

11330/1
NREAD
11 July 1984

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 1-30 June 1984. 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: Dept of Health Forms
(2) Chemical Analysis Forms

Copy to:
LANTDIV (Code 114)

Blind copy to:
BMO (Attn: Utilities Director)
SupvChem

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Writer: E. BETZ, NREAD 5977
Typist: J. Cross, 10Jul84 5003

DATE	RAW WATER COLIFORMS (MFP)								FILTERED		FINISHED		DISTRIBUTION SYSTEM										INCUBATOR TEMP.		
	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	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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IN MEDIA TPC MEDIA 1/20 1/100 1/500 1/1000 1/5000 1/10000 1/50000 1/100000 1/500000 1/1000000

DATE	RAW WATER COLIFORMS (HFP)								NO. OF COLIFORMS PER 100 ml.	FILTERED		FINISHED		TOTAL PLATE COUNT	DISTRIBUTION SYSTEM COLIFORMS (HFP)					REPEAT SAMPLES			INCUBATOR TEMP.					
	A		B		C		TOTAL PLATE COUNT	HFP COLIFORMS per 100 ml.		TOTAL PLATE COUNT	HFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	AVE. COLIFORMS per 100 ml.		NO. OF SAMPLES EXAMINED	1	2	3	4	5	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.		COLIFORMS per 100 ml.				
	VOLUME FILTERED ml.	TOTAL COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES										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 m-ENDO	DACTERIAL DENSITY	ARITH. MEAN	DEQ. MEAN				0	DIST. SYSTEM	TOTAL NO. SAMPLES	2
TPC MEDIA								1.0		SAMPLES EXCEEDING 3/50, 4/100, 7/200, 13/500ml	0

SERIAL # 04-67-043

U.S. DEPARTMENT OF HEALTH RESOURCES

DATE	RAW WATER COLIFORMS (MFP)									FILTERED		FINISHED		DISTRIBUTION SYSTEM					INCUATOR TEMP.				
	A			B			C			NO. OF COLIFORMS PER 100 ml.	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	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.	
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TPC MEDIA	USE IN ENDO			URGENTIAL DENSITY			ARITH. MEAN GEO. MEAN																

SERIAL # 04-67-044

DATE	RAW WATER COLIFORMS (HFP)									NO. OF COLIFORMS PER 100 ml.	FILTERED	FINISHED	TOTAL PLATE COUNT	HFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	DISTRIBUTION SYSTEM					INCUBATOR TEMP.			
	A			B			C									COLIFORMS (HFP)						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	COLIFORMS per 100 ml.
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HF MEDIA	BBL m-Endo									DACTERIAL DENSITY	ARITH. MEAN													
TPC MEDIA											GEO. MEAN													

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DIST. SYSTEM TOTAL NO. SAMPLES SAMPLES EXCEEDING 3750. (4/100) 7/200. 13/500ml 12 0

DATE	RAW WATER COLIFORMS (HFP)						NO. OF COLIFORMS PER 100 ml.	TOTAL PLATE COUNT	FILTREC	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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HF MEDIA	BBL m-ENDO						BACTERIAL DENSITY	ARITH. MEAN														
TPC MEDIA																						
												DISY. SYSTEM	TOTAL NO. SAMPLES									
												1.0	SAMPLES EXCEEDING 3/50. (4/100) 7/200. 13/500ml									

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DATE	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.	TOTAL PLATE COUNT	COLIFORMS (MFP)					REPEAT SAMPLES			INCUBATOR TEMP.			
	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	COLIFORMS per 100 ml.		COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	
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SERIAL # 04-67-047

DATE	RAW WATER COLIFORMS (MFP)								NO. OF COLIFORMS PER 100 ml.	FILTERED TOTAL PLATE COUNT	FINISHED TOTAL PLATE COUNT	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 M-ENDO		DICTIONAL DENSITY	ARITH. MEAN																		
TPC MEDIA				GEO. MEAN																		
												0	DIST. SYSTEM	TOTAL NO. SAMPLES								12
												1.0		SAMPLES EXCEEDING 3/50 (4/100) 7/200. 13/500ml								0

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RAW WATER COLIFORMS (HFP)

FILTERED

FINISHED

DISTRIBUTION SYSTEM

DATE	RAW WATER COLIFORMS (HFP)						NO. OF COLIFORMS PER 100 ml.	TOTAL PLATE COUNT	HFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	HFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	COLIFORMS (HFP)					REPEAT SAMPLES			INCUBATOR TEMP.		
	A		B		C								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.
	VOLUME FILTERED ml.	TOTAL COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES																	
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HFP MEDIA TPC MEDIA MAL III-ENDO BACTERIAL DENSITY ARITH. MEAN GEO. MEAN
 DIST. SYSTEM TOTAL NO. SAMPLES SAMPLES EXCEEDING 3/50. (4/100) 7/200. 13/500ml

PARAMETER	SERIAL #0461	-041	-045	-044	-048	-047	-046	-043	-042
PH (IN LAB NOT PLANT)		8.8	7.4	8.3	7.5	8.4	7.7	8.8	8.5
PENOLTHALEIN ALKALINITY		6	0	2	0	4	0	6	6
METHYL ORANGE ALKALINITY		56	190	84	164	160	150	60	192
CARBONATES AS CaCO ₃		12	0	4	0	8	0	12	12
BICARBONATES AS CaCO ₃		44	190	80	164	152	150	48	180
CHLORIDES AS Cl		10	50	10	20	20	26	10	134
HARDNESS AS CaCO ₃		46	90	100	66	50	42	60	60
IRON AS Fe		0.04	0.71	0.04	0.10	0.05	0.05	0.04	0.19
FLUORIDE	AM	0.90		0.94				0.86	
	PM	0.97	0.18	1.16	0.19	0.12	0.10	0.86	0.89
CHLORINE RESIDUAL		1.0	1.4	1.2	1.1	1.2	1.0	1.0	1.2
TURBIDITY	AM	0.6		0.8				0.3	
	PM	0.7	1.3	1.1	0.5	0.4	0.5	0.2	1.7
TOTAL PHOSPHATE			0.16			1.00			

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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.

LABORATORY ANALYSIS BY
 BURNS, LACHAPPELLE *EBB*

DATE OF ANALYSIS
 5 JUNE 1984

PARAMETER SERIAL #04-67	HADNOT POINT -041	MONTFORD POINT -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	7.5	8.4	7.5	8.4	8.3	8.9	8.7
PENOLTHALEIN ALKALINITY	4	0	2	0	4	4	4	10
METHYL ORANGE ALKALINITY	58	188	66	166	172	158	58	136
CARBONATES AS CaCO ₃	8	0	4	0	8	8	8	20
BICARBONATES AS CaCO ₃	50	188	62	166	164	150	50	116
CHLORIDES AS Cl	12	50	10	18	16	30	14	128
HARDNESS AS CaCO ₃	66	100	78	60	66	64	58	60
IRON AS Fe	0.08	0.66	0.04	0.14	0.05	0.04	0.05	0.20
FLUORIDE	AM 0.93		0.84				1.03	
	PM 0.98	0.16	0.91	0.16	0.11	0.08	0.94	0.58
CHLORINE RESIDUAL	1.0	1.5	1.0	1.3	1.2	1.0	0.9	1.3
TURBIDITY	AM 0.3		0.3				0.3	
	PM 0.3	0.8	0.6	0.3	0.2	0.3	1.3	2.3
TOTAL PHOSPHATE		2.08			0.66			
ORTHO PHOSPHATE		0.84			0.10			
META PHOSPHATE		1.24			0.56			
STABILITY	+0.6	-0.8	+0.2	-0.8	0.0	-0.1	+0.4	+0.2

REMARKS

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ANALYSIS REPORT

Date, 10/10/11

10/10/11

PARAMETER SERIAL #04-61	HADNOT POINT -041	MONTFORD POINT -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	7.3	8.5	7.5	8.4	8.3	8.7	8.6
PENOLTHALEIN ALKALINITY	8	0	4	0	6	0	8	8
METHYL ORANGE ALKALINITY	60	184	60	132	162	144	70	156
CARBONATES AS CaCO ₃	16	0	8	0	12	0	16	16
BICARBONATES AS CaCO ₃	44	184	52	132	150	144	54	140
CHLORIDES AS Cl	10	42	16	22	20	28	14	126
HARDNESS AS CaCO ₃	62	64	74	54	50	48	72	78
IRON AS Fe	0.04	0.55	0.04	0.10	0.04	0.04	0.04	0.05
FLUORIDE	AM 0.15		0.92				0.21	
	PM 0.14	0.16	0.89	0.15	0.10	0.09	0.18	0.55
CHLORIDE DEGREE	1.0	1.0	1.0	1.4	1.3	1.4	0.7	1.3
	1.2		1.4				1.4	
	1.1		1.2	1.4	1.2	1.1	1.1	1.1
					1.1			
					1.1			
					1.1			
STABILITY	+0.3	-0.7	0	-0.8	+0.3	-0.1	+0.3	+0.2

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.

LABORATORY ANALYSIS BY

BARBEE, HUNECUTT

DATE OF ANALYSIS

19 JUNE 1984

PARAMETER	SERIAL #0467	-044	-045	-046	-047	-048	-049	-050	-051
PH (IN LAB NOT PLANT)		9.04	7.35	8.63	7.55	8.35	8.33	8.84	8.67
PENOLTHALEIN ALKALINITY		6	0	2	0	4	2	6	6
METHYL ORANGE ALKALINITY		50	182	54	160	164	150	60	156
CARBONATES AS CaCO ₃		12	0	4	0	8	4	12	12
BICARBONATES AS CaCO ₃		38	182	50	160	156	146	48	144
CHLORIDES AS Cl		10	20	6	16	12	10	20	110
HARDNESS AS CaCO ₃		56	70	76	64	58	44	64	56
IRON AS Fe		0.004	0.004	0.004	0.10	0.004	0.007	0.006	0.008
LEAD		0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
COPPER		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
ZINC		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
NICKEL		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
MANGANESE		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
SILICA		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
FLUORIDE		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
CHLORIDE		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
SULFATE		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
TOTAL SOLIDS		0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
TEMPERATURE		10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
CONDUCTANCE		100	100	100	100	100	100	100	100

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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.

LABORATORY ANALYSIS BY
BARBEE HUNECUTT

DATE OF ANALYSIS
26 JUNE 1984