

11331
NREAD
2 Dec 87

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

Dear Mr. McPadyen:

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 November 1987. Also enclosed are the weekly Chemical Analysis Forms (MCECL 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 Environmental Chemistry and Microbiology Laboratory, located in the Natural Resources and Environmental Affairs Division, Assistant Chief of Staff, Facilities. Ms. Betz, Supervisory Chemist, telephone (919) 451-5977, is the point of contact in this matter.

Sincerely,

JULIAN I. WOOTEN
Director, Natural Resources Division
By direction of the Commanding General

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

Copy to:
LANTNAVPACENGCOCM (Code 114)

Blind copy to:
BMO (Attn: UTIL DIR)
Supvy Chem (2)

Writer/Typist Betz/llk
Date Typed 2 Dec 87
Word Processor Number 11331

Month NOVEMBER
Year 1987

HADNOT POINT

WATER TREATMENT PLANT AT Camp Lejeune

Method Code: 505

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Contaminant Code: 3000

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.	FINISHED	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	<u>3RD</u>																0	9	0	0	0	0	0	0	35.7
4																									
5																									
6																									
7																									
8																									
9	<u>7TH</u>																								
10	<u>10TH</u>																0	9	0	0	0	0	0	10	35.5
11																									
12																									
13																									
14																									
15																									
16	<u>7TH</u>																								
17	<u>17TH</u>																0	9	0	0	0	10	0	0	35.7
18																									
19																									
20																									
21																									
22																									
23	<u>7TH</u>																								
24	<u>24TH</u>																0	9	0	0	0	0	0	0	35.9
25																									
26																									
27																									
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29																									
30																									
31																									
	MFP MEDIA	BBL mEndo	DACTERIAL DENSITY	ARITH. MEAN	GEO. MEAN											0	1								
	TPC MEDIA																								

Laboratory Cert. 37807

Signature Elyabeth A. B... Cert. Grade B-Well No. 4087-W





Month NOVEMBER
Year 1987

HOLCOMB 134VD

WATER TREATMENT PLANT AT CAMP BEJUNE

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		FINISHED		TOTAL PLATE COUNT	DISTRIBUTION SYSTEM										INCUBATOR TEMP.		
	A			B			C				TOTAL PLATE COUNT	MFP 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.	COLIFORMS per 100 ml.		COLIFORMS per 100 ml.	
1																												
2																												
3	7 3RD																											35.7
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10	7 10TH																											35.5
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16																												
17	7 17TH																											35.7
18																												
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24	7 24TH																											35.9
25																												
26																												
27																												
28																												
29																												
30																												
31																												
HF MEDIA															0	TOTAL NO. SAMPLES										28		
TPC MEDIA															1	SAMPLES EXCEEDING 3/50, 4/100, 7/200, 13/500ml										0		

Laboratory Cert. 37807

Signed Elizabeth A. Bety

Cert. Grade B-Well No. 4087-W



Month NOVEMBER
Year 1987

TARAWA TERRACE

WATER TREATMENT PLANT AT Camp Bejeune

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Contaminant Code: 3000

N. C. DEPARTMENT OF HUMAN RESOURCES

Serial #: 04-67-044

DATE	RAW WATER COLIFORMS (MFP)						NO. OF COLIFORMS PER 100 ml.	FILTERED		FINISHED		DISTRIBUTION SYSTEM						INCUBATOR TEMP.		
	A		B		C			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.
1																				
2																				
3	<u>7</u> <u>3RD</u>												0	4	0	0	0		35.7	
4																				
5																				
6																				
7																				
8																				
9																				
10	<u>7</u> <u>10TH</u>												0	4	0	0	0		35.5	
11																				
12																				
13																				
14																				
15																				
16																				
17	<u>7</u> <u>17TH</u>												0	4	0	0	0	0	35.7	
18																				
19																				
20																				
21																				
22																				
23																				
24	<u>7</u> <u>24TH</u>												0	4	0	0	0	0	35.9	
25																				
26																				
27																				
28																				
29																				
30																				
31																				
HF MEDIA		BBL mEndo		BACTERIAL DENSITY		ARITH. MEAN GEO. MEAN						DIST. SYSTEM		TOTAL NO. SAMPLES					16	
TPC MEDIA														SAMPLES EXCEEDING 3/500 <u>4/100</u> 7/200. 13/500ml 0					0	

Laboratory Cert. 37807

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



Month NOVEMBER
Year 1987

CAMP JOHNSON

WATER TREATMENT PLANT AT Camp Lejeune

Method Code: 303

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Contaminant Code: 3000

N. C. DEPARTMENT OF HUMAN RESOURCES

Serial #: 04-67-045

DATE	RAW WATER COLIFORMS (MFP)								NO. OF COLIFORMS PER 100 ml.	FILTEREE TOTAL PLATE COUNT	FINISHED 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	AVE. COLIFORMS per 100 ml.	NO. OF SAMPLES EXAMINED				1	2	3	4	5		COLIFORMS per 100 ml.	COLIFORMS per 100 ml.
1																			
2																			
3	7											0	2	0	0			35.7	
4																			
5																			
6																			
7																			
8																			
9																			
10	7											0	2	0	0			35.5	
11																			
12																			
13																			
14																			
15																			
16																			
17	7											0	2	0	10			35.7	
18																			
19																			
20																			
21																			
22																			
23																			
24	7											0	2	0	0			35.9	
25																			
26																			
27																			
28																			
29																			
30																			
31																			
MF MEDIA		RBL mEndo		BACTERIAL DENSITY		ARITH. MEAN						0	DIST. SYSTEM	TOTAL NO. SAMPLES					8
TPC MEDIA						GEO. MEAN						1		SAMPLES EXCEEDING 3/50 (4/100) 7/200, 13/500ml					0

Laboratory Cert. 37807

Signal Charlotte A. Berry Cert. Grade B-Well No. 4087-W



Month NOVEMBER
Year 1987

KIRLE RANGE

WATER TREATMENT PLANT AT Camp Lejeune

Contaminant Code: 300

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

N. C. DEPARTMENT OF HUMAN RESOURCES

Serial #: 04-67-046

DATE	RAW WATER COLIFORMS (MFP)									NO. OF COLIFORMS PER 100 ml.	FILTERED TOTAL PLATE COUNT	FINISHED TOTAL PLATE COUNT	TOTAL PLATE COUNT	DISTRIBUTION SYSTEM COLIFORMS (MFP)					REPEAT SAMPLES			INCUBATOR TEMP.					
	A			B			C							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							COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.							
1																											
2																											
3	<u>7</u> <u>3RD</u>													0	3	0	0	0								35.7	
4																											
5																											
6																											
7																											
8																											
9																											
10	<u>7</u> <u>10TH</u>													0	3	0	0	0								35.5	
11																											
12																											
13																											
14																											
15																											
16																											
17	<u>7</u> <u>17TH</u>													0	3	0	0	10								35.7	
18																											
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21																											
22																											
23																											
24	<u>7</u> <u>24TH</u>													0	3	0	0	0								35.9	
25																											
26																											
27																											
28																											
29																											
30																											
31																											
	MF MEDIA	BBL mEndo			BACTERIAL DENSITY	ARITH. MEAN								0	DIST. SYSTEM	TOTAL NO. SAMPLES											12
	TPC MEDIA					GEO. MEAN								1		SAMPLES EXCEEDING 3/50, (4/100), 7/200, 13/500ml											0

Laboratory Cert. 37807

Signed Elizabeth R. Betz Cert. Grade B-Well No. 4087-W



Month NOVEMBER
Year 1987

COURTHOUSE BAY

WATER TREATMENT PLANT AT Camp Lejeune

Method Code: 303
Contaminant Code: 3000

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

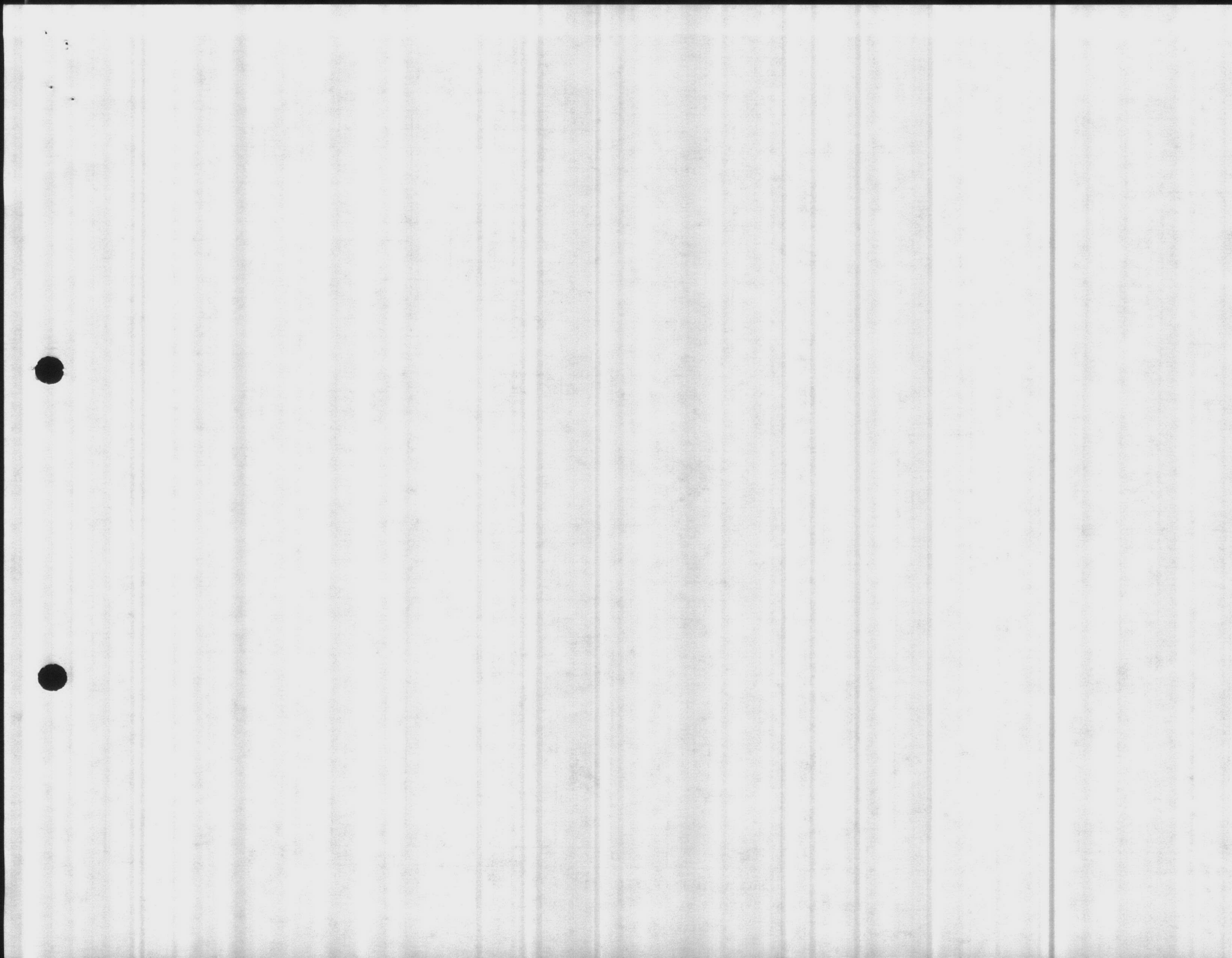
N. C. DEPARTMENT OF HUMAN RESOURCES

Serial #: 04-67-047

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					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							AVE. COLIFORMS per 100 ml.	NO. OF SAMPLES EXAMINED	1	2	3		4	5	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.
1																									
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3																	0	4	00	010	35.7				
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30																									
31																									
HF MEDIA										0										DIST. SYSTEM		TOTAL NO. SAMPLES		15	
TPC MEDIA										1												SAMPLES EXCEEDING 3/50, (4/100), 7/200, 13/500ml		0	
BBL mEndo			BACTERIAL DENSITY			ARITH. MEAN			GEO. MEAN																

Laboratory Cert. 37807

Signed Margaret A. Bell Cert. Grade B-Well No. 4087-W



Month NOVEMBER
Year 1987

ON SLOW BEACH

WATER TREATMENT PLANT AT Camp Lejeune

Method Code: 303

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Contaminant Code: 3000

N. C. DEPARTMENT OF HUMAN RESOURCES

Serial #: 04-67-048

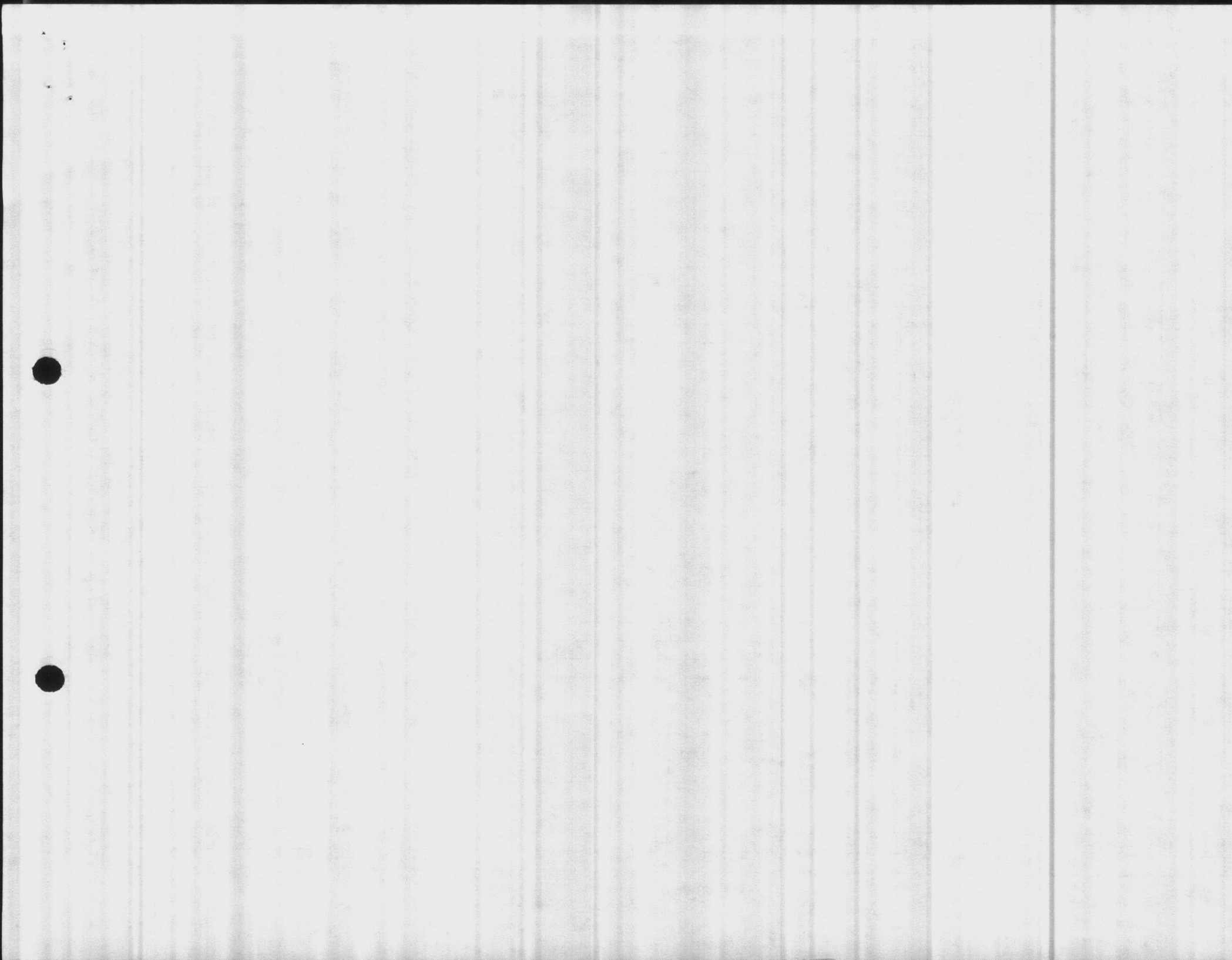
DATE	RAW WATER COLIFORMS (MFP)									NO. OF COLIFORMS PER 100 ml.	FILTERED		FINISHED		TOTAL PLATE COUNT	DISTRIBUTION SYSTEM										INCUBATOR TEMP.														
	A			B			C				TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.		COLIFORMS (MFP)					REPEAT SAMPLES																			
	VOLUME FILTERED ml.	TOTAL COLONIES	COLIFORM COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	COLIFORM COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	COLIFORM COLONIES							1	2	3	4	5	1	2	3	4	5															
1																																								
2																																								
3	<u>7</u>																																							35.7
4	<u>5th</u>																																							
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10	<u>7</u>																																							35.5
11	<u>10th</u>																																							
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17	<u>7</u>																																							35.7
18	<u>17th</u>																																							
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24	<u>7</u>																																							35.9
25	<u>24th</u>																																							
26																																								
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28																																								
29																																								
30																																								
31																																								
MF MEDIA		BBL mEndo			BACTERIAL DENSITY		ARITH. MEAN									0	TOTAL NO. SAMPLES		8					8																
TPC MEDIA							GEO. MEAN								1	SAMPLES EXCEEDING 3/50 (4/100) 7/200, 13/500ml		0																						

Laboratory Cert. 37807

Signal Elizabeth A. Betz

Cert. Grade B-Well

No. 4087-W



ENVIRONMENTAL CHEMISTRY & MICROBIOLOGY LABORATORY REPORT
 CHEMICAL ANALYSIS - WATER TREATMENT PLANTS
 MCBCL 11330/3 (REV 7-87)

DATE COLLECTED

11-3-87

DATE(S) ANALYZED

11-3-87

PLANT PARAMETER (UNITS)	HADNOT POINT 04-67-041	MCA S NEW RIVER 04-67-042	HOLCOMB BLVD 04-67-043	COURTHOUSE BAY 04-67-046	RIFLE RANGE 04-67-047	ONSLow BEACH 04-67-048			
pH-LABORATORY	8.2	8.9	8.5	8.1	8.2	7.4			
STABILITY	+0.3	+0.2	+0.5	0.0	+0.1	-0.4			
PHENOLTHALEIN ALKALINITY (PPM)	0	12	6	0	4	0			
METHYL ORANGE ALKALINITY (PPM)	44	140	62	164	156	164			
CARBONATES AS CaCO ₃ (PPM)	0	24	12	0	8	0			
BICARBONATES AS CaCO ₃ (PPM)	44	116	50	164	148	164			
CHLORIDES AS Cl (PPM)	20	80	20	20	50	20			
HARDNESS AS CaCO ₃ (PPM)	56	50	64	64	54	58			
IRON AS Fe (PPM)									
FLUORIDE (PPM)	AM/PM 1.02 1.02	0.58	0.96 1.18	0.11	0.10	0.13			
TURBIDITY (NTUS)	AM/PM 0.5 0.7	1.1	1.4 1.4	0.7	0.8	1.1			
CHLORINE RESIDUAL (PPM)	1.1	1.0	1.1	1.1	1.2	0.9			

ENCLOSURE

REMARKS:

COPY TO:

- UTIL Div, BMD
- WATER TREATMENT, UTIL Div, BMD
- PMU, NAYHOSP PMU, MCAS-NR
- DIVISION OF HEALTH SERVICES
N.C. DEPT OF HUMAN RESOURCES
- NREAD FILE (ATTACH WKST)

REPORT DATE:

11-3-87

REPORT PREPARED BY:

H. J. BvENS



ENVIRONMENTAL CHEMISTRY & MICROBIOLOGY LABORATORY REPORT
CHEMICAL ANALYSIS - WATER TREATMENT PLANTS
 MCBCL 11330/3 (REV 7-87)

DATE COLLECTED

11-10-87

DATE(S) ANALYZED

11-10-87

PLANT PARAMETER (UNITS)	HADNOT POINT 04-67-041	MCAS NEW RIVER 04-67-042	HOLCOMB BLVD 04-67-043	COURTHOUSE BAY 04-67-046	RIFLE RANGE 04-67-047	ON SLOW BEACH 04-67-048			
pH-LABORATORY	8.1	8.4	8.7	8.3	8.0	7.5			
STABILITY	+0.6	+0.3	+0.6	+0.2	+0.2	-0.2			
PHENOLTHALEIN ALKALINITY (PPM)	0	12	14	18	4	0			
METHYL ORANGE ALKALINITY (PPM)	54	160	68	182	168	172			
CARBONATES AS CaCO ₃ (PPM)	0	24	28	36	8	0			
BICARBONATES AS CaCO ₃ (PPM)	54	136	40	146	160	172			
CHLORIDES AS Cl (PPM)	20	88	14	22	48	24			
HARDNESS AS CaCO ₃ (PPM)	68	48	62	72	54	52			
IRON AS Fe (PPM)									
FLUORIDE (PPM)	AM PM	1.12 1.06	0.63	1.29 1.24	0.13	0.10	0.17		
TURBIDITY (NTUS)	AM PM	0.5 0.5	0.5	0.7 0.6	0.2	0.3	0.4		
CHLORINE RESIDUAL (PPM)		1.0	1.1	1.3	1.4	0.8	1.1		

REMARKS:

COPY TO:

- UTIL DIR, BMD
- WATER TREATMENT, UTIL DIV, BMD
- PMU, NAVHOSP PMU, MCAS-NR
- DIVISION OF HEALTH SERVICES
N.C. DEPT OF HUMAN RESOURCES
- NREAD FILE (ATTACH WKST)

REPORT DATE:

11-10-87

REPORT PREPARED BY:

CAROL S. SHORIS



ENVIRONMENTAL CHEMISTRY & MICROBIOLOGY LABORATORY REPORT
CHEMICAL ANALYSIS - WATER TREATMENT PLANTS
 MCBCL 11330/3 (REV 7-87)

DATE COLLECTED
 11-17-87

DATE(S) ANALYZED
 11-17-87

PLANT PARAMETER (UNITS)	HADNOT POINT 04-67-041	MCAS NEW RIVER 04-67-042	HOLCOMB BLVD 04-67-043	COURTHOUSE BAY 04-67-046	RIFLE RANGE 04-67-047	ONSLow BEACH 04-67-048			
pH-LABORATORY	8.1	8.4	8.4	7.9	7.9	7.2			
STABILITY	+0.6	+0.3	+0.6	+0.2	+0.2	-0.3			
PHENOLTHALEIN ALKALINITY (PPM)	2	18	12	0	0	0			
METHYL ORANGE ALKALINITY (PPM)	56	146	58	156	124	160			
CARBONATES AS CaCO ₃ (PPM)	4	36	24	0	0	0			
BICARBONATES AS CaCO ₃ (PPM)	52	110	34	156	124	160			
CHLORIDES AS Cl (PPM)	20	84	20	18	54	22			
HARDNESS AS CaCO ₃ (PPM)	60	66	58	56	64	62			
IRON AS Fe (PPM)									
FLUORIDE (PPM)	AM/ PM 0.56 0.52	0.64	0.97 1.07	0.12	0.10	0.17			
TURBIDITY (NTUS)	AM/ PM 0.1 0.1	0.2	0.3 0.1	0.1	0.1	0.1			
CHLORINE RESIDUAL (PPM)	1.0	1.0	1.4	1.3	1.0	1.2			

REMARKS:

COPY TO:

- UTIL Div, BMD _____
- WATER TREATMENT, UTIL Div, BMD
- PMU, NAYHOSP PMU, MCAS-NR
- DIVISION OF HEALTH SERVICES
 N.C. DEPT OF HUMAN RESOURCES
- NREAD FILE (ATTACH WKST)

REPORT DATE:

11-17-87

REPORT PREPARED BY:

CAROL S. SHORES



ENVIRONMENTAL CHEMISTRY & MICROBIOLOGY LABORATORY REPORT
CHEMICAL ANALYSIS - WATER TREATMENT PLANTS
 MCBCL 11350/3 (REV 7-87)

DATE COLLECTED

11-24-87

DATE(S) ANALYZED

11-24-87

PLANT PARAMETER (UNITS)	HADNOT POINT 04-67-041	MCAS NEW RIVER 04-67-042	HOLCOMB BLVD 04-67-043	COURTHOUSE BAY 04-67-046	RIFLE RANGE 04-67-047	ONSLow BEACH 04-67-048			
pH-LABORATORY	8.1	8.4	8.6	8.1	8.3	7.4			
STABILITY	+0.2	+0.1	+0.6	0.0	+0.2	-0.4			
PHENOLTHALEIN ALKALINITY (PPM)	0	8	6	0	4	0			
METHYL ORANGE ALKALINITY (PPM)	62	150	72	164	168	170			
CARBONATES AS CaCO ₃ (PPM)	0	16	12	0	8	0			
BICARBONATES AS CaCO ₃ (PPM)	62	134	60	164	160	170			
CHLORIDES AS Cl (PPM)	4	66	4	16	48	12			
HARDNESS AS CaCO ₃ (PPM)	60	58	68	60	56	50			
IRON AS Fe (PPM)									
FLUORIDE (PPM)	AM/PM 0.18 0.19	0.66	1.04 1.04	0.15	0.13	0.19			
TURBIDITY (NTUS)	AM/PM								
CHLORINE RESIDUAL (PPM)	1.1	1.2	1.2	1.3	1.0	1.3			

REMARKS:

COPY TO:

- UTIL Div, BMD
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