

11330/1
NREAD
5 Mar 1985

Mr. John McFadyen
Water Supply Branch
Division of Health Services
North Carolina Department of
Human Resources
Post Office Box 2091
Raleigh, North Carolina 27602

Dear Mr. McFadyen:

Enclosed are the completed Department of Health Forms (DHS 1942 2/74) for all water treatment plants aboard Marine Corps Base, Camp Lejeune for the period 1-28 February 1985. Also enclosed are the weekly Chemical Analysis Forms (MCBCL 11330/3 Rev 3-82) for the same period, as requested in the 25 October 1982 letter from Mr. Charles Rundgren of your office.

The analysis is run by the Quality Control Laboratory located in the Natural Resources and Environmental Affairs Division, Assistant Chief of Staff, Facilities. Ms. Elizabeth Betz, Supervisory Chemist, Quality Control Laboratory, telephone (919) 451-5977 is the point of contact in this matter.

Sincerely,

J. I. WOOTEN
Director

Encl:
(1) Dept of Health Forms
(2) Chemical Analysis Forms

Copy to:
LANTDIV (Code 114)

Blind copy to:
BMO (Attn: UtilDir)

→ SupvChem

CLW
0000004571

Serial # 04-67-041

N. C. DEPARTMENT OF HUMAN RESOURCES

DATE	RAW WATER COLIFORMS (MFP)						NO. OF COLIFORMS PER 100 ml.	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	DISTRIBUTION SYSTEM					INCUBATOR TEMP.			
	A		B		C								COLIFORMS (MFP)						REPEAT SAMPLES		
	VOLUME FILTERED ml.	TOTAL COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES							1	2	3	4	5		COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.
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MF MEDIA	BBL mEndo		BACTERIAL DENSITY	ARITH. MEAN						0	DIST. SYSTEM	TOTAL NO. SAMPLES					37				
TPC MEDIA				GEO. MEAN						1.0		SAMPLES EXCEEDING 3/50 (4/100) 7/200, 13/500ml					0				

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DATE	RAW WATER COLIFORMS (MFP)									FILTERED		FINISHED		DISTRIBUTION SYSTEM										INCUBATOR TEMP.	PLANKTON RAW WATER			
	A			B			C			NO. OF COLIFORMS PER 100 ml.	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	COLIFORMS (MFP)					REPEAT SAMPLES								
	VOLUME FILTERED ml.	TOTAL COLONIES	COLIFORM COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	COLIFORM COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	COLIFORM COLONIES						AVE. COLIFORMS per 100 ml.	NO. OF SAMPLES EXAMINED	1	2	3	4	5							
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MF MEDIA	BBI mEndo			BACTERIAL DENSITY	ARITH. MEAN											0	DIST. SYSTEM	TOTAL NO. SAMPLES						28				
TPC MEDIA					GEO. MEAN	CLW										10		SAMPLES EXCEEDING 3/50, 4/100, 7/200, 13/500ml					0					

Laboratory Cert. #37807

Signed *Elizabeth A. B...* Cert. Grade B-Well No. 4087-W

Year 1985

Serial # 04-67-043

N. C. DEPARTMENT OF HUMAN RESOURCES

DATE	RAW WATER COLIFORMS (MFP)								NO. OF COLIFORMS PER 100 ml.	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	DISTRIBUTION SYSTEM								INCUBATOR TEMP.	PLANKTON
	A		B		C		COLIFORMS (MFP)								REPEAT SAMPLES									
	VOLUME FILTERED ml.	TOTAL COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	1	2							3	4	5	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.				
	TOTAL COLONIES	COLIFORM COLONIES	TOTAL COLONIES	COLIFORM COLONIES	TOTAL COLONIES	COLIFORM COLONIES	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.							COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.				
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	MF MEDIA	BRI mEndo		BACTERIAL DENSITY	ARITH. MEAN						0	DIST. SYSTEM	TOTAL NO. SAMPLES					28						
	TPC MEDIA				GEO. MEAN						1.0		SAMPLES EXCEEDING 3/50. (4/100) 7/200. 13/500ml					0						

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Year 1985

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Contract Code: 5000

Serial # 04-67-044

N. C. DEPARTMENT OF HUMAN RESOURCES

DATE	RAW WATER COLIFORMS (MFP)									NO. OF COLIFORMS PER 100 ml.	TOTAL PLATE COUNT	EMPTY COLIFORMS per 100 ml.	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	DISTRIBUTION SYSTEM					INCUBATOR TEMP.	PLANKTON RAW WATER						
	A			B			C									COLIFORMS (MFP)							REPEAT SAMPLES					
	VOLUME FILTERED ml.	TOTAL COLONIES	COLIFORM COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	COLIFORM COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	COLIFORM COLONIES							1	2	3	4	5			COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	
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MF MEDIA	BBL mEndo		BACTERIAL DENSITY	ARITH. MEAN												0	DIST. SYSTEM	TOTAL NO. SAMPLES					12					
TPC MEDIA				GEO. MEAN												10		SAMPLES EXCEEDING 3/50, (4/100), 7/200, 13/500ml					0					

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0000004575

#37807

Station Blue Hill CRT Cont. Grade B-Well No. 4087-W

DATE	RAW WATER COLIFORMS (MFP)						NO. OF COLIFORMS PER 100 ml.	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	DISTRIBUTION SYSTEM					COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	INCUBATOR TEMP.	PLANKTON RAW WATER				
	A		B		C								COLIFORMS (MFP)										REPEAT SAMPLES			
	VOLUME FILTERED ml.	TOTAL COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES							1	2	3	4	5						1	2	3	
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MF MEDIA	BBL mEndo		BACTERIAL DENSITY	ARITH. MEAN		0000004576		CLW				0	DIST. SYSTEM	TOTAL NO. SAMPLES					12							
TPC MEDIA				GEO. MEAN								1.0		SAMPLES EXCEEDING 3/50. (4/100, 7/200, 13/500ml)					0							

Laboratory Cert. #37807

Signed *Elizabeth A. Bedy* Cert. Grade B-Well No. 4087-W

DATE	RAW WATER COLIFORMS (MFP)									NO. OF COLIFORMS PER 100 ml.	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	DISTRIBUTION SYSTEM										INCUBATOR TEMP.	PLANKTON RAW WATER		
	A			B			C									COLIFORMS (MFP)					REPEAT SAMPLES								
	VOLUME FILTERED ml.	TOTAL COLONIES	COLIFORM COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	COLIFORM COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	COLIFORM COLONIES							1	2	3	4	5	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.			COLIFORMS per 100 ml.	COLIFORMS per 100 ml.
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MF MEDIA	BRI. mEndo			DACTERIAL DENSITY	ARITH. MEAN	CLW							0	DIST. SYSTEM	TOTAL NO. SAMPLES						12								
TPC MEDIA				GEO. MEAN	0000004517							1.0		SAMPLES EXCEEDING 3/50. (4/100) 7/200. 13/500ml						0									

Laboratory Cert. #37807

Signed *Elizabeth A. Boly* Cert. Grade B-Well No. 4087-W

Year 1985

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES
N. C. DEPARTMENT OF HUMAN RESOURCES

Contaminant Code: 3000

Serial # 04-67-047

DATE	RAW WATER COLIFORMS (MFP)						NO. OF COLIFORMS PER 100 ml.	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	DISTRIBUTION SYSTEM					COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	INCUBATOR TEMP.	PLANKTON							
	A		B		C								COLIFORMS (MFP)										REPEAT SAMPLES						
	VOLUME FILTERED ml.	TOTAL COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES							1	2	3	4	5						1	2	3				
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MF MEDIA		BBL mEndo		DACTERIAL DENSITY		ARITH. MEAN																							
TPC MEDIA						GEO. MEAN																							

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0 DIST. SYSTEM TOTAL NO. SAMPLES 16
10 SAMPLES EXCEEDING 3/50. (4/100) 7/200. 13/500ml 0

DATE	RAW WATER COLIFORMS (MFP)								NO. OF COLIFORMS PER 100 ml.	TOTAL PLATE COUNT	FMP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	FMP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	DISTRIBUTION SYSTEM												
	A			B			C								COLIFORMS (MFP)					REPEAT SAMPLES							
	VOLUME FILTERED ml.	TOTAL COLONIES	COLIFORM COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	COLIFORM COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES							COLIFORM COLONIES	1	2	3	4	5	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.
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MF MEDIA	BBI mEndo	BACTERIAL DENSITY	ARITH. MEAN			0	DIST. SYSTEM	TOTAL NO. SAMPLES	8
TPC MEDIA		GEO. MEAN				1.0		SAMPLES EXCEEDING 3/50. 4/100. 7/200. 13/500ml	0

Laboratory Cert. #37807

Signed *Elizabeth A. Bely* Cert. Grade B-Well No. 4087-W

CHEMICAL ANALYSIS — WATER TREATMENT PLANTS

MCBCL 11330/3 (REV. 6-84)

DATE COLLECTED

5 FEB 85

DATE OF ANALYSIS

5 FEB 85

PARAMETER <i>SERIAL # 01-67</i>	HADNOT POINT -041	CAMP JOHNSON -045	TARAWA TERRACE -044	ONSLOW BEACH -048	COURTHOUSE BAY -047	RIFLE RANGE -046	HOLCOMB BLVD -043	NEW RIVER -042		
PH (IN LAB NOT PLANT)	8.9	7.7	8.9	7.6	8.4	8.3	8.4	8.6		
PHENOLTHALEIN ALKALINITY	6	0	6	0	8	6	6	14		
METHYL ORANGE ALKALINITY	64	198	46	168	192	166	98	192		
CARBONATES AS CaCO ₃	12	0	12	0	16	12	12	28		
BICARBONATES AS CaCO ₃	52	198	34	168	176	154	86	164		
CHLORIDES AS Cl	10	38	10	22	20	16	10	162		
HARDNESS AS CaCO ₃	62	200	60	56	66	48	90	64		
IRON AS Fe		MACHINE DOWN FOR CONSTRUCTION								
FLUORIDE	AM 1.15 PM 1.11	0.17	1.02 0.99	0.18	0.11	0.10	0.85 0.82	0.77		
CHLORINE RESIDUAL	1.1	1.3	1.0	1.6	1.4	1.0	1.0	1.6		
TURBIDITY	AM 0.3 PM 0.2	1.0	0.2 0.9	0.3	0.3	0.3	1.1 0.6	0.2		
TOTAL PHOSPHATE		1.00			0.92					
ORTHO PHOSPHATE		0.66			0.16					
META PHOSPHATE		0.34			0.76					
STABILITY	+0.6	-0.3	+0.6	-0.6	+0.1	0.0	+0.2	+0.2		

REMARKS

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COPY TO:

UTIL DIR

WATER TREATMENT

PMU MCAS PMU

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, and specific conductance. One liter of potable water is assumed to weigh one kilogram.

LABORATORY ANALYSIS BY

CHEMICAL ANALYSIS — WATER TREATMENT PLANTS

MCBCL 11330/3 (REV. 6-84)

DATE COLLECTED

2/12/85

DATE OF ANALYSIS

2/12/85

PARAMETER <i>SERIAL # 01-67</i>	HADNOT POINT -041	CAMP JOHNSON -045	TARAWA TERRACE -044	ONSLow BEACH -048	COURTHOUSE BAY -047	RIFLE RANGE -046	HOLCOMB BLVD -043	NEW RIVER -042		
PH (IN LAB NOT PLANT)	9.0	7.3	8.8	7.4	8.3	8.3	8.6	8.2		
PHENOLTHALEIN ALKALINITY	8	0	4	0	2	2	4	0		
METHYL ORANGE ALKALINITY	50	196	52	160	150	150	70	200		
CARBONATES AS CaCO ₃	16	0	8	0	4	4	8	0		
BICARBONATES AS CaCO ₃	34	196	44	160	146	146	62	200		
CHLORIDES AS Cl	10	50	10	20	16	18	14	160		
HARDNESS AS CaCO ₃	60	68	82	62	56	56	74	84		
IRON AS Fe	<0.04	0.51	0.06	0.20	0.09	0.06	<0.04	0.09		
FLUORIDE Am Pm	0.96 0.93	0.17	0.16 0.83	0.17	0.12	0.09	0.73 0.72	0.70		
CHLORINE RESIDUAL	1.2	1.2	1.0	1.2	1.5	1.0	1.0	1.1		
TURBIDITY Am Pm	0.20 0.20	0.50	6.6 0.40	0.30	0.70	0.30	0.40 0.30	0.40		
TOTAL PHOSPHATE		1.30			1.26					
ORTHO PHOSPHATE		1.00			0.25					
META PHOSPHATE		0.30			1.01					
STABILITY	+0.4	-0.8	+0.6	-0.9	0.0	+0.1	+0.3	0.0		

REMARKS

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NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, and specific conductance. One liter of potable water is assumed to weigh one kilogram.

COPY TO:

UTIL DIR _____

WATER TREATMENT

PMU MCAS PMU

CHEMICAL ANALYSIS — WATER TREATMENT PLANTS

MCBCL 11330/3 (REV. 6-84)

DATE COLLECTED

19 FEB 85

DATE OF ANALYSIS

19 FEB 85

PARAMETER SERIAL # 01-67	HADNOT POINT -041	CAMP JOHNSON -045	TARAWA TERRACE -044	ONSLow BEACH -048	COURTHOUSE BAY -047	RIFLE RANGE -046	HOLCOMB BLVD -043	NEW RIVER -042		
PH (IN LAB NOT PLANT)	8.7	7.6	8.8	7.6	8.6	8.4	8.9	9.1		
PHENOLTHALEIN ALKALINITY	10	0	6	0	10	8	10	26		
METHYL ORANGE ALKALINITY	20	190	56	164	172	164	56	170		
CARBONATES AS CaCO ₃	20	0	12	0	20	16	20	52		
BICARBONATES AS CaCO ₃	0	190	44	164	152	148	36	118		
CHLORIDES AS Cl	12	42	12	22	22	22	16	160		
HARDNESS AS CaCO ₃	76	86	80	70	70	60	68	60		
IRON AS Fe	<0.04	0.57	<0.04	0.14	0.09	0.07	0.06	<0.04		
FLUORIDE	AM 0.91 PM 0.88	0.16	AM 1.00 PM 1.04	0.16	0.11	0.09	AM 0.96 PM 0.88	0.70		
CHLORINE RESIDUAL	1.1	1.2	1.0	1.3	1.3	1.0	0.9	1.3		
TURBIDITY	AM 0.3 PM 0.3	0.4	AM 0.2 PM 0.2	0.3	0.3	0.2	AM 0.3 PM 0.5	2.3		
TOTAL PHOSPHATE		2.05			1.68					
ORTHO PHOSPHATE		1.13			0.25					
META PHOSPHATE		0.92			1.43					
STABILITY	+0.2	-0.4	+0.3	-0.6	+0.3	+0.1	+0.3			

REMARKS

COPY TO:

UTIL DIR _____

WATER TREATMENT

PMU MCAS PMU

CLW

0000004582

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, and specific conductance. One liter of potable water is assumed to weigh one kilogram.

LABORATORY ANALYSIS BY

CHEMICAL ANALYSIS — WATER TREATMENT PLANTS
 MCBCL 11330/3 (REV. 6-84)

DATE COLLECTED

26 FEB 85

DATE OF ANALYSIS

26 FEB 85

PARAMETER <i>SERIAL # 01-67</i>	HADNOT POINT -041	CAMP JOHNSON -045	TARAWA TERRACE -044	ONSLow BEACH -048	COURTHOUSE BAY -047	RIFLE RANGE -046	HOLCOMB BLVD -043	NEW RIVER -042		
PH (IN LAB NOT PLANT)	8.8	7.4	8.8	7.5	8.4	8.3	8.8	8.5		
PHENOLTHALEIN ALKALINITY	4	0	4	0	6	2	6	4		
METHYL ORANGE ALKALINITY	44	190	54	160	148	158	60	180		
CARBONATES AS CaCO ₃	8	0	8	0	12	4	12	8		
BICARBONATES AS CaCO ₃	36	190	46	160	136	154	48	172		
CHLORIDES AS Cl	10	36	8	14	18	12	16	186		
HARDNESS AS CaCO ₃	56	80	74	60	60	60	60	64		
IRON AS Fe	<0.04	0.74	<0.04	0.10	<0.04	<0.04	<0.04	<0.04		
FLUORIDE	<i>AM</i> 1.07 <i>PM</i> 1.01	0.57	<i>AM</i> 1.10 <i>PM</i> 1.08	0.17	0.12	0.10	<i>AM</i> 1.11 <i>PM</i> 1.02	0.82		
CHLORINE RESIDUAL	1.0	1.3	1.0	1.5	1.4	1.0	1.0	1.3		
TURBIDITY	<i>AM</i> 0.4 <i>PM</i> 0.5	1.2	<i>AM</i> 0.2 <i>PM</i> 0.3	0.2	0.2	0.2	<i>AM</i> 0.3 <i>PM</i> 0.4	0.4		
TOTAL PHOSPHATE		1.54			1.84					
ORTHO PHOSPHATE		0.90			0.19					
META PHOSPHATE		0.64			1.65					
STABILITY	+0.2	-0.8	+0.2	-0.8	0	-0.2	+0.1	-0.1		

REMARKS

CLW

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COPY TO:

- UTIL DIR _____
- WATER TREATMENT
- PMU MCAS PMU
- NREAD FILE

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, and specific conductance. One liter of potable water is assumed to weigh one kilogram.

LABORATORY ANALYSIS BY

T.W. BARBEE