



DEPARTMENT OF THE NAVY

NORTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
10 INDUSTRIAL HIGHWAY
MAIL STOP, #82
LESTER, PA 19113-2090

IN REPLY REFER TO

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09TC/JS
8 FEB 2001

Mr. Richard Gottlieb, P. E.
Principal Engineer
Office of Waste Management
Department of Environmental Management
235 Promenade Street
Providence, RI 02908

SUBJECT: RIDEM BACKGROUND SOIL STUDY DATA EVALUATION FOR
ARSENIC OLD FIRE FIGHTING TRAINING AREA, NAVAL STATION
NEWPORT, NEWPORT, RI

Dear Mr. Gottlieb:

The Navy has reviewed RIDEM's approach to statistical evaluation of background soil study data for arsenic at the OFFTA site as described in Mr. Paul Kulpa's email message to me dated December 26, 2000 and January 11, 2001. RIDEM's evaluation resulted in a combined background surface and subsurface soil arsenic level of 6.2 mg/kg. The Navy's comments on RIDEM evaluation are provided below.

The Navy does not agree with RIDEM's approach in combining the surface and subsurface soil data sets and in deleting higher values from the background data set. As you are aware, one of the objectives of the background study was to establish if there are significant differences for background metals in surface and subsurface soils. The Navy's evaluation shows that there is a significant difference between the surface and subsurface metal data sets. The analysis supported a higher background value for arsenic in subsurface soils.

Both results for arsenic in a field duplicate pair were deleted on the basis of a high difference between the results, although this action is not required or advised according to EPA Region I data validation guidance. In addition, two other high arsenic values were rejected based on outlier tests. Procedural Guidance for Statistically Analyzing Environmental Background

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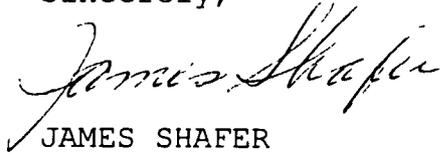
Data (US Navy, September, 1998) and EPA Guidance for Data Quality Assessment (QA/G-9) recommends that outlier tests be used only to identify data points that require further investigation and warns that the tests alone cannot determine whether a statistical outlier should be discarded. Instead, this decision should be based on judgemental or scientific grounds. It is the Navy's belief that the suggested outliers for arsenic found in background soils represent either anthropogenic or natural sources of arsenic in the background areas and these background sources of arsenic may also affect the OFFTA site. Therefore, discarding all of the high arsenic values as outliers is considered an inappropriate data treatment that suppresses data considered to be related to background conditions.

Despite these objections to RIDEM's statistical approach, the Navy accepts RIDEM's arsenic soil background level of 6.2 mg/kg as a proposed preliminary remedial goal (PRG) for OFFTA surface and subsurface soils as a review of the site contaminant distribution shows that other constituents exceeding the residential exposure criteria will likely require the remediation of soils at most locations where arsenic has been detected at or above 6.2 mg/kg. This does not imply that the Navy accepts RIDEM's background data evaluation methods or the use of this value for any other purpose than as a proposed PRG for soils at the OFFTA site.

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If you have any questions about this transmittal or would like to discuss this matter further, please contact me at (610) 595-0567, x241.

Sincerely,



JAMES SHAFER
Remedial Project Manager
By direction of the
Commanding Officer

Copy to:
RIDEM (P. Kulpa)
EPA (K. Keckler)
NAVSTA, Newport (M. Griffin)
NOAA (K. Finklestein)
NAVSTA/RAB (M. Imbriglio)
Gannet Fleming (J. Stump)
TAG (D. Egan)
TtNUS (J. Forrelli)

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Sincerely,

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JAMES SHAFER
Remedial Project Manager
By direction of the
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09J

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09Q

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