JOSEPH W. COTCHETT (SBN 36324)
jcotchett@cpmlegal.com
ANNE MARIE MURPHY (SBN 202540)
amurphy@cpmlegal.com
ALISON E. CORDOVA (SBN 284942)
acordova@cpmlegal.com
ADAM J. TROTT (SBN 275520)
atrott@cpmlegal.com
STEPHANIE D. BIEHL (SBN 306777)
sbiehl@cpmlegal.com
**COTCHETT, PITRE & McCARTHY, LLP**
840 Malcolm Road
Burlingame, California 94010
Telephone: (650) 697-6000
Facsimile: (650) 692-3606

*Attorneys for Plaintiffs*

ENDORSED
FILED
San Francisco County Superior Court

JUL 24 2018

CLERK OF THE COURT
BY: NEYL WEBB
Deputy Clerk

**SUPERIOR COURT OF CALIFORNIA**

**CITY AND COUNTY OF SAN FRANCISCO**

**LINDA PARKER PENNINGTON AND GREG PENNINGTON,**

Plaintiffs,

v.

**TETRA TECH, INC.;**
**TETRA TECH EC, INC;**
**LENNAR CORPORATION;**
**HPS1 BLOCK 50 LLC;**
**FIVEPOINT HOLDINGS, LLC;**
**BILL DOUGHERTY;**
**NICK ZAFERES;**
**EMILE HADDAD;**
**and**
**DOES 1-100.**

Defendants.

CASE NO:
CGC-18-568352

**COMPLAINT:**

1. **PERMANENT PUBLIC NUISANCE**
2. **PERMANENT PRIVATE NUISANCE**
3. **UNFAIR AND UNLAWFUL COMPETITION**
4. **FRAUD AND FALSE ADVERTISING**
5. **NEGLIGENCE**
6. **NEGLIGENT MISREPRESENTATION**

**DEMAND FOR JURY TRIAL**

# TABLE CONTENTS






LAW OFFICES
COTCHETT, PITRE & MCCARTHY, LLP

1. **Plaintiffs Linda Parker Pennington and Greg Pennington** ("Plaintiffs") bring this action for damages and relief against **Tetra Tech, Inc**., **Tetra Tech EC, Inc**., **Lennar Corporation, HPS1 Block 50 LLC, FivePoint Holdings, LLC, Bill Dougherty, Nick Zaferes,** and **Emile Haddad** (collectively "Defendants") for violations of California state law. Defendants are all responsible for the **loss of value in Plaintiffs' home** due to the continuing toxic nature of the Superfund and former nuclear testing site upon and near Plaintiffs' homes, and the ensuing health and other issues that waste has caused, is causing, and will continue to cause until it is remediated (to the extent such remediation is possible).

## I. INTRODUCTION

2. This case represents one of the biggest cover-ups of serious industrial and radioactive waste on the West Coast of the United States – and – in one of the major metropolitan areas in the country.

3. The Hunters Point Naval Shipyard ("HPNS") area is located on the southeastern corner of San Francisco. The 522-acre area housed a U.S. military nuclear-warfare research lab (the Naval Radiological Defense Laboratory, or "NRDL") from 1946 to 1969 and a ship-repair company from 1976 to 1986. Each of these organizations used the site as a dumping ground of industrial, toxic chemicals and industrial waste and in the case of the military, radioactive waste.


**Map of San Francisco, with HPNS Detail (Source: San Francisco Chronicle)**



LAW OFFICES
COTCHETT, PITRE & MCCARTHY, LLP

4. The Environmental Protection Agency (EPA) designated HPNS a Superfund site in 1989 due to extensive toxicity of the soil. A Superfund site is defined as "any land in the United States that has been *contaminated by hazardous waste* and identified by the EPA as a candidate for cleanup because *it poses a risk to human health* and/or the environment. These sites are placed on the National Priorities List (NPL)." The NPL includes sites which have known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States and its territories.[1]

5. In 1989, the U.S. Navy began spending what is now over $1.1 billion cleaning up the Superfund site. That amount includes approximately $300 million paid to Defendants Tetra Tech, Inc., and/or Tetra Tech EC, Inc. (collectively, "Tetra Tech") to test the toxicity of and remove toxic waste from HPNS. Tetra Tech was responsible under its contract with the U.S. Navy for fully remediating the site and making HPNS safe and healthy for development and residence.

6. Among its responsibilities, and as detailed below, Tetra Tech performed work on what is known as Parcel A, the site of the SF Shipyards building development at issue. In particular, Tetra Tech was directed to investigate and then demolish Building 322, which showed radioactive contamination.

7. Since 2012, whistleblowers have reported that Tetra Tech's workers and contractors were falsifying the cleanup since at least 2009. Those claims have since been substantiated, and two members of Tetra Tech management have been sentenced to time in federal prison for their actions in ordering both the falsification of data and the creation of false data to support Tetra Tech's claims that they were successfully remediating the HPNS area, as they were paid and had agreed to do.

8. One such whistleblower and former Tetra Tech employee, Anthony Smith, in a sworn declaration before the Nuclear Regulatory Commission, alleged that he saw various improper practices beginning in 2009, including **"false soil sampling, incomplete building**

[1] *See, e.g.*, U.S. Department of Health and Human Services, *TOXMAP FAQ*, *available at https://toxmap.nlm.nih.gov/toxmap/faq/2009/08/what-are-the-superfund-site-npl-statuses.html*. While a small percentage of SF Shipyards, including the plot of land known as Parcel A, is no longer considered part of the Superfund Part, the vast majority remains under U.S. Navy purview.



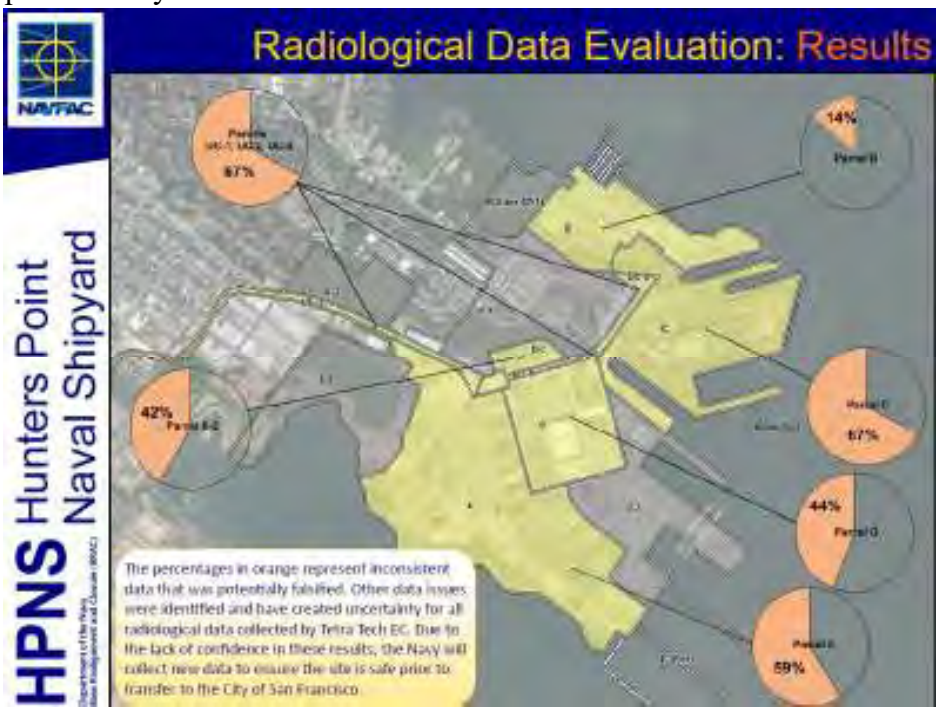
LAW OFFICES
COTCHETT, PITRE & MCCARTHY, LLP

**surveys, falsification of chain-of-custody documentation, and data manipulation."** The Declaration of Anthony Smith, attached to this Complaint as **Exhibit A**, sets forth the many details of the fraud perpetrated by Tetra Tech.

9. Among the innumerable improper practices perpetrated by Tetra Tech, at least one Tetra Tech employee found radioactively "hot" soil within the bounds of Parcel A, but was instructed by his supervisor not to inform anyone outside Tetra Tech, such that the area was never further inspected or remediated.

10. Thus, instead of remediating HPNS, Tetra Tech engaged in fraud, disregarded human health and safety for residents of and visitors to HPNS and, to the extent contaminated soil left HPNS fraudulently and/or negligently labeled as clean, for people living throughout California.

11. Tetra Tech denied falsification for years, yet in 2017 the U.S. Navy and the EPA each completed an independent analysis of the available data and determined that somewhere **between almost half and as much as 97% of the cleanup data on certain parcels was unreliable** and potentially **deliberately fraudulent** and needed to be retested. To date, the site has not been comprehensively retested.




**Results from Radiological Data Evaluation by U.S. Navy Contractors (Source: Naval Facilities Engineering Command)**

12. During the cleanup process, Defendant Lennar Corporation, along with its affiliate Five Point Holdings, Inc. ("FivePoint"), started building residential units in 2013 and put them on the market in or around June 2014, **two years after the first whistleblowers came forward** alleging misconduct and fraud during the cleanup. Lennar and FivePoint have since sold approximately 300-350 newly built homes to current residents of what is referred to as Parcel A, all the while publicly averring that these homes were safe to inhabit. Parcel A's boundaries extend up to Crisp Street and across Spear Avenue to the south, up to Griffith Street to the west, and up to Fisher Avenue and across Robinson Street and Galvez Avenue to the east. The north boundary of Parcel A is defined by a fence, which separates HPNS from the Bayview-Hunters Point district of San Francisco. Homes in Parcel A (also known as the "SF Shipyards" development) were sold for an amount in the vicinity of $1 million apiece, reflecting the high demand and very short supply of housing anywhere in the San Francisco Bay Area, let alone San Francisco proper. Parcel A, as noted below, had been cleared for development by a Tetra Tech subsidiary after a very limited, perfunctory, unconvincing sweep of the land by a "scanner van" in or before 2004.

13. In 2016, the City of San Francisco publicly stated it would not accept land transfers until it was assured the land was "clean and safe." The city still refuses to accept land transfers from the affected area. The area remains difficult to inhabit, with unknown amounts of toxic industrial and nuclear waste in the soil and surrounding areas, little public transit, few schools, and a high crime rate.

14. When it began marketing the residential properties at SF Shipyards, Lennar focused on its history as a naval base and omitted the site's history as a nuclear laboratory and a shipyard that dumped industrial waste into landfills in the area and treated radioactive waste as common garbage. Further, Lennar did not disclose the fact that the shipyard served as the endpoint for ships irradiated during hydrogen bomb tests, the residue of which was sandblasted onto the land at SF Shipyards; residues which include, significantly, not only radioactive materials, but also lead paint, exposure to either of which causes long-term, potentially debilitating health issues. Lennar did not disclose the potential health hazards of living on or near a former EPA Superfund and nuclear warfare testing site, nor did it disclose the toxic waste still contaminating the area.


**Worker Sandblasting a Radioactive Ship at HPNS, ca. 1947**

15. Consequently, when Plaintiffs originally purchased homes at SF Shipyards, they did so in reliance of the fact that it would be safe for them and their families to live and play in and near their homes; that a community would grow around these homes; and that their homes would not have been then, or would they be now, affected by toxic waste and the resulting deleterious consequences such exposure involves.

16. Additionally, when Plaintiffs purchased their homes from Lennar and/or FivePoint, they were informed that SF Shipyards was to become a "true destination" including a flourishing, walkable community, with bay views, office space, supermarkets, an outdoor mall, a thriving commercial center with restaurants, bars, shops, schools, parks, and other public services including public transportation. This has not come to be.

17. The toxic waste at HPNS can lead, and has led, to serious health complications, including deadly cancer, especially as residents are potentially exposed to toxic waste in the air and on the ground, unprotected for hours each day. Plaintiffs do not, and cannot, know if or when the environmental harm will be remediated: Tetra Tech has been orchestrating a cleanup for well over a decade, and up to 97% of Tetra Tech's cleanup needs to be retested and/or redone. Remediation will be significantly more challenging because the contaminated land is covered with

inhabited, newly built homes. Any forced relocation for analysis and remediation would be a great inconvenience for homeowners.

18. As a result, the value of Plaintiffs' homes has been damaged, as the demand for homes sited not just next to, but potentially on top of, a toxic waste dump complete with radiation from nuclear isotopes including but not limited to radium-226, cesium-137, plutonium and uranium, is infinitesimally low or nonexistent. The level of demand has decreased even further, to the extent that is possible, because further construction has been indefinitely halted and any further improvements and expansions of the community are receding further into the distance.

19. Defendants **Tetra Tech, Inc.** and **Tetra Tech EC, Inc.** (collectively "Tetra Tech") bid for and received a contract with the U.S. Navy worth approximately $300 million to test and remediate the environmental risks at HPNS. After over a decade of testing and years of providing falsified data to the U.S. Navy and others, the site is still toxic. Plaintiffs do not know, and cannot know, the extent to which records were falsified, nor which areas Tetra Tech claimed were clean are actually so, nor which areas are as dangerous to their health and well-being as they were before the "cleanup" and "remediation" performed by Tetra Tech.

20. Defendant **Lennar, Corporation,** its wholly owned subsidiary **HPS1 Block 50 LLC** (collectively with Lennar Corporation, "Lennar"), and its affiliate, Defendant **Five Point Holdings, Inc.** (FivePoint)**,** have sold around 350 newly built homes to current residents of SF Shipyards. Lennar knew or should have known of the toxic waste present on the land at SF Shipyards and should have informed potential buyers of this toxic waste. Prior to purchasing their homes, Plaintiffs did not know of the toxic waste's presence or its health consequences, and so therefore did not factor that information in when determining what they were willing to pay for their homes. The homes are now worth substantially less than they would have been in a world where Tetra Tech had responsibly remediated HPNS, as it had agreed to and was well-compensated to do, and considerably less than the amount Plaintiffs would have otherwise expected the value to be, given housing market dynamics in San Francisco and the greater Bay Area, had the property been as clean and healthy as they were promised.



LAW OFFICES
COTCHETT, PITRE & MCCARTHY, LLP

21. Defendants have created or assisted in the creation of a public nuisance. Every act of malfeasance committed by each Defendant since the late 1990s subjects each Defendant to liability for public nuisance because there is no statute of limitations for a public nuisance claim. (*See* Civ. Code, § 3490 ["No lapse of time can legalize a public nuisance, amounting to an actual obstruction of public right"]; *Wade v. Campbell* (1962) 200 Cal.App.2d 54, 61 ["the maintenance of a public nuisance may not be defended on the ground of laches or the statute of limitations"].)

22. Tetra Tech's conduct, both individually and collectively, has violated and continues to violate the law of permanent public nuisance, under common law and Civ. Code, §§ 3479 and 3480, the law of permanent private nuisance, under common law and Civ. Code, §§ 3479 and 3481, the Unfair Competition Law, Bus. & Prof. Code, § 17200 *et seq*., and constitutes negligence, fraud, and negligent misrepresentation.

23. Lennar and FivePoint's conduct, both individually and collectively, has violated and continues to violate Civ. Code § 1102.13 (failure to disclose material facts affecting a property subject to sale), the Unfair Competition Law, Bus. & Prof. Code, § 17200 *et seq*., and constitutes negligence, fraud, and negligent misrepresentation.

24. In 2017, two Tetra Tech supervisors at the HPNS site, Justin Hubbard and Stephen Rolfe, pleaded guilty to the criminal destruction, alteration, or falsification of records in federal investigations, in violation of 18 U.S.C. § 1519. Each was fined and sentenced to time in federal prison. The plea agreements of Justin Hubbard and Stephen Rolfe are attached to this Complaint as **Exhibit B** and **Exhibit C**, respectively.

UNITED STATES OF AMERICA,
Plaintiff,
v.
STEPHEN C. ROLFE,
Defendant.

NO. CR 17-0123 ~~CRB~~ JD
PLEA AGREEMENT

I, Stephen C. Rolfe, and the United States Attorney's Office for the Northern District of California ("the government") enter into this written plea agreement (the "Agreement") pursuant to Rules 11(c)(1)(A) and 11(c)(1)(B) of the Federal Rules of Criminal Procedure:

The Defendant's Promises



LAW OFFICES
COTCHETT, PITRE & MCCARTHY, LLP

| | |
|---|---|
| UNITED STATES OF AMERICA,<br><br>Plaintiff,<br><br>v.<br><br>JUSTIN E. HUBBARD,<br><br>Defendant. | NO. CR 17-0278 JD<br><br>PLEA AGREEMENT |

I, Justin E. Hubbard, and the United States Attorney's Office for the Northern District of California (hereafter "the government") enter into this written Plea Agreement (the "Agreement") pursuant to Rule 11(c)(1)(A) and 11(c)(1)(B) of the Federal Rules of Criminal Procedure:

The Defendant's Promises

1. I agree to plead guilty to Count One of the captioned Information charging me with me with destruction, alteration, or falsification of records in federal investigations and bankruptcy, in violation of 18 U.S.C. § 1519. I agree that the elements of the offense are as follows: (1) I knowingly altered, falsified, or made a false entry in a record or document; (2) with the intent to impede, obstruct, or influence the investigation or proper administration of any matter or in contemplation of or in relation to any such matter; (3) within the jurisdiction of an agency of the United States.

2. I agree that I am guilty of the offense to which I am pleading guilty, and I agree that the following facts are true:

I have been working in the nuclear industry since approximately 1989, after completing my formal education. During my twenty-five years in the industry, I have conducted decontamination work at nuclear power plants, medical laboratories handling radioactive material, and a 'Superfund Site,' among other activities. During that same period, I have received training in radiation contamination control, the proper handling of radiological waste, and the assessment of radionuclides in the environment. I have also supervised others in these activities.

25. Tetra Tech's on-site supervisors and/or managers participated in and directed Tetra Tech's agents and employees to engage in the acts of fraud alleged in this Complaint, in a widespread plot to defraud the U.S. Navy, the City of San Francisco, and purchasers of real property at SF Shipyards.

26. Each of the acts (and failures to act) described in this Complaint are ascribed to Defendants' agents and employees, under Defendants' direction and control. These agents and employees were, at all relevant times, acting within the course and scope of their agency and/or employment, with the permission, consent and authorization of Defendants. The doctrine of Respondent Superior makes an employer vicariously liable for the torts of its employees and agents committed within the scope of employment, whether or not such acts were criminal torts.

27. Defendants knew or should have known that their agents and employees would likely carry out the orders of their supervisors and managers, even if those orders were unmoral, unethical, unlawful, fraudulent, or criminal. Defendants endorsed and ratified the negligent, below-industry-standard, fraudulent, illegal and criminal behavior of their employees and agents at HPNS.

## II. PARTIES

### A. PLAINTIFFS

28. Linda Parker Pennington and Greg Pennington ("Plaintiffs" or the "Penningtons") purchased their home at the SF Shipyards, located at 599 Donahue Street, for $908,000 in 2014 directly from HPS1 Block 50, a subsidiary of Lennar Corporation. When the Penningtons purchased the property in 2014, they relied on Lennar's and FivePoint's fraudulent representations concerning the community's safety and future amenities, private businesses and public services. They were not informed of the then-ongoing Tetra Tech scandal or the botched remediation. Plaintiffs at all times relied on disclosures and representations made by Lennar prior to and during the purchase of their home. Defendants' actions have harmed the Penningtons' home's value.

29. Plaintiffs bring this action to recover damages for the harm suffered from a public and private nuisance; a failure to disclose material facts affecting a property subject to sale; unlawful, unfair, and fraudulent business practices; and negligent misrepresentation.

30. Plaintiffs directly and foreseeably sustained all economic damages alleged herein. Categories of past and continuing sustained damages include, *inter alia*, diminution in home values. These damages have been suffered, and continue to be suffered, directly by Plaintiffs.

31. Plaintiffs at all applicable times performed all appropriate inquiry into the previous ownership and uses of the facility in accordance with generally accepted good commercial and customary standards and practices.

32. As the real parties in interest in this case, Plaintiffs have standing to bring this claim and recover damages incurred as a result of Defendants' actions and omissions. Cal. Code of Civ. Proc. § 367.

**B. DEFENDANTS**

33. Defendant **Tetra Tech, Inc.** ("TTI") is a Delaware corporation with its headquarters and principal place of business located in Pasadena, California. It is a publicly traded company on the NASDAQ index, and had revenues of approximately $2.8 billion in FY2017. TTI does business in the State of California, including in San Francisco. TTI considers itself a "world leader" in applying remedial technology.[2]

34. Defendant **Tetra Tech EC, Inc.** ("TTEC" and, collectively with Tetra Tech, Inc., "Tetra Tech") is a wholly owned subsidiary of Tetra Tech, Inc. with its headquarters and principal place of business located in Morris Plains, New Jersey. TTEC does business in California, including in San Francisco.

35. Defendant **Lennar Corporation** is a Delaware corporation with its headquarters and principal place of business located in Miami, Florida. Lennar, Corporation does business in California, including in San Francisco.

36. Defendant **HPS1 Block 50 LLC** ("HPS1 Block 50" and, collectively with Lennar Corporation, "Lennar") is a privately-owned subsidiary of Lennar Corporation. HPS1 Block 50 does business in California, including in San Francisco.

37. Defendant **Five Point Holdings, Inc.** ("FivePoint") is a Delaware corporation with its headquarters and principal place of business located in Aliso Viejo, California. FivePoint was a wholly owned subsidiary of Defendant Lennar Corporation until May 2017. Lennar Corporation maintains a substantial ownership interest in FivePoint. FivePoint has described itself as the "largest developer of mixed-use communities in coastal California."

[2] *See http://www.tetratech.com/en/remediation* (last accessed 7/6/2018).

38. Defendant **Bill Dougherty** ("Dougherty") served as project manager for Tetra Tech at HPNS and had direct control over the Tetra Tech's fraudulent remediation at HPNS. Dougherty started in this position in or before 2008. Dougherty is a resident of the Greater San Diego area in California.

39. Defendant **Nick Zaferes** ("Zaferes") has served as Lennar's Director of Construction since 2015. Zaferes is a resident of San Francisco, California.

40. Defendant **Emile Haddad** ("Haddad") has served as FivePoint's Chairman, CEO and President since May 2016. He worked for Lennar from the mid-1990s until 2009 and has worked for FivePoint and/or its affiliates in executive positions from 2009 to present. Haddad is a resident of Laguna Hills, California.

**C. DOE DEFENDANTS**

41. Plaintiffs do not know the true names or capacities, whether individual, corporate, or otherwise, of other potential Defendants sued herein under the fictitious names DOES 1 through 100 and are therefore sued pursuant to Code of Civil Procedure § 474. Plaintiffs will amend this Complaint to show their true names and capacities if and when they are ascertained.

**D. AGENTS, AIDERS, ABETTORS, AND CO-CONSPIRATORS**

42. At all times herein mentioned, Defendants, and each of them, hereinabove, were the agents, servants, employees, partners, aiders and abettors, co-conspirators, and/or joint venturers of each of the other Defendants named herein and were at all times operating and acting within the purpose and scope of said agency, service, employment, partnership, enterprise, conspiracy, and/or joint venture, and each Defendant has ratified and approved the acts of each of the remaining Defendants. Each of the Defendants aided and abetted, encouraged, and rendered substantial assistance to the other Defendants in breaching their obligations to Plaintiffs, as alleged herein. In taking action to aid and abet and substantially assist the commission of these wrongful acts and other wrongdoings complained of, as alleged herein, each of the Defendants acted with an awareness of his/her/its primary wrongdoing and realized that his/her/its conduct would substantially assist the accomplishment of the wrongful conduct, wrongful goals, and wrongdoing.

43. Such agents, aiders and abettors include the two Tetra Tech employees named above, Justin Hubbard and Stephen Rolfe, who each pleaded guilty in federal court to crimes related to Tetra Tech's fraud and cover-up, and their supervisors and/or anyone else who directed, suggested, or otherwise encouraged Hubbard and Rolfe to engage in such crimes.

## III. JURISDICTION AND VENUE

44. This Court has jurisdiction over this action. Defendants are engaging in unlawful and deceptive business practices, and creating or assisting in the creation of both public and private nuisances in the City and County of San Francisco. This Court has personal jurisdiction over all of the Defendants by virtue of their business activities and that they conduct substantial business within the State of California and the County of San Francisco.

45. Venue is proper in this Court because all Defendants transact business in the City and County of San Francisco. This Court has personal jurisdiction over each Defendant as each purposefully availed itself of the privilege of exploiting forum-based business opportunities and the exercise of personal jurisdiction is consistent with Cal. Civ. Proc. § 410.10.

## IV. FACTUAL ALLEGATIONS

### A. HPNS WAS DESIGNATED A SUPERFUND SITE IN 1989 AFTER RADIOACTIVE AND INDUSTRIAL WASTE WAS DUMPED IN THE AREA FOR DECADES

38. Hunters Point Naval Shipyard has a long and storied naval pedigree. The area was first established as a commercial shipyard in 1870 and remained so until it was acquired by the U.S. Navy during World War II in 1939.

39. From World War II until its decommissioning in 1974, the U.S. Navy base (and NRDL from 1948-1969) at HPNS engaged in various activities with immense negative environmental effects at and around the HPNS area. These activities include, most prominently, running an active, top secret nuclear warfare research laboratory and sandblasting and decontaminating ships involved in atomic weapons tests in the years after World War II and through much of the Cold War. Research laboratory scientists are known to have injected lab animals with radioactive material to study nuclear fallout's potential effects on living tissue.



LAW OFFICES
COTCHETT, PITRE & MCCARTHY, LLP

40. The U.S. Navy dealt with the resulting radioactive waste simply and cheaply: it dumped radioactive waste down drains, contaminating pipes and sewer water; it dumped radioactive waste in a landfill at the bay's edge; and it flushed radioactive waste down storm drains and sewer lines.

41. This radioactive waste potentially included some or all of the contaminants cesium, strontium, thorium, cobalt, plutonium, radium, and uranium, any or all of which can potentially lead to serious health complications, including asthma and cancer and potentially heart disease and miscarriages. The Department of Public Health's data indicates that a child today in the Bayview Hunters Point area has a shorter life expectancy than a child born on Russian Hill by 14 years.

42. From 1976 to 1986, a private ship-repair company, Triple A Machine Shop, leased the area as a commercial ship repair facility. During this residency, the City of San Francisco brought suit against Triple A Machine Shop, alleging illegal dumping of paint and other toxic waste. That lawsuit eventually settled for $1.1 million after almost a decade of litigation.

43. In 1988, following the closure of Triple A Machine Shop, the shipyard was placed in what is known as the BRAC Base Realignment And Closure ("BRAC") program, a federal program to oversee the cleanup and transfer of former military installations to public and private entities for redevelopment.

44. Because of the U.S. Navy's and Triple A Machine Shop's poor stewardship of the environment at and around HPNS, the EPA declared the area a Superfund site in 1989, designating it as one of the country's most toxic areas posing a public risk. In particular, the site is believed to include contamination from:

- Radioactive waste;
- Banned industrial solvents;
- Petroleum byproducts/hydrocarbons, including in contaminated groundwater;
- Harmful pesticides and herbicides including DDT;
- Volatile organic compounds (VOCs);
- Polychlorinated biphenyls (PCBs);
- Metals, including copper, mercury, lead and nickel; and

- Other forms of industrial waste.


**HPNS Nuclear Warning Sign (Source: Indybay.org)**

45. In the years since it was decommissioned, the U.S. Navy effectively admitted it did not know the extent of the site's contamination: it advertised in local newspapers to implore workers at the base to report what types of waste had been dumped where and when.

46. As a result of the indiscriminate dumping of industrial waste, SF Shipyard residents suffer higher-than-normal rates of asthma, cancer and other diseases caused or exacerbated by the kinds of pollution and contaminants present at HPNS.

### B. THE PUBLIC HAS SPENT OVER $1.1 BILLION TO DECONTAMINATE HPNS

47. After the EPA designated HPNS as a Superfund site in 1989, the U.S. Navy began spending what now totals over $1.1 billion of taxpayer dollars cleaning up the site. For all the reasons detailed herein, much of that money has been wasted as a result of Tetra Tech's fraud, and much of the site must be re-tested and likely re-decontaminated.

## C. TETRA TECH AND TETRA TECH EC FRAUDULENTLY REPRESENTED THAT CONTAMINATED AND TOXIC AREAS WERE CLEAN

48. After it became a Superfund site, HPNS became, and is now, delineated into alphanumerically named parcels (e.g., Parcel A, Parcel D, Parcel UC-2) to designate certain coordinates within the site.


**HPNS Basewide Map (Source: Naval Facilities Engineering Command)**

49. While the conditions of the entire area are significant to this litigation, Plaintiffs purchased homes on Parcel A, one of only a few of parcels cleared by the U.S. Navy for residential development. The U.S. Navy and federal environmental regulators began pushing for Parcel A's full release to the public for use as early as 1995, initially believing it to be safe and free from contamination. Parcel A was removed from the Superfund NPL in 1999. Later investigations

would turn up previously unknown contamination on or adjacent to Parcel A, leading Parcel A to be subdivided several times before it was transferred to the City of San Francisco for development.

50. In 2001, the U.S. Navy and federal regulators again pushed for Parcel A's release to the public for development, despite admissions in public records that "it is likely that hazardous substances…may have been stored in Parcel A." One building located on Parcel A, referred to as Building 322, later scanned positive for radiological activity and was investigated and demolished by Tetra Tech.

51. In 2002, the U.S. Navy entered into a contract with Tetra Tech to remediate the industrial and radioactive waste still located at HPNS. This contract was initially a time-and-materials contract but transitioned in or about 2011 to a fixed-price contract, providing a financial incentive for cutting corners and fraudulent activities, as the less Tetra Tech spent on remediation, the more profit would end up on its ledger. The value of this fixed-price contract is reportedly worth between $250 million and $450 million.

52. Further, also in 2002, a "scanner van" completed a scan of Parcel A with radiation-detecting devises. This scan, first published in 2016, reportedly detected no radiological contamination on Parcel A, but also detected no contamination on other parcels later known to be radioactive. This latter fact has caused many to believe that the 2002 scan was a fraud.

53. In 2004, The U.S. Navy handed Parcel A over to the city of San Francisco for development, after Tetra Tech's subsidiary Tetra Tech EM Inc.[3] made the final determination that Parcel A was clean and suitable for development. However, former Tetra Tech EC worker and whistleblower Bert Bowers reported that, after the U.S. Navy had made this determination concerning Parcel A, he had found elevated levels of radium-226 in a manhole leading to a sewer line on Parcel A. Radium-226 can emit radon gas, a leading cause of lung cancer. The determination that the parcel was suitable for development was a fraud.

54. Whistleblower Anthony Smith, a radiation technician with Tetra Tech, has made claims later substantiated by a review of Tetra Tech's data that, by 2009, Tetra Tech's workers and

[3] Tetra Tech EM Inc., a subsidiary of Tetra Tech, Inc., is a separate entity from Tetra Tech, Inc. and Tetra Tech EC, Inc. This Complaint brings no claims against Tetra Tech EM, Inc.

contractors had begun faking the cleanup that the U.S. Navy had paid them hundreds of millions of dollars to complete. These claims include the following:

- Creation of data out of thin air;
- Falsification of records;
- Soil samples from clean areas deliberately and falsely used to represent contaminated, uncleaned areas;
- Elimination of samples and data analysis that indicated soil was not remediated to an industry-standard level;
- Deliberate circumvention of radiation detection devices, and
- Surreptitious shipments of radioactive materials off-site and as backfill on-site.

55. Smith alleged that, during his time of employment as a radiation technician with Tetra Tech, he had been ordered multiple times by Justin Hubbard, another employee of Tetra Tech, to destroy soil samples showing radioactive contamination and keep quiet. Hubbard, as detailed below, pleaded guilty in federal court in 2017 to falsifying documents, and was fined thousands of dollars and sentenced to federal prison.

56. These fraudulent activities resulted in multiple parcels at HPNS continuing to be contaminated well above acceptable, healthy, safe, or industry-standard levels, even though Tetra Tech has portrayed their remediation to be acceptable, healthy, safe, and industry-standard or better.

57. In his analysis of the data, Smith found a radioactive soil sample from Parcel A that was **26 times higher** than the U.S. Navy- and EPA-set "release criteria," the limit for allowable contamination for cesium-137. This is despite assertions by multiple parties, including Tetra Tech, that Parcel A had never been used for radiological purposes and was free of dangerous levels of radioactivity, thus clearing Parcel A for transfer to the City of San Francisco. As of his declaration on June 3, 2017, Smith believed that he was the only one to take a soil sample at Parcel A, and that after he found contamination, nobody, including Tetra Tech employees, followed up or made further attempts at investigation or remediation.

**(Source: Ansell Protective Solutions)**

58. Smith also alleged in his declaration that in 2011 and 2012, Tetra Tech employees switched real samples with fake clean soil "pretty much every day" for a total of "between 800 and 1000 times." By fraudulently attempting to convince others that the soil at HPNS was not contaminated, Tetra Tech could "finish" its remediation more quickly and with less expense, pocketing the difference and leaving SF Shipyard and San Francisco residents with the ramifications.

59. From 2012 through 2014, several former Tetra Tech workers and contractors made multiple allegations of clean-up fraud at the shipyard, but land continued to be transferred to the City of San Francisco as it was deemed clean, and Tetra Tech kept winning contracts, including a pair of contracts with the U.S. Navy totaling $7.5 million for more shipyard work, despite prior and contemporaneous fraud allegations. Tetra Tech was allowed to continue working after blaming the problems on low-level employees and submitting other workers to "ethics training." At the time, the U.S. Navy accepted the excuses until additional whistleblowers made allegations (since sustained) of more widespread and systemic fraud. At the time, no fines were imposed on Tetra Tech.

60. In 2014, local media exposed that Tetra Tech had mishandled soil samples and falsified radiation data. The Nuclear Regulatory Commission (NRC) soon investigated and found that some employees had deliberately falsified soil sample data.

61. An April 2014 report by Tetra Tech detailed how the company was caught submitting false soil samples to the U.S. Navy in an apparent effort to declare the soil free of radiological contamination when it may not have been. The report concluded, "With the above hypotheses ruled out, there is one feasible explanation for [the anomalous samples]. That explanation is that the persons listed as the sample collectors on the chain-of -custody forms, either by themselves or in conjunction with others, collected soil samples in areas outside the designated survey units."[4]

62. In 2015, the City of San Francisco accepted two parcels (for a total of seven acres) called UC-1 and UC-2 for "Utility Corridor." As detailed below, the remediation analysis of these parcels, formerly parts of Parcel A, are likely subjects of "falsification and data manipulation."

63. Also in 2015, local contractor Albion Partners was hired to perform repair work at HPNS, including fixes to a "hard cap" of soil and asphalt used to cover contaminated soil with potentially toxic vapors that Tetra Tech had installed in 2011.

64. As the allegations of fraud continued and the scandal exploded, Mayor Ed Lee and Supervisor Malia Cohen, who represented the neighborhood at the time, wrote a letter to the EPA in 2016 decrying the state of the clean-up and stating that "San Francisco will not accept the transfers of any land until federal and state regulators are satisfied that the land is clean and safe." At this time, many parcels were already in the hands of Lennar, and the first homes already housed tenants. Meanwhile, the developers disregarded the problems: Kofi Bonner, then a regional executive for FivePoint, said in 2016 that "We have been assured by environmental regulators that there are no issues of concern [at HPNS]." The investigation would stop, and continues to hold up, the transfer of several hundred acres of land to San Francisco.

[4] The April 2014 Tetra Tech report, entitled Investigation Conclusion Anomalous Soul Samples at Hunters Point Naval Shipyard, Revision 1 April 2014, is attached hereto as **Exhibit D**.

### 1. Whistleblower Allegations Lead to U.S. Navy and EPA Analyses Showing Intentional Misconduct and Fraud by Tetra Tech

65. Tetra Tech's fraud scandal reached a new level in 2017, as seven former Tetra Tech workers signed sworn declarations in a petition filed with the NRC,[5] detailing Tetra Tech's longstanding and widespread misconduct aimed at downplaying the true and horrifying extent of contamination at HPNS.

66. These seven workers alleged that Tetra Tech's supervisors participated in various forms of fraudulent activity, and that top-level on-site managers **directly instructed** employees to falsify records and commit fraud, cheating the U.S. Navy, then-current and future residents and workers at the HPNS development, including the SF Shipyards, and the U.S. taxpayer. Some of Tetra Tech's workers were laid off or fired, potentially because they raised these red flags.

67. These seven Tetra Tech workers alleged the following that Tetra Tech's fraud took the following forms:

a. Faking soil samples;

b. Manipulating data;

c. Intentional tampering with radioactivity-detection machines;

d. Botched soil remediation efforts, either intentionally to cut corners or through incompetence;

e. Pulling soil samples from known clean areas and passing them off as soil from known dirty areas;

f. Running radioactivity scanners improperly and too quickly to be able to accurately detect contamination;

g. Faking chain-of-custody records; and

h. Faking results at on-site testing labs;

68. By cutting corners on a fixed-price contract, Tetra Tech stood to reap extra profits to the tune of millions to tens of millions of dollars if they were successful at defrauding the U.S. Navy, the EPA, and the City and County of San Francisco. Additionally, the fraudulent activity

[5] The petition is attached hereto as **Exhibit E**.

means that HPNS's potentially contaminated soil could have been shipped to other locations in California while labeled as clean.

69. The U.S. Navy hired third-party contractors to review Tetra Tech's data and methods in light of the allegations before and through 2017. These contractors found evidence of possible "falsification and data manipulation" throughout HPNS. These contractors subsequently determined that nearly half of the work performed by Tetra Tech dating back to 2005 showed signs of fraud and/or was suspect and could not be trusted.

70. On December 27, 2017, the manager of EPA's local Superfund Division, John Chesnutt, stated that he believed that the U.S. Navy was dramatically understating the severity of the environmental scandal, wrote that as much as 97% of Tetra Tech's cleanup data was unreliable and had to be retested. Specifically, he wrote, **"The data analyzed demonstrate a widespread pattern of practices that appear to show deliberate falsification, failure to perform the work in a manner required to ensure [cleanup] requirements were met, or both."**[6] The "suspect" soil included soil from the UC-1 and UC-2 parcels—formerly part of Parcel A and now immediately adjacent to Parcel A—which were transferred to the City of San Francisco in 2015. Parcel D-2, also adjacent to Parcel A and transferred to the City in 2015, was also determined to contain "suspect" soil.

71. The unreliability of Tetra Tech's data, Tetra Tech's now-public widespread fraudulent acts, and the continued contamination throughout the HPNS site have resulted in lower home values at SF Shipyards, as buyers are accordingly discouraged from buying property there due to health and other concerns, including whether and when Lennar and/or FivePoint will finish the project.

72. The impact of the fraud was made manifest in a March 2015 report by San Francisco's Office of Community Investment and Infrastructure (the "March 2015 Report"), detailing the costs of the cleanup.[7] Specifically, the report stated that "**over the last several years**

[6] John Chesnutt's letter in its entirety is attached hereto as **Exhibit F**.

[7] A copy of this March 2015 Report is available at http://sfocii.org/sites/default/files/FileCenter/Documents/8787-HPS%20Executive%20Summary_March%202015.pdf.

**the U.S. Navy has spent more money on the cleanup of the Shipyard than any other closed base in the country**."[8] Not only does this show the extent of the contamination at HPNS, but also the amount that will be spent if and when the re-tests show incomplete and/or shoddy work and the contamination has to be remediated, as it should have been over the past 13 years when Tetra Tech was so contracted.

73. After the third-party contractors' report was made public in January 2018, the U.S. Navy began preparing a comprehensive re-examination of HPNS's soil and buildings, saying the re-examination was necessary after finding a pattern of fraudulent manipulation or falsification of the data Tetra Tech had submitted.

74. In April 2018, Tetra Tech announced at a press conference that it would pay for an independent retesting of the shipyard to prove the cleanup was performed correctly and the area was safe for development. The announcement raised concerns that a rushed one- or two-month evaluation would be insufficient to uncover more than a decade of potential fraud. The same month, Jeff Ruch, the Executive Director of Public Employees for Environmental Responsibility, an advocacy group, publicly stated that the scandal was "**unfolding into the biggest case of eco-fraud in U.S. history**."

### 2. Tetra Tech Supervisors Pled Guilty in 2017 for Criminal Misconduct at HPNS Site

75. The U.S. Department of Justice announced in May 2018 that two former Tetra Tech supervisors, Justin Hubbard and Stephen Rolfe, pleaded guilty to faking documentation, and were each fined and sentenced to time in federal prison. According to the plea agreements, Hubbard had on multiple occasions collected clean soil from outside designated work areas and placed them into containers identifying the soil as originating from various areas of the toxic shipyard. Rolfe admitted that they had ordered employees to fake dirt sampling in a similar way on approximately 20 separate occasions, and knowingly falsified other documentation to "impede…the U.S. Navy's radiological remediation efforts at the former naval shipyard."

---

[8] Office of Community Investment and Infrastructure, *Executive Summary Status of the Environmental Remediation of the Hunters Point Shipyard*, March 2015 at p. ES-6.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
2100 RENAISSANCE BLVD.
KING OF PRUSSIA, PA 19406-2713

July 28, 2016

IA-15-081

Mr. Justin Hubbard
HOME ADDRESS DELETED
UNDER 10 CFR 2.390

SUBJECT: NOTICE OF VIOLATION (NRC INVESTIGATION REPORT NO. 1-2014-018)

Dear Mr. Hubbard:

This letter provides you the U.S. Nuclear Regulatory Commission's (NRC's) enforcement decision for the apparent violation identified during an NRC investigation of the activities of Tetra Tech EC, Inc. (Tetra Tech) staff at the U.S. Navy's Hunter's Point Naval Shipyard (HPNS) site in San Francisco, California. The investigation was conducted to evaluate whether employees of Tetra Tech deliberately falsified soil sample surveys from the area referred to as 'Parcel C' at HPNS. Based on the results of the NRC investigation, the NRC preliminarily determined that you committed an apparent violation of Title 10 of the Code of Federal Regulations (CFR) Part 30.10(a), "Deliberate Misconduct." Specifically, while you were employed as a Radiation Task Supervisor at Tetra Tech, you deliberately falsified soil sample surveys when your staff was tasked with obtaining soil samples to ascertain the amount of residual radioactivity in specific locations within Parcel C.

76. Concerning the guilty pleas, Assistant EPA Administrator Susan Bodine emphasized the importance of accurate data concerning Superfund site remediation: "Accurate data is a critical component of EPA's efforts to protect communities and the environment at Superfund sites. Yesterday's sentence demonstrates that those who place communities at risk by deliberately falsifying information will be held accountable." The Department of Defense's Office of the Inspector General's Special Agent in Charge, Chris D. Hendrickson, noted that "Rolfe and Hubbard's lies and shortcuts in the soil testing process potentially put the community at risk and frustrated the contracting efforts of the U.S. Navy to test and remediate soil at HPNS. These results demonstrate that [law enforcement is] committed to holding accountable those who cheat the Department of Defense procurement process and U.S. taxpayers."

77. According to sworn testimony from Archie Jackson, another former Tetra Tech employee, Rolfe and Hubbard formed a "clique" led by Tetra Tech's project manager and Defendant in this matter, Bill Dougherty. Jackson alleged that the two "did whatever Dougherty wanted, including cutting radiological corners."

78. Susan Andrews, another former radiation technician working for Tetra Tech, claimed that other Tetra Tech managers, including construction manager Dennis McWade, had ordered her to destroy data on multiple occasions, and on at least one occasion allowing

radiologically contaminated metal fencing to be returned to the company from which it was rented. She also claimed that Tetra Tech's supervisors lowered the sensitivity of some scanners in 2011, leading to potentially contaminated and radioactively dangerous dirt to leave the HPNS as "clean" soil, some to be trucked to conventional landfills across California.

### 3. HPNS, Including Parcel A Containing the Homes at SF Shipyards, Must be Retested

79. In June 2018, the U.S. Navy released a proposed plan for retesting Parcel G, a site just to the south of Parcel A, where the current residential housing units at SF Shipyards are located. The planned test would include various parts of the property known or believed to have been "radiologically impacted" by the U.S. Navy's actions.

80. The California Department of Public Health announced just a few days later, in June 2018, that the U.S. Navy would begin testing Parcel A in July 2018 to "address the radiological health and safety of the environment." Parcel A contains approximately 450 homes that have been completed or are under construction and, according to Lennar's website, houses over 350 homeowners[9] (as all homes built in the SF Shipyards area are in what has been designated as Parcel A). Experts, however, including Dan Hirsch, retired director of the Program on Environmental and Nuclear Policy at UC Santa Cruz, have expressed serious misgivings about the testing process, saying that the scanners being proposed would not detect two particularly harmful nuclear isotopes known to contaminate the site: strontium-90 and plutonium-239. Others have expressed concern that the testing will reveal little without contemporaneous analysis of soil core samples. Indeed, the March 2015 Report indicates how difficult it will be to find (and remediate) contamination under the ground after the tracts are developed, pointing out that "[o]nce new construction is complete, it is unlikely that any new contaminants will be found because there won't be any digging below ground except for utility repairs to streets."[10] Defendants were well aware of this fact when they were developing the homes on Parcel A.

---

[9] https://www.lennar.com/New-Homes/California/San-Francisco-Bay-Area/San-Francisco/Promo/BAULEN_Shipyard_General_Landing_Page_Mod?utm_source=sfsy&utm_medium=website&utm_campaign=baulen_website_sfsy_masterplan (Last accessed July 3, 2018).

[10] Office of Community Investment and Infrastructure, *Executive Summary Status of the Environmental Remediation of the Hunters Point Shipyard*, March 2015 at p. ES-15.



LAW OFFICES
COTCHETT, PITRE & MCCARTHY, LLP

81. The most recently plan to scan Parcel A for contamination, as of July 12, 2018, does not include actually testing the housing itself. The California Department of Public Health announced on July 6, 2018 that it plans to scan "open areas of uncovered ground, landscaped areas and…streets and sidewalks" near the housing at the SF Shipyard for gamma radiation. While this scan may find some contamination, it is essentially pointless because any clear bill of health will be meaningless, for two reasons:

- One of the most commonly found radioactive isotopes at SF Shipyard, radium-226, mostly emits alpha particles as it decay; these alpha particles will not be picked up during the planned test.
- The planned test will not be able to determine the radioactive exposures people may experience while in their own homes.

82. Portions of Parcel A were "tested" for radioactivity by the California Department of Public Health during the week of July 16 through July 20, 2018. However, the test involved only a single maintenance utility vehicle driving up and down the residential streets of the SF Shipyards and did not include any testing on residents' property or in residents' houses and did not include any digging or attempt to procure soil samples and was thus insufficient to allay residents' founded fears or confidently determine the area to be clean from contamination.

**California Department of Public Health Completes a Rudimentary Scan of Parcel A for Radiation, July 19, 2018 (Source: Cotchett, Pitre & McCarthy)**

83. While the U.S. Navy and EPA have long insisted that Parcel A was clean, and was used mostly for military housing barracks, government reports and field technicians have challenged this position, bringing it into question. According to government reports, one adjacent laboratory building housed caged dogs given lethal doses of radiation, and at least one former Tetra Tech worker detected high levels of radioactivity on the parcel's edge.


**(Source: The Chronicle)**

84. The current homeowners at SF Shipyards justifiably relied to their detriment on the reassurances of the U.S. Navy, EPA, Tetra Tech and Lennar Corp. that the SF Shipyards site, including Parcel A was not contaminated. Plaintiffs now own properties on and/or adjacent to land still containing toxic and nuclear contamination at levels high enough to have deleterious health consequences over the short and long terms. Given that few people would willingly live in such conditions, the demand for such homes is small or nonexistent, and the values of these homes have been and will continue to diminish relative to the rest of the San Francisco housing market.

**4. Tetra Tech Contracted to Clean the Area**

85. Tetra Tech received a contract worth between $250 million and $450 million from the U.S. Navy in or around 2002 to remediate the contamination from radioactive and industrial waste resulting from military nuclear testing and the subsequent operation of a shipyard at the HPNS site.


**Tetra Tech's Hunters Point Field Office (Source: NBC Bay Area)**

86. Very early on in their tenure, Tetra Tech found ways to cut corners such that they could obtain maximum profit from the fixed-price contract they had received from the U.S. Navy to clean the area. This cover up resulted in two federal criminal convictions, but more importantly, Tetra Tech's work must be completely retested and redone, in a process that could take years.

87. Tetra Tech, through its managers at the HPNS site, deliberately engaged in fraudulent activity to cover up all the methods they used to cut corners and save money cleaning up HPNS. Subsequent independent analyses from the U.S. Navy, independent contractors, and the EPA have indicated that between almost half and 97% of Tetra Tech's work was suspect and potentially fraudulent, and much of the area has to be retested and, very possibly, re-remediated.

88. These federal regulators, former Tetra Tech employees, and environmental activists have claimed that the HPNS site is still contaminated with radioactive and industrial waste, despite Tetra Tech's "remediation attempts" over the past 13 years. Tetra Tech's procedures are below, or well below, industry standard, especially given the copious amount of suspect and/or falsified data

Tetra Tech provided to interested parties, and Tetra Tech is known to have fired employees who raised red flags concerning Tetra Tech's practices at HPNS.

89. This fraudulent activity has resulted in approximately 350 SF Shipyard homeowners being exposed on a daily basis to potentially dangerous amounts of radioactivity and industrial waste in the ground beneath and around them.

**5. Lennar and FivePoint Represented the Area as Clean**

90. Developers Lennar and FivePoint started building condominiums in Parcel A of HPNS in 2013, after whistleblowers came forward in 2012, and started selling them in or around June 2014. Approximately 300 to 350 SF Shipyards units have been sold to homeowners.

91. Lennar marketed SF Shipyards as a robust live-work community with 12,000 new homes and romantic ties to a shipyard past, with no mention of the area's radioactive, contaminated state. A 2015 version of Lennar's marketing site to the area, promised 42-story highrises, stormwater ecogardens, solar and wind energy infrastructure, an international African marketplace, a regional retail center, library reading rooms, community events, and 300-plus acres of parks and open space for residents. [11]


**Artist Rendering of Lennar's SF Shipyard (Source: d10benefits.org)**

[11] https://web.archive.org/web/20150206044532/http://thesfshipyard.com:80/event-category/big-plans/ (Last Visited July 10, 2018).

92. On information and belief, on multiple occasions Lennar promised SF Shipyard residents that residential units would be accompanied by street-level retail storefronts. Instead, many of those promised storefronts have become, or are in the process of becoming, parking garages for residents.

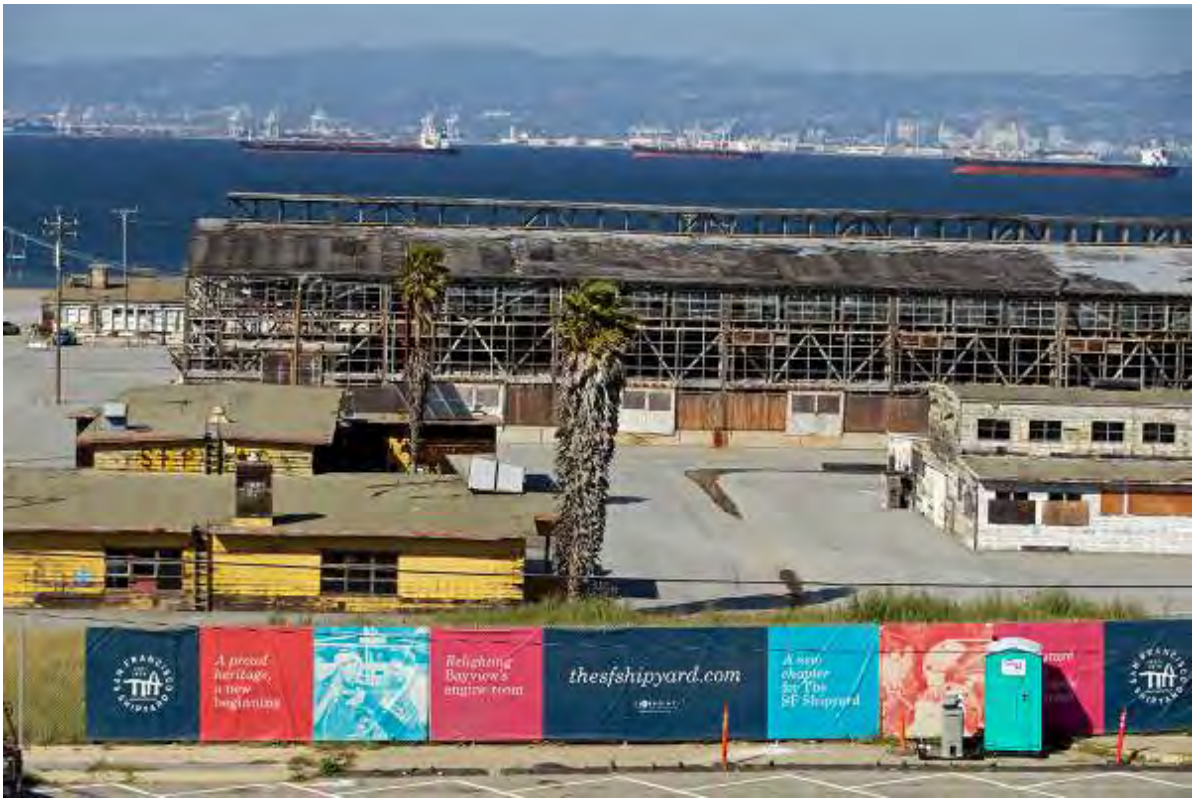
93. As of 2015, when the first residential units were sold, Lennar and FivePoint, responsible for building and selling the area's first 926 homes, had planned to deliver 800,000 square feet of office space and 1,400 housing units by 2018. As of May 2018, there is no office space in operation. The SF Shipyards area remains unwalkable, with almost no public transit, and little infrastructure, such as schools.

**Artist's rendering of a completed San Francisco Shipyard by Lennar and FivePoint (Source: Business Insider)**

94. On information and belief, Lennar and/or FivePoint did not disclose the continuing contamination at the SF Shipyards site prior to selling real property to homeowners between 2013 and today. Indeed, their advertising and marketing did not mention the radioactive nature of the U.S. Navy's activities at HPNS, including the nuclear warfare research laboratory, nor the fact that the shipyard served as an endpoint for ships irradiated during Hydrogen bomb tests, nor the fact that the area contained a general waste dump potentially containing radium and other radioactive

waste that, at the time, was treated like common garbage, nor the contamination therein, nor the U.S. Navy's investigation into Tetra Tech that started at least as early as 2014.

95. On information and belief, Lennar and/or FivePoint had knowledge of the failed cleanup at HPNS and Tetra Tech's fraudulent activities, or should have known, but still failed to disclose these facts, seeking to profit off the lack of information known by home purchasers at SF Shipyards.




**Recent Image of SF Shipyard (Source: SF Examiner)**

## D. DEFENDANTS' FRAUD HAS AND WILL COST SF SHIPYARDS RESIDENTS MILLIONS OF DOLLARS IN LOST HOME EQUITY

96. When the SF Shipyard Residents purchased their homes from Lennar and/or FivePoint, they had no reason to believe they were purchasing residential property on a site contaminated with radioactive and/or industrial waste at levels potentially deleterious to their health. At no point before the purchase did Lennar and/or FivePoint disclose this essential information. Once the information became public, these homes lost tens or hundreds of thousands of dollars in value, as nobody would willingly expose their own health, or that of their families, to such physical harm and stress.

97. On knowledge and belief, home values have been harmed since Lennar first sold the homes at SF Shipyards, despite the San Francisco market's high demand and low supply pushing up housing prices throughout the San Francisco Bay Area, and new units are being sold at much lower prices than comparable units were selling for prior to the extent of Tetra Tech's fraud becoming public.

### E. DEFENDANTS ENGAGED IN OTHER UNLAWFUL AND UNFAIR MISCONDUCT

98. For example, Defendants violated Cal. Civ. Code §1102.13 by failing to properly disclose the continuing toxic contamination of the HPNS site, including SF Shipyards.

99. Defendants also failed to provide good faith disclosures upon the transfer of SF Shipyards properties to purchasers, in violation of Cal. Civ. Code §1102.7.

100. Defendants made or disseminated, directly or indirectly, untrue, false, or misleading statements about HPNS, or caused untrue, false, or misleading statements about HPNS to be made or disseminated to the general public, including those individuals that purchased property at SF Shipyards, in violation of Cal. Bus. & Prof. Code Section 17500.

101. The effects of this misconduct by Defendants are ongoing. The HPNS site is still contaminated with radioactive and/or industrial waste and given the fact that practically the entire area must be retested, it is unknown how much longer it will take to remediate the contamination in the area, or if it even can be remediated with new structures already built at SF Shipyards.

### F. ALTHOUGH DEFENDANTS KNEW THAT TETRA TECH WAS COVERING UP ITS MISDEEDS, THEY FRAUDULENTLY CONCEALED THEIR MISCONDUCT, AND THE MISCONDUCT OF OTHERS

102. Defendants, both individually and collectively, made and profited from misrepresentations about the health risks of living at SF Shipyards due to the underlying and surrounding land's toxic contamination, even though they knew that the misrepresentations were false and misleading. Defendants had access to scientific studies, detailed data, and reports of adverse events—all of which should have made clear that the SF Shipyards site was potentially

still contaminated even after over a decade of attempted remediation and Parcel A being available for public development.

103. Moreover, at all times relevant to this Complaint, Defendants took steps to avoid detection of their misdeeds and to fraudulently conceal the true facts through deceptive marketing and unlawful, unfair, and fraudulent conduct. Defendants Lennar and/or FivePoint purposefully hid behind the assumed credibility of the U.S. Navy and Tetra Tech and relied on them to vouch for the accuracy and integrity of false and misleading statements about the risks and benefits of purchasing property at SF Shipyards.

104. Thus, Defendants successfully concealed from potential and actual purchasers of residential property at SF Shipyards facts sufficient to arouse suspicion of the claims that Plaintiffs now assert. Plaintiffs did not know of the existence or scope of Defendants' and their co-conspirators' area-wide fraud and could not have acquired such knowledge earlier through the exercise of reasonable diligence.

### G. BY ALLOWING THE PURCHASE OF RESIDENTIAL PROPERTY ON CONTAMINATED LAND THROUGH UNLAWFUL AND UNFAIR BUSINESS PRACTICES, EACH DEFENDANT HAS CREATED OR ASSISTED THE CREATION OF A NUISANCE

105. Defendants' misrepresentations deceived potential and actual purchasers of property at SF Shipyards about the health risks of living in the area. Residents confirm that they were never told the homes they were purchasing were on or surrounded by land contaminated with industrial and/or radioactive waste at levels potentially harmful to their health.

106. Defendants knew and should have known that their misrepresentations about the health risks of living at SF Shipyards due to the underlying and surrounding land's toxic contamination were false and misleading when they made them.

107. Defendants' and their co-conspirators' unlawful and unfair business practices caused and continue to cause the Plaintiffs' home values to decline to levels below where they would otherwise be. Absent Defendants' deceptive marketing scheme and unlawful and unfair business practices, these residents would not have purchased property at SF Shipyards,

and their homes would not have lost value relative to the greater San Francisco housing market at the rate that they did due to the public exposure of the health risks.

108. Defendants' unlawful and unfair business practices also caused SF Shipyard residents to purchase property at SF Shipyard, believing it was safe. Absent Defendants' unlawful practices, residents would not have purchased property at SF Shipyards. Ultimately Defendant Tetra Tech was tasked with remediating the contamination at HPNS and Lennar and FivePoint were tasked with providing proper disclosures to their potential residents; all Defendants flagrantly violated the law.

## V. CAUSES OF ACTION

### FIRST CAUSE OF ACTION

### PERMANENT PUBLIC NUISANCE

**Common Law and Violations of California Civil Code Sections 3479 and 3780**

**(Against Tetra Tech, Tetra Tech EC, Dan L. Batrack, Steven M. Burdick, and Bill Dougherty)**

109. Plaintiffs re-allege and incorporate by reference each of the allegations contained in the preceding paragraphs of this Complaint as though fully alleged in this Cause of Action.

110. A permanent nuisance has been defined as "of such a character as it will be reasonably certain, or will be presumed, to continue indefinitely, or affect the value of the property permanently." *Spar v. Pacific Bell* (1991) 235 Cal. App. 3d 1482, 1484-85.

111. Civil Code Section 3490 states that "[n]o lapse of time can legalize a public nuisance, amounting to an actual obstruction of public right."

112. Civil Code Section 3479 provides that "[a]nything that is injurious to health ... or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property ... is a nuisance."

113. Civil Code Section 3480 defines a "public nuisance" as "one which affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal."

114. Defendants, and/or each of them, by acting or failing to act, created a condition or permitted a condition to exist that was and is harmful to health, indecent or offensive to the sense, was and is an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life and/or property. This condition affected a substantial number of people at the same time, as several people live, travel, and work around and/or in the HPNS. An ordinary person would reasonably be annoyed or disturbed by Defendants' conduct.

115. Defendant Tetra Tech and/or its officers, employees, and/or agents intentionally, fraudulently, and/or negligently misrepresented to the government agencies the level of contamination and the results of tests on Parcel A and other parcels surrounding Parcel A. Defendants Tetra Tech also withheld materially relevant and important results from the government agencies which indicated that Parcel A was environmentally contaminated. This is despite being hired by government agencies to remediate and clean-up the property to be suitable for safe residential and commercial use. Defendant Tetra Tech's misrepresentations and/or omissions permitted a harmful and/or contaminated condition to exist on the property when all government agencies, the public, and Plaintiffs were led to believe it no longer existed.

116. Defendants Lennar and/or FivePoint and/or their officers, employees, and/or agents established and maintained significant presence on the property after acquiring said property in or around 2004. Defendants could not have maintained such presence without being aware of Defendant Tetra Tech's insufficient, negligent, and/or fraudulent environmental remediation on Parcel A and other surrounding properties at HPNS. Upon information and belief, Defendants Lennar and/or Five Point had actual and/or constructive notice that Defendant Tetra Tech was not performing cleanup, remediation, and/or testing responsibilities properly and was thereby covering up environmental contamination on and around Parcel A. Despite being the owner of said parcel and marketing the property for residential and commercial sale under the guise of the property being safe and not contaminated, Defendant Lennar and/or FivePoint did not pursue further investigation or alert government regulators, the public or potential homeowners of the risk of the property being contaminated. By failing to do so, Defendants, and/or each of them, permitted a

harmful and/or contaminated condition to exist on the property when all government agencies, the public, and Plaintiffs were led to believe it no longer existed.

117. Plaintiffs did not consent to the aforementioned conduct of the Defendants, and Plaintiffs suffered harm that was different from the type of harm suffered by the general public, including but not limited to: (a) the diminution of their property value; (b) inability to sell their property; and/or (c) inability to sell their property for the value it would be worth if not contaminated.

118. The conduct of Defendants, and/or each of them, was a substantial factor in causing Plaintiffs' harm, and the seriousness of the harm outweighs the public benefit of Defendants' conduct.

119. The public nuisance is substantial, unreasonable, and permanent. Defendants' actions caused and/or continue to cause the diminution in the value of property at SF Shipyards described above in the City and County of San Francisco, and that harm outweighs any offsetting benefit.

120. The public nuisance — i.e., the nuclear toxicity and other environmental toxicity— created, perpetuated, and maintained by Defendants is permanent and cannot be abated. Abatement is impractical because up to 97% of the property is estimated to need retesting. Tetra Tech alone was paid $300 million to test and remediate the property. A review of Tetra Tech's work will cost in excess of $300 million. Further, such remediation does not resolve the harm incurred as a byproduct of Defendant's actions.

121. As a direct and proximate result of the nuisance created and maintained by Defendants, Plaintiffs have been and will be further damaged, in a sum to be established by proof at trial, by the diminution in the value of, and future harm to, its property, as more fully described above.

///

///

///

///

**SECOND CAUSE OF ACTION**

**PERMANENT PRIVATE NUISANCE**

**Common Law and Violations of California Civil Code Sections 3479 and 3481**

**(Against Tetra Tech, Tetra Tech EC, Dan L. Batrack, Steven M. Burdick, and Bill Dougherty)**

122. Plaintiffs re-allege and incorporate by reference each of the allegations contained in the preceding paragraphs of this Complaint as though fully alleged in this Cause of Action.

123. Civil Code Section 3479 provides that "[a]nything that is injurious to health ... or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property ... is a nuisance."

124. Civil Code Section 3481 defines a "private nuisance" as "every nuisance not included in the definition of [public nuisance]."

125. A permanent nuisance has been defined as "of such a character as it will be reasonably certain, or will be presumed, to continue indefinitely, or affect the value of the property permanently." *Spar v. Pacific Bell* (1991) 235 Cal. App. 3d 1482, 1484-85.

126. Defendants, and/or each of them, by acting or failing to act, created a condition or permitted a condition to exist that was and is harmful to health, indecent or offensive to the sense, was and is an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life and/or property. This condition has substantially interfered with and continues to substantially interfere with Plaintiffs' use or enjoyment of their land, and an ordinary person would reasonably be annoyed or disturbed by Defendants' conduct.

127. Defendant Tetra Tech and/or its officers, employees, and/or agents intentionally, fraudulently, and/or negligently misrepresented to the government agencies the level of contamination and the results of tests on Parcel A and other parcels surrounding Parcel A. Defendant Tetra Tech also withheld materially relevant and important results from the government agencies which indicated that Parcel A was environmentally contaminated. This is despite being hired by government agencies to remediate and clean-up the property to be suitable for safe residential and commercial use. Defendant Tetra Tech's misrepresentations and/or omissions

permitted a harmful and/or contaminated condition to exist on the property when all government agencies, the public, and Plaintiffs were led to believe it no longer existed.

128. Defendants Lennar and/or FivePoint and/or their officers, employees, and/or agents established and maintained significant presence on the property after acquiring said property in or around 2004. Defendants could not have maintained such presence without being aware of Defendant Tetra Tech's insufficient, negligent, and/or fraudulent environmental remediation on Parcel A and other surrounding properties at HPNS. Upon information and belief, Defendants Lennar and/or Five Point had actual and/or constructive notice that Defendant Tetra Tech was not performing cleanup, remediation, and/or testing responsibilities properly and was thereby covering up environmental contamination on and around Parcel A. Despite being the owner of said parcel and marketing the property for residential and commercial sale under the guise of the property being safe and not contaminated, Defendant Lennar and/or FivePoint did not pursue further investigation or alert government regulators, the public or potential homeowners of the risk of the property being contaminated. By failing to do so, Defendants, and/or each of them, permitted a harmful and/or contaminated condition to exist on the property when all government agencies, the public, and Plaintiffs were led to believe it no longer existed.

129. Plaintiffs did not consent to the aforementioned conduct of the Defendants.

130. The conduct of Defendants, and/or each of them, was a substantial factor in causing Plaintiffs' harm, and the seriousness of the harm outweighs the public benefit of Defendants' conduct.

## THIRD CAUSE OF ACTION

## UNFAIR AND UNLAWFUL COMPETITION

### Violations of Business and Professions Code Section 17200, *et seq.*

### (Against Each Defendant)

131. Plaintiffs re-allege and incorporate by reference each of the allegations contained in the preceding paragraphs of this Complaint as though fully alleged in this Cause of Action.

132. Defendants, and each of them, are "persons" as defined under Bus. & Prof. Code Section 17021.



LAW OFFICES
COTCHETT, PITRE & MCCARTHY, LLP

133. At a minimum, each Defendant is named in this Cause of Action for its activities that occurred within four years of the filing of this action. Plaintiffs reserve the right to prove at trial that the full extent of the Defendants' acts of Unfair Competition was not known to Plaintiffs until recently, and Plaintiffs also reserve the right to demonstrate that tolling extends the statute of limitations applicable to Plaintiffs' claims against Defendants.

134. Business and Professions Code Section 17200 (§ 17200) prohibits any "unlawful, unfair or fraudulent business act or practice[]."

135. Defendants have engaged in unlawful, unfair, and fraudulent business practices in violation of Section 17200 as set forth above.

136. Defendants' business practices, as described in this Complaint, are deceptive and violate Section 17200 because the practices are likely to deceive consumers in California.

137. Defendants made or disseminated false and misleading statements regarding the contamination of the SF Shipyards Property or caused false and misleading statements to be made or disseminated, that were likely to deceive the public. Defendants' omissions, which are deceptive and misleading in their own right, render even Defendants' seemingly truthful statements about the contamination of HPNS false and misleading. All of this conduct, separately and collectively, was likely to deceive California home purchasers who purchased the homes as residences or investment properties and are now confronted with the aftermath of the sites' contamination.

138. Defendants' business practices as describe in this Complaint are unlawful and violate Section 17200. These unlawful practices include, but are not limited to:

- Defendants violated the California Civil Code by failing to properly disclose the continued toxic contamination of HPNS. Cal. Civ. Code § 1102.13;
- Defendants failed to provide good faith disclosures upon the transfer of SF Shipyards properties to purchasers, in violation of Cal. Civ. Code § 1102.7;
- Defendants made or disseminated, directly or indirectly, untrue, false, or misleading statements about HPNS, or caused untrue, false, or misleading statements about HPNS to be made or disseminated to the general public, including those individuals that purchased property at SF Shipyards, in violation of Bus. & Prof. Code § 17500.

139. A violation of Section 17200 may be predicated on the violation of any state or federal law. All of the acts described herein, as violations of Cal. Civ. Code §1102.13, Cal. Civ. Code §1102.7, and Bus. & Prof. Code § 17500, are unlawful and in violation of public policy, and are immoral, unethical, oppressive, fraudulent and unscrupulous and thereby constitute unfair, unlawful, and/or fraudulent business practices in violation of § 17200.

140. By and through their unfair, unlawful, and/or fraudulent business practices described herein, Defendants have obtained valuable recompense, and have deprived Plaintiffs of valuable rights and benefits guaranteed by law, all to Plaintiffs' detriment.

141. Plaintiffs suffered economic injury as a direct result of Defendants' wrongful conduct.

142. Defendants' business practices as described in this Complaint are unfair and violate Section 17200 because they offend established public policy, and because the harm they cause to consumers in California greatly outweighs any benefits associated with those practices.

143. As a direct and proximate result of the foregoing acts and practices, Defendants have received, or will receive, income, profits, and other benefits associated with those practices, which they would not have received if they had not engaged in violations of the UCL described in this Complaint.

144. As a direct and proximate result of the foregoing acts and practices, Defendants have obtained an unfair advantage over similar businesses that have not engaged in such practices.

**FOURTH CAUSE OF ACTION**

**FRAUD AND FALSE ADVERTISING**

**Common Law, Violations of Business and Professions Code Section 17500, *et seq.* and of Civil Code Section 1102.13**

**(Against Each Defendant)**

145. Plaintiffs re-allege and incorporate by reference each of the allegations contained in the preceding paragraphs of this Complaint as though fully alleged in this Cause of Action.

146. Before, during, and after the construction of the homes at SF Shipyards, Defendants, and/or each of them, knew about the former industrial and nuclear activities conducted

at HPNS, specifically that HPNS had been and presently was considered an active Superfund site and hazardous due to nuclear and toxic waste.

147. In addition, Defendant Tetra Tech and/or its officers, employees, and/or agents intentionally and fraudulently misrepresented to the government agencies the level of contamination and the results of tests on Parcel A and other parcels surrounding Parcel A. Defendant Tetra Tech and/or its officers, employees, and/or agents also intentionally withheld materially relevant and important results from the government agencies which indicated that Parcel A was environmentally contaminated. And Defendants did so knowing that these intentional misrepresentations and/or omissions would lead to the desired government approval required for development and sale of the parcels for residential and commercial use and that persons such as Plaintiffs would purchase environmentally contaminated property unknowingly. These misrepresentations and/or omissions resulted in a fraudulently obtained government approval for development of the property, which in turn led to the development and sale of the parcels under the guise of non-contamination and it being a safe place to live. But for this, Plaintiffs would not have purchased their property.

148. Defendants Lennar and/or FivePoint and/or their officers, employees, and/or agents established and maintained Signiant presence at Parcel A after acquiring said property in or around 2004. Defendants could not have maintained such presence without being aware of Defendant Tetra Tech's insufficient, negligent, and/or fraudulent environmental remediation on Parcel A and other surrounding properties at HPNS. Upon information and belief, Defendants Lennar and/or FivePoint had actual and/or constructive notice that Defendant Tetra Tech was not performing cleanup, remediation, and/or testing responsibilities properly and was thereby covering up environmental contamination on and around Parcel A. Despite being the owner of said property and marketing and selling the property for residential and commercial sale under the guise of the property being safe and not contaminated, Defendant Lennar knew that it could not verify such statements and that in fact, such statements were based on fraud and misrepresentations. But instead of pursuing further investigation or alerting government regulators, the public or potential homeowners of the risk of the

property being contaminated, Defendants Lennar and/or FivePoint acted in conscious disregard of the safety of the Plaintiffs and the public, by ignoring the known, probable and foreseeable significant and horrific safety and health risks to the Plaintiffs and the public and instead advertising the direct opposite and knowingly convincing the Plaintiffs that HPNS was a safe and healthy place to live so as to induce their purchase of the property. Defendants failed to disclose the existence of continued toxic contamination of the residential parcels at SF Shipyards. Moreover, Plaintiffs are informed, believe, and thereon allege that Defendants failed to disclose of these hazardous activities to all purchasers of the homes of SF Shipyards.

149. The intentional failure to disclose the presence of toxic contamination on the site by Defendants was fraud by omission.

150. Plaintiffs were induced to purchase their residence based on Defendants' fraud by omission.

151. When Defendants made these representations, Defendants knew them to be false, and these representations were made by Defendants with the intent to defraud and deceive Plaintiff, and with the intent to induce Plaintiffs to act in the manner herein alleged.

152. Plaintiffs, at the time these representations were made and at the time Plaintiffs took the actions herein alleged, were ignorant of the continued existence of the toxic contaminants, and Plaintiffs could not, in the exercise of reasonable diligence, have discovered that Defendants had acted unlawfully, and that the area was still contaminated.

153. Business and Professions Code Section 17500 ("Section 17500") makes it unlawful for a business to make, disseminate, or cause to be made or disseminated to the public "any statement, concerning . . . real or personal property . . . which is untrue or misleading, and which is known, or which by the exercise of reasonable care should be known, to be untrue or misleading."

154. As alleged above, each Defendant, at all times relevant to this Complaint, violated Section 17500 by making and disseminating false or misleading statements about the safety and value of SF Shipyards Property or by causing false or misleading statements about SF Shipyards Property to be made or disseminated to the public.

155. As alleged above, each Defendant, at all times relevant to this Complaint, violated Section 17500 by making statements to promote the sale or transfer of SF Shipyards parcels that omitted or concealed material facts, and by failing to correct prior misrepresentations and omissions, about toxin levels of the underlying property. Each Defendant's omissions, which are false and misleading in their own right, render even their seemingly truthful statements about HPNS false and misleading.

156. As alleged above, Defendants' statements about the toxic contamination of HPNS, including SF Shipyards, were not supported by or were contrary to the scientific evidence, as confirmed by the EPA and U.S. Navy.

157. As alleged above, each Defendant's conduct, separately and collectively, was likely to deceive California home owners who purchased property for residential or investment purposes.

158. At the time it made or disseminated its false and misleading statements or caused these statements to be made or disseminated, each Defendant knew and should have known that the statements were false or misleading and therefore likely to deceive the public. In addition, Defendants knew and should have known that their false and misleading advertising created a false or misleading impression of the investment prospects, community development, and toxic contamination levels of the SF Shipyards parcels.

159. California Civil Code § 1102.13 imposes civil liability against any person who sells real property, and either willfully or negligently fails to provide required disclosures of the subject property in accordance with California law, including but not limited to Civ. Code § 1102.6.

160. Plaintiffs purchased real property from Defendants.

161. Defendants knew that the land they were selling at SF Shipyards to residential purchasers, and/or the land immediately adjacent to the land they were selling, was contaminated with radioactive and/or industrial waste above levels acceptable for development.

162. Defendants sold new homes to Plaintiffs after failing to disclose the presence of un-remediated local radioactive and/or industrial waste that, individually and collectively, can have deleterious health effects on residents, in violation of Civ. Code § 1102.13.

163. Defendants' failure to make the requisite disclosures induced Plaintiffs to purchase a property they never would have purchased, and that property is now declining in value and desirability due to the contamination on the property, which was unknown and undisclosed at the time of sale. Therefore, Plaintiffs have suffered, and will continue to suffer, damages which will be ascertained according to proof at trial.

164. Plaintiffs did not know, and could not reasonably have discovered, this information. It was not until 2017 that credible action was taken by the government related to Defendant Tetra Tech's fraud. Prior to the criminal arrests, the whistleblowers and activist claims were unverified, and the government agencies were directly contradicting those claims with frequent statements to the public that the property was safe and all contamination had been remediated and cleaned up.

165. Defendants knew that Plaintiffs did not know, and could not reasonably have discovered, this information.

166. This information significantly affected the value and desirability of the property.

167. Defendants' failure to disclose this information was a substantial factor in causing Plaintiffs' harm.

168. As a proximate result of Defendants' fraud and the facts herein alleged, Plaintiffs have been damaged in an amount to be determined at the time of trial.

169. In doing the acts herein alleged, Defendants acted with oppression, fraud, and malice, and Plaintiffs are entitled to punitive damages.

**FIFTH CAUSE OF ACTION**

**NEGLIGENCE**

**(Against Each Defendant)**

170. Plaintiffs incorporate herein by reference all of the allegations in this complaint.

171. Defendants, and/or each of them, owed Plaintiffs duties under statutory and common law, including, but not limited to: (1) the duty to warn the residents of potential, probable, and/or significant risks to human health; (2) the duty to provide complete disclosures under Cal. Civ. Code §1102.13; (3) the duty to not withhold material information regarding contamination

from the government and Plaintiffs; and (4) the duty to properly remediate the San Francisco Shipyard.

172. Defendants, and/or each of them, breached these duties by the aforementioned conduct in this Complaint and including but not limited to:

- Falsifying data and reports;
- Failing to investigate;
- Failing to implement effective controls and procedures to address data falsification;
- Misrepresenting the contamination of HPNS;
- Permitting the transfer and sale of real property contaminated by nuclear and toxic waste; and
- Failing to complete proper disclosures that would have revealed the toxic contamination of the property.

173. Plaintiffs were within the protected class of persons that the UCL, Cal. Bus. & Prof. Code § 17200 *et seq.*, and Cal. Civ. Code §1102.13 were designed to protect.

174. Plaintiffs have suffered damages directly, proximately and foreseeably caused by defendants' breaches of their statutory and common law duties.

175. It was reasonably foreseeable that Defendants' breaches of the duties set forth in this Cause of Action would cause harm to Plaintiffs in the form of diminution in value of SF Shipyards property but for Defendants' wrongful conduct. And that it would induce Plaintiffs to purchase a property they would otherwise not have purchased. Thus, Plaintiffs have suffered monetary losses proximately caused by Defendants' breaches of their duties set forth in this Cause of Action.

176. Each Defendant's breaches of the common-law duties that they owed to Plaintiffs are the proximate cause of Plaintiffs' injuries, and Plaintiffs are entitled to all damages allowable by law, costs and attorneys' fees, and any other relief the Court deems necessary and appropriate.

177. Defendants' negligent acts as set forth herein were made with oppression, fraud or malice, entitling Plaintiffs to exemplary damages.

## SIXTH CAUSE OF ACTION

## NEGLIGENT MISREPRESENTATION

**(Against Each Defendant)**

178. Plaintiffs incorporate all paragraphs above as though fully set forth herein.

179. Before, during, and after the construction of the homes at SF Shipyards, Defendants knew or should have known about the former industrial and nuclear activities conducted at the former San Francisco Naval Shipyard site, specifically that the San Francisco Naval Shipyard had been and presently was considered an active Superfund site and hazardous due to nuclear and toxic waste. Plaintiffs are informed, believe and thereon allege that the industrial and nuclear toxic contamination has affected the homes located therein.

180. Defendants owed a duty to residential purchasers to inform them of potential radioactive and/or industrial waste on or near the real property for sale. To the extent Defendants represented that the land had been properly remediated or else not in need of remediation, that was untrue.

181. The failure to disclose the present toxic contamination of the site by defendants was misrepresentation by omission.

182. Plaintiffs were induced to purchase their residence based on Defendants' misrepresentation by omission.

183. When Defendants made these representations, Defendants knew or should have known them to be false, and these representations were made by Defendants with the intent Plaintiffs rely on their representations, and with the intent to induce Plaintiffs to act in the manner herein alleged.

184. Plaintiffs, at the time these representations were made and at the time Plaintiffs took the actions herein alleged, were ignorant of the continued existence of the toxic contaminants, and Plaintiffs could not, in the exercise of reasonable diligence, have discovered that Defendants had acted unlawfully, and that the area was still contaminated.

185. As a proximate result of Defendants' fraud and the facts herein alleged, Plaintiffs have been damaged in an amount to be determined at the time of trial.



LAW OFFICES
COTCHETT, PITRE & MCCARTHY, LLP

186. Plaintiffs' reliance on Defendants' misrepresentations, by omission or otherwise, was a substantial factor in causing this harm.

## VI. PRAYER FOR RELIEF AND DEMAND FOR JURY

WHEREFORE, Plaintiffs respectfully pray that this Court grant the following relief:

1. Entering Judgment for Plaintiffs in a final order against each of the Defendants;

2. A declaration that Defendants have created a public nuisance in violation of Civil Code Sections 3479 and 3480;

3. A declaration that Defendants have created a private nuisance in violation of Civil Code Section 3479;

4. An order that Defendants compensate Plaintiffs for damages to their properties, including but not limited to the purchase price and/or the valuation of the property;

5. A declaration that Defendants have engaged in unlawful, unfair, and deceptive business acts and practices in violation of the Unfair Competition Law;

6. A declaration that Defendants have made, disseminated as part of a plan or scheme, or aided and abetted the dissemination of false statements in violation of the False Advertising Law;

7. An order that Defendants pay restitution to Plaintiffs of any money acquired by Defendants' false and misleading advertising, pursuant to the False Advertising Law;

8. Damages in a sum to be established by proof at trial equal to the diminution in the value of, and future harm to, Plaintiffs' properties; plus interest on that amount at the legal rate;

9. An award of punitive damages;

10. An award of the costs of investigation, reasonable attorneys' fees, and all costs and expenses of the litigation; and

11. Such further and additional relief as the Court deems proper.

**PLAINTIFFS FURTHER DEMAND TRIAL BY JURY ON ALL ISSUES.**

Dated: July 24, 2018

**COTCHETT, PITRE & McCARTHY, LLP**

By: _____
JOSEPH W. COTCHETT
ANNE MARIE MURPHY
*Attorneys for Plaintiffs*

# EXHIBIT A

Steve Castleman, (CA Bar No. 95764)
Collin McCarthy, (CA. Bar No. 305489)
Jordan Davis, CA PTLS Cert. No. 41751
Chloe Yaw, CA PTLS Cert. No. 41764
Environmental Law and Justice Clinic
Golden Gate University School of Law
536 Mission Street
San Francisco, California 94105-2968
Telephone: (415) 369-5351
Facsimile: (415) 896-2450

David C. Anton , (CA Bar No. 95852)
Law Office of David Anton
1717 Redwood Lane
Davis, CA 95616
Telephone: (530) 220-4435
Email: davidantonlaw@gmail.com

Attorneys for Petitioners
GREENACTION FOR HEALTH AND ENVIROMENTAL JUSTICE

NUCLEAR REGULATORY COMMISSION

| | |
|---|---|
| IN RE: TETRA TECH EC, INC. | **DECLARATION OF ANTHONY SMITH IN SUPPORT OF PETITION TO REVOKE THE LICENSE OF TETRA TECH EC, INC.** |

A.S.

I, Anthony Smith, declare:

## Radiological Work History & Training

1. In total, I have seven years of experience working in the nuclear industry.

2. I started my career as a radiation worker in 2002, when I was hired as a "deconner" (i.e. a decontamination technician) to do decontamination work for New World Environmental ("NWE"), a radiological-staffing company. My first radiological jobs were short term assignments at military facilities in Maryland, Virginia, and Alabama. Later that year, I took a job at Hunters Point Naval Shipyard ("HPNS"), where I assisted with characterization surveys to identify radiologically impacted areas in anticipation of future remediation. My first job at Hunters Point lasted about one year, until I was laid off in 2003.

3. After my first job at Hunters Point Shipyard, I took and passed the Department of Energy's (DOE) Radiological Control Technician (RCT) CORE Exam. I was previously told I would need to pass the CORE Exam to work at HPNS as a Health Physics Specialist ("HP") when remediation work picked up. I passed the exam in 2003. The DOE CORE Exam covers fundamental radiation concepts and functions performed by HPs (also known as radiation control technicians, or "RCTs"), including mathematics and physical science, sources of radiation, sampling methods, survey instrumentation, dosimetry, and worker safety, among other topics. Passing the CORE exam qualified me to work as an RCT/HP at Hunters Point as well as most other nuclear or radiological sites in the country.

4. In addition to passing the DOE CORE Exam, I completed annual testing to maintain proficiency in radiological remediation practices. I also completed various onsite radiation and safety trainings throughout my career. When I worked at HPNS the second time, rad workers were often assigned readings on radiation-related topics to study on their own time, and

HPs were quizzed in a limited way by supervisors at our daily morning meeting. Together these trainings, along with expected prior experience and training, were intended to ensure HPs on the site were informed of proper radiological procedures as well as the health and safety risks associated with rad work. I observed that a number of the HPs did not appear to be knowledgeable or studying on their own as I was when at Hunters Point.

Experience at Hunters Point Shipyard

5. In 2006, I returned to work at Hunters Point Shipyard as a Junior HP for New World Environmental and I was promoted to a Senior HP by NWE. Around the end of 2009, I was forced to switched employers to Radiological Survey & Remediation Services, LLC ("RSRS") or be terminated because NWE was losing the sub-contract. RSRS made me a Junior HP for a number of months, and after about eight months promoted me to Senior HP, but my duties remained largely the same throughout my second stint at Hunters Point.

6. Over the course of my later six years at Hunters Point I performed a variety of HP roles across the base. The majority of my time was spent performing building surveys. I also performed soil sampling in the field and within Radiological Screening Yards ("RSYs"), oversaw laborers and provided access control for buildings and Radiologically Controlled Areas ("RCAs"), and worked the Portal Monitor screening vehicles entering and exiting the site.

7. Beginning in mid-2008, I noticed improper rad practices taking place at HPNS, including false soil sampling, incomplete building surveys, falsification of chain-of-custody ("COC") documentation, and data manipulation. In my view, the emergence of Tetra Tech as the primary radiological contractor coincided with the negative shift in culture and bad practices at the site. It is my understanding that while prior to 2008 NWE was the holder of the Nuclear Regulatory Commission ("NRC") radioactive materials license that governed the radiological work performed. Tetra Tech became the NRC license holder about that time that improper rad

practices became a regular event and as a result Tetra Tech gained more control over the rad work performed by subcontractors like NWE and Aleut World Solutions.

Building 351A

8. My first experience with improper or fraudulent sampling occurred in the late fall of 2008, when I was assigned to oversee a soil-remediation project in the crawl space under Building 351A. Building 351A was the last building to undergo remediation on Parcel G and was therefore the only work preventing Parcel G from free release by regulators. Building 351A was previously used by the Navy's Radiological Defense Laboratory and was confirmed during our characterization surveys as containing radioactive contaminants exceeding release levels. Areas of the building and the soil areas under the building that could be accessed in a crawl space were identified as containing radioactive materials above release levels that were required to be removed in the remediation process. As part of the Building 351A remediation of the crawl area, there were roughly a dozen laborers in protective gear (rubber boots and respirators) tasked with digging up the soil using shovels and trowels. Tetra Tech also rented a special soil vacuum truck with a long, eight inch hose to suck up the contaminated dirt that the laborers had loosened. The vacuum system deposited the soil in a container designated for low level radioactive waste, which was later shipped off site.

9. During the Building 351A project, fellow HP Josh Hooper and I were responsible for manning the opening to the crawl space and frisking (i.e., scanning the people and equipment for radioactive contamination prior to leaving the Building 351A work area) to ensure they were clean. Once the laborers completed the remediation work under the building, Josh and I were also responsible for post-remediation sampling of the area so that the building could be cleared for release. I asked that Josh and I be provided with respirators because of the large amount of air

borne dust under the building in the crawl area, as well as other standard personal protective equipment. Chuck Taylor, Tetra Tech' RSO representative and field supervisor, refused the request for the PPE respirator. Josh and I took a number of soil samples throughout the crawl area under building 351A and placed in containers for the samples to be tested by the laboratory at Hunters Point. Documents of the samples were done to show where the sample was taken, at what time, by who, and related information and kept with the samples. All together, the remediation process took several weeks to complete.

10. A day or two after Hooper and I finished post-remediation sampling and delivered the samples to the on-site laboratory, we were approached by HP Supervisor Steve Rolfe and asked to attend a meeting with management at Tetra Tech's HPNS office that was close to the end of the day. Approximately a dozen senior managers were present at the meeting, including RSRS Vice Presidents Daryl DeLong, Brian Henderson, Tetra Tech's Project Manager Bill Dougherty, and Construction Superintendent Dennis McWade. Mr. Bert Bowers, the NWE RSOR was not in the meeting, and that was a puzzle to me as the meeting progressed. During the meeting Dougherty explained to us the cost and effort that went into the Building 351A remediation, asking us with words to the effect "Do you know how much it costs us to rent that machine for two weeks?" Dougherty also told us that the test results of the post remediation soil samples showed some of the highest radioactive readings ever seen on the Hunters Point site. After discussing the cost of the delay having these elevated soil samples would cause, namely that the laborers would have to return to do more digging with the vacuum truck and we would need to take more post-remediation samples, Dougherty instructed us to destroy the existing highly contaminated radioactive soil samples from Building 351A and any related documentation, and directed us to take new samples from areas in the crawl space known to be clean.

11. Hooper and I returned to Building 351A to take new samples as we were told. We took the samples from areas that had been marked with flags, which were placed by engineers that had been directed to put flags in areas that were previously identified through surveys as consistent with natural background radiation levels that would get lab clearance. The new samples were then used to clear Building 351A and secure free release of Parcel G. In other words, the new samples did come from Building 351A, but were done to intentionally avoid the areas that had been shown to still have high radioactive contamination under the building. The re-sampling was taken selectively so that additional remediation would not be required, although the rules and procedures did require additional remediation due to the true soil sample lab results. To my knowledge, the contamination in Building 351A was never remediated.

Parcel A Cesium-137

12. The fraudulent sampling at Building 351A was not an isolated incident; in fact, it was just the first of many. For example, less than a year later, around July or August of 2009, I was assigned to HP Supervisor Justin Hubbard's crew and tasked with performing surveys and sampling as part of a project remediating sewer lines along Fisher Avenue and Spear Street. At the beginning of the project, Justin Hubbard directed me to take a background sample from somewhere in a nearby adjoining area that did not have radioactive contamination in order to establish naturally occurring levels of radiation for the sewer line work. I chose to take a sample along the border of Parcel A – an area we were told had never been used for radiological purposes and was already transferred to the City of San Francisco for development because it was believed to be free of any radioactive contamination above free release levels. Bordering Fisher Avenue there was a retaining wall that descended in height as it ran east to west parallel to the street, and behind the wall was a hill that went up towards the Parcel A development site. The retaining wall was about waist-high near the stop sign at the intersection of Fisher and Spear, about 20 feet from

the light pole. I reached over the wall and dug a hole to take the sample. I used my trowel to dig about 6 inches into the ground, and then removed some soil from the bottom of the hole, and placed the soil from the bottom of the hole in a plastic sample jar. I then walked back to our meeting point and gave the jar to Justin Hubbard, who then took the sample to the on-site lab. In a breach of proper procedure, no chain-of-custody (COC) form accompanied the sample.

13. The next morning or so, Justin Hubbard brought the soil sample out to our meeting spot and told me the sample tested "hot" for radiation at a level of two to three picocuries of cesium. Other members of the project crew at the meeting point that morning included HPs Ray Roberson, Carey Bell, and Jeff Rolfe. Hubbard stated to all of us in regards to the soil sample from Parcel A - "get rid of it and not say a word," or words to that effect. I took the sample back to the same area above the wall and dumped the soil back into the hole I originally took it from. I then disposed of the plastic sample jar in a bin for contaminated radiological waste. In the end, we used the established background area near building 505 for the background sample for the Fisher Ave. and Spear St. projects, although the building 505 area was quite some distance from the street project. I am aware that the Navy and EPA established release criteria levels, so that soil had to be remediated due to health and safety concerns if it tested above those levels. Different radioactive levels were set for each specific type of radioactive material we encountered at Hunters Point. The release level for cesium-137 was 0.113 picocuries. The cesium-137 results from the sample I took near Parcel A as reported as 2 to 3 picocuries was approximately 18 to 26 times more hazardous than the safety level set by the Navy and the state and federal regulators that oversaw the Hunters Point project.

14. As far as I am aware, I was the first and only person to take a sample of the soil at Parcel A. To my knowledge the radioactive contamination I found in Parcel A was not further investigated or remediated.

Fake Soil Sampling

15. After the Building 351A and Parcel A cover ups, fraudulent sampling became a regular occurrence for me and the teams I worked with at Hunters Point. From time to time I was assigned to work with a team of HPs under the direction of Tetra Tech supervisor Steven Rolfe. When we were doing soil sampling, and that soil sampling was to check on whether the remediation work that had been done was effective, with increasing regularity I and the team working for Mr. Rolfe were directed by Mr. Rolfe to take fake soil samples. In this early period of 2009 to early 2010, when post-remediation sampling was to be done, more and more Mr. Rolfe told me and the other HPs to cheat and take false soil samples. To do the post-remediation soil samples properly, engineers were to mark on the ground where we were to take soil samples because those spots were supposed to have the highest radiological readings. By taking the samples from the high reading areas it was presumed that if those areas were tested and came in under the Navy's and regulators' "release criteria" standards, then the entire area should be within the release criteria standards. When Mr. Rolfe told us to cheat by taking false samples, he instructed us to look like we were taking the samples from the marked spots, but to actually put soil into the sample containers that would go to the lab from nearby soil that was not marked by the engineers as the hot spots for rad contamination.

16. After a number of months of taking fake soil samples that were close to the marked areas, Mr. Rolfe told us that Tetra Tech bosses were not happy because the fake soil samples were being tested by the lab and still coming back with lab results that were too high and above release criteria, so remediation would have to be re-done. Mr. Rolfe explained that Tetra Tech EC did not want to have to re-do the remediation because of the lab failures, and we were to get fake soil samples from areas from now on that we knew would be clean of elevated radioactive contamination.

17. Beginning around 2010, I was doing soil sampling, called "dirt work" – in what we called "the triangle area" near Building 707 and later around the 500 series of buildings. Due to the directions of Mr. Rolfe, I was instructed that I was to get soil that was known to be clean and pretend that soil came from the Building 707 area and later the 500 building series we were assigned to sample. I had learned that soil in certain parts of the shipyard was clean and could easily be swapped with other samples in order to quickly obtain lab and regulatory clearance due to the fake samples of clean soil we submitted.

18. More specifically, I knew that the soil in a sewer trench in front of an area of the 500 series of buildings as well as the soil underlying the foundation of the old Hunters Point movie theater was clean serpentine or "green" dirt, and that the soil underneath the two palm trees near the old pump house (Building 521) also near the old theater was clean sandy soil. At the direction of HP Supervisor Steve Rolfe, other HPs and I would wait until lunch time or after work hours, when there was no one else around, and would go down to the clean sewer trench or later to the theater or palm trees depending on the type of soil needed. There, we would fill up a 5-gallon bucket with clean soil and bring it back to the Conex (a shipping container which served as a makeshift office) where Steve Rolfe, Tina Rolfe (Steve's wife), and Rick Zahensky worked with the samples. Inside the Conex the Rolfes and Zahensky would empty the true soil samples taken from the areas the samples were supposed to be taken from into another 5-gallon bucket and replace the sample with the clean soil from one of the three areas we got the clean soil from. Other HPs and I would then dump the soil from the real samples in open sewer trenches around the site before they were backfilled.

19. The practice of swapping clean dirt for samples really picked up in frequency while working in the Building 707 triangle area. Remediation in that area had been going on for about two years, and after three or four rounds of remediation and post-remediation sampling it still

wasn't clean of radioactive contamination above release levels. Frustrated by the cost and delay, Steve Rolfe directed me to "just go get some clean dirt." I followed Rolfe's direction and obtained some sandy soil from underneath the two palm trees near building 521. I then brought the soil from the palm trees to Rolfe who used the soil to submit fake soil samples for the 707 triangle area to the laboratory for testing to secure release of the area.

20. At the time of the Building 707 triangle area remediation and throughout the 500 series of buildings falsifying soil samples through the use of replacement clean soil was almost an everyday occurrence. The switching of real samples with the fake clean soil happened pretty much every day during my last year and a half or more at the shipyard. I was released from Hunters Point in September of 2012. I would estimate that I and my team switched real samples with fake clean dirt for the samples between 800 and 1000 times. I understand from my work at Hunters Point, after hours interaction with others, and my review of records, that Justin Hubbard's team also engaged in similar fake soil sample submissions to the lab for years.

Chain of Custody Forms (COC)

21. In addition to replacing suspected radioactive soil samples with soil from other areas that was known to be clean to obtain fraudulent laboratory testing results, the COC documents filled out for soil samples were regularly falsified. Proper procedure requires that you have a COC document for each sample taken. Proper procedure also requires that the rad tech that does the sampling not only fills in the COC but is also the one who maintains continuous custody of the COC along with the samples until custody is transferred to someone else and signed off as taking custody. It was expected from the COC that each HP would retain the samples and take the samples to the lab, never releasing the sample and COC from possession until the COC and sample was turned into the lab. The COC form is supposed to accurately reflect the time and place

the sample was taken and to remain in continuous possession of the sampler until samples are turned over to the lab. The practice became at Hunters Point for the Rolfe team that Tina Rolfe would fill out COCs in the office or conex while we worked in the field taking samples and then have the rad techs sign off on the COC as if they themselves had filled in the information. Tina Rolfe would simply cycle through the names of the HPs on my sampling crew – Rick Zahensky, Jeff Rolfe and I – when filling out COC forms, regardless of who actually took the sample. On some occasions Tina Rolfe listed herself as the sampler despite the fact she almost never worked in the field, and had not taken those samples. I rarely filled out COC forms during my time at Hunters Point, and almost never delivered my own samples to the lab, perhaps once a month. Because the trip to the lab was considered leisure time, Steve, Tina, or Jeff Rolfe or Rick Zahensky almost always delivered the samples. I also suspect that Steve Rolfe may not have trusted that I would not say anything to the lab workers about the COC being wrong, or the false soil samples, so that may have contributed to why I seldom made the sample delivery. When I did make sample deliveries to the lab most of the time Steve Rolfe came with me, again maybe to make sure I did not say anything.

22. Looking at the COC forms from Hunters Point displays that the forms are falsified. First, many soil sample COCs indicate samples were taken exactly every five minutes apart. In reality, sampling often takes longer than five minutes because some surfaces are difficult to penetrate, the sample must be properly bagged and labeled, and then sampling equipment must be decontaminated by being double-washed and air dried. In my experience, it is impossible to take soil samples every five minutes if you follow proper procedures. Second, the difference in handwriting between the sample times and the sampler information shows that the form was filled out by two different people. I can easily identify the difference in the forms containing only my handwriting and those containing Tina's handwriting and my name. Lastly, I remember occasions

when Tina Rolfe would fill out a COC as if I was sampling in one location, when I was actually working in an entirely different area that day. For example, I recall one occasion when I took samples near Building 707, but the COCs said I was sampling in the Building 500 series.

23. Having someone pre-fill the COC makes it impossible to determine where and when a particular sample was taken and seriously compromises the integrity of the sampling results for Hunters Point. From my time at Hunters Point, I understand that the other teams, such as Justin Hubbard's, also used fake COC documents for samples.

Sham Building Surveys

24. During my time at Hunters Point, a large part of my time was spent conducting building surveys. Building surveys generally entailed using a Ludlum 2360 with a detector to identify and confirm impacted areas in need of remediation. At HPNS, proper building surveys were conducted in up to three phases: Class 1, which required scanning 100% of the survey areas in a space known to have rad contamination or a high likelihood of rad contamination, using a grid system, comprising the floor and lower walls of the building; Class 2, which my supervisors described as the upper wall areas of the building, and Class 3, the areas the supervisors stated were the ceiling and roof areas of buildings. I understand that policies defined Class 1, 2, and 3 on other criteria, but the way we used it in the field was based on the floor, walls, or ceiling and roof. In my time at Hunters Point I conducted building surveys in almost all parts of the base, including Parcels C, E, and G.

25. Due to the amount of time required to perform a proper building survey, the practice at Hunters Point was to scan the high probability areas and fake the rest. Although we mostly performed Class 1 surveys, the Class 2 and 3 surveys were falsified by holding our instrument in place, or stationary, so as to generate the required amount of data, but having nothing to do with real scanning that was required. On numerous occasions my crew and I were

instructed by HP Supervisor Steve Rolfe to "just get numbers," which we would do by simply holding the 2360 detector in the same spot, or setting it down in one spot for up to 30 minutes while readings were recorded. I specifically recall "just getting numbers" at Building 707, throughout the 500 series of buildings and foundation footprints, buildings 351, 351A, 411, 401, 414, 406, 144, 146, 130, 103, 113, 521, and possibly building 203, although I am not sure on building 203. I know we followed similar flawed procedures at numerous buildings that the Navy's studies had designated as rad-impacted.

Data Manipulation

26. To the extent that building surveys were properly performed, and even when they were not done properly, the data collected was often changed to reflect results close to background radiation levels. I know this because I saw it being done. In approximately 2010, when I was in the trailer uploading my instrument I noticed Tina Rolfe on the computer manually changing data uploaded from previous scans. I eventually discussed the issue with other HPs and learned that Tina Rolfe and Rick Zahinsky were told to change numbers up or down in order to have readings within normal levels of radiation. I also heard Steve Rolfe chew out Zahensky and Tina Rolfe for not changing the numbers sufficiently. Rick told me that at times he would take the data information on a thumb drive and a work computer home and work until the early hours of the morning changing thousands of numbers, all to misrepresent the data to falsely show that conditions were normal at the site and avoid additional radiological remediation work.

27. After learning that data was frequently changed, I raised my concerns with the practice to my then supervisor Justin Hubbard. Hubbard told me that they were doing it everywhere else on the site and that was what management wanted. I also talked to Ray Roberson, Joey Cunningham, and Rick Zahensky about the issue and they all had a similar response: Tetra

Tech supervisors knew about the number tampering and directed that it take place; the quicker the area was deemed releasable, the faster Tetra Tech could get paid for completion of the project.

Radioactive Soil Shipped Off Hunters Point

28. When I returned to work at Hunters Point in 2006, a system was being used to scan for radioactive contamination at Hunters Point excavated soil. The system that was used was a large conveyor belt had a level of about 6 inches of soil spread on the belt. The belt would move under a group of radioactivity sensors that were set to alarm if radioactive contamination was detected above a certain set level. If soil triggered the radiation detector alarms the soil on either side of the sensors for a certain number of feet was to be removed from the belt and put in low-level radioactive containers for shipment to federally approved disposal sites. If the soil cleared the sensors, the soil was piled up in an area designated for soil to be shipped off Hunters Point to facilities that received soil that did not contain radioactive contamination.

29. I was aware of the conveyor belt system and its set up, but I did not work that operation. Sometime in 2006, I learned that it was discovered that Joe Lavell, a Tetra Tech construction superintendent a supervisor over the conveyor belt system, had increased the speed of the conveyor belt system far faster than had been approved. I also learned that Gary Wilson, a rad supervisor over the conveyor belt system, and Jane Taylor (an assigned Junior Rad Tech) silenced the rad detector alarms. I was informed that the conveyor belt system had been operated at 6 to 9 times the approved conveyor belt speed, and with no radiation detector alarms operating.

30. Based on my knowledge of how the radiation detectors worked, the sensors are much less able to detect radioactivity at higher speeds. I was informed by others at Hunters Point that Joe Lavell and Gary Wilson explained that they set the conveyor belt (Joe Lavell) to run at the higher speeds because the alarms kept going off at the approved speed and virtually none of the

soil was able to be cleared as free of radioactive contamination within approved levels. Gary Wilson explained that he changed the radiation detector alarm settings so the alarms did not sound.

31. The soil that was improperly scanned through the conveyor belt system at too fast a speed and with no functioning alarm was improperly allowed to be shipped off Hunters Point and was shipped off Hunters Point as non-radioactive material. After it was discovered that the conveyor belt system had been run far too fast, some thousand plus cubic yards of soil still remained in piles that had been improperly cleared by the conveyor belt system. I and other HPs were assigned to help scan the soil that remained in the piles. HPs such as myself scanned soil picked up by front-loaders, however the soil was two to three feet in thickness so our sensor were ineffective in sensing radiological contamination much below six inches. If our sensor, which were not fully effective due to the multiple feet of thickness to the soil, did not detect high radioactive readings the soil was deemed "cleared" and sent in trucks to go off site. The soil then regularly failed the Portal Monitor screening. However, HPs were restricted to scanning the truck trailers of soil through the bed and side of the truck, which our instruments were not effective to effectively detect the radiological contamination beyond about six inches.

32. At no time was I informed that any effort was made by Tetra Tech, the Navy, or others to alert the towns, counties, landfills, and others that received the large amount of soil that was most likely radioactive but labeled as cleared of radioactive contamination over the months before it was discovered that the conveyor belt system had been improperly run.

Work Culture at Hunters Point

33. During the second half of my time at Hunters Point there was a noticeable negative shift in culture which can be best described as fraudulently cutting corners wherever possible. Production – that is, getting the work done as quickly as possible and with as little cost as

possible– was the sole concern at HPNS, and it came at the expense of proper radiological procedures. Fraud was committed on a daily basis. It even reached a point where field workers participating in fraudulent activities established a warning system on the radios to alert one another when Bert Bowers, the Radiological Safety Officer on site, was coming out in the field.

34. The fact that these improper procedures and fraudulent practices were occurring on a regular basis was not lost on me. However, on the occasions that I did raise concerns about the way work was being performed, the response was always the same: "That is what they (Tetra Tech management or the Navy) want – get it done and get it done fast". We were told that "if you don't like it you can go home." I regularly heard of other employees being laid off from HPNS, and knew that if I refused to follow the direction of supervisors, no matter how improper or unethical I believed that direction to be, I too would be let go. The generous pay and tax free per diem were strong incentives to keep my head down and go along with what management wanted, and I know many others felt the same.

35. I was ultimately laid off in September 2012. By the end of my employment at Hunters Point I could hardly stand the mental burden and stress due to the cheating that came with the job. I experienced high blood pressure for the first time in my life. My experience at HPNS and the anguish I felt for what occurred due to the frauds there has caused me to give up on the rad industry and I have not worked in that business since.

I declare under penalty of perjury that the foregoing is true and correct to the best of my personal knowledge.

Executed on June 3, 2017 in Young Harris, Georgia.

Anthony Smith

(6-3-17)

# EXHIBIT B

FILED
MAY 18 2017
SUSAN Y. SOONG
CLERK, U.S. DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

BRIAN J. STRETCH (CABN 163973)
United States Attorney

BARBARA J. VALLIERE (DCBN 439353)
Chief, Criminal Division

PHILIP J. KEARNEY (CABN 114978)
MATTHEW L. MCCARTHY (CABN 217871)
Assistant United States Attorneys

450 Golden Gate Avenue, Box 36055
San Francisco, California 94102-3495
Telephone: (415) 436-7023
FAX: (415) 436-7234
Philip.kearney@usdoj.gov

Attorneys for United States of America

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

SAN FRANCISCO DIVISION

| | |
|---|---|
| UNITED STATES OF AMERICA,<br><br>Plaintiff,<br><br>v.<br><br>JUSTIN E. HUBBARD,<br><br>Defendant. | NO. CR 17-0278 JD<br><br>PLEA AGREEMENT |

I, Justin E. Hubbard, and the United States Attorney's Office for the Northern District of California (hereafter "the government") enter into this written Plea Agreement (the "Agreement") pursuant to Rule 11(c)(1)(A) and 11(c)(1)(B) of the Federal Rules of Criminal Procedure:

The Defendant's Promises

1. I agree to plead guilty to Count One of the captioned Information charging me with me with destruction, alteration, or falsification of records in federal investigations and bankruptcy, in violation of 18 U.S.C. § 1519. I agree that the elements of the offense are as follows: (1) I knowingly altered, falsified, or made a false entry in a record or document; (2) with the intent to impede, obstruct,



Document No.
8
Clerk's Copy
Criminal Case Processing

or influence the investigation or proper administration of any matter or in contemplation of or in relation to any such matter; (3) within the jurisdiction of an agency of the United States.

I agree that the maximum penalties are as follows:

| | | |
|---|---|---|
| a. | Maximum prison term | 20 years |
| b. | Maximum fine | $250,000, or twice gain/loss |
| c. | Maximum supervised release term | 3 years |
| d. | Restitution | To be determined |
| e. | Mandatory special assessment | $100 |
| f. | Forfeiture | |

2. I agree that I am guilty of the offense to which I am pleading guilty, and I agree that the following facts are true:

I have been working in the nuclear industry since approximately 1989, after completing my formal education. During my twenty-five years in the industry, I have conducted decontamination work at nuclear power plants, medical laboratories handling radioactive material, and a 'Superfund Site,' among other activities. During that same period, I have received training in radiation contamination control, the proper handling of radiological waste, and the assessment of radionuclides in the environment. I have also supervised others in these activities.

In approximately 1994 or 1995, I began performing nuclear remediation work at the former Hunter's Point Naval Shipyard ("HPNS"), located in the Bayview District of San Francisco, California. My first employer at HPNS was New World Environmental, Inc. ("New World"). After approximately four years with New World, I was hired by Tetra Tech EC, Inc. ("Tetra Tech"), as a Radiological Task Supervisor at HPNS. As a supervisor at Tetra Tech, I was in charge of a team of radiation control technicians ("RCTs") engaged in the radiological remediation of soil at HPNS. I was aware that Tetra Tech had been hired by the United States Navy ("U.S. Navy") to perform the radiological remediation at HPNS. My employment with Tetra Tech terminated in December 2013.

While working for Tetra Tech, I reported to a Tetra Tech HPNS Project Manager, and a Tetra Tech HPNS Lead Field Superintendent, among others. The RCTs I supervised worked for Tetra Tech subcontractor Radiological Survey & Remedial Services, LLC ("RSRS").

I understood that the radiological remediation of HPNS was being conducted by Tetra Tech for the U.S. Navy under established sampling guidelines and protocols. My job at HPNS required me to comply with a Task Specific Plan ("TSP") which identified, for a Building Series or Area, the number and type of survey units that were to be sampled at specific locations. In general, I would receive directions on a daily basis, including a survey unit map, identifying the sampling locations for a particular survey unit. Once the Tetra Tech engineers marked these locations, I would supervise the sampling of them by my RCTs.

The RCTs were expected to take soil from each marked sampling location, bag and label the sample, and then send it to a laboratory for an analysis of, among other data, any radionuclides of concern. Chain of custody ("COC") forms and tags showing the precise location of each soil extraction as identified on the survey map were required for each sample. I was aware that information from the chain of custody forms, including the sample locations, was incorporated into the sampling analysis reports prepared by Tetra Tech and emailed to the U.S. Navy.

During my work at HPNS, I was aware of U.S. Navy testing protocols which mandated that if a laboratory analysis determined a sample of collected soil to be "hot"—that is, containing a higher-than-allowable level of radionuclides of concern—then additional remediation, including more sampling, of that survey unit was to be undertaken until all new collected samples passed laboratory analysis.

During 2012, in direct contravention of the relevant U.S. Navy testing protocols, I obtained "clean" dirt from an area north of Buildings 253 and 211 at HPNS and substituted it for dirt taken from survey units in the North Pier area of HPNS. To effect this illegal switching, I drove my company truck to the area north of Buildings 253 and 211 and filled a five-gallon bucket with "clean" serpentinite soil from an area I knew to be outside the relevant marked survey unit. I then drove the clean dirt back to a "conex box"-style trailer. Once I was inside the conex, I emptied the "legitimate" soil samples previously collected by RCTs from their sampling bags into an empty bucket, and substituted the clean serpentinite soil into each sampling bag.

I did not alter the markings made earlier on the sampling bags by the RCTs, which included the sample number, time, and date. I then placed a bar code sticker on an outer bag for each sample. A copy of this bar code sticker was also affixed to a chain of custody ("COC") form for each sample. The

sticker was meant to identify the survey unit location the soil was taken from. By switching the soil inside the sampling bag, I knew that the data on the COCs, many of which I signed, was false. I also knew that the false data on these COCs was incorporated into maps and reports made by Tetra Tech and submitted to the U.S. Navy for the purpose of demonstrating that the area had been successfully remediated.

On or about May 31, 2012, I fraudulently switched soil for four survey units on the North Pier of HPNS: Survey Units 1, 8, 10, and 11. For Survey Unit 1, I specifically recall replacing the soil samples 28-47 with soil I had collected from a clean area.

3. I agree to give up all rights that I would have if I chose to proceed to trial, including the rights to a jury trial with the assistance of an attorney; to confront and cross-examine government witnesses; to remain silent or testify; to move to suppress evidence or raise any other Fourth or Fifth Amendment claims; to any further discovery from the government; and to pursue any affirmative defenses and present evidence.

4. I agree to give up my right to appeal my conviction, the judgment, and orders of the Court, as well as any aspect of my sentence, including any orders relating to forfeiture and/or restitution, except that I reserve my right to claim that my counsel was ineffective.

5. I agree not to file any collateral attack on my conviction or sentence, including a petition under 28 U.S.C. § 2255 or 28 U.S.C. § 2241, except that I reserve my right to claim that my counsel was ineffective. I also agree not to seek relief under 18 U.S.C. § 3582.

6. I agree not to ask the Court to withdraw my guilty plea at any time after it is entered. I understand that by entering into this Agreement: (a) I agree that the facts set forth in Paragraph 2 of this Agreement shall be admissible against me under Fed. R. Evid. 801(d)(2)(A) in any subsequent proceeding, including at trial, in the event I violate any of the terms of this Agreement, and (b) I expressly waive any and all rights under Fed. R. Crim. P. 11(f) and Fed. R. Evid. 410 with regard to the facts set forth in Paragraph 2 of this Agreement in such subsequent proceeding. I understand that the government will not preserve any physical evidence obtained in this case.

7. I understand that the Court must consult the United States Sentencing Guidelines and take them into account when sentencing, together with the factors set forth in 18 U.S.C. § 3553(a). I

also understand that the Court is not bound by the Guidelines calculations below; the Court may conclude that a higher Guidelines range applies to me, and, if it does, I will not be entitled, nor will I ask to withdraw my guilty plea. I further agree that regardless of the sentence that the Court imposes on me, I will not be entitled, nor will I ask, to withdraw my guilty plea. I will not request a downward departure under the Sentencing Guidelines from the total offense level computed by the Court, although I reserve the right to seek a downward variance based on the factors set forth in 18 U.S.C. § 3553(a). I understand that the government is free to oppose any such request.

The following describes the parties' agreements regarding the applicable Sentencing Guidelines calculations. As described further below, the parties have reached no agreement regarding whether the two-level upward adjustment for abuse of a position of trust or use of a special skill under U.S.S.G. § 3B1.3 applies, and the parties will submit arguments to the Court regarding the application of this adjustment. Accordingly, this possible Guidelines adjustment is bracketed below. I agree that my adjusted offense level may be as low as 13 and as high as 15.

The parties have reached no agreement regarding my Criminal History Category.

| | | |
|---|---|---|
| a. | Base Offense Level, U.S.S.G. § 2J1.2(a): | 14 |
| b. | Fabrication of substantial number of records, U.S.S.G. § 2J1.2(b)(3) | 2 |
| c. | Adjustments under U.S.S.G. Ch. 3 (e.g. role in the offense) | |
| | -3B1.3: Abuse of Position of Trust or Use of Special Skill | [2] |
| d. | Acceptance of Responsibility:<br>If I meet the requirements of U.S.S.G. § 3E1.1, I may be entitled to a three level reduction for acceptance of responsibility, provided that I forthrightly admit my guilt, cooperate with the Court and the Probation Office in any presentence investigation ordered by the Court, and continue to manifest an acceptance of responsibility through and including the time of sentencing. | -3 |
| e. | Adjusted Offense Level: | [13 / 15] |

8. I agree that regardless of any other provision of this Agreement, the government may and will provide the Court and the Probation Office with all information relevant to the charged offense and the sentencing decision, including any victim impact statements and letters from the victims, and/or their friends and family.

9. I agree that I will make a good-faith effort to pay any fine, forfeiture, or restitution I am ordered to pay. I agree to pay the special assessment at the time of sentencing.

10. I agree not to commit or attempt to commit any crimes before sentence is imposed or before I surrender to serve my sentence. I also agree not to violate the terms of my pretrial release; not to intentionally provide false information to the Court, the Probation Office, Pretrial Services, or the government; and not to fail to comply with any of the other promises I have made in this Agreement. I agree that if I fail to comply with any promises I have made in this Agreement, then the government will be released from all of its promises in this Agreement, including those set forth in the Government's Promises Section below, but I will not be released from my guilty plea.

11. I agree that this Agreement contains all of the promises and agreements between the government and me, and I will not claim otherwise in the future. No modification of this Agreement shall be effective unless it is in writing and signed by all parties.

12. I agree that the Agreement binds the U.S. Attorney's Office for the Northern District of California only, and does not bind any other federal, state, or local agency.

The Government's Promises

13. The government agrees not to file any additional charges against the defendant that could be filed as a result of the investigation that led to the captioned Information.

14. The government agrees to recommend a sentence within the range associated with the Guideline calculations set out in paragraph 7 above, unless the defendant violates the terms of the Agreement above or fails to accept responsibility.

The Defendant's Affirmations

15. I agree that my participation in the District Court's Conviction Alternative Program is not appropriate and that I will not request to be considered for and will not participate in that program as a result of my convictions for these offenses.

16. I confirm that I have had adequate time to discuss this case, the evidence, and the Agreement with my attorney and that my attorney has provided me with all the legal advice that I requested.

17. I confirm that while I considered signing this Agreement, and at the time I signed it, I

was not under the influence of any alcohol, drug, or medicine that would impair my ability to understand the Agreement.

18. I confirm that my decision to enter a guilty plea is made knowing the charges that have been brought against me, any possible defense, and the benefits and possible detriments of proceeding to trial. I also confirm that my decision to plead guilty is made voluntarily, and no one coerced or threatened me to enter into this Agreement.

Dated: 5-18-2017

JUSTIN E. HUBBARD
Defendant

Dated: 5/18/17

BRIAN J. STRETCH
United States Attorney

PHILIP J. KEARNEY
MATTHEW L. MCCARTHY
Assistant United States Attorneys

19. I have fully explained to my client all the rights that a criminal defendant has and all the terms of this Agreement. In my opinion, my client understands all the terms of this Agreement and all the rights my client is giving up by pleading guilty, and, based on the information now known to me, my client's decision to plead guilty is knowing and voluntary.

Dated: 5-18-2017

By for KENNETH LONG
Attorney for Defendant

# EXHIBIT C

BRIAN J. STRETCH (CABN 163973)
United States Attorney

BARBARA J. VALLIERE (DCBN 439353)
Chief, Criminal Division

PHILIP J. KEARNEY (CABN 114978)
Assistant United States Attorney

450 Golden Gate Avenue, Box 36055
San Francisco, California 94102-3495
Telephone: (415) 436-7023
Fax: (415) 436-7234
philip.kearney@usdoj.gov

Attorneys for the United States

FILED
MAR 15 2017
SUSAN Y. SOONG
CLERK, U.S. DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

SAN FRANCISCO DIVISION

| | |
|---|---|
| UNITED STATES OF AMERICA,<br><br>Plaintiff,<br><br>v.<br><br>STEPHEN C. ROLFE,<br><br>Defendant. | NO. CR 17-0123 ~~CRB~~ JD<br><br>PLEA AGREEMENT |

I, Stephen C. Rolfe, and the United States Attorney's Office for the Northern District of California ("the government") enter into this written plea agreement (the "Agreement") pursuant to Rules 11(c)(1)(A) and 11(c)(1)(B) of the Federal Rules of Criminal Procedure:

The Defendant's Promises

1. I agree to plead guilty to Count One of the captioned Information charging me with destruction, alteration, or falsification of records in federal investigations and bankruptcy, in violation of 18 U.S.C. § 1519. I agree that the elements of the offense are as follows: (1) I knowingly altered, falsified, or made a false entry in a record or document; (2) with the intent to impede, obstruct, or influence the investigation or proper administration of any matter or in contemplation of or in relation to



Document No.
District Court
Criminal Case Processing

any such matter; (3) within the jurisdiction of an agency of the United States.

I agree that the maximum penalties are as follows:

| | | |
|---|---|---|
| a. | Maximum prison term | 20 years |
| b. | Maximum fine | $250,000, or twice gain/loss |
| c. | Maximum supervised release term | 3 years |
| d. | Restitution | To be determined |
| e. | Mandatory special assessment | $100 |
| f. | Forfeiture | |

2. I agree that I am guilty of the offense to which I am pleading guilty, and I agree that the following facts are true:

In or about September or October 2007, I was hired by Radiological Survey and Remedial Services, LLC., commonly known as RSRS. Thereafter, in approximately 2008, I became a supervisor at Tetra Tech EC, Inc. ("Tetra Tech"), in charge of a team of radiation control technicians ("RCTs") engaged in the radiological remediation of soil at the former Hunters Point Naval Shipyard ("HPNS") located in the Bayview District of San Francisco, California. I served in that role until approximately August 2014. I was aware that Tetra Tech had been hired by the United States Navy ("U.S. Navy") to perform the radiological remediation at HPNS.

While working for Tetra Tech, I reported to a Tetra Tech HPNS Project Manager, and a Tetra Tech HPNS Lead Field Superintendent, among others. During this time period, RSRS was a sub-contractor of Tetra Tech and I supervised several RSRS RCTs.

I understood that the radiological remediation of HPNS was being conducted by Tetra Tech for the U.S. Navy under established sampling guidelines and protocols. My job at HPNS required me to comply with a Task Specific Plan ("TSP") which identified, for a Building Series or Area, the number and type of survey units that were to be sampled at specific locations. In general, I would receive directions on a daily basis, including a survey unit map, identifying the sampling locations for a particular survey unit. Once the Tetra Tech engineers marked these locations, I would supervise the sampling of them by my RCTs.

Once the engineers had marked the survey unit sampling locations, the RCTs were expected to

take soil from each marked sampling location, bag and label the sample, then send it to a laboratory for an analysis of, among other data, any radionuclides of concern. Chain of custody forms and tags showing the precise location of each soil extraction as identified on the survey map were required for each sample. In addition to these chain of custody forms and tags, I was also required to fill out a daily "Building/Site Area Report and Survey Unit Tracking Sheet ('survey unit tracking sheet')," which indicated the number of samples taken each day from a specific survey unit to document my team's daily activities. I was aware that information from the chain of custody forms, including the sample locations, was incorporated into the sampling analysis reports made by Tetra Tech and emailed to the U.S. Navy.

During my work at HPNS, I was aware of U.S. Navy testing protocols which mandated that if a laboratory analysis determined a sample of collected soil to be "hot"—that is, containing a higher than allowable level of radionuclides of concern—then additional remediation, including more sampling, of that survey unit was to be undertaken until all new collected samples passed laboratory analysis.

During 2012, I told the RCTs on my team to get "clean dirt" from areas known to be clean and taken from outside the marked survey unit areas to use as substitute samples for the dirt from the marked survey unit. I did this so that the survey unit would pass the laboratory analysis and not require further remediation.

I am aware of at least two different sources of dirt for clean samples, "green dirt" from certain locations known to be clean and "brown dirt" from a pile formerly located on H Street, southeast of Building 606 at HPNS. During this time period, I estimate that I told my RCTs to get clean dirt outside the designated survey units on approximately twenty occasions. On multiple occasions the switching of this dirt was done inside a "conex" trailer on site in my presence. I knew on these occasions that the soil locations reported in the chain of custody forms and the survey unit tracking sheets for these samples were false, that is, that the locations reported on the forms regarding where the soil came from were untrue. I would estimate that there were between ten to twenty occasions when I saw a chain of custody form being filled out when I knew the data on the form was inaccurate. I directed the RCTs to switch soil for samples 81-100 for Survey Unit 22, taken on August 23, 2012. On that occasion, I falsified data on the survey unit tracking sheet in that I stated on the form the soil came from within that Survey Unit

when I know it did not. I also know that the sampling data from Survey Unit 22 incorporated into the map and analyses sent by Tetra Tech to the U.S. Navy on August 29, 2012 was false.

I did not receive extra compensation for substituting "clean" soil for potentially contaminated soil in a survey unit. My motivation came from pressure applied by the Tetra Tech supervisors. One told me on multiple occasions to "get the hell out of that area," in reference to a particular survey unit that was not testing clean. Another told me on more than one occasion that we were "not remediating the whole goddam site." An Assistant HPNS Project Manager told me on numerous occasions to "get clean dirt." I understood these statements as a direction to go outside the appropriate survey unit and get dirt from other areas that was known to be clean, that is not containing excessive levels of radiation.

I knew that my conduct would impede the proper investigation and administration of the radiological remediation being undertaken by the U.S. Navy at HPNS.

3. I agree to give up all rights that I would have if I chose to proceed to trial, including the rights to a jury trial with the assistance of an attorney; to confront and cross-examine government witnesses; to remain silent or testify; to move to suppress evidence or raise any other Fourth or Fifth Amendment claims; to any further discovery from the government; and to pursue any affirmative defenses and present evidence.

4. I agree to give up my right to appeal my conviction, the judgment, and orders of the Court, as well as any aspect of my sentence, including any orders relating to forfeiture and/or restitution, except that I reserve my right to claim that my counsel was ineffective.

5. I agree not to file any collateral attack on my conviction or sentence, including a petition under 28 U.S.C. § 2255 or 28 U.S.C. § 2241, except that I reserve my right to claim that my counsel was ineffective. I also agree not to seek relief under 18 U.S.C. §3582.

6. I agree not to ask the Court to withdraw my guilty plea at any time after it is entered. I understand that by entering into this Agreement: (a) I agree that the facts set forth in Paragraph 2 of this Agreement shall be admissible against me under Fed. R. Evid. 801(d)(2)(A) in any subsequent proceeding, including at trial, in the event I violate any of the terms of this Agreement, and (b) I expressly waive any and all rights under Fed. R. Crim. 11(f) and Fed. R. Evid. 410 with regard to the facts set forth in Paragraph 2 of this Agreement in any such subsequent proceeding. I understand that

the government will not preserve any physical evidence obtained in this case.

7. I understand that the Court must consult the United States Sentencing Guidelines and take them into account when sentencing, together with the factors set forth in 18 U.S.C. § 3553(a). I also understand that the Court is not bound by the Guidelines calculations below; the Court may conclude that a higher Guidelines range applies to me, and, if it does, I will not be entitled, nor will I ask to withdraw my guilty plea. I further agree that regardless of the sentence that the Court imposes on me, I will not be entitled, nor will I ask, to withdraw my guilty plea. I agree that the Sentencing Guidelines offense level should be calculated as set forth below, and that other than joining in a possible government downward departure pursuant to U.S.S.G. § 5K1.1 and/or 18 U.S.C. § 3553(e), I will not ask for any other adjustment to or reduction in the offense level or for a downward departure or variance from the Guidelines range as determined by the Court. The parties have reached no agreement regarding my Criminal History Category.

| | | |
|---|---|---|
| a. | Base Offense Level, U.S.S.G. § 2J1.2(a): | 14 |
| b. | Fabrication of substantial number of records, U.S.S.G. § 2J1.2(b)(3) | 2 |
| b. | Acceptance of Responsibility: If I meet the requirements of U.S.S.G. § 3E1.1, through sentencing I may be entitled to a three level reduction. | -3 |
| e. | Adjusted Offense Level: | 13 |

I understand that regardless of the sentence that the Court imposes on me, I will not be entitled, nor will I ask, to withdraw my guilty plea.

8. I agree that regardless of any other provision of this Agreement, the government may and will provide the Court and the Probation Office with all information relevant to the charged offense and the sentencing decision, including any victim impact statements and letters from the victims, and/or their friends and family.

9. I agree that I will make a good-faith effort to pay any fine, forfeiture, or restitution I am ordered to pay. I agree to pay the special assessment at the time of sentencing.

10. I agree to cooperate with the U.S. Attorney's Office before and after I am sentenced. My

cooperation will include, but will not be limited to, the following:

a. I will meet with the government when requested;

b. I will respond truthfully and completely to any and all questions put to me, whether in interviews, before a grand jury, or at any trial or other proceeding;

c. I will provide all documents and other material asked for by the government;

d. I will testify truthfully at any grand jury, court, or other proceeding as requested by the government;

e. I surrender any and all assets acquired or obtained directly or indirectly as a result of my illegal conduct;

f. I will request continuances of my sentencing date, as necessary, until my cooperation is completed.

11. I agree that the government's decision whether to file a motion pursuant to U.S.S.G. § 5K1.1, as described in the government promises section below, is based on its sole and exclusive decision of whether I have provided substantial assistance and that decision will be binding on me. I understand that the government's decision whether to file such a motion, or the extent of the departure recommended by any motion, will not depend on whether convictions are obtained in any case. I also understand that the Court will not be bound by any recommendation made by the government.

12. I agree not to commit or attempt to commit any crimes before sentence is imposed or before I surrender to serve my sentence. I also agree not to violate the terms of my pretrial release; not to intentionally provide false information to the Court, the Probation Office, Pretrial Services, or the government; and not to fail to comply with any of the other promises I have made in this Agreement. I agree that if I fail to comply with any promises I have made in this Agreement, then the government will be released from all of its promises in this Agreement, including those set forth in the Government's Promises Section below, but I will not be released from my guilty plea. I agree to abide by all of the terms of my pre-trial release pending sentencing. However, I agree to be remanded to the custody of the United States Marshal at any time prior to my sentencing if requested by Pre-Trial Services, Probation or the government as ordered by the Court.

13. If I am prosecuted after failing to comply with any promises I made in this Agreement,

then (a) I agree that any statements I made to any law enforcement or other government agency or in Court, whether or not made pursuant to the cooperation provisions of this Agreement, may be used in any way; (b) I waive any and all claims under the United States Constitution, Rule 11(f) of the Federal Rules of Criminal Procedure, Rule 410 of the Federal Rules of Evidence, or any other federal statute or rule, to suppress or restrict the use of my statements, or any leads derived from those statements; and (c) I waive any defense to any prosecution that it is barred by a statute of limitations, if the limitations period has run between the date of this Agreement and the date I am indicted.

14. I agree that this Agreement contains all of the promises and agreements between the government and me, that this Agreement supersedes all previous agreements that I had with the government (including any "proffer" agreement), and I will not claim otherwise in the future. No modification of this Agreement shall be effective unless it is in writing and signed by all parties.

15. I agree that the Agreement binds the U.S. Attorney's Office for the Northern District of California only, and does not bind any other federal, state, or local agency.

The Government's Promises

16. The government agrees not to file any additional charges against the defendant that could be filed as a result of the investigation that led to the captioned Information, so long as the defendant has fully disclosed such conduct to the government and otherwise complied fully with this Agreement.

17. The government agrees to recommend a sentence no higher than the range associated with the Guideline calculations set out in paragraph 7 above, unless the defendant fails to comply with any promises in this Agreement or fails to accept responsibility. As noted in paragraph 8, the government will provide the Court with any victim impact statements as well as letters from the victim(s) and/or their friends and family and any sentencing requests that they make to the court are not subject to any restrictions.

18. The government agrees not to use any statements made by the defendant pursuant to this Agreement against him, unless the defendant fails to comply with any promises in this Agreement.

19. If, in its sole and exclusive judgment, the government decides that the defendant has cooperated fully and truthfully, provided substantial assistance to law enforcement authorities within the meaning of U.S.S.G. § 5K1.1, and otherwise complied fully with this Agreement, it will file with the

Court a motion under § 5K1.1 and/or 18 U.S.C. § 3553 that explains the nature and extent of the defendant's cooperation and recommends a downward departure.

The Defendant's Affirmations

20. I agree that my participation in the District Court's Conviction Alternative Program is not appropriate and that I will not request to be considered for and will not participate in that program as a result of my convictions for this offense.

21. I confirm that I have had adequate time to discuss this case, the evidence, and the Agreement with my attorney and that my attorney has provided me with all the legal advice that I requested.

22. I confirm that while I considered signing this Agreement, and at the time I signed it, I was not under the influence of any alcohol, drug, or medicine that would impair my ability to understand the Agreement.

23. I confirm that my decision to enter a guilty plea is made knowing the charges that have been brought against me, any possible defenses, and the benefits and possible detriments of proceeding to trial. I also confirm that my decision to plead guilty is made voluntarily, and no one coerced or threatened me to enter into this Agreement.

Dated: 3-14-17

STEPHEN C. ROLFE
Defendant

BRIAN J. STRETCH
United States Attorney

Dated: 3/14/17

PHILIP J. KEARNEY
Assistant United States Attorney

24. I have fully explained to my client all the rights that a criminal defendant has and all the terms of this Agreement. In my opinion, my client understands all the terms of this Agreement and all the rights my client is giving up by pleading guilty, and, based on the information now known to me, my

client's decision to plead guilty is knowing and voluntary.

Dated: 3-14-17

CHRISTOPHER MORALES
Attorney for Defendant

# EXHIBIT D

# INVESTIGATION CONCLUSION
# ANOMALOUS SOIL SAMPLES
# AT HUNTERS POINT NAVAL SHIPYARD
# Revision 1

**April 2014**

**HUNTERS POINT NAVAL SHIPYARD**
**SAN FRANCISCO, CALIFORNIA**

**Prepared by:**


TETRA TECH EC, INC
**1230 Columbia Street, Suite 750**
**San Diego, California 92101-8536**

Erik Abkemeier, CHP, PE, CSP, CHMM
Radiation Safety Officer

Greg Joyce, ASQ CQM Quality Control
Program Manager

# EXECUTIVE SUMMARY

This report summarizes the investigation results and corrective actions taken by Tetra Tech EC, Inc. (TtEC) in response to a Navy inquiry into discrepancies between the first two sets of systematic sample results and the third set at the Former Building 517 site located at Hunters Point Naval Shipyard (HPNS).

The discrepancy was first identified during a routine telephone call on October 4, 2012. On that call, a Navy official with the Radiological Affairs Support Office (RASO) suggested that the third set of systematic samples for Survey Unit 2 within the Former Building 517 footprint (B517 SU-002) had been collected from locations different than the ones specified in the Final Status Survey Report. The conclusion was based on final systematic (post-remediation) soil sample results reported by the the on-site Department of Defense accredited laboratory. These results reported low potassium-40 (K-40) sample activity (i.e., < 5 picocuries per gram) coupled with low activity for radium-226 (Ra-226), bismuth-214 (Bi-214), and lead-214 (Pb-214) in 36 out of 36 samples. The set of systematic samples were purportedly collected post-remediation at a depth no more than 6 inches below ground surface (bgs). Since the on-site laboratory results were replicated by the off-site gamma spectroscopy laboratory, TestAmerica-St. Louis, the possibility of instrument error as the cause of the anomalous results was ruled out.

TtEC immediately responded to the Navy inquiry by conducting an investigation to determine the source of the discrepancy. The first step of the investigation consisted of potholing adjacent to the four locations reporting anomalous results in order to determine whether a contiguous fill layer was present near the surface and to compare soils observed in the potholes with those of the original final systematic samples, which had been archived. The final (or third) set of systematic samples was uniformly gray in color and similar to Franciscan-derived fill material.

Multiple lithologies were encountered in each pothole, and contiguous layers were not observed from location to location. Only one pothole contained light grayish soil similar to the archived material. Additional locations were potholed and sampled at multiple depths to determine whether the samples had been potentially collected at depths other than those indicated on the chain-of-custody (COC). Only 2 of 24 samples reported similar low K-40 concentrations and both were collected at depths greater than 6 inches bgs.

The second step of the investigation was to conduct a database review to identify other survey units with large proportions of low K-40 soil sample results. Over 70,000 results reported since 2008 were queried and approximately 2,500 samples were identified as meeting the criteria of low K-40 (< 5 picocuries per gram). The 2,500 results were then evaluated to determine whether the concentrations correlated with previous sample sets from the same area. Based on this evaluation, an additional 12 survey units at 3 additional sites in Parcels C and E were identified as survey units for which a high probability existed that the soil samples were not representative of the respective survey units. Seven other locations reported anomalously low K-40 concentrations for some samples within systematic sample sets and were identified for potential further evaluation as well.

Since laboratory error and subsurface conditions were ruled out as the cause of the discrepancies in K-40 results, the next step consisted of conducting interviews with sampling personnel to determine if human error was the cause. The TtEC Radiation Safety Officer (RSO) and the

Program Quality Control Manager (PQCM) conducted interviews with the individuals listed on the COCs, direct supervisors, members of the sampling crews, and laboratory workers. The results of the interviews were inconclusive.

Since the interviews did not provide any information on how the discrepancies in K-40 could have occurred, the investigation looked into the physical features of the suspect samples, including color and grain size. This investigation began at B517 SU-002. The samples with low K-40 from B517 SU-002 were uniformly gray in color and had similar grain size. The RSO, PQCM, site RSO Representative, and the Construction Manager conducted a site inspection at B517 SU-002, the North Pier, the former Building 707 Triangle Area, and various import fill piles to attempt to discern if the source of the low K-40 samples may have come from a stockpile or other convenient material source located on the site. Soil samples were collected from the North Pier, the former Building 707 Triangle Area, and the various import fill piles located at HPNS and were analyzed to determine if they had a similar radionuclide signature. Low K-40 values similar to those reported in the anomalous sample sets were found in samples of road base from the former Building 707 Triangle Area. The material's color was also similar to the suspect soil from B517 SU-002.

Subsequent investigation of other potential source materials and analyses revealed that grayish green drill cuttings found stockpiled on the ground floor of Building 253/211 have both lithologic and radioanalytical characteristics consistent with the suspect soil. The significance of this discovery was that if individuals decided to substitute samples from one source, it would be easier to do so within the confines of a building where the actions are less likely to be observed by others. Either the former Building 707 Triangle Area or the Building 253/211 drill cuttings, or a combination of both, may have been used as substitute soil samples; however, the investigators were unable to conclusively determine a source.

TtEC also resampled the 12 survey units with samples that were likely to not be representative of the survey unit, and four of the seven potential further evaluation sites, as identified in the database search. While duplicate soil samples are rarely correlative, the resampling was performed to provide representative soil sample data sets to compare against the anomalous results. Results from the resampling indicated significant differences in the K-40 values, which suggest that the initial data collected from those survey units may not have been representative of these survey units.

The remaining three potential further evaluation survey units that were not resampled were trench survey units. Uniform soil sample results are possible due to the complex fill history of HPNS, such as in samples collected from subsurface trench survey units where large lenses of homogeneous material are located. In addition, it is not unusual to have soil samples with low concentrations of K-40 in areas within HPNS, especially in samples collected from materials that have been derived from the Franciscan Formation or samples collected directly from the Franciscan bedrock. Soils and bedrock associated with the Franciscan are a distinctive dark gray to grayish green color. These materials are observed in the areas within Parcel C where the three former trench survey units identified for potential further evaluation are located.

Based on the investigation activities above, TtEC initiated a series of corrective actions as follows:

- Sampling personnel on the COC forms for anomalous samples were removed from TtEC projects. The two TtEC health physics supervisors responsible for the soil sample collection work were disciplined. All other project management personnel involved in the sampling process, including the project management team, quality control team, and radiation safety team, were issued letters of caution.
- All individuals directly involved in soil sample collection at HPNS attended refresher training on proper soil sample collection per the Sampling and Analysis Plan and Standard Operating Procedure (SOP) HPO-Tt-009, as well as proper filling out of COC forms.
- All individuals involved in soil sample collection, as well as every TtEC employee and subcontractor on the HPNS site, attended training on ethical behavior.
- TtEC resampled all 12 survey units recommended for resampling. Any survey units exhibiting activity concentrations exceeding the release criterion for a respective radionuclide of concern were remediated and resampled until all release criteria were met. All suspect data, including anomalous soil sample data and gamma static survey results, were rejected.
- TtEC resampled four of the seven locations identified for potential further investigation. These seven locations reported anomalously low K-40 concentrations for some samples within systematic sample sets. Further evaluation of photographs and samples from the remaining three trenches indicated that the low K-40 was likely due to the distinct Franciscan Formation visible in these trenches. The color and gradation of the samples from these trenches also support that they are from the Franciscan Formation.
- A protocol has been implemented that ensures a member of the HPNS quality control team conducts a surveillance of a minimum of 10 percent of final systematic sample collection. Issues identified during the surveillances are documented and corrected.
- A protocol has been implemented for the corporate RSO to be notified if sampling result trends are inconsistent with previous sampling results. This protocol includes K-40 and other radionuclides that are not radionuclides of concern.

Completion of these corrective actions has resulted in consistent, high-quality Final Status Survey results. These corrective actions ensured that additional samples have been collected and handled in full compliance with the Sampling and Analysis Plan. TtEC has not had a recurrence of the type of soil sample results that led to this investigation, indicating that the corrective actions have addressed the problem.

A chronology of events is presented on the following pages, beginning with identification of the data discrepancy in early October 2012 and ending with the responses to Navy comments incorporated into this April 2014 revised report.

## INVESTIGATION CHRONOLOGY

**October 4, 2012** — DATA DISCREPANCY IDENTIFIED

- During a phone call with the Navy, the Radiological Affairs Support Office points out a possible discrepancy in sampling results from the Survey Unit 2 within the Building 517 footprint (B517 SU-002).
- Anomalous samples have atypically low concentrations of K-40, Ra-226, Pb-214, and Cs-137.
- The possibility of laboratory instrument error is ruled out.
- TtEC pulls together a team to investigate.

**October 5 through 8, 2012** — POTHOLING

- Potholes are excavated at four of the sample locations with anomalous results to determine if the samples were from the prescribed sampling depth.
- Multiple lithologies are encountered in each pothole.
- The hypothesis that individuals sampling soil may have sampled bedrock soil with low concentrations of K-40, Ra-226, and its progeny is not supported by potholing observations.

**October 16, 2012** — SUBSURFACE SAMPLING

- Additional locations are potholed and sampled.
- Results do not support the hypothesis that the individuals may have sampled bedrock soil with low concentrations of K-40, Ra-226, and its progeny.
- The Corporate RSO and others review soil sample data from other HPNS sites around the former Building 517 Site.

**October 15 through 19, 2012** — DATABASE REVIEW

- Investigative team members review soil sample results from the on-site database looking for similar anomalous data.
- The data review shows a pattern of consecutive samples with uncharacteristically low K-40, Ra-226, and progeny concentrations in 12 survey units at 3 additional sites in the Parcel C and E areas.
- The scope of the investigation is expanded to cover other survey units.

**October 24 through November 28, 2012** — SYSTEMATIC SAMPLING

- The QCPM oversees the resampling of the systematic samples at B517 SU-002.
- The investigative team takes action to collect systematic samples in these areas to determine if the radionuclide signature of low K-40, Ra-226, and progeny could be replicated.
- The systematic sample results are substantially more elevated than the anomalous set of systematics, suggesting that the anomalous set of systematic samples is not representative of its respective survey unit.

**Week of November 5, 2012** — INTERVIEWS

- To investigate the possibility of human error, the RSO and QCPM conduct interviews with individuals on the COCs for the anomalous soil sample results.
- Also interviewed are TtEC Health Physics Supervisors, subcontracted Radiation Control Technicians (RCTs), laboratory employees, quality control personnel, and the basewide supervisor.
- All individuals interviewed claim that all appropriate soil sampling techniques were used and all work was completed in an ethical manner.

**November 7, 2012** — INSPECTION OF SITES WITH ANOMALOUS DATA

- Investigative team members conduct a visual inspection of soil surfaces at B517 SU-002, examine import fill soil, examine the North Pier, and examine the former Building 707 Site.
- The exposed layer of "road base" at the former Building 707 Site is found to be similar in color and composition to the anomalous soil samples from B517 SU-002.

November 7 and 8, 2012

VISUAL COMPARISON OF ARCHIVED SOIL SAMPLES

- The Corporate RSO and QCPM compare visual characteristics of different soil samples from the four different systematic sets collected within B517 SU-002.
- Because of color uniformity and the homogeneity of the low K-40, Ra-226, and progeny concentrations in an area with many visually distinct soil types, the investigators conclude that the soil samples were not collected from B517 SU-002.

November 2012

- The investigative team rules out various possible hypotheses for the anomalous soil samples leaving one possible explanation: The persons listed as the sample collectors on the COC forms, either by themselves or with others, collected soil samples in areas outside the designated survey units.
- Possible sources may be the "road base" in the SU 22/23 areas of the former Building 707 Site or the cuttings stored in Buildings 253/211.

November 29, 2012

- TtEC issues to the Navy an investigation report titled Investigation of Low Potassium Activity Concentrations in Soil Samples at Hunters Point Naval Shipyard.

December 3, 2012

- TtEC provides a copy of the investigation report to the Nuclear Regulatory Commission (NRC).

December 2012 through early 2013

CORRECTIVE ACTIONS

The following corrective actions are taken:

- The three remaining RCTs on the COC forms for anomalous samples are removed from TtEC projects. The two TtEC health physics supervisors responsible for the soil sample collection work are disciplined. All other project management personnel involved in the sampling process, including the project management team, quality control team, and radiation safety team, are issued letters of caution.
- All individuals directly involved in soil sample collection at HPNS attend refresher training on proper soil sample collection per the Sampling and Analysis Plan and SOP HPO-Tt-009, as well as proper filling out of COC forms.
- All individuals involved in soil sample collection, as well as every TtEC employee and subcontractor on the HPNS site, attend training on ethical behavior.
- TtEC resamples all survey units recommended for resampling. Any survey units exhibiting activity concentrations exceeding the release criterion for a respective radionuclide of concern are remediated and resampled until all release criteria have been met. All suspect data, including anomalous soil sample data and gamma static survey results, are rejected.
- TtEC resamples four of seven locations that reported anomalously low K-40 concentrations for some samples within systematic sample sets.
- A member of the HPNS quality control team conducts a surveillance of a minimum of 10 percent of final systematic sample collection. Issues identified during the surveillances are documented and corrected.
- A protocol is implemented for the corporate Radiation Safety Officer to be notified if sampling result trends are inconsistent with previous sampling results. This protocol includes K-40 and other radionuclides that are not radionuclides of concern.

September 2013

- The Navy provides comments to the November 29, 2012 investigation report.

October 2013

- Navy management holds a meeting with TtEC management to provide comments on the 2012 investigation report and to include a status of the corrective actions.

October 21, 2013

- TtEC issues a report titled Investigation of Anomalous Soil Samples at Hunters Point Naval Shipyard. The report, provided to the Navy and NRC, contains additional information, including the status of the corrective actions.

December 9, 2013

- The Navy requests additional clarification of the Investigation Report issued October 2013.

January 9, 2014

- TtEC responds to Navy comments.

February 2014
- The Navy asks a question related to Survey Units 707-15 and -20 and whether they will be included in the Investigation Report. The Navy also requests TtEC's concurrence to share the Investigation Report with the Base Closure Team (BCT).
- TtEC responds to the additional Navy comment, stating it will not include a discussion of Survey Units 707-15 and -20 because those survey units were not flagged as potentially anomalous, so were not included as part of the investigation. However, these survey units were addressed through TtEC's technical peer review and quality control review process during development of the Final Status Survey report. TtEC also provided the Navy concurrence with sharing the investigation report with the BCT. Because the report is being shared with the BCT, TtEC added an executive summary and updated the report with supplemental information.

March 3, 2014
- TtEC issues a report titled Investigation Conclusion, Anomalous Soil Samples at Hunters Point Naval Shipyard. The report is provided to the Navy and NRC.

April 23, 2014
- TtEC updates the Executive Summary and issues a report titled Investigation Conclusion, Anomalous Soil Samples at Hunters Point Naval Shipyard, Revision 1.

# TABLE OF CONTENTS



# TABLES

# TABLE OF CONTENTS
## (Continued)

## FIGURES



## ATTACHMENTS

# INVESTIGATION CONCLUSION, ANOMALOUS SOIL SAMPLES AT HUNTERS POINT NAVAL SHIPYARD

## INTRODUCTION

This Root Cause Analysis (RCA) was undertaken to determine whether the final systematic soil samples from Survey Unit 2 of the Former Building 517 Site had been collected at the locations specified in the Final Status Survey (FSS) report. The analysis of evidence from both the past sampling and from the investigation will help illuminate the causes that contributed to any discrepancies. During the investigation, Tetra Tech EC, Inc. (TtEC) identified additional survey units at Hunters Point Naval Shipyard (HPNS) that exhibited anomalous soil sample results. TtEC investigated each set of anomalous results; resampled and completed additional remediation, where necessary; and revised and resubmitted reports for these areas. TtEC also developed corrective actions to address the possible root causes for these anomalous samples to prevent recurrence of similar problems.

## EVENT DESCRIPTION

On October 4, 2012, during a routine call with the Navy's Radiological Affairs Support Office (RASO), a RASO official suggested that the final systematic samples for Survey Unit 2 (within the Building 517 footprint) had been collected from locations different than the ones specified in the FSS report. Figure 1 is a map showing the sample locations and remediated areas.

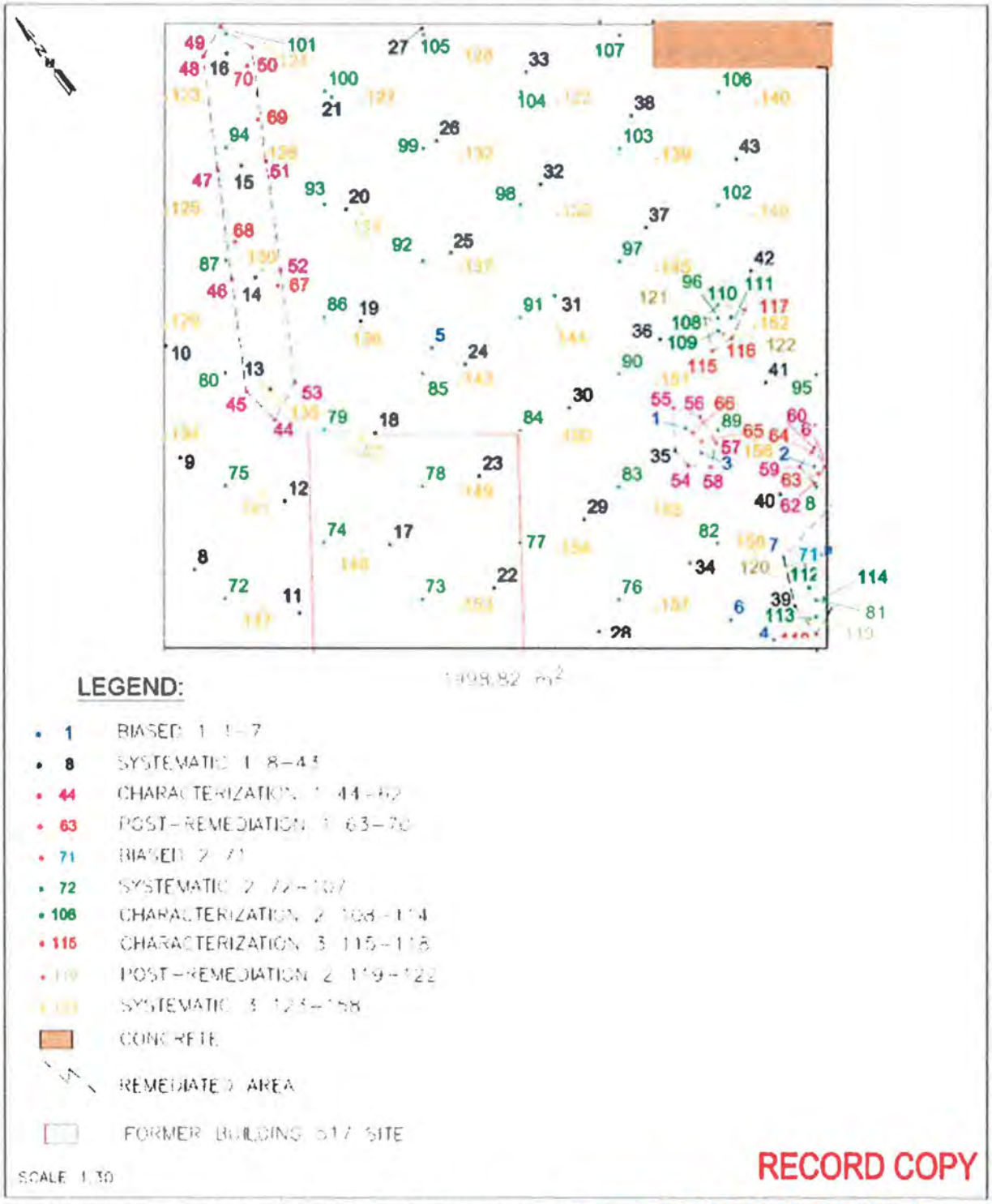
This suggested discrepancy was based on low potassium-40 (K-40) sample activity (< 5 picocuries per gram [pCi/g]) coupled with low radium-226 (Ra-226), bismuth-214 (Bi-214), and lead-214 (Pb-214) reported by the on-site Department of Defense accredited laboratory in the set of systematic samples collected post-remediation at a depth of no more than 6 inches below ground surface (bgs) for Building 517 Survey Unit 2 (B517 SU-002). These samples are described as "anomalous" soil samples because the sample results are not consistent with the expected sample results from the survey unit in question. These samples, and other samples meeting these conditions, are referred to as "anomalous samples" throughout this report

The determination of consistency was based on the professional judgment of the Radiation Safety Officer, and on comparison of the results with results from other soil samples collected concurrently or previously in the associated survey unit. Due to the complex fill history of HPNS, the soil sample results in some cases can be expected to be somewhat uniform, as in some surface survey units where the fill material appears homogeneous. In other cases, such as trench survey units that cut through several layers of different fill materials, the soil samples would be expected to exhibit a more varied distribution.

A subset of "anomalous samples" is often referred to as "low K-40" samples, because of an atypical concentration of low K-40, Ra-226, Bi-214, Pb-214, and cesium-137 (Cs-137) activity concentrations across a large number of soil samples within a survey unit. Such soil samples have been, and continue to be, collected periodically in various locations at HPNS, most notably along the 1935 shoreline (Figure 2 of Attachment 1). This was likely due to the expansion of the HPNS through use of fill materials derived from native Franciscan bedrock from the inland hill area. A description of the site conceptual model for the "low K-40" soil present throughout the site, especially along the boundary of the HPNS 1935 shoreline located in Parcel C, is included in Attachment 1. A listing of "low K-40" soil samples with a statistical analysis of "low K-40" soil samples and all soil samples collected since January 2008 is contained in Attachment 2.

## FIGURE 1

## BUILDING 517 SURVEY UNITS



Since January 1, 2008, approximately 2,500 samples meeting the definition of "low K-40" samples have been collected at HPNS.

The activity levels from various isotopes from the B517 SU-002 anomalous samples were not representative of previous systematic samples collected from the same trench unit, and were conspicuous in that the sample activities were consistent and unvarying across 36 of 36 samples. As shown in Attachment 3, the set of final systematic samples from B517 SU-002 had mean, median, and standard deviations for K-40 of approximately 1.78 pCi/g, 1.75 pCi/g, and 0.6 pCi/g, respectively. In contrast, the previous set of systematic samples collected on February 2, 2012, produced mean, median, and standard deviations for K-40 of 16.93 pCi/g, 15.83 pCi/g, and 7.62 pCi/g, respectively.

Since the on-site laboratory results were replicated by the off-site gamma spectroscopy laboratory, TestAmerica-St. Louis, the possibility of instrument error as the cause of the discrepancy was ruled out.

## BACKGROUND

### Geologic Setting

In the late 1930s and early 1940s, fill was used to create the land surface beyond the historic shoreline at HPNS. This fill ranged from silty and sandy clays with gravel to poorly graded sands, boulders, and debris deposits. A majority of the coarse fill material was locally derived from the Franciscan Formation bedrock consisting of serpentinite, greenstone, shale, greywacke, and chert. Competency of the bedrock material encountered near the surface at Parcel E ranges from low to very hard, and fractures are common. The weathered material is decomposed and is friable. The unweathered Franciscan bedrock is hard and fractured. In general, samples collected from Franciscan-derived materials report low radiological readings. The bedrock material is often referred to as "serpentinite" by the HPNS field workers.

### Former Building 517 Site Final Status Survey Summary

The Former Building 517 Site is located in Parcel E at HPNS, San Francisco, California. The original building measured approximately 50 feet by 50 feet. The Former Building 517 Site was previously used as a brig (jail) and the Naval Radiological Defense Laboratory Cobalt Animal Irradiation Facility.

The radionuclides of concern at the Former Building 517 Site are Cs-137, cobalt-60, and strontium-90. Due to its potential presence, Ra-226 is included as an additional radionuclide of concern. These radionuclides cover alpha, beta, and gamma emitters, all three possible kinds of radioactivity that could be emitted by these radionuclides.

An FSS for the Former Building 517 Site was designed in accordance with the Multi-Agency Radiation Survey and Site Investigation Manual (NUREG-1575; DoD et al. 2000). To perform the survey, the Former Building 517 Site was divided into two Class 1 survey units. Class 1 survey unit 1 consisted of a concrete slab. After the survey operations for the Class 1 concrete survey unit were completed, the concrete surface was removed to allow surveying of the Class 1 soil survey unit beneath the concrete. Although no Class 2 survey surrounding the Class 1 soil survey was performed, the designated Class 1 soil survey area extended beyond the foundation footprint of the Former Building 517 Site.

## INVESTIGATIVE TEAM AND METHODS

TtEC initiated the investigation to evaluate potential causes for the discrepancy. The investigation team consisted of:

- Erik Abkemeier, PE, CHP, CSP, CHMM, Nuclear Regulatory Commission (NRC) license Radiation Safety Officer (RSO)
- Greg Joyce, CQM, Program Quality Control Manager
- Adam Berry, Radiation Safety Officer Representative
- Rich Kanaya, Project Quality Control Manager
- Rick Weingarz, Assistant Project Manager

For this RCA, the investigative team used potholing, additional subsurface analysis, database review, on-site interviews, and visual comparison of soil samples.

## CHRONOLOGY OF EVENTS/TIMELINE

***October 5, 2012***

### B517 SU-002 Subsurface Investigation

Because the composition of the backfill within Parcel E may consist of bedrock debris and the depth of the actual bedrock can be extremely variable, the first step in the investigation was to determine if the set of systematic samples with the anomalous readings was collected from a specific layer in the subsurface that may or may not have been at the depth prescribed for sampling. The sampling depth for the systematic samples, as described in Standard Operating Procedure (SOP) HPO-Tt-009, is 15 centimeters (6 inches) bgs. The SOP is included as Attachment 4.

B517 SU-002 was located and marked out by TtEC on-site engineers. Final systematic sample locations and associated building footprints (B-509/B-517) were also located and marked. Once all markings were completed, stakes and rope were erected to establish a perimeter around SU-002. Signs reading "Do Not Enter" were hung around the perimeter to negate foot and equipment traffic.

***October 5 to 8, 2012***

### Locations #141, #148, #149, and #155 Potholes

On October 8, 2012, potholes were excavated with a backhoe to a depth of 3 feet bgs at four of the sample locations with anomalous results (#141, #148, #149, and #155) to identify lithology (Figure 1). Excavation at each location was performed in 6-inch lifts, with photographs and measurements collected between lifts. A geologist was present to aid in the identification of lithology. Multiple lithologies were encountered in each pothole. This created distinct layers of differing material types which varied with depth. A summary of the initial investigation and photographs of the sample locations potholed are included in Attachment 5.

In tandem with securing the B517 SU-002 area on October 5, all archived samples taken from the survey unit were pulled aside and secured for comparison with the lithology observed in the potholes. In general, the archived samples are light gray in color. Photographs of samples pulled from the archive for locations #141, #148, #149, and #155 are included in Attachment 5.

The samples matched the lithology at only one location (#155) where a lens of light grayish bedrock material was observed. The hypothesis that individuals sampling soil may have either consciously or accidentally sampled bedrock soil that had low concentrations of K-40, Ra-226, and its progeny was not supported by observations from the potholing at locations #141, #148, and #149.

***October 16, 2012***

**B517 SU-002 Subsurface Sampling**

Since the potholing was not conclusive at locations #141, #148, #149, and given the potential for variability in fill materials that may be present across B517 SU-002, additional locations in different quadrants of B517 SU-002 were potholed using a backhoe and sampled on October 16, 2012. The potholes were advanced in 6-inch intervals to a depth of 3 feet bgs. Samples were collected at 6-inch intervals to acquire information about the radionuclide concentrations at multiple depths to verify if sampling technique may have been a factor in the anomalous soil sample results. All sampling was verified and documented by an independent party, Rich Kanaya, Project Quality Control Manager, in surveillance reports included as Attachment 6. Photographs of the potholes are included as Attachment 7.

A summary of the Bi-214, Pb-214, Ra-226, and K-40 concentrations is provided in Table 1. A pothole sample map is shown as Figure 2.

**TABLE 1**

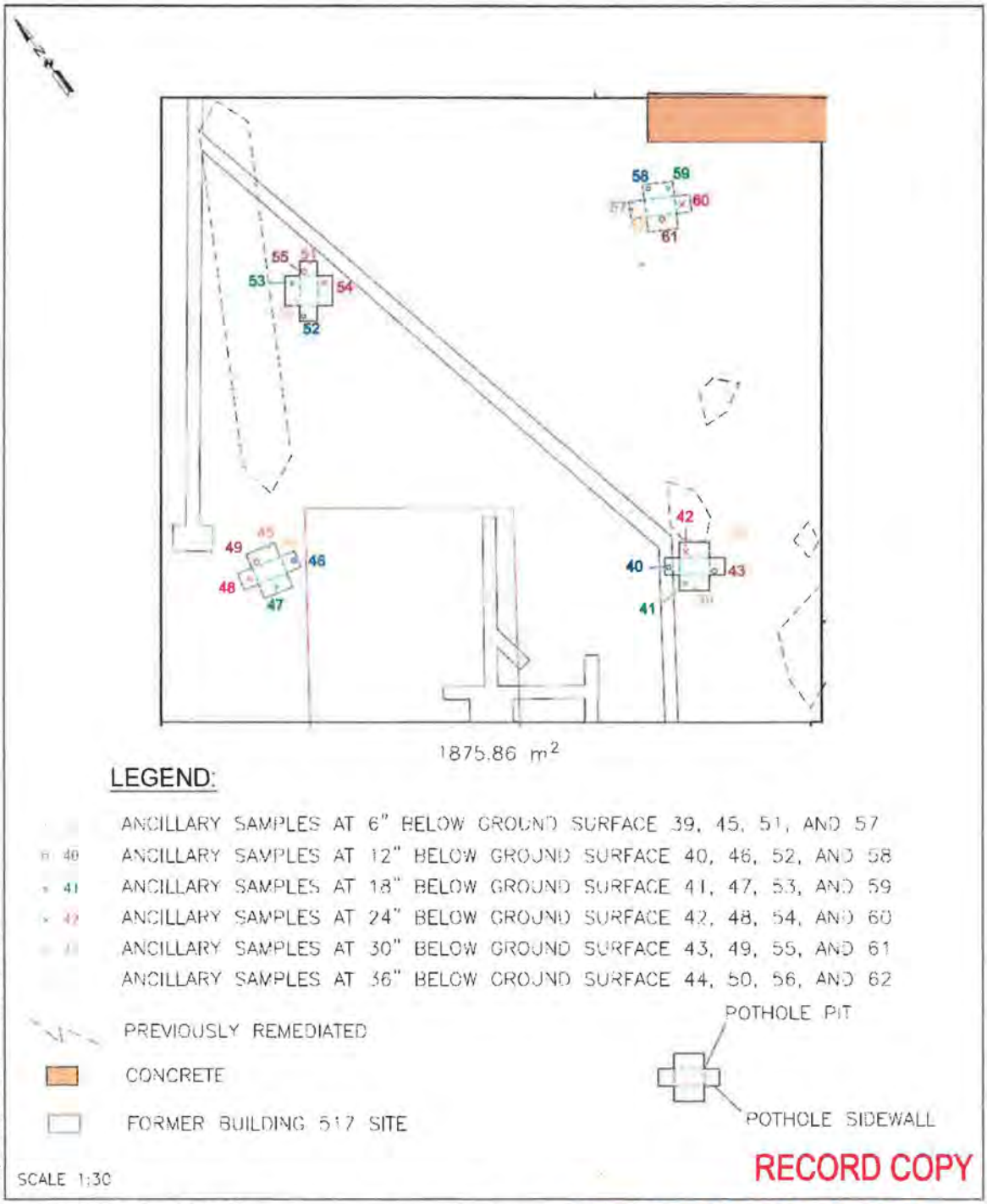
**FORMER BUILDING 517 SITE SU-002 INVESTIGATIVE POTHOLE RESULTS**

| | Sample ID | Bi-214 | Pb-214 | Ra-226 | K-40 |
|---|---|---|---|---|---|
| 6 inches | 07AB517-039 | 0.334 | 0.4707 | 0.7022 | 11.09 |
| | 07AB517-045 | 0.4849 | 0.6182 | 0.9035 | 11.89 |
| | 07AB517-051 | 0.4115 | 0.5577 | 0.819 | 13.81 |
| | 07AB517-057 | 0.3598 | 0.2577 | 0.5537 | 11.45 |
| 12 inches | 07AB517-040 | 0.4547 | 0.4334 | 0.7448 | 12.73 |
| | 07AB517-046 | 0.9698 | 0.9118 | 1.245 | 12.45 |
| | 07AB517-052 | 0.2658 | 0.3691 | 0.3634 | 10.76 |
| | 07AB517-058 | 0.3278 | 0.2753 | 0.5787 | 12.08 |
| 18 inches | 07AB517-041 | 0.3203 | 0.4782 | 0.752 | 11.77 |
| | 07AB517-047 | 0.07622 | 0.1602 | 0.4654 | 9.22 |
| | 07AB517-053 | 0.3269 | 0.3247 | 0.6957 | 7.926 |
| | 07AB517-059 | 0.101 | 0.1701 | 0.6186 | 8.725 |
| 24 inches | 07AB517-042 | 0.01964 | 0.02277 | 0.06388 | 0.476 |
| | 07AB517-048 | 0.04757 | 0.1221 | -0.1024 | 10.2 |
| | 07AB517-054 | 0.3334 | 0.2329 | 0.5851 | 6.622 |
| | 07AB517-060 | 0.4268 | 0.3673 | 0.5442 | 12.14 |
| 30 inches | 07AB517-043 | 0.1168 | 0.1369 | 0.1389 | 5.773 |
| | 07AB517-049 | 0.1962 | 0.2484 | 0.4376 | 8.74 |
| | 07AB517-055 | 0.1217 | 0.1549 | 0.4367 | 8.374 |
| | 07AB517-061 | 0.08145 | 0.1993 | 0.1689 | 6.603 |
| 36 inches | 07AB517-044 | 0.08985 | 0.1425 | 0.6409 | 10.85 |
| | 07AB517-050 | 0.6213 | 0.591 | 1.016 | 9.783 |
| | 07AB517-056 | 0.2989 | 0.3047 | 0.3685 | 10.39 |
| | 07AB517-062 | -0.02878 | 0.06787 | 0.1407 | 4.778 |

K-40 < 5 pCi/g

# FIGURE 2

## POTHOLE SAMPLE MAP




**HUNTERS POINT NAVAL SHIPYARD**
**SAN FRANCISCO, CA**
P.O. BOX 884836
SAN FRANCISCO, CA 94188

**500 SERIES SURVEY UNITS**
**CLASS 1 SURVEY UNIT**
**517 SU-02**


**TETRA TECH EC, INC**
1230 COLUMBIA STREET, SUITE 750
SAN DIEGO, CA 92101
TEL: (619) 234-8690 FAX: (619) 234-8591

The complete set of soil sample results is available upon request.

Given that all 36 final systematic samples collected on April 10, 2012, in B517 SU-002 showed K-40 at concentrations less than 5 pCi/g, it would be expected that sample results from the four quadrant locations at 6-inch intervals to depths of 3 feet bgs would have similar results. However, only two locations had results similar to the final systematic results, and both of these locations were significantly deeper than the targeted 6 inches bgs.

**B517 SU-002 Subsurface Investigation Conclusions**

The hypothesis that individuals sampling soil may have either consciously or accidentally sampled bedrock soil that had low concentrations of K-40, Ra-226, and progeny was not supported by observations from the potholing or the subsurface sampling. No lithological evidence suggests that a bedrock soil layer exists, light gray in color, that is contiguous across B517 SU-002 at depths less than 2 feet bgs, which would account for anomalous readings in all 36 final systematic sample locations. In addition, even though two results from subsurface sampling were similar to the anomalous K-40 results, neither sample was located at a depth that could be credibly attributed to misjudging a 6-inch sampling depth.

***October 16, 2012***

**Investigation to Identify Other Sites with Low K-40 Data**

While waiting for the results from the subsurface sampling, the NRC licensed RSO, Erik Abkemeier, and others reviewed soil sample data collected from other HPNS sites surrounding the Former Building 517 Site. The review looked specifically for soil samples with K-40 concentrations less than 5 pCi/g.

Previous to this investigation, patterns of radionuclide concentrations were not specifically analyzed by anyone on the HPNS team. Concentrations of Ra-226 and its progeny were carefully monitored on gamma spectroscopy results to ensure that the Ra-226 release criterion was not exceeded. As K-40 is not a radionuclide of concern, K-40 concentrations were not monitored other than in conjunction with evaluating gamma scan and static readings that appear more elevated than usual but do not exhibit elevated concentrations of any of the radionuclides of concern.

***October 15 through 19, 2012***

**Database Review**

From October 15 through October 19, Erik Abkemeier, George Chiu, and Thorpe Miller reviewed soil sample results from the on-site database, as well as survey unit sampling maps. The review was to:

- Identify areas with similar anomalous K-40, Ra-226, and progeny concentrations that do not correlate with previous samples in the area in the event that multiple soil sample sets were collected.
- Evaluate soil sample sets exhibiting similar radionuclide concentrations that appear divergent from other soil samples in the area.

The key radionuclides, sampling date, and individual listed as the sample collector on the sample chain of custody are provided in the spreadsheets in Attachment 3. Note that not all survey units

listed in the spreadsheet show anomalous soil sample results. Some survey units are listed for comparison of soil sample results for other survey units in the same general area.

The review of the data showed a pattern of consecutive samples with uncharacteristically low K-40, Ra-226, and progeny concentrations in 12 survey units at 3 additional sites in the Parcel C and E areas. In many of these areas, previous systematic samples collected in the same vicinity did not show the same low K-40 concentration. As these anomalies are consistent with the K-40 sample concentrations as evidenced in B517 SU-002, the scope of the investigation was expanded to cover other survey units.

***October 24 through November 28, 2012***

**Additional Systematic Sampling**

From October 24 through November 28, the HPNS team took action to collect systematic samples in these areas to determine if the radionuclide signature of low K-40, Ra-226, and progeny could be replicated. An additional surveillance was conducted by Greg Joyce on October 24, 2012, for B517 SU-002. The surveillance report is contained in Attachment 8. A listing of survey units that warranted further investigation is provided as Table 2. Soil sample survey maps for the former Building 517 Site, Building 707 Triangle Area (707 Area), Shack 79/80, and North Pier are included in Attachment 3.

**TABLE 2**

**SURVEY UNITS RECOMMENDED FOR RESAMPLING**

| Area | Survey Unit | Sample Numbers | Date Collected | COC Radiological Technician |
|---|---|---|---|---|
| 517 | 2 | 123-158 | 10-Apr-12 | Jeff Rolfe |
| 707 | 9 | 59-78 | 08-Jun-11 | Jeff Rolfe |
| 707 | 16 | 67-86 | 07-Jun-11 | Jeff Rolfe |
| 707 | 17 | 64-83 | 08-Jun-11 | Jeff Rolfe |
| 707 | 22 | 81-100 | 12-Aug-12 | Anthony Smith |
| 707 | 23 | 5-24 | 31-Jul-12 | Jeff Rolfe |
| North Pier | 1 | 28-47 | 31-May-12 | Ray Roberson |
| North Pier | 7 | 30-49 | 04-Jun-12 | Justin Hubbard |
| North Pier | 8 | 32-51 | 31-May-12 | Ray Roberson |
| North Pier | 10 | 27-46 | 31-May-12 | Ray Roberson |
| North Pier | 11 | 27-46 | 31-May-12 | Ray Roberson |
| 79/80 | 2 | 3, 5-6, 8-22 | 04-Apr-12 | Jeff Rolfe |

**Additional Systematic Sampling Results**

Results, including calculation of the mean, median, and standard deviation values for the complete systematic sample data sets, are contained in the spreadsheets of Attachment 3. The systematic sample results collected as a result of this investigation are substantially more elevated than the anomalous set of systematics, suggesting that the anomalous set of systematic samples is not representative of its respective survey unit.

For example, in the set of final systematic samples from B517 SU-002 that led to this investigation, the mean, median, and standard deviation for K-40 concentrations were approximately 1.78 pCi/g, 1.75 pCi/g, and 0.6 pCi/g, respectively. The set of systematic samples collected as part of this investigation on October 24, 2012, produced results for K-40

concentration mean, median, and standard deviations of 15.16 pCi/g, 14.77 pCi/g, and 5.13 pCi/g, respectively.

Note that in some cases, such as in the Shack 79/80 Survey Unit 2, soil samples collected as a result of the anomalous set of systematic samples identified radionuclides of concern at a level exceeding a radionuclide-specific release criterion. In these cases, additional characterization samples were collected to bound the extent of contamination and remediate the affected area. These soil sample results are included in Attachment 3 as well.

Table 3 is a listing of survey units showing some low K-40 concentrations but not exhibiting the need for collection of an entire systematic sample set, due either to a mix of more elevated K-40 concentrations and/or no other sets of samples that conflict the low K-40 results. These survey units warrant further review and may require resampling.

**TABLE 3**

**SURVEY UNITS WITH LOW K-40 CONCENTRATIONS FOR POSSIBLE RESAMPLING**

| Area | Survey Unit | Sample Numbers | Date Collected | COC Radiological Technician |
|---|---|---|---|---|
| 500 | 3 | 45-56 | 4/4/12, 4/13/12 | Jeff Rolfe/Anthony Smith |
| 707 | 3 | 37-56 | 24-Feb-11 | Jeff Rolfe |
| 707 | 13 | 31-50 | 4-Mar-11 | Jeff Rolfe |
| Parcel C Trench | 234 | 1-18 | 18-Nov-11 | Joe Cunningham |
| Parcel C Trench | 238 | 18-35 | 12-Apr-12 | Joe Cunningham |
| Parcel C Trench | 242 | 25-42 | 17-Apr-12 | Joe Cunningham |
| Parcel C Trench | 302 | 5-22 | 22-May-12 | Joe Cunningham |

Note that the Building Area 500, Survey Unit 3 samples are the result of post-remediation samples collected at a deeper point than surface samples. The final set of systematics in that survey unit showed a typical radionuclide concentration distribution for K-40, Ra-226, and progeny. These samples lend credence to the possibility that soil samples from B517 SU-002 were dug below a depth of 6 inches. As that theory has been effectively disproven, these soil samples are questionable as well.

Additionally, the Parcel C trenches listed in Table 3 have been backfilled and are not easily accessible. Because trenches to remove pipe are at a depth that frequently intersects with the native bedrock soils, there is a possibility that the soil type at which the trench samples were collected is of a uniform naturally occurring radionuclide concentration, such that the samples are all valid; however, these trenches do have sets of final systematic samples that are anomalous when compared to other survey units. Recommendations regarding these trenches are included in Attachment 19.

***Week of November 5, 2012***

**On-Site Interviews and Examination of Samples**

Because laboratory error and the presence of a near-surface contiguous bedrock soil were ruled out as a possible cause for the B517 SU-002 discrepancy and results from vertical sampling and another set of systematic samples, collected within feet of the anomalous locations, did not report

similar low K-40 results, the next step was to investigate the potential of human error as the cause for the discrepancies.

During the week of November 5, 2012, Erik Abkemeier and Greg Joyce conducted investigations at HPNS consisting of:

- Interviews with individuals listed on the chains of custody for the anomalous soil samples listed in Table 2, as well as direct supervisors, members of the sampling crews, and individuals listed on the receiving end of the soil samples at the Curtis and Tompkins on-site laboratory
- Inspection of the sites with anomalous systematic sample sets to determine the homogeneity of surface soil type as well as examine the soil strata in the potholes dug in B517 SU-002
- Visual comparison of all sets of systematic soil samples collected at B517 SU-002

**Interviews with Personnel**

Interviews were conducted with a predetermined set of questions, including prompts for any knowledge of improprieties or unethical behavior, as well as a lead-in by Erik Abkemeier and Greg Joyce describing the situation, the seriousness of the situation, and the likelihood of follow-up questions from other entities. Individuals were often asked follow-up questions to further understand the sample collection, sample receipt, or sample preparation process, as well as to probe for any direct or indirect pressures. A synopsis of the interview with each individual is included in Attachment 9.

Field Employees

The individuals interviewed as a part of the teams collecting soil samples in the field consisted of TtEC Health Physics Supervisors, Steve Rolfe and Justin Hubbard; Radiological Survey & Remedial Services, LLC (RSRS) subcontracted Radiation Control Technicians (RCTs), Jeff Rolfe and Ray Roberson; and TtEC laborers Jorge Colonel, Reggie Young, and Jeff Langston. Although listed on the chains of custody for some anomalous systematic soil sample survey units, Anthony Smith and Joe Cunningham were not interviewed as they were no longer working at the HPNS project site at the time of the investigation. Shortly after this investigation, Ray Roberson passed away.

From these interviews, the following points were corroborated consistently:

- Only HPNS Health Physics Supervisors or RCTs fill out chain-of-custody paperwork.
- HPNS Health Physics Supervisors give direction on what tools to use, consisting of picks, shovels, chipper hammers, and sometimes backhoes for hard surfaces, as well as what depth to collect the samples.
- Sample locations are selected using Visual Sample Plan software as described in the approved work plans. Engineers provide a map and orange markings with numbers on the ground in each survey unit to mark areas where samples are to be collected and field crews sampled only where the sample location was marked.
- Only one to two sets of survey unit samples could be collected in one day. Collecting greater numbers of samples would be difficult.

- No one knew of any sample collection outside the points that samples were marked to be collected or of sampling outside the survey unit sites.
- The teams were under no pressure or schedule deadlines for completing survey units. The only indication of any sense of urgency came from Steve Rolfe, who had been told that there had been no completed work that could be invoiced for Parcel E in some time.

During these interviews, both Justin Hubbard and Ray Roberson stated that collection of more than two sets of systematic samples in one day would be difficult. However, the investigation revealed that Ray Roberson was listed on chains of custody for four sets of systematic samples from the North Pier, which is extremely rocky and difficult to sample, as well as an additional trench segment survey unit, all on May 31, 2012. These chains of custody are in conflict with the statements made by these two individuals.

Laboratory Employees

The individuals interviewed as a result of being listed on the chains of custody for sample receipt of anomalous systematic soil samples at the Curtis and Tompkins on-site laboratory were Phil Smith and Robin Fluty, laboratory supervisors, and Jeff Fluty, Andy Alexander, and Jon Alexander, laboratory technicians. All are Curtis and Tompkins employees.

For these interviews, the following points were consistently corroborated:

- Verifying the sample bag numbers against the chain-of-custody forms is an established process.
- Sample preparation is an established process.
- Sample bags are stored in the receipt or processing Conex to which only the laboratory technicians and laboratory manager have lock access.
- The Conex is never left unattended or unlocked.
- Laboratory employees have minimal knowledge of where soil samples are collected in the field.
- Laboratory employees have minimal knowledge of whether specific soil samples are above or below a release criterion for a radionuclide of concern.
- All laboratory technicians can perform all functions, all sample receipt, sample analysis, and gamma spectroscopy.

Other HPNS Employees

Additionally, Bryan White, Basewide HPNS Supervisor at the time of investigation and former Radiological Quality Control personnel, and Jarvis Jensen, Health Physicist, were interviewed. Bryan White provided background and insight into the manner in which soil samples are typically collected, as he had performed quality control surveillances of the evolution in the past. He knew of no intentional soil tampering, and did not believe anyone on-site would engage in such an activity. Jarvis Jensen was not aware of any known or rumored soil sample tampering. He had originally suspected the anomalous soil sample results found in the B517 SU-002 had been the result of digging too deep because he believed it was fairly common knowledge among the RCTs that the "blue-green" serpentinite rock provided favorably low Ra-226 results.

*November 7, 2012*

**Inspection of Sites with Anomalous Data**

On November 7, 2012, Erik Abkemeier and Greg Joyce accompanied Construction Manager Dennis McWade and Radiation Safety Officer Representative Adam Berry to inspect B517 SU-002, various import fill piles, the North Pier, and the 707 Site.

Examination of Soil Surfaces at Former Building 517 Site, Survey Unit 2

A visual inspection of the surface soils at B517 SU-002 showed that there appears to be a number of different soil types throughout the surface area, of which little appears to match the gray soil from the anomalous set of systematic samples. Additionally, the four potholes contained materials in a variety of colors, but the depths were not consistent. Therefore, collecting an entire set of 36 systematic samples in a contiguous soil stratum at depth, by accident, seemed unlikely.

Examination of Import Fill Piles

The same individuals visited the site of several import fill piles to look for soil that appeared similar to the soil of the anomalous B517 SU-002 samples. Soil samples collected for gamma spectroscopy analysis from the import fill piles did not have any results similar to the anomalous sample results.

Examination of North Pier

The North Pier had been covered by crushed asphalt at the conclusion of remediation several months earlier; however, it was evident where samples had been collected as part of the investigative process. A test pit was dug to a depth of 3 feet bgs. The soil beneath the asphalt was a mixture of rocks, gravel, and clays, and was not consistent throughout the area. Results from the test pit on the North Pier are shown in the following Table 4, and sampling locations are shown on Figure 3. Photographs are provided in Attachment 10. No results at any depth were comparable to the anomalous soil samples with low concentrations of K-40, Ra-226, and progeny.

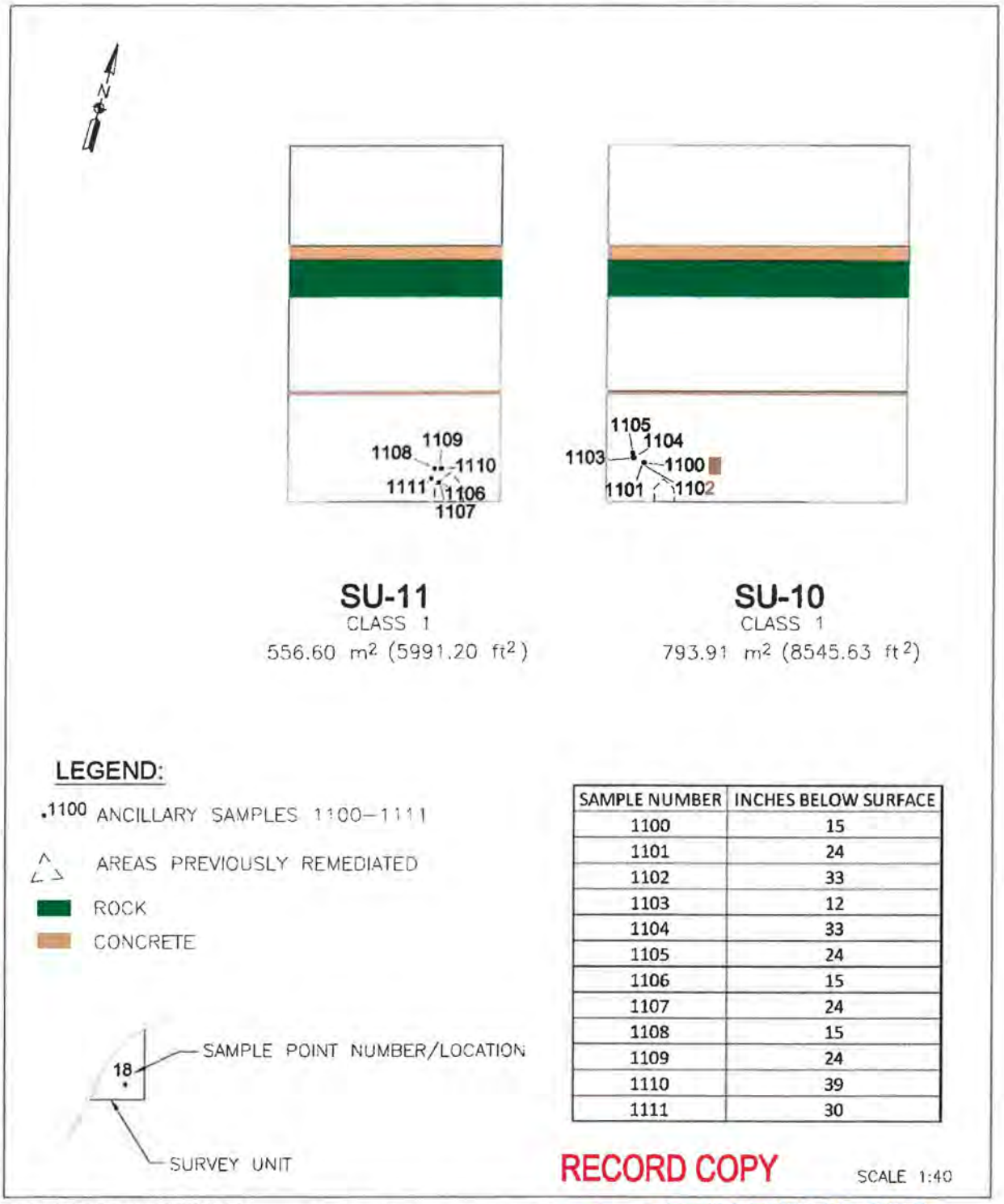
**TABLE 4**

**NORTH PIER TEST PIT SAMPLES COLLECTED TO A DEPTH OF 3 FEET**

| Sample ID | K-40 (pCi/g) | Ra-226 (pCi/g) | Cs-137 (pCi/g) | Bi-214 (pCi/g) | Pb-214 (pCi/g) |
|---|---|---|---|---|---|
| 07A-SB04-002 | 13.73 | 0.5723 | 0 | 0.5101 | 0.4946 |
| 02ANPR-1100 | 6.796 | 0.3756 | -0.01209 | 0.0923 | 0.2235 |
| 02ANPR-1101 | 9.391 | 0.3323 | -0.008652 | 0.2755 | 0.4686 |
| 02ANPR-1102 | 9.294 | 0.4989 | -0.006876 | 0.4131 | 0.3777 |
| 02ANPR-1103 | 6.227 | 0.3655 | -0.0004954 | 0.09775 | 0.1739 |
| 02ANPR-1104 | 8.076 | 0.3324 | 0 | 0.3696 | 0.2369 |
| 02ANPR-1105 | 8.011 | 0.1466 | 0 | 0.3387 | 0.3623 |
| 02ANPR-1106 | 10.64 | 0.5653 | -0.006999 | 0.3513 | 0.4925 |
| 02ANPR-1107 | 10.51 | 0.4341 | 0.007666 | 0.3817 | 0.5214 |
| 02ANPR-1108 | 17.77 | 1.359 | 0.01339 | 0.4399 | 0.5899 |
| 02ANPR-1109 | 6.758 | -0.1163 | -0.004885 | 0.1066 | 0.2448 |
| 02ANPR-1110 | 7.906 | 0.4756 | 0.004713 | 0.143 | 0.2897 |
| 02ANPR-1111 | 7.847 | 0.5883 | 0.001557 | 0.3008 | 0.3195 |

## FIGURE 3

## NORTH PIER SAMPLE LOCATIONS




| SAMPLE NUMBER | INCHES BELOW SURFACE |
|---|---|
| 1100 | 15 |
| 1101 | 24 |
| 1102 | 33 |
| 1103 | 12 |
| 1104 | 33 |
| 1105 | 24 |
| 1106 | 15 |
| 1107 | 24 |
| 1108 | 15 |
| 1109 | 24 |
| 1110 | 39 |
| 1111 | 30 |

**HUNTERS POINT SHIPYARD**
**SAN FRANCISCO, CA**
P.O. BOX 884836
SAN FRANCISCO, CA 94188

**NORTH PIER WA-32**
**SURVEY UNIT 10**

**TETRA TECH EC, INC**
1230 COLUMBIA STREET, SUITE 750
SAN DIEGO, CA 92101
TEL: (619) 234-8690 FAX: (619) 234-8591

Examination of Site 707

Due to performance of the Task-specific Plan for the Building 707 Triangle Area Remedial Action Support and Final Status Surveys, the 707 Site had varying degrees of remediation performed, so that there were different depths across the area. An exposed layer of "road base," looked similar in color (gray) and composition (relatively homogeneous) to the soil samples from B517 SU-002. Photographs are provided in Attachment 11, and sample locations are shown on Figure 4. Samples of the road base were analyzed, and results are shown in Table 5.

**FIGURE 4**

**SITE 707 TRIANGLE MAP**

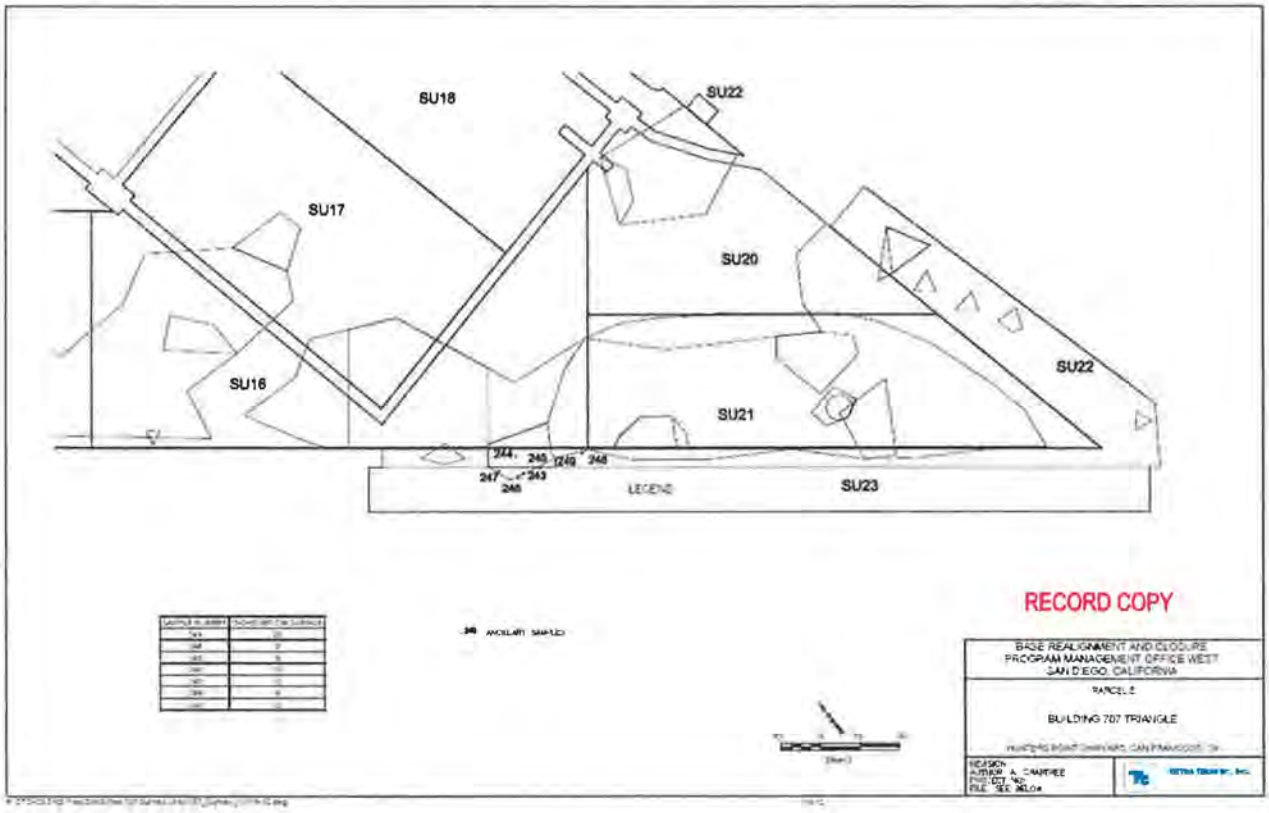



**TABLE 5**

**SITE 707 ROAD BASE SAMPLE RESULTS**

| Sample ID | K-40 (pCi/g) | Ra-226 (pCi/g) | Cs-137 (pCi/g) | Bi-214 (pCi/g) | Pb-214 (pCi/g) |
|---|---|---|---|---|---|
| 03AB707-243 | 0.9625 | -0.0327 | 0 | 0.04739 | 0.05083 |
| 03AB707-244 | 10.66 | 0.2727 | 0.0003179 | 0.2967 | 0.2651 |
| 03AB707-245 | 1.387 | -0.005944 | 0 | 0.05911 | 0.003418 |
| 03AB707-246 | 1.767 | 0.1753 | -0.003111 | 0.04795 | 0.1434 |
| 03AB707-247 | 4.043 | 0.3342 | 0.002867 | 0.09128 | 0.2231 |
| 03AB707-248 | 4.025 | 0.2588 | 0 | 0.2039 | 0.2427 |
| 03AB707-249 | 1.819 | 0.2468 | 0.00544 | 0.1213 | 0.1636 |

As the results of all but one sample seemed to closely match the low K-40, Ra-226, and progeny concentrations seen in the anomalous results, this site is a potential source of the material. Note that the only result that did not match the radionuclide signature (Sample ID 03AB707-244) was collected at the surface, and not in the actual "gray road base" stratum.

***November 7 to 8, 2012***

**Visual Comparison of B517 SU-002 Archived Soil Samples and Associated Tuna Cans**

On November 7 to 8, 2012, Erik Abkemeier, Greg Joyce, and Rick Weingarz compared visual characteristics of different soil samples from the four different systematic sets collected within B517 SU-002. Samples 8 to 43 were the original set of systematics, samples 72 to 107 were the second set of systematics, samples 123 to158 were the third set of systematics (with anomalously low K-40, Ra-226, and progeny concentrations), and samples 159 to 194 were the fourth set of systematics collected and analyzed as a result of this investigation. Because there was a comparatively small amount of remediation performed, one would not expect a significant change in the radionuclide concentration or physical characteristics within a small area. Attachment 12 provides photographs and locations of the various groupings of soil samples, both from tuna cans and excess soil sample bags.

One clear feature is that the samples from the third set of systematic samples do not appear similar in color to any of the other systematic samples, and all of the samples within the set look extremely similar, if not identical. This color uniformity coupled with the homogeneity of the low K-40, Ra-226, and progeny concentrations in an area with many visually distinct soil types within the survey unit led the investigators to conclude that the soil samples were not collected from B517 SU-002.

***November 29 to December 3, 2012***

**Initial Investigation Report**

The initial investigation report titled Investigation of Low Potassium Activity Concentrations in Soil Samples at Hunters Point Naval Shipyard is provided to the Navy and the NRC.

***October 5 to 21, 2013***

**Update and Response to Navy Letter**

On October 3, 2013, Navy management held a meeting with TtEC management to discuss a proposed update to the November 2012 initial investigation report. At the conclusion of this meeting, the Navy issued a letter (Attachment 13) on the same date requesting additional information.

TtEC agreed to reissue the initial report to include a status of corrective actions, as well as provide additional information on the investigation since submitting the initial report on November 29, 2012. The revised report incorporated the additional information requested by the Navy and updated the status of corrective actions taken by TtEC as of October 2013.

The Navy asked that TtEC identify the origin of the "low K-40" soil that may have been substituted in the sampling process (see question 1.c, Attachment 13). The investigators initially suspected the source of the "low K-40" soil was the Building 707 Triangle Area. Subsequent investigation of other potential source materials and analyses revealed that drill cuttings

consisting of greenish/grayish soil present on the ground floor of Building 253/211 have radioanalytical characteristics consistent with the "low K-40" soil. The radioanalytical results for these soil samples are contained in Attachment 14 and are summarized in Table 6.

**TABLE 6**

**BUILDING 253/211 DRILL CUTTING SOIL SAMPLE RESULTS**

| Sample ID | Bi-214 (pCi/g) | Cs-137 (pCi/g) | K-40 (pCi/g) | Pb-214 (pCi/g) | Ra-226 (pCi/g) | Comments |
|---|---|---|---|---|---|---|
| 04AB253-901 | 0.04346 | 0 | 0.1799 | 0.01653 | 0.02979 | Green |
| 04AB253-902 | 0.1198 | 0 | 3.64 | 0.1448 | 0.4302 | Brownish-white |
| 04AB253-903 | 0.001009 | 0 | 0.3812 | 0.1263 | 0.1748 | Green |
| 04AB253-904 | 0.3593 | 0.003745 | 8.103 | 0.4839 | 0.9601 | Brown/White mix |
| 04AB253-905 | 0.03367 | -0.0001166 | 0.4592 | -0.0007405 | 0.1023 | Green |
| 04AB253-906 | 0.1627 | -0.002036 | 3.323 | 0.2025 | 0.3245 | Dark Brown |

The significance of this discovery was that if individuals decided to substitute samples from one source, it would be easier in the confines of a building where the actions are less likely to be observed by others. Either the Building 707 Triangle Area or the Building 253/211 drill cuttings, or both, may have been used as substitute soil samples, as both soil sources exhibit similar radiological characteristics. However, the investigators were unable to conclusively determine a source.

Copies of chain-of-custody forms, gamma static surveys, scan surveys, daily report information, and other ancillary information associated with the survey units listed in Tables 2 and 3 are included as Attachment 15.

Several other issues were identified through a review of survey data and chain of custody records (see request 1.d in Attachment 13):

- The same individual, Ray Roberson, was listed on the chain-of-custody form as having collected soil samples on May 31, 2012, at Survey Unit 304 at the same time he was listed as collecting soil samples at North Pier Survey Unit 11. The purpose for discussing Ray Roberson as the signatory on chain-of-custody forms is to pinpoint any unusual documentation; it is not meant to imply that Mr. Roberson was the sole cause or contributor to the anomalous data.
- Gamma static surveys were conducted in North Pier Survey Units 1, 8, 10, and 11 on May 31, 2012, from 14:52 to 16:25. The soil samples from these areas were documented as having been received at the Curtis and Tompkins laboratory from 16:12 to 16:45. If the soil samples had been collected appropriately, gamma static surveys would have been collected prior to collection of the soil samples.
- The collection of 1-minute statics in Survey Unit 1 on May 31, 2012, for 20 samples from 14:52 to 15:14 (22 minutes), Survey Unit 8 from 15:18 to 15:39 (21 minutes), Survey Unit 10 from 15:41 to 16:03 (22 minutes), and Survey Unit 11 from 16:04 to 16:25 (21 minutes) is not consistent with the typical times to collect 1-minute gamma static measurements (typically in the 28- to 32-minute range for 20 measurements). This is indicative that the gamma static measurements may have been collected in a smaller area than a typical survey unit.

- Chain-of-custody forms for the North Pier Survey Units 1, 8, 10, and 11 in Attachment 15 list the name of the sampler as "Ray Roberson," but the chain-of-custody form for Survey Unit 304 lists the name of the sampler as "R. Roberson."
- In the Site 707 Survey Unit 17 area, only a minor remedial action was taken. Prior to the remediation, 40 percent of the gamma static surveys exceeded the mean background plus three sigma investigation limit. On June 8, 2011, during the collection of soil samples, none of the gamma static survey measurements was above the mean background plus three sigma investigation level. This brings into question whether soil samples collected on June 8, 2011, were from the same area from which previous samples were collected.

All of the individuals who appeared to be involved based on these ancillary records are the same individuals identified as either signing as the sample collector for anomalous soil samples and/or the Health Physics Supervisor responsible for the sample collection. As such, these individuals received disciplinary action, and the associated data had already been rejected from inclusion in any FSS reports, as the associated resampling work was conducted in its entirety.

## FINDINGS

The investigation was conducted to assess a discrepancy regarding the final systematic soil samples from B517 SU-002, which may not have been collected at the locations specified in the FSS report. The following are findings based on various possible scenarios that might have contributed to or caused the discrepancy:

- **Hypothesis: Did Instrument Error Cause the Discrepancy?**
  - The excellent correlation between on-site laboratory gamma spectroscopy results and the off-site gamma spectroscopy results for K-40, Ra-226, Bi-214, and Pb-214 effectively rules out instrument error as a cause for the anomalously low K-40, Ra-226, and progeny results. A comparison of onsite and offsite laboratory results is contained in Attachment 3.
- **Hypothesis: Did Laboratory Error Cause the Discrepancy?**
  - Curtis and Tompkins laboratory technicians are essentially blind of field sampling events.
  - Curtis and Tompkins chain of custody and sample control are robust and well controlled. Information provided by Curtis and Tompkins laboratory technicians corroborating chain of custody and sample control is contained in Attachment 9.
- **Hypothesis: Were the Anomalous Samples Collected at the Prescribed Depth?**
  - The idea that individuals sampling soil may have either consciously or accidentally sampled bedrock soil with low concentrations of K-40, Ra-226, and its progeny was not supported by either observations from the potholing or the subsurface sampling. Information is contained in Attachments 6 and 7.
  - No lithological evidence suggests that there is a bedrock soil layer, light gray in color and contiguous across B517 SU-002 at less than 2 feet bgs, that would account for anomalous readings in all 36 final systematic sample locations.

- **Hypothesis: Can Sample Results in Question Be Replicated?**
    - Samples collected during the investigation fail to yield results that match the uniform results for K-40, Ra-226, and progeny produced in the anomalous set of systematic results for each survey unit in question. Collection of soil samples at various depths within a survey unit does not result in replicating anomalously low K-40, Ra-226, and progeny results, with few exceptions. The exceptions noted are at depths significantly below the surface.
- **Hypothesis: Does Visual Inspection and Comparison Show Soil Homogeneity?**
    - Visual inspection of the survey units in question shows a wide variety of soil types, such that a consistent concentration of naturally occurring radioactive materials within an individual survey unit is unlikely.
    - Visual inspection of the anomalous soil samples as compared to other soil samples collected in the area shows a homogeneity in the anomalous soil samples that is not produced in any other soil sample collected within the area.
- **Hypothesis: Did Inappropriate Sampling Techniques Result in Discrepancies?**
    - All individuals interviewed claimed all appropriate soil sampling techniques were employed. Personnel interview information is contained in Attachment 9.
- **Hypothesis: Did Management Commitment to Schedule Create a Motive to Complete Work by Unethical Means?**
    - Field RCTs, lab technicians, and laborers from the sampling crew, when directly asked during individual interviews if they felt pressure to meet a schedule, all stated that they felt no pressure to complete work. The one exception was Steve Rolfe's comments that the work in the 707 Area had not been completed within the period of performance, and that there was an extended period of time that billable work had not been completed in Parcel E.
    - As the RCTs are subcontracted workers typically migrating to different projects at the completion of contract work, it is counterintuitive for them to complete work in an unethical manner. When the work is completed, the RCTs associated with the contract are released from work, and must seek employment on another contract. Thus, it appears to be beneficial to the RCTs for a work period to be extended as long as possible, such as through more remediation work resulting from systematic soil samples with concentrations of radionuclides of concern exceeding the radiological release criteria. Personnel interview information is contained in Attachment 9.

## CONCLUSIONS

With the above hypotheses ruled out, there is one feasible explanation for samples exhibiting consistently low concentrations of K-40, Ra-226, and progeny, with visual characteristics that are similar, if not identical, but not representative of the heterogeneous soil types within the survey units in question. That explanation is that the persons listed as the sample collectors on the chain-of-custody forms, either by themselves or in conjunction with others, collected soil samples in areas outside the designated survey units. Note that Mr. Anthony Smith and Mr.

Joseph Cunningham were listed on the chain-of-custody forms but were not available for interviews because they had left the HPNS project before the investigation began.

The homogeneity of the soil sample results and visual characteristics indicate that the soil samples may have been collected from one homogeneous soil type, possibly from a small area. The soil referred to as the "road base" in the Survey Unit 22/23 areas of the Site 707 may be a source of the material, as its radionuclide signature is similar to that of the soil from the "anomalous" samples, and the grayish color is similar. Sample results collected from drill cuttings from another contractor and stored in Buildings 253/211 show similar "low K-40" results as discussed previously. This may have also served as the source of the "low K-40" soil. Additionally, in the case of sample collection at the North Pier, soil samples were collected from four survey units at the North Pier and one other survey unit all in one day according to the chain-of-custody forms. This quantity of sample collection performed in one day is unrealistic based on interviews with members of the sampling team. The sample collection rate of one to two survey units per day appears to be corroborated by the sample collection rate performed for this investigation.

The motivation for collecting soil samples in areas outside the assigned survey units is unclear. The radioanalytical and physical evidence contradicts the oral testimony provided by members listed on the sampling section of the chain-of-custody forms. Note that multiple survey units in the Site 707 area were remediated primarily as a result of Cs-137 concentrations exceeding the release criterion. The five survey units within the North Pier that showed anomalous results provided a basis for an FSS report to radiologically release the North Pier.

It is counterintuitive for RCTs and HPNS supervisors to want to complete the release of an area rapidly, as this may shorten the length of employment. On the other hand, if the RCT and/or supervisors believed that rapidly finishing survey units would result in future work awards from the Navy at HPNS, or if they wanted to collect samples from an area that did not require significant manual effort, such as the uses of picks and chipper hammers, some motivation to sample in an area outside a survey unit may exist. It is not believed that the anomalous soil samples were a result of sabotage, as the soil sample results all yielded radionuclide of concern concentrations well below any respective release criterion.

To maximize the Navy's confidence in the overall quality of data provided in the future, and to minimize the likelihood of accidental and/or purposeful inappropriate soil sampling to the maximum extent possible in the future, TtEC developed corrective actions to strengthen the quality of all aspects of the soil sample collection and quality control review process. For example, one corrective action focused on retraining the field teams in proper sample collection procedures including proper use and documentation of chain-of-custody forms. As another example, to send a message to all workers that any apparent deviation from sampling protocol will not be tolerated, TtEC proactively removed the three remaining RCTs who had signed the majority of the chains of custody for the identified unacceptable soil samples from any TtEC projects, and severely disciplined the two health physics supervisors responsible for supervising the RTCs. As a third example, to provide increased soil sample collection quality across the entire process, TtEC significantly increased the number of quality control surveillances by the Project QC Manager or another authorized independent party during the final systematic soil sample collection process. In addition to close personal scrutiny by health physics professionals, TtEC also uses Microsoft Excel conditional formatting in soil sample result spreadsheets to

screen and identify soil sample results for closer review and evaluation. A detailed listing of each of the corrective actions implemented by TtEC is included in the "Corrective Actions" section.

Since implementing these corrective actions, TtEC has performed numerous quality control surveillances to confirm the corrective actions were correctly implemented. These inspections have validated that the corrective actions were implemented in accordance with TtEC's plan. More importantly, since implementing these corrective actions, a recurrence of anomalous sample results similar to the results identified in this investigation report has not occurred

## ROOT CAUSE

A TtEC Quality Event RCA summary form is provided as Attachment 16. This form is used to conduct the causal analysis of events that resulted in a deficient condition. Each item identified as a cause has a corrective action that is associated with it.

## PROCESSES THAT MAY HAVE CONTRIBUTED TO THE CONDITION

Using the Systematic Cause Analysis Technique (SCAT), the following potential processes that may have contributed to mishandling of soil samples and falsified data are listed. The corrective actions in the following section provide a means to prevent the same events from occurring in the future.

- **IMPROPER FOCUS ON PRODUCTION** – The HPNS project management team may have conveyed a message to workers that completion of work by a scheduled date was of undue importance.

- **INADEQUATE FIELD SUPERVISION** – The HPNS project management team may not have shown adequate supervision over health physics supervisors. Health physics supervisors may not have provided adequate supervision over radiation control technicians and laborers.

- **INADEQUATE QUALITY CONTROL SURVEILLANCES** – HPNS QC personnel may not have conducted a sufficient number or adequately detailed surveillances during soil sample collection.

- **INADEQUATE REVIEW OF DATA** – The Radiation Safety Officer may not have sufficiently reviewed radioanalytical data collected during the soil sampling process.

- **INADEQUATE CONCERN FOR OTHERS** – HPNS individual workers may not have questioned actions by co-workers that appeared to be nonstandard.

## CORRECTIVE ACTIONS

The following is an update on corrective actions from the initial investigation report dated November 29, 2012. The corrective actions are shown in italics, followed by a listing of the status of the corrective action, as well as a reference to evidence of completion.

1. *Take disciplinary action for individuals identified as the sample collector on the chain-of-custody forms for sample sets containing anomalous data reflecting uniformly low K-40, Ra-226, and progeny concentrations. Disciplinary action will also be taken with the*

*management team, quality control team, and radiological supervision responsible for overseeing and inspecting the work.*

Disciplinary action has been taken in that the three RCTs still working at the site and whose signatures appeared as sample collector on the chain-of-custody forms for anomalous samples in the survey units as identified in Tables 2 and 3 of the report were removed from TtEC projects. Additionally, the two TtEC health physics supervisors who were responsible for the soil sample collection work in the survey units with the anomalous samples were given one month leave without pay, and letters of caution. One of the two Health Physics Supervisors is no longer employed by TtEC. All other project management personnel who were involved in the sampling process or could have identified the sampling malfeasances, including the project management team, quality control team, and radiation safety team, were issued letters of caution.

**This action item is closed.**

2. *Retrain all personnel involved in sampling on proper sampling as detailed in SOP HPO-Tt-009, or corporate equivalent procedure, focusing on sample collection depth, representativeness of soil sample, and use and decontamination of equipment.*

   All individuals directly involved in soil sample collection at HPNS were provided refresher training on December 5, 2012, by the site Radiation Safety Officer Representative (RSOR) on proper soil sample collection per SOP HPO-Tt-009, as well as proper filling out of chain-of-custody forms. Training sign-in sheets are provided in Attachment 17. Refresher training is held annually.

   **This action item is closed.**

3. *Train all individuals at HPNS involved with soil sampling on importance of ethical behavior, and company and personal ramifications of falsified data. Note that this training has already been initiated with TtEC employees and subcontractors associated with sample collection.*

   All individuals involved in soil sample collection, as well as virtually every TtEC employee and subcontractor on the HPNS site, were provided training on ethical behavior by the HPNS RSOR on November 28, 2012; January 29, 2013; February 12, 2013; and January 30, 2014. A copy of the training presentation and copies of sign in sheets are provided in Attachment 18.

   **This action item is closed.**

4. *Determine, with Navy input, whether survey units identified for possible resampling in Table 3 and/or other survey units need to be resampled.*

   TtEC, under its own initiative, resampled all survey units listed in Table 3 with the exception of the Parcel C Trench Survey Units 234, 238, and 242. Any survey units exhibiting activity concentration exceeding the release criterion for a respective radionuclide of concern were remediated and resampled until all release criteria had been met. All suspect data, including anomalous soil sample data and gamma static survey results, were rejected.

   FSS reports are in the process of being drafted for survey units associated with the North Pier and the Former 707 Triangle Area. Each FSS report will contain a reference to data being rejected due to identification during the quality assurance review process.

The four Parcel C trench units listed in Table 3 had already been backfilled, and draft SUPR reports submitted to the regulatory agencies for concurrence. TtEC submitted recommendations concerning Trench Units 234, 238, 242, and 302 in the October 2013 investigation report. A summary of TtEC's final recommendations for these four trench units has been updated and is included as Attachment 19.

Ancillary soil samples were collected on January 14, 2013 outside of the footprint of the trench backfill for Trench Unit 234. The results were compared to the original soil systematic sample results and were found to be similar, which indicates the original low K-40 results were representative of subsurface conditions.

Trench Units 238 and 242, located outbound of the former shoreline in Parcel C, reported low K-40 concentrations. Statistical analysis of original and ancillary data for Trench Units 238 and 242 indicated the samples may be representative of the trench conditions, but the data were not conclusive. Fill encountered in the trench excavations was compared to fill materials described in the Site Conceptual Model for Parcel C (Attachment 1). Both trench units contained greenish gray soils as shown in excavation photographs, and are in proximity to other locations with documented Franciscan-derived fill material. Franciscan-derived fill is well documented as having very low levels of K-40 and other isotopes. Based on this association, the low K-40 concentrations reported for these trenches were found to be correlative to typical concentrations observed at Parcel C in the presence of Franciscan-derived fill material.

Trench Unit 302 has been re-excavated, and soil samples re-collected and analyzed. All soil samples were less than the HPNS site radiological release criteria. A revised SUPR for Trench Unit 302 was submitted to the Navy for review in January 2014.

**This action item is closed.**

5. *Continue to resample, and remediate as necessary, survey units identified in Table 2. Once the survey units have verified sample analytical data supporting a recommendation of radiological free release, final status survey reports will be prepared and submitted to the Navy for review and approval.*

   TtEC resampled all survey units listed in Table 2. Any survey units exhibiting activity concentrations exceeding the release criterion for a respective radionuclide of concern were remediated and resampled until all release criteria were met. All suspect data, including anomalous soil sample data and gamma static survey results, were rejected. FSS reports are in the process of being drafted. Each FSS report will contain a reference to data being rejected due to identification during the quality assurance review process.

   **This action item is closed.**

6. *Implement a protocol such that an independent QC person, or health physicist, will verify through a quality control surveillance that a minimum of 10 percent of final systematic samples for each survey unit have been collected in accordance with the appropriate work documents (SOPs, Task-specific Plans, etc.).*

   A member of the HPNS quality control team has conducted a surveillance of a minimum of 10 percent of final systematic sample collection. Issues identified during the surveillances have been documented and are corrected. Documentation of QC surveillances is contained in Attachment 20.

   **This action item is closed.**

7. *Develop and implement a protocol for reviewing sample sets to identify radionuclide concentration trends for radionuclides quantified in gamma spectroscopy reports that are inconsistent with previous sampling within a survey unit and/or surrounding survey units. Note that this will include K-40 and other radionuclides that are not radionuclides of concern.*

   As soil sample results are imported into the database, the results are screened by the use of Microsoft excel filters to highlight any results with K-40 at concentrations less than 5 pCi/g. Note that low K-40 soil exists at HPNS as shown by soil sample results in Attachment 2, and in the site conceptual model as shown in Attachment 1. For any results that meet this criterion, the corporate Radiation Safety Officer is notified by e-mail to make a further evaluation. The number of low K-40 results, the location of the samples collected, and previous data for the survey unit (if applicable) are used to determine whether the data are suspect. Using this process provides another level of quality assurance to ensure that soil sample collection is representative of soil sample from the respective survey units.

   **This action item is closed.**

## FINAL CONCLUSION

**Collectively, completion of the above action items has resulted in high-quality FSS results. These corrective actions ensured that all samples were collected and handled in full compliance with the Sampling and Analysis Plan. TtEC has not had a recurrence of the type of anomalous soil sample results that led to this investigation, indicating that the corrective actions have addressed the problem.**

This page intentionally left blank.

# EXHIBIT E

Steve Castleman, SBN 97564
Collin McCarthy, SBN 305489
Jordan Davis, PTL # 41751
Tai Yamanaka, PTL # 41173
Chloe Yaw, PTL # 41764
Environmental Law and Justice Clinic
Golden Gate University School of Law
536 Mission Street
San Francisco, California 94105-2968
Telephone: (415) 369-5351
Facsimile: (415) 896-2450

David C. Anton, SBN 94852
1717 Redwood Ln
Davis, CA 95616
Telephone: (530) 759-8421
Facsimile: (530) 759-8426

Attorneys for Petitioners
GREENACTION FOR HEALTH
AND ENVIRONMENTAL JUSTICE

**UNITED STATES NUCLEAR REGULATORY COMMISSION**

**Before the Executive Director for Operations**

| | |
|---|---|
| GREENACTION FOR HEALTH AND ENVIRONMENTAL JUSTICE,<br><br>Petitioner,<br><br>v.<br><br>TETRA TECH EC, Inc.<br><br>Licensee. | **10 C.F.R. § 2.206 PETITION**<br><br>**TO REVOKE MATERIALS**<br><br>**LICENSE NO. 29-31396-01** |

## I. INTRODUCTION

Greenaction for Health and Environmental Justice ("Greenaction" or "Petitioner") hereby seeks the revocation of Materials License No. 29-31396-01, granted by the Nuclear Regulatory Commission ("NRC") to Tetra Tech EC, Inc. ("Tetra Tech"). This Petition is made pursuant to 10 C.F.R. § 2.206, which provides that any person may seek to modify, suspend, or revoke an NRC license.

The United States Navy contracted with Tetra Tech to assist in the cleanup of Hunters Point Naval Shipyard ("the Shipyard" or "HPNS") in San Francisco, California, a National Priorities List Superfund site, including remediation of radiological contamination. However, Tetra Tech's role was marked by intentional fraud, greed and disregard for the health and safety of present and future San Francisco residents as well as the greater Northern California community.

Tetra Tech employees and the radiological subcontractors it directly supervised were involved in at least six types of fraud: (1) fake sampling, in which soil samples – potentially thousands of them – were reported to have been taken at one location when they were actually taken from another; (2) discarding samples and analytical results when they came back radiologically too "hot" (i.e., above the cleanup standard); (3) altering scanning data to make them appear radiologically acceptable; (4) conducting false building surveys in which certain scan results were fabricated and others were falsified; (5) remediating radioactive material in soil improperly, resulting in potentially radioactively-contaminated soil being shipped offsite as well as being used as backfill for trenches at the Shipyard; and (6) altering Portal Monitor procedures so potentially radioactively-contaminated soil was allowed to be shipped offsite for commercial purposes to places unknown.

Fraudulent sampling, scanning, and surveys led to fraudulent remediation; sites that required additional cleanup were not remediated and remain contaminated because fake samples indicated areas were "clean" when they were not.

Evidence shows Tetra Tech's top onsite management, its Project Manager and Construction Superintendent, participated in and directed the fraud. Their employees engaged in sustained widespread misconduct, significantly compromising the cleanup. Tetra Tech's willful fraud demonstrates it is unworthy of an NRC license.

### A. Two Inadequate Investigations

Tetra Tech has admitted it engaged in fraud. But it has not acknowledged the breadth and scope of the fraud, specifically that it was widespread and directed by onsite management. After the Navy confronted it with evidence of fraud, Tetra Tech conducted its own "investigation" into the faked samples (though Tetra Tech calls them "anomalous," rather than faked). The result was an April 2014 report, *Investigation Conclusion Anomalous Soil Samples at Hunters Point Naval Shipyard, Revision 1* ("*Anomalous Samples Report*"). But the investigation was fatally flawed. It was not conducted by trained investigators and failed to question former employees who were no longer in danger of losing their jobs if they told the truth. Consequently, the result of the internal inquiry was inconclusive; Tetra Tech claimed it neither determined the source of the phony samples, nor who was responsible.[1]

As their sworn statements in support of this Petition attest, former employees know who was responsible. The soil sampling fraud involved multiple Health Physics Specialists ("HPs") and supervisors. It began at the direction of top Tetra Tech onsite management and took place over a period of years rather than weeks or months.[2] *Thousands* of samples may be involved, not just the few dozen originally identified by the Navy. Furthermore, the fraud involved a host of activities, not just the soil sampling addressed in the *Anomalous Samples Report*. Rather, the fraud spanned virtually all radiological remediation functions for which Tetra Tech was responsible.

The NRC also conducted an investigation (NRC Investigation Report 1-2014-018). The NRC investigation, conducted from April 29, 2014 to September 17, 2015, "revealed that a Radiation Control Technician (RCT) and a Radiation Task Supervisor (RTS) working for Tetra Tech at HPNS deliberately falsified soil sample surveys . . . . Based on the evidence gathered during the OI investigation, it appears that the RCT and RTS had deliberately falsified soil sample surveys of the HPNS Parcel C."[3] (HPNS is divided into Parcels A-H.) The NRC brought action against Tetra

[1] Exhibit H, Tetra Tech EC, Inc., *Investigation Conclusion Anomalous Soil Samples at Hunters Point Naval Shipyard, Revision 1*, at ES 2-3 (Apr. 2014).

[2] *See* Exhibit H, Attachment 15, *Chain-of-Custody Sheets, Gamma Survey Records, and Ancillary Information Associated with Survey Units Containing Anomalous Soil Sample Results as Listed in Tables 2 and 3*(Apr. 2014) ("Exhibit H2").

[3] Exhibit I, Letter from James M. Trapp, NRC Division of Nuclear Materials Safety to Andrew N.

Tech (Docket No. 03038199) and a single supervisor, Justin Hubbard.[4] It correctly concluded that between November 18, 2011 and June 4, 2012, Hubbard, "directed that soil samples be taken from areas that were suspected to be less contaminated and documented on related chain-of-custody forms that the soil samples had been taken from areas that had been specified."[5]

But the NRC also concluded, in error, that Hubbard was the sole supervisor to direct fraudulent sampling. It actually involved at least one other HP supervisor and Tetra Tech's top onsite management, including its Project Manager and Construction Superintendent. The NRC action against Hubbard was also limited to fraudulent samples taken in HPNS's Parcel C, when the fraudulent sampling actually took place throughout the Shipyard.[6]

The NRC's investigation was too narrowly focused to uncover the true breadth and depth of the fraud committed by Tetra Tech at the Shipyard. Multiple whistleblowers say they felt the NRC investigators "blew them off" rather than take their concerns seriously. For example, witnesses suggested the NRC interview witnesses whom the NRC investigators never contacted. The NRC also failed to follow up on suggestions for where to take samples and what buildings at HPNS to inspect.[7]

As a result of an inadequate investigation, the NRC took inadequate action. It initially fined Tetra Tech a mere $7,000. But by Confirmatory Order of October 11, 2016,[8] the NRC waived even that minimal sum after alternative dispute resolution, leaving only an order that Tetra Tech train its personnel not to lie, cheat or steal – in other words, to do what was already required by law. The NRC took action against only supervisor Justin Hubbard, when other members of management knew about, participated in and directed the extensive radiological fraud.

Tetra Tech's pattern and practice of fraud at the Shipyard demonstrate it cannot be trusted to

---

Bolt, President, Tetra Tech EC, Inc. on NRC Office of Investigation Report No. 1-2014-018, at 6 (Feb. 11, 2016).

[4] Exhibit J, Letter from Daniel H. Dorman, NRC Regional Administrator to Andrew N. Bolt, President, Tetra Tech EC, Inc. on Tetra Tech EC, Inc. Notice of Violation and Proposed Imposition of Civil Penalty - $7,000 – NRC Investigation Report No. 1-2014-018 with Enclosures 1-4 (July 28, 2016).

[5] *Id*. Letter from Daniel H. Dorman, NRC Regional Administrator to Justin Hubbard on Notice of Violation (NRC Investigation Report No. 1-2014-018) (July 28, 2016).

[6] *See* Exhibit B, Decl. of Anthony Smith, ¶¶ 7-11, 15-32.

[7] *See* Exhibit A, Decl. of Bert Bowers, ¶ 79; Exhibit C, Decl. of Susan Andrews, ¶¶ 56-59; Exhibit D, Decl. of Archie Jackson, ¶ 21.

[8] Exhibit K, Confirmatory Order In the Matter of Tetra Tech EC, Inc., 81 FR 73144 (Oct. 24, 2016)

investigate or remediate the site, a site that is anticipated to be transferred to the City of San Francisco for large-scale residential and commercial development. Tetra Tech's pattern and practice of fraudulent activities over years of work for the Navy demonstrate that it cannot be trusted with the great responsibilities the NRC has vested in Tetra Tech by issuance of an NRC license.

Petitioner respectfully urges the NRC to revoke Tetra Tech's license for its long-running fraud. Tetra Tech has fundamentally compromised the cleanup of the Shipyard. The NRC should ensure that the company can never again participate in radiological cleanup at the Shipyard or any other area of the United States. Finally, the NRC should revoke Tetra Tech's license to deter other license holders from engaging in similar fraudulent conduct.

## II. PARTIES

### A. Greenaction for Health and Environmental Justice

Petitioner Greenaction is a non-profit corporation based in San Francisco, California. Founded in 1997, Greenaction's mission is to mobilize community power to change government and corporate policies and practices to protect public health and promote environmental, economic and social justice. To build a clean and healthy environment for all, Greenaction works with low income and disadvantaged communities to hold polluters accountable. Greenaction also challenges government agencies that regulate polluters to assure they protect health and promote environmental justice.

Some of Petitioner's members live in neighborhoods abutting the Shipyard and are concerned about its cleanup – particularly fraudulent cleanup – and its effect on their communities. Petitioner's members are directly impacted by the inadequate cleanup and seek to ensure fraudulent remediation is corrected, that the ongoing remediation be done properly and that both the existing neighborhoods and the new ones intended for the Shipyard be protected from environmental harm. Petitioner's members have lost all trust in Tetra Tech's integrity and ability to properly remediate the Shipyard and seek to ensure Tetra Tech is no longer permitted to participate in this and other cleanups by

(Docket ID NRC-2016-0212).

revoking its license to do radiological work.

**B. Tetra Tech, Inc. and Tetra Tech EC, Inc.**

Tetra Tech, Inc. is a worldwide company with corporate headquarters in Morris Plains, New Jersey. Tetra Tech's website states that it provides engineering services to public and private clients addressing the need for water, a clean environment, infrastructure, resource management and international development. Tetra Tech EC, Inc. is a wholly owned subsidiary of Tetra Tech, Inc., and is based in Pasadena, California.

Tetra Tech EC, Inc. contracted with the United States Navy to perform remediation of radioactive materials at closed military bases, including the decommissioned Hunters Point Naval Shipyard in San Francisco. Tetra Tech initially hired New World Environmental Inc. ("NWE"), a radiological staffing firm, as a radiological subcontractor. Subsequently, on or about April of 2009, Tetra Tech invoked its first-ever use of its own NRC-issued Materials License, NO. 29-31396-01, and the company became directly responsible for radiological work at the Shipyard.

## III. JURISDICTION

The northern portion of HPNS is subject to exclusive federal jurisdiction. The United States obtained ownership of the property, the State of California ceded legislative jurisdiction to the United States, and the Federal Government accepted jurisdiction through letters of acceptance by the Secretary of the Navy on December 22, 1942, February 4, 1943, and June 4, 1943. The Federal Government has not relinquished exclusive legislative jurisdiction over the federal enclave to which the Federal Government accepted jurisdiction in 1942 and 1943. Attached as Exhibit L is a map of HPNS. The shaded area of the Shipyard is the area in which the Federal Government accepted exclusive jurisdiction and the NRC has jurisdiction to the exclusion of the State of California.

California is an "agreement state" with the NRC. As such, the State of California has joint jurisdiction with the NRC in oversight of conduct of NRC-licensed entities in areas where there is no exclusive federal jurisdiction. As the United States did not obtain exclusive jurisdiction over the southern portion of HPNS, the State of California maintains jurisdiction in that area.

Tetra Tech's radiological fraud took place in both the exclusive Federal jurisdiction zone and

the area under jurisdiction of the State of California.

## IV. STATEMENT OF LAW

### A. NRC Authority

The Nuclear Regulatory Commission has jurisdiction to issue licenses related to the handling of radioactive materials including jurisdiction over Materials Licenses granted to contractors involved in the remediation and handling of radioactive wastes. Tetra Tech has a Materials License issued by the NRC. The initial License was number 46-27767-01. Tetra Tech was subsequently issued License No. 29-31396-10. (License numbers have changed due to Tetra Tech changing the principal location of the Radiation Safety Officer ("RSO") named on the license. This move changed the region within which it was to be regulated and prompted the NRC to issue new license numbers to reflect the proper NRC Region responsible for oversight.)

Licenses are required for byproduct material, source material and special nuclear material. Tetra Tech's NRC licenses were issued pursuant to these regulations:

- 10 C.F.R. § 30.3: "[N]o person shall manufacture, produce, transfer, receive, acquire, own, possess, or use byproduct material except as authorized in a specific or general license issued in accordance with the regulations in this chapter."
- 10 C.F.R. § 40.3: "A person subject to the regulations in this part may not receive title to, own, receive, possess, use, transfer, provide for long-term care, deliver or dispose of byproduct material or residual radioactive material as defined in this part or any source material after removal from its place of deposit in nature, unless authorized in a specific or general license issued by the Commission under the regulations in this part."
- 10 C.F.R. § 70.3: "No person subject to the regulations in this part shall receive title to, own, acquire, deliver, receive, possess, use, or transfer special nuclear material except as authorized in a license issued by the Commission pursuant to these regulations."

The NRC has promulgated regulations and procedures to provide the public with the means to request that the Commission modify, suspend or revoke a license.[9] This Petition is brought pursuant to 10 C.F.R. § 2.206.

[9] 10 C.F.R. § 2.206; *see also* NRC, Management Directive 8.11: Review Process for 10 C.F.R. §

## V. STATEMENT OF FACTS

### A. Discovery of Part of the Fraud

The initial suspicion that Tetra Tech engaged in fraudulent sampling was raised in October 2012, by the Navy's Radiological Affairs Support Office ("RASO"). While reviewing post-remediation soil sample results, a RASO official identified discrepancies between the first two sets of systematic sample results from the footprint of former Building 517 ("B517")[10] and the third set taken from that site post-remediation: "These results reported low potassium-40 (K-40) sample activity (i.e. < 5 picocuries per gram) coupled with low activity for radium 226 (Ra-226), bismuth-214 (Bi-214) and lead-214 (Pb-214) in 36 out of 36 samples."[11] This difference in lab results raised the prospect that the post-remediation samples were taken from a different site than the first two sets of systematic samples, that is, a different location from that claimed on chain-of-custody ("COC") documents.

In response to the Navy's concerns, Tetra Tech conducted an "investigation" and compiled its findings in the *Anomalous Samples Report*. Tetra Tech conceded that the "anomalous" samples were not taken from the areas that were claimed, and speculated the samples could have been taken from two areas of the Shipyard: "Either the former Building 707 Triangle Area or the Building 253/211 drill cuttings, or a combination of both, may have been used as substitute soil samples; however, the investigators were unable to conclusively determine a source."[12]

Not only the low K-40 results indicated fraudulent sampling. So did the sample's uniform physical characteristics: "One clear feature is that the samples from the third set of systematic samples do not appear similar in color to any of the other systematic samples, and all of the samples within the set look extremely similar, if not identical. This color uniformity coupled with the homogeneity of the low K-40, Ra-226, and progeny concentrations . . . led the investigators to

---

2.206 Petitions.

[10] Building 517 had previously been used as a brig (jail) and the Naval Radiological Defense Laboratory Cobalt Animal Irradiation Facility. Exhibit H at 3.

[11] Exhibit H at ES-1.

[12] *Id.* at ES-2.

conclude that the soil samples were not collected from B517."[13]

In fact, examination of the COCs alone substantiates fraud. Proper procedure[14] calls for samplers to note the correct time and location for every sample. However, COCs for anomalous samples purport they were collected in exact five-minute intervals, precisely on the five-minute mark. For example, COCs for anomalous samples which identify Jeff Rolfe as the sampler claim he took 8 samples (Nos. 03707-S0016-F079-01 through 03707-S0016-F086-01) on June 7, 2011 at 13:40, 13:45, 13:50, 13:55, and every five minutes thereafter, exactly, until 14:15. The next day, COCs claim he took 20 samples (03707-S0009-F059-01 through 0307-S0009-F078-01) every 5 minutes from 8:15 am until 10:20 and an additional 20 samples (03707-S0017-F064-01 through 03707-S0017-F083-01), every 5 minutes from 10:30 a.m. until 12:05 p.m.[15]

Similarly, COCs for 20 anomalous samples (No. 02-NPR-S0007-F030-01 through 02-NPR-S0007-F049-01) purportedly taken by Justin Hubbard, an HP supervisor, claim he took them on June 4, 2012 at: 13:00; 13:05; 13:10 and exactly five minutes thereafter until 14:35.[16]

According to experienced HPs, however, soil samples cannot be taken with such rigid regularity. The need to prevent cross-contamination of samples and sampling equipment from one sample location to another precludes it; HPs need to follow exacting practices to decontaminate all sampling equipment between samples, making five-minute intervals impossible.[17] Indeed, in an interview of Justin Hubbard conducted by Tetra Tech in connection with the *Anomalous Samples Report*, Hubbard notes that "[o]ne sample could take 40 minutes."[18]

Other COCs claim samples were taken precisely every three minutes without deviation. For example, 18 anomalous samples purportedly taken by Joe Cunningham (Nos. 02-PCT-302-005 through 02-PCT-302-022) on May 22, 2012 were supposedly taken at 10:00; 10:03; 10:06; 10:09;

---

[13] *Id.* at 15.
[14] *See* Exhibit O, U.S. Navy Base Realignment and Closure Program Management Office West, *Base-Wide Radiological Work Plan, Revision 1, Hunters Point Shipyard, San Francisco, CA* (Oct. 5, 2007).
[15] Exhibit H2 at 419.
[16] *Id.* at 64.
[17] *See* Exhibit B at ¶¶ 21-23; Exhibit A at ¶ 73.
[18] Exhibit H, Attachment 9, *Personnel Interviews*, 7 ("Exhibit H1").

10:12; 10:15; 10:18, and continuing exactly every three minutes thereafter until 10:51.[19]

To Petitioner's knowledge, neither Tetra Tech nor the Navy has ever offered an explanation for these dubious patterns on the COCs. However, former employee Anthony Smith can explain it. As further detailed below, he says the COCs were filled out in advance – including the time of sampling and who took the sample – by someone other than the actual sampler, calling into question the entire sampling and documentation process.[20]

COCs also reported that samplers took more samples than was physically possible and that HPs were in two places at once. When interviewed by Tetra Tech, "both Justin Hubbard and Ray Roberson stated that collection of more than two sets of systematic samples in one day would be difficult." But "Roberson was listed on chains of custody for four sets of systematic samples from the North Pier, which is extremely rocky and difficult to sample, as well as an additional trench segment survey unit, all on May 31, 2012."[21] Even more remarkably, Roberson (who has since died) supposedly collected soil samples at Survey Unit 304 "at the same time he was listed as collecting soil samples at North Pier Survey Unit 11."[22]

False samples were also taken over a lengthy period of time. According to the COCs in Attachment 15 to the *Anomalous Samples Report*, the earliest listed phony samples were taken on March 4, 2011 (Nos. 03707-S0016-F050-01 and 03707-S0016-F057-01), while the latest were taken nearly a year-and-a-half later, on August 15, 2012 (Nos. 03707-S0022-F056-01 through 03707-S0022-F080-01). Former employees say the COC fraud went on even longer, beginning before 2009 and continuing until at least late September 2012.[23]

The Navy's original suspicions centered on 36 phony samples. But a review of the sampling results contained in Attachment 15 to the *Anomalous Samples Report* indicates there were many more samples with K-40 below 5 picocuries per gram: "Since January 1, 2008, approximately 2,500

[19] Exhibit H2 at 789-790.
[20] *See* Exhibit B. at ¶¶ 21-23.
[21] Exhibit H at 11.
[22] *Id.* at 16.
[23] Exhibit B at ¶¶ 7, 15-20; Exhibit F ¶¶ 2, 9 (Chain-of-custody fraud ongoing in 2007-2008 during those 2 years of her employment at HPNS).

samples meeting the definition of 'low K-40' samples have been collected at HPNS."[24]

Although Tetra Tech interviewed various people during its investigation – some of those listed on the COCs, their supervisors, other members of the sampling crews and laboratory personnel – it stated, "[t]he results of the interviews were inconclusive."[25]

Tetra Tech's investigation was inconclusive because it failed to ask the right people the right questions. Tetra Tech directed the fraud and did not want its fraudulent conduct exposed. Had Tetra Tech employed trained investigators, they would have insisted on speaking to the right people, including former employees who no longer had a motive to keep quiet or be fired. A competent investigation would have discovered a pattern and practice of fraudulent activity directed by Tetra Tech's top onsite management.

Tetra Tech's investigation, though gravely flawed, got some things right: some of the causes of the fraud. Possible causes, the *Anomalous Samples Report* says, could be: improper focus on production ("i.e., that completion of work by a scheduled date was of undue importance"); inadequate field supervision; inadequate quality control; inadequate review of data; and inadequate concern for others (i.e., "individual workers may not have questioned actions by co-workers that appeared to be nonstandard").[26]

The *Anomalous Samples Report* failed to recognize a major driver of the fraud, however, namely that in order for Tetra Tech to get paid the final installment on a contract it needed to obtain final radiological clearance. The added cost and time involved in doing a proper and complete radiological remediation was more time and money than Tetra Tech was willing to expend, cutting into the company's profits.[27] In short, the *Anomalous Samples Report* was an effort to whitewash the soil-sampling fraud directed by Tetra Tech's management.

**B. Types of Fraud**

Former employees at HPNS describe six types of fraud: (1) fake sampling, in which soil samples were reported to have been taken at one location when they were actually taken from

[24] Exhibit H at 3.
[25] *Id.*
[26] Exhibit H at 20.
[27] *See* Exhibit A at ¶¶ 11-12, 14, 51-52; Exhibit B at ¶¶ 10-11, 15-20, 24-27, 33-34.

another; (2) samples and their analytical results were discarded because they came back too “hot;" (3) scanning data were altered to make them appear acceptable; (4) building survey data were fabricated; (5) radioactive material in soil was inadequately remediated, resulting in potentially-contaminated soil being used as backfill for trenches at the Shipyard; and (6) Portal Monitor procedures were altered resulting in potentially radioactively-contaminated soil being allowed to be shipped offsite to points unknown.

**1. Fake Soil Sampling: Parcels C, D, E**

**a. Fraudulent Sampling - Stage 1**

As the *Anomalous Samples Report* details, samples purportedly taken from the footprint of former Building 517 (Parcel D) were actually taken from a different location. According to former employees at the Shipyard, B517 was not the only place from which samples were faked. Phony samples supposedly taken from various sites on the Shipyard, including the areas around Building 707 (Parcel E), the 500 Series of buildings (Parcel D), and Parcel C,[28] were actually taken elsewhere.

Senior HP Anthony Smith says fake sampling took place in two stages. At first, HPs were directed to take samples from the general location intended to be sampled, but to fudge the specific location of the samples.[29]

When they were tasked with soil sampling, proper procedure was for HPs to initially scan the soil seeking radioactive hot spots. The scanning data were used by engineers to identify locations of high radioactivity and then to plot out their locations on a map, with the highest readings delineating where soil samples should be taken.

HPs followed the correct procedure in the early years at Hunters Point. But that practice changed in the latter part of 2008 and early 2009. At that time, Tetra Tech was having difficulty obtaining free releases; post-remediation samples came back too “hot.”

In response, HPs were ordered by their supervisors not to take the samples from the spots marked by the engineers as the highest radioactive-reading spots. Rather, the HPs were told to make it appear they took the samples from the marked spots, but to actually take the samples from clean

[28] *See* Exhibit I at 1, 6 (findings of fraudulent soil samples from Parcel C).

areas close by.[30] An HP (also known as a Radiation Control Technician, or "RCT") admitted this form of fraud to the NRC: "the RCT stated that, when sufficiently low contamination levels were not obtained, the RTS [Radiation Task Supervisor] would direct the RCT to move 5 to 10 feet in another direction and obtain a new sample from that location. Meanwhile, the new sample would be represented as having been obtained from the original, specified location."[31]

These close-by phony samples would be expected to have the same K-40 levels as other samples from the area, and might not involve K-40 activity below 5 picocuries. Thus, there is a strong likelihood that substantial numbers of fraudulent samples could not be identified by the Navy and regulators by focusing on the K-40 levels.

**b. Fraudulent Sampling – Stage 2**

Time and again the fraudulent post-remediation soil samples resulted in laboratory results with radioactive contamination above the free release levels. For example, around Building 707 repeated rounds of remediation failed to decontaminate all the soil; successive post-remediation samples came back too "hot." When sample results exceeded the free release levels, Tetra Tech was required to do more cleanup, which cost time and money.[32]

Due to the frustration of Tetra Tech's attempts to obtain free release and the desire to cut costs to increase profits, the manner of the fraud changed. HPs were directed by their supervisors to obtain false samples nowhere near the area intended to be sampled, but rather in at least three remote locations known from prior sampling to contain "clean" soil. Tetra Tech management pressured its supervisors to have the HPs engage in fraudulent sampling that would guarantee lab results under the free release levels so it could get fully paid without incurring the full costs of the cleanup.[33]

Former employees, like Senior HP Anthony Smith, state that he and others took the second-stage type of fraudulent samples from at least three locations known to be low in radiological activity. The specific location was chosen depending on the type of soil they were trying to match.[34]

---

[29] Exhibit B at ¶¶ 15-16; *see also* Exhibit I at 6.
[30] *See* Exhibit B at ¶ 15.
[31] Exhibit I at 6.
[32] *See* Exhibit B at ¶¶ 16-19; Exhibit A at ¶¶ 11-12.
[33] *See* Exhibit B at ¶¶ 16-17.
[34] *Id*. at ¶ 18.

If HPs needed to match "green serpentine"[35] soil, Smith and others took false samples from one of two locations. Originally, the green serpentine soil used to submit false samples was taken from a sewer trench in front of the Building 500 series of buildings. That site was supplanted by a second one, an area inside the remains of the foundation of an old movie theater in the 500 series area. According to Smith, the theater foundation was preferable to the sewer trench because it afforded greater privacy – employees could take samples there unseen when inside the foundation walls. Smith says he would wait until laborers not involved in the fraud went to lunch or left for the day and he would then fill a 5-gallon bucket with soil from the theater site which he knew to be clean.[36]

If HPs needed to match sandy soil, they would fill five-gallon buckets with soil taken from an area under two palm trees in the vicinity of an old pump house (Building 521) that was also near the old movie theater foundation.[37]

**c. Substituting Clean Soil for Potentially "Hot" Soil**

Senior HP Smith states he would take the five-gallon buckets of either green serpentine or sandy soil to the Conex (a shipping container that acted as a temporary field office), where HP supervisor Steve Rolfe, his wife HP Tina Rolfe, and HP Rick Zahensky would transfer the soil into sample containers to substitute for real samples. The original, and potentially "hot" samples, would be emptied into another 5-gallon bucket and Smith would dump that soil into open trenches that had been dug for sewer removal. In short, the true soil samples were switched with the soil known to be radiologically clean with the intent to fraudulently "prove" to the Navy, regulators, and the public that all radiological hazards had been removed.

Smith estimates this type of false sampling happened "pretty much every day" over at least the last one-and-a-half years he worked at the Shipyard. He says fake soil samples he took from all three sites – the sewer trench, the palm tree site and the theater – resulted in 800 to 1,000 false

[35] Exhibit H, Attachment 1 Site Conceptual Model for Low K-40 Soil, at 1 ("As mapped by the United States Geological Survey (USGS), the upland portion of HPNS consists of Franciscan bedrock and includes serpentine, chert, altered volcanic rocks, and interbedded sandstones and shales." The serpentine rock and soil derived from it at HPNS has a slight green tint.).
[36] Exhibit B at ¶ 18.
[37] *See* Exhibit M (map of Hunters Point Naval Shipyard identifying buildings by number).

samples.[38] Other HPs on the team under Smith's supervisor, Steve Rolfe, also regularly engaged in taking false soil samples, as did HPs under the supervision of Justin Hubbard.[39]

Samples were switched not only from the former site of Building 517, as acknowledged by the *Anomalous Samples Report.* Smith avers he switched samples taken from the area around the Building 707 "Triangle Area" in Parcel E, and the area of the former 500 series of buildings in Parcel D.[40] Other areas had falsely switched samples taken by HPs other than Smith, as reflected in the *Anomalous Samples Report,* including the North Pier and structures referred to as "shacks" 79 and 80, and in Parcel C, as the NRC Investigation Report states.[41]

Former employees declare that the fraudulent practices escalated in the years after Tetra Tech's contract with the Navy changed from a time-and-materials contract to a firm fixed-price contract.[42] This provided a financial incentive for fraud: the less time and resources Tetra Tech spent on sampling and cleanup, the more profit they would make.[43]

It is not clear if the switched soil samples taken from the 500 series trench, the old theater foundation and the two palm trees *all* had low K-40 activity or if one or more did not. If any of these locations had K-40 activity in soil over 5 picocuries, samples taken from them could not be identified as "anomalous" based on K-40 readings and the number of fraudulently switched soil samples could grow dramatically.

**2. Destruction of "Hot" Soil Samples and Their Records**

**a. Building 351A**

Building 351A had been used by the Navy's Radiological Defense Laboratory for decades conducting extensive experiments with hazardous radionuclides.[44] It was one of the last buildings in Parcel G that had not been free released. Clearance of building 351A was holding up final payment to Tetra Tech for all of the work the company had done in that parcel, potentially millions of dollars.

---

[38] *See* Exhibit B at ¶ 19.
[39] *Id*. at ¶ 20
[40] *Id*. at ¶ 17.
[41] Exhibit I at 6.
[42] Exhibit B at ¶¶ 7-11, 16, 34.
[43] *See* Exhibit A at ¶¶ 6, 11-13.
[44] Exhibit B at ¶ 8.

Direct readings from radiological survey detection instruments indicated the presence of elevated radioactivity in a large amount of soil in a crawl space under Building 351A. Remediation attempts within the crawl space were performed in 2008 by a group of laborers who dug up the soil while HPs Anthony Smith and Josh Hooper monitored them. The laborers used pick axes, shovels and trowels to loosen the soil and a large vacuum truck that sucked the soil from under the building through an 8-inch hose. The soil was ultimately placed in bins to be disposed offsite as radioactive waste.[45]

At the conclusion of approximately two weeks of remediation, HPs Anthony Smith and Josh Hooper took post-remediation soil samples from the crawl space in an attempt to demonstrate that there was no longer any residual radiological contamination above established free-release levels. However, a post-remediation sample came back too "hot," demonstrating the radioactive cleanup had not been successfully completed. Proper procedure mandated another round of soil removal. This additional round of remediation would once again involve laborers and a vacuum truck, followed by another round of post-remediation sampling. However, Tetra Tech's management directed that proper procedures be ignored.

Smith and Hooper were summoned to a meeting that included Bill Dougherty, Tetra Tech's HPNS Project Manager, and Dennis McWade, Tetra Tech's Construction Superintendent, among other senior Tetra Tech and sub-contractor managers. Speaking of the vacuum truck, Dougherty told Hooper and Smith "Do you know how much that machine cost to rent for two weeks? We can't afford to do that again, get rid of that sample," or words to that effect. McWade gave Smith the containerized sample and its COC document, completely contrary to acceptable procedures, and Smith and Hooper did what they were told. They got rid of the sample and the COC record.[46]

Thereafter they engaged in the first type of soil-sampling fraud described above and took a false sample under Building 351A. Tetra Tech had its engineers mark the areas under the building that were known to be *clean* so that Smith could be assured he would not obtain another soil sample

[45] *Id.*
[46] *Id.* at ¶¶ 10-11.

that came back too "hot."[47] Smith says he understood, based on what his supervisors told him, that Tetra Tech wanted to get free release of the building despite the remaining contamination so Tetra Tech would get paid the final installment for its work in Parcel G.

Tetra Tech submitted false documents to the Navy claiming that Building 351A had been properly cleared of all radioactive material above release levels, when significantly elevated radioactivity, beyond free release levels, was known to still exist in the crawl space under the building. The radioactive contamination was not remediated over the next three-plus years that Smith continued to work at the Shipyard. To the best of his knowledge it never has been.[48]

Smith states that the soil sample from under Building 351A was the first instance where he was told to get rid of a sample. As further described below, it was not the last.

**b. Parcel A Background Sample**

In July or August 2009, Tetra Tech was about to start, or had just started, a project to remove sewer lines from under Fisher Avenue and Spear Streets in Parcel C. Smith was directed by Hubbard to obtain a background reference sample (i.e., a sample known not to be radioactively contaminated) for the Spear/Fisher sewer projects. Smith had been told that Parcel A was never used for any industrial purpose, that it was deemed by the Navy to be free of contamination and, as a result, had been transferred to the City of San Francisco for development in 2004. Because of its close proximity to the Fisher/Spear project and assuming Parcel A was clean, Smith determined it would be an appropriate place to obtain a background sample.[49]

Smith proceeded to a location just north of the intersection of Fisher Avenue and Spear Street.[50] On the north side of the road next to Fisher Avenue and just beyond the sidewalk, there is a concrete wall which descends in height as it extends west and parallel to Fisher Avenue. Beyond the wall is a hill that rises to the top of Parcel A. Just before the stop sign at the intersection of Fisher and Spear (i.e., just northeast of the intersection) and approximately 20 feet from a light pole on the north side of Fisher Avenue, the wall was about waist-high for Smith. Because of how the hill rose

[47] *Id*. at ¶ 11.
[48] *Id*.
[49] Exhibit B at ¶ 12.
[50] In Exhibit M the location of Anthony Smith's Parcel A sample is marked in red.

behind the wall, Smith was able to reach over the wall and use a trowel to take a sample without bending over. He dug a hole about 6 inches deep in the hillside and took a sample from the bottom of the hole. He gave the sample to Justin Hubbard, who took it to the laboratory. In a violation of proper procedure, there was no chain-of-custody document accompanying the sample. [51]

The next day, Hubbard approached Smith and had the sample with him. In the presence of HPs Jeff Rolfe, Ray Roberson and Carey Bell, Hubbard told Smith the sample had come back "hot." Hubbard said it contained 2 to 3 picocuries per gram of cesium-137, which Smith knew was much higher than background levels and the cesium-137 cleanup standard of 0.113 picocuries per gram – 18 to 26 times higher than the set health and safety ceiling. Hubbard gave the sample to Smith and told him to "get rid of it and not say a word," or words to that effect. Smith took the sample back to the site where he had taken it and put the soil back in the hole he created earlier for taking the sample. He disposed of the plastic sample container by putting it in a bin set aside for radiological waste. That same day, Smith took a different sample, to be used as the background sample, from a distant site on the shipyard he knew to be clean from prior sampling and analysis.[52]

To the best of Smith's knowledge, the soil contamination he discovered in Parcel A was never thereafter remediated for cesium-137 or other potential radioactive contaminants.[53]

**c. Radioactive Fencing**

Tetra Tech established fenced-off areas within HPNS to separate locations known to contain radioactive contaminants from other areas that were not contaminated. These areas were referred to as Radiologically Controlled Areas or "RCAs." Much of the fencing used to establish the Radiologically Controlled Areas was rented from private companies.

In 2009, a large amount of fencing that had established the perimeter of an RCA was no longer needed. Tetra Tech directed HPs to scan the metal fencing panels for clearance to release the fencing to the rental company. Susan Andrews, a Senior HP, along with two other HPs, scanned the fencing with radiation detection field instruments. During the scanning, Tetra Tech Construction Superintendent McWade pressured the HPs to scan the fence quickly to obtain its release so it could

[51] Exhibit B at ¶ 12.
[52] *Id*. at ¶ 13.

be returned to its owner.[54]

Andrews' scanning detected significant radiation on the fence, what she termed "screaming hot." The fencing had apparently become infused with radioactive contaminants due to the length of use on the Shipyard. In an effort to be sure of her scan results, Andrews asked for HP Phil Poole's sensor to scan the same fence panels. The scan with Poole's sensor registered the same high radioactive readings. She then asked for HP Bob Evan's sensor and scanned the same fence panels, again getting the same "screaming hot" readings, far above release levels.

Proper procedure required that the fencing be put into an RCA because any radioactive material was required to be confined there. However, Construction Superintendent McWade refused to allow the fencing to be put into an RCA.[55]

Andrews completed her scanning and smears (i.e., swab samples) of the fencing. Following proper procedure, she took the scan meter and the smears to the lab at HPNS and turned the material in. The next day, Tetra Tech alternate Radiation Safety Officer Representative (RSOR) Charles Taylor told Andrews that the lab results from the smears she had submitted tested high for radioactivity, beyond free-release levels. Taylor informed Andrews that the sensor readings also showed elevated radioactivity above release standards. Andrews reviewed the lab results and the sensor readings, confirming the high radioactivity.[56]

Taylor told Andrews that Tetra Tech would not treat the fencing as radioactively contaminated despite the lab results and sensor readings. Tetra Tech RSOR Taylor ordered Andrews to go to the laboratory and obtain the smears and their associated records and destroy them. Taylor also ordered Andrews to delete the records of the elevated fencing readings from her sensor and from the Tetra Tech computer or else she would be fired. Andrews received this order in the presence of her supervisor Rhonda Richardson, who expressed concern that if these orders were not followed that both Andrews and she might be terminated. At no time did Richardson object to Taylor's orders or contend that the destruction of legitimate lab results and instrument readings was

---

[53] *Id.* at ¶ 14.
[54] Exhibit C at ¶ 30.
[55] *Id.*
[56] *Id.* at ¶¶ 31-32.

improper.[57]

Andrews did what she was told. She went to the lab, obtained the smears and records and destroyed them. Andrews had worked in the lab previously, for about 4 years, and was familiar with the computer system, called "Access." Andrews erased the sensor readings from the computer but believed, from her experience and training, that her efforts did not erase them from the computer's hard drive, meaning a competent investigator might still be able to locate the records. Andrews subsequently informed Richardson and Taylor that she had complied with his order to destroy the smears, the lab results and the sensor data.[58]

Andrews says that thereafter the fence was stored outside an RCA for approximately a month, after which it was gone. Senior HP Bob Evans told Andrews he had gotten the fence released so it could be returned to the rental company. When she questioned how that happened, he replied, "I didn't scan where you did, dummy."[59]

**3. Fraudulent Building Surveys**

The contract between the Navy and Tetra Tech required the company to perform static scans and smears of buildings to determine if they were contaminated with radioactivity beyond free release levels. When a building was found to have elevated levels of radioactivity, Tetra Tech was contracted to engage in remediation to remove the radioactive contamination and bring contaminant levels below release levels. After remediation, Tetra Tech was required to again scan and take smears of the building to determine if all radioactive readings were within acceptable levels. Tetra Tech ordered the post-remediation building scans be done fraudulently so as to obtain free release.

Tetra Tech supervisors divided building areas into three classes, Class 1, 2 and 3.[60] They classified the floors and lowest two meters (or approximately 6 feet) of the walls to be Class 1. The proper way to conduct a Class 1 survey was to slowly scan the "probable sites" of contamination,

---

[57] *Id* at ¶ 33.
[58] *Id* at ¶ 34.
[59] *Id* at ¶ 35.
[60] *See* Exhibit A at ¶ 75. The contract between the Navy and Tetra Tech defined Class 1, 2, and 3 differently from the way Tetra Tech supervisors in the field used the terms. Under the contract, Class 1, 2, and 3 were defined in large part based on information as to whether the area was known to be contaminated with radioactivity, suspected to be contaminated, or not believe to have contamination above free release levels, respectively.

such as drains down which radioactive liquids might have been poured, and to scan each surface (i.e., the floor and lower walls) using a Ludlum 2350 scanner (which measures gamma radiation) in a systematic grid. In addition, smear samples were to be taken from area surfaces which the scans identified as highest in radioactivity.

For Class 2, HPs were supposed to take static scan and smear samples in a systematic grid from the higher sections of the walls, above 2 meters. Class 3 areas were considered the ceiling and roof. Scans and smears were to be taken of these areas, but without requiring the strict grid patterns of a Class 1 or 2.

Proper building survey procedure was not followed.

Anthony Smith was assigned to perform a large number of building surveys. Sometime between the summer of 2010 and early 2011, he was assigned to do building surveys in Building 707, buildings and building footprints throughout the 500 series and Buildings 351, 351A, 411, 401, 414, 406, 144, 146, 130, 103, 113, and 521. Smith's Tetra Tech HP supervisor, Steve Rolfe, told his survey team, consisting of Jeff Rolfe, Rick Zahensky and Smith, not to worry about doing Class 2 or 3 scans and smears at all. Rather, they were instructed to "just get some numbers and get it done," or "just set your meter down on the ground and let it count," meaning they should allow the scanner to operate in order to obtain data, but that the scanner should be stationary rather than doing a systematic survey of the area as required. Smith and his co-workers followed instructions, did not do proper Class 2 and 3 scans, and reported fraudulent data for the Class 2 and Class 3 scans for nearly all buildings at Hunters Point.[61]

When Smith challenged this practice, Tetra Tech HP supervisor Steve Rolfe told him, "That's what Bill Dougherty [Tetra Tech's Project Manager] wants." The false scanning was also done on other buildings by HP Supervisor Justin Hubbard's team, including Buildings 103, 114, 145, 130, 439, 366, and 813.

**4. Fraudulent Data Reporting**

The contract between the Navy and Tetra Tech required the company to do scans for radioactive contaminants of buildings, developed areas, and areas of open soil.

Tetra Tech directed that scan data be altered that were too high, which would result in having to do additional expensive remediation, or too low, which would raise questions about the scan integrity and potentially require that the scanning be entirely redone.

Anthony Smith personally witnessed HP Tina Rolfe changing scan results so that they would fall within acceptable limits, that is, not too high but not too low to raise suspicions. One time when Smith was downloading data from his equipment onto a computer, he came up behind Tina Rolfe and saw her working on a computer changing readouts from a Ludlum 2350. Smith estimates that the HPs downloaded thousands of scan results per day. He states that changing these scan numbers was a very simple thing to do. He also saw her changing numbers on readings from a Ludlum 2360 (which collects surveillance data for alpha and beta radiation). The fact that Tetra Tech was "changing the numbers" was common knowledge among the HPs. Both HPs Ray Roberson and Joe Cunningham told Smith they were aware that scan results were being altered.[62]

Smith observed that Tina Rolfe was directed to change the numbers by her husband, Steve Rolfe, a Tetra Tech HP supervisor. Several times he heard Steve Rolfe say of one sample or another, "that number's too high, it's way above background," and he directed that it be altered to be lower to be closer to the background levels.[63] Tetra Tech HP supervisor Justin Hubbard was also aware of the alterations. Smith complained about the scan results being changed, and Hubbard told him that Tetra Tech was doing it everywhere else on the Shipyard.[64]

Smith reports that Senior HP Rick Zahensky told him he also changed scan result numbers for an extended period, involving many months, if not years. On numerous occasions Zahensky took a computer home in order to change scan results overnight. Zahensky told Smith that at times he worked until the early hours of the morning to "get the numbers right." Smith was present on several occasions when Zahensky did not "get the numbers right," and was "chewed out" by Steve Rolfe. Smith also witnessed Tina Rolfe being "chewed out" by her husband Steve, when numbers remained

[61] Exhibit B at ¶ 25.
[62] *Id*. ¶ 26.
[63] Exhibit B at ¶ 26.
[64] *Id*. at ¶ 27.

too high or too low.[65]

Tetra Tech also violated proper protocol by holding up the delivery of the scan results to the project management office. Proper procedure was that the scan results were to be submitted to the office by the end of each day on thumb drives. However, rather than submit scan results by day's end, the scan results were held up so that employees like Zahensky could manipulate results that were deemed too high or too low. When Zahensky was given the scan results to take home in the evening, the thumb drive was not submitted until the following day at the earliest. The office had no objection to the tardy delivery of the scan results, since their fraudulent manipulation was done at the direction and insistence of Tetra Tech's upper-level onsite project management.[66]

Bert Bowers, the former RSOR, states that a lab technician, Neil Berrett, and a lab supervisor, Phil Smith, came to him on separate occasions complaining they were being asked by upper level project management to "write away" laboratory analysis results, that is, change the results of sample analyses and scans. Bowers directed the employees to go back to the project management, talk with them, and come back to Bowers if they were not satisfied. At that time, Bowers had not been aware project management had been ordering the falsification of samples and scan results.[67]

**5. Potentially Hazardous Radioactive Soil Shipped Offsite and Backfilled at HPNS**

In the years preceding the Shipyard cleanup, Navy studies established that many of the drain and sewer lines throughout the base were contaminated as a result of the Navy having previously disposed of radioactive waste by simply dumping it down the drain. Investigation also found that many of the drain and sewer lines had severely broken or cracked over the years, causing radioactive contamination to leach into the surrounding soil. Remediating the extensive radioactive contamination stemming from drain and sewer lines was thus a major component of Tetra Tech's cleanup responsibilities at HPNS, and included large-scale soil excavation and sewer and drain line removal.

Soil removed from around the sewer lines was required to be scanned and remediated as

[65] *Id*. at ¶ 26.
[66] *Id.*

necessary. Soil that remained contaminated with radiation was to be disposed of as low-level radioactive waste. Soil that was deemed successfully remediated was either backfilled into trenches at the Shipyard or shipped offsite to be used for commercial purposes.[68]

From the very beginning of the sewer trench remediation, however, potentially radioactive soil was allowed to be shipped offsite that Tetra Tech claimed was free of radioactive materials when it may not have been. Tetra Tech management engaged in deliberate fraudulent practices to conceal the potentially radioactive nature of soil cleared for use as backfill. To date, Tetra Tech has failed to alert the public of the potentially hazardous nature of soil that left the Shipyard or acknowledge that potentially radioactive soil was backfilled throughout the Shipyard.

**a. Potentially Hazardous Radioactive Soil Shipped Offsite**

In late 2005, soon after Tetra Tech began remediating soil that had been removed from trenching in connection with drain and sewer line removal and the broad remediation of areas within Parcel E, Tetra Tech established a conveyor belt system at HPNS to screen soil for radioactive material above release levels.[69] Under this system the soil was first spread no more than 6 inches deep on a conveyor belt. The soil was then to be moved at an established slow speed under radiological sensors that would set off an alarm if the sensors picked up excessive radioactivity. If the alarms sounded, the soil within a specified number of feet on either side of the sensors was to be removed from the conveyor belt and placed in low level radioactive containers for offsite disposal. The soil that did not set off the radiological sensor alarms was permitted unrestricted radiological release from Hunters Point unless it was chemically contaminated.[70]

Sometime in early 2006, RSOR representative Bert Bowers contacted Ulrika Messer, a Tetra Tech manager in San Diego who was responsible for the conveyor belt system and the specific contracts under which the conveyor belt processing was being undertaken. Bowers informed Messer that NWE had reached 80% of the budgeted costs Tetra Tech had allotted for the conveyor belt processing of radioactively contaminated soil. Messer reacted very strongly, screaming at Bowers

[67] Exhibit A at ¶ 53.
[68] *See* Exhibit A at ¶ 43; Exhibit B at ¶ 28.
[69] *Id*. at ¶ 20.
[70] *Id*. at ¶¶ 17-18.

and saying she would have to go to Tetra Tech VP Neil Hart to "beg" for more money for the conveyor belt processing of the remaining soil.[71]

After Bowers alerted Tetra Tech to the budgeted funds running low, Tetra Tech Construction Superintendent Joe Levell, who reported to Messer, substantially increased the conveyor belt speed. Increasing the speed made the radiation detectors much less able to detect radiological contamination. Tetra Tech's internal memos admit that the speeds were increased to double the approved speed. However, HPs who worked on the conveyor belt system report that the speeds were actually increased by a factor of 6 to 9 times the authorized conveyor belt speed.[72] Bowers estimates that the high scanning speed would make the radiation detectors nearly worthless, unable to detect all but extreme radiation emissions.[73]

In that same 2006 timeframe, further efforts to cripple the effectiveness of the conveyor belt system were taken. Messer communicated regularly with NWE CEO Mike Wilson. The brother of Mike Wilson, Gary, was a senior HP working at the Shipyard for NWE. Sometime shortly after Bowers informed Messer that the budget for operating the conveyor belt systems was nearly maxed out, Gary Wilson, with the assistance of HP Jane Taylor, silenced the sensor alarms so the sensor system would never alert that excessive radioactive contamination was present in the soil.[74]

After months of the improper conveyor belt speed and alarm deactivation, HPs raised objections to Tetra Tech, ultimately forcing it to stop the improper conveyor belt use in July 2006. When Gary Wilson was questioned about why he and Jane Taylor deactivated the sensor alarms, he stated that they were silenced because they were going off so much that a large amount of the soil was found to be radiologically contaminated and Tetra Tech wanted less soil deemed contaminated. Wilson also said the alarms were silenced due to pressure from Tetra Tech management.[75]

In the months prior to July 2006, before the use of the conveyor belt system was stopped, tens of thousands of cubic yards of soil were fraudulently "cleared" as non-radiologically contaminated due to the excessive conveyor belt speed and disabling the alarm. Tens of thousands of

[71] *Id*. at ¶ 20.
[72] *Id.* at ¶¶ 17, 21-23; *see also* Exhibit B at ¶ 29; Exhibit N, Decl. of Robert McLean, ¶¶ 8-11.
[73] *See* Exhibit A at ¶ 22.
[74] *See* Exhibit B at ¶ 29, Exhibit A at ¶ 23.

cubic yards of soil fraudulently "cleared" were shipped off Hunters Point for use by unknowing customers before July of 2006.

Tetra Tech management, including Tetra Tech Vice President Neil Hart, was aware that tens of thousands of cubic yards of potentially contaminated soil with levels of radioactivity above release levels had been improperly screened by the conveyor belt system. VP Hart and others in Tetra Tech management also knew that Tetra Tech could not represent that the soil was free of hazardous radioactivity. Despite this knowledge, Tetra Tech took no steps to inform the recipients of the soil that it was potentially hazardous. Moreover, Tetra Tech took no steps to inform appropriate regulatory agencies.[76] Tetra Tech's failure to warn the public and regulatory agencies of the risk it created is a breach of the trust the NRC placed in the company by granting it a license.

**b. Potentially Hazardous Radioactive Soil Used As Backfill**

After the conveyor belt system was exposed as having been misused and ineffective, Tetra Tech implemented an alternative soil scanning system using Radiological Screening Yard ("RSY") pads. In the RSY pad system, soil excavated from trenches was spread out in an approximately 6-inch layer across a pad roughly the size of a football field and scanned for radioactivity above release levels. At first, HPs walked the pad hand scanning for radioactivity and they would remove soil registering above release levels.

Later, as the process of having HPs walk and scan the RSY pads proved to be time consuming and expensive, Tetra Tech switched to using an array of radioactive sensors pulled behind a small tractor, known in the field as a "towed array." With the towed array system, the information gathered by sensors, including GPS data, was transmitted to a data center computer. A data specialist would then develop a detailed map of the areas of soil on the pad marking the highest radioactive readings. The map was then transmitted to an HP who would direct other HPs to the high-level spots to remove the radioactive soil.[77]

The RSY pad system was central to determining if soil removed from the trenches was to be

[75] *See* Exhibit A at ¶ 23; Exhibit B at ¶ 30.
[76] *Id*. at ¶ 24; *see also* Exhibit B at ¶ 32.
[77] Exhibit A at ¶ 37.

disposed of as radioactive waste or could be used as backfill at the Shipyard.[78] In its early stages, 2008 and early 2009, the towed array appears to have been used properly and experienced and qualified HPs led the process. The towed array procedure for the RSY pads also proved much more effective compared to having the HPs hand-scan the soil. Still, RSY pad processing was expensive and time consuming for Tetra Tech, and the fixed price contracts provided an incentive for work to be performed quickly and fraudulently at minimal cost.

**c. Unqualified Supervisors and Untrained Workers Responsible for RSY Pad Soil Processing**

Beginning in 2009, Tetra Tech undertook conduct aimed at cutting the cost of the RSY pad soil processing and in turn severely undermined the credibility of RSY remediation work. Most notably, Tetra Tech installed unqualified workers in positions of responsibility at the RSY pads, some of whom had no experience in the radiological industry.

For example, Jane Taylor was hired as a Junior HP in 2006 despite suspicion her resume was fraudulent. Jane Taylor had a daughter, Samantha Taylor, who was a Junior HP at the Shipyard. Jane Taylor wanted Samantha Taylor to help her get a job at Hunters Point. According to Senior HP Arthur Jahr, Samantha Taylor asked him to lie on Jane Taylor's behalf, asking Jahr to falsely state he had previously worked with Jane in the radiological field. Jahr refused.[79] Furthermore, according to Senior HP Richard Stoney, Samantha Taylor told him that her mother had no radiological experience.

In applying for a job through New World Environmental, Jane Taylor submitted a resume that claimed she had years of radiological experience working for a firm called "Taylor Made Construction." However, RSOR Bert Bowers was familiar with firms that did radiological work, had never heard of "Taylor Made," and came to the conclusion that the resume was fraudulent. Bowers shared this suspicion with Kari Guidry, NWE's Human Resources Director. Subsequently Jane Taylor submitted a second resume that omitted any reference to "Taylor Made Construction" and the claim she had prior radiological experience.

[78] *Id.* at ¶ 43.
[79] Exhibit E, Decl. of Arthur Jahr III, ¶ 10-11; *see also* Exhibit C at ¶¶ 18-25; Exhibit G, Decl. of Richard Stoney, ¶¶ 5-9; Exhibit A at ¶¶ 29-36.

Despite the red flags raised about her resume, Taylor was hired as a Junior HP, and within just a few months, promoted to Senior HP even though it normally took Junior HPs at least several years to gain the experience necessary to be a Senior.

Other HPs who observed Taylor's work saw that she was not competent to be an HP at all, let alone a Senior HP.

Subsequently, Taylor left HPNS to pursue work elsewhere. However, she was rehired a short time later. At the insistence of Construction Superintendent Dennis McWade, with whom Taylor had a romantic relationship (and later married), Taylor was re-hired as a Senior HP.[80]

Sometime in 2009, Taylor was put in charge of the RSY pad radiological remediation.[81]

In early 2009, Tetra Tech hired Thorpe Q. Miller to oversee the data system used for the RSY pad processing, including the development of the maps used for the remediation of soil on the RSY pads. Bowers states that Miller did not have the education, training, or experience required by the Navy contracts to hold this position.[82]

However, Miller is the son of Laurie Lowman, who was the Lead Environmental Protection Manager in the Navy's Radiological Affairs Support Office (RASO), responsible for oversight of Tetra Tech and the radiological remediation at Hunters Point. Tetra Tech employed him apparently as a favor to Lowman and to curry favor with her. Miller was originally a Tetra Tech employee, but its management arranged to have him employed by a subcontractor, though his job was exactly the same, in an attempt to avoid the conflict of interest being so obvious.[83]

With Miller and Taylor in charge of the RSY pad processing, Tetra Tech stopped having qualified HPs perform soil sampling and removal on the pads. Tetra Tech instead had unskilled laborers assist Taylor at the RSYs. According to accounts of former HPs, trained and skilled Senior HPs were not regularly assigned to RSY pad processing from 2010 on.[84]

The use of unskilled laborers for the RSY pad processing under the supervision of Taylor put the health and safety of the laborers at risk. The laborers were not sufficiently trained to understand

[80] Exhibit A at ¶¶ 33-34.
[81] *Id*. at ¶ 36.
[82] *Id*. at ¶ 37.
[83] *Id.* at ¶¶ 38-40.

the health risks of inhaling or ingesting the radioactive contamination they were working with, and Taylor lacked the competence to ensure the laborers performed the work properly and safely. Senior HP Art Jahr observed laborers working the RSY pads with Taylor without the proper protective equipment, such as gloves and respiratory protection. Jahr also observed the laborers creating unnecessary dust and misusing the Ludlum sensors by swinging them too high and too fast over the ground, rendering the instruments ineffective. In August of 2010, Jahr brought his concerns over the laborer's conduct and the lack of proper supervision by Taylor to a Tetra Tech supervisor, Brian White. Jahr told White that if NRC inspectors saw the conduct Taylor was supervising, the NRC would shut down the HPNS project. Jahr was terminated shortly thereafter.[85]

Other Senior HPs also observed the conduct of Taylor in her supervision of the RSYs. For example, in processing the RSY pads, soil samples were to be taken from the 32 highest radioactive reading spots that the towed array identified and Miller mapped. On one occasion, Senior HP Archie Jackson overheard laborers tell Taylor they had collected less than the necessary 32 samples from a pad. Jackson then overheard Taylor direct the laborers to "just get the soil from anywhere," that is, it did not matter if the soil samples came from the proper RSY pad.[86] The direction given by Taylor was in clear violation of procedures and resulted in the fraudulent submission of soil samples from the wrong location. It also calls into the question the legitimacy of the RSY remediation process.

**d. Backfilling with Potentially Hazardous Radioactive Soil**

Taylor and Miller were responsible for selecting the locations from which soil samples were taken at RSY pads. The protocol established by the Navy required that the soil samples be taken from the locations on the pad with the highest readings of radioactive activity.[87]

Some soil processed at the RSY and determined to be free from contamination was used as backfill. Other soil cleared from the RSY pads as no longer containing high levels of radioactive contamination was to be shipped offsite, going through the Portal Monitor for a final check.[88]

Miller and Taylor saw to it that the large majority of soil excavated from the sewer trenches

[84] *Id*. at ¶ 36; Exhibit E at ¶¶ 13, 18; Exhibit D, Decl. of Archie Jackson, ¶¶ 10-12.
[85] Exhibit E at ¶ 18.
[86] Exhibit D at ¶¶ 15-17.
[87] *See* Exhibit A at ¶ 37; Exhibit C at ¶¶ 41-42.

was not treated as radioactively-contaminated soil. For example, soil removed from a parcel referred to as "UC-3 Work Area #16" had 1,023 cubic yards of soil removed. After processing which Miller and Taylor oversaw, only 10 cubic yards of soil were remediated as containing radioactive and chemical contamination, or less than .01% of the soil processed.[89] Through intentional fraud or incompetence, taking samples that avoided the existing high radioactivity in the RSY pad soil permitted the tests to incorrectly meet the Navy standards and incorrectly obtain clearance for the RSY pad soil to be used as backfill at Hunters Point.[90]

Tetra Tech knew that the RSY pad processing under the supervision of Miller and Taylor resulted in dramatically more Portal Monitor failures in 2010 and the first 9 months of 2011. Tetra Tech also knew that the soil cleared to be used as backfill at HPNS never went through the Portal Monitor screening process.[91] Despite the fact that the soil leading to increased Portal Monitor alarms had been processed by the same individuals as the soil cleared for backfill, Tetra Tech never took any steps to verify that the soil that was to be used as backfill at Hunters Point did not contain the same type of residual radiological contamination that led to increased Portal Monitor failures.

**6. Change in the Portal Monitor Process**

When the Portal Monitor process was first instituted, the Navy required loaded trucks to pass through the Portal Monitor to detect whether hazardous radioactive contamination existed in the truckload. If a truckload set off the Portal Monitor alarm, the truck was to go through the Portal Monitor two more times. If the truck failed two out of three passes, then the load was not to go offsite. Rather, HPs were to scan the truck's load in an effort to locate the radioactive material and the load was required to be taken back to the RSY pads to be reprocessed.[92]

By 2011, trucks loaded with RSY-processed soil were frequently failing the Portal Monitor screening. Senior HP Susan Andrews recalls, and entered into her logs, that when working the Portal Monitor in the first half of 2011, nearly all of the 37 loaded trucks she screened one day set off the Portal Monitor alarm, requiring all loads to be returned to the RSY pad to be re-worked. The time

---

[88] *See* Exhibit A at ¶ 43.
[89] Exhibit A at ¶ 44; Exhibit A, Attachments 4, 5 ("Exhibit A4" and "Exhibit A5," respectively).
[90] *See* Exhibit C at ¶¶ 44-45.
[91] *Id*. at ¶¶ 42-43; *see also* Exhibit C at ¶¶ 43-44.

and expense to Tetra Tech associated with the Portal Monitor failures was significant as loads needed to be reprocessed entirely.[93]

In early September 2011, Tetra Tech responded to the increased Portal Monitor failures by making two fundamental changes affecting loads of soil from the RSY pads. First, Tetra Tech substantially decreased the sensitivity of the Portal Monitor from "sigma 3 plus mean background level" to "sigma 8 plus mean background level."[94] This means in plain language that the sensor sensitivity was decreased by nearly two-thirds. Radioactivity that should have set off the alarm no longer set it off. This change crippled the Portal Monitor's effectiveness in catching excessive radioactivity that could cause disease, including cancer.

Second, Tetra Tech weakened the procedure for scanning trucks after radioactivity set off the Portal Monitor alarm. Before the September 2011 changes, a truckload that set off the alarm on two out of three passes had to have the load returned to the RSY pads to be re-worked. After the change in procedure, Tetra Tech instituted a hand-scanning process that virtually ensured hazardous levels of radioactivity would not be found, allowing the truckload to be released and leave Hunters Point.

Tetra Tech had learned from years of experience with the Portal Monitor that HPs usually located the radioactive materials that set off the alarm when they scanned the soil in the load by climbing a scaffold and scanning over the top of the trailer. Tetra Tech also knew from the prior years that very few scans through the body of the trailer were able to detect the radioactive materials due to shielding by the metal trailer body and the thickness of the soil in the trailer.[95]

In September 2011, Tetra Tech forbade the HPs to use the scaffolding and required that the scanning be done solely through the metal shell of the trailer. This change also allowed a load that failed the newly weakened Portal Monitor to leave the Shipyard without having to be sent back to the RSY pads to be reworked.[96] The Portal Monitor became largely irrelevant because loads that failed the Portal Monitor were allowed to leave Hunters Point as non-radioactive based on a corrupt

---

[92] *See* Exhibit C at ¶ 46.
[93] *Id*. at ¶¶8, 45.
[94] Exhibit C at ¶ 46.
[95] *See id*. at ¶ 48.
[96] *Id*. at ¶¶ 49-50.

scanning procedure.[97]

As a result of the changes Tetra Tech made to the Portal Monitor, potentially hazardous radioactive materials were regularly permitted to leave Hunters Point designated as free of hazardous radioactivity. Tetra Tech was able to dramatically reduce the costs it incurred for the soil processing. The September 2011 changes increased profits at the expense of those who unknowingly received potentially hazardous radioactive soil from the Shipyard.[98]

Tetra Tech's practice of putting incompetent individuals in charge of the critical RSY screening process, removing competent HPs from the process, reducing the sensitivity of the Portal Monitor, and barring HPs from scanning truckloads from an overhead scaffolding increased the likelihood that radioactive soil above the cleanup standard was shipped off HPNS. To date, Tetra Tech has not alerted the entities that received soil from HPNS after September 2011 that the soil may contain elevated radioactivity at levels potentially hazardous to health.

**C. Tetra Tech's Motive to Commit Fraud**

Tetra Tech put its production schedule and profits ahead of proper radiological sampling and remediation. As early as 2006, it demonstrated it was willing to cut corners, taking steps to fraudulently disable its scanning system for detecting elevated levels of radioactivity in soil, resulting in potentially contaminated soil being shipped offsite.

Starting in 2009 and continuing thereafter, the agreements between the Navy and Tetra Tech changed from cost-plus contracts to firm fixed-price contracts,[99] which significantly accelerated Tetra Tech's fraudulent practices. After this change, Tetra Tech faked both radiological investigation and remediation; unlike previously, cutting costs led directly to increased profits.

Furthermore, under the fixed-price contracts, the bulk of the payments to Tetra Tech – and bonuses for its management – depended on the Navy obtaining free release of materials, soil, areas and buildings. Tetra Tech was to be paid in incremental stages on each contract covering specific areas, but was not to be paid the largest share of the contract – 40% – until all hazardous radioactive

[97] *Id* at ¶ 50.
[98] *Id*. at ¶ 49.
[99] *See* Exhibit A at ¶ 11; Exhibit A, Attachment 1(Scope of Work Contract dated June 24, 2011) ("Exhibit A1").

materials were removed and post-remediation sampling indicated radioactivity fell below cleanup levels established under the contract. This substantial final payment motivated the fraudulent sampling and remediation necessary to obtain free release, encouraging Tetra Tech to falsely claim remediation was successfully completed when it was not.

Tetra Tech found that certain areas of the Shipyard, like the Building 707 "Triangle" area, proved difficult to meet free release levels because elevated radioactivity continued to be found in post-remediation samples despite repeated efforts at remediation. Tetra Tech chose not to incur the additional costs of cleanup and have payment delayed. Rather, the management of Tetra Tech directed HPs to engage in fraud.[100]

HPs also had an incentive to go along with the fraud. They were paid both a salary and a generous tax-free per diem, adding up to substantial compensation. In addition, the cleanup was slated to last for years, making a job at the Shipyard unusually stable, unlike the short stints of work HPs were used to during nuclear plants' temporary shut-downs. The money and stability were powerful inducements to be complicit in the management-directed fraud rather than to challenge improper practices, no matter how wrong they were.[101] In addition to the inducements of stable employment and substantial pay, Tetra Tech also kept HPs in line with threats. Management compelled HPs to engage in fraud or be fired.[102]

This combination of "carrots" and "sticks" created a toxic Tetra Tech culture of fraud. But some HPs were sufficiently offended by Tetra Tech's practices that they quit rather than be complicit. Others felt badly enough about what they had been ordered to do that they "blew the whistle" after they left the Shipyard. These HPs are the whistleblowers whose declarations, under penalty of perjury, support this Petition.

**D. A Culture of Fraudulent Work and Cover-up**

Tetra Tech's toxic culture overemphasized production at the expense of radiological safety. Its onsite management viewed radiological investigation and remediation as impediments to the construction schedule. Its Radiological Safety Department was not sufficiently independent of the

[100] *See* Exhibit B at ¶¶ 7-11, 15-20, 24-31.
[101] *Id.* at ¶ 34.

Construction Department. The perceived needs of the Construction Department to speed up work and cut costs overrode proper radiological practices.[103]

Tetra Tech's culture was also one of favoritism, where preferred people were made senior HPs and supervisors despite not having the experience necessary for those positions.[104] Lack of qualified supervisors contributed to slipshod and fraudulent work by the HPs working for them, seriously compromising sampling and remediation.

The company also had a system of covering up improper practices. HP supervisors had an "early warning system," which alerted them when the chief onsite radiological safety officer, the Radiation Safety Officer's Representative was about to come out to the field. Thus alerted, employees knew not to continue to engage in fraud, at least until the RSOR went back to his office.

Furthermore, managers were nearly all from outside the San Francisco Bay Area. They expressed little concern that residual radioactive contamination might remain on the Shipyard because of an attitude of, "We're not going to live here."[105]

## VI. DISCUSSION

The United States Navy hired Tetra Tech to participate in the proper radiological cleanup of HPNS and the NRC entrusted Tetra Tech with a Materials license. However, as detailed above, Tetra Tech's role in the remediation is a story of intentional fraud, greed and disregard for the health and safety of present and future residents of San Francisco and Northern California. Tetra Tech's fraudulent conduct, engaged in by corporate managers, superintendents, and supervisors over no less than six years, demonstrates that Tetra Tech was willing to sacrifice radiological safety for profit.

The NRC is charged with protecting workers and the public from the harm, illness and death that can come from exposure to radiological contamination. The facts prove that Tetra Tech's fraud could result in workers and the public being exposed to hazardous radioactive contamination, risking their health and safety. The NRC cannot allow such a dishonest and dangerous company to continue

---

[102] *See* Exhibit B at ¶¶ 7, 15-32, 34; Exhibit C at ¶¶ 13-15, 30-35, 39, 52-55; Exhibit N at ¶¶ 10-11.
[103] *See* Exhibit A at ¶¶ 11-15, 51-52; *see also* Exhibit C at ¶¶ 30-35; 40-51.
[104] *See* Exhibit A at ¶¶ 8, 25-49; Exhibit C at ¶¶ 18-29; Exhibit D at ¶¶ 9-14.
[105] *See* Exhibit B at ¶ 34; Exhibit C at ¶ 59.

to retain an NRC license. Tetra Tech's NRC license should be revoked.

### A. The Petition Establishes Tetra Tech Engaged in Widespread Fraud Incompatible with an NRC License.

Although Tetra Tech acknowledged, after being caught, that it engaged in soil-sampling fraud, former employees and documents demonstrate more widespread intentional misconduct. The fraud went well beyond the phony soil sampling addressed in the *Anomalous Samples Report*. Fraud spanned virtually all remediation functions: fake soil sampling occurred across large portions of the Shipyard; COC documents were regularly falsified; building surveys were faked; inconvenient data were manipulated or destroyed; and soil was fraudulently remediated by individuals selected by the company because of their incompetence and willingness to cheat and keep quiet. This resulted in potentially contaminated soil being shipped offsite or being backfilled in Shipyard trenches.

Whereas the *Anomalous Samples Report* is limited to fake samples taken in lieu of real post-remediation samples at the shell of Building 517, witnesses and records indicate that potentially thousands of samples taken throughout Hunters Point were phony.

Witnesses describe the fraudulent soil sampling changing over time. At first, the phony samples were taken in the general vicinity intended to be sampled but from locations where it was thought samples would come back "clean." However, when even those close-by samples came back too "hot," the fraud was adapted; phony samples were taken from one of three remote locations known to be clean, a trench in front of the 500 series, the old movie theater or the palm tree site, depending on the type of soil to be matched.

HPs were instructed to conceal their improper activity. They filled buckets with clean soil from these areas during lunch or after normal work hours, when they would not be observed, and delivered the known-clean soil to a Conex where samples were switched undercover. Fraudulent soil sampling effectively guaranteed that costly soil remediation and disposal would not be required. From employee statements and the records contained in the *Anomalous Samples Report*, it is certain the intentional fake soil sampling took place for years.

Samples that were known or suspected to be too "hot" were discarded along with their COCs. This was true not only of the samples from around Building 707 and the 500 series, but also for the background reference sample taken from Parcel A, the post-remediation samples of the soil in the

crawl space under Building 351A and for radioactively-contaminated fencing.

In the case of the Parcel A sample, Tetra Tech knew from lab results that Parcel A had dangerous levels of cesium-137 contamination, many times the cleanup level. Tetra Tech directed that the sample and test result be discarded so no one would learn of the contamination, putting the health and safety of the community at risk, contrary to the NRC's fundamental mandate to protect the public from the health hazards of radiological contaminants.

In the case of Building 351A, Tetra Tech's top onsite executive, the Project Manager, was not only aware of sample destruction, but directed it. The fact that contaminated soil still remains under Building 351A would continue to be hidden but for the whistleblowers whose declarations are attached to this Petition.

Fraudulent soil sampling was accompanied by building-survey fraud in which Class 1 scans were done improperly and Class 2 and 3 scans were completely fabricated. "Just get some numbers," HPs were told by Tetra Tech's supervisor. The fraud entailed holding a scanner in place long enough to collect the required number of readings indicating an entire area was scanned when systematic scanning did not take place.

Portal Monitor procedures were altered in two fundamental ways: barring HPs from using the overhead scaffolding to scan down into a truckload; and no longer requiring every truck that tripped the Portal Monitor alarm to be reworked at an RSY pad. As a result, potentially hazardous radioactive soil was designated as "clean" when Tetra Tech knew hazardous radioactive contamination could remain in the soil shipped offsite. Tetra Tech was thereby able to dramatically reduce the costs it incurred for soil processing and increase its profits at the expense of proper radiological procedure, at the expense of actual radiological cleanup, and at the expense of those who may come into contact with the radiological dangers that Tetra Tech allowed to remain in place.

Taken together, the fraudulent conduct described by former shipyard employees demonstrates that the fraud was much more widespread than the previous investigations have revealed, was committed in furtherance of intentional and deliberate schemes rather than being isolated misconduct by a couple rogue employees, and was done with an awareness that people could be exposed to radioactive contaminants Tetra Tech knew were not going to be cleaned up.

Because Tetra Tech has not admitted the full extent of its fraud and because contamination

above free-release levels remains un-remediated, the fraud is continuing.

**B. Tetra Tech Was Willing to Sacrifice Radiological Safety for Profits**

The facts submitted in this Petition show that no later than 2006 and continuing to at least August 2012, corporate officials, managers, and supervisors of Tetra Tech directed widespread fraud knowing their conduct could result in radium-226 and other highly toxic radioactive materials being shipped throughout Northern California and remain buried in trenches at the Shipyard. Radium 226 and the other radioactive contaminants that Tetra Tech was charged with remediating have been deemed by the NRC to be highly toxic to humans; radium can cause cancer and has a half-life of nearly 1,600 years.[106]

As early at 2006, at the VP level of Tetra Tech, decisions were made to cripple the effectiveness of radiological remediation of soil. Tetra Tech management knew that much of the soil it fraudulently processed would be shipped to unsuspecting landfills and companies with Tetra Tech's false assurance the soil was free of radiological contamination.

Crippling the soil conveyor belt in 2006 was just the beginning of a growing corporate conspiracy to defraud the Navy, regulators, and the public. The fraud escalated after the contract changed from cost-plus to fixed-price in 2009. All the while, Tetra Tech knew its fraud increased the health risks to workers and the public, now and for hundreds of years into the future.

Fraudulent building scans and samples led to the improper free release of buildings. The possibility that excessive and dangerous radiation still exists in these buildings puts future workers who demolish or rehab them at risk, as well as future occupants, a risk that could remain for hundreds and hundreds of years.

Tetra Tech also manipulated scanning results, changing data in order to submit numbers that were neither too high to prevent free release nor too low to raise suspicion. This widespread and intentional alteration of scan data evidences disregard for the health of those who may be unknowingly exposed to radioactivity that could potentially cause serious illness like cancer. The use of unskilled laborers for the RSY pad soil processing under unqualified supervision resulted

[106] *Hunters Point Shipyard Final Historical Radiological Assessment*, Table 4-3, *available at* http://pbadupws.nrc.gov/docs/ML0425/ML042580203.pdf.

in inadequate remediation, and unwarranted health risks to the laborers. Thousands of cubic yards of potentially contaminated soil were improperly remediated and backfilled into Hunters Point trenches, which could expose future workers and residents at Hunters Point to radioactive health hazards for centuries.

Tetra Tech management directed the destruction of samples and records showing excessive radioactive contamination because it chose not to spend the time and money to do a proper cleanup. Employees engaged in the conduct knew it was wrong. Management personnel who directed the fraud knew it was wrong. Tetra Tech's management pressured its supervisors to have HPs engage in fraud to guarantee free release of radiologically contaminated soil and buildings so Tetra Tech could get fully paid and profit without incurring the full costs of the cleanup. The fraudulent conduct went on for years because of corporate greed and employees' fear that to object meant termination.

Employees who knew the conduct was wrong and could result in the exposure of innocent people to hazardous radioactive contamination contributed to the fraud and kept their mouths shut due to the real threats by Tetra Tech of termination for breaking ranks with the conspiracy. Tetra Tech's conduct over no less than half a dozen years at Hunters Point risked the health and lives of innocent people for wrongful profits. Tetra Tech does not deserve to retain the NRC license it now holds.

### C. NRC Precedent Supports License Revocation

Pursuant to its enforcement authority under the Atomic Energy Act and NRC regulations, the NRC may revoke any license for failure to comply with the requirements of the AEA and/or the rules and regulations of the NRC, or for the discovery of conditions that would have warranted license refusal at the time of application.[107] As previous NRC revocation decisions demonstrate, license revocation is an appropriate remedy in cases such as this where the licensee has engaged in repeated, willful and deliberate misconduct, and where a licensee's noncompliance unreasonably jeopardizes the public health and safety.

*In the Matter of Piping Specialists, Inc. and Forrest L. Roudebush,* the NRC revoked Piping Specialists' byproduct materials license following an investigation into alleged violations of its

license conditions and NRC regulations.[108] In that case, an NRC inspection of the licensee's operations revealed that the company had both failed to maintain and falsified records of radioactive materials usage; that it used unqualified personnel in unauthorized RAD positions; and that it failed to properly post, mark or label radioactive materials or areas, among other violations.[109] In revoking the license, the NRC emphasized that it "must be able to rely on its licensees . . . to comply with NRC requirements, including the requirement to provide information and maintain records that are complete and in all respects material to the NRC."[110] Moreover, the NRC added, "[v]iolations, in particular willful violations of Commission requirements, cannot and will not be tolerated."[111]

In upholding the NRC enforcement order revoking Piping Specialists' license, the Atomic Safety and Licensing Board members further noted that it had "failed to act as a reasonable manager of licensed activities; failed to detect and correct violations caused by an employee; willfully attempted to conceal violations from NRC staff; and g[ave] untruthful information to the Staff during its inspection and investigations."[112] Taken together, the violations "collectively demonstrated a lack of effective oversight in the Licensee's radiation safety program" and thus warranted license revocation.[113]

Similarly, *In the Matter of Mattingly Testing Services, Inc*., in 2009, the NRC revoked the license of an industrial x-ray provider based on the lack of "reasonable assurance that Mattingly w[ould] provide for the safe use and security of the radioactive materials in its possession or that the public health and safety is adequately protected by continuing activities under the existing license."[114] Citing the repetitive nature of the violations, as well as the threat to public safety resulting from Mattingly's deliberate and willful violations, the NRC issued an order immediately

---

[107] 42 U.S.C. § 2236; 10 C.F.R. §§ 30.61, 40.71, 70.81.
[108] *Piping Specials, Inc. Kansas City, MO; Order Suspending License (Effective Immediately)*, 56 Fed. Reg. 55,514 (Oct. 28, 1991); *Forrest L. Roudebush, Kansas City, Missouri; Order Prohibiting Involvement in NRC-Licensed Activities and Requiring Certain Notification to NRC*, 60 Fed. Reg. 13,739 (Mar. 14, 1995).
[109] 60 Fed. Reg. at 13,739-13,740.
[110] *Id*. at 13,740.
[111] 56 Fed. Reg. at 55,514.
[112] 60 Fed. Reg. at 13739 (citing ASLB Final Initial Decision (Revoking License), LBP-92-156, 36 NRC 156 (1992)).
[113] 56 Fed. Reg. at 55,514.
[114] *Order Revoking License In the Matter of Mattingly Testing Services, Inc*., NRC OE EA-10-100,

suspending Mattingly's license.[115]

Applying the rationale of the prior NRC revocation decisions here, Tetra Tech's repeated falsification of soil samples and data, repeated failure to adhere to established radioactive materials safety protocols, and disregard for the health and safety of both onsite workers and the greater public provide ample justification for license revocation in this case.

Furthermore, during the NRC's investigation, Tetra Tech actively concealed the true scope and breadth of its fraudulent activities. Rather, Tetra Tech suggested in its own report that violations were limited to "anomalous" samples committed by a few employees. As detailed herein, however, Tetra Tech's violations far exceeded the fraudulent sampling addressed in its report and mirror many of the violations that warranted revocation in *Piping Specialists*: staff regularly manipulated and falsified records, such as scan data and COC forms; untrained and unqualified personnel were used throughout Shipyard, often in significant roles; and it permitted potentially contaminated soil to return to the ground as backfill or be shipped offsite. Indeed, the scale on which violations occurred at Hunters Point far exceeded the scale of violations in prior NRC revocation decisions, and created a far greater risk to public health and safety.

### D. The NRC License Must Be Revoked to Ensure Tetra Tech Is Never Again Entrusted with Radiological Remediation

The Superfund cleanup of radiation at Hunters Point, for which the United States government has spent hundreds of millions of dollars, is a fraud due to Tetra Tech's corporate greed. The United States will have to spend millions of dollars to try to determine and correct the full extent to Tetra Tech's radiological fraud. Tetra Tech cannot be allowed to continue to perform cleanup work at the Shipyard, even under the guise of correcting its frauds. The fundamental confidence that the company can be entrusted with this critical work has been irreparably shattered by its intentional fraud.

No other community should be subjected to the fraudulent conduct of Tetra Tech. It has shown its willingness to put the health and lives of communities at risk for profit. No other

---

[115] at 11 (Sept. 2, 2010) (Docket No. 030-20836).
*Id*. at 11-14.

community in America should experience the damage Tetra Tech has inflicted upon Hunters Point and San Francisco.

### E. The NRC Should Conduct a Comprehensive Investigation into Tetra Tech's Fraud

Petitioners have demonstrated that widespread fraud took place. However, this Petition only tells part of the story; Petitioner was only able to interview a small number of the employees who worked at the Shipyard for Tetra Tech and its subcontractors. Interviews of all former employees are necessary to document the extent of the fraud and the impact it had on the cleanup. Without their testimony, practices that may have compromised the cleanup will remain hidden. The NRC should conduct a comprehensive investigation into Tetra Tech, including interviewing as many former employees as can be located.

## VII. CONCLUSION and PRAYER FOR RELIEF

The fraud was directed by all levels of Tetra Tech's management, from the VP level on down to supervisors. Tetra Tech's fraud was motivated by greed. The more Tetra Tech could lower costs, cut corners, and cheat the more it stood to profit. Tetra Tech put profits not only over proper radiological procedures, compromising the cleanup of radioactive materials at the Shipyard, but over the health of innocent people, now and for generations to come. License revocation is warranted because Tetra Tech's approach to the Hunters Point cleanup displayed a total disregard for established radiological procedures, and was a dereliction of the duty entrusted to Tetra Tech by the

/ / /

/ / /

/ / /

/ / /

/ / /

/ / /

/ / /

/ / /

NRC in granting it a Materials License.

Petitioner Greenaction respectfully requests that the NRC revoke its license, both as an appropriate sanction for Tetra Tech's fraudulent conduct and to deter others from engaging in fraud.

Respectfully Submitted,

Steve Castleman
Environmental Law and Justice Clinic
Golden Gate University School of Law
536 Mission Street
San Francisco, California 94105-2968
Telephone: (415) 369-5351
Facsimile: (415) 896-2450

6/28/2017
Date

David C. Anton
1717 Redwood Ln
Davis, CA 95616
Telephone: (530) 759-8421
Facsimile: (530) 759-8426

6/28/2017
Date

Attorneys for Petitioner
Greenaction for Health and Environmental Justice

LLM student Pauline Balaire assisted in this investigation.

# EXHIBIT F

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
**REGION IX**
**75 Hawthorne Street**
**San Francisco, CA**

December 27, 2017

George ("Pat") Brooks
US Department of the Navy
33000 Nixie Way, Bldg 50
San Diego, CA 92147

Dear Mr. Brooks:

Thank you for providing for review the *Draft Radiological Data Evaluation Findings Report for Parcels B and G Soil* ("Report"), Former Hunter's Point Naval Shipyard (HPNS), September 2017. The U.S. Environmental Protection Agency (EPA), the California Department of Toxic Substances Control (DTSC), and the California Department of Public Health (CDPH) have independently reviewed this report in detail with a technical team including national experts in health physics, geology, and statistics, and EPA's comments are attached.

In Parcel B, the Navy recommended resampling in 15% of soil survey units in trenches, fill, and building sites. EPA, DTSC, and CDPH found signs of potential falsification, data manipulation, and/or data quality concerns that call into question the reliability of soil data in an additional 76% of survey units, bringing to 90% the total suspect soil survey units in Parcel B. (These do not add exactly due to rounding) In Parcel G, the Navy recommended resampling 49% of survey units, and regulatory agencies recommended 49% more, for a total of 97% of survey units as suspect.

Below are examples of observed forms of potential falsification, data manipulation or data quality concerns identified in reviews by EPA, DTSC, and CDPH:

- In Parcel G, in nearly a third of trench units, gamma scans of soil surfaces after excavation showed a need for further biased soil samples to be collected, but they were not.
- In Parcel G, out of the 43 trench units that the Navy had not already recommended resampling:
    - Over half had inconsistencies between gamma scan and static data and over one-third had other types of inconsistencies (e.g. on-site and off-site lab results differ by more than 10 times, plots showed signs that multiple sources of soil were likely in the data set, etc.)
    - In a third, the narrow range of gamma static data indicates measurements were not collected from different locations, as required.
    - In six, some data were missing so some evaluations could not be done.
    - In a few trench units, biased sample results appeared lower than other data sets. Biased samples are supposed to be collected in locations of highest scan results, so they would be expected to be higher, not lower, than other data sets collected in random locations.
    - Other concerns were found through data evaluation, and most trench units showed red flags of multiple types.
- In Parcel B, in some samples, the weights recorded for the onsite lab differed significantly from that recorded for what should be the same sample sent to the offsite lab.

- In Parcel B, in some samples, the weights recorded for the onsite lab differed significantly from that recorded for what should be the same sample sent to the offsite lab.
- Generally, data from Parcel B trench units show fewer examples of signs of deliberate falsification, but they show more frequent examples of data quality concerns. For example, a quarter of trench unit reports were missing gamma scan and static data. Many lab results were zero or negative numbers.

In summary, the data analyzed demonstrate a widespread pattern of practices that appear to show deliberate falsification, failure to perform the work in a manner required to ensure ROD requirements were met, or both.

We look forward to working with the Navy to scope out and begin the sampling component of the radiological assessment effort as soon as possible. If you would like to discuss any of these comments, please contact me at 415-972-3005 or chesnutt.john@epa.gov. You may also contact Lily Lee, Remedial Project Manager, on my staff at 415-947-4187 or lee.lily@epa.gov.

Sincerely,

John Chesnutt
Manager, Pacific Islands and Federal Facilities Section
Superfund Division

Attachments

cc: Julie Pettijohn, DTSC
Sheetal Singh, CDPH
Alec Naugle, California Regional Water Quality Control Board
Amy Brownell, San Francisco Department of Public Health