

N00174.AR.000591
NSWC INDIAN HEAD
5090.3a

LETTER AND ENCLOSURE FROM U S NAVY REGARDING POTENTIALLY HAZARDOUS
WASTE DISPOSAL SITE AT THE SAFETY THERMAL TREATMENT POINT NSWC INDIAN
HEAD MD
1/8/1988
U S NAVY

507



DEPARTMENT OF THE NAVY

NAVAL FACILITIES ENGINEERING COMMAND

200 STOVALL STREET

ALEXANDRIA, VA 22332-2300

IN REPLY REFER TO

5090
181GR

08 JAN 1989

From: Commander, Naval Facilities Engineering Command
To: Commander, Chesapeake Division, Naval Facilities Engineering Command

Subj: REQUEST FOR ASSISTANCE

Ref: (a) PHONCON NAVFACENCOM (Code 181GR) Mr. Rivera/NAVORDSTA (Code 0431)
Mr. Woo of 3 JAN 89

Encl: (1) NAVORDSTA ltr 5090 Ser 043/250 w/encl.

1. As discussed in reference (a), enclosure (1) is forwarded for your action.
2. For further assistance and/or information, please contact Mr. Gilbert Rivera, Code 181GR at Autovon 221-8539 or Commercial (202)325-8539.

Copy to:
NAVORDSTA

T. J. ZAGROBELNY.
By direction



DEPARTMENT OF THE NAVY
NAVAL ORDNANCE STATION
INDIAN HEAD, MARYLAND 20640-5000

IN REPLY REFER TO
5090

Ser 043/250

DEC 09 1988

From: Commanding Officer, Naval Ordnance Station, Indian Head, MD 20640-5000
To: Commanding Officer, Naval Facilities Engineering Command Headquarters
(Code 112A)

Subj: REQUEST FOR ASSISTANCE

Encl: (1) NAVORDSTA Ltr 5090 Ser 043/243 of 30 Nov 88

1. Enclosure (1) has been forwarded to the State of Maryland's Department of the Environment, informing them that a potential hazardous waste disposal site may have been identified at the Naval Ordnance Station, Indian Head, Maryland.
2. This site, the Safety Thermal Treatment Point, has previously been identified as a potential Installation Restoration (IR) site and was reported as such. Further investigation at this site was not pursued since it was designated as a "current operation" at the time the Initial Assessment Survey for this activity was being performed.
3. We are requesting your assistance in investigating this problem as required by the IR Program. This determination, that this is an IR site, is based on current definition of this program.
4. If you have any questions, please contact Mr. Thomas Woo on (301) 743-4320.

Daniel M. Bergbauer
DANIEL M. BERGBAUER
By direction

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ENCLOSURE (1)



DEPARTMENT OF THE NAVY
NAVAL ORDNANCE STATION
INDIAN HEAD, MARYLAND 20640-5000

IN REPLY REFER TO

5090
Ser 043/243

30 NOV 1988

State of Maryland
Department of the Environment
Hazardous Waste Division
2500 Broening Highway
Baltimore, MD 21224

Gentlemen:

The purpose of this letter is to document our conversations of 14 November 1988 and 23 November 1988.

On 14 November 1988, you were informed that as part of our review of operations covered by our Subpart X permit for thermal treatment of explosive materials, an ash/residue pile was discovered at the Safety Thermal Treatment Point. You were informed that according to our Subpart X permit application, we are to clean up all ash piles and treat the material collected as a hazardous waste until testing proved otherwise. Ash from the pile was collected and analyzed. Results obtained, see enclosure, verified that we did not have a heavy metal EP toxicity problem. These results were obtained verbally on 18 November 1988 and reported verbally to you on 21 November 1988. However, while collecting this ash, it was observed that solvents were present and may have contaminated the soil beneath the ash pile. Another sample was taken on 21 November 1988 to determine if a solvent contamination problem existed.

Results obtained on 23 November 1988 confirmed a solvent contamination at the site. It is estimated that the contamination covers approximately a 40 foot diameter area to a depth up to approximately one foot based on visual observation. A clay cap at the site may have served to prevent any extensive contamination of the soil. Seventy-six 55-gallon drums of contaminated ash/residue were removed from the site before the solvent contamination problem was verified. Another 20 drums (approximately) of ash will be drummed during the next two week. Except for scraping up some surface soil with the ash/residue, the soil subsurface has not been disturbed. These drums are being stored in building 455, our hazardous waste storage site, as per conversations on 14 November 1988 with Mr. Hammelberg and on 23 November 1988 with Mr. Schmidt. Verbal permission was granted during these conversations to exceed drum storage limits in building 455 because of this emergency situation and the need to achieve attainment for storage of the contaminated ash. Immediate arrangements are being made to remove and dispose of this ash and all drummed soil at an approved hazardous waste disposal site. It is anticipated that we will be able to contract for the disposal of this material within two to four weeks.

Enclosed you will find a statement from the thermal treatment plant operator discussing how the situation came about and what we have done to date to minimize the spread of any contamination. Additionally, we will be developing

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ENCLOSURE()

a plan to determine the extent of contamination in the soil. Lab analysis results from the soil to be taken are expected 23 December 1988. Our Engineering Field Division (EFD) will be requested under a separate cover letter to conduct a Preliminary Assessment of the site under the Navy's Installation Restoration program. If it is determined that this site is an Installation Restoration site, it is anticipated that the Chesapeake Division of Naval Facilities Command, the State of Maryland, and the public will be involved in assessing our plans to correct this problem before actual cleanup commences.

Enclosed you will also find the analysis of the ash/residue pile and soil samples taken at the Safety Thermal Treatment Point during the time period 10 November to 23 November 1988. This is all the information available at this time from the site; as additional information becomes available, it will be forwarded to you.

Finally, as per your request, we are enclosing a copy of our Subpart X permit application to the Environmental Protection Agency. These permit applications cover our thermal treatment operations for explosive waste at both Indian Head and at our Stump Neck Annex. We will be making technical corrections to this submission shortly to include a plan of action and milestones for transition from our current operation to those described in our permit application. After reviewing the permit application and our technical corrections, it is requested that we meet to discuss our proposed actions. We would like to be certain that as equipment is installed and operations are changed, our actions are acceptable to the State of Maryland, Department of the Environment, as well as the Environmental Protection Agency.

If you have any questions, please feel free to contact me on (301) 743-4210.

Sincerely,



PETER RITZOVIAN
Director, Environmental
Protection Division
By direction of
the Commanding Officer

Encl:

- (1) Safety Thermal Treatment Point Residue
- (2) Analysis of Ash Pile for Priority
Pollutants Toxic Metals
- (3) Subpart X Permit Submission

Copy to:

EPA, Region III (F. Mulhern) (w/o encl (3))

8026
Ser 041/745/jh
28 Nov 88

MEMORANDUM

From: 041
To: 04

Subj: SAFETY THERMAL TREATMENT POINT RESIDUE

1. The Thermal Treatment Point has been utilized for treatment of explosive contaminated process scrap and explosive loaded items for development and test. The process scrap was that contaminated with highly sensitive pyrotechnic materials and uncharacterized research propellants and explosives. The loaded items were those considered of greater than normal hazard because of condition, e.g., test units that did not fire, and experimental or partially completed units not authorized for shipment off-station.
2. The thermal treatment operation was conducted inside a ten-foot diameter cylindrical steel enclosure. When the enclosure was relocated to allow clean up, an accumulation of ash was found. The ash or residue tapered from about 2 inches deep at the enclosure entrance to about 15 inches deep at the back. This round wedge of ash accumulated because the enclosure was on a sloping surface. The sloping configuration prevented our awareness that a buildup of residue was occurring.
3. The ash buildup, with some spreading caused by relocating the enclosure and other activity, covered an area about 15 by 15 feet. Most of the ash and incorporated soil has been drummed and is now stored in an approved hazardous waste holding facility. Samples taken to determine constituents show presence of organic solvents. The area has been bermed and covered with plastic to contain the remaining residue until disposition is finalized.
4. In order to determine the extent of any contamination, we intend to divide the point into a grid pattern, sample the soil from a statistically representative number of points on the grid, and analyze the samples for presence of organic solvents. This information will be compared with a "background" sample. Once the extent of any contamination is known, we will take appropriate action for further clean up and restoration.


I. BRUCE DALTON

Copy to:
CO, XO, TD,
TDO, 043, 0412

ENCLOSURE(,)

8010
Ser 3320C/170/mf
16 Nov 88

MEMORANDUM

From: 3320C
To: 0431
Via: 3320

Subj: ANALYSIS OF ASH PILE FOR PRIORITY POLLUTANTS TOXIC METALS

Ref: Log #877508

1. Recent concerns about the Safety Burn Point ash pile posing a potential source of hazardous waste has resulted in the evaluation of the ash pile for high levels of priority pollutants toxic metals. A sample of the residue taken from the Burn Point ash pile was submitted to the laboratory for priority toxic metals analysis.

2. Analysis Procedure

Duplicate ~1 gram samples were digested in nitric acid (HNO₃). The samples were further treated with additional nitric and hydrochloric acids. The samples were diluted with deionized water and filtered. The samples' filtrates were brought up to final volume with deionized water and analyzed by Inductively Coupled Argon Plasma (ICAP).

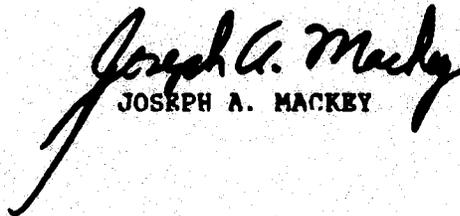
3. The results of the analyses were as follows:

	<u>% Wt.</u>	<u>PPM</u>
Ba	0.675	6748
Cd	0.036	361
Cr	0.222	2222
Pb	0.287	2870

4. Comments

We found extremely high levels of the four toxic metals which we measured. It should be noted that the levels found were for total metals concentration and does not distinguish between water soluble and insoluble metal species.

5. If you have any further questions, please call Joe Mackey on Ext. 4759/1219.


JOSEPH A. MACKEY

Copy to: 0431D
043

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ENCLOSURE(2)

8000

Ser 3320C/176/mf

23 Nov 88

MEMORANDUM

From: 3320C
To: 043
Via: 3320

Subj: GC/MS ANALYSIS OF SAFETY BURN POINT SOIL SAMPLR

Ref: Lab Log #877733

Encl: (1) Table I
(2) Reconstructed Ion Chromatograph (RIC)

1. Recent discovery of evolution of strong penetrating pungent odors emanating from the grounds at the Safety Burn Point during the removal of ash pile residue has resulted in the investigation into the potential hazardous pollutants that may be present in the Burn Point soil. A representative soil sample, taken from the Burn Point site, was submitted to the laboratory for determination and identification of any organic and chlorinated solvents that may be present in the soils sample.

Since strong odors were being emitted from the soil sample, inferring volatile materials and potential source of pollutants, we focused our analysis on analyzing organic volatiles by performing Head Space analysis. It should be noted that most common laboratory organic solvents and small chain halogenated hydrocarbons are readily volatilized due to their low boiling points and/or vapor pressures, thereby making them very amenable to Head Space analysis techniques.

2. Analysis Procedure

A portion of the soil sample was transferred into a crimp seal vial allowing room for head space above the sample. The vial was sealed and placed into 105° +/- 5°C oven for ~15 to 20 minutes. A one (1) ml gas syringe was inserted through the septa into the head space volume. One (1) ml of the head space sample volume was withdrawn and injected into the Gas Chromatograph/Mass Spectrometer (GC/MS).

3. COMMENTS

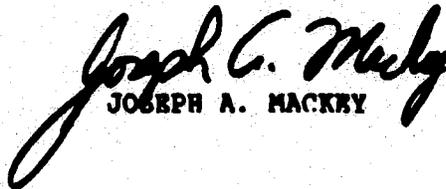
Table I summaries all the predominant organic compounds found. This list does not contain all the organic compounds detected in the soil sample, but rather is geared toward your request for chlorinated and common lab solvents. The organic compounds that were not included in Table I were present only in small to trace quantities. No attempts were made to quantitate the GC/MS data.

Ser 3320C/176/mf
23 Nov 68

3. cont'd

The reconstructed ion chromatograph (RIC), enclosure 2, showed that many organic compounds were present in the Burn Point soil sample as exhibited by the complexities of the RIC (over 50 peaks).

4. If you have any further questions, please call Joe Mackey on Ext. 4759/1219.


JOSEPH A. MACKAY

Copy to: 0431
0431D

TABLE I

HEAD SPACE ANALYSIS OF BURN POINT SOIL

CHLORINATED HYDROCARBONS

Methylene Chloride
Chloroform
Trichloroethane
1,2 Dichloroethane
Tetrachloroethene
Chlorobenzene

ALCOHOLS

2-Ethyl-1-hexanol
1-Eicosanol
2-Propyl-1-heptanol
2-Butyl-1-octanol

ALDEHYDE

Octadecanal

KETONE

Cyclohexanone

COMMON LABORATORY SOLVENTS

Acetone
Tetrahydrofuran
Heptane
Acetonitrile
Toluene
1,4 Dioxane

AROMATIC HYDROCARBONS

Benzene
1-Methylethyl benzene (cumene)

ALIPHATIC HYDROCARBONS

Nonane
Decane
4-Methyl Decane
Undecane
2,9-Dimethyl Decane
Dodecane
6-Methyl Dodecane
2,3,7-Trimethyl Octane
4,7-Dimethyl Undecane
Tridecane

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RIC

DATA: BPSOIL 01

SCANS 102 TO 1000

11/17/88 14:01:00

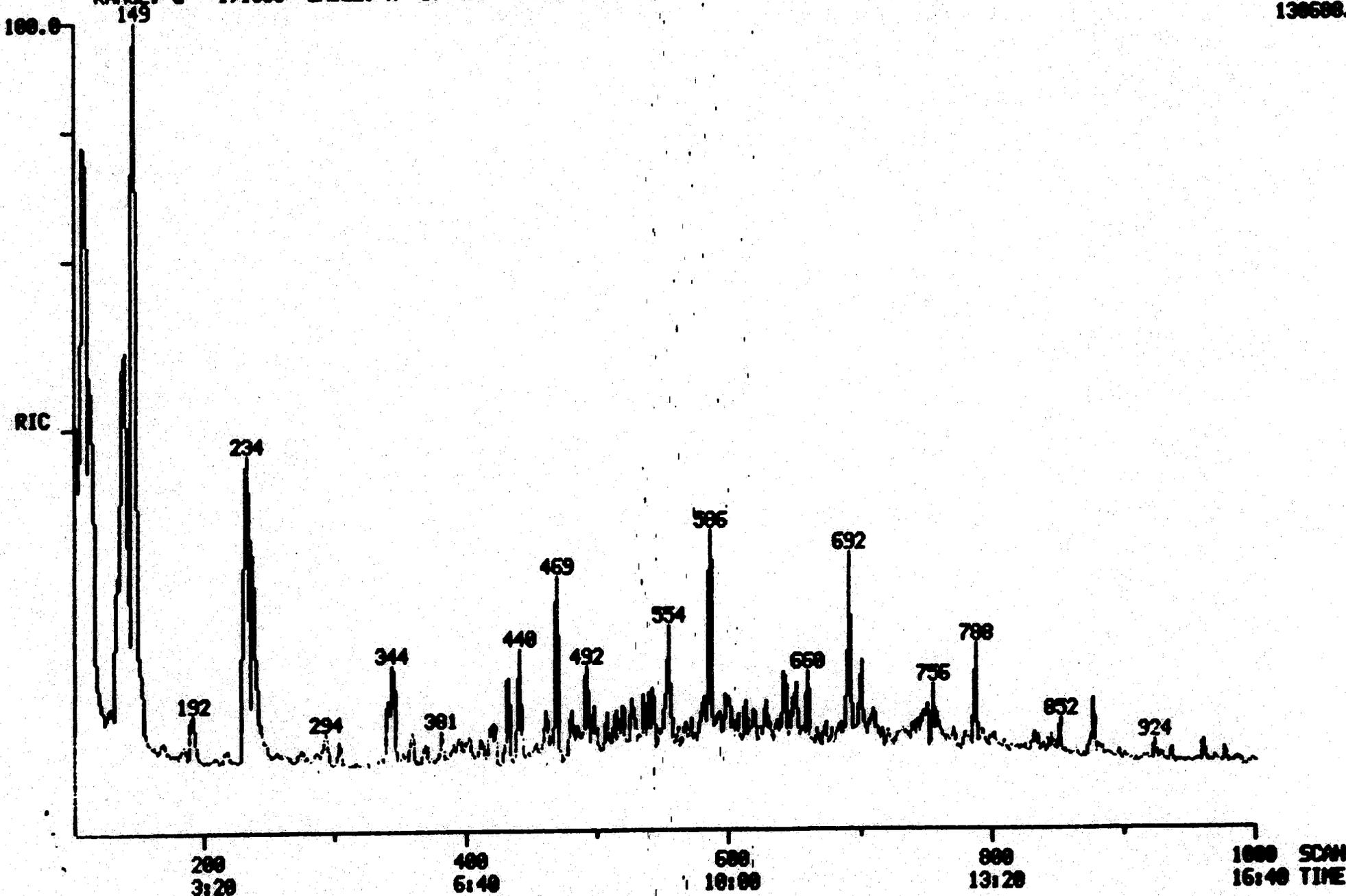
CALI: CAL16 85

SAMPLE: SAFETY BURN POINT SOIL HEAD SPACE ANAL 0.5ML INJ

CONDS.: EI/HEAD SPACE/50C-4MIN,LIN10C-200C/HP-7.5PSI/SPB-20FSCAP

RANGE: G 1.1533 LABEL: N 0, 4.0 QUAN: A 0, 1.0 J 0 BASE: U 20, 3

130608.



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ENCLOSURE 1 of 1

EP TOXICITY

Reference: Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 2nd ed., 1982, Revised 1984. USEPA. Method 1310.

Sample Source: Naval Ordnance Station, Indian Head, MD

Sample Identification: Safety Burn Point Ash Pile

Sample Date: 11/2/88
Received by Lab: 11/14/88
Analysis Started: 11/14/88

Extraction Data

Sample Size for Extract: 100 grams
Volume Deionized Water: 1600 mLs
Volume 0.5 N Acetic Acid: 400 mLs
Initial pH: 10.2
Final pH: 7.6
Filter Media: Gelman #60173 membrane filter; Millipore XX10 047 00 filter holder assembly.

Analytical Data on Extract

Contaminant	Extract mg/L	Regulatory Maximum mg/L	Analytical Method
Arsenic	<0.10	5.0	7061
Barium	<30.0	100.0	7080
Cadmium	0.70	1.0	7130
Total Chromium	<0.30	5.0	7190
Lead	<1.00	5.0	7420
Mercury	<0.005	0.2	7470
Selenium	<0.05	1.0	7741
Silver	<0.10	5.0	7760

Remarks: Although the extraction is intended to be carried out at pH 5.0, Method 1310 limits the amount and strength of acid that can be added to 100 g of sample to 400 mL of 0.5 N acetic acid.

All analytical results were derived using the method of standard additions.

Analyst: Rad W. [Signature]

Report Date: 11/21/88

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