City and County of San Francisco
DEPARTMENT OF PUBLIC HEALTH
ENVIRONMENTAL HEALTH

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October 16, 2017

Mr. Derek Robinson
BRAC Environmental Coordinator, Hunters Point Shipyard
Base Realignment and Closure
Program Management Office West
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Subject: **SFDPH Comments on the Draft Radiological Data Evaluation Findings Report for Parcels B and G Soil, Former Hunters Point Naval Shipyard, San Francisco, California, Dated September 2017**

Dear Derek:

General Comments regarding Summary of the Basewide Data Evaluation Project:

1. We recognize that a tremendous effort has been put into the data analysis efforts of these Parcel B and G reports and that it is difficult to write a document that will satisfy everyone's needs. In particular, the follow-up final version of this Parcel B and G document may not satisfy the needs of interested parties who wish to have an overall summary of what is and isn't included in this overall basewide data evaluation project. We offer these comments towards the goal of improving the overall summary and look forward to discussions of how and where such a summary could be written and distributed. If such a summary becomes a separate document (e.g., Fact Sheet) and consequently the summary information isn't needed in this Parcel B and G report (i.e., the introduction of this report could be shortened), that might reduce the time needed to finalize this report. We request that some version of the summary information be written and available for a wider distribution in a timely manner. In addition to the information provided in this Findings Report, the summary document/section should provide:
    A. A description regarding exclusion of Parcel D-1, Parcel E-2 and IR 7/18 from the basewide data evaluation project (as shown on Figures 1-1 & 1-2). We understand the reason for not including these areas was because TtEC didn't have contracts to work in these areas. Please also include an explanation of how Navy contracting oversight or other mechanism(s) provide assurance that non-TtEC contractors had control of their work areas (e.g., by fencing, screen in and out procedures, etc.).
    B. A description regarding exclusion of certain radiologically impacted buildings from the basewide data evaluation project and/or soil-specific evaluations for specific parcels. How are certain radiologically impacted buildings differentiated from the larger set of radiologically impacted buildings at HPNS (e.g., the difference of building material vs. soil)?
    C. A description of the Navy's process for identifying allegations of falsification or data manipulation. Please include information to address a concern that was raised at the Mayor's Hunters Point Shipyard Citizens Advisory Committee (CAC) meeting on 11

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September 2017 regarding how allegations were identified and if all involved TtEC employees were interviewed.

2. In order to not delay the work for Parcels B and G, this summary document might also refer to future work efforts and topics. One such work effort is related to the concept that naturally occurring Ra-226 may exceed the release criterion without being indicative of contamination. See specific comment 19 below with further details.

3. If you decide to focus this report narrowly on Parcels B and G (see comment #1 above), please consider revising the objective and scope sections to clarify report-specific objective and scope (i.e., related to Parcels B and G soil samples and identification of trench, fill, and building survey units for resampling or reanalysis of archived samples). Please also consider changing figures in Section 3 to focus on Parcels B and G.

Specific Comments

1. **Figure 1-1, HPNS and Parcel Locations:** Given that not all HPNS parcels are shown on Figure 1, please consider renaming Figure 1-1 as "HPNS Parcels Included in Basewide Radiological Data Evaluation," or similar.

2. **Figure 1-2, Scope of Data Evaluation:** A blue trench unit is shown to extend on to Lot 3 at IR 7/18 on Figure 1-2. Please confirm whether this trench was reviewed (and is recommended for NFA) in conjunction with the remainder of Parcel B, excluding IR 7/18. If true, we agree with this approach because that section of Lot 3 allows residential use.

3. **Figure 1-2, Scope of Data Evaluation:** When introducing Figure 1-2, the text states "Figure 1-2 presents the areas evaluated by TtEC and defines the scope of the data evaluation." We recommend 'evaluated by TtEC' be changed to 'where work was completed by TtEC'. Can you also clarify if the review is limited to specific dates of TtEC work?

4. **Figure 1-2, Scope of Data Evaluation:** Please clarify in text and on Figure 1-2 whether Figure 1-2 shows all current and former buildings being evaluated or only those buildings where soil samples were collected.

5. **Section 1, Introduction, page 1-1, first paragraph, last three sentences:** We suggest the following revisions: Separate reports will be provided for interior building surfaces~~ and for soil collected from other parcels at HPNS~~. This report is limited to the soil data at Parcels B and G. The other parcels (C, D-2, E, UC-1, UC-2 and UC-3) and HPNS building~~s~~ interiors will be addressed in future reports.

6. **Section 1.2, Scope of Data Evaluation, page 1-2, first sentence:** Please revise as follows: building sites include approximately 50,000 soil samples and each sample is analyzed for multiple constituents resulting in ~~(equivalent to~~ more than 900,000 analytical results~~)~~. The samples were collected from more than 300 trench units, more than 500 fill units, more than 25 current and former building sites, and 11 survey units at the North Pier.

7. **Section 1.3, Assumptions and Uncertainties, page 1-2:** While we understand that the Navy has discussed reliance on the previous data quality assessment related to TtEC's laboratory analytical methods and procedures with the regulatory agencies, please provide an explanation of acceptability for the purpose of records-keeping. Specifically, how do the previous laboratory analytical methods and procedures for data quality assessment differ from the current scope of

the assessment related to potential data manipulation and falsification? Is it known that quality control measures were appropriately followed by TtEC?

8. **Section 2.0, Radiological History, page 2-2:** Please provide a brief explanation of investigation levels. In Section 4, it is unclear why investigation levels that trigger biased sampling vary between survey units at 7,048 and 9,894 counts per minute.

9. **Section 2.3, Release Criteria:** Please provide the reference(s) for determination of background at Parcels B and G. Please also specify the location of the "area free of potential contamination."

10. **Section 2.5, Former Worker Allegations:** The sixth bullet in Section 2.5 states that "During the screening of overburden soil, actual towed array speeds were greater than allowed speeds, thereby reducing the probability of radiation detection." Please clarify whether all backfill sourced from trench units should be considered suspect?

11. **Figure 2-1, Parcel B Current and Former Building Site Locations, and Figure 2-2, Parcel G Current and Former Building Site Locations**: Please update legend for blue areas as "Survey Units where soil samples were collected [by TtEC]." It also looks like some survey unit labels may be missing from Building 130.

12. **Section 3, Data Evaluation Activities, Historically Significant Sites, page 3-3, 3rd sub-bullet**: Please consider rephrasing "How data were flagged as unusual or suspect." Please clarify that these areas are being flagged as higher potential risk if not properly remediated rather than actual suspicion of falsification. Please carry change forward into Section 4 as appropriate.

13. **Section 3, Data Evaluation Activities, Sites Based on Allegations, pages 3-3 and 3-4**: Should the purpose be expanded as "To identify sites based on [direct] allegations [by suspect workers] of data manipulation or falsification [and sites where those workers conducted work without specific allegations]? It is unclear how the last sentence of the third bullet (top of page 3-4) relates to "Sites Based on Allegations." If interpreting correctly, should this sentence be revised as "Data [for sites with suspect workers but no direct allegations] will be further scrutinized..."?

14. **Section 3, Data Evaluation Activities, Statistical Tests, Third bullet, page 3-2**: Please elaborate regarding how the Navy made the determination that the distribution of sample data is or is not significantly different using K-S test results. Also, the Navy states "The results from [statistical tests other than K-S tests] were available for review during the evaluation as needed." Please elaborate regarding how statistical tests other than K-S tests were used to support the evaluation.

15. **Section 4, Findings and Recommendations, page 4-2:** The Navy states "...leakage or drain line repair should be relatively rare, yet the release criteria for Ra-226 was exceeded many times in soil samples collected from the excavated soil and trench sidewalls. After carefully examining the analytical data and the conceptual model for soil contamination, it is concluded that the upper range of naturally occurring Ra-226 exceeds the release criteria. Therefore, cleanup will be hampered without an understanding that naturally occurring Ra-226 may exceed the release criterion without being indicative of contamination." While the Navy has discussed this possibility with the regulatory agencies, this concept will need more discussion and details to be considered during the future resampling efforts. In order to not hamper the finalization of this report, should these words just refer to ongoing reports or work efforts?

What findings in the Navy's evaluation of analytical data and the conceptual model lead to the conclusion that the upper range of naturally occurring Ra-226 exceeds the release criteria currently set at 1pCi/g above the background activity? The Navy also states that "cleanup will be hampered without an understanding that naturally occurring Ra-226 may exceed the release criterion without being indicative of contamination." Please clarify whether this statement is referring to additional cleanup at the areas recommended for re-evaluation? Would it be possible for the Navy to refer to the steps being taken to understand the range of naturally occurring Ra-226 levels or reference future reports or work efforts?

16. **Section 4.1.1.1, Recommended for Reanalysis of Archived Samples, Trench Unit 59, page 4-2, second bullet:** The Navy recommends that the suspect sample collected at TU 59 be reanalyzed. The sample is considered suspect due to differences in sample mass recorded by the onsite and offsite labs. If the sample is re-weighed and still found to differ in mass from the sample analyzed at the onsite lab, then it is unclear what the Navy hopes to gain by reanalysis of an archived sample that may be a falsified replacement. Please clarify.

17. **Section 4.1.2.1, Recommended for Reanalysis of Archived Samples, Overburden Unit 196:** Please correct second bullet. It is not clear why it is citing OB 72.

18. **Section 4.1.2.3, Recommended for Confirmation Sampling Based on Evidence of Biased Sample Collection at Locations to Potentially Avoid Highest Gamma Scan Measurements, page 4-6, and Section 4.2.2.2, Recommended for Confirmation Sampling, Recommended for Confirmation Sampling Based on Evidence of Biased Sample Collection at Locations to Potentially Avoid Highest Gamma Scan Measurements**: For clarity, please consider modifying the last sentence as follows, "Therefore, confirmation sampling and analysis by an independent, certified laboratory are recommended to document current site conditions at ~~the following~~ fill units [where biased sampling did not identify activity above release criteria despite gamma scan measurements above the investigation level, as follows]..." Also, please explain why identification of no samples is an appropriate threshold as opposed to a number of samples a certain degree less than the number of gamma scan measurements above the investigation level? Could an expected ratio be assumed based on other work at HPS that is not under suspicion?

19. **Section 4.3, Conclusions and Recommendations, page 4-34:** The conclusion states "The sampling program should be based on the findings of this report and consider that naturally occurring Ra-226 may exceed the release criterion without being indicative of site-related contamination." As indicated in general comment 2 above, we recommend this report state that additional information will be presented in a different document to confirm that Ra-226 concentrations above the release criterion may not be indicative of site-related contamination.

Sincerely,

Amy D. Brownell

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Environmental Engineer

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