CL - 3.01

01.01-05/24/85-00201

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

IN REPLY REFER TO:
6280/9
FAC
24 MAY 1985

From: Commanding General, Marine Corps Base, Camp Lejeune
To: Commander, Altantic Division (Code 114), Naval Facilities Engineering Command, Norfolk, VA 23511-6287

Subj: N.A.C.I.P. PROGRAM CONFIRMATION STUDY; SECOND ROUND SAMPLING

Ref: (a) LANTDIV ltr 5090, 1143CFB dtd 27 Mar 85
(b) CG, MCB 031897 Apr 85

Encl: (1) Review Comments, N.A.C.I.P. Confirmation-Study
(2) MCAS(H), NR Suspected N.A.C.I.P. Site Description

1. We have reviewed the LANTDIV comments at reference (a) for the interim report of first round sampling results. Additional concerns of Camp Lejeune are forwarded at enclosure (1). Reference (b) requested the subject study be expedited and the characterization phase be initiated for VOC contamination in water supply wells. Reference (a) adequately addresses these concerns except as noted in enclosure (1).

2. The proposed second round sampling recommends an investigation for potential VOC sources within a one-mile radius of each contaminated well. This monitoring strategy would mean assessing potential sources outside the Camp Lejeune property boundary which may be covered by the Memorandum of Understanding between DOD and EPA, dtd 12 Aug 1983. We suggest that coordination betweent HQMC, LANTDIV, and the North Carolina environmental agencies and Camp Lejeune, be completed in the characterization process to assess these sources.

3. An additional site of potential contamination has been located at MCAS(H), New River. This site needs to be evaluated for inclusion in the N.A.C.I.P. Program. A site description is provided at enlosure (2).

4. Your continued assistance in dealing with the complex problems being addressed by the N.A.C.I.P. Program is appreciated. For additional information on this matter, contact Mr. Bob Alexander, Marine Corps Base Environmental Engineer, AV 484-3034.

B. W. ELSTON
By direction

Copy to:
CMC (LFL)
CO, MCAS(H),NR (S-4)
CO, NAVHOSP (PMU)

REVIEW COMMENTS
N.A.C.I.P. CONFIRMATION STUDY INTERIM REPORT
AND SECOND ROUND SAMPLING
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

Interim Report from First Round of Verification Sampling

1. For discussion of applicable water quality criteria for drinking water, we suggest the EPA recommended maximum contaminant levels be discussed as presented in the June 12, 1984 Federal Register.

2. North Carolina Classifications and Water Quality Standards Applicable to Groundwaters, North Carolina Admin Code Sub-Chapter 2L, effective 1 September 1984, should also be referenced; a copy is attached.

3. Page 2-39, Well 603 has not been detected to contain TCE and has not been closed. Reference (b) incorrectly listed Well 603 as having been closed; wells which have been closed to date are 601, 602, 608, 634, 637, 651, 652, 653, TT-26, and TT-New Well. We concur with your recommendation for Well 603 to be resampled in the second round to include the installation of a shallow groundwater well.

PROPOSED SECOND ROUND OF SAMPLING

1. In light of the anticipated start date of July/August for second round sampling by the A/E, your recommendations on interim monitoring of water supplies are needed as requested in reference (b). Camp Lejeune laboratory facilities are anticipated to be operational on/about 1 July for limited assistance in these analyses.

2. In order to coordinate samplings of water supply wells and to provide necessary support to the A/E, request a coordination meeting between LANTDIV, the A/E, MCAS(H), New River, and Camp Lejeune be established at least two - three weeks prior to sampling date, if possible. Coordination with North Carolina Divisions of Environmental Management and Health Services must also be accomplished at that time.

3. Page 3 of Memorandum enclosed to reference (a), sub-para "u" Well No. 603 should be changed to read 608; on page 4, note that VOC's have not been detected in Well 603.

4. Request the additional site at MCAS(H), New River be evaluated as described herein.

5. Page 4 - Add Well 650 to this list of active wells involved in this study.

Enclosure (1)

NORTH CAROLINA ADMINISTRATIVE CODE

TITLE 15

DEPARTMENT OF NATURAL RESOURCES

AND

COMMUNITY DEVELOPMENT

ENVIRONMENTAL MANAGEMENT DIVISION

SUBCHAPTER 2L

CLASSIFICATIONS AND WATER QUALITY STANDARDS

APPLICABLE TO THE GROUNDWATERS

OF

NORTH CAROLINA

SECTION .0100, .0200 AND .0300

EFFECTIVE DATE - SEPTEMBER 1, 1984

ENVIRONMENTAL MANAGEMENT COMMISSION

RALEIGH, NORTH CAROLINA

SUBCHAPTER 2L - GROUNDWATER CLASSIFICATION AND STANDARDS

SECTION .0100 - GENERAL CONSIDERATIONS

.0101 AUTHORIZATION

(a) N.C. General Statute 143-214.1 directs that the Commission develop and adopt after proper study a series of classifications and standards which will be appropriate for the purpose of classifying each of the waters of the state in such a way as to promote the policy and purposes of the act. Pursuant to this statute, the Regulations of this Subchapter establish a series of classifications and water quality standards applicable to the underground waters of the state.

(b) These Regulations and the standards they establish apply to all classified underground waters. Many common activities take place in or near shallow subsurface waters with no resulting violation of GA groundwater quality standards and it is the intention of these Regulations that those activities continue unimpeded except where specific problems are identified on a case by case basis. These activities include:

(1) the agricultural operations of applying fertilizer, herbicides, or pesticides to croplands or pastures, and the raising of livestock;

(2) silvicultural fertilizer, herbicide or pesticide application; home or commercial fertilizer, pesticide, or herbicide application;

(3) structural pest control activities when conducted according to label directions; and

(4) subsurface or surface municipal, industrial, and domestic waste disposal activities or other activities which may affect underground waters when these systems are installed and operated or conducted according to regulations established by the Departments of Human Resources, Agriculture, or Natural Resources and Community Development.

(c) As used herein, the phrase "specific problems" shall mean a set of facts or circumstances which show with a reasonable certainty that one or more of the following exists or will exist in the foreseeable future:

(1) An existing or probable violation of GA groundwater standards;

(2) The existence or probability of a violation of any other environmental standard or regulation;

(3) A threat to human life, health, or safety;

(4) A threat to the environment.

(d) The regulations established in this Subchapter are intended to maintain and preserve the quality of the subsurface and groundwaters, prevent and abate pollution and contamination, protect public health, and permit management of the groundwaters for their best usage by the citizens of North Carolina. It is the policy of the EMC that the best usage of the groundwater of the state is as a source of drinking water in its ambient state. These groundwaters generally are a potable source of drinking water without the necessity of treatment. It is the intent of these Regulations to protect the overall high quality of North Carolina's groundwaters and to enhance and restore the quality of degraded groundwaters to the level established by the standards wherever practicable.

History Note: Statutory Authority G.S. 143-214.1; 143-214.2; Eff. June 10, 1979; Amended Eff. September 1, 1984; December 30, 1983.

.0102 DEFINITIONS

The definition of any word or phrase used in these regulations shall be the same as given in G.S. 143-213 except that the following words and phrases shall have the following meanings:

(1) Deleterious substance means any substance which may cause the water to be unpleasant to taste, or unsightly, or otherwise renders the water unsuitable for human consumption.

(2) Fresh groundwaters are those groundwaters having a chloride concentration equal to or less than 250 milligrams per liter.

(3) Groundwaters are those waters in the saturated zone of the earth.

(4) Infiltration water means the water that infiltrates or moves into the subsurface or occurs between the land surface and the top of the saturated zone or serves to recharge groundwaters.

(5) Micrograms per liter (ug/l) gives the weight in micrograms of any constituent in one liter of solution.

(6) Milligrams per liter (mg/l) is the weight in milligrams of any specific constituent or constituents in a liter of the solution.

(7) Naturally occurring concentration means the concentration of chemical or biological substances or physical characteristics which exist naturally and which have not been changed by man's activities.

(8) Natural quality means the physical, biological and chemical quality which occurs naturally and which has not been changed by man's activities.

(9) Parts per million (ppm) and parts per billion (ppb) shall be construed to be equivalent to milligrams per liter and micrograms per liter, respectively.

(10) Point of discharge or outlet is the point of initial contact of waste with the existing soil or rock materials.

(11) Potable waters are those waters suitable for drinking, culinary and food processing purposes.

(12) Saline groundwaters are those groundwaters having a chloride concentration of more than 250 mg/l.

(13) The saturated zone is that part of the water-bearing consolidated and unconsolidated formations in which all the voids are filled with water under pressure greater than atmospheric. It does not include the capillary fringe.

(14) Subsurface means the area beneath the land surface and may or may not be part of the saturated zone.

(15) Subsurface waters are those waters occurring in the subsurface and include groundwaters and infiltration waters.

(16) Toxic substances shall mean those substances which if ingested or assimilated into any organism either directly or indirectly will cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunctions in such organisms of their offspring).

(17) The unsaturated zone is the portion of the consolidated and unconsolidated formations between land surface and the water table. It includes the capillary fringe.

(18) Water table is the surface of the saturated zone in the unconfined water-bearing formation or material at which the pressure is atmospheric.

(19) Thermal waste for purposes of groundwater quality means discharges having a temperature which is in excess of 30 degrees fahrenheit above or below the naturally occurring temperature of the receiving groundwater as determined by the director.

(20) Underground waters means all waters in the subsurface including infiltration and groundwaters.

(21) "Person" shall mean any individual, proprietorship, partnership, joint venture, corporation, or any other entity, or any employee, designee, agent, or representative in any official capacity empowered to act in behalf of that entity with knowledge of that entity, either express or implied.

(22) "Commission" shall mean the Environmental Management Commission as organized under General Statute Section 143B-282, et seq.

(23) "Land Surface" for the purpose of determining the location of GB waters shall be the existing contour of the earth, whether the natural contour or artificially altered by excavation. In the case of an alteration of the existing land surface by the addition of fill material, the land surface is the natural contour of the earth as it existed prior to any alteration. Where it is determined that a person has intentionally altered the surface of the earth for the purpose of evading the regulations and standards contained in this Subchapter, the phrase, "land surface" shall mean the contour of the earth that existed prior to such activity.

(24) "Point of Compliance" shall be the point at the land surface at which penalties under G.S. 143-214.6(a)(1)(b) may be imposed for a violation of applicable underground water quality standards. (See Rule .0103(h) of this Subchapter).

(25) "Perimeter of Compliance" shall mean the locus of all points in the vertical plane extending downward from the points of compliance surrounding a point of discharge.

History Note: Statutory Authority G.S. 143-214.1;
Eff. June 10, 1979.
Amended Eff. September 1, 1984;
December 30, 1983.

.0103 GENERAL RULES

(a) The discharge of any wastes to the subsurface or groundwaters of the state by means of wells is prohibited.

(b) No person shall cause the concentration of any toxic or deleterious substances to exceed that specified in Rule .0202 of this Subchapter, except in accordance with a compliance schedule authorized by the director.

(c) In addition to the GA, GSA, GB, GSB classifications assigned to underground waters as a provision of this Subchapter, the director is authorized to designate such undergrcund waters "restricted" (RS) under any of the following circumstances:

(1) Where underground waters contain toxic or deleterious substances in excess of the maximum allowable concentrations established under this Subchapter, and restoration or treatment can be shown to be technologically and economically feasible.

(2) Where a statutory variance has been granted for the underground waters as provided is Paragrph (d) of this Rule.

(3) Where underground waters contain naturally occurring concentrations in excess of the standards established under Rule .0202(b) of this Subchapter whether or not restoration or treatment is feasible, but provided that restoration for naturally occurring excess concentrations may not be required of any person as a result of this designation.

(4) Where underground waters have been designated RS under Subparagraph (1) of this Paragraph, and where the source of contamination and the responsible person are identified, a compliance schedule shall be issued within 12 months of the underground waters being designated.

(d) Any person subject to the provisions of General Statute 143-215.1 may apply to the EMC for a variance from the groundwater classifications and quality standards established pursuant to these Regulations and North Carolina General Statute 143-214.1. A variance may be granted by the commission pursuant to the requirements of North Carolina General Statute 143-215.3(e). The burden of proof in any public hearing or other proceeding pursuant to North Carolina General Statute 143-215.3(e) shall be upon the applicant for a variance. No variance shall be granted to allow the discharge of waste to the subsurface or groundwaters of the state by means of wells or for an extension or expansion of the perimeter of compliance as established pursuant to the regulations of this Subchapter.

(e) Any person conducting an activity causing or significantly contributing to the violation of underground water quality standards may apply to the director for a compliance schedule. In such cases the director may authorize a compliance schedule requiring the restoration of the quality of the underground waters to the level of the standard, or to a level as close to the applicable standards hereunder as is economically and technologically feasible. In determination the structure, duration, level of compliance, and feasibility of a compliance schedule, the director shall consider the extent of any violations, the extent of any threat to human health or safety, the extent of damage to the environment, the total cost of the cleanup involved, the marginal cost of the cleanup required, further technological advances which might permit such cleanup, and the public and economic benefit of requiring such cleanup. Compliance schedules may be revised or revoked by the director if the terms of the compliance schedules are violated by the person operating thereunder, or if additional information on the extent

and magnitude of the violation becomes known. Where is it determined that there was willful or intentional violation of the underground water quality standards, the director shall not grant a compliance schedule prior to instituting the appropriate enforcement provision under G.S. 143-214.6.

(f) An activity or source of pollution operating under and in compliance with the terms of a statutory variance or a compliance schedule established under these Regulations is deemed to be in compliance with groundwater quality standards.

(g) It is the intention of the Environmental Management Commission to protect all the underground waters existing below a depth of 20 feet beneath the surface of the land to a level of quality at least as high as that required under the standards established in Rule .0202 of this Subchapter. In keeping with the overall policy of the EMC to protect, maintain, and enhance water quality within the State of North Carolina, the EMC will not approve any project or development which would result in the significant degradation of groundwaters whose existing quality is better than the assigned standard, unless such degradation is found to be economically and socially justifiable, and in the best public interest. It is within the authority and in keeping with the policies of the EMC to decline to allow degradation from the existing background quality of an underground water source down to the level of the standard without such social and economic justification. Prior to the approval of any project or development which will result in the significant degradation of groundwater quality, the EMC will solicit, through public notice, or public hearing, or both, comments from the public and governmental agencies relative to the project or development and anticipated underground water quality degradation.

(h) Perimeter of Compliance: Existing and New Facilities.

(1) Exceedances of the standards established for the underground waters occurring within the perimeter of compliance shall not be subject to the penalty provisions applicable under 143-215.6(1)a.

(2) The commission shall otherwise consider underground waters existing within the compliance perimeter to be classified waters of the state, and shall require:

(A) that permits for all activities governed by G.S. 143-214.1 will be written to protect the level of groundwater quality established by GA standards;

(B) that necessary groundwater quality monitoring within the compliance perimeter will be required;

(C) that a violation of standards within the compliance perimeter be remedied through clean-up, recovery, containment, or other response which the

commission determines to be necessary when any of the following conditions occur:

(i) a violation of the standard in adjoining GA waters occurs or can be reasonably predicted to occur considering hydro-geologic conditions, modeling, or other available evidence;

(ii) an imminent hazard or threat to the public health or safety exists or can be predicted.

(3) For existing facilities, the compliance perimeter shall be established at a distance 500 feet from the point of discharge, or the property boundary, whichever is less.

(4) For new facilities, the compliance perimeter shall be established at the lesser of 250 feet from the point of discharge, or 50 feet within the property boundary.

(5) Nothing in this Rule shall be construed to prevent the commission from initiating enforcement action even when pollution occurs solely within the compliance perimeter based upon permit violations, imminent threat to the public health, safety, or the environment, or violations of any special order issued by the commission.

(i) Exemptions. The following activities shall not be subject to the regulations of this Subchapter:

(1) Upconing resulting from water use activities conducted under and in compliance with a water use permit.

(2) The use of drilling fluids as approved under the well construction regulations.

History Note: Statutory Authority G.S. 143-214; 143-214.1; 143-214.2; 143-215.3(e);
Eff. June 10, 1979;
Amended Eff. September 1, 1984;
December 30, 1983.

.0104 ANALYTICAL PROCEDURES

Tests or analytical procedures to determine compliance or non-compliance with the underground water quality standards established in Rule .0202 of this Subchapter will be in accordance with:

(1) the methods described in Standard Methods for the Examination of Water and Wastewater, fifteenth edition, 1980; and the 1981 supplement thereto;

(2) testing, monitoring, on analytical procedures required as a condition of a permit issued by the Division of Environmental Management under N.C.G.S. 143-214.1; or

(3) methods approved by letter from the Director of the Division of Environmental Management.

History Note: Statutory Authority G.S. 143-214.1;
Eff. June 10, 1979;
Amended Eff. December 30, 1983.

.0105 ADOPTION BY REFERENCE

The Standard Methods for the Examination of Water and Wastewater, fifteenth edition, 1980, and the 1981 supplement, both prepared and published jointly by the American Public Health Association, the American Water Works Association, and the Water Pollution Control Federation, are hereby adopted by reference as analytical procedures for underground waters, to be effective December 1, 1983.

History Note: Statutory Authority G.S. 143-214.1;
Eff. December 30, 1983.

SECTION .0200 - CLASSIFICATIONS AND WATER QUALITY STANDARDS

.0201 UNDERGROUND WATER CLASSIFICATIONS

The classifications which may be assigned to the underground waters will be those specified in the following series of classifications:

(1) Class GA waters; usage and occurrence:

(a) Best Usage of Waters. Existing or potential source of water supply for drinking, culinary use, and food processing without treatment, except where necessary to correct naturally occurring conditions.

(b) Conditions Related to Best Usage. This class is intended for those groundwaters in which chloride concentrations are equal to or less than 250 mg/l, considered safe for drinking, culinary use, and food processing without treatment, but which may require disinfection or other treatment when necessary to reduce naturally occurring concentrations in order not to exceed the maximum concentrations specified in Rule .0202 of this Section.

(c) Occurrence. At depths greater than 20 feet below land surface and in the saturated zone above a depth of 20 feet where these waters are a principal source of potable water supply.

(2) Class GSA waters; usage and occurrence:

(a) Best Usage. Existing or potential source of water supply for potable mineral water, culinary use, food processing, and conversion to fresh waters by treatment.

(b) Conditions Related to Best Usage. This class is intended for those groundwaters in which naturally occurring chloride concentrations are greater than 250 mg/l, and which are considered safe for potable mineral water, culinary use, and food processing without treatment but may require disinfection or other treatment when necessary to reduce naturally occurring concentrations in order not to exceed the maximum concentrations specified in Rule .0202 of this Section.

(c) Occurrence. At depths greater than 20 feet below land surface and in the saturated zone above a depth of 20 feet where these waters are a principal source of potable mineral water supply.

(3) Class GB waters; usage and occurrence:

(a) Best Usage. Source of recharge to surface waters and groundwaters occurring below a depth of 20 feet, source of treatable water supply.

(b) Conditions Related to Best Usage. Precipitation is the principal source of recharge to the saturated zone. The water in the saturated zone above a depth of 20 feet is of drinking water quality in much of the state. However, the upper 20 feet of the earth's surface is generally very vulnerable to pollution from man's activities, and should be considered a cycling zone for removing most or all of the contaminants from the water by adsorption, absorption, filtration or other natural treatment processes. In recognition of this fact, this classification is intended for those fresh groundwaters occurring at depths less than 20 feet below land surface that are of suitable quality for recharge to the deeper aquifers and surface waters of the state.

(c) Occurrence. Above a depth of 20 feet below land surface.

(4) Class GSB waters; usage and occurrence:

(a) Best Usage. Source of recharge to saline surface waters and saline groundwaters occurring below a depth of 20 feet, source of treatable water supply.

(b) Conditions Related to Best Usage. Precipitation is the principal source of recharge to the saturated zone. The water in the saturated zone above a depth of 20 feet of the earth's surface is generally very vulnerable to pollution from man's activities and should be considered a cycling zone for removing most or all of the contaminants from the water by adsorption, absorption, filtration or other natural treatment processes. In recognition of this fact, this classification is intended for those saline groundwaters occurring at depths less than 20 feet below land surface that are of suitable quality for recharge to the deeper aquifers and surface waters of the state.

(c) Occurrence. Above a depth of 20 feet below land surface.

(5) Class GC waters; usage:

(a) Best Usage of Waters. Source of water supply for purposes other than human drinking, culinary use, or food processing.

(b) Conditions Related to Best Usage. This class includes those waters that do not meet the quality criteria requirements of waters having a higher classification and for which measures to upgrade to a higher

classification would technically or economically not be feasible, or not in the best interest of the public, or for which maximum feasible restoration has been completed.

(c) Occurrence. As determined by the commission on a case by case basis.

History Note: Statutory Authority G.S. 143-214.1;
Eff. June 10, 1979.
Amended Eff. September 1, 1984;
December 30, 1983.

.0202 UNDERGROUND WATER QUALITY STANDARDS

(a) The water quality standards for the underground waters of the state are those specified in this Rule. These standards are the maximum levels of contamination that are permitted under these Regulations. It is the policy of the EMC, however, to protect and maintain the existing quality of the groundwaters where that quality is better than the assigned standards. Therefore, the increase in any constituent for which a standard is specified to a concentration of 50 percent of the standard may result in review or modification of an existing permit, requirements for additional monitoring, or issuance of a special order where a violation of standards may be predicted.

(b) Class GA Waters. The maximum allowable contaminant levels for toxic and deleterious substances are those concentrations specified in Subparagraphs (1) - (31) of this Paragraph. For substances not specified, the standard is the naturally occurring concentration as determined by the director. Synthetic, man-made, or other substances that do not naturally occur are prohibited. Where not otherwise indicated, the standard refers to the total concentration of any constituent.

(1) where naturally occurring concentrations exceed the established standard, the standard will be the naturally occurring concentration as determined by the director;

(2) total coliform: 1 per 100 milliliters;

(3) endrin: .0002 mg/1;

(4) lindane: .004 mg/1;

(5) methoxychlor: 0.1 mg/1;

(6) toxaphene: .005 mg/1;

(7) 2,4,D: 0.1 mg/1;

(8) 2,4,5,-TP Silvex .01 mg/1;

(9) total trihalomethanes: 0.10 mg/l;

(10) arsenic: .05 mg/1;

(11) barium: 1.0 mg/1;

(12) cadmium: .010 mg/1;

(13) chromium: .05 mg/1;
(14) lead: .05 mg/1;
(15) mercury: .002 mg/1;
(16) nitrate: (as N) 10.0 mg/1;
(17) nitrite: (as N) 1.0 mg/1;
(18) selenium: .01 mg/1;
(19) silver: .05 mg/1;
(20 fluoride: 1.5 mg/1;
(21) combined radium - 226 and radium - 228: 5 pCi/1;
(22) gross alpha particle activity: 15 pCi/1;
(23) gross beta particle activity: 50 pCi/1;
(24) iron: 0.30 mg/1;
(25) manganese: .05 mg/1;
(26) pH: no increase from naturally occurring pH values in acidity below or increase in alkalinity above 7;
(27) chloride: 250 mg/1;
(28) color less than 15 units;
(29) phenol: not greater than 1.0 ug/1;
(30) total dissolved solids: 500 mg/1; and
(31) thermal: not greater than 30 degrees Fahrenheit variance from the naturally occurring level as determined by the director.

(c) Class GSA Waters. The maximum allowable contaminant levels for toxic and deleterious substances are those concentrations specified Subparagraphs (1) - (31) of this Paragraph. For substances not specified, the standard is the naturally occurring concentration as determined by the director. Synthetic, man-made, or other substances that do not naturally occur are prohibited. Where not otherwise indicated, the standard refers to the total concentration of any constituent.

(1) where naturally occuring concentrations exceed the established standard, the standard will be the naturally occurring concentration as determined by the director;
(2) total coliform: 1 per 100 milliliters;
(3) endrin: .0002 mg/1;
(4) lindane: .004 mg/1;
(5) methoxychlor: 0.1 mg/1;
(6) toxaphene: .005 mg/1;
(7) 2,4,D: 0.1 mg/1;
(8) 2,4,5,-TP Silvex .01 mg/1;
(9) total trihalomethanes: 0.10 mg/1;
(10) arsenic: .05 mg/1;
(11) barium: 1.0 mg/1;
(12) cadmium: .010 mg/1;
(13) chromium: .05 mg/1;
(14) lead: .05 mg/1;

(15) mercury: .002 mg/1;
(16) nitrate: (as N) 10.0 mg/1;
(17) nitrite: (as N) 1.0 mg/1;
(18) selenium: .01 mg/1;
(19) silver: .05 mg/1;
(20) fluoride: 1.5 mg/1;
(21) combined radium - 226 and radium - 228: 5 pCi/1;
(22) gross alpha particle activity: 15 pCi/1;
(23) gross beta particle activity: 50 pCi/1;
(24) iron: 0.30 mg/1;
(25) manganese: .05 mg/1;
(26) pH: No increase from naturally occurring pH values in acidity below or increase in alkalinity above 7;
(27) chloride: allowable increase not to exceed 100 percent of the naturally occurring chloride concentration;
(28) color less than 15 units;
(29) phenol: not greater than 1.0 ug/1;
(30) total dissolved solids: 1000 mg/1; and
(31) thermal: not greater than 30 degrees Fahrenheit variance from the naturally occuring level as determined by the director.

(d) Class GB Waters. No increase above the naturally occurring concentration of any toxic or deleterious substance unless it can be shown, upon request, to the satisfaction of the director that the increase:

(1) will not cause or contribute to the contravention of water quality standards in adjoining waters of a different class;
(2) will not accumulate in a manner such that unusual or different hydrological conditions may cause a threat to public health or the environment; and
(3) will not cause an existing or potential water supply to become unsafe or unsuitable for its current use.

(e) Class GSB Waters. No increase above the naturally occurring concentration of any toxic or deleterious substance unless it can be shown, upon request, to the satisfaction of the director that the increase:

(1) will not cause or contribute to the contravention of water quality standards in adjoining waters of a different class;
(2) will not accumulate in a manner such that unusual or different hydrological conditions may cause a threat to public health or the environment; and
(3) will not cause an existing or potential water supply to become unsafe or unsuitable for its current use.

(f) Class GC Waters. All chemical, radioactive, biological, taste producing, odor producing, thermal, and other toxic or

deleterious substances shall not exceed the concentration existing at the time of classification.

History Note: Statutory Authority G.S. 143-214.1;
Eff. June 10, 1979;
Amended Eff. September 1, 1984;
December 30, 1983.

SECTION .0300 - ASSIGNMENT OF UNDERGROUND WATER CLASSIFICATIONS

.0301 CLASSIFICATIONS: GENERAL

(a) Schedule of Classifications. The classifications are based on the quality, occurrence and existing or contemplated best usage of the underground waters as established in Section .0200 of this Subchapter and are assigned statewide except where supplemented or supplanted by specific classification assignments by major river basins.

(b) Classifications and Water Quality Standards. The classifications and standards assigned to the underground waters are denoted by the letters GA, GSA, GB, GSB, or GC. These classifications refer to the classifications and standards established by 15 NCAC 2L, "Classifications and Standards Applicable to the Underground Waters of North Carolina."

History Note: Statutory Authority G.S. 143-214.1;
Eff. December 30, 1983.

.0302 STATEWIDE

(a) The classifications assigned to the underground waters located within the boundaries or under the extraterritorial jurisdiction of the State of North Carolina are:

(1) Class GA Waters. Those underground waters in the state naturally containing less than 250 mg/1 chloride and occurring at depths greater than 20 feet below land surface are classified GA.

(2) Class GB Waters. Those underground waters in the state naturally containing less than 250 mg/1 chloride concentration and occurring between land surface and a depth of 20 feet are classified GB.

(3) Class GSA Waters. Those underground waters in the state naturally containing greater than 250 mg/1 chloride concentration and occurring at depths greater than 20 feet below land surface are classified GSA.

(4) Class GSB Waters. Those underground waters in the state naturally containing greater than 250 mg/1 chloride concentration and occurring between land surface and a depth of 20 feet are classified GSB.

(5) Class GC Waters. Those underground waters assigned the classification GC in Rules .0303 - .0318 of this Section.

History Note: Statutory Authority G.S. 143-214.1;
Eff. December 30, 1983.

.0303 BROAD RIVER BASIN

No classification assignments other than those specified in Rule .0302 are made for the river basin.

History Note: Statutory Authority G.S. 143-214.1;
Eff. December 30, 1983.

.0304 CAPE FEAR RIVER BASIN

No classification assignments other than those specified in Rule .0302 are made for the river basin.

History Note: Statutory Authority G.S. 143-214.1;
Eff. December 30, 1983.

.0305 CATAWBA RIVER BASIN

No classification assignments other than those specified in Rule .0302 are made for the river basin.

History Note: Statutory Authority G.S. 143-214.1;
Eff. December 30, 1983.

.0306 CHOWAN RIVER BASIN

No classification assignments other than those specified in Rule .0302 are made for the river basin.

History Note: Statutory Authority G.S. 143-214.1;
Eff. December 30, 1983.

.0307 FRENCH BROAD RIVER BASIN

No classification assignments other than those specified in Rule .0302 are made for the river basin.

History Note: Statutory Authority G.S. 143-214.1;
Eff. December 30, 1983.

.0308 HIWASSEE RIVER BASIN

No classification assignments other than those specified in Rule .0302 are made for the river basin.

History Note: Statutory Aurthority G.S. 143-214.1;
Eff. December 30, 1983.

.0309 LITTLE TENNESSEE RIVER BASIN

No classification assignments other than those specified in Rule .0302 are made for the river basin.

History Note: Statutory Authority G.S. 143-214.1;

Eff. December 30, 1983.

.0310 SAVANNAH RIVER BASIN

No classification assignments other than those specified in Rule .0302 are made for the river basin.

History Note: Statutory Authority G.S. 143-214.1;
Eff. December 30, 1983.

.0311 LUMBER RIVER BASIN

No classification assignments other than those specified in Rule .0302 are made for the river basin.

History Note: Statutory Authority G.S. 143-214.1;
Eff. December 30, 1983.

.0312 NEUSE RIVER BASIN

No classification assignments other than those specified in Rule .0302 are made for the river basin.

History Note: Statutory Authority G.S. 143-214.1;
Eff. December 30, 1983.

.0313 NEW-WATAUGA RIVER BASIN

No classification assignments other than those specified in Rule .0302 are made for the river basin.

History Note: Statutory Authority G.S. 143-214.1;
Eff. December 30, 1983.

.0314 PASQUOTANK RIVER BASIN

No classification assignments other than those specified in Rule .0302 are made for the river basin.

History Note: Statutory Authority G.S. 143-214.1;
Eff. December 30, 1983.

.0315 ROANOKE RIVER BASIN

No classification assignments other than those specified in Rule .0302 are made for the river basin.

History Note: Statutory Authority G.S. 143-214.1;
Eff. December 30, 1983.

.0316 TAR PAMLICO RIVER BASIN

No classification assignments other than those specified in Rule .0302 are made for the river basin.

History Note: Statutory Authority G.S. 143-214.1;
Eff. December 30, 1983.

.0317 WHITE OAK RIVER BASIN

No classification assignments other than those specified in Rule .0302 are made for the river basin.

History Note: Statutory Aurthority G.S. 143-214.1;
Eff. December 30, 1983.

.0318 YADKIN-PEE DEE RIVER BASIN

No classification assignments other than those specified in Rule .0302 are made for the river basin.

History Note: Statutory Authority G.S. 143-214.1;
Eff. December 30, 1983.

.0319 RECLASSIFICATION

The underground water classifications as assigned may be revised by the EMC following public notice and subsequent public hearing. Changes may be to a higher or lower classification. Reclassification requests may be submitted to the Director of the Division of Environmental Management.

History Note: Statutory Authority G.S. 143-214.1;
Eff. December 30, 1983.

POTENTIAL N.A.C.I.P. SITE AT MCAS(H), NEW RIVER

SITE DESCRIPTION

Location: See Attached map.

Size: Unknown, but estimated at 50 meters in length and 50 meters in width adjacent to the shoreline.

Previously Reported: No

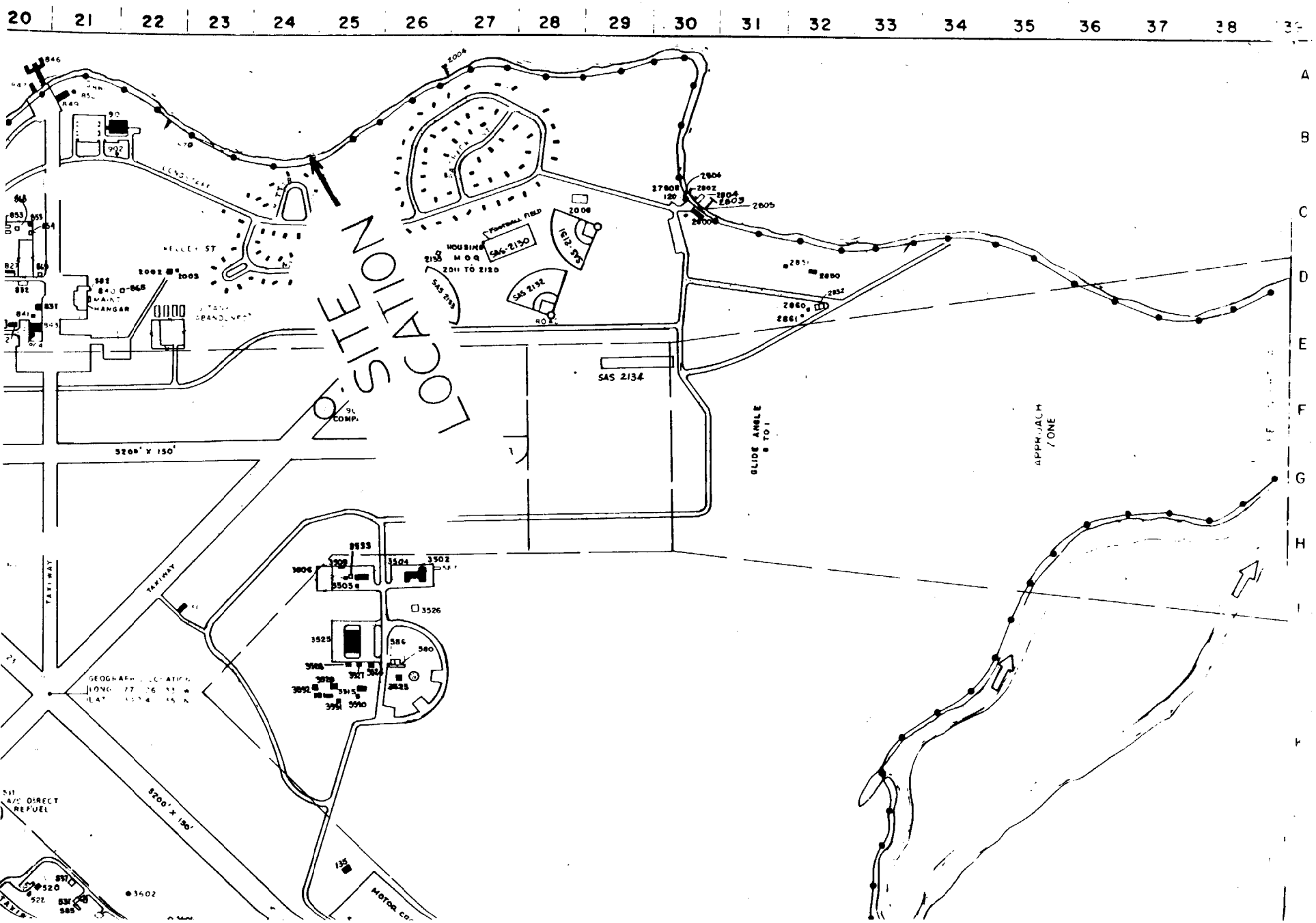
Activity: No known disposal of hazardous substance has occurred in this area due to its location within the MCAS(H), NR officers' housing area. Prior to the development of the area for housing in 1958, the area had been used for Marine Corps field training.

Materials Involved: Calcium hypochlorite in small glass vials and another compound (one glass vial, less than four ounces) of a brown oily liquid, for which laboratory analyses has not been received at the date of this writing. In addition a small medicine bottle was located which contained a few small tablets that have not been identified.

Quantity: An estimated 100 one to two ounce glass vials of a white powdery substance identified as calcium hypochlorite were found at the shoreline of the New River after being exposed by children digging along the eroding shoreline.

When: Late 1940s to late 1950s.

Comments: The area was immediately secured by placing fill material along the shoreline area where the vitals were located to preclude safety hazards or additional exposure to children of the housing area.


SITE LOCATION
HOUSING
MOQ
SAS 2130
SAS 2134
SAS 2132
SAS 2133
2011 TO 2120
FOOTBALL FIELD
MAINT HANGAR
5200' X 150'
TAXIWAY
GLIDE ANGLE
APPROACH
/ONE
A/C DIRECT REFUEL
MOTOR CO