Time of Climate Change", findings and recommendations.

We respectfully request the Board of Supervisors to act immediately to address the Navy, United States Environmental Protection Agency, California Environmental Protection

Agency, State Department of Toxic Substances Control, and the Regional Water Quality Control Board to require the following measures to protect public health and the environment:

- Conduct a total, comprehensive cleanup, and removal of all radioactive and toxic chemical contamination at the Hunter Point Naval Shipyard Superfund Site with adapted measures for climate change impact, explicitly no capping of contamination by cover up with thin soil layer or asphalt cover
- Require new, comprehensive, and independent retesting of the entire Hunters Point Naval Shipyard Superfund Site and adjacent areas, with community oversight
- Implement the San Francisco Civil Grand Jury's recommendations
- Implement Proposition P as an ordinance

Respectfully submitted, in solidarity

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San Francisco Board of Supervisors, Government Audit & Oversight Committee - Supervisors Chan, Preston, and President Walton,

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- Implement the San Francisco Civil Grand Jury's recommendations
- Implement Proposition P as an ordinance

Respectfully submitted, in solidarity

Bayview Alliance

From:	Somera, Alisa (BOS)
To:	Cabrera, Stephanie (BOS)
Subject:	FW: Re Support: File No. 220721 Resolution urging implementation of recommendations of 2021-2022 Civil Grand Jury Report "Buried Problems and a Buried Process: The Hunters Point Naval Shipyard in a Time of Climate Change"
Date:	Wednesday, September 28, 2022 1:11:43 PM

Alisa Somera
Legislative Deputy Director
San Francisco Board of Supervisors
1 Dr. Carlton B. Goodlett Place, Room 244
San Francisco, CA 94102
415.554.7711 direct | 415.554.5163 fax
alisa.somera@sfgov.org

(VIRTUAL APPOINTMENTS) To schedule a "virtual" meeting with me (on Microsoft Teams), please ask and I can answer your questions in real time.

Due to the current COVID-19 health emergency and the Shelter in Place Order, the Office of the Clerk of the Board is working remotely while providing complete access to the legislative process and our services.

Click **HERE** to complete a Board of Supervisors Customer Service Satisfaction form.

The Legislative Research Center provides 24-hour access to Board of Supervisors legislation, and archived matters since August 1998.

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Disclosures: *Personal information that is provided in communications to the Board of Supervisors is subject to disclosure under the California Public Records Act and the San Francisco Sunshine Ordinance. Personal information provided will not be redacted. Members of the public are not required to provide personal identifying information when they communicate with the Board of Supervisors and its committees. All written or oral communications that members of the public submit to the Clerk's Office regarding pending legislation or hearings will be made available to all members of the public for inspection and copying. The Clerk's Office does not redact any information from these submissions. This means that personal information—including names, phone numbers, addresses and similar information that a member of the public elects to submit to the Board and its committees—may appear on the Board of Supervisors website or in other public documents that members of the public may inspect or copy.*

From: Sara Greenwald <saragreenwald2@gmail.com>
Sent: Wednesday, September 28, 2022 12:30 PM
To: Somera, Alisa (BOS) <alisa.somera@sfgov.org>
Cc: Preston, Dean (BOS) <dean.preston@sfgov.org>; Chan, Connie (BOS) <connie.chan@sfgov.org>; Mandelman, Rafael (BOS) <rafael.mandelman@sfgov.org>; Walton, Shamann (BOS) <shamann.walton@sfgov.org>
Subject: Re Support: File No. 220721 Resolution urging implementation of recommendations of 2021-2022 Civil Grand Jury Report "Buried Problems and a Buried Process: The Hunters Point Naval Shipyard in a Time of Climate Change"

This message is from outside the City email system. Do not open links or attachments from untrusted sources.

Re Support: File No. 220721 Resolution urging implementation of recommendations of 2021-2022 Civil Grand Jury Report "Buried Problems and a Buried Process: The Hunters Point Naval Shipyard in a Time of Climate Change"

Please call upon the San Francisco Board of Supervisors to pass a resolution requiring full cleanup of all radioactive and hazardous waste contamination at the Hunters Point Naval Shipyard Superfund Site - with oversight by an independent committee of the community activists who have been working on this issue for many years. The community oversight group must be independent of any City, state or federal department or body including the Navy, and it must be independent of any person or body with a financial stake in the use of the affected land.

The need for cleanup is obvious, yet responsibility has been diffused among agencies including the Navy, United States Environmental Protection Agency, California Environmental Protection Agency, State Department of Toxic Substances Control, and the Regional Water Quality Control Board. The resulting failure to act is intolerable.

The Civil Grand Jury report makes clear recommendations. Our Supervisors must work with community environmental-justice stakeholders to implement them. Implementation must include:

- A total, comprehensive cleanup and removal of all, not some, radioactive and toxic contamination at the Shipyard Superfund Site – no capping of contamination
- New, comprehensive, and independent retesting of the entire Shipyard Superfund Site and adjacent areas, with community oversight
- Implementation of the San Francisco Civil Grand Jury's recommendations

Respectfully,

Sara Greenwald

350 San Francisco Coordinating Committee

From:	Walton, Shamann (BOS)
To:	Cabrera, Stephanie (BOS)
Subject:	FW: Insist on a complete clean up of the BVHP Shipyard and bring back the. independent Residents" Advisory Board
Date:	Tuesday, September 27, 2022 7:08:29 PM

Hi Stephanie,

Please add this to the file #1 on this Thursday's GAO.

Thank you,
Natalie

Natalie Gee 朱凱勤, Chief of Staff
Supervisor Shamann Walton, District 10
President, Board of Supervisors
1 Dr. Carlton B. Goodlett Pl, San Francisco | Room 282
Direct: 415.554.7672 | **Office:** 415.554.7670

From: Iris Biblowitz <irisbiblowitz@hotmail.com>
Sent: Tuesday, September 27, 2022 7:07 PM
To: Walton, Shamann (BOS) <shamann.walton@sfgov.org>; Chan, Connie (BOS) <connie.chan@sfgov.org>; Preston, Dean (BOS) <dean.preston@sfgov.org>; Mandelman, Rafael (BOS) <rafael.mandelman@sfgov.org>
Subject: Insist on a complete clean up of the BVHP Shipyard and bring back the. independent Residents' Advisory Board

This message is from outside the City email system. Do not open links or attachments from untrusted sources.

Dear Supervisors of the GAO Committee and Supervisor Walton -

As a nurse and a senior who'd lived in the Mission for close to 50 years, I've been involved in the fight for environmental and racial justice in BVHP. I was a home health nurse years ago and had many patients in BVHP. I saw on the ground what I had been hearing for years: There was and is an alarming rate of cancers (including cervical, prostate, lung, and breast), as well as very high rates of asthma, congestive heart failure, diabetes, and emphysema. Hospitalizations for these illnesses were 3 times the state average.

In light of the burden of severe illnesses that this community continues to experience, and considering the apparent negligence that the state and city have demonstrated, I hope you all respond by insisting on a complete and thorough clean up of the entire BVHP Shipyard area. There's a long history of fraudulent and/or superficial testing of some of the soil at the Shipyard. Please reverse that history and make sure that there's transparent, complete testing and a complete clean up.

A critical part of this process (and righting some of the wrongs) if to reinstate the Residents' Advisory Board, an independent oversight committee that understands the community and the history of toxic and radioactive contamination. I'm sure that Dr. Ahimsa Sumchai and Dr. Ray Tompkins will be able to use their expertise to assist this process.

.

Thank you very much - Iris Biblowitz, RN

Marie Harrison, Presente!

From:	King, Nathan@Waterboards
To:	Somera, Alisa (BOS); Cabrera, Stephanie (BOS); Kaslofsky, Thor (CII); Hussain, Lila (CII); Gee, Natalie (BOS); Kowbel, Nelline@DTSC; Pettijohn, Julie@DTSC; Walsh, Kimberly@DTSC; montgomery.michael@epa.gov; Herrera, Angeles; Chesnutt, John
Cc:	Watkins, Jessica@Waterboards; Naugle, Alec@Waterboards; McCann, Lisa@Waterboards; White, Eileen@Waterboards; Haas, Julie@Waterboards
Subject:	Water Board Letter to Board of Supervisors
Date:	Tuesday, September 27, 2022 5:03:51 PM
Attachments:	Letter to SF Board of Supes- Hunters Point and GWR- 092722.pdf

This message is from outside the City email system. Do not open links or attachments from untrusted sources.

Please see attached letter concerning the September 29 BOS Hearing.

Sincerely,

Nathan King, PG
Senior Engineering Geologist
Groundwater Protection Division
San Francisco Bay Regional Water Quality Control Board

San Francisco Bay Regional Water Quality Control Board

September 27, 2022

Supervisors Preston, Chan, Mandelman and Walton
San Francisco Board of Supervisors'
Government Audit and Oversight Committee
City Hall 1
Dr. Carlton B. Goodlett Place
San Francisco, CA 94102-4689
Via electronic submittal to: alisa.somera@sfgov.org; stephanie.cabrera@sfgov.org

SUBJECT: Hearing - Civil Grand Jury Report- "Buried Problems and a Buried Process- The Hunters Point Naval Shipyard in a Time of Climate Change" San Francisco Board of Supervisors' Government Audit and Oversight Committee Meeting, September 29, 2022

Dear Supervisors Preston, Chan, Mandelman, and Walton,

Thank you for the opportunity to discuss the Civil Grand Jury Report, "Buried Problems and a Buried Process- The Hunters Point Naval Shipyard in a Time of Climate Change" discussed on September 15 and again on September 29. Unfortunately, lead staff from the San Francisco Bay Regional Water Quality Control Board (SF Bay Water Board) are not available to participate (we are committed to a previously scheduled racial equity and environmental justice training). In lieu of attending the hearing, we are sharing the following information about our mission, authority and attention to cleanup actions, climate change, and environmental justice.

The SF Bay Water Board has responsibility and authority to protect water quality for people and the environment throughout the San Francisco Bay including Hunters Point. This responsibility includes many sources of pollution and habitat impacts, including the contamination from operations at the Hunters Point Naval Shipyard. We are a regional agency (with regions defined by watersheds) of the State Water Resources Control Board, which is part of the California Environmental Protection Agency. Our mission is *to preserve, enhance, and restore the quality of California's water resources and drinking water for the protection of the environment, public health, and all beneficial uses, and to ensure proper water resource allocation and efficient use, for the benefit of present and future generations.*

Hunters Point Naval Shipyard is one of our highest priorities for cleanup due to the extent and type of contamination, the potential for exacerbating water quality impacts from climate change, and the community's long history and ongoing experience of environmental injustices.

The SF Bay Water Board oversees and directs pollution cleanup under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as Superfund, in conjunction with the

US Environmental Protection Agency Region 9 and the California Department of Toxic Substances Control. Together we are the primary regulatory agencies overseeing the Navy's environmental cleanup of the Hunters Point Naval Shipyard Superfund Site. In addition, the SF Bay Water Board oversees and directs pollution prevention and control related to all other pollution releases to surfaces or waterways that threaten or impact streams, the San Francisco Bay or groundwater underlying the area, including from industrial, commercial, residential, and municipal facilities and land. We agree that Superfund site cleanups should be implemented to adapt to and account for climate change, including sea and groundwater level rise. The existing Superfund remedy selection, implementation, and long-term evaluation/review process provide multiple water quality protection opportunities and activities that can and must consider potential climate issues, to increase resilience for the future.

The SF Bay Water Board is committed to addressing environmental justice in our region. Our staff has engaged historically and recently with leaders and representatives of community-based organizations and environmental justice advocates regarding the environmental and human health impacts from Hunters Point Naval Shipyard and its cleanup.

Additionally, the SF Bay Water Board has been planning, regulating, and addressing climate impacts for several years, specifically with responses to drought, wildfires, sea level rise and flooding. In the last few years in response to emerging climate science and community advocacy, the SF Bay Water Board has evaluated and expanded scientific research about potential impacts from groundwater rise. We have prioritized communities and facilities most vulnerable to water quality impacts for cleanup. Site changes and vulnerabilities are informed by evolving science and information, on incremental climate-related changes such as sea and groundwater level rise, seasonal changes in precipitation or temperatures, and changes in the intensity, frequency or duration of extreme weather events. Please note our SF Bay Region Water Quality Control Plan and Board Meeting Agenda for October 12, 2022, Item 7.

The SF Bay has and continues to take the following actions, implemented by a team of geologists, engineers, environmental scientists and climate scientists:

- Addressing disadvantaged communities with the highest pollution and health burdens (historically red-lined neighborhoods, highest CalEnviroscreen scores) as our highest priority
- Assigning oversight to one or more staff in our Groundwater Protection Division or our Toxics Cleanup Division
- Hiring new staff with environmental justice and community engagement experience
- Requiring waste management or sites cleaning up release contamination to conduct assessments for vulnerability to contaminant mobilization from sea level rise or groundwater rise and propose adaptation plans
- Revising cleanup goals and/or remediation methods based on updated environmental justice priorities and/or studies indicating sea level or groundwater rise that elevates the risk of water quality or human health impacts from a site or to a community
- Approving remediation methods that protect against future contamination mobilization or flooding from sea level rise or groundwater rise

We are basing these actions on the following body and state of the science available and growing to inform and direct protective cleanup decisions for shoreline sites around SF Bay. We will continue to apply the relevant information to cleanup sites around the SF Bay, including for Hunters Point Naval Shipyard.

These are studies published recently:

- Befus et al. 2020 - MODFLOW modeling of water table response to sea-level rise along the California coast (10m model resolution) - available for a range of hydraulic conductivity values. Includes projections of future depth to groundwater under a range of SLR scenarios. Data available for download here and for viewing on the Our Coast our Future webmap.
- USGS Liquefaction storymap - explains the impacts of sea-level rise on liquefaction severity around the SF Bay Area
- Toxic Tides map - exposure of hazardous facilities to sea-level rise, extreme tides, and storm surge. Does not include rising groundwater.
- Plane et al. 2019 - rapid assessment of depth to groundwater for the SF Bay shoreline based on interpolation of empirical data. Data available for download here.
- May et al. 2020 - report for the City of Alameda. Refined depth to groundwater mapping, sea-level rise scenarios, and an investigation of the impacts of sea-level rise on contaminants (evaluated contaminants with potential concentrations above human health benchmarks).

This is a study underway that will be published soon:

- Pathways and SFEI 2022 - refined assessment of depth to groundwater for 4 counties (Alameda, Marin, San Francisco, and San Mateo) based on interpolation of empirical data and including extensive review and ground-truthing. Includes projections of future depth to groundwater under a range of SLR scenarios. Data will be available fall 2022.

This is a recently funded future study to expand science coverage in SF Bay (and funded specifically by the SF Bay Water Board):

- Refined assessment of depth to groundwater for Contra Costa County (continuing work from Pathways and SFEI 2022)

These are proposed studies, not yet funded but currently under consideration to be funded in part or whole with public grant funds:

- Prop 68 proposal: Work in the Islais Creek watershed using a dynamic MODFLOW groundwater model to investigate changes in the water table due to sea-level rise and increases in extreme precipitation. The model will also be used to explore impacts of potential adaptation strategies and the potential for contaminant mobilization.
- Prop 68 proposal (led by Coastal Quest): one task of this project would be a refined assessment of depth to groundwater for Santa Clara County (same method as Pathways and SFEI 2022)
- Port of Oakland dynamic MODFLOW groundwater modeling and investigation of sea-level rise impacts.
- Integration of groundwater rise datasets into the Bay Conservation and Development Commission's Bay Shoreline Flood Explorer to help a broad range of stakeholders identify the points of intersection between sea-level rise and groundwater rise under different time-based scenarios.

The SF Bay Water Board reiterates that Hunters Point Naval Shipyard is one of our highest priorities for cleanup due to the extent and type of contamination, the potential for exacerbating water quality

impacts from climate change, and the community's long history and ongoing experience of environmental injustice.

The SF Bay Water Board continues to rely on our authorities under CERCLA and the California Water Code, and the growing body of best available science to oversee and direct the Navy's environmental cleanup of the Hunters Point Naval Shipyard Superfund Site. We are committed to regulating Superfund and other contaminated site cleanups to account for climate change, including sea and groundwater level rise.

If you have questions or want to speak further with SF Bay Water Board staff, please contact our Assistant Executive Officer, Lisa Horowitz McCann at (510) 622-2441 or at lisa.mccann@waterboards.ca.gov.

Sincerely,

Eileen White
Executive Officer

Copy:
Office of Community Investment and Infrastructure
Thor.Kaslofsky@sfgov.org
lila.hussain@sfgov.org

San Francisco Board of Supervisors
natalie.gee@sfgov.org

Department of Toxic Substances Control
nelline.kowbel@dtsc.ca.gov
julie.pettijohn@dtsc.ca.gov
kimberly.walsh@dtsc.ca.gov

United States Environmental Protection Agency
montgomery.michael@epa.gov
herrera.angeles@epa.gov
chesnutt.john@epa.gov

San Francisco Bay Regional Water Quality Control Board
jessica.watkins@waterboards.ca.gov
alec.naugle@waterboards.ca.gov
nathan.king@waterboards.ca.gov