



DEPARTMENT OF THE NAVY

INDIAN HEAD DIVISION
NAVAL SURFACE WARFARE CENTER
101 STRAUSS AVE
INDIAN HEAD MD 20640-5035

5090
Ser 0952/816
31 Dec 92

Mr. Milton Marder
Maryland Department of the Environment
CERCLA Response Division
2500 Broening Highway
Baltimore, MD 21224

Dear TRC Member:

The last TRC meeting was held on November 16, 1992. We are forwarding a copy of the minutes for that meeting as enclosure (1).

At the meeting, the Engineering Evaluation and Cost Analysis (EECA) for Installation Restoration (IR) Site 8 was distributed to TRC members and discussed. Therefore, if you were unable to attend the meeting, we are forwarding your copy of the EECA as enclosure (2).

During the discussion of the EECA, some questions arose concerning the reference dosage (RfDo) used in the calculation of the exposure level for mercury at IR Site 8. Mr. Tony Klimek of Halliburton NUS, Inc., stated that he would forward additional information on the RfDo to us. Enclosure (3) is a copy of the letter sent to us by Mr. Klimek in response to these questions.

Please review the EECA and provide your comments to us by January 15, 1993.

In addition, the next two TRC meetings are scheduled for 1:30 p.m. on Monday, February 8, 1993, and Monday, May 10, 1993, respectively.

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If you have any questions or comments, please contact Shawn Jorgensen on (301) 743-6745 or 6746.

Sincerely,



KENNETH D. MORIN, P.E.
Director, Environmental Division
By direction of the Commander

Encl:

- (1) IR TRC Meeting Minutes
for November 16, 1992
- (2) EECA dated November 1992
- (3) Halliburton NUS letter
of November 30, 1992

Copy to:
CHESNAVFACENGCOM (Code 181)
TRC Members

**SUMMARY MEETING MINUTES
TECHNICAL REVIEW COMMITTEE MEETING**

Date of Meeting: November 16, 1992

Project: Installation Restoration (IR) Program
Indian Head Division,
Naval Surface Warfare Center
101 Strauss Avenue
Indian Head, MD 20640-5035

Meeting Participants:

Capt. D.G. Maxwell	Mr. Tony Klimek
Mr. Paul Berkman*	Ms. Susan Luther
Mr. Stephen Elder*	Mr. Milton Marđer*
Mr. Bob Foley*	Mr. Ken Morin*
Mr. Clarence Fox*	Ms. Sherry McCahill*
Mr. Michael Grimm*	Dr. Gerald Schuster*
Mr. Steven Hiortdahl	Ms. Sherry Shane
Mr. Shawn Jorgensen*	

* Member

Technical Review Committee Members Not in Attendance:

Mr. Larry Abell	Mr. George Maurer
Mr. Roy Hancock	Ms. Susan Weber
Mr. Vincent Hungerford	

Major Issues Discussed/Accomplished:

1. Meeting Introduction

Mr. Ken Morin of the Indian Head Division, Naval Surface Warfare Center (IHDIVNAVSURFWARCEN) conducted the meeting introduction. He stated that the majority of the meeting would be dedicated to IR Site 8.

2. Site Inspection Update

Mr. Shawn Jorgensen discussed the progress of the Site Inspections currently being conducted at the facility. Most of the work has gone as planned. However, the six groundwater monitoring wells that were to be placed at Site 53 (Mercury Contamination of Sewage System) could not be installed. A thick, dense clay layer was encountered at a depth of approximately 20 feet. In addition, underground boulders in the clay layer made drilling impossible. Samples of the clay were taken to test its permeability. Based on the results, we should be able to prove that contaminants could not penetrate this clay layer.

ENCLOSURE(1)

2. Site Inspection Update (continued)

Although official data will not be given to us until late December 1992 for the samples taken during the SI, we have been told by Ensafe/Allen & Hoshall that some sites do have low levels of contamination.

3. Site Characterization of IR Site 8 - NG Plant Office

Mr. Tony Klimek of Halliburton NUS discussed the work that was performed at IR Site 8, including the sample results. This information is included in the Site Characterization Report which was distributed to the TRC members prior to the meeting.

The highest level of mercury contamination at Site 8 is located at the uppermost section of the stream near the culvert, as shown in Figure 4-1 of the Site Characterization Report.

4. Engineering Evaluation and Cost Analysis (EECA)

A copy of the draft EECA was given to the TRC meeting attendees. Mr. Klimek summarized the main points of the EECA and discussed the five alternatives for the site, which include:

- a. No action
- b. No action with biomonitoring
- c. Riprap stream and biomonitoring
- d. Excavate and stabilize with biomonitoring
- e. Excavate and dispose offsite with biomonitoring

The EECA suggests alternative d, excavate and stabilize the material on-site with biomonitoring. As a second option, the EECA suggests alternative c, riprap stream and biomonitoring. This was based on the risk assessment to human health using a reference dosage (RfD_0) of 3×10^{-4} , which is given by the EPA for mercury. Mr. Klimek said that this is the maximum dosage that a person can be exposed to and not incur any adverse effects. There were some questions from the TRC as to how this number is obtained. Mr. Klimek stated that he would forward more information on this to us.

5. Biomonitoring at Site 8

Mr. Klimek discussed the preliminary bioassay results of the samples taken for the Biomonitoring Study that was performed on Site 8 in October 1992. Mr. Klimek had results for five fish sampled, including one bullhead, two Gambusia, and two Bluegill.

5. Biomonitoring at Site 8 (continued)

Of the fish sampled, only one Gambusia had a concentration of mercury greater than the typical range in Maryland streams, which is between 0.01 and 0.05 milligrams per kilogram (mg/kg). The concentration in that Gambusia was 0.06 mg/kg.

6. Future Schedule

Mr. Ken Morin closed the meeting by thanking the attendees and stating that the next two TRC meetings are scheduled for Monday, February 8, 1993 and Monday, May 10, 1993. The meetings will be held in Building 20 at 1:30 p.m., as usual.



661 ANDERSEN DRIVE - PITTSBURGH, PENNSYLVANIA 15220 (412) 921-7090

C-49-11-2-245

November 30, 1992

Project Number 5508

Mr. Paul Berkman, Code 1812
Chesapeake Division
Naval Facilities Engineering Command
Washington Navy Yard, Building 212
Washington, DC 20374-2121

Reference: CLEAN Contract No. N62472-90-D-1298
Contract Task Order No. 64

Subject: Indian Head Division, Naval Surface Warfare Center
Site 8 - Nitroglycerin Plant Office
• Supplemental Information Sheet

Dear Mr. Berkman:

Enclosed please find a Supplemental Information Sheet for the Site 8 - Nitroglycerin Plant Office EE/CA Report. This sheet was prepared in accordance with the discussion at the TRC meeting on November 16, 1992, and presents information on the action level calculations presented in the EE/CA Report and preliminary bioassay results.

If you have any questions or comments, please contact me at 412-921-8640.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Anthony P. Klimek".

Anthony P. Klimek, P.E.
Project Manager

APK/pm

Enclosure

cc: Mr. Shawn Jorgensen, Indian Head NOS
Mr. Roger Boucher, NORTHDIV (w/o enclosure)
Mr. Steve Hiortdahl, USGS

Supplemental Information Sheet
for
Site 8 - Nitroglycerin Plant Office
Indian Head Division, Naval Surface Warfare Center
Indian Head, Maryland
Contract Number N62472-90-D-1298, CTO #064

Submitted by:
HALLIBURTON NUS Environmental Corporation
November 25, 1992

In accordance with the TRC meeting on November 16, 1992, this Supplemental Information Sheet provides additional information regarding: 1) action level calculations for Site 8, and 2) preliminary bioassay results.

ACTION LEVEL CALCULATIONS

According to the EPA Integrated Risk Information System, mercury is not classifiable as to human carcinogenicity. Potential health risks associated with mercury are evaluated by utilizing a Reference Dose (RfD). An RfD is an estimate (with uncertainty spanning perhaps an order of magnitude) of a daily exposure to the human population (including sensitive subgroups) that is likely to be without an appreciable risk of deleterious effects during a lifetime. RfDs are developed for chronic and/or sub-chronic human exposure to hazardous chemicals and are based on the assumption the thresholds exist for certain toxic effects. The RfD is usually expressed as an acceptable dose (mg) per unit body weight (kg) per unit time (day). The RfD is derived by dividing the no-observed-adverse-effect level (NOAEL) or the lowest-observed-adverse-effect level (LOAEL) by an uncertainty factor (UF) times a modifying factor.

The mercury action levels for Site 8 presented in the draft EE/CA Report are for human exposure to mercury assuming an occasional trespass scenario. The levels are based on a RfD of 3×10^{-4} mg/kg/day. Given the exposure assumptions of a trespass scenario, the mercury concentrations in the soils/sediments must exceed the calculated action levels before deleterious health effects will occur. According to those calculations and assuming an occasional trespass scenario, the action levels for Site 8 are as follows:

- 3066 mg/kg of total mercury for accidental ingestion
- 4599 mg/kg of total mercury for dermal contact
- 398 mg/kg of methyl mercury for dermal contact

Because mercury concentrations at Site 8 do not exceed the above levels, no action is required at Site 8 based on a direct human exposure pathway.

PRELIMINARY BIOASSAY RESULTS

Five separate fish samples were collected by Coastal Environmental Resources, Inc. (a subcontractor to HALLIBURTON NUS) from Site 8 during the first phase of Biomonitoring in October 1992. Three samples (1, 2, and 3) were collected in the main area of the Tidal Pond/Marsh and two samples (4 and 5) were collected in the portion of the site between Atkins Road and Atkins Road Extension. Multiple fish were collected and combined to make up each sample. Preliminary bioassay results of those samples are as follows:

Sample Number	Sample Location	Type of Fish	Total Whole-Body Mercury Concentration (mg/kg)
1	Main area of Tidal Pond/Marsh	Bullhead	0.04
2	Main area of Tidal Pond/Marsh	Gambusia	0.06
3	Main area of Tidal Pond/Marsh	Bluegill	0.02
4	Pond/Stream between Atkins Road and Atkins Road Extension	Gambusia	0.04
5	Pond/Stream between Atkins Road and Atkins Road Extension	Bluegill	0.02

According to Coastal Environmental Resources (based on other bioassay studies), whole-body mercury concentrations in fish in Maryland streams typically range from 0.01 to 0.05 mg/kg. The Food and Drug Administration (FDA) action limit is 1 mg/kg (ppm) of mercury in the edible portion of fish.