

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

REGION 2

700 HEINZ AVE., SUITE 200
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August 23, 1995

Commanding Officer
Engineering Field Activity West
Attn: Code 18, Mr. Ernesto Galang
Naval Facilities Engineering Command
900 Commodore Drive
San Bruno, California 94066-5006

Dear Mr. Galang:

**COMMENTS ON ALTERNATIVE METHODS FOR PAH ANALYSIS, REMEDIAL
INVESTIGATION/FEASIBILITY STUDY, NAVAL STATION TREASURE ISLAND
(JUNE 14, 1995)**

The Department of Toxic Substances Control (Department) and San Francisco Bay Regional Water Quality Control Board (Regional Board) have reviewed the Navy's proposed alternative analytical methods for polynuclear aromatic hydrocarbons (PAH).

The Department and Regional Board support the use of the modified CLP SVQA for analysis of PAHs in sediments and tissues during the Treasure Island ecological investigations, provided the modified method is demonstrated to be valid.

Specific comments from the Department's Office of Scientific Affairs and Hazardous Materials Laboratory are enclosed. If you have any questions regarding this letter, please contact me at (510) 540-3818.

Sincerely,

A handwritten signature in cursive script that reads "Mary Rose Cassa".

Mary Rose Cassa, R.G.
Engineering Geologist
Office of Military Facilities

Enclosures

cc: Mr. Michael Bessette
California Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, California 94612

Ms. Rachel Simons [H-9-2]
U. S. EPA, Region 9
75 Hawthorne Street
San Francisco, California 94105-3901

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DEPARTMENT OF TOXIC SUBSTANCES CONTROL

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**MEMORANDUM**

TO: Mary Rose Cassa, Project Manager
Office of Military Facilities, Region 2
700 Heinz, Building F, Second Floor
Berkeley, CA 94704

FROM: James M. Polisini, Ph.D.
Office of Scientific Affairs
Human and Ecological Risk Section 

DATE: July 12, 1995

SUBJECT: ALTERNATE METHOD FOR PAH ANALYSIS FOR TREASURE ISLAND
[PCA 14740 SITE 200231-45 OC 2:2]

Background

We have reviewed the memorandum titled *Alternative Methods for PAH Analysis. Remedial Investigation/Feasibility Study (RI/FS) Naval Station, Treasure Island*, dated 14 June 1995 and prepared by the U.S. Navy EFA-WEST of San Bruno, California. We have completed this review in response to your written request dated June 15, 1995. This memorandum proposes that the U.S. Navy utilize the modified Contract Laboratory Program (CLP) Semivolatile Organic Analysis (SVOA) method for analysis of PAHs in sediment and tissue.

Naval Station Treasure Island occupies both Treasure Island and Yerba Buena Island in San Francisco Bay midway between San Francisco and Oakland. Treasure Island (TI) is manmade and approximately 450 acres in size. Yerba Buena Island (YBI) is a natural island in San Francisco Bay approximately 130 acres in size. The U.S. Army first occupied YBI in 1866. The Navy began operations on YBI in 1896. TI was constructed in 1936 and 1937 as a site for the Golden Gate International Exposition in 1939. TI was leased to the Navy in 1941 for use as a training and personnel processing facility. Naval Station Treasure Island (NAVSTA TI) is used today for processing personnel and training, such as fire fighting. YBI is mainly a residential facility.

Specific Comments

We support the conclusion that the Navy utilize the modified Contract Laboratory Program (CLP) Semivolatile Organic Analysis (SVOA) for polyaromatic hydrocarbons (PAHs) quantitation in sediment and tissue analyses required in the ecological investigations at Treasure Island. This method achieves detection limits below National Oceanic and Atmospheric Administration (NOAA) Exposure Range Low (ER-Ls) for all but two PAHs. This method has been used at other sites under review by HERS and the quantitation limits are acceptable for ecological risk assessment of sediments. In addition, it would be unusual to find the two PAHs with ER-Ls below the modified



Mary Rose Cassa
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CLP SVOA quantitation limit (acenaphthene and fluorene) in sediments without finding co-occurring PAHs.

Conclusions

We support use of the modified CLP SVOA for analysis of PAHs in sediments and tissues during the Treasure Island ecological investigations. The Department of Toxic Substances Control Hazardous Materials Laboratory should be consulted and asked to review this proposal to determine if they support the proposed method.

Reviewed by: Deborah Oudiz, Ph.D. 
Senior Toxicologist,
Northern California Liaison, HERS

cc: Michael J. Wade, Ph.D., Senior Toxicologist, OMF Liaison, HERS

Clarence Callahan, Ph.D.
U.S. EPA Region IX
Superfund Technical Support (H-8-4)
75 Hawthorne Street
San Francisco, CA 94105

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To: Mary Rose Cassa
Region 2
Department of Toxic Substances Control

From: Fred Seto, Ph.D. FS
Hazardous Materials Laboratory
Department of Toxic Substances Control

Date: August 10, 1995

Subject: Review of "Alternative Methods for PAH Analysis,
Remedial Investigation/Feasibility Study (RI/FS), Naval
Station, Treasure Island"

Per your request dated August 2, 1995, I have reviewed the referenced document with respect to the required "quantitation limits" and have the following comments:

1. The modified CLP SVOA method which uses selective ion monitoring (SIM) GC/MS is acceptable as an alternative method for PAH to the CLP SVOA GC/MS method provided the modified method is demonstrated to be valid. The demonstration should include, but not be limited to, accuracy, precision, detection limit, and possible interferences. The analyses of spiked samples provided accuracy information and the analyses of replicate samples provide precision information. The detection limits can be established by procedures such as given in 40 CFR Part 136, Appendix B.
2. Should HPLC be used for the PAH analysis, the results should be confirmed by another technique such as GC/MS because of the possible false positive and false negative results associated with the low concentration target analytes.
3. On page 1, the statement that "When the list is expanded, a normal GC/MS method is generally used and the lower detection limits are achieved by eliminating the gel-permeation chromatography (GPC) cleanup" needs clarification. The statement is true only if there is no sample (matrix) interference. On the other hand, if there is sample interference, GPC cleanup would provide a lower detection limit.

If you have any questions, please feel free to contact me at (510) 540-3003.

cc: Bart Simmons, Ph.D.
Cindy Dingman
James Cheng
Lorna Garcia