



January 21, 2008  
Project 4850.005.3

Mr. James B. Sullivan  
Mr. Charles Perry  
Mr. James Whitcomb  
Department of the Navy  
Base Realignment and Closure  
Program Management Office West  
1455 Frazee Road, Suite 900  
San Diego, CA 92108-4310

Subject: Comments on November 19, 2007 Draft Revised Remedial Investigation Report for Installation Restoration Sites 8 (Army Sludge Disposal Area), 28 (West Side On-Off Ramps) and 29 (East Side On-Off Ramps) Naval Station Treasure Island San Francisco, California

Dear Messrs. Sullivan, Perry, and Whitcomb:

On behalf of the Treasure Island Development Authority (TIDA), Geomatrix Consultants, Inc. (Geomatrix), and Exponent have reviewed portions of the November 19, 2007 Draft Revised Remedial Investigation (RI) Report for Installation Restoration Sites 8 (Army Sludge Disposal Area), 28 (West Side On-Off Ramps) and 29 (East Side On-Off Ramps), Naval Station Treasure Island, San Francisco, California (Draft RI Report for Sites 8, 28 and 29). The human health risk assessment presented in Appendix G and summarized in Section 6.0 of the report was reviewed by Greg Brorby of Exponent and his comments are presented in the attached memorandum.

We limited the scope of our review to the sections pertaining to Site 28, which likely will be transferred to the City and County of San Francisco (the City) in the future. Sites 8 and 29 are within property that has been transferred to the California Department of Transportation (Caltrans) and these sites are not likely to be transferred to the City in the future. Geomatrix did not independently evaluate the accuracy of data presented in the report. This letter contains two general comments followed by several specific comments.

#### GENERAL COMMENTS

- **Evaluation of Recreational Users at Site 28.** In Section 1.9, the document indicates that the future use of Site 28 identified in the 1996 Draft Reuse Plan is shoreline open space and such use might be expected to include recreational users (first full paragraph, p. 1-19). The text further states, "The evaluation of hypothetical residents would also be considered protective of recreational uses of Site 28 in the unlikely event the site is developed for



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public access.” However, the document does not further evaluate whether the site could pose a risk to a recreational user nor does it discuss how the findings from the human health risk assessment (HHRA) for a hypothetical resident can be applied to the recreational user. The document needs to present clear conclusions, even if they are only qualitative, about the potential risk to a recreational user.

- **Section 1.6.2 Health and Safety Investigation.** The text provides a range of lead and zinc concentrations for 40 soil samples that were collected in the general area of Site 28, but indicates that the exact sampling locations are unknown. Are the lead and zinc results for the 40 individual samples available? If not, the text should explicitly state this information. If results are available, they should be tabulated and presented in this report, and considered in the HHRA.

#### SPECIFIC COMMENTS

- **Executive Summary, last sentence, first full paragraph, p. ES-8.** The text states, “The EPCs for lead in surface soil at Sites 28 and 29 range from 830 to 1,092 mg/kg...” Consistent with the language at the end of the second paragraph on page 8-8, the text in the Executive Summary should indicate that the EPCs for lead in surface soil at Sites 28 and 29 are 830 and 1,092 mg/kg, respectively (i.e., there is no range).
- **Section 1.2, last sentence of last paragraph.** The text should refer to the “Treasure Island Development *Authority*” rather than the “Treasure Island Development *Association*.”
- **Section 1.5.2 Current Operations at Site 28.** It is unclear whether the ramps located within Site 28 were transferred from the Navy to Caltrans. The second paragraph suggests that the ramps themselves have been transferred but the land beneath the ramps has not. Is this correct?
- **Tables 1-3 through 1-5.** The notes explaining the definition for “TMETAL” indicate that the samples are unfiltered. This note does not seem applicable for soil samples.
- **Section 5.1.2.5 Physical and Chemical Properties of Lead.** This section discusses the theoretical leachability of lead. This section should also discuss the results from the site-specific analysis for leachable metals, including lead (see last paragraph of page 1-12), and should discuss whether the site-specific results affect the general conclusions about lead mobility at the site.



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- **Section 6.4 Conclusions and Recommendations from Human Health Risk Assessment (Site 28).** The in-text table on page 6-26 (also reproduced on page 8-11) presents the EPA Region 9 PRG for industrial workers under the construction worker receptor scenario. We suggest also presenting the site-specific construction worker PRG that was developed in this RI Report.

We appreciate the opportunity to review the Draft RI Report for Sites 8, 28 and 29. Feel free to contact me if you have any questions.

Sincerely yours,  
GEOMATRIX CONSULTANTS, INC.

Gary R. Foote, P.G. #5044  
Principal Geologist

GRFvji

#### Attachments

cc: Mr. Jack Sylvan, Mayor's Office of Base Reuse and Real Estate Development  
Mr. Michael Tymoff, Mayor's Office of Base Reuse and Real Estate Development  
Ms. Mirian Saez, Treasure Island Development Authority  
Mr. Marc McDonald, Treasure Island Development Authority  
Mr. Ryan Miya, Cal EPA Department of Toxic Substances Control  
Mr. Christine Katin, U.S. Environmental Protection Agency  
Ms. Agnes Farres, Cal EPA Regional Water Quality Control Board

## EXTERNAL MEMORANDUM

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TO: Gary Foote – Geomatrix  
FROM: Greg Brorby  
DATE: January 10, 2008  
PROJECT: 8601649.003  
SUBJECT: Comments on Sites 8, 28, and 29 Revised Remedial Investigation Report

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This memorandum presents the results of my review of specific sections of the draft report titled, “Revised Remedial Investigation [RI] Report for Installation Restoration [IR] Sites 8 (Army Sludge Disposal Area), 28 (West Site On-Off Ramp), and 29 (East Side Off Ramps) Naval Station Treasure Island, San Francisco, California,” dated November 19, 2007. Specifically, my review focused on Section 6, Human Health Risk Assessment (HHRA), and Appendix G, Human Health Risk Assessment. Within each of these sections, my review focused on Site 28. In addition, I reviewed other sections of the report that pertain to the HHRA, as indicated below. It should be noted that this review did not include a rigorous assessment of the information presented in the tables, nor any verification of the risk assessment calculations. I noticed some discrepancies, described below, between information presented in the text versus information presented in the tables.

### General Comments

1. The Navy states, “The evaluation of hypothetical residents would also be considered protective of recreational users of Site 28 in the event the site is accessible” (see Appendix G, p. G-18). I agree with this statement, as long as potential health risks for the resident are below levels of concern. However, the Navy concludes that the estimated blood-lead level at the 99<sup>th</sup> percentile for a hypothetical child resident at Site 28 exceeds the blood-lead level of concern of 10 micrograms per deciliter ( $\mu\text{g}/\text{dL}$ ), without making any other statements as to how these results might pertain to a future recreational user. The Navy needs to draw specific conclusions for the recreational user in support of their recommendation of no further action for Site 28.
2. With regard to previous investigations conducted at Site 28, the Navy states that 40 soil samples were collected in 1983 by Blaine Technical Services, Inc., to address worker health and safety concerns (see Section 1.6.2, p. 1-12). These samples were analyzed for lead and zinc, which were detected in every sample at concentrations ranging from 48 to 8,700 milligrams per kilogram (mg/kg) and 57 to 5,100 mg/kg, respectively. The Navy

also states that the exact sampling locations for these samples are unknown. If the individual sampling results are available, they should be included in the report and considered in the HHRA. If they are not available, the text of Section 1.6.2 should explicitly state that the data are not available, and the text of Appendix G (Section G6.1, p. G-7) should be clarified to indicate that the only data for Site 28 considered in the HHRA were collected during the Phase IIB RI. Furthermore, the fact that lead had been detected in at least one soil sample at a concentration much higher than that currently considered in the HHRA (8,700 mg/kg vs. 1,120 mg/kg) should be discussed in the uncertainty analysis in Appendix G (Section G12.1, p. G-55) and Section 6.3 (p. 6-19).

### Specific Comments

1. Section G11.2.1, p. G-40 — The estimated blood level listed in the text for the child resident at Site 28 based on the site-wide exposure-point concentration (EPC) of 830 mg/kg is 38.1  $\mu\text{g}/\text{dL}$ , whereas the value listed in the table on the same page is 20.6  $\mu\text{g}/\text{dL}$ . Based on the information in Table G-10.2.1, the value of 38.1  $\mu\text{g}/\text{dL}$  appears to be for a pica child resident, not a child resident. This comment also applies to Section 6.2.2 (p. 6-15).
2. Section G11.2.1, p. G-40 — As discussed in General Comment #1, the Navy concludes that the estimated blood-lead level at the 99<sup>th</sup> percentile for a hypothetical child at Site 28 is greater than the blood-lead level of concern of 10  $\mu\text{g}/\text{dL}$ . However, the Navy makes no comment as to the significance of this finding, particularly with regard to the recreational user, even though the Navy considers the hypothetical residential scenario to be protective of the recreational user. The Navy needs to draw specific conclusions for the recreation user, which is the most likely receptor at Site 28. This comment also applies to Section 6.2.2 (p. 6-15), Section 6.4 (p. 6-25), and the Executive Summary (pp. ES-8 and ES-10).
3. Executive Summary, p. ES-10 — The discussion of soil lead concentrations at Site 28 is confusing. This paragraph should be revised to better describe the various soil lead concentrations that were calculated for Site 28, as discussed in Section G11.2.1 (p. G-40) (i.e., a site-wide EPC of 830 mg/kg, an “adjusted” EPC of 398 mg/kg, and a “hot-spot” EPC of 956 mg/kg).
4. Executive Summary, p. ES-11 — The Navy states, “Lead has a calculated EPC of 830 mg/kg in surface soil, which slightly exceeds the EPA Region 9 PRG for industrial soils (800 mg/kg), but is below the estimated construction PRG of 966 mg/kg. Consideration of lead in soil would only be necessary in the event that future residential or commercial/industrial reuse of the Site 28 was initiated.” Similar to General Comment #1 and Specific Comment #2, this statement ignores possible exposure to recreational users, the most likely receptor at Site 28. The Navy needs to draw specific conclusions for the recreational user to support its recommendation of no further action for Site 28.

### Miscellaneous Comments

1. Section G8-2, p. G-18 — The Navy states that inhalation of vapors volatilizing from surface soil into outdoor air, and inhalation of vapors migrating from soil into indoor air, “were incomplete at Site 28 because no volatile chemicals were detected in soil.” This sentence is potentially misleading, because soil samples collected at Site 28 were not analyzed for volatile chemicals.
2. Section G9.4, p. G-31 — The Navy should acknowledge that the one-to-six ratio of hexavalent chromium to trivalent chromium is based on EPA Region 9’s PRG table and does not have anything to do with what might be present at Sites 8, 28, and 29.
3. Section G11.2, p. G-39 — The sentence, “Lead is evaluated separately in Section G11.2.1 for reasons discussed in Section G9.5 and G10.3” is repeated in the first paragraph of this section (line 5 and line 8).
4. Executive Summary, p. ES-4 — The Navy states, “Soil samples were collected and analyzed for metals, semivolatile organic compounds (SVOC), and total petroleum hydrocarbons (TPH).” This sentence is potentially misleading, because soil samples at Site 28 were analyzed only for metals.
5. Executive Summary, p. ES-6 — The Navy states, “Under both methods, the noncancer HIs for the commercial/industrial worker, construction worker, and resident for direct exposure to surface soil (0 to 2 feet bgs) were below the HI [hazard index] threshold of 1.” However, as indicated on previously in the Executive Summary (p. ES-5), the only COPC identified for Site 28 under Method 1 was lead, which was evaluated using a different process (i.e., estimating blood-lead levels rather than estimating a HI). Therefore, this statement is true only for Method 2.