

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

6286  
BEMD  
20 Aug 90

**From:** Commanding General, Marine Corps Base, Camp Lejeune, North Carolina 28542-5001  
**To:** Commander, Atlantic Division, Naval Facilities Engineering Command (Code 18), Norfolk, Virginia 23511-6287  
**Subj:** MARINE CORPS BASE CAMP LEJEUNE COMMENTS ON WORKPLAN  
**Ref:** (a) Phoncon btwn Mr. Andrew Kissell, LANTDIV and Mrs. Stephany Johnson, BEMD on 13 Aug 90  
(b) US EPA Region IV ltr RCRBFFB dtd 2 Aug 90  
**Encl:** (1) MCB CLNC comments on Workplan  
(2) Community Relation Plan comments

1. Per reference (a), Marine Corps Base (MCB) personnel have reviewed reference (b), and our comments are contained in enclosure (1).
2. In addition to enclosure (1), additional comments concerning the Community Relation Plan are contained in enclosure (2).
3. MCB appreciates the opportunity to provide comments to the subject workplan, and if there are any questions, or if any additional information is required, MCB point of contact is Mrs. Stephany Johnson, at telephone (919) 451-5093.

  
J. I. WOOTEN  
By direction

## COMMENTS ON WORKPLAN

### Marine Corps Base Camp Lejeune, North Carolina

- Even though the FFA has not been signed, MCB agrees with EPA that all parties involved should meet early on to discuss IR initiatives. It is our belief that such meetings will occur once the FFA comes into existence.
- EPA had agreed to the soil study prior to implementing a remedial action for the shallow aquifer which will be concluded by June 1991. A commitment that funding will be available in June 1991 to initiate a design for the shallow aquifer, as well as a timeline for the completion of the design and initiation of the remedial action needs to be made. In addition, a timeline for completing the studies for the deep aquifer needs to be developed and submitted to EPA.
- MCB has agreed to forward all information concerning the HPFF to EPA. However, all parties need to meet and discuss the possibility of including all UST sites under the FFA if these sites are going to be included under the FFA due to state participation at this point in time.
- MCB should consider additional alternatives in the feasibility study for the clean up of the shallow aquifer since the study of surface soils and the effect the soils have on the shallow aquifer is being performed.
- MCB does not agree with EPA concerning the Risk Assessment. A baseline risk assessment should be conducted and used as part of the decision process.

The following comments relate to EPA's specific comments enclosed in reference (b).

- |                              |   |
|------------------------------|---|
| Section 1.1                  | MCB concurs.  |
| Section 2.1                  | Further discussion is needed concerning UST sites before we include the HPFF in the workplan.                         |
| Section 3.1                  | MCB concurs.  |
| Section 3.1                  | A proposed plan describing the preferred alternative will be prepared when the draft RI/FS is completed in June 1991. |
| Section 4.1                  | MCB concurs.  |
| Section 4.2.1<br>(pgs 19-24) | A reference to the site characterization report should be sufficient.   |

Section 4.2.1 (pg 19) MCB concurs.

Section 4.2 MCB, Camp Lejeune will provide all information on the HPEFF to EPA.

Tables 4-1 through 4-4 MCB concurs.

Section 4.4.1 MCB concurs.

Section 4.4.2 MCB concurs.

Section 4.5 MCB strongly concurs. It should not be that difficult to develop some initial remedial alternatives.

Section 4.5.1 MCB concurs.

Section 4.5.2.5 MCB concurs.

Section 5.1 (pg 39) MCB concurs.

Section 5.1 (pg 39) MCB feels the need for a risk assessment to aid in the determination of a remedial action.

Section 5.1 Even though MCB, Camp Lejeune desires cleanup for these three top priority sites, the DON contract mechanism will not allow for this work to be conducted at this point in time.

Section 6.1 This comment was agreed upon during the 25 July 1990 TRC meeting.

Section 6.1 MCB concurs.

Section 6.2 MCB does not concur with this comment as stated. A risk assessment is necessary.

Section 6.2.3 MCB concurs - provided we can negotiate with the contractor within the Scope of Work any additional work.

Table 6-1 (pg 43) MCB concurs.

Figure 6-1 (pg 44) The Project Operations Plan will provide this information.

Section 6.2.4 (pg 45) A tentative schedule could be set.

Section 6.2.5 (pg 45) Same as Section 6.2.4.

Section 6.2.5 (pg 46) MCB concurs.

Section 6.2.5 (pg 46) This information should be described in the Project Operation Plan versus the workplan.

Section 6.3 and Section 6.4 MCB does not think this proposed work can be conducted underneath a fixed price contract. If the ESE contract could be expanded, we may be able to perform the suggested work. DON should speak with EPA concerning the new clean contracts.

Section 6.4.3 MCB strongly concurs.

Section 6.5 Same as Section 6.3 and 6.4.

Section 6.5.4 MCB concurs.

Section 6.8 MCB concurs.

Section 6.9 Treatability studies were not considered as part of the SOW, and will have to be addressed in a pre design phase.

Section 6.10 Again, this was not originally identified in the SOW. This should be addressed under another contract as soon as the sampling data for these three sites is finalized.

Section 6.11 Same as Section 6.10.

Section 6.12 and Section 6.13 These tasks will be completed by June 1991.

- MCB concurs with the comments on the shallow aquifer, even though the schedule will be tentative. Our contractor is in the process of comparing DON's FSP with EPA Region IV's Operating Procedures and Quality Assurance Manual.

MEMORANDUM FOR THE INSTALLATION RESTORATION MANAGER, MARINE CORPS  
BASE

Subj: DRAFT COMMUNITY RELATIONS PLAN INPUT

Ref: (a) ESE Final Draft Comrel Plan dtd June 1990

Encl: (1) Newsclips

1. The reference was reviewed and the following changes/corrections are recommended:

a. Page 22: Under paragraph (3), change "The Globe is published daily and distributed at no cost to work areas..." to "The Globe is published weekly and distributed at no cost to housing areas..."

b. Appendix B: Add newsclips contained in the enclosure to historical clipping file.

c. Appendix D: Under the media list, add the following media;

(1) Newspaper-- Wilmington Morning Star, P.O. Box 840, Wilmington, N.C. 28402 (919) 343-2312; The News and Observer, 215 S. McDowell St., Raleigh, N.C. 27601 (919)829-4700.

(2) Television-- (local bureaus): WCTI CH-12, 305 Johnson Blvd, Jacksonville, N.C. 28540; WNCT TV-9, P.O. Box 898, Jacksonville, N.C. 28540.

(3) Radio-- WKOO, P.O. Drawer 1126, Jacksonville, N.C., 28540 (919) 455-5300; WXQR, 10 Hargett St., Jacksonville, N.C., 28540 (919) 347-6397.

c. Appendix F: under Camp Lejuene officials, change "Captain Ken White" to "Captain Scott Campbell."

d. Appendix J: delete Major General Herman Poggemeyer (Ret.) from listing.

  
For J. C. FERRAR

ENCLOSURE 

# Toxic waste sites are listed by EPA

By NASH HERNDON  
Staff Writer

A list of 167 possible hazardous waste sites, including more than 100 that were unknown to state authorities before a 1980 federal law required waste dumps to be reported, was released Monday by state health officials.

"The locations of these sites range from the mountains to the coast and include industrial plants, military facilities, municipal and county landfills and abandoned garbage dumps," Dr. Ron H. Levine, state health director, said at a news conference.

State and federal Environmental Protection Agency officials said they did not know whether there were health or environmental problems at any of the locations or how serious such problems could be.

The sites are in 49 of the state's 100 counties; six are in Wake.

O.W. Strickland, head of the solid and hazardous waste branch of the Department of Human Resources, estimated that authorities had been aware of "about 25 percent" of the sites before the list was compiled.

Levine said many sites may have been reported by mistake or may not contain hazardous materials, while others may pose no health or environmental threat. A preliminary review of the list, he said, showed "more than 50 such sites" fall into those categories.

He said state and federal inspectors would examine the locations

by next summer to determine whether they should be cleaned up or monitored.

"If we had any indication this morning (of a serious problem), we'd be out there instead of here," said R. Paul Wilms, environmental management assistant director of the N.C. Department of Natural Resources and Community Development.

"But with what we know right now, we don't have any information that gives us any undue concern," he said.

The list was turned over to the state this year, Levine said. It was compiled by the EPA in response to the federal Comprehensive Environmental Response, Compensation and Liability Act of 1980, which gave waste producers until last June to identify their potentially harmful waste dumps.

The law is commonly called the "superfund" because it created a \$1.6 billion fund to clean up toxic waste sites when liability is unknown or dubious. The fund is based on fees paid by chemical and oil companies.

Sites to be investigated first will be determined by the type and volume of waste, distance from populated areas and possibility of fire or other hazards, Levine said.

EPA inspectors will investigate the 27 military waste sites on the list and any sites the state requests. N.C. Department of Human Resources and Natural Resources inspectors will examine the others.

The state had been aware of only three of six Wake County sites before receiving the list, state officials said in interviews. The new locations are:

- An unknown quantity of unknown substances buried by Burlington Industries at its Wake Finishing Plant on U.S. 1 North between 1967 and 1970. A Burlington spokesman in Greensboro said in a telephone interview that the substances apparently were used in textile dyeing and finishing.

- About 40,000 gallons of various solvents and other chemicals at the Mallinckrodt plant on U.S. 1 North produced between 1967 and 1973 and buried on three acres at the plant.

- A small quantity, about 10 cubic feet, of sodium cyanide salts, sodium carbonate and calcium carbonate at East Carolina Heat Treat Service on South Saunders Street. The chemicals were used to treat metal and were dumped on the property, according to EPA records.

The plant has stopped dumping the materials, and groundwater monitoring in the area has shown no contamination, EPA records show.

The other sites in Wake are pentachlorophenol in sediment at Koppers Co. Inc. on N.C. 54 near Morrisville, about 15,000 cubic feet of various chemicals stored between 1972 and 1975 at the Cooper Industries' Lufkin Plant near

The following clipping appeared in the

Palliegh, N.C.

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From

Dated

Page

# EPA lists toxic waste sites; officials unsure of hazards

Continued from page 1C

Apex, and about 300,000 cubic feet of research chemicals from N.C. State University buried near Carter-Finley Stadium.

The list does not include PCBs illegally dumped along 210 miles of highways in more than a dozen counties in 1978. The spill is the only North Carolina waste problem previously identified in a national list of more than 100 hazardous waste problems targeted for cleanup under the superfund.

Here are the North Carolina sites released by state officials Monday where hazardous wastes might be located. The list includes the county in which the site is located, the site and chemical.

**Albemarle** — Cone Mills Corp., Granite Finishing Plant, Haw River, chemical unknown.

**Beaufort** — County landfill, Washington, listed for two sites, sludge and pesticide containers; Texasgulf landfill, Aurora, pesticide containers.

**Bertie** — Weyerhaeuser Co., Lewiston, pentachlorophenol.

**Brunswick** — Kerr-McGee Chemical Corp., Navassa, wood treatment sludge; E.I. DuPont-Cape Fear Plant, Phoenix, carbon tetrachloride, chloroform.

**Buncombe** — County landfill, Asheville, unknown; Grove Stone Landfill, Black Mountain, unknown; Fairview Landfill, Fairview, chemical unknown; Elk Mountain Landfill, Asheville, chemical unknown; Fishburne Landfill, Fletcher, chemical unknown; Swannanoa Landfill, Swannanoa, chemical unknown; American Enka Corp., Enka, fly ash, acid yarn residue; Sayles-Biltmore Bleacheries, Asheville, power plant cinders; Pond Road Landfill, Asheville, chemical unknown; Pathologists Medical Laboratory, Asheville, blood and urine; Hornum Creek Landfill, Asheville, chemical unknown; Amcel Propulsion Inc., Swannanoa, various chemical residues.

**Cabarrus** — Harrisburg Battery, Concord, sulfuric acid.

**Caldwell** — County Landfill, Lenoir, two sources for spray sludge; City Solid Waste Burial Site, Lenoir, spray sludge.

**Catawba** — Style Upholstering Inc., Hickory, solvent and empty paint cans; Lackawanna Leather Co., Conover, toluene, methyl ethyl ketone.

**Chatham** — Southern Wood Piedmont, Gulf, possible crobato, pentachlorophenol, copper arsenic arsenic sludges; Allied Corp., Moncure, numerous laboratory chemicals; Weyerhaeuser, Pinehurst, massive waste oil; Chatham Nuvelina Co., Siler City, numerous solvents.

**Calumias** — Kaiser Acme Farmmarket, Riegelwood, numerous pesticides; USS Agri-Chemicals Farm Service Center, Whitville, fertilizer residue, LCP Chemicals, Riegelwood, two sites for sodium chloride, activated carbon, silicon dioxide, mercury and caustic materials.

**Cumberland** — Monsanto Co., Fayetteville, two sites for arsenic, heavy metals and chrome.

**Davison** — Fuller Tool Co., Galear Division, Lexington, electroplating sludges; Municipal Landfill, Lexington, nitro-based sludges; Southern Rust, Thomasville, formaldehyde; Burlington Furniture Lumber Plant, 191, Lexington, various acetate and other chemicals.

**Durham** — IBM Research Triangle Park, 1,1,1-trichloroethane; Monsanto, Research Triangle Park, two sites.

**cel unknown; Mitchell Engineering Co., Rocky Mount, paint and paint sludge.**

**Forsyth** — Beaulit Corp., Winston-Salem, organics; Johnson Controls-Globe-Union, Winston-Salem, two sites, lead oxide and sulfuric acid; Douglas Battery Manufacturing Co., Winston-Salem, two sites, acids, heavy metals, sludge; Chem-Dyne Corp., Kernersville, three sites, solvents.

**Gaston** — Lithium Corp. of America, Bessemer City, spodumén.

**Graham** — County landfill, Robbinsville, various sludges and polyvinyl acetate; Burlington Furniture, Robbinsville, sludges.

**Guilford** — Seaboard Chemical Co., Jamestown, four sites, various solvents; Cone Mills Corp., Greensboro, chemical unknown; Custom Finishers Inc., High Point, lacquers; Dow Corning Corp., Greensboro, PCB; City landfill, Greensboro, two sites, sulfuric acid, ethyl ether, ethanol, Vicks Nyquil; Hoover Universal Inc., High Point, solvents; Unirex Chemical, Greensboro, solvents; E.H. Glass County Landfill, Greensboro, Nyquil; City Landfill, High Point, listed for three sources, Nyquil, polyethylene plastic pellets, urea, solid latex paint, American Petrofina MKTG, Greensboro, gasoline, diesel fuel; Private farm, Route 1, Stokesdale, ethyl ether, ethanol; Gulf Oil Chemical, McCleensville, nitrates, nitric acid and other chemicals; Duke Refining Co., High Point, chemical unknown; Monarch Furniture-Thaden Molding, Jamestown, sludge, cyanide, various metals.

**Halifax** — Helena Chemical Co., Enfield, pesticides.

**Henderson** — County landfill, Hendersonville, two sites, water-based paint; General Electric Co., Hendersonville, two sites, various metals; Carolina Los Buildings Inc., Fletcher, pentachlorophenol; Berkeley Mills-Kimberly Clark Corp., Balfour, solvents, halogenated chlorides.

**Hertford** — Carolina Aluminum, Winton, various metals.

**Iredell** — Beaulit Corp., Statesville, organics; Overcash Machine Shop Inc., Statesville, no hazardous wastes; Southern Screw Co., Statesville, various metals, lime.

**Johnston** — Union Camp Corp., saw mill, Smithfield, mercury; American Petrofina MKTG terminal, Selma, gasoline, diesel fuel, lead.

**Lee** — County landfill, Sanford, sludge.

**Lenoir** — Du Pont Textiles Fiber Plant, Kinston, oil, solvents, acids and caustics.

**Martin** — Beaulit Corp., Hamilton, organics.

**McDowell** — Travenol Laboratories Inc., Marion, pyridine and nitrobenzene; American Thread Co., Marion, oils and dyes.

**Mecklenburg** — Swift Adhesives & Coatings, Charlotte, chemical unknown; Sinclair & Valentine Co., Charlotte, ink solvents; Crown Central Petroleum Corp., Thrift, petroleum; Koppers Co., Paw Creek, asphalt; Martin Marietta Corp., Charlotte, organics, acids; Lee Budd Paving Co., Charlotte, asphalt; Celanese Corp., Fibers Technical Center, Charlotte, acetone, methylene chloride; city landfill, Charlotte, two sites, numerous chemicals; SCM Corp., Charlotte, vinyl acetate; Beaulit Corp., Charlotte, organics; American Petrofina MKTG terminal, Charlotte, gasoline, diesel fuel, lead; Onlmar Co., Charlotte, 1,1,1-trichloroethane, methylene chloride.

**Moore** — Stanley Case Goods, West End, solvents; Carolina Galvanizing Corp., Aberdeen, calcium hydroxide sludge, metals.

**Nash** — County landfill, Spring Hope, methyl iso-butyl-ketone; Unican Security Systems, Rocky Mount, pickle sludge.

**New Hanover** — County landfill, two sites, DMT; abandoned Dow Chemical Plant, ethyl bromide, from 22, tetrahydrofuran, Mercolline, Wilmington, two sites, organics, metals, acids, lime; Basic Industries Plant, Castle Hayne, brick; Southern Wood Piedmont Co., Wilmington, crobato, pentachlorophenol, copper arsenic arsenic sludges; Esbeck General Chemical Corp., Wilmington, paper wastes; Carolina Product Corp., Wilmington, paint drums, solvent and city landfills, Cornum, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.

**luene, xylene; Diamond Shamrock, Castle Hayne, chrome sludge; Northeast Chemical Co., Cape Fear Township, vanadium pentoxide; Castle Hayne Quarry, Castle Hayne, chrome.**

**Orange** — University of North Carolina, Chapel Hill, two sites, numerous lab wastes, pesticides, heavy metals, PCBs; General Electric Co., Mebane, zinc, chromate and phosphates.

**Person** — Eaton Corp., Roxboro, acids, caustic soda, metals.

**Pitt** — David Starling property, Farmville, lead, mercury, chrome; Unnamed site on N.C. 11 near Ayden, pesticides; County landfill, Greenville, two sites, chemical plant fire residues, heavy metals; City landfill, Greenville, heavy metals; City Utility Dept., Greenville, heavy metals.

**Randolph** — High Point Furniture Industries Inc., High Point, solvents; Municipal landfill, Asheboro, heavy metals.

**Richmond** — County landfill, Rockingham, wood, dirt, cardboard.

**Rowan** — Owens-Illinois, Spencer, metals; County landfill, Salisbury, asbestos, lead; Proctor Chemical Co., Salisbury, textile wastes.

**Sampson** — Beaulit Corp., Clinton, organics.

**Scotland** — REA Magnet Wire Co., Laurinburg, enamels, copper; Helena Chemical Co., Laurinburg, pesticides.

**Stant** — Cains Solite Corp., Aquadale, Norwood, recycled solvents.

**Stokes** — R.J. Reynolds Tobacco Co., oil, dissolved lead, metals.

**Swain** — County landfill, Bryson City, sludge.

**Transylvania** — Olin Corp., Pisgah Forest, fly ash, paper; Du Pont, Brevard, cadmium chloride, hydrofluoric acid.

**Union** — Eaton Corp., Monroe, cardboard; County landfill, Monroe, sludge.

**Wake** — Koppers Co., Morrisville, pentachlorophenol; Mallinckrodt, Raleigh, solvents, acids and bases; East Carolina Heat Treat Service, Raleigh, sodium cyanide salts, sodium and calcium carbonate; Burlington Industries, Wake Finishing Plant, chemical unknown; Cooper Industries, Lufkin Plant, Apex, various chemicals, metals; N.C. State University, lab chemicals.

**Wayne** — Liveness Electric Co., Goldsboro, chlorinated hydrocarbons, arsenic; County landfill, Goldsboro, ashall, lime, fiberglass.

**Wilkes** — Radiation Physics Consultants, Purlear, toluene; County landfill, Ronda, urea formaldehyde, polyvinyl acetate, Burlington Furniture Home Chair Plant, Ronda, paint sludge.

**Military sites** — Wastes were unspecified, but generally include explosive materials, officials said. There are 12 sites in Craven County at Marine Corps Air Station, Cherry Point, two sites in Cumberland County at Fort Bragg and Pope Air Force Base, 12 sites in Onslow County at Marine Corps Base, Camp Lejeune and Marine Corps Air Station, New River, Jacksonville, and a site at abandoned Dow Chemical Plant in New Hanover.

# Area has its share of hazardous dumps

From staff and wire reports

Columbus, Brunswick and New Hanover counties are among those in North Carolina where potentially hazardous waste dumps exist, federal and state environmental agencies reported Monday.

Four sites in Columbus, two in Brunswick, 12 in New Hanover, 12 in Onslow and one in Sampson are among 167 scattered through half the counties of North Carolina and listed as potentially hazardous.

New Hanover County had the third largest number of sites listed, including the former landfill at Flemington.

Only Guilford County — which includes Greensboro and High Point — with 14 sites and Mecklenburg County — including Charlotte — with 13 had more sites listed. Wake County and Raleigh had only six sites listed.

Some of the listings may be duplications because they came from multiple sources.

In Columbus County, three of the listed sites were at Riegelwood: Kaiser Acme Farmmarket, LCP Chemicals Acme Plant and LCP Chemicals. The fourth site listed was the USS Agri-Chemicals Farm Service Center in Whiteville.

In Brunswick County, the sites listed were Du Pont's Cape Fear Plant at Phoenix and Kerr-McGee Chemical Corp. at Navassa.

New Hanover's sites include: county landfill, Flemington, listed twice; abandoned Dow Chemical Plant, Cape Fear Peninsula; Hercofina, Hanover Plant, Wilmington, listed for two sources; Ideal Basic Industries Plant, Castle Hayne; Southern Wood Piedmont Co., Wilmington; Estech General Chemical Corp., Wilmington; Container Products Corp., Wilmington; county and city landfills, Carolina Beach; Corning Glass Works, Wilmington; Diamond Shamrock, Castle Hayne; Northeast Chemical Co., Cape Fear Township; and Castle Hayne Quarry, Castle Hayne.

Others in the region included Beaufit Corp.'s Clinton spinning and dyeing plant, in Sampson County, and 12 sites at Marine Corps installations in Onslow County.

The sites include dumping grounds for industrial plants and military bases, abandoned garbage dumps and city and county landfills still in use.

New Hanover County Commissioner Claud O'Shields Jr. heads a state commission studying hazardous waste handling. He said Mon-

day the former landfill at Flemington is the only site that could be considered a serious problem. "Fifty percent of them contain absolutely nothing," O'Shields contended.

The Flemington landfill operated under a county franchise from 1973 to 1979.

The U.S. Environmental Protection Agency has blamed the landfill — and possible illicit deposits of industrial waste there — for polluting the wells of nearby residents. An EPA suit against the county and the landfill's owners and former operators is still pending in U.S. District Court.

Other locations listed included ammunition dumps and other sites at the state's largest military bases. In addition to the 11 sites at Camp Lejeune and one at New River Marine Corps Air Station, Jacksonville, the list includes Fort Bragg and Pope Air Force Base in Cumberland County and 12 sites at Cherry Point Marine Corps Air Station in Craven County.

EPA listed the sites as a result of a 1960 federal law which requires anyone with knowledge of past hazardous waste dumping to notify the government. Some of the sites date back as far as 1930.

Dr. Ron Levine, state health director, said many of the sites — more than 50 — "either don't contain hazardous wastes, were reported by mistake or are little or no threat to public health or the environment." In addition, several of the sites appear on the list several times for different problems.

But at some other sites, state officials say they don't know what kind of chemicals or other wastes have been dumped, how much has been dumped or whether the wastes threaten local water supplies.

"There are some sites on the list . . . that we either were not aware of or know little about," said Levine. "Some of these, we believe, will have to be monitored to determine if they are a potential environmental threat, and others may have to be

Please see DUMPS, 5A

# Dump

Continued from 1A

cleaned up. These sites are our main concern."

Levine, other state officials and EPA officials who released the list said about only about one-quarter of the sites had been known to them before they were reported.

State and federal officials declined to single out any of the sites as posing particular dangers and said they would begin immediately with on-site inspections to determine which needed the most attention.

Among those listed were sites:

- In Swannanoa in Buncombe County. Amcel Propulsion Inc. reported using an open pit to dispose of residue from military explosives

and tear gas, and the state listed the dump as having "significant" impact on groundwater.

- In Thomasville. A company, Southern Resins, reported that the previous owner of its property buried 10,000 to 20,000 pounds of resins containing formaldehyde between 1960 and 1964.

- At three landfills in Greensboro and High Point. Richards-Vicks Inc. was listed as disposing of 15,100 gallons of Vicks Nyquil and Vicks nose drops in small containers. They are 24 percent to 36 percent alcohol and "could be considered flammable," the state said.

- In Charlotte. A Martin Marietta Corp. plant reported earlier disposal of acids. The state said it has "significantly contaminated" groundwater and the company has begun a water monitoring program.

- In Smithfield. Umon Camp Corp. reported its property may

have been contaminated by mercury under the previous owner, between 1963 and 1968.

Officials in Raleigh said none of the sites is thought to be dangerously close to homes.

"If we had any information this morning that led us to believe any was an imminent hazard, we would be out there this morning rather than here," said R. Paul Wilms, assistant director of the state Division of Environmental Management. "We don't have any information right now that gives us undue concern about a threat to public health."

Wayne Mathis, chief of site-screening and engineering for the EPA's Atlanta regional office, said the agency invited reports from anyone with knowledge of dumping and that as a result, some of those listed were only "allegations" of hazardous sites.

# Private group lists 22 worst groundwater pollution sites

By TOM MATHER  
*Staff Writer*

The 22 worst sources of groundwater pollution in North Carolina were listed in a report released Tuesday by a private environmental group.

The report by the Clean Water Fund of North Carolina concludes that state and federal agencies have not done enough to clean up groundwater even though about half of the state's residents get drinking water from wells.

"I don't think groundwater has ever been high on anybody's list," said Joseph T. "Chip" Hughes Jr., a researcher with the environmental group and the author of the report. "That's why we're trying to draw attention to it."

"There is a lot of tracking of the problems and a little monitoring, but very little cleaning up."

Three sites are in Wake County: an abandoned landfill at N.C. State University, Schrader Bellows, a valve-manufacturing plant near U.S. 1 and N.C. 98 in Wake Forest, and a tract owned by Bahlsen Inc., formerly known as Austin Foods Co., in downtown Cary.

The other sites are in 17 counties, and all had pollutants at levels more than 1,000 times higher than allowed, the report said.

"We'd like to see real enforcement happen at all of these contaminated sites," Mr. Hughes said.

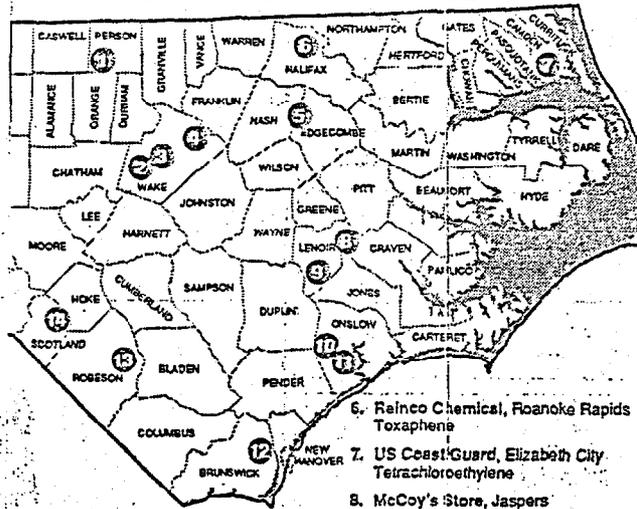
State officials, responding to the report, acknowledged that they had been slow to clean up groundwater but said they had acted quickly to prevent people from drinking contaminated water.

"The report gives the impression that a lot of people continue to drink that contaminated water, and they're not," said Debbie K. Crane, a spokesman for the state Division of Environmental Management.

The state identifies problems, he said, it provides bottled water to affected residents. And, in some cases, nearby cities have extended water lines to areas with polluted wells.

## Groundwater contamination in eastern North Carolina

All with contamination levels at least 1,000 times state standards



1. Otha Day residence, Roxboro Benzene
2. Bahlsen Inc., Cary 1,2 Dichloroethane
3. NCSU, Raleigh Benzene
4. Schrader Bellows, Wake Forest Trichloroethylene
5. Iico Unizan, Rocky Mount Methylene Chloride Schlage Lock, Rocky Mount Trichloroethylene
6. Reinco Chemical, Roanoke Rapids Toxaphene
7. US Coast Guard, Elizabeth City Tetrachloroethylene
8. McCoy's Store, Jaspers Benzene
9. Borden Chemical, Kinston Toxaphene
10. ABC 1 Hour Cleaners, Jacksonville Tetrachloroethylene
11. Hadnot Point Tanks, Camp Lejeune Benzene
12. Potter's Pits, Maco Benzene
13. C. Shipmen, St. Pauls Benzene
14. Colonial Freight, Laurinburg Benzene

Source: Clean Water Fund of N.C.

"Admittedly the cleanup process is slow, but people aren't drinking the water at that point," she said. "We have a lot of people that are on alternative water supplies."

The Clean Water Fund's list was drawn from the study of 84 confirmed groundwater pollution cases ranked as high priorities for government cleanup. The group's report charges the following:

1. No cleanup has taken place at any of the 84 sites.

2. No fines, penalties or enforcement actions were taken at 59, or 70 percent, of the sites.

3. One-third of the pollution sources were hazardous waste

4. Drinking water wells are within three miles of 75, or 88 percent, of the sites, and thousands of nearby residents have ingested varying levels of toxic chemicals.

Cleanup measures have been hampered by lack of money, insufficient staffing and difficulties in tracing the sources of pollution, Ms. Crane said.

"You have to find the responsible party in order to do the cleanup," Ms. Crane said. "It's usually not real clear-cut."

Nevertheless, she said, the state's enforcement of groundwater pollution laws should improve in the near future. The state recently adopted stricter groundwater laws and plans to hire 50

Another state official said cleanups were not necessarily the best way to handle the contamination because of high costs, problems with disposing of the pollutants and other potential problems.

"If the contamination is static, and there is no evidence to suggest that it will move and cause harm to the public health or the environment, it makes sense just to leave it alone," said Stephen T. Reid, spokesman for the state Solid Waste Management Division.

Much of the pollution documented in the report came from landfills, septic tanks, leaking underground storage tanks and hazardous-waste dumps, the Clean Water Fund said.

The NCSU landfill, a 1.5-acre site between Carter-Finley stadium and Interstate 40, contains hazardous and radioactive wastes that were buried in unlined trenches between 1969 and the early 1980s. The pollutants included benzene, a cancer-causing compound found at levels that were 123,000 times the state standard of 1 part per billion.

Dr. Charles W. Welby, an NCSU professor and groundwater expert, said the university had installed more than 30 wells to monitor the landfill. The contamination has spread very little and does not threaten drinking water supplies, streams or lakes, he said.

"The hazard we have out there is really very small," said Dr. Welby, a professor of marine, earth and atmospheric sciences. "This thing is geologically isolated from anything it is likely to impact."

The U.S. Environmental Protection Agency has identified the landfill as a "Superfund" site, meaning that it qualifies for federal cleanup money.

"We aren't to a point yet where EPA has approved a cleanup plan," he said. "Don't ask me why we aren't. When we get to that point, then EPA will say, 'Go clean it up.'"

In 1983, a 70-gallon spill of trichloroethylene, a toxic element, contaminated the Schrader Bellows site in Wake Forest, the report said. Sampling studies of groundwater there have found trichloroethylene levels as high as 24,673 parts per billion -- more than 12,000 times the state standard.

Contamination at the Bellows site in Cary apparently was caused when the agricultural chemical company W.R. Grace owned the site, the report said. Groundwater testing there has found contamination from lead, Xylene, dichloroethane and other pollutants -- some at levels more than 3,000 times state standards.

City: Raleigh, NC  
Pub: News & Observer  
Date: Wednesday, 13 Sep 89  
Pages: 1C & 2C

### Water—

Continued from Page 1A

No contamination was found at three of the sites; two sites yielded no contamination by fuel, but lead compounds were present. Two more sites were identified

as having traces of the chemical DDT. At 15 sites, contamination was verified.

"Even then, none of the contamination found was above the limit described as acceptable by the EPA," said B. W. Elston, deputy assistant chief-of-staff, facilities,

MCB. "We closed eight wells in the Hadnot Point Industrial Area and two in the Tarawa Terrace area as a precautionary measure and still had an adequate water supply."

"We shut down some wells that were not near the EPA limit," said Elizabeth Betz, base chemical engineer. "Then we started looking at what caused that contamination."

The testing and remedial action to clean up the sites was done as part of the Installation Restoration Program (IRP), the Department of Defense's program to identify, assess and clean up old hazardous waste sites.

The IRP consists of three phases. Phase I is a preliminary assessment and on-site inspection to identify possible contamination. Phase II is designed to determine how bad contamination is and what caused it. Phase III consists of developing the right technology and conducting the actual clean-up of hazardous sites.

The eight wells in the Hadnot Point Industrial Area were found in the 1984 sampling to be contaminated by volatile organic compounds (VOCs), mainly benzene and trichloroethylene.

"These are petroleum-based chemicals that evaporate rapidly in open air, and most come from man-made solvents," Betz said. "You'd have to look at each VOC individually, but many of them are carcinogens. That's the main reason we immediately shut the wells down, although the levels we found in the tests were not near the EPA limit."

The contamination was caused by long-term spillage and dumping in the Industrial Area.

"Past practices were not regulated and

most of the chemicals we found were solvents used to clean vehicles and machinery," Betz said.

The two wells in Tarawa Terrace were shut down as a result of contamination by tetrachloral ethylene, a compound commonly used in the dry-cleaning business.

"We were puzzled when that chemical showed up. At first, we couldn't figure out how it had gotten into the Tarawa Terrace system," Betz said. "Then we looked across Highway 24. There was a dry-cleaning business right across the road from the housing area."

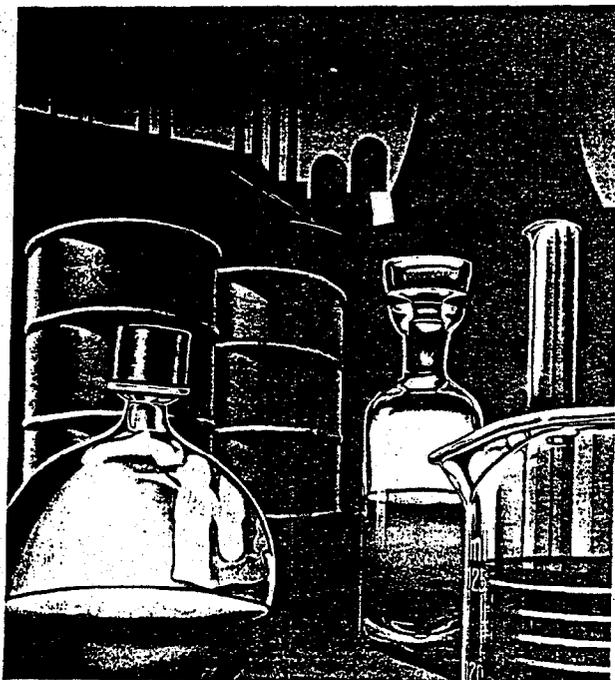
The contaminant had come from the dry cleaners originally suspected. Base officials immediately took action to pump safe drinking water to the housing area.

"We laid a temporary water line to Tarawa Terrace immediately upon closing the wells there," Elston said. "Since then, we have added a permanent line from our Holcomb Boulevard water treatment plant to Tarawa Terrace. That line also serves Camp Johnson."

With the identification of contaminated sites and immediate action to protect the drinking water supply, base officials then turned to the task of measuring contamination, studying alternatives and forming plans for cleaning up the hazards.

"Once you have identified where the potential for a threat is, you start taking action to correct it," Betz said. "You cannot leave a contaminant in the ground-water."

*NEXT: Present plans and actions*



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# Hazardous waste training held

Story and photos by  
Cpl. C.M. Abercrombie

Camp Lejeune is placing the responsibility of protecting its environment on the shoulders of the individual Marine.

Recently, more than 300 Marines were instructed on the proper procedures to follow when dealing with hazardous materials and disposing of hazardous waste. The four-course series of instruction was taught by Phillip G. Coop, vice-president of Tennessee-based Environmental Safety and Designs, Inc.

The course taught Marines, as well as civilian workers on base, the laws and regulations of waste disposal.

Handling hazardous materials is not a matter to be taken lightly. Under current guidelines set forth by the Environmental Protection Agency, unit commanders and individuals within the unit can be held liable for improper storage, handling and disposal of these materials.

The laws and guidelines were established to protect our environment. We also want to teach the handlers how to do their job safely," Coop said.

The course consisted of four separate classes.

To be sure the information is supplied to everyone who needs it, we have to cover a wide spectrum of people, from the private or lance corporal actually han-

dlers who make the policies within the unit," Coop said. "The first two days of the course are mainly for the hazardous material handlers. The third day is refresher training for the Hazardous Material Disposal Officers. The fourth class is for the unit commanders."

Class one is initial training for the Marines who handle and dispose of the waste or materials.

The second class is also for the handlers of hazardous materials and goes

into detail on regulations and how to dispose of, label, and store hazardous materials properly.

"These Marines need to know how to work with the materials safely, and to do so in a way the law demands," Coop said.

The third course is a refresher course for those who have already received initial training and covers new laws and regulations, as well as pending legislation.

The final class is the executive session. Commanders and unit leaders are given

an overview of the other three classes so they can ensure their units follow the proper guidelines.

Cpl. Janis Anderson of 8th Comm. Bn. S-4 attended the first two classes after being appointed the battalion Hazardous Materials NCO. Anderson now has the job of ensuring all hazardous materials from her unit are disposed of correctly and safely.

"The course covered much more material than I expected," Anderson said. "I had to pay very close attention to make sure I didn't miss anything. The classes were informative, but there are a couple of things the Marine Corps and each unit need to address."

One problem we have in the Marine Corps is personnel turnover. Turnover is sometimes so fast, the qualified Marines are gone before new people can be trained. We need more continuous training, and a hazardous materials MOS would be a great idea, according to Coop.

"The Marine Corps seems to be on the right track with the training," Coop said.

"Protecting the environment is everyone's responsibility," he said. "We feel getting the correct information to as many people as possible is a good place to start. Federal regulations serve a purpose. If everyone would follow them, we could make a lot of progress towards improving our environment safely."



THE RIGHT WAY—Cpl. Janis Anderson, H&S Co., 8th Comm. Bn. explains to Lance Cpl. Douglas M... that the container must be labeled correctly.



**IN ITS PLACE**— The Hazardous Waste Compound at 8th Comm. Bn. Motor Transport Shop is as it should be. All of the waste and materials are properly stored and labeled.

## Camp Lejeune cleans up its act

Story and photo by  
Cpl. C. M. Abercrombie

Camp Lejeune is like any other military base in the United States.

"Camp Lejeune is basically a big city. We use a large quantity of hazardous materials; therefore, we produce a substantial amount of hazardous waste," said Sammy Gwynn, Environmental Control Specialist for Camp Lejeune. The label Hazardous Materials covers a wide variety of substances, from dental resin to trichloroethane.

The Environmental Protection Agency conducts annual inspections of Camp Lejeune. Each year, the same discrepancies are found.

"The EPA issues a copy of their findings to this department. Using these records I can pinpoint the areas we most often get hit on," Gwynn said.

Some of the most common problems at this base are paperwork related.

"Training records, manifests and storage labels improperly filled out are the things they usually find," Gwynn said.

Each unit has a Hazardous Materials Disposal Officer, but the responsibility actually lies with the individual Marine.

"If each Marine would adhere to the guidelines we provide for them these problems would be a thing of the past," Gwynn said.

"The handlers are the key," he continued. "If the person on the job site takes the job seriously, it would prevent a lot of headaches later on."

The Marine Corps, along with the Natural Resources and Environmental Affairs Department, have developed several programs to make the hazardous materials and waste program as efficient as possible.

Last year a program was initiated to supply the

Marines on the job, as well as their unit leaders, with accurate information on the proper handling and storage of hazardous materials and waste.

"I feel this is the most important step we have made," Gwynn said. "Using the training courses we can give accurate information to everyone from the Private at the ramp to his commanding officer who makes the units policies."

NREAD in coordination with the base fire department have developed a spill response system to cover any emergency.

"The Spill Response Program is crucial," Gwynn said. "Through proper training we can give the firemen at the site the information and equipment to effectively control any hazardous spill we may encounter at Camp Lejeune."

The Oil Waste Program can save the Marine Corps an enormous amount of money. This system of recycling also makes monitoring of oil waste much simpler.

"This program enables us to recycle used oil for three or four cents a gallon. If we had to buy this oil from outside sources it may cost as much as four or five dollars a gallon," Gwynn explained. "With the oil put back into the system to be recycled we know where it is, and the disposal process is eliminated."

Despite all of the progress made here during the past year or two there is still some work to do. As with any education program in the Marine Corps, personnel turnover is still a problem.

"Each unit needs to make sure the knowledge is first obtained, then ensure the information is passed on to the next man," Gwynn stated.

The source to obtain the know how has been supplied. Now it is up to the individual Marine to see the mission is completed and the information passed on to those who relieve him.

# Measures taken to prevent future water contamination

**EDITOR'S NOTE:** This is the final part in a series about the drinking water in the Camp Lejeune/MCAS New River system, and focuses on the base's future plans and concerns.

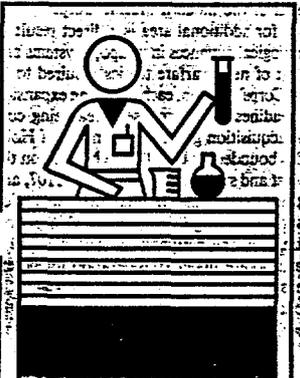
By Cpl. Dave Mundy

As base officials embark on a cleanup of old waste sites that have threatened the water supply, the institution of programs to effectively manage hazardous wastes is slated to prevent future contamination of ground water in the Camp Lejeune/MCAS New River area.

"Most of the problems we are dealing with stem from years ago, when solvents and fuels were used all over the place and routinely dumped," said B. W. Elston, assistant chief of staff, facilities, MCB. "Over the years, it built up. But now we have a very intensive hazardous waste/hazardous material program."

Regular inspections of all sites where hazardous materials and wastes are used or stored is at the heart of the base's management program.

"We inspect units and work sites on a regular basis," Elston said. "Fleet Marine Force, Atlantic and Headquarters Marine Corps also inspect, plus we are inspected by the state and the federal Environmental Protection Agency. Very few municipalities, I'd say, are inspected as often or as thoroughly as our public



works are. Violations are reported promptly and corrected immediately."

The inspections, rules and regulations regarding the handling and storage of hazardous materials all make for a lot of paperwork.

"It is time-consuming and, technologically and logistically, very difficult," Elston admitted. "It's frustrating to everyone involved, because those units have another mission: training their Marines for combat. But it's necessary to ensure that the environment is maintained and public health is protected."

The management goes beyond mere inspections. The base recently sponsored a week-long training program for Marines involved with the handling and storage of hazardous materials and wastes, and included briefings about state and federal regulations and procedures. One session of the course was set aside for unit commanders as well.

"It's important for unit commanders to be aware of their responsibilities," Elston noted. "They can be held personally responsible for the hazardous waste disposal practices of their units."

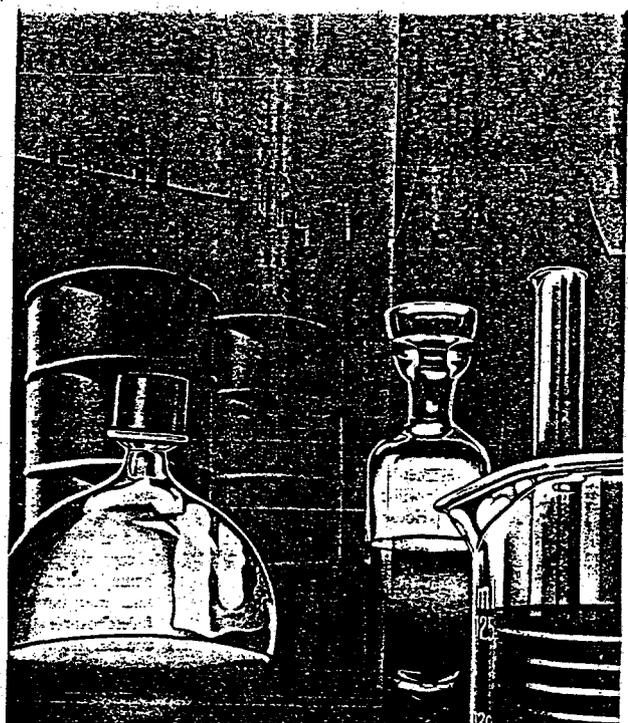
Even as the base stands guard against future contamination, the cleanup of old hazardous waste sites will soon begin.

The base will soon have a Federal Facilities Agreement to outline the coordination between the base, state and federal agencies in the cleanup effort, which is Phase III of the Installation Restoration Program.

Camp Lejeune is awaiting the release of the EPA's National Priorities Listing, which is that agency's ranking of the nation's most threatening hazardous waste sites. A listing on the NPL will qualify the base for Federal funds in the cleanup efforts.

Part of the cleanup process is already underway. In the Hadnot Point Industrial Area, for example, monitoring of wells known to be contaminated is continuing, as well as testing of soil gases and air monitoring in six underground workspaces.

In addition to cleaning up the sites where contaminants are known to have



The U. S. Geological Survey is doing a study right now, mapping how contamination might move through the groundwater in our soil," Elston said. "If we know the nature, type and consistency of the soil and how the groundwater moves within it, we can predict where contaminants might move and then take preventive action."

But, whatever the cleanup method used, the process will be lengthy and costly.

Initially, we hope to have funding from DERA," Elston said. "Thereafter, we'll be using our own funds. I don't know how long it will take, but it will be very, very expensive."

While the cleanup process will eliminate mistakes of the past, it remains the concern of Marines aboard Camp Lejeune and MCAS New River to avoid future mishaps.

"The best way to avoid future contamination is to have good house-keeping in maintenance areas," said Elizabeth Betz, base chemist. "If someone is sloppy, it will get into the system."

"We always take measures to go at least a step beyond what is required by law and to ensure that we do not provide water that is unsafe for those using it."

The commanding general will not accept anything less. B. W. Elston said that we don't provide water that is unsafe for those using it," Elston said. "The commanding general will not accept anything less."

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**NOW OPEN**

## Environmental study kicks-off

A team of experts contracted by the Navy is conducting an extensive environmental study at Camp Lejeune and MCAS, New River. The study, which began in May, will assess pollution control operations and soil and ground water quality at 21 sites throughout Camp Lejeune and New River.

Environmental engineers and scientists from the consulting firm of Environmental Science and Engineering, Inc. of Gainesville, Fla., will spend approximately six weeks drilling wells and collecting water, soil and sediment samples to determine if hazardous materials exist and/or have the potential to contaminate the environment upon the base.

Colonel M. G. Lilley, assistant chief of staff, facilities, stated, "While contractor personnel will routinely wear personal protective equipment such as chemical resistant coveralls, we do not expect to expose anyone to any contaminants."

The results of the survey are due in August 1984. If any contaminants are discovered, a review of alternatives will determine action necessary to meet health and environmental standards.

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# Camp Lejeune water testing underway

13 Dec 84

## Globe Staff Report

Environmental officials here are taking precautionary measures to ensure drinking water is free from possible contamination.

AS A RESULT of water samples taken Dec. 3, four wells in the Hadnot Point industrial area were found to contain some traces of organic compounds. According to Base Environmental Engineer Bob Alexander, four of 35 wells serving the Hadnot Point water treatment plant were shut down and additional test samples ordered.

None of the organic compounds noted in the test samples are listed in the regulations under the Safe Drinking Water Act. Testing is being conducted as part of a basewide confirmation study which is currently underway to verify whether any groundwater contamination exists and to identify abatement measures.

The closing of the four wells has not affected the ability of the Hadnot Point water treatment plant to produce potable water. Alexander added that daily water samples are being taken from the water treatment plant to en-

sure drinking water remains within prescribed federal and state guidelines established by the Safe Drinking Water Act.

A DETAILED SAMPLING effort of the entire Hadnot Point water system will be completed in the coming months to pinpoint any wells which might contain organic compounds. If necessary, an abatement plan will be prepared for approval by the North Carolina Division of Health Services.

The Hadnot Point water treatment plant has the capacity to produce five million gallons of potable water per

day. It serves the Hadnot Point industrial area, French Creek and Hospital Point. Alexander emphasized that every effort will be made to maintain the excellent quality water supply traditionally provided to residents of Camp Lejeune.

Gerald Dixon, North Carolina Alcohol Law Enforcement Division agent, recently returned the stolen Private First Class Tony Danahy's Commemorative 2d Force Service Support Group jacket to a sergeant in Wilmington. The jacket was returned with \$140 still in it.

Memorandum

DEPARTMENT OF THE NAVY

# Marines: Troops not in waste site

*The battalion surgeon determined the Marine was dehydrated and suffering from an upper respiratory infection unrelated to any chemical contamination.*

By Jack Murphy  
Star-News Correspondent

JACKSONVILLE — A Marine who became ill during a training exercise last month was suffering from a respiratory infection and had not been in a hazardous waste site at Camp Lejeune, base officials said this weekend after a barrage of inquiries.

Capt. Scott Campbell, a base spokesman, said word that a Marine had gotten sick apparently contributed to the concern of family members and contributed to rumors that a platoon of Marines had entered the hazardous waste site on the base.

He said the mother of one of the Marines, who lives in the Chicago area, called a radio station there, which led to some news media inquiries.

Base officials said that about 37 Marines from a platoon in "K" Company, 3rd Battalion, 8th Marines were involved in a training exercise on the night of April 26 until about 5 a.m. April 27, maneuvering through an area at Lejeune's Stone Bay Rifle Range.

The platoon commander moved his troops west toward a creek to avoid a hazardous waste site east of the platoon's position.

Campbell said the platoon followed the creek for about 200 meters, at times wading waist and chest deep, until it could no longer proceed. The platoon retraced its steps to the point it entered the creek and turned northwest to a

road, where the Marines were picked up by their unit.

"At the pickup point one Marine complained of fever, headache and general malaise. He was brought in from the field and examined by the battalion surgeon who determined he was dehydrated and suffering from an upper respiratory infection unrelated to any chemical contamination," Campbell said.

Campbell said the platoon never came closer to the site than 700 meters. However, to ease any fears within the unit, all have been examined by naval doctors.

He said results of the complete physicals were all normal and that follow-up blood tests would be taken in 30 days.

# Marines say trek avoided chemical site

## Exams failed to show signs of contamination

### STAFF REPORT

A Marine Corps spokesman said Friday that 37 troops performing a night training exercise aboard Camp Lejeune on April 27 were not exposed to dangerous chemical pollutants and that physical exams have failed to show any signs of contamination.

According to Maj. Stuart Wagner, director of Joint Public Affairs, members of Kilo Company, 3rd Battalion, 8th Marines came no closer than 700 meters to a site suspected of containing hazardous materials.

One Marine complained of having fever like symptoms, headache and general malaise after the exercise. Following examination by the battalion surgeon, the Marine was diagnosed as suffering from dehydration and an upper respiratory ailment not related to exposure to hazardous chemicals, Wagner said.

"Because all the Marines in the platoon were fully aware of the chemical site, and one of the Marines was subsequently ill, many in the platoon erroneously assumed they had walked through the site," Wagner said.

"Because of an increased anxiety by the Marines in

### ■ TREK/ FROM 1A

the platoon, all the Marines have since been examined by Naval doctors," he added.

The physicals revealed no signs of chemical exposure, and subsequent treatment would depend on the results of blood tests, which will be available soon, according to the spokesman. Blood samples will also be retaken in thirty days, he said.

Two dump sites at local military bases are suspected of being envi-

ronmental "hot spots," according to Stephany Del Rey, an environmental specialist hired by the Marine Corps to help clean up hazardous waste sites.

One site is a chemical landfill at a rifle range near Sneads Ferry on Camp Lejeune. According to a 1983 study, records on the site have been lost, but PCBs, pesticides and metals were disposed there from the mid-1950s to about 1976.

The corpsman assesses the injuries and goes into action. Only the basics at this point. Stop the bleeding, calm him down and get him to the battalion aid station.

Days later, the wounded Marine is in stable condition and resting on a hospital ship ready to head back home.

It's an important lifesaving process that the wounded go through to get to that point. Alpha Co., 2nd Medical Bn. recently focused on the methods of get-

ting the Collecting and Clearing Co. or field hospital.

When wounded Marines arrive at the field hospital, they are admitted into the shock/surgical triage. The worst casualties are prepared for surgery, while the others have their dressings replaced and their paperwork started.

Everyone at the field hospital has a specific job to do and it must be performed with great skill. Lives depend on it. There can't be hesitation or indecision.

*Determination '89 in September. Display Determination '89 is a large-scale combined NATO exercise and is the highlight of the 26th MEU (SOC) deployment.*

The Collecting and Clearing Co. is usually located 10 to 15 miles behind the front line. It consists of two operating rooms, two intensive care units, a laboratory and a tent for X-rays. It also has a 60-bed ward, including the ICU. "This is the first place the wounded can receive blood and surgery. The surgery

conducted at this level is often referred to by corpsmen as "life and limb surgery," said HMC G.C. Centenera, acting XO, Alpha Co. "The most important goal being the survival of the patient. Even if it means the loss of a limb."

See Corpsman, Page 15A

## Base taps into drinking water concerns



### *DoD program plans to identify, assess, clean up possible contamination*

*EDITOR'S NOTE: This is the first in a three-part series about the drinking water in the Camp Lejeune/MCAS New River system. The articles examine past problems that have raised concerns with the water supply.*

By Cpl. Dave Mundy

During the past decade, the subject of hazardous waste has become a major environmental issue across the country. Real health dangers have been found at sites where, in years past, the "trash" was routinely dumped, buried or poured out on the ground.

The emergence of these health hazards has added a new burden to government officials at the community, state and national level: to find the sites, clean them up, and keep the contaminants from harming the population and environment.

The hazard most often comes from the contaminants filtering through the soil in which they are dumped and entering the underground water system. In most places in America, wells tapping into that system are what supply the public's drinking water.

The Safe Drinking Water Act of 1983 requires regular testing of water systems for contaminants. Recent tests on Camp Lejeune's six water systems indicated the quality of drinking water at all six sites was well within state and federal standards. In fact, no detection levels were exceeded in the testing for 36 potential contaminants.

But contaminated sites found at Camp Lejeune in 1982-84 remain a source of concern for base officials.

Preliminary testing at 76 sites aboard Camp Lejeune and MCAS New River in 1982-83 pinpointed 22 as warranting further investigation because they represented a potential threat to health and the environment. These included fuel farms, maintenance areas, open-burning pits and storage areas.

Sampling at those 22 sites was conducted in 1984.

See Water, Page 11A

## Water—

Continued from Page 1A

"We're negotiating a Federal Facilities Agreement between the Marine Corps/Navy, the state and the EPA right now," said B.W. Elston, deputy assistant chief of staff, facilities, MCB. The agreement will coordinate how all interested parties will approach the cleanup effort. "With that agreement, we will be on-line to start Phase III, which is developing the technology and actually doing the cleanup."

Closing and moving the fuel farm in the Hadnot Point Industrial Area will be one of the base's top priorities, Elston said.

"Fuel leaks over the years at the fuel farm have resulted in a plume of fuel underneath the farm that threatens our ground water in that area," Elston said. "Closing and moving the fuel farm has been a top priority. We are already taking measures to clean the site up."

The only holdup has been in obtaining funding.

"We plan to close that fuel farm as soon as we can get an alternate or temporary fuel farm on line," Elston added. "We are awaiting urgent construction funds from HQMC to build a new facility."

The Hadnot Point Industrial Area remains the base's biggest environmental concern. Elston said if the area is ranked on the EPA's National Priorities Listing, funds will be made available through the Defense Environmental Restoration Account for the cleanup.

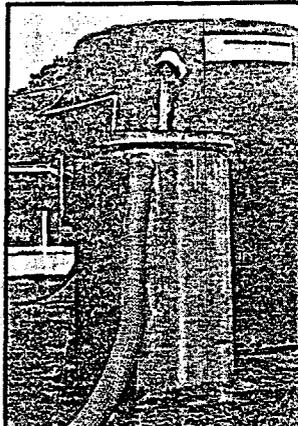
Some corrective action is already being taken at the old gas station in Tarawa Terrace.

"Right now, we have a system operating in Tarawa Terrace, where a pump is taking water from underground and separating contaminants," base Environmental Engineer Elizabeth Betz said. "But it's something that will take a long time to fix."

The housing area and Camp Johnson are now served by a permanent water line from the Hadnot Point treatment facility.

In addition, the base is continuing regular monitoring of the drinking water system.

"New state regulations have come out mandating tests every five years unless a system is classified as 'vulnerable,' in which case testing is done every three years," Betz said. "We generally run tests



**CLEANUP UNDERWAY—** A pump and filter operate near the commissary in the Tarawa Terrace housing area, separating contaminants from groundwater. The housing area's water is supplied via a permanent line from the main water treatment plant on Holcomb Boulevard.

more often than is required."

Results of testing in March indicate the quality of drinking water at Camp Lejeune/New River is well within state and federal standards under the Safe Drinking Water Act of 1983. The check for 36 potential contaminants produced no significant negative findings.

"We met all the limits set forth in the Safe Drinking Water Act," Betz noted. "As a matter of fact, nothing was found above detection levels. The technology we have now can detect up to a half-part per billion, which is pretty minute."

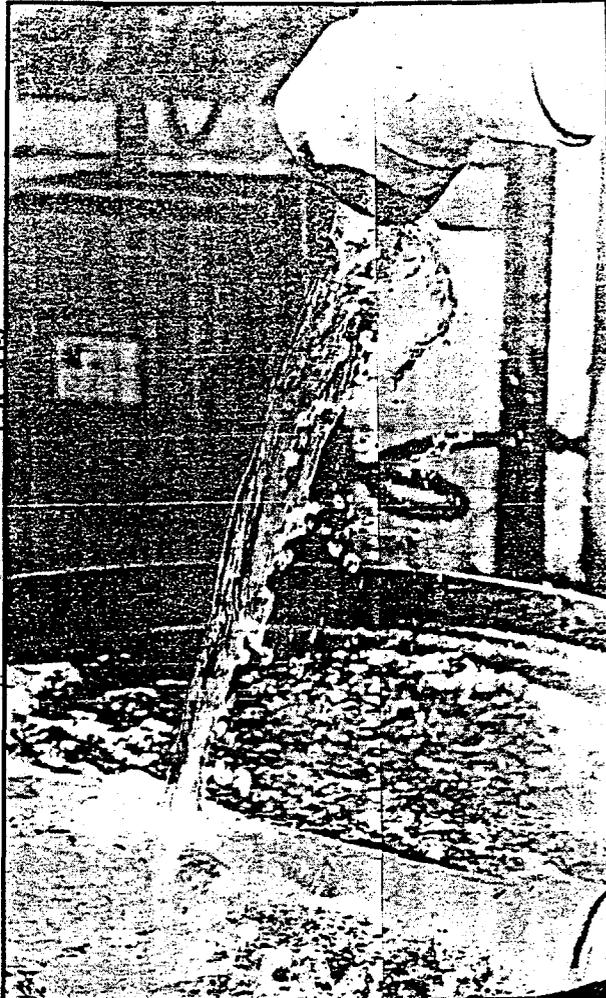
The tests also sought chemicals classified as "unregulated" by the EPA — compounds for which the agency has not yet set acceptable limits.

"They didn't show up within detection parameters either," Betz said.

Tests are conducted by both base personnel and outside agencies.

"We do a lot of the bacteria tests on-base, some of them on a weekly basis," Betz said. "For the tests that are required only every few years, we generally contract them out to outside laboratories."

Having identified the trouble spots and taken action to protect the drinking water supply on an immediate basis, base officials are now preparing to start the process of cleaning up contaminated sites



**CLEANUP CONTINUES—** A pump and filter system is now operating in the Tarawa Terrace area to separate contaminants from groundwater. The groundwater was contaminated by chemicals from a dry cleaning business in Jacksonville.

that could still threaten the Lejeune/New River water system.

"Part of Phase III is developing the technology to clean up the contaminants," Elston said. "It's not an easy task to get these chemicals out of the soil and water and dispose of them safely. It will be a long, expensive process."

*NEXT: Cleanup and prevention of future contamination*

*'It's not an easy task to get these chemicals out of the soil and water and dispose of them safely. It will be a long, expensive process.'*

B.W. Elston

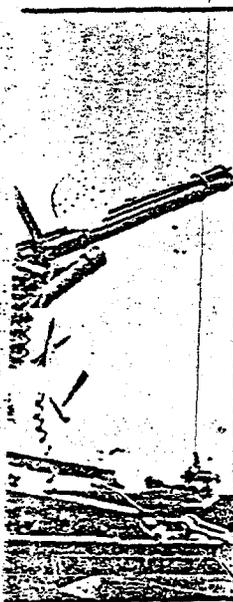
ready to  
gether  
age 7A

26th MEU (SOC)  
hits Spanish shores  
Pages 8A, 9A

# OB

ulation: 28,500

September 7, 1989



Launce Cpl. M.K. Wooten

Artillery Regiment, 82nd Air-  
participating in their annual  
the fifth time in as many years  
control drone missiles were  
and FSSG, helped the soldiers  
lines from Landing Support  
and heavy equipment. "It  
professionally and productive-  
3rd 4th ADAR.

## Efforts underway to ensure safe drinking water

**EDITOR'S NOTE:** This is the second in a three-part series about drinking water in the Camp Lejeune/New River system, and examines the base's efforts to provide safe drinking water.

By Cpl. Dave Mundy

The discovery of hazardous waste sites at Camp Lejeune during testing from 1982-84 brought about the immediate closure of eight wells from which drinking water was drawn.

Base officials are exploring ways to clean up the sites and monitoring other existing wells as they wrap up Phase II of the Installation Restoration Program, DoD's program for identifying and cleaning up past hazardous waste storage or dumping sites.

Phase II of the IRP consists of conducting feasibility studies at sites located during the 1982-84 tests, determining the cleanup method and continuing testing.

See Water, Page 4A



Timon Island first stop



Environmental  
Science &  
Engineering, Inc.

August 20, 1990

Code 1822  
Atlantic Division  
Naval Facilities Engineering Command  
Norfolk, VA 23511-6287

Attn: Mr. Andrew Kissel/Ms. Laurie Boucher

Dear Andrew or Laurie:

Below is a list of items to be addressed under work change orders to the present contract, as discussed with Sheila Ashton.

(1) Additional Copies of Reports and Plans:

- 16 copies instead of 12, as specified in the scope of work (SOW requested by Plan, Field Safety Plan, Relations Pl

↓ Bob Gregory

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- 2 copies of Procedures (

→ Consider doing prior req. of field work change order ↓

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(2) Additional Anal

- Costs for an 48 were inad estimate.

✦ 24 or 25 for revised reports (comments to them or S&A)

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- LANTDIV chan collected at negotiations

samples  
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(3) Additional Soil Borings:

- The original budget included 10 soil borings at HPIA. Clarification by LANTDIV following budget negotiations, indicated 30 soil borings to be drilled at HPIA.

(4) Review of EPA Region IV SOPs:

- As a result of TRC meeting negotiations, ESE was tasked by LANTDIV to review EPA Region IV SOPs and compare those SOPs to the HPIA plans.

(5) Response to EPA Comments:

- Preliminary review of EPA comments with respect to HPIA RI Plan Documents suggests a more extensive level of effort by ESE in addressing those comments than that anticipated at the time of budget negotiations.

It is important that these work change orders are completed prior to the initiation of the field investigation. If you have any questions or comments, please feel free to call me at (201) 896-0363.

Sincerely,

*Mindy Sayres*

Mindy Sayres  
Project Manager  
ESE New Jersey