

11331
NREAD
8 Jan 85

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 1-31 December 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.

One sample of the 3 December 1985 collection from the Tarawa Terrace Water Treatment Plant was positive. On the membrane filter, 70 colonies/100 ml were counted. Five colonies were picked off and run through Lauri Tryptose Broth Tubes and Brilliant Green Bile Broth Tubes. All five were confirmed to coliform. Check samples were collected on 4 and 5 December 1985 and were negative. Although only six samples are required of the Tarawa Terrace System, 14 were collected in December 1985. Our determination of the enclosed data is that the contaminated sample was not a representative sample. It is requested that one of the eight extra samples be substituted for the contaminated sample in computing the coliform density. This request is based on rules and regulations of the Safe Drinking Water Act published in the Federal Register, Volume 45, Number 168, dated 27 August 1980.

The analysis is run by the Quality Control Laboratory located in the Natural Resources and Environmental Affairs Division, Assistant Chief of Staff, Facilities, Marine Corps Base, Camp Lejeune. 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

CLW

0000004491

Encl:

- (1) Dept of Health Forms
- (2) Chemical Analysis Forms

Copy to:
LANTNAVFACENGCOM (Code 114)

Blind Copy to:
BMO (Attn: Util Dir)
SUPYCHEM, GCL

Month December
Year 1985

HADNOT POINT

WATER TREATMENT PLANT AT Camp Lejeune

Method Code: 303
Contaminant Code: 3000

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

N. C. DEPARTMENT OF HUMAN RESOURCES

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										INCUBATOR TEMP.	PLANKTON					
	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.							
4	50													0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34.8	
10	510													0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34.5	
17	517													0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34.5	
26	526													0	2	0															34.7	
CLW 0000004498															0	100	TOTAL NO. SAMPLES										38					
															0	100	SAMPLES EXCEEDING 3/50. (1/10) 7/200. 13/500ml.										0					

Month December
Year 1985

MARINE CORPS AIR STATION

MEMBRANE FILTER PROCEDURE

WATER TREATMENT PLANT AT Camp Lejeune

Method Code: 303
Contaminant Code: 3000

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

Serial # 04-67-04Z

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	12/18	12/19						
1																									
2													0.14	7	1	0	0	0	0	0					34.8
3																									
4																									
5																									
6																									
7																									
8																									
9																									
10																									
11	10												0	7	0	0	0	0	0	0	0				34.5
12																									
13																									
14																									
15																									
16																									
17	517												0	6	0	0	0	0	0						34.5
18															0						0	0			
19																									
20																									
21																									
22																									
23																									
24																									
25																									
26																									34.2
27	526												0	2	0	0	0	0	0						34.1
28	5														0										
29																									
30																									
31																									
												0.045		DIST. SYSTEM		TOTAL NO. SAMPLES					22				
												1.00				SAMPLES EXCEEDING 3/50, 4/100, 7/200, 13/500ml					0				

CLW
0000004499

Month December
Year 1985

ADULTS

WATER TREATMENT PLANT AT Camp Lejeune

Method Code: 305
Contaminant Code: 3000

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

Serial # 04-67-043

DATE	RAW WATER COLIFORMS (MFP)							NO. OF COLIFORMS PER 100 ml.	FILTERED TOTAL PLATE COUNT	FINISHED 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	COLIFORMS per 100 ml.				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.				
1																								
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11	10											0	7	0	0	0	0	0	0					34.8
12																								
13																								
14																								
15																								
16																								
17	57											0	7	0	0	0	0	0	0	0	0			34.5
18																								
19																								
20																								
21																								
22																								
23																								
24																								
25																								
26	32											0	2	0	0									34.7
27																								
28																								
29																								
30																								
31																								
MFC MEDIA		BRI mEndo		BACTERIAL DENSITY		ARITH. MEAN						0		DIST. SYSTEM		TOTAL NO. SAMPLES					23			
MFC MEDIA						GEO. MEAN						1.0				SAMPLES EXCEEDING 3/50 (4/100) 7/200, 13/500=1					0			

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0000004500

Elizabeth C. Betz

B Well ...

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	COLIFORM COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	COLIFORM COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	COLIFORM COLONIES							1	2	3	4	5	12/11	12/13	12/14						
1																													
2																													
3														0	3	0	0	0									34.8		
4																													
5																													
6																													
8																													
9																													
10														4.33	3	0		13	0							72	0	0	34.5
11																													
12														0	2				10	0								34.5	
13																													
14																													
15																													
16																													
17														0	6	0	0				10	0	0					34.5	
18	577																												
19																													
20																													
21																													
22																													
24																													
25																													
26														0	2	0												34.7	
27	577																												
28																													
29																													
30																													
31																													
MFP MEDIA	BBL mEndo		BACTERIAL DENSITY	ARITH. MEAN		GEO. MEAN		CLW					0.81	DIST. SYSTEM	TOTAL NO. SAMPLES					16									
TPC MEDIA								0000004502					1.17		SAMPLES EXCEEDING 3/50, 4/100, 7/200, 13/500ml					1									

#37807

Elizabeth A. Bety

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	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.			
1																											
2																											
3														0	3	0	0	0						34.8			
4																											
5																											
8																											
9																											
10														0	3	0	0	0						34.5			
11																											
12																											
13																											
14																											
15																											
16																											
17														0	3	0	0	0						34.5			
18																											
19																											
20																											
21																											
22																											
24																											
25																											
26														0	1	0	0	0						34.7			
27																											
28																											
29																											
30																											
31																											
MF MEDIA	BBL mEndo			BACTERIAL DENSITY			ARITH. MEAN									TOTAL NO. SAMPLES									10		
TPC MEDIA							GEO. MEAN									SAMPLES EXCEEDING 3/50: 4/100			7/200, 13/500			0					

CLW
000004503

Elizabeth A. Seif

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					REPEAT SAMPLES	INCUBATOR TEMP.
	A		B		C								COLIFORMS (MFP)						
	VOLUME FILTERED ml.	TOTAL COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES							1	2	3	4	5		
1																			
2																			
3										0.25	4	0	0	1	0			34.8	
4																			
5																			
8																			
9																			
10										0	4	0	0	0	0			34.5	
11																			
12																			
13																			
14																			
15																			
16																			
17										0	4	0	0	0	0			34.5	
18																			
19																			
20																			
21																			
22																			
23																			
24																			
25																			
26										0	1				0			34.7	
27																			
28																			
29																			
30																			
31																			

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MF MEDIA	BBL mEndo	BACTERIAL DENSITY	ARITH. MEAN	9.28	DIST. SYSTEM	TOTAL NO. SAMPLES	13
TPC MEDIA		GEO. MEAN		1.00		SAMPLES EXCEEDING 3/50 (4/100) 7/200. 13/500=0	0

Elyse K. Berg

DATE	RAW WATER COLIFORMS (MFP)									NO. OF COLIFORMS PER 100 ml.	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	FINISHED	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	DISTRIBUTION SYSTEM					REPEAT SAMPLES			INCUBATOR TEMP.	PLANKTON		
	A			B			C										COLIFORMS (MFP)											
	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														0	2	0	0											34.8
4																												
6																												
7																												
8																												
9																												
10														0	2	0	0											34.5
11																												
12																												
13																												
14																												
15																												
16																												
17														0	1	0												34.5
18																												
19																												
20																												
21																												
22																												
23																												
24																												
25																												
26														0	1	0												34.7
27																												
28																												
29																												
30																												
31																												
MF MEDIA	BBL mEndo			BACTERIAL DENSITY	ARITH. MEAN											0	DIST. SYSTEM	TOTAL NO. SAMPLES				6						
TPC MEDIA				GEO. MEAN											1.0		SAMPLES EXCEEDING 3/50. (4/100) 7/200. 13/500. 1				0							

CLW
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Signature: Elizabethka Betz
Date: 8-We'll 4 1087-0

CHEMICAL ANALYSIS — WATER TREATMENT PLANTS

MCBCL 11330.3 (REV. 6-84)

DATE COLLECTED

12/03/85

DATE OF ANALYSIS

12/03/85

PARAMETER	HADNOT POINT -041	CAMP JOHNSON -043	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	7.5	8.6	7.7	8.3	8.4	8.9	8.9		
PHENOLTHALEIN ALKALINITY	2	0	2	0	2	2	4	4		
METHYL ORANGE ALKALINITY	60	186	70	164	160	186	60	120		
CARBONATES AS CaCO ₃	4	0	4	0	4	4	8	8		
BICARBONATES AS CaCO ₃	56	186	66	164	156	182	52	112		
CHLORIDES AS Cl	8	12	16	16	14	32	10	38		
HARDNESS AS CaCO ₃	64	68	78	72	54	56	64	50		
IRON AS Fe	<0.04	0.38	0.07	0.33	0.07	0.06	<0.04	<0.04		
FLUORIDE	AM 1.27		0.84				0.99			
	PM 1.31	0.22	0.89	0.23	0.13	0.22	0.97	0.48		
CHLORINE RESIDUAL	1.0	1.3	1.0	1.0	1.4	1.0	0.9	0.8		
TURBIDITY	AM 0.1		0.3				0.4			
	PM 0.4	0.5	0.3	0.3	0.2	0.2	0.9	0.4		
TOTAL PHOSPHATE		1.21			0.51					
ORTHO PHOSPHATE		0.84			0.03					
META PHOSPHATE		0.37			0.48					
STABILITY	+0.3	-0.9	+0.1	-0.8	-0.2	-0.1	+0.4	+0.2		

REMARKS

CLW

000004506

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

B. Waddoups

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

DATE COLLECTED
 12/10/85

DATE OF ANALYSIS
 12/10/85

PARAMETER SERIAL # 04-67	HADNOT POINT -041	CAMP JOHNSON -043	TARAWA TERRACE -044	ONSLow BEACH -048	COURTHOUSE BAY -047	RIFLE RANGE -046	HOLCOMB BLVD -043	NEW RIVER -042		
PH (IN LAB NOT PLANT)	8.6	7.4	8.7	7.7	8.4	8.4	8.8	8.6		
PHENOLTHALEIN ALKALINITY	4	0	4	0	4	4	4	4		
METHYL ORANGE ALKALINITY	68	204	58	168	94	176	58	140		
CARBONATES AS CaCO ₃	8	0	8	0	8	8	8	8		
BICARBONATES AS CaCO ₃	60	204	50	168	86	168	50	132		
CHLORIDES AS Cl	10	38	26	20	18	50	10	40		
HARDNESS AS CaCO ₃	78	70	72	70	76	68	70	60		
IRON AS Fe	< 0.04	0.39	< 0.04	0.20	< 0.04	0.07	0.05	0.06		
FLUORIDE	Am	0.98	0.78				1.04			
	Pm	1.03	0.18	0.76	0.20	0.13	1.00	0.49		
CHLORINE RESIDUAL	1.2	1.2	1.0	-	1.3	1.0	0.9	0.9		
TURBIDITY	Am	0.2	0.3				0.3			
	Pm	0.3	0.5	0.2	0.2	0.3	0.3	0.5	0.3	
TOTAL PHOSPHATE		0.95			0.08					
ORTHO PHOSPHATE		0.80			0.0					
META PHOSPHATE		0.15			0.08					
STABILITY	+0.3	-0.9	+0.2	-0.6	+0.1	0.0	+0.5	-0.2		

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. Barbee/H. Burns

CHEMICAL ANALYSIS — WATER TREATMENT PLANTS

MCBCL 11330.3 (REV 6-84)

DATE COLLECTED
12/17/85

DATE OF ANALYSIS
12/17/85

PARAMETER	HADNOT POINT -241	CAMP JOHNSON -242	TARAWA TERRACE -244	ONSHOW BEACH -248	COURTHOUSE BAY -247	RIFLE RANGE -246	HOLCOMB BLVD -243	NEW RIVER -242		
PH (IN LAB NOT PLANT)	8.8	7.5	8.7	7.8	8.5	8.6	8.9	8.9		
PHENOLTHALEIN ALKALINITY	4	0	4	0	4	2	2	8		
METHYL ORANGE ALKALINITY	60	180	64	156	168	150	64	126		
CARBONATES AS CaCO ₃	8	0	8	0	8	4	4	16		
BICARBONATES AS CaCO ₃	52	180	56	156	160	146	60	110		
CHLORIDES AS Cl	10	30	20	18	18	30	14	46		
HARDNESS AS CaCO ₃	76	64	76	48	54	56	74	48		
IRON AS Fe	40.04	0.34	0.06	0.29	0.06	0.08	0.77	0.08		
FLUORIDE	Am 0.78 Pm 0.79	0.16	0.94 0.94	0.20	0.12	0.12	0.99 0.83	0.48		
CHLORINE RESIDUAL	1.1	1.4	1.0	1.5	1.6	1.0	0.9	0.8		
TURBIDITY	Am 0.3 Pm 0.8	0.8	0.4 0.3	0.3	0.2	0.3	0.2 16.2*	1.0		
TOTAL PHOSPHATE		2.09			0.07					
ORTHOPHOSPHATE		0.76			0.00					
META PHOSPHATE		1.33			0.07					
STABILITY	+0.7	-0.8	+0.2	-0.6	+0.1	+0.2	+0.4	+0.4		

REMARKS

*Holcomb Blvd repeat turbidity = 0.6

CLW

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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

H. Burns

() NHAD () TTT

CHEMICAL ANALYSIS — WATER TREATMENT PLANTS

MCBCL 11330 3 (REV 6-84)

DATE COLLECTED

12/26/85

DATE OF ANALYSIS

12/26/85

PARAMETER	HADNOT POINT -041	CAMP JOHNSON -045	TARAWA TERRACE -044	ON SLOW BEACH -048	COURTHOUSE BAY -047	RIFLE RANGE -046	HOLCOMB BLVD -043	NEW RIVER -042 *		
PH (IN LAB NOT PLANT)	8.5	7.3	8.7	7.5	8.3	8.4	8.7			
PHENOLTHALEIN ALKALINITY	4	0	4	0	2	4	2			
METHYL ORANGE ALKALINITY	60	190	50	160	164	170	68			
CARBONATES AS CaCO ₃	8	0	8	0	4	8	4			
BICARBONATES AS CaCO ₃	52	190	42	160	160	162	64			
CHLORIDES AS Cl	12	30	20	20	20	24	14			
HARDNESS AS CaCO ₃	72	66	56	52	36	60	78			
IRON AS Fe	<0.04	0.31	<0.04	0.26	<0.04	0.06	0.09			
FLUORIDE	Am 0.74	0.26	1.23	0.22	0.14	0.10	1.08			
	Pm 0.89		1.33				1.10			
CHLORINE RESIDUAL	1.0	1.2	1.0	1.2	1.4	1.0	1.0			
TURBIDITY	Am 0.2	0.8	0.4	0.3	0.2	0.2	0.2			
	Pm 0.2		0.3				0.6			
TOTAL PHOSPHATE		1.55			0.06					
ORTHO PHOSPHATE		0.77			0.00					
META PHOSPHATE		0.78			0.06					
STABILITY	+0.2	-1.2	-0.1	-1.1	-0.4	-0.2	+0.6			

REMARKS

*New River - No sample

CLW

0000004509

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

H. Burns