

JAN's copy

11330/1
NREAD
4 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 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,

P. E. BLACK
Acting Director

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

Copy to:
NAVPACENCCGM (Code 114)

CLW
0000004484

Sediment # 04-07-04
RAW WATER COLIFORMS (MFP)

REPORT OF DISTRICT ENGINEER, M. C. DEPARTMENT OF HUMAN RESOURCES

DATE	RAW WATER COLIFORMS (MFP)						FILTERED						FINISHED						DISTRIBUTION SYSTEM										INCUBATOR TEMP.
	A		B		C		MFP COLIFORMS per 100 ml.			MFP COLIFORMS per 100 ml.			MFP COLIFORMS per 100 ml.			AVE. COLIFORMS per 100 ml.		NO. OF SAMPLES EXAMINED		COLIFORMS (MFP)					REPEAT SAMPLES				
	VOLUME FILTERED ml.	TOTAL COLONIES	COLIFORM COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	COLIFORM COLONIES	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	TOTAL PLATE COUNT	NO. OF SAMPLES EXAMINED	NO. OF SAMPLES EXAMINED	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.	COLIFORMS per 100 ml.				
3																													
4	54														9	9	00	00	00	00	00	00	00	00	00	00	00	00	35.0
5																													
6																													
7																													
8																													
9																													
10																													
11	34														9	9	00	00	00	00	00	00	00	00	00	00	00	00	35.0
12																													
13																													
14																													
15																													
16																													
17	318														9	9	00	00	00	00	00	00	00	00	00	00	00	00	35.0
19																													
20																													
21																													
22																													
23																													
24																													
25																													
26	324														9	9	00	00	00	00	00	00	00	00	00	00	00	00	35.0
27																													
29																													
30																													
31																													
HF HFOIA																													
PBS M ENDO																													
DACTERIAL																													
ARITH. MEAN																													
NO. OF SAMPLES																													
TOTAL NO. SAMPLES																													
EXCEEDING 3/500																													
EXCEEDING 7/200																													
EXCEEDING 13/500ml																													
	36																												

CLW
000004485

Almond Creek, Los Angeles, Cal. 90010. 10/2/52. M.C. Dept. of Human Resources. Coli. Office.

DATE	VOLUME FILTERED ml.	A			VOLUME FILTERED ml.	B			VOLUME FILTERED ml.	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	DISTRIBUTION SYSTEM					REPEAT SAMPLES	INCUBATOR TEMP.			
		TOTAL COLONIES	COLIFORM COLONIES	COLIFORM COLONIES		TOTAL COLONIES	COLIFORM COLONIES	COLIFORM COLONIES		TOTAL COLONIES	COLIFORM 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.
		AVERAGE	NO. OF SAMPLES EXAMINED	COLIFORMS per 100 ml.		AVERAGE	NO. OF SAMPLES EXAMINED	COLIFORMS per 100 ml.		COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.							COLIFORMS per 100 ml.	COLIFORMS per 100 ml.								
3																				7	0	0	0	0	0		35.0	
4	54																			7	0	0	0	0	0		35.0	
5																												
6																												
7																												
8																												
9																												
10																												
11	511																										35.0	
12																												
13																												
14																												
15																												
16																												
19	518																										35.0	
20																												
21																												
22																												
23																												
24																												
25																												
26	326																										35.0	
27																												
29																												
30																												
31																												

00000004588
CLW

LABORATORY AREA: _____
 NATIONAL CENTER FOR HUMAN SERVICES
 4440 Woodloch Forest Drive, Raleigh, NC 27609
 (919) 873-5400

DATE	RAW WATER COLIFORMS (HFP)			FILTERED			FINISHED			DISTRIBUTION SYSTEM					REPEAT SAMPLES	INCUBATOR TEMP.												
	A	B	C	A	B	C	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	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	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.	COLIFORMS per 100 ml.		
1																												
2																												
3																												
4																												
5	54																7	0	0	0	0	0	0	0	0	0	0	35.0
6																												
7																												
8																												
9																												
10																												
11	54																7	0	0	0	0	0	0	0	0	0	0	35.0
12																												
13																												
14																												
15																												
16																												
17																												
18	54																7	0	0	0	0	0	0	0	0	0	0	35.0
19																												
20																												
21																												
22																												
23																												
24																												
25																												
26	54																7	0	0	0	0	0	0	0	0	0	0	35.0
27																												
28																												
29																												
30																												
31																												

0000004487
 CLW

Laboratory Form No. 375-27
 Incubating Temp. 37°C
 Signature: *Elizabeth Hill*
 Cert. Grade B-WELL No. 4032-N
 28

DATE	RAW WATER COLIFORMS (HFP)			FILTERED			FINISHED			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.	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	COLIFORM COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	COLIFORM COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	COLIFORM COLONIES									
1																		
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		
19																		
20																		
21																		
22																		
23																		
24																		
25																		
26																		
27																		
28																		
29																		
30																		
31																		

0000004488

CLW

Laboratory Code: 37502
 HFP MEDIA: BBL m-EMMS
 DACTERIAL DENSITY: 1.0
 ARITH. MEAN: 1.0
 Signal: High
 Corl. Ordo: R.W.U.
 No. 4087-W

SAMPLES EXCEEDING 3/50 (4/100) 7/200, 13/500ml

1/2

350

350

350

350

350

350

350

350

350

350

350

350

350

350

350

350

350

350

350

350

350

350

350

350

350

350

350

	RAW WATER COLIFORMS (MFP)		FILTRATE		EFFLUENT		COLIFORMS (MFP)					REPEAT SAMPLES																
	A	B	C	D	E	F	1	2	3	4	5	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.														
DATE	VOLUME FILTERED ml.	TOTAL COLONIES	COLIFORM COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	COLIFORM COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	COLIFORM COLONIES	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	AVE. COLIFORMS per 100 ml.	NO. OF SAMPLES EXAMINED	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.	COLIFORMS per 100 ml.	INCUBATOR TEMP.	
1																												
2																												
3																												
4																												
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												
13																												
14																												
15																												
16																												
17																												
18																												
19																												
20																												
21																												
22																												
23																												
24																												
25																												
26																												
27																												
28																												
29																												
30																												
31																												
HF MEDIA			DIRTY																									
TFC MEDIA			DIRTY																									

0000004490
 0000004490
 0000004490

CLW

35.0

35.0

35.0

35.0

12

Laboratory Cert. 37807
 Signed *[Signature]*
 Cert. Grade B-Well No. 4087-W

RAW WATER COLIFORMS (HFP)

FILTERED

FINISHED

DISTRIBUTION SYSTEM

REPEAT SAMPLES

DATE	A		B		C		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	DISTRIBUTION SYSTEM					INCUBATOR TEMP.		
	VOLUME FILTERED ml.	TOTAL COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES							COLIFORMS (HFP)	COLIFORMS (HFP)	COLIFORMS (HFP)	COLIFORMS (HFP)	COLIFORMS (HFP)		COLIFORMS (HFP)	COLIFORMS (HFP)
1													1							
2													2							
3													3							
4													4							
5													5							
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				
16																				
17																				
18																				
19																				
20																				
21																				
22																				
23																				
24																				
25																				
26																				
27																				
28																				
29																				
30																				
31																				

CLW
0000004491

TPC MEDIA: HE MEDIA, BGL (M-E-N-D)

 BACTERIAL DENSITY:

 ARITH. MEAN:

 NO. OF SAMPLES EXAMINED: 4

 COLIFORMS per 100 ml. (Distribution System): 0, 0, 0, 0, 0

 COLIFORMS (HFP): 0

 INCUBATOR TEMP.: 35.0

 TOTAL NO. SAMPLES: 16

 SAMPLES EXCEEDING 3/50, 9/100, 7/200, 13/500ml: 0

Laboratory Cert. No. 27507
 JDA
 Signed: Hughes
 Cort. Grade B-Wells No. 4087-W

Serial # 04-67-048

DATE	RAW WATER COLIFORMS (MFP)			FINISHED			DISTRIBUTION SYSTEM					REPEAT SAMPLES	INCUBATOR TEMP		
	A	B	C	NO. OF COLIFORMS PER 100 ml.	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	AVE. COLIFORMS per 100 ml.	NO. OF SAMPLES EXAMINED	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															
12															
13															
14															
15															
16															
17															
18															
19															
20															
21															
22															
23															
24															
25															
26															
27															
28															
29															
30															
31															

0000 004492

CLW

Signal *Wegman* Corp. Grade *B-well* No. *4087-W*

SAMPLES EXCEEDING 3/50, 4/100, 7/200, 13/500ml

8

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

PARAMETER	HADNOT POINT	CAMP JOHNSON	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER
PH	8.8	7.3	8.6	7.4	8.6	8.3	8.7	8.7
PHENOLTHALEIN ALKALINITY	6	0	2	0	10	4	6	16
METHYL ORANGE ALKALINITY	68	202	58	162	194	160	66	218
● CARBONATES AS CaCO ₃	12	0	4	0	20	8	12	32
BICARBONATES AS CaCO ₃	56	202	54	162	174	152	54	186
CHLORIDES AS Cl	8	42	12	22	18	30	18	82
HARDNESS AS CaCO ₃	70	74	80	82	50	50	68	50
IRON AS Fe	<0.04	0.42	<0.04	0.15	<0.04	<0.04	<0.04	<0.04
FLUORIDE $\mu\text{M}/\text{PM}$	0.69/0.66	0.14	1.05/1.00	0.13	0.12	0.09	1.03/0.97	0.90
CHLORINE RESIDUAL	1.0	1.3	1.0	1.3	1.3	1.2	0.9	1.3
TURBIDITY $\mu\text{M}/\text{PM}$	0.6/0.3	0.6	0.4/0.4	0.3	0.3	0.4	0.3/0.5	1.9
TOTAL PHOSPHATE		4.05			1.04			
ORTHO PHOSPHATE		1.32			0.19			
META PHOSPHATE		2.73			0.85			
STABILITY	+0.6	-0.8	+2.4	-0.8	+0.2	-0.1	+0.4	+0.1

DATE COLLECTED 4 DEC 84 DATE OF ANALYSIS 4 DEC 84

REMARKS
OB POND pH 8.0

CLW

0000004493

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
Lachapelle, Honeycutt

(TKB)

- COPY TO:
- UTIL DIR
 - WATER TREATMENT
 - PMU MCAS PMU
 - NREAD FILE

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

PARAMETER	HADNOT POINT	CAMP JOHNSON	TARAWA TERRACE	ON SLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER
PH	9.0	7.4	8.7	7.5	8.4	8.3	8.9	9.2
PHENOLTHALEIN ALKALINITY	6	0	4	0	2	0	6	20
METHYL ORANGE ALKALINITY	50	190	40	150	180	160	50	160
BONATES AS CaCO ₃	12	0	8	0	4	0	12	40
BICARBONATES AS CaCO ₃	38	190	32	150	176	160	38	120
CHLORIDES AS Cl	10	36	10	16	10	30	6	110
HARDNESS AS CaCO ₃	60	74	80	60	60	54	62	56
IRON AS Fe	<0.04	0.33	<0.04	0.06	<0.04	<0.04	0.08	0.13
FLUORIDE $\mu\text{M}/\text{PM}$	1.01/0.98	0.15	1.06/1.11	0.15	0.09	0.09	1.00/0.93	0.63
CHLORINE RESIDUAL	1.0	1.4	1.0	1.0	1.4	1.0	0.8	1.3
TURBIDITY KM/PM	0.34/0.33	0.67	0.30/0.40	0.32	0.52	0.37	0.60/0.20	1.08
TOTAL PHOSPHATE		2.05			0.96			
ORTHO PHOSPHATE		1.00			0.16			
META PHOSPHATE		1.05			0.80			
STABILITY	+0.7	-0.7	+0.5	-0.7	+0.1	0	+0.6	+0.2

DATE COLLECTED 11 DEC 84
 DATE OF ANALYSIS 11 DEC 84

OB Pond pH = 8.2

000004494

CLW

COPY TO:

UTIL DIR

WATER TREATMENT

PMU MCAS PMU

NREAD FILE

LABORATORY ANALYSIS BY

BURNS, LACHAPPELLE

TKB

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.

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

PARAMETER	HADNOT POINT	CAMP JOHNSON	TARAWA TERRACE	ONSLow BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	DATE COLLECTED	DATE OF ANALYSIS
pH	8.9	7.5	8.5	7.4	8.4	8.2	8.5	8.7	18 Dec 84	18 Dec 84
PHENOLTHALEIN ALKALINITY	6	0	4	0	6	6	6	14		
METHYL ORANGE ALKALINITY	56	206	58	156	188	172	74	184		
BONATES AS CaCO ₃	12	0	8	0	12	12	12	28		
BICARBONATES AS CaCO ₃	44	206	50	156	176	160	62	156		
CHLORIDES AS Cl	10	38	12	20	18	30	10	114		
HARDNESS AS CaCO ₃	60	86	80	70	74	60	80	50		
IRON AS Fe	<0.04	0.42	<0.04	0.26	0.10	<0.04	<0.04	<0.04		
FLUORIDE $\mu\text{M}/\text{PM}$	0.96/0.93	0.16	0.63/0.46	0.19	0.10	0.09	1.01/0.95	0.75		
CHLORINE RESIDUAL	1.0	1.4	1.0	1.5	1.2	1.0	0.9	1.4		
TURBIDITY Am/PM	0.2/0.2	0.9	0.5/0.4	0.4	0.5	0.3	0.1/0.1	0.4		
TOTAL PHOSPHATE		2.60			1.04					
ORTHO PHOSPHATE		1.09			0.22					
META PHOSPHATE		1.51			0.82					
STABILITY	+0.5	-0.6	+0.2	-0.9	0	-0.1	+0.2	+0.1		

REMARKS

OB Pond pH = 8.5

CLW

0000004495

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

LACHAPPELLE, BARBEE

TAB

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

DATE COLLECTED

26 DEC 84

DATE OF ANALYSIS

26 DEC 84

PARAMETER	HADNOT POINT	CAMP JOHNSON	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER
PH	8.9	7.3	8.8	7.4	8.4	8.1	8.7	7.8
PHENOLTHALEIN ALKALINITY	8	0	4	0	2	0	6	0
METHYL ORANGE ALKALINITY	56	216	44	170	160	186	56	268
CARBONATES AS CaCO ₃	16	0	8	0	4	0	12	0
BICARBONATES AS CaCO ₃	40	216	36	170	156	186	44	268
CHLORIDES AS Cl	6	40	10	12	12	30	10	124
HARDNESS AS CaCO ₃	58	82	60	62	54	54	64	144
IRON AS Fe	<0.04	0.61	0.06	0.34	<0.04	0.10	<0.04	0.12
FLUORIDE AM/PM	0.93/0.97	0.18	0.52/0.65	0.20	0.12	0.11	0.85/0.96	0.86
CHLORINE RESIDUAL	1.0	1.3	1.4	1.4	1.4	1.0	0.9	1.4
TURBIDITY AM/PM	0.20/0.70	0.70	0.30/0.33	0.29	0.30	0.27	0.30/0.30	0.60
TOTAL PHOSPHATE		2.18			1.04			
ORTHO PHOSPHATE		1.00			0.22			
META PHOSPHATE		1.18			0.82			
STABILITY	+0.7	-0.7	+0.7	-0.9	+0.2	-0.1	+0.5	0

CLW

0000004496

COPY TO:

UTIL DIR

WATER TREATMENT

PMU MCAS PMU

NREAD FILE

LABORATORY ANALYSIS BY

BUENS, BARBIE

(THS)

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.