

DEPARTMENT OF HEALTH SERVICES

2151 BERKELEY WAY
BERKELEY, CA 94704April 22, 1985
Certified No. P 368 413 339

Mr. Alexander Dong, Acting Head
Environmental Operations Section
Department of the Navy
Western Division
Naval Facilities Engineering Command
P.O. Box 727
San Bruno, California 94066

Re: CA7170024775

Dear Mr. Dong:

The Verification Study Work Plan for assessment of hazardous wastes at six sites at Mare Island Naval Shipyard, Vallejo, California dated November 1984, by Richesin and Associates has been received and reviewed by this office. The plan is not approved by this office as submitted.

The plan addresses many of the concerns of the California Department of Health Services. However, we have additional requirements which are listed by site as follows:

Site 1. Landfill.

- a. No compositing of soil samples is allowed.
- b. Samples are to be taken at 0 feet, 2 1/2 feet, 5 feet and every 5 feet to the depth where uppermost groundwater is encountered.
- c. Samples are to be analyzed for:
 1. Priority pollutants, using EPA Test Methods as noted in SWD846 dated April 1984, revised 2nd Edition or latest amendments. See attachment "A".
 2. Heavy Metals; See attachment "B"
 - a) Analyze for soluble metals using the California "Waste Extraction Test" (WET) as outlined in Section 66700, California Administrative Code, Title 22, effective date October 27, 1984.
 - b) Analyze for total metals.
- d. Analyze for pesticides as noted in attachment "C" using methods noted in attachment "A".

- e. Analyze for all PCB's, mono, and all isomers of di, tri, and tetrachlorobenzenes using methods noted in attachment "A".
- f. Analyze for cyanide including cyanide amenable to chlorination and total cyanide.
- g. Put teflon liners on all container caps.
- h. Use containers for all samples as noted in attachment "D".
- i. Refrigerate all samples as soon as they are taken.
- j. Determine pH, flashpoint and percent of oils and greases as applicable.
- k. Analyze all samples for trinitrotoluene, dinitrotoluene, tetryl, RDX, nitrates, phosphates, picrates, picric acid, PETN, lead azide, silver azide, lead nitroaromatics and diazonitrophenol.
- l. Non priority pollutants. See attachment "F" & C. 1. above.
- m. Poly Nuclear Aromatic Hydrocarbons (PNAHs) (PAHs).
- n. Fish Bio Assay as outlined in Section 66696 (a), (4) CAC as noted in C, 2, a) above.
- o. Fluoride

Site 2. Oil Sumps.

- a. Sample and analyze as in Site 1. as noted in a; b; c, 1.)+2.); e; g; h; i; j; l; m and n.

Site 4. Berths 4 and 5.

- A. Proceed as for Site No. 2.

Site 5. 900 Area.

- a. Sample as in Site 1 as noted in a; b; c; 2. a), and b); g; h; i; j; l; m and n.

Site 12. Concord Annex.

- a. Take additional surface samples at site of:
 1. Building No. 281.

2. All three high explosive burn areas.
3. Detonating Pit.
- b. Sample and analyze as Site 1 as noted in b; c, 1) and 2); g; h; i; j; k; m; n and o.

Site 14. Sludge Ponds.

- a. Install additional borings as noted in attachment "E".
- b. Sample and analyze as in Site 1 excluding explosives.

There are general requirements for this site characterization study as noted below.

1. This office shall be notified 10 working days in advance of commencement of these soil studies so that a representative from the Department of Health Services can observe the activities and collect duplicate samples of all samples taken. The U.S. Navy is required to provide the appropriate sample containers.
2. Please indicate what laboratory will be performing the analytical studies. The laboratory will require DOHS approval as being capable of conducting such analyses. Please contact Mr. Bart Simmons or Mr. Fred Seto of our Hazardous Materials Laboratory at (415) 540-3001.
3. Your Site Safety Plan is deficient in a number of areas. Title 8, California Administrative Code (CAC) Section 5144 (f) 1, 2 and 3 outlines the requirements for an acceptable Respiratory Protection Plan, ie.:
 - a. Written Operating Procedures.
 - b. Selection and issuance.
 - c. Program Surveillance and Evaluation.

Specific shortcomings are as follows:

1. Page 15 item 4.2.2.2. Procedures for Respiratory use.

There are no specifications for the type of cartridges that are to be used.
2. Page 16.

There are no specifications for the type of training required, ie., the specific procedures governing the use, selection instructions and

training, cleaning and sanitizing, inspection and maintenance of respiratory protection devices. The training must include hazard recognition, limitations of respirators used and program surveillance and evaluation.

Contact lenses are not to be worn when respirators are required or in any environment which may require the use of a respirator or potentiate any hazardous exposure. The use of eyeglasses is not precluded provided in cases in which, if not worn, could potentiate a serious safety hazard to the workers.

3. Page 25, Item 5, 2, 6.

Throughout this plan there is no specific reference to the use of portable eye wash/showers. Eye wash/showers are only exempted from use when appropriate personal protective equipment is worn.

4. You must indicate each hazard condition for which designated protective equipment is used. Specify these requirements for each work site, ie., Sites 1, 2, 4, 5, 12 and 14.
5. Use a "decision tree" to indicate selection and limitations for each type of equipment to be used.

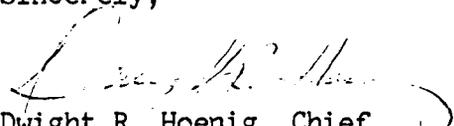
You are required to notify this office within 24 hours by telephone in the event of hazardous waste emergency/personal injury during the course of this investigation. Within 15 days of the date of such emergency/personal injury you must report in writing to this office the details of such an emergency as outlined in Section III, 17 of your Interim Status Document.

You are required to have an approved verification plan (site characterization plan), in writing including a site safety plan prior to the implementation of said plan. Please submit an amended plan to this office as soon as possible in order that the plan can be reviewed and, if acceptable, approved in writing.

There are eight other known areas and numerous other suspect areas containing hazardous waste representing risks to public health, safety, livestock, wildlife and the environment which this plan does not address. These problems must be addressed with specific remedial plans acceptable to this office. You will be advised of our concerns on these matters in the near future.

If you have any questions concerning these matters, please contact Edgar H. Refsell of this office at (415) 540-2055.

Sincerely,


Dwight R. Hoenig, Chief
North Coast California Section
Toxic Substances Control Division

ANALYTICAL METHODS

<u>Analysis</u>	<u>Reference Method</u>
Volatile organics analysis (VOA)	Water: Method 624 or 601+602 Waste/Soil: Method 8240 or 8010+8015
Base/Neutral (B/N) extractables organics	Water: Method 625 Waste/Soil: Method 8250 or 8270
Acid extractables organics	Water: Method 625 Waste/Soil: Method 8250 or 8270
Organophosphorus pesticides	Water: Method 614 or 622 Waste/Soil: Method 8140
Herbicides	Water: Method 615 or HPLC Waste/Soil: Method 8150
Carbamates	Water: 632 Waste/Soil: Method 632 or HPLC (no method is cited in SW-846)
Phenols	Water: Method 604 or 625 Waste/Soil: Method 8040 or 8250 or 8270
Polychlorinated biphenyls (PCBs)	Water: Method 608 or 625 Waste/Soil: Method 8080 or 8250 or 8270
Polynuclear aromatic hydrocarbons (PAHs)	Water: Method 610 or 625 Waste/Soil: Method 8100 or 8250 or 8270
Nitrosamines	Water: Method 607

HEAVY METALS

Antimony

Arsenic

Asbestos and Asbestos Compounds

Barium and Barium Compounds

Beryllium and Beryllium Compounds

Cadmium

Chromium

Chromium VI

Cobalt

Copper

Fluoride Salts

Lead

Mercury

Molybdenum

Nickel

Selenium

Silver

Thallium

Vanadium

Zinc

Lead Compounds, Organic

PESTICIDES

Organophosphorus

DEF
Diazinon
Dioxathion
Disyston
Ethion
Ethyl parathion
Folex
Malathion
Methyl parathion
Thimet
Trithion

Chlorinated + PCBs

Aldrin
a-BHC
b-BHC
c-BHC
g-BHC (Lindane)
Chlordane
4,4'-DDE
4,4'-DDD
4,4'-DDT
Dieldrin
Endosulfan I
Endosulfan II
Endosulfan sulfate
Endrin
Endrin aldehyde
Heptachlor
Heptachlor epoxide
Toxaphene
(All) PCB's (cal. as)
Methoxychlor
PCNB
Perthane
Trithion

SAMPLE CONTAINERS AND CLOSURES*

<u>Category</u>	<u>Recommended container</u>	<u>Recommended closure</u>
Metals, inorganics, weak acids/bases	Glass or Plastic	Plastic caps with plastic or Teflon liner
Organic solvents, hydrocarbons, chlorinated hydrocarbons	Glass	Plastic caps with Teflon liner
Photosensitive materials	Amber plastic or glass	Plastic caps with plastic or Teflon liner
Strong acids/bases	Glass	Plastic caps with Teflon liner
Hydrofluoric acid, phosphoric acid	Plastic	Plastic caps with plastic liner

*For more specific applications refer to Standard Methods for the Examination of Water and Wastewater and the USEPA Methods for Chemical Analysis of Water and Wastes.

Non-Priority Pollutants

Acids

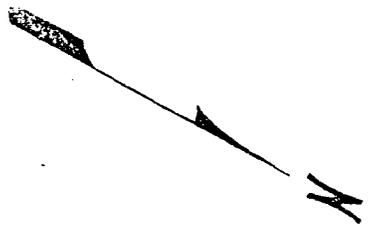
Benzoic Acid
2-Methylphenol
4-Methylphenol
2,4,5-Trichlorophenol

Base Neutrals

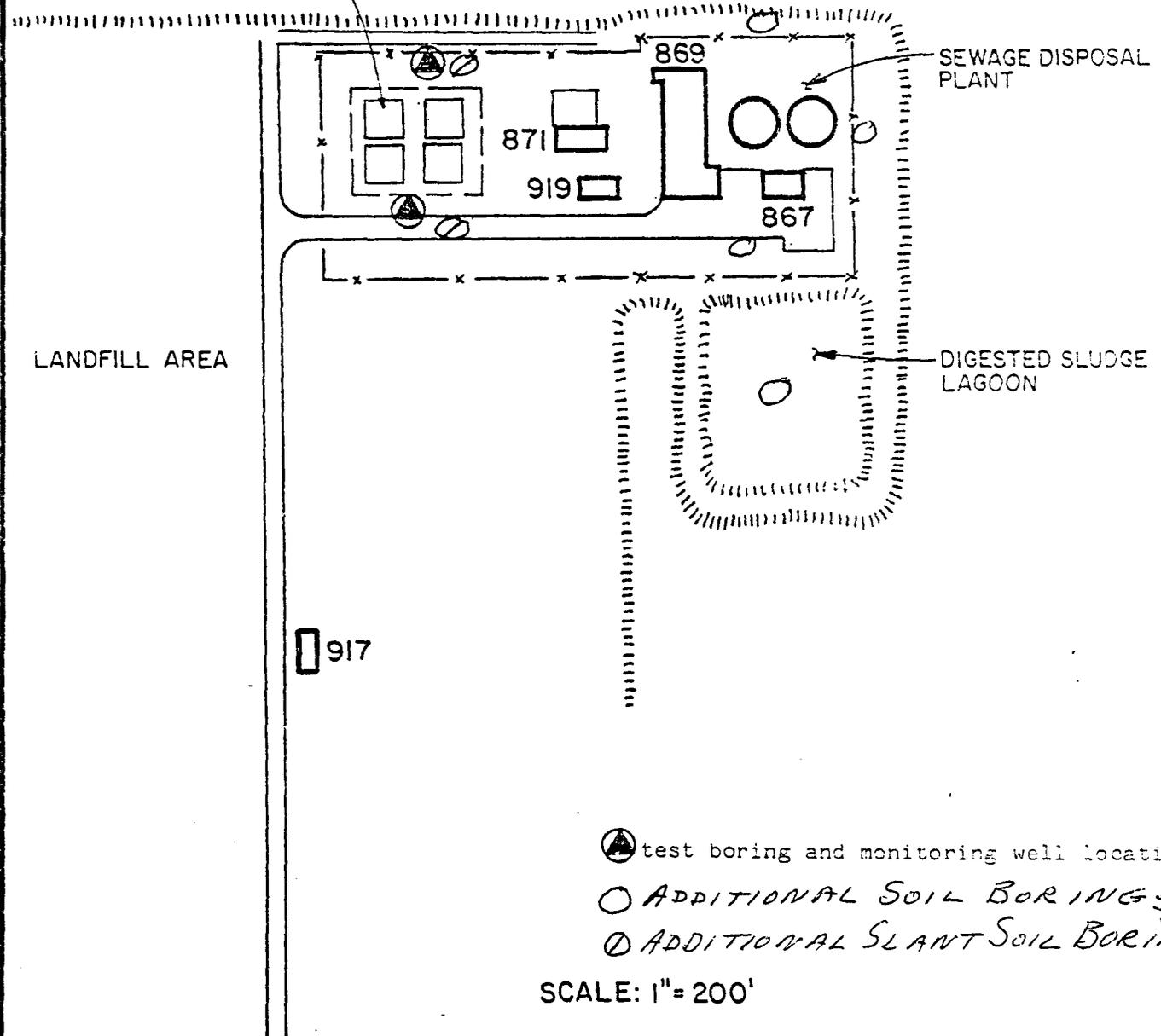
Aniline
Benzyl Alcohol
4-Chloroaniline
Dibenzofuran
2-Methylnaphthalene
2-Nitroaniline
3-Nitroaniline
4-Nitroaniline

Volatiles

Acetone
2-Butanone
Carbondisulfide
2-Hexanone
4-Methyl-2-Pentanone
Styrene
Vinyl Acetate
O-Xylene



new sludge drying ponds



- ⊙ test boring and monitoring well locations
- ADDITIONAL SOIL BORINGS
- ⊙ ADDITIONAL SLANT SOIL BORINGS

SCALE: 1" = 200'

<p>Richesin & Associates Engineering Geology, Groundwater, Geotechnical Engineering and Drilling Services</p> <p>One Annabel Lane, Suite 207 San Ramon, CA 94583</p>	<p>MARE ISLAND NAVAL SHIPYARD CONFIRMATION STUDY SAMPLING AND MONITORING PROGRAM SLUDGE PONDS</p> <p>Project No. 134-1</p>	<p>Plate 7 Date: 11/2/84</p>
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ATTACHMENT "E"

enclosed