5/N 0107-LF-052-2320

( - 11330) DEPARTMENT OF THE NAVY

# Memorandum

DATE: 12 May 1986

FROM: Supervisory Chemist, WQCL, Environmental Branch, NREAD, MCB, Camp Lejeune

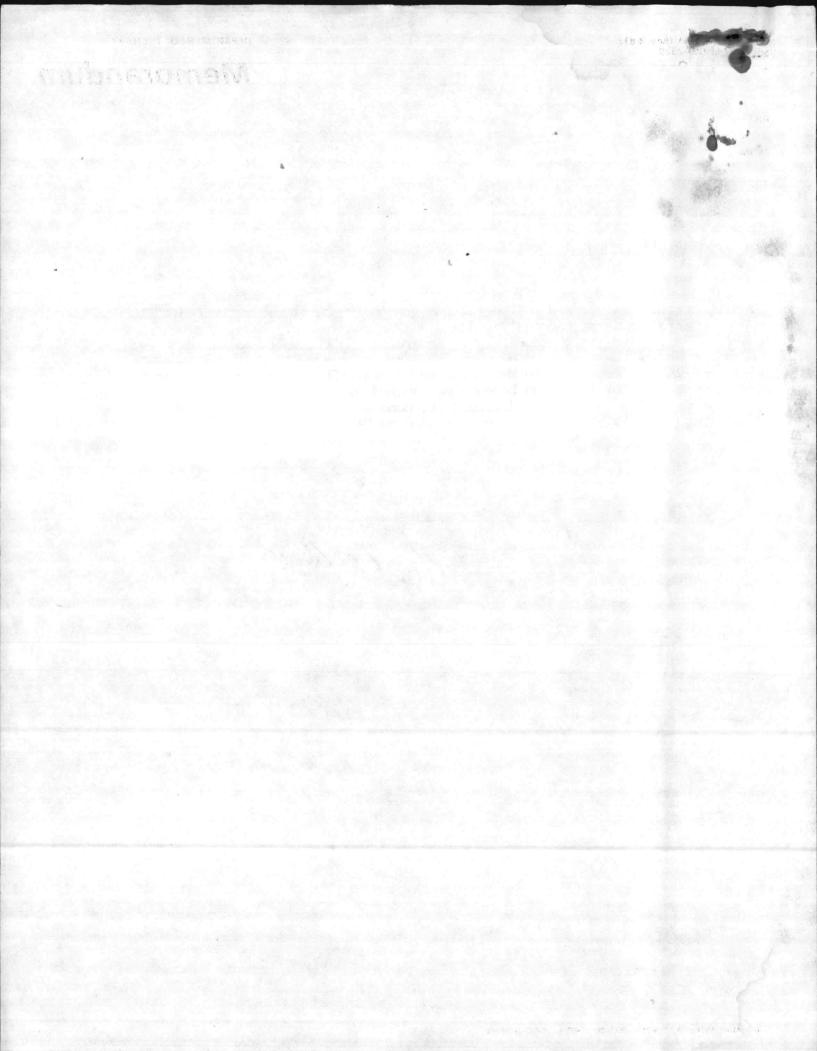
to: Supervisory Ecologist, Environmental Branch, NREAD, MCB, Camp Lejeune

SUBJ: Fred Hill's 10 and 11 April 1986 Visit

1. Most of what was discussed in Mr. Hill's report dealt with operational matters. Mr. Hill stated that "records of operations (including total water treated, filter and softener operations, chemical feed and dosage rates, etc.) should be reported monthly for each facility" to Raleigh. Apparently Utilities is not doing this.

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Elizabeth A. Betz



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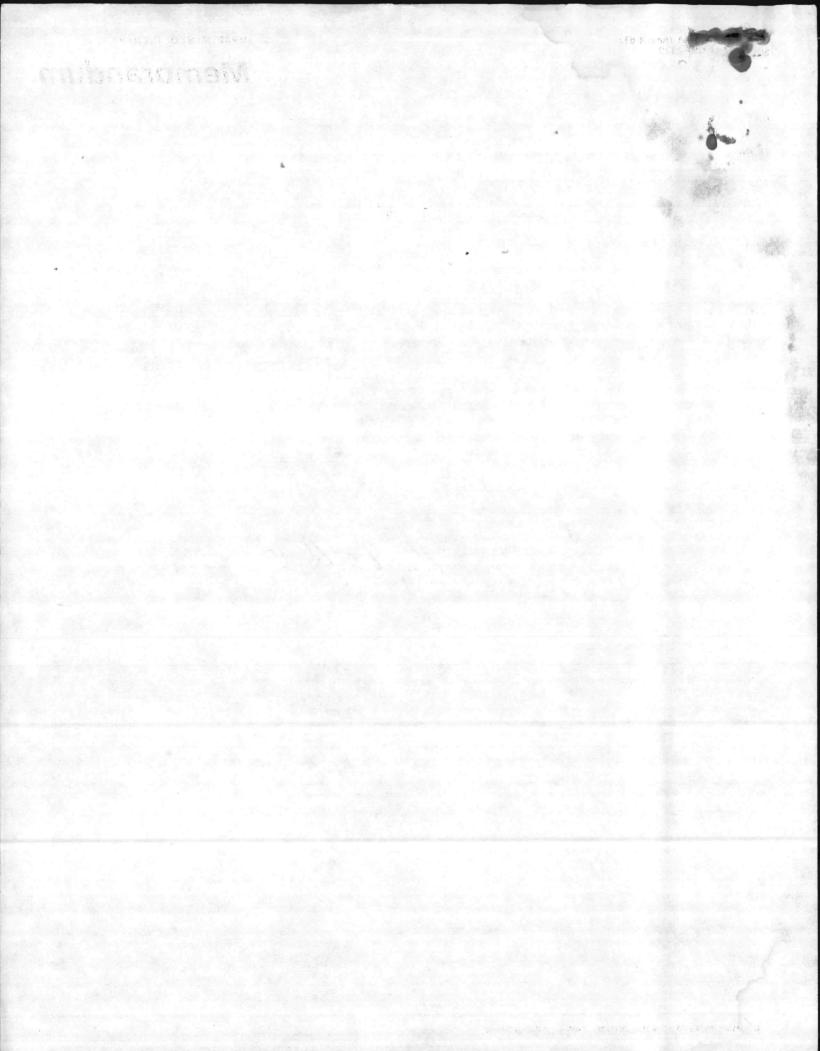
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2. In Mr. Hill's memorandum to Mr. Rundgren he classified Hadnot Point as an "A" plant ans recommendes that Camp Lejeune be managed by an "A" operator. Mac Frazelle is an "A" operator. As I had understood it, none of our plants were "A" plants before, but the State had strongly recommended an "A" operator as a foreman because of the number of plants and the diversified treatment processes.

Analitha Betz Elizabeth A. Betz



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

Phillip J. Kirk, Jr., Secretary James G. Martin, Governor April-16, 1986

Commanding General US Marine Corps Base Camp Lejeune, NC 28542

ATTN: Utilities Director G. S. Johnson, Jr.

Dear Sir:

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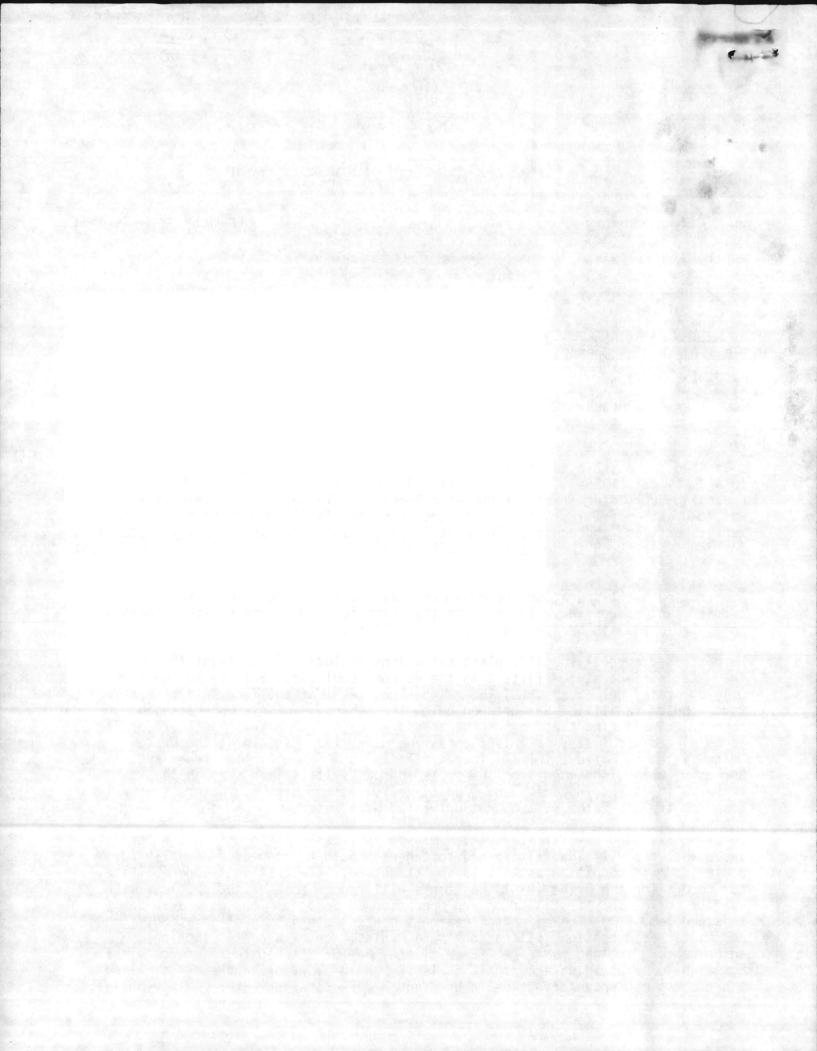
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We also discussed several items which may be applicable to more than one facility. These include: (1) The filters and softeners should be inspected annually for media loss and condition as well as any structural or operational abnormalities. (2) Covers for the brine (NaCl) day tanks will reduce some of the problems with surface corrosion. Installation and operation of dehumidifiers will also help this problem. (3). The existing treatment process consisting of aeration, lime addition, sedimentation, filtration (sand media), ion exchange (softening), chlorination, and phosphate (at three plants) may be altered to reduce chemical costs while maintaining acceptable quality. An in-plant or laboratory trial of the process may prove effective, depending on more detailed water quality analysis

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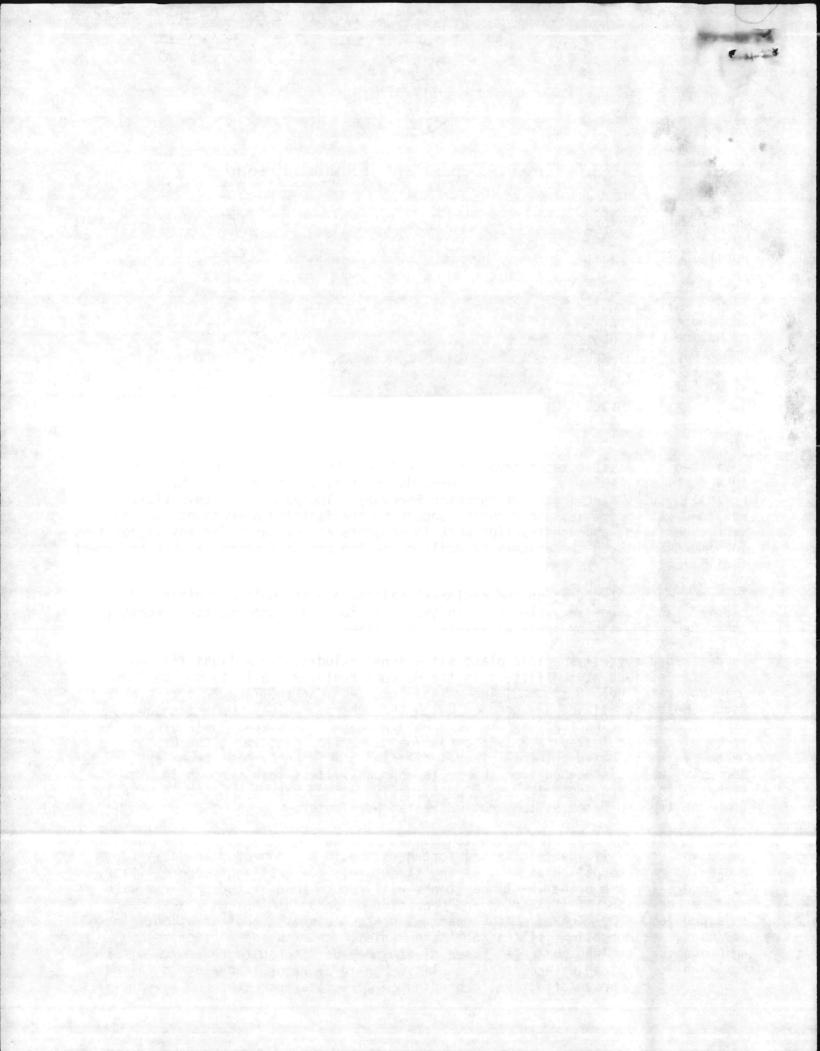
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HERE IS A COPY FOR YOUR DHS VISIT RECORDS & FREKD HILL REPORT.

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April-16, 1986

James G. Martin, Governor Phillip J. Kirk, Jr., Secretary

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ATTN: Utilities Director G. S. Johnson, Jr.

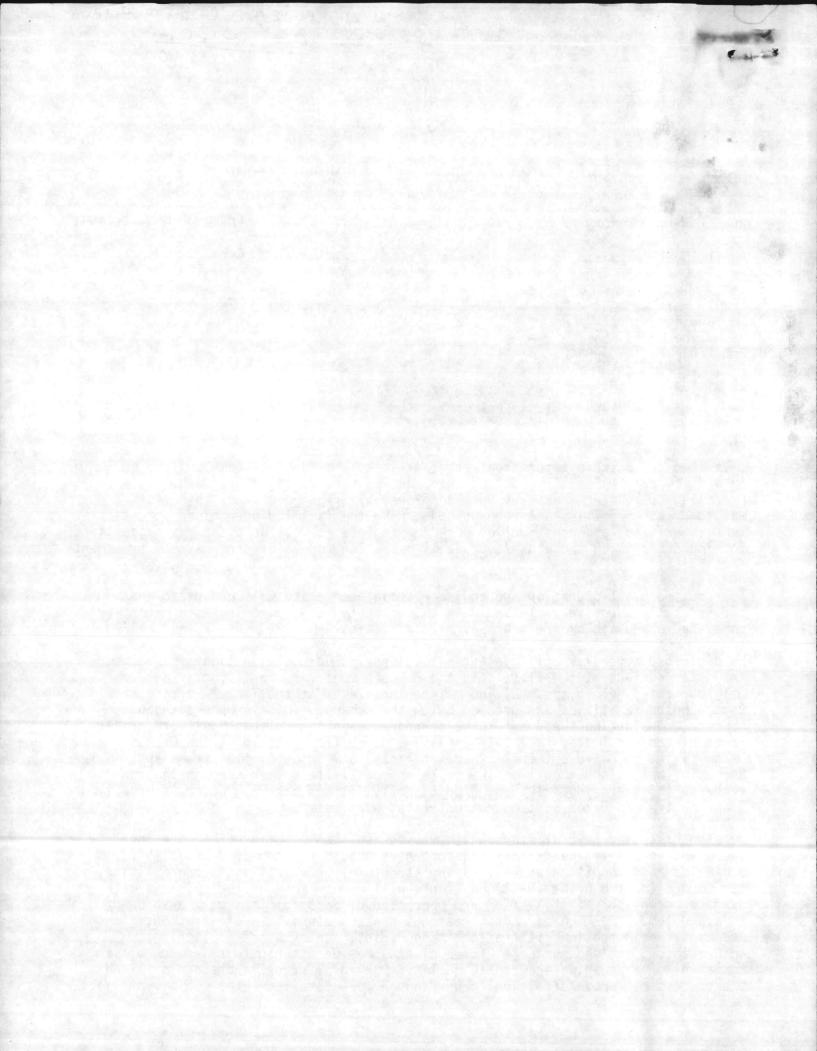
Dear Sir:

I visited the potable water treatment facilities aboard USMCB Camp Lejeune on 10 and 11 April 1986. I was accompanied during this visit by Mr. B. M. Frazelle, Jr. (Water Treatment Operator Foreman). The purpose of this visit was to update our files and records concerning the facility operations, treatment capacities, and construction work in progress as well as offer any suggestions for improvements in the process or daily operation and maintenance at the treatment facilities.

The routine plant operation and equipment maintenance are well organized and carried out. I was very pleased with the expansion and upgrading work recently completed or now in progress at several facilities.

We discussed several specific plant situations including: (1) A light film on the water surface at the filters in the Holcomb Boulevard facility may be from oil lubricated well pumps. (2) The maintenance level at the Tarawa Terrace and Camp Johnson facilities has dropped below the others. This is understandable, however, considering these are to be abandoned when the Holcomb Boulevard project is completed (estimated late 1986). (3) The water flow pattern at the Onslow Beach system is different from other facilities utilizing similar treatment. Normally, water is pumped from the wells through filters then through the ion exchange softeners, not divided. Additionally, filter backwash water is usually from the treated water system, not untreated well water.

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Commanding General Page 2 April 16, 1986

and study. (4) I noticed several open electrical service panels. A standing policy should be established to close or secure these at the end of the work or shift change, especially in the water plant areas. (5) Many water systems utilizing dry feeders for fluoride prefer sodium silicofluoride (due to its cost) instead of sodium fluoride (dissolves only to 4% solution). (6) Records of operations (including total water treated, filter and softener operations, chemical feed and dosage rates, etc.) should be reported monthly for each facility to our office in Raleigh.

I understand that planning is in progress for the development of private operations contracts for the water treatment facilities. Our office, in cooperation with the NC Attorney General's office, would like to review the final contract proposal to determine the operation's responsibilities as well as the system's liabilities.

As always, I appreciate the cooperation and attitude of the Base towards the State's Water Supply Branch and regulations.

If you have any questions or wish to discuss these comments further, please contact me.

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Sincerely,

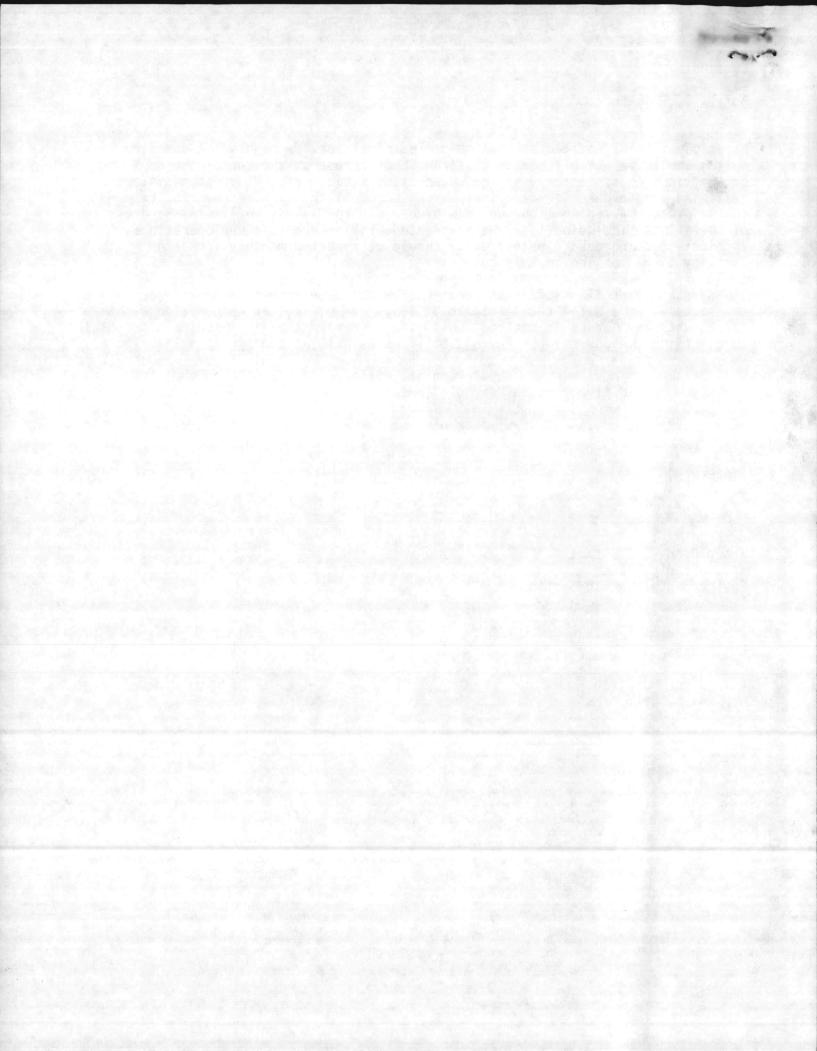
J. Fred Hill Water Plant Consultant Water Supply Branch Environmental Health Section

1. . . . . . . .

bgb

Enclosures

cc: C. E. Rundgren M. P. Bell





## North Carolina Department of Human Resources

Eastern Regional Office • 404 Saint Andrews Drive • Greenville, N. C. 27834

James G. Martin, Governor

Phillip J. Kirk, Jr., Secretary

April 16, 1986

MEMORANDUM

- TO: Charles E. Rundgren, Chairman N.C. Water Treatment Facility Operators Board of Certification
- FROM: J. Fred Hill Water Plant Consultant
- SUBJECT: Water Treatment Plant Ratings USMC Base Camp Lejeune

Attached are the classification rating forms with the modification for lime softening with spiractors that we discussed.

The eight systems surveyed are directed, managed, and operated through a common administration and responsible operator in charge (Byron M. Frazelle, "A" certification).

I recommend the system be classified to an "A" rating based on the management organization and the diversified treatment techniques involved.

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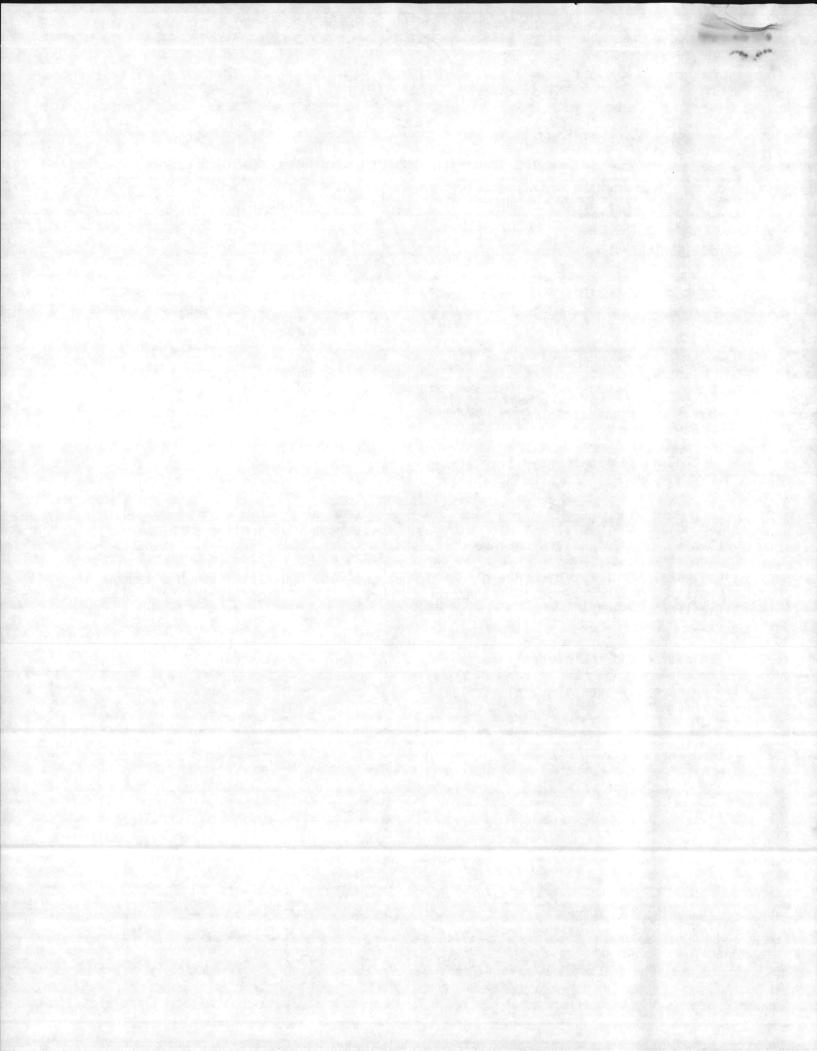
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If you have any questions, please let me know.

bgb

Attachments

Sec. Burnet



# USMC BASE CAMP LEJEUNE MANAGEMENT

#### Operations

### Monitoring & Surveillance

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Level & Astronomic

Section States in

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1. 1. 1.

LtCol. W. M. Rice<br/>Base Maintenance OfficerNatural Resources and Environmental<br/>Affairs Division<br/>Julian Wooten, Director<br/>Danny Sharpe, Supervisory Ecologist<br/>Elizabeth Metz, Supv. Chemist

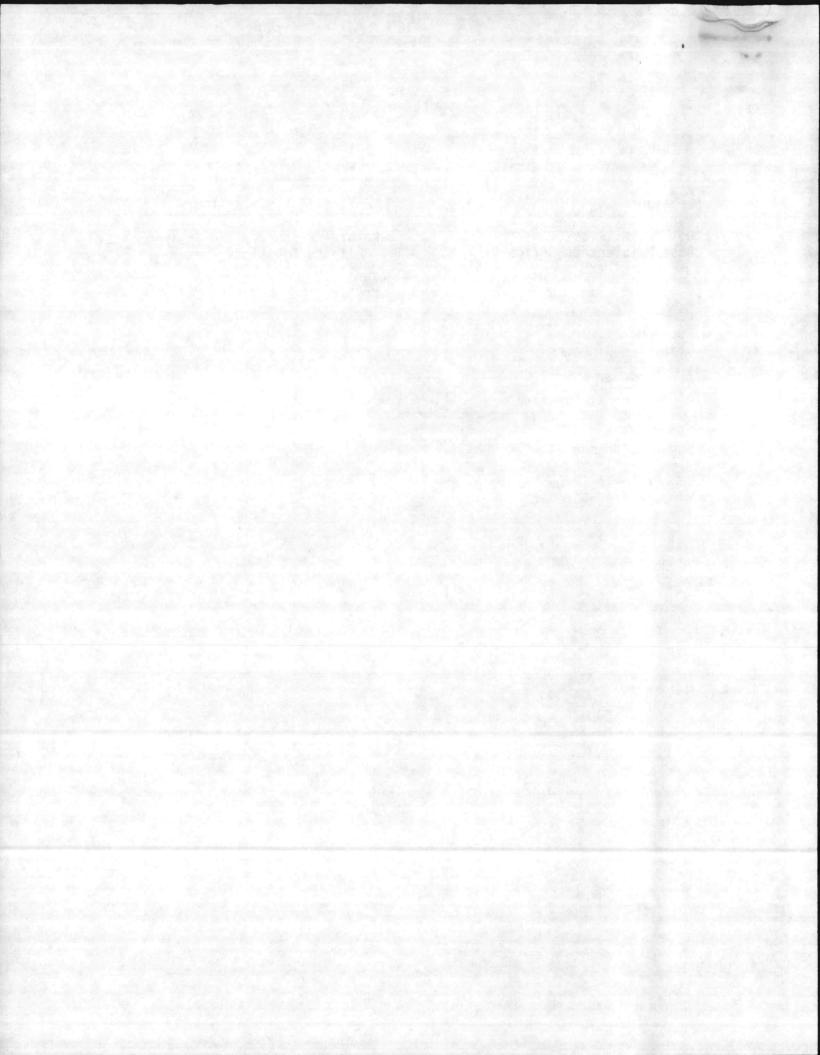
ASST. BMU

G. S. Johnson, Jr. Utilities Director

David Southerland Util. General Foreman

Willard Price General Foreman

B. M. Frazelle (Mac) WTP Operator Foreman



### US MARINE CORPS BASE Camp Lejeune, NC WTP Operators

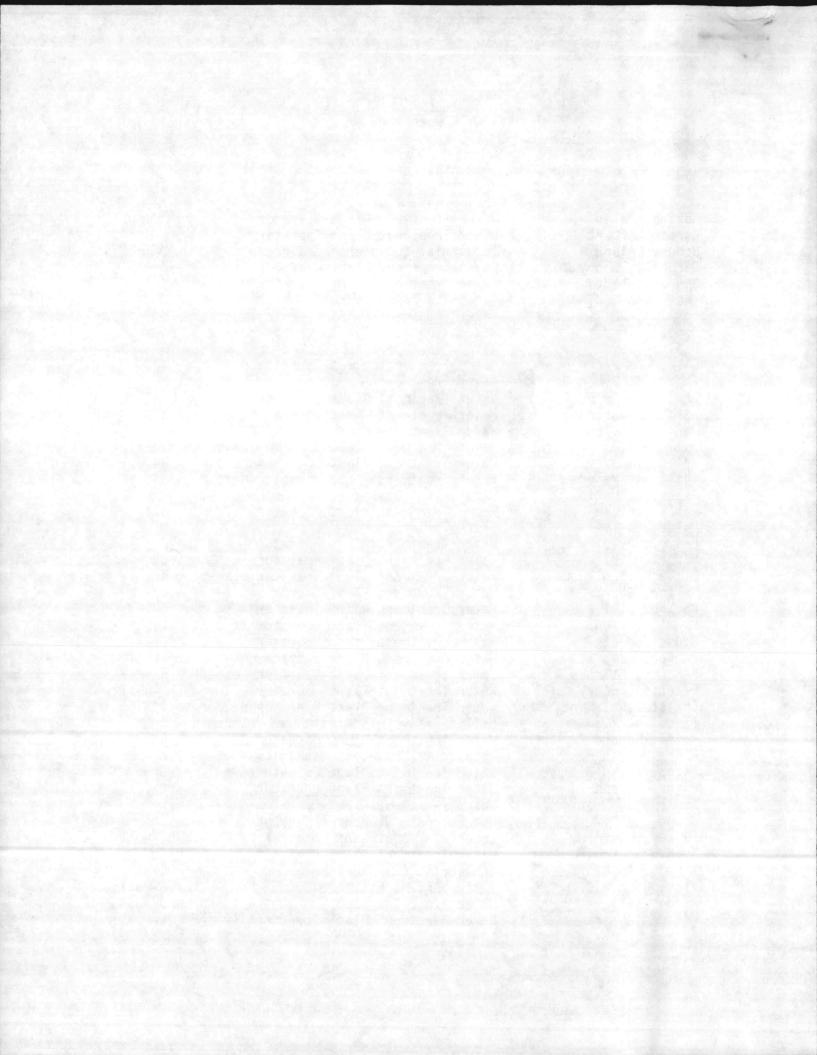
### Name

### Title

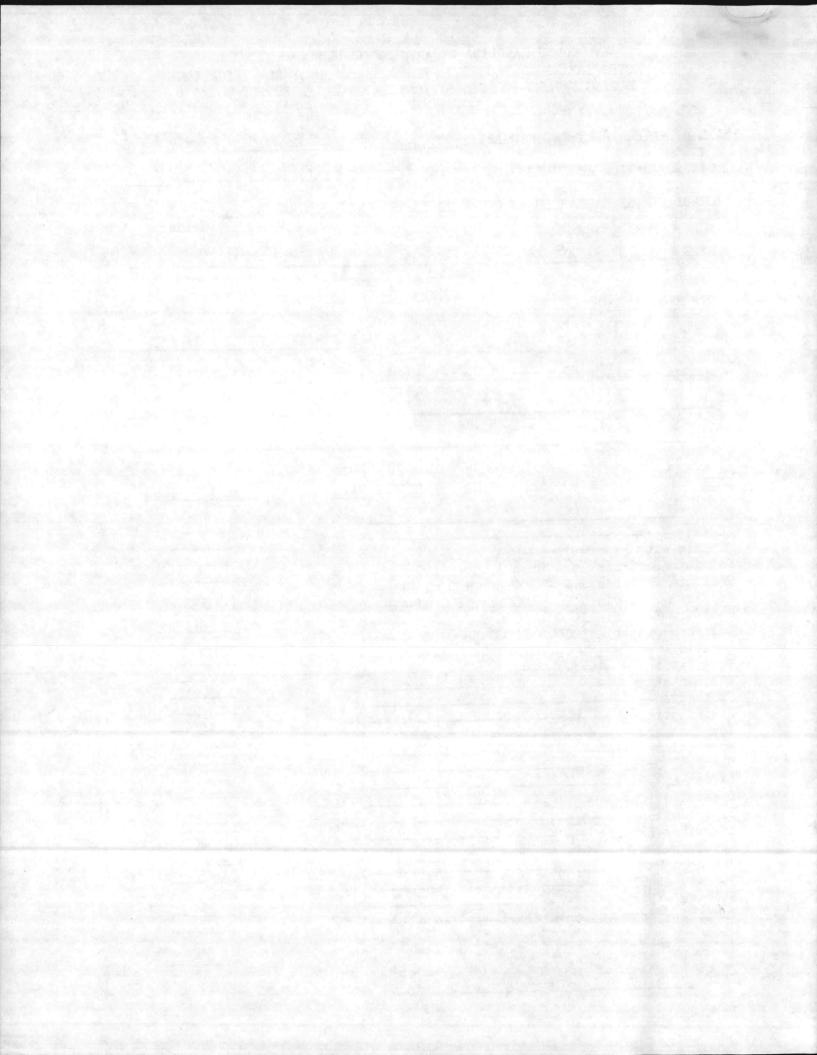
## Certification

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|-----|-----------------------|--|--------------------------------------|
|     | Adkins, James M.      |  | C-Well                               |
|     | Barber, Elbert F.     | Water Treatment Plant Operator   | C                                    |
| 200 | Brown, Leland R.      |  | C-Well                               |
|     | Campbell, Emery G.    | Water Treatment Plant Operator   | C                                    |
|     | Cannon, Fred J.       | Water Treatment Plant Operator   | С .                                  |
|     | Huneycutt, Gaines B.  | Water Plant Operator   | C                                    |
|     | Collins, Philip R.    | Water Treatment Plant Operator   | С                                    |
|     | Duncan, Freddy        | Water Treatment Plant Operator   | Β .                                  |
|     | Dunlap, James         | Water Plant Operator   | 0                                    |
|     | Ellis, Donald R.      | Water Treatment Plant Operator Leader  | С                                    |
|     | Frazelle, Byron M.    |  | A                                    |
|     | Hardison, Rufus C.    |  | С                                    |
|     | Hartsoe, Joel R.      |  | B-Well                               |
|     | Herring, L.           | Water Plant Operator   | 0                                    |
|     | Hill, Daniel E., Jr.  |  | B-Well                               |
|     | Holland, Larry W.     |  | B-Well                               |
|     | Phillips, Major       |  | 0                                    |
|     | James, Nathaniel L.   |  | õ                                    |
|     | Kelly, Calvin D., Jr. | Water Treatment Plant Operator   | c                                    |
|     | Kolde, Sally          | Clerk Typist   | Õ                                    |
|     | Lee, Jerry J.         | Water Treatment Plant Operator   | č                                    |
|     | Marhelko, Michael J.  | Water Treatment Plant Operator   | Č                                    |
|     | Miller, Stanley L.    |  | В.                                   |
|     | Milton, George D.     |  | C.                                   |
|     | Morton, Billie L.     | Water Treatment Plant Operator   | B                                    |
|     |                       |  | C                                    |
|     | Mundt, Berton L.      | the second state of the second states and second | C                                    |
|     | Odum, Cobrett G.      | Water Treatment Plant Operator   | C Holl                               |
| •   | Parker, Leon S.       |  | C-Well                               |
|     | -Pehowic, Stanley A.  | Water Treatment Plant Operator Leader  |                                      |
|     | Petersen, Larry G.    |  | C-Well                               |
|     | Christensen, Nancy    | the set it set should be the set of s | 0                                    |
|     | Price, W. R.          |  | B                                    |
|     | Reiff, Howard F.      | Water Treatment Plant Operator   |                                      |
|     | Rich, Melvin P.       | Industrial Equipment Mechanic  |                                      |
|     | Riggs, Alvin T.       | Water Treatment Plant Operator   |                                      |
|     | Riggs, Joseph E.      |  | C                                    |
|     | Smallwood, Scottie    | Water Treatment Plant Operator   | C                                    |
|     | Stone, Tally          | Water Treatment Plant Operator   | C                                    |
| 1   | Sumner, David W.      | Industrial Equipment Repairer  | C-Well                               |
|     | Sypnier, Richard A.   | Water Treatment Plant Operator   | Carrier and the state                |
|     | Thomas, Tommie T.     | Industrial Equipment Mechanic  | C-Well                               |
|     | Vick, Ronnie C.       |  | B-Well                               |
|     | Ward, William         | Water Plant Operator   | 0                                    |
|     | Wooten, Robert        |  | C-Well                               |
|     |                       |  |                                      |

4/86



NAME OF WATER TREATMENT FACILITY US MC CAMP (Cicupe - Holcoms Bhg. CLASSIFICATION ASSIGNED FACILITY AND LEVEL OF CERTIFICATE REQUIRED B-W GRADE CERTIFICATE HELD BY OPERATOR IN RESPONSIBLE CHARGE \_ Grade NAME B. M. TRAzelle (Operator) OTHER OPERATORS NAME GRADE CERTIFICATE HELD IF ANY see list UNIT RATING VALUE ASSIGNED VALUE Ground-3 Surface-----Surface with Reservoir-----Coliform Bacteria less than 1.0 per 100 ml---2 2 Coliform Bacteria 1.0 - 100 per 100 ml-----4 Coliform Bacteria 100 - 1000 per 100 ml-----6 Coliform Bacteria 1000 - 5000 per 100 ml----8 Coliform Bacteria 5000 - 20000 per 100 ml----12 Aeration-----.2 Coagulation \_\_\_\_\_ Spirecror - line -10 10 Sedimentation------5 Filtration------10 10 Disinfection-----10 10 Ion Exchange------5 Adsorption-----2 Chemical Oxidation-----2 Softening------2 2 Stabilization-----2 Fluoridation------10 10 Raw Water Pumping-------5 5 Contraction of the Contractor 5 1 Pumpage - from attached chart-(1.204 mg) 2 -1-50 12 TOTAL POINTS 4-10-86 DATE Form 2

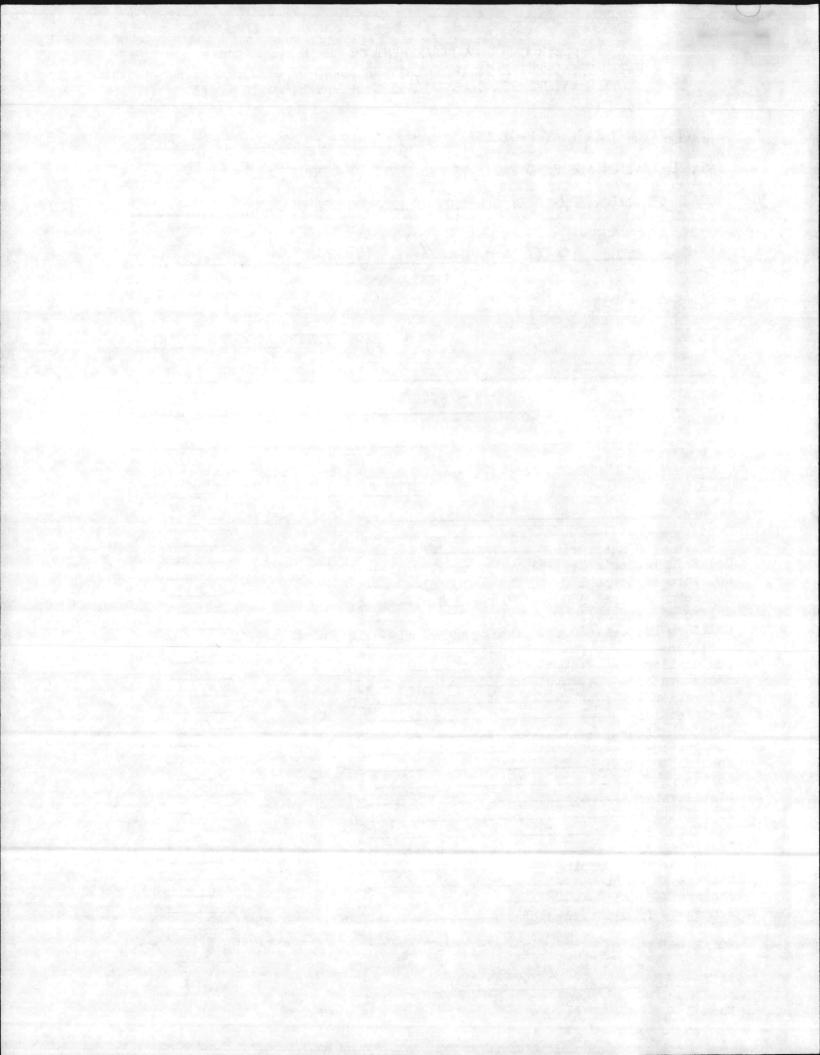


| CLASSIFICATION ASSIGNED FACILITY AND LEVEL OF CERTIFICATE REQUIRED <u>A</u><br>ERADE CERTIFICATE HELD EV OPERATOR IN RESPONSIELE CHARGE <u>A</u><br>Grade<br>CAME <u>C.M. TRACC/(c.<br/>(Operator)</u><br><u>OTHER OPERATORS</u><br><u>NAME</u> <u>ERADE CERTIFICATE HELD IF ANY</u><br><u>CRADE CERTIFICATE HELD IF AN</u> | IN RESPONSIBLE CO<br>GRADE CERTIN<br>RATING VALUE | HARGE<br>Grade  |
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| page - from attached chart1-50 74   | 1   |   |
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|   | 241 mil   | 24  |
|   |   | 02  |
| POINTS  |   | $\begin{array}{c}6 \\ 0 \text{ ml}2 \\4 \\ 16 \\ m8 \\ 0 \text{ ml}12 \\2 \\2 \\10 \\5 \\10 \\5 \\2 \\2 \\2 \\2 \\2 \\2 \\2 \\2 \\2 \\2 \\5 \\1 \\5 \\1 \\5 \\1 \\5 \\1 \\5 \\1 \\5 \\1 \\5 \\1 \\$ |

Form 2

St. 4. 19.62

the way



| IAME OF WATER TREATMEN    | T FACILITY 4/5  | me camphejeun            | - Drislow REACH    |  |
|---------------------------|-----------------|--------------------------|--------------------|--|
|                           |                 | , ,                      |                    |  |
| OLASSIFICATION ASSIG      | NED FACILLTY AN | D LEVEL OF CERTIF        | ICATE REQUIRED B.W |  |
| GRADE CERTIFICATE HE      | LD EY OPERATOR  | IN RESPONSIBLE CH        | ARGE - A -         |  |
| Contraction of the second |                 |                          |                    | · · · · · ·                              |
| NA ME                     | ID TE /         |                          |                    |  |
| MARD.                     | (Operato        | r)                       | and the second     | a state                                  |
|                           |                 |                          |                    | 1  |
| OTHER OPERATORS           |                 |                          |                    |  |
| NAME                      |                 | CRADE CERTE              | ICATE HELD IF ANY  |  |
|                           |                 | CANDE CERTIF             | TOATE HELD IF ANT  |  |
|                           | SEE UST         |                          |                    |  |
| •                         |                 | The second second second |                    |  |
|                           |                 |                          |                    |  |
|                           |                 |                          |                    |  |
|                           |                 |                          |                    | 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1 |
| DIT M                     |                 |                          |                    |  |
| NIT                       | ·               | RATING VALUE             | ASSIGNED VALUE     | 1  |
| round                     |                 | 3                        | · 7                |  |
| urface                    |                 | 5                        |                    |  |
| urface with Reservoir     |                 |                          |                    |  |
| oliform Bacteria less     | than 1.0 per 1  | .00 ml2                  | 2                  |  |
| oliform Bacteria 1.0      | - 100 per 100 m | 14                       |                    |  |
| oliform Bacteria 100      | - 1000 per 100  | ml6                      |                    |  |
| oliform Bacteria 1000     | - 5000 per 100  | ml8                      |                    |  |
| oliform Bacteria 5000     | - 20000 per 10  | 0 ml12                   |                    |  |
| eration                   |                 | 2                        | _2                 |  |
| oagulation                |                 |                          |                    |  |
| edimentation              |                 |                          |                    |  |
|                           |                 | )                        |                    |  |
| isinfection               |                 | 10                       | 10                 |  |

2

5

2 2 49

. · · ·

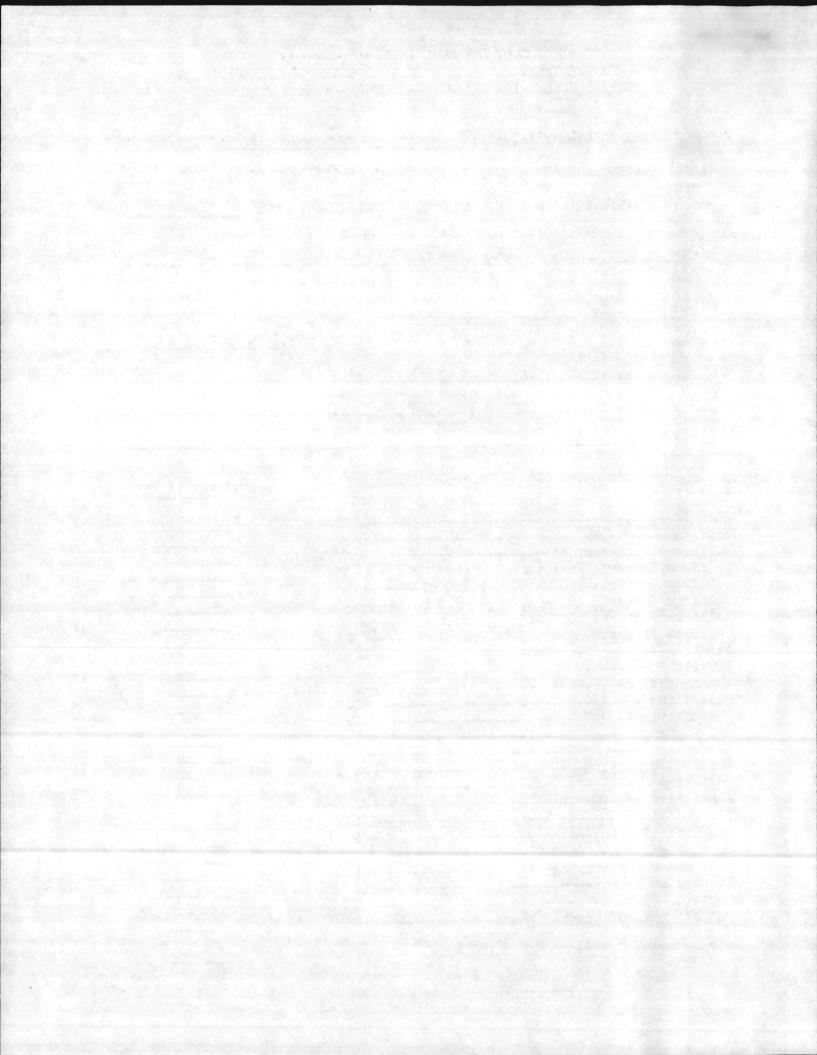
| Filtration                    | -10   |
|-------------------------------|-------|
| Disinfection                  | -10   |
| Ion Exchange                  |       |
| Adsorption                    | _2    |
| Chemical Oxidation            | _2    |
| Softening                     | -2    |
| Stabilization                 | _2    |
| Fluoridation                  | -10   |
| Raw Water Pumping             | _5    |
| Receiving Basin               | -1    |
| Finished Water Pumping        | 5     |
| Storage at Plant              |       |
| Storage - System              |       |
| Pumpage - from attached chart | -1-50 |
| TOTAL POTITE (.137 M          | 5)    |

TOTAL POINTS

4-10-86

Form 2

DATE



|  | in an an a share a sha |  |  |
|--|--|--|--|
| NAME OF WATER TREATMENT FACILITY 11    | MC - CAMP Leipper  | 1 - CURTHOUSE RAU  |  |
| CLASSIFICATION ASSIGNED FACILITY AN    |  |  |  |
|  | ND LEVEL OF CERTI  | FICALE REQUIRED 5-00   |  |
| GRADE CERTIFICATE HELD BY OPERATOR     | IN RESPONSIBLE C   | CHARGE   |  |
|  |  | Condo  |  |
| NAME 3 m =                             | - Marine   |  |  |
| NAME <u>B. M. Fr</u><br>(Operate       | or)  | and the second |  |
| OTHER OPERATORS                        |  |  |  |
| OTHER OPERATORS                        |  |  |  |
| NAME                                   | CRADE CEPTI  | IFICATE HELD IF ANY  |  |
|  |  | IFICATE HELD IF ANI  |  |
| See list                               | •  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
| UNIT                                   | RATING VALUE   | ASSIGNED VALUE   |  |
| Ground                                 |  |  |  |
| Surface                                |  | _3   |  |
| Surface with Reservoir                 |  |  |  |
| Coliform Bacteria less than 1.0 per    | 100 m12  |  |  |
| Colliform Bacteria 1.0 - 100 per 100 r | n]/  |  |  |
| Collform Bacteria 100 - 1000 per 100   | m]6  |  |  |
| Collform Bacteria 1000 - 5000 per 100  | <b>]</b> 0 '   |  |  |
| Collion Bacteria 5000 - 20000 per 10   | 00 ml 12   |  |  |
| Aeraulon                               | 2  | 2  |  |
| Coagulation-                           |  |  |  |
| Sedimentation                          | 5  |  |  |
| Filtration                             | 10   | 10   |  |
| Ion Exchange                           |  |  |  |
| Adsomption                             |  |  |  |

2

2

2

10

2

(.452 mb)

1-50

2

5

5

1

2

5

52

TOTAL POINTS

Chemical Oxidation----

Softening-----

Raw Water Pumping ---

Storage at Plant ----

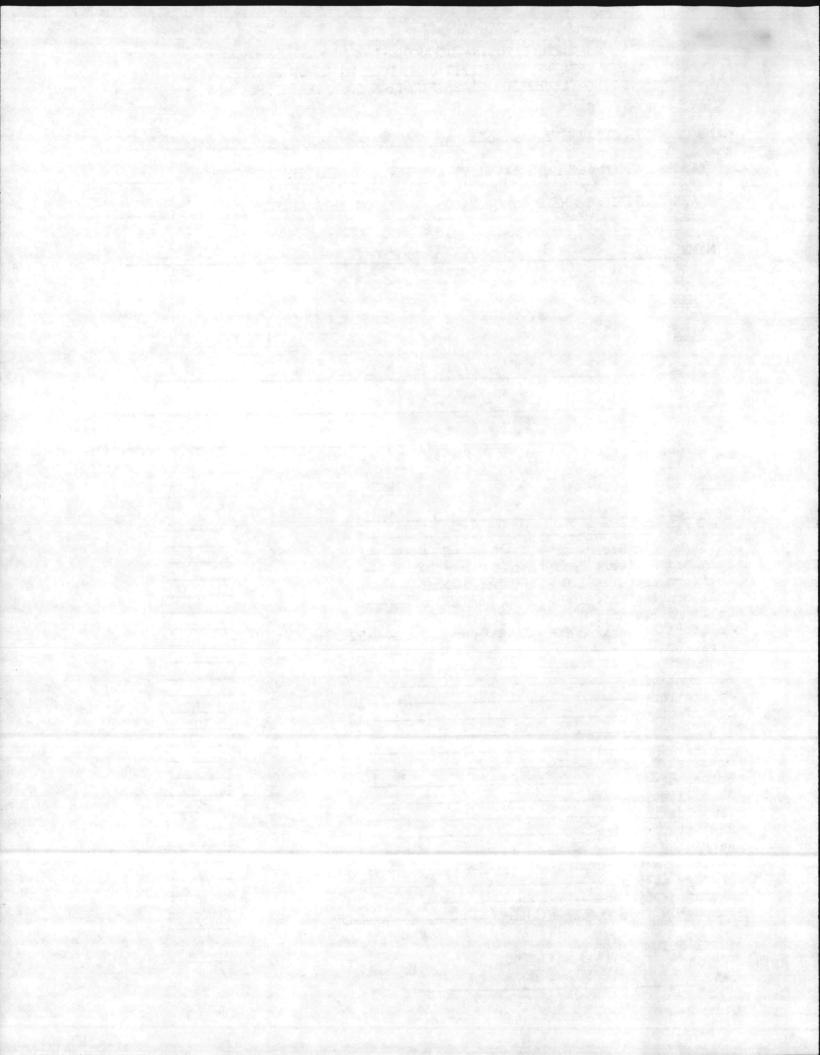
Storage - System-

Fluoridation----

Stabilization-----

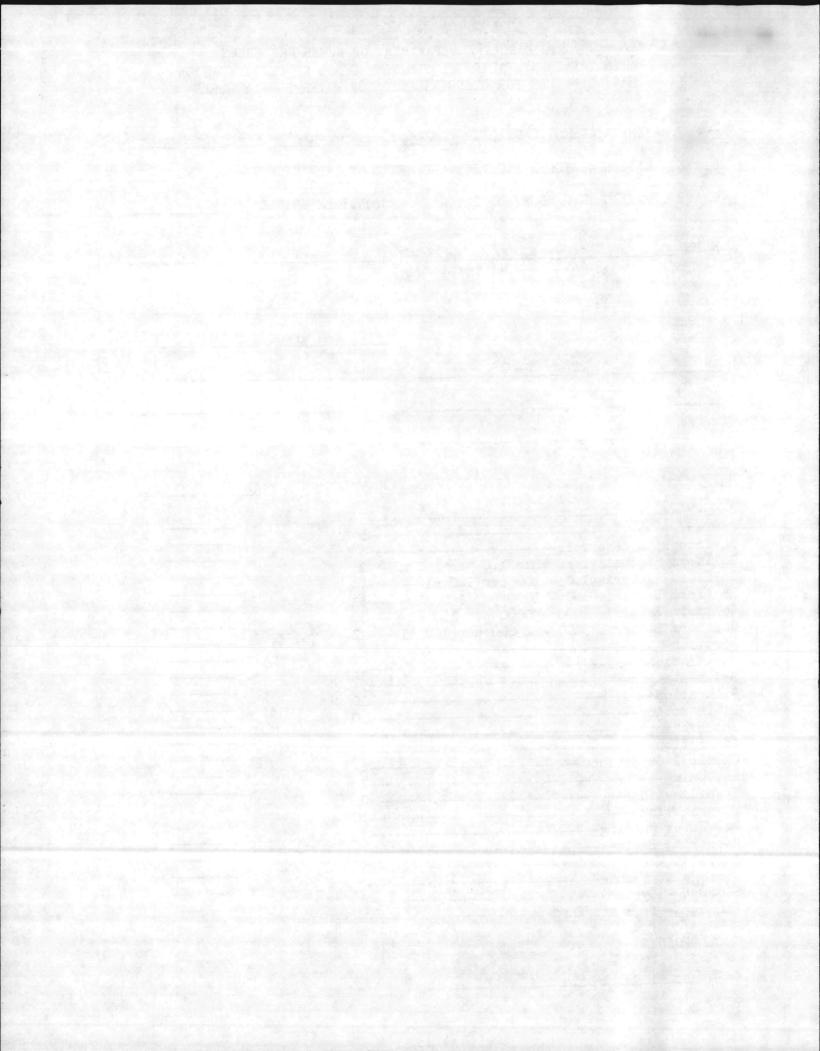
4-10-86 DATE

Pumpage - from attached chart-



| NAME OF WATER TREATMENT FACIL  | ITY USMC - Canoleinung         | - P. C. Rause      |  |
|--------------------------------|--------------------------------|--------------------|--|
| CLASSIFICATION ASSIGNED FAC    |                                |                    | . ر  |
|                                |                                |                    | a series and a series of the s |
| GRADE CERTIFICATE HELD BY C    | PERATOR IN RESPONSIBLE CH      |                    |  |
| NAME                           | n. FRAcelle                    | Grade              | rain shere   |
|                                | (Operator)                     |                    | S. Martines  |
| OTHER OPERATORS                |                                |                    |  |
| NAME                           | CRADE CEPTE                    | TOAME HETE TE ANY  | the state  |
| Se                             | e list                         | ICATE HELD IF ANY  |  |
|                                |                                |                    |  |
| UNIT                           | RATING VALUE                   | ASSIGNED VALUE     |  |
| Ground                         |                                |                    |  |
| Surface                        |                                | 3                  |  |
| Surface with Reservoir         |                                |                    |  |
| Coliform Bacteria less than 1  | 0 per 100 -1 0                 | 2                  |  |
| Coliform Bacteria 1.0 - 100 p  | or 100 ml /                    | -2-                | Contraction of the second  |
| Coliform Bacteria 100 - 1000   | Den 100 -1 (                   |                    |  |
| Coliform Bacteria 1000 - 5000  |                                |                    |  |
| Coliform Bacteria 5000 - 2000  | 0 per 100 ml 12                |                    |  |
| Aeration                       |                                |                    |  |
| Coagulation                    | 2                              |                    |  |
| Sédimentation                  | F                              |                    |  |
| Filtration                     | 10                             | 10                 |  |
| Disinfection                   | 10                             |                    |  |
| 10n Exchange                   | 5                              | _/0                |  |
| Adsorption                     | 2                              |                    |  |
| Chemical Oxidation             | 2                              |                    |  |
| Softening                      | 2                              |                    |  |
| Stabilization-                 | 2                              | 2                  |  |
| Fluoridation                   | 10                             |                    |  |
| Raw Water Pumping              | 5                              | _5                 |  |
| Receiving Basin                | the state of the second second | Contractor & Dates | Section 24   |
| Storage at Plant               | 5                              | 21                 |  |
| Storage at Plant               | 1                              | _1                 |  |
| Storage - System               | 2                              | 2                  |  |
| Pumpage - from attached chart- | (.767 mb)                      | 3                  |  |
| TOTAL POINTS .                 | (                              | (C)                | an in gailte a Miller II<br>An chair aideachairte aidean   |
|                                |                                | - 20               |  |
| DATE4-10-8                     | 20                             |                    |  |

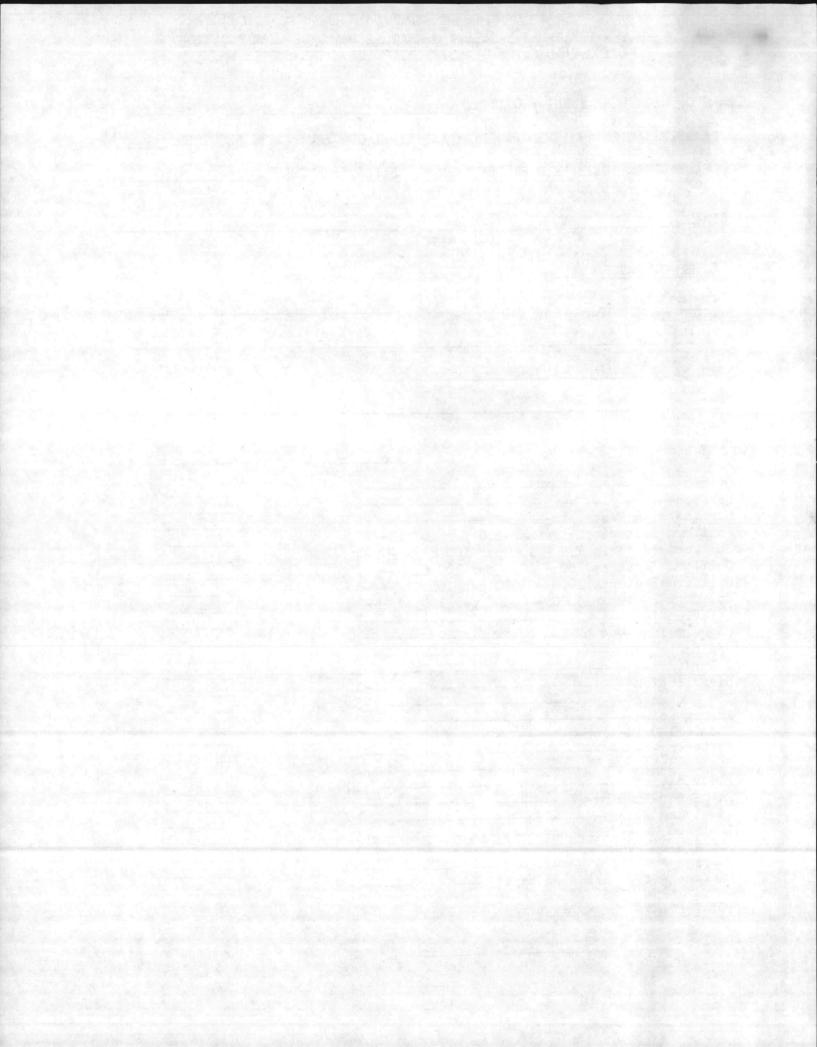
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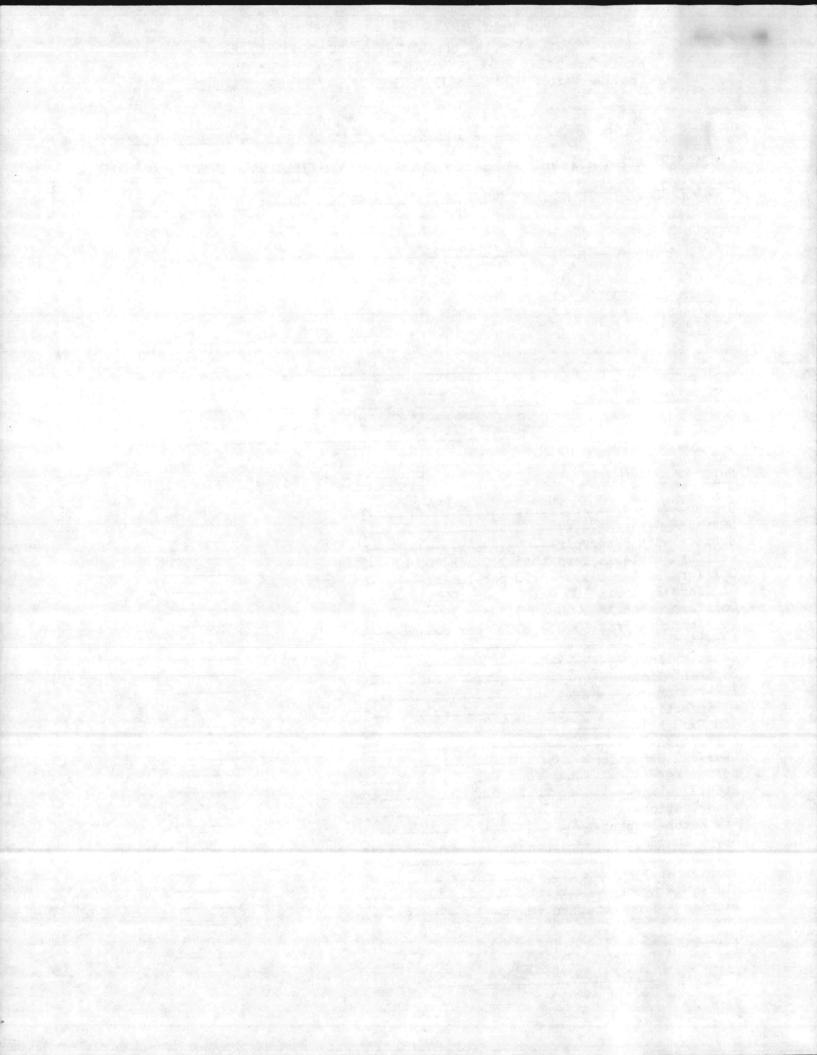
| NAME OF WATER TREATMENT FACILITY 115 1110  | - he made T  | NEQUILY TERRATE                  |
|--|--|----------------------------------|
|  |  |                                  |
| CLASSIFICATION ASSIGNED FACILITY AND LE    | EVEL OF CERTIFICAT   | TE REQUIRED 73-W                 |
|  |  | 2                                |
| GRADE CERTIFICATE HELD BY OPERATOR IN F    | RESPONSIBLE CHARGE   |                                  |
|  |  | Grade                            |
| NAME Bin FRAZ-lle                          |  |                                  |
| B.M. TRAZEILE                              | The second s | <del>a dan dan kas</del> i (ke s |
| (Operator)                                 |  |                                  |
| OTHER OPERATORS                            |  |                                  |
|  |  |                                  |
| NAME                                       | GRADE CERTIFICAT   | TE HELD TE ANY                   |
|  |  |                                  |
|  |  |                                  |
|  | A Barris and a second  |                                  |
|  |  |                                  |
|  |  |                                  |
|  |  |                                  |
|  |  |                                  |
| JNIT                                       |  |                                  |
| RAI  | TING VALUE   | ASSIGNED VALUE                   |
| Ground                                     |  | 7                                |
| Surface                                    | 5  |                                  |
| Surface with Reservoir                     | 6  |                                  |
| Coliform Bacteria less than 1.0 per 100 m  | n12  | 2                                |
| Coliform Bacteria 1.0 - 100 per 100 ml     | 4  |                                  |
| Coliform Bacteria 100 - 1000 per 100 ml    | 6  |                                  |
| oliform Bacteria 1000 - 5000 per 100 ml-   | 8  |                                  |
| oliform Bacteria 5000 - 20000 per 100 m    | 1  |                                  |
| Coagulation Cime - Spiracroz               | 2  |                                  |
| loagulation OMLPIRACTOR                    |  | 10                               |
| equimentation                              | 5  |                                  |
| Filtration                                 |  | 10                               |
| Disinfection                               | 10   | 10                               |
| Ion Exchange                               | 5  |                                  |
| dsorption                                  | 2  |                                  |
| Chemical Oxidation                         | 2  |                                  |
| Softening                                  | 2  |                                  |
| Stabilization                              | 2  |                                  |
| Sluoridation                               |  | 10                               |
| Receiving Basin                            | >  | ·                                |
| inished Water Pumping                      |  |                                  |
| torage at Plant                            | )  | <u> </u>                         |
| Finished Water Pumping<br>Storage at Plant |  | en <u>andres</u> de la sur       |
| Pumpade - from attached chart              | 2  | _2                               |
| 1817. ma                                   |  | <u></u> .                        |
| TOTAL POINTS                               | - )  | 128                              |
|  |  |                                  |

DATE

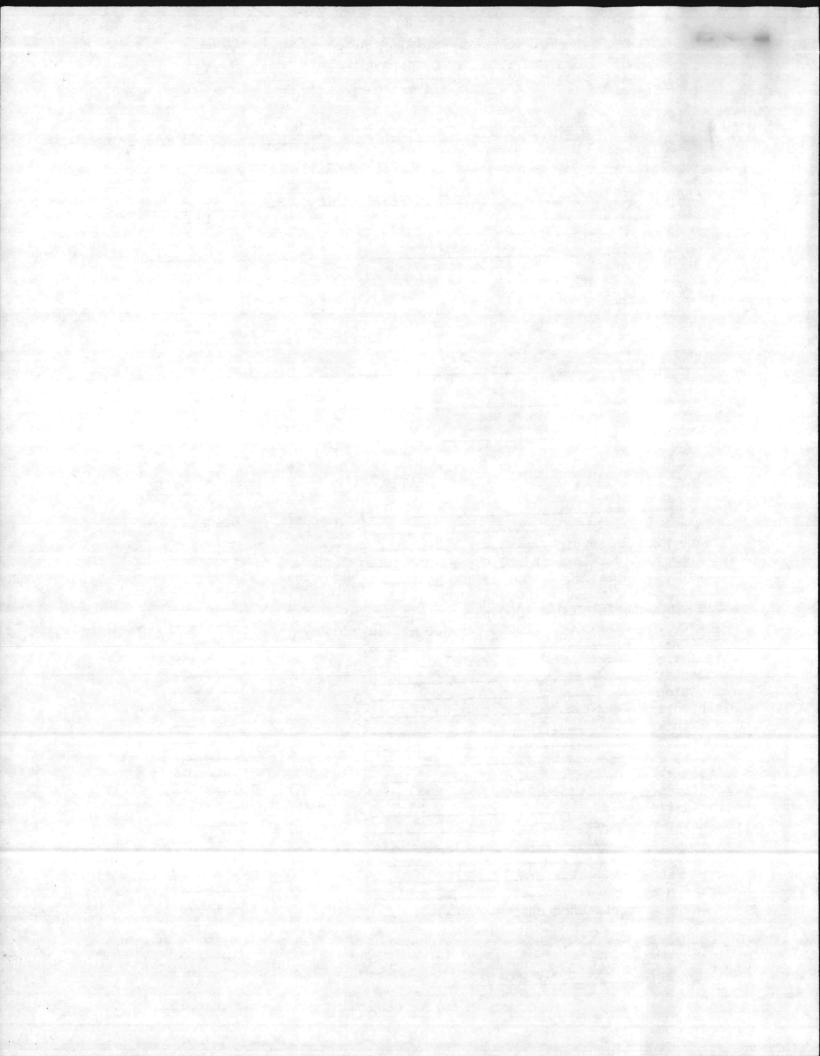
4-10-86



| NAME OF WATER TREATMENT FACILITY 1/5   | AL ANTI SI   | AC KAY JOHNSON  |
|--|--|---|
| CLASSIFICATION ASSIGNED FACILITY AND   |  |   |
| GRADE CERTIFICATE HELD BY OPERATOR     |  | and the second of the second of the second |
| DI OFERIOR                             | IN RESPONSIBLE C   | Grade   |
|  |  | Grade   |
| NAME 3.112. TPHO                       | -11-   |   |
| NAME 3.112 TRAD<br>(Operator           | r)   |   |
|  | •  |   |
| OTHER OPERATORS                        |  |   |
| MAN                                    |  |   |
| NAME                                   | GRADE CERTI  | FICATE HELD IF ANY  |
|  | <ul> <li>A Second S</li></ul> |   |
|  |  |   |
|  |  |   |
|  |  |   |
|  |  |   |
|  |  |   |
|  |  |   |
| UNIT                                   | DATTIC VATIT   |   |
|  | RATING VALUE   | ASSIGNED VALUE  |
| Ground                                 | · 2 ·  | · · ·   |
| Surface                                | 5  |   |
| Surface with Reservoir                 | 2  |   |
| Coliform Bacteria less than 1 0 per 10 | 0 -1 2   |   |
| Collorm Bacteria 1.0 - 100 per 100 m   | 1/   | 2   |
| ULIIOTH BACLEFIA (0) - 1000 per 100 -  | -1 (   |   |
| Collion Bacteria 1000 - 5000 per 100   | - 0  |   |
| 0011101 Bacteria 5000 - 20000 ner 100  | ] m] 12  |   |
| Aeraulon                               | 2  |   |
| coagulation                            | 10   |   |
| Sedimentation                          | F  |   |
| Flitration                             | 10   |   |
| Disinfection                           | 10   |   |
| Ion Exchange                           |  | _10   |
| Ausorption                             | 2  | <u> </u>  |
| Chemical Oxidation                     | 2  |   |
| Softening                              | 2  |   |
| Dtabilization                          | 2  |   |
| rluoridation                           | 10   | 2   |
| naw Water Pumping                      | 5  |   |
| Receiving Basin                        | in the second  | a sa an ta  |
| Finished Water Pumping                 | 5  |   |
| blorage at Plant                       |  |   |
| btorage - System                       |  | 1   |
| Pumpage - from attached chart          |  |   |
| / 2/                                   | 40 116)  |   |
|  |  |   |
| TOTAL POINTS.                          |  | 21  |



| FAULTIN ROSLAND FAULTI A            | AND LEVEL OF CERTIFICATE REQUIRED 3.4   |
|-------------------------------------|---|
|                                     | 있는 것에서 가지 않는 것에서 해외 것은 것은 것이 같은 것이 있는 것이다. 이 가지 않는 것이 가지 않는 것이다. 이 가지 않는 것이 가지 않는 것이다. 이 가지 않는 것이 가지 않는 것이다. 이 가지 않는 것이다. 이 가지 않는 것이 가지 않는 것이다. 이 가지 않는 것이 가지 않는 것이다. 이 가지 않는 것이다. 이 가지 않는 것이다. 이 가지 않는 것이 있는 것이다. 이 가지 않는 것이 있다. 이 가지 않는 것이다. 이 가지<br>이 가지 않는 것이 않는 것이 않는 것이 같이 않는 것이 같이 않는 것이 있다. 이 가지 않는 것이 않는 것이 않는 것이다. 이 가지 않는 것이 않<br>것이 않는 것이 하는 것이 않는 않는 것이 않 않<br>것이 않는 것이 않 않 않 않 않는 않는 것이 않는 것이 않는 것이 않는 것이 않는 않는 것이 않는 것이 않는 것이 않는 않는 않이 않는 않는 것이 않는 않이 않이 않이 않이 않는 것이 않는 것이 않는 것이 않는 것이 않는 않는 것이 않는 않는 |
| CLADE CERTIFICATE HELD BY OPERATOR  | R IN RESPONSIBLE CHARGEA  |
|                                     | Grade   |
| NAME B.M. FRAZE                     | 11.   |
| NAME B.M. FRAZE                     | tor   |
|                                     |   |
| OTHER OPERATORS                     |   |
| NAME                                |   |
| MILD                                | GRADE CERTIFICATE HELD IF ANY   |
| SEE UST                             |   |
|                                     |   |
|                                     |   |
|                                     |   |
|                                     |   |
|                                     |   |
| NIT                                 |   |
|                                     | RATING VALUE ASSIGNED VALUE   |
| round                               |   |
| uriace                              |   |
| urlace with Reservoir               | 1   |
| olliorm Bacteria less than 1 0 ner  | 100 -1 2  |
| official bacteria 1.0 - 100 per 100 |   |
| OTTOTA Bacteria 100 - 1000 per 100  | -1 (  |
| $\mathbf{U}$                        |   |
| Dillorm Dacteria 5000 - 20000 ner 1 | 00 ml12   |
|                                     |   |
| agulation - DURACTOR - 1. MIE       |   |
|                                     |   |
| oagulation<br>edimentation          |   |
| edimentation                        | 5   |
| edimentation                        | 5   |
| edimentation                        | 5<br>10<br>10<br>10<br>10<br>10<br>10<br>   |
| edimentation                        |   |
| edimentation                        | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$   |



| ELL SITE: Owned or controlled (100' | radius)? OK -AL  | L WELLS  |
|-------------------------------------|--|--|
| Sources of pollution/distance       | CONTRoller   | by usme.   |
| Adequate slope?                     |  | ?  |
| ELL HOUSE: Free of stored material  | and the second | and the second |
| Properly drained?                   | . Encoro n   | notaction?   |
| Condition of house                  |  | Locked? Yes  |
|                                     |  |  |
|                                     |  | Yield (GPM) Varies Storage at well   |
|                                     | Properly_vented  |  |
| Casing depth                        | Well depth   | Meter Available? @ WTP   |
| Concrete slab adequate?             |  | Size Aux ENq @ 7 well  |
| Size of blow-off                    | Sampl  | e tap available yes  |
| PUMP: Capacity 400 gpm 50           | 164 Type pump Ver  | ET THER (High Service 201000 gpm<br>KO 500 gpm   |
| Height above floor (pump/casing)    | Is p   | ump leaking? BOOSTERS 20125 gpm  |
|                                     |  | ove of eight) 3 @ 700 gpm  |
|                                     |  | 18/200 ppd In Service? yes   |
|                                     |  | 1? YES Gas Hask? AIR PACK . Repa.  |
| sources                             | Suzmerges ) Condition  | Alazms.  |
|                                     | (No RAJE CONTROS) 2  | ea Media JAND & ANTHR  |
| /                                   | 2  |  |
| Size 17×23'                         | Rate (gpm/ft <sup>2</sup> )  | Head loss B/W @ Z.5-3.0<br>48 hz   |
| Type controls Bhu Control           | ols only condition o   | K Surface whose  |
| Consents fifrez RATE Elia           | uses based on 6.0.   | H. filsen over low thru men  |
| Softeners: Type SpiRACTO            | No. 2.   | Media SAND - CATAly.   |
| Size Rate                           | (gen/ft <sup>2</sup> ) 1200 gpm  | Head loss  |
| Type controls USES HIDRA            | Tes lime   | ndition of (Bulk STORAGE)  |
| Comments Lime Stakez -s             | PARE UNIT  | Version and the Sector sector  |
| Other treatment (Describe):         |  |  |
| Process Wastewater treatment (Ges   | rite): To SAN SW2  |  |
| REMARKS AND RECOMMENDATIONS A       |  | 0  |
| HU.T                                | generator of all   |  |

|              | DEPARTMENT OF HUMAN RESOURCES  |
|--------------|--|
|              | WELL NO. WELL INFORMATION* ID NO.  |
|              | WELL NO ID NO  |
| 1)           | KELL SITE: Owned or controlled (100' radius)? OK - ALL Wells   |
|              | Sources of collution/distance CONTROLLED by USMC   |
| •            | Adequate slope?Flooding?   |
| 2) .         | WELL HOUSE: Free of stored materials? 483  |
|              | Properly drained?Freeze protection?  |
| eller<br>Num | Condition of house OF Locked? 403  |
| 3)           |  |
|              | WELL: Diameter VORICD Type const. GRAJE Vield (SPM) /ARIED Storage at well NO  |
| 8u           | Properly sealed? Properly vented?  |
| 2            | Casing depth Meter Available? @ u)TP   |
|              | Consinete slap adequate? Size Hur a 5 wells  |
|              | Size of blow-off Sample tap available 1/65   |
|              |  |
| 4)           | PUMP: Casacity 40 Max 200 409 115 Type punt VERT TURB. (SCIENCE plumps - 1250 gpm (why   |
|              | Height above floor (pump/casing) Is pump leaking? Society floor  |
| 5)           | TREATMENT: is this a central treatment facility? yes (one of one of out.)  |
|              |  |
|              | Chlorinator: Type WIT gas (150#) Capacity 10/30 ppd In Service? yes  |
|              | Spare parts or unit? Spaze unit (SDpd) Proper ventilation? yes Gas Mask? AIR pack Repair Kit;  |
|              | Aerator: Type NONE Condition   |
| •            |  |
|              | Filter(s): Type NONC No. Media   |
|              | SizeRate (gpm/ft <sup>2</sup> )Head loss   |
|              | Type controls Condition  |
|              |  |
|              | Comments   |
|              | Softerers: Type Ion ExcHANGE No. 2 Media Na Zeolire  |
|              | Size 72" & Rate (gpm/2) 180 ca Head loss ± 10  |
|              |  |
|              | Type controls Condition fair (Some leriks)   |
| CTAN /       | Evenents Regent @ . 048 HE - But sate tank with towe were of the   |
|              | I CHERDICAL  |
| •            | Other treatment (Describe): Phosphase - BIF Fred party (29al/20 gal HoD) (1.0 mg/l   |
|              | Process mastewater treatment (Describe): discrig to SAN. SWK.  |
|              | REMARKS AND RECOMMENDATIONS Values CARing at satura 2 To BE chasto aut For BG  |
| 6)           | KERNING AN ACCOUNTED AND A CAPTURE OF A CAPTURE OF A CAPTURE AND A CAPTURE |
|              |  |

| WELL NO.  |   |   | DIVISION OF HEAL<br>*WELL INFORM   |   | ID NO.                           |                                 |
|---|---|---|--|---|----------------------------------|---------------------------------|
| WELL S  | SITE: Owned or contro   | olled (100' radius)?  | · (  | OK - ALL                                  | wills                            |                                 |
| Sour  | rces of pollution/dist  | tanceSI   | ites contr   | solles by                                 | usme                             |                                 |
| Adeq  | quate slope?  |   |  | Flooding?                                 |                                  |                                 |
| WELL H  | HOUSE: Free of stor   | red materials?  | 405  |   | and the second                   |                                 |
| Pro   | operly drained?   |   | 1999 - 1997 - 1997   | Freeze protection?                        |                                  | e kanta ana ana a               |
| Çon   | ndition of house  | OK  | and a second   | Lo  | cked?y                           | es                              |
|   |   |   |  |   |                                  | Storage at well                 |
| 9 Pro   | coperly sealed?   | 423   | . Properl  | y vented?                                 | · <u><u> </u></u>                |                                 |
| 1   | sing depth  | • · · · · · · · · · · · · · · · · · · ·                       |  |   | Meter Availa                     | ble?                            |
| . )   | crete slab adequate?  |   | for million  | Statistics.                               | Size                             |                                 |
| 2.00/4)   | )   |   |  | 6 1. to                                   |                                  | a z malle                       |
|   | ze of blow-off  | Max AVA   | 1  |   | and the second                   | ; @ Z wells                     |
| PUMP:   | Capacity Ill  | gpm 236 4   | <u>141</u> · Type pump   | High Serve                                | ce Pumps                         | (w/aux pwz)<br>; 8509pm; 5009pm |
| He  | eight above floor (pum  | p/casing)   | _ · ·  | Is pamp lesking                           | 12 1200 1pm                      | (way pure)                      |
| TREAT   | IMENT: Is this a cen  | itral treatment facil   | and an international survey and the second s | yes (1.                                   | 2 8                              | , asoffm, sos gra               |
| Chl   | lorinator: Type 4   | ) & T gas   | Cap  | acity 50                                  | ppd                              | In Service? 11es                |
|   | pare parts or unit? S   |   |  |   |                                  | AIR Pack ' Repair 1<br>& Alext. |
|   | erator: Type  | NONE  | Con  | dition                                    |                                  | é alezt.                        |
|   | ilter(s): Type D  |   | No.  | 10  | Media                            | SAND                            |
| Fi  |   |   |  |   |                                  |                                 |
|   | RUNA  | Pate la   | -/F+2) )   | 27  | Head loss                        | +5-10 11.                       |
| Si  |   | Rate ( <del>g;</del>  |  |   | <b>a</b> Head loss               | #5-10 Cbs                       |
| Si .<br>Typ                                     | ype controls  |   | Condition  | 1   |                                  |                                 |
| Si:<br>Tyr<br>Cor                               | ope controls  | step dail   | Condition  | ess of one                                | ings in                          | filter sizes                    |
| Si:<br>Tyr<br>Co:<br><u>So</u>                  | ope controls<br>prementsAckwc<br>ofteners: Type   | piractor  | Condition<br>Y - Acc.<br>No.   | ess 0/000                                 | Media                            | Filter sides                    |
| Si:<br>Tyr<br>Co:<br><u>So</u>                  | ope controls<br>prementsAckwc<br>ofteners: Type   | piractor  | Condition<br>Y - Acc.<br>No.   | ess 0/000                                 | Media                            | filter sizes                    |
| Si:<br>Tyr<br>Co:<br><u>So</u><br>Si            | ope controls<br>prementsAckwc<br>ofteners: Type   | <u>piractor</u><br><u>D</u> Rate (gpm/ft <sup>2</sup>         | <u>Condition</u>   | ess of ers,                               | Media<br>Head loss               | filter sides                    |
| Si:<br>Tyr<br>Co:<br><u>So</u><br>Si            | opments <u>BACKwc</u><br>ofteners: Type <u>S</u><br>ize <u>1.0 MG</u>   | <u>piractor</u><br><u>D</u> Rate (gpm/ft <sup>2</sup>         | <u>Condition</u>   | ess of ers,                               | Media<br>Head loss               | filter sides                    |
| Si<br>Tyr<br>Cor<br>Si<br>Si<br>Ty<br><b>Co</b> | ype controls<br>orments_ <u>BACKwc</u><br>ofteners: TypeS<br>ize <u>1.0</u> <u>MG</u><br>ype controls_ <u>Hydo</u><br>orments | DIRACTOR<br>DRate (gpm/ft<br>ATED lime -                      | Condition<br>- Acco<br>No.<br>2)<br>BAGS<br>Inc solow  | Condition                                 | Media<br>Head loss<br>Direct ind | filter sides                    |
| Si<br>Tyr<br>Cor<br>Si<br>Si<br>Ty<br><b>Co</b> | ype controls<br>orments_ <u>BACKwc</u><br>ofteners: TypeS<br>ize <u>1.0</u> <u>MG</u><br>ype controls_ <u>Hydo</u><br>orments | D<br>Rate (gpm/ft<br>ATED lime -<br>(be): Nat - in<br>WET 747 | Condition<br>Y - Acco<br>No.<br>2)<br>BAGS<br>Line culture   | condition no<br>Condition no<br>condeface | Media<br>Head loss<br>Dixer IND  | filter sides                    |

•

|        | DEPARTMENT OF HU<br>DIVISION OF HEA<br>WELL NO          | ALTH SERVICES  | ID NO  | isteres !  |
|--------|---|--|--|--|
| 1)     | 1) WELL SITE: Owned or controlled (100' radius)?        | OK -ALL We   | lls  |  |
|        | Sources of pollution/distance None                      | · CONTRO   | les by usme  | in the second second                             |
|        | Adequate slope?   | Flooding?  |  |  |
| 2)     | 2) WELL HOUSE: Free of stored materials? 42             | 5  |  |  |
| 1.     | Properly drained?                                       | Freeze protection?   | yes  | 2011<br>1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1 |
|        | Condition of house                                      | Locke  | d? yes   |  |
| 3)     | 3) WELL: Diameter Vazies Type const. gizAv              | // Yield (GPM)   | Vamies Storage at wel  | 1  |
|        | Properly sealed?Proper                                  | ty vented STOTAL   | 756 gpm  |  |
| 4 4    | Well depth  |  | Meter Available? 4=5   |  |
|        | Concrete slab adequate?                                 |  | and drive @  | 2 wells  |
|        | Size of blow-off  | Sample tap availabl  | e 483  |  |
| . 4)   | 4) PUMP: Capacity 104 gpm 300 Hp 189 Type pum           | P VERT TURB  | (high service  | is with)   |
|        | Height above floor (pump/casing)                        | Is pump leaking?   |  |  |
| 5)     | 5) TREATMENT: Is this a central treatment facility? 4=3 | (one of eig  | hr)  | Kilo fart  |
|        | Chlorinator: Type WIT GAS (150= cy/)Ca                  | · · · · · · · · · · · · · · · · · · ·  | and the second | yes (marifolo                                    |
|        | Spare parts or unit? SPARE @ 30 ppd Proper v            |  | • /  | , ayaran   |
|        | Aerator: Type PERMUTIT FORCED dRAFT CO                  |  | , .  | KIT  |
|        | Filter(s): Type Pressure (Permurr No                    | . 3  | Media SAND   |  |
|        | Size- 96 0 Rate (gpm / 34 90                            | mea  | Head loss 5#   |  |
|        | Type controls Mularpopers Condition                     | on or - all ce   | sured's Nor AU   | TAMATIC  |
|        | Conments B/w en 324 day                                 |  |  |  |
|        | Softeners: Type Permurir No.                            | 2  | Media Na Zeolis  | -2   |
|        | Size 60" & Rate (gpm/2) 128 gpm                         | ea   | Head loss 5-84   |  |
|        |   | Condition O  | K  |  |
| 122.00 | Comments REGENERATE @ 100 MG                            | BRINE  | they there inst  | or with  |
|        | Other treatment (Describe): Lime feed for               | en en reger al en state en sen de la ser |  | A  |
|        | Process Wastewater treatment (Describe): discord to     |  |  |  |
| 6)     | 6) REMARKS AND RECOMMENDATIONS                          |  |  |  |
|        |   |  |  |  |
|        |   |  |  |  |
|        |   | and all and a second   |  |  |

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|          | and Ba                                     | a final and the second second second          | HUMAN RESOURCES<br>HEALTH SERVICES  |   |
|----------|--|---|---|---|
|          | WELL NO.                                   | *WELL IN                                      | FORMATION*  | ID NO.  |
| )        | WELL SITE: - Dwned or controlled (100' rad | us)? OK -                                     | ALL WELLS   |   |
|          | Sources of pollution/distance              | Con   | MEOllep by 1  | LSMC  |
|          | Adequate slope?                            | ·   | Flooding?   |   |
| )        | WELL HOUSE: Free of stored materials?      | yes   |   |   |
| ****     | Properly drained?                          |   | Freeze protection?  | yes   |
|          | Condition of house                         | an and a second                               | Loc   | ked? 4C3  |
| : :<br>) |  |   |   |   |
| '        |  |   | A second s | VaRies Storage at well  |
|          | Froperly sealed?                           |   |   |   |
| w        | ells Casing depth                          | Well depth                                    |   | Meter Available? @ WTP  |
|          | Concrete slab adequate?                    |   |   | Size  |
|          | Size of blow-off                           |   | Sample tap availa   | ble_  |
| .)       | PUMP: Capacity 104 gpm 240                 | AN9 155 Type 1                                | Dump VERT TURK  | 5   |
|          | Height above floor (pump/casing)           | * * * * * *                                   |   | ice pumps 200500 gpm  |
| 5)       | TREATMENT: Is this a central treatment     | facility?                                     | - love ale  | 1@750 W/AWX . 4R1   |
|          | Chlorinator: Type WET                      | the second second second second second second | - ,0  | pd In Service? YES  |
|          |  |   |   |   |
|          |  | 1.  | Contraction and the second second   | Gas Mask? Aiz pack: Alezt: Repo   |
|          | Filter(s): Type PERMITT -                  | PRESSURE                                      | No. 6   | Media   |
|          | Size 96 * & Ra                             |   |   | Head loss +5+   |
|          | Type controls Multipert                    |   | a particular and the second   |   |
|          | Comments BACKWASHED                        | 1.1.  |   |   |
|          |  |   | . ,)  | Media Na Zeolire  |
|          | Softeners: Type PERMUTIT                   | •   | A Share the bar   | and the second secon |
|          | Size 72 " & Rate (g                        | >m/∰) <u>102</u>                              | gpm ea  | Head loss 5 #   |
|          | Type controls Multiport                    |   | Condition (   | 28  |
|          | Comments Regewerared                       | @ 100 mb                                      | ante la testa   | an skouter (provident alle  |
|          | Other treatment (Describe): Lime           | Hydrares to:                                  | duzzy Sprimp -p   | Heonred for fe Reduction  |
|          | Process Wastewater treatment (Describ      | e): Phospha                                   | TE NOT IN .   | Service   |
| 6)       | REMARKS AND RECOMMENDATIONS                | Serving pe                                    | ond - discord.  | to chirch   |
|          | DERING day town ins                        | de Blog, she                                  | ould have cov   | ien l   |
|          | D Lime & POL NOT Ned                       | essary togo                                   | THER (Should,   | perform inplantials to der  |
|          | B T une may                                | DE GISCON                                     | 11. (   | lia l'interior condition  |

| 1        | DEPARTMENT OF HUMAN RESOURCES   |   |
|----------|---|---|
|          | WELL NO ID NO   |   |
| 1)       | WELL SITE: Owned or controlled (100' radius)? OK - ALL wells  |   |
|          | Sources of pollution/distance controlled by USMC  |   |
|          | Adequate slope?Flooding?  |   |
| 2).      | WELL HOUSE: Free of stored materials? 425   |   |
|          | Properly drained? Freeze protection?  |   |
|          | Condition of house  |   |
| 3)       | WELL: Diameter VARIES Type const. GRAVE Yield (GPM) VARIES Storage at well  | • |
|          | Properly sealed? Properly reated? TOTAL 369 9pm   |   |
| 20       | well depth Meter Available? <u>425</u>  |   |
|          | Concrete slab adequate?   |   |
|          | Size of tlow-off Sample tap available   |   |
| 4)       | PUMP: Capacity ZID gpm 159 419 185 Type pump VEIZT THERE  |   |
|          | Height above floor (pump/casing) Service frumps 1@ 1000 gpm (20/ nux dzive)   |   |
| • 5)     | TREATMENT: Is this a central treatment facility? Yes (our of eight) 10 300  |   |
|          | Chlorinator: Type WIT gas (150:1) Capacity 10/30 ppd In Service? 455  |   |
|          | Spare parts or unit? space 1@ 50 ppd Proper ventilation? Ues Gas Mask? Air PACK; Aker : Repair Kit  |   |
|          | Aerator: Type PECSSURIZED - IN Line Wir Condition OK - USES AIR COMPRESSOR  |   |
|          | Filter(s): Type Calgon (Pressure units) No. 2 Media Sano  |   |
|          | size 48 "& Rate (gpm ) 37 gpm con Head loss ± 5#  |   |
|          | Type controls Manual cycle Condition OK   |   |
|          | comments BACKWasher at.030ms -Uses Raw water for B/W  |   |
|          | Softeners: Type Calgon No. 2 Media Na Zeolire   |   |
|          | Size 42" & Rate (gpm/2) 75 gpm en Head loss ± 5 #   |   |
|          | Type controls Nanual cycle Condition OK - New Resin in 1977   |   |
| torise a | Comments Regenerared @ OBD MG   |   |
|          | en in 1989 - Celebra Service and a configuration of the service service end of the service service service serv   |   |
|          | Other treatment (Describe):   |   |
|          | Process Wastewater treatment (Describe): Settling. pond - pumped to dired   |   |
| 6)       | REMARKS AND RECOMMENDATIONS Should use TRTD. Waser (BR B/W 3 Flow PASTERN S/B   |   |
|          | REMARKS AND RECOMMENDATIONS <u>Should use TPTD</u> , waser for B/w 3 The pastern s/B<br>changed - NOW splir thru filters & softwers - Should All be then<br>filters then softwer (AExtend Resin Ge & Reduce iron in dist, system) |   |
|          | funces that -O have a function of the   |   |

| -         | WELL NO.  | DEPARTMENT OF HUMAN RESOURCES<br>DIVISION OF HEALTH SERVICES<br>*WELL INFORMATION*   | ID NO.   |
|-----------|---|--|--|
| 1)        | WELL SITE: . Owned or controlled (100' rad  | dius)? or - all w.   | 2115   |
|           | Sources of pollution/distance   | CONTRolled by  | usmc.  |
|           | Adequate slope?   | Flooding?  | ter fan gelaner felder oan de ferstellinge gelander oer  |
| 2)        | WELL HOUSE: Free of stored materials?   | yes  |  |
|           | Properly drained?   | Freeze protecti  | on?  |
|           | Condition of house  | or   | Locked? yes  |
| 3)        | WELL: Diameter Varies Ty  | ype const. <u>GRAVE</u> Yield  | (GPM) Varies Storage at well No  |
|           | Properly sealed?  | Properly vented? To  | DTAL - 7224 gpm  |
| 35<br>vel | Casing depth  | Well depth   | Meter Available? @ WTP   |
|           | Concrete slab adequate?   |  | size Aux @ 18 wolls  |
|           | Size of blow-off  | Sample tap   | available  |
| 4)        | PUMP: Capacity 450 Jpm 105  | AVA 350 Type pump VERTTO   | uzis (service pumps 1@ 3000 gpm<br>3@ 1500 gpm   |
|           | Height above floor (pump/casing)  | Is pump le   | aking? (aw/awy p   |
|           |   |  |  |
| 5)        | IREATMENT: Is this a central treatment  | t facility? yes (one   | of eight)  |
| 5)        | Chlorinator: Type WET gas   | Capacity 50/   | 100 ppd In Service? 425  |
|           | <u>Chlorinator</u> : Type <u>WET gas</u><br>Spare parts or unit? <u>Spare un</u>  | Capacity 50/2  | Copped In Service? 425<br>Gas Mask? ALEPK! Repair Kit<br>Cle Alept   |
|           | <u>Chlorinator</u> : Type <u>WET gas</u><br>Spare parts or unit? <u>Spare un</u><br><u>Spare com</u><br><u>Accetor</u> : Type <u>Propare gas</u>  | Capacity 50/2<br>Capacity 50/2<br>Capaci   | 100 ppd In Service? 425<br>105 Gas Mask? ALE PK! Repair Kit<br>Cla Alert<br>101 - 35   |
|           | <u>Chlorinator</u> : Type <u>WET GAS</u><br>Spare parts or unit? <u>Spare un</u><br><u>Spare parts or unit?</u> <u>Spare un</u><br><u>Acretor</u> : Type <u>Propare GAS</u><br><u>Filter(s)</u> : Type <u>GRAVEGA</u>   | Capacity 50/2  | 100 ppd In Service? 425<br>105 Gas Mask? ALE PK! Repair Kit<br>Cla Alert<br>101 - 35   |
|           | <u>Chlorinator</u> : Type <u>WET gas</u><br>Spare parts or unit? <u>Spare un</u><br>Spare parts or unit? <u>Spare un</u><br><u>Spare parts</u><br><u>Spare parts</u><br><u>Acretor</u> : Type <u>PROPANE GAS</u><br><u>Filter(s)</u> : Type <u>GRAVETY</u>  | Capacity 50/2<br>Capacity 50/2<br>Dir (200 performance)<br>BURNER<br>S-SUBMERGED Condition A<br>No. 5  | 100 ppd In Service? 425<br>100 ppd In Service? 425<br>100 - 85<br>Media SAND-ANTHRACITOR   |
|           | <u>Chlorinator</u> : Type <u>WET GAS</u><br>Spare parts or unit? <u>Spare un</u><br><u>Spare parts or unit?</u> <u>Spare un</u><br><u>Acretor</u> : Type <u>Propawe GAS</u><br><u>Filter(s)</u> : Type <u>GRAVEGA</u><br>Size <u>350 MBa</u> Ra   | Capacity 50/2<br>Capacity 50/2<br>Capacity 50/2<br>Condition 4<br>No. 5<br>Ate (gpm/ft <sup>2</sup> ) 2.0<br>Condition 9000  | 100 ppd In Service? 425<br>100 ppd In Service? 425<br>100 - 85<br>Media SAND-ANTHRACITOR   |
|           | <u>Chlorinator</u> : Type <u>Wet gas</u><br>Spare parts or unit? <u>Spare un</u><br><u>Accetor</u> : Type <u>Ropaws gas</u><br><u>Filter(s)</u> : Type <u>QEAVITY</u><br>Size <u>350 Mea</u> Ra<br>Type controls <u>New</u><br>Comments <u>Surface wa</u>   | Capacity 50/2<br>Dir (200 performed per ventilation? )<br>BURNER<br>S-SUDMERGED Condition A<br>No. 5<br>ate (gpm/ft <sup>2</sup> ) 2.0<br>Condition good<br>SN ea. Fibrer  | 1 Service? 425<br>1 Service? 425<br>Cas Mask? ALE PK! Repair Kit<br>Cle Alert<br>Neu) - 85<br>Media SAND-ANTHRACIT   |
|           | <u>Chlorinator</u> : Type <u>WET gas</u><br>Spare parts or unit? <u>Spare un</u><br><u>Spare parts or unit?</u> <u>Spare un</u><br><u>Acretor</u> : Type <u>Propane gas</u><br><u>Filter(s)</u> : Type <u>GRAVE gas</u><br><u>Filter(s)</u> : Type <u>GRAVE gas</u><br><u>Filter(s)</u> : Type <u>GRAVE gas</u><br><u>Size 350 Mea</u> Ra<br>Type controls <u>New</u><br><u>Comments</u> <u>Surface wa</u><br><u>Softeners</u> : Type <u>Spiractor</u><br><u>Size Hurrelime (DTRate (gas</u> )<br><u>Greep pumps</u>  | Capacity <u>50</u> /2<br><u>inf (200 performed</u> )<br><u>BURNER</u><br><u>Condition</u> <u>No.</u><br><u>No.</u> <u>5</u><br><u>Condition</u> <u>9005</u><br><u>Condition</u> <u>9005</u><br><u>SH ea.</u> <u>Fibrez</u><br><u>No.</u> <u>5</u><br><u>No.</u> <u>5</u><br><u>No. <u>No.</u> <u>5</u><br/><u>No. <u>No.</u> <u>5</u><br/><u>No. <u>No.</u> <u>5</u><br/><u>No. <u>No.</u> <u>5</u><br/><u>No. <u>No.</u> <u>5</u><br/><u>No. <u>No.</u> <u>5</u><br/><u>No. <u>No. <u>No.</u> <u>5</u><br/><u>No. <u>No. <u>No.</u> <u>5</u><br/><u>No. <u>No.</u> <u>5</u><br/><u>No. <u>No. <u>No. <u>No. <u>No.</u> <u>No. <u>No.</u> <u>No.</u> <u>No. <u>No.</u> <u>No. <u>No.</u> <u>No.</u></u></u></u></u></u></u></u></u></u></u></u></u></u></u></u></u></u></u> | Media SAND-Catalyst  |
|           | <u>Chlorinator</u> : Type <u>WET gas</u><br>Spare parts or unit? <u>Spare un</u><br><u>Spare parts or unit?</u> <u>Spare un</u><br><u>Acretor</u> : Type <u>Propane gas</u><br><u>Filter(s)</u> : Type <u>GRAVE gas</u><br><u>Filter(s)</u> : Type <u>GRAVE gas</u><br><u>Filter(s)</u> : Type <u>GRAVE gas</u><br><u>Size 350 Mea</u> Ra<br>Type controls <u>New</u><br><u>Comments</u> <u>Surface wa</u><br><u>Softeners</u> : Type <u>Spiractor</u><br><u>Size Hurarplime (DTRate (gas</u> )<br><u>Greep pumps</u> | Capacity 50/2<br>No. 5<br>No. 5<br>Condition 9000<br>Condition 9000<br>No. 5<br>No. 5<br>No. 5   | <u>In Service? 425</u><br><u>Gas Mask? ALE PK! Repair Kit</u><br><u>Cla Aleer</u><br><u>Nedia</u> <u>SAND-ANTHRACIT</u><br><u>Head loss</u> <u>B/W @ 5 FF.</u><br><u>Media</u> <u>SAND-Catalysr</u><br><u>Head loss</u>  |
|           | <u>Chlorinator</u> : Type <u>WET gas</u><br>Spare parts or unit? <u>Spare un</u><br><u>Spare parts or unit?</u> <u>Spare un</u><br><u>Acretor</u> : Type <u>Propane gas</u><br><u>Filter(s)</u> : Type <u>GRAVE gas</u><br><u>Filter(s)</u> : Type <u>GRAVE gas</u><br><u>Filter(s)</u> : Type <u>GRAVE gas</u><br><u>Size 350 Mea</u> Ra<br>Type controls <u>New</u><br><u>Comments</u> <u>Surface wa</u><br><u>Softeners</u> : Type <u>Spiractor</u><br><u>Size Hurarplime (DTRate (gas</u> )<br><u>Greep pumps</u> | Capacity <u>50</u> /2<br><u>inf (200 performed</u> )<br><u>BURNER</u><br><u>Condition</u> <u>No.</u><br><u>No.</u> <u>5</u><br><u>Condition</u> <u>9005</u><br><u>Condition</u> <u>9005</u><br><u>SH ea.</u> <u>Fibrez</u><br><u>No.</u> <u>5</u><br><u>No.</u> <u>5</u><br><u>No. <u>No.</u> <u>5</u><br/><u>No. <u>No.</u> <u>5</u><br/><u>No. <u>No.</u> <u>5</u><br/><u>No. <u>No.</u> <u>5</u><br/><u>No. <u>No.</u> <u>5</u><br/><u>No. <u>No.</u> <u>5</u><br/><u>No. <u>No. <u>No.</u> <u>5</u><br/><u>No. <u>No. <u>No.</u> <u>5</u><br/><u>No. <u>No.</u> <u>5</u><br/><u>No. <u>No. <u>No. <u>No. <u>No.</u> <u>No. <u>No.</u> <u>No.</u> <u>No. <u>No.</u> <u>No. <u>No.</u> <u>No.</u></u></u></u></u></u></u></u></u></u></u></u></u></u></u></u></u></u></u> | <u>In Service? 425</u><br><u>Gas Mask? ALE PK! Repair Kit</u><br><u>Cle Alept</u><br><u>Veu) - 85</u><br><u>Media</u> <u>SAND-ANTHRACIT</u><br><u>Head loss</u> <u>B/W @ 5 FF</u> .<br><u>Media</u> <u>SAND-Catalyst</u><br><u>Head loss</u>   |
|           | <u>Chlorinator</u> : Type <u>WET gas</u><br>Spare parts or unit? <u>Spare un</u><br><u>Acretor</u> : Type <u>Ropaws gas</u><br><u>Filter(s)</u> : Type <u>Ropaws gas</u><br><u>Filter(s)</u> : Type <u>QEAVITY</u><br>Size <u>350 Mea</u> Ra<br>Type controls <u>New</u><br>Comments <u>Surface wa</u><br><u>Softeners</u> : Type <u>Spiractor</u><br>Size <u>Hulgaro Lime (DTRate (g<br/>Gfeed pumps</u><br>Type controls <u>1000 f</u>  | Capacity <u>50/</u><br><u>inf (200 pell</u> )roper ventilation? <u>P</u><br><u>BURNER</u><br><u>Submerger</u> ) Condition <u>No.</u><br><u>No.</u> <u>5</u><br><u>ate (gpm/ft<sup>2</sup>) <u>2.0</u><br/><u>Condition good</u><br/><u>SH ea. filter</u><br/><u>No.</u> <u>5</u><br/><u>No.</u> <u>5</u><br/><u>No.</u> <u>5</u><br/><u>Ume / MG HeD</u> <u>Condition</u><br/><u>UET</u></u>   | <u>Boopped</u> In Service? <u>425</u><br><u>Gas Mask? <u>ALE PK! Repair Kit</u><br/><u>Cle Alept</u><br/><u>Veu) - 85</u><br/><u>Media</u> <u>SAND-ANTHRACIT</u><br/><u>Head loss</u> <u>B/W @ 5 FF</u>.<br/><u>Media</u> <u>SAND-Catalyst</u><br/><u>Head loss</u><br/><u>Nedia</u> <u>SAND-Catalyst</u><br/><u>Head loss</u></u> |
|           | <u>Chlorinator</u> : Type <u>WET gas</u><br>Spare parts or unit? <u>Spare un</u><br><u>Acretor</u> : Type <u>Ropaws gas</u><br><u>Filter(s)</u> : Type <u>Ropaws gas</u><br><u>Filter(s)</u> : Type <u>QEAVITY</u><br>Size <u>350 Mea</u> Ra<br>Type controls <u>New</u><br>Comments <u>Surface wa</u><br><u>Softeners</u> : Type <u>Spiractor</u><br>Size <u>Hulgaro Lime (DTRate (g<br/>Gfeed pumps</u><br>Type controls <u>1000 f</u>  | Capacity<br>Capacity<br>Capacity<br>Capacity<br>BURNER<br>SCondition<br>No<br>Ate (gpm/ft <sup>2</sup> )<br>Condition<br>Condition<br>Condition<br>At ea. filter<br><br>No<br>S<br>No<br>No<br><br>No<br><br>No<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Lime / MG HeD<br>Condition<br>Lime / MG HeD<br>Condition<br>Lime / MG HeD<br>Condition<br>Condition<br>Condition<br>Lime / MG HeD<br>Condition<br>Condition<br>Condition<br>Lime / MG HeD<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>Condition<br>CON<br>CON<br>CON<br>CON<br>CON<br>CON<br>CON   | <u>Boopped</u> In Service? <u>425</u><br><u>Gas Mask? <u>ALE PK! Repair Kit</u><br/><u>Cle Alept</u><br/><u>Veu) - 85</u><br/><u>Media</u> <u>SAND-ANTHRACIT</u><br/><u>Head loss</u> <u>B/W @ 5 FF</u>.<br/><u>Media</u> <u>SAND-Catalyst</u><br/><u>Head loss</u><br/><u>Nedia</u> <u>SAND-Catalyst</u><br/><u>Head loss</u></u> |

|          | WELL NO   | DEPARTMENT OF HUMAN RESOURCES<br>DIVISION OF HEALTH SERVICES<br>*WELL INFORMATION* | ID NO.   | -  |
|----------|---|--|--|--|
| . 1)     | WELL SITE: .Owned or controlled (100' radius)?              | OK - All w   | ells -   |  |
|          | Sources of pollution/distance                               | None - ca  | wrrolles by us   | sme  |
|          | Adequate slope?   | Flooding?  |  |  |
| 2)       | WELL HOUSE: Free of stored materials?                       | yes  |  |  |
| Sanda -  | Properly drained? 403                                       | Freeze protectio   |  |  |
| 1. A.A.  | Condition of house  |  | Locked?  |  |
| 3)       | WELL: Diameter Yazics Type con                              | st. <u>gravel</u> Yield !  | GPM) Varis Storage at  | well_10  |
| ·        | Properly sealed?  | Properly vented?   | Tal 1800 gpm   |  |
| 84       | Casing depth  | _Well depth  | Meter Available?   | WTP  |
|          | Concrete slab adequate?                                     | det  | Size Aug en  | ; @ 4 wells  |
|          | Size of blow-off  | Sample tap av  | and the second |  |
| 4)       | PUMP: Capacity 133 gpm 350                                  | 225 Type pump Veizt  | Tuzzane (usia  | ۵  |
|          | Height above floor (pump/casing)                            | Le pump leak   | 20, framps<br>20, 700 gpn<br>200 700 gpn   | n Zo 1500 gmm  |
| 5)       | <u>IREATMENT</u> : Is this a central treatment facility     | ity? Jes (one o  | KEighr)  |  |
|          | Chlorinator: Type wit gas                                   | Capacity 23  |  | • • • • •  |
|          | Spare parts or unit? 3 whits                                | Proper ventilation? 4  | es Gas Mask? yes;  | Repair KITE<br>alert system  |
|          | Aerator: Type Nowe  | Condition  |  | · · ·  |
|          |   | No. 2  | Media RAPID.   | SAND   |
|          | Size - 18 X 20' Rate (gpm                                   |  | Head loss  |  |
|          | Type controls <u>ROBERTS</u> -                              |  |  | ·  |
|          | Comments all courrols & A                                   |  | . /  | IN EACH  |
|          | Softeners: Type SpiRACTOR                                   |  | Media Caraly   | ST (SAND)  |
|          | size 700 gpm (a) late (gpm/ft <sup>2</sup> )                |  |  |  |
| Keviate  | Type controls Hydrate D (im                                 | Condition  | 4000   | NATE OF THE REAL O |
| 19 A. 19 | Comments  |  | (  | and a shile  |
|          | Other treatment (Describe): NaF w                           |  |  |  |
|          | Process Wastewater treatment (Describe):                    |  |  |  |
| . 6)     | REMARKS AND RECOMMENDATIONS Oil film.<br>pumps-S/B careful. | D Be careful us  | irn NorF (most   | use NazsiFr)   |
|          | 7 1 - 0   |  |  |  |

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

DEPARTMENT OF THE NAVY

Memorandum 11330 NREAD(L)

DATE: 9 June 1986

FROM: Supervisory Chemist, Water Quality Control Laboratory, Entroommental Branch, NREAD

to: The Record

SUBJ: PHONCON with Cmdr Rocha, Naval Dental Clinic

REF: (a) OPNAVINST 11330.3 Of 1 Aug 1973

1. On 6 June 1986, I called Cmdr Rocha, officer in charge of the Naval Dental Clinic, to discuss what laboratory analysis he required for compliance wi with the reference.

2. Cmdr Rocha stated that the reference was old but current and required the following fluoride analysis: [1] Daily tests in the raw and treated water at the plant. [2] A monthly distribution sample. [3] A semi-annual distribution sample at the furtherest point.

3. I asked Cmdr Rocha if he had any problem accepting the daily fluoride readings from Uttlities, since they use the same procedure as the laboratory. Cmdr Rocha stated that as long as the results were in writing he didn't much care where they were from. He also added that the daily results could be compiled and forwarded weeky.

4. The reference has no requirement for semi-annual well fluorides.

Elizabeth A. Betz



Memorandum

14 Star Starting 2120

6 JUN 1986

COMDE ROCHA.

1. OPNAVINST 11330.1 OF I AUG 1973 IS CURRENT, OUS BUT CURRENT.

2. REGS REQUIRE : A. DAILY TESTS OF FOR FLUDRINE WHERE IT IS

FEED.

1. RAW IT TREATED B. MONTHLY DISTRIBUTION SAMPLE C. JEMIANNUAL FAR-POINT DISTRIBUTION SAMPLE

3. HE RECOMMENSES THAT FOR THE MONTHS OF JULY AND AUGUST THE LITTITE BE MAXIMUM LIMIT BE 0.8

4. THE DAILY DATA CAN BE FORWARDED WEEKLY, AND FROM

5. HE DIDN'T CARE WHETHER THE RESULTS WERE PROVIDED BY UTILITIES OR NREA AS LONG AS THEY WERE IN WRITTING

