OPNAV 5216/144A (Rev. 8-81)
S/N 0107-LF-052-2320

DEPARTMENT OF THE NAVY
Memorandum

DATE: 17 Nov 1987

FROM: Director, NREAD

TO: BMO

SUBJ: Dog Dip Tank and its contents of Dermaton 3 (Trademark) at PT-37

REF: a) 21 Aug 1987 meeting at PT-37 among Military Working Dog Handlers, Insect Vector representative, BMAINT P & E personnel, and NREAD representative

b) 29 Sep 1987 telephone conversation between Mr. Bill McClellan, NCDA Pest Control Board and Mr. Tom Barbee, NREAD

c) 8 Oct 1987 telephone conversation between Mr. Ken Olds, U. S. Army Environmental Hygiene Agency (USAEHA) and Mr. Tom Barbee, NREAD

Per request of Base maintenance Division, this office has

1. NREAD personnel have reviewed the BMAINT P & E work request from PMO for the dog dip tank to be plumbed to the sanitary sewer. This task was done because of the unknown effect of waste Dermaton 3 (Trademark) ectoparasiticide on the wastewater treatment plant. The work request is discussed in paragraph (2). Proper disposal of Dermaton 3(TM) to the sanitary sewer is presented in paragraph (3). Alternatives to the use of Dermaton 3 (Trademark) are presented in paragraph (4). It is requested that BMO review this report and forward it to PMO.

This Office would concur with the PMO Proposal

2. NREAD would concur with the work request asking for the dog dip tank to be plumbed to the sanitary sewer if the following conditions are met: PMO personnel must adhere to the disposal method outlined in paragraph (3). Any use of this tank for another chemical product would void this concurrence.

3. Information of proper pretreatment and disposal of Dermaton 3 (Trademark) was gained through reference (c). Mr. Ken Olds, USAEHA, quoted Mr. Ray Kruger of the Pesticide Disposal Section of the U. S. Environmental Protection Agency on an acceptable method. It is to add dilute sodium hydroxide or other suitable base slowly to the vat while stirring the contents. Enough base must be added to bring the pH up to between 9 and 10. (This hydrolyzes the active ingredient, chlorfenvinphos, to nearly chemically-inert compounds.) After the solution has been left to stand for one to two days, it may be discharged to the sanitary sewer. This discharge should be coordinated with Utilities personnel so that it will coincide with a period of high flow to the Hadnot Point WWTP.

4. An alternative to the use of Dermaton 3 (Trademark) was suggested by Mr. Bill McClellan (reference b). He ~~mentioned~~ suggested the use of systemic pesticides such as Pro Spot (Trademark) or Pro Ban (Trademark). Either of these would generate no wastes. ~~Also~~ As with the use of any ~~product~~ veterinary product, their effectiveness and safety would need to be evaluated by the Veterinary Service, MCB Camp Lejeune.

5. Point of contact is ~~Ms. Elizabeth Betz~~ Mr. Tom Barbee, extension 5977.

OPNAV 5216/144A (Rev. 8-81)
S/N 0107-LF-052-2320

DEPARTMENT OF THE NAVY

Memorandum

DATE:

FROM:

TO:

SUBJ:

NAV 5216/144A (Rev. 8-81)
N 0107-LF-052-2320

DEPARTMENT OF THE NAVY

Memorandum

T-6241/4

ATE: 29 Sep 87

ROM: Supvy Chemist, EC & M Section, Environmental Branch, NREAD

: Supvy Ecologist, Environmental Branch, NREAD

UBJ: SOIL SAMPLE FROM BATTERY STORAGE AT BLDG 902

L: (1) JTC Environmental Consultants, Rept # 86-673 (Table 1)

1. On 5 September 1986, Danny Becker, Tom Barbee and myself collected soil from the lot behind Bldg 902 where batteries had been stored upside down. EPA had objected to batteries being stored empty upside down because runoff from the batteries could contaminant the soil with metals.

2. The enclosure contains the analysis of the soil, sample #86-29. The pH was neutral. Only two metals were found, cadmium and lead, which indicates some runoff was contaminating the soil, however, the levels were below toxicity limits.

ELIZABETH BETZ

Copy to:
Dir, NREAD

JTC Environmental Consultants, Inc.

Location: Camp Lejeune Date of Receipt: 9-11-86 Turnaround: routine

Date: 10/28/86 Report No. 406 to Naval Facilities Engineering Command, Norfolk, Virginia

JTC Data Report No. 86-673 Table 1

NAVY SAMPLE ID	JTC SAMPLE ID	ANALYSIS PARAMETER							
		pH							
MCBCL 86-29 9-5-86	12-3667	7.2							

NAVY SAMPLE ID	JTC SAMPLE ID	EP Tox Extraction							
		As ug/L	Ba ug/L	Cd ug/L	Cr ug/L	Pb ug/L	Hg	Se ug/L	Ag ug/L
MCBCL 86-29 9-5-86	12-3667	<150	<200	11	<10	70	<0.2	<200	<10

UNITED STATES MARINE CORPS
NATURAL RESOURCES AND ENVIRONMENTAL AFFAIRS DIVISION
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA 28542-5001

IN REPLY REFER TO:
12000
NREAD
28 OCT 1987

From: Supervisory Ecologist, Soil, Water and Environmental Branch
To: Supervisory Chemist, Environmental Chemistry and Microbiology Section (ECMS)

Subj: HAZARDOUS WASTE (HW) MANAGEMENT PROGRAM

Ref: (a) BO 6240.5A
(b) MCO 6280.8

1. Be advised that effective immediately, Mr. Tom Barbee, GS-9, Environmental Control Specialist, is detailed to work for a period of ninety days under the direction of Ms. Glenée Smith, Environmental Control Specialist, GS-11. The purpose of the detail is to accomplish priority work in the areas of HW minimization and preparation of waste identification documents (WIDs) per references (a) and/or (b).

2. Be advised that Mr. Barbee shall be available upon request by addressee and approval by the Supervisory Ecologist to assist in high priority work assignments to the ECMS. Any unresolved problems should be brought to my attention immediately.

Danny D Sharpe
DANNY D. SHARPE

Copy to:
Glenee Smith
Tom Barbee
Dir, NREAD

File:

UNITED STATES MARINE CORPS
NATURAL RESOURCES AND ENVIRONMENTAL AFFAIRS DIVISION
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA 28542-5001

ENVIRONMENTAL CHEMISTRY & MICROBIOLOGY SECTION

ANALYSIS DETERMINATION

Description: 55 GALLON DRUM @ MAG-26 60% FULL
CLEAR LIQUID WITH OIL ~~SCUM~~ SCUM

Initials:

WID Attached: Yes [] No [] WID Received:

Background:

Initials:

Objective:

Analysis Requirements/Detection Levels:

Obective and Analysis Determination (Signatures Required)

Decided by: Date:

Agreed/Accepted/Approved: Date:

Sampler: Sample Date:

Sample ID: 88-76 Analysis Laboratory:

Date Shippped: Delivery Date: Tech:

ANALYSIS DUE DATE:

Pending Action:

Analysis Received: Lab Report #:

Objective Completed: Yes [] No [] If NO, attached explanation.

Final Action: POURED THROUGH OIL + WATER SEPARATOR

Initials:

OPNAV 5216/144A (Rev. 8-81)
S/N 0107-LF-052-2320

DEPARTMENT OF THE NAVY
T-6245
Memorandum

DATE: 16 Oct 87

FROM: Supvy Chemist, EC and MS, Environmental Branch, NREAD

TO: MEMO TO THE RECORD

SUBJ: COMMENTS ON SEA MARKING DYE SPILL AT TC-774 ON 27 AUG 87

1. On 27 Aug 87, Tom Barbee and I responded to a spill of an unknown substance at Bldg TC-774. The only information provided was it was a red substance that turned green when added to water. It took us approximately 40 minutes from the time we received the call to arrive at the spill site.

2. When I arrived, I noted the following:

a. At the intersection of 7th and G Street, there was the Fire Dept Command Vehicle (White van).

b. An ambulance was located there (a 2nd one arrived later).

c. Engine No. 6 was located on G Street across from the Command Vehicle.

d. No MP's were there.

e. Marines were everywhere, including two LtCol's who walked right up to the spill.

f. Chief Piner was in the background.

g. I checked in with Asst Chief Bright, he relayed that they still did not know what it was and that they were trying to maintain a secure buffer area.

h. A supervisor from Roads and Grounds was at the edge of spill.

3. Shortly after I arrived, a representative from the Ground Safety Office, MCAS-New River arrived, by driving her POV right down"G" Street pass the spill. She parked her car at the corner of 7th and G. She walked up to the spill and the Fire Capt had to catch up with her. She never checked in or out at the command center.

4. After Ground Safety arrived, an industrial hygenist from PMU arrived. He parked in the parking lot and walked up to the spill in regular work clothes. He never checked in or out at the command center. He did talk to Chief Piner after the substance was identified. He also talked tome before he left to say that he wasn't telling them how to dispose of it that he had told the Chief to see me and wanted to make sure I would tell them. I told him it was already taken care of.

U.S. GOVERNMENT PRINTING OFFICE: 1985 — 505-012/18049

5. Base Safety arrived after the Industrial Hygenist. He checked in with the Command Center and then took his explosion meter over to the spill and got a reading of O lel, no explosive possibility. He stayed at the Command Center, however, he wanted to talk about a sale he had gone to recently in the area.

6. One MP finally arrived. He first checked in with the Ambulance Technicians and then the command center. Chief Bright told him what, how and when and also told him not to leave until he released him. A second MP arrived and they started to secure the area just as the substance was identified.

7. General Observations:

a. The area was never adequately secured.

b. There was no clear line of who was in charge. I figured it was one of the three Chiefs there, however, several technical advisors called in dealt with the fire captain.

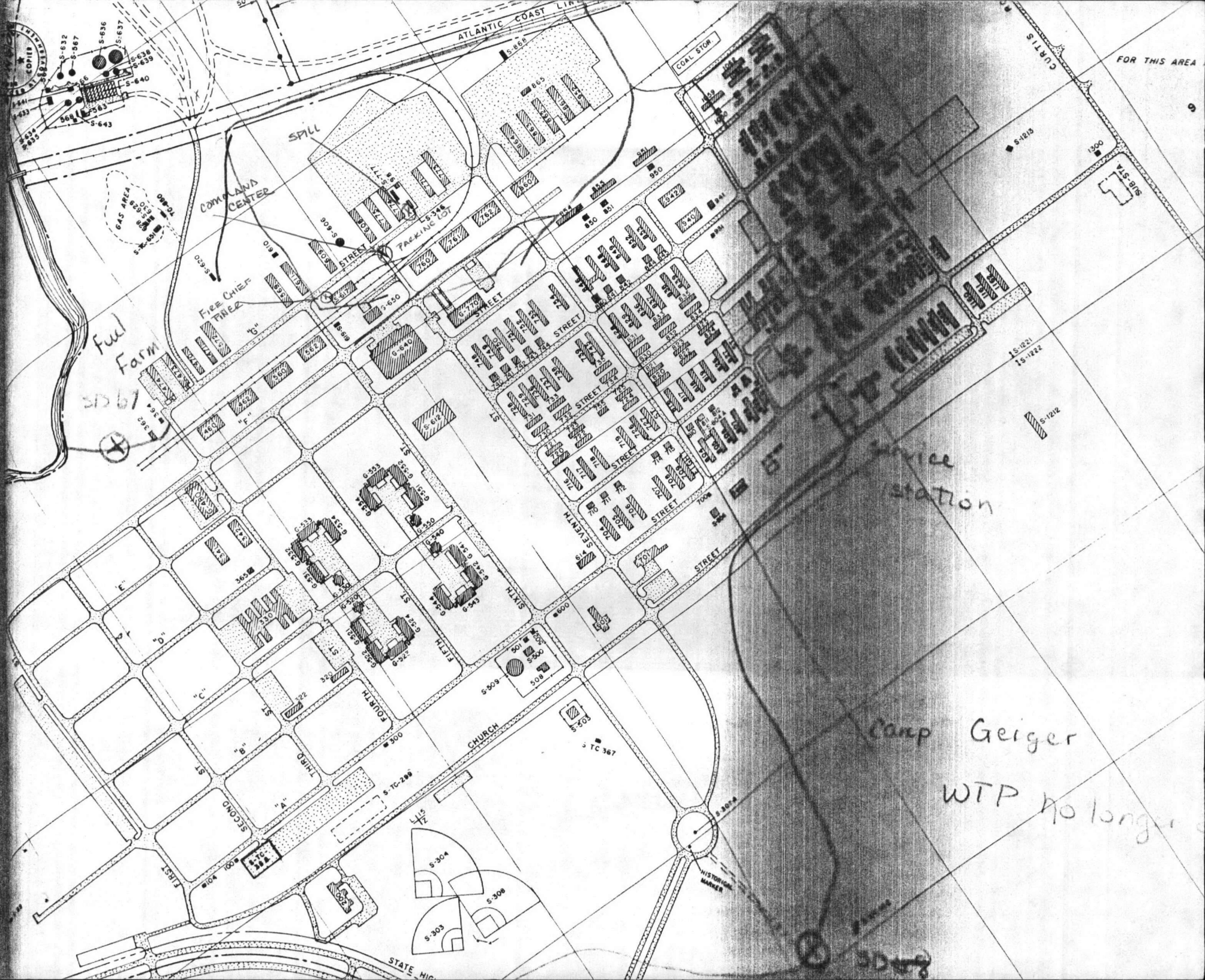
c. Not sufficient control in the Unit - who was responsible for the spill, because

(1) They never got out of the area adequately.

(2) The person who spilled it couldn't be found.

d. The ambulance drivers took their orders from the hospital not the Fire Department. When they departed, there was a question as to whether they had transported anyone.

ELIZABETH BETZ


ATLANTIC COAST LINE
COMPLAINT CENTER
SPILL
GAS AREA
COAL STOR
FOR THIS AREA
CURTIS
Fuel Farm
SD 67
Fire Chief Tree
Service station
Camp Geiger
WTP No longer
STREET
CHURCH
FIRST
SECOND
THIRD
FOURTH
FIFTH
SIXTH
SEVENTH
PACKING LOT
HISTORICAL MARKER
STATE HIGHWAY

HM15 Nov 86 #133

NSN 6850-00-270-9986 B14-E14

ITEM NAME: SEA MARKER, FLUORESCEIN DYE

UNIT OF ISSUE: PG (3.4-3.7 OZ)

① MANUFACTURER: PRESTO DYECHEM CO, INC.

COMPONENTS: SODIUM FLUORESCIEN 75%

GLAUBERS SALT 25% (SODIUM SULFATE DECAHYDRATE)

DOT SHIPPING INFO: NOT REGULATED

APPEARANCE: ORANGE POWDER

STABLE: YES

HAZARDOUS DECOMPOSITION PRODUCTS: NONE

SPECIAL FIRE FIGHTING PROCEDURES: NONE

EXTINGUISHING MEDIA: WATER

EMERGENCY ~~FIRE~~ FIRST AID PROCEDURES: NONE REQUIRED, NORMAL MEASURES OF PERSONEL HYGIENE SHOULD BE ADEQUATE

TYPE OF RESPIRATORY PROTECTION: WEAR RESPIRATOR IF EXCESSIVE DUSTING

EYE PROTECTION: SAFETY GOGGLES

SPILL + LEAK CONTROL: SWEEP UP AND PLACE IN A CONTAINER SUITABLE FOR SHIPMENT TO DISPOSAL AREA

WASTE ELIMINATION: LANDFILL RECOMMENDED

② MANUFACTURER: GENERAL TEXAS CORP (DIST), MILTON DAVIS (MFR)

COMPONENTS: SODIUM FLUORESCIEN 75%

DOT SHIPPING INFO: NOT REGULATED

APPEARANCE: RUST COLORED ~~POWDER~~

STABLE: YES

HAZARDOUS DECOMPOSITION PRODUCTS: BURNING MAY YIELD CARBON MONOXIDE

SPECIAL FIRE FIGHTING PROCEDURES: NONE

EXTINGUISHING MEDIA: WATER FOG, CO_2, DRY CHEMICAL

EMERGENCY FIRST AID PROCEDURES: IN CASE OF ACCIDENTAL EYE CONTACT FLUSH EYES WITH WATER. IF IRRITATION EXISTS OBTAIN MEDICAL ATTENTION.

TYPE OF RESPIRATORY PROTECTION: AN APPROVED DUST MASK SHOULD BE WORN IF DUSTY CONDITIONS

EYE PROTECTION: SAFETY GOGGLES

SPILL + LEAK CONTROL: SWEEP UP + DISCARD INTO PROPER WASTE CONTAINER, PROVIDE ADEQUATE VENTILATION

WASTE ELIMINATION: PUT INTO AN APPROVED CONTAINER + SHIP TO AN APPROVED DISPOSAL AREA

UNITED STATES MARINE CORPS
NATURAL RESOURCES AND ENVIRONMENTAL AFFAIRS DIVISION
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA 28542-5001

IN REPLY REFER TO
6241/2
NREAD
14 Jul 87

From: Director, Natural Resources and Environmental Affairs Division, Marine Corps Base, Camp Lejeune
To: Base Maintenance Officer, Marine Corps Base, Camp Lejeune

Subj: WASTE OIL STORAGE TANKS; ANALYSIS OF

Ref: (a) BO 6240.5

Encl: (1) JTC Environmental Consultants, Inc., Report #87-247
(2) JTC Environmental Consultants, Inc., Report #87-247 Addendum

1. On 28 May 1987, the four waste oil storage tanks at Holcomb Boulevard, two of the three tanks at Marine Corps Air Station, New River, and three of the six tanks at Tarawa Terrace, were sampled by NREAD. Sample numbers 87-49 through 87-52 are the Holcomb Boulevard tanks S-888, S-889, S-890, and S-891, respectively. Sample number 87-53 is the Marine Corps Air Station, New River tank in the middle and sample number 87-54 is the Marine Corps Air Station, New River tank closest to the crash crew. Sample numbers 87-55 through 87-57 are the tanks at Tarawa Terrace, STT-61, STT-62, and STT-63 respectively.

2. Based on data contained in enclosures (1) and (2), the contents of S-888, S-890 and STT-63 are specification used oil. The rest of the tanks, due to the levels of Total Organic Halogen (TOX), are regulated as a hazardous waste fuel by regulations outlined in the reference. The majority of the subject waste oil appears to be suitable for burning for recovery of energy based on information provided by Oldover Corporation, Aquadale, North Carolina.

3. It is recommended that the subject oil be turned in to DRMO for disposal. Point of contact is Danny Sharpe, extension 2083.

J. I. WOOTEN

Copy to:
DRMO
AC/S, FAC
EC&MS (2)

FOR ENCLOSURES ~~SEE HB TANKS~~
ATTACHED

Partial Results

JTC DATA REPORT # 87-247

LABORATORY ANALYSIS ON NAVAL SAMPLES

CONTRACT #N62470-86-C-8754

CASE # 42

PREPARED FOR:

DEPARTMENT OF THE NAVY
ATLANTIC DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA 23511-6287

PREPARED BY:

JTC ENVIRONMENTAL CONSULTANTS, INC.
4 RESEARCH PLACE, SUITE L-10
ROCKVILLE, MARYLAND 20850

JULY 6, 1987

Ann E Rosecrance

Ann E. Rosecrance
Laboratory Director

Location: Camp Lejeune Date of Receipt: 6-5-87 Turnaround: routine

Date: 7-6-87 Case No. 42 to Naval Facilities Engineering Command, Norfolk, Virginia

JTC Data Report No. 87-247 Table 1

Oil Phase

NAVY SAMPLE ID	JTC SAMPLE ID	ANALYSIS PARAMETER							
		Water %	BS+W %	Viscosity @100°F, SUS	BTU per lb.	TOX %	Flashpoint °C	Sp. Gravity[a] g/ml	Sp. Gravity[b] g/ml
87-49	61-0305	19.5	19.5	93.6	15,550	<0.05	N.O. boiled at 70°	0.73	0.92
87-50	61-0306	13.5	20.0	100.8	16,500	0.20	N.O. boiled at 50°	0.77 *	—
87-51	61-0307	17.6	24.0	103.8	15,500	<0.05	N.O. boiled at 45°	0.72	0.96
87-52	61-0308	0.76	0.80	53.0	19,300	0.12	35	0.73	0.88
87-53	61-0309	8.4	13.5	100.8	17,500	0.16	40	0.73	0.93
87-54	61-0310	8.1	13.0	56.1	17,500	0.25	35	0.75	0.88
87-55	61-0311	18.4	23.0	97.0	15,000	0.13	N.O. boiled at 45°	0.76	0.98
87-56	61-0312	12.0	17.5	104.6	16,650	0.22	40	0.73	0.89
87-57	61-0313	19.6	22.0	120.2	15,100	<0.05	N.O. boiled at 45°	0.76	0.98

N.O. = not observed

a = top layer b = bottom layer

* sample consisted of only one oil layer

JTC Environmental Consultants, Inc.

Location: Camp Lejeune Date of Receipt: 6-5-87 Turnaround: routine

Date: 7-6-87 Case No. 42 to Naval Facilities Engineering Command, Norfolk, Virginia

JTC Data Report No. 87-247 Table 2

Oil Phase

NAVY SAMPLE ID	JTC SAMPLE ID	ANALYSIS PARAMETER							
		PCB ug/g	As mg/kg	Cd mg/kg	Cr mg/kg	Pb mg/kg			
87-49	61-0305	<5	NA	NA	NA	NA			
87-50	61-0306	<5	<5	<1	<0.75	30			
87-51	61-0307	<5	<5	1.1	2.2	59			
87-52	61-0308	<5	<5	<1	1.6	23			
87-53	61-0309	<5	<5	<1	1.6	35			
87-54	61-0310	<10	<5	<1	2.6	26			
87-55	61-0311	<5	<5	<1	1.3	26			
87-56	61-0312	<5	<5	<1	<0.75	8.2			
87-57	61-0313	<5	<5	<1	<0.75	28			

NA- not available, results will be reported in a report addendum

JTC Environmental Consultants, Inc.

Location: Camp Lejeune Date of Receipt: 6-5-87 Turnaround: routine

Date: 7-6-87 Case No. 42 to Naval Facilities Engineering Command, Norfolk, Virginia

JTC Data Report No. 87-247 Table 3

Water Phase Composite

NAVY SAMPLE ID	JTC SAMPLE ID	ANALYSIS PARAMETER							
		TOX ug/L	Phenols mg/L	VOA	As ug/L	Cd ug/L	Cr ug/L	Pb ug/L	
87-49/ 87-57 composite	61-0305/ 61-0313	814	6.8	See attached sheet	498	<20	72	155	

J T C Environmental Consultants, Inc.

PRIORITY POLLUTANT ANALYSIS DATA SHEET

VOLATILE FRACTION

JTC SAMPLE # 61-0305/0313 Composite PROJECT NO. NF-61 #42

CLIENT SAMPLE # 87-49 → 87-57 Composite DATE RECEIVED 6/5/87

METHOD NO. 624 DETECTION LIMIT 500 ug/L

PARAMETER	RESULT ug/L	PARAMETER	RESULT ug/L
acrolein	ND	1,2-dichloropropane	ND
acrylonitrile	ND	1,3-dichloropropylene	ND
benzene	540 ~~ND~~	ethylbenzene	110* ~~ND~~
carbon tetrachloride	ND	methylene chloride	ND
chlorobenzene	ND	methyl chloride	ND
1,2-dichloroethane	ND	methyl bromide	ND
1,1,1-trichloroethane	230* ~~ND~~	bromoform	ND
1,1-dichloroethane	ND	dichlorobromomethane	ND
1,1,2-trichloroethane	ND	trichlorofluoromethane	ND
1,1,2,2-tetrachloroethane	ND	dichlorodifluoromethane	ND
chloroethane	ND	chlorodibromomethane	ND
2-chloroethylvinylether	ND	tetrachloroethylene	ND
chloroform	ND	toluene	990 ~~ND~~
1,1-dichloroethylene	ND	trichloroethylene	ND
1,2-trans-dichloroethylene	ND	vinyl chloride	ND
		xylenes	620 ~~ND~~

Acetone 70,000

MEK (2-Butanone) 13,000

MIBK (4-methyl-2-pentanone) 1200

1,1,2-Trichlorotrifluoroethane (freon) present, concentration not availabl

ND = NOT DETECTED

* = BELOW DETECTION LIMIT

20 JUL 1987

Addendum

JTC DATA REPORT # 87-247

LABORATORY ANALYSIS ON NAVAL SAMPLES

CONTRACT #N62470-86-C-8754

CASE # 42

PREPARED FOR:

DEPARTMENT OF THE NAVY
ATLANTIC DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA 23511-6287

PREPARED BY:

JTC ENVIRONMENTAL CONSULTANTS, INC.
4 RESEARCH PLACE, SUITE L-10
ROCKVILLE, MARYLAND 20850

JULY 8, 1987

Ann E Rosecrance

Ann E. Rosecrance
Laboratory Director

Location: Camp Lejeune Date of Receipt: 6-5-87 Turnaround: routine

Date: 7-8-87 Case No. 42 Add to Naval Facilities Engineering Command, Norfolk, Virginia

JTC Data Report No. 87-247 Table 1

NAVY SAMPLE ID	JTC SAMPLE ID	ANALYSIS PARAMETER							
		As mg/kg	Cd mg/kg	Cr mg/kg	Pb mg/kg				
87-49	61-0305	<5	2.0	1.7	75				

Addendum B

JTC DATA REPORT # 87-441

LABORATORY ANALYSIS ON NAVAL SAMPLES

CONTRACT #N62470-86-C-8754

CASE # 136

COmplete

PREPARED FOR:

DEPARTMENT OF THE NAVY
ATLANTIC DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA 23511-6287

PREPARED BY:

JTC ENVIRONMENTAL CONSULTANTS, INC.
4 RESEARCH PLACE, SUITE L-10
ROCKVILLE, MARYLAND 20850

OCTOBER 29, 1987

Ann E Rosecrance

Ann E. Rosecrance
Laboratory Director

JTC Environmental Consultants, Inc.

Location: Camp Lejeune Date of Receipt: 9-21-87 Turnaround: routine

Date: 10-29-87 Case No. 136 Add. B to Naval Facilities Engineering Command, Norfolk, Virginia

JTC Data Report No. 87-441 Table 1 of 1

NAVY SAMPLE ID	JTC SAMPLE ID	ANALYSIS PARAMETER							
		Cr mg/kg							
87-81 ST-64	61-0979	<1.5							
87-82 ST-65	61-0980	2.3							
87-83 ST-66	61-0981	<1.5							

Note: Analysis run on top layer of sample

Betsy,
Please file.
Thanks Tom

JTC DATA REPO

LABORATORY ANALYSIS ON NAVAL SAMPLES

CONTRACT #N62470-86-C-8754

CASE # 42 Addendum A

PREPARED FOR:

DEPARTMENT OF THE NAVY
ATLANTIC DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA 23511-6287

PREPARED BY:

JTC ENVIRONMENTAL CONSULTANTS, INC.
4 RESEARCH PLACE, SUITE L-10
ROCKVILLE, MARYLAND 20850

August 17, 1987

Ann E Rosecrance

Ann E. Rosecrance
Laboratory Director

JTC DATA REPORT # 87-247

LABORATORY ANALYSIS ON NAVAL SAMPLES

CONTRACT #N62470-86-C-8754

CASE # 42 Addendum A

PREPARED FOR:

DEPARTMENT OF THE NAVY
ATLANTIC DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA 23511-6287

PREPARED BY:

JTC ENVIRONMENTAL CONSULTANTS, INC.
4 RESEARCH PLACE, SUITE L-10
ROCKVILLE, MARYLAND 20850

August 17, 1987

Ann E Rosecrance

Ann E. Rosecrance
Laboratory Director

JTC Environmental Consultants, Inc.

Location: Camp Lejeune Date of Receipt: 6-5-87 Turnaround: Add-on

Date: 8/17/87 Case No. 42 Add. A to Naval Facilities Engineering Command, Norfolk, Virginia

JTC Data Report No. 87-247 Table 1

This Column entered by E.A. Betz, NREAD, from Report No. 87-247

NAVY - SAMPLE ID	JTC SAMPLE ID	ANALYSIS PARAMETER							
		Phenols mg/L	Freon * mg/L	VOA	Tox % / ppm				
87-50	61-0306	67	2400	see attached sheet	0.20 / 2000				
87-52	61-0308	33	830	"	0.12 / 1200				
MCAS TANK 87-53	61-0309	17	2800	"	0.16 / 1600				
MCAS TANK 87-54	61-0310	70	2800	"	0.25 / 2500				
87-55	61-0311	48	2000	"	0.13 / 1300				
87-56	61-0312	45	730	"	0.22 / 2200				

* 1,1,2-trichloro-1,2,2-trifluoroethane

J T C Environmental Consultants, Inc.

PRIORITY POLLUTANT ANALYSIS DATA SHEET

VOLATILE FRACTION

JTC SAMPLE # 61-0306 PROJECT NO. NF-61 #42

CLIENT SAMPLE # 87-50 DATE RECEIVED 6/5/87

METHOD NO. 624 DETECTION LIMIT 250 mg/L

PARAMETER	RESULT mg/L	PARAMETER	RESULT mg/L
acrolein	ND	1,2-dichloropropane	ND
acrylonitrile	ND	1,3-dichloropropylene	ND
benzene	30 * ~~ND~~	ethylbenzene	120 * ~~ND~~
carbon tetrachloride	ND	methylene chloride	ND
chlorobenzene	ND	methyl chloride	ND
1,2-dichloroethane	ND	methyl bromide	ND
1,1,1-trichloroethane	170 ~~ND~~	bromoform	ND
1,1-dichloroethane	ND	dichlorobromomethane	ND
1,1,2-trichloroethane	ND	trichlorofluoromethane	ND
1,1,2,2-tetrachloroethane	ND	dichlorodifluoromethane	ND
chloroethane	ND	chlorodibromomethane	ND
2-chloroethylvinylether	ND	tetrachloroethylene	ND
chloroform	ND	toluene 330	~~ND~~
1,1-dichloroethylene	ND	trichloroethylene	ND
1,2-trans-dichloroethylene	ND	vinyl chloride	ND
		xylenes	570 ~~ND~~
		MEK	ND

ND = NOT DETECTED

* = BELOW DETECTION LIMIT

J T C Environmental Consultants, Inc.

PRIORITY POLLUTANT ANALYSIS DATA SHEET

VOLATILE FRACTION

JTC SAMPLE # 61-0308 PROJECT NO. NF-61 #42

CLIENT SAMPLE # 87-52 DATE RECEIVED 6/5/87

METHOD NO. 624 DETECTION LIMIT 250 mg/L

PARAMETER	RESULT mg/L
acrolein	ND
acrylonitrile	ND
benzene	40 ~~ND~~
carbon tetrachloride	ND
chlorobenzene	ND
1,2-dichloroethane	ND
1,1,1-trichloroethane	50 ~~ND~~
1,1-dichloroethane	ND
1,1,2-trichloroethane	ND
1,1,2,2-tetrachloroethane	ND
chloroethane	ND
2-chloroethylvinylether	ND
chloroform	130 ~~ND~~
1,1-dichloroethylene	ND
1,2-trans-dichloroethylene	ND

PARAMETER	RESULT mg/L
1,2-dichloropropane	ND
1,3-dichloropropylene	ND
ethylbenzene	140 ~~ND~~
methylene chloride	ND
methyl chloride	ND
methyl bromide	ND
bromoform	ND
dichlorobromomethane	ND
trichlorofluoromethane	ND
dichlorodifluoromethane	ND
chlorodibromomethane	ND
tetrachloroethylene	ND
toluene	320 ~~ND~~
trichloroethylene	ND
vinyl chloride	ND
xylenes	740 ~~ND~~
MEK	ND

ND = NOT DETECTED

* = BELOW DETECTION LIMIT

J T C Environmental Consultants, Inc.

PRIORITY POLLUTANT ANALYSIS DATA SHEET

VOLATILE FRACTION

JTC SAMPLE # 61-0309 PROJECT NO. NF-61 #42

CLIENT SAMPLE # 87-53 DATE RECEIVED 6/5/87

METHOD NO. 624 DETECTION LIMIT 250 mg/L

PARAMETER	RESULT mg/L	PARAMETER	RESULT mg/L
acrolein	ND	1,2-dichloropropane	ND
acrylonitrile	ND	1,3-dichloropropylene	ND
benzene	30 X ~~ND~~	ethylbenzene	140 X ~~ND~~
carbon tetrachloride	ND	methylene chloride	ND
chlorobenzene	ND	methyl chloride	ND
1,2-dichloroethane	ND	methyl bromide	ND
1,1,1-trichloroethane	50X ~~ND~~	bromoform	ND
1,1-dichloroethane	ND	dichlorobromomethane	ND
1,1,2-trichloroethane	ND	trichlorofluoromethane	ND
1,1,2,2-tetrachloroethane	ND	dichlorodifluoromethane	ND
chloroethane	ND	chlorodibromomethane	ND
2-chloroethylvinylether	ND	tetrachloroethylene	ND
chloroform	ND	toluene	320 ~~ND~~
1,1-dichloroethylene	ND	trichloroethylene	ND
1,2-trans-dichloroethylene	ND	vinyl chloride	ND
		xylenes	730 ~~ND~~
		MEK	ND

ND = NOT DETECTED

* = BELOW DETECTION LIMIT

J T C Environmental Consultants, Inc.

PRIORITY POLLUTANT ANALYSIS DATA SHEET

VOLATILE FRACTION

JTC SAMPLE # 61-0310 PROJECT NO. NF-61 #42

CLIENT SAMPLE # 87-54 DATE RECEIVED 6/5/87

METHOD NO. 624 DETECTION LIMIT 250 mg/L

PARAMETER	RESULT mg/L
acrolein	ND
acrylonitrile	ND
benzene 200*	~~ND~~
carbon tetrachloride	ND
chlorobenzene	ND
1,2-dichloroethane	ND
1,1,1-trichloroethane	ND
1,1-dichloroethane	ND
1,1,2-trichloroethane	ND
1,1,2,2-tetrachloroethane	ND
chloroethane	ND
2-chloroethylvinylether	ND
chloroform	ND
1,1-dichloroethylene	ND
1,2-trans-dichloroethylene	ND
2-HEXANONE (methyl n-butyl ketone)	1500

PARAMETER	RESULT mg/L
1,2-dichloropropane	ND
1,3-dichloropropylene	ND
ethylbenzene 360	~~ND~~
methylene chloride	ND
methyl chloride	ND
methyl bromide	ND
bromoform	ND
dichlorobromomethane	ND
trichlorofluoromethane 830	~~ND~~
dichlorodifluoromethane	ND
chlorodibromomethane	ND
tetrachloroethylene	ND
toluene 1500	~~ND~~
trichloroethylene	ND
vinyl chloride	ND
xylenes 1700	~~ND~~
MEK	ND

ND = NOT DETECTED

* = BELOW DETECTION LIMIT

J T C Environmental Consultants, Inc.

PRIORITY POLLUTANT ANALYSIS DATA SHEET

VOLATILE FRACTION

JTC SAMPLE # 61-0311 PROJECT NO. NF-61 #42

CLIENT SAMPLE # 87-55 DATE RECEIVED 6/5/87

METHOD NO. 624 DETECTION LIMIT 250 mg/L

PARAMETER	RESULT mg/L	PARAMETER	RESULT mg/L
acrolein	ND	1,2-dichloropropane	ND
acrylonitrile	ND	1,3-dichloropropylene	ND
benzene	50* ~~ND~~	ethylbenzene	140 * ~~ND~~
carbon tetrachloride	ND	methylene chloride	ND
chlorobenzene	ND	methyl chloride	ND
1,2-dichloroethane	ND	methyl bromide	ND
1,1,1-trichloroethane	30* ~~ND~~	bromoform	ND
1,1-dichloroethane	ND	dichlorobromomethane	ND
1,1,2-trichloroethane	ND	trichlorofluoromethane	ND
1,1,2,2-tetrachloroethane	ND	dichlorodifluoromethane	ND
chloroethane	ND	chlorodibromomethane	ND
2-chloroethylvinylether	ND	tetrachloroethylene	ND
chloroform	ND	toluene 290	~~ND~~
1,1-dichloroethylene	ND	trichloroethylene	ND
1,2-trans-dichloroethylene	ND	vinyl chloride	ND
		xylenes 700	~~ND~~
		MEK	ND

ND = NOT DETECTED

* = BELOW DETECTION LIMIT

J T C Environmental Consultants, Inc.

PRIORITY POLLUTANT ANALYSIS DATA SHEET

VOLATILE FRACTION

JTC SAMPLE # 61-0312 PROJECT NO. NE-61 #2

CLIENT SAMPLE # 87-56 DATE RECEIVED 6/5/87

METHOD NO. 624 DETECTION LIMIT 250 mg/L

PARAMETER	RESULT mg/L	PARAMETER	RESULT mg/L
acrolein	ND	1,2-dichloropropane	ND
acrylonitrile	ND	1,3-dichloropropylene	ND
benzene	20 * ~~ND~~	ethylbenzene	90 * ~~ND~~
carbon tetrachloride	ND	methylene chloride	ND
chlorobenzene	ND	methyl chloride	ND
1,2-dichloroethane	ND	methyl bromide	ND
1,1,1-trichloroethane	80 * ~~ND~~	bromoform	ND
1,1-dichloroethane	ND	dichlorobromomethane	ND
1,1,2-trichloroethane	ND	trichlorofluoromethane	ND
1,1,2,2-tetrachloroethane	ND	dichlorodifluoromethane	ND
chloroethane	ND	chlorodibromomethane	ND
2-chloroethylvinylether	ND	tetrachloroethylene	ND
chloroform	ND	toluene	210 * ~~ND~~
1,1-dichloroethylene	ND	trichloroethylene	ND
1,2-trans-dichloroethylene	ND	vinyl chloride	ND
		xylenes	430 ~~ND~~
		MEK	ND

ND = NOT DETECTED

* = BELOW DETECTION LIMIT

Work Assignment 004

22 Dec 87

TO: Supervisory Chemist

subject: Lt. Byrnes, ZDFSS6, G-4
Inquiry about disposal of Asbestos
From brake lining work

Please review attached and
determine if there is any reason
waste can't be disposed of
at base Sanitary Landfill.
Discuss with Base Safety
relative to disposal procedures.

Let's discuss prior to
commencing action

Sharpe

Work Practice Guidelines For Light Vehicle Asbestos Brake Work

1. Allow only authorized personnel in the work area.

2. Isolate the asbestos brake work area.

   Examples: a. Rope off the area to be used prior to commencing work.
   b. Use of a dedicated work space, with minimum traffic flow, for asbestos brake work.

3. Provide for the collection of residual asbestos waste and dust.

   Examples: a. Use of a high-efficiency particulate air (HEPA) filter vacuum source with a brake enclosure system or chamber.
   b. Use of a recirculating wet method solvent system to wash brake dust into a tray (The solvent is changed periodically as part of the service).
   c. Position disposable drop cloth(s) under the wheel assembly prior to removing the drum and/or disturbing the brake dust.

4. Minimize the release of brake dust.

   Examples: a. Use of a HEPA filtered vacuum fitted with a brake enclosure system or chamber.
   b. Use of a low pressure wet method to first dampen and then wash off any loose brake dust (See Note A).

5. Proper waste disposal (See Note B).

   Examples: a. All asbestos and asbestos contaminated waste shall be collected and disposed of in sealed, labeled, 6 mil plastic bags or other closed, labeled, impermeable containers.
   b. HEPA-filtered vacuuming equipment shall be emptied in a manner to minimize the re-entry of asbestos into the work-place.

2Dec87
Danny -
Any problem w/ the wetting agent & disposal @ asbesto landfill?

Enclosure ( )

Work Practice Guidelines For Light Vehicle Asbestos Brake Work

1. Allow only authorized personnel in the work area.

2. Isolate the asbestos brake work area.

   Examples: a. Rope off the area to be used prior to commencing work.
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   b. HEPA-filtered vacuuming equipment shall be emptied in a manner to minimize the re-entry of asbestos into the work-place.

Enclosure ( )

NOTES:

A. If liquid spray bottles or solvent sprays are used care must be exercised to:

1. Keep the spray at a very low pressure to avoid scattering the asbestos dust.
2. Keep the brake assembly as damp as possible throughout the work period to ensure that any brake dust is wet and remains wet until final disposal.
3. Use a wetting agent to minimize asbestos fiber release from the brake dust (e.g., EPA recommends a mixture of 50% polyoxyethylene ester at a concentration of one ounce per 5 gallons of water).

B. Asbestos contaminated waste water cannot be disposed of into a storm sewer or waterway unless:

1. the waste water is treated prior to disposal; and
2. a NPDES Permit is obtained from the North Carolina Water Quality Permits and Engineering Section - (919) 733-5083.

Contaminated waste water may be disposed of by using sanitary sewers provided the local waste water treatment facility is notified and agrees to this disposal method.

WORK PRACTICE CONTROLS
(GENERAL)

.Warning signs should include:

DANGER ASBESTOS
CANCER AND LUNG DISEASE HAZARD
AUTHORIZED PERSONNEL ONLY

.Warning labels should include:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

.Ensure only personnel with a job related need are allowed in the shop area.

.Ensure employees who work with or handle asbestos, or asbestos contaminated material, wash their hands and face prior to eating, drinking or smoking.

.Ensure employees do not eat, drink, chew tobacco or gum, or apply cosmetics around brake or clutch work, or around asbestos containing waste storage areas.

.Restrict the use of man cooling fans in areas where asbestos fibers may be released (e.g., brake and clutch work areas). If such fans are needed, ensure they are positioned so as to minimize the possibility of stirring up asbestos containing dust.

.Train all mechanics as to the hazards of asbestos as well as other related portions of the asbestos standard [29 CFR 1910.1001(j)(5)].

.Provide one area (outside if possible) where old brake shoes are temporarily stored until pickup. Post this area with warning signs as noted above.

.Contact the local landfill as to proper procedures for asbestos waste disposal.

OPNAV 5216/144A (Rev. 8-81)
S/N 0107-LF-052-2320

DEPARTMENT OF THE NAVY
Memorandum

DATE: 31 December, 1987

FROM: John Riggs

TO: Danny Sharpe

SUBJ: polyoxyethylene ester

1. Polyoxyethylene ester or also called polyethylene glycol ester per the condensed chemical dictionary, is a clear, colorless, oderless, viscous liquid to waxy solids, solubile with water and for the most part with alcohol and other organic solvents; heat stable; inert to many chemical agents; while combustible it is non-toxic.

2. In summary after discussion with the supervisory chemist this material, due to its composition, in conjunction with the dilution rate ie: 50% polyoxyethylene ester at a concentration of one ounce per 5 gallons of water does not in itself present a problem in regards to HM/HW. However, when contaminated with the asbestos dust and particles it becomes necessary to control and properly dispose of drop cloths, cloth wipes or other cloth materials which come into contact with this contaminated wetting agent. These materials should be collected, bagged, labeled and disposed of as per existing guidelines.

2/10/87

Danny-
This is what OSHA Consultative Services sent me. Pls review. I'll be back in touch
LT Byrnes

Work Practice Guidelines For Light Vehicle Asbestos Brake Work

1. Allow only authorized personnel in the work area.

2. Isolate the asbestos brake work area.

   Examples:
   a. Rope off the area to be used prior to commencing work.
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   Examples:
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   Examples:
   a. Use of a HEPA filtered vacuum fitted with a brake enclosure system or chamber.
   b. Use of a low pressure wet method to first dampen and then wash off any loose brake dust (See Note A).

5. Proper waste disposal (See Note B).

   Examples:
   a. All asbestos and asbestos contaminated waste shall be collected and disposed of in sealed, labeled, 6 mil plastic bags or other closed, labeled, impermeable containers.
   b. HEPA-filtered vacuuming equipment shall be emptied in a manner to minimize the re-entry of asbestos into the work-place.

Enclosure ( )

Work Practice Guidelines
For Light Vehicle Asbestos Brake
Work

1. Allow only authorized personnel in the work area.

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   Examples:
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   Examples:
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   b. Use of a low pressure wet method to first dampen and then wash off any loose brake dust (See Note A).

5. Proper waste disposal (See Note B).

   Examples:
   a. All asbestos and asbestos contaminated waste shall be collected and disposed of in sealed, labeled, 6 mil plastic bags or other closed, labeled, impermeable containers.
   b. HEPA-filtered vacuuming equipment shall be emptied in a manner to minimize the re-entry of asbestos into the work-place.

Enclosure ( )

NOTES:

A. If liquid spray bottles or solvent sprays are used care must be exercised to:

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AUTHORIZED PERSONNEL ONLY

.Warning labels should include:

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CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
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.Restrict the use of man cooling fans in areas where asbestos fibers may be released (e.g., brake and clutch work areas). If such fans are needed, ensure they are positioned so as to minimize the possibility of stirring up asbestos containing dust.

.Train all mechanics as to the hazards of asbestos as well as other related portions of the asbestos standard [29 CFR 1910.1001(j)(5)].

.Provide one area (outside if possible) where old brake shoes are temporarily stored until pickup. Post this area with warning signs as noted above.

.Contact the local landfill as to proper procedures for asbestos waste disposal.

Work Assignment 006

29 Dec 87

TO: Supervisory Chemist

Subject: CONAU HOSP L+R
6260 3h/371/88-055-3A of
10 NOV 87

Please contact BASTOB regarding the attached Subject letter and make a determination if we "Approve" Mikro-Quat. Then draft a letter to CONAU Hospital which addresses both that we had not "Approved" and our actual position NLT 1 MAR 88.

Sharpe

Julian,

I call Bastok, PMC, regarding paragraph 26. He said that he based this one what he was told by WO1 Jarousse, at food Services. We have "not approved" the use of the chemical.

D Shayl

7 Dec

Dan,

I think we should send Commander Dunlop a memo stating NKEAD did not approve the product.

Julian

Julian,

I call Bastok, PMC, regarding paragraph 26. He said that he based this one what he was told by WO1 Jaroudo, at food Services. We have "not approved" the use of the chemical.

D Shayl

Glenee ok
TOm This - I have not reviewed. Thx
Betz SB - I DIDN'T REVIEW IT
SAM SdZ - I AM NOT [redacted] FAMILIAR WITH THIS CHEMICAL.
Please advise if you have reviewed this Chemical. See 2b below
Sharpe

1707 COPIER

8542-5008

IN REPLY REFER TO
6250.3H
371/88-055-3H,
10 Nov 87

Base, Camp Lejeune, ND
t)

GE OF PROPOSED NEW
SERVICE DIVISION

and PMD) and
WO1 Jarousse (Food Service Division) of 4 Nov 87
(b) Material Safety Data Sheet For Mikro-Quat dtd 18 Jun 87
(c) DOD 4145.19-R-1 Storage and Materials Handling
(d) ANSI Standard Z358.1-1981
(e) 29 CFR 1910.1200

1. Introduction. In response to reference (a), an Industrial Hygiene Survey was conducted at the Food Service Division, Bldgs 1116 and 1209 on 4 November 1987. The purpose of the survey was to evaluate the proposed use of the new product Mikro-Quat from Ecolab Inc. in the Food Service Division. During the survey, reference (b) and other written documentation was reviewed. Mr. Robert E. Bastob (Industrial Hygienist) of the Industrial Hygiene Branch, Occupational Health and Preventive Medicine Department performed the survey.

2. Findings. Based on the survey, the following points were determined:

a. The Mikro-Quat will be used in 15 gallon drums and is a strong corrosive base.

b. The proposed usage of the Mikro-Quat has been reviewed by Natural Resources and the usage of the product has been approved.

c. The product will automatically be dispensed into all Somart Pulpers/Garbage Disposals to assist in keeping the units clean.

3. Comments/Recommendations. Based on the above the following comments/recommendations are offered:

a. When working with or using the Mikro-Quat, personnel should wear chemical goggles, impervious industrial type gloves, and an impervious industrial type apron to keep the corrosive product off their skin and clothing and out of their eyes. Contact Base Safety for guidance in this matter.

DEPARTMENT OF THE NAVY
NAVAL HOSPITAL
CAMP LEJEUNE, NORTH CAROLINA 28542-5008

IN REPLY REFER TO
6250.3h
371/88-055-3h,
10 Nov 87

From: Commanding Officer
To: Commanding General, Marine Corps Base, Camp Lejeune, ND
(Attn: AC/S Logistics Department)

Subj: INDUSTRIAL HYGIENE SURVEY OF USAGE OF PROPOSED NEW PRODUCT (MIKRO-QUAT) AT THE FOOD SERVICE DIVISION

Ref: (a) Phoncon btwn Mr. Bastob (OH and PMD) and WO1 Jarousse (Food Service Division) of 4 Nov 87
(b) Material Safety Data Sheet For Mikro-Quat dtd 18 Jun 87
(c) DOD 4145.19-R-1 Storage and Materials Handling
(d) ANSI Standard Z358.1-1981
(e) 29 CFR 1910.1200

1. Introduction. In response to reference (a), an Industrial Hygiene Survey was conducted at the Food Service Division, Bldgs 1116 and 1209 on 4 November 1987. The purpose of the survey was to evaluate the proposed use of the new product Mikro-Quat from Ecolab Inc. in the Food Service Division. During the survey, reference (b) and other written documentation was reviewed. Mr. Robert E. Bastob (Industrial Hygienist) of the Industrial Hygiene Branch, Occupational Health and Preventive Medicine Department performed the survey.

2. Findings. Based on the survey, the following points were determined:

a. The Mikro-Quat will be used in 15 gallon drums and is a strong corrosive base.

b. The proposed usage of the Mikro-Quat has been reviewed by Natural Resources and the usage of the product has been approved.

c. The product will automatically be dispensed into all Somart Pulpers/Garbage Disposals to assist in keeping the units clean.

3. Comments/Recommendations. Based on the above the following comments/recommendations are offered:

a. When working with or using the Mikro-Quat, personnel should wear chemical goggles, impervious industrial type gloves, and an impervious industrial type apron to keep the corrosive product off their skin and clothing and out of their eyes. Contact Base Safety for guidance in this matter.

b. Base Safety needs to review proposed use of this product to make sure all safety, hazardous spill, etc. requirements are met.

c. Per reference (b), do not store product with food products. Avoid any other possible contamination of food or food products. Also, the Mikro-Quat should be stored in accordance with reference (c).

d. Personnel should not wear contact lenses when working or using this or any other chemical product.

e. Do not use or mix the Mikro-Quat with anything but water per reference (b).

f. Remind personnel to use product only on non-food contact surfaces.

g. Ensure that a Hazardous Material Corrosive Label and any other appropriate warning labels are on the Mikro-Quat containers.

h. Emergency eyewashes and showers shall be available and be operated in accordance with reference (d). Contact Base Safety for additional guidance in this matter.

i. All supervisors and workers shall be properly trained concerning the usage of the Mikro-Quat per references (e).

j. Preventive Medicine Division, Occupational Health and Preventive Medicine Department, will also review the usage of the product for potential problems in food service areas.

k. It is recommended that usage of the Mikro-Quat product be approved if all of the above recommendations are followed.

4. Any questions concerning this report should be directed to Mr. Bastob at extension 2707.

R S Ellis

for M. P. GENTRY
By direction

Copy to:
Base Safety
Natural Resources
LT Rockford
WO1 Jarousse

BETZ: Please use
with your existing assignment
D Faust

Microquat

Alkyl Ldimethy benzyl

BASE FOOD SERVICE DIVISION
Assistant Chief of Staff, Logistics
Marine Corps Base
Camp Lejeune, North Carolina 28542-5000

BFSMemo 186-87
FOOD
16 Dec 87

BASE FOOD SERVICE MEMORANDUM 186-87

From: Base Food Service Officer
To: Distribution List

Subj: MICRO-QUAT GERMICIDE, PROPER HANDLING OF

Encl: (1) PMU Survey of Micro-Quat dtd 10 Nov 87

1. To effectively eliminate any germs or bacteria on or in the Somat or Hobart pulpers, micro-quat germicide is being procured for use in the messhalls. Due to the chemicals and suggested operating procedures, the following is a list of points that must be followed.

a. All spills must be cleaned up by the Base Fire Department. (Call extension 5965.)

b. When changing empty 15-gallon containers of micro-quat in checking supply lines, workers must wear goggles, rubber gloves, and plastic aprons.

c. Personnel wearing contact lenses should not change containers on check supply lines.

d. Read and understand all recommandations made by the PMU officer. (Enclosure (1))

e. Instruct all personnel who will handle the product.

2. Micro-quat will come in a 15-gal container and be dispensed by an Economics Laboratories dispenser, just as in a scullery. One container will last approximately two months.

3. When the initial installation is set up, the Economic Laboratories representative will provide each messhall with a demonstration and user class. The anticipated start-up will be late December.

4. Further assistance/information can be obtained by calling WO JAROUSSE/Sgt FOGARTY, extension 5246/2851.

R. V. PEREIRA

DISTRIBUTION:
FSO, 2dMarDiv
FSO, 2dFSSG
BaseFoodServOpsO
BaseFoodTech
MessManagers
FSScolCo
FoodTech, II MAF
CivContractor
PMU Officer

930818 *MATERIAL SAFETY DATA SHEET* Page 1 of 2

MEDICAL EMERGENCY ONLY, 24 HOUR SERVICE: 1-800-328-0026

Ecolab Inc.
St. Paul MN 55102

Product Information: 1-612-293-2233
Date of Issue: June 18, 1987

1.0 IDENTIFICATION /

1.1 Product Name: MIKRO-QUAT
1.2 Product Type: Quaternary Detergent Disinfectant

2.0 HAZARDOUS COMPONENTS /

		%	TWA (mg/m3) PEL	Other
2.1 Alkyldimethylbenzyl ammonium chlorides	CAS 68424-85-1	9.4	None	UNK
2.2 Ethanolamine (MEA)	141-43-5	2	6	UNK

This product contains no other component considered hazardous according to the criteria of 29 CFR 1910.1200.

3.0 PHYSICAL DATA /

3.1 Appearance and Odor: Dark red liquid.
3.2 Solubility in Water: Complete
3.3 pH: 100% = 11.2-11.9, 1% = 10.1-10.6
3.4 Boiling Point: >212 deg F Specific Gravity: 1.005-1.015

4.0 FIRE AND EXPLOSION DATA /

4.1 Special Fire Hazards: None
4.2 Fire Fighting Methods: Product does not support combustion.

5.0 REACTIVITY DATA /

5.1 Stability: Stable under normal conditions of handling.
5.2 Conditions to Avoid: Do not mix with anything but water.

6.0 SPILL OR LEAK PROCEDURES / USE PROPER PROTECTIVE EQUIPMENT

6.1 Cleanup: Dike or dam large spills. Pump to containers or soak up on inert absorbent. Flush residue to sewer with plenty of water.
6.2 Waste Disposal: Consult state and local authorities for restrictions on disposal of chemical waste. Rinse empty container thoroughly with water before discarding.

UNK = Unknown at this time PEL = Permissible Exposure Limit
TWA = Time Weighted Average STEL = Short Term Exposure Level
C = Ceiling Limit, Not To Be Exceeded

7.0 HEALTH HAZARD DATA / DANGER

7.1 Effects of Overexposure:
EYES: Causes eye damage.
SKIN: Causes irritation.
IF SWALLOWED: Harmful: Causes irritation, stomach distress.
IF INHALED: Causes irritation of lungs and airways.

8.0 FIRST AID /

EYES: Immediately flush with plenty of cool running water. Rem
contact lenses. Continue flushing for at least 15 minutes, hold
eyelids apart to ensure rinsing the entire eye. Call a physicia
SKIN: Immediately flush skin with plenty of cool running water
at least 15 minutes while removing contaminated clothing and sho
Wash clothing before reuse.
IF SWALLOWED: Rinse mouth; then drink promptly 1-2 glasses of
milk, egg white or gelatin solution. If these are not available
drink 1-2 glasses of water.
IF INHALED: Immediately move to fresh air.

CALL A POISON CONTROL CENTER OR PHYSICIAN IMMEDIATELY

9.0 SPECIAL PROTECTION INFORMATION /

9.1 Respiratory: Avoid breathing dusts or mists containing product.
9.2 Eyes: Splashproof glasses, goggles or face shield.
9.3 Skin: Rubber gloves - protective cuff or gauntlet type recommended.

10.0 ADDITIONAL INFORMATION/PRECAUTIONS /

10.1 DOT Class: Not DOT Regulated.
10.2 Avoid contamination of food or food products. Do not store wit
food products.
10.3 EPA Reg.No. 1677-21.

KEEP OUT OF REACH OF CHILDREN

The above information is believed to be correct with respect to the formula used to manufacture the product. As data, standards and regulations change, and conditions of use and handling are beyond ou control, NO WARRANTY, EXPRESS OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CONTINUING ACCURACY OF THIS INFORMATION.

MIKRO-QUAT

Quaternary Detergent • Germicide • Deodorizer

DIRECTIONS FOR USE

GENERAL CLASSIFICATION
It is a violation of federal law to use this product in a manner inconsistent with its labeling.

Apply MIKRO-QUAT to walls, floors, sinks, counter tops, hard surface furnishings and equipment with cloth, mop or mechanical spray device. Wet surface thoroughly. Preliminary removal of gross soil is required. Prepare fresh solution daily or when visibly soiled.

Use MIKRO-QUAT in hospitals (suitable for conductive floors), nursing homes, food service facilities, schools and animal research facilities.

LIGHT-DUTY CLEANING AND SANITIZING—NON-FOOD CONTACT SURFACES
Use ⅓ oz. MIKRO-QUAT per gal. (235 ppm) of warm or hot water. Allow 1 minute contact time.

COMBINATION DISINFECTION AND CLEANING
Use ⅔ oz. MIKRO-QUAT per gal. of water (470 ppm). Allow 10 minutes contact time. For porous or heavily soiled surfaces use 1 oz. per gal. of water (700 ppm).

Kills pathogenic fungi (*T. interdigitale*) on inanimate hard surfaces at the recommended use concentration of ⅔ oz. per gal. of water (470 ppm).

Kills mildew fungi on inanimate hard surfaces at the recommended use concentration of ⅔ oz. per gal. of water (470 ppm).

DO NOT MIX WITH ANYTHING BUT WATER

DILUTION TABLE	ppm active quaternary	235	470	700
	oz. per gal. water	⅓	⅔	1
	dilution equivalent	1:400	1:200	1:128

This product fulfills the criteria of Appendix F, the Grade "A" Pasteurized Milk Ordinance, 1978 recommendations of the United States Public Health Service in waters up to 500 ppm of hardness calculated as $CaCO_3$ when tested by the A.O.A.C. Germicidal and Detergent Sanitizer Official Method. Follow local health authorities' recommendations.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

KEEP OUT OF REACH OF CHILDREN

DANGER: Corrosive. Causes severe eye damage and skin irritation. Harmful if swallowed. Do not get in eyes, on skin or on clothing. Wear safety glasses or goggles when handling. Wash after handling. Remove contaminated clothing and wash before reuse.

PHYSICAL AND CHEMICAL HAZARDS: Contains quaternary ammonium chlorides, nonionic wetting agents and alkaline buffers. Mix only with water according to label directions.

ENVIRONMENTAL HAZARDS: This pesticide is toxic to fish. Do not discharge into lakes, streams, ponds or public waterways unless in accordance with an NPDES permit. For guidance, contact the regional office of the U.S. Environmental Protection Agency.

STATEMENT OF PRACTICAL TREATMENT
IF IN EYES: Flush with cool water for at least 15 minutes. Get prompt medical attention.
IF SWALLOWED: Promptly drink a large quantity of milk, egg whites, gelatin solution, or, if these are not available, drink a large quantity of water. Avoid alcohol. Call a physician immediately.
IF ON SKIN: Wash with plenty of soap and water. Get medical attention if irritation persists.

For emergency medical information, call toll-free: 1-800-328-0026.

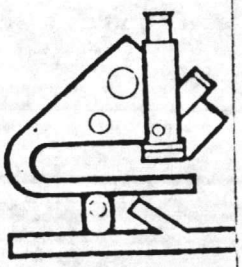
ACTIVE INGREDIENTS:	
Alkyl (50% C_{14}, 40% C_{12}, 10% C_{16}) dimethyl benzyl ammonium chloride	9.0%
INERT INGREDIENTS*	91.0%

*Active as cleaning and buffering agents.

STORAGE AND DISPOSAL:
DO NOT CONTAMINATE WATER, FOOD OR FEED BY STORAGE OR DISPOSAL.

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Triple rinse (or equivalent). Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill or by other procedures approved by state and local authorities.



MIKRO-QUAT

Quaternary Detergent • Germicide • Deodorizer

Quaternary detergent, germicide deodorizer for effective hospital and food service sanitation. Especially effective against resistant strains of *Staphylococcus aureus, Pseudomonas aeruginosa* and other common pathogenic organisms. Can be used with detergent/sanitizer dispensers. EPA Reg. No. 1677-21AA.

CLEANS, DISINFECTS AND DEODORIZES IN ONE OPERATION

MIKRO-QUAT provides excellent detergent action; it suspends and emulsifies grease and difficult soils. It is an effective floor cleaner, leaves no sticky, dulling film. MIKRO-QUAT is an excellent deodorizer. It neutralizes unpleasant odors and destroys odor causing bacteria.

CONCENTRATED FOR ECONOMICAL APPLICATION

One gallon of MIKRO-QUAT makes 128 gallons of heavy-duty cleaning and disinfecting solution or 384 gallons of light-duty cleaning and sanitizing solution.

IDEAL IN FOOD SERVICE SANITATION FOR NON-FOOD CONTACT SURFACES

Cleans, sanitizes and deodorizes food service equipment and food preparation areas; especially effective for cleaning and deodorizing garbage cans. Eliminates stale kitchen odors.

EXCELLENT FOR HOSPITAL DISINFECTION

MIKRO-QUAT is an effective germicide for cleaning hospital equipment, floors and patient areas; suitable for conductive flooring. MIKRO-QUAT is effective against these pathogenic organisms at 1:200 use dilution test (A.O.A.C.): *S. choleraesuis, S. typhosa, S. aureus, Ps. aeruginosa, E. coli, T. interdigitale, Pr. vulgaris.*

VIRUCIDAL ACTION

MIKRO-QUAT contains a quaternary ingredient in combination with a synergistic detergent and buffer system. MIKRO-QUAT disinfects Herpes Simplex Type 1, Vaccinia, Newcastle Disease, Adenovirus Type 3 and Influenza A on inanimate environmental surfaces at the 1:200 use dilution (⅔ oz. per gal.).