

NREAD/DDS/jc  
11330/1  
2 Mar 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 1-29 February 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 Sundgren 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, Super-  
visory 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:  
OCL

CLW  
0000004075

SERIAL #: 04-67-041

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 (MFP)					REPEAT SAMPLES			INCUBATOR TEMP.				
	A		B		C								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																			
1																									
2																									
5																									
6																									
7	27											0	9	0	0	0	0	0	0	0	35.0				
8																									
9																									
10																									
11																									
12																									
13																									
14	314											0	9	0	0	0	0	0	0	0	35.0				
15																									
16																									
17																									
18																									
20																									
21	321											0	9	0	0	0	0	0	0	0	35.0				
22																									
23																									
24																									
25																									
26																									
27																									
28	328											0	9	0	0	0	0	0	0	0	35.0				
29																									
30																									
31																									
												TOTAL NO. SAMPLES					SAMPLES EXCEEDING 3/50, 4/100, 7/200, 13/500ml			36					
HF MEDIA												BBL M-ENDO					BACTERIAL DENSITY			ARITH. MEAN			GEO. MEAN		
TPC MEDIA																									

CLW  
0000004076

Month                     

Year 1984

RAW WATER COLIFORMS (HFP)

WATER TREATMENT PLANT AT                     

CONTAMINANT CODE: 3000

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

N. C. DEPARTMENT OF HUMAN RESOURCES

SERIAL #: 04-67-042

DATE	RAW WATER COLIFORMS (HFP)						NO. OF COLIFORMS PER 100 ml.	FILTERED		FINISHED		DISTRIBUTION SYSTEM						INCUBATOR TEMP.			
	A		B		C			TOTAL PLATE COUNT	HFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	HFP COLIFORMS per 100 ml.	COLIFORMS (HFP)					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.	
1																					
2																					
3																					
4																					
5																					
6																					
7	37											0	7	0	0	0	0	0	0	35.0	
8																					
9																					
10																					
11																					
12																					
13																					
14	314											0	7	0	0	0	0	0	0	35.0	
15																					
16																					
17																					
18																					
19																					
20																					
21	324											0	7	0	0	0	0	0	0	35.0	
22																					
23																					
24																					
25																					
26																					
27																					
28	328											0	7	0	0	0	0	0	0	35.0	
29																					
30																					
31																					
	MF MEDIA	BBL m-ENDO		DACTERIAL DENSITY	ARITH. MEAN	CLW															
	TPC MEDIA				GEQ. MEAN	0000004077						0	10	TOTAL NO. SAMPLES					28		
														SAMPLES EXCEEDING 3/50. (4/100) 7/200, 13/500ml					0		

Laboratory Code #100

Signature Elizabeth A. Betsy Cert. Grade B-WELL No. B

Month             
 Year 1984

WATER TREATMENT PLANT AT SOUTH LENO

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

CONTAMINANT CODE: 3000

SERIAL #: 04-67-043

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.
1																					
2																					
5																					
6																					
7																					
8	37											0	7	0	0	0	0	0	350		
9																					
10																					
11																					
12																					
13																					
14	34											0	7	0	0	0	0	0	350		
15																					
16																					
17																					
18																					
20																					
21	321											0	7	0	0	0	0	0	350		
22																					
23																					
24																					
25																					
26																					
27																					
28																					
29	328											0	7	0	0	0	0	0	350		
30																					
31																					
HF MEDIA		BBL m-ENDO		DACTERIAL DENSITY		ARITH. MEAN GEO. MEAN		CLW 0000004078				0		DIST. SYSTEM		TOTAL NO. SAMPLES			28		
TPC MEDIA												10		SAMPLES EXCEEDING 3/50, (4/100) 7/200, 13/500ml			0				

Laboratory Cert. #100

Signed [Signature] Cert. Grade B-Well No.

SERIAL #: 04-67-044

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 SYSTEMS					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.
1																				
2																				
3																				
4																				
5																				
6																				
7										0	3	0	0	0				350		
8																				
9																				
10																				
11																				
12																				
13																				
14										0	3	0	0		0			350		
15																				
16																				
17																				
18																				
19																				
20																				
21										0	3	0	0		0			350		
22																				
23																				
24																				
25																				
26																				
27																				
28																				
29										0	3	0	0		0			350		
30																				
31																				
MF MEDIA	BBL M-ENDO		BACTERIAL DENSITY	ARITH. MEAN		GEO. MEAN							0	DIST. SYSTEM	TOTAL NO. SAMPLES			12		
TPC MEDIA													10		SAMPLES EXCEEDING 3/50, (4/100) 7/200, 13/500ml			0		

CLW  
0000004079

SERIAL #: 04-67-045

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.				
	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.	
1																									
2																									
3																									
4																									
5																									
6																									
7																									
8														0	3	0	0								35.0
9																									
10																									
11																									
12																									
13																									
14														0	3	0		0	0						35.0
15																									
16																									
17																									
18																									
19																									
20																									
21														0	3	0									35.0
22																									
23																									
24																									
25																									
26																									
27																									
28																									
29														0	3	0									35.0
30																									
31																									
HF MEDIA	BBL M-ENDO						BACTERIAL DENSITY	ARITH. MEAN	CLW					TOTAL NO. SAMPLES					12						
TPC MEDIA								0	0000004080					SAMPLES EXCEEDING 3/50, (4/100) 7/200, 13/500ml					0						

Year 1984

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

CONTAMINANT CODE: 3000

SERIAL #: 04-67-046

DATE	RAW WATER COLIFORMS (HFP)						NO. OF COLIFORMS PER 100 ml.	FILTERED		FINISHED		DISTRIBUTION SYSTEM					INCUBATOR TEMP.				
	A		B		C			TOTAL PLATE COUNT	HFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	HFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	COLIFORMS (HFP)					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.
1																					
2																					
3																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15												0	3	0	0		0		350		
16																					
17																					
18																					
19																					
21												0	3	0	0		0		350		
22																					
23																					
24																					
25																					
26																					
27																					
29																					
29													3	0	0		0		350		
30																					
31																					
HF MEDIA		BBL m-ENDO		BACTERIAL DENSITY		ARITH. MEAN						0	DISTR. SYSTEM					9			
TPC MEDIA						GEO. MEAN						1.0	TOTAL NO. SAMPLES					0			
												SAMPLES EXCEEDING 3/50. (4/100) 7/200. 13/500ml.					0				

CLW  
0000004081

Laboratory Cert. #100  
ID \* 37807

b Signat Elyse B. Bell Cert. Grade B WELL No. \_\_\_\_\_







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

Year 1984

SERIAL #: 04-67-048

DATE	RAW WATER COLIFORMS (HFP)									NO. OF COLIFORMS PER. 100 ml.	FILTERED TOTAL PLATE COUNT	FINISHED TOTAL PLATE COUNT	TOTAL PLATE COUNT	DISTRIBUTION SYSTEM					REPEAT SAMPLES	INCUBATOR TEMPE.	
	A			B			C							COLIFORMS (HFP)							
	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			
1																					
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15													0	2	0	0				35.0	
16																					
17																					
18																					
19																					
20																					
21													0	2	0	0				35.0	
22																					
23																					
24																					
25																					
26																					
27																					
28																					
29													0	2	0	0				35.0	
30																					
31																					
HF MEDIA		BBL m-ENDO		BACTERIAL DENSITY		ARTH. MEAN		GEO. MEAN		CLW				0		DIST. SYSTEM		TOTAL NO. SAMPLES		8	
TPC MEDIA										0000004083				1.0				SAMPLES EXCEEDING 3/50, (4/100) 7/200, 13/500ml		0	

CHEMICAL ANALYSIS — WATER TREATMENT PLANTS

MCBCL 11330/3 (REV. 3-82)

DATE COLLECTED

2-7-84

PARAMETER	HADNOT POINT -041	MONTFORD POINT -045	TARAWA TERRACE -044	ONSLow BEACH -048	COURTHOUSE BAY -047	RIFLE RANGE -046	HOLCOMB BLVD -043	NEW RIVER -046	
PH (IN LAB NOT PLANT)	9.0	7.5	7.7	7.5	8.4	8.4	8.8	8.4	
PENOLTHALEIN ALKALINITY	2	0	0	0	4	4	4	10	
METHYL ORANGE ALKALINITY	44	180	120	160	170	164	64	220	
CARBONATES AS CaCO <sub>3</sub>	2	0	0	0	8	8	8	20	
BICARBONATES AS CaCO <sub>3</sub>	40	180	120	160	162	156	56	200	
CHLORIDES AS Cl	10	30	10	20	20	24	14	170	
HARDNESS AS CaCO <sub>3</sub>	50	80	136	60	56	54	70	54	
IRON AS Fe	<0.04	0.57	0.08	0.22	<0.04	40.04	<0.04	0.14	
FLUORIDE	AM 0.87 PM 0.93		0.84 0.96				1.02 1.02	1.31	
CHLORINE RESIDUAL	1.0	1.0	1.0	1.5	1.5	1.0	1.0	1.3	
TURBIDITY	AM PM		0.36 0.18	0.14	0.14	0.15	0.18 0.18	0.28	
TOTAL PHOSPHATE		1.13			1.21				
ORTHO PHOSPHATE		1.00			1.02				
META PHOSPHATE		0.13			0.19				
STABILITY	+0.3	-0.5	-0.3	-0.6	0.0	0.0	+0.2	+0.1	
REMARKS								CLW	0000004084

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

Buens 803

DATE OF ANALYSIS

2/7/84

ENCLOSURE (2)

CHEMICAL ANALYSIS — WATER TREATMENT PLANTS

MCBCL 11330/3 (REV. 3-82)

DATE COLLECTED

14 FEB 84

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)	8.5	7.4	8.7	7.5	8.4	8.1	8.7	8.7	
PENOLTHALEIN ALKALINITY	8	0	8	0	2	0	10	14	
METHYL ORANGE ALKALINITY	70	186	54	154	174	176	76	250	
CARBONATES AS CaCO <sub>3</sub>	16	0	16	0	4	0	20	28	
NON-CARBONATES AS CaCO <sub>3</sub>	54	186	38	154	170	176	56	222	
CHLORIDES AS Cl	10	24	4	14	24	14	14	110	
HARDNESS AS CaCO <sub>3</sub>	54	96	80	66	70	66	72	54	
IRON AS Fe	<0.04	0.59	<0.04	0.19	<0.04	<0.04	<0.04	0.15	
FLUORIDE	AM 0.89 PM 0.90	0.17	0.80 0.75	0.19	0.10	0.10	0.88 0.90	1.21	
CHLORINE RESIDUAL	1.0	1.2	1.0	1.3	1.2	1.0	1.0	1.3	
TURBIDITY	AM PM	0.18	0.15 0.18	0.15	0.16	0.16	0.15 0.14	0.46	
TOTAL PHOSPHATE		2.75			1.60				
ORTHO PHOSPHATE		1.10			0.22				
META PHOSPHATE		1.65			1.38				
STABILITY	+0.1	-0.4	+0.2	-0.6	+0.2	-0.1	+0.3	+0.3	
REMARKS									CLW 0000004085

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

HONEYCUTT - LACHAPPELLE <sup>ES</sup>

DATE OF ANALYSIS

14 FEB 84

CHEMICAL ANALYSIS — WATER TREATMENT PLANTS  
 MCBCL 11330/3 (REV. 3-82)

DATE COLLECTED  
 21 Feb 84

PARAMETER SERIAL #0461	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	7.4	8.4	7.6	8.4	8.1	8.4	8.4	
PENOLTHALEIN ALKALINITY	6	0	2	0	4	0	4	8	
METHYL ORANGE ALKALINITY	40	170	60	100	140	156	84	160	
CARBONATES AS CaCO <sub>3</sub>	12	0	4	0	8	0	8	16	
NON-CARBONATES AS CaCO <sub>3</sub>	28	170	56	100	152	156	76	144	
CHLORIDES AS Cl	8	30	10	14	16	20	10	90	
HARDNESS AS CaCO <sub>3</sub>	56	64	88	58	56	64	84	50	
IRON AS Fe	<0.04	0.65	<0.04	0.26	<0.04	0.07	<0.04	0.14	
FLUORIDE	AM 0.14 PM 0.13	0.15	0.83 0.77	0.17	0.10	0.09	0.33 0.26	0.64	
CHLORINE RESIDUAL	1.0	1.4	1.0	1.0	1.2	1.0	0.7	1.4	
TURBIDITY	AM PM	INSTRUMENT OUT OF SERVICE							
TOTAL PHOSPHATE		3.65			1.62				
ORTHO PHOSPHATE		1.24			0.22				
META PHOSPHATE		2.41			1.40				
STABILITY	+0.3	-0.4	+0.1	-0.4	+0.2	-0.1	+0.2	0.0	CLW
REMARKS									0000004086

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 *EB*

DATE OF ANALYSIS  
 21 FEB 84

CHEMICAL ANALYSIS — WATER TREATMENT PLANTS  
 MCBCL 11330/3 (REV. 3-82)

DATE COLLECTED  
 28 FEB 84

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 FLINT)	8.7	7.4	7.6	7.6	7.8	8.2	8.6	8.6	
PENOLTHALEIN ALKALINITY	6	0	0	0	0	2	4	8	
METHYL ORANGE ALKALINITY	60	180	106	140	160	160	66	140	
CARBONATES AS CaCO <sub>3</sub>	12	0	0	0	0	4	8	16	
CARBONATES CaCO <sub>3</sub>	48	180	106	140	160	156	58	124	
CHLORIDES AS Cl	10	30	8	20	18	24	18	94	
HARDNESS AS CaCO <sub>3</sub>	64	74	140	60	64	52	78	960	
IRON AS Fe	<0.04	0.48	<0.04	0.25	<0.04	0.08	<0.04	0.20	
FLUORIDE	AM 0.22 PM 0.19	0.14	0.70 0.58	0.17	0.09	0.09	0.20 0.17	0.54	
CHLORINE RESIDUAL	0.8	1.3	1.0	1.3	1.5	1.1	0.9	1.4	
TURBIDITY	AM PM	INSTRUMENT OUT OF SERVICE							
TOTAL PHOSPHATE		3.45			0.35				
ORTHO PHOSPHATE		1.24			0.10				
META PHOSPHATE		2.19			0.25				
STABILITY	+0.3	0.5	-0.3	-0.4	-0.3	0.0	+0.2	+0.1	

REMARKS

CLW  
 0000004081

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

BUCNS - LACHAPPELLE

DATE OF ANALYSIS

28 FEB 84