

Committee to Bridge the Gap Critique of the Work Plan for Retesting of Parcel G Hunters Point Naval Shipyard

15 August 2018

A Process Plagued with Scandal

The Navy's cleanup of the contaminated Hunters Point Naval Shipyard has been plagued with scandal. Its contractor for much of the radioactive work, Tetra Tech, has been found to have fabricated a huge portion of the radiation measurements. For Parcel G, the parcel at issue here, the Navy itself concedes that there is evidence of data manipulation or fabrication at nearly half (49%) of the Tetra Tech soil survey units [99 out of 202].¹ The US Environmental Protection Agency and the California Department of Toxic Substances Control (DTSC) and California Department of Public Health (CDPH) have concluded that the data falsification is even higher, an additional 49%—so that only 3% of survey units in Parcel D had no signs of falsification of data, and that a total of 97% should be resampled.²

Summary of EPA, DTSC, CDPH review of Parcel G Radiological Data Evaluation

	Trench	Fill	Building Sites	Total	% of total
Total Survey Units in Parcel G	63	107	32	202	100%
Navy recommended resampling	20	53	25	98	49%
EPA, CDPH, DTSC recommend resampling	39	54	5	98	49%
Total recommended resampling	59	107	30	196	97%
No signs of falsification found in data	4	0	2	6	3%
% of total recommended resampling	94%	100%	94%	97%	

¹ Navy Base Realignment and Closure Program Management Office West, *Draft Radiological Data Evaluation Findings Report for Parcels B and G Soil Former Hunters Point Naval Shipyard San Francisco, California*, September 2017 (hereafter Navy 2017), p. iv-v

² EPA Final Comments on Draft Navy Radiological Data Evaluation Parcels B & G Report, December, 2017 (hereafter EPA 2017), p. 20

Courageous whistleblowers came forward with information about widespread fabrication of measurements to make it appear that soil that was contaminated was in fact clean and didn't need to get cleaned up, which would save the Navy a great deal of money. As the Navy review of Parcel G measurements summarized the allegations of soil data manipulation and falsification³:

- When sufficiently low levels of contamination were not obtained, soil samples were collected from a different area known to have lower radioactivity, and reported as having come from the location being investigated.
- Samples and analytical results were discarded when the results were above the release criteria.
- Instead of collecting soil samples from locations predetermined to have higher gamma scan readings, samples would be collected from nearby soil and represented as having come from the original location.
- When sufficiently low levels of contamination were not obtained, soil sample collection sites were moved 5 to 10 feet in another direction and a new sample was obtained. The new sample was represented as having been obtained from the original location.
- Chain-of-custody forms were falsified to support the false sample collection information
- During the screening of overburden soil, actual towed array speeds were greater than allowed speeds, thereby reducing the probability of radiation detection.
- Handheld detectors were used improperly, which may have led to increasing the detection limit of the scanning devices.
- Onsite soil sample results were reviewed and shipment of samples to the offsite lab was blocked if there was a high chance that the release criteria would be exceeded.

The whistleblower complaints were confirmed, and many other problems identified that resulted in contaminated soil being falsely declared clean and thus not cleaned up. As the EPA concluded, there was a “widespread pattern of ... deliberate fabrication”:⁴

The data analyzed demonstrate a widespread pattern of practices that appeared to show potential deliberate falsification, potential failure to perform the work required to ensure ROD [Record of Decision] requirements were met, or both. The data revealed not only potential purposeful falsification and fraud in terms of sample and/or data manipulation, they also reveal the potential failure to conduct adequate scans, a lack of proper chain of custody for ensuring samples were not tampered with, extensive data quality issues (including off-site laboratory data) and general mis-management of the entire characterization and cleanup project.

³ Navy 2017, pp. i-ii

⁴ EPA 2017, pp. 10-11, emphasis added

These observations in the record call into question the performance of Tetra Tech EC, Inc., across all of Parcel G. Many of the same personnel in Tetra Tech EC, Inc., worked in a similar time period at nearby locations in Parcel G. The pervasiveness and magnitude of the documented wrongdoing makes it difficult to conclude that similar falsification did not also occur at the four out of 63 trench units where evidence of wrongdoing was not as apparent. Therefore, none of the data generated while Tetra Tech EC, Inc., was involved with the cleanup activities at Parcel G, can be deemed to be definitive or defensible to demonstrate in the record that ROD requirements have been met.

A separate review of Tetra Tech’s radiation measurements in buildings found a similar pattern of widespread fabrication of data.⁵ It found, for example, duplicate data strings (i.e., measurements had been made in one part of a building and then merely pasted into reports for other parts of the building or other buildings, without actual measurements being made). The scans took only half the time they should have taken, indicating either that the scan speed was twice what it should be (and thus incapable of detecting contamination at the required levels) or half of the buildings were reported as scanned when they weren’t at all.

A Crisis in Public Confidence—A Cloud Over The Credibility of the Navy Hunters Point Cleanup Operation: Did Tetra Tech Act on Its Own, Or Based on Signals from the Navy?

As the EPA concluded, above, this widespread data falsification resulted in “*general mis-management of the entire characterization and cleanup project.*” The fundamental question is whether this mis-management of the entire Hunters Point radioactive cleanup project was a result of just astonishingly poor oversight by the Navy of its contractor, allowing the latter to engage in falsification for years, or whether something even more grave is at work. **Is what caused the scandal not that Tetra Tech was engaged in some rogue activity but was actually following directives, implicit or otherwise, from the Navy to declare contaminated areas in fact clean so as to reduce the Navy’s cleanup expenditures?**

Two Tetra Tech employees have pled guilty and were sentenced to prison.⁶ At least one indicated that his actions were due to pressure from supervisors and managers, to declare contaminated areas clean so they wouldn’t have to be remediated.⁷ Whistleblowers have identified a widespread pattern of orders to fabricate sampling and measurements so as to declare contaminated areas were in fact clean.⁸ How high up did those orders go? Did they stop at Tetra Tech management, or was Tetra Tech responding to its understanding of what the Navy

⁵ Department of the Navy Naval Facilities Engineering Command Base Realignment and Closure Program Management Office West, *Building Radiation Survey Data Initial Evaluation Report, Former Hunters Point Naval Shipyard San Francisco, California*, March 2018

⁶ See plea agreements, USA v. Justin E. Hubbard and USA v. Stephen C. Rolfe, US District Court, Northern District of California, San Francisco Division, May 18, 2017.

⁷ Rolfe plea agreement, *supra*, p. 4

⁸ See, e.g., Declaration of Anthony Smith in Support of Petition to Revoke the License of Tetra Tech, Inc., Before the US Nuclear Regulatory Commission, June 3, 2017

wanted—to save money by reducing cleanup, in turn by declaring soil or buildings that should be cleaned up not to need such remediation and expense?

The simplest way to answer that question is by examining the quality of the Navy proposal to remedy the falsification. If the scandal were truly limited to Tetra Tech and they had acted contrary to the Navy's wishes, explicit and implicit, then the retesting plan would be of high integrity, aimed at assuring that nothing that was contaminated went undetected and undeclared. If, on the other hand, Tetra Tech's actions were not an anomaly but a response to what it understood, at high levels, to be the Navy's wishes, whether communicated directly or by a wink and a nod, to reduce its cleanup expenses, then the retesting plan would have similar biases and deficiencies. Alas, the latter appears clearly the case.

The Work Plan Ignores the EPA Findings and Recommendations

As indicated earlier, the Navy found only 49% of the Parcel G survey units to be subject to data falsification and in need of retesting. EPA found twice that amount. And it had numerous criticisms of the Navy review.

However, the Navy has all but ignored the EPA findings in the retesting plan. The basic retesting will be limited to the survey units the Navy had initially found questionable. A second phase of far more cursory and limited surveying will occur for the additional survey units EPA (and DTSC and CDPH) found to have evidence of data fabrication and needing thorough retesting.

Furthermore, the detailed criticisms by EPA of the Navy's 2017 review of Tetra Tech's work on Parcel G have not even been acknowledged, let alone the problems fixed. One would think that given the fiasco of the years of Tetra Tech bogus work, and the failure of Navy oversight that allowed it to go on for so long—followed by the embarrassment that the Navy's review caught only half of the problems that EPA subsequently found—the Navy would acknowledge in detail the EPA review and follow EPA's recommendations to the letter. The refusal to even acknowledge the EPA review and criticisms in any real fashion suggests that the Navy's attitude remains, "full steam ahead, damn the torpedoes."

The (Hidden) Core of the Work Plan is the Astonishing Claim that Hunters Point is Too Clean, that 80% of Soil Declared Contaminated Wasn't in Fact Contaminated and Didn't Need to Be Cleaned Up.

The Navy in its public pronouncements has asserted that it recognizes the problem caused by Tetra Tech's falsification of data designed to claim contaminated soil was in fact clean, and that the Navy is committed to retesting to find all soil that was declared clean but wasn't. However, the actual Work Plan does precisely the opposite.

Buried in a few sentences on page iv and a footnote on page 2-1 the true intent is set forth, although in language that would not put any in the public on notice. Because of the importance of this breach of faith, we quote the passage from page iv verbatim:

The previous work relied on a quicker, less accurate method for analyzing radium-226 (226Ra). This method was *known by stakeholders at the time to be biased high. A large amount of soil (estimated 80 percent) was likely mischaracterized as contaminated* (Argonne National Laboratory, 2011).

(emphasis added)

As will be discussed shortly, this is completely wrong. But first let us discuss briefly the astonishing implications of these few lines.

The Navy claims that “stakeholders” have known since 2011 that the measurement technique for radium-226 gave erroneously high readings, resulting in large amounts of soil being cleaned up when they didn’t have to be, and did nothing about it. Who these stakeholders are is unclear, as they are noticeably not named, but surely the Navy is one.

Secondly, the Navy now astonishingly asserts that about 80% of soil (“a large amount”) was erroneously determined to be contaminated and shipped off as radioactive waste when it was in fact clean. Again, it says it has known this for seven years yet allowed this to continue.

If the Navy’s statement were true, it would mean a confession of misuse of tens or even hundreds of millions of taxpayer dollars. Congressperson Pelosi has called for an Inspector General investigation of the Navy’s conduct. This would seem to be a worthy aspects of such an investigation.

But the operative phrase is “if true.” The Navy’s inappropriate conduct with regards the retesting is its attempt to convert a promise to deal with Tetra Tech having declared contaminated soil clean into a plan by the Navy to now do the same at even larger scale. The irony is that if the Navy’s remarkable new claim were true—that it has known since 2011 that vast amounts of soil being cleaned up didn’t have to be—then it engaged in huge fraud against the public purse.

But it isn’t true. The heart of the claim rests on the assertion that Tetra Tech’s onsite laboratory overstated radium-226 concentrations because it couldn’t discriminate between the 186 kev gamma peak for radium-226 and the nearby peak for uranium-235. In other words, the contamination might not have been pure radium but might have included some uranium as well.

But, of course, that is completely irrelevant. One’s child should not be exposed unnecessarily to radium, uranium, or both together. Furthermore, the cleanup level of uranium-235 is about an order of magnitude lower than for radium-226, so if some of the contamination is uranium-235 rather than all being radium-226, it is worse from a cleanup standpoint than if all were radium.

The Navy may try to claim that uranium-235 isn’t a “radionuclide of concern” at Parcel G of

Hunters Point, that all uranium-235 there is from background.⁹ But that clearly isn't true. The nuclear materials licenses for the site included large amounts of U-235, and the contamination on the ships from the Pacific nuclear tests brought back to Hunters Point for decontamination, and the nuclear weapons debris from a range of nuclear tests also brought there, would have had U-235 as well.¹⁰

So, whereas the public may think the retesting plan is to deal with the fact that Tetra Tech manipulated data to claim radioactive soil was clean, the real purpose of the plan, as set forth by the Navy, is to assert that soil declared radioactive was in fact not. The site is too clean, the Navy now extraordinarily asserts.

Inflated Radiation Background

Immediately after asserting that 80% of the soil cleaned up at Hunters Point shouldn't have been, the Navy claims additionally that radiation background is much higher than previously assumed and should be pushed up to a larger value, further reducing the amount of soil that would be deemed contaminated and need cleanup. And indeed, much of the Work Plan is devoted to artificially inflating background.

“Background” refers to the amount of radioactivity that would have been at Hunters Point had the Navy done nothing to add to it. There is a bit of radium, thorium, and similar radionuclides in all soil naturally. When we mine them from the earth and concentrate them and use them and spill them, those concentrated amounts are above background. Similarly, because of the nuclear weapons tests such as those supported in the Pacific by Hunters Point naval operations in the forties and fifties, there are small amounts of artificial radionuclides spread everywhere on earth. It isn't natural radioactivity, but is now considered part of background.

The Navy is not obligated to clean up natural or fallout radionuclides at background levels, only the radioactivity it and other Hunters Point entities added to background. So it has an incentive to make background seem as large as possible. An honest retesting plan would take honest measurements for background, which would entail by definition only samples from locations that couldn't be affected by Hunters Point activities. The fundamental rule is that you don't take background measurements anywhere near the place that could be contaminated. All of Hunters Point and the area nearby are potentially contaminated from decades of radioactive activity; background measurements must be taken offsite, and at a significant distance from the site.

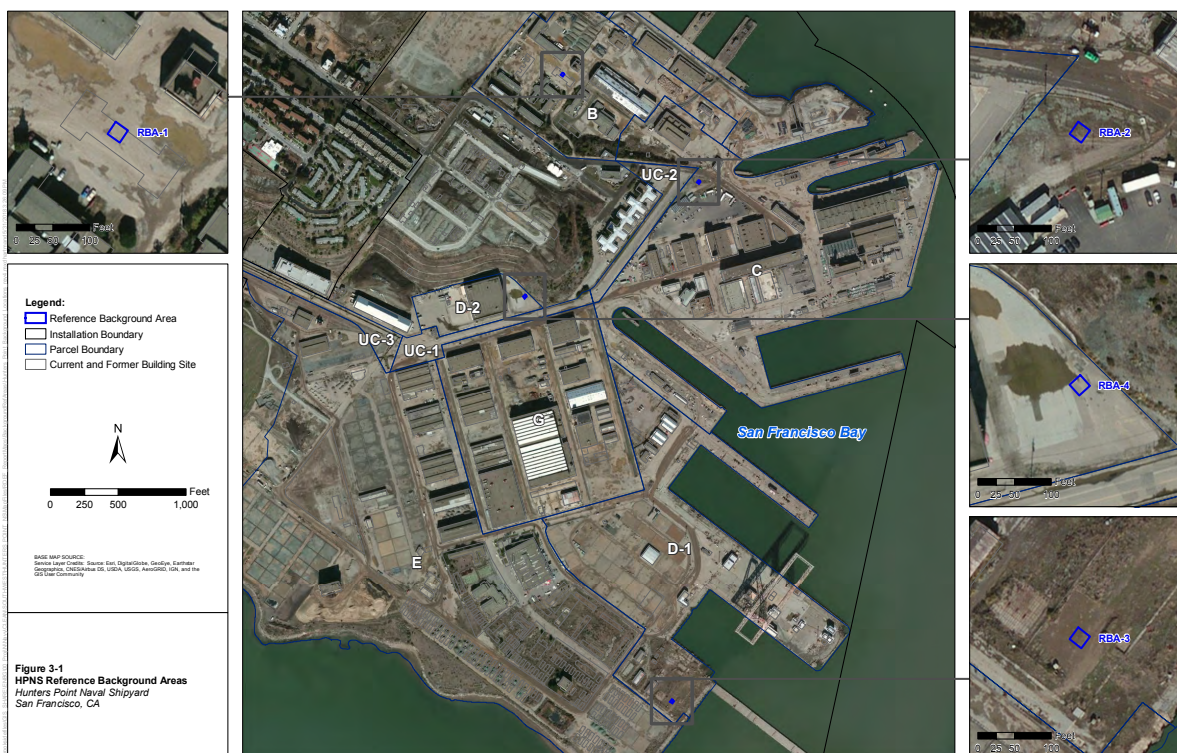
However, the Work Plan proposes just the opposite. Four of the five proposed locations for soil background measurements are right within Hunters Point itself; the fifth is nearby. All could be contaminated by the decades of releases, spills, and airborne deposition of contamination. Only

⁹ The Work Plan concedes that U-235 is a Radionuclide of Concern for at least parts of Parcel G, and as indicated above, there is no reason to assume it isn't a potential contaminant throughout the parcel.

¹⁰ Whereas the Operations Crossroads tests involved plutonium weapons, subsequent tests involved bombs that included uranium-235.

someone who wanted to inflate background artificially would propose background locations in the middle of a Superfund site. Yet the Navy has done so.

Here is a map of their four primary soil locations for background, all within the Hunters Point Superfund site, all potentially contaminated:



One doesn't pick background locations from within a Superfund site unless one is trying to artificially inflate background values so as to reduce the amount of soil deemed contaminated and needing cleanup.

On the next page we have included a Navy figure showing which buildings in Parcel G it *admits* are radioactively impacted. You will see in particular in the upper lefthand corner Building 401, identified as radiologically impacted. Where does the Navy Work Plan propose taking its sole background measurements for buildings? Building 401. As you will see in the second graphic, it intends to take those measurements within an impacted building and a few feet from an area of the building it also concedes is impacted. This makes no sense – unless again one is trying to inflate background. Background measurements for buildings must be taken in buildings some distance from the Superfund site, not in its midst.

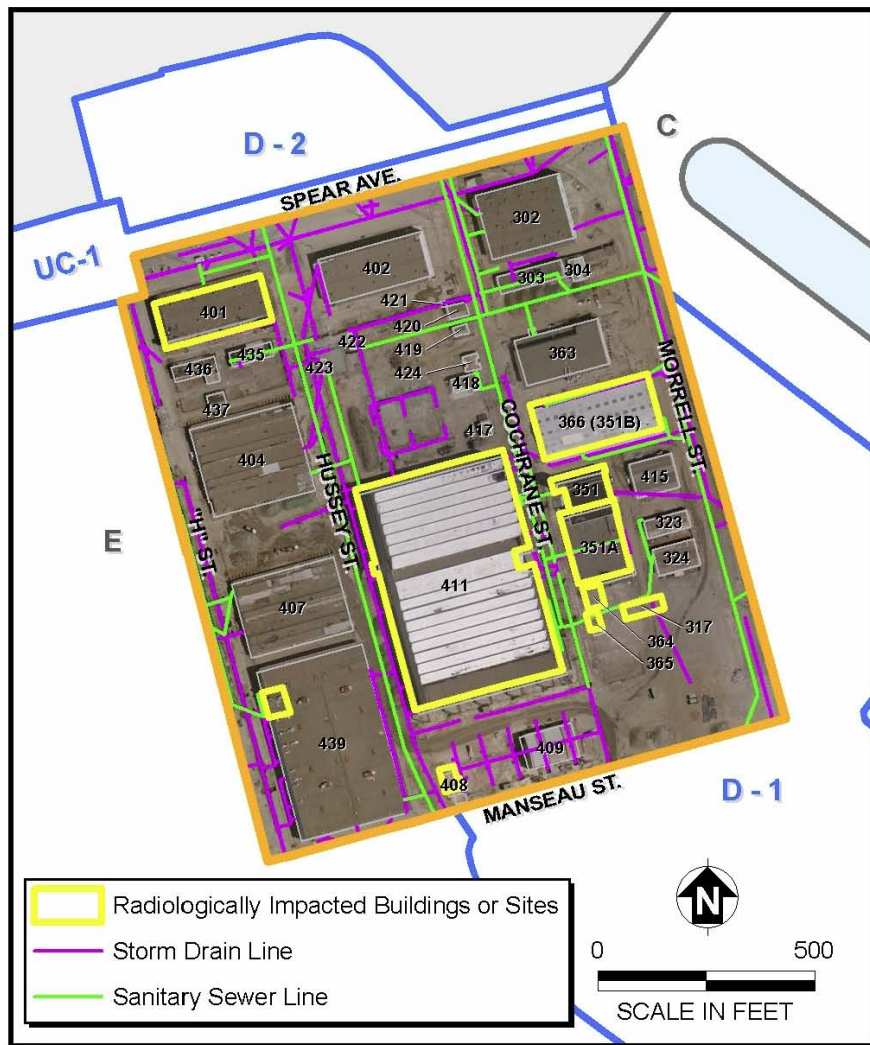
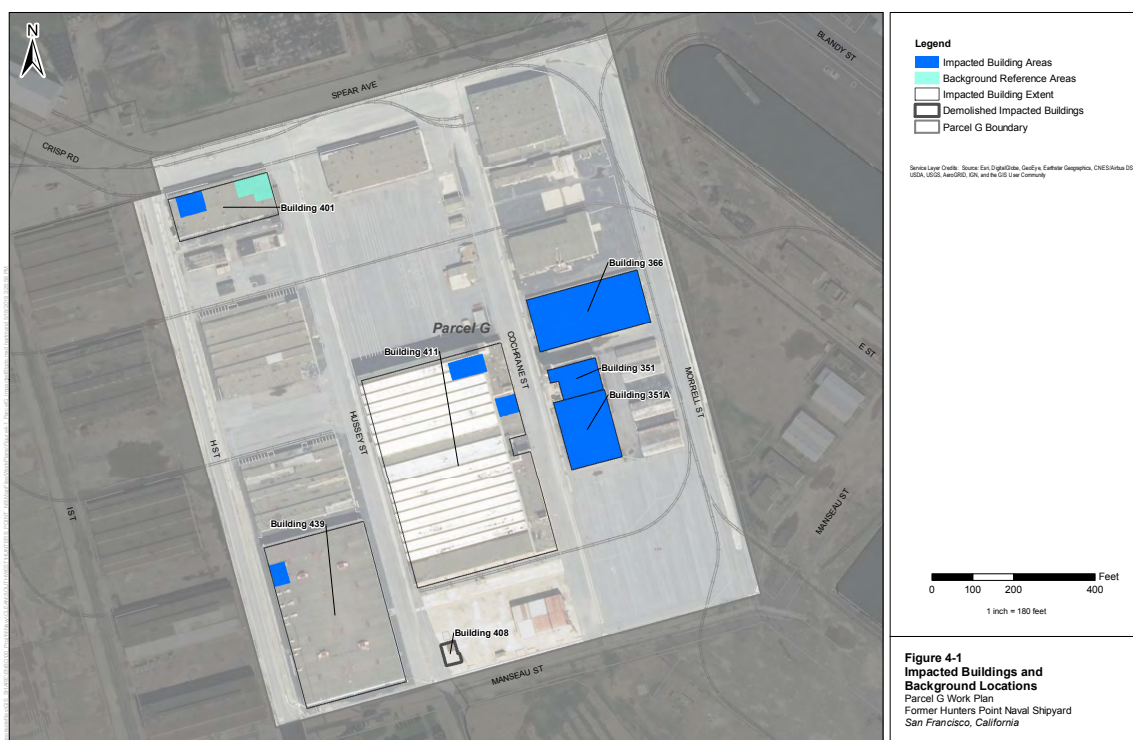


Figure 8. Radiologically Impacted Areas



Use of Extremely Weakened Cleanup Standards

Retesting performed in 2018 should be based on 2018 cleanup standards. Instead, the Work Plan proposes to use cleanup goals from 1974 for buildings and 1991 for soil—and then weaken them even further.

The Work Plan proposes to compare its measurements in buildings against an Atomic Energy Commission Regulatory Guide from 1974, which was never based on risk but rather on what hand-held detection equipment from the 1960s could easily see. Under CERCLA, the Superfund law, Superfund sites are supposed to be cleaned up consistent with EPA Superfund guidance. For buildings, that is EPA’s Building Preliminary Remediation Goals (PRGs). EPA’s Building PRGs are as much as thousands of times more protective than the standards being used in the Work Plan. Indeed, the Navy’s Work Plan uses standards that are not only thousands of times higher than EPA’s PRGs, but thousands of times higher than EPA’s main risk goals, and tens of times higher than even the upper limit of what EPA legally considers acceptable levels of risk.

Similarly, the Work Plan uses soil remediation goals based on EPA soil PRGs—from 1991. Today’s PRGs, which should be used, are hundreds of times more protective than what is being used in the Work Plan.

To compound the problem, the Navy, in a footnote in the Work Plan, weakens its standards even further. The Record of Decision (ROD) for Parcel G sets remediation goals for all radionuclides except radium-226 as the full measured value of the radionuclide. Only radium -226 is set as the remediation goal plus background. However, the Work Plan, in a footnote, tries to change that so that all of the cleanup values are higher than those in the ROD, by making them just the incremental amount above background. One cannot change a ROD through a footnote in a testing plan. The Navy should be tightening the cleanup standards for Hunters Point to reflect current EPA guidance; instead it is further weakening those standards.

The Proposed Measurements Cannot Detect Most Radionuclides At All; and Those That Can Be Seen, Can Generally Not Be Detected at Even the Weak Cleanup Standards

The Work Plan relies heavily on gamma scans. Gamma scans, as indicated by their name, cannot see beta or alpha emitting radionuclides, only gamma ones. And the Work Plan reveals that the gamma scan can only see radium-226 at its grossly inflated cleanup level, not other gamma radionuclides such as cesium-137. Much of the measurements proposed in the Work Plan are blind to that which they are supposed to detect.

If you can't detect contaminants at the levels requiring cleanup, you can't determine that cleanup isn't required. You can declare "nothing detected," but that is only because nothing can be detected.

Conclusion

The Navy had a heavy burden in preparing this Work Plan for retesting Parcel G in the wake of the Tetra Tech data fabrication scandal. It had been demonstrated that past measurements had been falsified to declare contaminated soil and buildings clean when they weren't. The retesting plan was to regain public confidence by an honest and thorough set of new measurements that would not pretend things were clean when they weren't.

Instead, the Navy has proposed a plan that at best can't detect that which would require cleanup and at worst inflates background, further weakens already weak cleanup standards, and is intended by its own terms to declare the great majority of that which was cleaned up not having needed it. Instead of regaining public confidence, the Navy through the Work Plan has reinforced concerns that Tetra Tech's scandalous misdeeds may not have been solely at their own direction but instead part and parcel of the Navy's overall sweeping of safety under the rug and trying to minimize its cleanup costs at the expense of public safety.