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North Carolina Department of Human Resources
Eastern Regional Office • 404 Saint Andrews Drive • Greenville, N. C. 27834

James G. Martin, Governor

David T. Flaherty, Secretary

June 29, 1989

Carl Baker, P.E.
Utilities Director
Marine Corps Base
Camp Lejeune, NC

RE: Well Site Evaluation - Marine Combat Training Facility
Onslow County

Dear Mr. Baker:

Thanks for your assistance on June 23, 1989, when we evaluated the existing well (N.C. DNRC #66-0135-WS-0171) installed by the U.S. Navy Sea Bees earlier this year for the above facility.

The well is located on U.S. Marine Corps property near the Verona Loop Road off U.S. 17S of Jacksonville.

Well Construction records indicating depth, screen locations or slot size, specific capacity or yield were not available. Pumping tests for well development and quality analyses were not completed due to an abnormal volume of sand and clay present in the discharge.

The well is located on flat terrain that was apparently cleared from the adjacent woodlands. This clearing also supports the shower and personal hygiene area for the estimated 1,200 Marines that will utilize the training facility. The shower facility is located approximately 30 feet from the well. Additionally, this shower drains through floor slats to a gravel bed then to an open ditch at the wood's edge.

This well location is not acceptable for a public water supply.

Based on these considerations, we agreed that this well should be abandoned in accordance with N.C. Well Construction Regulations (enclosed).

Consideration should be given to a permanent connection with the Onslow County Water System for this facility.

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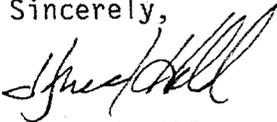
While at the facility, we evaluated an alternate area along Perimeter Road that is approximately 175 feet from the existing shower facility. This site is also cleared from the woodland and graveled as depicted on the enclosed sketch. The existing solid waste containers must be relocated but otherwise the site is acceptable and would provide vehicular access to the well.

As with any public water supply well, the site must be free from any existing or potential sources of pollution within 100 feet and graded to provide positive drainage within the same area.

Please contact the Groundwater Section (DNRCD) Wilmington Office for a well construction permit and to confirm abandonment of the existing well.

Thanks for your continued cooperation with this office. If you have any questions or need additional information, please contact me.

Sincerely,



J. Fred Hill
Water Supply Consultant
Public Water Supply Branch
Division of Health Services

bc

Enclosures

cc: M. P. Bell
W. E. Venrick
NRCD - Rick Shiver
Onslow County Water Department

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Proposed System
Existing System _____
Well Site No. _____
Wells in System _____

N. C. STATE BOARD OF HEALTH
WELL SUPPLY WELL SITE INSPECTION

Municipal _____
San. Dist. _____
Association _____
Comm. _____
M.H.P. _____
Institution _____
Militarily

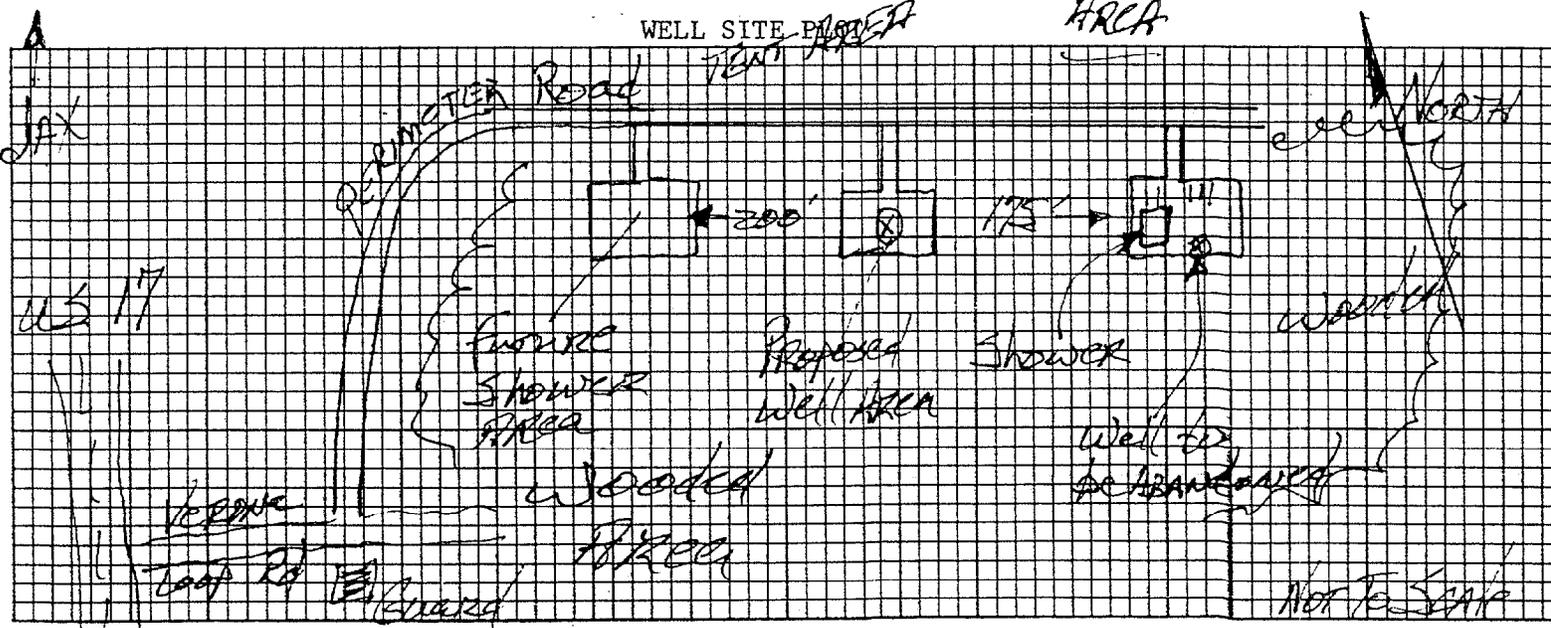
Date 6-23-89

NAME OF SUPPLY USMC COMBAT TRAINING Facility
LOCATION VERONA Loop Rd TOWN South of JACKSONVILLE COUNTY Owslow
OWNER USMC Camp Lejeune PERSON CONTACTED CARL BAKER PE
ADDRESS Utilities Director

1. Dimensions of well lot MIN 200 x 200' Easement required NO
2. Distance and nature of nearest potential source of pollution within area of well.
Septic tank system _____ Sewer system _____ Pit privy _____
Other SHOWER SYSTEM @ 150 FT
3. Drainage adequate? Yes No _____ Drainage improvement required? (Describe need for berm, ditch, or other improvements.) _____
4. Subdivision Lot Numbers _____ Block No. _____ Map Book No. _____

Page No. _____ Deed Reference: Deed Book _____ Page No. _____ T. C. No. _____

Map () or Sketch (✓) of Site.



COMMENTS:

See letter

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APPROVED: Yes With Provisos No _____

[Signature]
Signature

(b) All materials used in the maintenance, replacement, or repair of any well shall meet the requirements for new installation. 102.56
102.57

(c) Broken, punctured or otherwise defective or unserviceable casing, screens, fixtures, seals, or any part of the well head shall be repaired or replaced, or the well shall be properly abandoned. 103.2
103.3
103.4

(d) National Science Foundation (NSF) approved PVC pipe rated at 160 PSI may be used for liner casing. The annular space around the liner casing shall be at least five-eighths inches and shall be completely filled with neat-cement grout. 103.7
103.8
103.9

History Note: Statutory Authority G.S. 87-87; 87-88; 103.13
Eff. February 1, 1976; 103.14
Amended Eff. September 1, 1984. 103.15

.0113 ABANDONMENT OF WELLS 103.17

(a) Any well which has been abandoned, either temporarily or permanently, shall be abandoned in accordance with one of the following procedures: 103.20

(1) Procedures for temporary abandonment of wells: 103.22

(A) Upon temporary removal from service or prior to being put into service, the well shall be sealed with a water-tight cap or seal compatible with casing and installed so that it cannot be removed easily by hand. 103.24
103.25
103.26

(B) The well shall be maintained whereby it is not a source or channel of contamination during temporary abandonment. 103.27
103.28

(C) Every temporarily abandoned well shall be protected with a casing. 103.29
103.30

(2) Procedures for permanent abandonment of wells: 103.32

(A) All casing and screen materials may be removed prior to initiation of abandonment procedures if such removal will not cause or contribute to contamination of the groundwaters. Any casing not grouted in accordance with Rule .0107 Paragraph (d) of this Section shall be removed or properly grouted. 103.34
103.35
103.36
103.37

(B) The entire depth of the well shall be sounded before it is sealed to ensure freedom from obstructions that may interfere with sealing operations. 103.38
103.39
103.40

(C) The well shall be thoroughly disinfected prior to sealing. 103.42

(D) In the case of gravel-packed wells in which the casing and screens have not been removed, neat-cement shall be injected into the well completely 103.43
103.44

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	filling it from the <u>bottom</u> of the casing to the top.	103.45
[E)	"Bored" wells shall be completely filled with cement grout, dry clay or material excavated during drilling of the well and then compacted in place.	103.46 103.47
[F)	Wells constructed in unconsolidated formations other than "bored" wells shall be completely filled with cement grout by introducing it through a pipe extending to the <u>bottom</u> of the well which can be raised as the well is filled.	103.48 103.49 103.50
[G)	Wells constructed in consolidated rock formations or that penetrate zones of consolidated rock may be filled with cement, sand, gravel or drill cuttings opposite the zones of consolidated rock. The top of the sand, gravel or cutting fill shall be at least five feet below the top of the consolidated rock. The remainder of the well shall be filled with cement grout only.	103.51 103.52 103.53 103.54
[H)	Test wells less than 20 feet in depth which <u>do not</u> penetrate the water table shall be abandoned in such manner as to prevent the well from being a channel allowing the vertical movement of water or a source of contamination to the groundwater supply. Test wells or borings that penetrate the water table shall be abandoned by completely filling with cement grout.	103.56 103.57 104.1
[b)	Any well which acts as a source or channel of contamination shall be repaired or permanently abandoned within 30 days or receipt of notice from the department.	104.3 104.4
[c)	The drilling contractor shall permanently abandon any well in which the casing has not been installed or from which the casing has been removed, prior to removing his equipment from the site.	104.5 104.6
[d)	The owner shall be responsible for permanent abandonment of a well except:	104.7 104.9
[1)	As otherwise specified in these Regulations; or	104.11
[2)	If well abandonment is required because the <u>driller</u> improperly locates, constructs, or completes the well.	104.14
History Note:	Statutory Authority G.S. 87-87; 87-88;	104.17
	Eff. February 1, 1976;	104.18
	Amended Eff. September 1, 1984; April 20, 1978.	104.19
.0114	DATA AND RECORDS REQUIRED	104.21
(a)	Well Cuttings	104.22
[1)	Samples of formation cuttings shall be collected and furnished to the department from all wells when such samples are requested by the department.	104.24 104.25

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