CARL/JOHN Info/Retain
Fit SWEB
T-6240

UNITED STATES MARINE CORPS
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA 28542

IN REPLY REFER TO
6240/5
NREAD
8 JAN 1986

From: Commanding General, Marine Corps Base, Camp Lejeune
To: Commanding General, 2d Marine Division, FMF, Camp Lejeune
Commanding General, 2d Force Service Support Group, FMF (Rein)
Camp Lejeune

Subj: HAZARDOUS WASTE MANAGEMENT

Ref: (a) BO 6240.5
(b) CG MCB CLNC 301846Z Sep 1985

Encl: (1) Duties of HMDCs and HMDOs
(2) Hazardous Material and Hazardous Waste Disposal Procedures

1. Enclosures (1) and (2) outline proposed changes in reference (a) which is currently under revision. The changes will formalize and standardize the internal structure for managing the subject program. The Hazardous Material Disposal Coordinators (HMDC) established per the reference have been very effective. However, current procedures do not encourage full implementation of specific hazardous waste regulatory requirements at the work sites, which were brought to your attention by reference (b).

2. It is requested that enclosures (1) and (2) be reviewed. If the approach is acceptable, it is further requested that a Hazardous Material Disposal Officer (HMDO) be appointed for each Regiment and separate Battalion or Company. Based on experience in implementing reference (a), the HMDO requires in depth knowledge of supply management. Base Environmental personnel are available to do intensive individual training of these special officers. Establishing this network of HMDCs and HMDOs will result in a capability to deal with the many minor discrepancies which could cause serious embarrassment if observed by outside regulatory agencies during routine on-site inspections.

3. Your continued support is vital. Point of contact in this matter is Mr. Danny Sharpe, Natural Resources and Environmental Affairs Division, telephone extension 5003.

R. A. TIEBOUT
By direction

DUTIES OF HMDCs AND HMDOs

1. Hazardous Material Disposal Coordinators (HMDC):

a. Serve as command point of contact on matters pertaining to implementation of Base Order 6240.5

b. Monitor the implementation of BO 6240.5 and initiate appropriate corrective action relative to discrepancies within the HMDC's command.

c. Coordinate the identification of hazardous waste related personnel training requirements of organizations within the HMDC's command in cooperation with the cognizant section of the office of the Assistant Chief of Staff, Manpower, Marine Corps Base, Camp Lejeune.

d. Identify all HW generators and storage facilities within the HMDC's cognizance and submit both initial notification and annual updates to the Assistant Chief of Staff, Facilities, Marine Corps Base, of the location and nature of HW activity of each site.

2. Hazardous Material Disposal Officer (HMDO):

a. Receive and process HM/HW turn-in documents as provided in Base Order 6240.5 and previously assigned to HMDC's.

b. Monitor adequacy of HW related personnel training and identify HW management training needs which are beyond capability of the HMDO's command to provide.

c. Promote the reduction of the volume and toxicity of HW produced by HW generators within the HMDO's cognizance.

HAZARDOUS MATERIAL (HM) AND HAZARDOUS WASTE (HW) DISPOSAL PROCEDURES

Unless otherwise specified, the organization with physical custody of a hazardous material (HM) or hazardous waste (HW) has responsibility for initiating disposal of the HM/HW. The following flow chart will be followed in disposal of an item and dealing with problems encountered.

The HM/HW will be placed in DOT approved containers having proper labels and markings. Prepare and submit a Form DD 1348-1 to the cognizant Hazardous Material Disposal Officer (HMDO).

HMDO will inspect the HM/HW and make a determination of the accuracy of the information on the Form DD 1348-1 and the suitability of the storage container. HMDO will initiate action to correct problems encountered. HMDO will request PP&P support if required. When turn in requirements appear to be satisfied, the HMDO will hand carry the Form DD 1348-1 to the Defense Reutilization and Marketing Officer (DRMO) at Building 906, Hadnot Point area. DRMO will determine if DRMO has accountability for disposal of the items.

NO

YES

If DRMO advises that DRMO does not have accountability for the item, the HMDO will refer the situation to the command Hazardous Material Disposal Coordinator (HMDC) for guidance. If no precedents have been set for handling the situation, the HMDC will contact the Director, NREAD. These items will be disposed of on a case by case basis in accordance with applicable DOD regulations and procedures.

DRMO, in cooperation with HMDO, will determine if an on-site inspection by DRMO is needed prior to transporting the HM/HW. HW will require on-site DRMO inspection. Does DRMO determine that an on-site inspection is needed?

NO

YES

DRMO will accept (but not sign) the Form DD 1348-1 from the HMDO.

DRMO will inspect the item(s) and after any discrepancies are corrected, will sign the Form DD 1348-1 which transfers accountability for the HM/HW to DRMO. (See Note 1).

DRMO will forward the Form DD 1348-1 to the Traffic Management Officer (TMO) along with a written request for the TMO to arrange transportation of the item(s) to a specified DRMO storage facility.

TMO will determine if the generating command is capable of legally, safely transporting the item(s). If the generating command is capable, TMO will arrange a satisfactory delivery time with DRMO and HMDO. TMO will advise HMDO of any special conditions and procedures for the shipment. HMDO will coordinate the shipment of the item(s). If the generating command cannot transport, then TMO will provide a qualified carrier.

If certification by Preservation, Packaging and Packing (PP&P) Section is required, then TMO will make necessary arrangements.

When the HM/HW arrives at storage facility, DRMO will inspect prior to unloading. DRMO will refuse to accept any items involving significant discrepancies. DRMO will immediately notify the Director, NREAD and the cognizant Hazardous Material Disposal Coordinator (HMDC). DRMO, HMDC and NREAD representatives will cooperate in making an immediate decision on corrective action required. Unless otherwise required, the HM/HW will be returned to the generating unit.

NOTE 1: The generating unit will continue to store the HM/HW until DRMO arranges transportation. The generating unit will conduct all required inspections and will notify DRMO immediately of any discrepancies observed.

TOM/CAROL File SWEB

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Info + Retain

~~6213~~ 6240

ROUTINE

R 301846Z SEP 85

FM CG MCB CAMP LEJEUNE NC

TO CG SECOND MARDIV
CG SECOND FSSG
NAVHOSP CAMP LEJEUNE NC
MCB CAMP LEJEUNE NC

CG SIXTH MAB
MCAS NEW RIVER NC
NAVDENCLINIC CAMP LEJEUNE NC

INFO HQ NUC II MAF

UNCLAS //N06280//

SUBJ: HAZARDOUS WASTE MANAGEMENT

A. BO 6240.5
B. RESOURCE CONSERVATION AND RECOVERY ACT
C. CG MCB CLNC LTR 6240 NREAD OF 9 SEP 85

1. REF (A) IMPLEMENTED FEDERAL AND STATE HAZARDOUS WASTE REGULATIONS PROMULGATED UNDER REF (B). ON 5 SEP 85, AN ONSITE INSPECTION WAS CONDUCTED BY NC REGULATORY PERSONNEL. TWO TYPES OF DISCREPANCIES WERE IDENTIFIED RELATIVE TO INDUSTRIAL OR MAINTENANCE SHOPS ON BASE WHICH GENERATE HAZARDOUS WASTE (HW).

2. FIRST, DOCUMENTATION WAS NOT AVAILABLE TO INDICATE IF ADEQUATE HW TRNG WAS BEING PROVIDED TO SHOP PERSONNEL HANDLING HW. REF (A) REQUIRES OIC/CMDRS TO PROVIDE THIS TRNG TO SHOP PERSONNEL.

3. SECOND, REQUIRED LOGS (RECORDS) WERE NOT AVAILABLE TO DOCUMENT THAT WEEKLY INSPECTIONS (SEE PARA 4A(5) OF REF (A)) WERE BEING CONDUCTED OF HW STORAGE CONTAINERS AT THE SHOP LEVEL.

4. ON OR ABOUT 16 OCT 85, THE STATE INSPECTOR WILL BE VISITING

DLVR:CG SIXTH MAB(6)...ACT
DLVR:NAVDENCLINIC CAMP LEJEUNE NC(4)...ACT "
DLVR:NAVHOSP CAMP LEJEUNE NC(4)...ACT
DLVR:HQ NUC II MAF(7)...INFO

NREA(2)...ORIG FOR CG MCB CAMP LEJEUNE(125) /13/
BFAC(1) GSTF(12) SSTF(92) OCDR(14) BCOS(1) BSDO(1) CEOB(1)
OICB(1)

RTD:000-000/COPIES:0146

272843/274 1 OF 2 MATA0210 274/10:45Z 301846Z SEP 85
CSN:RXIC00019 CG MCB CAMP LE

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SEVERAL SHOPS WITHIN THE CAMP LEJEUNE/MCAS, NEW RIVER COMPLEX. WHILE THE INSPECTION WILL FOCUS ON PERSONNEL TPNG AND WEEKLY HW INSPECTIONS ANY VIOLATIONS OBSERVED ARE LIKELY TO BE CITED. IT SHOULD BE ANTICIPATED THAT OIC'S AND OTHER RESPONISBLE SHOP PERSONNEL WILL BE CITED IF THE VIOLATION IS A RESULT OF THEIR FAILURE TO IMPLEMENT REF (A) PROPERLY. ADDRESSEES WILL BE NOTIFIED ASAP WHICH SHOPS THE STATE INSPECTOR PLANS TO VISIT.

5. REF (C) PROVIDED SPECIFIC BACKGROUND AND GUIDANCE TO HAZARDOUS MATERIAL DISPOSAL COORDINATORS (HMDC'S) FOR EACH CMD. OIC'S OR CMDRS WITH QUESTIONS REGARDING THIS MATTER SHOULD CONTACT THEIR HMDC.

6. HMDC'S FOR MAJOR CMDS ARE:
   A. MCB - CAPT OWENS, AC/S LOG, EXT 2535
   B. SECOND MARDIV - LTCOL MARAPOTI, DIV ENG, EXT 2755
   C. SECOND FSSG - MAJ D. R. SHEPHERD, ENG SUP OFFICE, EXT 3456
   D. MCAS, NEW RIVER (AND TENANTS) - MS. MARY WHEAT, GROUND SAFETY OFFICE, EXT 6518
   E. NAVHOSP - MR. GREG WINTERS, O AND PM DEPT, EXT 2707
   F. NAVDENCLINIC - DTC RICHARD PANEPINTO, EXT 5314

7. BASE ENVIRONMENTAL PERSONNEL ARE AVAILABLE TO ASSIST OIC'S EVALUATE THEIR SHOPS RELATIVE TO COMPLIANCE WITH REFS (A) AND (B). OIC'S SHOULD SUBMIT REQUESTS TO THEIR HMDC. HMDC'S SHOULD ESTABLISH PRIORITIES FOR SHOP VISITS. BASE ENVIRONMENTAL PERSONNEL WILL SCHEDULE SHOP VISITS IN COOPERATION WITH HMDC'S. SHOP VISITS WILL NOT BE SCHEDULED UNLESS APPROPRIATE SHOP SUPERVISORY PERSONNEL ARE AVAILABLE. APPROXIMATELY ONE-TWO HOURS PER SHOP VISIT SHOULD BE ANTICIPATED.

8. POC IN THIS MATTER IS MR. DANNY SHARPE, NREAD, EXT 2083. IT IS REQUESTED THAT THE WIDEST POSSIBLE LOCAL DISTRIBUTION BE GIVEN TO THIS MSG.

BT

Becker
Betz
Barbec

Return to Becker
for filing

6240
NREAD
4 Jun 86

From: Director, Natural Resources and Environmental Affairs Division, Marine Corps Base, Camp Lejeune
To: Assistant Chief of Staff, Facilities, Marine Corps Base, Camp Lejeune

Subj: INTERNAL ENFORCEMENT OF HAZARDOUS WASTE REGULATIONS

Ref: (a) BO 6240.5

Encl: (1) SJA ltr 5800 SJA of 26 Feb 86

1. The enclosure provides a series of memos written regarding issues pertaining to enforcement of the subject regulations which are outlined in the reference. Unfortunately, SJA chose to ignore the real world situation where working level officials have failed to act in good faith. Most problems are of this nature.

2. It is recommended that a meeting be called between NREAD, SJA representatives from various commands and Hazardous Material Disposal Coordinators to develop draft guidelines for internal enforcement of the subject regulations. NREAD will arrange. Please advise.

JULIAN I. WOOTEN

Blind copy to:
Supvy Ecologist

T-6240

OPNAV 5216/144A (Rev. 8-81)
S/N 0107-LF-052-2328

EPARTMENT OF THE NAVY

Memorandum

5800
SJA

DATE: FEB 26 1986

FROM: Staff Judge Advocate, Marine Corps Base, Camp Lejeune

TO: Assistant Chief of Staff, Facilities, Marine Corps Base, Camp Lejeune

SUBJ: HAZARDOUS WASTE INSPECTION

Ref: (a) Yr memo 6280/2 FAC of 13Feb86 w/encl
(b) BO 6240.5, Hazardous Material Disposal Program
(c) N.C. GEN. STAT. 130A, Public Health
(d) N.C. GEN. STAT. 14-3, Punishment of Misdemeanors

1. Pursuant to reference (a), I have reviewed the applicable regulation and statutes pertaining to hazardous waste disposal to determine whether individuals may be personally fined as a result of hazardous waste violations.

2. Paragraph 3a of reference (b) indicates "Civilian and military personnel failing to follow established procedures may be subject to both civil and criminal penalties." Because the Environmental Protection Agency has approved North Carolina's hazardous waste plan, state law is generally controlling. Section 130A-22 of reference (c) provides for imposition of an administrative penalty on any person who violates the laws or regulations pertaining to hazardous waste, not to exceed $10,000 per day. Section 130A-25 of reference (c) further provides that a person who violates such laws or regulations shall be guilty of a misdemeanor, for which reference (d) authorizes punishment of a fine, imprisonment not to exceed two years, or both, in the discretion of the court. Accordingly, military and civilian personnel could be personally fined for hazardous waste violations. However, in my opinion, the likelihood of a civil or criminal sanction being imposed upon a civilian employee or military member at Camp Lejeune for violating an environmental law or regulation is remote. A public official, when acting in good faith within the scope of his authority, is normally immune from liability in a private action for his official acts or omissions. Federal case law indicates: "The policy consideration underlying the concept of immunity, absolute or qualified, for public officials is the necessity of insuring principled and conscientious governmental decision making by affording some measure of freedom from fear of personal liability for the official exercise of discretion and the performance of required duties." The doctrine of immunity of government officials has been expanded to include military officers, provided they are acting within the scope of their official duties and are performing discretionary acts. Although the immunity doctrine does not absolutely foreclose the possibility of a civilian employee or a military officer being held personally liable for his acts, it does significantly reduce that possibility.

3. Paragraph 4a(2) of reference (b) requires organizational commanders to maintain copies of that order at work sites where hazardous material and

waste are routinely handled, stored or generated and ensure that personnel are familiar with the contents thereof. I have been advised that you are considering publication of additional warnings concerning civil and criminal liability, either as an internal message or on the inspection forms used by the Natural Resources and Environmental Affairs Division. In my opinion, the publication of warnings might reinforce public perception of this Command's commitment to the letter and spirit of hazardous waste laws and regulations.

Very respectfully,

RL Vogel

R. L. VOGEL

6280/2
FAC

FEB 13 1986

Assistant Chief of Staff, Facilities, Marine Corps Base,
Camp Lejeune
Staff Judge Advocate

HAZARDOUS WASTE INSPECTION

Encl: (1) NREAD memo 6240 NREAD dtd 4 Feb 86

1. The enclosure advises of deficiencies detected during routine inspections and requested guidance concerning notification. This office is advising Natural Resources personnel to prepare a notification letter that will advise organizations concerning findings during inspection.

2. Our NREAD staff has also advised that the State will not be doing courtesy inspections in the future. In view of the above, it is requested that you provide an opinion as to whether individuals may be personally fined as a result of hazardous waste violations. If it is found that individuals may be fined, request you provide comments concerning notification to units/organizations when violations are detected.

B. W. ELSTON
By direction

6240
NREAD

4 Feb 1986

Director, Natural Resources and Environmental Affairs Division,
Marine Corps Base, Camp Lejeune
Assistant Chief of Staff, Facilities, Marine Corps Base, Camp
Lejeune

HAZARDOUS WASTE INSPECTION OF 2ND RECONNAISSANCE BN ON 23 JAN 1986

Ref: (a) BO 6240.5
(b) State Regulations for the Implementation of the Resource Conservation and Recovery Act

Encl: (1) Hazardous Waste Management Inspection

1. NREAD has begun another round of routine inspections of hazardous waste generation and storage facilities to determine compliance with references (a) and (b). The inspections address both Base and tenant commands and are conducted in compliance with the cognizant Hazardous Material Disposal Coordinator (HMDC). The subject inspection revealed the following deficiencies which appear to be violations of reference (b):

a. Lack of training records

b. Lack of weekly inspection records for hazardous waste storage areas

c. Drum of hazardous waste which was not properly marked, labeled or dated.

2. These violations, possibly each one, would have subjected Camp Lejeune and possibly the organization(s) and individual(s) involved, to fines of not less than $50 to $500 had they been noted by a State hazardous waste inspector during an annual inspection.

3. A spot check of the facilities shown in Part F of Attachment A to the enclosure will be conducted by Base Environmental personnel during the week of 17 February to ensure that the noted violations have been corrected.

4. Although copies of the enclosure were not provided to HMDC or units involved, findings have been discussed with the HMDC. Also, HMDC's have been provided with a copy of the inspection checklist used by NREAD during inspections. Please furnish guidance with the following:

a. How does the AC/S, Facilities want cognizant commands formally advised of the findings of the subject type of inspection?

Subj: HAZARDOUS WASTE INSPECTION OF 2ND RECONNAISSANCE BN OF 23 JAN 1986

b. What internal enforcement actions should be taken against the cognizant officials/officers/personnel, when apparent violations of reference (b) are identified?

In NREAD's opinion, the major command in charge of the subject unit should take disciplinary action; however, it is recommended that the Base Staff Judge Advocate be requested to render a legal opinion on the proper legal manner by which these apparent violations should be handled.

J. I. WOOTEN

Writer: D. Becker, NREAD 5003
Typist: J. Cross 4Feb86

HAZARDOUS WASTE MANAGEMENT INSPECTION

1. Organization Inspected: 2nd Recon Bn, 2nd MARDIV.

2. Name and title of persons conducting inspection:

   a. NREAD Representative: Danny Bolker

   b. Organizational Commander Representative: GySgt Dean

   c. Other (Specify): MGySgt Kaup - Division HMDC
   Lt. Momia - Motor Transport Officer
   LCpl Coble - Communications

3. Brief Description of HW Activity: Generation of waste solvents from degreasing operations. Generation of waste lithium batteries.

4. Summary of Fundings (See Attachment A- B)

   a. Assignment of HW management responsibilities and related personnel training and record keeping: Assignment of HW mgt. responsibilities was unclear. GySgt Dean is to be assigned from Bn. level, at least for the time being. Training records were not available to show personnel training. Required Base orders were not available.

   b. Adequacy of HW handling, storage and related internal controls and inspection: Handling - adequate
   Storage - adequate; no containment structure at present
   internal controls - marginal
   Inspections - no records available to show if they have ever been done

ENCLOSURE (1)

INSPECTION FORM I — HAZARDOUS WASTE HANDLING AND STORAGE AREAS

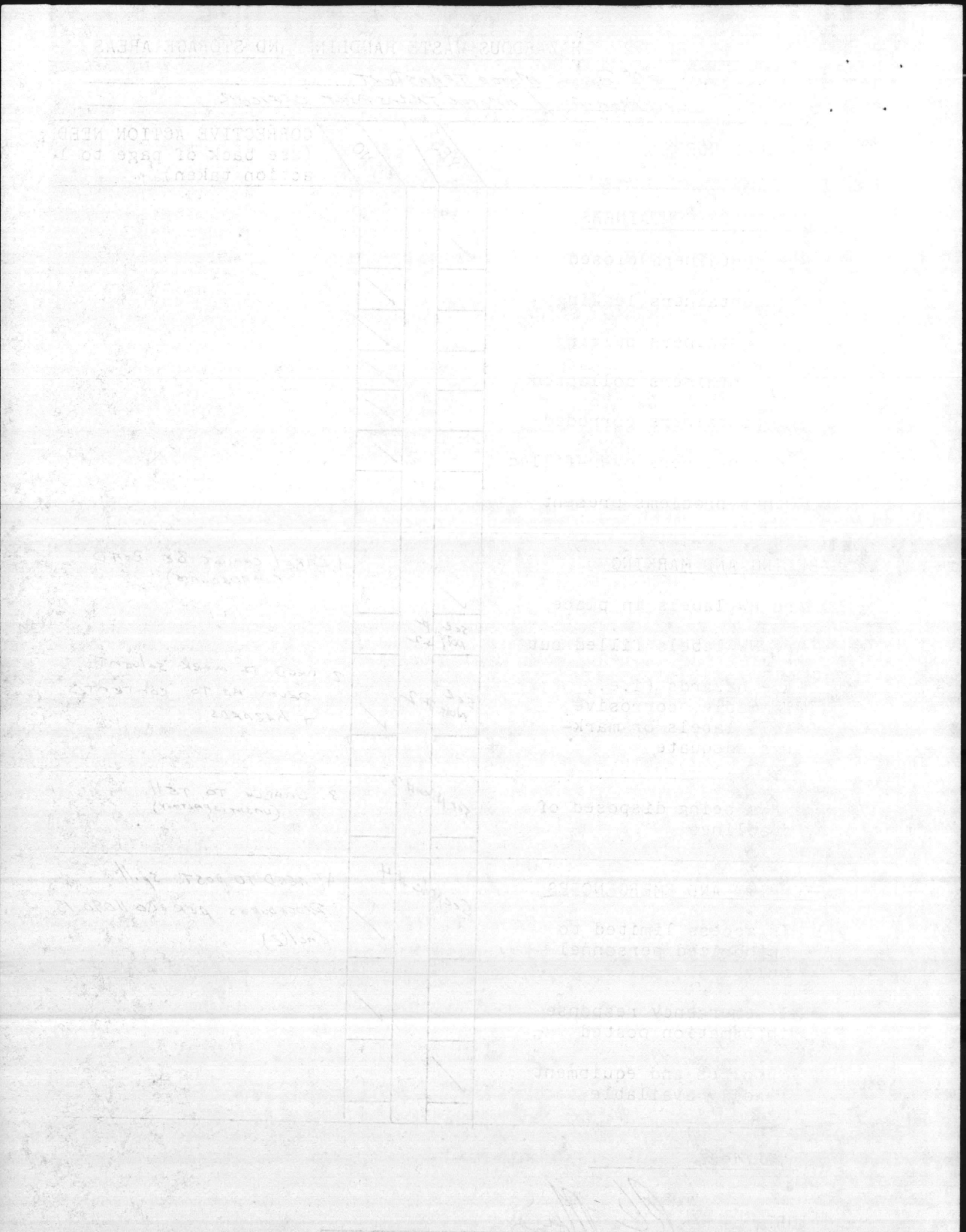
Name of Facility: 2nd Recon Motor Transport

Name/Title OIC: Lt. Monia / Motor Transport Officer

AREA OF CONCERN	YES	NO	CORRECTIVE ACTION NEEDED (use back of page to log action taken)
A. CONDITION OF CONTAINERS			
1. Are containers closed	✓		
2. Are containers leaking		✓	
3. Are containers bulging		✓	
4. Are containers collapsed		✓	
5. Are containers corroded		✓	
6. Are containers over-filled		✓	
7. Other problems present			
B. LABELING AND MARKING			1. LABEL CANNOT BE READ (INADEQUATE)
1. Are HW labels in place	✓		
2. Are HW labels filled out	See Note #2		
3. Are hazards (i.e., flammable, corrosive, etc.) labels or markings adequate	See Note #2	✓	2. NEED TO MARK SOLVENT DRUM AS TO CONTENTS + HAZARDS
C. Are HWs being disposed of by deadlines	See Note #3		3. UNABLE TO TELL. (UNSATISFACTORY)
D. SECURITY AND EMERGENCIES	See Note #4		4. NEED TO POST Spill PROCEDURES PER BO 11090.13 Encl(2)
1. Is access limited to authorized personnel only		✓	
2. Is emergency response information posted		✓	
3. Supplies and equipment readily available	✓		

DATE: 23 JAN 86

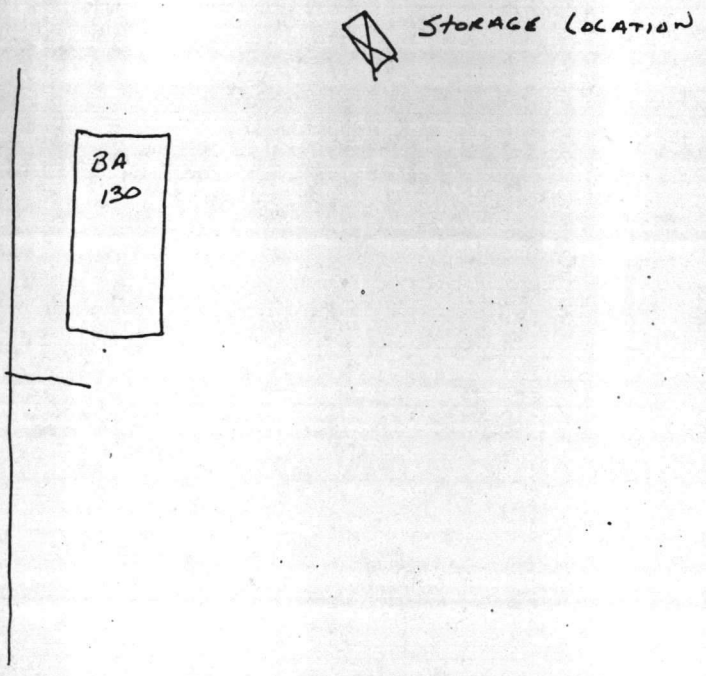
SIGNATURE: R C Monia



e. Corrective Action Recommended:

1. NEED TO POST o/l/HM spill REPORTING SIGN PER Bo 1109.18 ENCL2)
2. NEED PROPER MARKINGS on HW STORAGE BARRELS PER CG MCBCL R 1920052
3. NEED HW LABELS on BARRELS to BE legible
4. MAKE SURE HW ARE DISPOSED OF within 90 DAYS OF Accumulation START

f. Sketch showing location of Facility:



INSPECTION FORM: E HAZARDOUS WASTE HANDLII AND STORAGE AREAS

Name of Facility: Comm Plt. 2ND Recon
Name/Title OIC: Lt. BRADER

AREA OF CONCERN	YES	NO	CORRECTIVE ACTION NEED (use back of page to l action taken)
A. CONDITION OF CONTAINERS			
1. Are containers closed	✓		
2. Are containers leaking		✓	
3. Are containers bulging		✓	
4. Are containers collapsed		✓	
5. Are containers corroded		✓	
6. Are containers over-filled		✓	
7. Other problems present			
B. LABELING AND MARKING			
1. Are ~~HW~~ labels in place	✓		
2. Are HW labels filled out	N/A	N/A	HAD NOT BEEN PACKED YET
3. Are hazards (i.e., flammable, corrosive, etc.) labels or markings adequate	✓		
C. Are HWs being disposed of by deadlines	✓		
D. SECURITY AND EMERGENCIES			
1. Is access limited to authorized personnel only	✓		
2. Is emergency response information posted	✓		
3. Supplies and equipment readily available	✓		

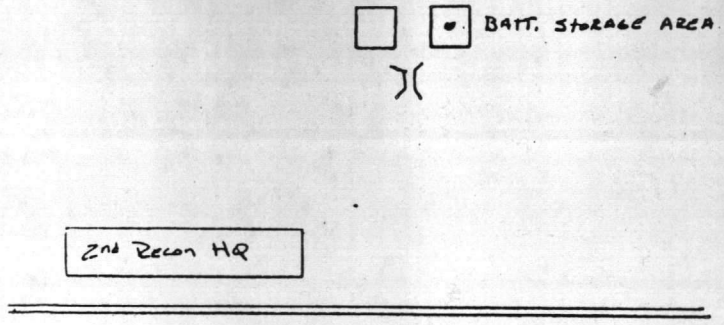
DATE: 23 JAN 96

SIGNATURE: R. G. C. LCPL

ATTACHMENT B

e. Corrective Action Recommended: NONE AT THIS TIME

f. Sketch showing location of Facility:



Scotch® 7664 "Post-it" Routing-Request Pad

ROUTING - REQUEST

Please
- [x] READ
- [ ] HANDLE
- [ ] APPROVE

and
- [ ] FORWARD
- [ ] RETURN
- [ ] KEEP OR DISCARD
- [ ] REVIEW WITH ME

To: Barbee CMB
Betz
Becker

Date _____ From _____

CORPS
Affairs Division

28542

IN REPLY REFER TO:
6240
NREAD
4 Jun 86

vironmental Affairs
Lejeune
es, Marine Corps Base, 4

WASTE REGULATIONS

Ref: (a) BO 6240.5

Encl: (1) SJA ltr 5800 SJA of 26 Feb 86

1. The enclosure provides a series of memos written regarding issues pertaining to enforcement of the subject regulations which are outlined in the reference. Unfortunately, SJA chose to ignore the real world situation where working level officials have failed to act in good faith. Most problems are of this nature.

2. It is recommended that a meeting be called between NREAD, SJA representatives from various commands and Hazardous Material Disposal Coordinators to develop draft guidelines for internal enforcement of the subject regulations. NREAD will arrange. Please advise.

Julian I. Wooten

JULIAN I. WOOTEN

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13 JUNE 1986

TO: Director, NREAD

Although the doctrine of immunity of government officials is cited by SJA as a barrier in enforcement, I feel we do have sufficient leverage through the military chain of command. Further meetings with SJA will not help.

Guidance: When an inspection is conducted you will provide a copy of the inspection report to the OIC/SNCOIC noting discrepancies. Recommended corrective action will be provided including applicable references. A reinspection will be scheduled at an appropriate time.

In addition to the above a letter from CG MCB, signed by me, will be prepared to go through the chain of command to the unit involved citing the violations and corrective action

(OVER)

UNITED STATES MARINE CORPS
Natural Resources and Environmental Affairs Division
Marine Corps Base
Camp Lejeune, North Carolina 28542

IN REPLY REFER TO:
6240
NREAD
4 Jun 86

From: Director, Natural Resources and Environmental Affairs Division, Marine Corps Base, Camp Lejeune
To: Assistant Chief of Staff, Facilities, Marine Corps Base, Camp Lejeune

Subj: INTERNAL ENFORCEMENT OF HAZARDOUS WASTE REGULATIONS

Ref: (a) BO 6240.5

Encl: (1) SJA ltr 5800 SJA of 26 Feb 86

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JULIAN I. WOOTEN

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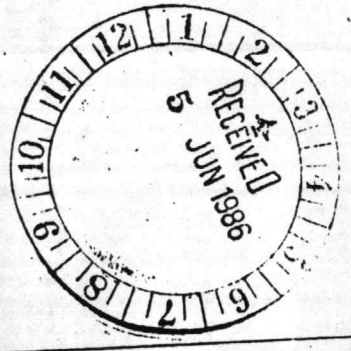
(OVER)



required. The letter will stress the requirements to adhear to the provisions of the Exec Order and the warning of criminal and/or civil liabilities.

Respectfully,

T. J. Dalzell
Colonel USMC

6280/7
TAC

FEB 13 1986

Assistant Chief of Staff, Facilities, Marine Corps Base,
Camp Lejeune
Staff Judge Advocate

HAZARDOUS WASTE INSPECTION

Encl: (1) NREAD memo 6240 NREAD dtd 4 Feb 86

1. The enclosure advises of deficiencies detected during routine inspections and requested guidance concerning notification. This office is advising Natural Resources personnel to prepare a notification letter that will advise organizations concerning findings during inspection.

2. Our NREAD staff has also advised that the State will not be doing courtesy inspections in the future. In view of the above, it is requested that you provide an opinion as to whether individuals may be personally fined as a result of hazardous waste violations. If it is found that individuals may be fined, request you provide comments concerning notification to units/organizations when violations are detected.

B. N. ELSTON
By direction

6240
NREAD

4 Feb 1986

Director, Natural Resources and Environmental Affairs Division, Marine Corps Base, Camp Lejeune
Assistant Chief of Staff, Facilities, Marine Corps Base, Camp Lejeune

HAZARDOUS WASTE INSPECTION OF 2ND RECONNAISSANCE BN ON 23 JAN 1986

Ref: (a) BO 6240.5
(b) State Regulations for the Implementation of the Resource Conservation and Recovery Act

Encl: (1) Hazardous Waste Management Inspection

1. NREAD has begun another round of routine inspections of hazardous waste generation and storage facilities to determine compliance with references (a) and (b). The inspections address both Base and tenant commands and are conducted in compliance with the cognizant Hazardous Material Disposal Coordinator (HMDC). The subject inspection revealed the following deficiencies which appear to be violations of reference (b):

a. Lack of training records

b. Lack of weekly inspection records for hazardous waste storage areas

c. Drum of hazardous waste which was not properly marked, labeled or dated.

2. These violations, possibly each one, would have subjected Camp Lejeune and possibly the organization(s) and individual(s) involved, to fines of not less than $50 to $500 had they been noted by a State hazardous waste inspector during an annual inspection.

3. A spot check of the facilities shown in Part F of Attachment A to the enclosure will be conducted by Base Environmental personnel during the week of 17 February to ensure that the noted violations have been corrected.

4. Although copies of the enclosure were not provided to HMDC or units involved, findings have been discussed with the HMDC. Also, HMDC's have been provided with a copy of the inspection checklist used by NREAD during inspections. Please furnish guidance with the following:

a. How does the AC/S, Facilities want cognizant commands formally advised of the findings of the subject type of inspection?

Subj: HAZARDOUS WASTE INSPECTION OF 2ND RECONNAISSANCE BN OF 23 JAN 1986

b. What internal enforcement actions should be taken against the cognizant officials/officers/personnel, when apparent violations of reference (b) are identified?

In NREAD's opinion, the major command in charge of the subject unit should take disciplinary action; however, it is recommended that the Base Staff Judge Advocate be requested to render a legal opinion on the proper legal manner by which these apparent violations should be handled.

J. I. WOOTEN

Writer: D. Becker, NREAD 5003
Typist: J. Cross 4Feb86

HAZARDOUS WASTE MANAGEMENT INSPECTION

1. Organization Inspected: 2nd Recon Bn, 2nd MARDIV.

2. Name and title of persons conducting inspection:

   a. NREAD Representative: Danny Belker

   b. Organizational Commander Representative: GYSGT Dean

   c. Other (Specify): MGYSGT KAUP - Division HMDC
   Lt. MONIA - Motor Transport Officer
   LCPL COBLE - Communications

3. Brief Description of HW Activity: Generation of waste solvents from degreasing operations. Generation of waste lithium batteries.

4. Summary of Fundings (See Attachment A- B)

   a. Assignment of HW management responsibilities and related personnel training and record keeping: Assignment of HW mgt. responsibilities was unclear. GYSGT Dean is to be assigned from Bn. level, at least for the time being. Training records were not available to show personnel training. Required Base orders were not available.

   b. Adequacy of HW handling, storage and related internal controls and inspection: Handling - adequate
   Storage - adequate; no containment structure at Motor T
   Internal controls - marginal
   Inspections - no records available to show if they have ever been done

ENCLOSURE (1)

INSPECTION FORM I : HAZARDOUS WASTE HANDLING AND STORAGE AREAS

Name of Facility: 2nd Recon Motor Transport

Name/Title OIC: Lt. Monia / Motor Transport Officer

AREA OF CONCERN	YES	NO	CORRECTIVE ACTION NEEDED (use back of page to log action taken)
A. CONDITION OF CONTAINERS			
1. Are containers closed	✓		
2. Are containers leaking		✓	
3. Are containers bulging		✓	
4. Are containers collapsed		✓	
5. Are containers corroded		✓	
6. Are containers over-filled		✓	
7. Other problems present			
B. LABELING AND MARKING			1. LABEL CANNOT BE READ (INADEQUATE)
1. Are HW labels in place	✓		
2. Are HW labels filled out	See Note #2		
3. Are hazards (i.e., flammable, corrosive, etc.) labels or markings adequate	See Note #2	✓	2. NEED TO MARK solvent DRUM AS TO CONTENTS + HAZARDS
C. Are HWs being disposed of by deadlines	See Note #3		3. UNABLE TO TELL: (UNSATISFACTORY)
D. SECURITY AND EMERGENCIES			
1. Is access limited to authorized personnel only	See Note #4	✓	4. NEED TO POST Spill PROCEDURES PER BO 11090.13 Encl(2)
2. Is emergency response information posted		✓	
3. Supplies and equipment readily available	✓		

DATE: 23 JAN 86

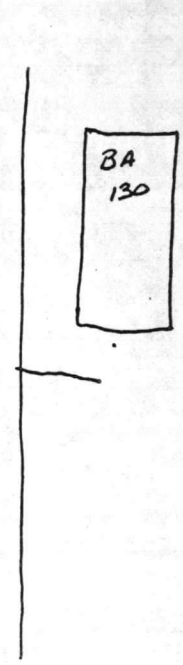
SIGNATURE: [signature]

ATTACHMEN

e. Corrective Action Recommended:

1. NEED TO POST oil/HM spill REPORTING SIGN PER Bo 1109.18 Encl(2)
2. NEED PROPER MARKINGS on HW STORAGE BARRELS PER CG MCBCL R 1920052 Sep84
3. NEED HW LABELS on BARRELS to BE LEGIBLE
4. MAKE SURE HW ARE DISPOSED OF WITHIN 90 DAYS OF Accumulation START DAT

f. Sketch showing location of Facility:



INSPECTION FORM FOR HAZARDOUS WASTE HANDLING AND STORAGE AREAS

Name of Facility: Comm Plt. 2ND Recon
Name/Title OIC: Lt. BRADER

AREA OF CONCERN	YES	NO	CORRECTIVE ACTION NEEDED (use back of page to log action taken)
A. CONDITION OF CONTAINERS			
1. Are containers closed	✓		
2. Are containers leaking		✓	
3. Are containers bulging		✓	
4. Are containers collapsed		✓	
5. Are containers corroded		✓	
6. Are containers over-filled		✓	
7. Other problems present			
B. LABELING AND MARKING			
1. Are ~~HW~~ labels in place	✓		
2. Are HW labels filled out	N/A	N/A	HAD NOT BEEN PACKED YET
3. Are hazards (i.e., flammable, corrosive, etc.) labels or markings adequate	✓		
C. Are HWs being disposed of by deadlines	✓		
D. SECURITY AND EMERGENCIES			
1. Is access limited to authorized personnel only	✓		
2. Is emergency response information posted	✓		
3. Supplies and equipment readily available	✓		

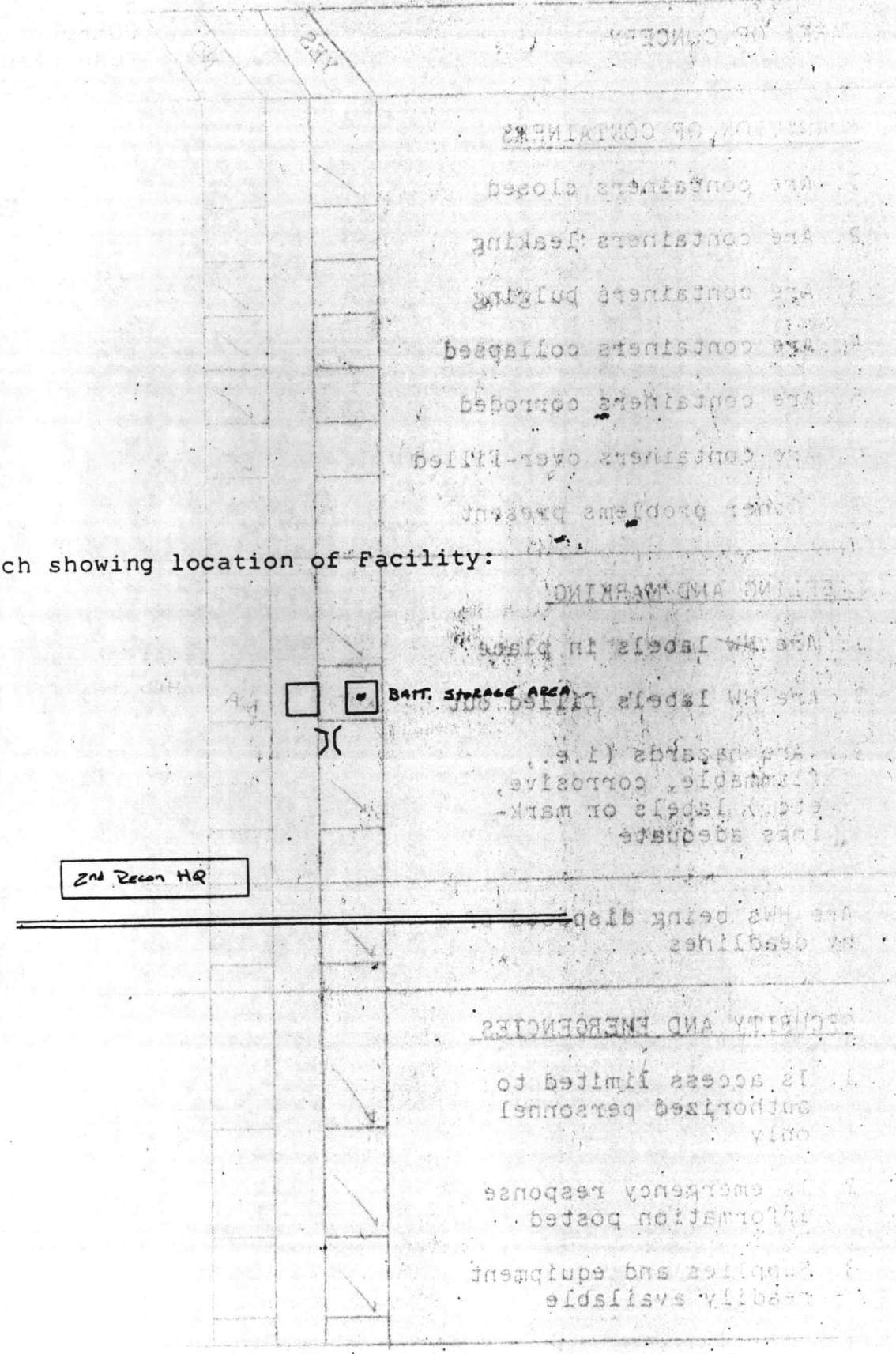
DATE: 23 JAN 96

SIGNATURE: R. G. C. LCPL

ATTACHMENT B

e. Corrective Action Recommended: NONE AT THIS TIME

f. Sketch showing location of Facility:



UNITED STATES MARINE CORPS
Natural Resources and Environmental Affairs Division
Marine Corps Base
Camp Lejeune, North Carolina 28542

IN REPLY REFER TO:
6240
NREAD
1 Oct 86

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

Subj: PERFORMANACE ORIENTED PACKAGING FOR HAZARDOUS MATERIAL

Encl: (1) CMC ltr 4030 LMM-2/8009 of 11 Sep 86 (w/encls (1) and (2))

1. The enclosure is provided for information and appropriate action.

Julian I Wooten

JULIAN I. WOOTEN

Distribution:

AC/S LOG
DRMO
BSAFETY
PP&P 2DFSSG
TMO
HMDC-MCB
HMDC-2DFSSG
HMDC-2DMARDIV
HMDC-HOSP
HMDC-DENTAL
HMDC-MCAS, NR

Blind copy to:
WQCL

DEPARTMENT OF THE NAVY
HEADQUARTERS UNITED STATES MARINE CORPS
WASHINGTON, D.C. 20380-0001

IN REPLY REFER TO
4030
LMM-2/8009
11 SEP 1986

From: Commandant of the Marine Corps

Subj: PERFORMANCE ORIENTED PACKAGING FOR HAZARDOUS MATERIALS

Encl: (1) Dep Asst SecDef (L&MM) memo LM/SD of 2 Jun 86
(2) DoD Working Group on Performance Oriented Packaging for Hazardous Materials - Terms and Definitions

1. In April 1985, the Department of Defense (DoD) Joint Packaging Coordinating Group established a working group to identify and recommend solutions to problems that DoD will encounter in implementing performance oriented packaging for hazardous materials. Performance oriented packaging is based on the ability of packaging to perform to a specific level of integrity when subjected to performance tests. Currently, the guiding document for U.S. shippers is entitled, "Recommendations of the Committee of Experts on the Transport of Dangerous Goods," by the United Nations. The recommendations eventually will be incorporated into current regulations governing transport of hazardous materials by air, water, road, and rail.

2. Enclosures (1) and (2) are provided to ensure that planners and decision makers responsible for the preparation and certification of hazardous materials are aware of current and pending action regarding this sensitive/critical subject.

3. Point of contact at this Headquarters is Mr. Donald B. Danner, LMM-2, AUTOVON 224-1600/1795.

Jan B. Olson

JAN B. OLSON
By direction

Distribution List

Commanding General
Fleet Marine Force, Atlantic
Norfolk, Virginia 23414-5001

Commanding General
Fleet Marine Force, Pacific
Camp H. M. Smith, Hawaii 96861-5001

Commanding General
Second Marine Aircraft Wing
Fleet Marine Force, Atlantic
Marine Corps Air Station
Cherry Point, North Carolina 28533-6001

ENCLOSURE (1)

Distribution List (Con't)

Commanding General
Marine Corps Logistics Base
Albany, Georgia 31704-5000

Commanding General
Third Marine Aircraft Wing
Fleet Marine Force, Pacific
Marine Corps Air Station El Toro
Santa Ana, California 29709-6001

Commanding General
Second Force Service Support Group
Camp Lejeune, North Carolina 28542-5001

Commanding General
Marine Corps Air Station, El Toro
Santa Ana, California 92709-6001

Commanding General
First Marine Aircraft Wing
Fleet Marine Force, Pacific
FPO San Francisco, California 96603-8700

Commanding General
Marine Corps Base
Camp Lejeune, North Carolina 28542-5001

Commanding General
Marine Corps Base
Camp Pendleton, California 92055-5000

Commanding General
Marine Corps Base
Camp S. D. Butler
FPO Seattle, Washington 98773-5000

Commanding General
Third Force Service Support Group
FPO San Francisco 96604-8801

Commanding General
Marine Corps Logistics Base
Barstow, California 92311-5014

Commanding General
First Force Service Support Group
Camp Pendleton, California 92055-5700

THE OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301-8000

ACQUISITION AND LOGISTICS

2 June 1986

LM/SD

MEMORANDUM FOR THE ASSISTANT SECRETARY OF THE ARMY (I&L)
ASSISTANT SECRETARY OF THE NAVY (S&L)
ASSISTANT SECRETARY OF THE AIR FORCE (RD&L)
DIRECTOR OF THE DEFENSE LOGISTICS AGENCY

SUBJECT: Performance Packaging of Hazardous Materials

Effective January 1, 1990 the shipment of DoD hazardous materials must be in compliance with the following revised regulations governing the international transport of dangerous goods: (1) the United Nations (UN) "orange book" entitled, "Transport of Dangerous Goods" containing "Recommendations of the Committee of Experts on the Transport of Dangerous Goods," 3rd edition; (2) the "International Civil Air Organization (ICAO) Technical Instructions for the Safe Transport of Dangerous Goods by Air" (1985 edition); and (3) the "International Maritime Dangerous Goods Code" (IMDG Code) published in five volumes, with amendments.

In essence, hazardous material packagings must be tested and certified against peformance standards contained in the regulations cited above. This differs from current regulations which require packagings to conform to specific design standards. The Department of Transportation (DoT) efforts on our behalf to obtain "grandfathering" provisions on current packaged inventories have been unsuccessful. Thus individual exemptions may be required from the competent authority of each country in which our DoD hazardous materials are transported.

Complicating the issue is the requirement to package hazardous material for domestic shipment in accordance with design specifications contained in the Code of Federal Regulations (CFR), Title 49. Though the DoT is attempting to bring domestic regulations in line with the new international requirements, we anticipate this to be a long-term effort. We, therefore, request that the Military Traffic Management Command (MTMC) seek CFR 49 exemption when DoD hazardous materials are packaged and marked to the international standards. We also request that MTMC identify those competent authorities of other nations where an exemption to the UN requirements is required to ship existing packaged inventories. This is important particularly to the shipment of ammunition stockpiles.

We view two possible approaches to assuring DoD compliance with the performance packaging requirements:

a. Those DoD activities which develop packaging designs will conduct the necessary tests in accordance with the new standards and will specify proof of compliance markings on such packagings. These activities will certify their own design packagings and maintain a permanent record of all such certifications or equivalent tests used as provided for in the "orange book." Packagings so certified will bear a DoD logo and certification number.

b. Agencies procuring hazardous materials from suppliers using commercial packaging will require the commercial suppliers to have their packagings certified by an independent DoT certified testing laboratory unless the manufacturer has registered with and received approval from DOT to conduct self certification tests. Packagings so certified will be marked with the testing activities approved logo and certification number.

A joint Service/Defense Logistics Agency and MTMC working group, chaired by the Army Packaging, Storage and Containerization Center, is currently considering this performance oriented packaging issue under the auspices of the Joint Packaging Coordinating Group. We believe it is important that this group develop as soon as possible a packaging test plan, the mechanics whereby certified packagings are known to all users, appropriate changes to military standards and specifications, and problem areas that must be resolved with DoT. We request that the Army provide quarterly reports of this Group's progress.

Maurice N. Shriber
Deputy Assistant Secretary of Defense
(Logistics and Materiel Management)

DOD Working Group on Performance Oriented Packaging for Hazardous Materials

Terms and Definitions

Bags* - flexible packagings made of paper, plastics film, textiles, woven material, or other suitable materials.

Boxes* - packagings with complete rectangular or polygonal faces, made of metal, wood, plywood, reconstituted wood, fiberboard, plastics, or other suitable material.

Certification - the act of confirming that a completed package, marking inclusive, meets the requirements of UN Performance Oriented Packaging.

Certifier - one who physically recognizes the correctness of a package construction or has access to test data for that package and who then verifies in writing that it will perform to the level required. A certifier may perform one or more of the following acts of certification:

(1) Designs a package, and documents the design as meeting performance requirements.

(2) Performs a packaging operation in compliance with instructions prepared by a package designer.

(3) Determines that the packaging and/or container has been manufactured, assembled, and marked in accordance with requirements.

Closures* - devices which close an opening in a receptacle.

Combination packagings* - combination of packagings for transport purposes, consisting of one or more inner packagings secured in an outer packaging.

*United Nations definitions from the "Orange Book."

Encl (2)

Competent authority	- a national agency responsible under its national law for the control or regulation of a particular aspect of the transportation of hazardous materials. The Associate Director, Office of Hazardous Materials Transportation, Research and Special Programs Administration, U.S. Department of Transportation, is the United States Competent Authority.
Composite packagings*	- packagings consisting of an outer packaging and an inner receptacle so constructed that the inner receptacle and the outer packaging form an integral packaging. Once assembled it remains thereafter an integrated single unit; it is filled, stored, transported, and emptied as such.
Crates*	- are outer packagings with incomplete surfaces.
Drums*	- flat ended or convex ended cylindrical packagings made of metal, fiberboard, plastics, plywood, or other suitable materials. This definition also includes packagings of other shapes made of metal or plastics, e.g., round taper-necked packagings or pail-shaped packagings. Wooden barrels or jerricans are not covered by this definition.
European agreement concerning the International Carriage of Dangerous Goods by Road (ADR)	- document which outlines the regulations for transport of dangerous goods by public road within the signatory European nations.
European regulations for the Safe Transport of Dangerous Goods by Rail (RID)	- document which outlines the regulations for transport of dangerous goods by rail within the signatory European nations.
Hazardous Material (DOT definition)	- a substance or material which has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and which has been so designated.

*United Nations definitions from the "Orange Book."

Hazardous Materials Transportation Act (HMTA)	- governs the commercial shipment of such materials by the Department of Defense; establishes broad authority under which the Department of Transportation regulates the transportation/safety of all hazardous materials in commerce.
HM Docket 181	- U.S. Department of Transportation proposal to adopt the UN recommendations for the transport of hazardous material.
Inner packagings*	- packagings for which an outer packaging is required for transport.
Inner receptacles*	- receptacles which require an outer packaging in order to perform their containment function.
International Civil Aviation Organization (ICAO)	- group which sets the standards for international transport of dangerous goods by air.
ICAO Dangerous Goods Panel (DGP)	- body of experts who maintain and prepare the technical instructions which outline the requirements for transport of dangerous goods internationally by air.
International Maritime Organization (IMO)	- group which sets the standards for international transport of dangerous goods by vessel.
International Maritime Dangerous Goods (IMDG) Code	- regulatory document which implements the requirements of the IMO.
Jerricans*	- metal or plastics packagings of rectangular or polygonal cross-section.
Joint Army-Navy-Nasa-Air Force (JANNAF) Interagency Propulsion Committee	- interagency committee which interfaces with the POP joint working group.

*United Nations definitions from the "Orange Book."

Joint Conventional Ammunition Program (JCAP) Group	-	DOD interagency packaging group established to coordinate ammunition packaging programs and activities including design, development, engineering, standardization, standards and specifications, waivers and deviations, marking, color coding and associated data, and information exchanges; also Joint Ordnance Commanders' Packaging Group.
Maximum capacity*	-	maximum inner volume of receptacles or packagings expressed in litres.
Maximum net mass*	-	maximum net mass of contents in a single packaging or maximum combined mass of inner packagings and the contents thereof and is expressed in kg.
"Orange Book"	-	entitled, "Transport of Dangerous Goods," encompasses the recommendations of the UN Committee of Experts on the transport of dangerous goods.
Outer packaging*	-	outer protection of a composite or combination packaging together with any absorbent materials, cushioning, and any other components necessary to contain and protect inner receptacles or inner packagings.
Outside container (DOT definition)	-	the outermost enclosure used in transporting a hazardous material other than a freight container.
Package or outside package (DOT definition)	-	a packaging (see DOT definition) plus its contents.
Packages*	-	complete product of the packing operation, consisting of the packaging and its contents prepared for transport.
Packaging (DOD definition)	-	the methods and materials used to protect materiel from deterioration or damage; this includes cleaning, drying, preserving, packing, marking, and unitization.

*United Nations definitions from the "Orange Book."

Packaging (DOT definition)	-	the assembly of one or more containers and any other components necessary to assure compliance with the minimum packaging requirements and includes containers (other than freight containers or overpacks), portable tanks, cargo tanks, tank cars, and multi-unit tank car tanks.
Packagings*	-	receptacles and any other components or materials necessary for the receptacle to perform its containment function.
Performance Oriented Packaging (POP)	-	type of packaging based on the ability of packaging to perform to a specified level of integrity when subjected to performance tests.
Receptacles*	-	containment vessels for receiving and holding substances or articles, including any means of closing.
Self-certifier	-	organization or person who acts as a certifier in his own packaging regard, approved by the competent authority.
Transitional packaging	-	packages recognized as permissible prior to an effective date of a requirement which may continue to be legally used until an established expiration date.
UN Committee of Experts on the Transport of Dangerous Goods	-	panel responsible for the development of recommendations dealing with the multimodal transport of dangerous goods.
Wooden barrels*	-	packagings made of natural wood, of round cross-section, having convex walls, consisting of staves and heads fitted with hoops.

*United Nations definitions from the "Orange Book."

UNITED STATES MARINE CORPS
Marine Corps Base
Camp Lejeune, North Carolina 28542-5001

BO 6240.5A
NREAD/st

BASE ORDER 6240.5A

From: Commanding General, Marine Corps Base, Camp Lejeune
To: Distribution List

Subj: HAZARDOUS MATERIAL DISPOSAL PROGRAM

Ref: (a) Resource Conservation and Recovery Act (Pub No. 94-580) (42 USC 6901-6987) (NOTAL)
(b) EPA Regulations contained in Code of Federal Regulations, Title: 40 Parts 260-265 (NOTAL)
(c) DOT Regulations contained in Code of Federal Regulations, Title: 49 Parts 100-179 (NOTAL)
(d) BO 11090.1B
(e) BO 11320.1G

Encl: (1) Procedures for collection, storage and turn in of Hazardous Material and Hazardous Waste for disposal
(2) Responsibilities for Hazardous Material/Hazardous Waste Disposal
(3) Hazardous Waste Training Requirements and Guidelines

1. Purpose. To revise responsibilities, procedures and guidance for hazardous material (HM) and hazardous waste (HW) disposal and related environmental protection for the Camp Lejeune and Marine Corps Air Station, New River complex.

2. Cancellation. BO 6240.5.

3. Background

a. Congress and the state legislatures have responsed to the threats to human life and the environment caused by mismanagement and illegal spilling and dumping of toxic substances by enacting laws which not only attempt to avert future threats but which impose civil and criminal penalties. In enacting many of these environmental laws, Congress waived federal supremacy, requiring federal agencies including the Marine Corps, to comply with federal, state and local environmental laws. The same Congressional action also stripped federal officers and employees of their official immunity for violation of federal, state and local pollution control and environmental laws. Federal officers and employees now face the possibility that they may be personally liable for civil and criminal penalties and fines as well as imprisonment.

b. The Environmental Protection Agency (EPA) has authorized the State of North Carolina to enforce the requirements of references (a) and (b) through a state HW regulatory program. The Solid and Hazardous Waste Management Branch, Division of Health Services (DHS), is the primary enforcing agency within North Carolina. DHS enforcement personnel have authority to investigate HW spills and perform routine inspections of work sites where HW are handled and stored. These investigations and inspections can result in citations being issued to supervisors and/or personnel at the work site for civil and/or criminal violations of HW regulations.

c. Organizational commanders subject to this Order should be aware that four basic management issues must be addressed if HW are to be safely and efficiently handled and legal requirements satisfied. These are: use of containers which both meet requirements of reference (c) and are in good condition; clear, accurate marking and labeling of containers; availability of adequate supplies, equipment and storage facilities; and most important, proper HW training for all personnel routinely involved in HW management. Enclosures (1), (2) and (3) provide revised responsibilities, guidelines and procedures for HW management and related personnel training. HW training for military personnel is a major ongoing problem due to personnel turn over rates.

d. Major commands have established two collateral duty positions to coordinate and to assist with the implementation of the subject program. These are titled Hazardous Material Disposal Coordinator (HMDC) and Hazardous Material Disposal Officer (HMDO).

HMDC and HMDO responsibilities are outlined in enclosure (2). The appointment and training of qualified primary and alternate HMDCs and HMDOs are essential to implementation of the complex requirements of the subject program.

4. Action

a. Organizational commanders shall on a continuing basis take action required to implement the following HW management goals and objectives:

(1) HW operations will be supervised by properly trained personnel who have access to equipment and supplies required for handling HW safely and dealing with potential emergencies.

(2) HW training plans will be developed and implemented for all HW managers and handlers, and appropriate records maintained to document that proper training is being provided to personnel.

(3) OIC/NCOIC's will ensure that HW facilities are inspected weekly and timely corrective action is taken and properly documented per this Order and related instructions of HMDO/HMDC.

(4) OIC/NCOIC's will prepare a written HW management SOP in cooperation with HMDO for each facility where HW are routinely handled and stored. SOP will be readily available at facility.

(5) A system of internal controls will be implemented continuously in a manner which ensures that violations of this Order are identified and proper level of disciplinary action is taken to discourage recurring violations.

b. Major commands will take action required to limit HW generation to the minimun locations practical, to identify HW handling and storage equipment and facilities requirements and to develop and implement a system of internal controls which provides satisfactory compliance with the requirements of this Order and related regulatory requirements. As a minimum the following action will be taken:

(1) Appoint a primary and alternate HMDC with authority and resources to implement duties outlined in enclosure (2).

(2) Maintain at all times a listing/directory of facilities where HW are handled and stored and ensure timely submittal of waste identification documents per enclosure (1).

(3) Require OIC/NCOIC's of HW handling and storage facilities to develop and implement a written HW SOP for each facility per enclosures (1) and (3). The SOP will be readily available to personnel routinely handling HW or dealing with HW and related emergency response.

(4) Require Commanding Officers of each Marine Air Group, Regiment, Battalion and separate Company (or equivalent) to appoint a HMDO with the authority and resources to carry out the duties outlined in enclosure (2).

(5) Establish and promote HW management goals and objectives for supply and maintenance functions which promote the minimization of the volume and toxicity of HW generation.

5. Concurrence. This Order has been coordinated and concurred in by the Commanding Generals, II Marine Amphibious Force, 2d Marine Division, FMF, 2d Force Service Support Group (Rein), FMF, 6th Marine Amphibious Brigade, FMF, and the Commanding Officers, Marine Corps Air Station, New River, Naval Hospital and the Naval Dental Clinic.

M. C. HARRINGTON
Chief of Staff

DISTRIBUTION: A
NREAD 300

PROCEDURES FOR COLLECTION, STORAGE AND TURN-IN OF HAZARDOUS WASTE (HW) AND HAZARDOUS MATERIAL (HM) FOR RECYCLING OR DISPOSAL

1. Hazardous Waste Management Standard Operating Procedures (HWMSOP). Each organization routinely generating or handling HW or disposing of HM will develop desk top procedures to be followed. As a minimum, the HWMSOP will provide the following:

a. Name and telephone number of cognizant Hazardous Material Disposal Officer (HMDO) and Hazardous Material Disposal Coordinator (HMDC).

b. Copy of BO 6240.5_ and 11090.1_.

c. Name, title, duties and HW training records for each employee per enclosure (3).

d. Waste Identification Document (WID) for each HW generated or handled completed per attachment (A) of this enclosure.

e. Procedures and responsibilities for dealing with HW/HM spills and related emergencies.

f. Copies of weekly inspections of HW storage areas/containers.

g. Guidance provided by HMDO/HMDC's to implement HW/HM disposal program.

h. Location sketch for each HW storage area.

2. HM/HW Collection and Storage Procedures/Requirements.

a. Possession of a properly completed and signed WID constitutes authorization to generate, handle or store a HW. Failure to submit a WID to HMDC within 30 days of date HW first generated or handled or 60 days of the date of this Order (whichever is later) will be considered a violation of this Order. HMDC's are responsible for monitoring and enforcement of this requirement.

b. Only Department of Transportation (DOT) approved containers labeled per attachment (B) will be used for storage of HW awaiting disposal. HMDO's are responsible for enforcing this standard.

c. All personnel routinely handling or responsible for HW management must be properly trained per this Order and references (a) and (b). OIC's are responsible for maintaining training records for personnel within their cognizance. HMDC's are responsible for enforcement of this requirement.

d. All HW containers and storage areas will be inspected weekly using format provided by cognizant HMDC/HMDO. A written record of corrective action will be maintained per HMDO/HMDC guidance. Director, Natural Resources and Environmental Affairs Division, (NREAD), MCB will asssit HMDC/HMDO develop guidelines.

e. Spills of HW/HM will be promptly reported to the Base Fire Department at the Emergency Telephone Number 451-3333. OIC's are responsible for maintaining absorbents, safety equipment, and other supplies and equipment required for dealing with routine spills. HWMSOP's will give specific guidance in this area.

f. A Form DD-1348-1 will be completed and submitted to the cognizant HMDO not later than 45 days after the "accumulation start date" on the HW label placed on the container per attachment (B).

g. HMDC will be notified by telephone, confirmed in writing, of anytime DRMO has not accepted accountability of a HW within 75 days after the "accumulation start date" on any HW container.

3. Hazardous Material (HM) and Hazardous Waste (HW) Turn-in Procedures. The following steps will be taken to initiate final disposal of HM/HW. At any time that a major problem or controversy arises, the organization attempting to turn-in the item will immediately notify the responsible Hazardous Material Disposal Coordinator (HMDC). The HMDC will be responsible for coordinating efforts to resolve the problem/controversy and will utilize the assistance of the Director, Natural Resources and Environmental Affairs Division (NREAD), Facilities Department, Marine Corps Base, telephone extension 2083, 2195. Unresolved problems/controversies will be referred to the Assistant Chief of Staff, Facilities, Marine Corps Base.

STEP 1. The Officer in Charge (OIC) of the organization having physical custody of HM/HW is responsible for turn-in of HM/HW unless otherwise specified by HMDC. OIC will properly containerize the HM/HW and submit a Form DD 1348-1 to the cognizant Hazardous Material Disposal Officer (HMDO) per instructions in organization's HWMSOP. Quesitons not addressed by HWMSOP will be directed to HMDO.

STEP 2. The HMDO will physically inspect the HM/HW and determine if the Form DD 1348-1 is properly completed and the HM/HW is properly packaged. The HMDO will coordinate correction of any problems. Unresolved problems will be referred to cognizant HMDC for resolution. Once problem's resolved, HMDO will forward (preferably hand deliver) the Form DD 1348-1 to the Defense Reutilization and Marketing Office (DRMO) Headquarters, Bldg. 906.

STEP 3. The DRMO will inspect the HM/HW if necessary, and will determine if DRMO is accountable (i.e., responsible) for disposal of the HM/HW. If DRMO determines that the local activity, not DRMO, has responsibility for disposal of the HM/HW, the DRMO will so notify the cognizant HMDC in writing with a copy to the NREAD. The HMDC and NREAD will cooperate in developing case specific procedures for disposal of the item. AC/S Logistics, MCB, will provide contracting support.

STEP 4. If DRMO determines that DRMO is accountable for HM/HW, DRMO will determine where the HM/HW will be stored awaiting disposal. HW must be stored at the DRMO facility at TP-451 complex, unless otherwise approved by the AC/S, Facilities, MCB. DRMO will submit a request to the Traffic Management Office (TMO), MCB, to arrange transportation of the HM/HW to DMRO designated facility.

STEP 5. TMO in cooperation with HMDO will determine if generating organization can safely, legally transport the item to DRMO designated facility. TMO must directly supervise transportation of HW. Whenever practical, Command turning in a HW will provide transportation. TMO and HMDO will cooperate in promoting efficient, safe transportation. Spills or other emergencies will be promptly reported to the Base Fire Department at 451-3333. Drivers will be provided written spill prevention and response guidance.

STEP 6. When the HM/HW arrives at storage facility, DRMO will inspect prior to unloading. DRMO is authorized to refuse the HM/HW if any significant discrepancies exist. DRMO will immediately notify cognizant HMDC and NREAD of DRMO's refusal to accept the HM/HW. The transporting vehicle will be secured and will not be moved outside the immediate vicinity of DRMO facility except for emergency situations involving risk to public safety or to property. DRMO, HMDC and NREAD will cooperate in making an immediate decision on corrective action. If problems cannot be promptly resolved, the HM/HW will be returned to the generating organizations facilities.

STEP 7. When DRMO accepts physical custody of the HM/HW, turn-in is complete.

4. Standards for Hazardous Waste Satellite Accumulation Areas

a. General. Satellite accumulation area (SAA) is a term developed by the Environmental Protection Agency (EPA) to designate a work site which may generate and accumulate hazardous waste (HW) without regard to the 90 day storage limit normally applicable to non - permitted HW storage facilities. The purpose of setting up this special category of HW storage is to assist those generators who generate HW at a very slow rate; example, one container per every 6 months. Previously, these generators were required to dispose of partially filled containers, a very inefficient and often expensive practice. Any work site routinely generating a HW at a rate of less than one full container per 45-day interval may benefit from being designated as a SAA. The decision to designate a work site as a SAA will be made by the cognizant Hazardous Material Disposal Coordinator (HMDC). The HMDC will develop the proposal and submit to the Director, Natural Resoucres and Environmental Affairs Division (NREAD), MCB, for concurrence and technical review. The HMDC will ensure that SAA requirements are incorporated into the HW SOP for the generating site.

b. SAA Requirements.

(1) SAA must meet applicable fire prevention regulations enforced by the Base Fire Protection Division.

(2) All containers must meet Department of Transportation (DOT) regulations for the specific type of materials stored in them.

(3) All containers will have a hazardous waste label attached per BO 6240.5. The "accumulation start date" will be left blank until the date container is full, at which time the current date will be entered. The container must be physically moved to the designated storage area shown in the HW SOP.

(4) A sign shall be installed at the SAA which provides the following or equivalent:

(a) IN CASE OF EMERGENCY NOTIFY BASE FIRE DISPATCHER AT 451-3333 and HAZARDOUS MATERIAL DISPOSAL OFFICER _____.

(b) UNAUTHORIZED PERSONNEL KEEP OUT

(c) NO SMOKING

(d) SPILL CONTINGENCY PLAN IS ATTACHED BELOW:

(5) The spill contingency plan should specify by name and title persons responsible for all key phases of HW handling and emergency response.

(6) Adequate supplies and equipment should be on hand at all times to ensure safe, timely handling of the HW and related spills and leaks.

(7) An informal inspection of the SAA will be conducted during each normal working day. Deficiencies will be promptly corrected. A log of discrepancies discovered and corrective action taken will be maintained in any format designated by OIC.

(8) Total volume of HW at SAA may not exceed 55 gallons. Filled containers must, by EPA regulations, be removed from SAA within 3 days of the date filled.

WASTE INFORMATION DOCUMENT (WID)

DATE _____

WID # _____

1. GENERATING WORK CENTER INFORMATION

_____

Shop Contact Command Building Phone Ext.

2. WASTE IDENTIFICATION

a. WASTE NAME: Common _____ Chemical(s) _____

_____

b. PHYSICAL FORM: (CHECK) ___Liquid ____Solid _____Sludge _____Other (Specify)

_____

c. MANUFACTURER: _____ d. NATIONAL STOCK NUMBER: _____

e. CONTAINER: (TYPE AND SIZE) _____

f. GENERATION RATE: (e.g., gal/day, lbs/day) _____

g. FREQUENCY OF GENERATION _____

h. EXPECTED ANNUAL GENERATION: (GALS, LBS) _____

i. DESCRIBE WASTE GENERATION PROCESS: _____

_____

_____

j. HAS WASTE BEEN MIXED WITH ANY OTHER MATERIAL? _____ Yes _____ No If yes,

specify _____

_____

3. REASON FOR DISPOSAL: (CHECK)

____Exceeded shelf life _____ Served intended purpose ____ Unused ____ Other

(specify) _____

4. CERTIFICATION: I certify that the above named materials are the only compounds in the waste containers listed above and have not been mixed with any other materials.

_____

HMDO DATE

Signature

5. REQUEST FOR WASTE CHARACTERIZATION BY NREAD: I am unable to properly classify the above waste. NREAD assistance is requested. Cost of Laboratory Analysis should be charged to the following Cost Account Code. _____

_____

HMDC DATE

Signature

Appendix A to
ENCLOSURE (1)

TO BE COMPLETED BY THE HMDC AND COPIES SENT TO THE HMDO, DRMO, AND DIRECTOR, NREAD

6. WASTE CHARACTERIZATION: DATE COMPLETED _____ LAB REPORT # _____

7. WASTE CLASSIFICATION: _____ Hazardous _____ Nonhazardous

8. EPA WASTE NUMBER(S): _____

9. REASON FOR HAZARD CLASSIFICATION: _____

_____

10. HANDLING INSTRUCTIONS: _____

_____

_____

_____

11. DTID 1348-1 REQUIRED: _____ Yes _____ No

12. CONTAINER AND LABELING REQUIREMENTS:

a. DOT/DOD CONTAINER TYPE: _____

b. DOT PROPER SHIPPING NAME: _____

c. DOT HAZARD CLASS: _____

d. UN/NA NUMBER: _____

e. ADDITIONAL REQUIREMENTS: (FOR DRMO) _____

_____

_____

_____

13. SPECIAL PRECAUTIONS AND/OR INSTRUCTIONS: _____

_____

_____

_____

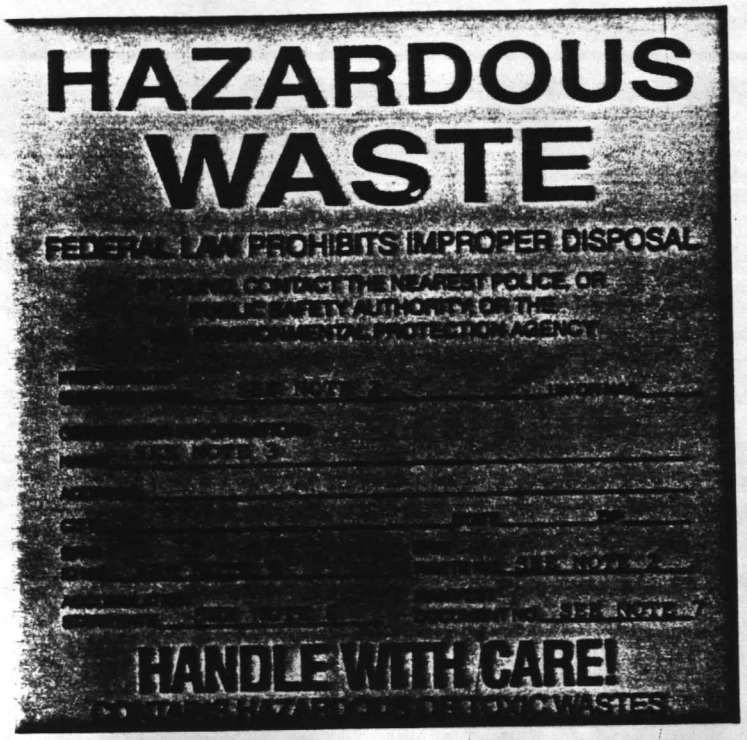
_____

_____

14. _____

HMDC Signature Code Date

See Note 1



Note 1: The above label or equivalent will be placed on all hazardous waste (HW) containers prior to use for storage of HW. Damaged labels will be immediately replaced, using same information as on original label. If original label is illegible, contact your Hazardous Material Disposal Officer for guidance.

Note 2: Obtain this information from your HW Standard Operating Procedure. If not available, contact your Hazardous Material Disposal Officer.

Note 3: Enter the name of the organization having physical custody of the HW at time label is placed on the container, unless replacing a damaged label. See Note 1 above.

Note 4: Enter either "MCAS, New River, Jacksonville", for HW generated aboard or by organizations stationed aboard the Marine Corps Air Station, New River. Enter "Marine Corps Base, Camp Lejeune" for all other HW generated locally.

Note 5: Enter NC 8170022570 for all waste generated aboard or by organizations stationed aboard MCAS, New River. Enter NC 6170022580 for all other HW generated within the Camp Lejeune complex.

Note 6: Enter the date that HW was first placed in the container unless the facility has written authorization from CG, MCB, Camp Lejeune to operate as a HW satellite accumulation area. In which case, follow instructions provided within the written authorization.

Note 7: Leave Blank, will be completed by the Traffic Management Officer, Camp Lejeune.

HAZARDOUS WASTE (HW) MANAGEMENT INSPECTION FORM FOR
HAZARDOUS MATERIAL DISPOSAL COORDINATES AND OFFICERS

Date: _____

1. Facility being Inspected: _____

2. Organization in Charge: _____

3. Inspection Participants/Phone Number: _____

_____

4. Description of HW Streams: _____

_____

_____

_____

5. Are records of HW generation consistent with HW streams? _____

6. HW Training

a. Are job descriptions available for all personnel actively involved in HW management? _____

b. Are training records adequate/current? _____

c. Are alternate personnel assigned to key positions? _____
(If not, explain how unit deals with absence of key personnel)

d. Do contacted personnel demonstrate adequate knowledge of:

(1) Regulatory Requirements _____
(2) Applicable Base Orders _____
(3) Types of HW Handled _____
(4) Proper Containers _____
(5) Proper Labeling _____
(6) Weekly HW Inspections _____
(7) HW Turn-in Procedures _____
(8) Health and Safety _____
(9) Spill Reporting Procedures _____
(10) Spill Response Duties _____

7. Condition of Storage Facilities

a. Date of last Fire Dept Inspection? _____

b. Are spills likely to reach soil or water? _____

c. Are HW protected from weather? _____

d. Are weekly HW inspections conducted properly? _____

e. Are discrepancies corrected promptly? _____

f. Condition of containers? ("X" indicates discrepancy)

(1) Closed	___	(7) Properly Labeled	___
(2) Leaking	___	(8) Properly Dated	___
(3) Bulging	___	(9) Properly Stacked	___
(4) Collasped	___	(10) Properly Packaged	___
(5) Corroded	___	(11) Meet DOT Requirements for Contents	___
(6) Overfilled	___		

g. Are 90 day turn-in deadlines being met? _____

h. Are HW turn-in documents being prepared and submitted in a timely, proper manner? _____

i. Comments: _____

RESPONSIBILITIES FOR HAZARDOUS MATERIAL (HM)/HAZARDOUS WASTE (HW) DISPOSAL

1. Compliance with hazardous waste management and disposal regulations requires the cooperative effort of many functions within the Camp Lejeune complex. The following outlines the responsibilities of various officers and managers relative to hazardous waste management:

a. Hazardous Material Disposal Officer (HMDO) will:

(1) Provide assistance to HW generators and handlers in the preparation and timely submittal of HW turn-in documents per BO 6240.5.

(2) Perform quarterly inspections of HW generation and storage sites and notify OIC's of corrective action required. Format in Appendix C, Enclosure (1) will be followed.

(3) Keep OIC's and key personnel informed of any changes in regulations affecting HW activities within the HMDO's cognizance and ensure that HW standard operating procedures (SOP) are up-to-date and readily available for review by personnel involved in HW management.

(4) Develop a roster of personnel involved in HW management at each work site within the HMDO's cognizance.

(5) Develop and provide HW Training requirements to HMDC for personnel within the HMDO's cognizance.

(6) Actively promote the reduction of volume and toxicity of HW produced by organizations within the HMDO's cognizance.

(7) Conduct surveys required to identify HW generation and storage sites within the HMDO's cognizance and provide periodic updates as questioned to the HMDC.

b. Hazardous Material Disposal Coordinator (HMDC) will:

(1) Provide assistance to HMDO's in handling HW management problems. Serve as HMDO for organizations not having sufficient HW activity to justify appointment of a HMDO.

(2) Perform annual inspections of HW generation and storage sites and notify HMDO's of corrective action required. Format in Appendix C, Enclosure (1) will be followed.

(3) Inform HMDO's of any changes in regulations affecting HW activities under the HMDO's cognizance.

(4) Serve as command point of contact with Marine Corps Base Environmental personnel on matters dealing with worksite HW inspections by State and Federal agencies and implementation of this Order.

(5) Develop listings of HW generation and storage facilities.

(6) Develop and provide to the Base Civilian Personnel Division (CPD) the HW training requirements of the HMDC's command.

c. Assistant Chief of Staff, Facilities, Marine Corps Base will:

(1) Have overall responsibility for implementation of the subject program and maintaining compliance with requirements of references (a) and (b) and related local, state and federal regulations.

(2) Have overall responsibility for management of pollution abatement projects per latest revision of MCO P11000.8.

(3) Have overall responsibility for local implementation of Marine Corps programs to correct environmental discrepancies associated with past HM/HW disposal sites.

(4) Ensure that plans and specifications for new facilities provide adequate facilities and collateral equipment for the handling and storage of HM/HW.

d. Director, Natural Resources and Environmental Affairs Division will:

(1) Provide a staff specialist to serve as HMDC for Marine Corps Base.

(2) Provide a command point of contact with state and federal agencies on matters pertaining to the subject program.

(3) Monitor ongoing activities as required to identify, evaluate and provide up-channel reporting of environmental deficiencies related to the subject program.

(4) Coordinate day-to-day implementation of this Order and provide the following types of technical assistance:

(a) Laboratory support, if required, for HW identification.

(b) Training to HMDC's and HMDO's on state and federal environmental laws, regulations and procedures.

(c) Guidance on HM/HW SOP preparation.

(d) Guidance on HM/HW spill prevention, control, cleanup and related HW disposal.

(e) Coordination of HM/HW recycling/mininization program.

(f) Preparation and submission of reports to regulatory agencies required by references (a) and (b).

e. Base Maintenance Officer will:

(1) Collect and dispose of used POL's and oily wastes from collection tanks and other oil pollution abatement facilities in a manner consistent with this Order and references (a) and (b).

(2) Unless otherwise provided, operate and maintain industrial waste collection and pretreatment facilities associated with base sewage collection and treatment systems.

(3) Provide HM/HW spill response services in accordance with reference (d).

f. Base Fire Chief will:

(1) Provide HM/HW spill and related emergency services per references (d) and (e).

(2) Provide routine inspections of facilities where HM/HW are stored and handled, and report all discrepancies to cognizant HMDC. Elimination of the following hazards will be stressed:

(a) HM/HW stored in defective containers or containers which are not properly marked with the chemical name, NSN (if appropriate) and hazard label of the contents.

(b) Incompatible HM/HW are stored in a manner with significant potential threat of fire, explosion, or release of toxic fumes or gases due to chemical reaction during spills or leaks.

(c) HM/HW stored in a manner likely to result in a significant discharge to the environment.

g. Assistant Chief of Staff, Logistics will:

(1) Appoint an officer to serve as HMDO for the Logistics Department.

(2) Ensure that suppliers provide hazardous material safety data sheets for all HM procured through open purchase and will provide one copy to unit ordering HM and one copy to the Base Safety Manager.

(3) Develop and implement a program to provide, on a continuing and reimbursable basis, empty containers, labels, labeling equipment, absorbents, and other HM/HW handling supplies required to implement this Order and BO 11090.1B.

(4) Provide contracting services required to dispose of HM or HW for which DRMO is not accountable.

h. Traffic Management Officer, Logistics Department, Marine Corps Base will serve as principal agent for the Commanding General on matters pertaining to HM and HW transportation, and will be responsible for:

(1) Monitoring all HW transportation for compliance with requirements of references (a), (b) and (c) and related state and federal regulations.

(2) Providing transportation services and related record keeping required for implementation of this Order and which are not available from the Defense Reutilization and Marketing Officer (DRMO) of the organization generating the HM/HW.

i. Assistant Chief of Staff, Manpower will:

(1) Develop and implement a comprehensive HW personnel training plan meeting the requirements of reference (b) and related State of North Carolina regulations.

(2) Coordinate local implementation of the Marine Corps Hazardous Material Information System, per MCO 5100.2S and provide safety data and related technical support to HMDC's, HMDO's and other cognizant officials as required to implement this Order.

j. Officer in Charge, Preservation, Packaging (PP&P) Section, 2dFSSG will provide PP&P support (in accordance with established regulations and procedures) to HMDO's, HMDC's, TMO and DRMO required to accomplish the following:

(1) Identification of type of containers and labeling required for compliance with reference (c) and this Order.

(2) Packaging of HM/HW required for safe storage and transportation during disposal per this Order.

(3) HM transportation certification required for compliance with reference (c).

k. Defense Reutilization and Marketing Officer (DRMO) will:

(1) Operate the base Long-Term Hazardous Waste Storage Facility at the TP-451 complex in accordance with state permit issued under regulations promulgated under references (a) and (b).

(2) Provide HM and HW disposal services to organizations within the Camp Lejeune/MCAS, New River complex in accordance with DOD regulations, references (a) and (b), and related state and federal regulations.

(3) Receive and process HM/HW turn-in documents in a timely manner and provide prompt notification to HMDO's of any document not satisfying applicable turn in criteria or which contain HM/HW for which DRMO is not accountable.

(4) Maintain records of DRMO HM/HW storage and disposal activity in a manner which provides information required for preparation and timely submittal of required reports to state and federal regulatory agencies.

(5) Keeps HMDC's, HMDO's and other cognizant officers informed of changes in DRMO policies and procedures which affect local implementation of the subject program.

1. Commanding Officers of the following Base Commands/Organizations will designate a Primary and Alternate HMDO to carry out duties outlined in 1a and 1b above: Marine Corps Engineer School; Rifle Range Detachment; Field Medical Service Support School; Marine Corps Service Support School; Reserve Support Unit; Infantry Training School; Support Battalion; Headquarters Battalion; Assistant Chief of Staff, Morale, Welfare and Recreation; Assistant Chief of Staff, Logistics, and Base Maintenance Officer within their respective commands/organizations.

HAZARDOUS WASTE TRAINING REQUIREMENTS AND GUIDELINES

1. Hazardous waste (HW) training is a specific requirement of state and federal regulations promulgated under the Resource Conservation and Recovery Act (RCRA). A review of RCRA requirements and the actual HW activity aboard the Camp Lejeune/Marine Corps Air Station, New River complex indicates that a relatively small percentage of personnel require highly specialized HW training. Generally, the requirements for the remaining personnel involved in HW management are satisfied by routine on-the-job training and related safety and fire-prevention training readily available locally. Providing this training will have minor impact on organizational commanders, in that training required is directly job related. Attachment (A) Part II outlines the minimum HW training required for all categories of employees identified in Section 2 below.

2. For the purpose of these guidelines, only those personnel directly involved in HW handling, storage and disposal will be subject to the HW training documentation requirements of RCRA. A special HW training record, i.e., Attachment (A) Part I or II (or equivalent) will be developed for the following personnel:

a. All Hazardous Material Disposal Officers (HMDO), Hazardous Material Disposal Coordinators (HMDC), and alternate HMDO's and HMDC's.

b. Defense Reutilization and Marketing Officer (DRMO) and subordinate personnel routinely involved in HW handling, storage, turn-in and disposal.

c. Deputy Traffic Management Officer (TMO) and subordinate personnel involved in transportation and related certification of HW for shipment per DOT regulations.

d. Personnel assigned to work places meeting the definition of HW generators, HW accumulation areas or satellite HW accumulation areas and involved in one or more of the following:

(1) Collection and storage of HW.

(2) Inspection, and related follow-up, of HW handling/storage areas.

(3) Response to HW spills and related emergencies.

(4) Preparation and submittal of HW turn-in documents.

3. Other activity personnel providing professional and technical support to HW management include the following:

a. Fire Protection personnel

b. Safety specialists

c. Environmental staff

d. Industrial hygenists

Preparation of Attachment (A) Part I or II for these staff specialists and emergency personnel are not required. Duties and training provided to these individuals will consist of standard position descriptions and civilian personnel records.

4. Responsibility for providing specialized HW training required for compliance with RCRA is assigned to Assistant Chief of Staff, Manpower, Marine Corps Base. The following officials are responsible for notifying Assistant Chief of Staff, Manpower, of specialized training requirements of their subordinates and other personnel as shown.

a. The DRMO for self and subordinates

b. The TMO for subordinates

c. HMDC's for personnel shown in 2d above within HMDC's cognizance

d. Director, Natural Resources and Environmental Affairs Division (NREAD) for subordinates and primary and alternate HMDC's and HMDO's.

Organizational commanders are responsible for developing and implementing training plans and procedures to provide RCRA required training and maintain records outlined in Attachment (A). Organizational commanders will ensure that all new/newly assigned personnel are provided appropriate HW training and close supervision required to comply with RCRA and applicable personnel safety fire prevention and occupational health standards. Organizational commanders will notify HMDC's of HW training requirements. Notification will include names and addresses of persons to be trained and an accurate description of the training required. HMDC and Assistant Chief of Staff, Manpower representative will coordinate the scheduling and funding of specialized HW training.

5. Records of HW training must be maintained for each employee for three years after employee transferred or terminated, except as follows: if an employee is transferred to a HW related position within the Camp Lejeune/Marine Corps Air Station, New River complex, the HW training records will be transferred to the new organization. Responsibility for maintaining official files of HW training records are as follows:

a. HMDC's will maintain records of HW training for HMDC's, HMDO's and alternate HMDC's and HMDO's within their cognizance.

b. DRMO will maintain HW training records for all employees identified in paragraph 2b above.

c. TMO will maintain HW training records for all employees identified in paragraph 2c above.

d. HW training records for all employees identified in paragraphs 5(a)-5(c) will be maintained on Attachment (A) Part I. Records of personnel identified in paragraph 5(d) will be maintained on Attachment (A) Part II. HMDO will maintain HW training records for personnel identified in paragraph 5(d) above. A copy of training records for personnel identified in paragraph 5(d) above will be maintained in HWMSOP.

PART I

RECORD OF HAZARDOUS WASTE TRAINING

1. Employee Name: _____

2. Job Title/MOS: _____

3. Name of Organization: _____

4. Date this Record Established: _____

5. Description of HW Duty: _____

6. Description of HW Training Completed:

a. Date	b. Description of Training/Trainer	Name of c. and Date Signature

PART II

MINIMUM LEVELS AND RECORD KEEPING FOR HAZARDOUS WASTE MANAGEMENT ORIENTATION TRAINING

1. Name of Organization: _____

2. Description of Training: The personnel shown below were provided a minimum of one and one-half hours of on-the-job training covering the following:

a. Review of the types and characteristics of HM/HW handled.

b. Review of activity oil and hazardous substance spill prevention and contingency plan contained in BO 11090.1_.

c. Organizational procedures and policy for implementation of BO 6240.5.

d. Procedures to follow in protecting personal safety during HM/HW emergencies.

e. Review of the HW Standard Operating Procedure for the organization.

The training included question and answer session at the end of training.

3. Personnel Training Provided to:

Name of Trainee	Name of Trainer	Training Date	Trainer/Trainee Signatures

office

06/09/86

HAZARDOUS WASTE SUMMARY

MCB CAMP LEJEUNE, NC

WASTE MATERIAL	EPA WASTE NUMBER	DOT SHIPPING NAME	HAZARD CLASS	UN/NA NUMBER	DOT LABELS/ MARKINGS	DRUM TYPE
Acetic acid	D002	Waste, Acetic Acid	Corrosive Material	UN2790	Corrosive	17C/E[1] or 34
Acetone	F003	Waste, Acetone	Flammable Liquid	UN1090	Flammable Liquid	17C/E
Activated charcoal	D002	Waste, Corrosive Liquid, n.o.s.	Corrosive Material	UN1760	Corrosive	17C/E[1] or 34
Adhesive	D001	Waste, Adhesive	Flammable Liquid	UN1133	Flammable Liquid	17C/E
Adhesive	D001/F005	Waste, Adhesive	Flammable Liquid	UN1133	Flammable Liquid	17C/E
Adhesive	D001/F003/ F005	Waste, Adhesive	Flammable Liquid	UN1133	Flammable Liquid	17C/E
Adhesive primer	D001	Waste, Flammable Liquid, n.o.s.	Flammable Liquid	UN1993	Flammable Liquid	17C/E
Ammonium hydroxide	D002	Waste, Ammonium Hydroxide	Corrosive Material	NA2672	Corrosive	17C/E[1] or 34
n-Amyl acetate	D001	Waste, Amyl Acetate	Flammable Liquid	UN1104	Flammable Liquid	17C/E
Antiseize compound	D008	Hazardous Waste, Liquid, n.o.s.	ORM-E	NA9189	ORM-E	----
Asphalt adhesive	D001	Waste, Adhesive	Combustible Liquid	UN1133	----	----
Battery acid	D002/D008	Waste, Battery Fluid, Acid	Corrosive Material	UN2796	Corrosive	34
Benzene	U019	Waste, Benzene	Flammable Liquid	UN1114	Flammable Liquid	17C
Benzoin tincture	D001	Waste, Ethyl Alcohol	Flammable Liquid	UN170	Flammable Liquid	17C
Bituminous coating compound	D001	Waste, Combustible Liquid, n.o.s.	Combustible Liquid	NA1993	----	----
Blankarola	D001/F001	Waste, Naphtha Mixture (contains Perchloroethylene)	Flammable Liquid	UN2553	Flammable Liquid	17C/E
Blanket wash	D001/F001	Waste, Flammable Liquid, n.o.s.	Flammable Liquid	UN1993	Flammable Liquid	17C/E
Break-free, CLP	D001	Waste, Combustible Liquid, n.o.s.	Combustible Liquid	NA1993	----	----
Brush plating solution	D002	Sodium Hydroxide, Solution	Corrosive Material	UN1824	Corrosive	17C/E[1] or 34
Calcium hypochlorite	D001	Waste, Calcium Hypochlorite mixture	Oxidizer	UN1748	Oxidizer	17E/H
Carbon removing compound	D002	Waste, Corrosive Liquid, n.o.s.	Corrosive Material	UN1760	Corrosive	17C/E[1] or 34

WASTE MATERIAL	EPA WASTE NUMBER	DOT SHIPPING NAME	HAZARD CLASS	UN/NA NUMBER	DOT LABELS/ MARKINGS	DRUM TYPE
Caustic soda	D002	Waste, Sodium Hydroxide, Dry Solid	Corrosive Material	UN1823	Corrosive	----[2]
Cement solvent	D001	Waste, Flammable Liquid, n.o.s.	Flammable Liquid	UN1993	Flammable Liquid	17C/E
Charcoal lighter	D001	Waste, Flammable Liquid, n.o.s.	Flammable Liquid	UN1993	Flammable Liquid	17C/E
Chlorination kit, water	D001	Waste, Calcium Hypochlorite Mixture	Oxidizer	UN1748	Oxidizer	17E/H
Chloroform	U044	Waste, Chloroform	ORM-A	UN1888	ORM-A	----
Chromic acid	D002/D007	Waste, Chromic Acid Solution	Corrosive Material	UN1755	Corrosive	17E[1] or 34
Cleaning compound	D002	Waste, Compound, Cleaning, Solution	Corrosive Material	NA1760	Corrosive	17E[1] or 34
Cleaning compound, aluminum surface	D001/D002/ D005	Waste, Flammable Liquid, Corrosive, n.o.s.	Flammable Liquid	UN2924	Flammable Liquid Corrosive	17C/E[1] or 34
Cleaning solvent	F002	Waste, Methylene Chloride	ORM-A	UN1593	ORM-A	----
Cleaning solvent, Gentron 113	F001	Waste, ORM-A, n.o.s. (contains trichlorotrifluoroethane)	ORM-A	NA1693	ORM-A	----
Coating compound (zinc chromate & phosphoric acid)	D001/D002/ D007	Waste, Flammable Liquid, Corrosive, n.o.s.	Flammable Liquid	NA2924	Flammable Liquid Corrosive	17C/E[1] or 34
Coating compound (8030006647042)	D001	Waste, Petroleum Distillate	Combustible Liquid	UN1268	----	----
Contact adhesive	D001/F003/ F005	Waste, Adhesive	Flammable Liquid	UN1133	Flammable Liquid	17C/E
Contact cement	D001/F003/ F005	Waste, Cement	Flammable Liquid	NA1133	Flammable Liquid	17C/E
Corrosion preventive	D001/D007	Waste, Combustible Liquid, n.o.s.	Combustible Liquid	NA1993	----	----
Corrosion removing compound	D002	Waste, Phosphoric Acid Solution	Corrosive Material	UN1805	Corrosive	17C/E[1] or 34
Corrosion resistant	D002/D007	Waste, Chromic Acid Solution	Corrosive Material	UN1755	Corrosive	17E[1] or 34
Creosote	U051	Waste, Combustible Liquid, n.o.s.	Combustible Liquid	NA1993	----	----
Cutback asphalt	D001	Waste, Asphalt Cut Back	Combustible Liquid	NA1999	----	----

WASTE MATERIAL	EPA WASTE NUMBER	DOT SHIPPING NAME	HAZARD CLASS	UN/NA NUMBER	DOT LABELS/ MARKINGS	DRUM TYPE
Decontaminating agent (DS-2)	D002	Waste, Corrosive Liquid, n.o.s.	Corrosive Material	UN1760	Corrosive	17C/E[1] or 34
Decontaminating agent (STB)	D002	Waste, Bleaching Powder	ORM-E	UN2208	ORM-E	----
Deglazing solvent	F002	Waste, Methylene Chloride	ORM-A	UN1593	ORM-A	----
Deicing-defrosting	D001	Waste, Flammable Liquid, n.o.s.	Flammable Liquid	UN1993	Flammable Liquid	17C/E
Denatured alcohol	D001	Waste, Denatured Alcohol	Flammable Liquid	NA1986	Flammable Liquid	17C/E
Dent filler (auto body filler) FP 98°F	D001	Waste, Flammable Liquid, n.o.s.	Flammable Liquid	UN1993	Flammable Liquid	17C/E
Dent filler (bondo) FP 100°F	D001	Waste, Combustible Liquid, n.o.s.	Combustible Liquid	NA1993	----	----
Dental amalgam	D009/D011	Hazardous Waste, Solid, n.o.s.	ORM-E	NA9189	ORM-E	----
Dental resin	D001	Waste, Methyl Methacrylate Monomer Inhibited	Flammable Liquid	UN1247	Flammable Liquid	17C/E
Deodorant	U165	Waste, Naphthalene	ORM-A	UN1334	ORM-A	----
Dichloromethane	U080	Waste, Dichloromethane	ORM-A	UN1593	ORM-A	----
Dichromate cleaner	D002/D007	Waste, Compound, Cleaning, Liquid	Corrosive Material	NA1760	Corrosive	17C/E[1] or 34
Diethylenetriamine	D002	Waste, Corrosive Liquid, n.o.s.	Corrosive Material	UN1760	Corrosive	17C/E[1] or 34
Disinfectant	D001/D002	Waste, Flammable Liquid, Corrosive, n.o.s.	Flammable Liquid	UN2924	Flammable Liquid Corrosive	17C/E[1] or 34
Drain cleaner	D002	Waste, Potassium Hydroxide, Dry Solid	Corrosive Material	UN1813	Corrosive	----[2]
Dry cleaning solvent	D001	Waste, Combustible Liquid, n.o.s.	Combustible Liquid	NA1993	----	----
Duplicating fluid	D001	Waste, Flammable Liquid, n.o.s.	Flammable Liquid	UN1993	Flammable Liquid	17C/E
Dursban	D001	Waste, Insecticide, n.o.s.	Flammable Liquid	NA1993	Flammable Liquid	17C/E
Electrolite kit	D002	Waste, Electrolyte (Acid) Battery Fluid	Corrosive Material	UN2796	Corrosive	34
Engine primer fuel	D001	Waste, Flammable Liquid, n.o.s.	Flammabel Liquid	UN1993	Flammable Liquid	17C/E

WASTE MATERIAL	EPA WASTE NUMBER	DOT SHIPPING NAME	HAZARD CLASS	UN/NA NUMBER	DOT LABELS/ MARKINGS	DRUM TYPE
Flight deck compound	D001/F005	Waste, Flammable Liquid, n.o.s. (contains xylene)	Flammable Liquid	UN1993	Flammable Liquid	17C/E
Freon 11	U121	Hazardous Waste, Liquid, n.o.s. (contains trichloromonofluoromethane)	ORM-E	NA9189	ORM-E	----
Fuel inhibitor	D001	Waste, Ethylene Glycol Monoethyl Ether	Combustible Liquid	UN1171	----	----
Genetron 11	U121	Hazardous Waste, Liquid, n.o.s. (contains trichloromonofluoromethane)	ORM-E	NA9189	ORM-E	----
Glacial acetic acid	D002	Waste, Acetic Acid, Glacial	Corrosive Material	UN2789	Corrosive	17C/E[1] or 34
Gum process	D002	Waste, Corrosive Liquid, n.o.s.	Corrosive Material	UN1760	Corrosive	17C/E[1] or 34
Hydrazine	D003	Waste, Hydrazine, Aqueous Solution	Corrosive Material	UN2030	Corrosive	34
Hydrochloric acid	D002	Waste, Hydrochloric Acid	Corrosive Material	UN1789	Corrosive	34
Hydrogen peroxide	D001	Waste, Hydrogen Peroxide Solution	Oxidizer	UN2014	Oxidizer	----[4]
Indicator solution	D001	Waste, Flammable Liquid, n.o.s.	Flammable Liquid	UN1993	Flammable Liquid	17C/E
Insect repellent	D001	Waste, Flammable Liquid, n.o.s.	Flammable Liquid	UN1993	Flammable Liquid	17C/E
Inspection penetrant	D001	Waste, Combustible Liquid, n.o.s.	Combustible Liquid	NA1993	----	----
Insulating compound	D001/F003	Waste, Flammable Liquid, n.o.s.	Flammable Liquid	UN1993	Flammable Liquid	17C/E
Iso-octane	D001	Waste, Isooctane	Flammable Liquid	UN1262	Flammable Liquid	17C/E
Isopropyl alcohol	D001	Waste, Isopropyl Alcohol	Flammable Liquid	UN1219	Flammable Liquid	17C/E
Kerosene	D001	Waste, Kerosene	Combustible Liquid	UN1223	----	----
Layout dye	D001	Waste, Flammable Liquid, n.o.s.	Flammable Liquid	UN1993	Flammable Liquid	17C/E
Lead nitrate	D001	Waste, Lead Nitrate	Oxidizer	UN1469	Oxidizer	----[4]
Lead acid battery	D001/D008	Waste, Battery, Wet, Filled With Acid	Corrosive Material	UN2794	Corrosive	----[5]
Leak detection dye, red	D001/F003	Waste, Flammable Liquid, n.o.s. (contains xylene)	Flammable Liquid	UN1993	Flammable Liquid	17C/E
Lindane	U041	Waste, Lindane	ORM-A	NA2761	ORM-A	----

WASTE MATERIAL	EPA WASTE NUMBER	DOT SHIPPING NAME	HAZARD CLASS	UN/NA NUMBER	DOT LABELS/ MARKINGS	DRUM TYPE
Lindane shampoo	U041	Waste, Lindane	ORM-A	NA2761	ORM-A	----
Liquid cement	D001	Waste, Cement	Flammable Liquid	NA1133	Flammable Liquid	17C/E
Liquid paint	D001	Waste, Paint	Flammable Liquid	UN1263	Flammable Liquid	17C/E
Lithium battery	D003	Waste, Lithium Batteries, For Disposal	ORM-E	----	ORM-E	----
Lithium nitrate	D001	Waste, Nitrate, n.o.s. (contains lithium nitrate)	Oxidizer	NA1477	Oxidizer	----[4]
Lithographic blanket	F001	Waste, Tetrachloroethylene	ORM-A	UN1897	ORM-A	----
Marking stencil ink	D001	Waste, Ink	Combustible Liquid	UN2867	----	----
Mercury	U151	Waste, Mercury, Metallic	ORM-E	NA2809	ORM-E	----
Mercury battery	D009	Hazardous Waste, Solid, n.o.s.	ORM-E	NA9189	ORM-E	----
Methanol	F003	Waste, Methanol	Flammable Liquid	UN1230	Flammable Liquid	17C/E
Methyl ethyl ketone	F005	Waste, Methyl Ethyl Ketone	Flammable Liquid	UN1193	Flammable Liquid	17C/E
Methyl isobutyl ketone	F003	Waste, Flammable Liquid, n.o.s. (contains methyl isobutyl ketone)	Flammable Liquid	UN1993	Flammable Liquid	17C/E
Methylene chloride	F001/F002	Waste, Methylene Chloride	ORM-A	UN1593	ORM-A	----
Muriatic acid	D002	Waste, Muriatic Acid	Corrosive Material	UN1789	Corrosive	34
Naphtha	D001	Waste, Naphtha	Flammable Liquid	UN2553	Flammable Liquid	17C/E
Nickel cadmium battery	D003					
Nitric acid	D002	Waste, Nitric Acid, 40% or less	Corrosive Material	NA1760	Corrosive	----[6]
Nitric acid >40%	D001/D002	Waste, Nitric Acid	Oxidizer	UN2031	Oxidizer	----[6]
Oven cleaner compound	D002	Waste, Compound, Cleaning, Liquid	Corrosive Material	NA1760	Corrosive	17C/E[1] or 34
Paint remover	D002	Waste, Corrosive Liquid, n.o.s.	Corrosive Material	NA1760	Corrosive	17C/E[1] or 34
Paint wastes	D001/D007/ D008	Waste, Paint	Flammable Liquid	UN1263	Flammable Liquid	17C/E; 37A/B/C

WASTE MATERIAL	EPA WASTE NUMBER	DOT SHIPPING NAME	HAZARD CLASS	UN/NA NUMBER	DOT LABELS/ MARKINGS	DRUM TYPE
Paint thinners and solvents (xylene, toluene)	D001/F003/ F005	Waste, Paint Related Material (contains toluene, xylene)	Flammable Liquid	NA1263	Flammable Liquid	17C/E; 37A/B/C
PD-680 6850002549038, 6850002811985 and 6850002858012	D001	Waste, Petroleum Distillates	Combustible Liquid	UN1268	----	----
Pentane	D001	Waste, Pentane	Flammable Liquid	UN1265	Flammable Liquid	17C/E
Photo bleach	D002	Waste, Acetic Acid	Corrosive Material	UN2790	Corrosive	17C/E[1] or 34
Photo chemical kit 6750010186285	D001/F002	Waste, Compound Cleaning, Liquid (contains trichlorotriflnoroethane)	Flammable Liquid	NA1993	Flammable Liquid	17C/E
Photo chemical kit	U122	Waste, Formaldehyde Solution	ORM-A	UN2209	ORM-A	----
Photo cleaner 6750006913822	D002/D007	Waste, Corrosive Liquid, n.o.s. (contains trichloroethane)	Corrosive Material	UN1760	Corrosive	17C/E[1] or 34
Photo cleaner 6750010186285	D001/F001	Waste, Flammable Liquid, n.o.s.	Flammable Liquid	UN1993	Flammable Liquid	17C/E
Photo developer	D011	Hazardous Waste Solid, n.o.s.	ORM-E	NA9189	ORM-E	----
Photo film	D011	Hazardous Waste Solid, n.o.s.	ORM-E	NA9189	ORM-E	----
Plastic polish	D001	Waste, Flammable Liquid, n.o.s.	Flammable Liquid	UN1993	Flammable Liquid	17C/E
Porcelain cleaning solution	D002	Waste, Compound, Cleaning, Liquid	Corrosive Material	NA1760	Corrosive	17C/E[1] or 34
Potassium hydroxide	D002	Waste, Potassium Hydroxide Liquid	Corrosive Material	UN1814	Corrosive	17C/E[1] Or 34
Preservative coating	D001	Waste, Combustible Liquid, n.o.s.	Combustible Liquid	NA1993	----	----
Primer coating	D001	Waste, Paint	Flammable Liquid	UN1263	Flammable Liquid	17C/E; 37A/B/C
Protective coating	D001/F005	Waste, Flammable Liquid, n.o.s. (contains methyl ethyl ketone)	Flammable Liquid	UN1993	Flammable Liquid	17C/E
Pyrethrum insecticide FP 100°-140°F	D001	Waste, Insecticide Liquid, n.o.s.	Combustible Liquid	NA1993	----	----
Repair kit, tentage	D001/F003, F005	Waste, Flammable Liquid, n.o.s. (contains acetone, toluene, methyl ethyl ketone)	Flammable Liquid	UN1993	Flammable Liquid	17C/E

WASTE MATERIAL	EPA WASTE NUMBER	DOT SHIPPING NAME	HAZARD CLASS	UN/NA NUMBER	DOT LABELS/ MARKINGS	DRUM TYPE
Rifle cleaning compound	D001	Waste, Compound, Cleaning, Liquid	Combustible Liquid	NA1993	----	----
Rubber cement	D001	Waste, Cement, Rubber	Flammable Liquid	NA1133	Flammable Liquid	17C/E
Rust arresting compound	D001/D008	Waste, Paint	Combustible Liquid	UN1263	----	----
Rust removing compound	D002	Waste, Compound, Cleaning, Liquid (contains phosphoric acid)	Corrosive Material	NA1760	Corrosive	17C/E[1] or 34
Scale removing compound	D002	Waste, Compound, Cleaning, Liquid (contains phosphoric acid)	Corrosive Material	NA1760	Corrosive	17C/E[1] or 34
Sealing compound	D001/D005	Waste, Flammable Liquid, n.o.s. (contains methyl ethyl ketone)	Flammable Liquid	UN1993	Flammable Liquid	17C/E
Silver nitrate	D001/D011	Waste, Silver Nitrate	Oxidizer	UN1493	Oxidizer	----[3]
Soda lime	D002	Waste, Soda Lime, Solid	Corrosive Material	UN1907	Corrosive	----[2]
Sodium hypochlorite (not more than 7% available chlorine by weight)	D001	Waste, Hypochlorite Solution	ORM-B	NA1791	ORM-B	----
Solvent cement	D001/F003/ F005	Waste, Flammable Liquid, n.o.s. (contains acetone, toluene, naphtha cut)	Flammable Liquid	UN1993	Flammable Liquid	17C/E
Soap bath, photo	D002	Waste, Acetic Acid	Corrosive Material	UN2790	Corrosive	17C/E[1] or 34
Sulfuric acid	D002	Waste, Sulfuric Acid	Corrosive Material	UN1830	Corrosive	34
Sunscreen	D001	Waste, Flammable Liquid, n.o.s.	Flammable Liquid	UN1993	Flammable Liquid	17C/E
Surface sealer	D001	Waste, Paint	Flammable Liquid	UN1263	Flammable Liquid	17C/E; 37A/B/C
Toluene	F005	Waste, Toluene	Flammable Liquid	UN1294	Flammable Liquid	17C/E
Toner	D001	Waste, Combustible Liquid, n.o.s.	Combustible Liquid	NA1993	----	----
Toner & dispersant	D001	Waste, Combustible Liquid, n.o.s.	Combustible Liquid	NA1993	----	----
1,1,1-Trichloroethane	F002	Waste, 1,1,1-Trichloroethane	ORM-A	UN2831	ORM-A	----
Trichloroethylene	F002	Waste, Trichloroethylene	ORM-A	UN1710	ORM-A	----
Turpentine	D001	Waste, Turpentine	Flammable Liquid	UN1299	Flammable Liquid	17C/E

WASTE MATERIAL	EPA WASTE NUMBER	DOT SHIPPING NAME	HAZARD CLASS	UN/NA NUMBER	DOT LABELS/ MARKINGS	DRUM TYPE
Type cleaner	F002	Waste,1,1,1-Trichloroethane	ORM-A	UN2831	ORM-A	----
Varnish	D001	Waste, Paint	Flammable Liquid	UN1263	Flammable Liquid	17C/E; 37A/B/C
Walkway compound	D001	Waste, Paint	Flammable Liquid	UN1263	Flammable Liquid	17C/E; 37A/B/C
Windshield cleaning compound	D001/F003	Waste, Methanol	Flammable Liquid	UN1230	Flammable Liquid	17C/E
Wood filler	D001/F003/ F005	Waste, Flammable Liquid, n.o.s. (contains acetone, methyl ethyl ketone, toluene)	Flammable Liquid	UN1993	Flammable Liquid	17C/E
Xylene	F003	Waste, Xylene	Flammable Liquid	UN1307	Flammable Liquid	17C/E

[1] Use plastic liner
[2] Use metal drum with plastic liner
[3] See 49 CFR 173.244
[4] Use metal drum
[5] See 49 CFR 173.260(e)
[6] See 49 CFR 173.268

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General: ...is to assure that haza... the turn-in activity, ... accordance with all ... Turn-in activity compliance ... reduce or preclude ... iance with the governing ...

When the ... termines a turn-in ... ion of hazardous waste turn-ins the DRMO may, with ... 0-5 Representatives approval, implement the verification procedure that follows:

Procedure for Verification of Generator's Property Identification

1. All sampling will be accomplished at the DRMO not the generator's location except for property received in place which will necessitate sampling at the generator/host site. This testing to be accomplished prior to DRMOs acceptance of the property.

2. DRMO will establish the testing lot as being all hazardous property from one generator covered by a single turn-in action.

3. Unopened commercial chemical products that are properly labelled with original manufacturers labels do not require verification.

4. Once the test lot is established, the number of samples required from the lot will be in accordance with Schedule A this enclosure. This schedule will prevail for a period of three months.

5. At the end of the three months testing, if no discrepancies are noted with generator identification, reduced sampling in accordance with Schedule B will apply. If discrepancies are noted, a 100% testing of the lot will be accomplished. This schedule will prevail subject to the provisions of note below.

NOTE: Recording of any discrepancies under Schedule B operation will mandate the return to Schedule A and also require 100% testing of the lot in question.

6. The parameters for this testing will be:

   a. Flash point

   b. PH

   c. Halides

   d. Reactivity

   e. Physical characteristics

Pre-Turn-In Accelerated Property Testing Program

General: This accelerated waste testing program's purpose is to assure that hazardous property presented for turn-in has been, by the turn-in activity, properly identified, containerized and marked in accordance with all applicable federal, state and local directives. Turn-in activity compliance will expedite the disposal of the property and reduce or preclude turn-in activity and DRMS citations for non-compliance with the governing directives.

When the DRMO, based on personal knowledge and records, determines a turn-in activity has a history of improper/mis-identification of hazardous waste turn-ins the DRMO may, with DRMR, DRMS and the 80-5 Representatives approval, implement the verification procedure that follows:

Procedure for Verification of Generator's Property Identification

1. All sampling will be accomplished at the DRMO not the generator's location except for property received in place which will necessitate sampling at the generator/host site. This testing to be accomplished prior to DRMOs acceptance of the property.

2. DRMO will establish the testing lot as being all hazardous property from one generator covered by a single turn-in action.

3. Unopened commercial chemical products that are properly labelled with original manufacturers labels do not require verification.

4. Once the test lot is established, the number of samples required from the lot will be in accordance with Schedule A this enclosure. This schedule will prevail for a period of three months.

5. At the end of the three months testing, if no discrepancies are noted with generator identification, reduced sampling in accordance with Schedule B will apply. If discrepancies are noted, a 100% testing of the lot will be accomplished. This schedule will prevail subject to the provisions of note below.

NOTE: Recording of any discrepancies under Schedule B operation will mandate the return to Schedule A and also require 100% testing of the lot in question.

6. The parameters for this testing will be:

   a. Flash point

   b. PH

   c. Halides

   d. Reactivity

   e. Physical characteristics

7. The DRMO has three options for obtaining this sampling and analysis (physical sampling effort to be accomplished by the analysis activity.)

a. Coordinate with generator/turn-in activity for conduct of this analysis.

b. Obtain the service from another DoD activity (e.g., Army Environmental Health Agency).

c. Obtain the service through contract with private sector source via DRMS. Turn-in activity to provide funding for the sampling and analysis accomplished by 7 b and 7 c above. ????

Results of testing analysis will be compared to the generator/turn-in activity identification of the hazardous waste.

a. If results disagree with generator/turn-in activity's identification, reject turn-in of the lot or;

b. If results verify generator/turn-in activity's identification, continue the processing of the lot.

8. Analysis activity reports concurred in by the DRMO Environmental Specialist/monitor that contradict information provided by the generator/turn-in activity shall be immediately reported to the DRMO and, by letter to the Commander of the turn-in activity, for appropriate action.

9. Copy of the analytical results shall be maintained in the DRMO/OSB operating records for a three-year period.

Number of Samples to be Collected as a Function of the Number of Items in the Lot

SCHEDULE A
(once per month)

LOT SIZE	NUMBER OF SAMPLES TO BE TAKEN
2 to 8	2
9 to 15	3
16 to 25	5
26 to 50	8
51 to 90	13
91 to 150	20

SCHEDULE B
(once per quarter)

LOT SIZE	NUMBER OF SAMPLES TO BE TAKEN
2 to 8	1
9 to 15	2
16 to 25	2
26 to 50	3
51 to 90	5
91 to 150	8

(Continued from page 40)

Table. Considerations to be made when selecting methods and procedures for disposal of hazardous wastes.

Method	Permits	Concerns	Costs	Comments
Discharge to sanitary sewer	No permit for existing discharge. New discharge could require pretreatment permit.	Effect on treatment plant unknown	Existing discharge—none. New discharge—pretreatment expense.	Risk public reaction to pouring toxic chemicals into sewer. Company responsibility in today's social/environmental climate. Overall, Unacceptable alternative.
Sanitary landfill	RCRA permit for landfill owner, need federal EPA ID#.	DOT shipping requirements, manifest system. Long-term effects might be problem.	Handling, transportation	After April 1, 1986 only authorized hazardous facilities can accept small generator's waste.
Onsite treatment, stabilization, deactivation	RCRA	Long-term effects might be problem	Equipment costs	Creates more waste volume than started with. However, delisting can reduce costs from $100/ton to $15-30/ton.
Offsite treatment, stabilization, deactivation	Facility RCRA Federal EPA ID#	DOT shipping requirements, manifest system	Transportation, handling	Creates more waste volume than started with.
Onsite incineration	Air pollution, RCRA	Community exposure risk	Equipment, trial burn, emission tests, monitoring equipment	Public hearing delays, concerns
Offsite incineration	Facility needs air permits, RCRA permit	DOT shipping requirements, manifest system	Transportation, handling, storage until economic quantity reached	Trial burn requirement community concerns
Onsite combustion as supplemental fuel	Air pollution	Community exposure risk	Trial burn, emission testing, monitoring equip.	Public concern
Onsite storage	RCRA	Safety during accumulation period	Allocation of space, RCRA storage requirement costs	Long-term viability, Long-term liability
Offsite storage	RCRA	DOT shipping, federal EPA ID#, manifest system, accumulation until shipping	Final disposal cost	Accountability problems (tracking and oversite)
Onsite secure chemical landfill	RCRA	Public hearing, unknown long-term effects	Allocation of space, legal costs, RCRA storage requirements	Location near water supplies will cause public outcry, long-term liability potential
Offsite secure chemical landfill	Site needs RCRA permit	DOT shipping, federal EPA ID#, manifest system, unknown long-term effects	Final disposal cost	Long-term liability potential

Encl (6)

Current Developments

Water Pollution

STORMWATER CONTROL LANGUAGE DRAFTED BY EPA TO REQUIRE PERMITS ONLY FOR PROBLEM SOURCES

Compromise legislative language developed by the Environmental Protection Agency for inclusion in the pending Clean Water Act reauthorization measure (HR 8) would require permits only for stormwater sources causing major pollution problems, according to a draft released by EPA Aug. 6.

The language is needed to resolve a dispute over a provision in the Water Act that requires permits for all point sources of water pollution, and a subsequent federal district court decision that designated all storm sewer outfalls as point sources (*National Resources Defense Council Inc. v. Train*, DDC, 7 ERC 1881; Current Developments, May 23, p. 91).

The proposal would establish five categories of stormwater sources, but only the first two would be required to have permits. EPA said the five categories would be:

- (1) Any major source of stormwater pollution, based either on water quality violations or other information, as determined by the EPA administrator or an authorized state official;
- (2) Any source discharging from an area associated with an industrial plant, except where such sources discharge into a Category 3 or 4 stormwater point source;
- (3) Separate storm sewers serving populations of 250,000 or more, or those designated by the administrator or state official;
- (4) Separate storm sewers serving populations of 50,000 to 250,000, or those designated by the administrator or state official; and,
- (5) All other stormwater point sources.

Point sources in categories 1 and 2 would have to apply for permits within 180 days of notification that they fall into those categories, EPA said.

Plan Would Allow Time, Flexibility, Kirk Says

"It looks very good," Ken Kirk, assistant executive director of the Association of Municipal Sewerage Agencies, told BNA Aug. 6. "It puts the most important problems in the forefront."

States will have the time and flexibility to address the most pressing stormwater pollution problems without exerting unnecessary efforts to require permits for all stormwater outfalls, he said.

The proposal is intended "to focus us in on the big guys, but let us off the hook for individual permits," Martha Prothro, permits director in EPA's Water Office, told BNA July 28. Some uncertainty remains on how to categorize municipalities, and this issue may need to be worked out in regulations, she said.

Environmental groups, particularly the National Resources Defense Council Inc., may object to the plan because it does not require sampling of representative outfalls, Prothro added.

States would be required to develop stormwater management programs within three years of enactment of the Water Act reauthorization, EPA said. These programs would have to include measures to eliminate unpermitted non-stormwater discharges to Category 3 and 4 stormwater point sources, measures for oil and chemical spill prevention and response, and best management practices to limit stormwater runoff from Category 3 construction sites, according to the EPA draft.

The EPA administrator would be authorized to develop national stormwater standards under the draft language. The administrator would be able to account for costs and available treatment methods in these decisions and also would be able to issue general permits on a geographic area or nationwide basis for any category of stormwater point sources, EPA said.

Farm operations would not be covered by the draft legislative language, Prothro said.

Citizens would have the right to file suits against any person alleged to violate the new section and also would be able to petition EPA or the state on the requirements of the section, including seeking action to upgrade a source's category classification, EPA said.

Hazardous Waste

CONFEREES REACH FINAL SUPERFUND AGREEMENT; FOCUS SWITCHES TO METHOD FOR RAISING FUNDS

After six months of complex and often heated negotiations, House and Senate conferees reached final agreement July 31 on all remaining issues in reauthorizing the Comprehensive Environmental Response, Compensation, and Liability Act (superfund law), except how to raise the money for the hazardous waste cleanup program.

With the negotiators' final decision to make new cleanup standards apply to records of decision or consent decrees signed by the date the legislation (HR 2005) is enacted, the focus now shifts to Rep. Dan Rostenkowski (D-Il), chairman of the House Ways and Means Committee and of a separate group of tax conferees who will determine how to raise the funds required by the bill (See related item in this issue.).

The final agreement on superfund program issues, which will determine the overall shape of the cleanup program, calls for a total of $9 billion to be raised over five years, $8.5 billion of which would be used to clean up abandoned hazardous waste sites under CERCLA and $500,000 of which would be used to clean up pollution from leaking underground storage tanks.

The measure also would tighten cleanup schedules and standards, retain the use of strict, joint, and several liability to force responsible party cleanups, and require companies to disclose information on certain chemicals manufactured, used, or stored on site (Current Developments, June 27, p. 252; Aug. 1, p. 483).

Dingell Calls Agreement 'Superb'

Rep. John D. Dingell (D-Mich), conference chairman, told reporters following the final meeting of program conferees that the agreement is a "superb" and "very sound piece of environmental legislation designed to address perhaps the

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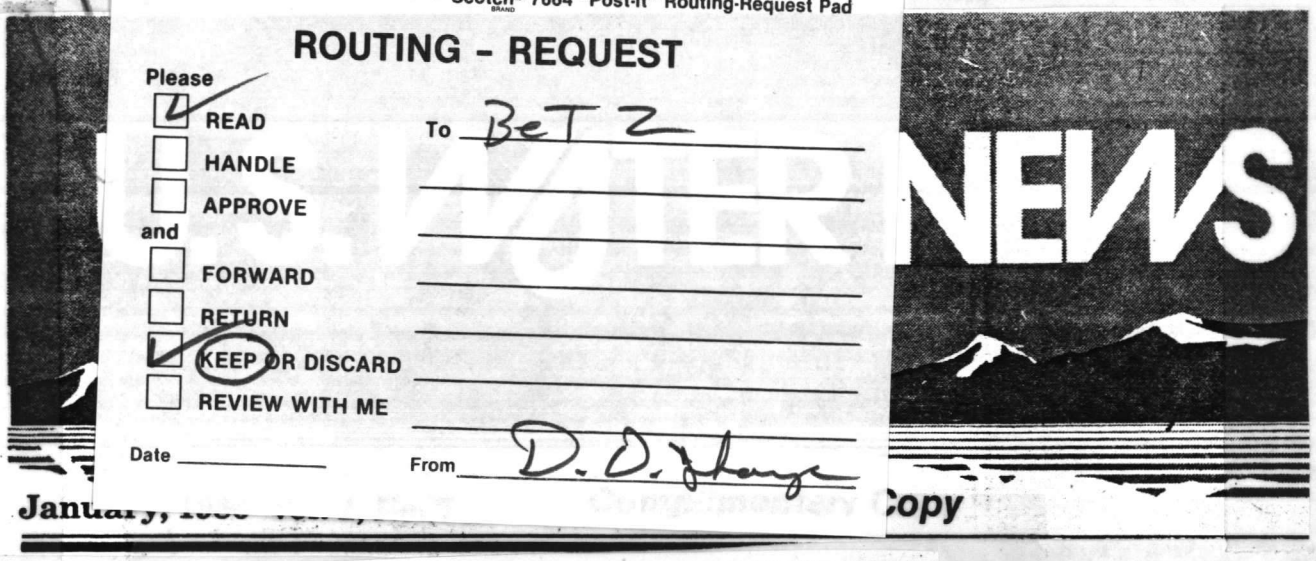

TCE 'probably' is cancer-causing

WASHINGTON — Trichloroethylene (TCE), an industrial degreasing solvent that has contaminated a number of drinking water aquifers across the nation, is now considered a "probable human carcinogen," according to the Carcinogen Assessment Group of the U.S. Environmental Protection Agency.

Previously, TCE had been listed as a suspected human carcinogen by the EPA. However, the recently-released Health Assessment Document on Trichloroethylene, drawing on three years of laboratory testing, notes there is reason to believe that tumors in laboratory animals exposed to TCE could also occur in the human population.

In classifying TCE as a "probable human carcinogen," the EPA document ranked the solvent in the lowest quarter among the 54 suspected or known human carcinogens evaluated by the assessment group. Based on the EPA-sanctioned studies, a new risk assessment for TCE has been developed. The latest assessment is that 1 1/2 people in one million who drink two liters of water a day their entire lives containing 5 parts per billion of TCE have a chance of developing cancer from the TCE. This means that 30 people in 1 million who drink water containing 100 parts per billion — concentrations found in several now-closed wells in Tucson, Ariz. — have a chance of developing cancer.

U.S. WATER NEWS

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In classifying TCE as a "probable human carcinogen," the EPA document ranked the solvent in the lowest quarter among the 54 suspected or known human carcinogens evaluated by the assessment group. Based on the EPA-sanctioned studies, a new risk assessment for TCE has been developed. The latest assessment is that 1 1/2 people in one million who drink two liters of water a day their entire lives containing 5 parts per billion of TCE have a chance of developing cancer from the TCE. This means that 30 people in 1 million who drink water containing 100 parts per billion — concentrations found in several now-closed wells in Tucson, Ariz. — have a chance of developing cancer.

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The People's Forum

Save old timber

A letter of Dec. 2 regarding use of the national forests makes several statements that need some correction.

The writer states that the U.S. Forest Service has been managing the national forests under the multiple use guidelines for the past 50 years. In truth, the Multiple Use Sustained Yield Act was passed in 1960, and it has only been since then that the forest service has been under direction to see to it that all interests have use of the national forests. It has been about 50 years since the timber companies began to make extensive use of the national forests, and the 1960 act was passed by Congress to ensure that the forests were not managed exclusively for the timber industry.

The writer is quite correct when he states that the timber industry removes fewer trees than grow back in their place. It should be obvious that young loblolly pines take up far less space per tree than do hundred year old oaks and poplars. Certainly, if we wish to have our national forests managed under a policy demanding the greatest number of trees, we should cut everything we have immediately. Within 10 years we will have huge tracts of very young forest, which provide more oxygen for the oxygen-starved public.

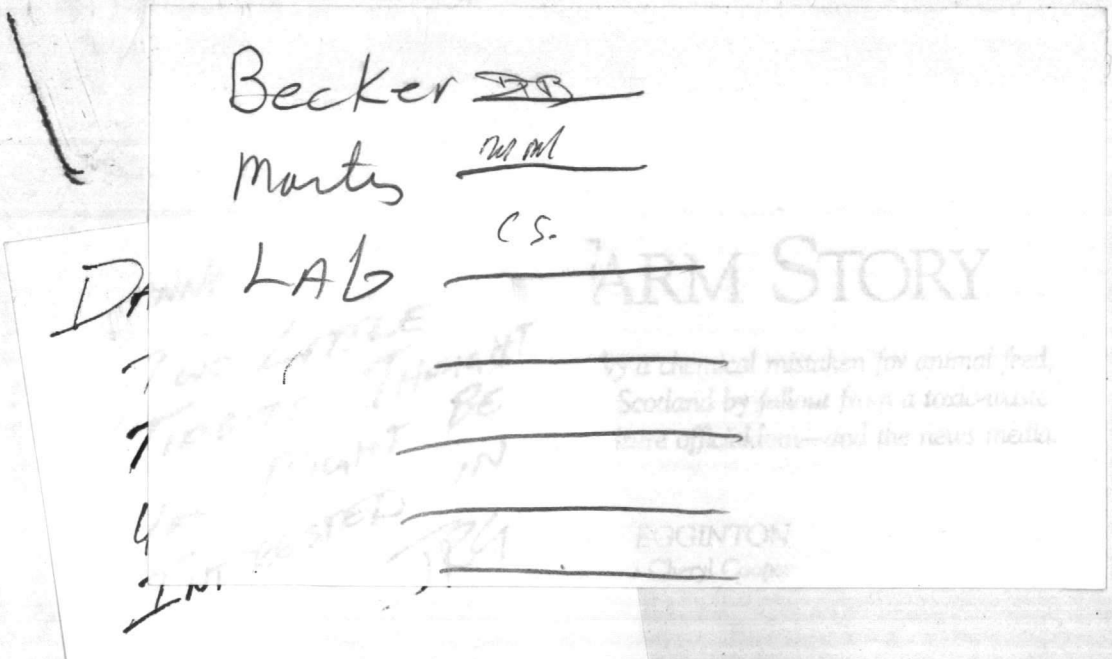
The assertion that clear-cutting a forest provides "vastly improved game habitat" is misleading. Habitat for certain rodents and for whitetail deer is greatly improved by creating open clearings in a forest, but this practice also destroys habitat for game species that prefer old-growth forest, such as wild turkey and black bear. Fhe few old-growth forests tracts left are in the national forests, and these are fast falling victim to the timber industry.

The writer of the Dec. 2 letter works for Georgia-Pacific, a timber company. The forest service sells timber to the timber companies at a relatively low price. Timber sales are uneconomical because they lose money. The writer asserts that this is untrue, that there are hidden economic benefits in the roads that are being built in this process. Perhaps it is revealing, and certainly sad, that in some Western states there are more miles of road on national forest lands than in the rest of the state.

Most insulting of all to the intelligence of the public, he states that old-growth timber is dying timber. This is only true in the same sense that he is a dying man, as are we all. The forests, if left alone, will outlive us all.

JEFFREY P. KIPLINGER

Raleigh



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After six months of grazing within close sight of this chimney, the cows

JUST A FARM STORY

Like the poisoning of Michigan by a chemical mistaken for animal feed, the decimation of dairy herds in Scotland by fallout from a toxic-waste incinerator was ignored by agriculture officialdom—and the news media.

by JOYCE EGGINTON
illustration by Cheryl Cooper

DISASTERS HAVE A WAY of traveling full circle. This one began in Michigan in the summer of 1973 when a chemical company made a mistake over an order. Instead of magnesium oxide, a harmless antacid, it delivered a truckload of a highly toxic industrial chemical, polybrominated biphenyls (PBBs), to Farm Bureau Services, the largest animal feed supplier in the state. The substances looked similar, the error went unnoticed, and PBBs were mixed into hundreds of tons of cattle feed that was used by farmers throughout Michigan.

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Having spent four years researching and writing about the Michigan disaster, I have often wondered why this massive contamination has been allotted so small a place in the lengthening chronicle of environmental poisonings. It was more widespread than Seveso or Bhopal and more devastating than Love Canal, but it never really piqued the interest of the media—perhaps because it was seen as a farm story, remote from the urban life-style of those who produce newspapers and prepare television reports. It took about two years for the press and public to make the connection between the complaints of farmers and the stuff they bought in supermarkets. It took even longer before one near-bankrupt farmer was able to sue the chemical company for damages, and then his diminished means were pitted against the unlimited resources of an industrial giant. The farmer lost, of course.

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Andrew Graham had taken to Denny looked sickly and emaciated. Subsequently several of them gave birth to blind and deformed calves. Since the Milngavie cows were unaffected, he concluded that toxic emissions from the chimney had polluted his father-in-law's land and poisoned the cows pastured there. At the end of the summer he took them back to Milngavie, where they mingled with his remaining cattle.

SOON THE WHOLE HERD was in trouble, as if an infectious disease had spread. Remembering how this happened in Michigan, I asked Andrew (by this point in the conversation we were on first-name terms) if he had used manure from his own herd to fertilize crops grown for animal feed. He had. He also knew that most of the chemical waste that Re-Chem was incinerating was PCBs (polychlorinated biphenyls), so widely used in electrical transformers, which have caused environmental damage throughout the Western world. Like their close relative, PBBs, PCBs bond to soil, and if they had indeed been ingested by the cows at Denny they could have reentered the food chain through crops grown at Milngavie. By now, Andrew said, his whole herd seemed deathly sick, with a milk yield that was down to a trickle. The Scottish Milk Marketing Board had tested it for the standard pollutants and found nothing wrong. Later on, the board even showed some annoyance with Andrew for talking to the local press about his fears of chemical contamination and thus shaking public confidence in Scottish dairy products.

If his surmise about toxic emissions was correct, Andrew felt "quietly confident" (his phrase) of winning a lawsuit against Re-Chem. He was encouraged in this belief by the fact that, in 1980, a market gardener in Bonnybridge had successfully sued Re-Chem for damage to his crops. This man's nurseries were almost beneath the smokestack, and while he was not able to prove conclusively that the incinerator was responsible for killing his plants, he won a sheriff's court action on the balance of probability and was awarded £3,000 ($4,000) in damages. Andrew assumed that his damage suit, for a large but unspecified sum, would be settled as simply. He had hired the Glasgow lawyer who had successfully represented the market gardener and expected a prompt resolution in court. He could then reestablish his herd and get on with his business. What he needed from me was some information about the effects of chemical contaminants on dairy cattle and a bit of advice about how to present his case.

At the New York end of the conversation I shook my head. The implications of Andrew Graham's suit were greater than he realized. It could not be compared with that of the market gardener. This time there was the possibility of a widespread threat to public health through the sale of milk and meat that were likely to be contaminated, perhaps with chemicals known to cause cancer and genetic damage. If so, more herds than Andrew's were likely to be involved. There was the prospect that large tracts of farmland might never be safe to use again. And there was a direct threat to a lucrative industry, backed by extensive capital, which was likely to fight back with more resources—legal, financial, and political—than an impoverished farmer could hope to command.

There were also a great many unknowns. What was Re-Chem burning? Were the necessary precautions being taken? Would it be possible to find out?

Re-Chem's business, the incineration of chemical waste, is highly controversial. Properly conducted, it is the most effective way of getting rid of the stuff, but it is fraught with risk. For PCBs and other highly toxic industrial chemicals, the incinerator's heat must be raised to at least 1,000 degrees centigrade (many U.S. experts insist upon 1,200 degrees) and not permitted to fall when the waste is dumped into it or for several seconds afterward. If the heat is too low or the "cooking time" too short, there will not be merely a failure to eliminate the chemical: New chemicals, potentially more toxic than the original, will be created in the burn-off process. This is how most dioxins and other suspect breakdown products known as furans are made—inadvertently—and the results can be devastating: Witness the suffering of those who were exposed to Agent Orange, or the disasters at Seveso and Bhopal.

Incinerating chemical garbage has therefore become like getting rid of nuclear waste. Everyone thinks it is a good idea, but nobody wants it done near his backyard. For reasons that may be more political than practical, some countries have banned it. (The United States permits a limited amount under strict controls, and there is currently a debate about the possibility of incinerating chemical waste less visibly—at sea.) Britain has been more hospitable to the idea than other industrialized countries, with the result that Re-Chem, the largest British firm in the business, has been kept busy with shipments of chemical

refuse from Australia, West Germany, Scandinavia, and Canada. Almost any day dozens of large sealed drums, many of them labeled PCB, could be seen in Re-Chem's Bonnybridge yard waiting to go into the incinerator.

At the time of Andrew's first call to me, Re-Chem was operating three incinerators in the British Isles: the one at Bonnybridge, another near Pontypool in south Wales, and a third near the company's corporate headquarters in Southampton on the south coast of England. The Bonnybridge and Pontypool plants had twin incinerators and were mainly incinerating PCBs, up to eight hundred tons a year at each place, along with other chemical and low-level radioactive waste. The Southampton plant was designed differently and burned other material.

I worried about Andrew's case. Chemical contamination had been difficult enough to prove in Michigan, even after PBBs had been found to be the contaminant. Here there was likely to be an unidentifiable mixture of chemicals, changing from day to day, although scientist friends confirmed my gut reaction that if the incinerator was operating at the correct heat to destroy the chemical waste, nothing but white steam should be coming out of its chimney. The heavy, dark smoke (of which one of Graham's neighbors sent me an eloquent photograph) indicated toxic emissions from chemicals that were not being properly incinerated.

Remembering how the Michigan Department of Agriculture and other veterinary authorities had been quick to suggest that PBB-afflicted cows were merely victims of poor husbandry, I went through the usual reporter's routine of checking Andrew Graham's reputation. It was impeccable. Jack Lawson, secretary of the Ayrshire Cattle Society of Great Britain, remembered the Graham cows as "one of the best-managed and highest-yielding herds in the country" before they grazed at Denny. But he had "never seen anything like" the symptoms they had developed since. He found cows with ears hanging limp, eyes dull and watery, swollen ankles, and dropped udders; newborn calves deformed and blind. "The place looked like a walking disaster," he related.

Lawson said he had seen other herds in the Bonnybridge area that appeared to be similarly stricken, but none of these farmers was prepared to talk about his troubles. They were all afraid of losing their milk market. Only Andrew seemed prepared to go public.

Alex McKenzie, the veterinarian who looked after Andrew's herd, told a similar story. He had tried to get animal tissue tested for chemical contaminants at the veterinary colleges of Glasgow and Edinburgh universities, but had gone weeks without an answer, except to be told that the kinds of tests he wanted were either impractical or too expensive. Unlike the United States, Britain has no truly independent scientific laboratories. In one way or another they are all government-funded, and (like the farmers in Michigan) Andrew feared an official cover-up because of the influence Re-Chem's parent company might wield at senior levels of the Establishment. Others shared the suspicion. "It's all politics and big business," Jack Lawson muttered.

Lawson became so troubled by the deterioration of herds in the Bonnybridge area that in October 1983 he called a meeting of local farmers and representatives of the National Farmers' Union, the Scottish Milk Marketing Board, and the Department of the Environment. The experts promised to investigate, but several months later Lawson was told that they had "found nothing." He added: "It was very hard to get information from the government analysts who took grass and soil samples. When you asked if they had tested for specific chemicals, you could not get an answer."

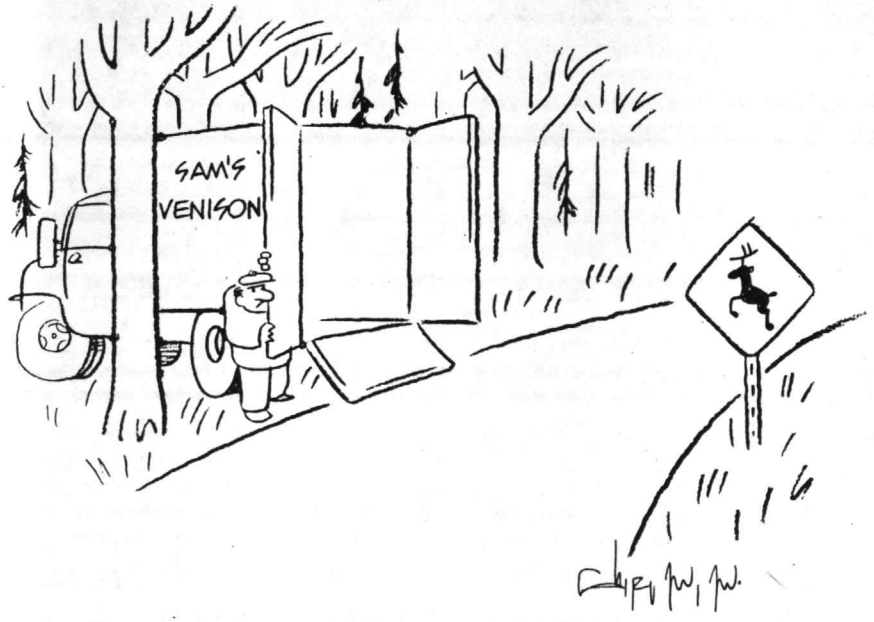
He noted that the Bonnybridge incinerator, like the one at Pontypool, was built in a hollow, "and when the prevailing wind blows from the east, the field where Andrew grazed his cattle is the one which catches the smoke."

Andrew, meantime, was taxing the telephone lines between Milngavie and my home in New York with questions about non-British scientists who could do some independent testing. He had the misconception, shared by most Michigan farmers, that if you run a soil or tissue sample through a machine, a computer printout will instantly identify every contaminant. It had to be explained that every chemical and permutation of chemicals requires an individual test. If a scientist doesn't know what chemical he is looking for he can run a hundred tests of contaminated material and still come up with negative results.

When the experts told Jack Lawson they couldn't find anything, this did not mean they had not looked. Nor did it mean that no contaminant existed. There were laboratories outside Britain that might make more sophisticated tests, but the prospect of being subpoenaed for lengthy litigation in Scotland was enough to discourage any overseas scientist from getting involved.

However, there was one whom I felt sure would help: Larry Robertson, an American toxicologist who had worked on the Michigan disaster and who had gone on to do advanced studies on PBBs and related chemicals. I called him at the University of Mainz in West Germany, where he was working as a research fellow, and he was immediately interested in Andrew's story. He was one of the few scientists whose close knowledge of the Michigan contamination was coupled with a deep understanding of dairy farming. Most toxicologists see animals as creatures to be experimented upon. Larry Robertson had a farmer's appreciation of the importance of a cow.

At the time, his own laboratory was overwhelmed with work in connection with a dioxin disaster in West Germany, but he arranged for Andrew to airfreight



samples of soil and animal tissue to a Canadian analyst. The results came back from Ontario after a few weeks: discernible levels (in parts per billion) of PCBs in soil and animal tissue, and of dioxin (in sub-parts per billion) in soil. Robertson was concerned. He saw this as strong evidence that the incinerator was not always destroying all the chemical waste, but was releasing some of it into the environment—perhaps with the molecules broken down and rearranged to form even more toxic substances.

With the obsession of a Boy Scout on a treasure hunt, Andrew started contacting other scientists in Western Europe and persuaded some of them to undertake further tests. After months of waiting the results began to trickle in. Samples of animal fat, milk, and tissue, as well as soil and water taken from near the chemical plant, showed very low levels of PCBs, dioxins, furans, mercury, nickel, and cadmium. He wasn't sure what to do with all this information, but he released a lot of it to the local newspapers and made a point of telling the Milk Marketing Board when dioxin was found in his milk. "I wouldn't give this to my cat," he stated. Nevertheless, the board continued to make its milk collections from the Graham farm.

In May 1984 I visited the farm myself. Andrew met me at the Glasgow airport and talked nonstop on the drive to his home. The man matched the rich Glasgow accent with which I had become so familiar on the telephone—a stocky, energetic, fifty-year-old, with a broad, open face and wavy red hair.

"Irene and I are in such a fix," he related. "We are out there milking cows we know should be slaughtered. Our milk yield from a herd of one hundred ten used to be twenty-four hundred liters a day. Now it's down to eight hundred. It's costing a fortune to keep these cows alive, but if I slaughter them I shall have no income at all, and no evidence for a court case. Over the last two years we have lost one hundred twelve cows and sixty-eight calves. I've been milking since I was nine and have never seen losses like this before. When I go to Stirling market I can pick out cows with the same symptoms as ours: thin, lethargic, with teary eyes and the flesh fallen in. They come from farms in a thirty-mile line east and west of the Re-Chem plant, and their milk is being sold to the public. It's scandalous.

"I told one farmer straight to his face what was wrong with his cows. He never answered me, but the next week his whole herd was up for sale. By now these cows have gone all over Scotland."

OVER THE NEXT few days Andrew and Irene introduced me to dairy farmers around Bonnybridge. One in particular haunts me still. His pedigreed Friesians could barely walk, their joints were so swollen and deformed, and every step was obvious agony. They were listless, emaciated, and looked old beyond their years. Many of their calves had been born blind and stumbled around the barnyard pitifully. In the course of normal dairy farming there is not much chance of a sightless calf being born, but this farmer had at least half a dozen of them. Yet because he had his own sterilization plant he was selling his milk directly to the public, pretty much as it came out of these cows. (Andrew's milk, like that of most of his neighbors, was going into the Milk Marketing Board's bulk tanks, where it would probably be mixed with more wholesome milk—what in Michigan became known as "the dilution factor.")

This farmer agreed to talk about his problems if I promised not to divulge his identity. For the purpose of this article I'll call him Ian McEntee, any resemblance to anyone else of that name being coincidental. Promised anonymity, he volunteered: "Every one of my cows is in trouble. I will no' talk about this in public because I shall lose all my milk customers, and what I'm going through already is bad enough. There's a lot of farmers with the same problems, but they'll no' be saying anything."

McEntee tried to get help by asking the local authority to test his milk, but apparently only the standard milk tests were run, and none for unusual chemical contaminants. The tests were taken, he related, "by a wee girl from Falkirk Council. I asked her to test for PCBs but she said she could no' do that." Essentially he was told that his milk was safe.

As we left McEntee's farm, Andrew made the succinct comment: "He's in a massive bother. There's hardly a right cow there."

Another anonymous farmer close to the Bonnybridge incinerator (pseudonym, Tom Kirk) said his milk production was down to half. After six of his calves had died, unaccountably, he fed some of their flesh to his dogs. Within a month two of the dogs were dead. "And one of the cats is taking bouts. He is no' the same cat that he was."

Tom Kirk also felt ill. "I have a lot of headaches, and my eyes is no' seeing right."

I had heard it before, in Michigan. Farmers complaining of dizziness, visual disturbances, debilitating aches and

pains—symptoms found to be the result of chemical contamination. Farmers being told by the authorities they trusted, but were beginning to mistrust, that their animals were suffering from conventional diseases which would yield (but didn't) to conventional remedies. In Scotland, the veterinary college of Glasgow University diagnosed fat cow syndrome; other authorities suggested ragwort poisoning. In Michigan, the State Department of Agriculture had made similar diagnoses. Fat cow syndrome is a metabolism imbalance often caused by excessive feeding in late pregnancy, but its symptoms can be mimicked when the liver is overburdened with toxins.

Andrew and his farm neighbors were clearly looking to me to arouse some national concern by publicizing their story. Some reports had appeared in Scottish newspapers, but there had been virtually no British coverage. Hence no one living outside southern Scotland had much idea of what was going on. At the time I was the New York correspondent for a leading British newspaper, which would have been an excellent forum. My editor was interested but dubious. While I agonized over the journalistic trust to protect McEntee's identity versus the moral obligation to expose a threat to public health, he worried about being sued for libel. British newspapers are governed by far stricter libel laws than their American counterparts and have no constitutional guarantee of press freedom. The constraints are such that if the British government ever had a Watergate, it could be made impossible for the press to print a line about it.

So I compromised by writing an initial story about what had happened to Andrew's cows and the evidence of chemical contamination from the Canadian researcher. Later I hoped to follow up with an account of the wider implications. But the office lawyer advised my editor to withhold the first story on the grounds that Andrew was close to a lawsuit and my account could be seen as prejudicial to Re-Chem's defense. His caution was well founded. Re-Chem became extremely litigious, effectively silencing press criticism by threatening libel actions.

Senior Re-Chem executives whom I spoke to in Bonnybridge insisted that all necessary precautions were being taken to prevent environmental contamination. The company was sorry about Andrew Graham's cows but did not feel responsible. Chemical waste had to be disposed of, they observed, and Re-Chem was providing an essential service to the Scottish chemical industry as well as to companies overseas. Most material going into the Bonnybridge incinerator consisted of PCBs, plus some low-level radioactive waste from chemical research units. Asked if he knew what went into the incinerator at any given time, the plant's general manager, Les Baker, admitted that "we know only in general terms." He added that it wasn't important to keep track of the individual chemicals because the 1,000-degree heat was strong enough to destroy all of them.

As months passed, the local complaints increased. Workers at the plant alleged that sometimes the furnace temperature fell to as low as 700 degrees. If this were true, dioxins would almost certainly be created during the incineration of PCBs.

Larry Robertson paid a visit to Andrew's farm a few weeks after I did and spent several days taking soil, water, and animal samples around Bonnybridge. He said that many of the cows reminded him of "classic PBB cattle" from Michigan. Subsequent tests showed dioxins, furans, and PCBs in some of these samples.

"It seemed obvious to me that PCBs were getting out of the Re-Chem plant, both from the smokestack and in the cooling water discharged into the river," Robertson stated. "None of this should happen because there now exists the technology for chemical waste to be incinerated in a closed system."

Because of the propensity of dioxins to cause birth defects, Robertson was deeply concerned by the evidence that they were getting into the environment. He was the first independent scientist to visit the site, and some of his comments were published in a Scottish newspaper. Later he was told that Re-Chem had threatened to sue the newspaper and that the paper had subsequently made an out-of-court settlement to Re-Chem. "I was totally depressed when I heard that," Robertson said. "I could have backed up all my statements with scientific data."

In May 1984 I received a letter from a Welsh farmer, Colin Haines, who lived near Re-Chem's Pontypool plant. "I am writing to you in desperation," he began, and went on to tell a story strikingly similar to Andrew's. He had suffered "appalling losses" of cattle and sheep, which he believed to be due to toxic emissions, but had received "nothing but obstruction from government departments." His description of ailments suffered by people living near the Pontypool incinerator, and by his own ani-

mals, was graphic:

"The human symptoms are aching limbs, bleeding noses, running eyes and noses, sore throats, vile tastes and smells, dizziness, and a general feeling of malaise.

"The animals suffer from appalling sores and flesh dropping off, loss of condition, lack of growth, stiff limbs, and finally pneumonia, before they eventually die of starvation. Our vet is baffled and thinks their ability to convert food into protein is impaired, as is their immune system."

If the animals were chemically poisoned, the veterinarian was probably right. Michigan cows ate voraciously while continuing to lose weight. And some Michigan people suffered such damage to their immune systems that they developed a wide variety of apparently unrelated symptoms that failed to respond to treatment.

Soon after Colin Haines' letter arrived, Irene Graham telephoned to relate a terrible story. A woman in the Bonnybridge area had given birth to a baby, one of whose eyes was peculiarly deformed and blind. Throughout her pregnancy she had drunk large quantities of milk from McEntee's farm. Taking her infant to a local clinic, she had met another mother whose baby had an identical eye deformity. She, too, had been a McEntee milk customer. It was as if the optic development of both babies had been arrested in the fetal stage. Later it emerged that there had been six such cases in the Bonnybridge area between 1981 and 1984. The fetuses from several recent miscarriages and stillbirths also showed gross and unusual physical deformities.

In September 1984 workers at Bonnybridge refused to incinerate any more PCBs. A month later Re-Chem closed the plant "for entirely financial reasons," still insisting that it had been safely operated. In the meantime it became known that at least four babies in the Pontypool area had been born with the same rare eye syndrome. There were also reports of several unusual birth defects in the area of Re-Chem's Southampton incinerator.

After the closure of the Bonnybridge incinerator—which was almost identical to the one in Pontypool—public agitation began to mount in Wales. In the spring of 1985 a coalition of environmental groups invited two highly regarded American experts to visit Pontypool and report their findings to a local symposium: Dr. Samuel Epstein, professor of occupational and environmental medicine at the University of Illinois Medical Center in Chicago, and Edward Kleppinger, environmental consultant from Washington, D.C.

After inspecting Re-Chem's incinerator, Epstein described it as "most unacceptable—a very sloppy and unsafe operation" with a high propensity for environmental contamination. Kleppinger found partially burned chemicals on the tip where Re-Chem dumped its waste, indicating that the incinerator was not functioning adequately.

"I do not think Re-Chem had the equipment to burn PCB solids properly, either at Bonnybridge or Pontypool," Kleppinger stated. "We heard persuasive verbal evidence from Pontypool citizens about black smoke from the chimney, indicating incomplete combustion."

Both of the U.S. scientists were struck by the mildness of public protest. "In the States there would be riots at Re-Chem's gates," Kleppinger observed. Epstein, who is British born, commented on the political climate in which such acquiescence can happen—"the lack of public interest groups, the absence of a congressional committee system, Draconian libel laws, and a widespread belief in the infallibility of government."

Two years have elapsed since Andrew Graham first telephoned me. None of my efforts to help has eased his situation. He is close to bankruptcy and has not yet been able to get a hearing for his lawsuit against Re-Chem. Early in 1985 he voluntarily withdrew his milk from the market, although he has no hope of compensation and could still sell it legally—as all the other afflicted farmers are doing. There has been no improvement in the state of his herd, or Ian McEntee's, or Tom Kirk's. One of Tom's daughters has had a stillborn baby; another daughter has had a miscarriage and two pregnancies terminated because the fetuses were deformed. All were consumers of milk from the family farm, a sample of which was analyzed in West Germany and found to contain dioxin.

The Pontypool incinerator continues to function. Both the Scottish and Welsh governments have sponsored investigations, which failed to establish a link between the operation of the incinerators and the human and animal health damage. By the best standards of U.S. scientific research, the Scottish investigation was particularly lacking, yet it has been accepted by the authorities as definitive.

As Epstein, with typical British understatement, summed it up: "One is faced with extraordinary ineptness with a strong hint of collusion between industry and government."

Betsy:

Please review And determine if this is Applicable. Please discuss this with me after you check on our usage. D Stange

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SUBJ: DISCONTINUED USE OF TRICHLOROTRIFLUOROETHANE

1. WITHIN THE PAST THREE YEARS, FOUR ACTIVE-DUTY NAVY MEN AND ONE CIVILIAN EMPLOYEE HAVE DIED IN THREE SEPARATE INCIDENTS INVOLVING EXPOSURE TO TRICHLOROTRIFLUOROETHANE VAPOR. THE MOST RECENT INCIDENT OCCURRED ONBOARD A TENDER LAST MONTH. TRICHLOROTRIFLUOROETHANE IS ALSO KNOWN BY THE FOLLOWING:
   1, 1, 2-TRICHLORO - 1, 2, 2-TRIFLUOROETHANE
   FREON 113
   REFRIGERANT 113
   GENESOLV D
   FREON PCA
   FREON TF
   CLEANING COMPOUND, SOLV
   (MIL-C-81302)
   CLEANING COMPOUND S

Betsy: If our Waste Oil Analysis indicated Presence of this material At MCAS NR, Please so advise. Need to Let EmdrGentry know also. DDS

2. DESPITE NUMEROUS MESSAG
INFORMING PERSONNEL OF THE
HAZARDOUS MATERIAL, WIDESPR

3. ALL COMMANDS SHALL TAKE
THE FOLLOWING WARNING CONCE
"WARNING: TRICHLOROTRIF
CAN CAUSE DEATH IF TOO MUCH
A. VAPOR FROM ONE PINT
IS NEARLY ODORLESS BUT IMME
IN CASE OF SPILL, WARN OTHERS AND LEAVE THE AREA IMMEDIATELY.
B. AVOID BREATHING VAPOR. AVOID SKIN AND EYE CONTACT.
C. DO NOT USE IN OPEN BATHS. USE MINIMAL AMOUNTS WITH GOOD VENTILATION.
D. WHEN USED INDOORS, DO NOT RELY UPON OXYGEN DEFICIENCY MONITOR TO WARN OF DANGEROUS CONCENTRATIONS OF TRICHLOROTRIFLUOROETHANE. HAVE AT LEAST TWO PEOPLE PRESENT AT ALL TIMES WITH ONE AS OBSERVER. HAVE EMERGENCY ESCAPE BREATHING DEVICES AVAILABLE FOR IMMEDIATE USE.
E. DO NOT ENTER PLACES WHERE TRICHLOROTRIFLUOROETHANE IS

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Betsy:

Please review And determine if this is Applicable. Please discuss this with me after you check on our usage. D Stange

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   GENESOLV D
   FREON PCA
   FREON TF
   CLEANING COMPOUND, SOLVENT, TRICHLOROTRIFLUOROETHANE (MIL-C-81302)
   CLEANING COMPOUND S

2. DESPITE NUMEROUS MESSAGES AND OTHER CORRESPONDENCE ISSUED INFORMING PERSONNEL OF THE INHERENT DANGERS ASSOCIATED WITH THIS HAZARDOUS MATERIAL, WIDESPREAD IGNORANCE OF THE DANGERS REMAIN.

3. ALL COMMANDS SHALL TAKE ACTION IMMEDIATELY TO DISSEMINATE THE FOLLOWING WARNING CONCERNING TRICHLOROTRIFLUOROETHANE:
   "WARNING: TRICHLOROTRIFLUOROETHANE VAPOR IS HAZARDOUS AND CAN CAUSE DEATH IF TOO MUCH IS BREATHED.
   A. VAPOR FROM ONE PINT OF LIQUID EVAPORATED IN A SMALL ROOM IS NEARLY ODORLESS BUT IMMEDIATELY DANGEROUS TO LIFE OR HEALTH. IN CASE OF SPILL, WARN OTHERS AND LEAVE THE AREA IMMEDIATELY.
   B. AVOID BREATHING VAPOR. AVOID SKIN AND EYE CONTACT.
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ADMINISTRATIVE MESSAGE

PRIORITY

P 272020Z SEP 85 ZYB

FM CNO WASHINGTON DC

TO NAVOP

UNCLAS //N09210//

NAVOP 122/85
SUBJ: DISCONTINUED USE OF TRICHLOROTRIFLUOROETHANE

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   GENESOLV D
   FREON PCA
   FREON TF
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   E. DO NOT ENTER PLACES WHERE TRICHLOROTRIFLUOROETHANE IS

STORED UNTIL VENTILATED AND AIR SAMPLE VERIFIES IT IS SAFE.
F. EXCESS TRICHLOROTRIFLUOROETHANE SHOULD BE CONTAINERIZED FOR SHORE DISPOSAL AND SHOULD BE KEPT SEPARATE FROM CHLORINATED SOLVENTS. OPNAVINST 5090.1 APPLIES."

4. TRICHLOROTRIFLUOROETHANE SHALL NOT BE USED EXCEPT WHERE ESSENTIAL. TYPICAL ESSENTIAL SHIPBOARD USES INCLUDE CLEANING AND FLUSHING OF THE FOLLOWING SYSTEMS AND EQUIPMENT:
A. AIR CONDITIONING AND REFRIGERATION
B. OXYGEN AND NITROGEN PLANTS AND SYSTEMS
C. SOLVENT CLEANING OF ELECTRICAL GENERATORS AND MOTOR GENERATOR SETS

5. ALL ACTIVITIES SHALL IMMEDIATELY CEASE USE OF THIS MATERIAL FOR THOSE APPLICATIONS WHERE CURRENT NAVY TECHNICAL INSTRUCTIONS SPECIFY AN ALTERNATIVE.

6. RELEASED BY COMO J. M. BOORDA, USN.

DLVR:FLDMEDSERVSCOL CAMP LEJEUNE NC(2)...ACT
DLVR:NAVINVSERVRA CAMP LEJEUNE NC(2)...ACT
DLVR:CG SIXTH MAB(6)...ACT
DLVR:FSMAO ONE CAMP LEJEUNE NC(2)...ACT
DLVR:NAVDENCLINIC CAMP LEJEUNE NC(4)...ACT
DLVR:RSU CAMP LEJEUNE NC(2)...ACT
DLVR:NAVHOSP CAMP LEJEUNE NC(4)...ACT
DLVR:NAVREL CAMP LEJEUNE NC(1)...ACT
DLVR:RASC CAMP LEJEUNE NC(2)...ACT
DLVR:NAVMARTRIJUDCIR PIEDMONT CAMP LEJEUNE NC(2)...ACT
DLVR:PERSUPPDET CAMP LEJEUNE NC(4)...ACT
DLVR:TWO FOUR MAU(6)...ACT
DLVR:ROICC NAVREGMEDCEN CAMP LEJEUNE NC(4)...ACT
DLVR:HQ MARCOR LIAISON OFFICER CAMP LEJEUNE NC(2)...ACT
DLVR:MARCORENGSCOL CAMP LEJEUNE NC(2)...ACT
DLVR:ROICC JAXNCA CAMP LEJEUNE NC(1)...ACT
DLVR:ECOASTCMSYCOMPLEX CAMP LEJEUNE NC(2)...ACT
DLVR:INFTRNGSCOL CAMP LEJEUNE NC(2)...ACT
DLVR:MARCORSVCSPTSCOL CAMP LEJEUNE NC(2)...ACT

TRNG(2)...ACT FOR CG MCB CAMP LEJEUNE(124) /12/
BCOS(1) BSDO(1) CEOB(1) OICB(1) GSTF(12) SSTF(92) OCDR(14)

G-3(1)...ACT FOR CG II MAF(3) 17072/ 2/0153
CFU(1) S-S(1)

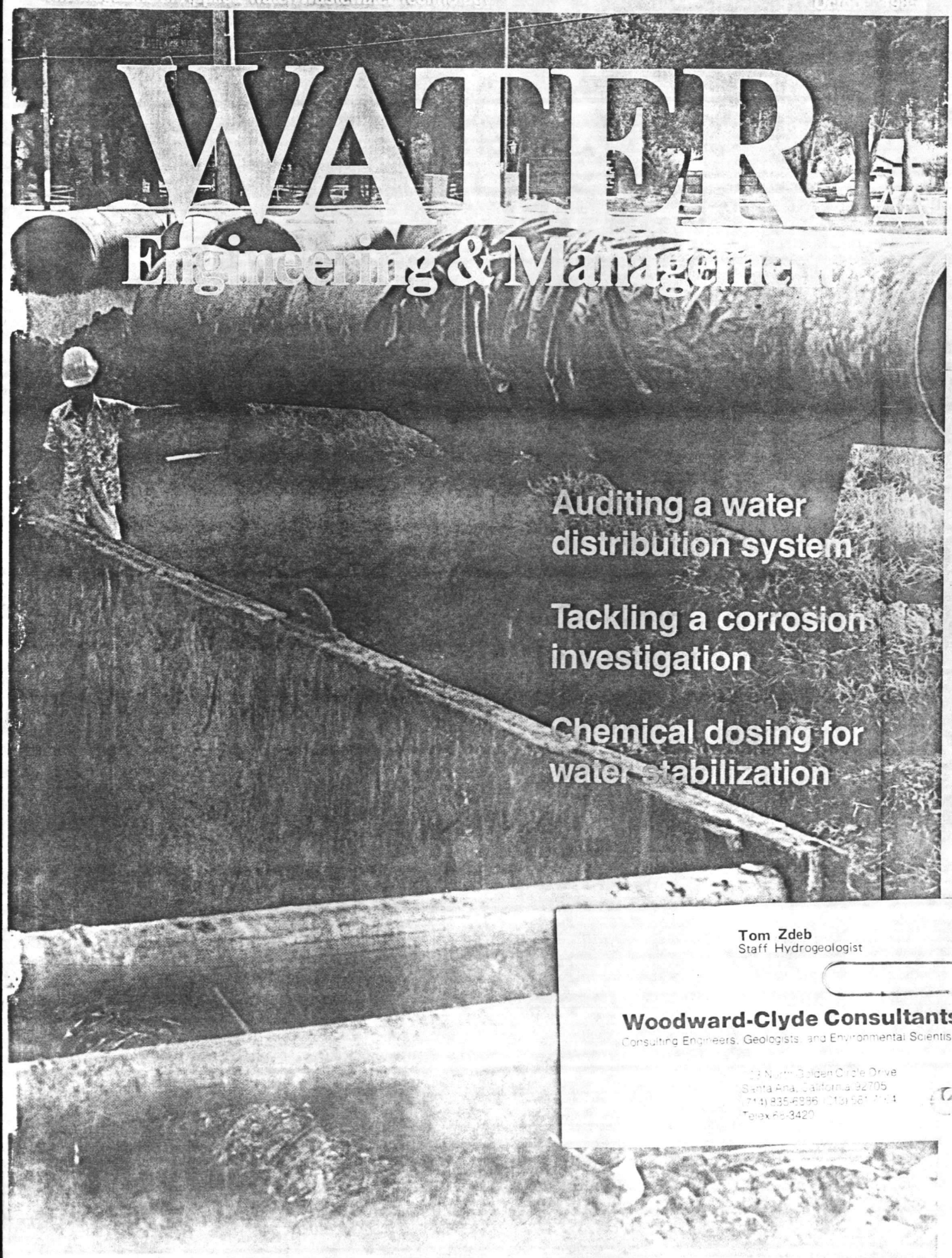
TAGM(1)...ACT FOR MTCC CAMP LEJEUNE NC(1) 17072/ 2/0002

SVC/ RTD:000-237/COPIES:0180

JdW lab

The Magazine of Applied Water/Wastewater Technology October 1985

WATER Engineering & Management



Auditing a water distribution system

Tackling a corrosion investigation

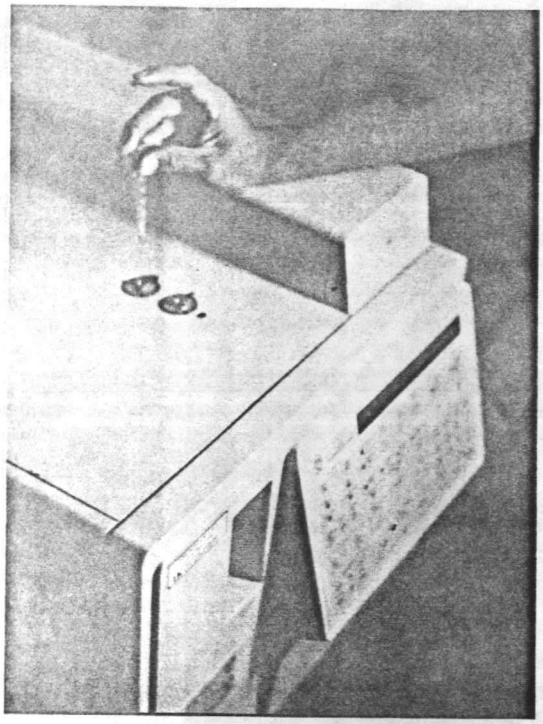
Chemical dosing for water stabilization

Tom Zdeb
Staff Hydrogeologist

Woodward-Clyde Consultants
Consulting Engineers, Geologists, and Environmental Scientists

[illegible] Golden Circle Drive
Santa Ana, California 92705
(714) 835-6886 (213) 561-[illegible]
Telex [illegible]3420

Detecting Volatile Pollutants With Soil Gas Surveys



Soil gas samples are injected directly into the chromatograph, resulting in the gas' separation into various components.

With increasing frequency, testing projects are revealing that aquifer contamination caused by commercially produced volatile organic compounds (VOCs) is on the rise in industrial regions throughout the U.S. Generally, the analysis and evaluation of VOC-contaminated groundwater/vadose zone systems is conducted using conventional monitoring wells and lysimeter techniques. But each of these systems has its drawbacks. Arranging a network of groundwater monitoring wells in a contaminated region is expensive and time-consuming, while the use of suction lysimeters produces very small, localized samples that rarely yield representative results.

This is why soil gas analysis using a field-operable gas chromatograph (GC) is proving to be one of the best preliminary investigative techniques for VOCs in groundwater. The measurement procedure is effective, relatively nondisruptive, comparatively inexpensive, and fast. It can be used to quickly identify the general extent of contamination in an area by VOCs, while providing the information needed to improve effective placement of groundwater monitoring wells.

Then there's the bottom line, of primary importance to clients: Typically, an on-site gas chromatographic analysis is about half the cost of a laboratory soil sample analysis.

The technique is based on the fact that VOCs volatilize from contaminated groundwater and move, by processes such as molecular diffusion, away from source areas toward regions of lower concentrations in the overlaying soil profile. Given sufficient time, a gaseous phase concentration gradient from the water table to the ground surface will be established. This gradient can be used to estimate the extent and movement of the pollutants.

"This system has turned out to be probably more accurate and much more rapid than taking soil samples and sending them off to a lab," according to Tom Zdeb, staff scientist for Woodward-Clyde Consultants (WCC)—an engineering, environmental and earth science consulting firm which is using soil gas sampling programs in its Santa Ana and Walnut Creek, California, facilities. "Having an on-site gas chromatograph allows us to arrange our field activities around timely results taken from fresh samples. It's more accurate, too, because VOCs are often lost in the handling, transport and laboratory process associated with soil samples."

There are limitations to this technique. "You've got to tailor the use of the GC to the particular job," said Zdeb. "You don't use shallow soil gas surveying for heavier hydrocarbons, because you'll find they stick to the soil and won't volatilize into the gas phase at normal temperatures. Lighter, more volatile chemicals are much easier to detect. Fortunately, many of the additives mixed in with heavier hydrocarbons are the lighter, more volatile kind."

To illustrate the use of soil gas sampling, an increasingly common situation can be cited. A leaking underground tank has released VOCs into an area, and an investigation is needed to determine the extent and movement of the contamination. Faced with this, many consultants might try to predict the direction in which the plume is migrating based on information such as the regional groundwater flow gradient. Monitoring wells would then be placed accordingly. But this method can be inexact, and it can lead to substantial costs. Consider, however, the following outline of how gas sampling could be incorporated into an investigation for the case mentioned above (based on procedures developed by WCC).

After studying previous data or chemical analyses available for the site, the number of chemicals to be detected and quantified in the field is narrowed down (usually to 10 or fewer). Then, the GC is equipped with the proper detector and columns for the particular compounds of interest. The GC in Santa Ana is a Varian 3400 series equipped with a dual electron-capture detector, which is very sensitive to volatile chlorinated organic compounds. The GC can be easily modified in a few days to detect the compounds of interest. The Walnut Creek lab has its GC equipped with both electron-capture and flame-ionization detectors, making it effective in analyzing both volatile chlorinated organic solvents and petroleum hydrocarbons such as those present in gasoline leaks or spills.

Next, the data is analyzed to identify a relationship between the VOC concentration in a shallow soil gas sample and the concentration in the groundwater below it. Although the pollutant vapor concentration may be several orders of magnitude lower in the soil gas near the ground surface, it can still be measured. A few soil gas samples are taken at various depths within a 5-ft radius of the preliminary monitoring wells. These values can help develop an approximation of what one can expect to find in the groundwater, given a certain concentration in the shallow soil gas. (This assumes the vadose zone for the subsurface area is relatively homogenous and isotropic, and the groundwater table is a horizontal surface.)

Subsequently, a grid is set up over the site and is followed in collecting the samples. The consulting firm has developed statistical procedures for effective placement of soil gas samples through this system. From the results, a map of concentration contours is created.

Based on this map, one can arrive at the approximate areal extent of the subsurface contamination problem and physically delineate the plume. This type of information leads to effective placement of groundwater monitoring wells—minimizing both incorrect location (e.g. outside the plume) and the costly placement of too many.

When used appropriately in situations involving VOCs, soil gas surveying can be both an accurate quantitative and qualitative tool. Although its use is still being refined, the procedure has already proven to be a time- and cost-saving addition to on-site investigations of hazardous waste. Other uses for the field-operable GC include tank monitoring, air quality studies, and water analyses involving both volatile and nonvolatile compounds. **WEM**

—from Bill Coniff, Woodward-Clyde Consultants, 600 Montgomery St., San Francisco, California 94111

BETSY PLEASE SEE IF YOU CAN FIND ANY OF THESE FOR A WASTE NUMBER?

8010 00 935 7077 LIT

8010 01 050 4082 TX DB

8040 01 016 9963 NOT LISTED

6850 00 558 1248

6850 00 181 7590 NOT LISTED

" " 219 7947 NOT LISTED

" " 209 7239 54 NOT LISTED BCK

" " 209 7230 07 A-8

6810 00 604 0388 NOT LISTED

6850-00-753-4870 DS-2 5 GAL CAN 168 °F FLASH POINT

(FIRE DEPARTMENT) DIETHYLENETRIAMINE 70%

NAOH 2%

DOT SHIPPING LABEL CORROSIVE LIQUIS N.O.S.

8010-00-935-7077 AMERON INDUSTRIAL COATINGS DIVISION 316-733-1361

LACQUER, ACRYLIC ISOPROPYL ACCOHOL 4.1

FLASH POINT 45°F MEK 27.2

TOLUENE 12.9

CYCLOHEXANONE 23.8

BARBARA COOGLE 6518

8010-00-935-7077 LACQUER, ACRYLIC NOV 85

		#1	#2
FLASH POINT :		45°F	21°F
COMPONENTS :	ISOPROPYL ALCOHOL	4.1%	<5%
	MEK	27.2%	25%
	TOLUENE	12.9%	15%
	CYCLOHEXANONE	23.8%	25%
	MINERAL SPIRITS	——	<0.5%

#1 AMERON INDUSTRIAL COATINGS DIVISION 316-733-1361

#2 PRATT AND LAMBERT 316-733-1361

8010-00-050-4082 POLYURETHANE COATING

FLASH POINT 20°F DOT SHIPPING NAME: PAINT UN1263

COMPONENTS	MEK	15 %
	N-BUTYL ACETATE	15 %
	STRONTUM CHROMATE	15 %
	LEAD CHROMATE	5 %
	TOLUENE	10 %

6850-00-558-1248 ANTI-ICING, DEFROSTING-DEICING FLUID

		#1	#2
FLASH POINT:		~~258~~	215°F
COMPONENTS	ETHYLENE GLYCOL	66%	NONE LISTED
	PROPYLENE GLYCOL	22%	
	WATER	10%	
	~~55~~	55 GAL DRUM	5 GAL

#1 OCTAGON PROGESS, INC 201-945-9400

#2 BERG CHEMICAL CO, INC 212-665-4747

6850-00-209-7230 CORROSION PREVENTATIVE, AIRCRAFT ENGINE

PENRECO DIVISION OF PENNZOIL 412-283-5600

CORROSION PREVENTIVE COMPOUND 215°F FLASH POINT

6850-00-209 7234 CORROSION PREVENTATIVE, AIRCRAFT ENGINE

PENRECO A PENNZOIL DIVISION 412-756-0110

PETROLEUM HYDROCARBONS

Acids Solution For testing Metals

Nitric acid, Concentrated (HNO_3) Sp. gr. 1.42.

Hydrochloric acid, Concentrated (HCl) Sp. gr. 1.18.

Silver Nitrate Solution (0.5 percent $AgNO_3$, 100 ml. H_2O).[1] Dissolve 0.5 gram of Silver Nitrate into 100 ml. of water

Potassium ferricyanide Solution (10 percent $K_3Fe(CN)_6$, in H_2O).[1] Dissolve 10 gram of potassium ferricyanide in 100 ml. of water.

Ammonium hydroxide, Concentrated (NH_4OH). Sp. gr. 0.9.

Solution B,[2] prepared as follow
Dissolve 1 gram dimethylglyoxime in 50 ml. acetic acid (glacial).
Add 10 ml. distilled water and 30 ml. NH_4OH Concentrated
Ammonium hydroxide Solution, then stir until all Salts are in Solution.

To: WQCL
for info
DStarpe

Cleaned + Sanitized 1/month

Catlog Board
Table Ware (clear)
Temp / Cleanliness

Albany.

NAVY Safety Center: NorVA

Mr. Chuck almond,
AV 564-1188/1189

This person may be a resource
DStarpe

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

IN REPLY REFER TO
6260.3M.1
371
9 Jul 86

From: Commanding Officer
To: Commanding General, Marine Corps Base, Camp Lejeune, NC 28542 (Attn: AC/S Facilities Department)

Subj: USAGE OF COSAN 145 CONTAINING PAINT

Ref: (a) OPNAVINST 5100.23B
(b) MCO 5100.8E
(c) BO 6260.5

1. Deluxe Vinyl Latex Flat Paint No. 38-001 from Duron, Inc. Beltsville, Maryland contains Cosan 145 (biocide), which could pose health problems for the workers in the General Trades Section, Base Maintenance, Paint Shop, Bldgs 1102 and 1202. The Cosan 145 cannot be sampled for by the Industrial Hygiene Branch and therefore personal exposure levels could not be determined. Since the health effects of the Cosan 145 on personnel could not be monitored it is recommended that there be substitution of paints which do not contain the biocide. However, before allowing substitution of other products, there must be review of the Material Safety Data Sheets with the assistance of Industrial Hygiene Branch to evaluate appropriateness of new products.

2. If it is decided to continue the usage of the paint the following actions should be taken:

a. Contact Base Safety to determine what if any wearing of impervious gloves, eye protection, and impervious clothing would be required.

b. To provide a safe and healthful workplace per references (a) and (b) the minimum respirator protection would be a NIOSH approved type "C" supplied air respirator with a full facepiece and operated in a pressure-demand or other positive pressure mode. Usage of respiratory protection must be in accordance with reference (c).

3. The following information needs to be provided concerning the actual usage of the paint:

a. Full name and SSN of all people who have used the paint.

b. How often each person used the paint to include the amount of time per day. Need quantity used also.

c. Method of application and Personal Protective Equipment worn.

d. Any physical problems noted during work with the paint.

Subj: USAGE OF COSAN 145 CONTAINING PAINT

4. Point of contact on this matter is Mr. Robert Bastob at extension 1930/2767.

C. C. Abels for
M. P. GENTRY
By direction

Copy to:
Base Maintenance Officer
Base Safety
AC/S Logistics Dept

DOC. IDENT. | RI FROM | M&S | STOCK NUMBER: FSC / NIIN / ADD | UNIT OF ISSUE | QUANTITY | DOCUMENT NUMBER: SERV / REQUISITIONER / DATE / SERIAL | SUFFIX | SUPPLEMENTARY ADDRESS | SIGNAL | FUND | DISTRIBUTION | PROJECT | PRIORITY | REQ'D DEL DATE | ADVICE | RI | UNIT PRICE: DOLLARS / CTS.

BWA | 6850002649037 | DR00002M93055627 3A921 | 13 | NA | H | $13.83

SHIPPED FROM	SHIP TO	MARK FOR	PROJECT	TOTAL PRICE: DOLLARS / CTS.
ITS, MCB Camp Lejeune, NC 28542 (919) 451-0378 A	MCB CampLejeune, NC 28542 B	HW C	D	E $27.66

WAREHOUSE LOCATION	TYPE OF CARGO	UNIT PACK	UNIT WEIGHT	UNIT CUBE	U F C	N M F C	FREIGHT RATE		DOCUMENT DATE	MAT. COND	QUANTITY		
F	G	H	I	J	K	L	M	N	O	P	Q	R	S

SUBSTITUTE DATA (ITEM ORIGINALLY REQUEST'D): T 1690 | FREIGHT CLASSIFICATION NOMENCLATURE: U | V

ITEM NOMENCLATURE: W | X Dry cleaning solvent | Y

SHIPPERS USE			RECEIVERS USE		
SELECTED BY AND DATE 1	TYPE OF CONTAINER(S) 2	TOTAL WEIGHT 3	RECEIVED BY AND DATE 7	INSPECTED BY AND DATE 8	
PACKED BY AND DATE 4	NO. OF CONTAINER(S) 5	TOTAL CUBE 6	WAREHOUSED BY AND DATE 9	WAREHOUSE LOCATION 10	

REMARKS: AA | BB | CC

This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of DOT and EPA. DD | EE | FF | GG

FIRST DESTINATION ADDRESS 11	DATE SHIPPED 12	13 TRANSPORTATION CHARGEABLE TO	14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)	15 RECEIVER'S DOCUMENT NUMBER

DD FORM 1348-1 1 MAR 74 EDITION OF 1 JAN 64 MAY BE USED DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUMENT
S/N 0102-LF-013-1040

M14-E15 6850 00 264 9037

UN 1993
FLAMMABLE LIQUID N.O.S.
CONTENTS: EXEMPT MINERAL SPIRITS 98% (RULE 66)
SOLVENT (100°F FLASHPOINT) 2%
(NAPHTHA IS IN MINERAL SPIRITS)

DOC. IDENT. | RI FROM | M&S | STOCK NUMBER: FSC / NIIN | UNIT PRICE: DOLLARS / CTS.

BWA | 6850 00264 | H | $10.25

SHIPPED FROM
ITS, MCB
Camp Lejeune, NC
A (919) 451-03

TOTAL PRICE: DOLLARS / CTS. E $82.00

WAREHOUSE LOCATION F | R | S

SUBSTITUTE DATA (ITEM ORIGINALLY RE T

W Dry Cleaning Solvent

SHIPPERS USE: SELECTED BY AND DATE 1 | TYPE OF CONTAINER(S) 2 | TOTAL WEIGHT 3
PACKED BY AND DATE 4 | NO. OF CONTAINER(S) 5 | TOTAL CUBE 6

RECEIVERS USE: RECEIVED BY AND DATE 7 | INSPECTED BY AND DATE 8
WAREHOUSED BY AND DATE 9 | WAREHOUSE LOCATION 10

REMARKS: AA | BB | CC

This is to certify that the above named Materials are properly classified, described, Packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of DOT and EPA. DD | EE | FF | GG

FIRST DESTINATION ADDRESS 11 | DATE SHIPPED 12 | 13 TRANSPORTATION CHARGEABLE TO | 14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE) | 15 RECEIVER'S DOCUMENT NUMBER

DD FORM 1348-1 1 MAR 74 EDITION OF 1 JAN 64 MAY BE USED UNTIL EXHAUSTED DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUMENT
S/N 0102-LF-013-1040

DOC. IDENT. | RI FROM | M&S | STOCK NUMBER: FSC / NIIN / ADD | UNIT OF ISSUE | QUANTITY | DOCUMENT NUMBER: SERV / REQUISITIONER / DATE / SERIAL | SUFFIX | SUPPLEMENTARY ADDRESS: SERV / | SIGNAL | FUND | DISTRIBUTION | PROJECT | PRIORITY | REQ'D DEL DATE | ADVICE | RI | UNIT PRICE: DOLLARS / CTS.

BWA | 6850002649037 | DR00002 | M930556273A921 | 13 | NA | H | $13.83

SHIPPED FROM	SHIP TO	MARK FOR	PROJECT	TOTAL PRICE: DOLLARS / CTS.
ITS, MCB Camp Lejeune, NC 28542 (919) 451-0378 A	MCB CampLejeune, NC 28542 B	HW C	D	E $27.66

WAREHOUSE LOCATION	TYPE OF CARGO	UNIT PACK	UNIT WEIGHT	UNIT CUBE	UFC	NMFC	FREIGHT RATE		DOCUMENT DATE	MAT. COND	QUANTITY		
F	G	H	I	J	K	L	M	N	O	P	Q	R	S

SUBSTITUTE DATA (ITEM ORIGINALLY REQUEST'D): T 1690 | FREIGHT CLASSIFICATION NOMENCLATURE: U | V

W | ITEM NOMENCLATURE: X Dry cleaning solvent | Y

SHIPPER USE			RECEIVER USE		
SELECTED BY AND DATE (1)	TYPE OF CONTAINER(S) (2)	TOTAL WEIGHT (3)	RECEIVED BY AND DATE (7)	INSPECTED BY AND DATE (8)	
PACKED BY AND DATE (4)	NO. OF CONTAINER(S) (5)	TOTAL CUBE (6)	WAREHOUSED BY AND DATE (9)	WAREHOUSE LOCATION (10)	

REMARKS: AA | BB | CC

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FIRST DESTINATION ADDRESS (11)	DATE SHIPPED (12)	
13 TRANSPORTATION CHARGEABLE TO	14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)	15 RECEIVER'S DOCUMENT NUMBER

DD FORM 1348-1 1 MAR 74 EDITION OF 1 JAN 64 MAY BE USED UNTIL EXHAUSTED
S/N 0102-LF-013-1040 DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUMENT

DOC. IDENT. | RI FROM | M&S | STOCK NUMBER: FSC / NIIN / ADD | UNIT OF ISSUE | QUANTITY | DOCUMENT NUMBER: SERV / REQUISITIONER / DATE / SERIAL | SUFFIX | SUPPLEMENTARY ADDRESS: SERV / | SIGNAL | FUND | DISTRIBUTION | PROJECT | PRIORITY | REQ'D DEL DATE | ADVICE | RI | UNIT PRICE: DOLLARS / CTS.

BWA | 6850 002649037 SRP | CN | 00008 | M 930556273 A922 | 13 | H | $10.25

SHIPPED FROM	SHIP TO	MARK FOR	PROJECT	TOTAL PRICE: DOLLARS / CTS.
ITS, MCB Camp Lejeune, NC 28542 (919) 451-0378 A	MCB Camp Lejeune, NC 28542 B	HW C	D	E $82.90

WAREHOUSE LOCATION	TYPE OF CARGO	UNIT PACK	UNIT WEIGHT	UNIT CUBE	UFC	NMFC	FREIGHT RATE		DOCUMENT DATE	MAT. COND	QUANTITY		
F	G	H	I	J	K	L	M	N	O	P	Q	R	S

SUBSTITUTE DATA (ITEM ORIGINALLY REQUEST'D): T | FREIGHT CLASSIFICATION NOMENCLATURE: U | V

W | ITEM NOMENCLATURE: X Dry Cleaning Solvent (USED) | Y

SHIPPER USE			RECEIVER USE		
SELECTED BY AND DATE (1)	TYPE OF CONTAINER(S) (2)	TOTAL WEIGHT (3)	RECEIVED BY AND DATE (7)	INSPECTED BY AND DATE (8)	
PACKED BY AND DATE (4)	NO. OF CONTAINER(S) (5)	TOTAL CUBE (6)	WAREHOUSED BY AND DATE (9)	WAREHOUSE LOCATION (10)	

REMARKS: AA | BB | CC

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FIRST DESTINATION ADDRESS (11)	DATE SHIPPED (12)	
13 TRANSPORTATION CHARGEABLE TO	14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)	15 RECEIVER'S DOCUMENT NUMBER

DD FORM 1348-1 1 MAR 74 EDITION OF 1 JAN 64 MAY BE USED UNTIL EXHAUSTED
S/N 0102-LF-013-1040 DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUMENT

DOC. IDENT. | RI FROM | M&S | STOCK NUMBER: FSC / NIIN / ADD | UNIT OF ISSUE | QUANTITY | DOCUMENT NUMBER: SERV / REQUISITIONER / DATE / SERIAL | SUFFIX | SERV | SUPPLEMENTARY ADDRESS | SIGNAL | FUND | DISTRIBUTION | PROJECT | PRIORITY | REQ'D DEL DATE | ADVICE | RI | UNIT PRICE: DOLLARS / CTS.

DWA | 6850002649037 | DR00002M930556273A921 | 13 | NA | H | $13.83

SHIPPED FROM	SHIP TO	MARK FOR	PROJECT	TOTAL PRICE: DOLLARS / CTS.
ITS, MCB Camp Lejeune, NC 28542 (919) 451-0378 A	MCB CampLejeune, NC 28542 B	HW C	D	E $27.66

WAREHOUSE LOCATION	TYPE OF CARGO	UNIT PACK	UNIT WEIGHT	UNIT CUBE	UFC	NMFC	FREIGHT RATE		DOCUMENT DATE	MAT. COND	QUANTITY		
F	G	H	I	J	K	L	M	N	O	P	Q	R	S

SUBSTITUTE DATA (ITEM ORIGINALLY REQUEST'D): T 1690 | FREIGHT CLASSIFICATION NOMENCLATURE: U | V

ITEM NOMENCLATURE: W | X Dry cleaning solvent | Y

SHIPPERS USE			RECEIVERS USE		
SELECTED BY AND DATE (1)	TYPE OF CONTAINER(S) (2)	TOTAL WEIGHT (3)	RECEIVED BY AND DATE (7)		INSPECTED BY AND DATE (8)
PACKED BY AND DATE (4)	NO. OF CONTAINER(S) (5)	TOTAL CUBE (6)	WAREHOUSED BY AND DATE (9)		WAREHOUSE LOCATION (10)

REMARKS: AA | BB | CC

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FIRST DESTINATION ADDRESS (11)	DATE SHIPPED (12)	13 TRANSPORTATION CHARGEABLE TO	14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)	15 RECEIVER'S DOCUMENT NUMBER

DD FORM 1348-1 | 1 MAR 74 | EDITION OF 1 JAN 64 MAY BE USED UNTIL EXHAUSTED | DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUMENT
S/N 0102-LF-013-1040

DOC. IDENT. | RI FROM | M&S | STOCK NUMBER: FSC / NIIN / ADD | UNIT OF ISSUE | QUANTITY | DOCUMENT NUMBER: SERV / REQUISITIONER / DATE / SERIAL | SUFFIX | SERV | SUPPLEMENTARY ADDRESS | SIGNAL | FUND | DISTRIBUTION | PROJECT | PRIORITY | REQ'D DEL DATE | ADVICE | RI | UNIT PRICE: DOLLARS / CTS.

BWA | 6850 002649037 SRP | CN 00008 M 930556273 A922 | 13 | $10.25

SHIPPED FROM	SHIP TO	MARK FOR	PROJECT	TOTAL PRICE: DOLLARS / CTS.
ITS, MCB Camp Lejeune, NC 28542 (919) 451-0378 A	MCB Camp Lejeune, NC 28542 B	C	D	E $82.00

WAREHOUSE LOCATION	TYPE OF CARGO	UNIT PACK	UNIT WEIGHT	UNIT CUBE	UFC	NMFC	FREIGHT RATE		DOCUMENT DATE	MAT. COND	QUANTITY		
F	G	H	I	J	K	L	M	N	O	P	Q	R	S

SUBSTITUTE DATA (ITEM ORIGINALLY REQUEST'D): T | FREIGHT CLASSIFICATION NOMENCLATURE: U | V

ITEM NOMENCLATURE: W | X Dry Cleaning Solvent | Y

SHIPPERS USE			RECEIVERS USE		
SELECTED BY AND DATE (1)	TYPE OF CONTAINER(S) (2)	TOTAL WEIGHT (3)	RECEIVED BY AND DATE (7)		INSPECTED BY AND DATE (8)
PACKED BY AND DATE (4)	NO. OF CONTAINER(S) (5)	TOTAL CUBE (6)	WAREHOUSED BY AND DATE (9)		WAREHOUSE LOCATION (10)

REMARKS: AA | BB | CC

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FIRST DESTINATION ADDRESS (11)	DATE SHIPPED (12)	13 TRANSPORTATION CHARGEABLE TO	14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)	15 RECEIVER'S DOCUMENT NUMBER

DD FORM 1348-1 | 1 MAR 74 | EDITION OF 1 JAN 64 MAY BE USED UNTIL EXHAUSTED | DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUMENT
S/N 0102-LF-013-1040

DOC. IDENT. | RI FROM | M&S | STOCK NUMBER: FSC / NIIN / ADD | UNIT OF ISSUE | QUANTITY | DOCUMENT NUMBER: SERV / REQUISITIONER / DATE / SERIAL | SUFFIX | SUPPLEMENTARY ADDRESS: SERV | SIGNAL | FUND | DISTRIBUTION | PROJECT | PRIORITY | REQ'D DEL DATE | ADVICE | RI | UNIT PRICE: DOLLARS / CTS.

BWA | 6850002649037 | DR00002 | M93055627 3A921 | 13 | NA H | $13.83

SHIPPED FROM	SHIP TO	MARK FOR	PROJECT	TOTAL PRICE: DOLLARS / CTS.
ITS, MCB Camp Lejeune, NC 28542 (919) 451-0378 A	MCB CampLejeune, NC 28542 B	HW C	D	E $27.66

WAREHOUSE LOCATION	TYPE OF CARGO	UNIT PACK	UNIT WEIGHT	UNIT CUBE	UFC	NMFC	FREIGHT RATE		DOCUMENT DATE	MAT. COND	QUANTITY		
F	G	H	I	J	K	L	M	N	O	P	Q	R	S

SUBSTITUTE DATA (ITEM ORIGINALLY REQUEST'D): T 1690 | FREIGHT CLASSIFICATION NOMENCLATURE: U | V

ITEM NOMENCLATURE: W | X Dry cleaning solvent | Y

SHIPPERS USE			RECEIVERS USE		
SELECTED BY AND DATE (1)	TYPE OF CONTAINER(S) (2)	TOTAL WEIGHT (3)	RECEIVED BY AND DATE (7)		INSPECTED BY AND DATE (8)
PACKED BY AND DATE (4)	NO. OF CONTAINER(S) (5)	TOTAL CUBE (6)	WAREHOUSED BY AND DATE (9)		WAREHOUSE LOCATION (10)

REMARKS: AA | BB | CC

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DD FORM 1348-1 1 MAR 74 EDITION OF 1 JAN 64 MAY BE USED UNTIL EXHAUSTED — DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUMENT

S/N 0102-LF-013-1040

DOC. IDENT. | RI FROM | M&S | STOCK NUMBER: FSC / NIIN / ADD | UNIT OF ISSUE | QUANTITY | DOCUMENT NUMBER: SERV / REQUISITIONER / DATE / SERIAL | SUFFIX | SUPPLEMENTARY ADDRESS: SERV | SIGNAL | FUND | DISTRIBUTION | PROJECT | PRIORITY | REQ'D DEL DATE | ADVICE | RI | UNIT PRICE: DOLLARS / CTS.

BWA | 6850 002649037 SRP | CN | 00008 | M 930556273 A922 | 13 | $10.25

SHIPPED FROM	SHIP TO	MARK FOR	PROJECT	TOTAL PRICE: DOLLARS / CTS.
ITS, MCB Camp Lejeune, NC 28542 (919) 451-0378 A	MCB Camp Lejeune, NC 28542 B	C	D	E $82.00

WAREHOUSE LOCATION	TYPE OF CARGO	UNIT PACK	UNIT WEIGHT	UNIT CUBE	UFC	NMFC	FREIGHT RATE		DOCUMENT DATE	MAT. COND	QUANTITY		
F	G	H	I	J	K	L	M	N	O	P	Q	R	S

SUBSTITUTE DATA (ITEM ORIGINALLY REQUEST'D): T | FREIGHT CLASSIFICATION NOMENCLATURE: U | V

ITEM NOMENCLATURE: W | X Dry Cleaning Solvent | Y

SHIPPERS USE			RECEIVERS USE		
SELECTED BY AND DATE (1)	TYPE OF CONTAINER(S) (2)	TOTAL WEIGHT (3)	RECEIVED BY AND DATE (7)		INSPECTED BY AND DATE (8)
PACKED BY AND DATE (4)	NO. OF CONTAINER(S) (5)	TOTAL CUBE (6)	WAREHOUSED BY AND DATE (9)		WAREHOUSE LOCATION (10)

REMARKS: AA | BB | CC

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FIRST DESTINATION ADDRESS (11)	DATE SHIPPED (12)	13 TRANSPORTATION CHARGEABLE TO	14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)	15 RECEIVER'S DOCUMENT NUMBER

DD FORM 1348-1 1 MAR 74 EDITION OF 1 JAN 64 MAY BE USED UNTIL EXHAUSTED — DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUMENT

S/N 0102-LF-013-1040

DOC. IDENT. | RI FROM | M&S | STOCK NUMBER: FSC / NIIN / ADD | UNIT OF ISSUE | QUANTITY | DOCUMENT NUMBER: SERV / REQUISITIONER / DATE / SERIAL | SUFFIX | SUPPLEMENTARY ADDRESS: SERV | SIGNAL | FUND | DISTRIBUTION | PROJECT | PRI | REQ'D DEL DATE | ADVICE | RI | UNIT PRICE: DOLLARS / CTS.

BWA | 6850002649037 | DR00002M930556273A921 | 13 | NA H | $13.83

SHIPPED FROM	SHIP TO	MARK FOR	PROJECT	TOTAL PRICE: DOLLARS / CTS.
ITS, MCB Camp Lejeune, NC 28542 (919) 451-0378 A	MCB CampLejeune, NC 28542 B	HW C	D	E $27.66

WAREHOUSE LOCATION	TYPE OF CARGO	UNIT PACK	UNIT WEIGHT	UNIT CUBE	UFC	NMFC	FREIGHT RATE		DOCUMENT DATE	MAT. COND	QUANTITY		
F	G	H	I	J	K	L	M	N	O	P	Q	R	S

SUBSTITUTE DATA (ITEM ORIGINALLY REQUEST'D): T 1690 | FREIGHT CLASSIFICATION NOMENCLATURE: U | V

ITEM NOMENCLATURE: W | X Dry cleaning solvent | Y

SHIPPERS USE			RECEIVERS USE		
SELECTED BY AND DATE (1)	TYPE OF CONTAINER(S) (2)	TOTAL WEIGHT (3)	RECEIVED BY AND DATE (7)	INSPECTED BY AND DATE (8)	
PACKED BY AND DATE (4)	NO. OF CONTAINER(S) (5)	TOTAL CUBE (6)	WAREHOUSED BY AND DATE (9)	WAREHOUSE LOCATION (10)	

REMARKS: AA | BB | CC

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FIRST DESTINATION ADDRESS (11)	DATE SHIPPED (12)	13 TRANSPORTATION CHARGEABLE TO	14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)	15 RECEIVER'S DOCUMENT NUMBER

DD FORM 1348-1 | 1 MAR 74 | EDITION OF 1 JAN 64 MAY BE USED UNTIL EXHAUSTED | DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUMENT

S/N 0102-LF-013-1040

DOC. IDENT. | RI FROM | M&S | STOCK NUMBER: FSC / NIIN / ADD | UNIT OF ISSUE | QUANTITY | DOCUMENT NUMBER: SERV / REQUISITIONER / DATE / SERIAL | SUFFIX | SUPPLEMENTARY ADDRESS: SERV | SIGNAL | FUND | DISTRIBUTION | PROJECT | PRI | REQ'D DEL DATE | ADVICE | RI | UNIT PRICE: DOLLARS / CTS.

BWA | 6850 002649037 SRP | CN 00008 M 930556273 A922 | 13 | $10.25

SHIPPED FROM	SHIP TO	MARK FOR	PROJECT	TOTAL PRICE: DOLLARS / CTS.
ITS, MCB Camp Lejeune, NC 28542 (919) 451-0378 A	MCB Camp Lejeune, NC 28542 B	C	D	E $82.00

WAREHOUSE LOCATION	TYPE OF CARGO	UNIT PACK	UNIT WEIGHT	UNIT CUBE	UFC	NMFC	FREIGHT RATE		DOCUMENT DATE	MAT. COND	QUANTITY		
F	G	H	I	J	K	L	M	N	O	P	Q	R	S

SUBSTITUTE DATA (ITEM ORIGINALLY REQUEST'D): T | FREIGHT CLASSIFICATION NOMENCLATURE: U | V

ITEM NOMENCLATURE: W | X Dry Cleaning Solvent | Y

SHIPPERS USE			RECEIVERS USE		
SELECTED BY AND DATE (1)	TYPE OF CONTAINER(S) (2)	TOTAL WEIGHT (3)	RECEIVED BY AND DATE (7)	INSPECTED BY AND DATE (8)	
PACKED BY AND DATE (4)	NO. OF CONTAINER(S) (5)	TOTAL CUBE (6)	WAREHOUSED BY AND DATE (9)	WAREHOUSE LOCATION (10)	

REMARKS: AA | BB | CC

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FIRST DESTINATION ADDRESS (11)	DATE SHIPPED (12)	13 TRANSPORTATION CHARGEABLE TO	14 B/LADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)	15 RECEIVER'S DOCUMENT NUMBER

DD FORM 1348-1 | 1 MAR 74 | EDITION OF 1 JAN 64 MAY BE USED UNTIL EXHAUSTED | DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUMENT

S/N 0102-LF-013-1040

G-

P11000.83

→ WO COTE 0378 ; DR

HE GOT THE DOCUMENT

TRUCK @ TP-451

LABEL

TURN-IN DOCUMENT

CPL PARR. LCPL ANDERSON

NSN FROM 5 GAL CANS SOLVENT CAME IN

SELF-SERVICE ITEM. (CHECK TO SEE WHAT ELSE IS AVAILABLE)

30-40 GALLON - VAT 90-120 "

TC-820 (VATS ARE LOCATED) > 3 VATS
TC-816 (3RD VAT)

SOLVENTS CHANGED EVERY TWO-THREE MONTHS.

SGT M. HANDLED CPL PARR THE DOCU.
SGT MANTILLA @ SUPPLY

MR. BASTAUB (C)

JIM COX

Mr Norman

Enclosed is the information

on the Tolerance

Is this Biodegradeable?

Sincerely

Jim Cox

Please call Cliff NORMAN
Tech + Research Br.
DSSC 5917/5163

X2181
X5707
Tolerance

SPECIFICATION FOR

HIGH SOLIDS, ACRYLIC-URETHANE BLENDED, THERMOPLASTIC FLOOR FINISH

Product Description: A 20% solids floor finish made from a blend of zinc cross-linked acrylic and water based urethane polymers. Ideal for use with Ultra High Speed floor machines.

1. Product shall contain water, acrylic and urethane polymers, wax, resin, plasticizing agents and preservative.

2. Product shall have a minimum of 20% solids when tested as per ASTM Method D2834.

3. The polymer blend content shall be in a ratio of 8 - 10% urethane component and 90 - 92% zinc cross-link acrylic component.

4. Product shall exhibit thermoplastic action when burnished with 1,000 - 2,000 r.p.m. floor machines.

5. Product shall have a pH range of 8.2-9.2 when measured by a Beckman pH meter or its equivalent.

6. Product shall exhibit a minimum gloss reflectance reading of 90% when tested on black glass according to ASTM Method D1455.

7. Product shall have a specific gravity of 1.015-1.035 @ 25°C.

8. Product shall meet or exceed the 0.5 static coefficient CSMA benchmark for slip resistance as determined by ASTM D2047.

9. Product shall be recommended for use on vinyl, vinyl asbestos, vinyl composition, rubber, linoleum, asphalt terrazzo, and sealed: wood, cork and concrete.

10. Product shall have a typical coverage of 2500 sq. ft. per gallon.

11. Product shall have a milky emulsion appearance with a mild acrylic odor.

12. Product shall show no separation or gellation when stored in its original container for one year at ambient temperatures.

color that does not suffer extreme yellowing with age or burnishing. Many competitive products yellow heavily with extended high speed burnishing.

4) Leveling character. The leveling character of TOLERANCE is very good, even when compared to 16% solids floor finishes.

5) Drying time to recoat. Typically, 25 to 35 minutes will be required between coats of TOLERANCE. TOLERANCE is similar to CONFIDENCE in this regard.

6) Removability. TOLERANCE's removability, even after extensive burnishing, is very good. This is due to the use of effective alkali soluble ingredients, which allow good removal with both Lift-Off NA and Lift-Off Bulk Ammoniated. In addition, the urethane components have built in removability (unlike the old style urethanes that were essentially irremovable).

7) Slip Resistance. The slip resistance of TOLERANCE is comparable to CONFIDENCE, and meets or exceeds ASTM method D2047-75. In addition, ultra-high speed burnishing often improves the slip resistance above the "unburnished" resistance.

TOLERANCE™ thermoplastic action

HIGH SOLIDS FLOOR FINISH

AIRWICK PROFESSIONAL PRODUCTS' TOLERANCE Floor Finish has been developed to meet the needs of today's extended floor maintenance programs. TOLERANCE is more than just another high solids floor finish—it's formulated with a unique, non-powdering blend of zinc cross-link acrylic and water based urethane polymers. The result is a tough, durable, long lasting gloss that is complemented by super or ultra high speed buffing. Detergent resistant, scuff resistant, black heel mark resistant TOLERANCE sets a new standard for ease of application, with superior leveling and minimal mop drag. Easily recoatable, too. It's the ideal floor finish selection for users of high and ultra high speed maintenance techniques.

AIRWICK'S TOLERANCE can be used on all resilient flooring as well as on sealed wood or cork. Recommended for use on terrazzo and concrete that has been previously sealed.

DIRECTIONS FOR USE

Product Application

1. Floor Preparation: Remove old finish with AIRWICK's LIFT-OFF stripping products, following recommended use dilutions and directions. For best results, neutralize floor to remove alkaline residue. After stripping, burnish with a red buffing pad and dust mop.

2. Sealing the Floor: The use of an acrylic floor sealer is not required with TOLERANCE, but if the floor is new or porous, one or two coats of AIRWICK's PADLOCK sealer is recommended.

3. Application: Apply TOLERANCE in a full, uniform coat with a freshly laundered mop. Let dry thoroughly, usually fifteen to thirty minutes. Apply additional coats in the same manner and let dry. (NOTE: For best results, allow an extra five minutes drying time for each additional coat to insure proper curing of the finish.)

Appearance Maintenance

Maintaining the appearance of floor finished surfaces is best considered as a progression of three "stages". These are: 1) Protection of floor, 2) Cleaning of floor, and 3) Restoration of finish appearance.

1. Protection of floor: Use and clean walk-off mats. Dust mop daily to remove abrasives. These procedures can delay the more costly, labor intensive procedures below.

2. Maintaining cleanliness: TOLERANCE is completely detergent scrubbable. Use a quality detergent (like Airwick A-125 Dry or Liquid) or detergent/disinfectant (like Airwick A-33 Dry or Liquid or another of Airwick's A-Line products) to remove soils on a scheduled basis.

3. Appearance Maintenance: Eventually, gloss enhancement or repair of worn areas will be required. TOLERANCE has specially designed thermoplastic characteristics which provide exceptional repairability and a mirror-like finish with super or ultra high speed dry burnishing. Spray cleaning with AIRWICK ENHANCE will provide cleaning with excellent gloss restoration. If necessary, top-coat worn areas after a wet scrub or after spray cleaning with AIRWICK ENHANCE (follow label directions).

NOTE: To avoid contamination, do not return unused TOLERANCE to original container.

COVERAGE: 2,000 to 2,500 square feet per gallon.

Slip resistance: TOLERANCE was tested by a method comparable to that used by Underwriter's Laboratory and in accordance with similar criteria, meets or exceeds CSMA benchmark for slip resistance as determined by ASTM D-2047-72.

Keep from freezing

AIRWICK PROFESSIONAL PRODUCTS
AIRWICK INDUSTRIES INC
40 Seaview Drive
Secaucus NJ 07094
a CIBA-GEIGY Company

Printed in U.S.A.

PERFORMANCE AND TECHNICAL INFORMATION

As has been previously noted, TOLERANCE is specifically designed to provide exceptional performance with ultra-high speed burnishing. This is the result of a combination of polymers selected - zinc cross-link acrylics and water-based urethanes. In addition, other components normally found in floor finishes (solvents, plasticizers, resins) are also contained.

The following outlines some key technical and physical properties of TOLERANCE:

1) Odor. TOLERANCE has a mild odor, similar in nature to CONFIDENCE. Surprisingly, this may prove a successful selling feature since some recent competitive products (S. C. Johnson's Sprint in particular) have irritating ammonia odor levels.

2) Percent nonvolatiles (solids). This is a key technical parameter for Airwick Sales Representatives to understand. The reason this is true is that competitors often misrepresent the percent solids in their products.

   The laboratory term for "solids" is "non-volatiles". This is determined by "baking" a sample of floor finish in a 225°F oven to drive off all water and solvents from the material. This technique supplies "percent solids" data. However, some competitors add the solvents that have been evaporated off to the percent solids number and credit this number as their "percentage" floor finish (percentage without units). For example, TOLERANCE has a typical solids content of 20.5%. In addition, 5.2% volatile solvents are contained, which are normally driven off during the non-volatile technique. Some of our less scrupulous competitors would combine those numbers, producing a "25.7%" finish (in order to intentionally mislead the customer). You will find our percent nonvolatiles (solids) listed in our sales literature, and in addition find the "percent total actives" (the non-volatile solids plus solvents) described. This will allow you to answer customer questions regarding "percent finish" competitor products. (Note - not all competitors "cheat" in this regard - many have the solids they describe.)

3) Color of film. This is another key parameter of TOLERANCE. TOLERANCE has a very light pale yellow

PROFESSIONAL PRODUCTS

MATERIAL SAFETY DATA SHEET

AIRWICK INDUSTRIES, INC.
CARLSTADT, NEW JERSEY 07072

Date: September, 1985
Supersedes: July, 1984

Emergency Telephone Number: 201-933-8200

TRADE NAME	TOLERANCE
PRODUCT TYPE	Floor Finish

I. PHYSICAL DATA

BOILING POINT (°F)	212°F	FREEZING POINT (°F)	~32°F
SPECIFIC GRAVITY (H_2O=1)	1.028	SOLUBILITY IN WATER, % by wt. at 20°C	Complete
PERCENT VOLATILES BY VOLUME	~80%	pH (as is)	8.7 - 9.0
APPEARANCE AND ODOR	Light tan emulsion		
OTHER	N/A*		

II. HAZARDOUS INGREDIENTS

CHEMICAL OR COMMON NAME	CAS #	%	PEL OR TLV	PRIMARY HAZARD
None				

III. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (°F) (test method)	Nil	FLAME EXTENSION	N/A
FLAMMABLE LIMITS IN AIR, % by volume		LOWER N/A	UPPER N/A
EXTINGUISHING MEDIA	Non-flammable; select media suitable for surrounding fire.		
SPECIAL FIRE FIGHTING PROCEDURES	None		
UNUSUAL FIRE AND EXPLOSION HAZARDS	None		

*N/A = Not Applicable

TOLERANCE

IV. HEALTH HAZARD DATA (4655)

EFFECTS OF OVEREXPOSURE

Eyes: Mild irritant.
Skin: Mild irritant.

EMERGENCY AND FIRST AID PROCEDURES

Ingestion: Give water. Induce vomiting.
Eyes: Flush with water for 15 minutes.
Skin: Wash with soap and water.

V. REACTIVITY DATA

STABILITY — Unstable ☐ Stable ☒ — Conditions To Avoid: None

INCOMPATIBILITY (Materials To Avoid): None

HAZARDOUS DECOMPOSITION PRODUCTS: None

HAZARDOUS POLYMERIZATION — May Occur ☐ Will Not Occur ☒ — Conditions To Avoid: None

VI. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED	Pick up excess with absorbent-type material. Flush remaining with water.
WASTE DISPOSAL METHOD	Discard according to local, state and federal regulations.

VII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify Type): N/A

VENTILATION — Local Exhaust: N/A — Mechanical (General): Sufficient — Special: N/A — Other: N/A

PROTECTIVE GLOVES: N/A — EYE PROTECTION: N/A

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: N/A

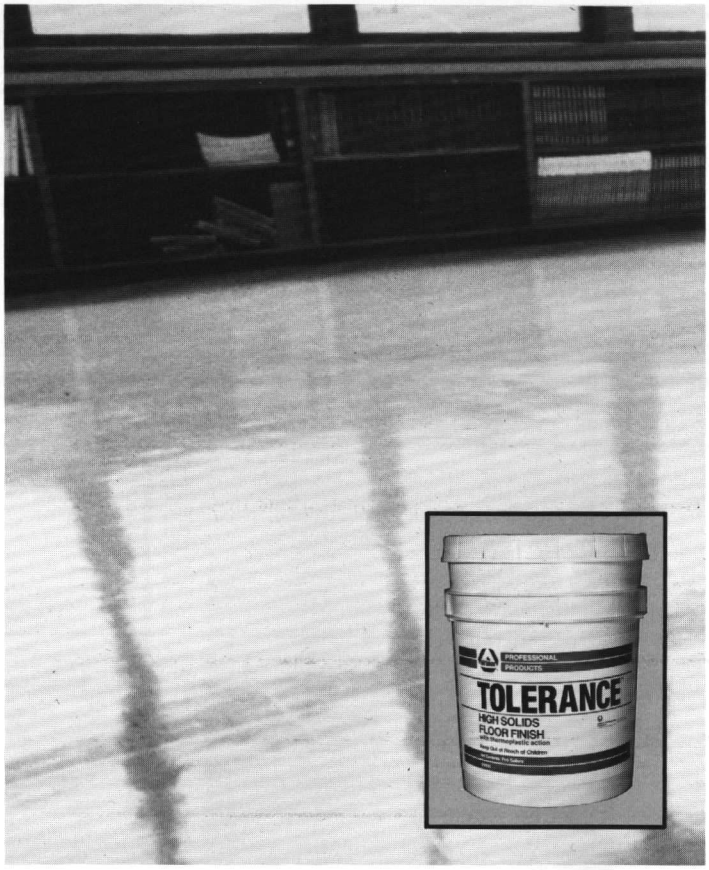
VIII. SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Store at ambient temperature. Keep container tightly closed when not in use. Do not reuse empty container.

OTHER: N/A

PLEASE NOTE: BEFORE USING THIS OR ANY PRODUCT, READ AND FOLLOW THE DIRECTIONS AND PRECAUTIONS ON THE PRODUCT LABEL.

PROFESSIONAL PRODUCTS



TOLERANCE™

High Solids Thermoplastic Floor Finish

Airwick Professional Products' Tolerance Floor Finish has been specially developed to meet the needs of today's extended floor maintenance programs. Tolerance is more than just another high solids floor finish—it's formulated with a unique, non-powdering blend of zinc cross-link acrylic and water-based urethane polymers. The result is a durable, long-lasting finish that is detergent, scuff, black heel mark and slip resistant. When appearance maintenance is needed, Tolerance may be spray buffed or ultra high speed burnished for easy repairability and a mirror-like gloss. The performance of Tolerance actually improves with burnishing due to its unique thermoplastic action polymer blend.

Airwick's Tolerance can be used on all resilient flooring as well as on sealed wood or cork. Recommended for use on terrazzo and concrete.
Tolerance—the ideal product selection for users of high solids finishes or ultra high speed buffing maintenance techniques.

Features

- Urethane/acrylic polymer blend provides extended gloss and high appearance
- Thermoplastic action when ultra high speed burnished
- Slip resistant, detergent resistant, heel mark resistant
- A high solids finish with excellent application characteristics

Advantages/Benefits

- Durable gloss reduces maintenance labor costs
- Maintains public image of facility
- Improved repairability in removing scuff marks and tears
- Mirror-like gloss
- Resists powdering
- Reduces maintenance needs . . . saves money
- Provides sure-footing
- No leveling or drying problems
- Reduces application time
- High gloss/protection with fewer coats of finish

Technical Data

A 20% solids content floor finish prepared from a blend of zinc cross-linked acrylic polymers, water-based urethane polymers and other ingredients.

Odor	Mild
Percent non-volatives (solids)	20.5%
Percent total actives	25.7%
Leveling character	Very good
Drying time to recoat	25-35 minutes (typical)
Reaction to Ultra High Speed Burnishing	Thermoplastic action
Slip Resistance	Static coefficient of friction meets or exceeds ASTM Method D2047-75
Coverage	2500 Sq. ft./gallon (typical)
Recommended surfaces	Vinyl, vinyl asbestos, vinyl composition, sealed terrazzo, sealed wood, sealed cork, rubber, linoleum, asphalt, sealed concrete

Airwick Professional Products Floor Maintenance Products

Floor Stripping Systems
Lift-Off Non-Ammoniated Stripper
Lift-Off Bulk Ammoniated Stripper
Lift-Off Aerosol Baseboard Stripper
Lift-Off Neutralizer Rinse
Lift-Off Aggressor Pads
Lift-Off Super Stripper Pads

Sealer
Padlock Acrylic Emulsion Floor Sealer

Appearance Maintenance
Airwick Enhance System
Airwick Institutional Floor and Hand Pads

Packaging Description:

Product Code No.	Packaging Size
120628	1 Gallon Plastic Bottles—cs/4
120605	5 Gallon Pail
120601	55 Gallon Drum

AIRWICK PROFESSIONAL PRODUCTS
AIRWICK INDUSTRIES INC
40 Seaview Drive
Secaucus NJ 07094

012673-502

P.O. Box 5266
Greensboro, NC 27403

AIRWICK PROFESSIONAL
PRODUCTS OF
NORTH CAROLINA

Mr. Cliff Norman
Tech & Research
DSSC Building 1011
Camp Lejeune, NC

File under Industrial waste Pretreatment, Treatment recycling DDS

Do not discard

olvent
istillation
quipment

Model LS-15†
(15 gallons per batch)

Capabilities

- Distills 15 gallons (57 liters) per shift
- Processes alcohols, ketones, aromatics, chlorinateds and aliphatics
- Recovery rates 80-95%
- 99% plus purity
- Residue remains behind in Teflon*-coated STILPAN or optional STILBAG liner

Features

- 4-10 cents operating costs per gallon
- Minimal operator involvement
- Explosionproof electricals meet NEMA 7 (Class I, Division 1, Group D) standards
- Teflon-coated high-conductivity single-piece boiling chamber
- Electric cast encapsulated heating coil (no heat transfer fluid)
- Distillate gravity feed to external receive tank
- Pushbutton operating light

Utility Requirements

Continuous Use

- 1.65 Kw at 110V/1/60 or 50 Hz or 220V/1/60 Hz
- ¼ to ½ GPM condensing water

Optional Use

- 1 to 3 GPM cooling coil water

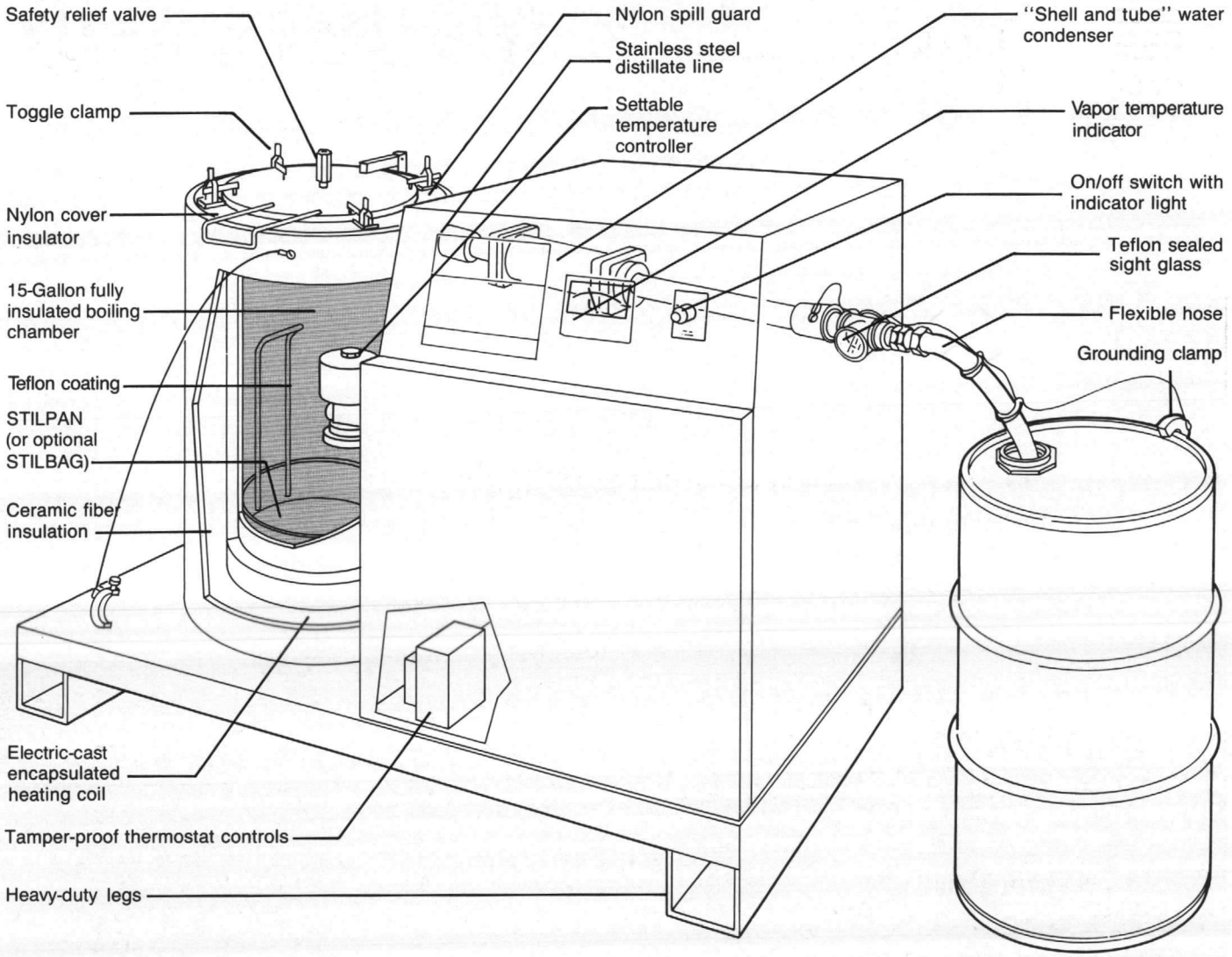
Specifications

Height:	36 inches	914.4 mm
Width:	44 inches	1117.6 mm
Depth:	30 inches	762 mm
Weight:	425 pounds	191.25 kg

*Du Pont registered trademark

†U.S. Patent 4,488,933

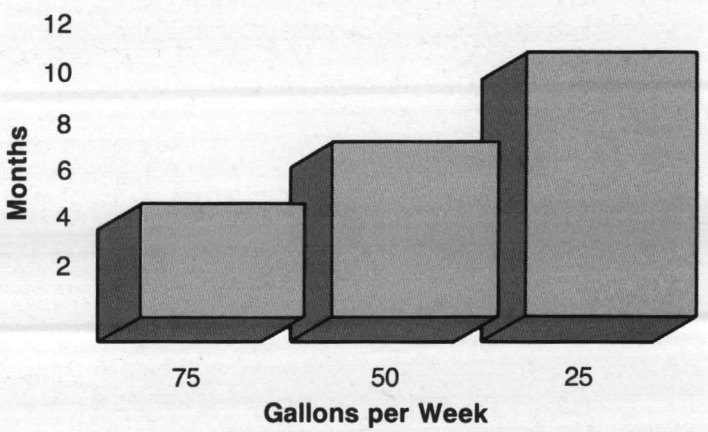
Encl (15)



Options

- Vacuum attachment for high-boiling solvents (320-500°F/160-260°C)
- Flow switch interlock
- Non-explosionproof electric timer
- Temperature shut-off with timer
- External venting system

Payback Chart



Typical Operating Costs: 4-10¢ per gallon

FINISH ENGINEERING CO.™

Finish Company, Inc.
921 Greengarden Road • Erie, Pennsylvania 16501-1591 U.S.A.
Phone 814/455-4478 • TWX 510-696-6816

F86-146C-QP

Do not discard

Solvent Distillation Equipment

Model LS-15†

(15 gallons per batch)

Capabilities

- Distills 15 gallons (57 liters) per shift
- Processes alcohols, ketones, aromatics, chlorinateds and aliphatics
- Recovery rates 80-95%
- 99% plus purity
- Residue remains behind in Teflon*-coated STILPAN or optional STILBAG liner

Features

- 4-10 cents operating costs per gallon
- Minimal operator involvement
- Explosionproof electricals meet NEMA 7 (Class I, Division 1, Group D) standards
- Teflon-coated high-conductivity single-piece boiling chamber
- Electric cast encapsulated heating coil (no heat transfer fluid)
- Distillate gravity feed to external receive tank
- Pushbutton operating light

Utility Requirements

Continuous Use

- 1.65 Kw at 110V/1/60 or 50 Hz or 220V/1/60 Hz
- ¼ to ½ GPM condensing water

Optional Use

- 1 to 3 GPM cooling coil water

Specifications

Height:	36 inches	914.4 mm
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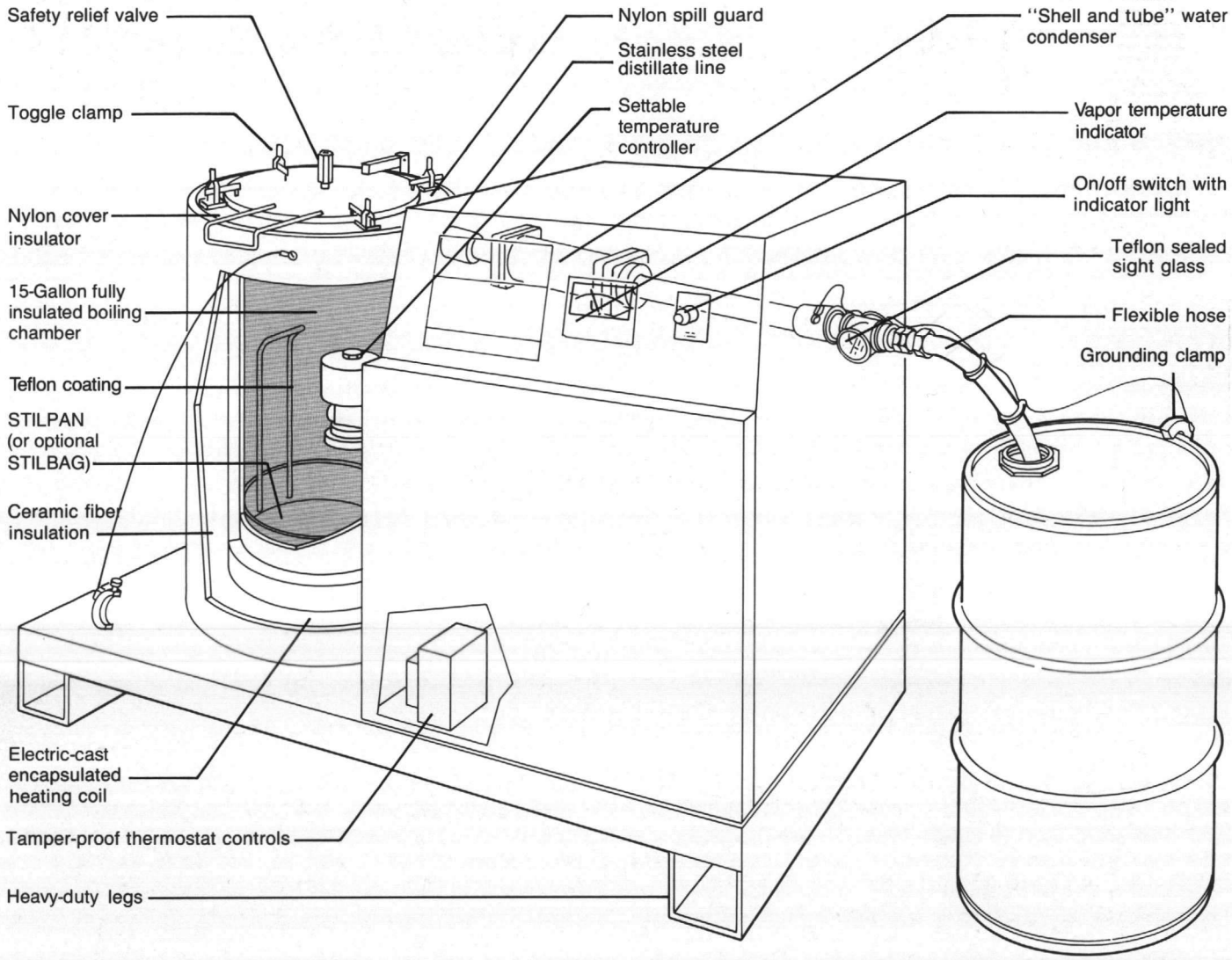

Options

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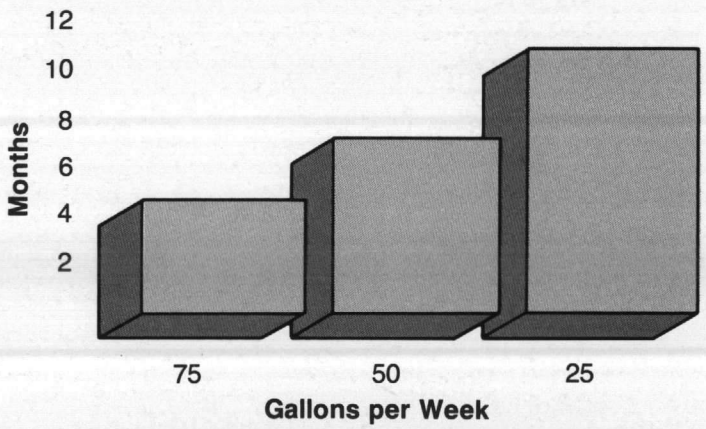
- Flow switch interlock
- Non-explosionproof electric timer
- Temperature shut-off with timer
- External venting system

Payback Chart



Typical Operating Costs: 4-10¢ per gallon

FINISH ENGINEERING CO.™

Finish Company, Inc.
921 Greengarden Road • Erie, Pennsylvania 16501-1591 U.S.A.
Phone 814/455-4478 • TWX 510-696-6816

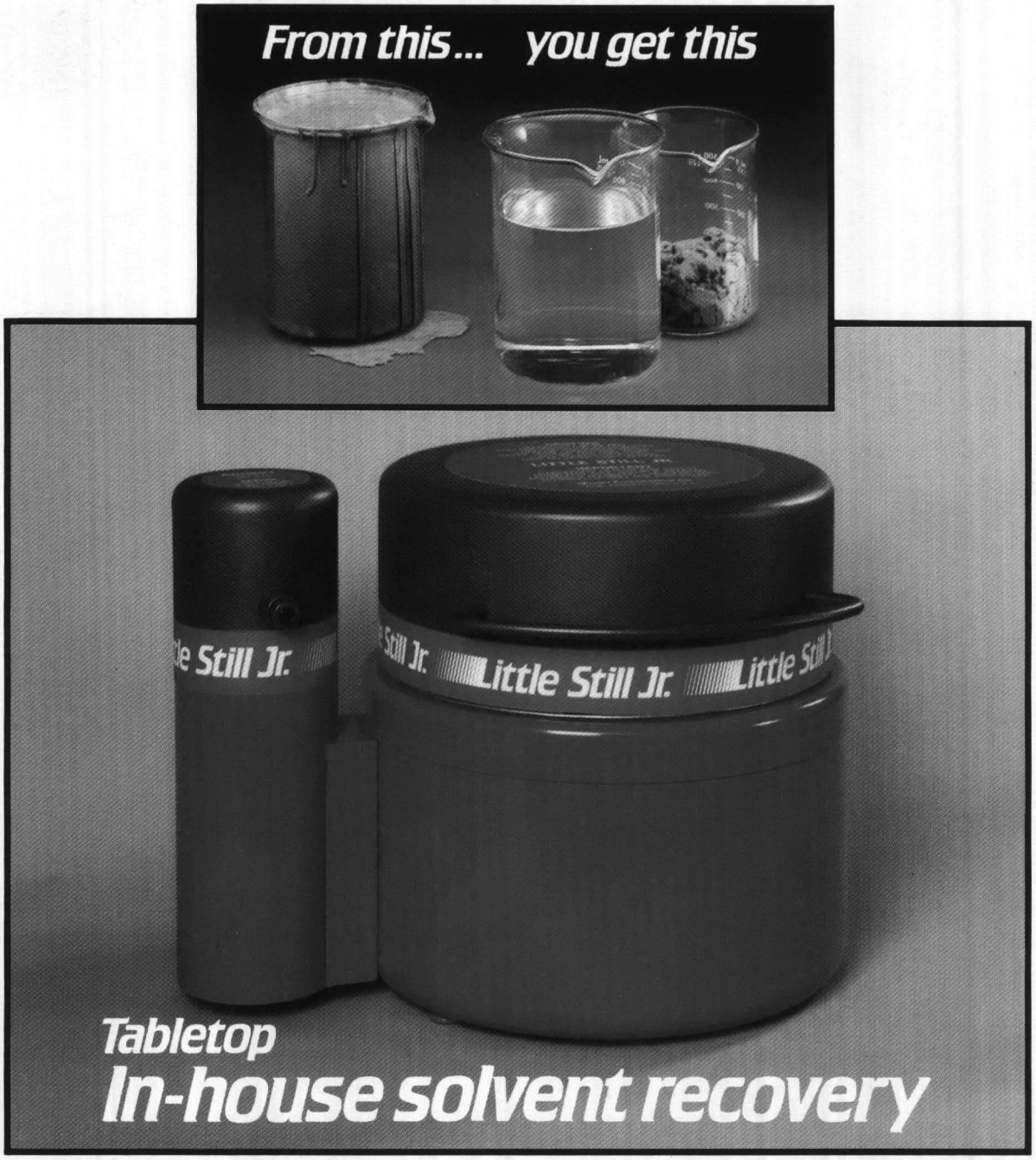
F86-146C-QP

Solvent Distillation Equipment

Model LS-Jr.

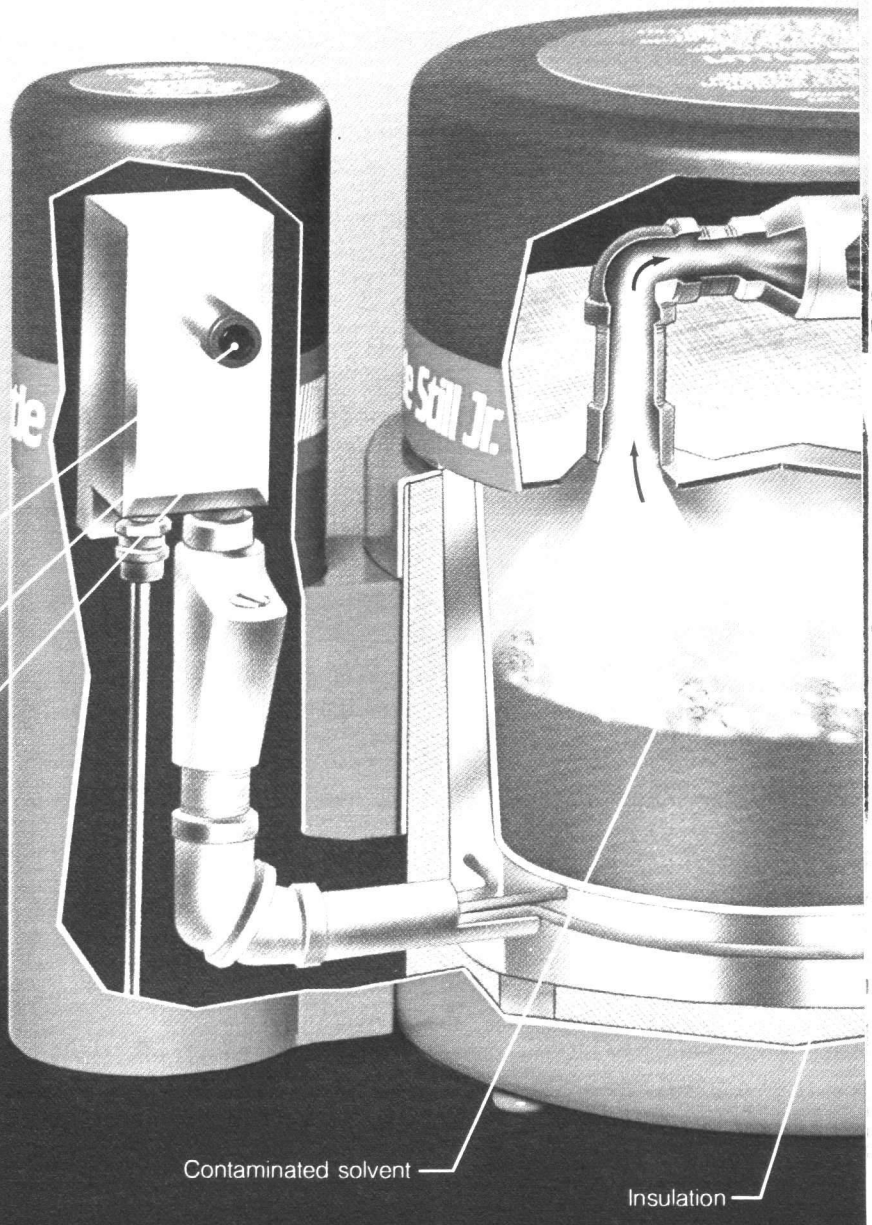
(5 gallons per batch)

Attack Hazardous Waste



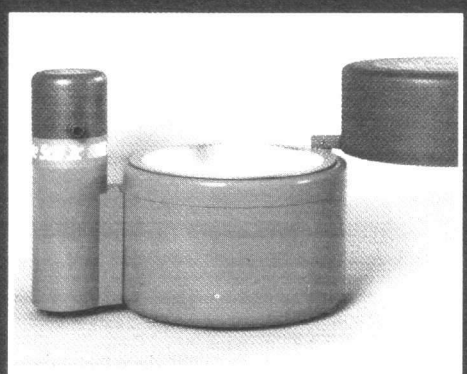
U.S. Patent 4,488,933

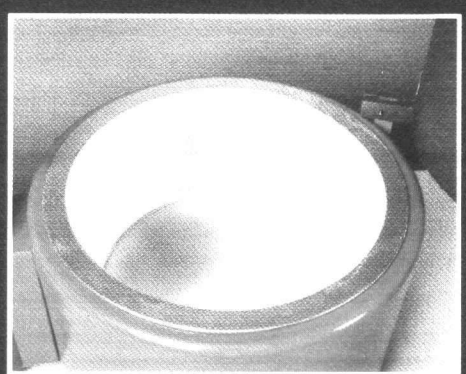
Encl (14)



LS-Jr. processes solvents with boiling points up to 320°F (160°C). For higher-boiling solvents, vacuum equipment option available.

- 110 or 220V, 50/60 Hz, 1 phase
- Uses 1/8 to 1/4 GPM condensing water
- 27x20x19″ (68x51x49cm)
- 150 lb. (68kg)



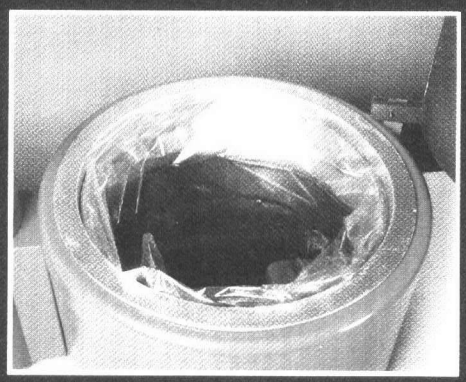


Pure reclaimed solvent

Stainless steel
boiling chamber

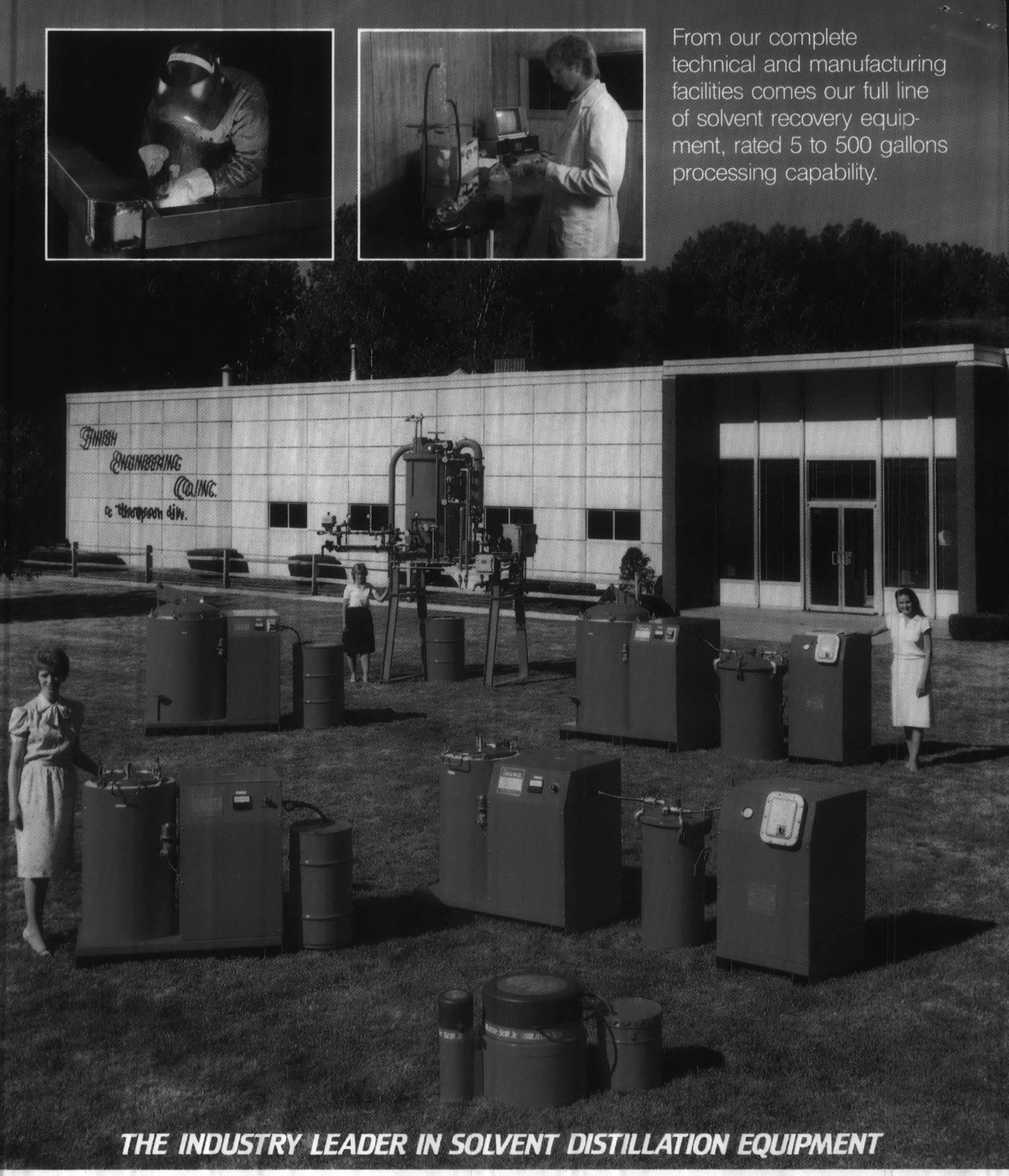
Patented electric heating vessel
- Single-piece heat-conductive aluminum jacket
- Electric heat element

Boiling vessel fitted with optional STILBAG liner



Contaminated solvent in STILBAG-lined vessel ready for startup

STILBAG facilitates waste removal



THE INDUSTRY LEADER IN SOLVENT DISTILLATION EQUIPMENT

FINISH ENGINEERING CO.

921 Greengarden Road • Erie, Pennsylvania U.S.A. 16501-1591
Phone 814/455-4478 • TWX 510-696-6816

F85-171-CP

HAVE YOU HEARD

With this issue of the *OCB* we introduce HAVE YOU HEARD. This column is presented to provide you with a potpourri of chemical information. HAVE YOU HEARD will include chemical data such as hazard and toxicity information, recommended disposal methods, and helpful lab hints.

The Skin Absorption of Chemicals

An issue of *Laboratory Safety*, the publication of the Department of Environmental Health and Safety of the University of Michigan's Health Service, carried the following item devoted to the skin absorption of toxic materials:

Greatest hazards associated with chemicals center around poisoning by ingestion or inhalation of toxic vapors, gases, fumes, or mists. However, absorption of chemicals through the skin should not be overlooked as a route of entry into the body.

Skin resistance to chemicals varies. In certain instances resistance is fairly good—in other cases, such as with lipid-soluble materials, absorption can occur to the extent that amounts entering the body can reach considerable proportions. Breaks in the skin offer excellent routes into the body, although typically the sweat glands and hair follicles offer the easiest routes of entry.

The following is a list of some of the chemicals which can enter the body through the skin. Consequently, skin contact with these chemicals should be avoided.

Acrylamide
Allyl alcohol
Aniline
Benzene
Benzidine
Bromoform
Butylamine
Carbon tetrachloride
Chlorinated camphene
Chlorodiphenyls
Chloroprene
Cresols
Cyanide (as CN^-)
Decaborane
1,2-Dibromoethane
Dichloroethyl ether
N,N-Dimethylacetamide
N,N-Dimethylaniline
Dimethylformamide
1,1-Dimethylhydrazine
Dinitrobenzenes
Dinitrotoluenes
p-Dioxane
Dipropylene glycol methyl ether
Epichlorohydrin
2-Ethoxyethylacetate
Ethylene chlorohydrin
Ethylene glycol dinitrate
Ethyleneimine
Furfural
Hexachloroethane
Hydrazine
Hydrogen cyanide
Mercury
Methyl acrylate
Methyl bromide
Methyl CELLOSOLVE†
Methyl CELLOSOLVE† acetate
2-Methyl cyclohexanone
Methyl isobutyl carbinol
N-Methylaniline
Monomethylhydrazine
Morpholine
Nicotine
p-Nitrochlorobenzene
N-Nitrosodimethylamine
Nitrotoluenes
Pentachloronaphthalenes
Phenol
p-Phenylenediamine
Phenylhydrazine
Picric acid
Propyleneimine
1,1,2,2,-Tetrachloroethane
Tetraethyl lead
Thallium (soluble cpds)
o-Toluidine
1,1,2-Trichloroethane
Trichloronaphthalenes
Trinitrotoluenes
Xylidines

This listing is far from complete. It includes only some of the more common chemicals.

[*J. Occup. Med.*, Vol. 9 (9), p. 475 (1967).]

†Trademark of Union Carbide Corporation.

Cyanide Exposure

Description: "Unexpected evolution of toxic vapors was believed to be the cause of a chemist becoming ill while handling a chromatographic plate. The plate has been exposed to an atmosphere of cyanogen bromide and sprayed with an ethanolic hydrogen chloride solution of *p*-aminobenzoic acid. Later, the plate was removed from a hood and dried in an oven for several minutes. A small air sweep was maintained on the oven by applying a vacuum to one port and leaving the oven opened slightly. After removing the plate from the oven, the chemist felt faint and experienced a quivering sensation. After treatment and as a precautionary measure, he was taken to a hospital and a cyanide antidote was administered.

Preventive Measures: "In the future, if this operation is repeated, all apparatus including the oven will be placed in a hood. Ampoules of amyl nitrite will be made available where hydrogen cyanide or cyanogen bromide is frequently used."

(Manufacturing Chemists Association Case History No. 1148.)

DIMETHYLDIOCTADECYLAMMONIUM BROMIDE AND TUMOR RESEARCH

All indications are that the American Society of Biological Chemists/American Association of Immunologists National Meeting in Atlanta this past June proved to be a very enriching experience for all attendants. A shortage of alluring papers there was not! One particular paper drawing more than a passive interest was given by William Gordon and Morton Prager at the Tuesday afternoon poster sessions. Under the title "Immunologic Effects of a Lipophilic Adjuvant," the paper showed that dimethyldioctadecylammonium bromide (DDA) conjugated to a tumor antigen is more active against a tumor cell challenge than the antigen alone. Even at low antigen concentrations that gave minimal antibody responses without DDA, the antigen-DDA pair enhanced antitumor activity by 100-fold.

Unfortunately, our people at the Eastman Organic Chemicals exhibit caught wind of this paper a day too late. How then did we learn of it? By the mysterious little circle we found neatly drawn around 10610, DDA's catalog number, on page 68 of the exhibit copy of the *EASTMAN Organic Chemicals Catalog*. We are grateful to the uncounted immunologists who, in looking up DDA in the *Catalog*, took notice of the circle and explained the mystery. We are especially grateful to one AAI member, unknown by us, who made the circle in the first place. *(Fed. Proceed.,* 37(6), 1452 (1978), Abstract 1011.)

Received 15 Oct 86
Sent to Utilities 16 Oct 86
DDB

ENGINEERING SERVICE REQUEST (ESR)
NAVFAC 11000/7 (4-78)
Supersedes NAVDOCKS 2038
S/N 0105-LF-010-0035

Instructions on Reverse

Copy No.

To:
From:

1. [redacted] (Activity and location)
Commanding General, Marine Corps Base Camp Lejeune, NC 28542
Commander, Atlantic Division, Naval Facilities Engineering Command
Norfolk, VA 23511 (Attn: 09A21B3/M. Bryant.)

3. REFERENCE(S)

4. ESR IDENTIFICATION NUMBER (*if applicable*)
9E84

5. ENCLOSURE(S) (*check*)
☐ NAVCOMPT 140
☐ NAVCOMPT 2038
☐ NAVCOMPT 372
☐ OTHER (*specify*)

6. TYPE OF FUNDING (*check*)
☐ O&MN
☒ OTHER (*specify*) O&MMC
☐ NIF
☐ NAF

7. TYPE OF SERVICES REQUESTED
Engineering Study to investigate Water Distribution System at Marine Corps Air Station (Helicopter)

8. DESIRED COMPLETION DATE
January 1985

SECTION A FOR USE BY REQUESTER

9. DESCRIPTION OF WORK

I. GENERAL: Provide an engineering study to investigate the Water Distribution System at Marine Corps Air Station (Helicopter), New River, Jacksonville, NC.

II. BACKGROUND:

a. Presently, the MOQ area is served by an 8-inch dead end distribution line. This creates stagnant water and low water pressure. MOQ 2003 is an

10. FOR INFORMATION CONSULT (*Name and phone*)
G. S. JOHNSON, JR.
AV: 484-5161

11. OFFICIAL REPRESENTATIVE (*Signature*)
C. A. JOHANNESMEYER
By direction

12. DATE
26 JUN 1984

SECTION B FOR USE BY EFD

1. SCOPE OF SERVICES
72-919-451-
676-5161

2. DATE RECEIVED
16 July 1984

3. ESR NUMBER
U-4063

SECTION C INTERIM ENDORSEMENT

1. REMARKS Present workload precludes starting in-house study before spring or summer 1985. If earlier date is desired, it should be done by A&E Contract. Cost of study will be between $50K and $100K. Upon receipt of notification of a choice for an A&E Contract and availability of funds, this office will prepare a scope of work and initiate contract proceedings.

2. EST. COMPLETION DATE
31 DEC 1986

3. AUTHORIZED REPRESENTATIVE (*Signature*)
J. R. BAILEY
By direction

4. DATE

SECTION D FINAL ENDORSEMENT

1. ENCLOSURE(S)
☐ DRAWINGS AND MAPS
☐ SPECIFICATIONS
☐ REPORT
☐ OTHER (*specify*)

2. EST. COST (*if applicable*)
$

3. AUTHORIZED REPRESENTATIVE (*Signature*)

4. DATE OF COMPLETION

COPY TO
FAC; COMP: MAIN

18101

Copy to Betz, WQCL

Danny DPS

Betz

UNITED STATES MARINE CORPS
Marine Corps Base
Camp Lejeune, North Carolina 28542-5001

IN REPLY REFER TO:
6280
FAC
18 SEP 1986

From: Commanding General, Marine Corps Base, Camp Lejeune, North Carolina
To: Commander, Atlantic Division, Naval Facilities Engineering Command, Norfolk, Virginia 23511-6287 (Codes 04; 09A; and 11)

Subj: ~~COORDINATION OF ENVIRONMENTAL PERMITS DURING PROJECT PLANNING AND DESIGN~~

Ref: (a) CMC msg 041432Z Jan 84
(b) CG, MCB ltr 6280 FAC dtd 27 Jan 86
(c) CG, MCB ltr 6280 FAC dtd 12 Mar 86

1. The purpose of this letter is to request your assistance in expediting the environmental permitting process. Please advise of any problems you foresee in implementing the following policy:

a. Designers/Planners should prepare all environmental permit applications involving facilities at Marine Corps Base for signature by the Commanding General, Marine Corps Base or his designated representative in accordance with reference (a).

b. Indicate the addressee for initial review of draft or final permit conditions as Facilities Department, Marine Corps Base. To insure timely review by LantDiv and consultant personnel, copies of permit correspondence will be simultaneously routed either by the State or by the Facilities Department to Lant or the A&E.

2. The reason for the above request stems primarily from North Carolina administrative rules for permit issuance. We are given 30 days following issuance of a permit to respond to permit conditions. Within that time frame we must also develop and submit a request for an administrative hearing should the terms of the permit be unacceptable.

3. References (b) and (c) provided detailed permitting guidance, including 50 copies of the N.C. Permit Directory, with the goal of expediting permit processing. To a degree, this goal is being realized due to the advance permit coordination being accomplished by design engineers both by LantDiv and consultant firms. The above procedures will enhance that progress. For questions

or comments, please contact Mr. Bob Alexander, Marine Corps Base Environmental Engineer, autovon 484-3034.

T. J. DALZELL
By direction

Copy to:
CMC (LFL)
CO, MCAS, New River (S-4)

Blind Copy to:
SJA
PWO/ROICC
BMO
NREAD
EnvEngr

DEPARTMENT OF THE NAVY
NAVAL DENTAL CLINIC
CAMP LEJEUNE, NORTH CAROLINA 28542

IN REPLY REFER TO
6260.2
NDCCLNC:011
1 July 1986

From: Commanding Officer, Naval Dental Clinic, Camp Lejeune
To: Commanding Officer, Naval Hospital, Camp Lejeune, NC 28542
Attn: Mr G. L. Winters, Supervisory Industrial Hygenist

Sudj: HAZARDOUS MATERIALS INVENTORY

Ref: (a) Your ltr 6260.2, 371 dtd 5 May 1986

Encl: (1) Hazardous Material Inventory Sheets

1. In response to reference (a), enclosure (1) is submitted.

2. Point of contact for this command is DT2 J. F. Houston, ext 5357/5314.

R. A. Henry

R. A. HENRY
By direction

HAZARDOUS MATERIAL INVENTORY SHEET

Organization: NAVAL DENTAL CLINIC **Facility:** HQ and all Branch Clinics **Point of Contact:** DT2 HOUSTON

ITEM	NSN/MANUFACTURER	ADDRESS	PRODUCT USE	QUANTITY ON HAND	RATE OF USE
1	3 Von of Amerrica Inc 8040-00-142-9193	Torrance, CA. 90501	(Cyanoacrylate) Glue Adhesive	66 Bottles	2 Per Month
2	Union Carbide Corp 6135-00-120-1030	Red Oak Iowa	Battery Dry (Alkaline)	45 Variuos Voltage	6 Per Month
3	Ticonium 6520-01-213-5993	P. O. Box 350 Albany, NY 12201	Aluminum Oxide TD 90	38 Plastic Bottles	6 Per Month
4	SSRC 6530-00-133-4299	Quincy, MA. 02171	(Ammonium) Cold Packs (Nitrate)	350 Small Bags	20 Per Month
5	Wintrop Laboratories 6505-00-149-8705	NY, NY 10016	Benzalkonium Chloride Solution	4 Bottles	Delete Item
6	James Austin Co. 6810-00-598-7316	Mars, PA. 16046	Bleach	8 Gal Containers	3 Per Month
7	Anderson Lab Corp	Fortworth, Texas	Chloroform	4 Gal (issued by pint	2 Per Month
8	6520-01-131-7925 6520-01-131-0642	L. D. Caulk Inc Milford, Delaware 19963	(Mercury) Silver Alloy Powder	6 Boxes of 500 Capsules	2 Per Month
9	L. D. Caulk Co 6520-00-935-4013	Milford Delaware 19963	Methyl Methacrylate Repair Material Lucitone	2 Boxes	1 Per Month
10	Ticonium Company Open Market 1700B	413 N Pearl St. Albany, NY 12201	Ti-lectro Solution	10 Gal Bottles	2 Per Month
11	Air Techniques 6525-LL-025-4027	Hicksville, NY	(Potassium Hydroxide) Xray Developer/Fixer	6 Cases	2 Per Month
12	Plastodent Inc. 6520-00-299-9643	Bronx, NY 10461	Plastodent Wax Solvent	1 Can	1 Per Month

HAZARDOUS MATERIAL INVENTORY SHEET
NAVAL DENTAL CLINIC CLNC

1. The following information is provided for each item in numerical sequence. It should be noted that each of these items are present in all dental clinics on this base. This Command is responsable for the clinics at: Camp Gieger, Camp Johnson, Court House Bay, New River Air Station, HQ Clinic Bldg 15, and the Dependants Clinic in Bldg 65.

Item 1 is used mostly in the prosthetic lab however it may be present in all clinics. This is a premixed glue that is in a plastic container. No shelf life is available, disposal would be neutralization upon use.

Item 2 is used in all clinical areas it is used to power various hand held dental tools and appliances. This item is stored in a refrigerator that contains no consumable items, disposal is normal trash. Life exp 6 Months.

Item 3 is used in the prosthetic lab, bldg 15, It is used to smooth metal surfaces on dentures and partials. This item is a sandy grit type material that is used in sand blasters and air pachae guns. It comes in a plastic container and disposal is through regular trash. Life exp indefinite.

Item 4 is used in all spaces, it is used to reduce swelling in surgical patients. This item is packaged in small plastic bags, disposal is through regular trash upon use. No life exp is available.

Item 5 is no longer used at this command, all material on hand will be disposed of in accordance with base instructions.

Item 6 is used in all spaces it is used to bleach dead discolored teeth during endo treatment, however its primary use is as a cleaning solution. This item is packaged in 1 gal plastic containers and is disposed of upon use in a mostly water mixture through the water treatment system. No life exp is available.

Item 7 is used in all clinics , it is used during endo treatment to soften dental material that are used to refill the pulp canal. This item comes in 1 gal metal containers, it is then issued in 1 pint bottles. The disposal requirements on this item are not needed it is totally used in the procedure and no material is left. Shelf life is not available.

Item 8 is used in all dental spaces, it is used to fill teeth, This item is packaged in 500 per plastic jar, they are in small capsules that prevent leakage of mercury/vapors. Item is placed in a amalgamator and then mixed. All scrap is then placed in a container and covered with HGX solution. This item is disposed of through Precious Metal Recovery. No shelf life is available.

Item 9 is used to repair broken dentures or partials. Item is packaged in a box, a bottle of liquid and a container of powder are mixed together to form a paste this paste is then applied to the broken surface. No disposal is required the material is consumed in use. No shelf life is available until item is mixed.

Item 10 is used the prosthetic lab, bldg 15. It is used to polish and clean dental metals. Item is packaged in a plastic 1 Gal bottle. Item is disposed of through the water treatment system. No shelf life is available.

HAZARDOUS MATERIAL INVENTORY SHEET

Organization: DENTAL CLINIC **Facility:** HQ and all Branch Clinics **Point of Contact:** DT2 Houston

	NSN/MANUFACTURER	ADDRESS	PRODUCT USE	QUANTITY ON HAND	RATE OF USE
13	We Pak Corp 7930-00-000-5943	P.O. Box 36803 Charlotte, NC 28236	Cleaning Compound (Liquid)	7 Bottles	6 Per Month
14	Larson Lab Inc 6840-00-926-9117	Erie, PA 16505	Steri-lize (Glutaraldehyde)	7 Gallons	8 Per Month
15	JEVS Work Experience Center 6505-00-106-299-8095	St. Louis, MO 63314	Ammonia Inhalent	114 Capsules	15 Per Month
16	Phipps Prod Corp 6505-00-149-0746	Boston, MA 02111	Isoprophyl Alcohol	(3) 5 Gallon Container	3 Per Month
17	Winthrop-Breon Lab 6505-00-149-0746 NDC 0024-1535-02	NY, NY 10016	Phisohex	47 5oz Bottles (2) 1 Gallon Refills	6 Gallons Per Month
18	CMC Incorp 6505-00-153-8480	Smyrna, TENN 37167	Hydrogen Peroxide 3%	(6) 1 Pint Bottles	4 Per Month
19	Fisher Scientific Open Market PN H-325	Fairland, NJ 07410	Hydrogen Peroxide 30%	1 Bottle	1 Per Month
20	3M Company 6520-00-100-0046	St. Paul, MN 55101	3M Trouble Shooter	80 Cans	6 Per Month
21	Sporicidin Comp	4000 Mass Ave. N.W. Wash DC 20016	Sporicidin Disenfect	10 Bottle	3 Per Month
22	beryllium Dust	MFG FROM USE OF METALS IN LAB	NONE	NONE	NONE
	NOTE: Beryllium Dust is present in a small amount in the grinding machine filters used in the prosthetic lab. At present a request is being initiated to have this material removed by Industrial Hygiene trained personnel.				

NOTE: PLEASE SEE ATTACHED INFORMATION FOR ADDITIONAL INFORMATION ON EACH ITEM (COINCIDES BY NUMBER)

Item 11 is used to develop dental xray films, It is a premixed automatic type solution. This item is packaged 2 Gal of fixer and 2 Gal of developer per box. The average shelf life of this item is 12 months. Disposal is accomplished through Precious Metal Recovery Program.

Item 12 is used to remove wax build up off impression trays etc. The material comes in a metal can (1 pint) and does not require mixing. Disposal is through water treatment facility, can is triple rinsed then discarded in regular trash.

Item 13 is a liguid type scouring cleaner, it is used in all clinical spaces. Item comes in 1/2 gal plastic bottles. Item is water soluable and is discharged into the water treatment system. Indefinite shelf life.

Item 14 is a liquid disenfectant used in all clinical spaces, it is used to clean instruments prior to sterilization. Item is packaged in a one gallon plastic container and has to be activated with a small bottle of crystals that are provided. Disposal is through water treatment system, container is triple rinsed then discarded with regular trash. Shelf life is 12 months or apporx 30 days after being activated.

** Item 16 is used to disenfect work surfaces between patients, Item is packaged in 5 gal metal containers. Shelf life in indefinite, Item is consumed by evaporation during use, container is triple rinsed and left open then thrown in trash.

** Item 15 is used in the event a patient faints or has a medical problem while in the chair. All clinical spaces has this item. Item is packaged in a small compule that is crushed if needed. Disposal is regular trash. Shelf life is indefinite.

Item 17 is used in all clinical spaces it is a disenfectant type handwash. item is packaged in 5 oz bottles and is disposed of trough the water treatment system. Shelf life is indefinite.

Item 18 is used in all clinics during endodontic procedures. It is packaged in 1 Pint bottles and is consumed during use. Shelf life is 12 Months.

Item 19 is used in all clinical areas during endodontic procedures. It is issued in 1 pint bottles. Disposal is consumed during use,shelf life is 12 months.

Item 20 is used in all command areas, it is a floor cleaning product and is consumed during use by evaporation. Item is packaged in an aresol type can. shelf life is indefinite.

Item 21 SEE ITEM # 14 THIS IS THE SAME TYPE ITEM

At present this command does not have any specific storage type cabinets, however we have one large flammable storage cabinet on order and are having outside flammable sroage buildings constructed at 3 clinics. Every effort is being made to budget for additional safty type storage buildings and lockers for next year and the future.

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Hazardous Waste

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So far in ongoing inventory, DOD has identified 2,949 potential hazardous wastes sites at defense installations across the United States.

DOD has thoroughly investigated 1,010 of these sites and found that 549 do not present a threat to the environment or public health and that 461 sites require major restoration activities. Studies for more than 1,900 sites are not complete, the inventory showed.

According to DOD, of the 461 found to require remedial work, cleanups have been finished at 127 of the sites and work is under way at an additional 203 sites.

DOD Sets Total Costs At $10 Billion

In an interview with BNA, Schafer and Deputy Assistant Secretary of Defense for Installations Robert Stone said that overall military hazardous waste cleanup costs could range from $5 billion to $10 billion, a figure cited earlier by DOD (Current Developments, Nov. 15, 1985, p. 1260).

Both officials are chemical engineers, and Schafer held several different positions within the Environmental Protection Agency for 14 years before joining DOD in September 1984.

Schafer's 12-person environmental policy office, headed by Stone, oversees DOD environmental programs from forestry and wildlife management to hazardous wastes cleanup.

The office is primarily concerned with two types of hazardous waste sites, which are those located in currently operating facilities, some of which require "corrective action" under the Resource Conservation and Recovery Act, and closed military hazardous waste sites, similar to superfund sites, but with cleanup funding provided by Congress in DOD's annual appropriations bill rather than through the superfund program.

Along with developing a site inventory and using information culled from sources within military branches to list priorities on the inventory, the policy office is responsible for preparing and presenting cleanup funding requests to Congress as part of the Defense Department's budget, Stone and Schafer said.

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DOD released the most recent inventory in February, but Schafer said that this "living document" would be tightened substantially over the next six months through an ongoing inventory of sites and the development of the new ranking system, known as the Hazardous Assessment and Risk Management System (HARMS II).

Schafer said HARMS II will be complete Nov. 1 and that a ranked inventory of national DOD sites will be issued by January 1987.

Air Pollution

PHELPS DODGE CLOSES ARIZONA COPPER SMELTER AFTER FAILING TO AGREE WITH EPA ON CONTROLS

Phelps Dodge Corp. closed its Douglas, Ariz., copper smelter July 10 after the Environmental Protection Agency refused to extend a 90-day suspension of emission limitations for the facility, Richard Pendleton, Phelps Dodge senior vice president, told BNA July 15.

EPA proposed to deny continued suspension of air pollution controls known as a non-ferrous smelter order (NSO) for the plant April 10 but allowed the temporary extension while it continued negotiations with the company (Current Developments, April 18, p. 2235).

In evaluating the company's latest submission, EPA was unable to conclude that technical requirements put forth regarding operational improvements of supplementary control systems are adequate to protect air quality, agency spokesman Chris Rice said July 15. Extension of the NSO is therefore not in the public interest, he said.

Discussions between EPA and the company are continuing and Phelps Dodge is hopeful of an agreement soon, Pendleton said. The closure of the plant affects 300 employeees, he said.

The company already has agreed to permanently close the smelter at the end of 1987 to comply with an agreement on emission control reached by the United States and Mexico in July 1985, he said. The company is negotiating what further emission controls steps must be taken to allow the plant to operate until then, according to Pendleton.

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Eschels said he expects the department to issue an invitation to resume the talks because of a requirement that it do so for states chosen as candidates for a high-level nuclear waste repository (May 30, p. 110).

The Hanford Reservation, location of the Energy Department's operations office at Richland, Wash., has received no shipments of foreign nuclear waste but has received infrequent shipments of domestic waste, Eschels said.

However, the state foresees "many more shipments" of nuclear waste through the state, even if it is not chosen as a national repository. The defense wastes already at Hanford "will go somewhere," he said.

"The state of Washington will remain vigilant," Eschels said.

Hazardous Waste

DOD ESTIMATES $1.5 BILLION ANNUAL BUDGET FOR MILITARY SITE CLEANUP IN UPCOMING YEARS

Annual appropriations by Congress for environmental restoration of military hazardous waste sites could jump to between $1 billion and $1.5 billion in the next few years, quadrupling the $385 million in the fiscal 1987 budget request, Carl J. Schafer Jr., Department of Defense director of environmental policy, told BNA July 11.

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Actual cleanup funding provided by Congress is controlled by the particular site's base commander, who also oversees the cleanup, Schafer said. In most cases the cleanups are carried out by private contractors, he added.

Program Moving From Studies To Cleanups

The quadrupling by Congress of the annual funding is expected, according to Schafer, as DOD moves from the survey and study phases of its cleanup program to actual remedial work at the hazardous waste sites.

Along with inventorying military waste sites, Stone and Schafer said, DOD is developing a system to assess the degree of human health risks at specific sites and prioritize cleanup.

Schafer pointed out that both the proposed changes in the Comprehensive Environmental Response, Compensation, and Liability Act (superfund law) and Section 3016 of RCRA require an inventory of hazardous waste sites.

However, he said, "Even if it weren't for these federal requirements, I would still have to have an inventory myself." The inventory and assessment process will give DOD a "holistic environmental unit" to get the "most environmental bang for the buck," Schafer said.

Both of the DOD officials emphasized that estimates of the number of sites and cleanup costs are constantly changing because they are "snapshots in time."

DOD released the most recent inventory in February, but Schafer said that this "living document" would be tightened substantially over the next six months through an ongoing inventory of sites and the development of the new ranking system, known as the Hazardous Assessment and Risk Management System (HARMS II).

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DEFENSE LOGISTICS AGENCY

Inter-Office Memorandum

Mike C. Jones WKS George Gott

IN REPLY REFER TO DRMR-MEH (Mr. Taylor/(AV)683-6917/mp) 18 Jul 85

SUBJECT: Safety and Health Considerations for Items Containing Beryllium Alloys

TO: Chiefs of DRMOs

The attached safety and health procedures regarding health precautions for items containing beryllium alloys is forwarded for your information and use.

1 Encl

Truman Taylor
TRUMAN TAYLOR
Safety & Occ. Health Manager

DLA FORM 111 JULY 82 PREVIOUS EDITION MAY BE USED UNTIL EXHAUSTED

1. Beryllium: Items containing beryllium alloys should be visually inspected for corrosion and flaking of the beryllium containing components. Beryllium is used in alloy with copper, aluminum, steel, nickle, and other metals as components of non-sparking tools, electrical switch parts, marine inertal navigational units, shims, cams, and bushings.

2. Where beryllium dust from corrosion or flaking (white or gray color) is noted, the following procedures should be followed to protect against beryllium inhalation or absorption.

a. While wearing a toxic dust respirator and impermeable gloves, enclose the items in 2 plastic bags of 50 mil thickness.

b. Placard the bag "SUSPECT BERYLLIUM CONTAMINATION HAZARD".

c. Place the bagged item securely inside a drum or carton and cover it.

d. Place a DoT white "poison" label on the container.

e. Any personnel who come in direct contact with beryllium dust/corrosion, or suspect they have inhaled beryllium, should immediately report the mishap and report to the host medical facility.

f. Any suspected contamination should be checked by an industrial hygienist.

3. Electron tubes, klystrons and magnatrons may contain a ceramic material (for heat transfer) containing beryllium oxide. Do not perform any operation on this ceramic such as grinding or crushing which could produce "Beryllium Oxide Dust".

SELECTED NIOSH HAZARDOUS WASTE PUBLICATIONS

Occupational Safety and ... Guidance Manual for Hazardous Waste Site Activities. This ma... ...ended for federal, state, and local officials and the... ...responsible for occupational safety and health progra... ...dous waste sites. A product of NIOSH, OSHA, USCG ... ...provides general guidance and should be used as ... ...eloping a specific health and safety pro... ...copy, order DHHS (NIOSH) Publication ...

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...tance Emergencies. This worker ... protect the health of hazardous w... ...copy, order DHHS (NIOSH) Pu...

Perso... ...aterials Incidents: A Select... ...y intended for use by the individ... ...ission to contain or clean up hazardou... ...guides are presented for the selection of respirato... ...clothing, and ancillary equipment. DHHS (NIOS... ...84-114. Copies are available from the U. S. Government ... ..., Superintendent of Documents, Washington, DC 20402; stock ...7-033-00415-5/$7.00. Copies may also be obtained from the American C... ...ence of Governmental Industrial Hygienists, 6500 Glenway Ave., Bldg. D-5, Cincinnati, OH 45211; stock number 0860/$15.00.

A Hazardous Waste Supplement to Personal Protective Equipment for Hazardous Materials Incidents: A Selection Guide. This part presents step-by-step guides to workers who enter uncontrolled hazardous waste sites. Copies are available from the National Technical Information Service, Springfield, VA 22161; stock number PB 86-130-697/$16.95.

SELECTED NIOSH HAZARDOUS WASTE PUBLICATIONS

Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities. This manual is intended for federal, state, and local officials and their contractors responsible for occupational safety and health programs at inactive hazardous waste sites. A product of NIOSH, OSHA, USCG, and EPA, this document provides general guidance and should be used as a preliminary basis for developing a specific health and safety program. To receive a complimentary copy, order DHHS (NIOSH) Publication No. 85-115.

Hazardous Waste Sites and Hazardous Substance Emergencies. This worker bulletin provides preliminary guidance to protect the health of hazardous waste workers. To receive a complimentary copy, order DHHS (NIOSH) Publication No. 83-100.

Personal Protective Equipment for Hazardous Materials Incidents: A Selection Guide. This guide is specifically intended for use by the individual responsible for planning a mission to contain or clean up hazardous materials. Step-by-step guides are presented for the selection of respirators, chemical protective clothing, and ancillary equipment. DHHS (NIOSH) Publication No. 84-114. Copies are available from the U. S. Government Printing Office, Superintendent of Documents, Washington, DC 20402; stock number 017-033-00415-5/$7.00. Copies may also be obtained from the American Conference of Governmental Industrial Hygienists, 6500 Glenway Ave., Bldg. D-5, Cincinnati, OH 45211; stock number 0860/$15.00.

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Date_____

NIOSH ORDER BLANK FOR PUBLICATIONS

Please circle the publication number you need below:

83-100	85-112	86-101	007
85-108	85-113	86-108	008
85-110	85-115	86-110	009
85-111	85-116	86-111	

Availability is subject to change without notice.

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Mail your requests to:

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Division of Standards Development and Technology Transfer
Technical Information Branch
ATTN: Publications
4676 Columbia Parkway
Cincinnati, OH 45226

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City_____State_____
Country_____Zip + 4_____

PLACE OLD LABEL HERE

E. Betz

UNITED STATES MARINE CORPS
Marine Corps Base
Camp Lejeune, North Carolina 28542-5001

6240
NREAD
15 JUL 1986

From: Commanding General, Marine Corps Base, Camp Lejeune
To: Distribution List

Subj: HAZARDOUS MATERIAL DISPOSAL PROGRAM

Ref: (a) BO 6240.5
(b) Onsite Environmental Protection Agency (EPA) Inspection of 26-27 Jun 86

Encl: (1) Hazardous Material Disposal Coordinator (HMDC) and Hazardous Material Disposal Officer (HMDO) Duties
(2) Hazardous Waste (HW) Inspection Forms

1. Reference (a) established internal procedures and responsibilities for implementing the subject program. During reference (b) several ongoing discrepancies were cited by outside regulatory agencies. Improvement of internal controls and personnel training appear to be the best approach to dealing with these discrepancies. The purpose of this memorandum is to revise responsibilities for implementation of the subject program within Marine Corps Base. Reference (a) is currently under revision and will reflect changes contained herein.

2. The following changes in responsibilities for the subject program are effective immediately.

a. The Director, Natural Resources and Environmental Affairs Division (NREAD) is responsible for providing a base HMDC. HMDC duties are outlined in enclosure (1).

b. Each addressee is responsible for appointing a primary and at least one alternate HMDO. HMDO duties are outlined in enclosure (1).

c. Names, addresses and phone numbers of primary and alternate HMDO's will be provided to the Assistant Chief of Staff, Facilities, Marine Corps Base, not later than two weeks after the date of this memorandum. Within four weeks of the date of this memorandum, the Director, NREAD, will conduct a HW training workshop for HMDO's.

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NREAD

Subj: HAZARDOUS MATERIAL DISPOSAL PROGRAM

3. Additionally, the Director, NREAD, will immediately begin an annual inspection of base operated HW generation and storage facilities. Inspection format is shown in enclosure (2). NREAD will provide copies of inspection to cognizant HMDO. HMDO will initiate appropriate corrective action.

4. Point of contact on this matter is Mr. Danny Sharpe, NREAD, extensions 5003/2083.

T. J. DALZELL
By direction

DISTRIBUTION:
CO MCES
CO RR DET
CO FLDMEDSVSSCHLS
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DUTIES OF HAZARDOUS MATERIAL DISPOSAL COORDINATOR (HMDC) AND HAZARDOUS MATERIAL DISPOSAL OFFICER (HMDO)

1. General. There will be a primary and an alternate HMDC for Marine Corps Base. The primary HMDC is Mr. Danny Becker, NREAD, telephone extensions 1690/2083. Each base organization with significant hazardous material (HM) and hazardous waste (HW) disposal activity will appoint a primary and secondary HMDO to carry out the duties described in section 3 below. Commanding Officers and heads of the following organizations will each provide a HMDO: MCES, MCSSS, Field Medical Services Schools, RSU, Rifle Range Detachment, ITS, Headquarters Bn, Support Bn, AC/S MWR, AC/S Logistics and BMO.

2. Duties of Base HMDC.

a. Provide assistance to HMDO's in handling HW management problems.

b. Perform annual inspections of HW generation and storage sites and notify HMDO's of corrective action required to provide compliance with BO 6240.5

c. Inform HMDO's of any changes in regulations affecting HW activities under the HMDO's cognizance.

d. To serve as command point of contact with federal and state regulatory personnel on matters dealing with worksite HW inspections.

e. To develop listings of HW generation and storage facilities.

f. To develop and provide to the Civilian Personnel Department (CPD) the HW training requirements for base HMDO's

3. Duties of HMDO

a. To provide assistance to HW generators and handlers in the preparation and timely submittal of HW turn-in documents per BO 6240.5.

b. Perform quarterly inspections of HW generation and storage sites and notify OIC's of corrective action required to provide compliance with BO 6240.5

c. Keep OIC's and key personnel informed of any changes in regulations affecting HW activities within the HMDO's cognizance.

d. Develop a roster of personnel involved in HW management at each work site within the HMDO's cognizance.

e. Develop and provide to CPD HW training needs for personnel within the HMDO's cognizance.

ENCLOSURE (1)

f. Actively promote the reduction of volume and toxicity of HW produced by organizations within the HMDO's cognizance.

g. Conduct surveys required to identify HW generation and storage sites within the HMDO's cognizance and provide periodic updates as requested to the HMDC.

HAZARDOUS WASTE (HW) MANAGEMENT INSPECTION FORM

Date: _____

1. Facility being Inspected: _____

2. Organization in Charge: _____

3. Inspection Participants/Phone Number: _____

_____

4. Description of HW Streams: _____

_____

_____

_____

5. Are records of HW generation consistent with HW streams?___

6. HW Training

a. Are job descriptions available for all personnel avtively involved in HW management? _____

b. Are training records adequate/current? _____

c. Are alternate personnel assigned to key positions? _____
(If not, explain how unit deals with absence of key personnel)

d. Do contacted personnel demonstrate adequate knowledge of:

(1) Regulatory Requirements ____
(2) Applicable Base Orders ____
(3) Types of HW Handled ____
(4) Proper Containers ____
(5) Proper Labeling ____
(6) Weekly HW Inspections ____
(7) HW Turn-in Procedures ____
(8) Health and Safety ____
(9) Spill Reporting Procedures ____
(10) Spill Response Duties ____

7. Condition of Storage Facilities

a. Date of last Fire Dept Inspection? _____

b. Are spills likely to reach soil or water? _____

c. Are HW protected from weather? _____

d. Are weekly HW inspections conducted properly? _____

ENCLOSURE (1)

e. Are discrepancies corrected promptly? _____

f. Condition of containers? ("X" indicates discrepancy)

(1) Closed	_____	(7) Properly Labeled	_____
(2) Leaking	_____	(8) Properly Dated	_____
(3) Bulging	_____	(9) Properly Stacked	_____
(4) Collapsed	_____	(10) Properly Packaged	___
(5) Corroded	_____	(11) Meet DOT Requirements for Contents	_____
(6) Overfilled	____		

g. Are 90 day turn-in deadlines being met? _____

h. Are HW turn-in documents being prepared and submitted in a timely, proper manner? _____

i. Comments: _____

ENCLOSURE (1)

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PRIORITY

P 132114Z NOV 86

FM CG SECOND MARDIV

TO SECOND MARDIV

INFO CG MCB CAMP LEJEUNE NC

UNCLAS //N06280//

SUBJ: HAZARDOUS MATERIAL DISPOSAL PROGRAM

A. BO 6240.5
B. CG MCB CAMLEJ 291625Z OCT 86

1. REF (A) PROMULGATES THE RESPONSIBILITIES, PROCEDURES AND GUIDELINES FOR HAZARDOUS MATERIAL (HM) AND HAZARDOUS WASTE (HW) HANDLING, LABELING, PACKAGING, STORAGE AND TRANSPORTATION. COMPREHENSIVE FEDERAL LEGISLATION HAS PLACED STRINGENT LEGAL REQUIREMENTS ON THE MANAGEMENT OF HM AND HW. CIVILIAN AND MILITARY PERSONNEL FAILING TO FOLLOW ESTABLISHED PROCEDURES MAY BE SUBJECT TO BOTH CIVIL AND CRIMINAL PENALTIES. STRICT ADHERENCE TO ESTABLISHED PROCEDURES IS NECESSARY TO AVOID IMPOSITION OF CIVIL AND/OR CRIMINAL PENALTIES.

2. AN ON-SITE HW INSPECTION WAS CONDUCTED BY ENVIRONMENTAL PROTECTION AGENCY (EPA) AND STATE DIVISION OF HEALTH SERVICES (DHS) DUR JUNE 1986. NUMEROUS DISCREPANCIES WERE IDENTIFIED. STATE DHS IS CONDUCTING A RE-INSPECTION DUR DECEMBER 1986. IN PREPARATION FOR THIS RE-INSPECTION MCB, CAMLEJ PROVIDED COURTESY VISITS DUR OCT TO ENSURE EPA AND STATE DHS IDENTIFIED DISCREPANCIES WERE CORRECTED. IN MANY CASES CORRECTIVE ACTION WAS NOT TAKEN.

3. THE FOLLOWING VIOLATIONS WERE CITED DUR THE JUN INSPECTION AND THE OCT VISIT.
A. FAILURE TO PROVIDE PERSONNEL TRAINING.
B. FAILURE TO MAINTAIN WRITTEN JOB DESCRIPTIONS AN# TRAINING RECORDS.

BFAC(2)...INFO FOR CG MCB CAMP LEJEUNE(17) 06280/ 1/0179
BCOS(1) BSDO(1) BSJA(1) CEOA(1) DENT(4) HOSP(4) MAIN(1) NREA(1)
UICO(1)

RTD:000-000/COPIES:0017

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CSN:RDVR00011 CG SECOND MARD

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C. FAILURE TO POST SITE SPECIFIC SPILL CONTINGENCY PLANS.
D. FAILURE TO PERFORM WEEKLY INSPECTIONS.
E. FAILURE TO PROPERLY LABEL CONTAINERS.
F. FAILURE TO PROPERLY DATE CONTAINERS.
G. FAILURE TO DISPOSE OF HW WITHIN 90 DAYS.
H. IMPROPER STORAGE OF EMPTY BATTERIES (I.E., STORAGE UPSIDE DOWN SO AS TO ALLOW LEAKAGE TO ENVIRONMENT).

4. HW MANAGEMENT OBJECTIVES, TO CORRECT THE DISCREPANCIES ABOVE ARE AS FOLLOWS:
A. TO MINIMIZE DUMPING OF SOLVENTS INTO WASTE OIL.
B. TO MINIMIZE THE NUMBER OF SITES WHERE HW IS GENERATED AND STORED.
C. TO MAKE PERSONNEL WORKING AT SITES WHERE HW IS HANDLED AND STORED AWARE OF SPECIAL REQUIREMENTS WHICH MUST BE ADDRESSED IF COMPLIANCE WITH EPA REGULATIONS ARE TO BE MAINTAINED.
D. TO MINIMIZE THE NUMBER OF PEOPLE ROUTINELY HANDLING HW.
E. THAT PERSONNEL ROUTINELY WORKING AROUND HW AND HM KNOW WHAT TO DO IN CASE OF SPILL OR OTHER EMERGENCY.
F. THAT SUPERVISORS/NCO'S/SNCO'S/OFFICER'S RESPONSIBLE FOR HW MANAGEMENT ARE CAPABLE OF SHOWING EPA INSPECTORS AROUND THEIR WORK AREAS, EXPLAINING THE HW ACTIVITY CARRIED OUT IN THE WORK AREA, AND DEMONSTRATING TO THE INSPECTOR THAT THE SHOPS HAVE HW MANAGEMENT UNDER CONTROL.
G. THAT EACH BN/SEP CO CMDR ESTABLISHES INTERNAL INSPECTIONS AND OTHER MANAGEMENT CONTROLS ON HW HANDLING REQUIRED TO PROVIDE SATISFACTORY COMPLIANCE WITH HW REGULATIONS.
H. THAT APPROPRIATE DISCIPLINARY ACTION BE TAKEN AGAINST PERSONNEL REFUSING TO SATISFACTORILY COMPLY WITH HW REGULATIONS.

5. BY REF (B), MCB, CAMLEJ, NATURAL RESOURCES AND ENVIRONMENTAL AFFAIRS (NREA) WILL START CONDUCTING FORMAL HW INSPECTIONS ON 17 NOV 1986. EACH INSPECTION WILL RESULT IN A WRITTEN REPORT LISTING SPECIFIC VIOLATIONS OF REF (A) AND THE REGULATIONS CITED THEREIN. THE INSPECTIONS WILL BE AT THE BN/SEPARATE CO (OR EQUIVALENT) LEVEL AND WILL CONSIST OF THE FOLLOWING:
A. AN INBRIEF FOR THE COGNIZANT S-4 AND OTHER OFFICIALS.
B. A REVIEW OF BN/CO RECORDS AND EFFORTS TO ENSURE COMPLIANCE WITH REF (A).
C. AN INSPECTION OF SELECTED HW GENERATION AND STORAGE SITES.
D. AN OUTBRIEF FOR THE COGNIZANT S-4.
E. TRANSMITTAL OF A WRITTEN INSPECTION REPT LISTING DISCREPANCIES AND REQUIRED CORRECTIVE ACTION VIA THE CHAIN OF CMD.
F. A REINSPECTION TO DETERMINE ADEQUACY OF FOLLOW UP CORRECTIVE ACTION. THE REINSPECTION WILL BE CONDUCTED APPROXIMATELY 15 DAYS AFTER THE ORIGINAL INSPECTION UNLESS OTHERWISE SPECIFIED IN THE INSPECTION REPT.

6. THE DIV HAZARDOUS WASTE DISPOSAL COORDINATOR (HWDC), CAPTAIN J. M. REUTER, WILL BE MAKING COURTESY VISITS TO ALL REGTS AND SEP BNS

IN THE FOLLOWING ORDER IN PREPARATION FOR THE NREA INSPECTION.

HQBN	17 NOV 86	1300
2D CBT ENGR CB	18 NOV 86	0800
2D TANK BN	19 NOV 86	0800
2D LAV BN	20 NOV 86	0800
2D RECON BN	20 NOV 86	1300
2D AAV BN	21 NOV 86	0800
2D MAR REGT	21 NOV 86	1300
6TH MAR REGT	24 NOV 86	0800
8TH MAR REGT	DATE AND TIME TO BE DETERMINED	
10TH MAR REGT	24 NOV 86	1300

7. POCS ARE CAPT J. REUTER OR MSGT VELEZ AT EXT 2417/2755 FOR FURTHER INFORMATION.

BT

w/ Dany DB
Tom
Betsy

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ROUTINE

R 291625Z OCT 86

FM CG MCB CAMP LEJEUNE NC

TO CG SECOND MARDIV
CG SECOND FSSG
HQ NUC II MAF
NAVDENCLINIC CAMP LEJEUNE NC
CG SIXTH MAB
CG II MAF
NAVHOSP CAMP LEJEUNE NC
MCB CAMP LEJEUNE NC

INFO MCAS NEW RIVER NC

UNCLAS //N06280//

SUBJ: HAZARDOUS MATERIAL DISPOSAL PROGRAM

A. BO 6240.5
B. ON-SITE HAZARDOUS WASTE (HW) INSPECTION BY EPA AND STATE DHS OF

26 JUN 86

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2. THE PURPOSE OF THIS MSG IS TO ADVISE ORGANIZATIONAL PERSONNEL THAT MCB ENVIRONMENTAL PERSONNEL WILL BEGIN COMPLIANCE INSPECTIONS

DLVR:CG SIXTH MAB(6)...ACT
DLVR:NAVDENCLINIC CAMP LEJEUNE NC(4)...ACT
DLVR:NAVHOSP CAMP LEJEUNE NC(4)...ACT
DLVR:HQ NUC II MAF(7)...ACT

NREA(2)...ORIG FOR CG MCB CAMP LEJEUNE(118) /13/
BFAC(1) GSTF(12) SSTF(85) OCDR(14) CEOA(1) BSDO(1) BCOS(1)
OICB(1)

G-4(1)...ACT FOR CG II MAF(3) 06200/ 7/0116
CFU(1) S-S(1)

RTD:000-075/COPIES:0142

432290/303 1 OF 2 MATA0034 303/00:11Z 291625Z OCT 86
CSN:RXIC00002 CG MCB CAMP LE

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OF ALL WORK SITES/SHOPS WHERE HW ARE ROUTINELY GENERATED OR STORED. USED SOLVENTS, DEGREASERS, ELECTROLYTE, LITHIUM BATTERIES AND WASTE OIL WITH CERTAIN REGULATED CONTAMINANTS ARE EXAMPLES OF ROUTINELY GENERATED HW. THE SUBJ INSPECTIONS ARE BEING INITIATED IN RESPONSE TO REF (B) WHICH IDENTIFIED SERIOUS DISCREPANCIES REGARDING IMPLEMENTATION OF FEDERAL/STATE REGULATIONS OUTLINED IN REF (A).

3. THE INSPECTIONS WILL BE CONDUCTED UNDER THE COGNIZANCE OF THE DIR, NATURAL RESOURCES AND ENVIRONMENTAL AFFAIRS (NREA). INSPECTIONS WILL BE SCHEDULED IN COOPERATION WITH HMDCS FOR EACH MAJOR CMD. EACH INSPECTION WILL RESULT IN A WRITTEN REPT LISTING SPECIFIC VIOLATIONS OF REF (A) AND THE REGULATIONS CITED THEREIN. THE INSPECTIONS WILL BE AT THE BN/SEPARATE COMPANY (OR EQUIVALENT) LEVEL AND WILL CONSIST OF THE FOLLOWING:

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D. AN OUTBRIEF FOR THE COGNIZANT S-4.

E. TRANSMITTAL OF A WRITTEN INSPECTION REPT LISTING DISCREPANCIES AND REQUIRED CORRECTIVE ACTION VIA THE CHAIN OF COMMAND.

F. A REINSPECTION TO DETERMINE ADEQUACY OF FOLLOWUP CORRECTIVE ACTION. THE REINSPECTION WILL BE CONDUCTED APPROXIMATELY 15 DAYS AFTER THE ORIGINAL INSPECTION UNLESS OTHERWISE SPECIFIED IN THE INSPECTION REPT.

4. POC ON THIS MATTER IS MR. DANNY SHARPE, NREA, EXTS 2083/2195.

BT

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ROUTINE

R 291625Z OCT 86

FM CG MCB CAMP LEJEUNE N

TO CG SECOND MARDIV XTH MAB
CG SECOND FSSG MAF
HQ NUC II MAF NAVHOSP CAMP LEJEUNE NC
NAVDENCLINIC CAMP LEJEUNE NC MCB CAMP LEJEUNE NC

INFO MCAS NEW RIVER NC

UNCLAS //N06280//

SUBJ: HAZARDOUS MATERIAL DISPOSAL PROGRAM

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NREA(2)...ORIG FOR CG MCB CAMP LEJEUNE(118) /13/
BFAC(1) GSTF(12) SSTF(85) OCDR(14) CEOA(1) BSDO(1) BCOS(1)
OICB(1)

G-4(1)...ACT FOR CG II MAF(3) 06200/ 7/0116
CFU(1) S-S(1)

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ROUTINE

R 291625Z OCT 86

FM CG MCB CAMP LEJEUNE NC

TO CG SECOND MARDIV
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HQ NUC II MAF
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UNCLAS //N06280//

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CFU(1) S-S(1)

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CSN:RXIC00002 CG MCB CAMP LE

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4. POC ON THIS MATTER IS MR. DANNY SHARPE, NREA, EXTS 2083/2195.

BT

LAB File
T-6240

UNDERWOOD INDUSTRIES, INC.

June 11, 1986

George Eggers
Defense Reutilization & Marketing
Marine Corp Base
Bldg 906
Camp Lejeune, NC 28542

Dear Mr. Eggers:

I am writing you this letter so that you may have a written copy concerning Underwood Industries' policy on picking up unidentifiable drums of material. As I mentioned to you, we need to know the Chemical Composition of the material inside the drums before we ship. The designated disposal facility may not be able to handle the material and it will cost us, and DLA's money to return these unidentified drums.

We picked up several drums that had attached analysis sheets, however, these sheets were helpful only as far as the flash point was concerned. In the future, we need to know the process generating the waste, and at least 50-75% of the composition of the material. The flash point and PH are of course helpful to determine whether the material is flammable or corrosive, but this information is just not enough.

Therefore, Underwood Industries wishes to inform you in writing that drums that are "unknown" will not be picked up on Contract DLA-200-86-D-0002.

Should you have any questions, Please let me know.

Sincerely,

Greg V. Veal

Greg V. Veal

GVV/av

cc Sara Hales

SUITE 103 STRATFORD BLDG. • 114 LEE PARKWAY DRIVE • CHATTANOOGA, TENNESSEE 37421
(615) 894-3795

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Dan Baker DOS
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ROUTINE

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FM CMC WASHINGTON DC

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UNCLAS //N04030//

CMC//CODEXLMM-2/CODEXMHS/CODEXASL-32/CODEXLFT/
SUBJ: PRECAUTIONARY LABELING OF HAZARDOUS INDUSTRIAL CHEMICALS

A. CMC WASHINGTON DC 181407Z MAR 85
B. DIR AMCPSCC TOBYHANNA PA 060830Z MAR 85
C. OASD MEMO FOR DESIGNATED SAFETY AND OCCUPATIONAL HEALTH

log to NREA

OFFICIALS OF THE MILITARY DEPARTMENTS AND DEFENSE AGENCIES

1. REF A READDRESSED REF B TO PROVIDE INSTRUCTIONS AND DEADLINES FOR IMPLEMENTING THE USE OF HAZARDOUS LABELS IN ACCORDANCE WITH 29CFR 1910.1200.

2. REF C IS AN OASD FOLLOW UP ON THE ABOVE INSTRUCTION, AND PROVIDES THE FOLLOWING NEW DIRECTION: -BECAUSE WE ARE IN THE PROCESS OF FINALIZING A SINGLE LABEL FOR PHASED-IN DOD-WIDE (AND POSSIBLE FEDERAL-WIDE) USE, COMPONENTS ARE ADVISED NOT TO UNDERTAKE ANY NEW ACTION TO LABEL HAZARDOUS MATERIALS FOR COMPLIANCE WITH 29CFR 1910.1200 UNTIL FURTHER NOTICE. UNILATERAL LABELING ACTIONS WILL ONLY SERVE TO INCREASE THE EXPENSE AND COMPLEXITY OF DOD-WIDE COMPLIANCE WITH THIS NEW STANDARD. IN ADDITION, AND UNTIL FURTHER NOTICE, THE ABSENCE OF THIS TYPE OF LABEL ON CONTAINERS WILL NOT BE REASON FOR DELAYING SHIPMENTS OF HAZARDOUS MATERIALS.

3. POC AT THIS HEADQUARTERS, IS MR. DONALD B. DANNER, LMM-2, AUTOVON 224-1600/1474/1795.

BT

JUN 03 1986

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DLVR:MARCORSVCSPTSCOL CAMP LEJEUNE NC(2)...ACT

BLOG(2)...ACT FOR CG MCB CAMP LEJEUNE(8)
BCOS(1) BFAC(1) BRSU(1) BSDO(1) CEOB(1) OICB(1)

984502/153 1 OF 1 MATA0178 153/15:46Z 300101Z MAY 86
CSN:AUIA00346 CMC WASHINGTON

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DEPARTMENT OF THE NAVY
HEADQUARTERS UNITED STATES MARINE CORPS
WASHINGTON, D.C. 20380

MCO 5100.~~25~~
MPH-73-bd~~c~~-49
13 May 1980

MARINE CORPS ORDER 5100.25

From: Commandant of the Marine Corps
To: Distribution List

Subj: Hazardous Material Information System (HMIS)

Ref: (a) DoD 6050.5-M, DoD Hazardous Materials Information System Procedures (NOTAL)

Encl: (1) Hazardous Material Identification and Certification Guide (Extract from Federal Standard 313A)
(2) Material Safety Data Sheet (MSDS)
(3) DoD Hazardous Material Information System Addendum Worksheet
(4) DoD Hazardous Material Information System Transportation Data Sheet
(5) Glossary of Abbreviations.

Reports Required: I. Hazardous Material Safety Data (Report Symbol DD-5101-02) par. 4 (External Report Symbol - DD-M(A,Q&AR) 1486)
II. Transportation Data (Report Symbol HQ-5101-01) par. 4

1. Purpose. To establish responsibilities and procedures for a hazardous material information system that is responsive to the health and safety requirements of activities and personnel handling or using such materials.

2. Background

a. The Department of Defense (DoD) requires the Marine Corps to establish a standardized system for collecting and disseminating health and safety information applicable in the procurement, receipt, storage, handling, issue, transportation, use and disposal of hazardous materials. In so doing, a number of occupational fields and personnel skills become involved, e.g., storage, procurement, transportation, preservation and packaging, disposal, safety and health, and others.

b. For the purpose of this Order, a hazardous material is any material which because of its quantity, concentration or physical, chemical or infectious characteristics, may pose a substantial hazard to human health or the environment when used, released, or spilled into the environment. Enclosure (1) provides guidance relative to those classes of material requiring positive and complete information for HMIS purposes.

c. The Defense Logistics Agency (DLA) has been charged with administering the system for DoD, including the establishment and operation of a centralized data bank, the receipt and processing of Material Safety Data Sheets (enclosure (2)), and publishing and distributing the data on microfiche. The DLA has published a manual, reference (a), which details user procedures for the HMIS.

d. Each DoD component is required to establish a main focal point which will administer the system within that component to include the forwarding of data sheets to DLA, the maintenance of a microfiche file, and the provision of information on hazardous materials as required.

e. The provisions of this Order do not apply to hazardous materials purchased by the exchange system for subsequent resale. Such materials may, however, be regulated by the Consumer Products Safety Commission or other regulatory agencies.

f. Ammunition and explosives are excluded from the provisions of this Order.

3. Information

a. Within the Department of the Navy, the Navy Environmental Health Center (NEHC) has been designated the main focal point for the HMIS, and the Naval Supply Systems Command (NAVSUP) has been designated the subfocal point for overall operations management for data control and for establishing transportation data. To complement the NEHC and NAVSUP, and to insure the proper exchange of information within the Marine Corps, the Commandant of the Marine Corps (Code MPH-70) and the Marine Corps Logistics Bases, Albany and Barstow, are designated subfocal points within the HMIS.

b. Designated subfocal points will be responsible for the following:

(1) Forwarding any Material Safety Data Sheets received to the NEHC via the Commandant of the Marine Corps (Code MPH-70). The NEHC's address is:

Navy Environmental Health Center
Naval Station
Norfolk, VA 23511

The NEHC will then approve the safety and health data, prepare an Addendum Worksheet, (enclosure (3)), and provide input to the DLA data bank. Upon completion, one copy of the MSDS for those items for which the Marine Corps is the item manager will be forwarded to the Commandant of the Marine Corps (Code MPH-70) for preparation of the transportation data. Transportation data requirements are shown in enclosure (4).

(2) Maintaining the microfiche file on hazardous materials. Microfiche will be provided by the DLA.

(3) Responding to inquiries from Marine Corps activities regarding the handling, storage, transportation, disposal, and health problems attendant to hazardous materials.

c. The Commandant of the Marine Corps (Code MPH-70) will be a via addressee on all MSDS's that procuring activities receive from manufacturers/retailers.

d. For locally purchased nonstandard stock hazardous materials, i.e., those procured in small quantities for local use, MSDS's should be obtained and maintained on file by the installation/organization safety manager. Such MSDS's will not be forwarded for entry into the HMIS.

e. Since the data sheets and microfiche may contain proprietary data, appropriate precautions must be taken at all levels to safeguard that data. No data may be disseminated below the supervisory level except on a need-to-know basis.

f. Enclosure (5) pertains to abbreviations found in enlosures (2), (3) and (4).

4. Action

a. The Commandant of the Marine Corps (Code MPH-70) and the Commanding Generals, MCLB, Albany, and MCLB, Barstow, will maintain the capability to receive inquiries and provide information in accordance with the provisions of paragraph 3 of this Order. The information requirements contained herein, including the establishment of the DLA data base, are assigned Report Symbol DD-5101-02. The Commanding Generals, MCLB, Albany, and MCLB, Barstow, will maintain this capability 24 hours a day.

b. The Commandant of the Marine Corps (Code MPH-70) will maintain a record of all MSDS's forwarded to the NEHC through Marine Corps channels.

c. The Commandant of the Marine Corps (Code LM and Code LFT) will be responsible for preparing the transportation data for those items for which the Marine Corps is the item manager. On completion, Transportation Data Sheets will be forwarded to the Commandant of the Marine Corps (Code MPH-70) for review and forwarding to the DLA. Transportation data requirements are assigned Report Symbol HQ-5101-01.

d. Commanders of units and activities having a need for information on hazardous materials will direct their inquiries to the closest subfocal point.

e. Commanders and activities procuring hazardous materials will require the manufacturer/retailer to provide the information shown on enclosure (2) insofar as is practicable. Commanders and activities will forward the completed MSDS to the NEHC via the Commandant of the Marine Corps (Code MPH-70) in accordance with paragraphs 3b and 3c of this Order.

5. Availability of Forms. The MSDS, enclosure (2), and the Transporation Data Sheet, enclosure (4), may be reproduced locally as required.

6. Reserve Applicability. This Order is applicable to the Marine Corps Reserve.

M. S. AITKEN
By direction

DISTRIBUTION: A less 7000044
plus 7000044 (50)

Copy to: 8145001

HAZARDOUS MATERIAL IDENTIFICATION AND CERTIFICATION GUIDE (EXTRACT FROM FEDERAL STANDARD 313A)

1. GENERAL. Hazardous material identification data are required for all material which, by virtue of its potentially dangerous nature, requires controls to assure adequate safety to life and property. Hazardous materials are found in all Federal Supply Classes (FSC), and for classes not addressed in paragraph 2 below, judgement must be exercised to determine which must be controlled.

2. FEDERAL SUPPLY CLASS CRITERIA. It is important to know if an item in a Federal Supply Class composed predominantly of flammable or toxic material is actually not hazardous, or has merely not been identified. To assure positive and complete identification in these classes, a certified Material Safety Data Sheet is required for each item in the FSC's as indicated in table I. Identification and certification shall also be required for items that would ordinarily be catalogued under one of the classes in table I, but are catalogued in another class because of their specific use or inclusion as parts of another item or kit. Table II lists classes in which only items having hazardous characteristics need to be identified and certified.

TABLE I. FEDERAL SUPPLY CLASSES IN WHICH ALL ITEMS MUST BE IDENTIFIED AND CERTIFIED

FEDERAL SUPPLY CLASS	
6810	Chemicals
6820	Dyes
6830	Gases; Compressed and Liquified
6840	Pest Control Agents and Disinfectants
6850	Miscellaneous Chemical Specialties
7930	Cleaning and Polishing Compounds and Preparations
8010	Paints, Dopes, Varnishes, and Related Products
8030	Preservative and Sealing Compounds
8040	Adhesives
Group 91	(Packaged Products Only)
9110	Fuels, Solid
9130	Liquid Propellants and Fuels, Petroleum Base
9135	Liquid Propellant Fuels and Oxidizers, Chemical Base
9140	Fuel Oils
9150	Oils and Greases: Cutting, Lubricating, and Hydraulic
9160	Miscellaneous Waxes, Oils and Fats

TABLE II. FEDERAL SUPPLY CLASSES IN WHICH ONLY HAZARDOUS ITEMS NEED TO BE IDENTIFIED

FEDERAL SUPPLY CLASS	TITLE	HAZARDOUS ITEMS REQUIRING IDENTIFICATION
1370	Pyrotechnics	Warning fuses, fire starter
1375	Demolition Materials	Explosive device

ENCLOSURE (1)

FEDERAL SUPPLY CLASS	TITLE	HAZARDOUS ITEMS REQUIRING IDENTIFICATION
2640	Tire rebuilding and tire and tube repair materials	Only items containing flammable or toxic compounds
3439	Welding and brazing supplies	Only hazardous items such as cleaners acids, flux and supplies that contain or produce hazardous fumes
3610	Printing, duplicating and bookbinding equipment	Flammable or toxic lithographic solutions
5610	Mineral construction materials, bulk	Hazardous items such as cutback asphalt, deck and floor covering deck and surface underlay compound, sealing compound, flight deck compounds
5640	Wallboard, building paper, and thermal insulation materials	Asbestos cloth which has loose fibers or flyings that may become airborne
6135	Batteries, primary	Lead-acid, and mercury batteries and alkaline (with electrolyte)
6505	Drugs, biologicals, and official regents	Only hazardous items
6750	Photographic supplies	Only items containing hazardous chemicals, solvents, thinners and cements
6780	Photographic sets, kits and outfits	(See FSC 6750)
7510	Office supplies	Only hazardous items, such as solvents, thinners, cleaning fluids flammable inks and varnishes
8510	Perfumes, toilet preparations, and powders	Shipping containers, and pressurized containers with flammable propellants only
8520	Toilet soap, shaving preparations, and dentifrices	(See FSC 8510)

FEDERAL SUPPLY CLASS	TITLE	HAZARDOUS ITEMS REQUIRING IDENTIFICATION
8720	Fertilizers	Only items containing weed and pest control or other harmful ingredients, or which because of their composition, are hazardous
9920	Smoker's articles and matches	Lighter fuel and matches only

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

Form Approved
OMB No. 44-R1387

MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing, Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

SECTION I

MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.
ADDRESS *(Number, Street, City, State, and ZIP Code)*	
CHEMICAL NAME AND SYNONYMS	TRADE NAME AND SYNONYMS
CHEMICAL FAMILY	FORMULA

SECTION II - HAZARDOUS INGREDIENTS

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS			BASE METAL		
CATALYST			ALLOYS		
VEHICLE			METALLIC COATINGS		
SOLVENTS			FILLER METAL PLUS COATING OR CORE FLUX		
ADDITIVES			OTHERS		
OTHERS					

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES	%	TLV (Units)

SECTION III - PHYSICAL DATA

BOILING POINT (°F.)		SPECIFIC GRAVITY (H_2O=1)	
VAPOR PRESSURE (mm Hg.)		PERCENT, VOLATILE BY VOLUME (%)	
VAPOR DENSITY (AIR=1)		EVAPORATION RATE (_____ =1)	
SOLUBILITY IN WATER			
APPEARANCE AND ODOR			

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used)	FLAMMABLE LIMITS	Lel	Uel
EXTINGUISHING MEDIA			
SPECIAL FIRE FIGHTING PROCEDURES			
UNUSUAL FIRE AND EXPLOSION HAZARDS			

(Continued on reverse side)

Form OSHA-20
Rev. May 72

SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE
EFFECTS OF OVEREXPOSURE
EMERGENCY AND FIRST AID PROCEDURES

SECTION VI - REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE		
INCOMPATABILITY *(Materials to avoid)*			
HAZARDOUS DECOMPOSITION PRODUCTS			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR		

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
WASTE DISPOSAL METHOD

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION *(Specify type)*		
VENTILATION	LOCAL EXHAUST	SPECIAL
	MECHANICAL *(General)*	OTHER
PROTECTIVE GLOVES		EYE PROTECTION
OTHER PROTECTIVE EQUIPMENT		

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING
OTHER PRECAUTIONS

DOD HAZARDOUS MATERIALS INFORMATION SYSTEM

ADDENDUM WORKSHEET

DATE:_____ (5) ACTION CODE:_____ (1) FOCAL POINT IND:_____(1)

NSN:_____ (13) FSCM:_____(5)

P/N IND:_____ (1) P/N:_____(4

ITEM NAME:_____(4

SPECIFICATION:_____(20) PROPRIETARY:_____(1)

MANAGER:_____ (3) NET PROPELLANT WEIGHT-EXPLOSIVES:_____(7)

STORAGE CODE:_____ (5) NRC LICENSE NO.:_____(15)

SUPPLEMENTAL DATA:_____

_____

_____

_____

_____ (192)

NOTE: THIS WORKSHEET WILL BE ATTACHED TO THE MSDS WHENEVER THAT INFORMATION IS SUBMITTED TO THE DATA BANK.

THE NUMBER AT THE END OF DATA ELEMENT IS THE MAXIMUM NUMBER OF CHARACTERS THAT CAN BE IN THE DATA FIELD, INCLUDING BLANKS.

Report Symbol HQ-5101-01

DOD HAZARDOUS MATERIALS INFORMATION SYSTEM
TRANSPORTATION DATA SHEET

SECTION 1

DATE:_____(5) ACTION CODE:_____(1) FOCAL POINT IND:_____(1)

NSN:_____(13) FSCM:_____(5)

P/N IND:_____(1) P/N:_____(43)

U/I:_____(2) U/I CONTAINER QTY:_____(13)

TYPE CONTAINER:_____(13) NET UNIT WT:_____(11)

FLASH POINT:_____(16) MAGNETISM (MILLIGAUSS)_____(5)

DOT/DOD EXEMPTION NO:_____(12) AEROSOL PROPELLANT:_____

_____(108)

RADIOACTIVITY_____(12) FORM:_____(8)

TRANSPORT GP:_____(3) AUTO IGN TEMP:_____(6)

VISCOSITY:_____(13) NEW:_____(7) CG AMMO CD:_____(3)

SECTION 2

DOT SHIPPING NAME:_____

_____(100)

DOT CLASS:_____(23)

DOT LABEL:_____(25) AIR ONLY:_____(3)

SECTION 3

WATER SHIPPING NAME:_____

_____(100)

WATER CLASS:_____(23) WATER LABEL:_____(25)

UN NO:_____(4) UN CLASS:_____(3) COMP GP:_____(3)

DOT IND:_____(3) IMCO IND:_____(3)

ENCLOSURE (4)

SECTION 4

TARIFF 6D SHIPPING NAME:_____

_____(100)

TARIFF 6D CLASS:_____(23)

TARIFF 6D LABEL:_____(25)

SECTION 5

IATA ART. NO:_____(4) IATA SHIPPING NAME:_____

_____(100)

IATA CLASS:_____(23)

IATA LABEL:_____(25)

SECTION 6

AFR 71-4 SHIPPING NAME:_____

_____(100)

AFR 71-4 CLASS:_____(23)

AFR 71-4 LABEL:_____(25)

SECTION 7

ADDITIONAL DATA:_____

_____

_____

_____(264)

NOTE: THE NUMBER AT THE END OF DATA ELEMENT IS THE MAXIMUM NUMBER OF CHARACTERS THAT CAN BE IN THE DATA FIELD, INCLUDING BLANKS.

ENCLOSURE (4)

GLOSSARY OF ABBREVIATIONS

AFR	Air Force Regulation
ART	Article
AUTO IGN TEMP	Autoignition Temperature
CG AMMO CD	Coast Guard Ammunition Code
COMP GP	Compatibility Group
DOD	Department of Defense
DOT	Department of Transportation
FSCM	Federal Supply Code for Manufacturers/ Nonmanufacturers
IATA	International Air Transport Association
IMCO	International Maritime Consultative Organization
IND	Indicator
Lel	Lower explosive limit
NEW	Net Explosive Weight
NRC	Nuclear Regulatory Commission
NSN	National Stock Number
P/N	Part Number
Uel	Upper explosive limit
U/I	Unit of Issue
UN	United Nations
TLV	Threshold Limit Value

ENCLOSURE (5)

Betsey — for your info — please review
Danny

ARRO Laboratories, Inc.

P.O. Box 686 Caton Farm Road Joliet, Illinois 60434 Telephone (815) 727-5436 Telex 723421 UAR JOL

"STRAIT ARRO"

A periodic newsletter on current environmental news and specific topics.

May, 1980

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RCRA

The Resource Conservation and Recovery Act of 1976

This act has been promulgated to provide a means to define and determine the characteristics of waste materials prior to transportation and disposal in landfills.

A material is defined as a HAZARDOUS WASTE if it is: "A solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical or infectious characteristics may---

(a) cause or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or

(b) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of or otherwise managed.

Generators who know, or have reason to believe, that their waste is hazardous must evaluate their waste against the following groups of candidate characteristics:

IGNITABILITY

Flash point 60°C (140°F) max. for liquids plus a descriptive definition of the properties which make the waste ignitable.

CORROSIVITY

To identify waste which must be segregated from other waste because of its ability to extract and solubilize toxic contaminants (especially heavy metals) from other waste. pH has been found to be its most important indicator, as well as percent acidity alkalinity, and rate of metal corrosion.

REACTIVITY

Includes materials with the tendency to:

a. Autopolymerize
b. Create a vigorous reaction with air or water
c. Exhibit thermal instability with regard to shock
d. Generate toxic gases or explode

Also included are cyanide or sulfide-bearing waste which will generate toxic gases, vapors or fumes when exposed to mild acidic or basic conditions. Explosion, ignition, or decomposition after 5 minutes at 125C are indicators for reactive wastes.

A solid waste is hazardous if the leachate obtained by the US EPA Extraction Procedure on a representative sample of the waste, has concentrations of a contaminant that exceeds ten times the EPA National Interim Primary Drinking Water Standards.

LIMITATIONS

The extraction procedure has limited applicability and many chemical constituents are not quantifiable using this test.

The use of ten times the interim drinking water standards in classifying wastes as hazardous is very controversial based on their derivation and precise meaning.

More to follow next month on some of these problems.....

ArRo is an independent testing laboratory specializing in instrumental and environmental analyses.

8 Nov 1983 - Hazardous Material Disposal Program

Ignitability -

- Ignitable compressed gas per DOT Regulation

- Oxidizer per DOT regulation

- Flash ~~140~~ point Less than 140 °F

Flammable (less than 100°F.)
Combustible (greater than 100°F.)

Corrosivity

- pH less than 2 or greater than 12.5

Reactivity

- Reacts violently w/ water.
- contains cyanide or sulfide -

EP Toxicity

Leachate 100 times greater than MCL of SDWA metals

DEFENSE LOGISTICS AGENCY
DEFENSE PROPERTY DISPOSAL SERVICE
DEFENSE PROPERTY DISPOSAL REGION OFFICE MEMPHIS
DEFENSE PROPERTY DISPOSAL OFFICE LEJEUNE
BUILDING 906
CAMP LEJEUNE, NORTH CAROLINA 28542

IN REPLY REFER TO DPDP-ZWM (Mrs. Hipp/451-5652/11p)

3 February 1984

	ACT	INFO
ACofS,LOG		
[illegible] GMT O		
[illegible]PNS OFF		
LOG CH		
[illegible]M BR		
SUPSUPT BR	✓	
SUPANAL SEC		
MAINSVSUPT		
BUDGET DIV		

SUBJECT: Hazardous Property Identification Requirements

TO: Commanding General, Marine Corps Base
Commanding General, 2nd Force Service Support Group
Commanding General, 2nd Marine Division
Commanding General, Marine Corps Air Station
Commanding Officer, Naval Hospital
Commanding Officer, Naval Regional Dental Center

1. Reference: DPDR-MRH 10M, dtd. 27 Jan 84, same subject.

2. The reference 10M contains guidance to clarify and reinforce changes in the turn-in requirements for hazardous property. These new requirements provide the DPDO with more complete identification of items and will ease the effort necessary to determine hazardous characteristics and thus proper storage, handling, sale and ultimate disposal.

3. One of the changes requires generators to provide chemical names for items turned in with a Local Stock Number (LSN). Previously, the guidance for LSN turn-ins required a "complete description". The new guidance is intended to be more specific.

4. The other change involves both NSN and LSN items which have been used. Generators must now provide the chemical name and the percentage for each hazardous contaminant. Previous guidance for acceptance of used items required "the amount and type of contamination". Once again, the new requirements are intended to be more specific.

5. The turn-in requirements for all hazardous property except PCB is summarized in Enclosure 1. All turn-ins are to be in compliance with these changes not later than 1 March 1984. Questions regarding this letter or the acceptability of a specific turn-in should contact Mr. George Eggers, phone 451-1634.

Nadine Hipp

1 Encl

Nadine Hipp
Chief, Property Disposal
Officer

HAZARDOUS PROPERTY TURN-IN REQUIREMENTS

NSN ITEMS

UNUSED

1. NOUN NAME

USED

1. NOUN NAME

*2. CHEMICAL NAME AND PERCENTAGE OF EACH HAZARDOUS CONTAMINANT.

3. NOUN NAME AND PERCENTAGE OF EACH NON-HAZARDOUS CONTAMINANT.

LSN ITEMS

UNUSED

*1. CHEMICAL NAME OF EACH HAZARDOUS COMPONENT

USED

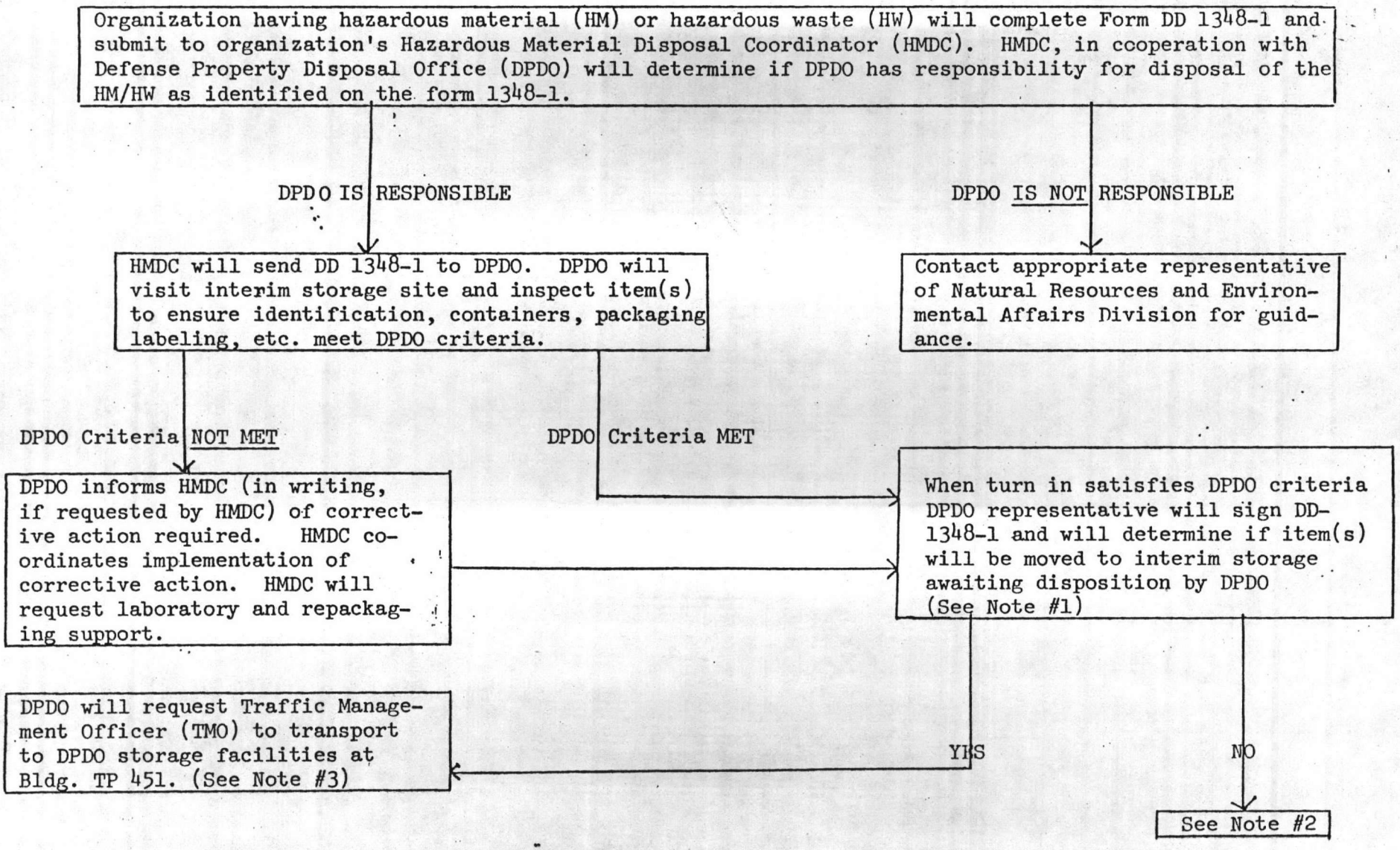
*1. CHEMICAL NAME OF EACH HAZARDOUS COMPONENT.

*2. CHEMICAL NAME AND PERCENTAGE OF EACH HAZARDOUS CONTAMINANT.

3. NOUN NAME AND PERCENTAGE OF EACH NON-HAZARDOUS CONTAMINANT.

*CHANGES IN POLICY EFFECTIVE 2 JAN 84

HAZARDOUS MATERIAL/WASTE DISPOSAL PROCEDURES



Note #1: Once DPDO signs DD 1348-1, the item(s) will not be moved without prior concurrence of DPDO except in an emergency, in which case DPDO will be notified as soon as possible.

Note #2: Storage by generating organization in lieu of transfer to DPDO facilities is to be minimized. However, if this occurs, HMDC should notify Director of Natural Resources and Environmental Affairs of type of material, where stored, and name and telephone number of organization responsible for interim storage and related requirements in paragraph 4.a. of this order.

Note #3: DPDO will advise TMO of which items meet criteria of hazardous wastes.

UNITED STATES MARINE CORPS
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA 28542

BO 6240.5
MAIN/DDS/th
22 Jun 1982

BASE ORDER 6240.5

From: Commanding General
To: Distribution List

Subj: Hazardous Material Disposal Program

Ref: (a) Resource Conservation and Recovery Act (Pub No. 94-580) (42 USC 6901-6987) (NOTAL)
(b) Environmental Protection Agency Regulations contained in Code of Federal Regulations, Title: 40 Parts 260-265 (NOTAL)
(c) Dept of Transportation Regulations contained in Code of Federal Regulations, Title: 49 Parts 100-179 (NOTAL)
(d) MCO 4570.24A (NOTAL)
(e) MCO P11000.8A
(f) BO 11090.1B
(g) BO 11350.2
(h) MCO 5100.25
(i) BO 11320.1G
(j) AS(H)O 6280.1 (NOTAL)

Encl: (1) Hazardous Waste Labeling Instructions
(2) Hazardous Material Disposal Procedures

1. Purpose. To publish responsibilities for disposal of hazardous material and hazardous waste regulated by references (a), (b) and (c) and to establish uniform disposal procedures as outlined in enclosures (1) and (2).

2. Policy. It is the policy of the Commanding General that compliance with hazardous material and hazardous waste disposal regulations will be accomplished through a centralized program committed to maximizing re-utilization and recycling so as to minimize impact on the environment. Final disposal (i.e., burial, incineration, etc.) and long term storage (i.e. for over 90 days) of hazardous waste are prohibited aboard Camp Lejeune and Marine Corps Air Station (Helicopter), New River, except with the specific written permission of the Commanding General, Marine Corps Base.

3. Background

a. On 19 November 1980, comprehensive federal legislation (reference (a)), which was implemented by reference (b), placed stringent legal requirements on the management of hazardous material and hazardous waste. Civilian and military personnel failing to follow established procedures may be subject to both civil and criminal penalties. Violations of these procedures may consist of acts of commission, such as mishandling hazardous material as well as acts of omission, such as failing to report to proper authorities observed mishandling of hazardous material or other violations of reference (a). Strict adherence to the procedures contained in this Order is necessary to avoid imposition of civil and/or criminal penalties.

b. Subpart D of Part 261 of reference (b) lists specific items which generally must be disposed of as hazardous waste. Enclosure (1) identifies types of waste commonly generated aboard military installations which are listed in Subpart D of reference (b).

c. Department of Defense (DOD) and Marine Corps policy related to the subject program is outlined in references (d) and (e). Reference (f) provides installation policy and guidelines for hazardous substance spill prevention, containment, reporting and cleanup. Reference (g) identifies the types of solid waste which can be disposed of in the base refuse collection and disposal system. Reference (h) outlines DOD and Marine Corps policy on the collection and dissemination of health and safety information related to the procurement, receipt, storage, handling, issue, transportation, use and disposal of hazardous materials. Reference (i) provides information relative to local fire prevention and protection requirements applicable to hazardous material storage and handling. Reference (j) established procedures for hazardous waste management applicable to Commands located at Marine Corps Air Station (Helicopter) (MCAS(H)), New River.

4. Responsibilities

a. Organizational Commanders will:

(1) Implement procedures and guidelines established by this Order for hazardous material and waste disposal and related handling, labeling, packaging, storage and transportation.

(2) Maintain copies of this Order and reference (f) at work sites where hazardous material and waste are routinely handled, stored or generated and ensure that personnel are familiar with the contents thereof.

(3) Inform newly assigned personnel of the characteristics and special handling requirements of hazardous material and waste used or generated at the work site.

(4) Report all hazardous material and hazardous waste spills to the Base Fire Department at telephone 451-3333. Commands at MCAS(H), New River will additionally report all spills at Station S-4 Office, telephone 455-6506/6068. Reference (f) pertains.

(5) Provide weekly inspections of all areas used to store hazardous waste and take action required to prevent and correct leaks, spills and other discrepancies. Maintain a log of these inspections showing the following:

(a) Date and time of the inspection

(b) Name(s) of the inspector(s)

(c) Notation of discrepancies observed

(d) Date and nature of corrective action taken.

Note: Reference (b) requires inspection records to be retained for three years.

b. Officer in Charge of Preservation, Packaging and Packing (PP&P) will:

(1) Upon request from Hazardous Material Disposal Coordinators inspect hazardous material and/or waste requiring disposal and provide such technical assistance and material support as required to package material and waste for disposal.

(2) Make appropriate transportation certifications as required by the Department of Transportation and the Environmental Protection Agency.

c. Defense Property Disposal Officer (DPDO), Camp Lejeune will:

(1) Accomplish disposal and related long-term storage of hazardous material and waste in accordance with reference (b) and applicable DOD regulations.

(2) Determine which items generated aboard this installation will be disposed of as hazardous waste (either on a case-by-case basis or by publishing listings of specific items).

(3) Publish DPDO procedural and administrative requirements for turn-in of hazardous material and hazardous waste.

(4) Notify cognizant officers of changes in DPDO policy which would affect implementation of the subject program.

(5) Maintain records of DPDO hazardous material and waste disposal activity in accordance with reference (b).

(6) Inspect hazardous material and waste for which DPDO has accepted accountability and take action required to correct deficiencies as required for compliance with reference (b).

d. Assistant Chief of Staff, Manpower will: Develop and implement a program to provide training and related recordkeeping required by reference (b).

e. Base Safety Officer will:

(1) Provide technical assistance on matters dealing with personnel safety related to hazardous material and waste management.

(2) Include hazardous material and waste disposal considerations in routine safety inspection programs.

f. Assistant Chief of Staff, Logistics will:

(1) Develop and implement a hazardous waste manifesting system and related recordkeeping system required by references (b) and (c).

(2) Prepare the following reports for Marine Corps Base, Camp Lejeune, for submission to the appropriate regulatory agency(ies)

(a) Hazardous Waste Generator's Annual Report and Exception Report as required by Section 262.4 of reference (b).

(b) Facility Annual Report and Unmanifested Waste Reports required by Section 264.7 of reference (b).

(3) Serve as point of contact between Marine Corps Base and DPDO on matters dealing with hazardous material and waste disposal and related storage and handling.

(4) Negotiate necessary agreements between Marine Corps Base and DPDO on matters dealing with hazardous material and waste disposal and related storage and handling.

(5) Provide properly equipped vehicles and trained operators for transportation of hazardous waste (when private contractor is utilized, ensure that the transporter is properly registered with the Environmental Protection Agency).

(6) Assume overall responsibility for operating long-term hazardous waste storage facility at Building TP-451 in accordance with standards contained in Part 265 of reference (b) until such time as the DPDO assumes this responsibility.

(7) Provide a hazardous material disposal coordinator to perform duties outlined in paragraph 4K of this Order with respect to disposal of hazardous material/waste by Marine Corps Base organizations.

g. Assistant Chief of Staff, Facilities will:

(1) Inform cognizant officers of federal, state and military environmental regulations and policies applicable to the subject program.

(2) Provide environmental monitoring and related followup of existing and past hazardous waste storage or disposal sites as required by reference (b).

(3) Initiate projects to provide required hazardous material spill prevention, control and countermeasures facilities.

h. Public Works Officer will:

(1) Provide engineering support and related technical assistance pertaining to hazardous material and hazardous waste storage and handling facilities.

(2) Include hazardous material and waste disposal and related management considerations in contracts as required to effect compliance with references (a) through (d).

(3) Enter pollution abatement deficiencies into the Naval Environmental Protection Support Service (NEPSS) information system and develop appropriate pollution abatement projects in accordance with reference (e).

i. Base Fire Chief will:

(1) Provide routine inspection of hazardous material and waste storage areas as required to identify spill and fire hazards.

(2) Provide initial response to hazardous material spills in accordance with reference (f).

j. Base Maintenance Officer will:

(1) Monitor ongoing activities as required to identify, evaluate and provide up-channel reporting of environmental deficiencies related to the subject program.

(2) Provide laboratory support required for identification of hazardous material and waste.

(3) Provide point of contact with federal and state regulatory agencies on environmental matters pertaining to the subject program.

(4) Upon request, provide on-site technical assistance as required to enable Organizational Commanders to evaluate compliance with this Order and applicable environmental regulations.

k. Hazardous Material Disposal Coordinator (HMDC) will:

(1) Ensure Command compliance with the procedures in enclosure (2).

(2) Inform organizations within the HMDC's cognizance of changes in hazardous material/waste storage handling and disposal procedures.

(3) Identify training requirements for personnel within the HMDC's cognizance routinely handling hazardous material or waste.

5. Action

a. Major Commands (i.e., MCAS(H), New River; 2d Marine Division, Naval Regional Medical Center, Naval Regional Dental Center and 2d Force Service Support Group) will:

(1) Designate a Hazardous Material Disposal Coordinator to serve as point of contact on matters related to implementation of this Order.

(2) Monitor all aspects of this disposal program internal to their Command to ensure compliance with this Order.

b. Battalion/Aircraft Group/Separate Company Commanders 2d Marine Division, 2d Force Service Support Group and Marine Corps Air Station (H), New River will:

(1) Ensure that organizations within their cognizance comply with requirements of paragraph 4a(1)-(5) of this Order.

(2) Implement inspection and recordkeeping requirements of paragraph 4a(5) of this Order for organizations within their cognizance.

c. Commanders procurring hazardous material outside the Federaly Supply System will: require the manufacturer/ distributor to provide the information shown on enclosure (2) of reference (h) and will furnish a copy of the information to the Base Safety Officer and Air Station Safety Manager.

6. Applicability. Having received the concurrence of the Commanding Generals, 2d Marine Division, FMF; 2d Force Service Support Group, (Rein), FMFLANT; 2d Marine Aircraft Wing, FMF, Atlantic and the Commanding Officers of the Marine Corps Air Station (Helicopter), New River and tenant units; Naval Regional Medical Center and Naval Regional Dental Center, this Order is applicable to those Commands.

J. R. FRIDELL
Chief of Staff

DISTRIBUTION: A
BMAINO (100)

HAZARDOUS WASTE LABELING INSTRUCTIONS

(See Note #1)

HAZARDOUS WASTE

FEDERAL LAW PROHIBITS IMPROPER DISPOSAL

IF FOUND, CONTACT THE BASE FIRE DEPARTMENT AT 451-3333,
OR THE NEAREST POLICE, OR PUBLIC SAFETY AUTHORITY,
OR THE US ENVIRONMENTAL PROTECTION AGENCY

PROPER D.O.T. SHIPPING NAME See Note #2 UN OR NA# _____

GENERATOR INFORMATION: NAME: MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA 28542. EPA ID NO. NC6170022580

NAME OF SUBUNIT GENERATING WASTE: _____

EPA WASTE NO. (Leave Blank)

ACCUMULATION START DATE See Note #3

MANIFEST DOCUMENT NO. (Leave Blank)

HANDLE WITH CARE!

CONTAINS HAZARDOUS OR TOXIC WASTES

Note #1: The depicted label shall be put on all hazardous waste storage containers used on board Marine Corps Base. Organizations on board MCAS(H), New River will use labels provided by Air Station S-4 Office. See next page for examples of hazardous wastes.

Note #2: If known, insert name and UN or NA# listed in 49CFR Part 172, otherwise enter NSN and common/trade name used locally to identify item.

Note #3: Insert the date that filling of container begins. This date must be entered prior to use of container.

List of Pre-Determined Hazardous Waste (See Notes #1 and #3)

1. The following spent halogenated solvents used in degreasing: tetrachloroethylene, trichloroethylene, methylene chloride, 1, 1, 1-trichloroethane, carbon tetrachloride and chlorinated fluorocarbons.

2. The following spent halogenated solvents: tetrachloroethylene, methylene chloride, trichloroethylene, 1,1, 1-trichloroethane, chlorobenzene, 1, 1, 2-trichloro-1, 2, 2-trifluoroethane, ortho-dicholorobenzene and trichlorofluoromethane.

3. The following spent non-halogenated solvents: xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohezanone and methanol.

4. The following spent non-halogenated solvents: cresols and cresylic acid and nitrobenzene.

5. The following spent non-halogenated solvents: toluene, methyl ethyl ketone, carbon disulfide, isobutanol and pyridine.

6. Spent cyanide plating bath solutions from electroplating operations (except for precious metals electroplating spent cyanide plating bath solutions. See Note #2).

7. Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process (except for precious metals electroplating spent stripping and cleaning bath solutions. See Note #2).

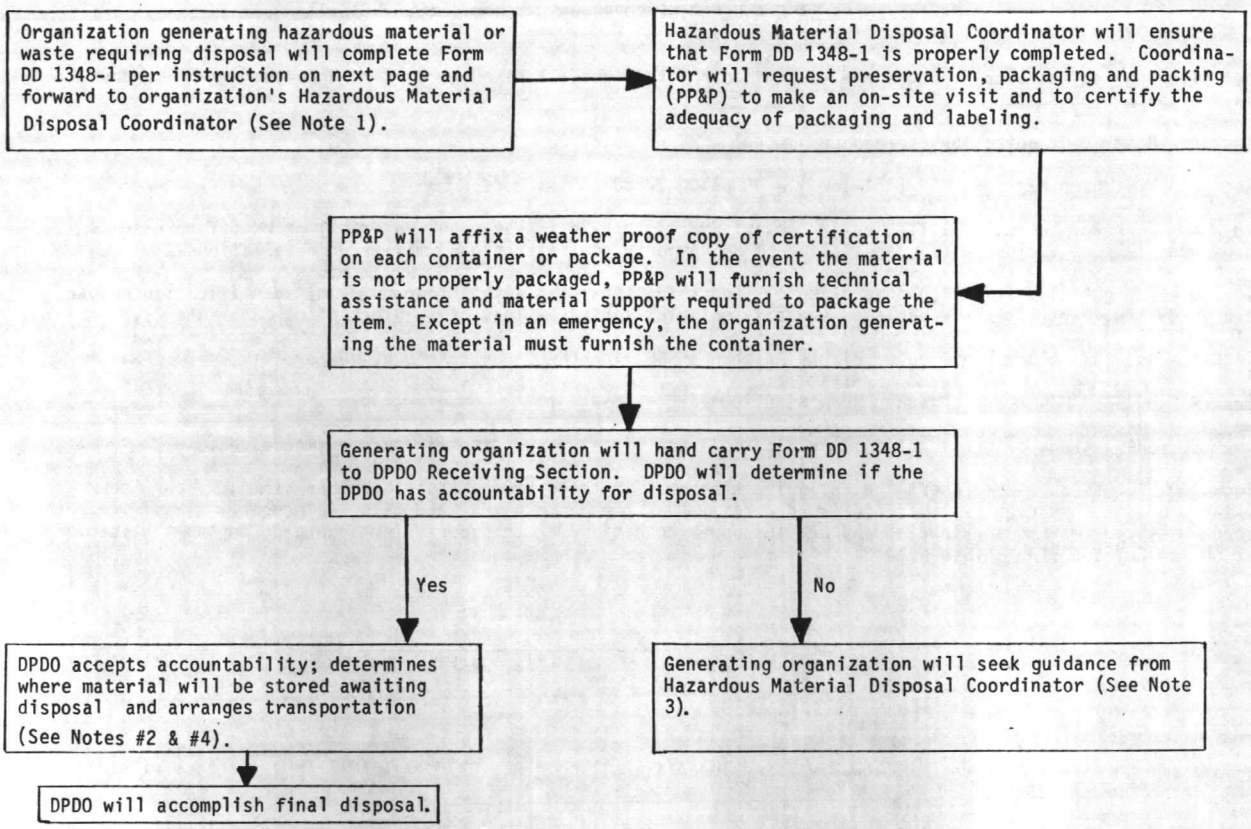
8. Spent cyanide bath solutions from mineral metals recovery operations.

Note #1: This is a partial listing and is subject to change. Discarding these items into waste oil collection tanks is prohibited.

Note #2: These solutions and sludges are turned in for processing under the Precious Metals Recovery Program and should be turned in as HM.

Note #3: Waste contained in this listing is limited to those items specifically identified in subpart D of part 261 of reference (b). The local Defense Property Disposal Officer is responsible for identifying items which although not specifically identified by reference (b), must be disposed of as hazardous waste.

HAZARDOUS MATERIAL DISPOSAL PROCEDURES



Note 1: Organization having physical custody of material awaiting disposal will conduct weekly inspections in accordance with paragraph 4(a)(5) of this Order, if the item is hazardous waste.

Note 2: If an item to be transported is a hazardous waste subject to RCRA, the Traffic Management Officer will transport. A North Carolina Hazardous Waste Shipping Manifest prepared prior to transporting, will be attached to DD-1348-1 and will be carried by driver of vehicle used to transport waste.

Note 3: These items will be disposed of on a case by case basis utilizing procedures developed in accordance with applicable regulations. Assistant Chief of Staff, Facilities, Marine Corps Base, will coordinate development of appropriate procedures.

Note 4: The material will not be moved without prior concurrence of DPDO unless required by an emergency, in which case, DPDO will be informed as soon as possible.

INSTRUCTIONS FOR COMPLETING DD FORM 1348-1 BY
MARINE CORPS BASE AND MARINE CORPS BASE TENANTS (SEE NOTE 1)

The following modifications/changes are to be incorporated into all disposal turn-in documents for hazardous materials or hazardous waste.

Block A - Name of Organization (telephone number) - NC 61700 22580

Block B - MCB, Camp Lejeune, NC (451-1634) - NC 61700 22580

Block C - Mark for (normally left blank): Insert HM (if turn-in is hazardous material) or HW (if turn-in is hazardous waste). See enclosure (1) for listing of HW commonly generated aboard military installations.

Block U - Freight Classification nomenclature: Add characters (two alpha, four numeric) identification number as shown in 49 CFR, Part 172. If unable to identify material or waste leave this block blank (See Note 2).

Block Y - Use this block (in lieu of Blocks AA through EE) for the Deposit Account Number.

Block AA and BB: MCB, Camp Lejeune, NC - NC 6170022580

Block CC: Have transporter (identified in Blocks AA and BB) sign and date for shipment received)

Blocks DD, EE, FF and GG: Insert the following statement in these blocks (Note: Rubber stamp, typewritten or machine produced copy required): "This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of DOT and EPA." (See Note 3).

_____ (Signature) _____ (Date)

Note 1: Marine Corps Air Station (H), New River and tenants shall complete DD Form 1348-1 in accordance with Air Station Order 6280.1.

Note 2: Hazardous Material Disposal Coordinator will request Base Maintenance Officer representative (telephone 5977) to accomplish sampling and analysis of item(s), as required, to complete Block U.

Note 3: Certification will be signed by authorized representative of generating organization. It is recommended that person signing have first hand knowledge of or supervisory responsibility for items being disposed of.

Ronald H. Levine, M.D., M.P.H.
STATE HEALTH DIRECTOR

DIVISION OF HEALTH SERVICES
P.O. Box 2091
Raleigh, N.C. 27602-2091

February 24, 1984

Commanding General
Marine Corps Base
Office of AC/S Facilities
Attention: Bob Alexander
Camp Lejeune, NC 28542
NC6170022580

Re: Part B Application - Hazardous Waste Management Permit
First Notice of Deficiency

Dear Mr. Alexander:

An initial review has been performed on your Part B application. The attached list identifies specific deficiencies that must be corrected in order for the technical review to continue. Please submit four copies of an addendum that addresses all identified deficiencies in their entirety by March 30, 1984. Failure to submit these addendums on or before the compliance date can result in enforcement actions or a decision to deny the permit.

Should you desire a clarification of any identified deficiency or can show reasonable cause that the addendums can not be submitted on or before the compliance date, please contact me immediately at (919) 733-2178.

Sincerely,

James Carter, Environmental Chemist
Solid & Hazardous Waste Management Branch
Environmental Health Section

JC:ns
Enclosures
cc: Richard Gay

NOTICE OF DEFICIENCY

MARINE CORPS BASE
CAMP LEJEUNE, N.C.
NC6170022580

PART C - WASTE CHARACTERISTICS

C-1 Chemical and Physical Analysis
40 CFR 270.14 as referenced in 10 NCAC 10F .0034(b)(4)
40 CFR 264.13(a) as referenced in 10 NCAC 10F .0032(c)

Provide information about the specific wastes handled at Camp Lejeune. The information should include a complete list of stored wastes, a general description of each waste (i.e. the chemical constituents of each waste, what operations produce these wastes), and the hazardous characteristics of each waste.

Table 1 is an example of a good format to use.

Provide laboratory results for past analyses on hazardous waste stored at Camp Lejeune.

C-2a Parameters and Rationale
40 CFR 264.13(b)(1) as referenced in 10 NCAC 10F .0032(c)

In the Waste Analysis Plan, provide an itemized list of parameters to be chosen for analysis of each individual waste.

Table 2 is an example of a good format to use.

C-2b Test Methods
40 CFR 264.13(b)(2) as referenced in 10 NCAC 10F .0032(c)

The Waste Analysis Plan should state specific test methods to be used for various analyses.

Table 3 is an example of a good format to use.

PART G - CONTINGENCY PLAN

G-1 General Information
40 CFR 264.52(c) as referenced in 10 NCAC 10F .0032(e)

Document that arrangements have been made with Base Hospital and Military Police to coordinate emergency services. They should be familiarized with the chemicals stored at your facility and they should be provided with a copy of the Contingency Plan.

G-4a Notification
40 CFR 264.56(a)(2) as referenced in 10 NCAC 10F .0032(e)

Provide in your Contingency Plan for notification of state and local agencies.

TABLE 2

PARAMETERS AND RATIONALE FOR THEIR SELECTION

Hazardous waste	Parameter	Rationale
Pickle liquor (hydrochloric acid)	pH, EP toxicity (Pb, Cr^{+6})	The waste is a listed hazardous waste (K062) due to its toxicity (lead and hexavalent chromium) and due to its corrosivity (pH <2).
1,1,1-trichloroethane	1,1,1-trichloroethane	This is a listed toxic waste (F001). There is no reason to believe this waste will contain any other toxic constituents in significant concentrations.
Vinyl acetate sludge	Flash point	This waste is ignitible. Practical grade vinyl acetate has a flash point of 18°F. Knowledge of this value helps to ensure the safe handling of these wastes.
Vinyl chloride sludge	Flash point	The waste is ignitible. Practical grade vinyl chloride has a flash point of -108°F. Knowledge of this value helps to ensure the safe handling of these wastes.
Pickle liquor sludge	pH, EP toxicity (Pb, Cr^{+6})	The waste has an estimated pH value of less than 2, making it a corrosive waste. Also it may contain toxic levels of lead and hexavalent chromium.
Metal grindings	EP toxicity (Pb, Cr^{+6})	The grindings contain lead and hexavalent chromium compounds.
Metal hydroxide sludge	EP toxicity (Pb, Cr^{+6})	The sludge contains lead and hexavalent chromium compounds.

TABLE 3

PARAMETERS AND TEST METHODS

Parameter	Test method	Reference
pH	Electrometric	Test Methods for Evaluating Solid Waste. Physical/ Chemical Methods U.S. EPA SW-846
Flash point	Pensky-Martens closed-cap tester	ASTM Standard D-93-79 or D-93-80
EP toxicity	EP toxicity test procedure	40 CFR 261, Appendix II
1,1,1-trichloroethane	GC/FID	Test Methods for Evaluating Solid Waste. Physical/ Chemical Methods U.S. EPA SW 846.
Lead	Atomic absorption	Methods for chemical analysis of water and wastes, EPA-600/4-79/020, March 1979.
Chromium	Atomic absorption	Methods for chemical analysis of water and wastes EPA-600/4-79/020 March 1979

G-8 Required Reports
40 CFR 264.56(j) as referenced in 10 NCAC 10F .0032(e)

Submit a statement that Camp Lejeune will report emergency incidents to the North Carolina Solid & Hazardous Waste Management Branch within 15 days after the incident. Also a notation of the incident must be entered in the operating record identifying the time, date, and details of the emergency incident. Please state your intentions to do this.

PART I - CLOSURE

I-1d Inventory, Disposal, Removal, or Decontamination of Equipment
40 CFR 264.114 as referenced in 10 NCAC 10F .0032(g)

Provide a plan for decontamination or disposal of facility equipment and structures when closure is completed. In this plan, explain decontamination procedures including criteria for determining contamination, equipment used, and procedures for decontaminating clean-up materials and residues. You should also include your plans to demonstrate that clean-up has been effective.

I-1d(1) Closure of Containers
40 CFR 264.178 as referenced in 10 NCAC 10F .0032(i)

Discuss removal of hazardous waste residues from the containment system at closure. Describe what steps will be taken to perform the clean-up.

I-1e(1) Time Allowed for Closure
40 CFR 264.113(a) and (b) as referenced in 10 NCAC 10F .0032(g)

Your Closure Plan should state Camp Lejeune's intentions to remove all hazardous waste off-site within 90 days from receipt of final volume of waste. It must also state your intentions to complete all closure activities within 180 days from receipt of final volume of hazardous waste.

TABLE 1

WASTES, ASSOCIATED HAZARDS, AND BASIS FOR HAZARD DESIGNATION

Chemical	Hazard	Basis for hazard designation
Tanks		
Pickle liquor (hydrochloric acid)	Corrosive, Toxic	Listed waste K062 has pH of 1 EP toxic, lead and hexavalent chromium
1,1,1-trichloroethane	Toxic	Listed waste F001
Drums		
Vinyl acetate sludge	Ignitible	Flash point of pure vinyl acetate is 18°F. Tested flash point for waste is 25°F.
Vinyl chloride sludge	Ignitible	Flash point of pure vinyl chloride is -108°F. Tested flash point for waste is 6°F.
Pickle liquor sludge	Corrosive, Toxic	Has pH of 1; EP toxic, lead and hexavalent chromium
Metal grindings	Toxic	EP toxic, lead and hexavalent chromium
Waste pile		
Metal hydroxide sludge	Toxic	EP toxic, lead and hexavalent chromium

COMMAND HAZ MAT'L COORD MTG

Name	Unit	Phone
MARY WHEAT	MCAS, NEW RIVER	6506/6686
KEN JOLLY	NREAD	5003/2083
ELIZABETH BETZ	NREAD	5977
R. E. SCALES	BASE MAINT	5307
COL J. T. MARSHALL	"	2511
ELMER J. PADGETT	FIRE CHIEF	05815
R. Torres	AC/S Log	2507, 2508
Linda Passingham	CTD/Engr.	1539
Milton P. Kamp	Ind Mar Div	2755/2302
William B. Henderson	2nd FSSG PPP	1628/5224
RJ Andrews	Base Safety Office	5795/3891
D Sharpe	NREAD	5003
Bob Alexander	AC/S FAC MCB	3034
George Eggers	DPDO	5613

Laboratory waste disposal: 5 cases of model practices

ROBERT F. STALZER, PH D

The reduction of limits defining small quantity generators as stated in the Resource Conservation and Recovery Act (40 CFR 261.5, 45 FR 76623, 46 FR 27476) now brings many laboratories into some type of regulated status. This article describes a number of successful laboratory waste management programs that should help guide other laboratory managers in setting programs of their own. Each program is described in an order of increasing complexity to cover a wide variety of laboratory situations.

Laboratory A.

Laboratory A is housed in a "state of the art" structure occupied in mid 1984. Many of the advanced systems in place are concerned with the safety of laboratory personnel and the surrounding community. The principal technical analytical activity concerns The Clean Water Act and The Safe Drinking Water Act and their various protocols.

Tracing materials in the front and out the back reveals these steps.

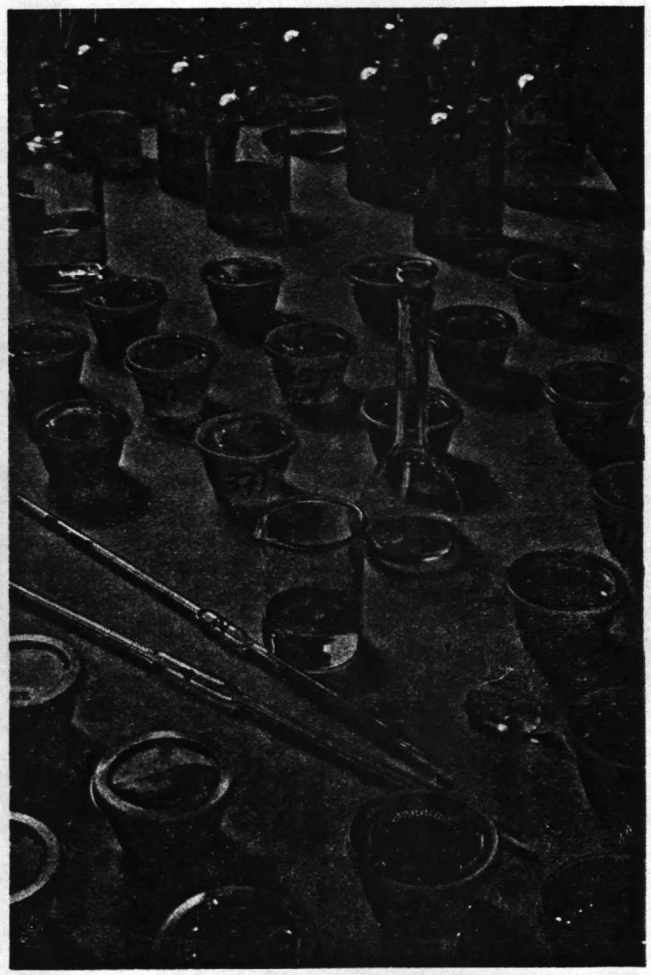
1. A well trained laboratory technician receives all materials and samples. Laboratory reagents, including reagent grade solvents are received in no larger than five liter (5L) containers and are promptly stored in one of several special separated bays for acids, bases, reactives, solvents and chemical materials. The bays have three-hour fire-walls, seamless concrete floors coated with epoxy paint and level floor surfaces with a center floor drain equipped with catch tanks. The solvent area is equipped with a Halon fire extinguishing system. The other bays are water sprinklered. When activated, fire alarm sensors shut down the heating and ventilization system and close duct dampers, but individual bay hoods remain in operation. All closed storage cabinets are under negative pressure and correspond to OSHA recommendations.

2. Laboratory technicians obtain materials by store orders processed by the Receiver before removing materials, thus affording a simple material control system.

3. Samples are distributed to the concerned laboratory area with appropriate sample numbers, requested analyses and quality control data as part of a quality assurance program.

4. Sample preparation is done in areas separated from the analyses areas to avoid contamination.

5. Technicians use washed glassware from a central laboratory dishwashing area. When required by the procedure all glassware is solvent-rinsed prior to use, and the used solvent is collected in properly labeled five liter bottles. All used solvent is applied as a preliminary



cleaning agent prior to dishwashing and collected again. Disposal of the solvent at this point is by evaporation in a hood equipped with a water scrubber and carbon absorbers. Hood stacks are air monitored for absorber breakthrough. Residues and loaded carbon filters are collected by laboratory personnel and delivered to a permitted landfill by a licensed hauler.

6. Water from scrubbers, water consumed in laboratory operations including dishwasher discharge and excess samples not to be stored go into the laboratory drain system. This system is separate from the sanitary system. These drains feed neutralization pits whose effluent then feeds into sewer systems leading to a publicly owned treatment works (POTW).

7. Sample containers are washed and stored for future use, if warranted. Sample containers not retained are emptied, washed, collected and sent to a municipal sanitary landfill by the dishwashing area personnel via the Receiver.

8. Empty reagent bottles are rinsed and collected. Useless glass is collected. All glassware is trucked to a municipal sanitary landfill via a licensed hauler.

9. Empty solvent containers are retained at appropriate spots in the laboratory for use in capturing used clean solvent for further use.

10. The laboratory maintains a sample pick-up fleet of small cars and vans. Basic maintenance work is done by a mechanic employed by the laboratory specifically for this purpose, and is performed at a separate location. Used motor oil is collected as a separate entity. Other used automotive fluids are collected as an aggregate. All containers are delivered to a local oil distributor for reclamation.

Summary

Laboratory A is a simple case of material disposal since samples are generally drinking water from a variety of sources; lake or stream water; and groundwater for special testing. All these samples are very dilute in regard to entities tested. Solvents require special attention and training. All material needed for test work is small in quantity and very dilute at end of analytical work. No hazards are perceived.

Laboratory B

Laboratory B is a diversified, completely equipped, independent, analytical laboratory whose services comprise chemical and microbiological analysis, contract R&D and consulting. The laboratory is located in a rural setting on a large tract of land with few structures close by. However, emissions and waste removal (both hazardous and non-hazardous) are monitored and controlled with careful attention.

1. All samples are received at a designated laboratory spot and computer logged by an experienced technician. Computer programs generate labels, sample numbers and quality control data. The samples and necessary paperwork are transported to the appropriate laboratory work area for processing.

2. Reagents and laboratory related materials are received by a separate trained technician who is responsible for storage, usage accounting, and notifying management that order points have occurred. This receiver also is responsible for the physical flow of waste from the laboratory to contract waste removers.

3. The solvent usage in annual volume is approximately 7800 L and consists of 17 entities. Several are small volume solvents allowed to evaporate slowly in hoods under controlled conditions. All other solvents are collected in segregated safety cans and are removed to grounded storage steel drums for removal by contract haulers. Contract transporters, storage and disposers (TSD) organization names and contacts were obtained from the State's Department of Environmental Resources (DER). The Division of Solid Waste within the Department was a starting point. One solvent accounts for 35-40 percent of the total solvent usage. Studies have shown that spinning band still recovery is economic when the recovered solvent is used in the laboratory. A project is before laboratory management to purchase and install a system. Another solvent accounts for 30-35 percent. This solvent is biodegraded to innocuous products in the laboratory.

4. Acids and decontamined glassware are collected at the laboratory waste handling area for removal by contract haulers.

5. Microbiological samples, materials, cultures and disposable equipment are autoclaved under the technical direction of the microbiological department supervisor. The autoclaved material is accumulated separately for disposal in a sanitary landfill as in number 3 above. The State DER lists approved TSD organizations.

6. Two particularly hazardous materials are in the laboratory. One is strictly controlled by federal regulation. The received sample volumes are large and, consequently are an expensive disposal situation for the laboratory. Negotiation with the sender resulted in the sender picking up the samples for return to the source for disposition. The other material is cyanotic. A chemical destruction procedure has been developed to render the material harmless.

Summary

Laboratory B controls the type of samples for analysis. Solvents then become the major disposal difficulty. These are collected for a licensed hauler for chemical fixation and landfill disposal. In one case, solvent recovery is economic and a favorable project for management. Other hazardous materials are handled by autoclaving or chemical destruction.

Laboratory C

Laboratory C is a bio-medical R&D unit associated with a specialty manufacturing facility.

1. Site-wide responsibility for hazardous waste and new solvent container storage rests with the lab's Supervisor of Stores/Receiving (S/R). All members of S/R are thoroughly trained in chemical waste management, including:

   (a) hazardous nature of chemicals
   (b) purpose of the Resource Conservation and Recovery Act
   (c) compliance with site safety practices and RCRA regulations
   (d) hazardous nature of site specific materials
   (e) emergency and evacuation procedures
   (f) drum emergency repair and overpack procedures
   (g) cooperation with community emergency groups.

2. Materials are received by S/R personnel and transshipped to appropriate laboratories or manufacturing facilities. Generated wastes, usually solvents, are held for short periods of time in tight security areas near each facility. These areas are not Resource Conservation and Recovery Act (RCRA) permitted, and are not required to be. A special feature is the waste solvent drum. Each drum has a threaded, locked and grounded funnel and a waste characterization label affixed. One key per locked funnel permits an efficient waste monitoring system. When filled, the drums are sealed and returned to the S/R hazardous waste materials storage area.

3. The container storage facility maintained by S/R personnel has both the hazardous waste retention area and solvent dispensing area. Each area is locked and monitored constantly by TV surveillance and supervisory walk-throughs (inspections).

4. Inside the waste retention area, small quantity laboratory wastes are stored on steel shelving in appropriately sized chemically resistant plastic containers. Drums are segregated into areas by RCRA characteristic (toxic, ignitable, reactive, corrosive or *EP* toxic etc.). All drums are grounded, labeled, and spaced 18 inches apart. A sprinkler system, emergency lighting, absorbent spill pillows and warning signs are installed. The area is heated and air conditioned to maintain a temperature range of greater than 40 F and less than 120 F. The system activates only when the extremes are approached to conserve energy. The floor is sloped to a central drain. A catch tank serves as a transfer station for spilled waste. One wall is constructed as a blow-out wall while the other walls are six-hour fire walls. The solvent dispensing area is similar.

5. At various times and within those specified by regulatory agencies, contract waste management organizations package waste chemicals and equipment for off-site thermal destruction. Packaged hazardous laboratory wastes are sanctioned by the Environmental Protection Agency (EPA) and are known as Lab-Packs. These are fiber or steel open head drums in which small quantities of hazardous liquids, solids or small laboratory hazardous material contaminated equipment may be packed. An inert absorbent material is packed around each article. When the drum is full and labeled according to contents' hazardous characteristics, the top is locked on. The drum(s) is transported either to a secure landfill or a thermal destruction unit both of which are off-site. Some restrictions exist on the Lab-Pack contents, which are obtained from the State DER. Waste solvents are removed by contract licensed haulers for thermal destruction at permitted sites. (See discussion under Laboratory B.) Identification, recordkeeping, and follow-up assure confidence in destruction.

6. Non-hazardous liquid laboratory wastes go into process acid sewers and forward to limestone pits for neutralization and dilution prior to release into public sewer systems.

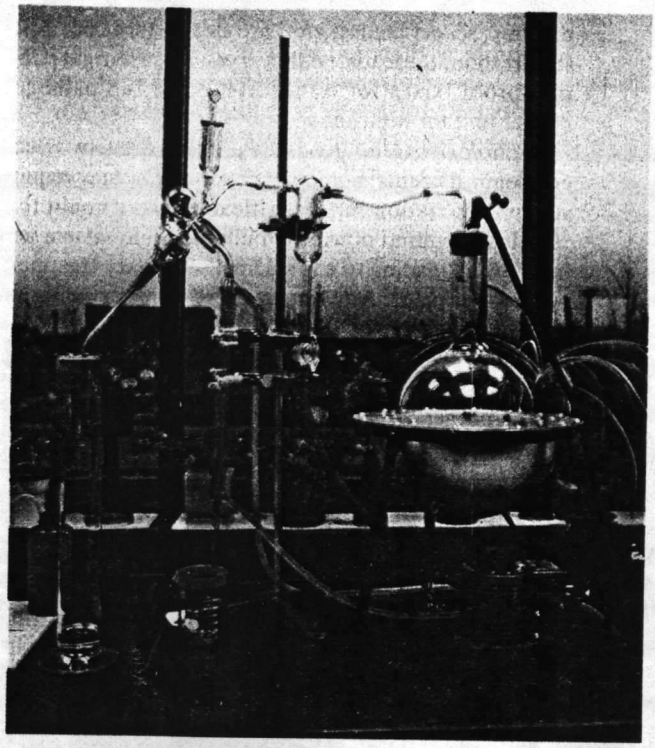
7. Inerts including waste paper go to a sanitary landfill via public haulers.

Summary

Laboratory C has a highly developed tracking and record keeping system to assure management that all hazardous solid materials and solvents are thermally destroyed. Hazardous materials management contractors are employed to package and remove from the site all such materials held in the S/R area. The materials are destroyed by thermal means.

Laboratory D

Laboratory D is an R&D unit dedicated to the life sciences located on a large corporate site. All functions located there receive services such as stores, transport, mechanical, janitorial, etc. from central service units. Included in these services is a central high efficiency thermal destruction unit and a separate pathogen thermal destruction unit. As a consequence, much of the service record keeping onus is removed from the technical staff. However, the technical staff is responsible for continual follow-up of site-wide hazardous materials



disposal regulations and developing internal disposal techniques as R&D projects mature or change emphasis. The following procedures are in use.

1. *Inerts* are collected in covered Dumpsters at a central location for removal to a sanitary landfill by a permitted or licensed hauler.

2. *Paper* is collected for onsite thermal destruction.

3. *R&D samples* are labeled and held in controlled storage as active until authorized for disposal. Samples for disposal and those not held in storage are collected in a glass container, in each laboratory module, and when filled are removed to a central point. This is, under normal conditions, the building receiving dock. Highly trained service personnel transport the containers to the proper thermal unit where the entire container is thermally destroyed.

4. *Solvents* are thermally destroyed in the high efficiency burner unit. The collection and transportation follows the same procedure as the samples. The waste solvents are those usually found in life science laboratories. They are collected in safety cans and when filled are moved to the receiving dock. Trained service personnel empty the cans into a larger containers which are transported on a regular schedule to a hold tank at the burner site. Burning is done by trained qualified site personnel.

Some solvents are not destroyed thermally because of economics. Where feasible, systems have been engineered to capture the economic solvents for purification off-site. The purifiers may be original manufacturers or contract organizations.

5. *Small equipment* normally found in laboratories is detoxified by chemical detoxification agents or steam sterilization and reused. Disposable equipment is chemically detoxified and transported to the pathogen burner for thermal destruction.

6. *Sharps* [syringes, (disposable types and glass with fixed or interchangeable needles) broken glass, pasteur

pipettes, scapel blades, etc.] are steam sterilized. After sterilization, these materials are packaged in rigid puncture-proof boxes for transportation to the pathogen burner unit for destruction.

7. *Etiologic Agents* generally are detoxified by selected chemical agents. Some special situations may require steam sterilization for detoxification. Any liquid that remains is poured down the building drain system and into sewers leading to a municipal secondary treatment wastewater plant. Any remaining residues or solids are treated as in the part of this section dealing with R&D samples.

8. *Animal bedding, wastes, carcasses and parts* are plastic-bagged and thermally destroyed in the pathogen burner unit. Bedding usually requires pre-drying to avoid "smokers."

Summary

Management of this facility believes services of all types should be provided to R & D personnel to minimize distraction from their objective. In regard to disposal practices, laboratory personnel are responsible for labeling of material containers, controlling storage of samples and moving collected and labeled wastes to a designated shipping spot. At this point highly trained service personnel cause movement to external or onsite waste disposal facilities. The nature of most of the material for disposal dictates onsite disposal by highly trained service personnel. Management believes thermal destruction is the best solution and provides constantly improved thermal destruction units and the required training.

Laboratory E

Laboratory E is a quality assurance entity located on a large chemical manufacturing site. In addition to quality functions, laboratory personnel perform specific services such as air monitoring, National Pollutant Discharge Elimination System (NPDES) permit analyses, and Resource Conservation and Recovery Act (RCRA) groundwater well monitoring. The site contains a secondary/tertiary wastewater treatment plant and a secure landfill.

The managers of this laboratory are committed to implement applicable waste regulation to wastes generated in this laboratory.

Implementing a waste management program involves many considerations. Some of these are:

1. Is it necessary for a given hazardous substance (exclusive of analytical samples) to be in the laboratory? If so, can its use be minimized or eliminated? Can re-entry of a given hazardous substance be controlled?

2. How can hazardous substances be classified for internal handling so that wastes requiring thermal destruction, landfill etc. get that action and no other?

3. Who will be trained for hazardous waste management? What special equipment and personal protective equipment will be needed?

4. Implementation of a comprehensive and documented waste management program to meet regulatory agencies requirements resulted in the following action.

(a) Review all analytical procedures and methods for possible hazardous, toxic, carcinogenic, etc. materials and reagents. Environmental Protection Agency mandated analytical methods were not included in the review. The review indicated large volumes of hazardous solvents and much smaller amounts of solids were in use. Analytical R&D action was committed by laboratory management in the search for substitution or change of solvents and materials. Candidate solvents and solids were inserted and the methods were subjected to a rigorous quality assurance study. As a practical note, about 75 percent of the material and solvents were changed to acceptable entities. After demonstration of equivalency, the new or modified analytical methods were rewritten and inserted in all applicable manuals. Precusors were removed and destroyed.

(b) Laboratory procurement practices were reviewed. Stockpiling by individuals was controlled by tighter purchase authorization procedures. Internal controlled materials lists were distributed to all laboratory personnel stating that these entities were not to be obtained except by authorization of the laboratory head. Computerized minimum points for automatic purchase were lowered as needed to assist the laboratory control stores in maintaining minimum stocks. All disbursement practices were reviewed to recognize points of use that affected re-order.

(c) After all appropriate methods were sanitized and material, solvent and reagent flows were controlled every sample was grouped by class or type. A Material Safety Data Sheet (MSDS) was assembled for each class or type (inorganic acid or base, organic acid or base, organic neutrals, etc.) for training nontechnical as well as new technical personnel. The Material Safety Data Sheet (MSDS) was used to alert against special hazards (sensitive to heat, shock, light; flammable; toxic; carcinogenic; etc.). The MSDS also contained other training information such as personal protection above that normally required and emergency spill procedures. From this mass of information, container movement labels were developed to assure management that containerized wastes would be handled by the proper technique at the onsite disposal area.

(d) The final decision on training was to include anyone who was assigned to work in the laboratory exclusive of clerical personnel. Contractors were handled on a site basis. The requirements of the laboratory in these cases were to provide an escort at all times and to make sure all regulations were observed by the contractor.

The specific training laboratory personnel received was as follows:

(1) use, inspection, repair and replacement of emergency and monitoring equipment
(2) communications or alarm systems
(3) emergency response (fires, explosions, etc.)
(4) contamination response (spills, release to surface or groundwater, etc.)
(5) operation shutdown
(6) container requirements
(7) safety, site and laboratory manuals
(8) laboratory waste disposal manuals.

Laboratory hazardous wastes

1. *Samples, general*

All samples were segregated that occurred in sufficient volume and economic value to be returned to process systems. Laboratory personnel prepared the original samples for movement to the proper site area but had no further physical contact once they left the shipping area.

After analysis, all other samples are stored in a quick locator type segregated area and held for specified lengths of time as reference samples. These are considered active samples. When the time expires the samples become waste and the calendar starts for the laboratory disposal system.

2. *Laboratory Operating Floor*

(a) Waste solvents are collected in safety cans. Chlorinated, non-chlorinated and suspected carcinogenic solvents are collected separately. Every eight hours the cans are emptied into larger containers in the laboratory central disposal area. All safety regulations for grounding, labeling, warning signs and personal protection are followed.

(b) Sample residues, their small containers, contaminated small equipment (medicine droppers, test papers, small TLC plates, etc.) are contained in chemical resistant plastic bags inside of open, steel, enameled, labeled pails that can be sealed with lids and lock rings. The pail capacity is usually two to three gallons. The pails serve as boots in case of bag leakage. In such a situation, the lid is locked on immediately and the pail is sent to the laboratory central disposal area. Bags containing non-hazardous materials are tied off and sent with any locked pails to the central disposal area.

(c) Large volume aqueous sample solutions are put in laboratory drains.

(d) Samples in large volumes of organic solvent are put in appropriate solvent collection safety cans. If the sample will precipitate easily, this is allowed to occur before the sample is added to the collection can. The precipitate is separated, accumulated, packaged, labeled and sent for disposal.

(e) Highly toxic, carcinogenic etc. samples are detoxified by chemical reaction to innocuous products. Liquids remaining after the reaction is complete are flushed down laboratory drains.

(f) Samples that are soluble in water are washed into the drain system. The glass sample container is thoroughly washed out for eventual deposit in a scrap glass fiber drum. Empty rinsed reagent bottles are deposited also as is clean broken glass.

3. *Central Laboratory Disposal Area*

(a) Solid samples that have the potential for detonation are stored in a special fort until returned to the process area for insertion into the manufacturing process.

(b) Very strong acids are analyzed immediately and are diluted, neutralized and put into the drain system through a special system.

(c) Organic solvents are accumulated in 30 gal steel drums and are thermally destroyed in high efficiency burner units.

(d) Samples that do not form gels or other drain plugging entities are washed out of the sample jars by water jets located in an efficient hooded sink. Wet empty sample containers are packed in fiber drums and sent to the inerts landfill. Wastewater from the sink goes directly to an onsite wastewater treatment facility. Any regulated material containers are triple-rinsed with appropriate solvents before going to the secure landfill. The rinse solvent is collected for thermal destruction.

(e) Samples that form gels or drain plugging entities are converted to gels or precipitates. After a standard leach time, the aqueous layer is decanted to the laboratory drains. The liquid-free gel or precipitate is packed out in the proper classification drum for movement to the secure landfill.

Summary

Laboratory E performs many analyses on a wide spectrum of organic chemicals. This fact brings laboratory personnel into contact with a variety of hazardous materials to be managed. The disposal system uses thermal destruction, secure landfill and an efficient wastewater treatment plant. Internally, a thorough classification system protects individuals through a concise labeling program coupled with a solid training program.

Conclusion

All of the laboratories exhibit similarity in disposal of hazardous materials.

1. With one exception all of the laboratories believe thermal destruction is the best solution. Solvents are classified and collected under controlled conditions for thermal destruction in four of the laboratories. Two of the laboratories destroy all of their hazardous waste by thermal means.

2. Laboratories connected to secondary treatment or advanced wastewater treatment plants use this means except for solvents.

3. Sanitary landfilling is an accepted means of disposal for inerts or treated materials only.

4. Secure landfills are accepted means of disposal when thermal destruction is not sanctioned (heavy metals for example). **PE**

References

Prudent Practices for Handling Hazardous Chemicals in Laboratories; National Academy Press: Washington, 1981.

2. *Prudent Practices for Disposal of Chemicals from Laboratories:* Washington, 1983.

R.F. Stalzer, Ph.D., is President of Lab/Man Consulting Group, Montchanin, DE 19710. Lab/Man specializes in laboratory management consultation. He has 30 years experience managing large laboratories and their complex disposal problems. He is a member of the Governor's Environmental Advisory Council, Delaware and the New Jersey Environmental Protection Agency Sludge Quality Assurance Task Force.

To Doug

JW

Betsy - Please set a date
to do this immediately after 1 Oct 82
And advise. D Shaw

NATURAL RESOURCES AND ENVIRONMENTAL AFFAIRS BRANCH
Base Maintenance Division
Marine Corps Base
Camp Lejeune, North Carolina 28542

BMO ——
ABMO ——

Date 7-20-82

From: Director, NREAB
To: BMO
Subj: Soil Samples Lot 203 (Possible DDT)

NREA is making arrangements to take Subj Samples (24 ea) to send to Port Hueneme, California The test will cost $50-75 each. Who will foot the bill?

Julian

Base Maintenance —
see #5A for JOB,
appropriation date, etc.
BMC

ROUTING SLIP JUL 1 5 1982

	ACTION	INFO	INITIAL
BMO		✓	C
ABMO		✓	
ADMIN		✓	S
ENVIOR AFF	✓		
F&A SEC			
MAINT NCO			
M&R			
OPNS			
PROP			
UMACS			
UTIL			
SECRETARY			

COMMENTS:

NAVAL REGIONAL MEDICAL CENTER
CAMP LEJEUNE, N.C. 28542

IN REPLY REFER
62-dlm
6280
13 July 1982

From: Chief, Occupational and Preventive Medicine Service
To: Base Maintenance Officer, MCB, Camp Lejeune, NC 28542

Subj: Possible DDT spill site, Disposal Lot 203; inspection of

Ref: (a) Base Maint. Officer, CLNC Ltr JIW/th, 6240 dtd 16 Jun 82
(b) CMDR, LANTDIV, NAVFACENGCOM, Ltr 114:JGW:aeo, 6280 dtd 7 Jun 82

1. As requested by reference (a) an inspection of suspsected DDT contaminated area of Disposal Lot 203 was conducted by Mr. D. Sharp, NREAD and HMC Craig, O&PMS, NRMC, CLNC.

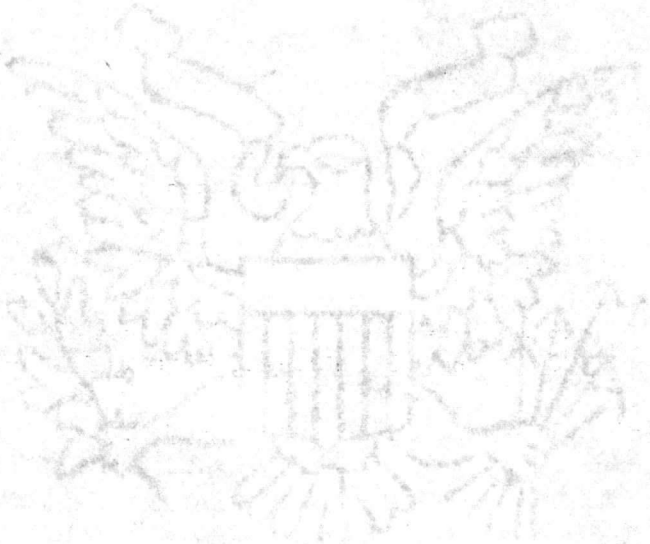
2. The inspection revealed a wooded area not presently used as a disposal site. The initial sampling point as outlined by reference (b) lies in the center of a natural drainage ditch which runs approximately 100 yards to a flat low lying, clear area.

3. It is recommended that the initial sampling area and low lying area be marked off in an one hundred foot square and then sub-divided into one hundred equal squares. Randomly select ten squares from each area and collect 3 samples from each of the selected squares at a depth of 0-2 inches. Thoroughly mix samples from each square in a clean stainless steel container and place the sample in a clean quart glass jar. Grab sample four points in the drainage area. Ship the samples to: Officer-in-Charge, Naval Energy and Environmental Support Activity, Port Hueneme, CA 93043.

4. Questions concerning this matter may be directed to HMC Craig at ext. 1930.

G. L. WINTERS
By direction

Copy to:
Mr. D. Sharp, NREAD
DPDO



1980

Betsy,

Please get with Craig and locate exact Areas to be sampled and clarify the procedures discussed in the attached. I will arrange the $$ to pay Port Heneme. Take samples and get them ready to ship.

Sharpe

62-dlm
6280
13 July 1982

From: Chief, Occupational and Preventive Medicine Service
To: Base Maintenance Officer, MCB, Camp Lejeune, NC 28542

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G. L. WINTERS
By direction

Copy to:
Mr. D. Sharp, NREAD
DPDO

Call TOLL FREE 1-800-248-1218
Or Call 1-803-254-3380

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ATT: William C. Skuba, President
803-254-3380

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COLUMBIA, SOUTH CAROLINA 29201
(803) 254-3380

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BLDG 1103
CAMP LEJEUNE NC 28542

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