



Linda S. Adams
Secretary for
Environmental
Protection



Department of Toxic Substances Control

Maureen Gorsen, Director
700 Heinz Avenue
Berkeley, California 94710-2721

N60028_001877
TREASURE ISLAND
SSIC NO. 5090.3.A



Arnold Schwarzenegger
Governor

June 3, 2008

Mr. James B. Sullivan
BRAC Environmental Coordinator
Department of the Navy
Base Realignment and Closure
Program Management Office West
1455 Frazee Road, Suite 900
San Diego, California 92108-4310

FINAL STATUS SURVEY REPORT FOR BUILDING 344, NAVAL STATION
TREASURE ISLAND (NSTI), SAN FRANCISCO, CALIFORNIA.

Dear Mr. Sullivan:

The Department of Toxic Substances Control (DTSC) staff completed its review of the *Final Status Survey Report for Building 344, Naval Station Treasure Island, San Francisco, California*, dated May 7, 2008 (Report). Building 344 is a concrete storage vault built in 1951 and located at NSTI on the eastern portion of Treasure Island in the block bordered by Avenues M and N and 5th and 8th Streets. Building 344 is currently not in use, but was used by the Navy for storage of sealed radioactive sources for the Radiation Detection, Indication, and Computation Maintenance Calibration School (School) between the early 1950s and 1991. Closeout surveys in the early 1990s in support of removal of Building 344's authorization for storage of radioactive materials did not reveal residual radioactivity in the building. The purpose of the Report is to document the procedures and results of the final status surveys performed for Building 344 in September 2007.

Based on our review, DTSC has the following comments:

- Section 1.2 – Prior Historical Use.
 - = Is there any information available about what has happened to the radioactive materials that were stored historically at this location (documented offsite removal and disposal at a licensed disposal facility, etc.)? If so, pertinent information should be provided as an Appendix in the Report.
 - = The text states that Cesium-137 has been identified as the radionuclide of concern for Building 344 based on the historical activities performed at this

location. However, other onsite buildings associated with the School have been historically impacted with Radium-226. Documentation and/or justification must be provided in the Report to not have Radium-226 not included as an additional radionuclide of concern.

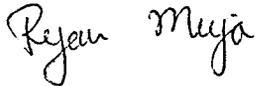
- Section 5.2 – Equipment and Material Surveys. Text should be added to clarify that scan readings for alpha (α) and beta (β) radiation for the miscellaneous materials listed herein were less than or equal to background. In addition, the acronym “LAW’s” presented in Appendix G should be spelled out the first time it is used in the Report as well as listed in the Abbreviations and Acronyms.
- Section 7.3.2 – Determination of Minimum Detectable Count Rate and Use of Surveyor Efficiency (Beta-Gamma, 126-cm² [19.5-in²] Probe).
 - = The text states that the MDCR is equal to 576 cpm but then the calculation establishes it as 96.2 cpm. Please correct the text.
 - = The text states that the MDCR_{surveyor} is equal to 812 cpm, but then the calculation establishes it as 136 cpm. Please correct the text.
- Section 8.1 – Reference (Background) Areas. Please identify [1] the location(s) of designated non-impacted Reference (Background) Area(s) and [2] the number of readings collected to obtain the average background levels for gamma and alpha/beta radiation.
- Section 9.1 – Statistical Tests. The text states that “Once the survey data were determined to be below the release criteria, two statistical tests were performed on the survey data: paired t-test and Wilcoxon Rank-Sum test.” Please clarify because it would seem that the statistical tests were performed on the survey data in order to help determine if the data collected from each survey unit met or exceeded the release criteria.
- Section 11.0 – Conclusion. Paragraph five. Please add a sentence to this paragraph that places the calculated doses of 0.83 mrem/year for both survey units into context (i.e. – less than 1% of the estimated 360 mrem/year dose that the average U.S. resident receives from natural and manmade background radiation sources).
- Appendix C – Alpha and Beta Analysis. A footnote should be added to each Summary Data; Unit Rule tables defining what “*” means.

As a part of our review, DTSC requested that the California Department of Public Health (CDPH) also review the document and provide comments on the technical aspects of the report. As a result, please find the enclosed comment memorandum from Ms. Tracy Jue and Mr. Kurt Jackson of CDPH’s Environmental Management Branch dated June 3, 2008.

Mr. Sullivan
June 3, 2008
Page 3

Please revise the Report to incorporate the above comments. If you have any questions, please contact me at (510) 540-3775.

Sincerely,



Ryan Miya, Ph.D.
Senior Hazardous Substances Scientist
Cleanup Program - Berkeley

Enclosure

Copies with sent via email transmission followed by hard copy.

cc: Mr. Charles Perry
Lead Remedial Project Manager
Department of the Navy
Base Realignment and Closure
Program Management Office West
1455 Frazee Road, Suite 900
San Diego, California 92108-4310
charles.l.perry@navy.mil

Mr. Scott Anderson
Remedial Project Manager
Department of the Navy
Base Realignment and Closure
Program Management Office West
1455 Frazee Road, Suite 900
San Diego, California 92108-4310
scott.d.anderson@navy.mil

Mr. James Whitcomb
BRAC Remedial Project Manager
Department of the Navy
Base Realignment and Closure
Program Management Office West
1455 Frazee Road, Suite 900
San Diego, California 92108-4310
james.h.whitcomb@navy.mil

cc continued on the following page:

Mr. Sullivan
June 3, 2008
Page 4

cc continued:

Ms. Christine Katin
Remedial Project Manager
(SFD-8-1)
U.S. Environmental Protection Agency, Region IX
75 Hawthorne Street
San Francisco, California 94105
Katin.Christine@epamail.epa.gov

Mr. Paisha Jorgensen, PG
Engineering Geologist
California Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, California 94612
pjorgensen@waterboards.ca.gov

Ms. Tracy M. Jue, M.S.
Department of Public Health
Environmental Management
1616 Capital Avenue, MS 7405
Sacramento, CA 95899-7377
Tracy.Jue@cdph.ca.gov

Mr. Jack Sylvan
Treasure Island Redevelopment Project Manager
Mayor's Office of Base Reuse and Development
City Hall, Room 436
1 Dr. Carlton B. Goodlett Place
San Francisco, California 94102
jack.sylvan@sfgov.org

Ms. Mirian Saez
Director of Island Operations
Treasure Island Development Authority
410 Avenue of the Palms
Building 1, 2nd Floor
San Francisco, California 94130
mirian.saez@sfgov.org

cc continued on the following page:

Mr. Sullivan
June 3, 2008
Page 5

cc continued:

Mr. Gary R. Foote
Principal Geologist
Geomatrix Consultants, Incorporated
2101 Webster Street, 12th Floor
Oakland, California 94612
gfoote@geomatrix.com

Mr. Pete Bourgeois
CERCLA Program Project Manager
Shaw Environmental, Incorporated
Building 670
570 Avenue M
San Francisco, California 94130
peter.bourgeois@shawgrp.com



California Department of Public Health
MEMORANDUM

DATE: June 3, 2008
TO: Ryan Miya, PhD
Senior Hazardous Substances Scientist
Department of Toxic Substances Control
Brownfields and Environmental Restoration Program
700 Heinz Avenue
Berkeley, CA 94710-2721
Phone: 510-540-3775
FAX: 510-540-3819

FROM: Penny Leinwander, CHP
Senior Health Physicist
Environmental Management Branch
P.O. Box 997413
1616 Capitol Avenue, MS 7405
Sacramento, California 95899-7413
(916) 449-

SUBJECT: **Review of the Draft Final Status Survey Report for Building 344 Naval Station
Treasure Island San Francisco, CA Dated May 7, 2008**

This review was performed by Tracy Jue and Kurt Jackson Associate Health Physicists, in support of the Interagency Agreement between DTSC and CDPH. Attached are our comments. If you have questions concerning this report, or if you need additional information, please contact Tracy Jue at (916) 324-4804.

Attachment

California Department of Public Health Review

Activity: Review of the Draft Final Status Survey Report For Building 344 for Naval Station Treasure Island, San Francisco, CA Dated May 7, 2008.

May 15, 2008

Page 1 of 3

General Comments:

1. The two survey units shown in the figure sections 4-1 and 4-2 should include survey unit classifications and the classifications should be stated for the survey units for Building 344. Also a selection and description of background reference areas and material should indicate location of the background or reference areas.
2. In section 8.1 Reference Background areas: Please include:
 - An explanation of how the number of background survey locations were determined
 - A map showing the background survey locations
3. Section 10-1 briefly explains the dose modeling for building 344, in providing verification for calculating residual dose to the critical group. Please further explain the parameters from RESRAD-Build printouts in Appendix J on receptor, building and source information. Please explain the basis or assumptions for that led to choosing to use 6 sources used in the dose modeling. Where did the activities or values for the 6 sources come from? Were they based on the 6 highest beta/gamma readings found on each location in Building 344?
4. Section 10-1 Dose Modeling for "Building 344," seeks "unrestricted release." CDPH noted the occupancy factor is 0.5 for RESRAD Build under Appendix H. Please rerun RESRAD calculations using occupancy factor of 1.
5. Appendix C Class 2 Alpha Measurements Building 344 Survey Unit 2 has count number 7 as elevated besides excluding the count from the statistical analysis was there additional measurements taken? Why was the value excluded if it was from a survey unit?
6. Appendix C for 344 SU1 and SU2 Analysis: Please provide the formulas used to calculate surface activity and explain how the surface activity is calculated for surface activity gross and net dpm/100 cm².
7. In Appendix C for all the B344 SU1 and SU2 analysis it is recommended to include a footnote explaining the calculation to determine static measurements for alpha and beta. It would apply to Appendix G too.
8. It appears from the chart "Building 344 Survey Unit 1 and 2 Comparison Graph Cs-137 and Unity Fraction" in Appendix C shows a comparison between alpha/ beta

California Department of Public Health Review

Activity: Review of the Draft Final Status Survey Report For Building 344 for Naval Station Treasure Island San Francisco, CA Dated May 7, 2008.

May 15, 2008

Page 2 of 3

measurements compared to Unit Rule Survey Unit, Unity Rule Reference Area and net unity. Please further explain the relationship between these parameters and include an explanation of their meaning in the text and explain why this graph is meaningful.

9. In appendix E the field survey data sheets has defined two measurements as fixed+removable and removable. Please verify if the fixed +removable surveys are swipe surveys? Please provide footnotes on radiation contamination survey supplement to determine how the fixed +removable net and removable (net) is determined?
10. From following Appendix I the Laboratory Data Quality Control Evaluation, please provide attachments under appendix I to complete the quality Control and (quality control and quality assurance?) assurance requirements. Please provide the following information:
 - NIST Traceable Standards as well as the data for the percent recovery results
 - Relative percent difference values for MS/MSD Samples
 - QC Criteria and requirements results for Technical holding time and preservation requirements
 - Instrument Performance Checks Results
 - Initial and Continuing Calibration Results
 - Verification of MDA Determinations
 - Background Counts
 - QC performance Checks of Measurement System
 - Method Blank Results
 - Laboratory Control Sample Results
 - Internal Standard Results
 - Target Compound Identification Results
 - Completeness Results for method, matrix and analyte objectives
11. In table I 1.1 Summary of Analytical Results please provide more information on the analytical results such as:
 - Media (Soil, Water, Etc.)
 - Total Volume/ Mass of Sample
 - Reference Date and Time of Collection
 - Value of LC, MDA
 - Estimate Counting Uncertainty
12. Appendix I Laboratory Data Consultants Data Validation LDC project number 17826 and 17854 lists a sample collection for soil measured by gamma spectroscopy, it is unclear on the purpose of the soil samples. Please provide the following information:

California Department of Public Health Review

Activity: Review of the Draft Final Status Survey Report For Building 344 for Naval Station Treasure Island, San Francisco, CA Dated May 7, 2008.

May 15, 2008

Page 3 of 3

- Sample objective
- Location including map of the two samples
- Initial Calibration criteria and results
- Continuing Calibration-Calibration verification and background determination results
- Measurement equipment used

13: All the results for LDC project number 17826 and project number 17854 should include the following information for blanks, laboratory control samples, minimum detectable activity, sample result verification, overall assessment data, field duplicates and field blanks should show the following information:

- Sample ID
- Sampling Date
- Isotope
- Reported Concentration, Activity etc.
- MDA
- Estimated Counting and Sample Uncertainty
- CDPH noted that all the required information for the soil samples were included