

FILE FOLDER

DESCRIPTION ON TAB:

11331.1B Test Well

Permit Applicat.

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11331 OPERATIONS REPORT (WATER)

TEMP. SECNAVINST 5212.5B, Part II
Chap 11, par. 11330(2) 2 years

WATER TREATMENT PLANTWATER FLOWDATE: OCTOBER 1986

PLANT	RAW	DELIVERED	WASHING FILTERS	MAX. DEL.	POTABLE WATER USED	WELLS MAX. SAFE YIELD/DAY	PLANT CAPACITY DAY	TREATMENT
HADNOT POINT	117,348	115,549	1,796	3,988	13	5,900	5,000	LIME
HOLCOMB BLVD.	34,129	33,110	1,018	1,427	3	2,304	2,000	LIME
TARAWA TERRACE	27,414	26,433	979	1,029	3	1,152	1,000	LIME
MONTFORD POINT	11,621	10,900	719	425	3	622	750	ZEOLITE
MCAS	21,848	20,107	1,740	757	3	4,081	3,500	LIME
RIFLE RANGE	6,067	5,597	468 est.	277	3	648	600	ZEOLITE
COURTHOUSE BAY	18,626	18,070	1,003	744	3	864	600	ZEOLITE
ONSLow BEACH	3,323	3,067	254	134	3	250	250	ZEOLITE

WATER IN MILLION GALLONS

REMARKS:

2,016,000 gallons pumped from Bldg.20 to Bldg. 670

324,000 gallons pumped from Bldg. 670 to Bldg. TT-38



CHB

R- 18,626
 D- 18,070
 WW- 1,003
 HD- 744

R- 3743197
3556929
 186268

D- 2264939
2246869
 18070

S-1

S-2

84
110 9,258

035759
033214
 2,545

031635
029342
 2,293

84
2200
 184800
818400
 1003200

S-3
 018008
015368
 2640

S-4
 011919
010139
 1780

2,545
 2,293
 2,640
1,780
 9,258

OB

R- 3,323
 D- 3,067
 WW- 254
 HD- 134

R- 4990180
4568362
 421818

D- 3944703
3914037
 30666

S-1

S-2

32
80 2,545

722688
709131
 1355700
1189200
 2544900

320199
308307
 1189200

32
 X 2000
64,000

F-1
 756497
750507
 599,000

F-2
 757862
752311
 555100
599
 1154

38
30 1,154

38
5000
 190000
64000
 254000



TT-38

R. 27,414
 D. 26,433
 WW 979
 HD 1,029

R. 12219904
11971812
 248092

D. 10607528
10343202
 264326

31
6

3
6

186

18

5

x31

930

558

950

x170

884

94,860

95

979

AS-110

R. 21,548
 D. 20,107
 WW 1,740
 HD 757

R. 987844
798949
 188895

D. 140900
939832
 201068

29 Filters washed

410

290

x 6000

1,740,000

RR.

R. 6,067
 D. 5,597
 WW Est 468
 HD 277

R. 2504229
2428449
 7578,000

D. 1570749
1514779
 55970



HB-670

R-34,129	R	D.
D-33,110	3726409	0495385-
WW-1,018	<u>3407800</u>	<u>0164288</u>
HD-1,427	318609	331097
		1018
		<u>34127</u>

HP-20

R-117,348	R	T.	D.
D-115,549	5051653	4981214	4395123
WW-1,796	<u>4921828</u>	<u>4865665-</u>	<u>4312288</u>
HD-3,988	129825-	115549	82835-
		1796	
		<u>117345-</u>	
		45-	
		<u>39900</u>	
		1,795,500	

M.P.178

R-11,621	R.	D.
D-10,900	311117	379407
WW-719	<u>088148</u>	<u>314528</u>
HD-425	222969	64879
	<u>X48</u>	<u>X168</u>
	10,702,512	10,899,672

S-1

S-2

	69544200	08258600
	<u>65491100</u>	<u>03568600</u>
	4053100	4690000
	<u>4690000</u>	
	8743100	

109
80)8743

109
X6600
719400



WATER TREATMENT PLANTWATER FLOWDATE: NOVEMBER 1986

PLANT	RAW	DELIVERED	WASHING FILTERS	MAX. DEL.	POTABLE WATER USED	WELLS MAX. SAFE YIELD/DAY	PLANT CAPACITY DAY	TREATMENT
HADNOT POINT	81,797	80,092	1.675	3.310	13	5,900	5,000	LIME
HOLCOMB BLVD.	33,016	31,926	1.088	1.234	3	2,304	2,000	LIME
TARAWA TERRACE	27,189	26,335	.852	1.069	3	1,152	1,000	LIME
MONTFORD POINT	11,615	10,894	.719	.438	3	622	750	ZEOLITE
MCAS	20,106	18,664	1.440	.727	3	4,081	3,500	LIME
RIFLE RANGE	5,715	5,181	.524EST	.211	3	648	600	ZEOLITE
COURTHOUSE BAY	18,600	18,197	.997	.740	3	864	600	ZEOLITE
ONslow BEACH	2,588	2,353	.226	.100	3	250	250	ZEOLITE

WATER IN MILLION GALLONS

REMARKS:

Received 378,000 gallons from Bldg. HP 20 to HB 670.

Received 754,000 gallons from Bldg. 670 to TT-38



HB-670

R. 33,014
 D. 31,926
 WW- 1,088
 HD. 1,234

R. 3998600
372409
 27219,100

D. 0814650
0495385
 3,926,500

31	31
<u>6</u>	<u>3</u>
186	93
<u>5500</u>	<u>700</u>
1,023,000	65,100
<u>65,100</u>	
1,088,100	

HP-20

R. 81,797
 D. 80,092
 WW- 1,675
 HD- 3,310

R. 5186776
5051653
 135,123

T. 5054369
4961214
 93,155

D. 4474175
4395123
 79,052

42
x 39,900

Received 378,000 gals from 20-670 1,675,800

RECEIVED 754,000 gals from 670-TT-38

TT-38

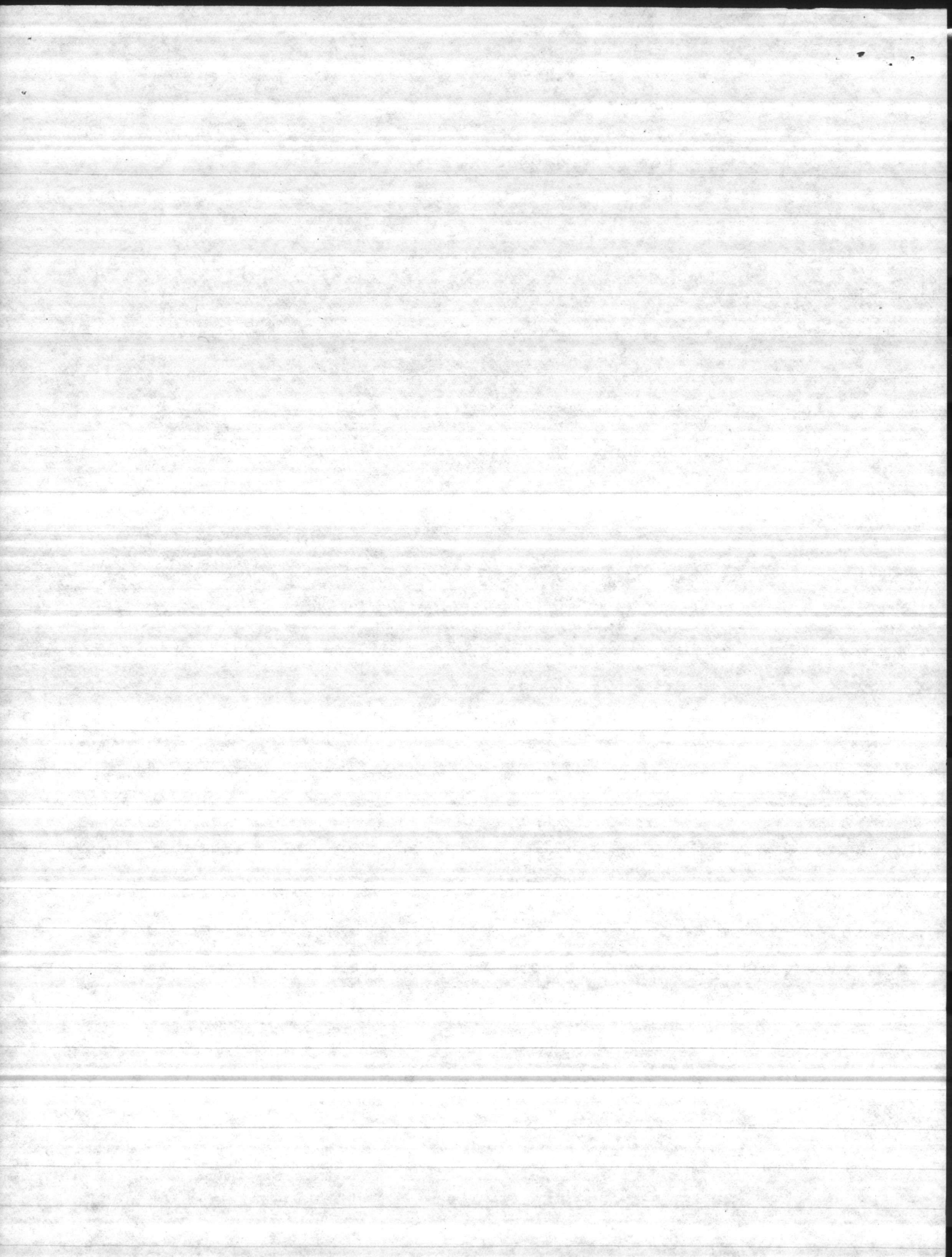
R- 27,189
 D- 26,335
 WW- 852
 HD- 1,069

210
 300
 270
 420
 45
 180
 180
 40
 120
 120
1885

R- 12456024
12219904
 236120
 1885
x 400
 754,000

D. 10870884
10607528
 26,335,6

164	164	779,000
<u>5</u>	<u>x 3</u>	73440
820	492	852440
<u>950</u>	<u>x 170</u>	
779,000	73440	



594
 719
 11613

M-178

R. 11,615
 D. 10,894
 WW- 719
 HD- 438

R 536289
311117
 225172
 x 48
10,808

D. 444254
379407
 64847
 x 168
10,894

S-1

S-2

109
 80) 8,737
 109
6600
 719400

73457300
69544200
 3913100
 4824000
8737100

13082600
08258600
 4824000

19,765
 R. 120,106
 D. 18,664
 WW- 1,440
 HD. 727

MCAS

R 1137044
987844
 14,920,000

D. 327543
140900
 18,664,300

24
10
 240
6000
 1,440.00

599

6471

RR-85

R. 5,715
D. 5,181
WW- EST 524
HD- 211

R. 257630900
250422900
7208,000

D. 162255900
157074900
5,181,000

S-1

S-2

89451900
86133900
3318000

out

CHB-190

R- 18,600
D- 18,197
WW- 997
HD- 740

R. 392919700
374319700
18,600,000

D. 2283136000
2264939000
18,197,000

3079
2,250
2,954
2,039
10,322

S-1 38838000
35759000
3,079,000

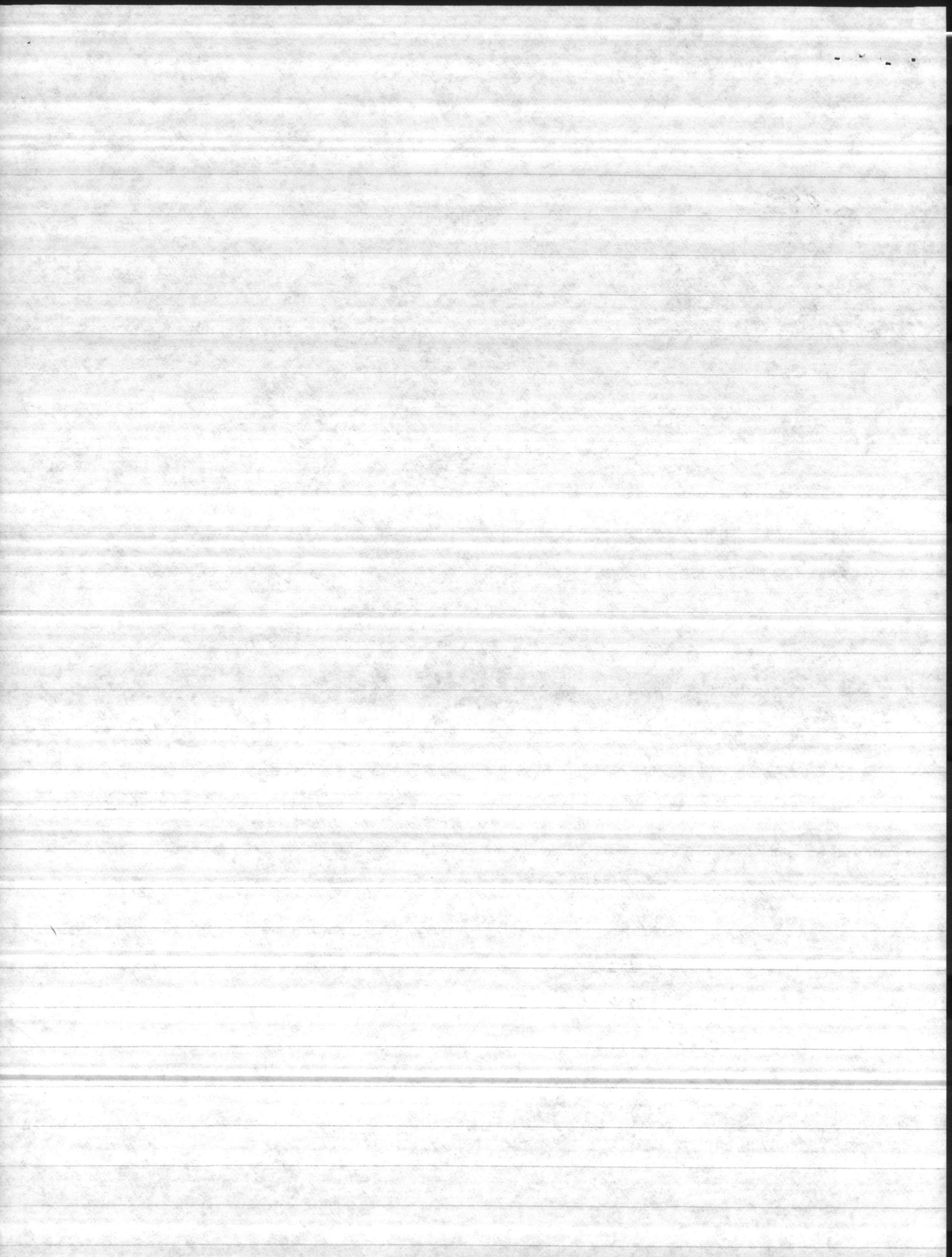
S-2 34185000
31635000
2,550,000

23
110/10,322

204600
792000
996600

S-3 20962000
18008000
2,954,000

S-4 13958000
11919000
2,039,000



O.B.

R. 2,588

R. 5441098

D. 3968238

D. 2,353

4990180

3944703

WW. 226

4509180

2353,500

HD. 100

S-1

S-2

734769

330729

722688

320199

1,208,100

1,053,000

1,208

1,053

2,261

F-1

F-2

762007

762666

756497

757862

551,000

480,400

551,000

80 $\overline{) 2,261}$

30 $\overline{) 1,031}$

1,031,400

28

34

2000

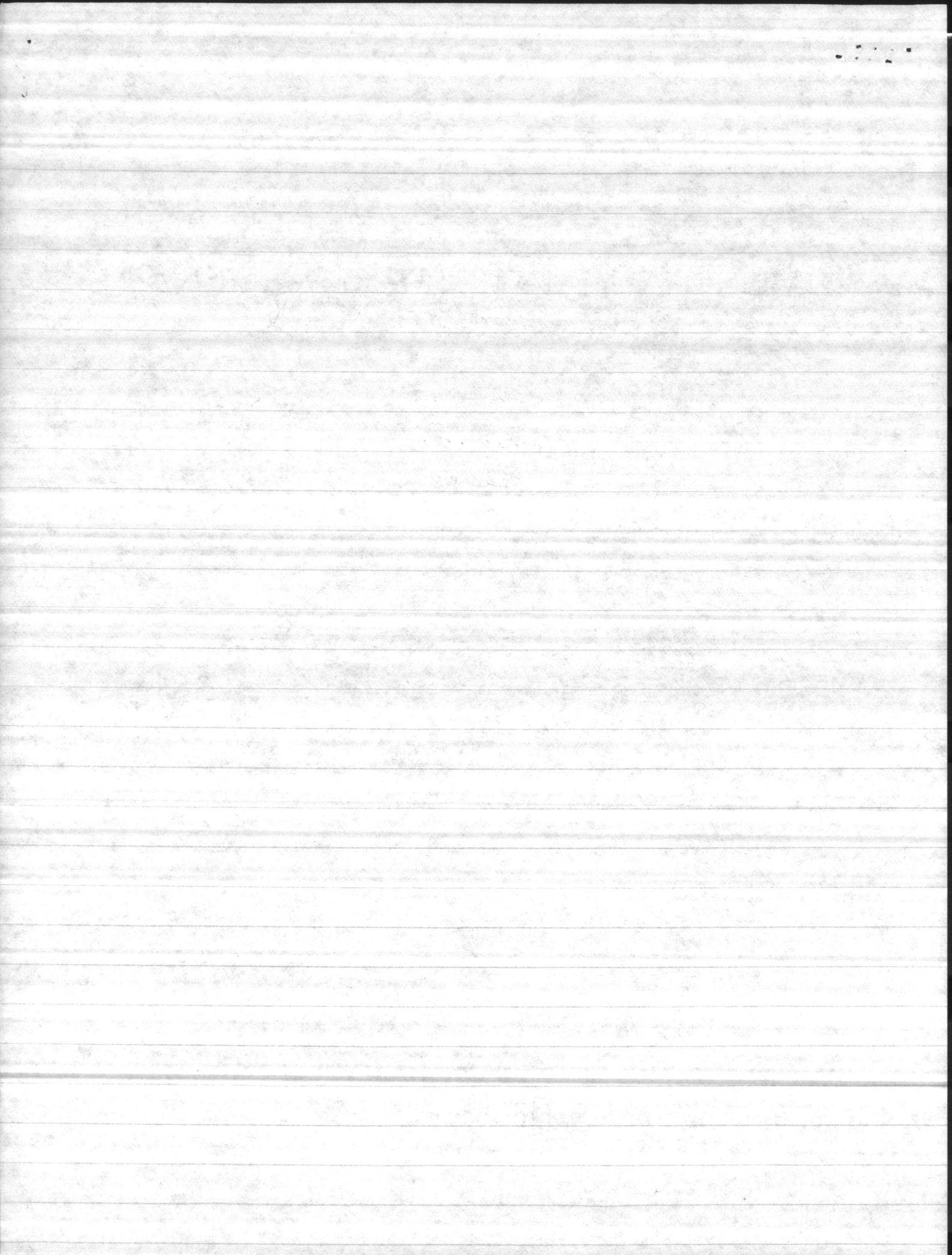
5000

56000

170000

170000

226000



WATER TREATMENT PLANTWATER FLOWDATE: DECEMBER 1986

PLANT	RAW	DELIVERED	WASHING FILTERS	MAX. DEL.	POTABLE WATER USED	WELLS MAX. SAFE YIELD/DAY	PLANT CAPACITY DAY	TREATMENT
HADNOT POINT	97,473	95,475	1,995	4,272	13	5,900	5,000	LIME
HOLCOMB BLVD.	26,437	25,523	912	1,154	3	2,304	2,000	LIME
TARAWA TERRACE	21,091	20,415	673	897	3	1,152	1,000	LIME
MONTFORD POINT	11,896	11,155	739	501	3	622	750	ZEOLITE
MCAS	19,546	18,044	1,500	711	3	4,081	3,500	LIME
RIFLE RANGE	6,219	5,583	629est	239	3	648	600	ZEOLITE
COURTHOUSE BAY	18,765	17,738	1,025	768	3	864	600	ZEOLITE
ONslow BEACH	2,971	2,703	266	118	3	250	250	ZEOLITE

WATER IN MILLION GALLONS

REMARKS:



HB

R. 26,437
D. 25,523
WW. 912
HD. 1,154

HB-670

R. 4223988
3998600
225388

D. 1069888
814650
255238
912
26435

26 26
6 3
156 78
5500 700
858,000 54600
54
912

HP

R. 97,473
D. 95,475
WW. 1,995
HD. 4,272

HP-20

R
5349394
5186776
162618

T
5161212
5054369
106843

D.
4569650
4474175
95475
1995
97470

50
X 39900
1,995,000

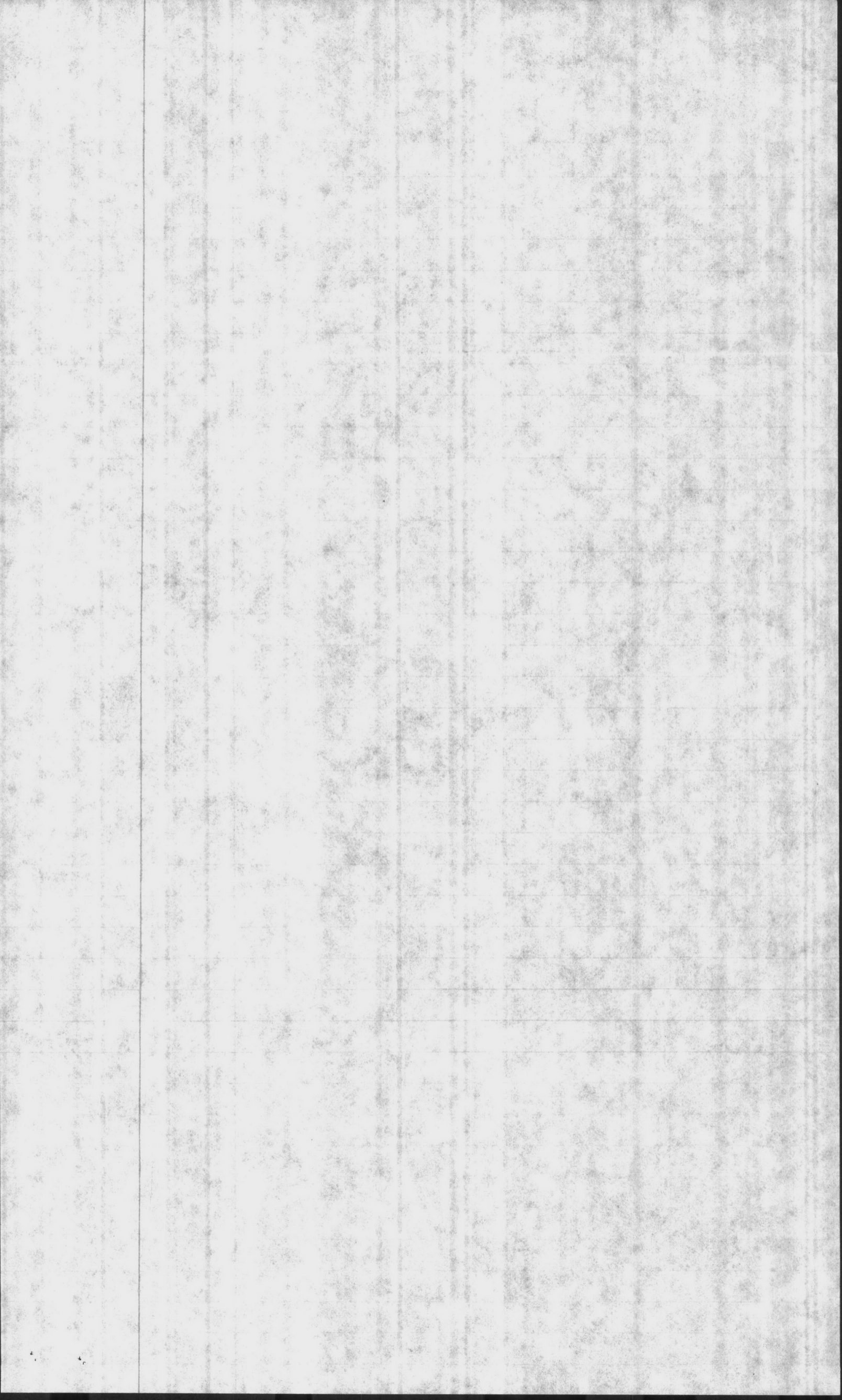
TT-38

R. 21,091
D. 20,415
WW 673
HD. 897

R.
12656315
12456024
200291

T.
11075039
10870884
20,415,500
673
21088

128 128
5 3
640 384
X 950 X 170
608,000 65,280
65,280



R. 11,896
 D. 11,155
 WW 739
 HD. 501

M-178

R. 766907
536289
 230618
 X 48
11,069,664

D. 510657
444254
 66403
 X 168
11,155,704

S-1
 77373700
73457300
 3916400

S-2
 18160900
13082600
 5078300
3916400
8994,700

112
X6600
 739,200

80 | 112
 8,994

AS-110

R. 19,546
 D. 18,044
 WW 1,500
 HD. 711

R. 231504
137044
 94460

D. 507985
327543
 180442

25
X10
 250
X600
 1,500,000

RR-85

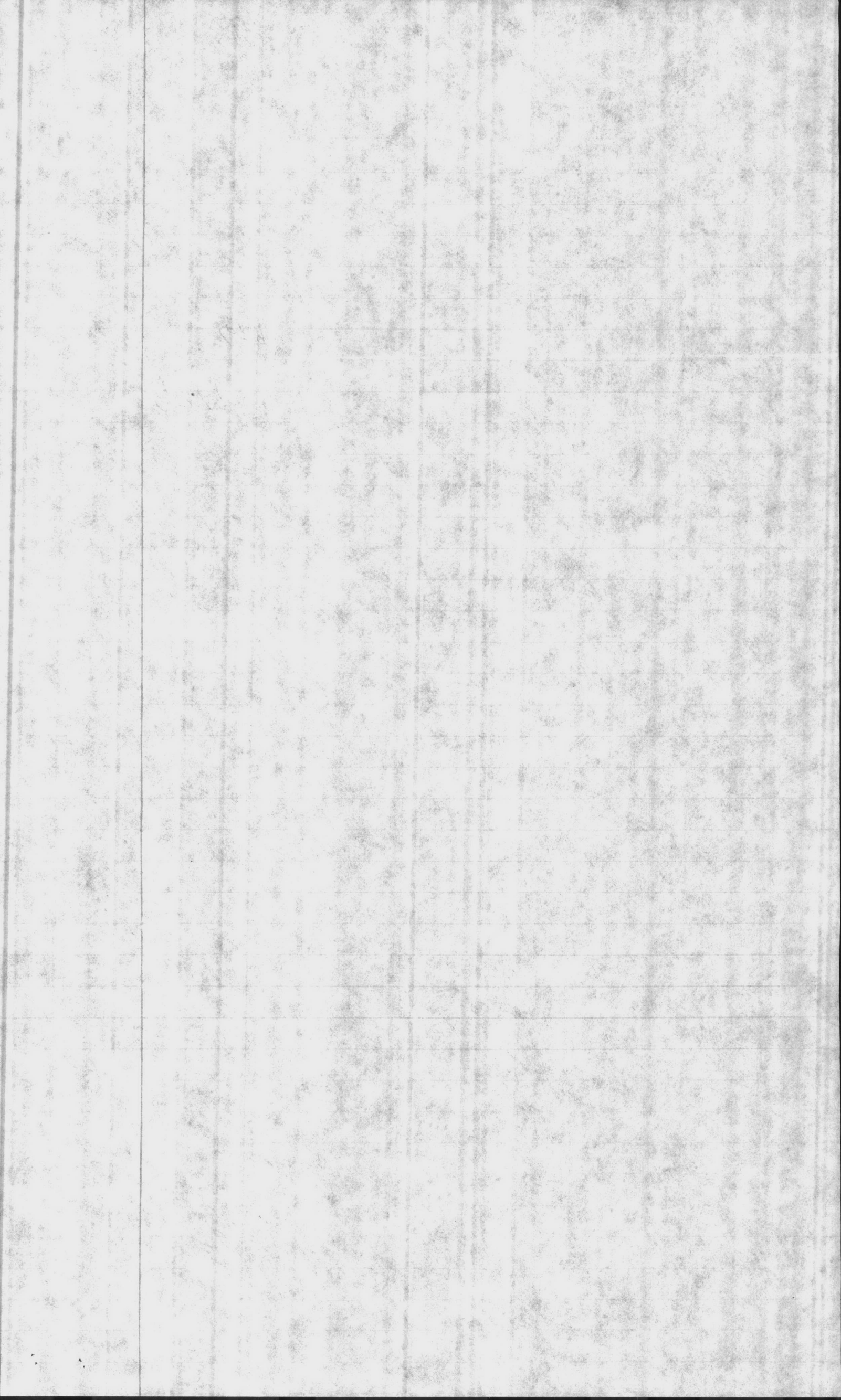
R. 6,219
 D. 5,583
 WW EST. 629
 HD. 239

R. 264885900
257630900
 7255000

D. 167838900
162255900
 5583000

S-1

S-2



BB-190

R.	18,765	R.		D.	
D.	17,738		410034000		2300874000
WW	1,025		<u>392919700</u>		<u>2283136000</u>
HD.	768		17114300		17738,000

$$\begin{array}{r} 94 \\ 110 \overline{) 10,398} \end{array}$$

$$\begin{array}{r} 94 \\ \times 2200 \\ \hline 206800 \\ 818400 \\ \hline 1,025,200 \end{array}$$

$$\begin{array}{r} S-1-41876000 \\ \hline 38838000 \\ \hline 3038000 \end{array}$$

$$\begin{array}{r} S-2-36698000 \\ \hline 34185000 \\ \hline 2513,000 \end{array}$$

$$\begin{array}{r} S-3-23843000 \\ \hline 20962000 \\ \hline 2881,000 \end{array}$$

$$\begin{array}{r} S-4-15924000 \\ \hline 13958000 \\ \hline 1,966,000 \end{array}$$

BA-138

R.	2,971	R.		D.	
D.	2,703		58748400		399527200
WW	266		<u>54410980</u>		<u>396823800</u>
HD.	118		4337420		2703,400

$$\begin{array}{r} 33 \\ 80 \overline{) 2,667} \end{array}$$

$$\begin{array}{r} 33 \\ \times 2000 \\ \hline 66000 \end{array}$$

$$\begin{array}{r} S-1 \\ \hline 74886300 \\ \hline 73476900 \\ \hline 1,409,400 \end{array}$$

$$\begin{array}{r} S-2 \\ \hline 34330400 \\ \hline 33072900 \\ \hline 1257500 \\ \hline 1409400 \\ \hline 2666900 \end{array}$$

$$\begin{array}{r} 40 \\ 30 \overline{) 1,195} \end{array}$$

$$\begin{array}{r} 40 \\ \times 5000 \\ \hline 200000 \end{array}$$

$$\begin{array}{r} F-1 \\ \hline 76816200 \\ \hline 76200700 \\ \hline 615500 \\ \hline 579900 \\ \hline 1195400 \end{array}$$

$$\begin{array}{r} F-2 \\ \hline 76846500 \\ \hline 76266600 \\ \hline 579900 \end{array}$$



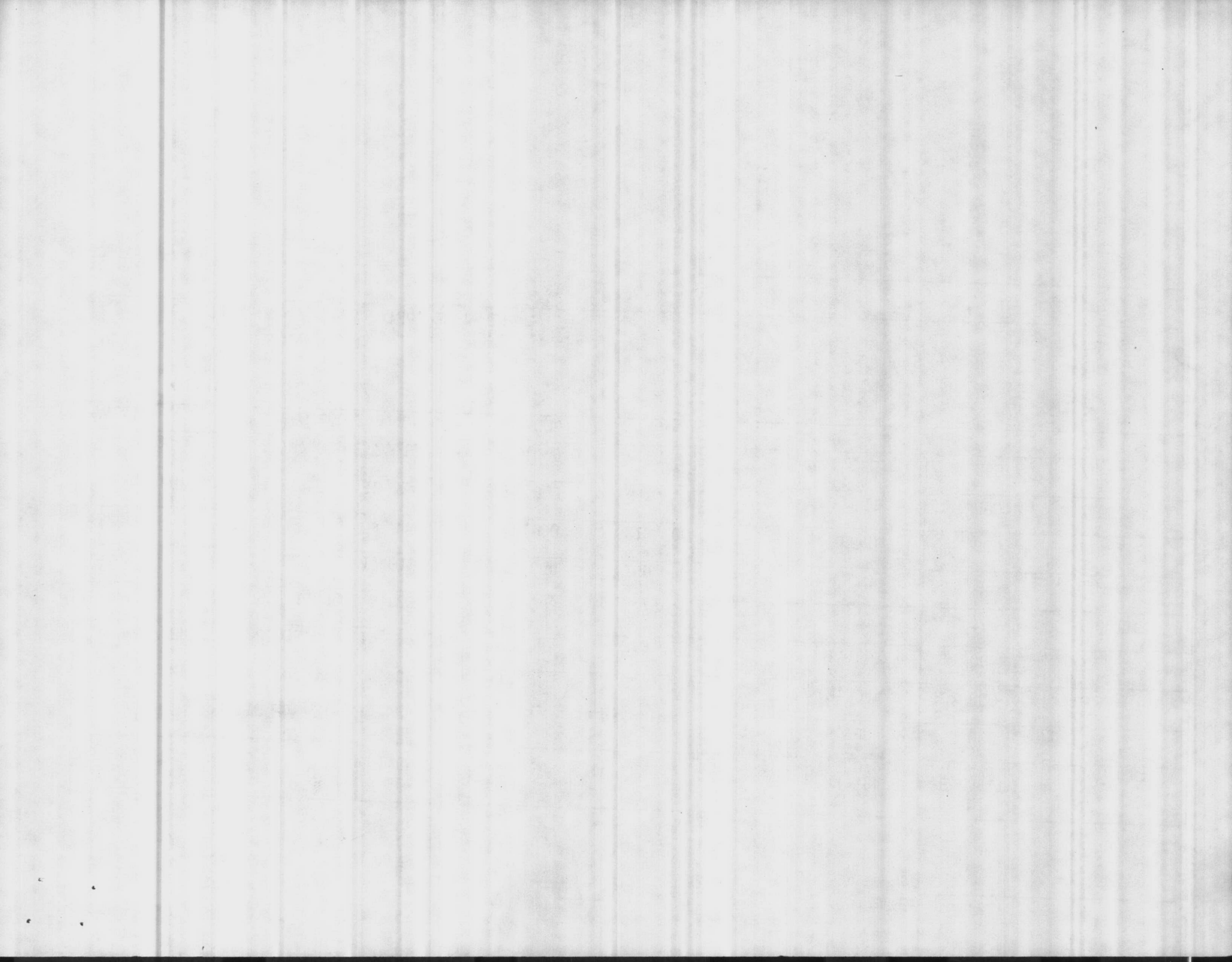
WATER TREATMENT PLANTWATER FLOWDATE: February 1987

PLANT	RAW	DELIVERED	WASHING FILTERS	MAX. DEL.	POTABLE WATER USED	WELLS MAX. SAFE YIELD/DAY	PLANT CAPACITY DAY	TREATMENT
HADNOT POINT	116,200,000	115,539,000	1,835,000	4,780,000	13	5,900	5,000	LIME
HOLCOMB BLVD.	14,023,000	8,930,000	421,000	1,060,000	3	2,304	2,000	LIME
TARAWA TERRACE	20,033,000	19,307,000	726,000	863,000	3	1,152	1,000	LIME
MONTFORD POINT	9,461,000	8,885,000	576,000	327,000	3	622	750	ZEOLITE
MCAS	18,633,000	17,313,000	1,320,000	709,000	3	4,081	3,500	LIME
RIFLE RANGE	5,065,000	4,899,000	316,000	213,000	3	648	600	ZEOLITE
COURTHOUSE BAY	14,218,000	13,514,000	893,000	643,000	3	864	600	ZEOLITE
ONSLow BEACH	3,747,000	2,019,000	235,000	99,000	3	250	250	ZEOLITE
Total	201,380,000	190,406,000	6,322,000	8,694,000				

WATER IN GALLONS

REMARKS:

28,200,000 Gallons pumped from Bldg. 20 to Bldg. 670



WATER TREATMENT PLANT

WATER FLOW

DATE: FEB 19 87

PLANT	RAW	DELIVERED	WASHING FILTERS	MAX. DEL.	POTABLE WATER USED	WELLS MAX. SAFE YIELD/DAY	PLANT CAPACITY DAY	TREATMENT
HADNOT POINT	116,200,000	115,539,000	1835,000	4,780,000	13	5,900	5,000	LIME
HOLCOMB BLVD.	14,023,000	8,930,000	426,000	1,060,000	3	2,304	2,000	LIME
TARAWA TERRACE	20,033,000	19,307,000	726,000	863,000	3	1,152	1,000	LIME
MONTFORD POINT	9,461,000	8,885,000	576,000	327,000	3	622	750	ZEOLITE
MCAS	18,633,000	17,313,000	1,320,000	709,000	3	4,081	3,500	LIME
RIFLE RANGE	5,065,000	4,899,000	316,000	213,000	3	648	600	ZEOLITE
COURTHOUSE BAY	14,218,000	13,514,000	893,000	643,000	3	864	600	ZEOLITE
ONslow BEACH	3,747,000	2,019,000	235,000	99,000	3	250	250	ZEOLITE

201,380 190,406 6,322,000 8694,000
WATER IN MILLION GALLONS

REMARKS:

28,200,000 GALLON PUMPED FROM 20 TO 8206 670

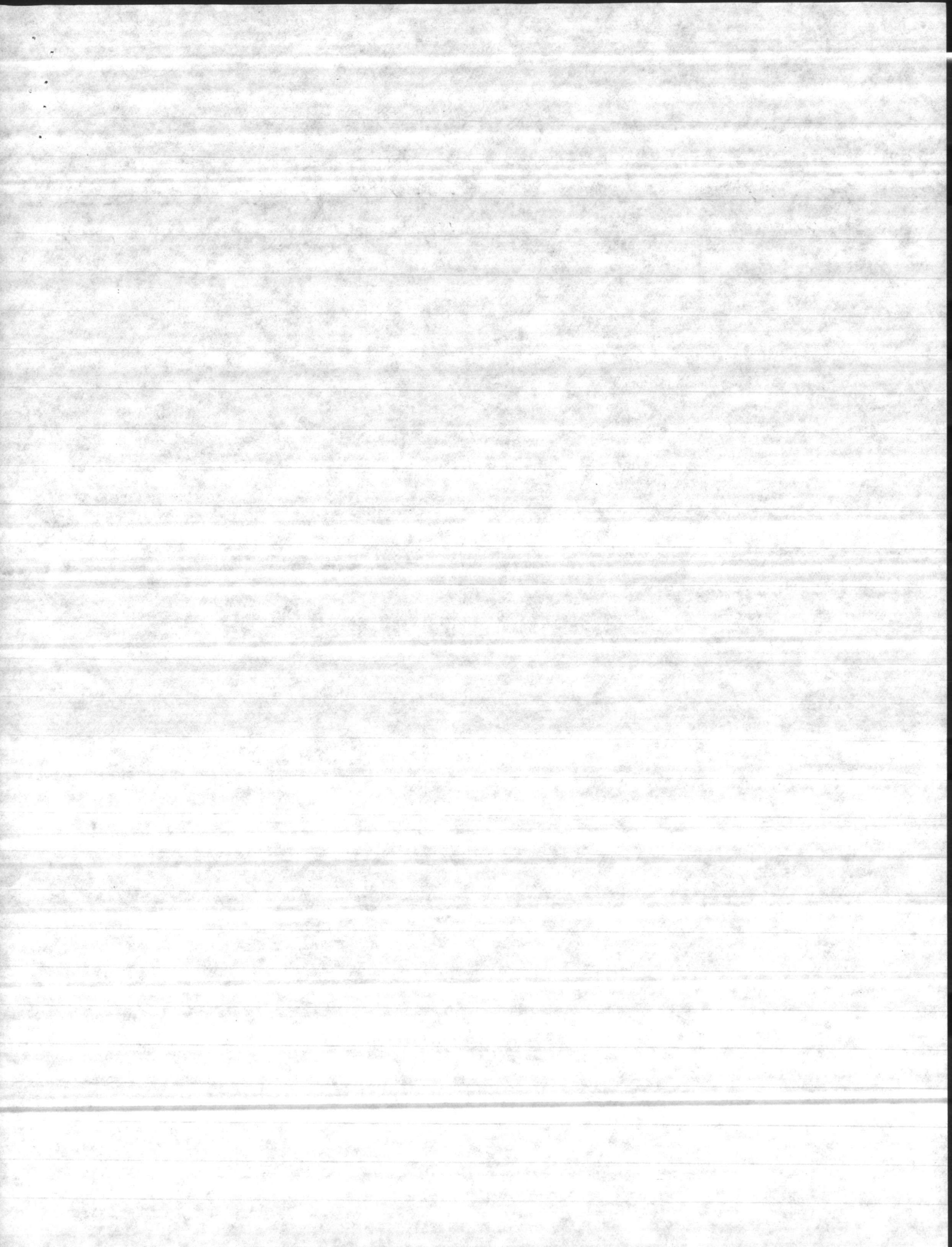


			HP ✓	✓	
R	116,200		R.5652557	π.5384891	0.4789750
D	115,539	102,245	<u>5536357</u>	<u>5269442</u>	<u>4665430</u>
NW	1835	1,797	116,200,000	115,539	123,320
HO	4,780	4,780			

46
39900
 1,835,400

			HB	
R	14,023		(R) 4613204	(D) 1426563
D	8,930	6,996	<u>4472973</u>	<u>1337295</u>
NW	.421	.246	14,023,100	<u>8926,800</u>
HO	1.060	1.060		

35100
12
 70200
35100
 421,200



TT 38

R 20033
D 19307
WW .726
HO 863

(R) 13070402
12870090
20033200

(D) 11389711
11304580
8513100
meter was
out

138
x 5260
725880

M - 178

R 9,461
D 8885
WW .576
HO ,327

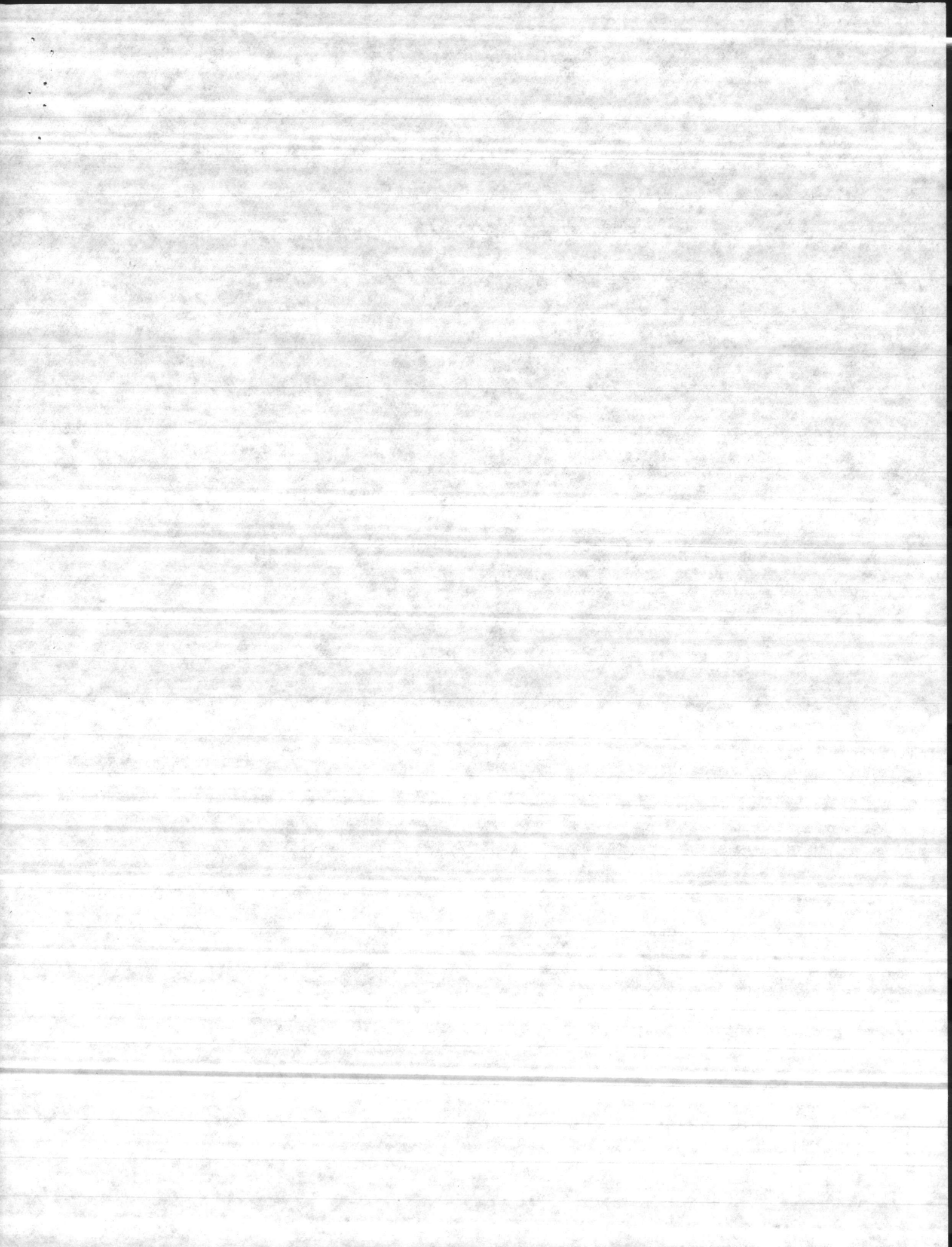
R 197524
000421
197103
x 48
9,460,944

D 609430
572262
37268
x 168
6261024

S-1
84714000
81434100
3279900

S-2
27681600
23316300
4365300

80000) 7645200
95.5
95
x 6000 = 576,000



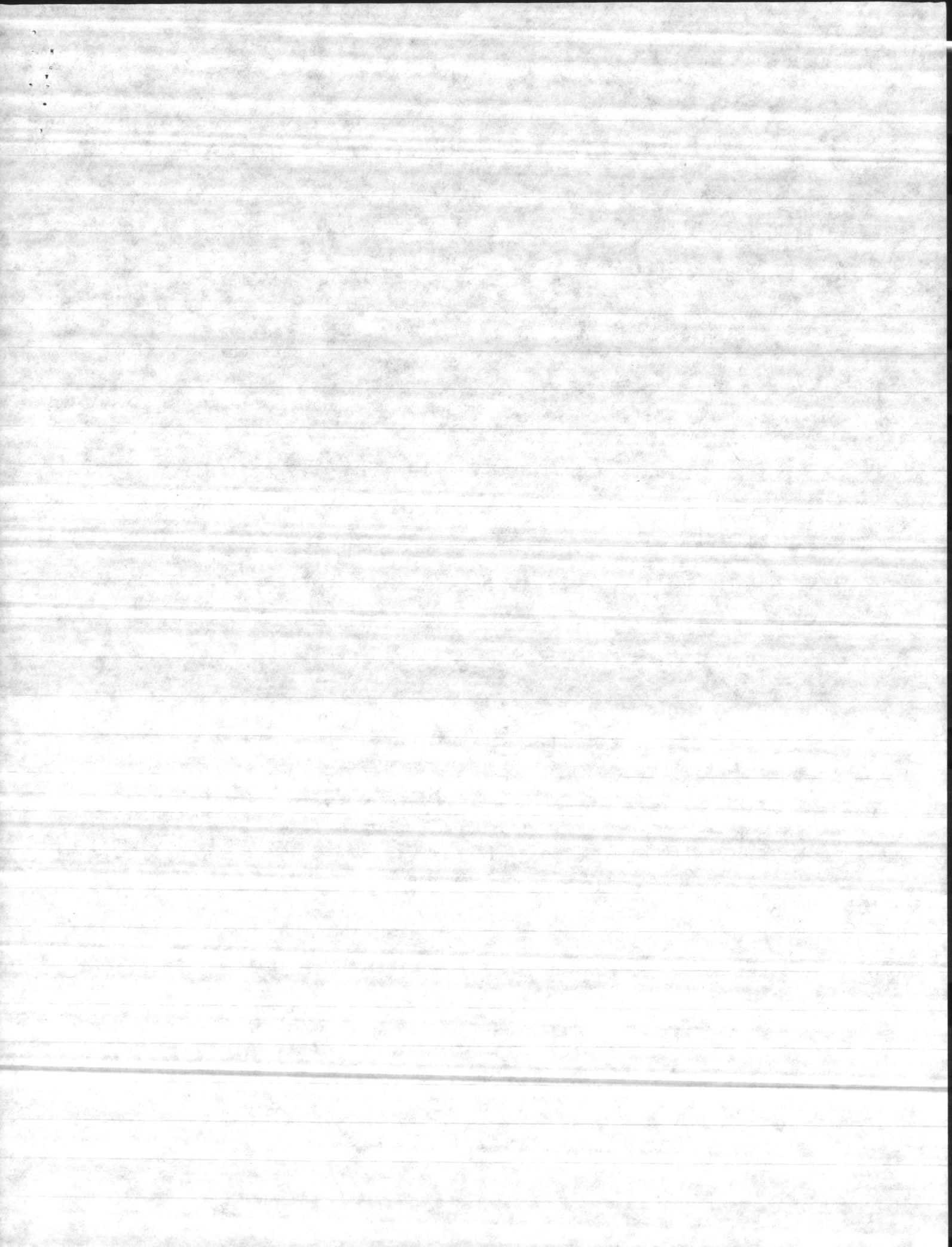
AS 110

	(c)		(R)	513767	(Q)	875198
R	18,633			<u>355912</u>		<u>702070</u>
O	17,313 ✓	17,300		15,7655		17,3128
WW	1,320	1,356				
HO	.709	.709				

R	5,065 ✓		<u>RR 85</u>				
O	4,899	4,827		(R)	7786648	(Q)	1787795
WW	.316	.235			<u>2721189</u>		<u>1738799</u>
HO	.213	.213			5065,459		4,899

5-196711100	5-2	9767100
<u>94898900</u>		<u>08062900</u>
1,812200		1704200
		3,616,400

28	44
X 60000	X 3600
<u>168000</u>	<u>158,238</u>
158	
<u>316</u>	



CHB

R 14,218
 D 13,514 13,524
 WW .893 .942
 HO .643 .643

R 4392621
 42593720
 133249

D 2331522000
 2318008000
 13514 000

S-1 46248000
 4024000
 2224000

S-2 040870000
 039037000
 1,833,000

28
 X 26400
 739200
 + 154

S3 028659000
 026492000
 2167,000

S4 019266000
 017746000
 1,520,000

70 times
 X X 2200 = 154000

7,744,000

OB

R 3,747
 D 2,019 2,013
 WW .235 .194
 HO .099 .099

(R) 6667782
 6293078
 3,747,040

(D) 4036798
 4016607
 2,019,100

F1

F2

77907700
 77877000
 530700

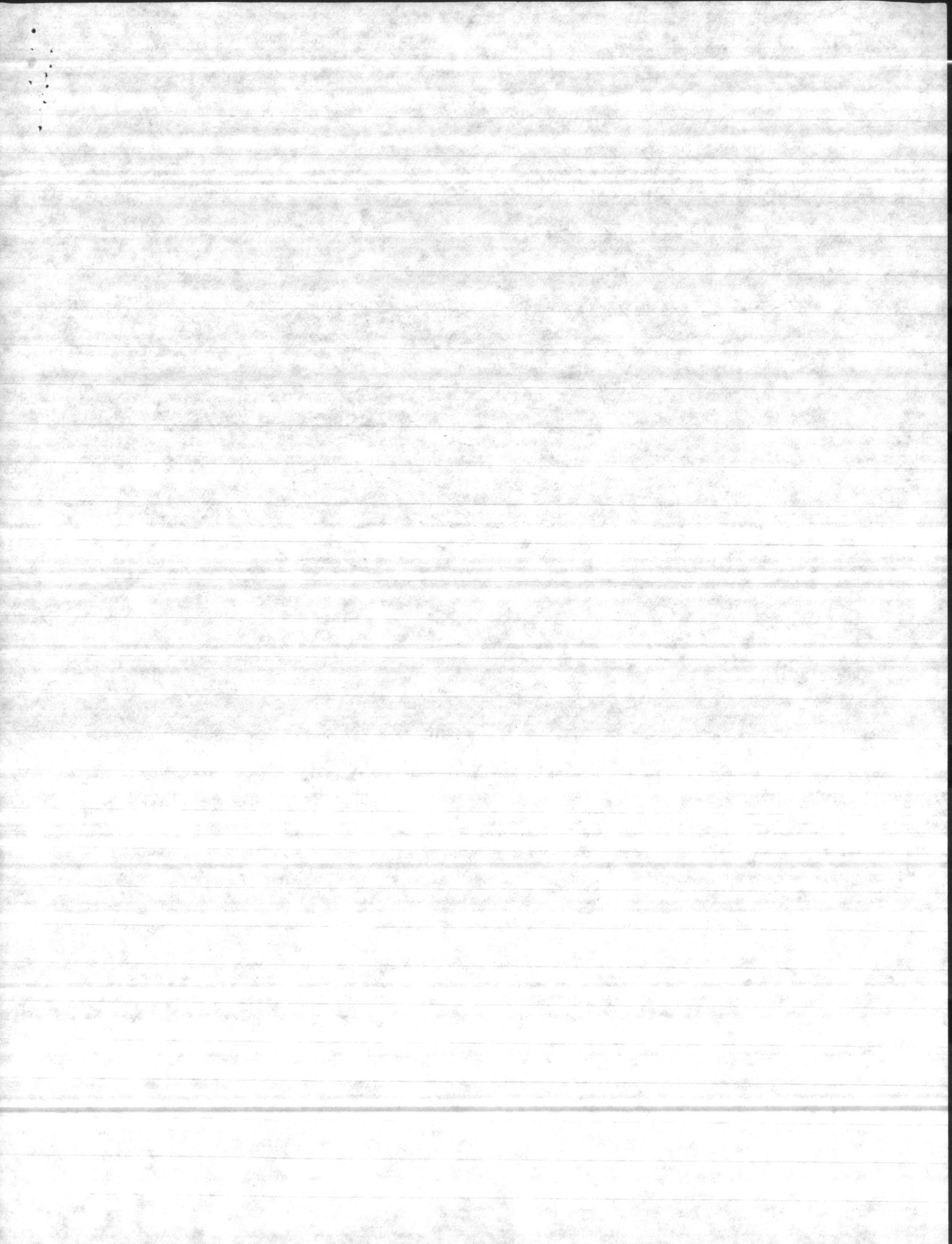
77982700
 77466100
 516600

S1 77547800
 76289900
 1,257,900

S2 36735600
 35583300
 1,157,300

30
 X 200
 60000

1047,300
 35 times
 X 5000
 175,000



WATER TREATMENT PLANTS

WATER FLOW

DATE: JANUARY 1987

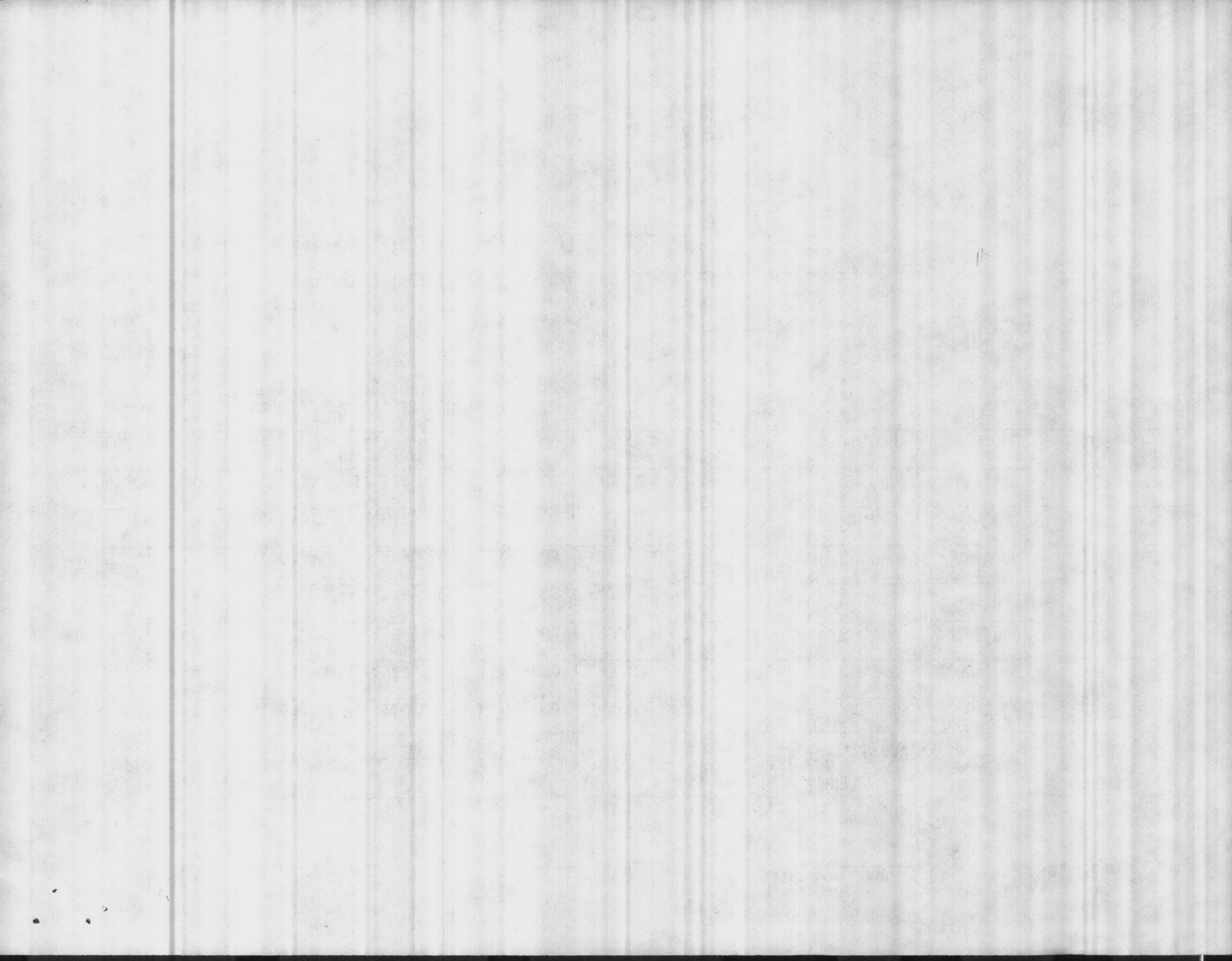
PLANT	RAW	DELIVERED	WASHING FILTERS	MAX. DEL	POTABLE WATER USED	WELLS MAX. SAFE YIELD/DAY	PLANT CAPACITY DAY	TREATMENT
HADNOT POINT	98,658,000	96,780,000	1,875,000	4,446,000	13	5,900,000	5,900,000	lime
HOLCOMB BLVD.	27,549,000	26,741,000	807,000	1,452,000	3	2,304,000	2,304,000	lime
TARAWA TERRACE	23,748,000	22,954,000	794,000	977,000	3	1,152,000	1,152,000	lime
MONTFORD POINT	11,209,000	10,350,000	759,000	471,000	3	622,000	622,000	zeolite
MCAS	21,028,000	19,409,000	1,620,000	810,000	3	4,081,000	4,081,000	lime
RIFLE RANGE	7,233,000	6,041,000	979,000	253,000	3	648,000	648,000	zeolite
COURTHOUSE BAY	18,128,000	17,134,000	994,000	704,000	3	864,000	864,000	zeolite
ONSLOW BEACH	2,390,000	2,134,000	256,000	97,000	3	250,000	250,000	zeolite
TOTAL FLOW	209,943,000	201,543,000						

WATER IN GALLONS

REMARKS:

4,800,000 gallons pumped from Bldg. 20 to Bldg. 670

735,000 gallons pumped from Bldg. 670 to Bldg. TT-38



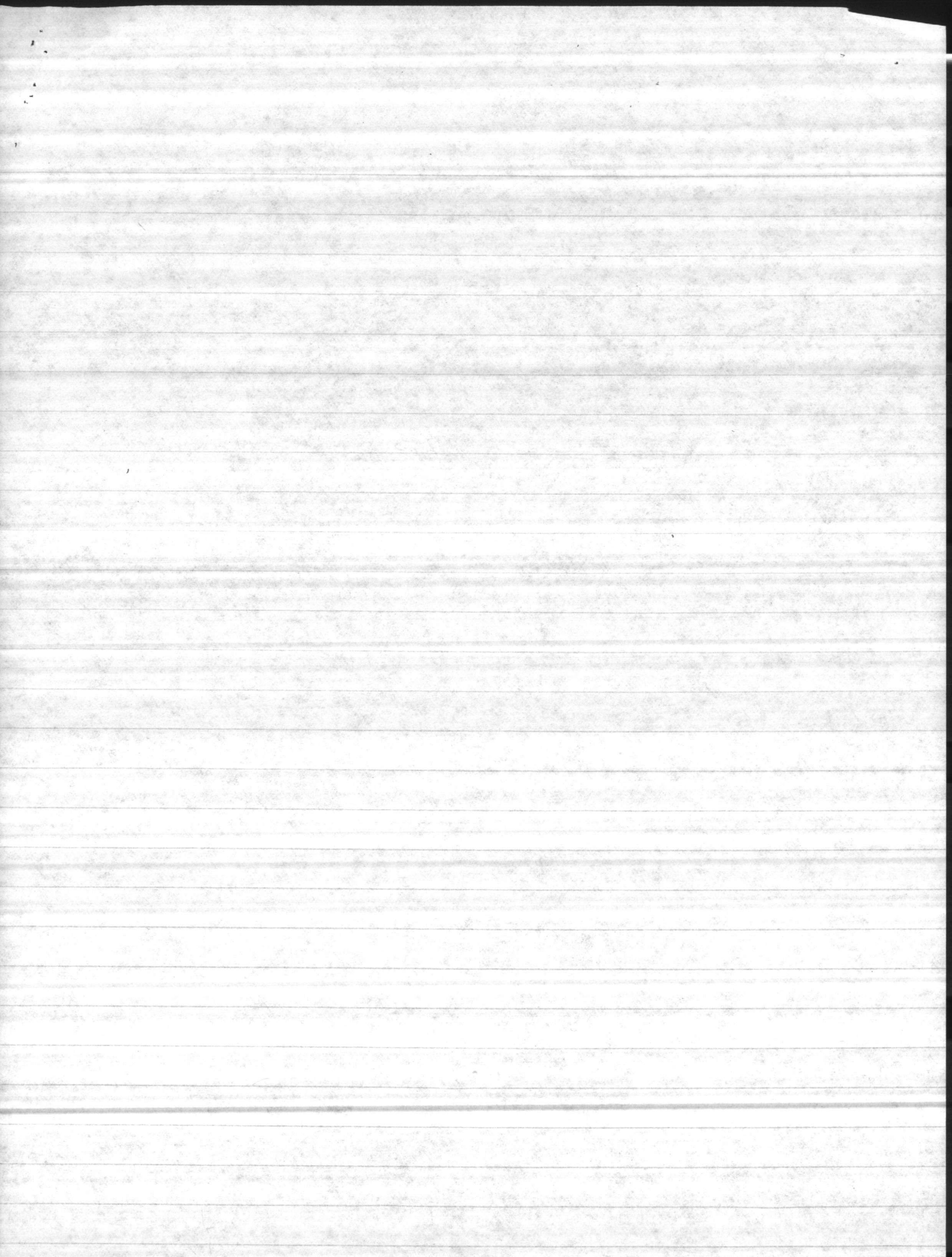
HD

	R	T	D
R. 98,658	5536357	5269442	4665436
D. 96,780	<u>5349394</u>	<u>5161212</u>	<u>4569650</u>
WW. 1,875	186963	108230	96780
HD. 4,446			1875
			<u>98655</u>
		47	
		<u>+ 39900</u>	
		1875300	

HR

	R.	D.
R: 27,549	4472973	1337295
D: 26,741	4223988	<u>1069888</u>
W: 807	<u>248985</u>	26,7407
HD: 1452		<u>808</u>
		275487
	35,100	25
	<u>+ 123</u>	23
	1807300	67
	5,500	700
	<u>15,7000</u>	48,300

GET GALS PUMPED FROM 20
 GET GALS PUMPED TO 77-38



TT- 38

R: 23,748
 D: 22,954
 WW: 794
 HA: 977

R. 12700700	T	11304580
<u>12656315</u>		<u>11075039</u>
044385		229541
		<u>794</u>
151		237481
<u>X 5260</u>		
794260		

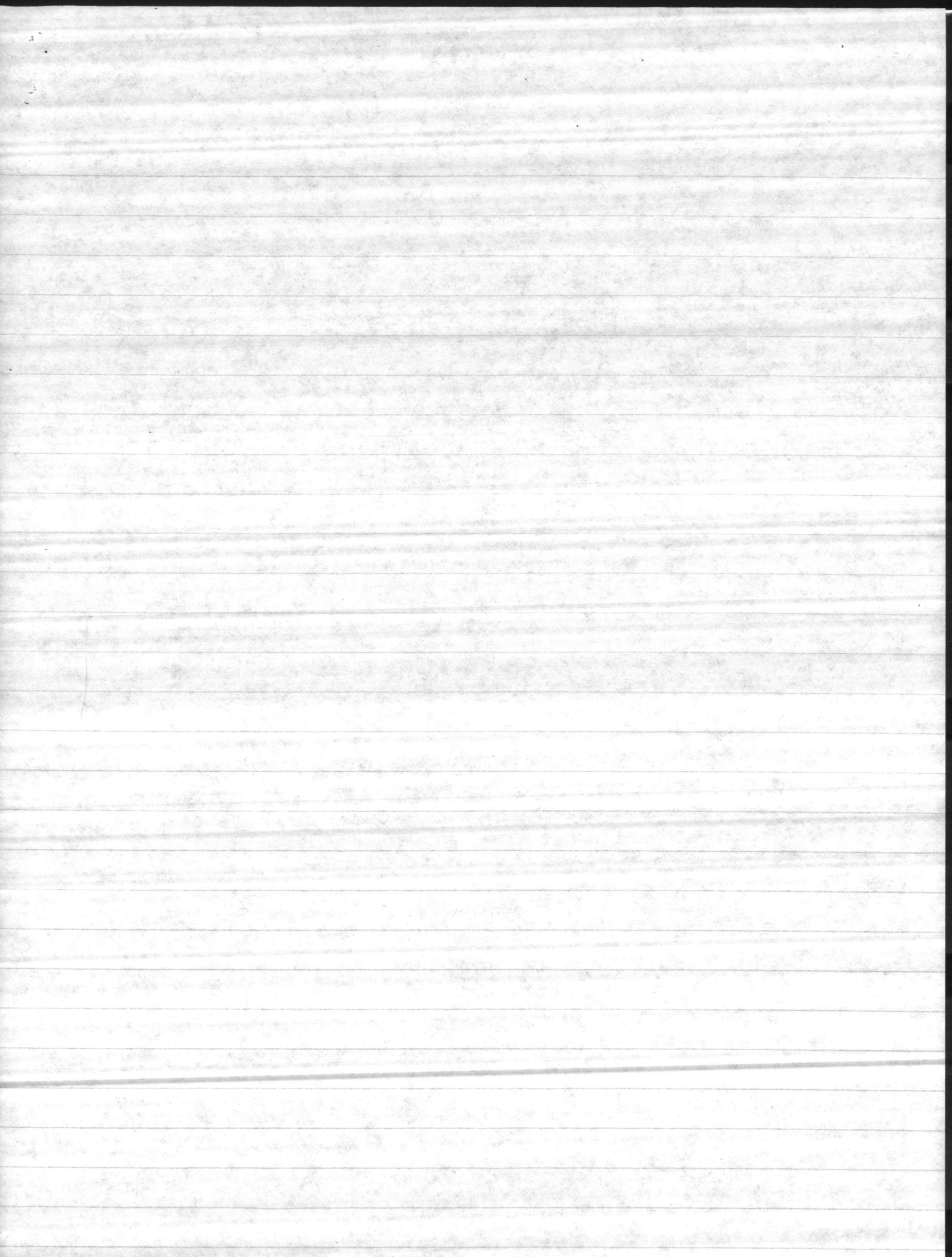
M-178

R:	<u>11,209</u>	D:	<u>10,350</u>
WW:	759		
HA:	471		

<u>R</u>	<u>D</u>
1000421	572262
<u>766907</u>	<u>516657</u>
233514	61605
X 48	X 168
<u>11208672</u>	<u>10349640</u>

<u>S-1</u>	<u>S-2</u>
81434100	23316300
<u>77373700</u>	<u>18160900</u>
4061400	5155400

115	←	80 <u>115.2</u>	←	51554
<u>+ 6600</u>		9217		<u>40614</u>
759000.				92168



AS-110

R : 21,028
 D : 19,409
 WW: 1,620
 HA: 810

R
 355912
 231504
 124408

D
 702070
 507985
 194085
 1620

21,028

27
 x10
 270
 x6000
 1,620,000

RR-85

R : 7,233
 D : 6,041
 WW: 979
 HA: 253

R
 272,118,900
 264,885,900
 7,233,000

D
 173,879,900
 167,838,900
 6,041,000

S-1
 948,989,000
 916,698,000
 3,229,000

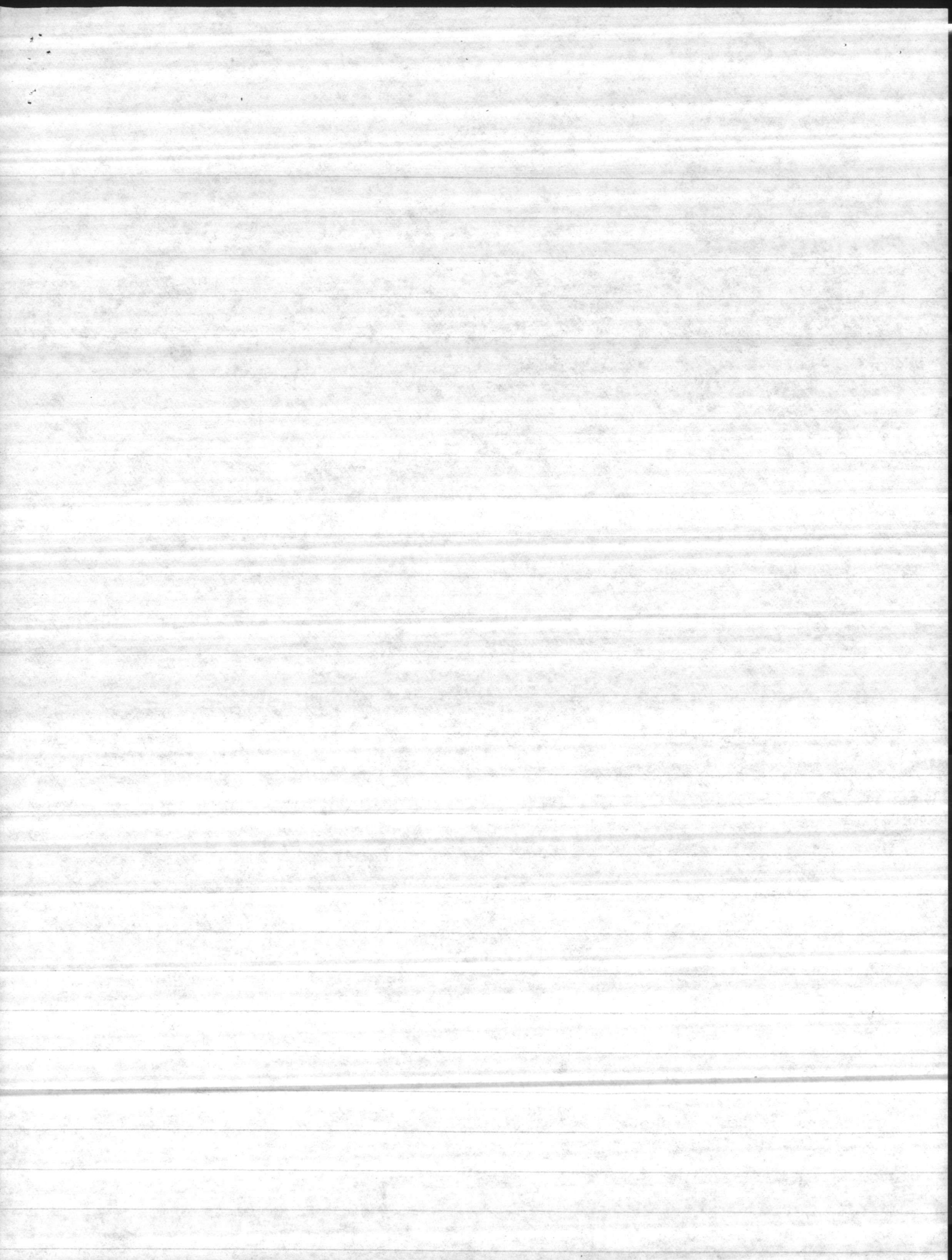
S-2
 680,629,000
 672,429,000
 6,200,000

421,000
 + 558
 979

18,000
 + 31

3229
 6200
 9,429

117
 809429
 117
 3600
 421200



BB-190

R: 18,128

D: 17,134

WW: 994

HA: 704

R.
 425937200
 410034000
159032000

D
 2318008000
 2300874000
1713400

2148
 2339
4487

S-1
 44024000
 41876000
2148000

S-2
 39637000
 36698000
2339000

2649
 1822
4471
 4487
8857

S-3
 26492000
 23843000
2649000

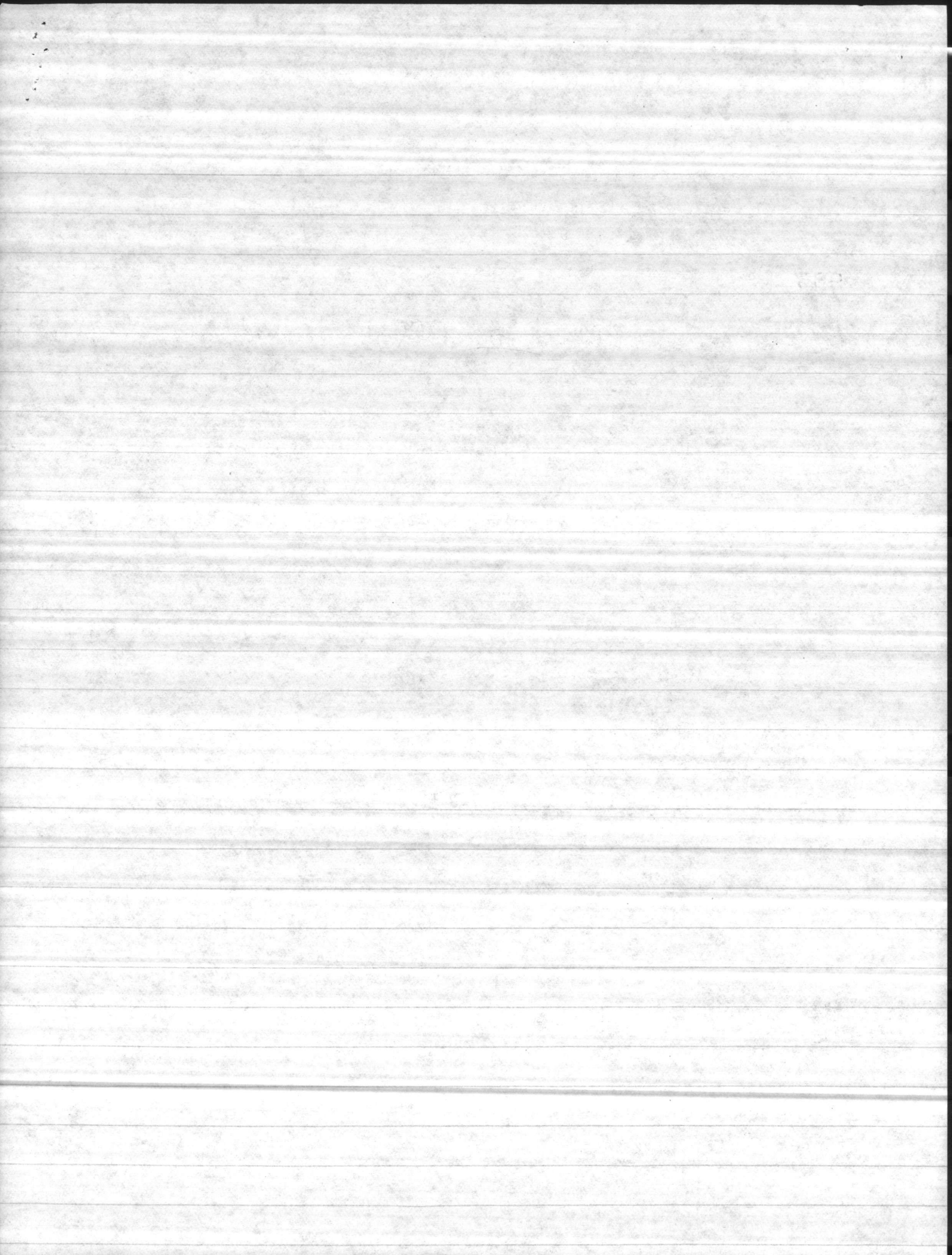
S-4
 17746000
 15924000
1822000

80
 110 8857

80
2200
 176000
 818400
994400

26400
 x 31 DAY
818400

17134
 994
18128



BA - 138

R: 2390

D: 2,34

WW: 256

HA: 97

R.
62930780
58748400
4182380

D.
401660700
399527200
2,133,500

S-1
76289900
74886300
1403600

S-2
35583300
34330400
1252900
1463600
2,656,500

33
80 $\sqrt{2657}$

33
2000
66,000

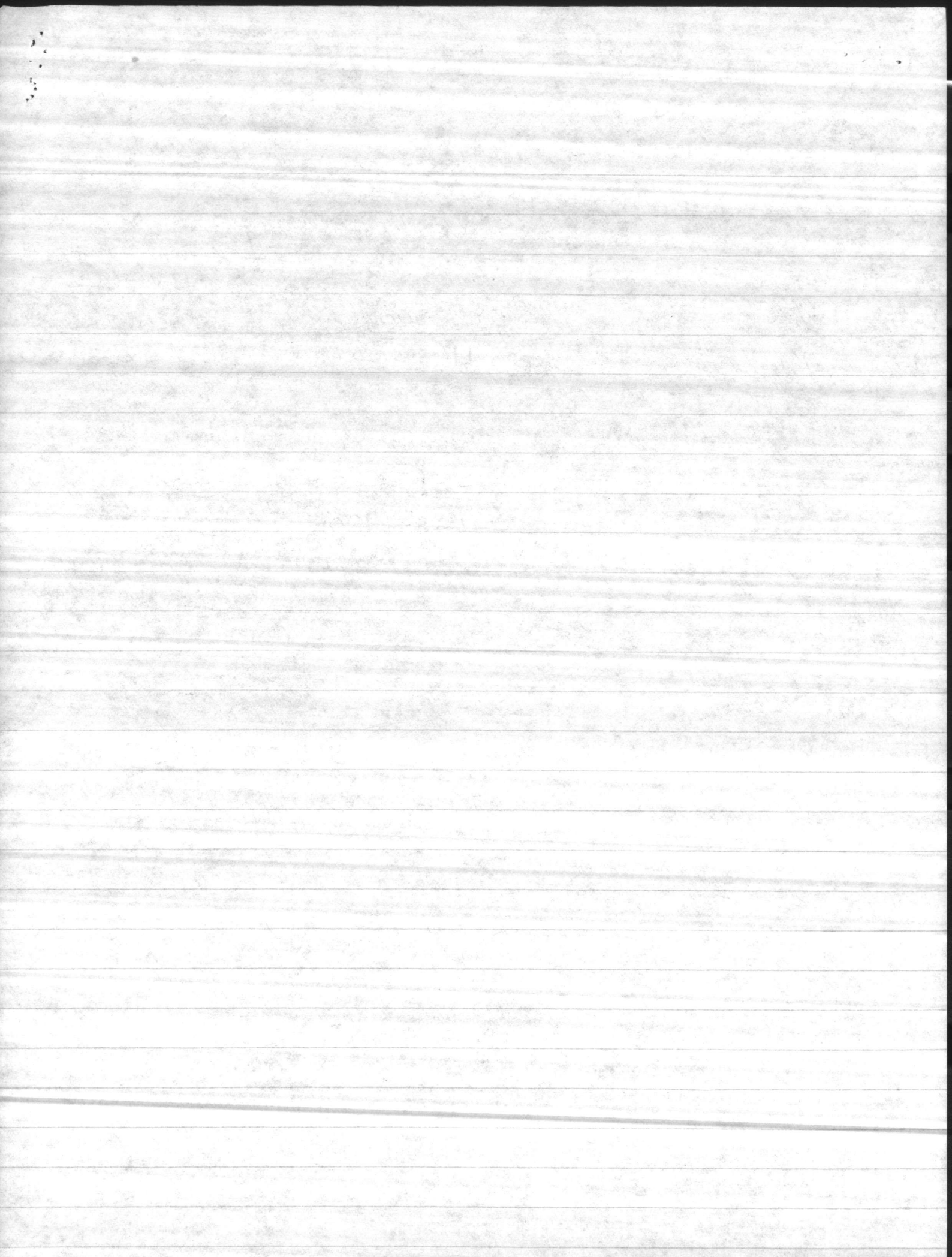
21335
256
23895

F-1
77377000
76816200
560800

F-2
77437600
76846500
591100
560800
1151900

190,000
66,000
256

38
30 $\sqrt{11529}$
38
X 5000
190,000



WATER TREATMENT PLANTS

WATER FLOW

DATE: March 1987

PLANT	RAW	DELIVERED	WASHING FILTERS	MAX. DEL	POTABLE WATER USED	WELLS MAX. SAFE YIELD/DAY	PLANT CAPACITY DAY	TREATMENT
HADNOT POINT	108,000,000	100,945,000	1,875,700	3,940,000	13	5,900,000	5,900,000	lime
HOLCOMB BLVD.	56,055,000	50,951,000	4,060,450	2,062,000	3	2,304,000	2,304,000	lime
TARAWA TERRACE	532,900	401,200	131,500	2,078,600	3	1,152,000	1,152,000	lime
MONTFORD POINT	488,000	335,170	179,058	504,000	3	622,000	622,000	zeolite
MCAS	EST 19,853,000	18,249,000	1,584,000	795,000	3	4,081,000	4,081,000	lime
RIFLE RANGE	7,993,000	6,304,000	258,000	297,000	3	648,000	648,000	zeolite
COURTHOUSE BAY	15,948,000	14,531,000	1,011,200	636,000	3	864,000	864,000	zeolite
ONSLow BEACH	3,459,000	2,972,000	199,000	163,000	3	250,000	250,000	zeolite
TOTAL FLOW	218,210,000	194,688,000						

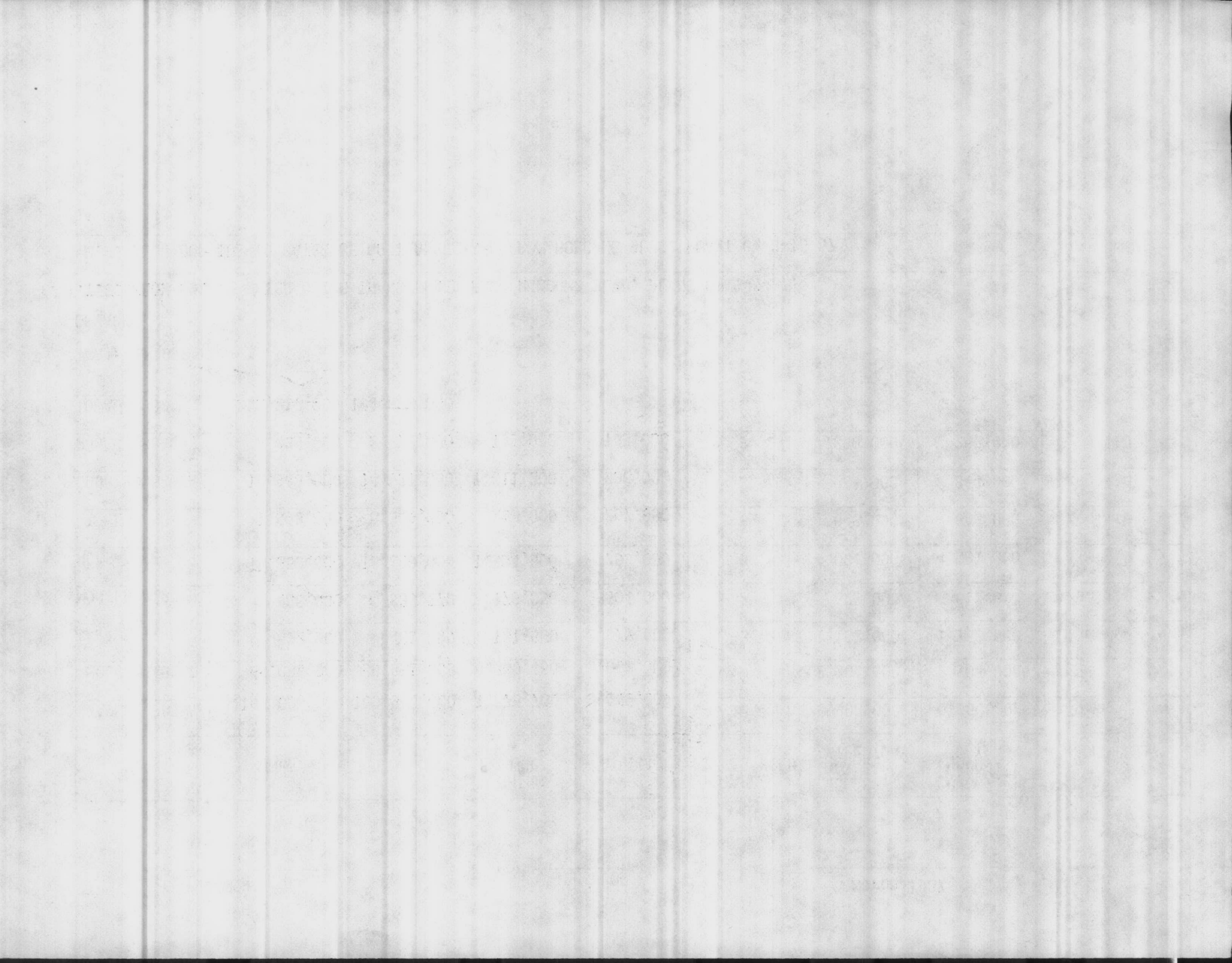
212,328,900 194,688,370

WATER IN GALLONS

REMARKS:

T. T. FLOW DUE TO WATER BEING TRANSFERRED FROM HOLCOMB BLVD. PLANT ON 3-5-87.

M.P. FLOW DUE TO WATER BEING TRANSFERRED FROM HOLCOMB BLVD. PLANT ON 3-16-87



WATER TREATMENT PLANTS

WATER FLOW

DATE: SEPTEMBER 1987

PLANT	RAW	DELIVERED	WASHING FILTERS	MAX.DEL	POTABLE WATER USED	WELLS MAX.SAFE YIELD/DAY	PLANT CAPACITY DAY	TREATMENT
HADNOT POINT	*126,272,000	123,329,000	2,114,900	5,073,000	13	5,900,000	5,900,000	lime
HOLCOMB BLVD.	61,410,000	59,085,000	2,321,100	3,596,000	3	2,304,000	2,304,000	lime
TARAWA TERRACE	-----	-----	-----	-----	3	1,152,000	1,152,000	lime
MONTFORD POINT	-----	-----	-----	-----	3	622,000	622,000	zeolite
MCAS	16,978,000	16,491,000	643,000	1,636,000	3	4,081,000	4,081,000	lime
RIFLE RANGE	6,209,000	6,041,000	246,000	389,000	3	648,000	648,000	zeolite
COURTHOUSE BAY	13,820,000	12,738,000	939,000	560,000	3	864,000	864,000	zeolite
ONslow BEACH	3,905,000	3,722,000	238,000	274,000	3	250,000	250,000	zeolite
TOTAL FLOW	228,594,000	221,406,000	6,502,000	11,528,000				

WATER IN GALLONS

REMARKS:

* Hadnot Point Raw Estimated

WATER TREATMENT PLANTS

WATER FLOW

DATE: SEPT. 87

PLANT	RAW	DELIVERED	WASHING FILTERS	MAX. DEL	POTABLE WATER USED	WELLS MAX. SAFE YIELD/DAY	PLANT CAPACITY DAY	TREATMENT
HADNOT POINT	126,272,000	123,329,000	2,114,900	5,073,000	13	5,900,000	5,900,000	lime
HOLCOMB BLVD.	61,410,000	59,085,000	2,321,100	3,596,000	3	5,000,000 2,304,000	5,000,000 2,304,000	lime
TARAWA TERRACE					3	1,152,000	1,152,000	lime
MONTEFORD POINT					3	622,000	622,000	zeolite
MCAS	16,978,000	16,491,000	643,000	1,636,000	3	4,081,000	4,081,000	lime
RIFLE RANGE	6,209,000	6,041,000	246,000	389,000	3	648,000	648,000	zeolite
COURTHOUSE BAY	13,820,000	12,738,000	939,000	560,000	3	864,000	864,000	zeolite
ONSLow BEACH	3,905,000	3,722,000	238,000	274,000	3	250,000	250,000	zeolite
TOTAL FLOW	228,594,000	221,406,000	6,562,000	11,528,000				

WATER IN GALLONS

REMARKS:

H.P. Raw EST.

WATER TREATMENT PLANTS

WATER FLOW

DATE: AUGUST 1987

PLANT	RAW	DELIVERED	WASHING FILTERS	MAX.DEL	POTABLE WATER USED	WELLS MAX.SAFE YIELD/DAY	PLANT CAPACITY DAY	TREATMENT
HADNOT POINT	117,083,000	113,205,000	1,775,400	4,504,000	13	5,900,000	5,900,000	lime
HOLCOMB BLVD.	78,285,500	75,521,000	2,764,500	3,504,000	3	5,000,000	5,000,000	lime
TARAWA TERRACE					3	1,152,000	1,152,000	lime
MONTFORD POINT					3	622,000	622,000	zeolite
MCAS	19,135,000	18,894,000	1,836,000	812,000	3	4,081,000	4,081,000	lime
RIFLE RANGE	6,730,000	5,901,000	258,600	275,000	3	648,000	648,000	zeolite
COURTHOUSE BAY	15,801,000	14,827,000	995,000	598,000	3	864,000	864,000	zeolite
ONSLOW BEACH	4,052,000	3,646,000	254,000	149,000	3	250,000	250,000	zeolite
TOTAL FLOW	241,086,500	231,994,000	7,883,500	9,842,000				

WATER IN GALLONS

REMARKS:

100 000 000 5

WATER TREATMENT PLANTS

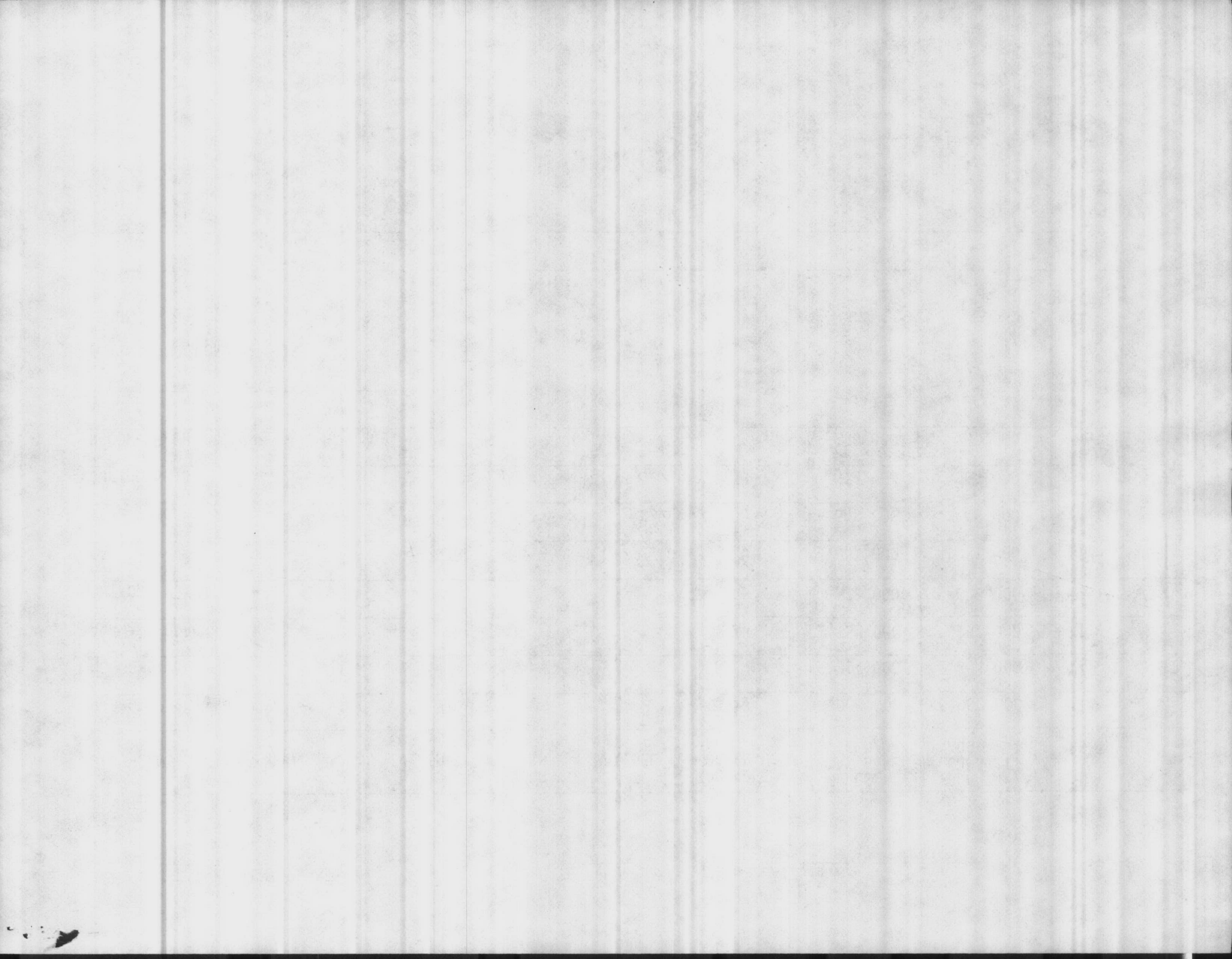
WATER FLOW

DATE: AUG 1987

PLANT	RAW	DELIVERED	WASHING FILTERS	MAX. DEL	POTABLE WATER USED	WELLS MAX. SAFE YIELD/DAY	PLANT CAPACITY DAY	TREATMENT
HADNOT POINT	117,083,000	113,205,000	1,775,400	4,504,000	13	5,900,000	5,900,000	lime
HOLCOMB BLVD.	78,285,500	75,521,000	2,764,500	3,504,000	3	5,800,000 2,304,000	5,800,000 2,304,000	lime
TARAWA TERRACE					3	1,152,000	1,152,000	lime
MONTFORD POINT					3	622,000	622,000	zeolite
MCAS	19,135,000	18,894,000	1,836,000	812,000	3	4,081,000	4,081,000	lime
RIFLE RANGE	6,730,000	5,901,000	258,600	275,000	3	648,000	648,000	zeolite
COURTHOUSE BAY	15,801,000	14,827,000	995,000	598,000	3	864,000	864,000	zeolite
ONSLow BEACH	4,052,000	3,646,000	254,000	149,000	3	250,000	250,000	zeolite
TOTAL FLOW	241,086,500	231,994,000	7,883,500	9,842,000				

WATER IN GALLONS

REMARKS:



WATER TREATMENT PLANTS

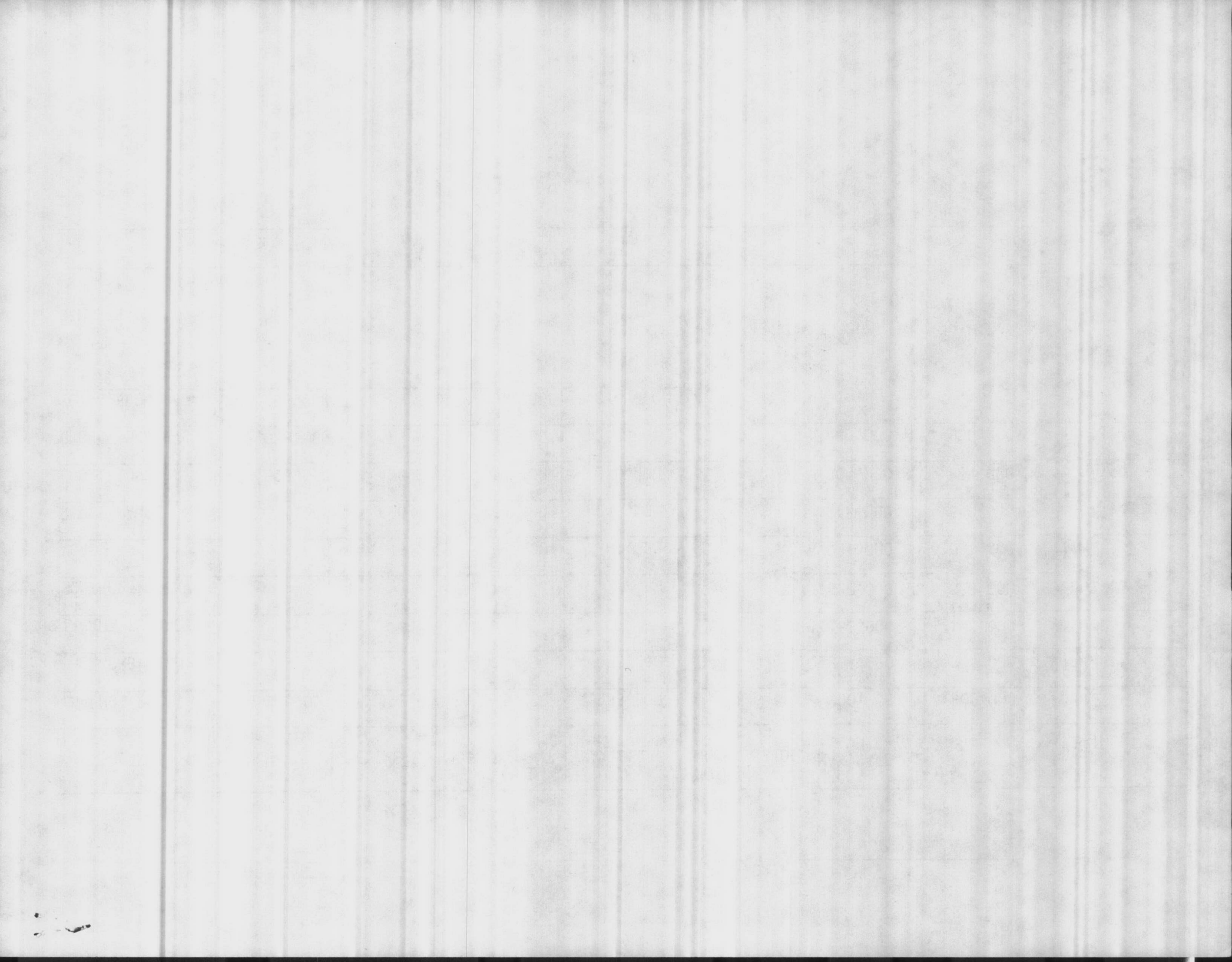
WATER FLOW

DATE: JULY 1987

PLANT	RAW	DELIVERED	WASHING FILTERS	MAX.DEL	POTABLE WATER USED	WELLS MAX.SAFE YIELD/DAY	PLANT CAPACITY DAY	TREATMENT
HADNOT POINT	105,205,000	102,199,000	1,915,300	3,963,000	13	5,900,000	5,900,000	lime
HOLCOMB BLVD.	EST. 95,579,000	91,323,000	3,463,800	4,085,000	3	2,304,000	2,304,000	lime
TARAWA TERRACE					3	1,152,000	1,152,000	lime
MONTFORD POINT					3	622,000	622,000	zeolite
MCAS	18,404,000	17,046,00	1,498,800	641,000	3	4,081,000	4,081,000	lime
RIFLE RANGE	7,431,000	5,696,000	264,600	243,000	3	648,000	648,000	zeolite
COURTHOUSE BAY	15,698,000	14,425,000	1,014,000	675,000	3	864,000	864,000	zeolite
ONSLOW BEACH	5,338,000	3,675,000	247,000	267,000	3	250,000	250,000	zeolite
TOTAL FLOW	247,655,000	234,364,000	8,403,500	9,874,000				

WATER IN GALLONS

REMARKS:



WATER TREATMENT PLANTS

WATER FLOW

DATE: JULY 1987

PLANT	RAW	DELIVERED	WASHING FILTERS	MAX. DEL	POTABLE WATER USED	WELLS MAX. SAFE YIELD/DAY	PLANT CAPACITY DAY	TREATMENT
HADNOT POINT	105,205,000	102,199,000	1,915,300	3,963,000	13	5,900,000	5,900,000	lime
HOLCOMB BLVD.	95,579,000 EST	91,323,000	3,463,800	4,085,000	3	2,304,000	2,304,000	lime
TARAWA TERRACE					3	1,152,000	1,152,000	lime
MONTFORD POINT					3	622,000	622,000	zeolite
MCAS	18,404,000	17,046,000	1,498,800	641,000	3	4,081,000	4,081,000	lime
RIFLE RANGE	7,431,000	5,696,000	264,600	243,000	3	648,000	648,000	zeolite
COURTHOUSE BAY	15,698,000	14,425,000	1,014,000	675,000	3	864,000	864,000	zeolite
ONslow BEACH	5,338,000	3,625,000	247,000	267,500	3	250,000	250,000	zeolite
TOTAL FLOW	247,655,000	234,364,000	8,463,500	9,874,000				

WATER IN GALLONS

REMARKS:



WATER TREATMENT PLANTS

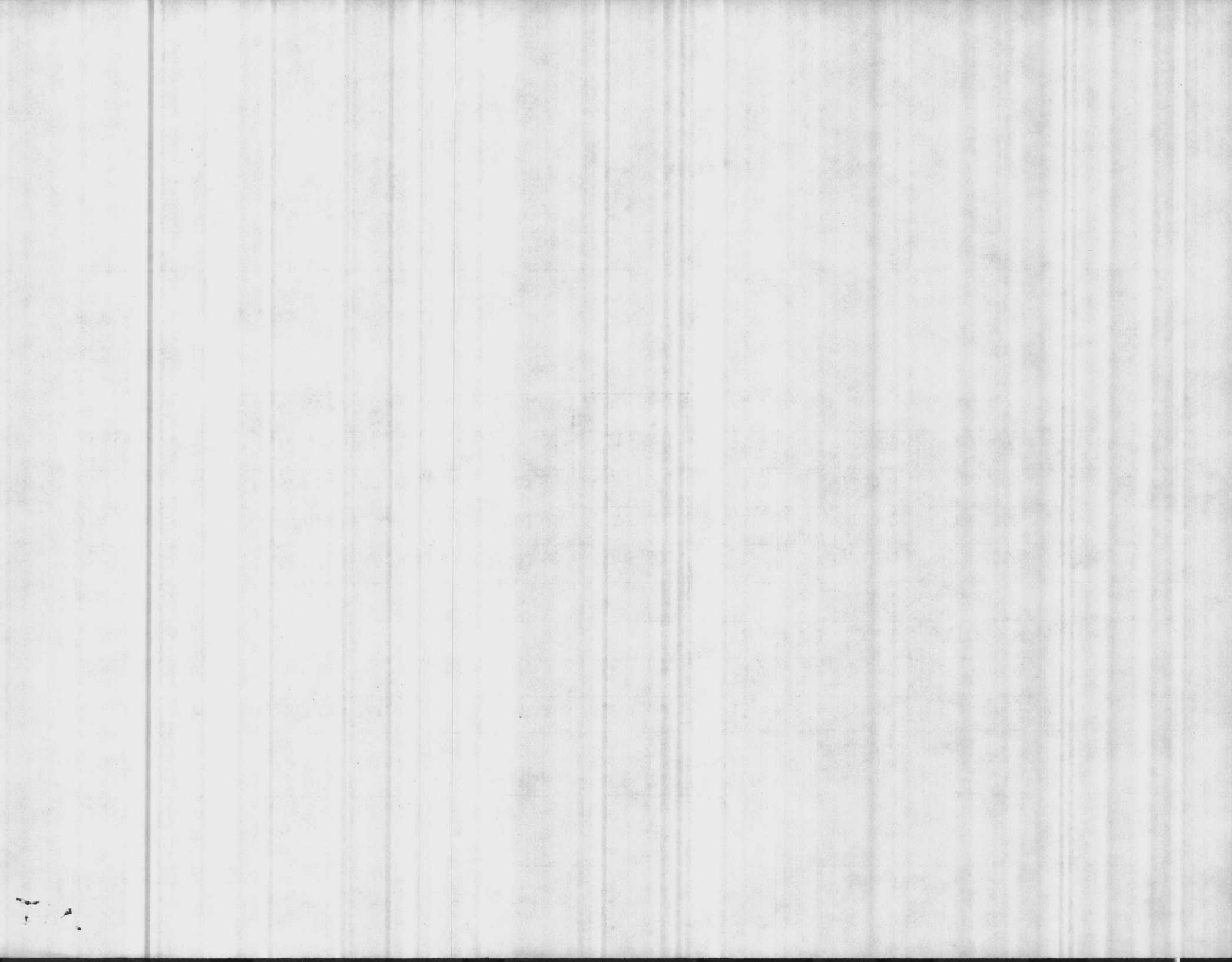
WATER FLOW

DATE: June 1987

PLANT	RAW	DELIVERED	WASHING FILTERS	MAX. DEL	POTABLE WATER USED	WELLS MAX. SAFE YIELD/DAY	PLANT CAPACITY DAY	TREATMENT
HADNOT POINT	109,207,000	101,528,000	1,740,800	4,201,000	13	5,900,000	5,900,000	lime
HOLCOMB BLVD.	91,366,000	88,467,000	3,917,250	3,889,000	3	2,304,000	2,304,000	lime
TARAWA TERRACE					3	1,152,000	1,152,000	lime
MONTFORD POINT					3	622,000	622,000	zeolite
MCAS	18,374,000	16,980,000	1,680,000	765,000	3	4,081,000	4,081,000	lime
RIFLE RANGE	7,505,000	5,828,000	250,400	283,000	3	648,000	648,000	zeolite
COURTHOUSE BAY	15,596,000	13,756,000	979,200	562,000	3	864,000	864,000	zeolite
ONSLow BEACH	3,627,000	2,367,000	206,00	214,000	3	250,000	250,000	zeolite
TOTAL FLOW	245,675,000	228,926,000	8,773,650	9,914,000				

WATER IN GALLONS

REMARKS:



WATER TREATMENT PLANTS

WATER FLOW

DATE: JUNE 1987

PLANT	RAW	DELIVERED	WASHING FILTERS	MAX. DEL	POTABLE WATER USED	WELLS MAX. SAFE YIELD/DAY	PLANT CAPACITY DAY	TREATMENT
HADNOT POINT	109,207,000	101,528,000	1,740,800	4,201,000	13	5,900,000	5,900,000	lime
HOLCOMB BLVD.	91,366,000	88,467,000	3,917,250	2,889,000	3	2,304,000	2,304,000	lime
FARAWA TERRAGE					3	1,152,000	1,152,000	lime
MONTFORD POINT					3	622,000	622,000	zeolite
MCAS	18,374,000	16,980,000	1,680,000	765,000	3	4,081,000	4,081,000	lime
RIFLE RANGE	7,505,000	5,828,000	250,400	283,000	3	648,000	648,000	zeolite
COURTHOUSE BAY	15,596,000	13,756,000	979,200	562,000	3	864,000	864,000	zeolite
ONSLow BEACH	3,627,000	2,367,000	206,000	214,000	3	250,000	250,000	zeolite
TOTAL FLOW	245,675,000	228,926,000	8,773,650	9,914,000				

WATER IN GALLONS

REMARKS:

Year	Month	Day	Particulars	Debit	Credit	Balance
1885	Jan	1	Balance forward			100.00
1885	Jan	15	Received from A. B.		50.00	150.00
1885	Jan	20	Paid for rent	20.00		130.00
1885	Jan	25	Received from C. D.		30.00	160.00
1885	Jan	31	Balance			160.00
1885	Feb	1	Balance forward			160.00
1885	Feb	5	Received from E. F.		40.00	200.00
1885	Feb	10	Paid for groceries	15.00		185.00
1885	Feb	15	Received from G. H.		25.00	210.00
1885	Feb	20	Paid for fuel	10.00		200.00
1885	Feb	25	Received from I. J.		15.00	215.00
1885	Feb	28	Balance			215.00
1885	Mar	1	Balance forward			215.00
1885	Mar	5	Received from K. L.		30.00	245.00
1885	Mar	10	Paid for repairs	25.00		220.00
1885	Mar	15	Received from M. N.		20.00	240.00
1885	Mar	20	Paid for insurance	15.00		225.00
1885	Mar	25	Received from O. P.		15.00	240.00
1885	Mar	31	Balance			240.00

WATER TREATMENT PLANTS

WATER FLOW

DATE: MAY 1987

PLANT	RAW	DELIVERED	WASHING FILTERS	MAX.DEL	POTABLE WATER USED	WELLS MAX.SAFE YIELD/DAY	PLANT CAPACITY DAY	TREATMENT
HADNOT POINT	101,960,000	95,627,000	1,675,000	3,660,000	13	5,900,000	5,900,000	lime
HOLCOMB BLVD.	81,451,000	78,273,000	3,720,000	3,727,000	3	5,000,000	5,000,000	lime
TARAWA TERRACE					3	1,152,000	1,152,000	lime
MONTFORD POINT					3	622,000	622,000	zeolite
MCAS	19,279,000	17,827,000	1,800,000	717,000	3	4,081,000	4,081,000	lime
RIFLE RANGE	7,840,000	5,713,000	253,000	254,000	3	648,000	648,000	zeolite
COURTHOUSE BAY	15,208,000	13,298,000	1,026,000	577,000	3	864,000	864,000	zeolite
ONSLow BEACH	3,510,000	2,610,000	196,000	100,000	3	250,000	250,000	zeolite
TOTAL FLOW	²⁴⁸ 229,368,000	213,348,000	8,660,000	9,035,000				

WATER IN GALLONS

REMARKS:

1. 1900 1000 1000 1000
2. 1900 1000 1000 1000
3. 1900 1000 1000 1000
4. 1900 1000 1000 1000
5. 1900 1000 1000 1000

6. 1900 1000 1000 1000
7. 1900 1000 1000 1000

1900 1000 1000 1000

WATER TREATMENT PLANTS

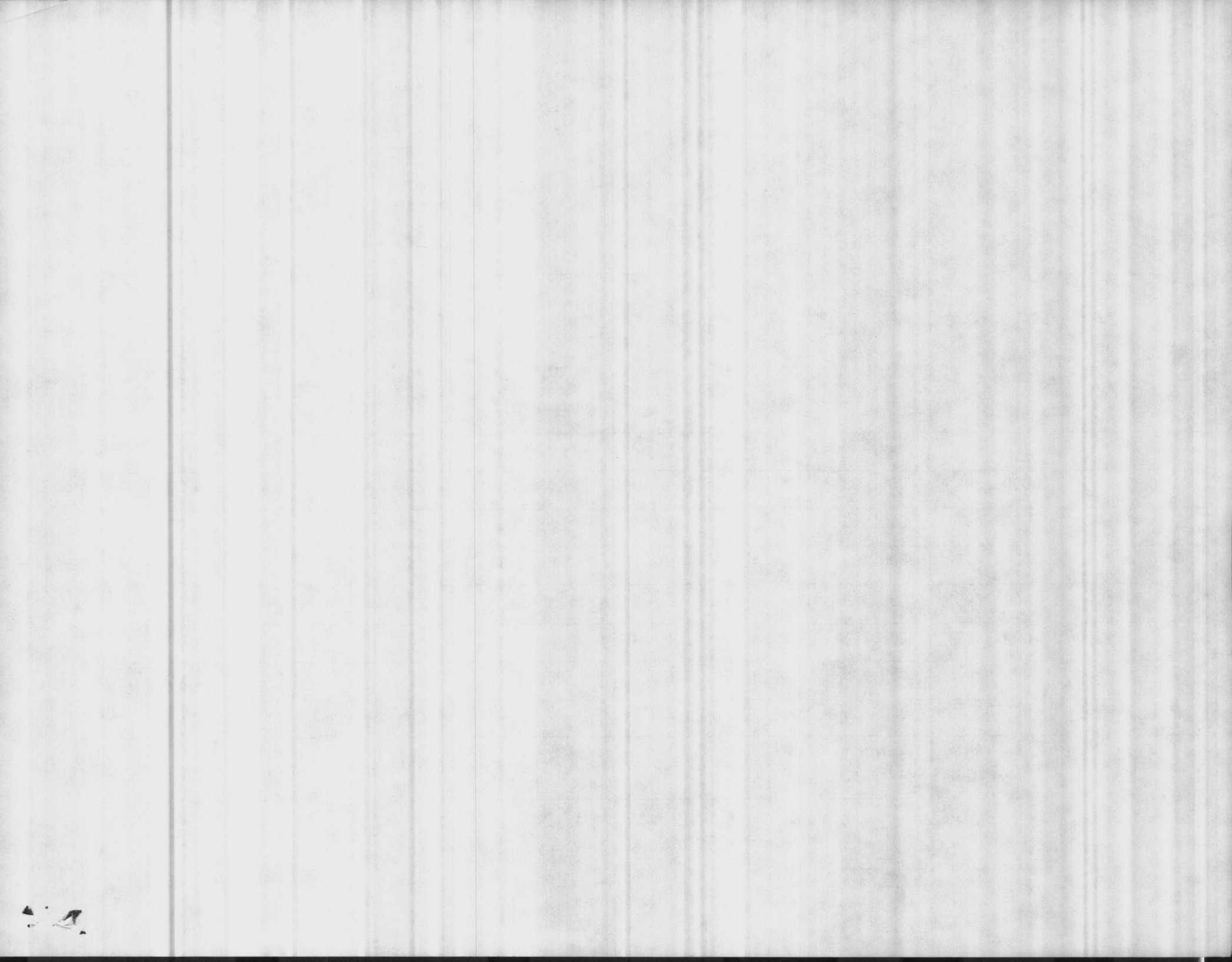
WATER FLOW

DATE: APRIL 1987

PLANT	RAW	DELIVERED	WASHING FILTERS	MAX.DEL	POTABLE WATER USED	WELLS MAX.SAFE YIELD/DAY	PLANT CAPACITY DAY	TREATMENT
HADNOT POINT	102,832,000	99,022,000	1,875,000	4,083,000	13	5,900,000	5,900,000	lime
HOLCOMB BLVD.	Est. 62,068,000	61,234,000	5,482,600	2,672,000	3	2,304,000	2,304,000	lime
TARAWA TERRACE					3	1,152,000	1,152,000	lime
MONTFORD POINT					3	622,000	622,000	zeolite
MCAS	Est 18,329,000	17,370,000	1,488,000	781,000	3	4,081,000	4,081,000	lime
RIFLE RANGE	8,065,000	6,206,000	288,600	386,000	3	648,000	648,000	zeolite
COURTHOUSE BAY	15,173,000	14,063,000	1,000,400	606,000	3	864,000	864,000	zeolite
ONSLOW BEACH	3,363,000	2,911,000	175,000	282,000	3	250,000	250,000	zeolite
TOTAL FLOW	209,830,000	200,806,000	10,310,000	8,810,000				

WATER IN GALLONS

REMARKS:



WATER TREATMENT PLANTS

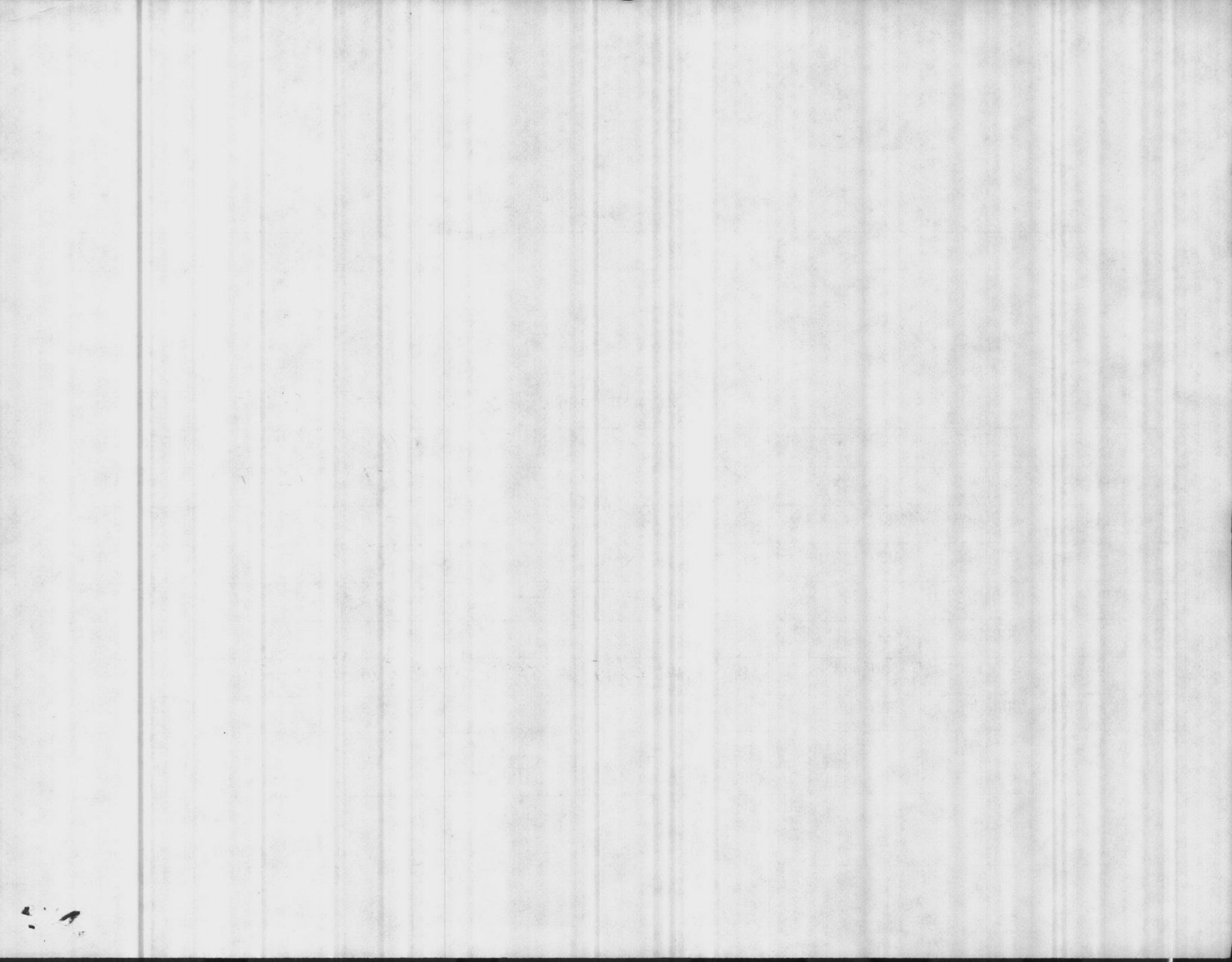
WATER FLOW

DATE: APRIL 1987

PLANT	RAW	DELIVERED	WASHING FILTERS	MAX.DEL	POTABLE WATER USED	WELLS MAX.SAFE YIELD/DAY	PLANT CAPACITY DAY	TREATMENT
HADNOT POINT	162,832,000	99,022,000	1,875,000	4,083,000	13	5,900,000	5,900,000	lime
HOLCOMB BLVD.	62,068,000 ^{EST}	61,234,000	5,482,000	2,672,000	3	2,304,000	2,304,000	lime
TARAWA TERRACE					3	1,152,000	1,152,000	lime
MONTFORD POINT					3	622,000	622,000	zeolite
MCAS	18,329,000 ^{EST.}	17,370,000	1,488,000	781,000	3	4,081,000	4,081,000	lime
RIFLE RANGE	8,065,000	6,206,000	288,600	386,000	3	648,000	648,000	zeolite
COURTHOUSE BAY	15,173,000	14,063,000	1,000,400	606,000	3	864,000	864,000	zeolite
ONSLow BEACH	3,363,000	2,911,000	175,000	282,000	3	250,000	250,000	zeolite
TOTAL FLOW	209,830,000	200,806,000	10,310,000	8,810,000				

WATER IN GALLONS

REMARKS:



11331
NREAD
9 June 87

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 May 1987. 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 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:
LANTNAVFACENCOM (Code 114)

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



The following information was obtained from the records of the
 Department of the Interior, Bureau of Land Management, on
 the subject of the land described in the foregoing
 report. The land is situated in the County of [unclear]
 State of [unclear]. The land is owned by [unclear]
 and is being offered for sale to the public.
 The land is situated in the [unclear] section
 of the [unclear] township, [unclear] range,
 [unclear] north of [unclear] east of [unclear] meridian.
 The land is being offered for sale to the public
 in accordance with the provisions of the Act of
 Congress, approved [unclear], which provides
 that the land shall be sold to the highest bidder
 for cash. The land is being offered for sale
 in accordance with the provisions of the Act of
 Congress, approved [unclear], which provides
 that the land shall be sold to the highest bidder
 for cash. The land is being offered for sale
 in accordance with the provisions of the Act of
 Congress, approved [unclear], which provides
 that the land shall be sold to the highest bidder
 for cash.

Year 1987

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Contaminant Code: 3000

Serial # 04-67-041

N. C. DEPARTMENT OF HUMAN RESOURCES

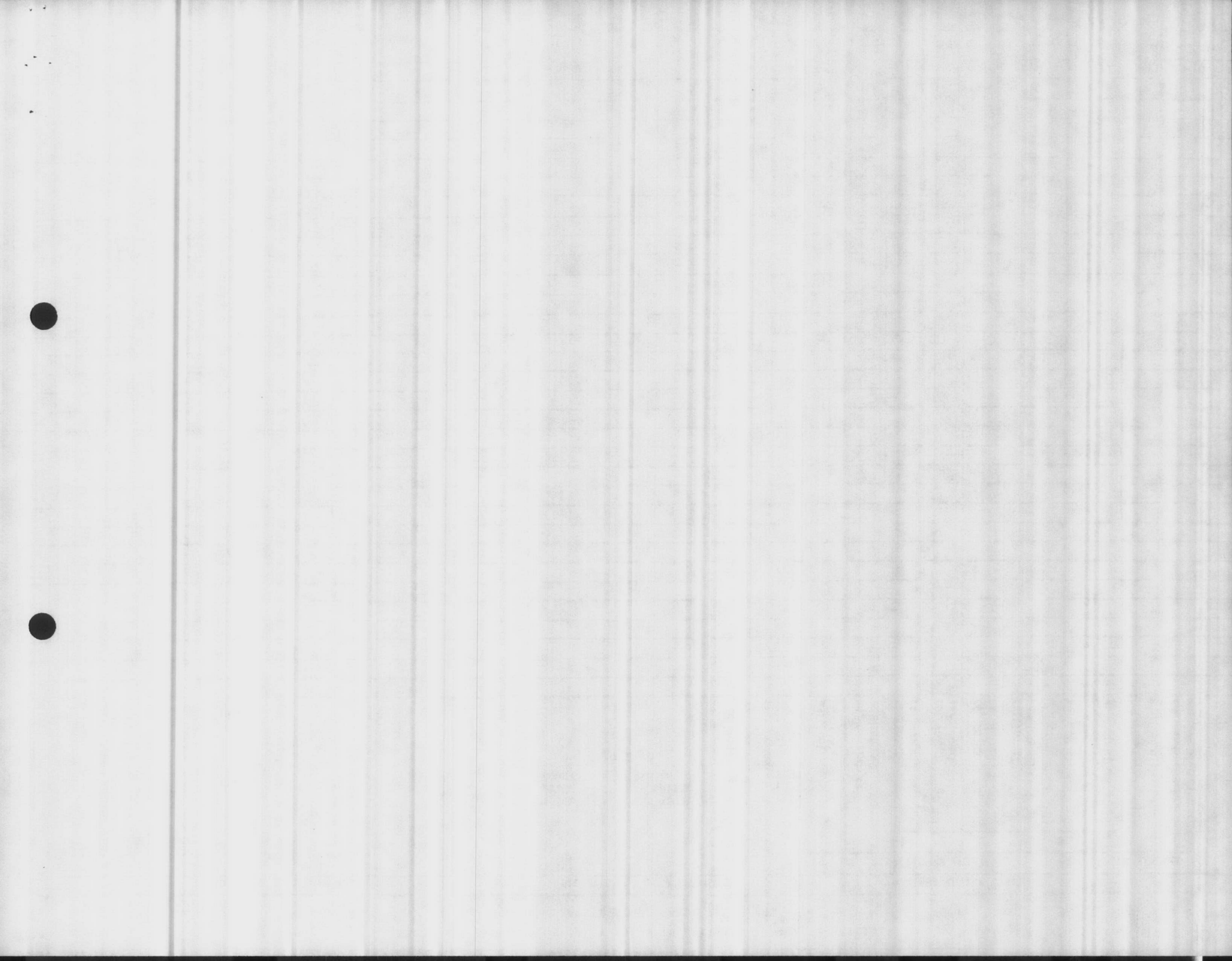
DATE	RAW WATER COLIFORMS (MFP)									FILTERED		FINISHED		DISTRIBUTION SYSTEM						INCUBATOR TEMP.					
	A			B			C			TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	COLIFORMS (MFP)					REPEAT SAMPLES						
	VOLUME FILTERED ml.	TOTAL COLONIES	COLIFORM COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	COLIFORM COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	COLIFORM COLONIES					NO. OF 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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MF MEDIA		BBL mEndo		BACTERIAL DENSITY		ARITH. MEAN		GEO. MEAN		0		1.0		DIST. SYSTEM		TOTAL NO. SAMPLES					36				
TPC MEDIA																SAMPLES EXCEEDING 3/50. (4/100) 7/200. 13/500ml					0				

LAB ID # 37807

Elizabeth A. Boy

CERT GRADE B-WELL # 4087-W
ENCLOSURE (11)





Month MAY
Year 1987

MARINE CORPS AIR STATION

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 # 04-67-04Z

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.	TOTAL PLATE COUNT	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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31																					
MF MEDIA	BRI mEndo		BACTERIAL DENSITY		ARITH. MEAN								0	DIST. SYSTEM		TOTAL NO. SAMPLES					28
TPC MEDIA					GEO. MEAN								1.0			SAMPLES EXCEEDING 3/50. (4/100) 7/200. 13/500ml					0

LAB ID # 37807

Elizabeth A. Betty

CERT GRADE B-WELL # 4087-W
ENCLOSURE (11)



Month MAY
Year 1987

TARAWA TERRACE

WATER TREATMENT PLANT AT Camp Lejeune

Method Code: 303

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Contaminant Code: 3000

Serial # 04-67-044

N. C. DEPARTMENT OF HUMAN RESOURCES

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																					
3																					
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6										0	4	0	0	0	0				35.9		
7																					
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MF MEDIA		BRI mEndo		BACTERIAL DENSITY		ARITH. MEAN				40		DIST. SYSTEM		TOTAL NO. SAMPLES							
TPC MEDIA						GEO. MEAN				10				SAMPLES EXCEEDING 3/50. (1/100) 7/200. 13/500ml					0		

LAB ID # 37807

Elizabeth A. B... (CERT GRADE B - WELL # 4087) ENCLOSURE TW



Month MAY
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

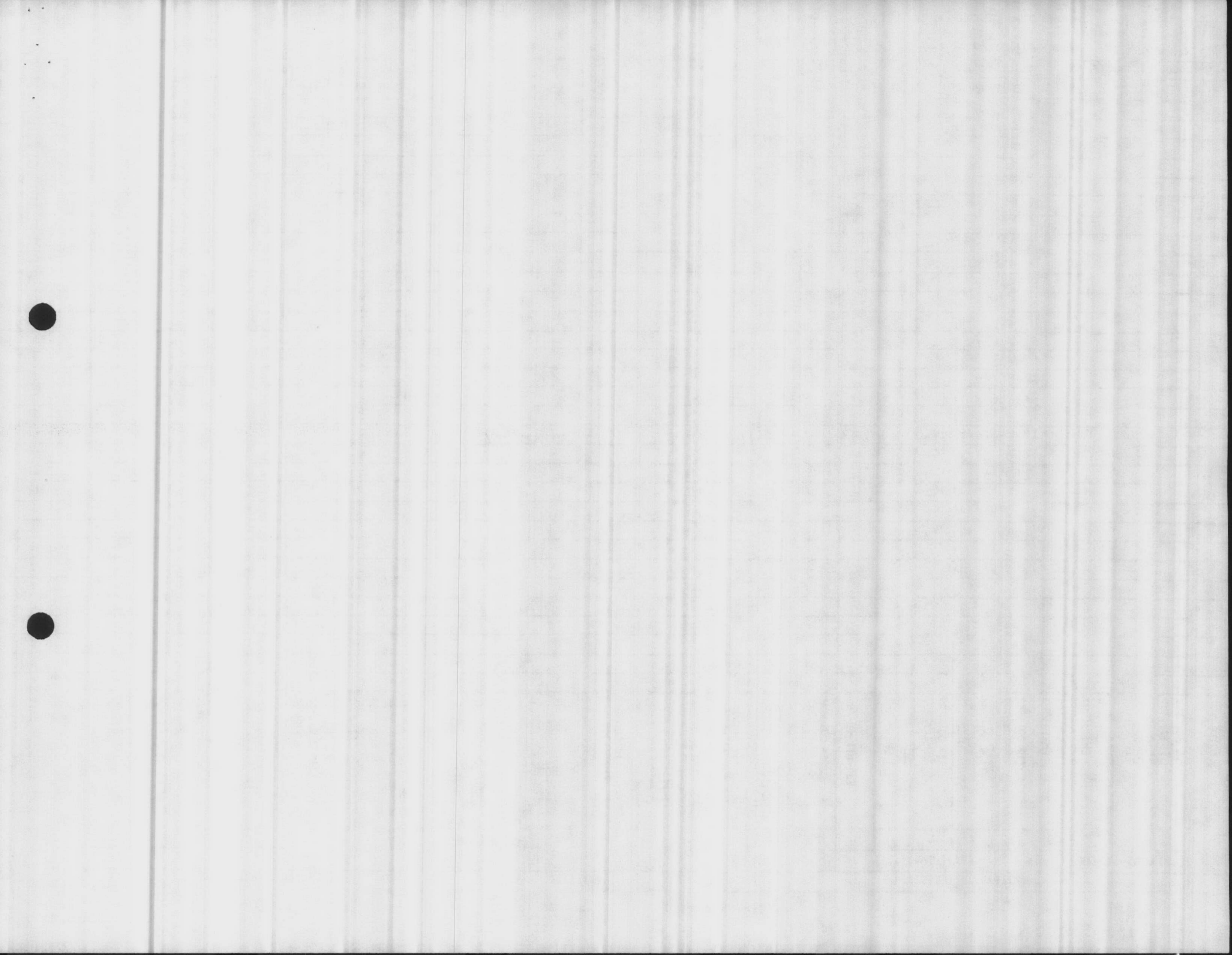
Serial # 04-67-045

DATE	RAW WATER COLIFORMS (MFP)									NO. OF COLIFORMS PER 100 ml.	FILTERED TOTAL PLATE COUNT	FINISHED 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.	COLIFORMS per 100 ml.											
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MF MEDIA										BBL mEndo										BACTERIAL DENSITY		ARITH. MEAN				0		DIST. SYSTEM		TOTAL NO. SAMPLES		8	
TPC MEDIA																						GEO. MEAN				1/0		SAMPLES EXCEEDING 3/50, 4/100, 7/200, 13/500ml		0			

LAB ID # 37807

Elizabeth [Signature] CERT GRADE B-WELL # 4087-W
ENCLOSURE (11)







Month MAY
Year 1987

ONSLOW BEACH

WATER TREATMENT PLANT AT Camp Lejeune

Method Code: 505

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Contaminant Code: 3000

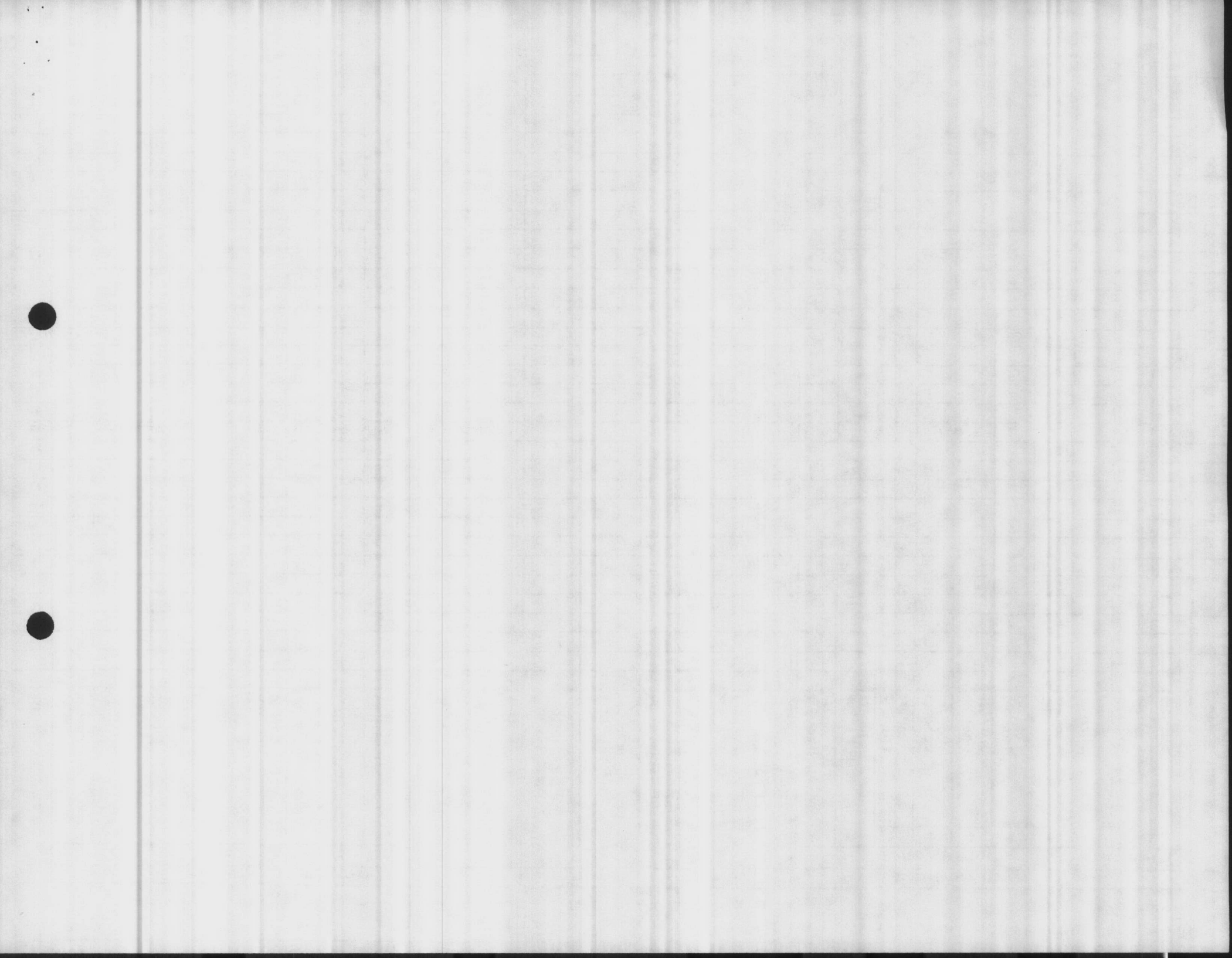
N. C. DEPARTMENT OF HUMAN RESOURCES

Serial # 04-67-048

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					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.			
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MF MEDIA	BBL mEndo		BACTERIAL DENSITY		ARITH. MEAN		GEO. MEAN						0		7.0		DIST. SYSTEM		TOTAL NO. SAMPLES								8	
TPC MEDIA																			SAMPLES EXCEEDING 3/50		4/100		7/200.		13/500ml		0	

LAB ID # 37807

Elizabeth R. Betz CERT GRADE B-WELL # 4087-W
INCUBATOR TEMP. (11)



DATE COLLECTED
5-26-87

DATE OF ANALYSIS
5-26-87

PARAMETER SERIAL #04-67	HADNOT POINT -041	CAMP JOHNSON -045	TARAWA TERRACE -044	ONSLow BEACH -048	COURTHOUSE BAY -047	RIFLE RANGE -046	HOLCOMB BLVD -043	NEW RIVER -042
PH (IN LAB NOT PLANT)	8.7			7.4	8.0	8.3	8.7	8.9
PHENOLTHALEIN ALKALINITY	20			0	0	4	14	12
METHYL ORANGE ALKALINITY	58			176	186	200	72	120
CARBONATES AS CaCO ₃	40			0	0	8	28	24
BICARBONATES AS CaCO ₃	18			176	186	192	44	96
CHLORIDES AS Cl	16			48	20	44	18	60
HARDNESS AS CaCO ₃	60			44	54	58	62	64
IRON AS Fe	A.A.	DOWN.						
FLUORIDE Am pm	1.11 1.42			0.18	0.16	0.12	0.65 1.07	0.54
CHLORINE RESIDUAL	0.9			1.4	1.4	1.0	1.2	1.0
TURBIDITY Am pm	0.1 0.2			0.2	0.1	0.1	1.0 0.5	0.4
TOTAL PHOSPHATE								
ORTHO PHOSPHATE								
META PHOSPHATE								
STABILITY	+0.4			-0.9	-0.4	-0.1	+0.3	+0.1

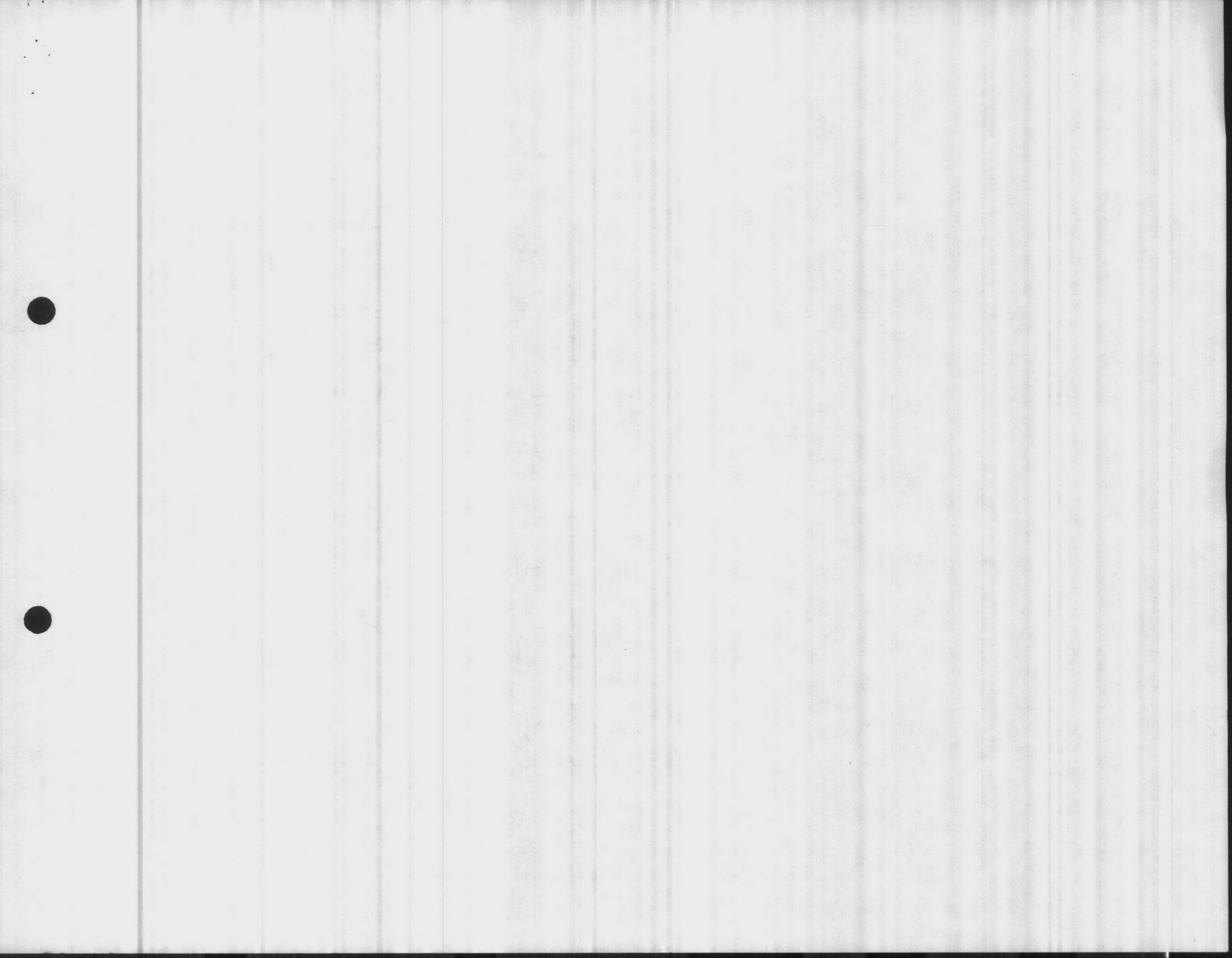
REMARKS

- 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
CAROL SHORES

ENCLOSURE 61



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

DATE COLLECTED
 5-19-87

DATE OF ANALYSIS
 5-19-87

PARAMETER SERIAL # 04-67	HADNOT POINT -041	CAMP JOHNSON -045	TARAWA TERRACE -044	ONSLow BEACH -048	COURTHOUSE BAY -047	RIFLE RANGE -046	HOLCOMB BLVD -043	NEW RIVER -042		
PH (IN LAB NOT PLANT)	8.8			7.6	8.0	8.4	8.6	8.8		
PHENOLTHALEIN ALKALINITY	4			0	0	2	4	14		
METHYL ORANGE ALKALINITY	60			170	182	170	66	120		
CARBONATES AS CaCO ₃	8			0	0	4	8	28		
BICARBONATES AS CaCO ₃	52			170	182	166	58	92		
● OXIDES AS Cl	14			24	18	26	12	66		
HARDNESS AS CaCO ₃	60			52	50	48	78	50		
IRON AS Fe	A.A.	DOWN								
FLUORIDE	Am 0.80 Pm 0.63			0.15	0.12	0.09	1.14 0.96	0.43		
CHLORINE RESIDUAL	1.0			1.4	1.5	1.1	1.0	0.8		
TURBIDITY	Am 0.2 Pm 0.3			0.1	0.1	0.1	0.2 0.3	0.5		
TOTAL PHOSPHATE										
● ORTHO PHOSPHATE										
● META PHOSPHATE										
STABILITY	+0.4			-0.6	-0.2	+0.1	+0.3	+0.3		

REMARKS

COPY TO

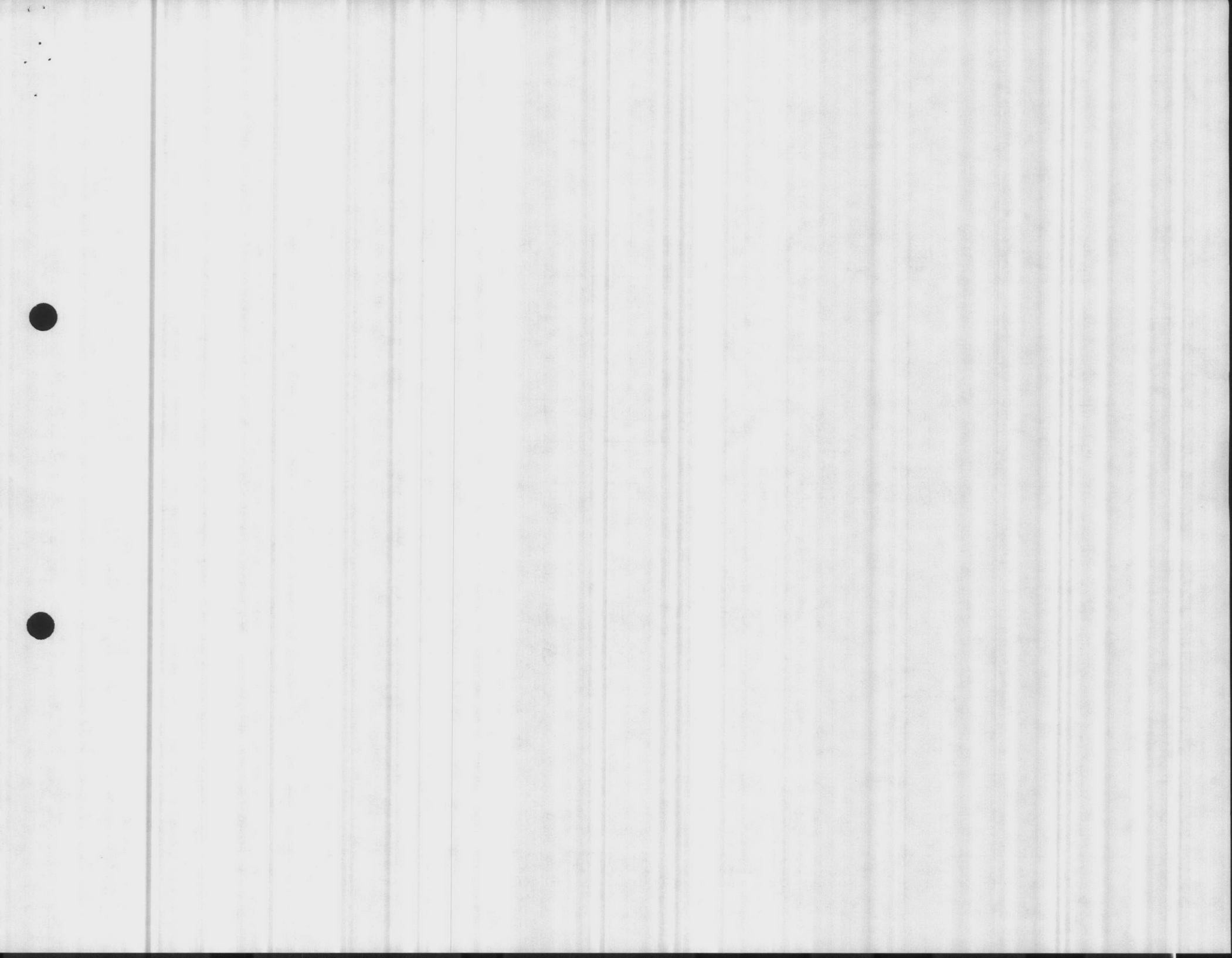
- UTIL DIR
 WATER TREATMENT
 PMU MCAS PMU
 NREAD FILE

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

CAROL SNORES

ENCLOSURE (2)



CHEMICAL ANALYSIS — WATER TREATMENT PLANTS

MCBCL 11330/3 (REV 6-84)

DATE COLLECTED

5-12-87

DATE OF ANALYSIS

5-12-87

PARAMETER SERIAL #04-67	HADNOT POINT -041	CAMP JOHNSON -045	TARAWA TERRACE -044	ONSLow BEACH -048	COURTHOUSE BAY -047	RIFLE RANGE -046	HOLCOMB BLVD -043	NEW RIVER -042		
PH (IN LAB NOT PLANT)	8.8			7.7	7.9	7.9	8.6	9.0		
PHENOLTHALEIN ALKALINITY	14			0	0	0	2	12		
METHYL ORANGE ALKALINITY	62			172	178	176	62	118		
CARBONATES AS CaCO ₃	28			0	0	0	4	24		
BICARBONATES AS CaCO ₃	34			172	178	176	58	94		
CHLORIDES AS Cl	26			38	36	64	26	68		
HARDNESS AS CaCO ₃	82			60	48	72	98	78		
IRON AS Fe	A.A.	DOWN								
FLUORIDE	AM 0.89 PM 0.88			0.14	0.11	0.09	0.93 0.97	0.40		
CHLORINE RESIDUAL	1.0			1.2	1.2	1.0	1.2	0.8		
TURBIDITY	AM 0.2 PM 0.3			0.1	0.1	0.1	0.5 0.3	0.4		
TOTAL PHOSPHATE										
ORTHO PHOSPHATE										
META PHOSPHATE										
STABILITY	+0.3			-0.5	-0.4	-0.3	+0.1			

REMARKS

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

CAROL SHORIS

ENCLOSURE (2)



CHEMICAL ANALYSIS -- WATER TREATMENT PLANTS

MCBCL 11330.3 (REV 6-84)

DATE COLLECTED

5-5-87

DATE OF ANALYSIS

5-5-87

PARAMETER SERIAL#04-67	HADNOT POINT -041	CAMP JOHNSON -045	TARAWA TERRACE -044	ONSLOW BEACH -048	COURTHOUSE BAY -047	RIFLE RANGE -046	HOLCOMB BLVD -043	NEW RIVER -042
PH (IN LAB NOT PLANT)	8.4			7.4	7.9	8.3	8.3	8.4
PHENOLTHALEIN ALKALINITY	4			0	0	4	2	8
METHYL ORANGE ALKALINITY	68			134	188	186	56	130
CARBONATES AS CaCO ₃	8			0	0	8	4	16
BICARBONATES AS CaCO ₃	60			134	188	178	52	114
OXALIDES AS Cl	16			26	20	30	10	58
HARDNESS AS CaCO ₃	104			60	52	74	78	70
IRON AS Fe	A.A.	DOWN						
FLUORIDE	Am	1.03					0.98	
	Pm	1.08		0.16	0.11	0.09	0.94	0.41
CHLORINE RESIDUAL	1.0			1.3	1.5	1.0	1.1	0.8
TURBIDITY	Am	3.1					0.2	
	Pm	0.2		0.2	0.1	0.1	0.6	0.8
TOTAL PHOSPHATE								
ORTHO PHOSPHATE								
META PHOSPHATE								
STABILITY	+0.2			-0.5	-0.2	+0.2	0.0	+0.2

REMARKS

COPY TO

UTIL DIR

WATER TREATMENT

PMU MCAS PMU

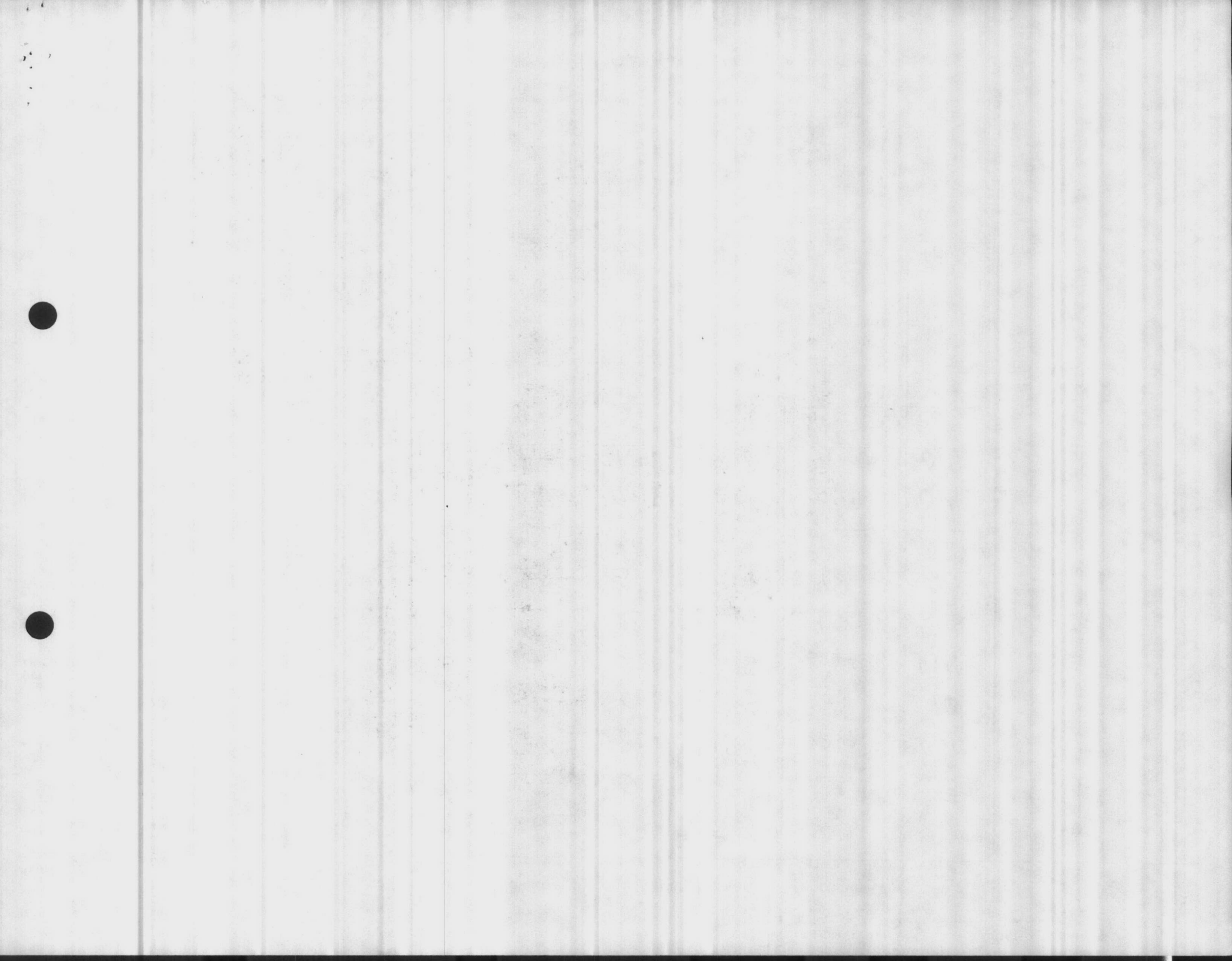
NREAD FILE

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

CAROL SHORES

ENCLOSURE (2)



Memorandum

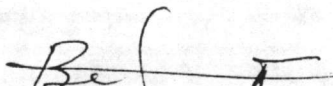
DATE: 9 June 1987

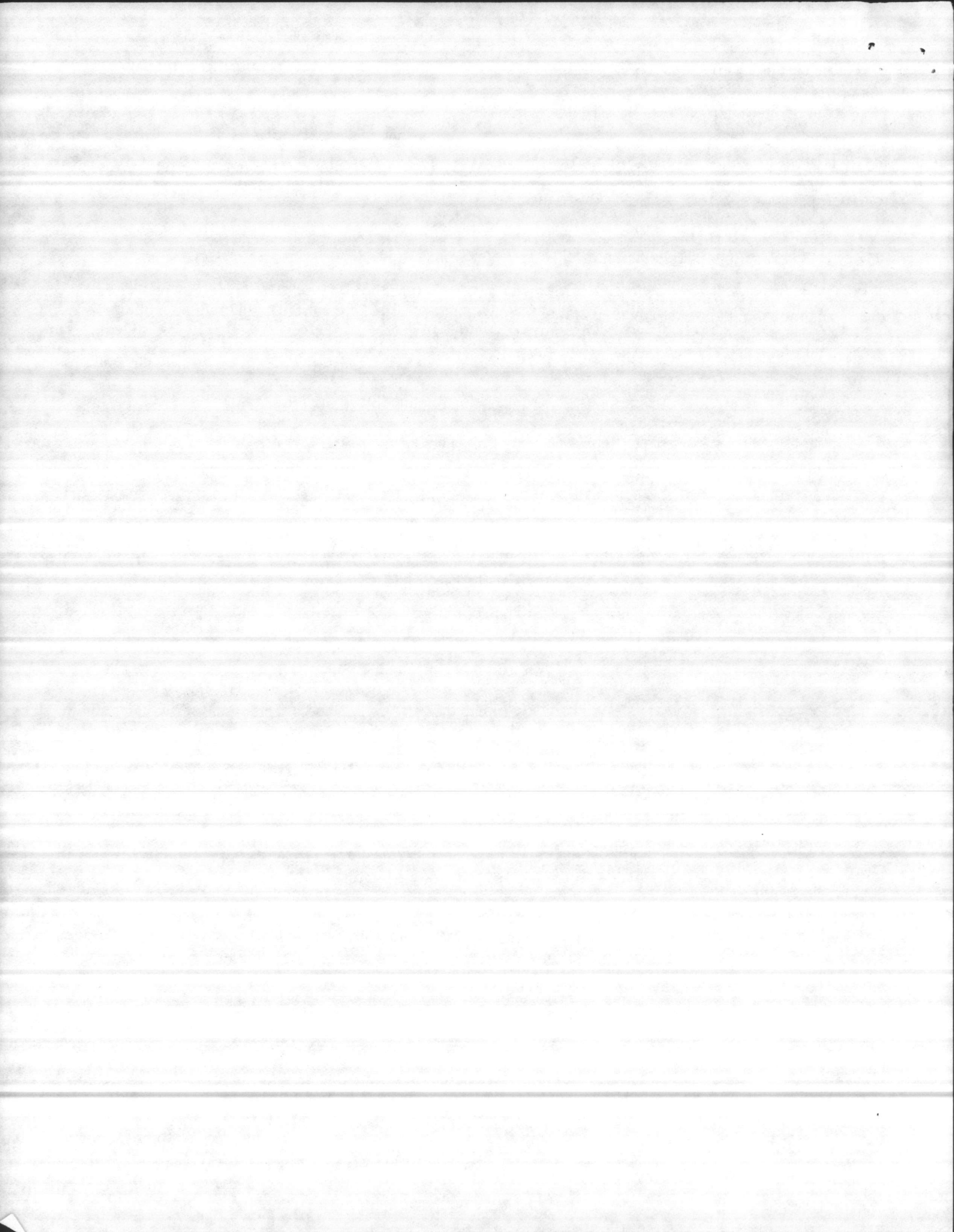
FROM: Utilities System General Foreman

TO: Director, Utilities
Via: Utilities General Foreman

SUBJ: Inspection Report Elevated Water Tanks Base Wide, Contract #N62470-86-B-5595;
comments concerning

1. As requested comments and recommendations concerning subject Inspection are provided as attachment (1).


BYRON M. FRAZELLE II

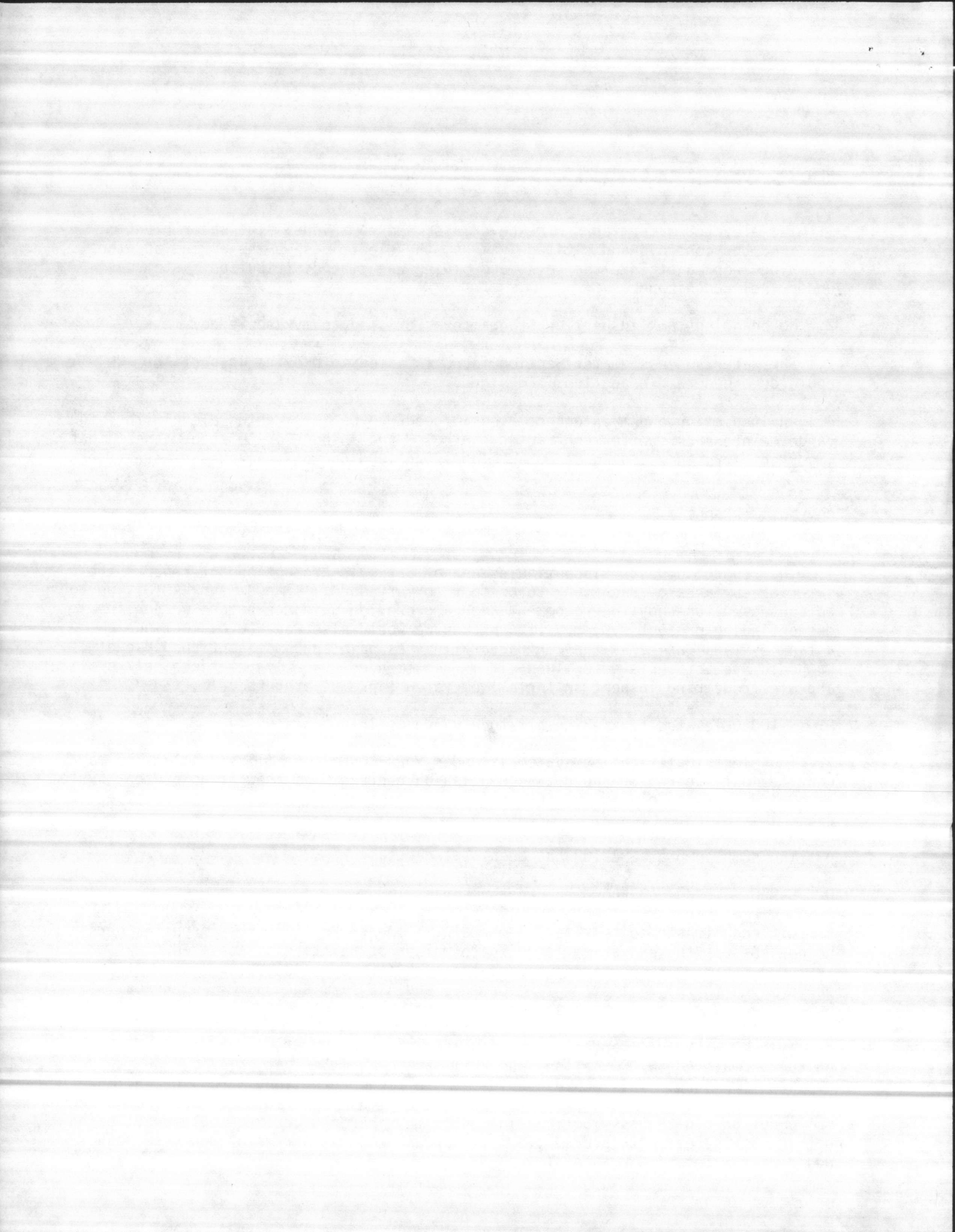


GENERAL COMMENTS (HISTORY)

1. The elevated water tanks were never assigned to anyone. The water plant repaired the controls and altitude valves, the electric shop the wiring and the plumbing shop maintained the tanks and piping when the distribution system was under their cognizance.
2. No on-going tank inspection program ever existed to my knowledge.
3. The Water and Wastewater Section is not staffed to provide inspection. We could do a general inspection if desired.
4. An inspection and maintenance program needs to be implemented along with long range maintenance, better contractor controls, and inspection to return these most important structures to an acceptable appearance and operational condition.

COMMENTS (REPORT)

1. The report suggests discontinuing use of Cathodic Protection but reports the interior surfaces of each tank to be fair to very good. I recommend LANTDIV personnel be contacted to study the recommendation and provide guidance before we consider discontinuing present system. If approved we would also want to discontinue on a tank by tank basis, as the contractor finishes painting. If continued use of Cathodic Protection is determined, it is recommended a yearly reference cell profile and electrode ring inspection for all elevated tanks be procured.
2. S-1000 Elevated tank - The altitude valve is in operation.
3. The electrical lighting system is under your cognizance (line crew). You may want to initiate repair and not accomplish on contract. I know of no present system to periodically do electrical inspection. An electrical inspection program certainly needs initiating.
4. The sump pump at SBA-108 has been replaced.
5. S-830 - We do not know who owns antennae.
6. Although I hate to criticize, it certainly appears Public Works Inspector personnel do not possess the expertise to adequately inspect painting of elevated tanks or are assigned too many inspection jobs and the lack of inspection allows the contractors' performance to fail. I strongly recommend an A&E firm such as Mr. Glenn Davis be contracted to provide inspection - See page 51 (S-5 tank).
7. I agree with recommendations on page 58 - Replace SM-624. The new tank should be approximately 350,000 gallons and built at the same elevation as STT-40 taking in account line loss. This would provide: more fire protection, more storage, more distribution pressure for steam plant and general users, a loop feed system allowing us to cut on old 8" distribution line. The main benefit derived would be allowing both tanks to feed both areas, i.e. if one tank was out for maintenance the other would feed T.T. and M.P. areas.



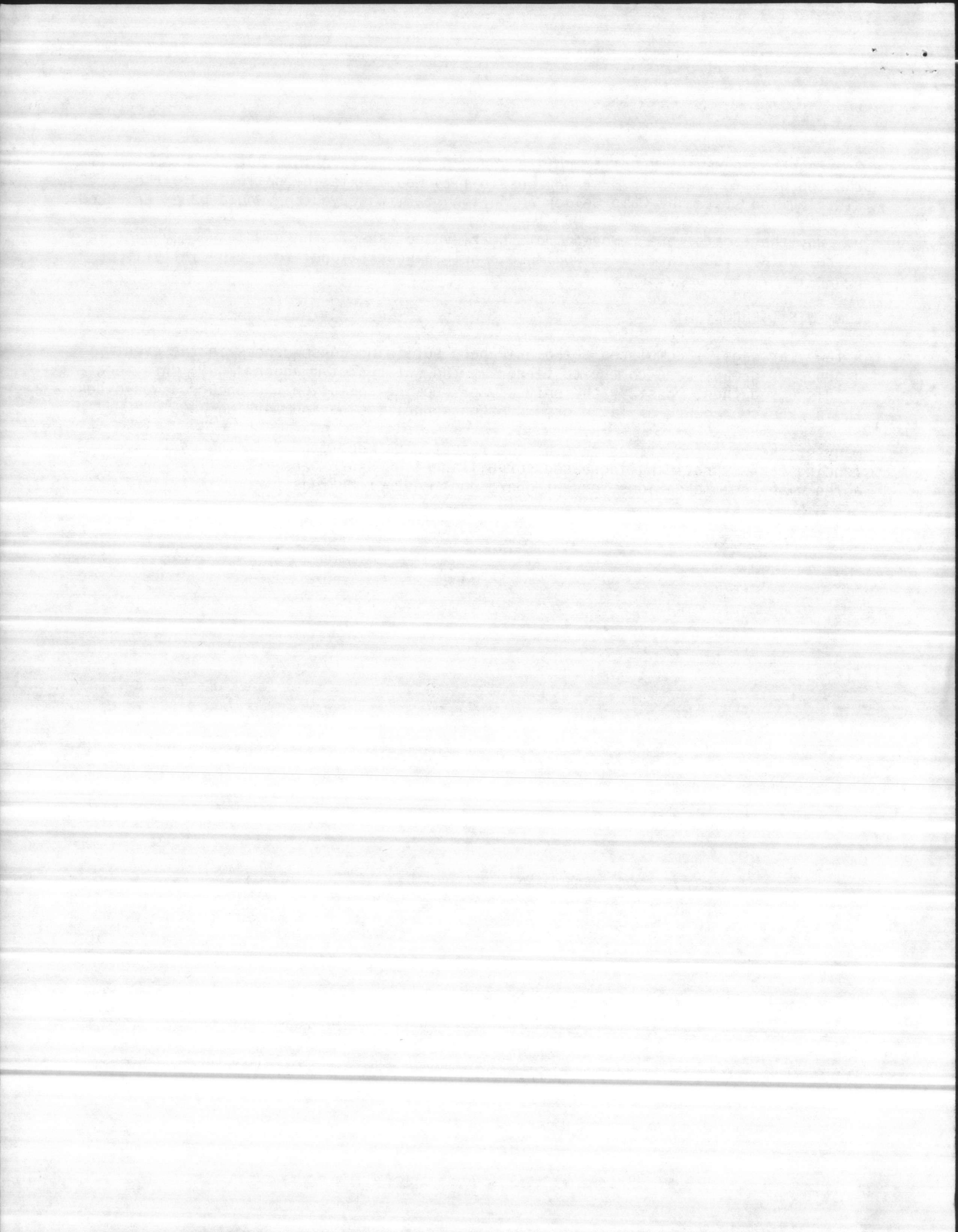
8. Page 65, para. 6c is of immediate concern since we are in a hurricane area. If the top were to blow off, a strong possibility would exist of pollution to the distribution system at Camp Geiger and a long term water outage would be experienced.

9. Why the floats were removed from the elevated tanks is unknown. We may want to re-install (contract). It would be a helpful operational tool especially if power is off to computers.

COMMENTS (TERRORISM)

A few years ago, I completed a 'Point Paper' outlining consequences in the event a group or groups were to try to terrorize the water system aboard MCB. Unfortunately, as discussed then, possibly the only way of knowing pollution had occurred would be the sickness or death of large groups of personnel living and working aboard MCB.

Many of the recommendations made by the report were recommended in the past, i.e. fencing tanks, providing increased surveillance, pressure pads, etc. I strongly agree with recommendations, except guard dogs may not be feasible.



CHS

11331
NREAD
3 Sep 87

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 August 1987. 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 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:
LANTNAVFACENGCOM (Code 114)

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

Writer/Typist Betz/Tranade
Date Typed 2 Sep 87
Word Processor Number 11331



1987 AUGUST

ONSLow BEACH

WATER TREATMENT PLANT AT Camp Lejeune

Method Code: 303

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Contaminant Code: 3000

Serial # 04-67-048

U. S. DEPARTMENT OF HUMAN RESOURCES

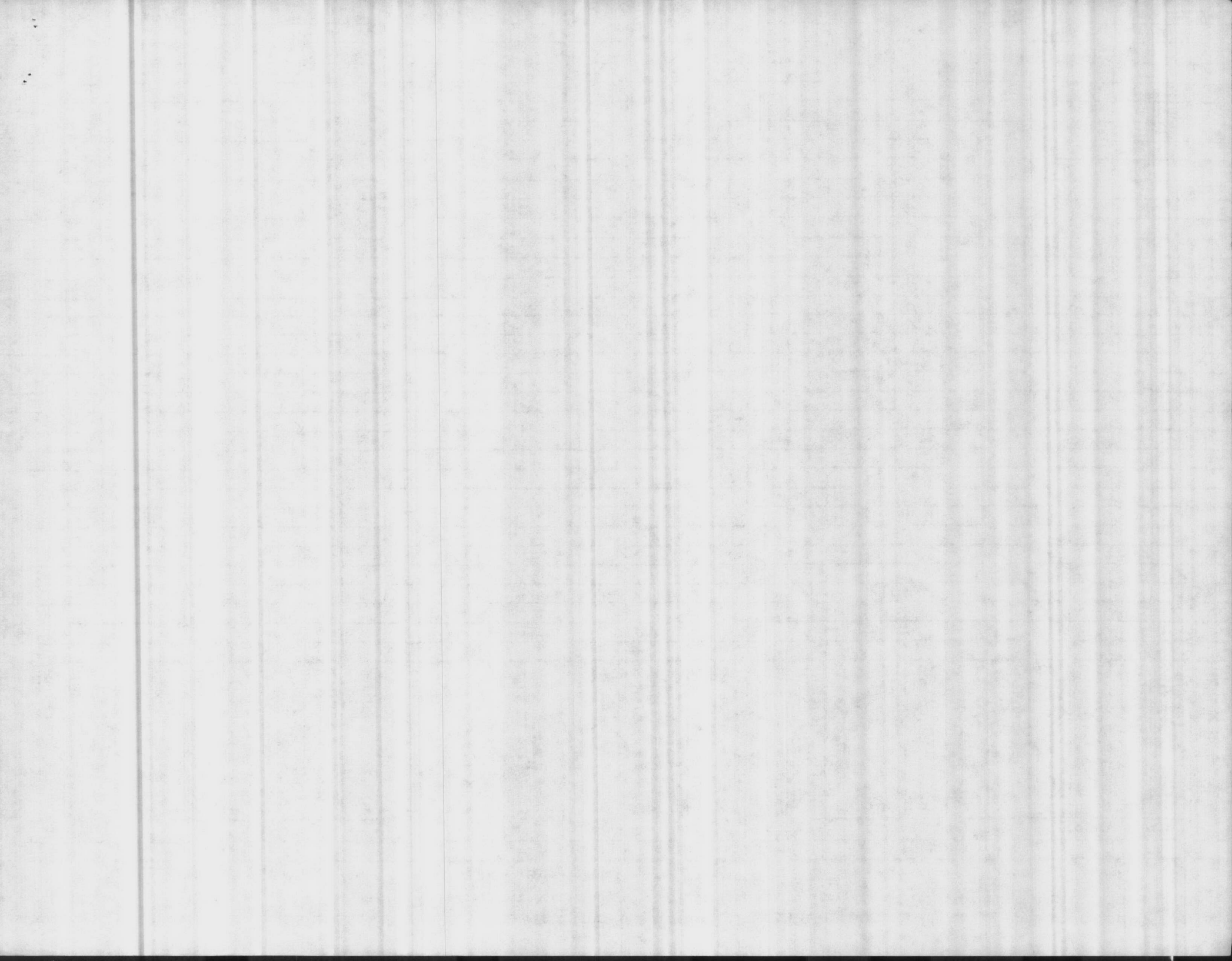
DATE	RAW WATER COLIFORMS (MFP)									NO. OF COLIFORMS PER 100 ml.	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	DISTRIBUTION SYSTEM COLIFORMS (MFP)					REPEAT SAMPLES			INCUBATOR TEMP.		
	A			B			C									1	2	3	4	5	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.			
	VOLUME FILTERED ml.	TOTAL COLONIES	COLIFORM COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	COLIFORM COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	COLIFORM COLONIES																	
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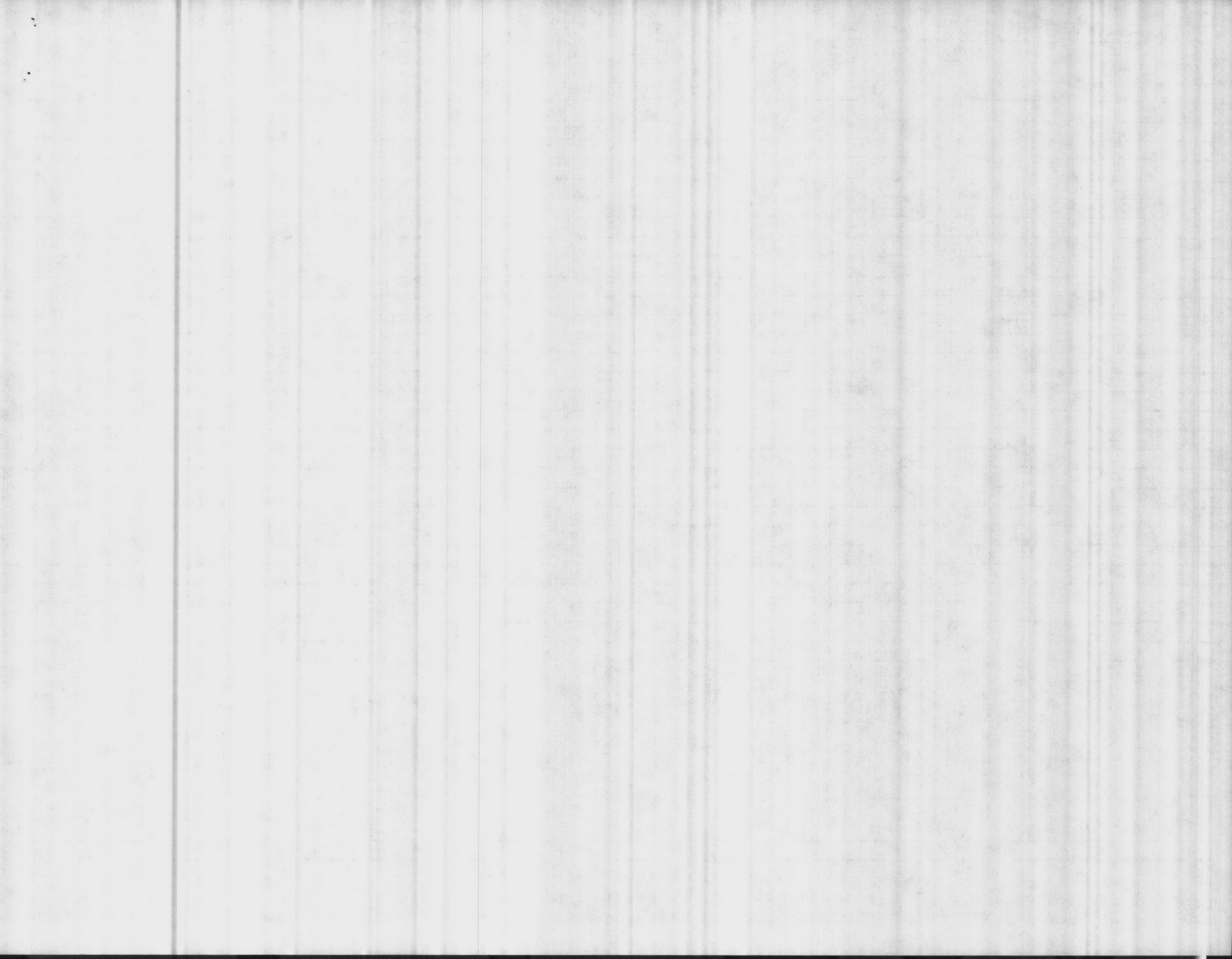
MF MEDIA BBL mEndo BACTERIAL DENSITY ARITH. MEAN GEO. MEAN

0 DIST. SYSTEM TOTAL NO. SAMPLES ENCLOSURE 111 8

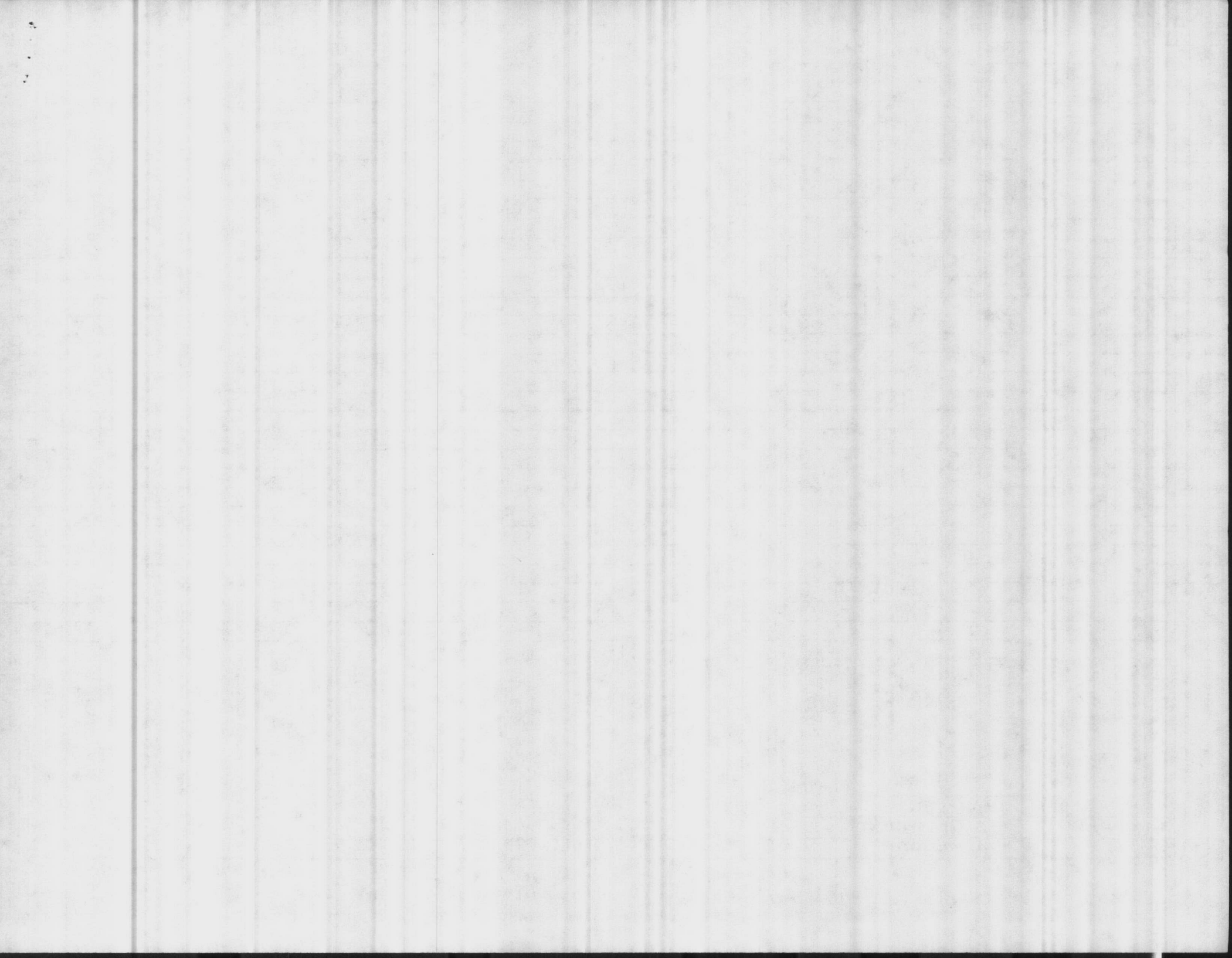
LAB ID # 37207

SAMPLES EXCEEDING 3/50. (4/100, 7/200, 13/500) 1









1 AUGUST
1987

MARINE CORPS AIR STATION WATER TREATMENT PLANT AT Camp Lejeune

Method Code: 303
Contaminant Code: 3000

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

U. S. DEPARTMENT OF HUMAN RESOURCES

Serial # 04-67-042

DATE	RAW WATER COLIFORMS (MFP)								NO. OF COLIFORMS PER 100 ml.	TOTAL PLATE COUNT	FILTERED	FINISHED	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	VOLUME FILTERED ml.	TOTAL COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES																							
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ME MEDIA													RBI mEndo		BACTERIAL DENSITY		ARTH. MEAN		GEO. MEAN		0		DISTR. SYSTEM		TOTAL NO. SAMPLES			28	
TPC MEDIA																					1				SAMPLES EXCEEDING 3/50. (4/100, 7/200, 13/500) ml			0	



1st AUGUST
1987

HOLCOMB BLVD

WATER TREATMENT PLANT AT Camp Lejeune

Method Code: 303
Contaminant Code: 3000

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

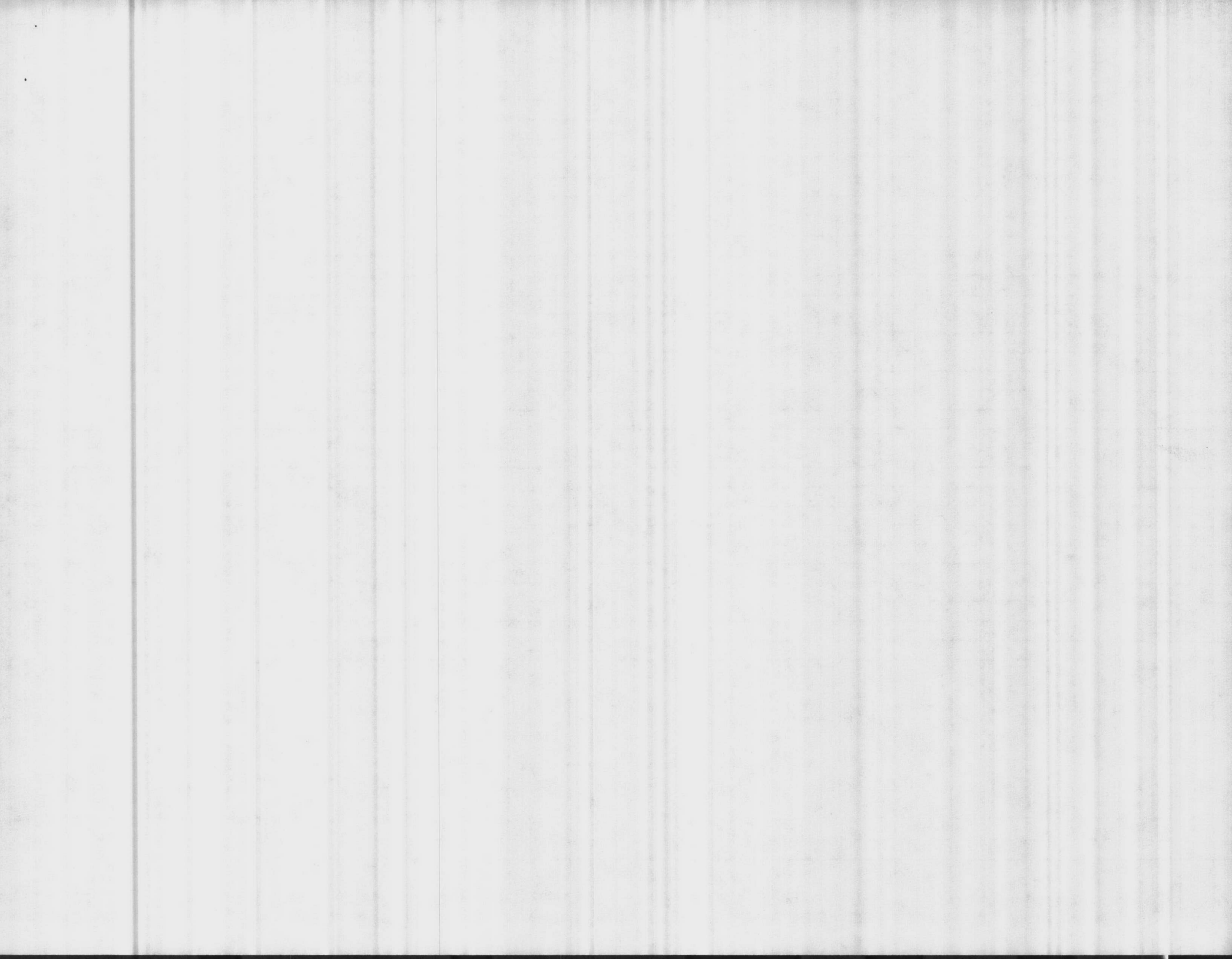
Serial # 04-67-043

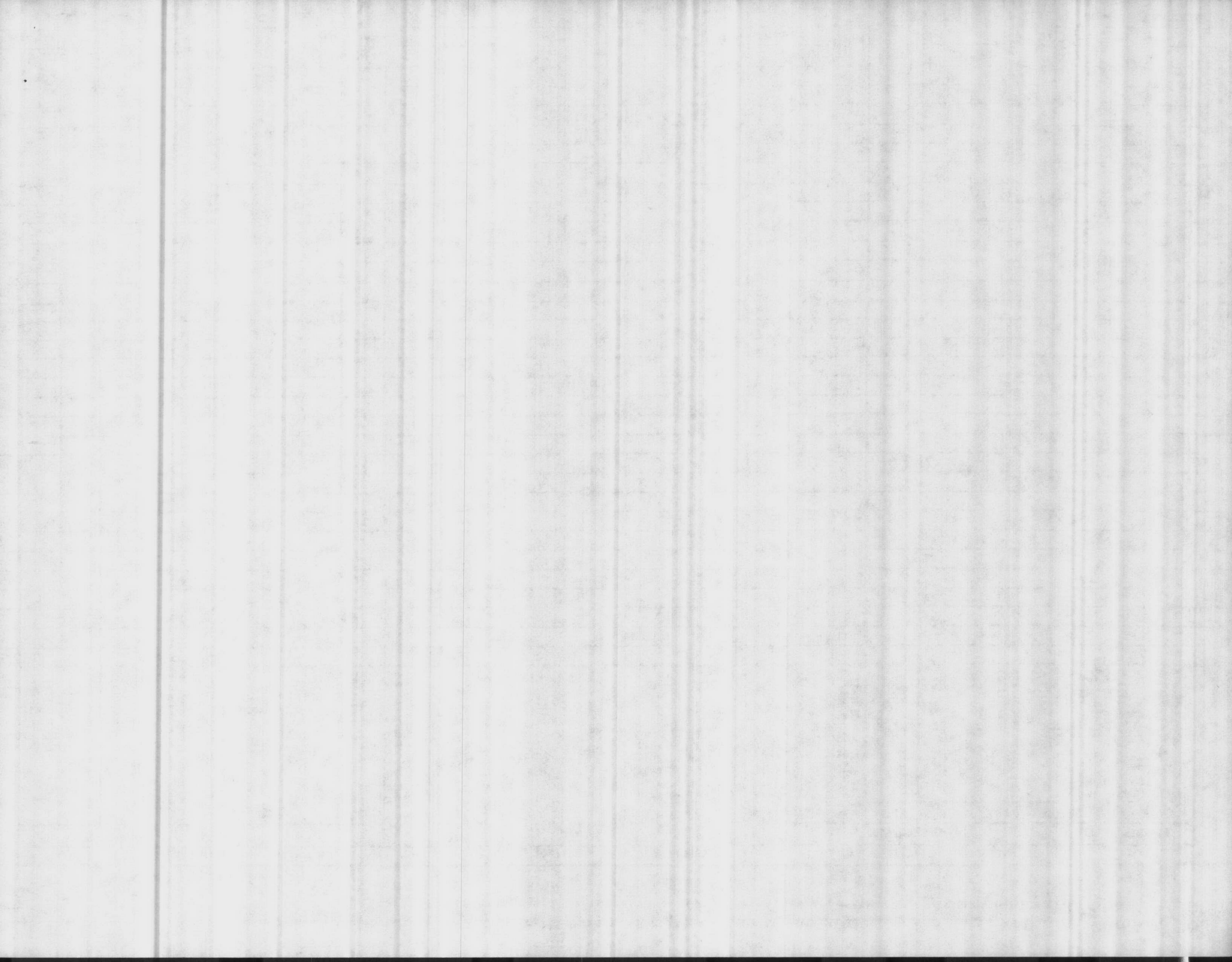
U. S. DEPARTMENT OF HUMAN RESOURCES

DATE	RAW WATER COLIFORMS (MFP)									NO. OF COLIFORMS PER 100 ml.	FILTERED		FINISHED		TOTAL PLATE COUNT	DISTRIBUTION SYSTEM						INCUBATOR TEMP.			
	A			B			C				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.	
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MFP MEDIA		BBL mEndo		BACTERIAL DENSITY		ARITH. MEAN		GEO. MEAN						0		DIST. SYSTEM		TOTAL NO. SAMPLES				28			
TPC MEDIA														1				SAMPLES EXCEEDING 3/50. (4/100) 7/200. 13/500=1				0			

LAB ID # 37807

Analyst: [Signature] - [Name] R-1210 # 4087-W





AUGUST
1987

HADNOT POINT

WATER TREATMENT PLANT AT Camp Lejeune

Method Code: 303

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Contaminant Code: 3000

Serial # 04-67-041

N. C. DEPARTMENT OF HUMAN RESOURCES

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	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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10	7:17 AM									0	9	0	0	0	0	0	0	0			
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17	7:18 AM									0	9	0	0	0	0	0	0	0			
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25	7:25 AM									0	9	0	0	0	0	10	0	0			
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31																					
											0	DISTR. SYSTEM		TOTAL NO. SAMPLES					36		
MFP MEDIA											1			SAMPLES EXCEEDING 3/30. (4/100, 7/200, 13/500) 1					0		
TPC MEDIA																					

LAB ID # 37807

OK 7/11/87 BY CAMP B-WELL # 4087-W



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

DATE COLLECTED

8-11-87

DATE(S) ANALYZED

8-11-87

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	9.1	8.7	8.6	7.7	8.2	7.6			
STABILITY	-0.6	0.0	+0.2	-0.7	-0.3	-0.7			
PHENOLTHALEIN ALKALINITY (PPM)	8	12	2	0	0	0			
METHYL ORANGE ALKALINITY (PPM)	48	136	60	172	150	160			
CARBONATES AS CaCO ₃ (PPM)	16	24	4	0	0	0			
BICARBONATES AS CaCO ₃ (PPM)	32	112	56	172	150	160			
CHLORIDES AS Cl (PPM)	14	74	12	18	24	20			1
HARDNESS AS CaCO ₃ (PPM)	60	50	68	56	42	68			
IRON AS Fe (PPM)	-	-			-	-			
FLUORIDE (PPM)	AM PM 1.50 1.00	0.57	1.00 0.94	0.12	0.10	0.14			
TURBIDITY (NTUS)	AM PM 0.8 1.5	1.0	0.8 0.6	0.6	0.7	0.9			
CHLORINE RESIDUAL (PPM)	1.1	0.8	1.1	1.2	1.0	1.1			

REMARKS:

COPY TO:

UTIL DIR, 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:

8-11-87

REPORT PREPARED BY:

H.J. BURNS



ENVIRONMENTAL CHEMISTRY & MICROBIOLOGY LABORATORY REPORT
 CHEMICAL ANALYSIS - WATER TREATMENT PLANTS
 MC8CL 11330/3 (REV 7-87)

DATE COLLECTED

8-25-87

DATE(S) ANALYZED

8-25-87

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	8.2	8.8	8.6	8.0	8.4	7.6			
STABILITY	-0.1	+0.2	0	-0.4	-0.1	-0.8			
PHENOLTHALEIN ALKALINITY (PPM)	0	8	4	0	0	0			
METHYL ORANGE ALKALINITY (PPM)	70	132	60	182	172	184			
CARBONATES AS CaCO ₃ (PPM)	0	16	8	0	0	0			
BICARBONATES AS CaCO ₃ (PPM)	70	116	52	182	172	184			
CHLORIDES AS Cl (PPM)	14	66	14	10	38	28			
HARDNESS AS CaCO ₃ (PPM)	72	92	74	78	82	60			
IRON AS Fe (PPM)									
FLUORIDE (PPM)	AM PM 0.70 0.61	0.65	0.96 1.14	0.14	0.11	0.15			
TURBIDITY (NTUS)	AM PM 0.7 0.7	1.3	0.8 0.9	0.7	0.8	0.8			
CHLORINE RESIDUAL (PPM)	1.0	0.7	1.4	1.2	1.1	1.1			

REMARKS:

COPY TO:

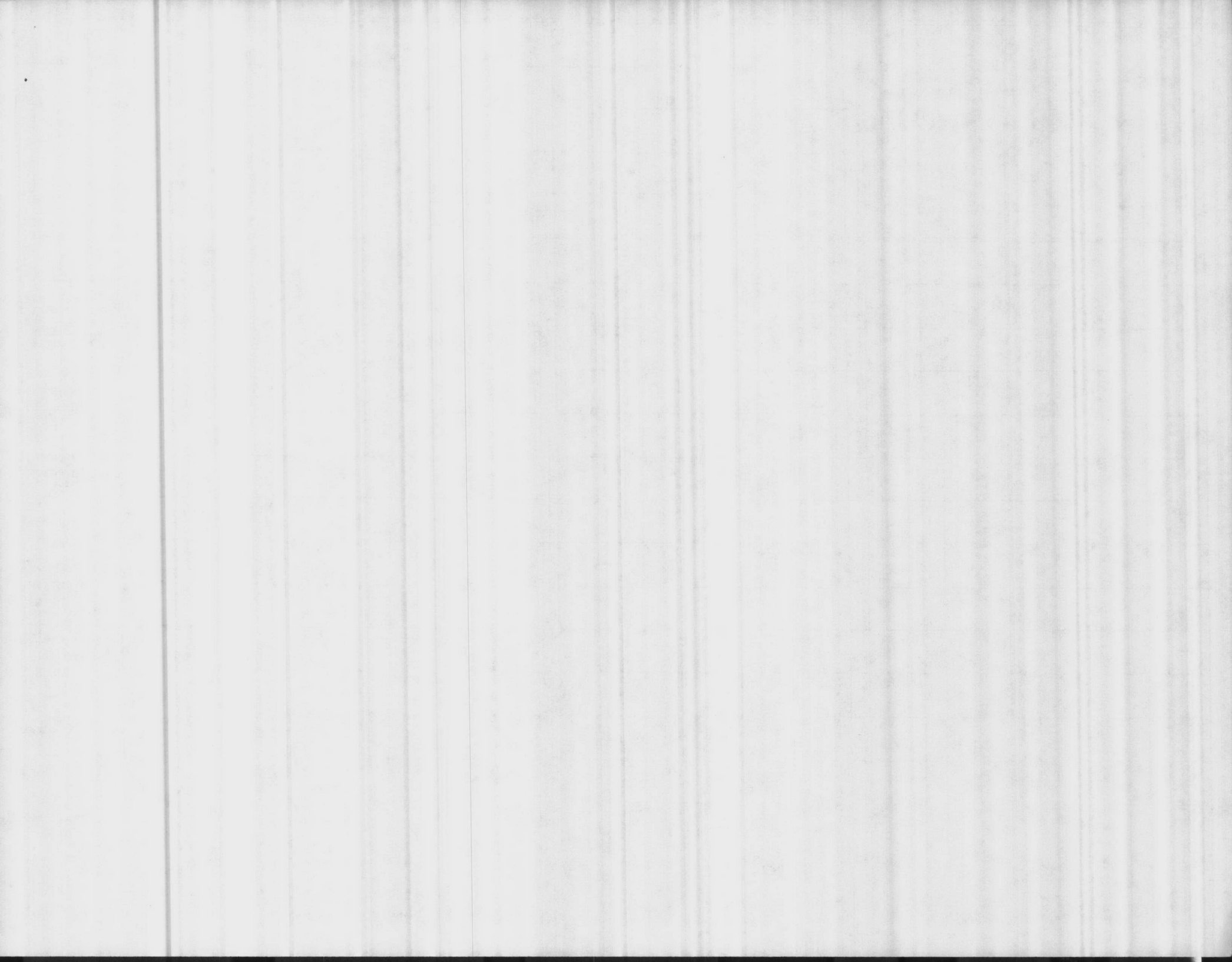
- UTIL DIR, BMD _____
 WATER TREATMENT, UTIL DIV, BMD
 PMU, NAYHOSP PMU, MCAS-NR
 DIVISION OF HEALTH SERVICES
 N.C. DEPT OF HUMAN RESOURCES
 NREAD FILE (ATTACH WKST)

REPORT DATE:

8-25-87

REPORT PREPARED BY:

CAROL S. SHORIS



LOCATIONS OF AUXILIARY ENGINES

Bldg. 20 - Hadnot Point Plant - 2 Catapillar Diesel Generators 6 cyl 175 KW

Wells serving Hadnot Point

Bldg. 603 - Murphy 4 cyl Diesel
660 - Murphy 4 cyl Diesel
608 - Ford 4 cyl Gas
610 - Onan Diesel Generator 6 cyl 30 KW
623 - Murphy 3 cyl Diesel
607 - Murphy 3 cyl Diesel
613 - Murphy Diesel 4 cyl
622 - Murphy 3 cyl Diesel
629 - Murphy 3 cyl Diesel
628 - Murphy 3 cyl Diesel
661 - Murphy 3 cyl Diesel
638 - Continental 4 cyl Gas
662 - Murphy 3 cyl Diesel
640 - Continental 4 cyl Gas
651 - Ford 4 cyl Gas
654 - Ford 4 cyl Gas
655 - Murphy 4 cyl Diesel
4009 - Murphy 4 cyl Diesel
4007 - Onan Diesel Generator 6 cyl 40 KW
5186 - Diesel Murphy 4 cyl
639 - Continental Gas 4 cyl

Bldg. 670 - Holcomb Blvd. Plant - 1 Ford 8 cyl Gas, 1 Ford 6 cyl Gas, 1 Waukesha Generator 6 cyl Gas, 850 KW, 1s Cummins Diesel 6 cyl 400 KW

Wells serving Holcomb Blvd.

Bldg. 643 - Ford 4 cyl Gas
645 - Ford 4 cyl Gas
646 - Ford 4 cyl Gas
647 - Ford 4 cyl Gas
#2 - MWM 4 cyl Diesel
#3 - MWM 4 cyl Diesel
#5 - MWM 4 cyl Diesel
#7 - MWM 4 cyl Diesel
#8 - MWM 4 cyl Diesel
#9 - MWM 4 cyl Diesel
#10 - MWM 4 cyl Diesel
#11 - MWM 4 cyl Diesel
#12 - MWM 4 cyl Diesel
#14 - MWM 4 cyl Diesel

Bldg. BA 138 - Onslow Beach Plant - 1 Ford 6 cyl Diesel

Wells serving Onslow Beach Plant

Bldg. 164 - Ford 6 cyl Diesel

Bldg. BB 190 - Courthouse Bay Plant - 1 Continental 6 cyl Gas, 1 old auxiliary gas generator 4 cyl

Wells serving Courthouse Bay

Bldg. 221 - Onan Diesel Generator 6 cyl 30 KW
43 - Murphy 4 cyl Diesel
221A - Diesel 4 cyl

Bldg. RR 85 - Rifle Range Plant - 1 Onan Diesel Generator 6 cyl 125 KW

Wells serving Rifle Range

Bldg. 45 - Allis Chalmers 4 cyl Gas
227 - Murphy 3 cyl Diesel

Bldg. AS 110 - 1 Detroit 12 cyl Diesel Generator 300 KW

Wells serving AS 110

Bldg. 190 - Ford 4 cyl Diesel
1251 - Ford 4 cyl Gas
1255 - Ford 4 cyl Gas
501 - International 4 cyl Gas
502 - Ford 4 cyl Gas
504 - Ford 4 cyl Diesel
1001 - Wisconsin 4 cyl Gas
325 - Murphy 4 cyl Diesel

Bldg. TT 38 - Tarawa Terrace Pumping Station - 1 Catapillar Diesel Generator
8 cyl 255 KW

Wells serving

Bldg. MOQ 2002 Pumping Station - 1 Diesel Generator 6 cyl 100 KW



✓ CFB
08

11331
NREAD
8 May 87

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 April 1987. 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 Environmental Chemistry and Microbiology Laboratory, located in the Natural Resources and Environmental Affairs Division, Assistant Chief of Staff, Facilities. Ms. Betz, Supervisory Chemist, Environmental Chemistry and Microbiology Laboratory, 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:
LANTNAVPACENCOM (Code 114)

Blind Copy to:
BMO (ATTN: UTIL DIR)
Supvy Chem (2)

178

[Faint, illegible text covering the majority of the page]

178

Year 1987

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Contaminant Code: 3000

Serial # 04-67-041

N. C. DEPARTMENT OF HUMAN RESOURCES

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																						
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7												0	9	0	0	0	0	0	0	0	0	35.5
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14												0	9	0	0	0	0	0	0	0	0	35.3
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21												0	9	0	0	0	0	0	0	0	0	35.2
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28												0	9	0	0	0	0	0	0	0	0	35.0
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31																						
MFP MEDIA		BBL mEndo		BACTERIAL DENSITY		ARITH. MEAN		GEO. MEAN		DISTR. SYSTEM		TOTAL NO. SAMPLES		SAMPLES EXCEEDING 3/50.		4/100.		7/200.		13/500-ml		36

LAB ID # 37307

Elizabeth Betty CERT. GRADE B - WELL # 4087-W



Month Year

1987

WATER TREATMENT PLANT AT Camp Lejeune

Method Code: 303

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Contaminant Code: 3000

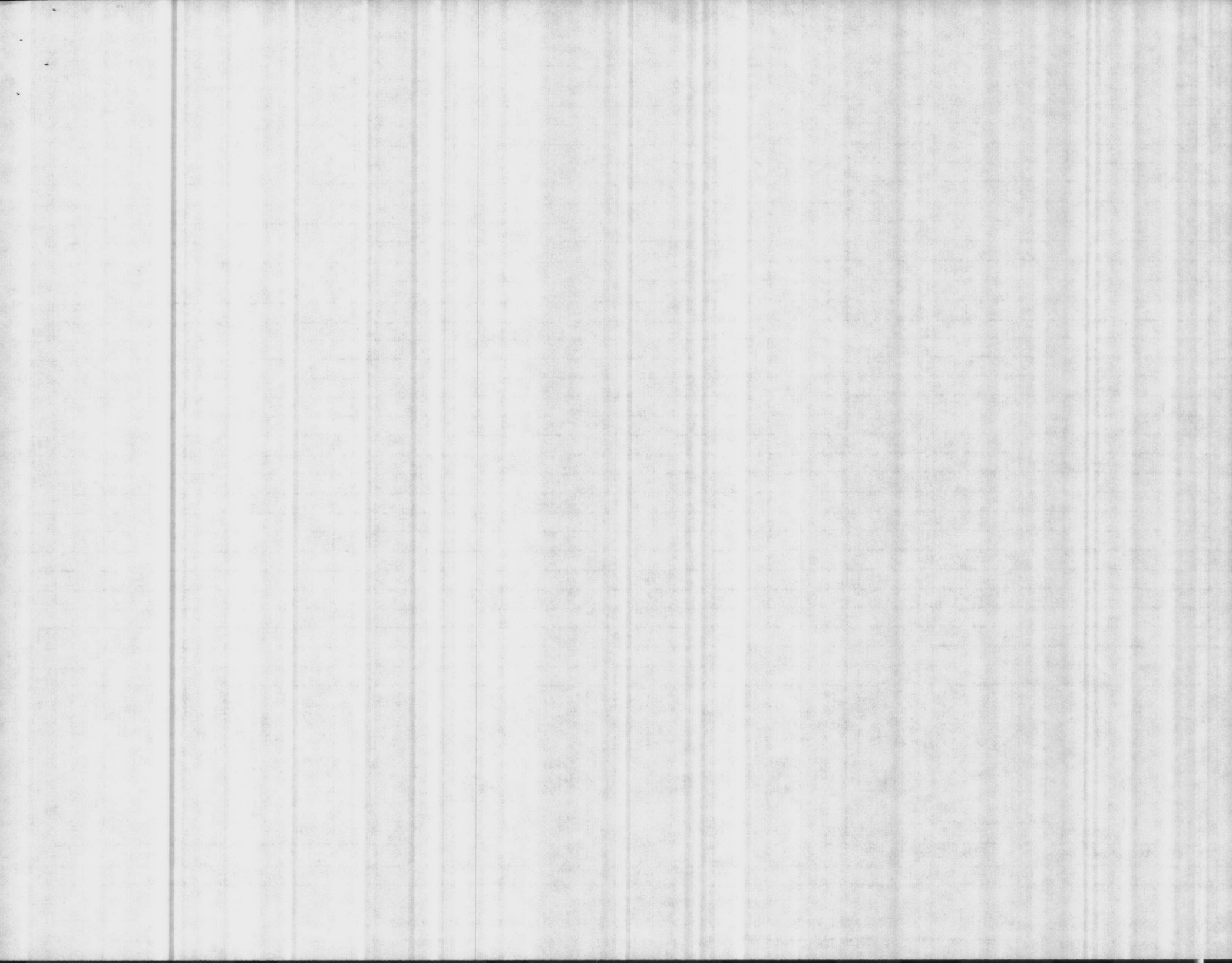
Serial # 04-67-042

N. C. DEPARTMENT OF HUMAN RESOURCES

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.	TOTAL PLATE COUNT	COLIFORMS (MFP)						REPEAT SAMPLES		
	VOLUME FILTERED ml.	TOTAL COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	TOTAL COLONIES							1	2	3	4	5		COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.
1																						
2																						
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29												0	7	0	0	0	0	0	0	0	35	
29																						
30																						
31																						
MF MEDIA	BBL mEndo		DACTERIAL DENSITY		ARITH. MEAN GEO. MEAN							0	DIST. SYSTEM	TOTAL NO. SAMPLES								
TPC MEDIA												1.0		SAMPLES EXCEEDING 3/50. (4/100) 7/200. 13/500ml					28			

LAB ID # 37807

Elizabeth Babey CERT GRADE B-WELL # 4087-W



Year 1987

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Contaminant Code: 3000

Serial # 04-67-043

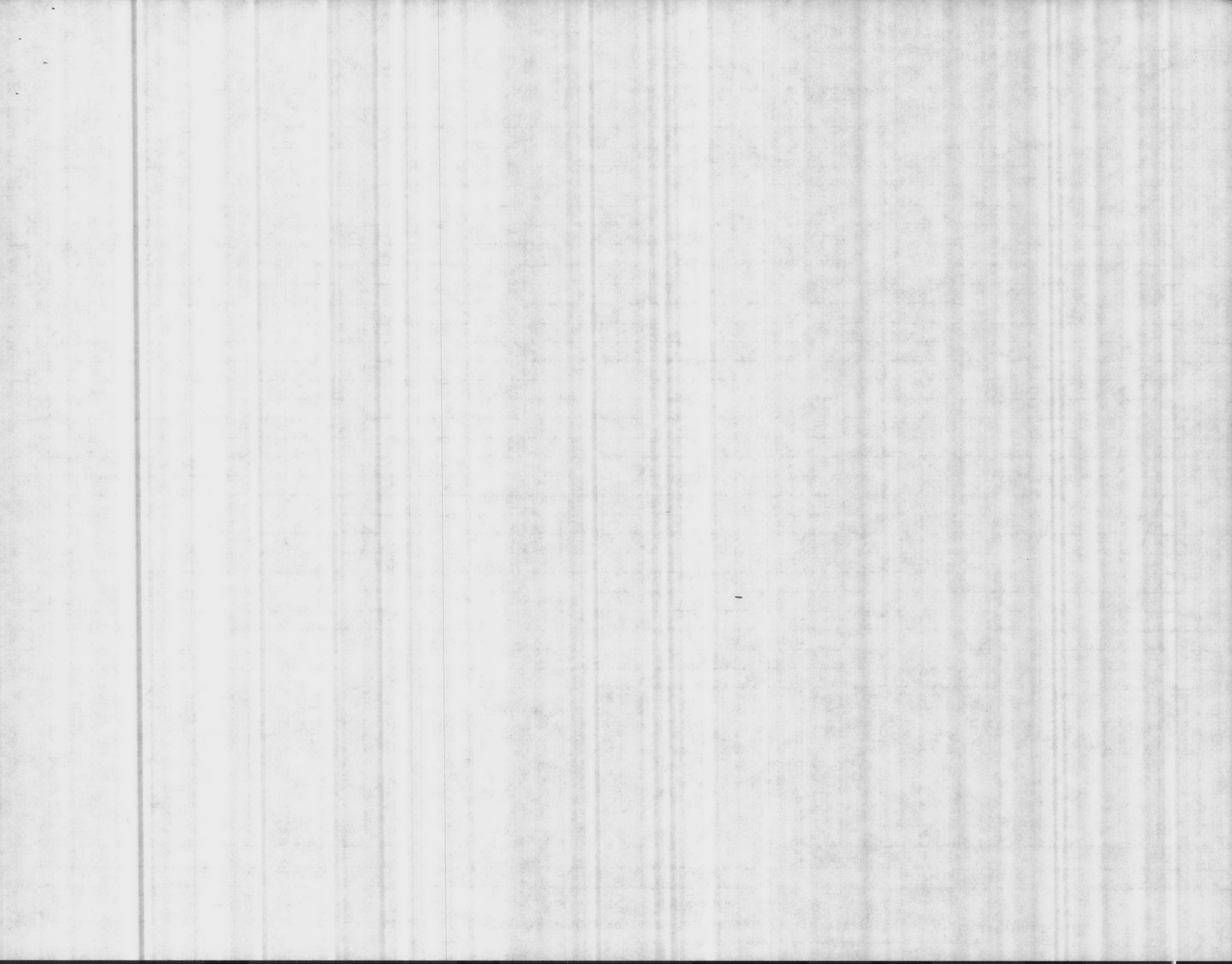
N. C. DEPARTMENT OF HUMAN RESOURCES

DATE	RAW WATER COLIFORMS (MFP)						NO. OF COLIFORMS PER 100 ml.	TOTAL PLATE COUNT	FILTERED	FINISHED	TOTAL PLATE COUNT	DISTRIBUTION SYSTEM					TOTAL PLATE COUNT	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		COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	
1																					
2																					
3																					
4																					
5																					
6																					
7												0	7	0	0	0	0	0		35.5	
8																					
9																					
10																					
11																					
12																					
13																					
14												0	7	0	0	0		0	0	0	35.3
15																					
16																					
17																					
18																					
19																					
20																					
21												0	7	0	0	0		0	0		35.2
22																					
23																					
24																					
25																					
26																					
27																					
28												0	6	0	0	0				0	35.0
29																					
30																					
31																					
MF MEDIA	RBI mEndo		BACTERIAL DENSITY	ARITH. MEAN	GEO. MEAN							0	DIST. SYSTEM	TOTAL NO. SAMPLES						27	
TPC MEDIA												1.0		SAMPLES EXCEEDING 3/50, 4/100, 7/200, 13/500 ml					0		

LAB ID # 31307

Elizabeth A. Boy

CERT GRADE B-WELL # 4087-W



Year 1987

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Contaminant Code: 3000

Serial # 04-67-044

N. C. DEPARTMENT OF HUMAN RESOURCES

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.	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												0.25	4	0	0	0	1								35.5
8																									
9																									
10																									
11																									
12																									
13																									
14												0	4	0	0	0	0								35.3
15																									
16																									
17																									
18																									
19																									
20																									
21												0	4	0	0				0	0					35.2
22																									
23																									
24																									
25																									
26																									
27																									
28												0	4	0	0						0	0			35.0
29																									
30																									
31																									

HF MEDIA BBL mEndo

BACTERIAL DENSITY ARITH. MEAN GEO. MEAN

0.06 DIST. SYSTEM TOTAL NO. SAMPLES 76
 1.0 SAMPLES EXCEEDING 3/50 (4/100) 7/200 13/500ml 0

LAB ID # 37307

Elizabeth Betty CERT GRADE B-WELL # 4087-W



Year 1987

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Contaminant Code: 3000

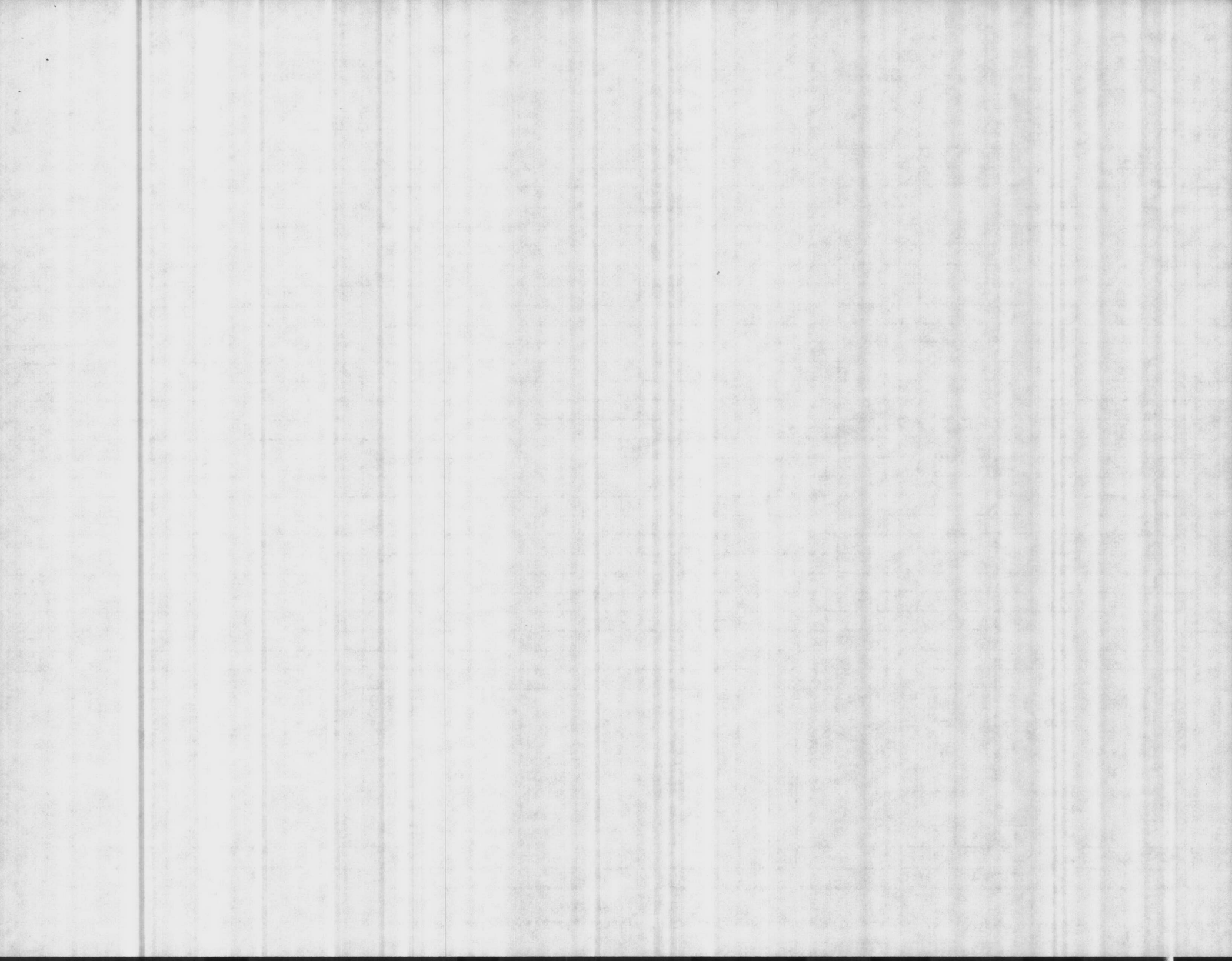
Serial # 04-67-045

N. C. DEPARTMENT OF HUMAN RESOURCES

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																						
3																						
4																						
5																						
6																						
7																						
8												0	2	0	0							35.5
9																						
10																						
11																						
12																						
13																						
14												0	2	0		0						35.3
15																						
16																						
17																						
18																						
19																						
20																						
21												0	2	0			0					35.2
22																						
23																						
24																						
25																						
26																						
27																						
28																						
29												0	2	0				0				36.0
30																						
31																						
MF MEDIA	BRI mEndo						BACTERIAL DENSITY	ARITH. MEAN					0	DIST. SYSTEM	TOTAL NO. SAMPLES						8	
TPC MEDIA								GEO. MEAN					1.0		SAMPLES EXCEEDING 3/50. (4/100) 7/200. 13/500=1						0	

LAB ID # 37307

Elizabeth A. Bety CERT GRADE B-Well # 4087-W



Year 1987

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Contaminant Code: 3000

Serial # 04-67-046

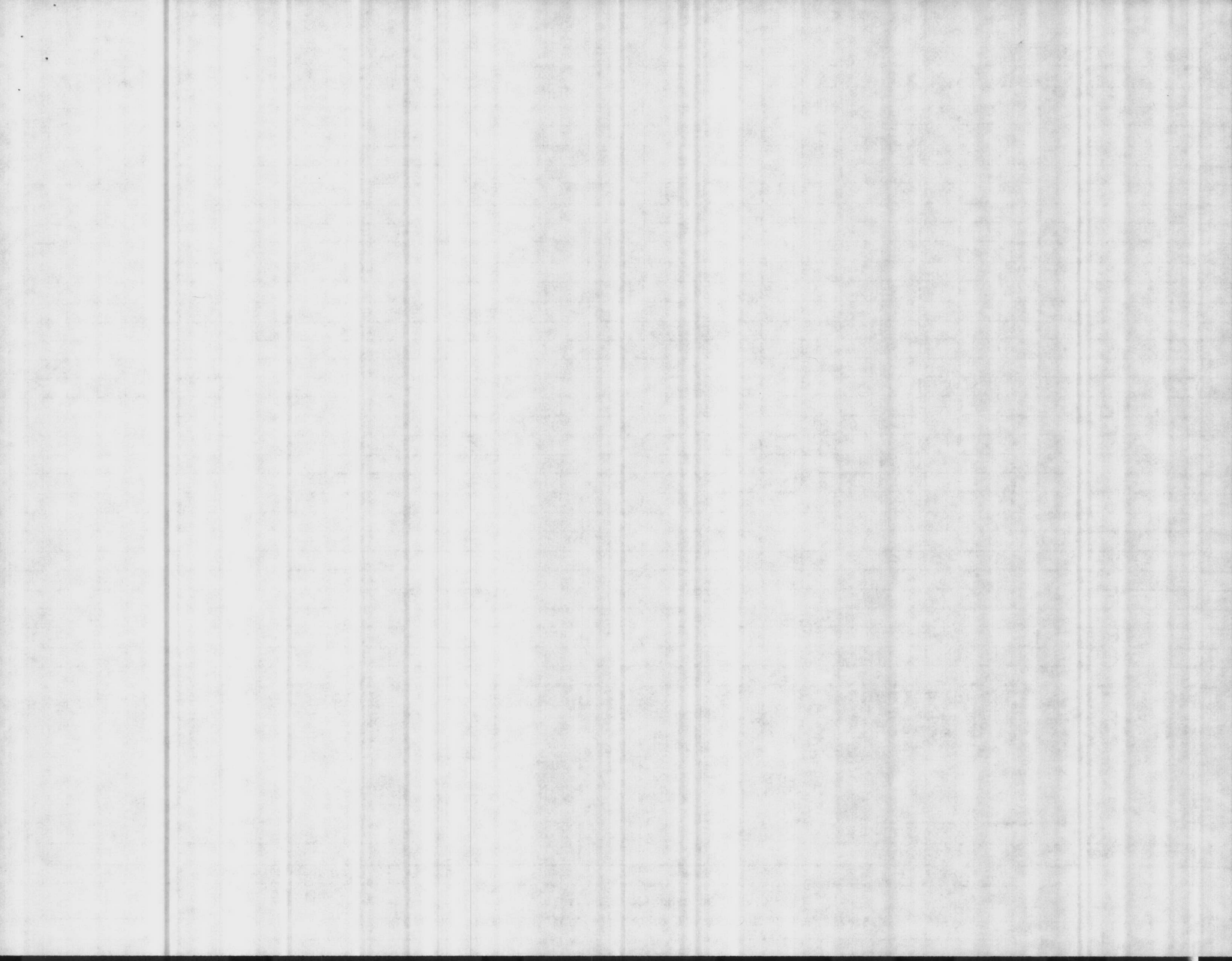
N. C. DEPARTMENT OF HUMAN RESOURCES

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.	TOTAL PLATE COUNT	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												0	3	0	0	0			35.5		
8																					
9																					
10																					
11																					
12																					
13																					
14												0	3	0	0	0			35.3		
15																					
16																					
17																					
18																					
19																					
20																					
21												0	3	0	0	0			35.2		
22																					
23																					
24																					
25																					
26																					
27																					
28												0	3	0	0	0			35.0		
29																					
30																					
31																					
MF MEDIA		BBI mEndo		BACTERIAL DENSITY		ARITH. MEAN						0	DIST. SYSTEM	TOTAL NO. SAMPLES					12		
TPC MEDIA						GEO. MEAN						1.0		SAMPLES EXCEEDING 3/50 (4/100) 7/200. 13/500ml					0		

LAB ID # 37307

Elizabeth Betty

CERT GRADE B-WELL # 4087-W





Year 1987

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Contaminant Code: 3000

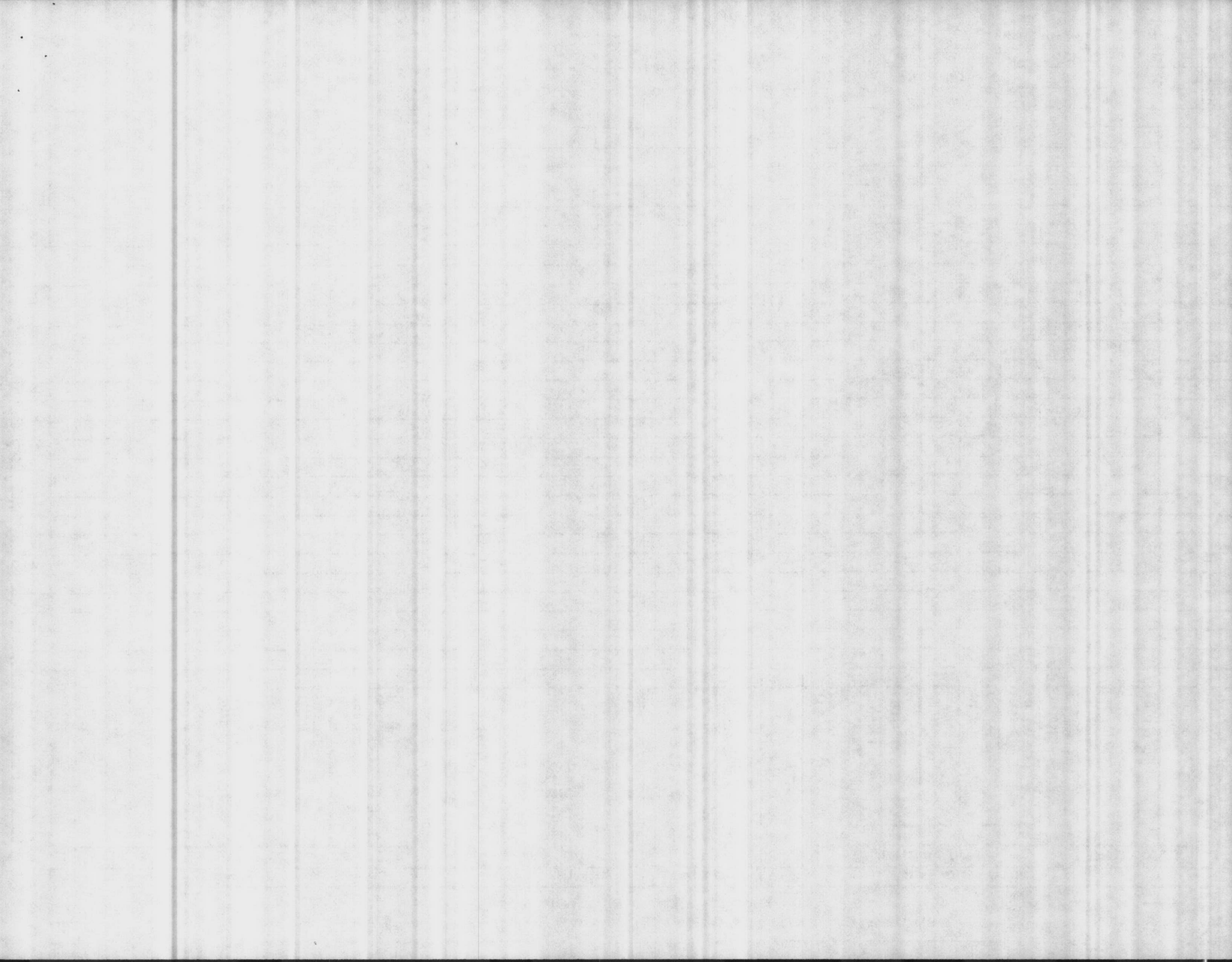
Serial # 04-67-048

N. C. DEPARTMENT OF HUMAN RESOURCES

DATE	RAW WATER COLIFORMS (MFP)						NO. OF COLIFORMS PER 100 ml.	TOTAL PLATE COUNT	FILTERED	FINISHED	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	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	
1																				
2																				
3																				
4																				
5																				
6																				
7																				
8												0	2	0	0					35.5
9																				
10																				
11																				
12																				
13																				
14												0	N	0	0					35.3
15																				
16																				
17																				
18																				
19																				
20																				
21												0	2	0		0				35.4
22																				
23																				
24																				
25																				
26																				
27																				
28												0	2	0		0				35.5
29																				
30																				
31																				
MF MEDIA	BBL mEndo		BACTERIAL DENSITY	ARITH. MEAN								0	DIST. SYSTEM	TOTAL NO. SAMPLES			8			
TPC MEDIA			GEO. MEAN								1.0		SAMPLES EXCEEDING 3/50, 4/100, 7/200, 13/500ml			0				

LAB ID # 31307

Elizabeth (B) CERT GRADE: B-WELL # 4087-W



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

DATE COLLECTED
 4-7-87

DATE OF ANALYSIS
 4-7-87

PARAMETER SERIAL #04-67	HADNOT POINT -041	CAMP JOHNSON -045	TARAWA TERRACE -044	ONSLow BEACH -048	COURTHOUSE BAY -047	RIFLE RANGE -046	HOLCOMB BLVD -043	NEW RIVER -042		
PH (IN LAB NOT PLANT)	8.6			7.4	8.0	8.3	8.5	8.7		
PHENOLTHALEIN ALKALINITY	2			0	0	0	2	10		
METHYL ORANGE ALKALINITY	50			156	170	160	60	112		
CARBONATES AS CaCO ₃	4			0	0	0	4	20		
BICARBONATES AS CaCO ₃	46			156	170	160	56	92		
CHLORIDES AS Cl	10			20	14	44	6	50		
HARDNESS AS CaCO ₃	64			48	68	60	64	50		
IRON AS Fe				A.A DOWN						
FLUORIDE	Am 0.74 pm 0.62			0.16	0.12	0.10	1.08 1.10	0.52		
CHLORINE RESIDUAL	1.0			1.5	1.6	1.0	1.4	0.8		
TURBIDITY	Am 0.5 pm 0.4			0.4	0.2	0.1	0.1 0.2	0.5		
TOTAL PHOSPHATE										
ORTHO PHOSPHATE										
META PHOSPHATE										
STABILITY	+0.3			-0.8	-0.2	0.0	+0.1	+0.1		

REMARKS

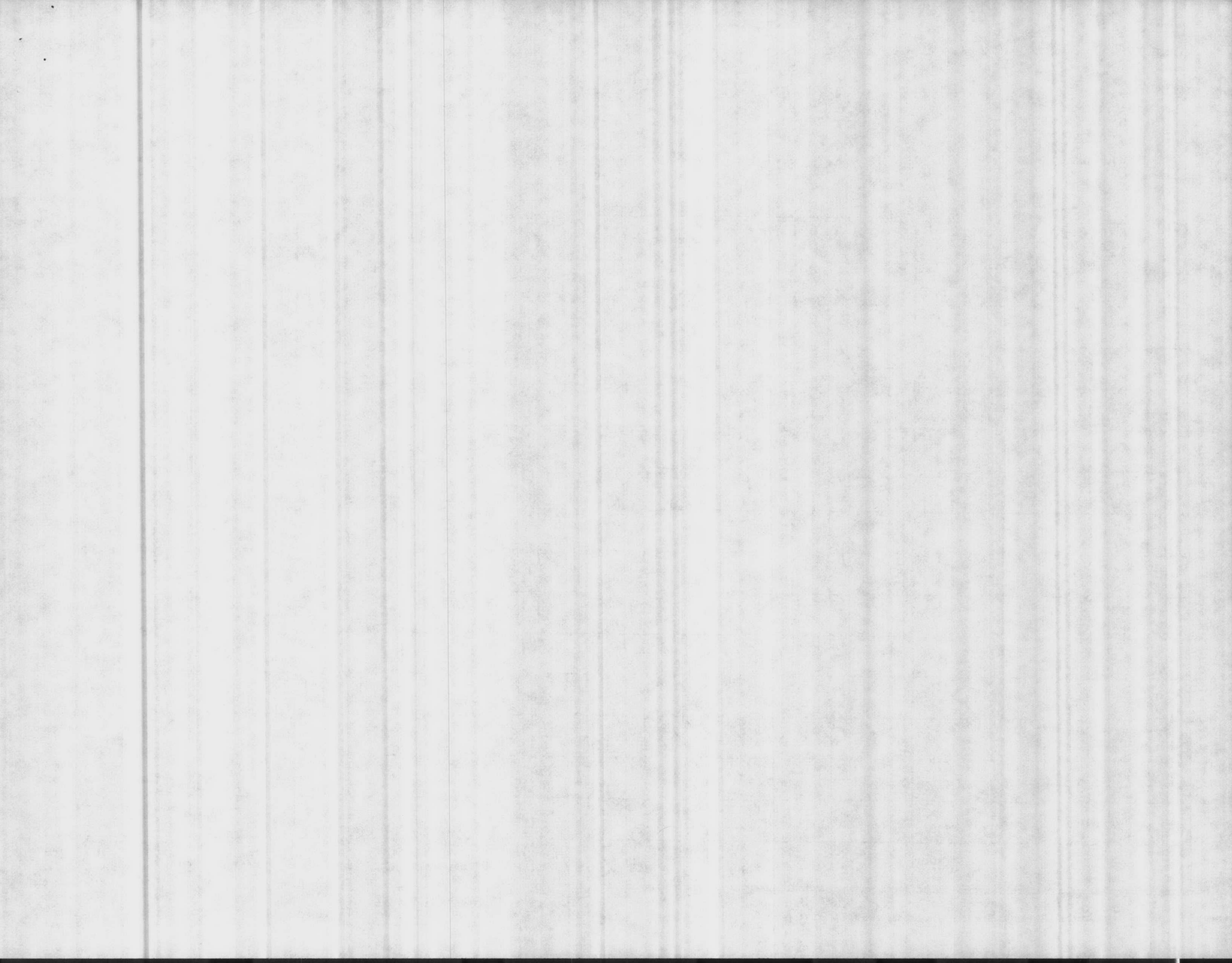
COPY TO:

- 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. J. BURNS



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

DATE COLLECTED
 4-14-87

DATE OF ANALYSIS
 4-14-87

PARAMETER SERIAL#04-67	HADNOT POINT -041	CAMP JOHNSON -045	TARAWA TERRACE -044	ONSLow BEACH -048	COURTHOUSE BAY -047	RIFLE RANGE -046	HOLCOMB BLVD -043	NEW RIVER -042		
PH (IN LAB NOT PLANT)	8.7			7.5	7.6	8.3	8.8	9.0		
PHENOLTHALEIN ALKALINITY	6			0	0	0	4	12		
METHYL ORANGE ALKALINITY	60			160	170	170	62	110		
CARBONATES AS CaCO ₃	12			0	0	0	8	24		
BICARBONATES AS CaCO ₃	48			160	170	170	54	86		
CHLORIDES AS Cl	10			20	20	66	10	60		
HARDNESS AS CaCO ₃	74			50	54	64	80	50		
IRON AS Fe				A.A. DOWN						
FLUORIDE	Am	0.91					1.03			
	Pm	1.13		0.18	0.14	0.12	0.74	0.48		
CHLORINE RESIDUAL		1.1		1.4	1.4	1.1	1.2	1.0		
TURBIDITY	Am	0.2					0.2			
	Pm	0.2		0.2	0.2	0.2	0.4	0.3		
TOTAL PHOSPHATE										
ORTHO PHOSPHATE										
META PHOSPHATE										
STABILITY		+0.3		-0.6	-0.5	+0.1	+0.3	+0.2		

REMARKS

COPY TO:

UTIL DIR

WATER TREATMENT

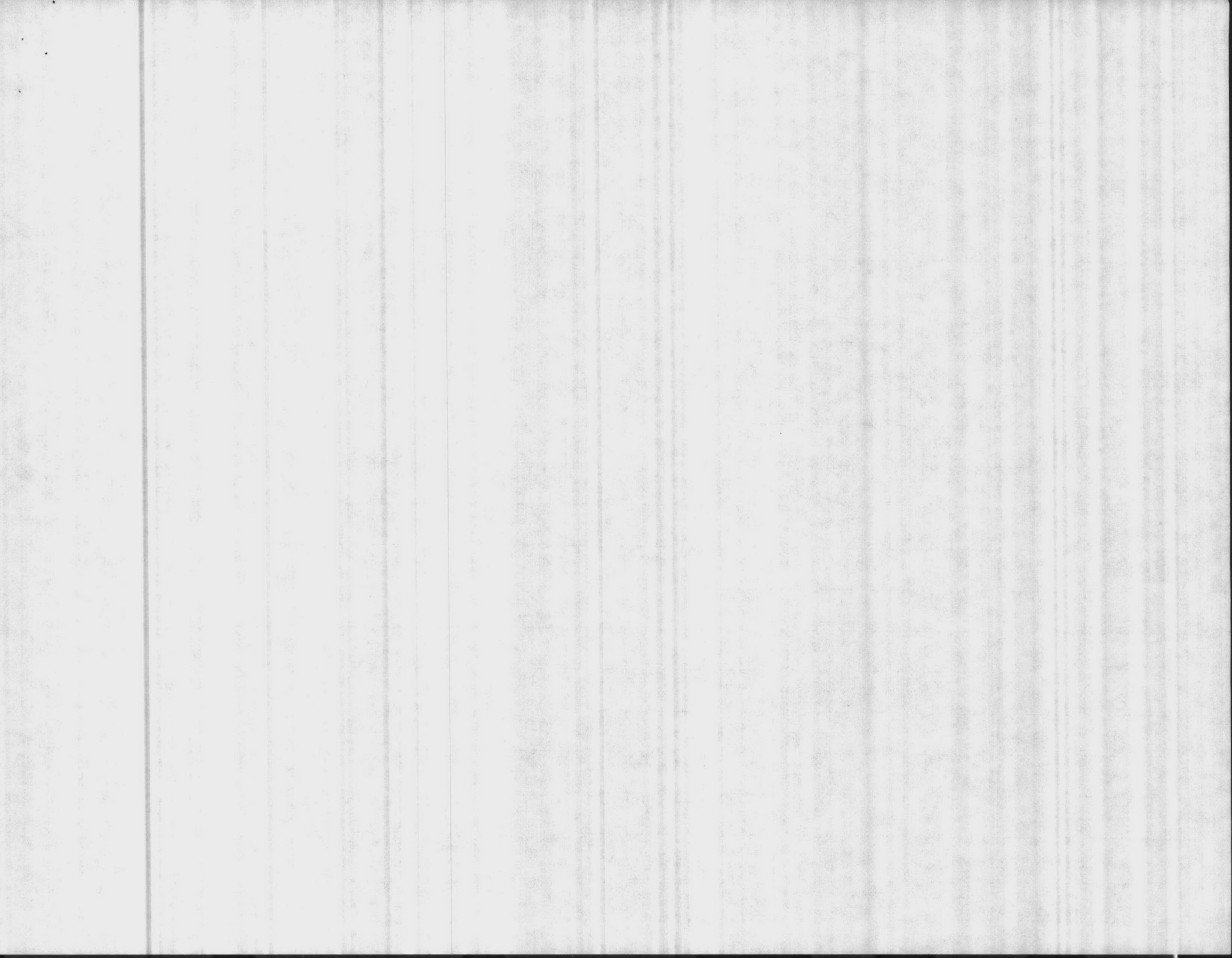
PMU MCAS PMU

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. J. BURNS



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

DATE COLLECTED
 4-21-87

DATE OF ANALYSIS
 4-21-87

PARAMETER SERIAL# 04-67	HADNOT POINT -041	CAMP JOHNSON -045	TARAWA TERRACE -044	ONSLow BEACH -048	COURTHOUSE BAY -047	RIFLE RANGE -046	HOLCOMB BLVD -043	NEW RIVER -042		
PH (IN LAB NOT PLANT)	8.8			7.4	7.6	8.1	8.5	8.6		
PHENOLTHALEIN ALKALINITY	4			0	0	0	6	10		
METHYL ORANGE ALKALINITY	50			160	180	170	60	116		
CARBONATES AS CaCO ₃	8			0	0	0	12	20		
BICARBONATES AS CaCO ₃	42			160	180	170	48	96		
CHLORIDES AS Cl	10			20	16	50	14	60		
HARDNESS AS CaCO ₃	60			56	46	56	60	44		
IRON AS Fe			A.A	DOWN						
FLUORIDE	Am 1.10 pm 1.11			0.16	0.14	0.12	0.93 0.95	0.51		
CHLORINE RESIDUAL	1.0			1.2	1.4	1.0	1.2	0.8		
TURBIDITY	Am 0.1 pm 0.1			0.2	0.1	0.1	0.2 0.2	0.3		
TOTAL PHOSPHATE										
ORTHO PHOSPHATE										
META PHOSPHATE										
STABILITY	+0.5			-0.6	-0.4	0.0	+0.2	+0.2		

REMARKS

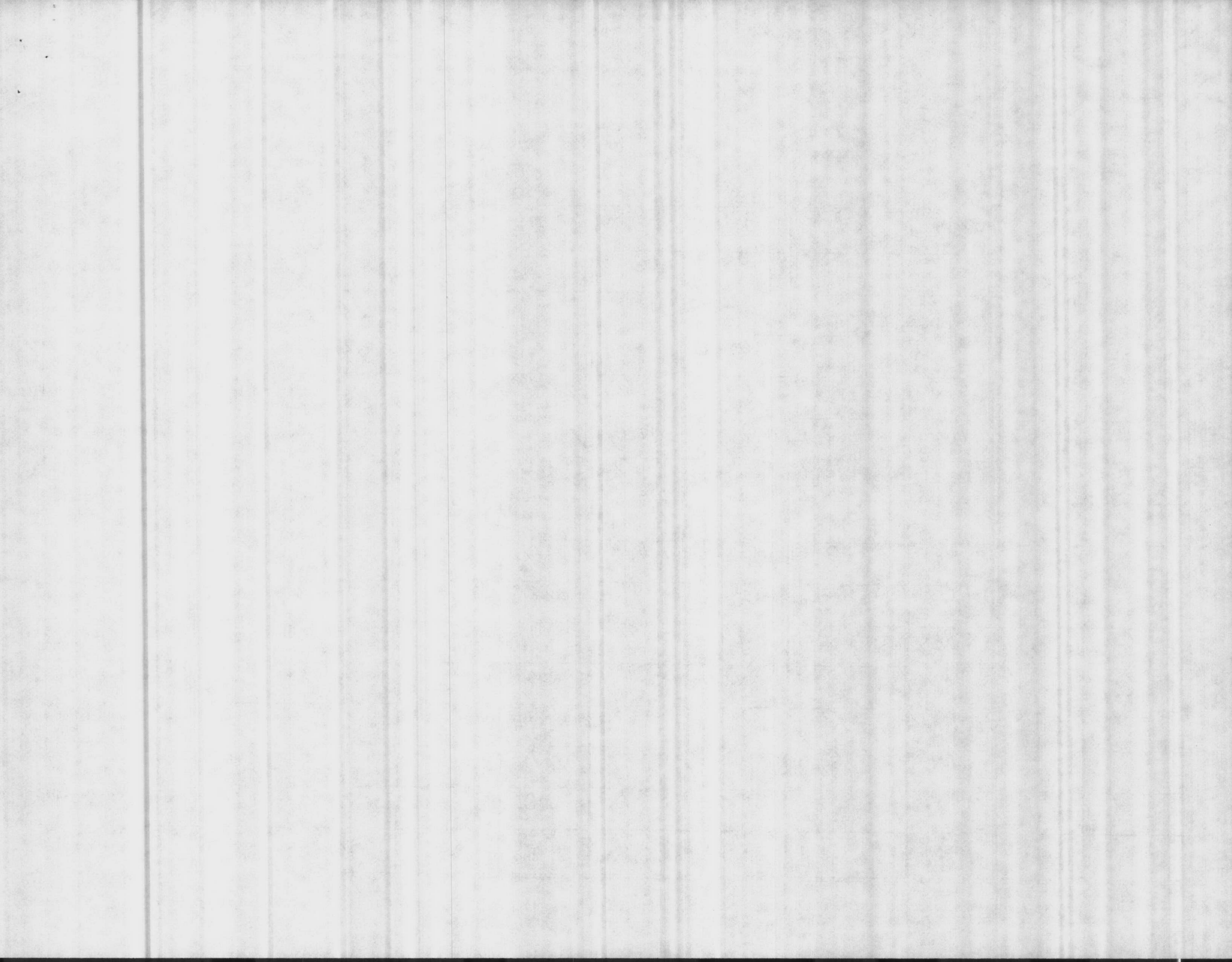
COPY TO

- 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. J. BURNS



WATER TREATMENT PLANTS
MCP 1130 SHEET 001

DATE COLLECTED
4-28-87

DATE OF ANALYSIS
4-28-87

PARAMETER SERIAL # 01-67	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)	7.8			7.7	7.9	8.1	9.2	8.4		
PHENOLTHALEIN ALKALINITY	0			0	0	0	4	10		
METHYL ORANGE ALKALINITY	62			162	176	192	56	102		
CARBONATES AS CaCO ₃	0			0	0	0	8	20		
BICARBONATES AS CaCO ₃	62			162	176	192	48	82		
CHLORIDES AS Cl	14			26	16	64	16	58		
HARDNESS AS CaCO ₃	68			32	64	70	66	70		
IRON AS Fe										
FLUORIDE	Am 0.95 Pm 0.81		A.P. DOWN	0.14	0.1	0.1	0.90 0.89	0.46		
CHLORINE RESIDUAL	1.0			1.5	1.0	1.0	1.4	0.8		
TURBIDITY	Am 0.3 Pm 0.4			0.1	0.2	0.3	0.2 0.9	0.2		
TOTAL PHOSPHATE										
ORTHO PHOSPHATE										
META PHOSPHATE										
STABILITY	-0.2			-0.2	-0.2	0.0	+1.0	0.0		

REMARKS

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. T. BURNS





UNITED STATES MARINE CORPS
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA 28542-5001

IN REPLY REFER TO
11333/1
NREAD
28 Jan 87

Mr. Wallace E. Venrick
Water Supply Branch
Division of Health Services
Post Office Box 2091
Raleigh, North Carolina 27602-2091

Dear Mr. Venrick:

Enclosures (1), (2) and (3) are the Trihalomethane analysis of the Hadnot Point (HP) Water Treatment Plant, ID No. 04-67-041 the Marine Corps Air Station (MCAS), New River Water Treatment Plant, ID No. 04-67-042, and the Holcomb Blvd. (HB) Water Treatment Plant, ID No. 04-67-043. All samples were collected by the Environmental Chemistry and Microbiology Laboratory personnel and analyzed by Industrial and Environmental Analysts, Incorporated.

Point of contact in this matter is Ms. Elizabeth Betz, (919) 451-5977.

Sincerely,

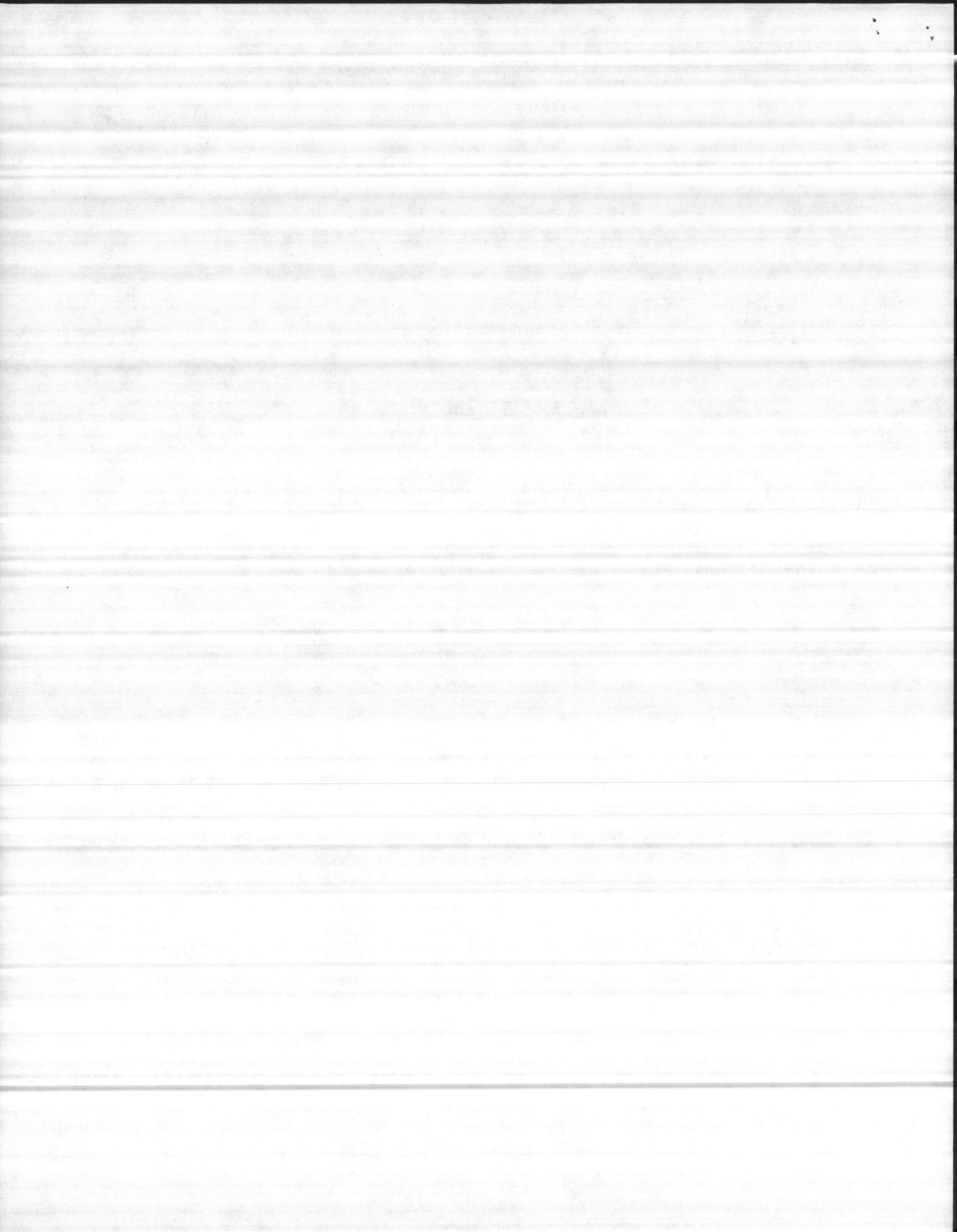
J. I. WOOTEN, Director
Natural Resources Division
By direction of the Commanding General

Encls:

- (1) TTHM Analysis for HP
- (2) TTHM Analysis for MCAS
- (3) TTHM Analysis for HB

Copy to:
LANTDIV

Blind copy to:
EC & ML {2}
BMO {UTIL}



ORGANIC CHEMICAL ANALYSIS - PUBLIC WATER SYSTEM

Water System I.D. Number

Complete All Items Above Heavy Line

4 - 67 - 041

(1-7)

Name of System: HADNOT POINT

Type of System:

Community Non-Community

Address: COMMANDING GENERAL MARINE CORPS

Source of Water:

Ground Both
 Surface Purchased

Base: CAMP LEBERONE NC Zip 28542

City: WALTON

Point To: WATER FACILITIES Attn: NREAD

Source of Sample:

Distribution Tap House Tap
 Plant Tap Well Tap

Address: SAME AS ABOVE

Zip

Telephone Number: 919 (434) 51 - 5977

Type of Treatment:

None Lime
 Chlorinated Soda Ash
 Fluoridated Polyphosphate
 Filtered Water Softener
 Alum Other

Collected By: ENVIRONMENTAL CHEM. & MICRO. LABORATORY

Date Collected: 12 31 86 Time: 11:58 AM

MM DD YY (38-41) PM

(31-36)

Location of Sampling Point: FC-530

(Address where sample was collected)

Loc. Code

Type of Sample: (37)

D-Regular M-M.R.T.
 C-Check S-Special

Remarks: (28-30)

State Drinking Water Parameters (Required)

Contaminant ID	Name	Method	Results Mg/l
(8-13)		(14-16)	(17-21)
05	Endrin	<input type="checkbox"/>	<input type="checkbox"/>
10	Lindane	<input type="checkbox"/>	<input type="checkbox"/>
15	Methoxychlor	<input type="checkbox"/>	<input type="checkbox"/>
20	Toxaphene	<input type="checkbox"/>	<input type="checkbox"/>
05	2,4-D	<input type="checkbox"/>	<input type="checkbox"/>
10	2,4,5-TP (Silvex)	<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>

Optional Parameters (List as needed)

Contaminant ID	Name	Method	Results Mg/l
(10-13)		(14-16)	(17-21)
2941	Chloroform	215	0.0015
2943	Bromodichloromethane	215	0.0005
2944	Chloroform	215	0.0005
2942	Bromoform	215	0.0005
2950	TTM	215	0.0025
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>

Date Received 1-6-87

Date Reported 1-8-87

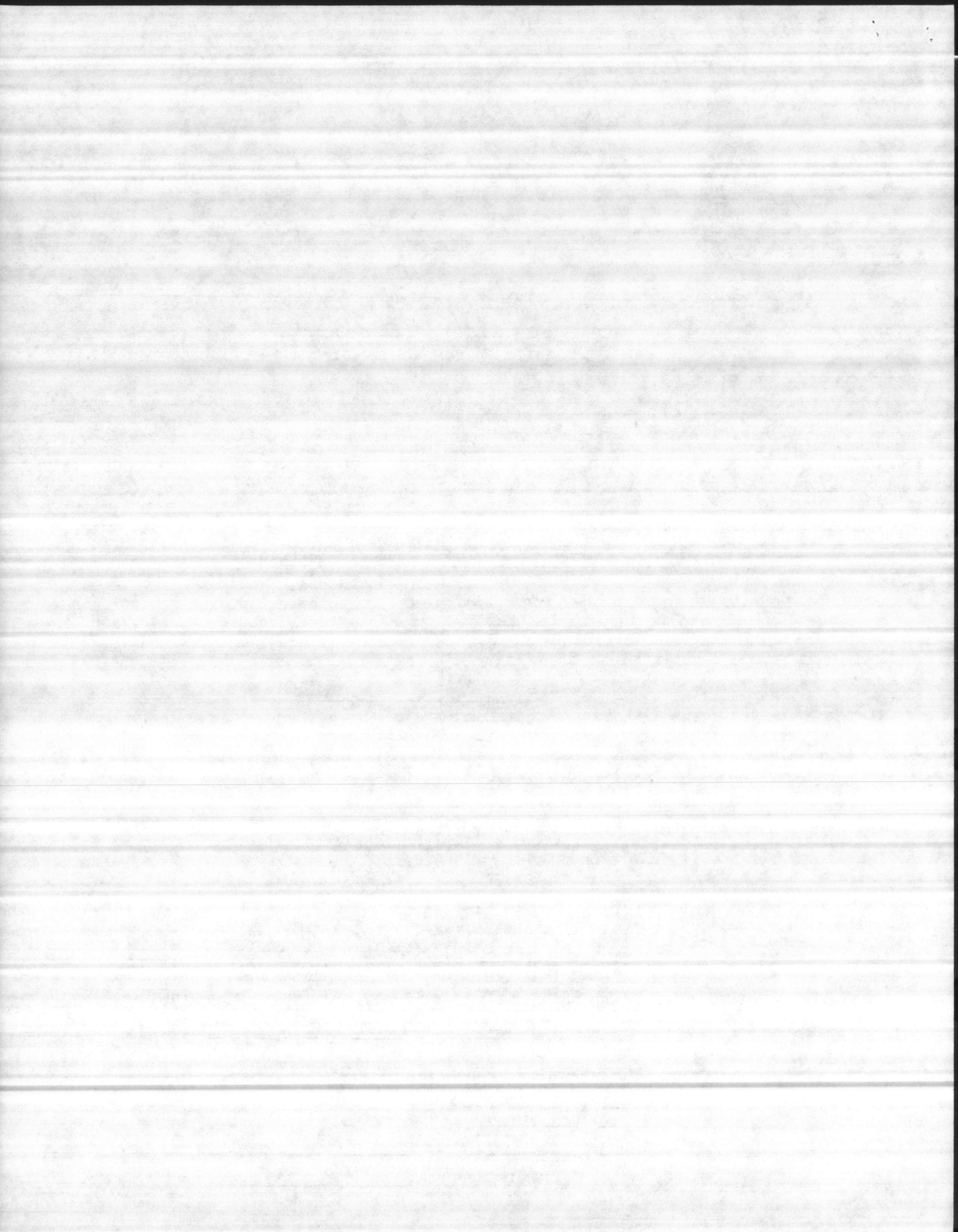
Reported By SMC

Date Extracted 1-8-87

Date Analyzed 1 9 87

Lab Number 731-20-6

ENCLOSURE



3 37720
C. Lab. ID.



Industrial & Environmental Analysts, Inc.
P.O. Box 12542 • Research Triangle Park, NC 27709 • 919-467-9919

WATER-SYSTEM PERSONNEL TO COMPLETE ALL INFORMATION ABOVE HEAVY LINE

WATER SYSTEM INFORMATION

WATER SYSTEM ID# 04-67-042 TYPE OF SYSTEM:
 COMMUNITY () NON-COMMUNITY
 SYSTEM NAME: Marine Corps Air Station SOURCE OF WATER:
 ADDRESS: Commanding General, Marine Corps () GROUND () BOTH
Base Camp LeJeune ZIP 28542 () SURFACE () PURCHASED
 COUNTY: Onslow TYPE OF TREATMENT:
 REPORT TO: Facilities, NREAD () NONE (X) LIME
 ADDRESS: Same as above (X) CHLORINATED () SODA ASH
 ZIP () FLUORIDATED () POLYPHOSPHATE
 TELEPHONE: (919) 451-5977 (X) FILTERED (X) WATER SOFTNER
 () ALUM, () OTHER

SAMPLE INFORMATION

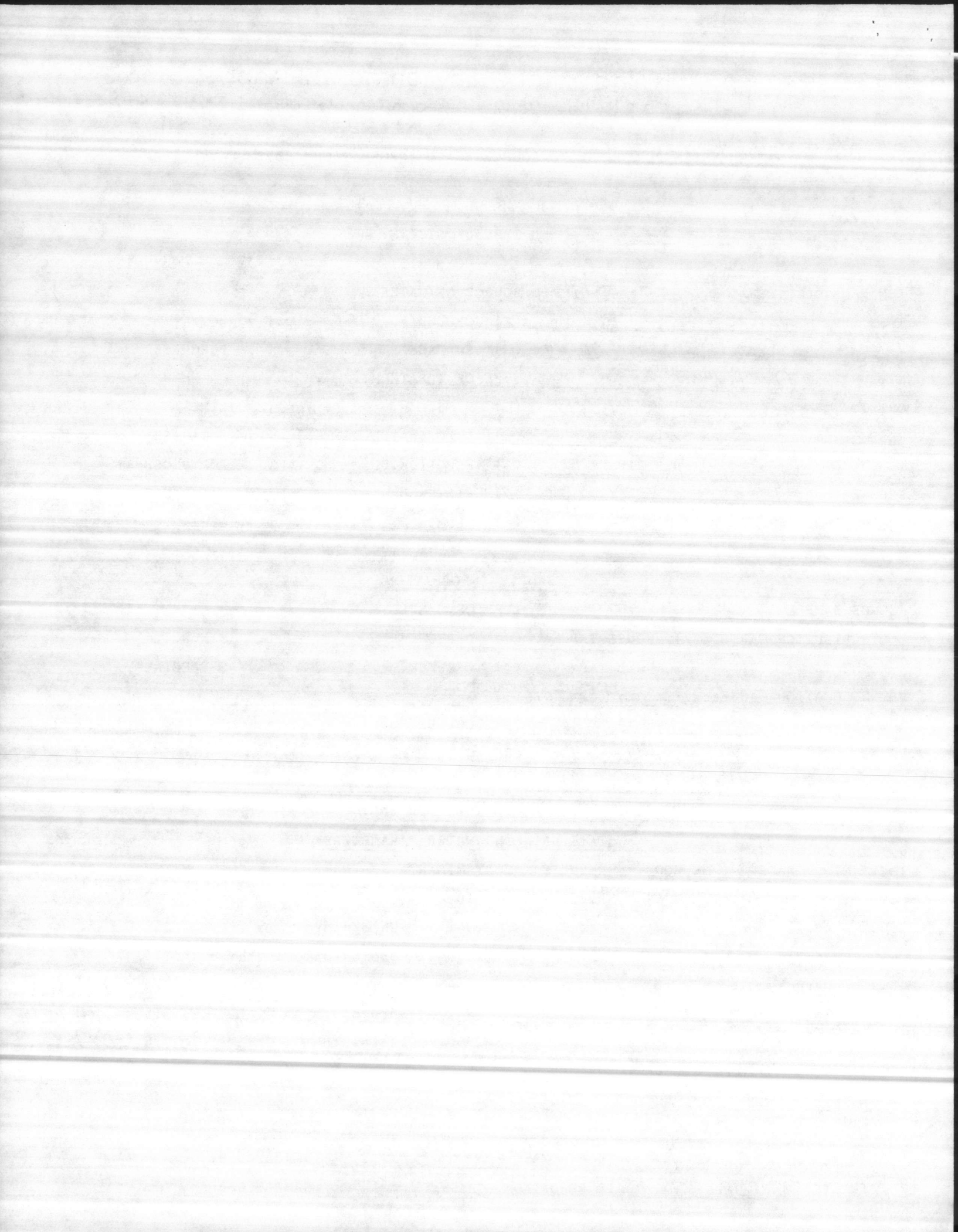
SOURCE OF SAMPLE TYPE OF SAMPLE
 () DISTRIBUTION TAP () HOUSE TAP (X) D-REGULAR () M-M.R.T.
 () PLANT TAP () WELL TAP () C-CHECK () S-SPECIAL
 SAMPLING LOCATION (Address): AS-4025
 DATE COLLECTED: 12-31-86 TIME COLLECTED: 9:56 (am) pm
 COLLECTED BY: Environmental Chemist- LOC. CODE: 004
Micro Laboratory

FOR LABORATORY USE ONLY

STATE DRINKING WATER PARAMETERS

CONTAMINANT ID	NAME	METHOD	RESULTS mg/l	CONTAMINANT ID	NAME	METHOD	RESULTS mg/l
2005	Endrin	201	---	2941	Chloroform	215	0.005
2010	Lindane	201	---	2943	Bromodichloromethane	215	0.011
2015	Methoxychlor	201	---	2944	Chlorodibromomethane	215	0.029
2020	Toxaphene	201	---	2942	Bromoform	215	0.063
2105	2, 4-D	203	---	2950	Total THM	215	0.108
2110	2, 4, 5-TP	203	---				

DATE RECEIVED 01-06-87 DATE ANALYZED 01-08-87 REPORTED BY E. Folk
 DATE EXTRACTED 01-08-87 DATE REPORTED 01-09-87 SAMPLE LAB 231-20-4
 REMARKS: ENCLOSURE Q1



3 37720
C. Lab. ID.



Industrial & Environmental Analysts, Inc.
P.O. Box 12542 • Research Triangle Park, NC 27709 • 919-467-9919

WATER-SYSTEM PERSONNEL TO COMPLETE ALL INFORMATION ABOVE HEAVY LINE

WATER SYSTEM INFORMATION

WATER SYSTEM ID# 04-67-042 TYPE OF SYSTEM:
 COMMUNITY () NON-COMMUNITY

SYSTEM NAME: Marine Corps Air Station SOURCE OF WATER:
 ADDRESS: Commanding General, Marine Corps GROUND () BOTH
Base Camp LeJeune ZIP 28542 () SURFACE () PURCHASED

COUNTY: Onslow TYPE OF TREATMENT:
 REPORT TO: Facilities, NREAD () NONE LIME
 ADDRESS: Same as above CHLORINATED () SODA ASH
 ZIP () FLUORIDATED () POLYPHOSPHATE
 TELEPHONE: (919) 451-5977 FILTERED WATER SOFTNER
 () ALUM () OTHER

SAMPLE INFORMATION

SOURCE OF SAMPLE TYPE OF SAMPLE
 DISTRIBUTION TAP () HOUSE TAP D-REGULAR () M-M.R.T.
 PLANT TAP () WELL TAP () C-CHECK () S-SPECIAL

SAMPLING LOCATION (Address): AS-2800

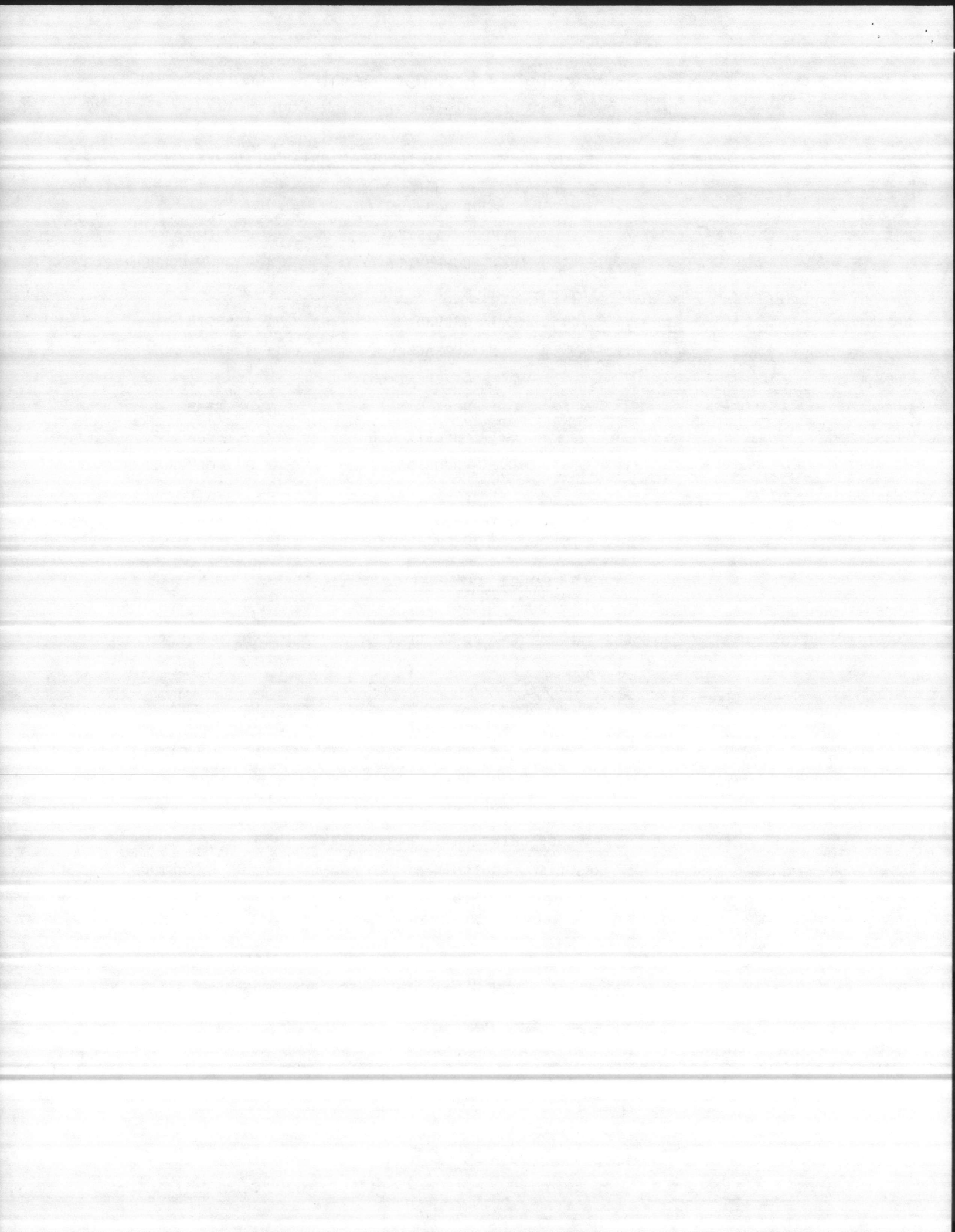
DATE COLLECTED: 12-31-86 TIME COLLECTED: 10:30 am pm
 COLLECTED BY: Environmental Chemist - LOC. CODE: 003
Micro Laboratory

FOR LABORATORY USE ONLY

STATE DRINKING WATER PARAMETERS

CONTAMINANT ID	NAME	METHOD	RESULTS mg/l	CONTAMINANT ID	NAME	METHOD	RESULTS mg/l
2005	Endrin	201	---	2941	Chloroform	215	<u>0.007</u>
2010	Lindane	201	---	2943	Bromodichloromethane	215	<u>0.015</u>
2015	Methoxychlor	201	---	2944	Chlorodibromomethane	215	<u>0.037</u>
2020	Toxaphene	201	---	2942	Bromoform	215	<u>0.066</u>
2105	2, 4-D	203	---	2950	Total THM	215	<u>0.125</u>
2110	2, 4, 5-TP	203	---				---

DATE RECEIVED 01-06-87 DATE ANALYZED 01-08-87 REPORTED BY E. Folk
 DATE EXTRACTED 01-08-87 DATE REPORTED 01-09-87 SAMPLE LAB 231-20-3
 REMARKS:



3 3720
C. Lab. ID.



Industrial & Environmental Analysts, Inc.
P.O. Box 12542 • Research Triangle Park, NC 27709 • 919-467-9919

WATER-SYSTEM PERSONNEL TO COMPLETE ALL INFORMATION ABOVE HEAVY LINE

WATER SYSTEM INFORMATION

WATER SYSTEM ID# 04-67-042 TYPE OF SYSTEM:
 COMMUNITY () NON-COMMUNITY
 SYSTEM NAME: Marine Corps Air Station SOURCE OF WATER:
 ADDRESS: Commanding General, Marine Corps () GROUND () BOTH
Base Camp LeJeune ZIP 28542 () SURFACE () PURCHASED
 COUNTY: Onslow TYPE OF TREATMENT:
 REPORT TO: Facilities, NREAD () NONE (X) LIME
 ADDRESS: Same as above (X) CHLORINATED () SODA ASH
 ZIP () FLUORIDATED () POLYPHOSPHATE
 TELEPHONE: (919) 451-5977 (X) FILTERED (X) WATER SOFTNER
 () ALUM () OTHER

SAMPLE INFORMATION

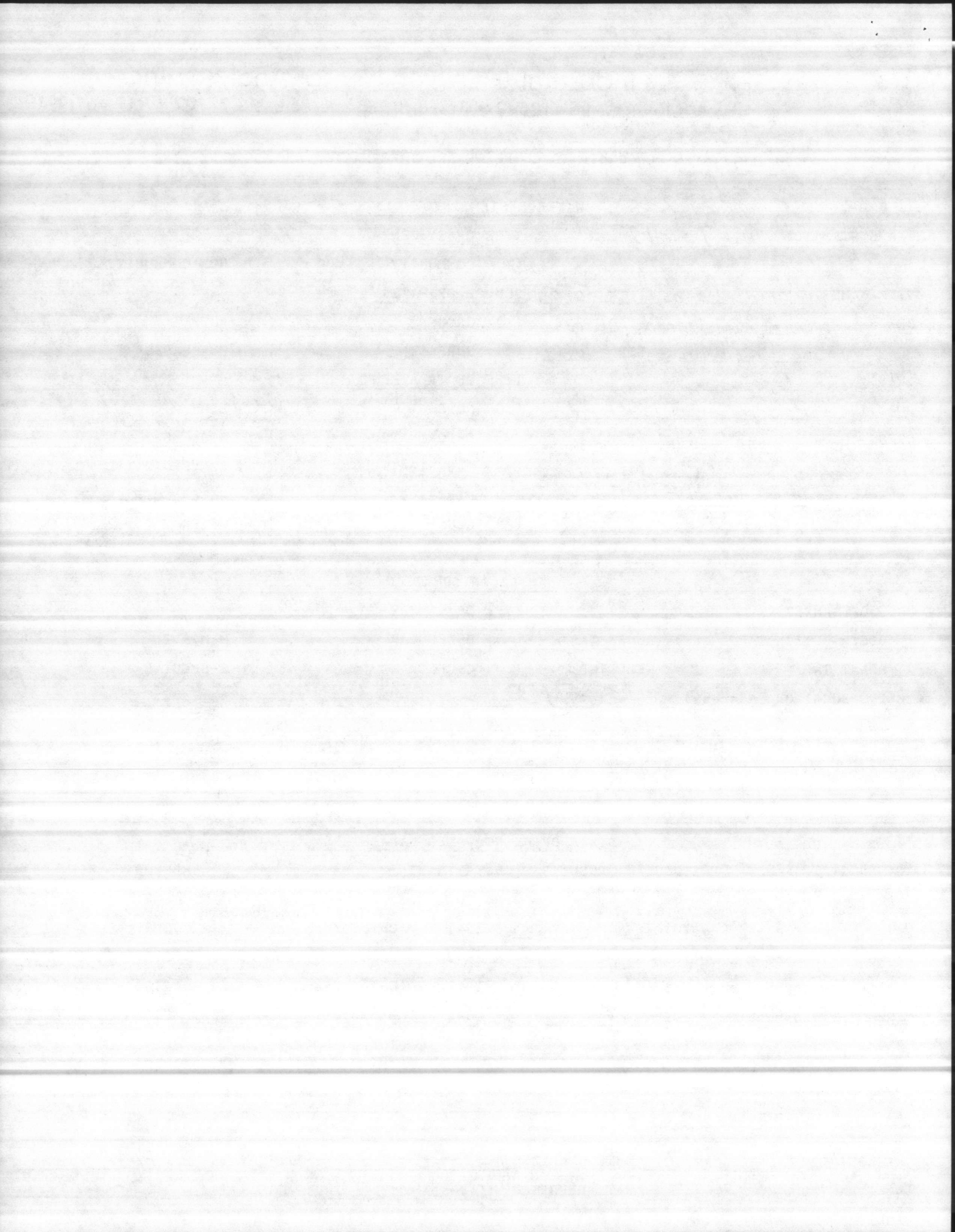
SOURCE OF SAMPLE TYPE OF SAMPLE
 () DISTRIBUTION TAP () HOUSE TAP (X) D-REGULAR () M-M.R.T.
 () PLANT TAP () WELL TAP () C-CHECK () S-SPECIAL
 SAMPLING LOCATION (Address): AS-710
 DATE COLLECTED: 12-31-86 TIME COLLECTED: 10:55 (am) pm
 COLLECTED BY: Environmental Chemist- LOC. CODE: 002
Micro Laboratory

FOR LABORATORY USE ONLY

STATE DRINKING WATER PARAMETERS

CONTAMINANT ID	NAME	METHOD	RESULTS mg/l	CONTAMINANT ID	NAME	METHOD	RESULTS mg/l
2005	Endrin	201	---	2941	Chloroform	215	0.007
2010	Lindane	201	---	2943	Bromodichloromethane	215	0.014
2015	Methoxychlor	201	---	2944	Chlorodibromomethane	215	0.035
2020	Toxaphene	201	---	2942	Bromoform	215	0.064
2105	2, 4-D	203	---	2950	Total THM	215	0.120
2110	2, 4, 5-TP	203	---				---

RECEIVED 01-06-87 DATE ANALYZED 01-08-87 REPORTED BY E. Folk
 EXTRACTED 01-08-87 DATE REPORTED 01-09-87 SAMPLE LAB 231-20-2
 REMARKS:



3 37720
C. Lab. ID.



Industrial & Environmental Analysts, Inc.
P.O. Box 12542 • Research Triangle Park, NC 27709 • 919-467-9919

WATER-SYSTEM PERSONNEL TO COMPLETE ALL INFORMATION ABOVE HEAVY LINE

WATER SYSTEM INFORMATION

WATER SYSTEM ID# 04-67-042 TYPE OF SYSTEM:
 COMMUNITY () NON-COMMUNITY

SYSTEM NAME: Marine Corps Air Station SOURCE OF WATER:
 GROUND () BOTH
 SURFACE () PURCHASED

ADDRESS: Commanding General, Marine Corps
Base Camp LeJeune ZIP 28542

COUNTY: Onslow TYPE OF TREATMENT:
 NONE LIME
 CHLORINATED () SODA ASH
 FLUORIDATED () POLYPHOSPHATE
 FILTERED WATER SOFTNER
 ALUM () OTHER

REPORT TO: Facilities, NREAD
 ADDRESS: Same as above
 ZIP
 TELEPHONE: (919) 451-5977

SAMPLE INFORMATION

SOURCE OF SAMPLE TYPE OF SAMPLE
 DISTRIBUTION TAP () HOUSE TAP D-REGULAR () M-M.R.T.
 PLANT TAP () WELL TAP () C-CHECK () S-SPECIAL

SAMPLING LOCATION (Address): AS-110

DATE COLLECTED: 12-31-86 TIME COLLECTED: 9:42 am pm
 COLLECTED BY: Environmental Chemist - LOC. CODE: 001
Micro Laboratory

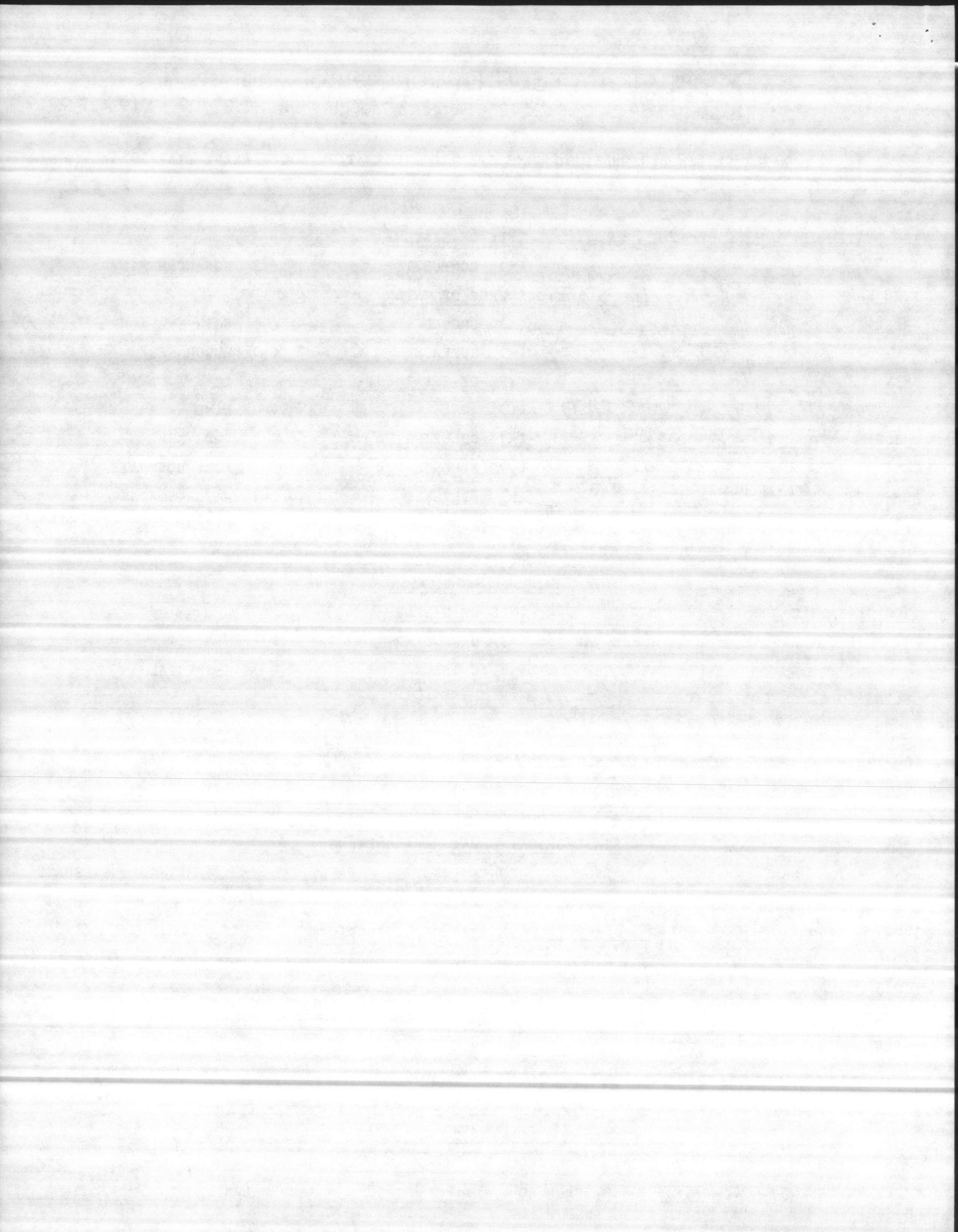
FOR LABORATORY USE ONLY

STATE DRINKING WATER PARAMETERS

CONTAMINANT ID	NAME	METHOD	RESULTS mg/l	CONTAMINANT ID	NAME	METHOD	RESULTS mg/l
2005	Endrin	201	---	2941	Chloroform	215	<u>0.005</u>
2010	Lindane	201	---	2943	Bromodichloromethane	215	<u>0.007</u>
2015	Methoxychlor	201	---	2944	Chlorodibromomethane	215	<u>0.016</u>
2020	Toxaphene	201	---	2942	Bromoform	215	<u>0.034</u>
2105	2, 4-D	203	---	2950	Total THM	215	<u>0.062</u>
2110	2, 4, 5-TP	203	---				---

RECEIVED 01-06-87 DATE ANALYZED 01-08-87 REPORTED BY E. Folk
 EXTRACTED 01-08-87 DATE REPORTED 01-09-87 SAMPLE LAB 231-20-1

REMARKS:



3 37720
C. Lab. ID



Industrial & Environmental Analysts, Inc.
P.O. Box 12542 • Research Triangle Park, NC 27709 • 919-467-9919

WATER-SYSTEM PERSONNEL TO COMPLETE ALL INFORMATION ABOVE HEAVY LINE

WATER SYSTEM INFORMATION

WATER SYSTEM ID# 04-67-042 TYPE OF SYSTEM:
 COMMUNITY () NON-COMMUNITY
 SYSTEM NAME: Marine Corps Air Station SOURCE OF WATER:
 ADDRESS: Commanding General, Marine Corps (X) GROUND () BOTH
Base Camp LeJeune ZIP 28542 () SURFACE () PURCHASED
 COUNTY: Onslow TYPE OF TREATMENT:
 REPORT TO: Facilities, NREAD () NONE (X) LIME
 ADDRESS: Same as above (X) CHLORINATED () SODA ASH
 ZIP () FLUORIDATED () POLYPHOSPHATE
 TELEPHONE: (919) 451-5977 (X) FILTERED (X) WATER SOFTNER
 () ALUM () OTHER

SAMPLE INFORMATION

SOURCE OF SAMPLE TYPE OF SAMPLE
 () DISTRIBUTION TAP () HOUSE TAP (X) D-REGULAR () M-M.R.T.
 () PLANT TAP () WELL TAP () C-CHECK () S-SPECIAL
 SAMPLING LOCATION (Address): G520
 DATE COLLECTED: 12-31-86 TIME COLLECTED: 11:12 am pm
 COLLECTED BY: Environmental Chemist - LOC. CODE: 007
Micro Laboratory

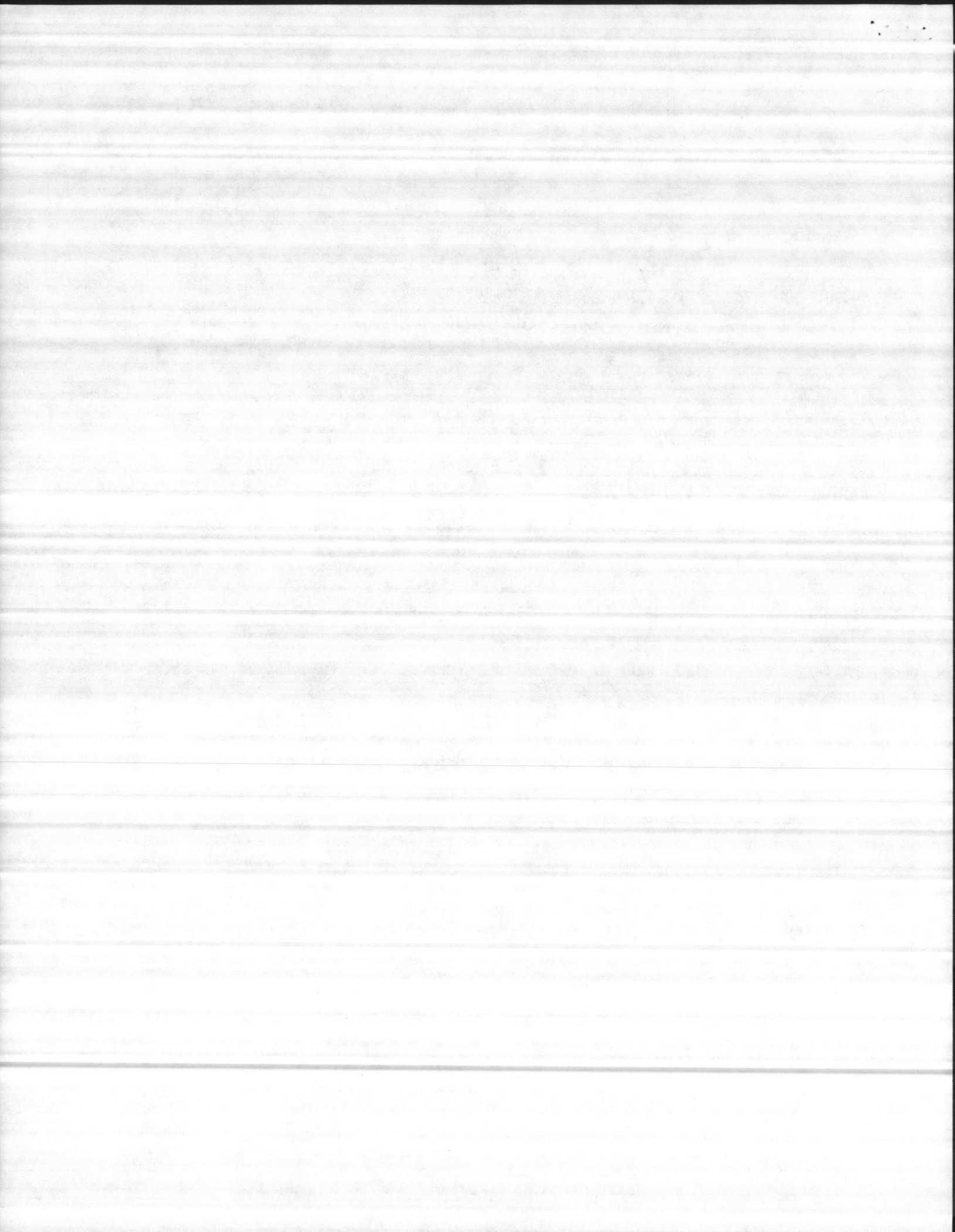
FOR LABORATORY USE ONLY

STATE DRINKING WATER PARAMETERS

CONTAMINANT ID	NAME	METHOD	RESULTS mg/l	CONTAMINANT ID	NAME	METHOD	RESULTS mg/l
2005	Endrin	201	---	2941	Chloroform	215	<u>0.008</u>
2010	Lindane	201	---	2943	Bromodichloromethane	215	<u>0.013</u>
2015	Methoxychlor	201	---	2944	Chlorodibromomethane	215	<u>0.028</u>
2020	Toxaphene	201	---	2942	Bromoform	215	<u>0.048</u>
2105	2, 4-D	203	---	2950	Total THM	215	<u>0.097</u>
2110	2, 4, 5-TP	203	---				---

DATE RECEIVED 01-06-87 DATE ANALYZED 01-08-87 REPORTED BY E. Folk
 DATE EXTRACTED 01-08-87 DATE REPORTED 01-09-87 SAMPLE LAB 231-20-7

REMARKS:



ORGANIC CHEMICAL ANALYSES - PUBLIC WATER SYSTEM

Water System I.D. Number

Complete All Items Above Heavy Line

4 - 67 - 043
 (1-7)

Name of System: HOLCOMB BLVD

Type of System:
 Community () Non-Community

Address: COMMANDING GENERAL, MARINE CORPS

Source of Water:

Base: CAMP LEJEUNE, NC Zip 28542

Ground () Both
 Surface () Purchased

County: ONslow

Report To: AMNS FACILITIES ATTN: NREAD

Source of Sample:

Address: SAME AS ABOVE

Distribution Tap () House Tap
 Plant Tap () Well Tap

Zip

Telephone Number: 919 (45) 451 - 5977

Type of Treatment:

Collected By: ENVIRONMENTAL CHEM. & MICRO. LABORATORY

None (X) Lime
 Chlorinated () Soda Ash
 Fluoridated () Polyphosphate
 Filtered (X) Water Softener
 Alum () Other

Date Collected: 12 31 86 Time: 9:12 AM
 MM DD YY (38-41)
 (31-36)

Location of Sampling Point: BLDG 670
 (Address where sample was collected)

Type of Sample: (37)

Remarks: Loc. Code
 (28-30)

D-Regular () M-M.R.T.
 C-Check () S-Special

State Drinking Water Parameters (Required)

Contaminant ID	Name	Method	Results Mg/l
(9-13)		(14-16)	(17-21)
005	Endrin	<input type="text"/>	<input type="text"/>
010	Lindane	<input type="text"/>	<input type="text"/>
015	Methoxychlor	<input type="text"/>	<input type="text"/>
020	Toxaphene	<input type="text"/>	<input type="text"/>
005	2,4-D	<input type="text"/>	<input type="text"/>
010	2,4,5-TP (Silvex)	<input type="text"/>	<input type="text"/>
		<input type="text"/>	<input type="text"/>
		<input type="text"/>	<input type="text"/>

Optional Parameters (List as needed)

Contaminant ID	Name	Method	Results Mg/l
(10-13)		(14-16)	(17-21)
2941	chloroform	2.15	0.01
2943	Bromodichloromethane	2.15	0.00
2944	Chlorodibromomethane	2.15	0.00
2942	Bromoform	2.15	0.00
2950	TTHM	2.15	0.01
		<input type="text"/>	<input type="text"/>
		<input type="text"/>	<input type="text"/>
		<input type="text"/>	<input type="text"/>

Date Received 1-6-87

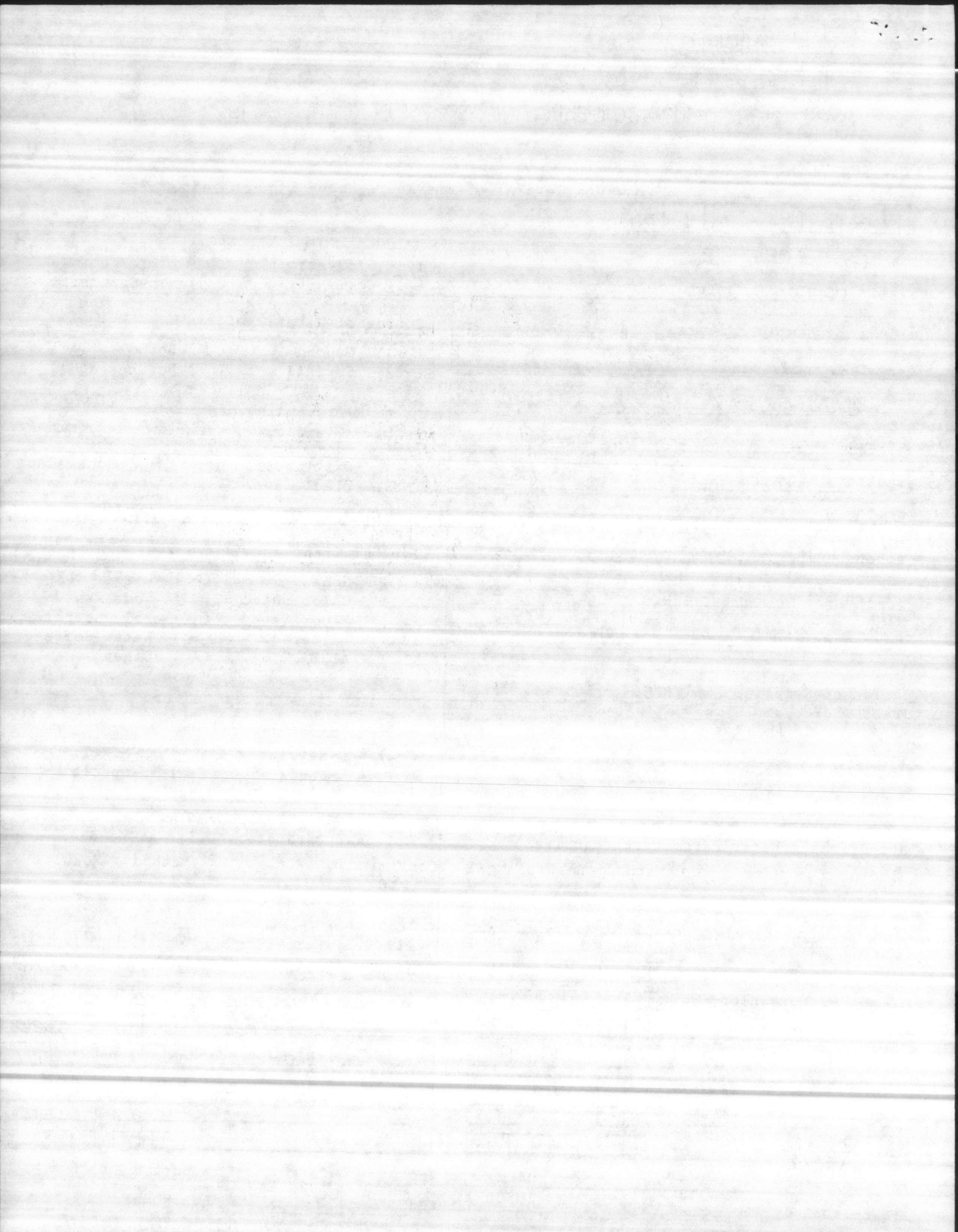
Date Reported 1-8-87

Reported By JTH

Date Extracted 1-8-87

Date Analyzed 1 7 87

Lab Number 231-20-5



62
-05
11331
NREAD

NOV 12 1986

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 October 1986. 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 NREAD, Assistant Chief of Staff, Facilities. Ms. Betz, Supervisory Chemist, Quality Control Laboratory, telephone (919) 451-5977, is the point of contact in this matter.

Sincerely,

PETER E. BLACK
Acting Director

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

Copy to:
LANTNAVFACENCOM (Code 114)

Blind copy to:
BMO (Attn: UtilDir)
SUPVCHEM, QCL (2 copies)

Writer: E. Betz, NREAD, x5977
Typist: S. Trianoski, 12 Nov 1986

MDA 18 1088

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Month OCTOBER
Year 1986

FWD:NOT COUNT

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

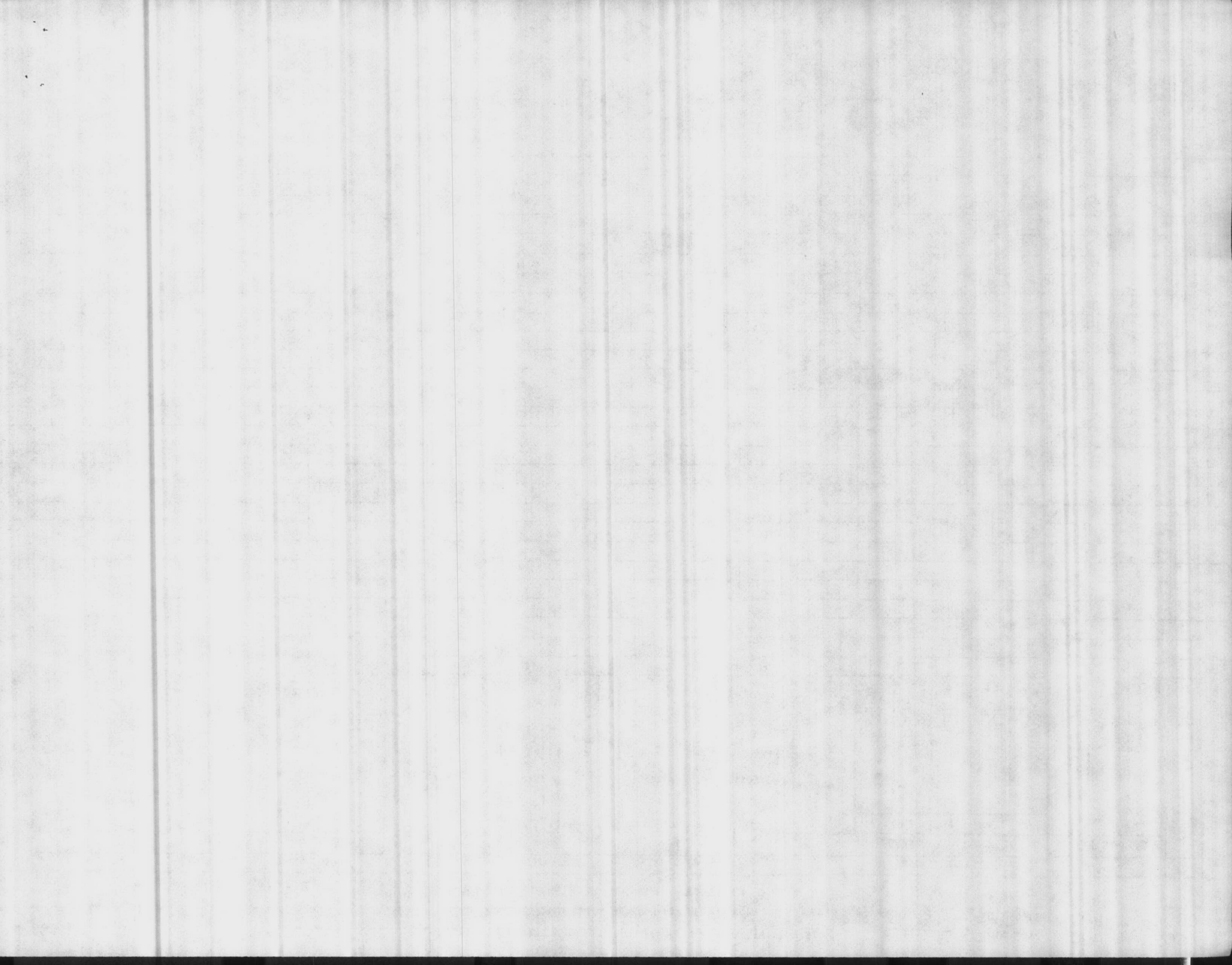
Serial # 04-67-041

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							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.	COLIFORMS per 100 ml.
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MF MEDIA		BBL mEndo		BACTERIAL DENSITY		ARITH. MEAN		GEO. MEAN		0		DIST. SYSTEM		TOTAL NO. SAMPLES		35													
TPC MEDIA										10				SAMPLES EXCEEDING 3/50, 4/100, 1/200, +3/500ml		0													

LAB # 37307

Elizabeth C. Berg

ENCLOSURE 14587-4



Month OCT 1952
 Year 1984

HOLCOMB BLVD

WATER TREATMENT PLANT AT Camp Lejeune

Method Code: 303

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Contaminant Code: 3000

Serial # 04-67-043

N. C. DEPARTMENT OF HUMAN RESOURCES

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.	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	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.									
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MF MEDIA		BRI mEndo		BACTERIAL DENSITY		ARITH. MEAN																							
TPC MEDIA						GEO. MEAN																							

LAB # 37307

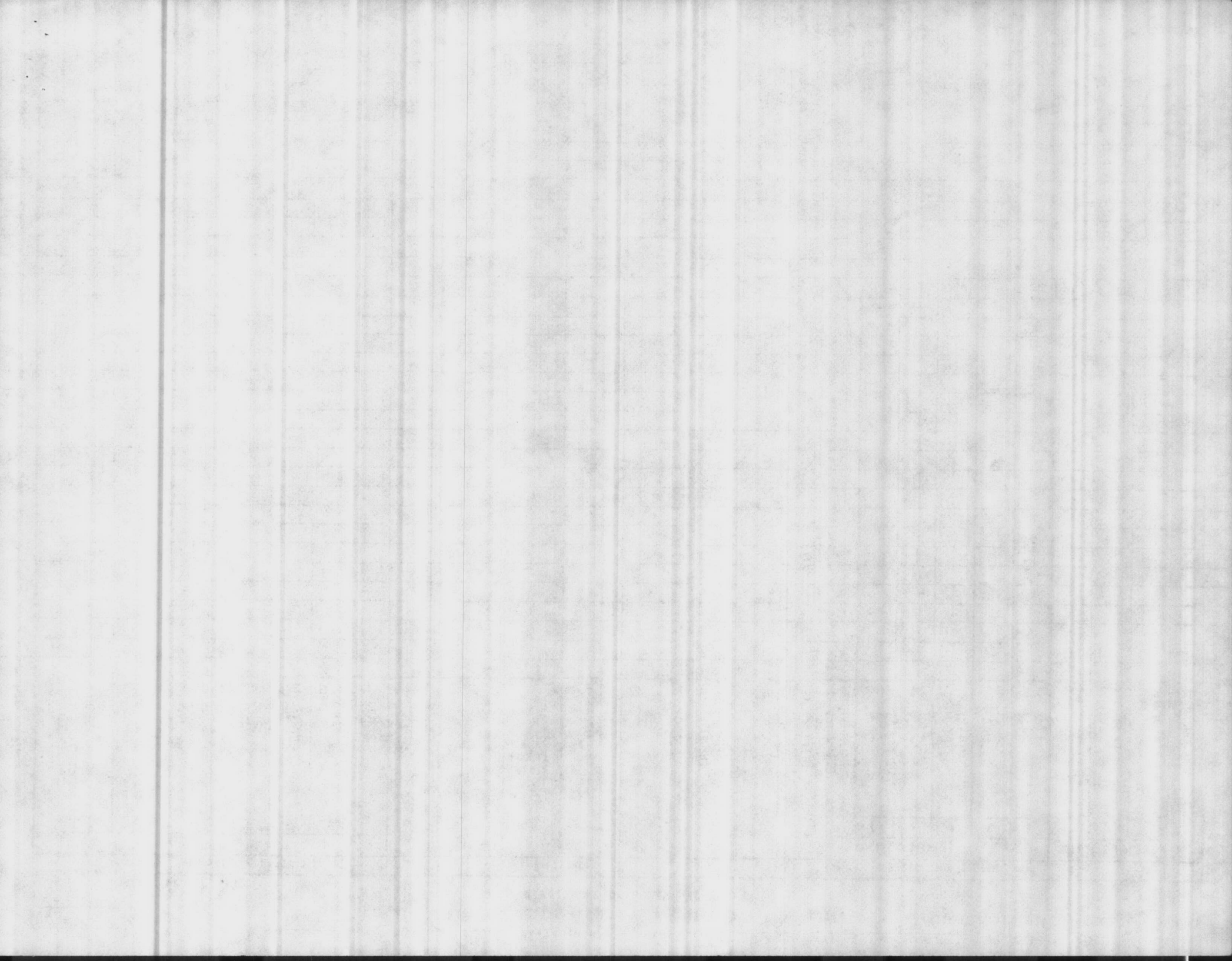
Elizabeth Betty

B-Well

4087-W

0 DIST. SYSTEM TOTAL NO. SAMPLES 28
 1.0 SAMPLES EXCEEDING 3/30, 4/100, 7/200, 13/500 ml, 0





UBA
1936

TARAWA TERRACE

WATER TREATMENT PLANT AT Camp Lejeune

Method Code: 303

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Contaminant Code: 3000

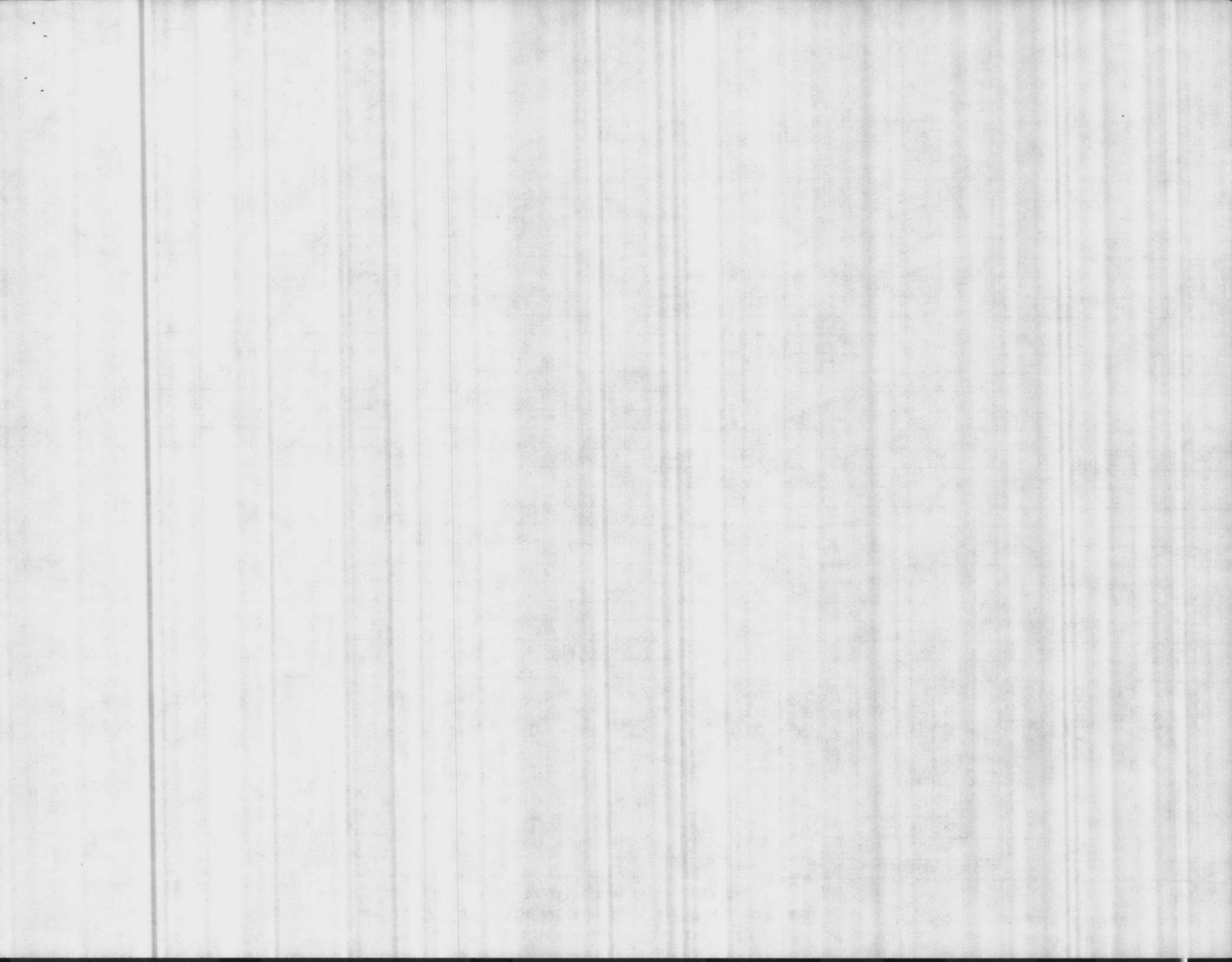
N. C. DEPARTMENT OF HUMAN RESOURCES

Serial # 04-67-044

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.	PLANKTON		
	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	VOLUME FILTERED ml.	TOTAL COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES																
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MF MEDIA		BBI mEndo		BACTERIAL DENSITY		ARITH. MEAN						0		DIST. SYSTEM		TOTAL NO. SAMPLES						16
TPC MEDIA						GEO. MEAN						1.0				SAMPLES EXCEEDING 3/50, 4/100, 7/200, 13/500ml						0

LAB # 37370
37807

Elizabeth R. Bigg B-Well 4087-W



Month OCTOBER
 Year 1986

CAMP JOHNSON

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

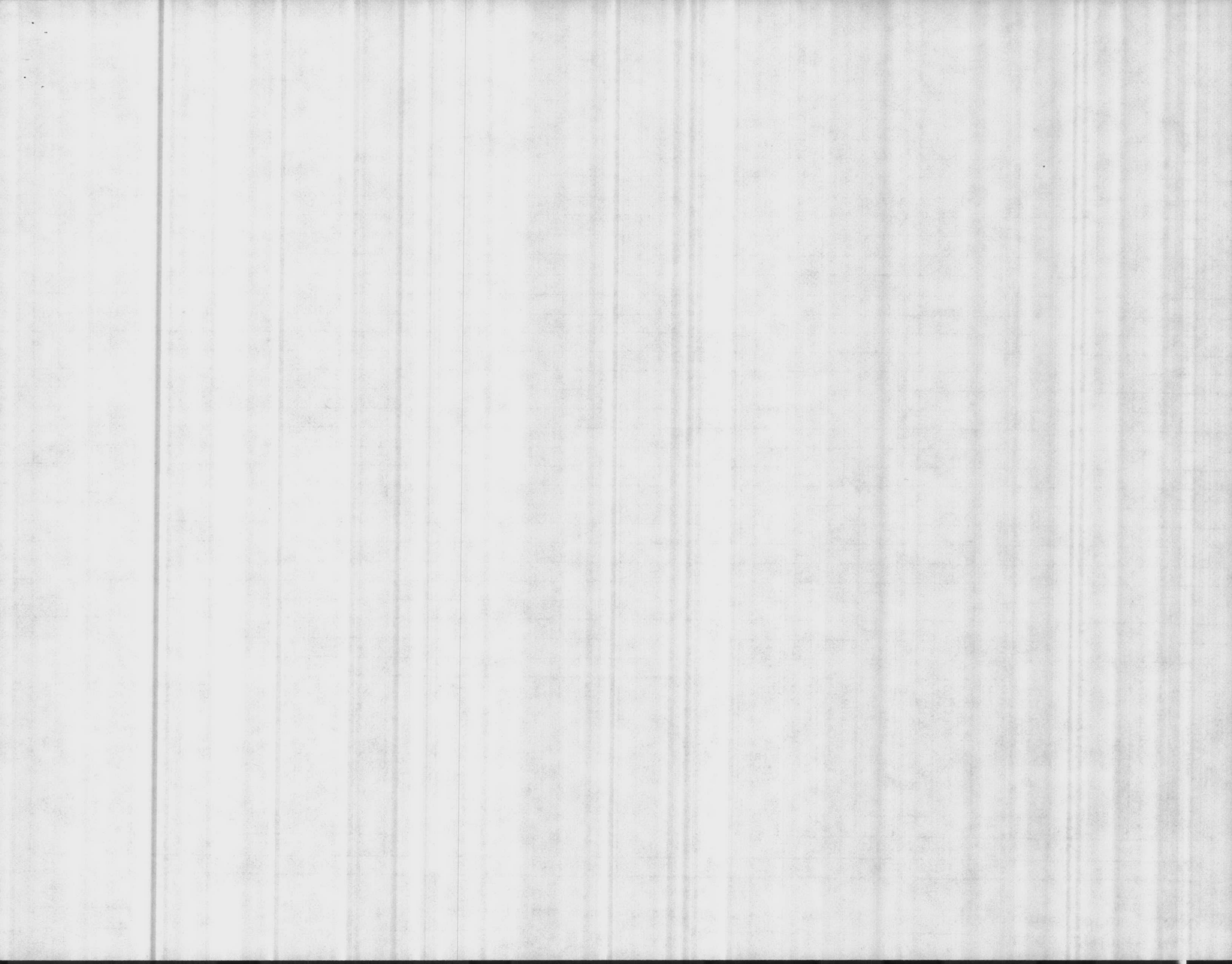
Serial # 04-67-045

DATE	RAW WATER COLIFORMS (MFP)									NO. OF COLIFORMS PER 100 ml.	FILTERED TOTAL PLATE COUNT	FINISHED TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	DISTRIBUTION SYSTEM COLIFORMS (MFP)					REPEAT SAMPLES			INCUBATOR TEMP.	PLANKTON					
	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																				
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MF MEDIA											BBI	mEndo	BACTERIAL DENSITY		ARITH. MEAN													8	
TPC MEDIA																										0			

LAP # 37807

Elyzabeth K. Boy B-well 4087-W

0 DIST. SYSTEM TOTAL NO. SAMPLES 8
 10 SAMPLES EXCEEDING 3/50, 4/100, 7/200, 13/500=0



Month OCTOBER
Year 1936

KIPLE RANGE

WATER TREATMENT PLANT AT Camp Lejeune

Method Code: 303

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Contaminant Code: 3000

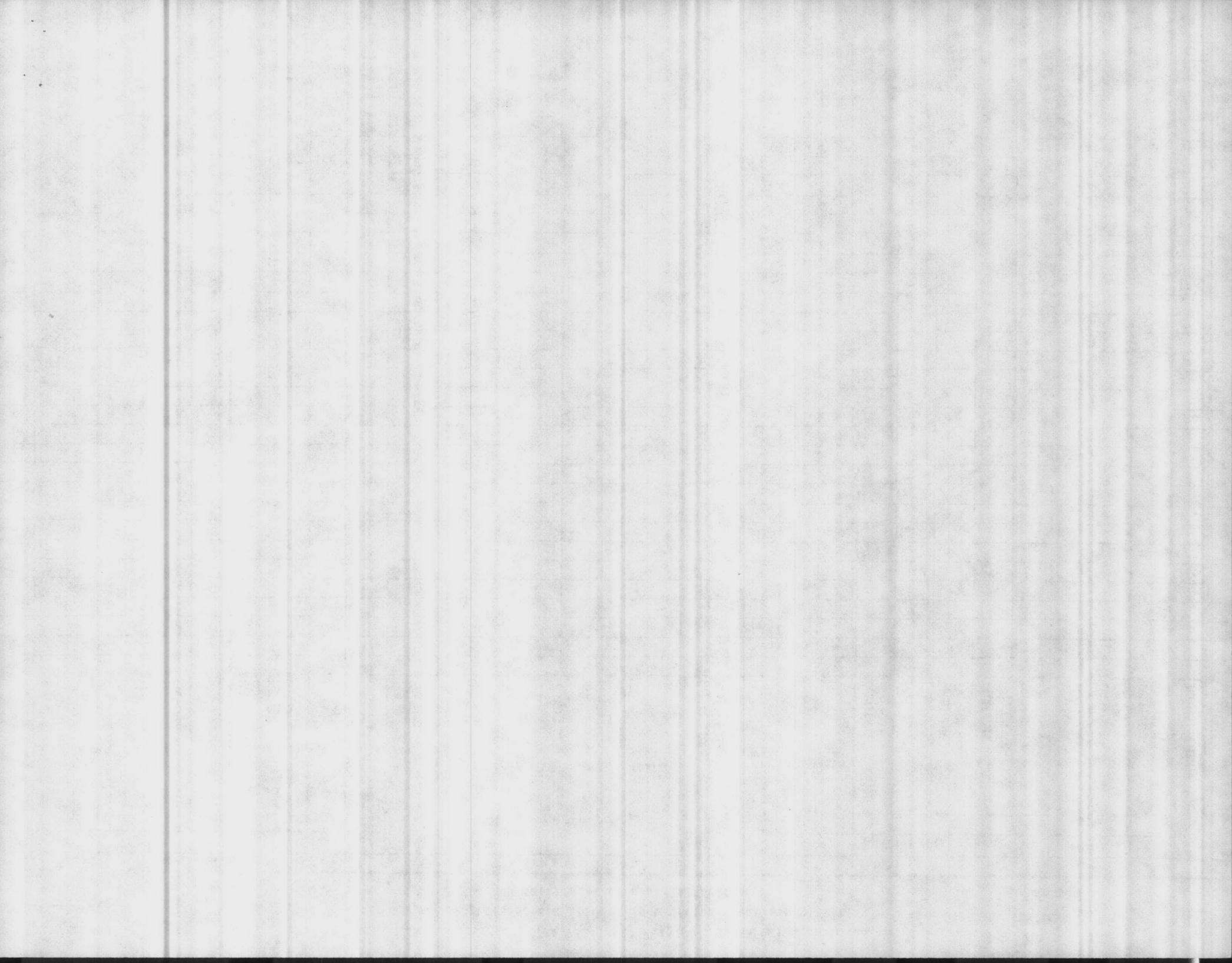
Serial # 04-67-046

U. S. DEPARTMENT OF HUMAN RESOURCES

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.	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	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.						COLIFORMS per 100 ml.		
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28																	0	W	0	0		10					34.5
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31																											
MFP MEDIA		BBL mEndo		BACTERIAL DENSITY		ARITH. MEAN										0		DIST. SYSTEM		TOTAL NO. SAMPLES					11		
TPC MEDIA						GEO. MEAN										1.0				SAMPLES EXCEEDING 3/50. (4/100) 7/200. 13/500ml					0		

LAB ID # 37807

Elyabeth A Betty B-Well 4087-W



Month
Year 1984

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.	FILTERED		FINISHED		TOTAL PLATE COUNT	DISTRIBUTION SYSTEM										INCUBATOR TEMP.	PLANKTON		
	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.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.						
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0 4 0 0 0 0 35.5

0 3 0 0 1 0 35.0

0 4 0 0 0 0 35.4

0 4 0 0 0 0 34.5

MF MEDIA
TPC MEDIA

BBL mEndo

BACTERIAL DENSITY
ARITH. MEAN
GEO. MEAN

0
1.0

DIST. SYSTEM

TOTAL NO. SAMPLES
SAMPLES EXCEEDING 3/50, 4/100, 7/200, 13/500

LAP # 37807

Elizabeth C. Berg

B-Well 4087





Month SEP 1934
 Year 1934

WINDSOR TISACIN

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 # 04-67-048

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.	PLANKTON
	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																						
3																						
4																						
5																						
6																						
7																						
8												0	2	0	0							35.5
9																						
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14												0	2	0	0							35.0
15																						
16																						
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19																						
20																						
21												0	2	0	0							35.4
22																						
23																						
24																						
25																						
26																						
27																						
28												0	2	0	0							34.5
29																						
30																						
31																						
MFP MEDIA		BBL mEndo		BACTERIAL DENSITY		ARITH. MEAN						0		DIST. SYSTEM		TOTAL NO. SAMPLES						
TPC MEDIA						GEO. MEAN						10				SAMPLES EXCEEDING 3/300, 4/100, 7/200, 13/300						

LAB ID # 37307

Elizabeth A. Bay B+WELL 4087



CHEMICAL ANALYSIS -- WATER TREATMENT PLANTS

MCBCL 11330 3 (REV 6-84)

DATE COLLECTED

10-7-86

DATE OF ANALYSIS

10-7-86

PARAMETER	HADNOT POINT -241	CAMP JOHNSON -245	TARAWA TERRACE -244	ONSLow BEACH -248	COURTHOUSE BAY -247	RIFLE RANGE -246	HOLCOMB BLVD -243	NEW RIVER -242
PH (IN LAB NOT POINT)	8.5	7.4	9.7	7.4	7.8	8.1	8.5	8.6
PHENOLTHALEIN ALKALINITY	4	0	18	0	0	0	4	14
METHYL ORANGE ALKALINITY	54	176	40	160	170	140	56	160
CARBONATES AS CaCO ₃	8	0	36	0	0	0	8	28
BICARBONATES AS CaCO ₃	46	176	4	160	170	140	48	132
CHLORIDES AS Cl	10	10	10	18	16	20	10	64
HARDNESS AS CaCO ₃	64	72	50	54	64	52	64	60
IRON AS Fe	<0.04	0.23	<0.04	0.18	<0.04	<0.04	<0.04	<0.04
FLUORIDE	Am 0.56	0.15	0.18	0.16	0.11	0.09	0.94	0.62
	Pm 0.53		0.71				0.93	
CHLORINE RESIDUAL	1.1	1.2	1.0	1.4	1.4	1.0	1.1	0.8
TURBIDITY	Am 0.2	1.6	6.3	0.2	0.2	0.2	0.4	0.4
	Pm 0.2		0.8				1.7	
TOTAL PHOSPHATE		1.8						
ORTHO PHOSPHATE		0.9						
META PHOSPHATE		0.9						
STABILITY	+0.5	-0.6	+0.7	-0.7	-0.3	-0.1	+0.4	+0.2

REMARKS

COPY TO:

UTIL DIR

WATER TREATMENT

PMU MCAS PMU

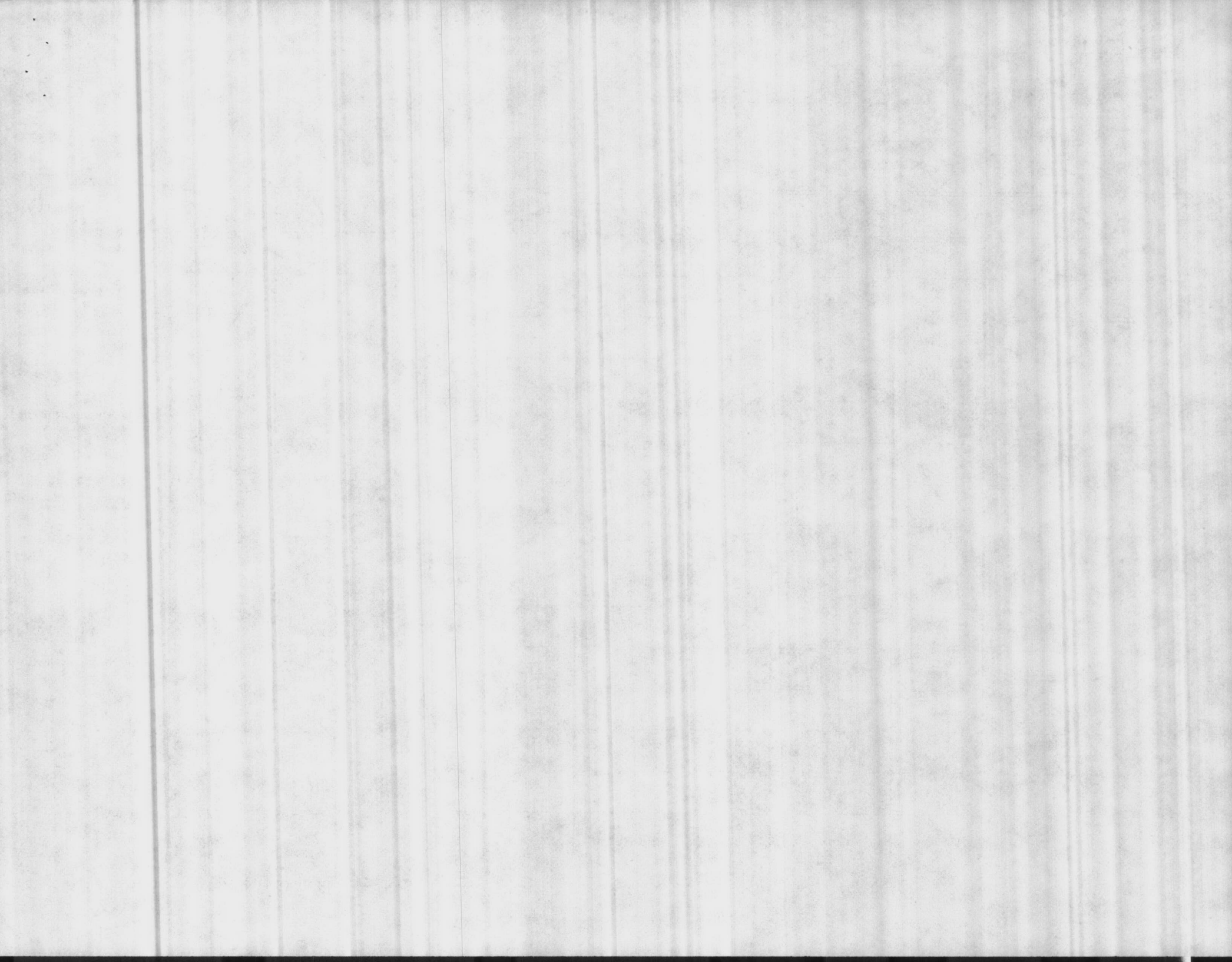
NREAD FILE

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 & L LANZ

ENCLOSURE 15



CHEMICAL ANALYSIS -- WATER TREATMENT PLANTS

MCBCL 11330 3 (REV 6-84)

DATE COLLECTED

10-21-86

DATE OF ANALYSIS

10-21-86

PARAMETER	HADNOT POINT -241	CAMP JOHNSON -243	TARAWA TERRACE -244	ONSLow BEACH -248	COURTHOUSE BAY -247	RIFLE RANGE -246	HOLCOMB BLVD -243	NEW RIVER -242
PH (IN LAB NOT PLANT)	9.1	7.3	8.4	7.2	7.8	7.9	8.3	8.4
PHENOLTHALEIN ALKALINITY	14	0	4	0	0	0	4	10
METHYL ORANGE ALKALINITY	56	178	56	164	186	162	96	160
CARBONATES AS CaCO ₃	28	0	8	0	0	0	8	20
BICARBONATES AS CaCO ₃	28	178	48	164	186	162	88	140
CHLORIDES AS Cl	10	12	14	20	22	38	16	66
HARDNESS AS CaCO ₃	64	70	74	52	64	70	90	44
IRON AS Fe	10.04	0.20	<0.04	0.18	<0.04	<0.04	<0.04	<0.04
AM	0.93		0.64				0.84	
FLUORIDE	1.08	0.17	0.64	0.14	0.10	0.09	0.83	0.53
PM								
CHLORINE RESIDUAL	1.1	1.0	1.0	1.3	1.6	1.1	0.9	0.8
AM	0.9		0.2				0.2	
TURBIDITY	0.4	1.1	0.5	0.3	0.2	0.3	0.5	0.6
PM								
TOTAL PHOSPHATE		1.8						
ORTHO PHOSPHATE		0.9						
META PHOSPHATE		0.9						
STABILITY	+0.7	-0.6	+0.2	-0.7	-0.2	-0.1	+0.3	+0.2

REMARKS

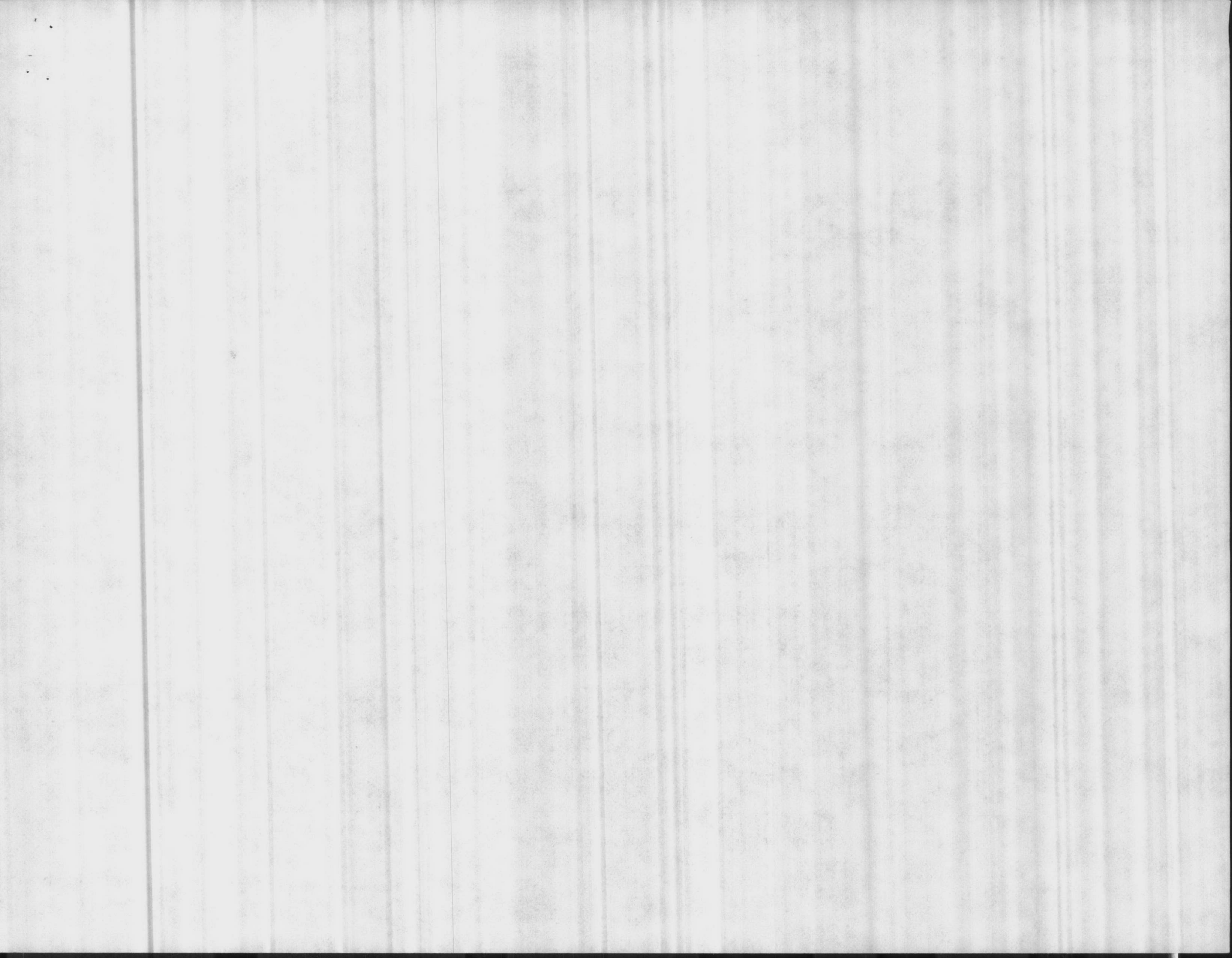
COPY TO:

- 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

L. LAWE + T. BARBIE



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

DATE COLLECTED

14 OCT 86

DATE OF ANALYSIS

14 OCT 86

PARAMETER	HADNOT POINT	CAMP JOHNSON	TARAWA TERRACE	ONSLow BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER		
PH	8.0	7.3	8.6	7.8	8.4	8.5	8.4	8.7		
PHENOLTHALEIN ALKALINITY	0	0	8	0	8	4	2	8		
METHYL ORANGE ALKALINITY	58	194	60	162	168	162	64	164		
CARBONATES AS CaCO ₃	0	0	16	0	16	8	4	16		
BICARBONATES AS CaCO ₃	58	194	44	162	152	154	60	148		
CHLORIDES AS Cl	10	8	12	18	14	18	12	54		
HARDNESS AS CaCO ₃	60	70	78	64	46	50	72	54		
IRON AS Fe	<0.04	0.19	<0.04	0.15	<0.04	<0.04	<0.04	<0.04		
FLUORIDE Am/PM	1.08/1.13	0.16	1.03/0.93	0.15	0.11	0.09	0.95/0.93	0.63		
CHLORINE RESIDUAL	1.0	1.5	1.0	1.4	1.4	1.2	1.1	0.7		
TURBIDITY Am/PM	0.2/0.2	0.9	0.4/1.0	0.2	0.2	0.5	0.2/0.5	0.3		
TOTAL PHOSPHATE		1.4								
ORTHO PHOSPHATE		0.8								
META PHOSPHATE		0.6								
STABILITY	-0.4	-1.0	+0.2	-0.6	-0.2	0	+0.1	0		

REMARKS

OB POND PH = 8.3

COPY TO:

UTIL DIR

WATER TREATMENT

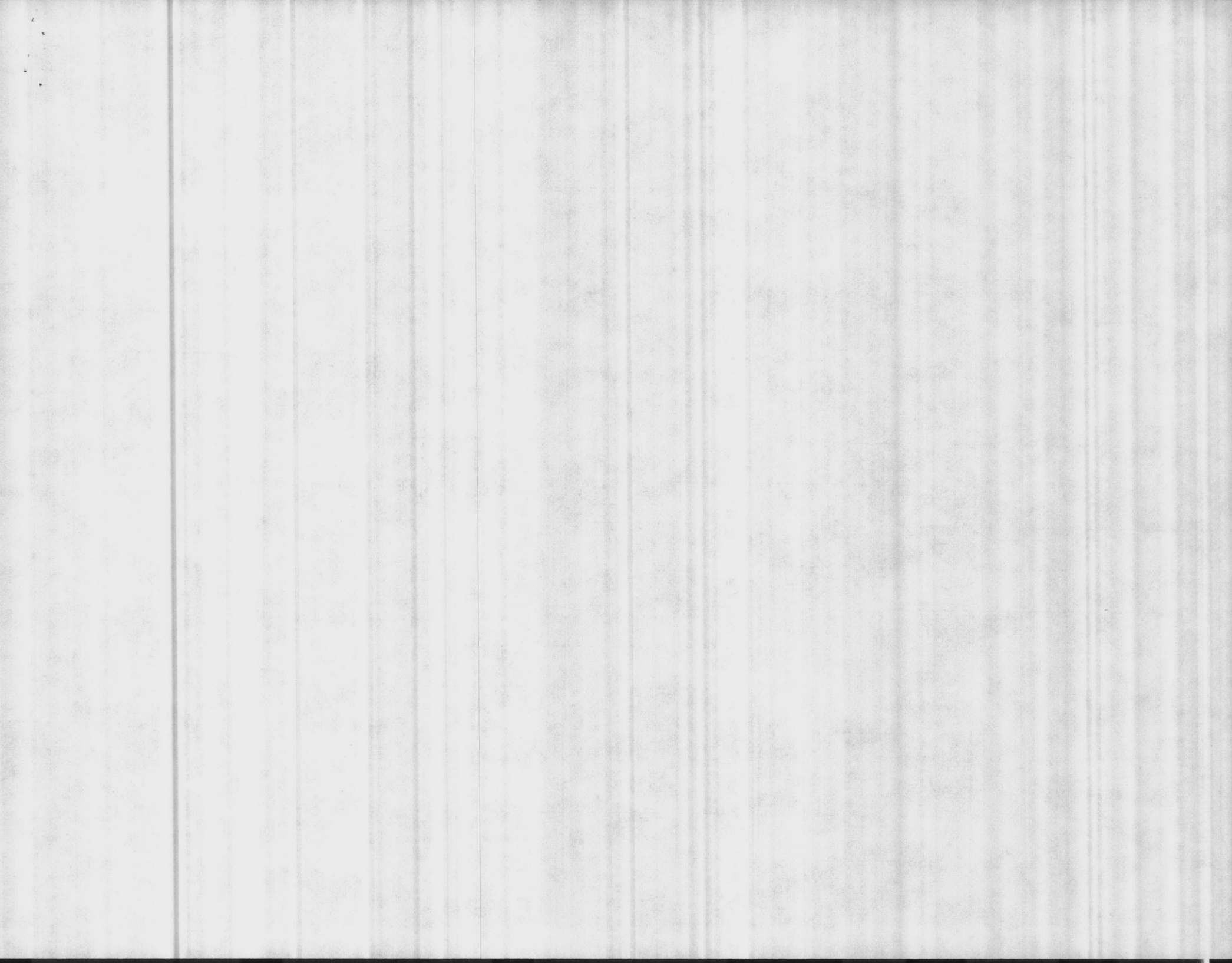
PMU MCAS PMU

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

Subarbee



CHEMICAL ANALYSIS — WATER TREATMENT PLANTS

DATE COLLECTED

10-28-86

DATE OF ANALYSIS

10-28-86

MCBCL 11330 3 (REV 6-84)

PARAMETER	HADNOT POINT	CAMP JOHNSON	TARAWA TERRACE	ONSLow BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER
PH	8.3	7.2	8.5	7.6	8.0	8.2	8.6	8.7
PHENOLTHALEIN ALKALINITY	4	0	4	0	0	0	4	22
METHYL ORANGE ALKALINITY	54	170	58	160	170	170	50	150
CARBONATES AS CaCO ₃	8	0	8	0	0	0	8	44
BICARBONATES AS CaCO ₃	46	170	50	160	170	170	42	106
CHLORIDES AS Cl	14	10	10	20	14	38	10	64
HARDNESS AS CaCO ₃	64	60	70	72	62	60	60	48
IRON AS Fe	20.04	0.20	20.04	0.19	20.04	20.04	20.04	20.04
FLUORIDE	AM 1.05 PM 1.06	0.17	0.55 0.48	0.17	0.13	0.11	0.87 0.90	0.59
CHLORINE RESIDUAL	1.0	1.0	1.0	1.4	1.3	1.0	0.8	0.8
TURBIDITY	AM 0.5 PM 0.4	1.0	0.6 0.6	0.5	0.5	0.5	1.3 4.9	1.0
TOTAL PHOSPHATE		2.7						
ORTHO PHOSPHATE		1.5						
META PHOSPHATE		1.2						
STABILITY	-0.2	-1.0	+0.3	-0.6	-0.2	-0.1	+0.3	+0.7

REMARKS

OB Pond = 7.8 pH

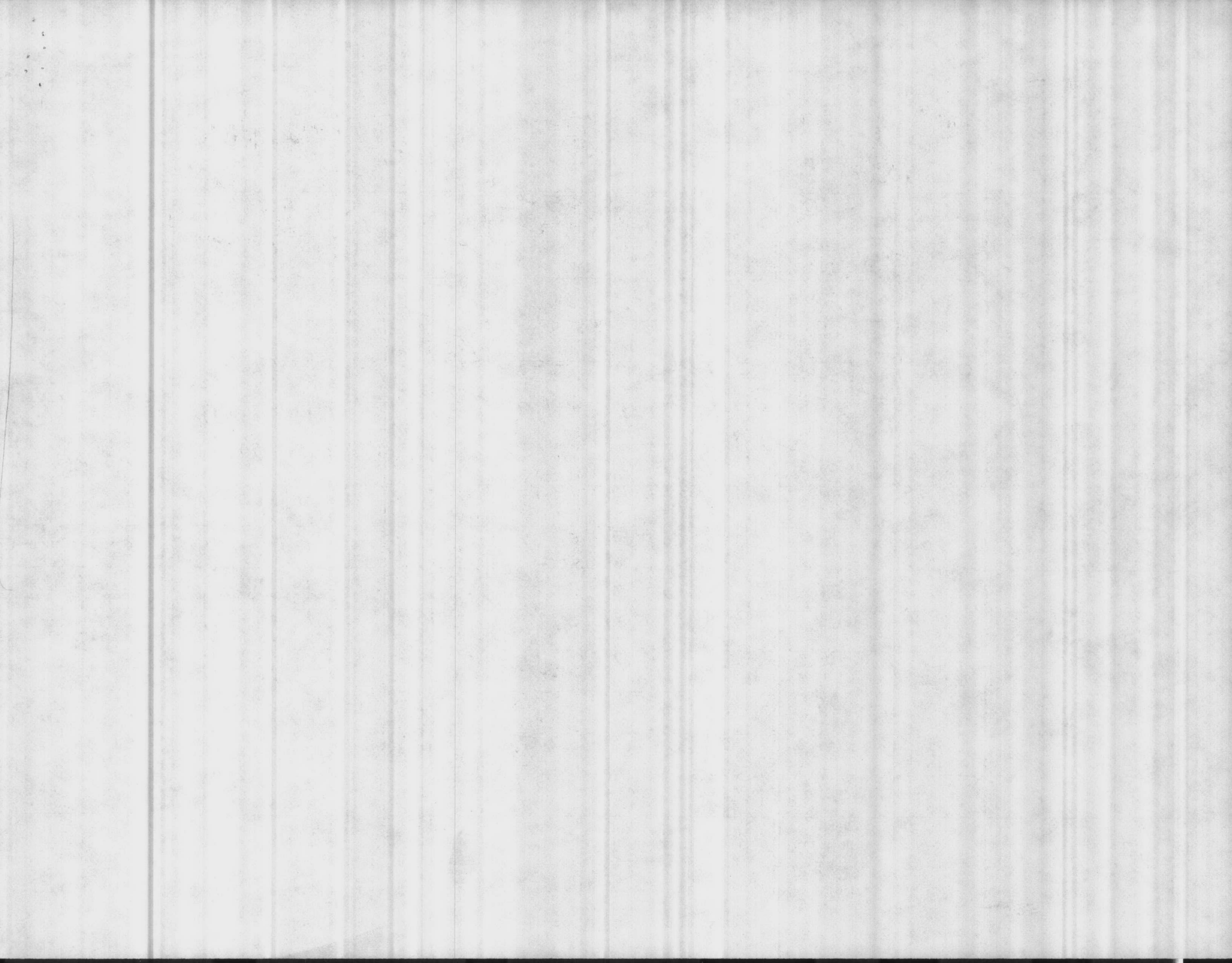
COPY TO:

- 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 + S. Lane



CHA
WS

11331
NREAD
9 Apr 87

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 March 1987. 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 Environmental Chemistry and Microbiology Laboratory, located in the Natural Resources and Environmental Affairs Division, Assistant Chief of Staff, Facilities. Ms. Betz, Supervisory Chemist, Environmental Chemistry and Microbiology Laboratory, telephone (919) 451-5977, is the point of contact in this matter.

Sincerely,

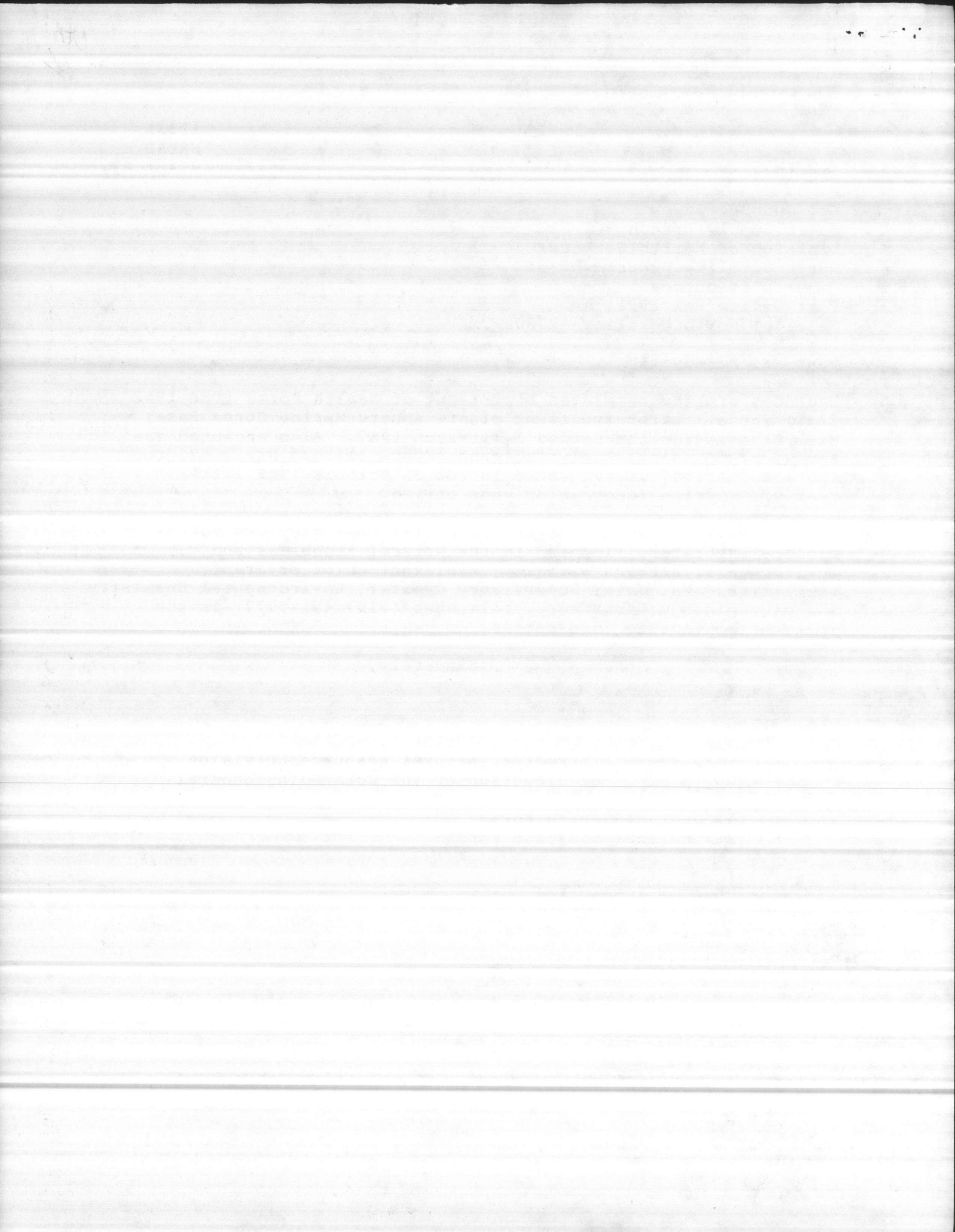
JULIAN I. WOOTEN
Director, Natural Resources Division
By direction of the Commanding General

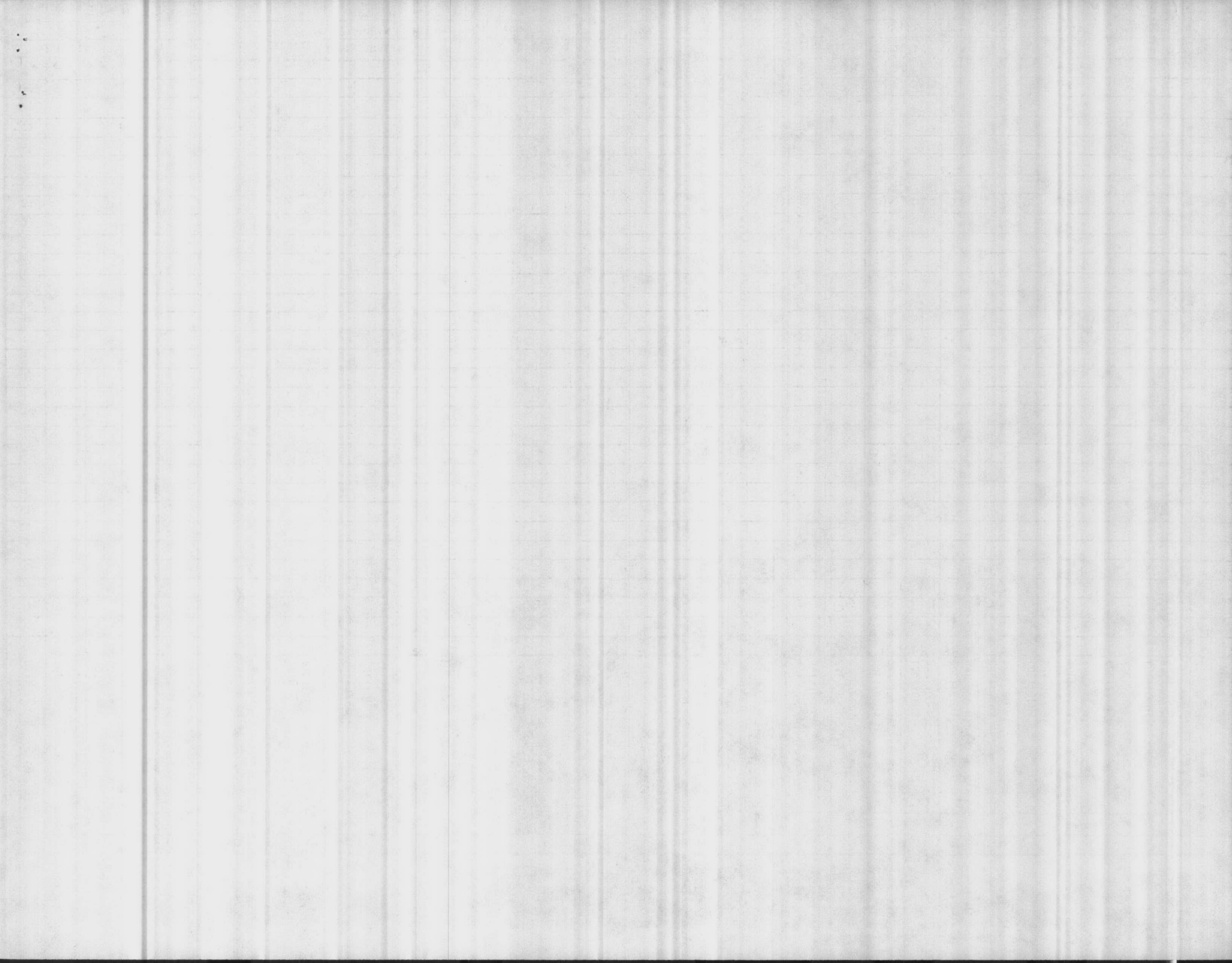
Encls: (1) Dept of Health Forms
(2) Chemical Analysis Forms

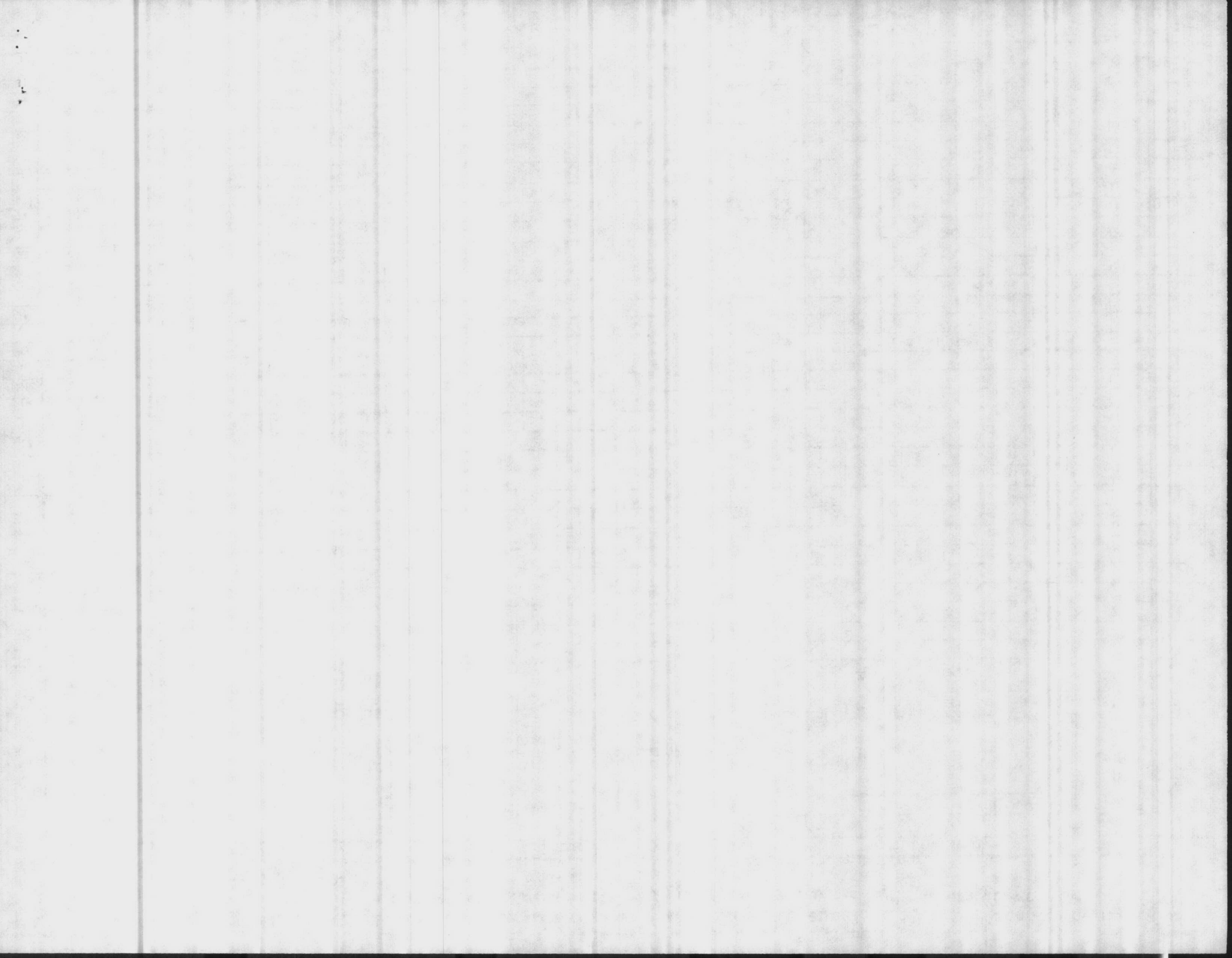
Copy to:
LANTNAVFACENGCOM (Code 114)

Blind copy to:
→ BMO (Attn: Util Dir)
Supvy Chem (2)

Writer/Typist Betz/Chanski
Date Typed 9 Apr 87
Word Processor Number 11331







Month 1987
Year

WATER TREATMENT PLANT AT CAMP DE JENNE

WATER TREATMENT PLANT AT CAMP DE JENNE

METHOD CODE: 3000

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Contaminant Code: 3000

Serial # 04-67-043

N. C. DEPARTMENT OF HUMAN RESOURCES

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.	DISTRIBUTION SYSTEM					REPEAT SAMPLES	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	INCUBATOR TEMP.	PLANKTON				
	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	7	0	0	0	0	0	0	0							35.4
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10												0	7	0	0	0	0		0	0	0						35.0
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17												0	7	0	0	0	0		0	0							35.3
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23																											
24												0	7	0	0	0	0	0	0	0	0	1					35.1
25																											
26																											
27																											
28																											
29																											
30												0	7	0	0	0	0		0	0	0						
31																											

MF MEDIA
TPC MEDIA

BBI mEndo

BACTERIAL DENSITY

ARITH. MEAN
GEO. MEAN

0
1.0

GIST. SYSTEM

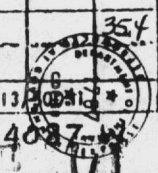
TOTAL NO. SAMPLES

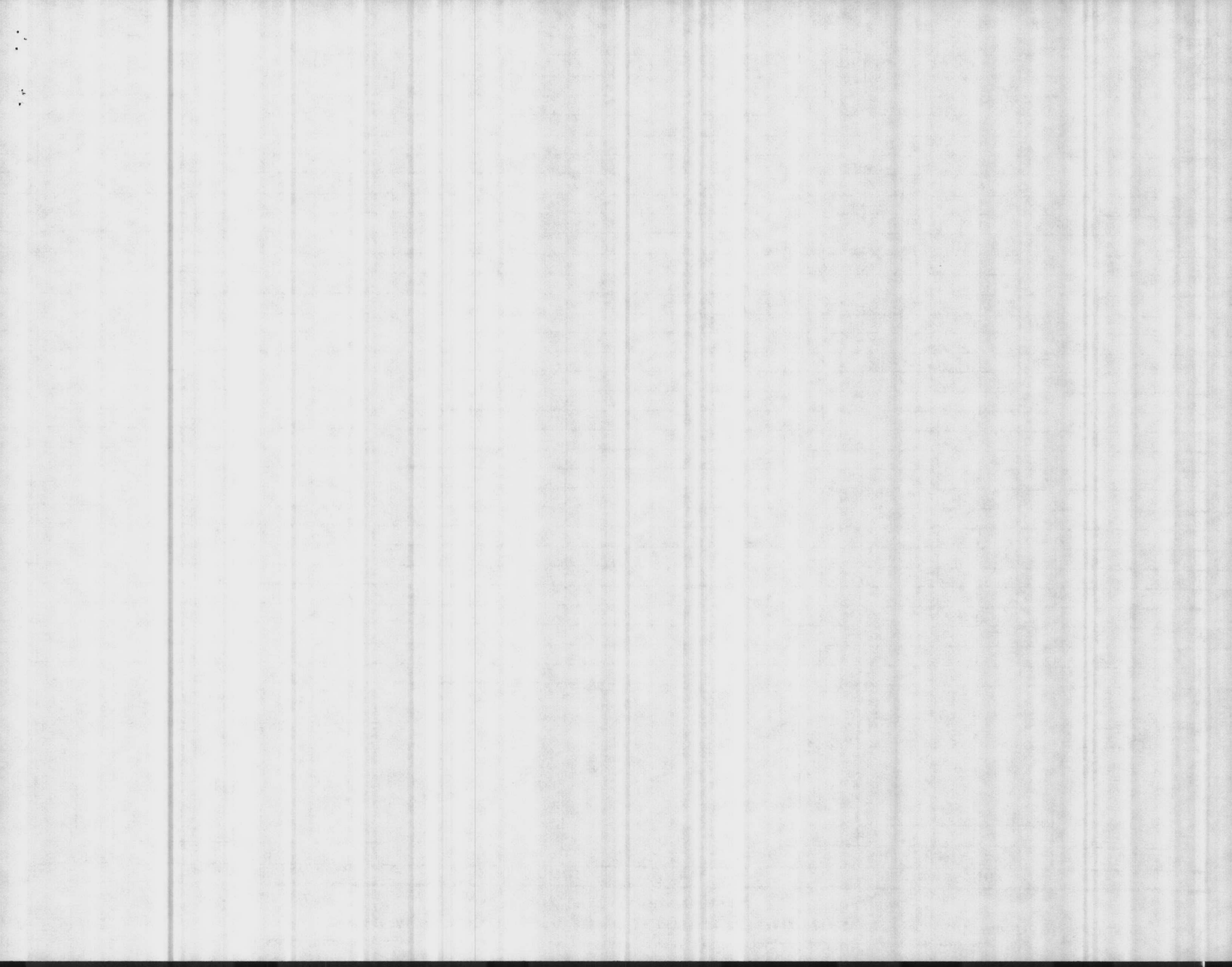
SAMPLES EXCEEDING 3/50 (4/100) 7/200. 13

LAB ID # 37807

Elizabeth A. Betz

CERT GRADE: B-Well # 4007-11





Month MAR 1987
 Year 1987

YAKAWA IREKALE 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 # 04-67-044

DATE	RAW WATER COLIFORMS (MFP)						NO. OF COLIFORMS PER 100 ml.	FILTERED TOTAL PLATE COUNT	FINISHED TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	DISTRIBUTION SYSTEM COLIFORMS (MFP)					REPEAT SAMPLES			INCUBATOR TEMP.	PLANKTON
	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																					
3												0	4	0	0	0	0				35.4
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10												0	4	0	0	0	0				35.0
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16																					
17												0	4	0	0			0	0		35.3
18																					
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20																					
21																					
22																					
23																					
24												0	4	0	0						35.1
25																					
26																					
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29																					
30												0	4	0	0						
31												0	4	0	0						

HF MEDIA RBL mEndo BACTERIAL DENSITY ARITH. MEAN
 TPC MEDIA GEO. MEAN

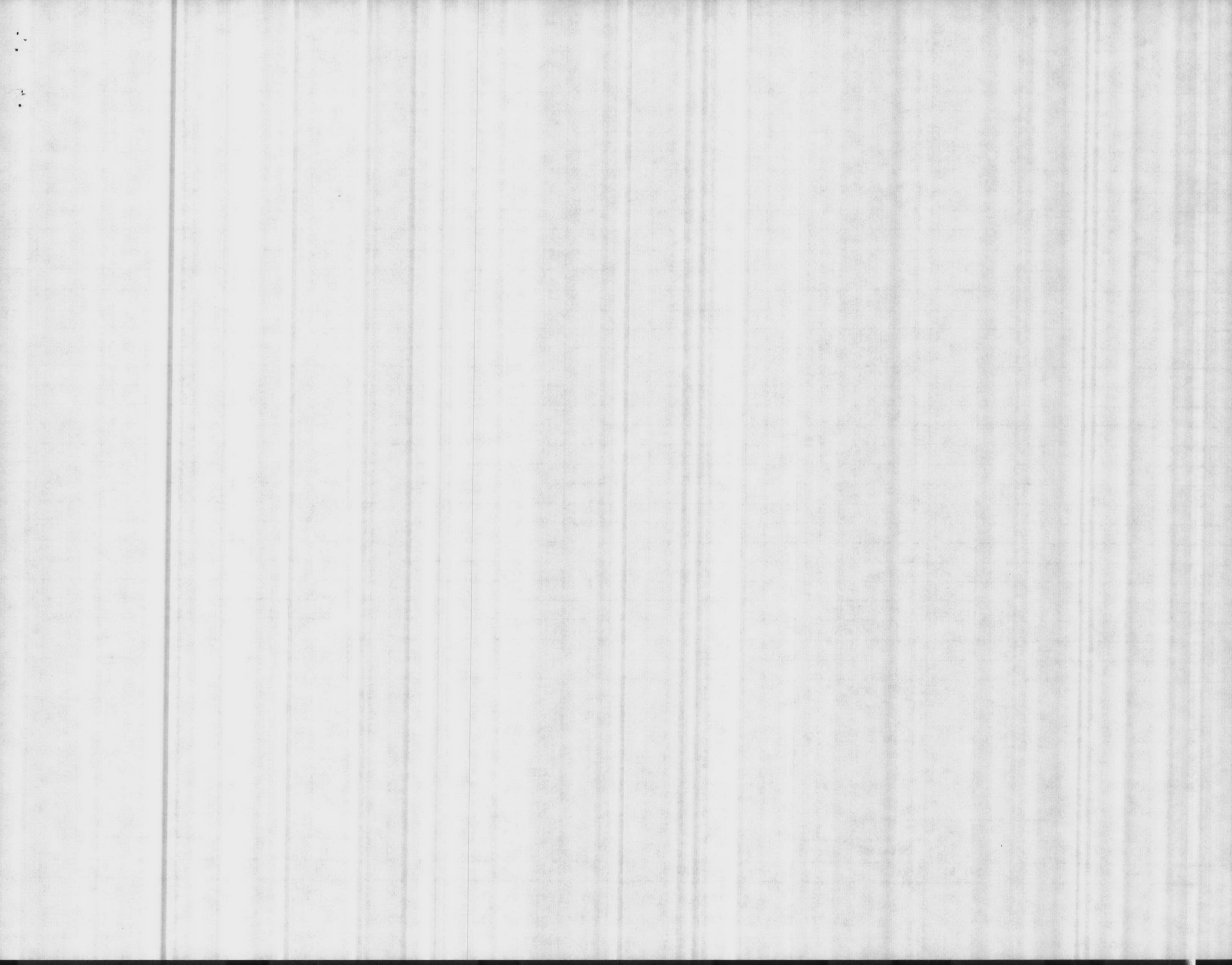
AVE. COLIFORMS per 100 ml. NO. OF SAMPLES EXAMINED TOTAL NO. SAMPLES
 1.0 4 7/290

LAB ID # 37807

Elizabeth A. Betty

CERT. GRADE: B-Well # 4087
 ENCLOSURE





Month MARCH
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

Serial # 04-67-045

N. C. DEPARTMENT OF HUMAN RESOURCES

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.	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								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.
1																												
2																												
3																	0	2	0	0						35.4		
4																												
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9																	0	1			0							35.0
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17																	0	2	0	0								35.3
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24																	0	2	0		0							35.1
25																												
26																												
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28																												
29																												
30																												
31																	0	2	0		0							

MF MEDIA: BBL mEndo
TPC MEDIA: BBL mEndo
BACTERIAL DENSITY: ARITH. MEAN
GEO. MEAN

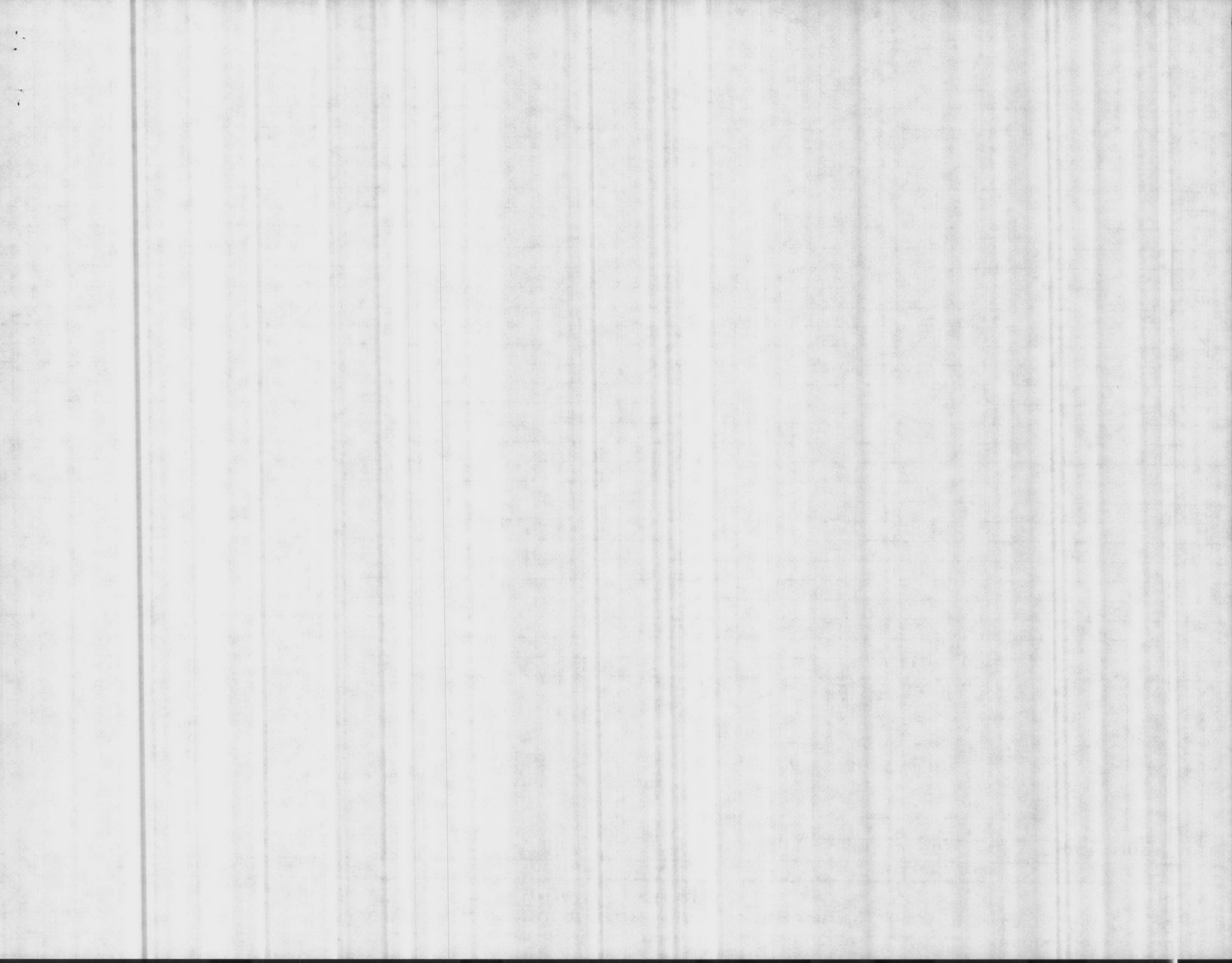
1.0
CIST. SYSTEM
TOTAL NO. SAMPLES
SAMPLES EXCEEDING 3/50: 4/100, 7/200, 13/300
35.4
9
0

LAB ID # 37807

Elizabeth A. Betz

CERT GRADE: B-Well # 4087
ENCLOSURE





Month MARCH
Year 1987

INFLUENCE RANGE

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 # 04-67-046

DATE	RAW WATER COLIFORMS (MFP)						NO. OF COLIFORMS PER 100 ml.	TOTAL PLATE COUNT	FILTERED	TOTAL PLATE COUNT	FINISHED	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	DISTRIBUTION SYSTEM					COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	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						COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	
	TOTAL COLONIES	COLIFORM COLONIES	TOTAL COLONIES	COLIFORM COLONIES	TOTAL 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.		
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31														0	3	0	0	0									35.4
MF MEDIA		BRI mEndo		BACTERIAL DENSITY		ARITH. MEAN								0	DIST. SYSTEM	TOTAL PG. SAMPLES					SAMPLES EXCEEDING 3/50. (4/100) 7/200. 13/200						
TPC MEDIA						GEO. MEAN								1.0													

LAB ID # 37807

CERT. GRADE: B- W-46 ENCLOSURE 7-11





Month MARCH
Year 1987

COOKHOUSE DAM WATER TREATMENT PLANT AT Camp Lejeune

Method Code: 300
Contaminant Code: 3000

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

N. C. DEPARTMENT OF HUMAN RESOURCES

Serial # 04-67-047

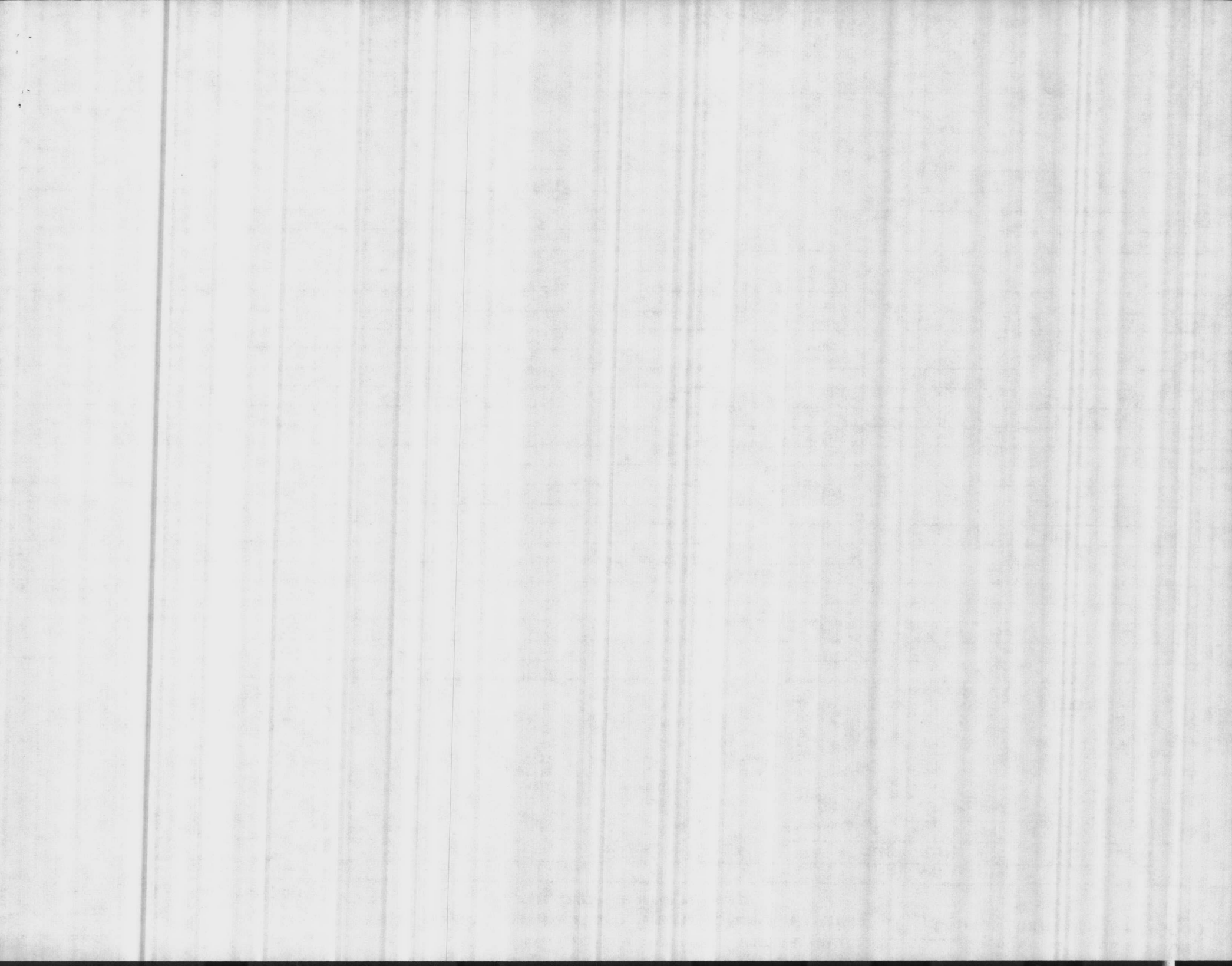
DATE	RAW WATER COLIFORMS (MFP)						NO. OF COLIFORMS PER 100 ml.	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	DISTRIBUTION SYSTEM						INCUBATOR TEMP.	PLANKTON								
	A		B		C								COLIFORMS (MFP)								REPEAT SAMPLED							
	VOLUME FILTERED ml.	TOTAL COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES							1	2	3	4	5	6			COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.					
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MF MEDIA	RBI mEndo		BACTERIAL DENSITY		ARITH. MEAN		GEO. MEAN						0		4		0		0		0		0					
TPC MEDIA													1.0		DIST. SYSTEM		TOTAL NO. SAMPLES		SAMPLES EXCEEDING 3/50.		(4/100)		7/200.		13/1000			

LAB ID # 37807

Elizabeth A. Betz

CERT. GRADE: B-Well
ENCLOSURE





Month VIARCN
Year 1987

UNLOW DEATH

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 # 04-67-048

DATE	RAW WATER COLIFORMS (MFP)									NO. OF COLIFORMS PER 100 ml.	FILTERED		FINISHED		DISTRIBUTION SYSTEM						INCUBATOR TEMP.	PLANKTON											
	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.								
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	HF MEDIA													0																			
	TPC MEDIA													10																			
		BBI	mEndo																														

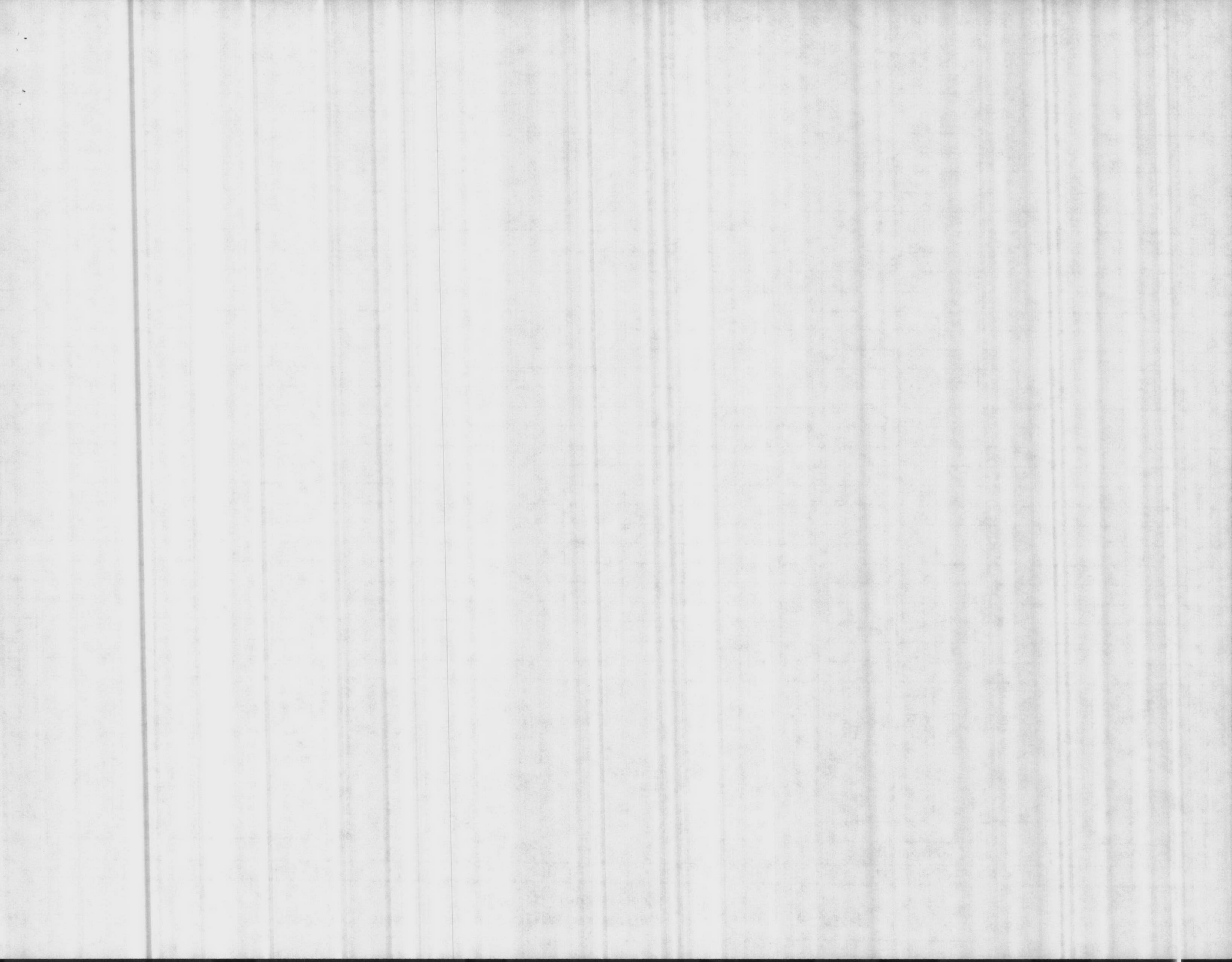
LAB ID # 37807

Elizabeth A. Beaz

CERT GRADE: B-WELL # 4087-W



ENCLOSURE



CHEMICAL ANALYSIS — WATER TREATMENT PLANTS

MCBCL 11330/3 (REV. 6-84)

DATE COLLECTED

3-3-87

DATE OF ANALYSIS

3-3-87

PARAMETER SERIAL#04-67	HADNOT POINT -041	CAMP JOHNSON -045	TARAWA TERRACE -044	ONSLOW BEACH -048	COURTHOUSE BAY -047	RIFLE RANGE -046	HOLCOMB BLVD -043	NEW RIVER -042		
PH (IN LAB NOT PLANT)	8.8	7.3	8.6	7.4	8.1	8.2	8.3	8.6		
PHENOLTHALEIN ALKALINITY	4	0	4	0	0	2	0	14		
METHYL ORANGE ALKALINITY	50	168	52	160	180	164	60	130		
CARBONATES AS CaCO ₃	8	0	8	0	0	4	0	28		
BICARBONATES AS CaCO ₃	42	168	44	160	180	160	60	102		
CHLORIDES AS Cl	10	10	18	20	16	66	14	60		
HARDNESS AS CaCO ₃	72	54	62	60	56	60	64	60		
IRON AS Fe			A.A.	DOWN	FOR	REPAIRS				
FLUORIDE	Am	0.80		0.84			0.79			
	Pm	0.12	0.12	0.76	0.12	0.10	0.09	0.83	52	
CHLORINE RESIDUAL		1.0	1.2	1.0	0.5	1.4	0.8	1.0	1.0	
TURBIDITY	Am	0.6		0.8			0.4			
	Pm	0.3	0.7	5.8	0.4	0.2	0.5	0.4	1.2	
TOTAL PHOSPHATE			3.7							
ORTHO PHOSPHATE			1.2							
META PHOSPHATE			2.5							
STABILITY	+0.5	-0.6	+0.4	-0.6	0.0	+0.1	+0.1	+0.2		

REMARKS

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. J. BURNS

ENCLOSURE 121



CHEMICAL ANALYSIS — WATER TREATMENT PLANTS

MCBCL 11330/3 (REV 6-84)

DATE COLLECTED
3-10-87

DATE OF ANALYSIS
3-10-87

PARAMETER SERIAL #04-67	HADNOT POINT -041	CAMP JOHNSON -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	7.5	8.7	7.5	8.1	8.3	8.9	8.8
PHENOLTHALEIN ALKALINITY	2	0	4	0	0	2	6	8
METHYL ORANGE ALKALINITY	50	164	60	150	166	160	56	130
CARBONATES AS CaCO ₃	4	0	8	0	0	4	12	16
BICARBONATES AS CaCO ₃	46	164	52	150	166	156	44	114
CHLORIDES AS Cl	14	10	10	20	10	50	10	60
HARDNESS AS CaCO ₃	64	60	70	58	54	60	66	42
IRON AS Fe			A.A. DOWN					
FLUORIDE	Am 0.76						1.01	
	Pm 0.83	0.17	0.77	0.13	0.10	0.09	0.95	0.54
CHLORINE RESIDUAL	1.1	1.0	0.9	1.1	1.2	1.0	1.2	0.8
TURBIDITY	Am 0.1						0.2	
	Pm 0.1	1.5	0.8	0.2	0.1	0.1	0.2	0.7
TOTAL PHOSPHATE		2.18						
ORTHO PHOSPHATE		1.03						
META PHOSPHATE		1.15						
STABILITY	+0.2	-0.6	+0.5	-0.7	-0.1	0.0	+0.6	+0.1

REMARKS

COPY TO:

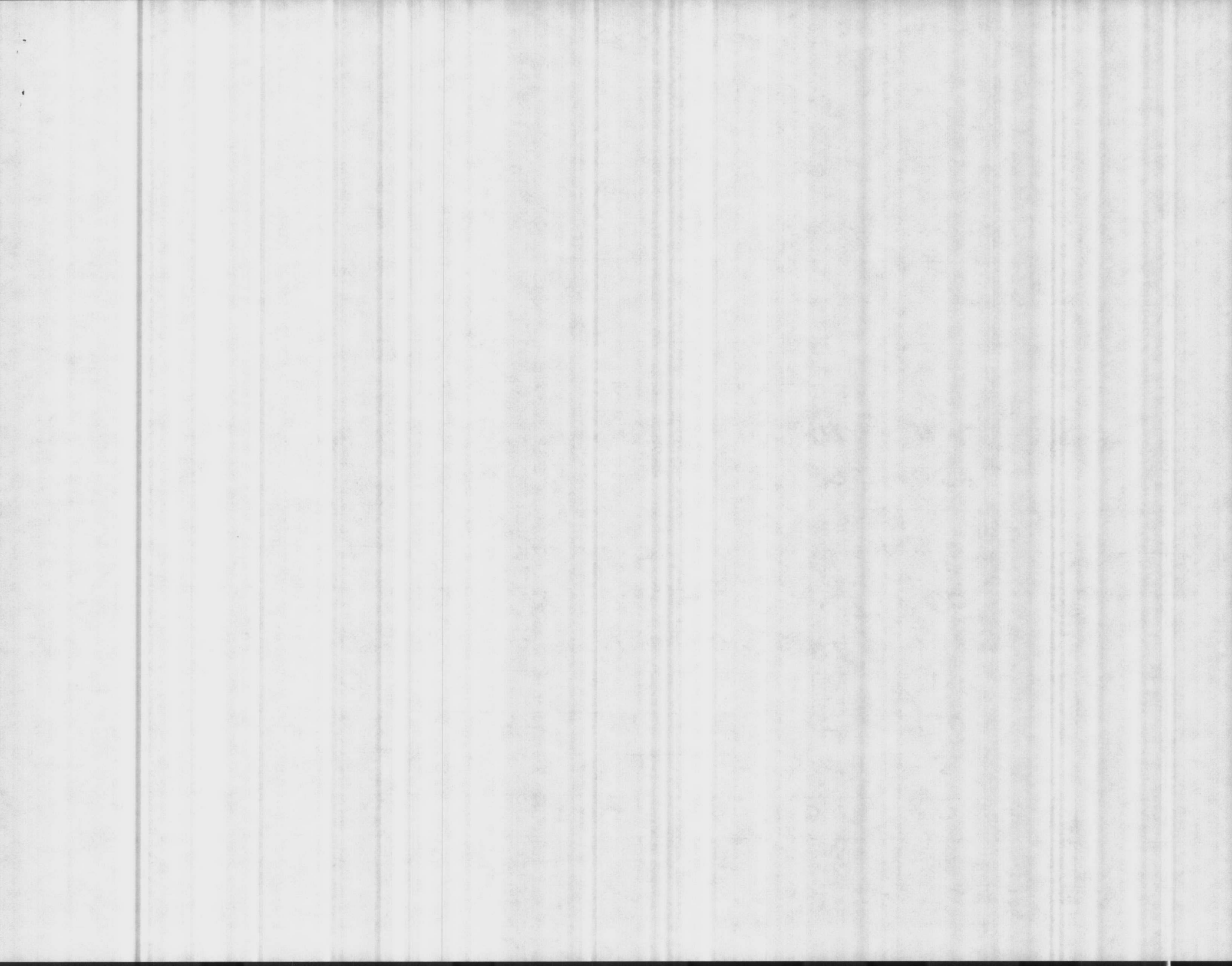
- UTIL DIR
- WATER TREATMENT
- PMU MCAS PMU
- NREAD FILE

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

BURNS + BARBEE

ENCLOSURE (2)



CHEMICAL ANALYSIS — WATER TREATMENT PLANTS

MCBCL 11330/3 (REV. 6-84)

DATE COLLECTED

3-17-87

DATE OF ANALYSIS

3-17-87

PARAMETER SERIAL #04-67	HADNOT POINT -041	CAMP JOHNSON -045	TARAWA TERRACE -044	ONSLOW BEACH -048	COURTHOUSE BAY -047	RIFLE RANGE -046	HOLCOMB BLVD -043	NEW RIVER -042
PH (IN LAB NOT PLANT)	8.2	8.2	8.6	7.6	8.3	8.4	8.6	8.8
PHENOLTHALEIN ALKALINITY	0	0	2	0	0	0	2	12
METHYL ORANGE ALKALINITY	58	66	58	162	178	162	52	144
CARBONATES AS CaCO ₃	0	0	4	0	0	0	4	24
BICARBONATES AS CaCO ₃	58	66	54	162	178	162	48	120
CHLORIDES AS Cl	8	8	8	18	20	48	8	58
HARDNESS AS CaCO ₃	66	64	66	60	68	56	66	54
IRON AS Fe			A.A.	DOWN				
FLUORIDE	Am 0.25 Pm 0.27	0.65	0.69	0.17	0.12	0.10	0.80 0.90	0.58
CHLORINE RESIDUAL	1.0	1.0	1.0	1.2	1.2	1.1	—	0.7
TURBIDITY	Am 0.1 Pm 0.1	0.2	0.3	0.1	0.1	0.1	0.1 0.3	0.1
TOTAL PHOSPHATE		0.4						
ORTHO PHOSPHATE		0.2						
META PHOSPHATE		0.2						
STABILITY	0.0	+0.2	+0.1	-0.4	+0.2	+0.1	+0.2	+0.5

REMARKS

COPY TO:

UTIL DIR

WATER TREATMENT

PMU MCAS PMU

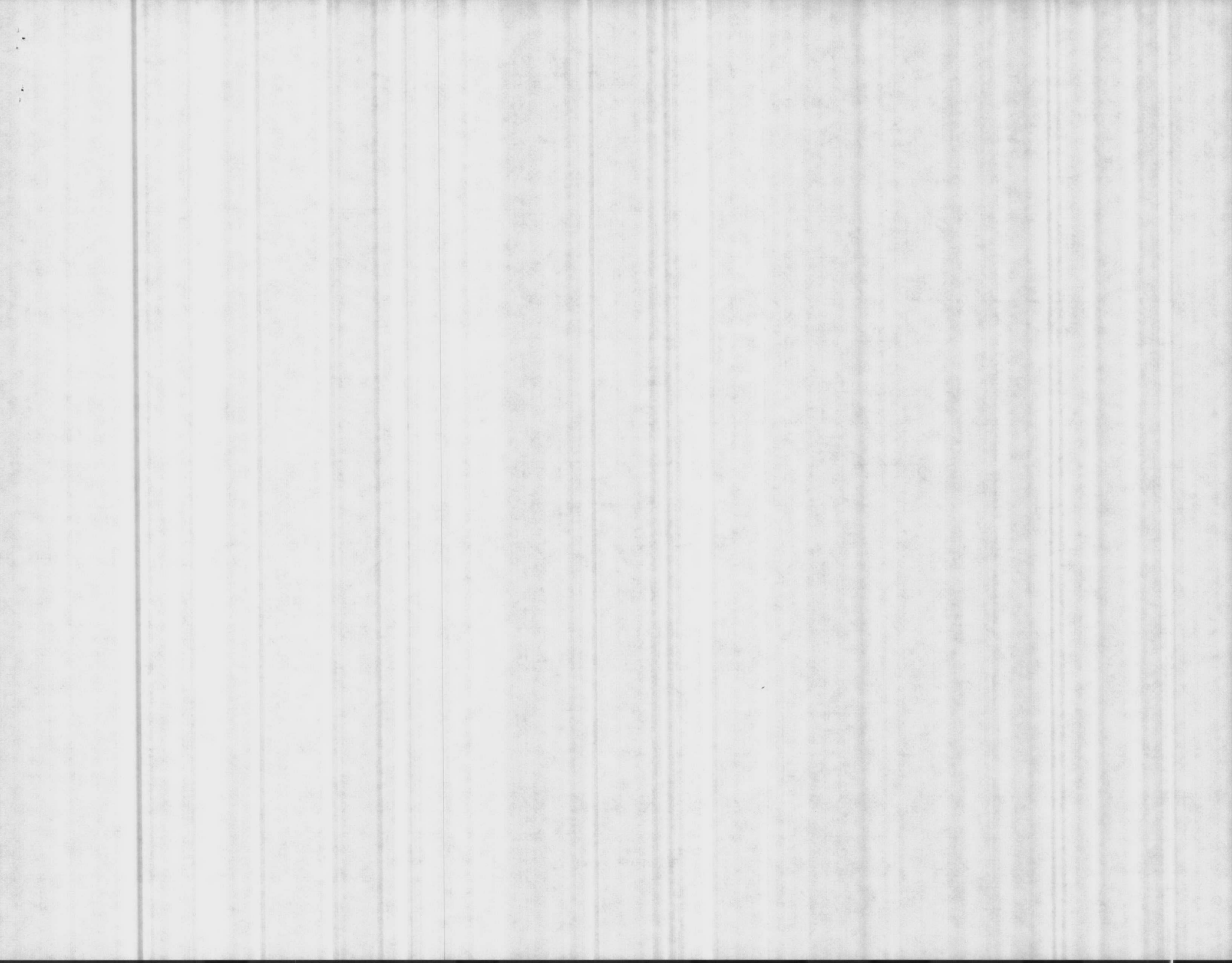
NREAD FILE

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

LANE + BURNS

ENCLOSURE 151



CHEMICAL ANALYSIS — WATER TREATMENT PLANTS

MOBCL 11330/3 (REV. 6-84)

DATE COLLECTED

3-24-87

DATE OF ANALYSIS

3-24-87

PARAMETER SERIAL #04-67	HADNOT POINT -041	CAMP JOHNSON -045	TARAWA TERRACE -044	ONSLow BEACH -048	COURTHOUSE BAY -047	RIFLE RANGE -046	HOLCOMB BLVD -043	NEW RIVER -042		
PH (IN LAB NOT PLANT)	8.4			7.4	8.1	8.2	8.4	8.8		
PHENOLTHALEIN ALKALINITY	4			0	0	4	4	20		
METHYL ORANGE ALKALINITY	70			160	174	156	56	130		
CARBONATES AS CaCO ₃	8			0	0	8	8	40		
BICARBONATES AS CaCO ₃	62			160	174	148	48	90		
CHLORIDES AS Cl	10			18	20	50	10	60		
HARDNESS AS CaCO ₃	74			64	54	54	68	48		
IRON AS Fe				A.A.	DOWN					
FLUORIDE	Am 0.61 Pm 0.65			0.14	0.11	0.09	0.98 0.96	0.52		
CHLORINE RESIDUAL	1.1			1.2	1.2	1.0	1.1	0.8		
TURBIDITY	Am 1.2 Pm 1.8			0.1	0.1	0.1	0.2 0.2	1.1		
TOTAL PHOSPHATE										
ORTHO PHOSPHATE										
META PHOSPHATE										
STABILITY	±0.4			-0.6	-0.1	-0.1	±0.2	±0.2		

REMARKS

COPY TO:

UTIL DIR

WATER TREATMENT

PMU MCAS PMU

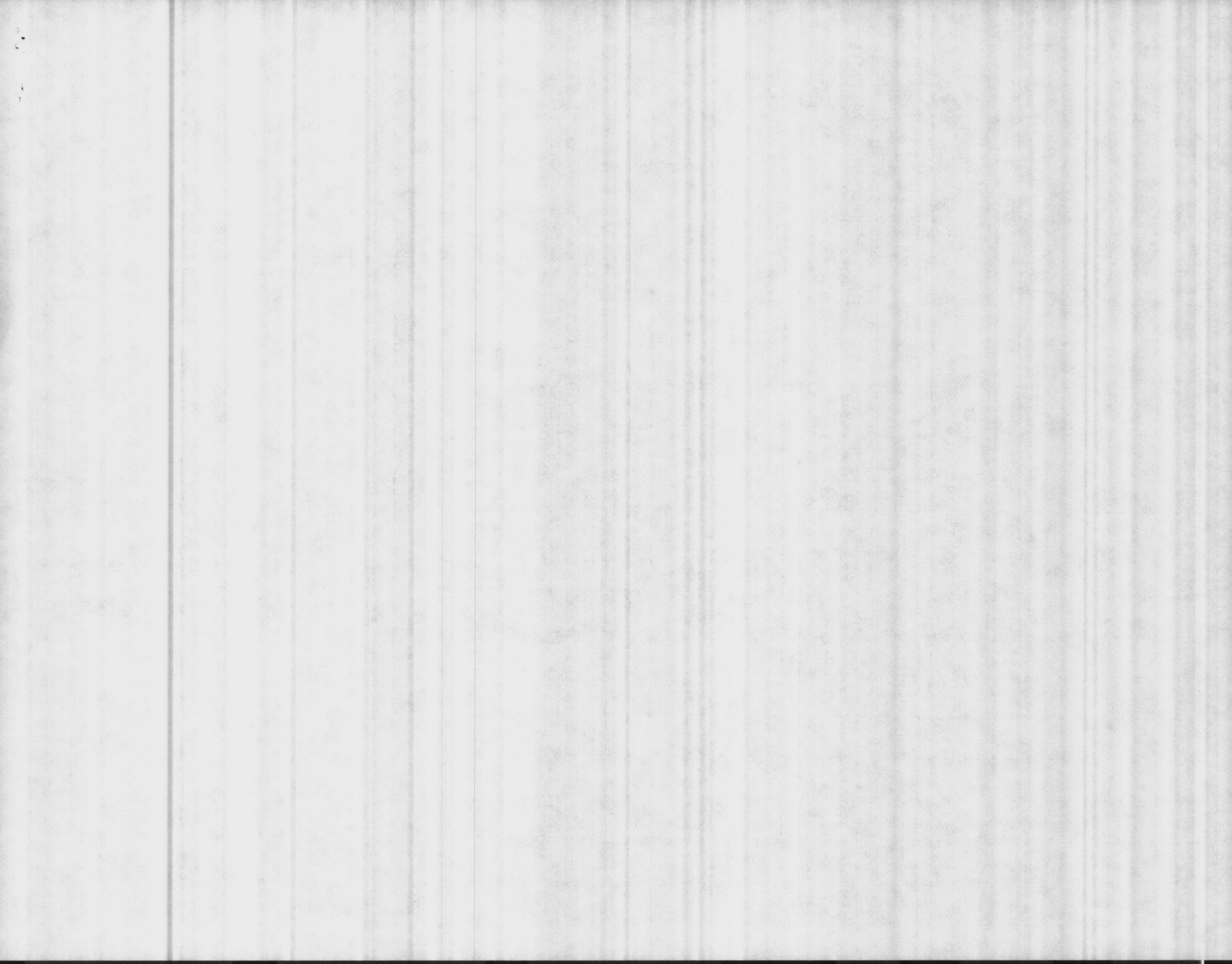
NREAD FILE

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

BURNS

ENCLOSURE (2)



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

DATE COLLECTED
3-31-87

DATE OF ANALYSIS
3-31-87

PARAMETER SERIAL#04-67	HADNOT POINT -041	CAMP JOHNSON -045	TARAWA TERRACE -044	ONSLow BEACH -048	COURTHOUSE BAY -047	RIFLE RANGE -046	HOLCOMB BLVD -043	NEW RIVER -042		
PH (IN LAB NOT PLANT)	7.9			7.5	8.1	7.8	8.3	8.7		
PHENOLTHALEIN ALKALINITY	0			0	0	0	2	16		
METHYL ORANGE ALKALINITY	56			168	194	186	58	148		
CARBONATES AS CaCO ₃	0			0	0	0	4	32		
BICARBONATES AS CaCO ₃	56			168	194	186	54	116		
CHLORIDES AS Cl	6			26	16	48	10	60		
HARDNESS AS CaCO ₃	60			54	60	62	66	44		
IRON AS Fe				A.A.	Down					
FLUORIDE	Am 0.19 Pm 0.17			0.14	0.12	0.11	0.92 0.93	0.58		
CHLORINE RESIDUAL	1.0			1.2	1.2	1.1	1.5	0.8		
TURBIDITY	Am 0.1 Pm 0.7			0.1	0.1	0.1	0.1 0.1	0.2		
TOTAL PHOSPHATE										
ORTHO PHOSPHATE										
META PHOSPHATE										
STABILITY	-0.4			-0.6	-0.2	-0.5	-0.1	0.0		

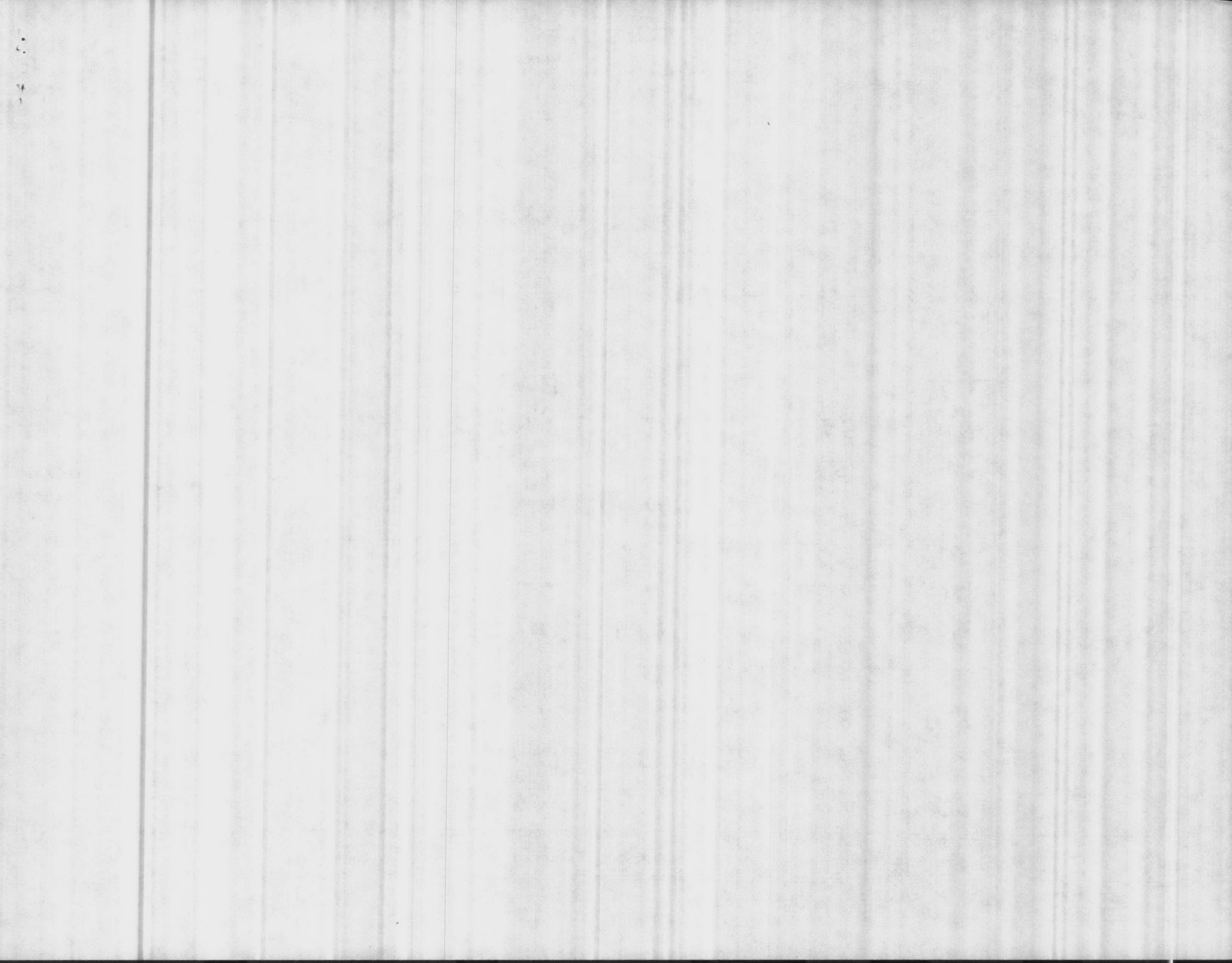
REMARKS

- 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
BARBEE

ENCLOSURE **121**



GSJ
WZ
1072P

11331
NREAD

DEC 09 1986

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 November 1986. 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 NREAD, Assistant Chief of Staff, Facilities. Ms. Betz, Supervisory Chemist, Quality Control Laboratory, telephone (919) 451-5977, is the point of contact in this matter.

Sincerely,

DANNY D. SHARPE
Acting Director

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

Copy to:
LANTNAVFACENGCOM (Code 114)

Blind copy to:
BMO (Attn: UtilDir)
SupvyChem, QCL

123

DEC 9 1988

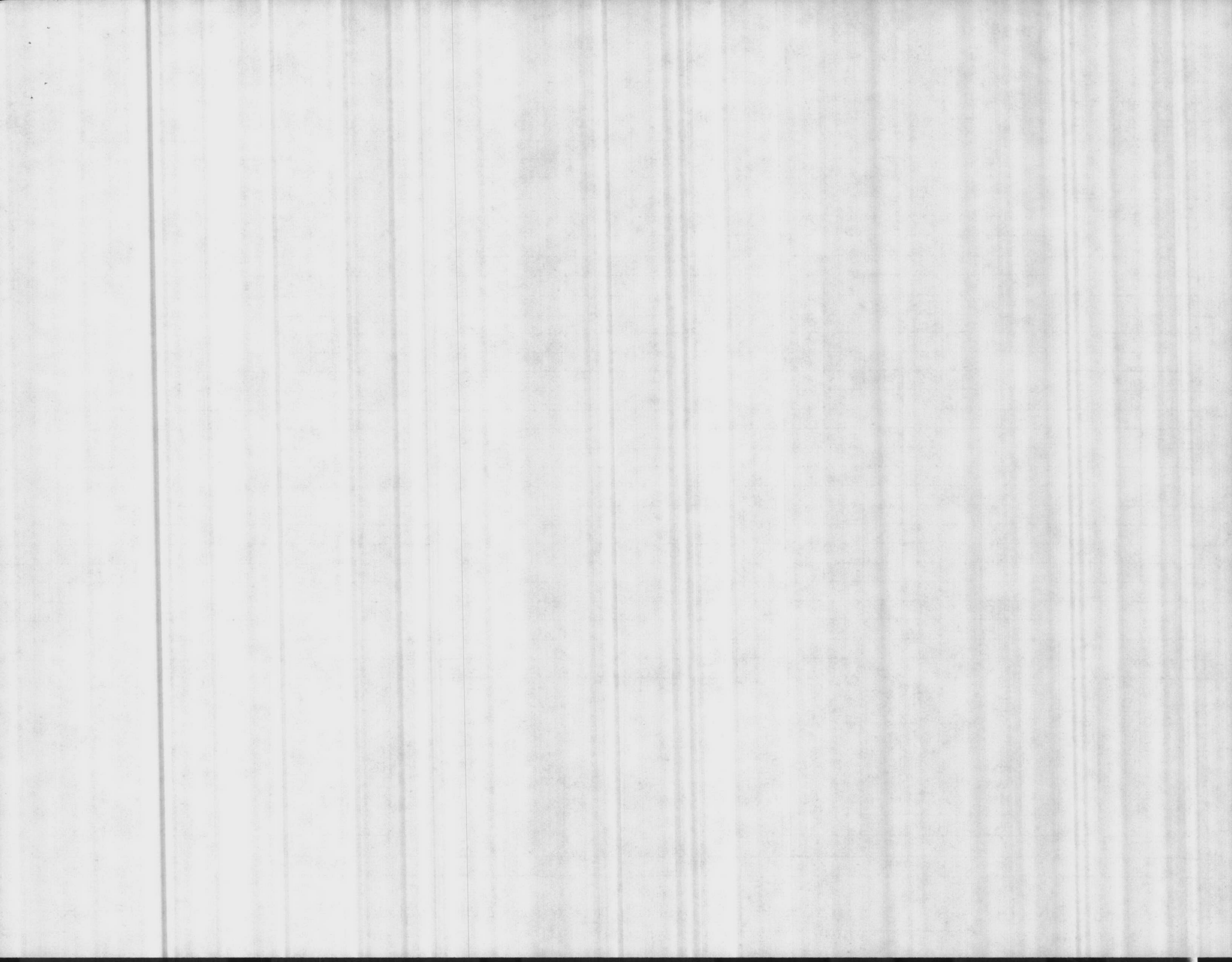
DATE	RAW WATER COLIFORMS (MFP)						NO. OF COLIFORMS PER 100 ml.	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	FINISHED	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	DISTRIBUTION SYSTEM					REPEAT SAMPLES	INCUBATOR TEMP.						
	A		B		C									COLIFORMS (MFP)												
	VOLUME FILTERED ml.	TOTAL COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES								1	2	3	4	5			COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	
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	TPC MEDIA													1.0												
		BBL mEndo																								
			BACTERIAL DENSITY																							
				ARITH. MEAN																						
				GEO. MEAN																						

LAB # 37807

ELGATE CLOSURE (17) WELL 4087-W

0 CIST. SYSTEM TOTAL NO. SAMPLES 36
 1.0 SAMPLES EXCEEDING 3/50. (3/100) 7/200. 13/500ai 0







Month: _____
Year: 1986

LABORATORY

WATER TREATMENT PLANT AT Camp Lejeune

Method Code: 303
Contaminant Code: 3000

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

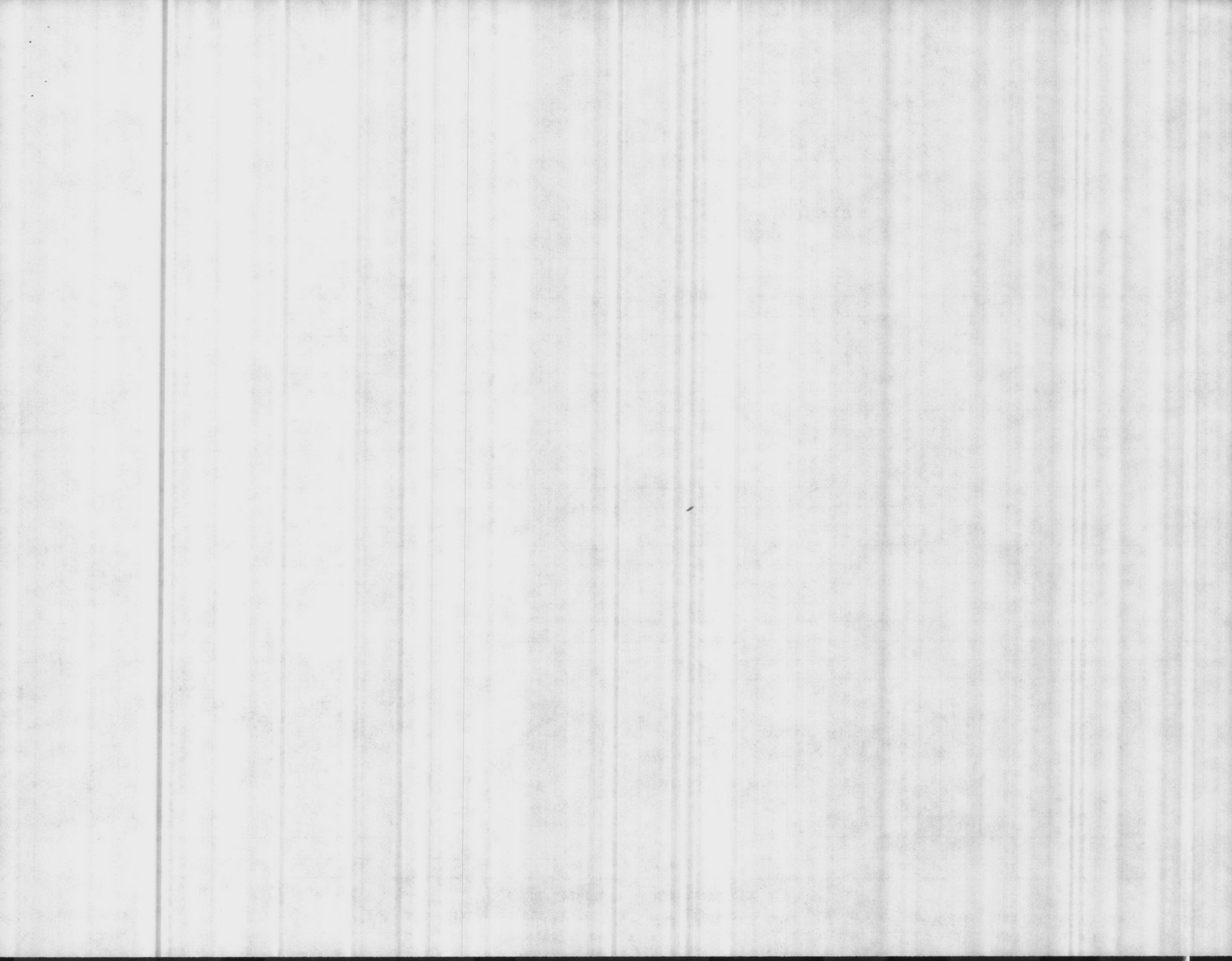
N. C. DEPARTMENT OF HUMAN RESOURCES

Serial # 04-67-045

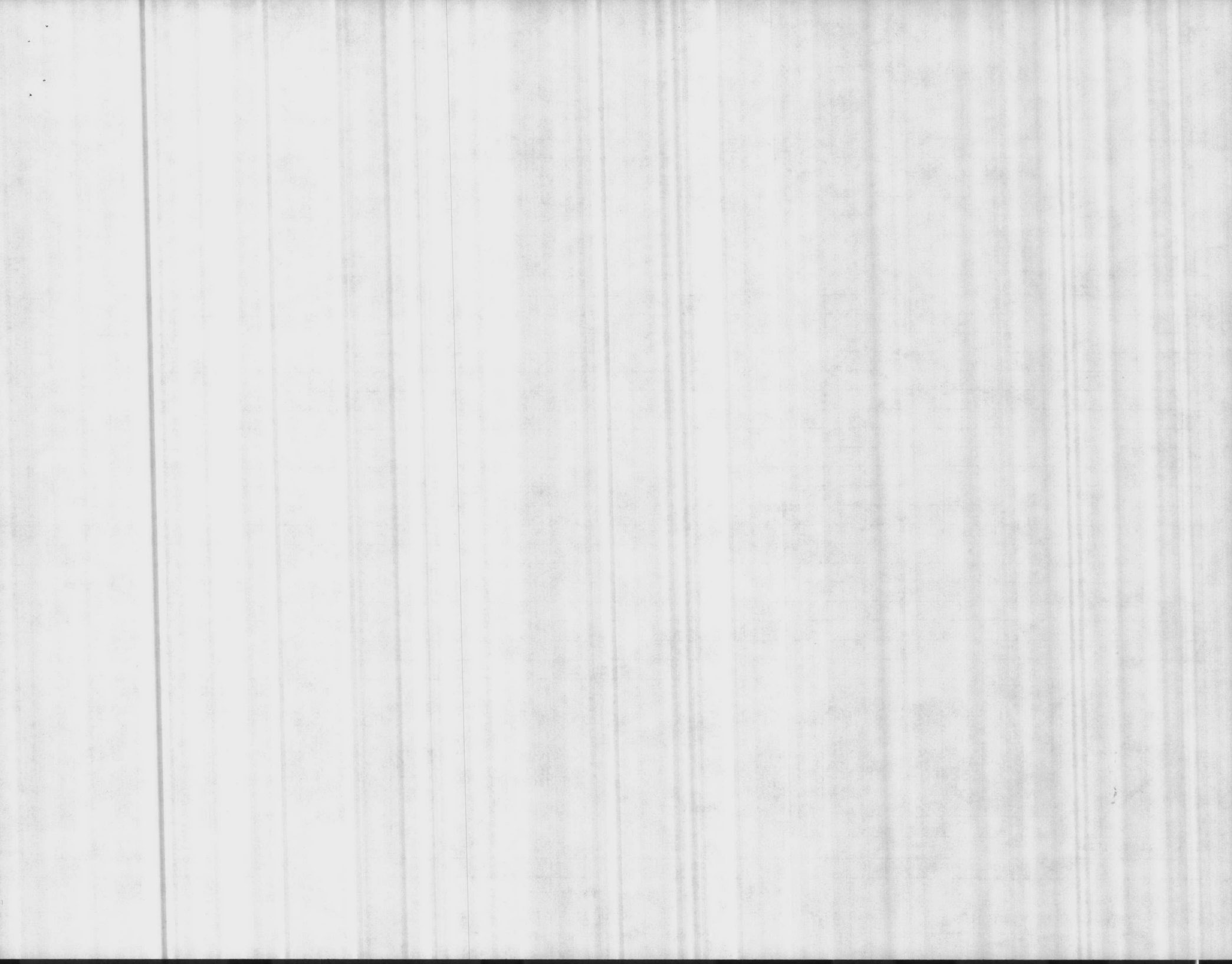
DATE	RAW WATER COLIFORMS (MFP)									NO. OF COLIFORMS PER 100 ml.	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	DISTRIBUTION SYSTEM									
	A			B			C									COLIFORMS (MFP)					REPEAT SAMPLES				
	VOLUME FILTERED ml.	TOTAL COLONIES	COLIFORM 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.	COLIFORMS per 100 ml.
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31																									
MF MEDIA	BBL mEndo			BACTERIAL DENSITY			ARITH. MEAN																		
TPC MEDIA							GEO. MEAN																		

LAB ID # 37807

1.0 DIST. SYSTEM TOTAL NO. SAMPLES 8
 SAMPLES EXCEEDING 3/50 (4/100) 7/200, 13/500-ml 0
 Elizabeth B. Well 4087-W









CHEMICAL ANALYSIS -- WATER TREATMENT PLANTS

MCBCL 11330/3 (REV 6 84)

DATE COLLECTED

11-4-86

DATE OF ANALYSIS

11-4-86

PARAMETER	HADNOT POINT -241	CAMP JOHNSON -243	TARAWA TERRACE -244	ONSLow BEACH -248	COURTHOUSE BAY -247	RIFLE RANGE -246	HOLCOMB BLVD -243	NEW RIVER -242
PH (IN LAB NO. PLANT)	9.2	7.3	8.5	7.4	7.7	8.0	8.4	8.6
PHENOLTHALEIN ALKALINITY	10	0	4	0	0	0	2	18
METHYL ORANGE ALKALINITY	42	170	58	150	170	170	54	146
CARBONATES AS CaCO ₃	20	0	8	0	0	0	4	36
BICARBONATES AS CaCO ₃	22	170	50	150	170	170	50	110
CHLORIDES AS Cl	10	10	16	18	14	40	10	60
HARDNESS AS CaCO ₃	52	60	70	58	72	60	70	44
IRON AS Fe	20.04	0.24	20.04	0.12	0.06	20.04	0.04	20.04
FLUORIDE	AM 1.08 PM 1.06	0.25	AM 0.83 PM 0.89	0.20	0.15	0.14	AM 1.08 PM 1.09	0.59
CHLORINE RESIDUAL	1.1	1.4	1.0	1.5	1.4	1.0	1.0	0.8
TURBIDITY	AM 0.5 PM 0.6	0.9	AM 0.5 PM 0.5	0.4	0.4	0.6	AM 0.6 PM 0.9	0.9
TOTAL PHOSPHATE		1.9						
ORTHO PHOSPHATE		1.2						
META PHOSPHATE		0.7						
STABILITY	+0.7	-0.7	+0.4	-0.7	-0.3	-0.1	+0.4	+0.3

REMARKS

COPY TO:

UTIL DIR

WATER TREATMENT

PMU

MCAS PMU

NREAD

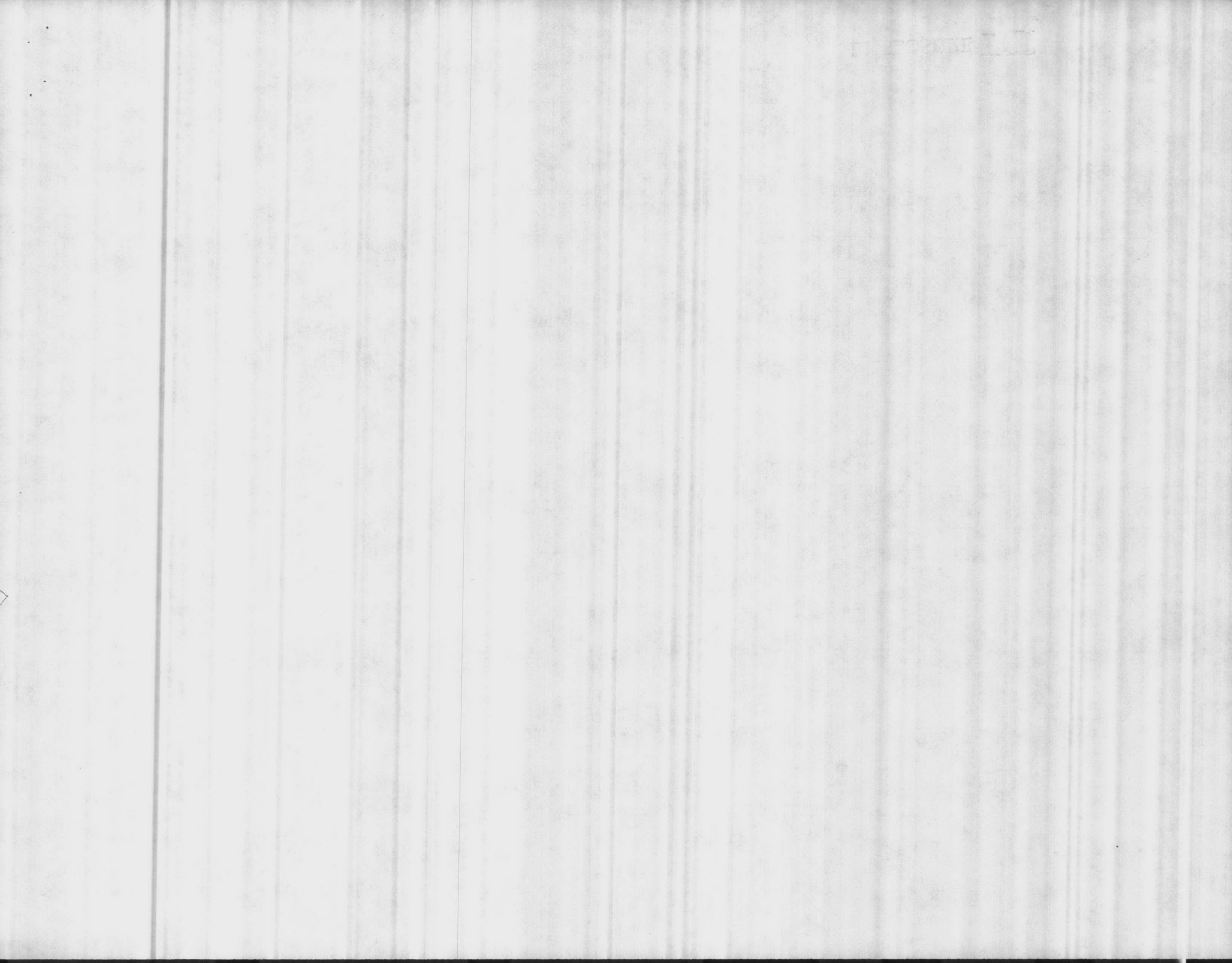
FILE

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

BURNS & LANE

ENCLOSURE



CHEMICAL ANALYSIS — WATER TREATMENT PLANTS

MCBCL 11330.3 (REV 6-84)

DATE COLLECTED

11-12-86

DATE OF ANALYSIS

11-12-86

PARAMETER	HADNOT POINT -041	CAMP JOHNSON -045	TARAWA TERRACE -044	ONSLow BEACH -048	COURTHOUSE BAY -047	RIFLE RANGE -046	HOLCOMB BLVD -043	NEW RIVER -042		
PH (IN LAB 100 POINT)	8.7	7.4	8.7	7.7	8.2	8.0	8.6	8.7		
PHENOLTHALEIN ALKALINITY	4	0	10	0	0	0	6	16		
METHYL ORANGE ALKALINITY	54	176	48	170	168	170	56	148		
CARBONATES AS CaCO ₃	8	0	20	0	0	0	12	32		
BICARBONATES AS CaCO ₃	46	176	28	170	168	170	44	116		
CHLORIDES AS Cl	10	14	16	24	20	44	16	60		
HARDNESS AS CaCO ₃	74	68	74	54	44	62	78	52		
IRON AS Fe	LO.04	0.21	0.24	0.12	LO.04	LO.04	LO.04	LO.04		
FLUORIDE	AM 0.95 PM 1.15	0.18	0.81 0.72	0.17	0.13	0.12	0.77 0.71	0.59		
CHLORINE RESIDUAL	1.0	1.2	1.0	1.5	1.5	1.6	0.9	0.7		
TURBIDITY	AM 0.6 PM 0.6	1.1	0.7 5.8	0.5	0.4	0.5	0.8 3.5	0.8		
TOTAL PHOSPHATE		1.95								
ORTHO PHOSPHATE		1.11								
META PHOSPHATE		0.84								
STABILITY	+0.4	-0.8	+0.1	-0.5	-0.1	-0.2	+0.2	+0.1		

REMARKS

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

LANE & PARBEE



CHEMICAL ANALYSIS -- WATER TREATMENT PLANTS

MCBCL 11330/3 (REV 6-84)

DATE COLLECTED

11-18-86

DATE OF ANALYSIS

11-18-86

PARAMETER	HADNOT POINT -041	CAMP JOHNSON -045	TARAWA TERRACE -044	ONSLow BEACH -048	COURTHOUSE BAY -047	RIFLE RANGE -046	HOLCOMB BLVD -043	NEW RIVER -042
PH (IN LAB NOT PLANT)	8.2	7.2	8.2	7.3	7.9	7.7	8.0	8.3
PHENOLTHALEIN ALKALINITY	4	0	0	0	0	0	0	10
METHYL ORANGE ALKALINITY	68	168	50	168	184	184	62	154
CARBONATES AS CaCO ₃	8	0	0	0	0	0	0	20
BICARBONATES AS CaCO ₃	60	168	50	168	184	184	62	134
CHLORIDES AS Cl	16	14	14	24	22	46	16	66
HARDNESS AS CaCO ₃	80	62	74	52	46	62	68	48
IRON AS Fe	20.04	0.14	20.04	20.04	20.04	20.04	20.04	20.04
FLUORIDE	Am 0.45 Pm 0.47	0.20	Am 0.91 Pm 0.88	0.18	0.14	0.13	Am 0.89 Pm 1.00	0.58
CHLORINE RESIDUAL	1.0	1.1	1.0	1.5	1.1	1.0	0.9	1.0
TURBIDITY	Am 0.4 Pm 0.4	0.9	Am 0.3 Pm 2.2	0.4	0.5	0.4	Am 0.8 Pm 2.1	0.6
TOTAL PHOSPHATE		2.7						
ORTHO PHOSPHATE		1.3						
META PHOSPHATE		1.4						
STABILITY	0	-0.6	0	-0.7	-0.3	-0.4	-0.3	-0.1

REMARKS

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

LANG # 540265



CHEMICAL ANALYSIS -- WATER TREATMENT PLANTS

MCBCL 11330 3 (REV 6-84)

DATE COLLECTED

11-25-86

DATE OF ANALYSIS

11-25-86

PARAMETER	HADNOT POINT -041	CAMP JOHNSON -045	TARAWA TERRACE -044	ONSLow BEACH -048	COURTHOUSE BAY -047	RIFLE RANGE -046	HOLCOMB BLVD -043	NEW RIVER -042		
PH (IN LAB USE PLANT)	8.5	7.3	8.6	7.3	7.7	8.0	8.3	8.6		
PHENOLTHALEIN ALKALINITY	4	0	6	0	0	0	2	18		
METHYL ORANGE ALKALINITY	54	170	46	156	170	160	50	140		
CARBONATES AS CaCO ₃	8	0	12	0	0	0	4	36		
BICARBONATES AS CaCO ₃	46	170	34	156	170	160	46	104		
CHLORIDES AS Cl	10	10	10	20	16	26	10	60		
HARDNESS AS CaCO ₃	64	56	80	56	48	52	64	46		
IRON AS Fe	20.04	0.18	20.04	0.09	0.05	0.05	20.04	20.04		
FLUORIDE	AM 1.44 PM 1.43	0.20	AM 0.79 PM 0.86	0.18	0.16	0.14	AM 0.94 PM 0.91	0.63		
CHLORINE RESIDUAL	1.1	1.3	1.0	1.3	1.4	1.1	1.0	0.9		
TURBIDITY	AM 0.2 PM 0.1	2.2	AM 0.1 PM 0.6	0.1	0.1	0.1	AM 0.1 PM 0.7	0.1		
TOTAL PHOSPHATE		1.8								
ORTHO PHOSPHATE		1.0								
META PHOSPHATE		0.8								
STABILITY	+0.3	-0.6	+0.3	-0.8	-0.4	-0.2	-0.1	+0.1		

REMARKS

COPY TO:

UTIL DIR

WATER TREATMENT

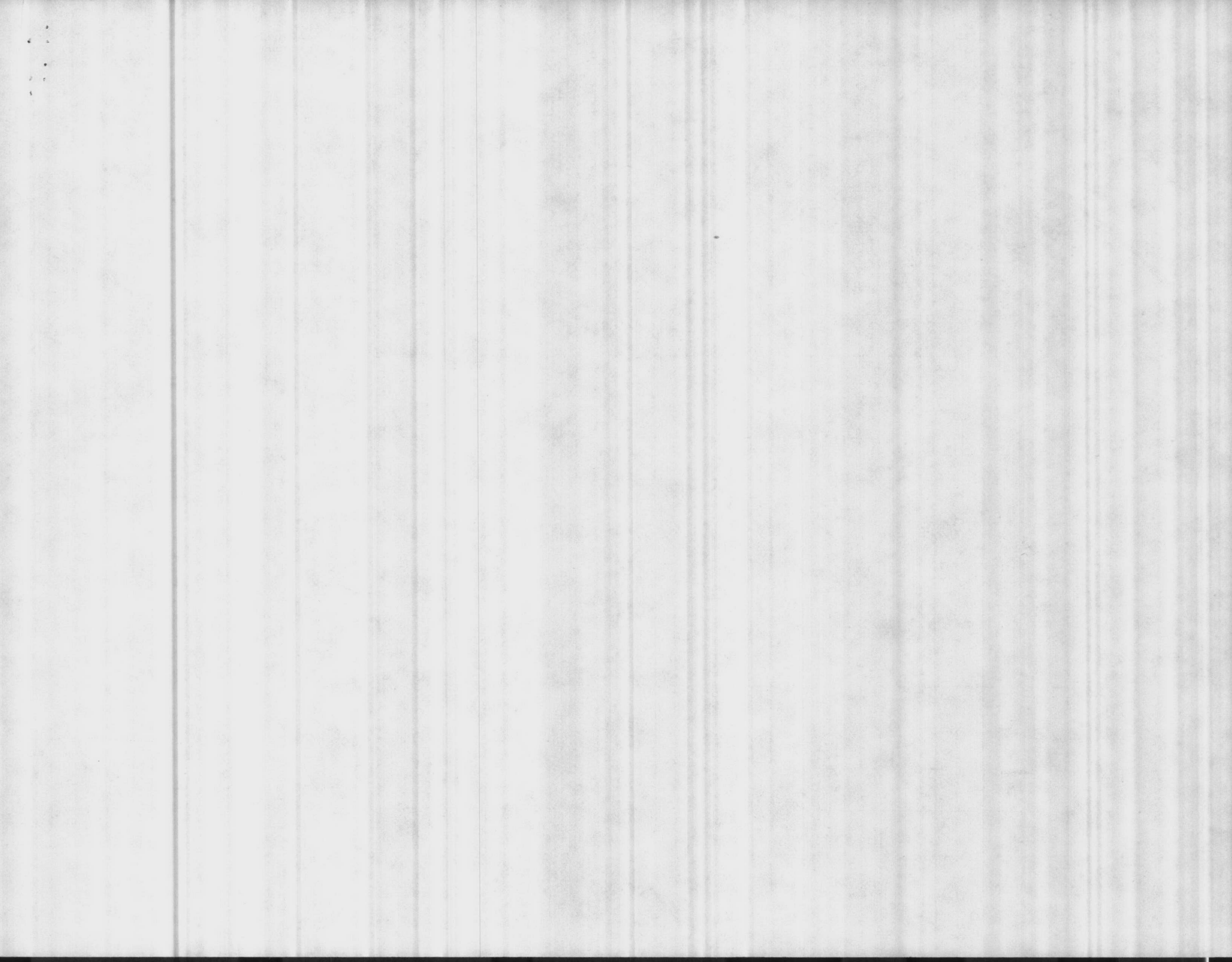
PMU MCAS PMU

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

BURNS & LANE





North Carolina Department of Human Resources
Eastern Regional Office • 404 Saint Andrews Drive • Greenville, N. C. 27834

James G. Martin, Governor

Phillip J. Kirk, Secretary

December 2, 1986

MEMORANDUM

TO: Water Supply Systems
Operators and Managers

FROM: J. Fred Hill
Water Plant Consultant.

RE: Groundwater Training Schools and Certification Examinations

Several regional schools will be held in the Eastern North Carolina during January and February, 1987.

C-Well training programs will be held in:

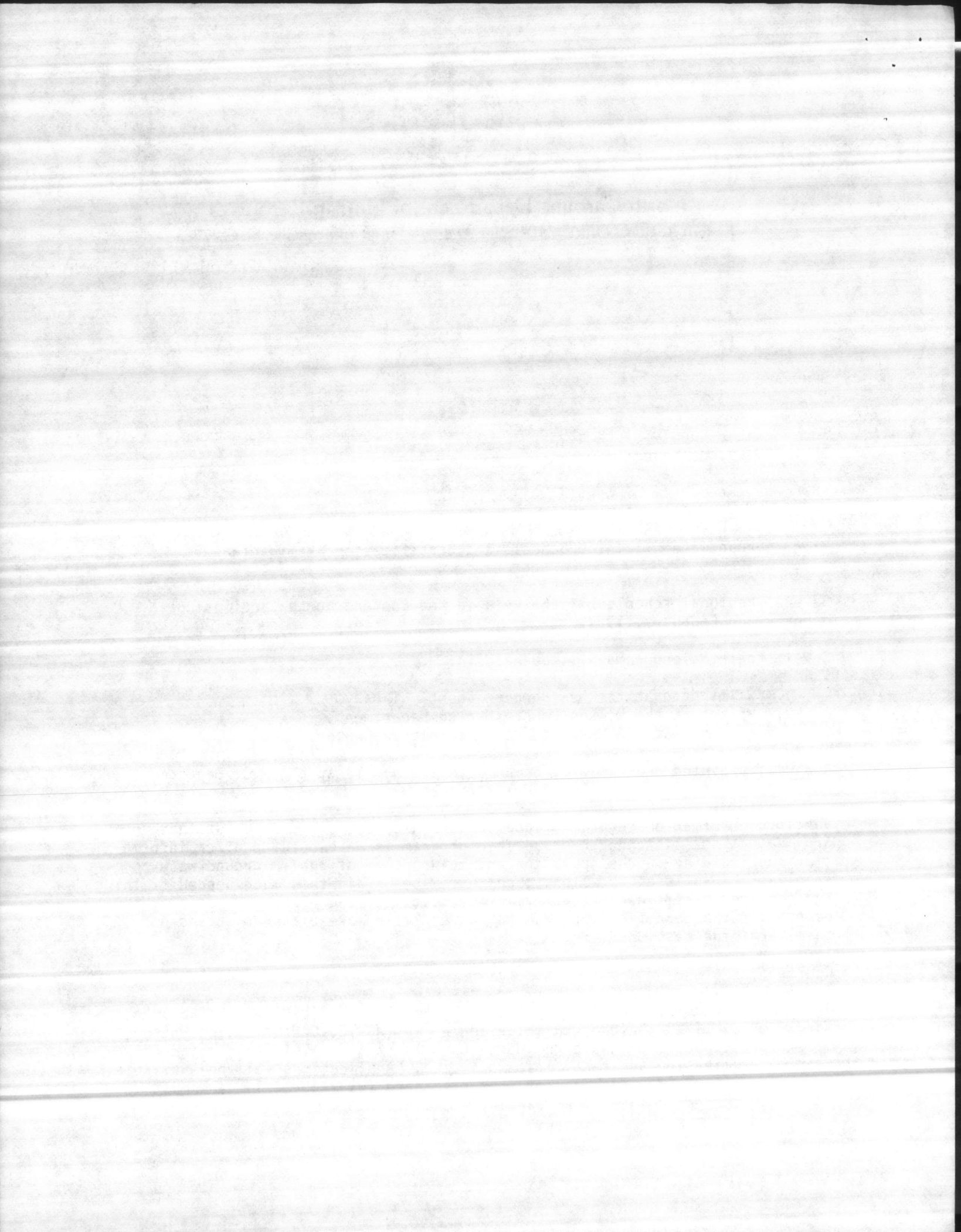
1. Wilmington at the New Hanover County Library.
2. Wilson at the Wilson County Health Department.
3. New Bern at the West New Bern Recreation Center.

A B-Well training program will be held in Greenville at the N.C. Department of Human Resources Office on St. Andrews Street.

Specific information regarding locations, schedules, and course outlines is provided on the attached sheets. This program is developed to offer information and training in the operation and maintenance of public groundwater supplies. This is an excellent opportunity to obtain this much needed training and required certification, at a minimum cost. It can also serve as a review course for the certification examination. Please make plans to attend one of these training sessions.

Course fees are as follows:

1. \$20 examination fee -- payable to the NORTH CAROLINA WATER TREATMENT FACILITY OPERATORS CERTIFICATION BOARD (NCWTFB Certification Board), P. O. Box 2091, Raleigh, North Carolina 27602. This covers the examination and certificate printing. Applications will be available the first day of class or from the Board (919/733-2321), and must be returned no later than January 22, 1987.



B-WELL

GROUND WATER SYSTEM TRAINING SCHOOL

Location: Greenville, NC -- Department of Human Resources Building, Conference Room, 404 St. Andrews Street (see location map on back)

Monday, February 9, 1987

9:00 a.m.	Registration & Introduction -----	Brenda Buck
9:30	Math -----	Macon Reavie
12 Noon	Lunch	
1:00 p.m.	Chemistry -----	Mike Bell
3:00	Distribution & Storage Systems -----	Wayne Floyd
4:30	Adjourn	

Tuesday, February 10, 1987

9:00 a.m.	Ground Water Hydraulics & Well Construction --	Ron Coble, USGS
12 Noon	Lunch	
1:00 p.m.	Bacteriology -----	Mike Bell
3:00	SDWA Standards; Monitoring & Reporting -----	Jim Wisely
4:30	Adjourn	

Wednesday, February 11, 1987

9:00 a.m.	Fluoridation -----	Fred Hill
11:00	Taste & Odor -----	David Bissette
12 Noon	Lunch	
1:00 p.m.	Chlorination & Equipment -----	Glen Snader
3:00	Corrosion -----	Bucky Moore
4:30	Adjourn	

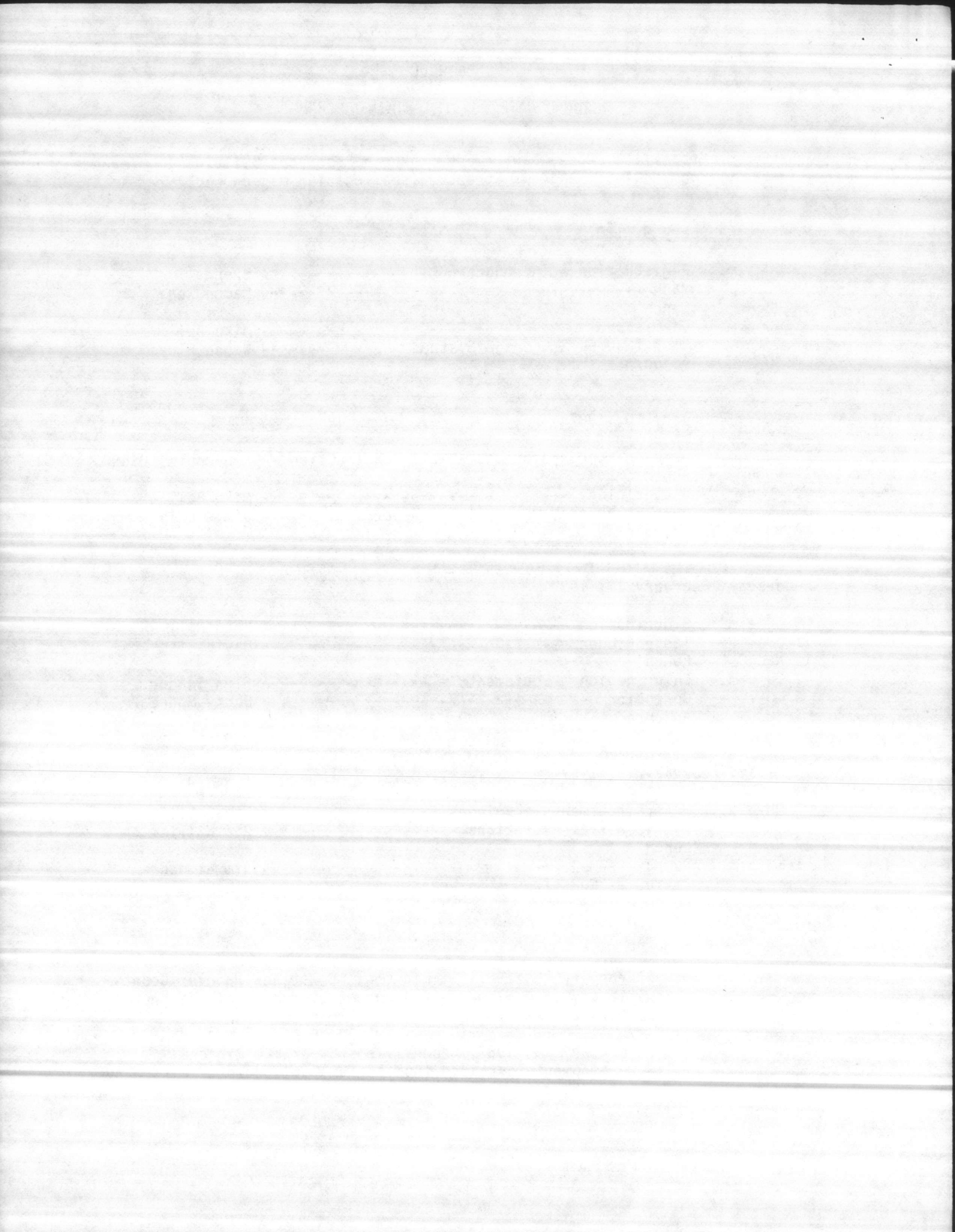
Thursday, February 12, 1987

9:00 a.m.	Water Treatment Techniques -----	Fred Hill
11:00	Public & Press Relations -----	Pat Williamson
12 Noon	Lunch	
1:00 p.m.	Pumps -----	Jim Higdon
3:30	Review -- Questions & Answers -----	Mike Bell
4:30	Adjourn	

Exams:

9 a.m. - 1 p.m. February 12, 1987, Wilmington, NC, at New Hanover County Library (2nd Floor Meeting Room) at corner of Chestnut and Third Streets.

9 a.m. - 1 p.m. February 13, 1987, Greenville, NC, at ECU Regional Development Institute (Auditorium) at corner of First and Reade Streets.



GROUND WATER SYSTEM TRAINING SCHOOL

Location: New Bern, NC -- West New Bern Recreation Center, Pine Tree Drive
(see location map on back)

Tuesday, January 13, 1987

8:30 a.m.	Registration & Introduction -----	Brenda Buck
9:00	Arithmetic -----	Mike Bell
11:30	Lunch	
12:30 p.m.	Monitoring & Standards -----	Jim Wisely
2:00	Break	
2:15	Well Site Locations -----	Mike Formy Duval
3:00	Distribution & Storage Systems -----	Fred Hill
4:00	Adjourn	

Tuesday, January 20, 1987

8:30 a.m.	Water Chemistry and Kits -----	Jim Wisely
10:30	Chlorination -----	Glen Snader
11:30	Lunch	
12:30 p.m.	Chlorination Equipment -----	Glen Snader
1:30	Math Review -----	Glen Snader
2:00	Break	
2:15	Water Pumps (Operation & Maintenance) -----	Jim Higdon
4:00	Adjourn	

Tuesday, January 27, 1987

8:30 a.m.	Water Bacteriology -----	Mike Bell
10:30	Treatment Alternatives -----	Fred Hill
11:30	Lunch	
12:30 p.m.	Hydrology & Well Construction -----	Ralph Harper
2:30	Break	
2:45	Review -- Questions & Answers -----	Mike Bell
4:00	Adjourn	

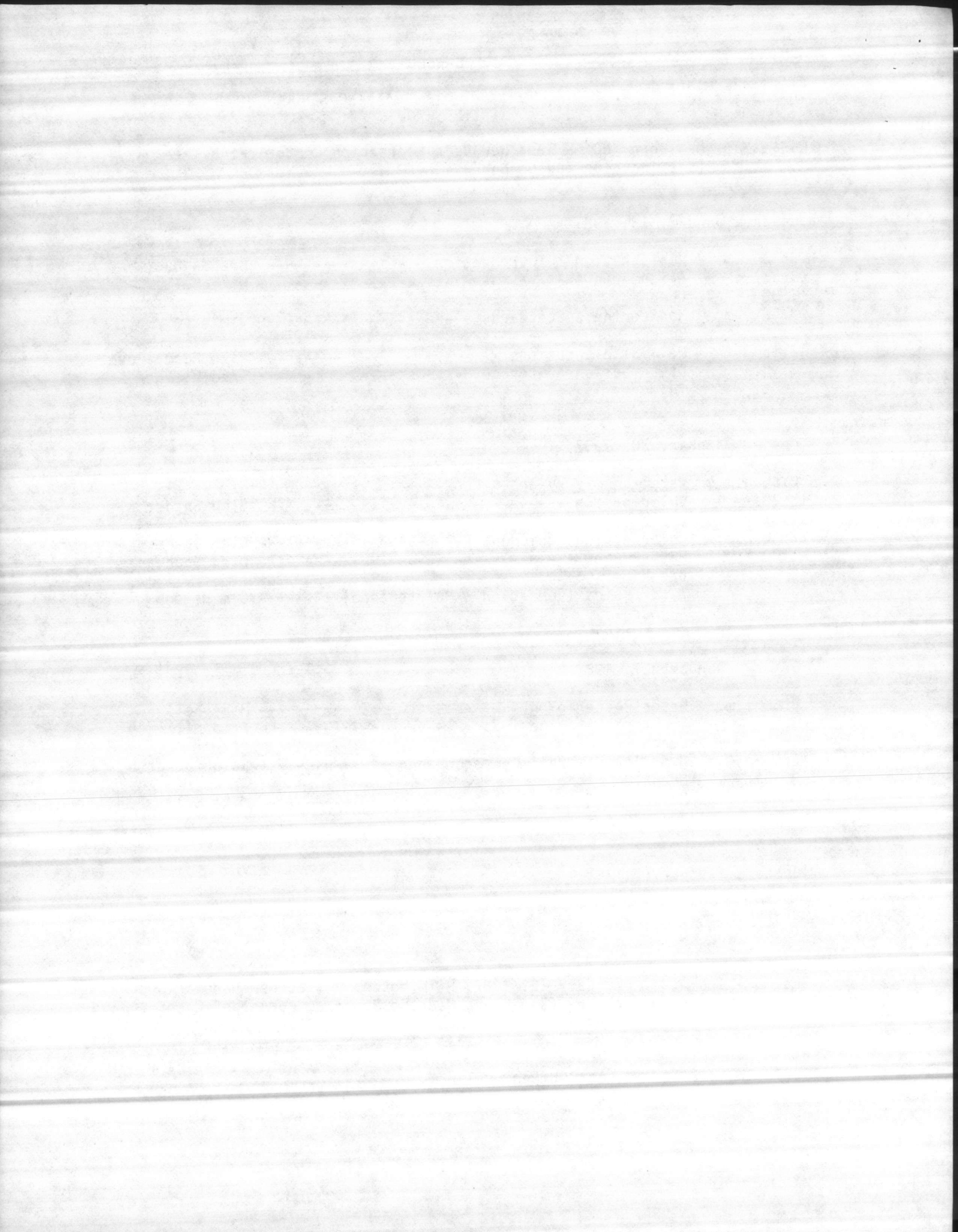
Tuesday, February 3, 1987

Make-up date

Exams:

9 a.m. - 1 p.m. February 12, 1987, Wilmington, NC, at New Hanover County Library (2nd Floor Meeting Room) at corner of Chestnut and Third Streets.

9 a.m. - 1 p.m. February 13, 1987, Greenville, NC, at ECU Regional Development Institute (Auditorium) at corner of First and Reade Streets.



C-WELL

GROUND WATER SYSTEM TRAINING SCHOOL

Location: Wilson, NC -- Wilson County Health Department, 1801 Glendale Drive
(see location map on back)

Wednesday, January 14, 1987

9:00 a.m.	Registration & Introduction -----	Brenda Buck
9:30	Arithmetic -----	Mike Bell
12 Noon	Lunch	
1:00 p.m.	Monitoring & Standards -----	Jim Wisely
2:30	Break	
2:45	Well Site Locations -----	Mike Formy-Duval
3:30	Distribution & Storage Systems -----	Fred Hill
4:30	Adjourn	

Wednesday, January 21, 1987

9:00 a.m.	Water Chemistry and Kits -----	Jim Wisely
11:00	Chlorination -----	Glen Snader
12 Noon	Lunch	
1:00 p.m.	Chlorination Equipment -----	Glen Snader
2:00	Math Review -----	Glen Snader
2:30	Break	
2:45	Water Pumps (Operation & Maintenance) -----	Jim Higdon
4:30	Adjourn	

Wednesday, January 28, 1987

9:00 a.m.	Water Bacteriology -----	Mike Bell
11:00	Treatment Alternatives -----	Fred Hill
12 Noon	Lunch	
1:00 p.m.	Hydrology & Well Construction -----	Ralph Harper
3:00	Break	
3:15	Review -- Questions & Answers -----	Mike Bell
4:30	Adjourn	

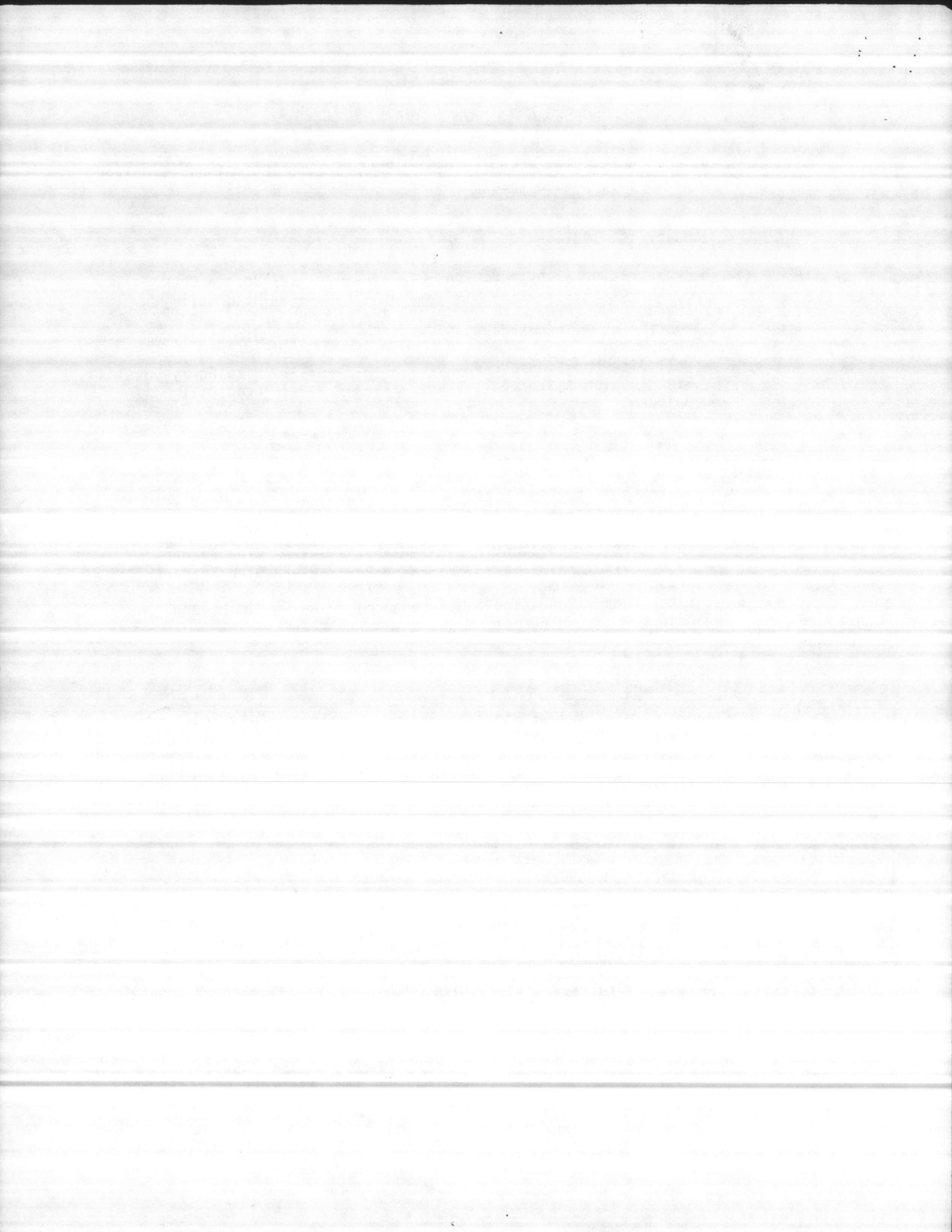
Wednesday, February 4, 1987

Make-up date

Exams:

9 a.m. - 1 p.m. February 12, 1987, Wilmington, NC, at New Hanover County Library (2nd Floor Meeting Room) at corner of Chestnut and Third Streets.

9 a.m. - 1 p.m. February 13, 1987, Greenville, NC, at ECU Regional Development Institute (Auditorium) at corner of First and Reade Streets.



C-WELL

GROUND WATER SYSTEM TRAINING SCHOOL

Location: Wilmington, NC -- New Hanover County Library, 2nd Floor Meeting Room, 201 Chestnut Street (see location map on back)

Thursday, January 15, 1987

9:00 a.m.	Registration & Introduction -----	Brenda Buck
9:30	Arithmetic -----	Wallace Martin
12 Noon	Lunch	
1:00 p.m.	Monitoring & Standards -----	Jim Wisely
2:30	Break	
2:45	Well Site Locations -----	Mike Formy-Duval
3:30	Distribution & Storage Systems -----	Fred Hill
4:30	Adjourn	

Thursday, January 22, 1987

9:00 a.m.	Water Chemistry and Kits -----	Jim Wisely
11:00	Chlorination -----	Glen Snader
12 Noon	Lunch	
1:00 p.m.	Chlorination Equipment -----	Glen Snader
2:00	Math Review -----	Glen Snader
2:30	Break	
2:45	Water Pumps (Operation & Maintenance) -----	Jim Higdon
4:30	Adjourn	

Thursday, January 29, 1987

9:00 a.m.	Water Bacteriology -----	Mike Bell
11:00	Treatment Alternatives -----	Fred Hill
12 Noon	Lunch	
1:00 p.m.	Hydrology & Well Construction -----	Ralph Harper
3:00	Break	
3:15	Review -- Questions & Answers -----	Mike Bell
4:30	Adjourn	

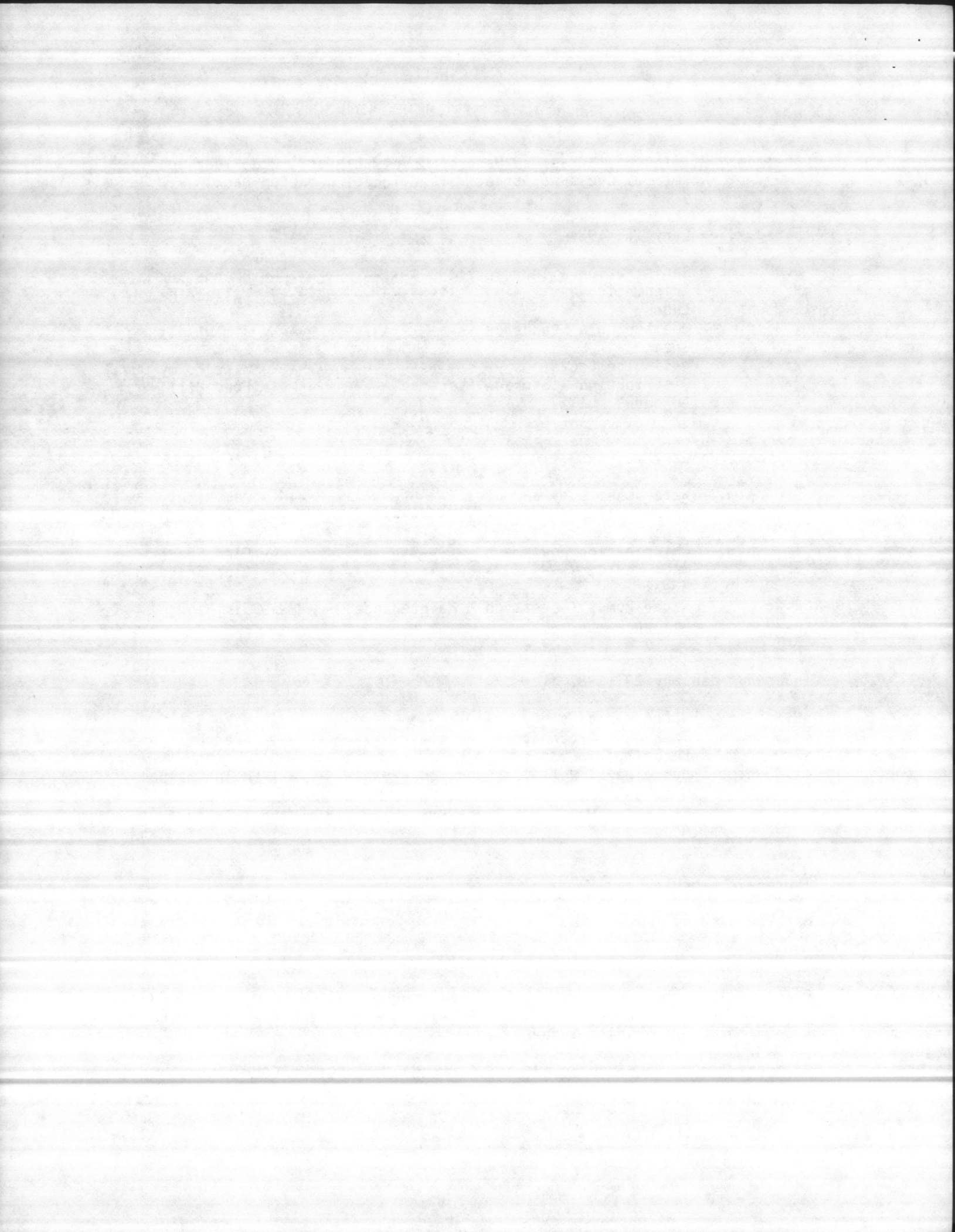
Thursday, February 5, 1987

Make-up date

Exams:

9 a.m. - 1 p.m. February 12, 1987, Wilmington, NC, at New Hanover County Library (2nd Floor Meeting Room) at corner of Chestnut and Third Streets.

9 a.m. - 1 p.m. February 13, 1987, Greenville, NC, at ECU Regional Development Institute (Auditorium) at corner of First and Reade Streets.



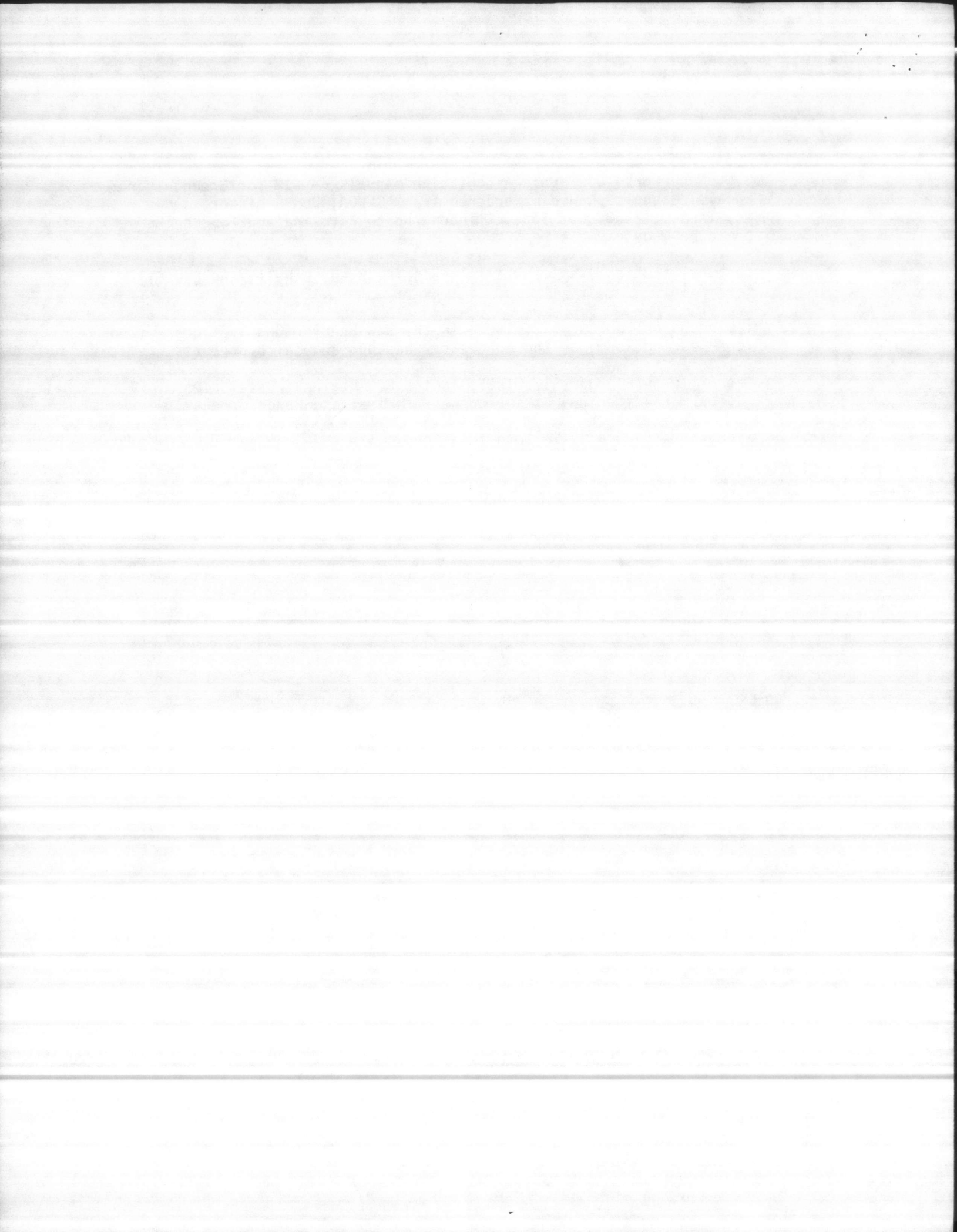
2. N. C. Waterworks Operators Association Manuals -- \$18 for Groundwater Manual. Manuals should be ordered from NCWWOA; Don Register, Sec.-Treas.; P. O. Box 1035; Clinton, North Carolina 28328. Checks should be made payable to NCWWOA.

Please note certification exams for all levels (A, B, C, B-Well, and C-Well) will be offered in:

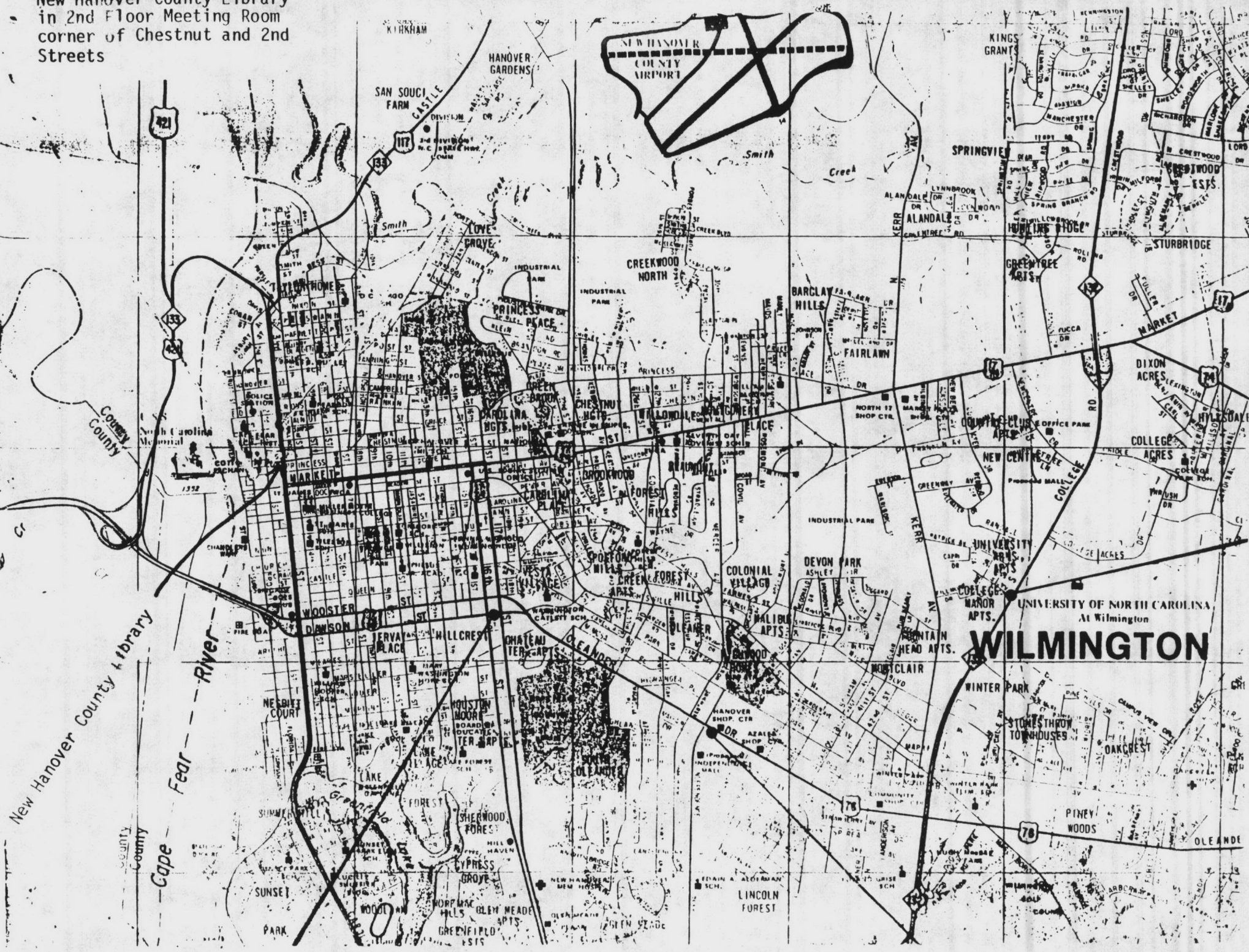
1. Wilmington on February 12, 1987, in the New Hanover County Library (2nd Floor Meeting Room) at the corner of Chestnut and Third Streets.
2. Greenville on February 13, 1987, in the ECU Regional Development Institute (Auditorium) at the corner of First and Reade Streets.

Exams will begin at 9:00 a.m. in both locations.

DEC 9 AM 8 54 '86



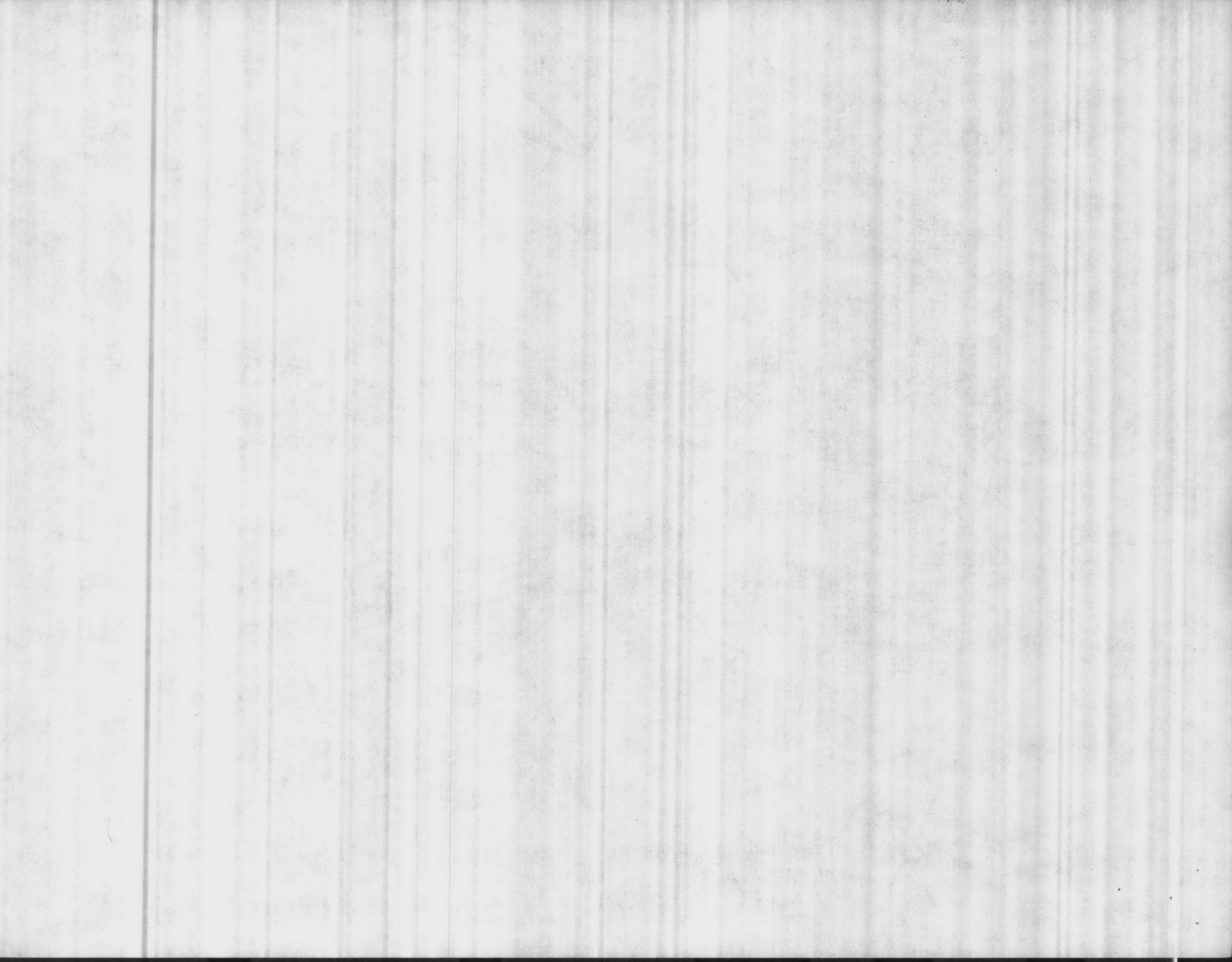
New Hanover County Library
in 2nd Floor Meeting Room
corner of Chestnut and 2nd
Streets



New Hanover County Library

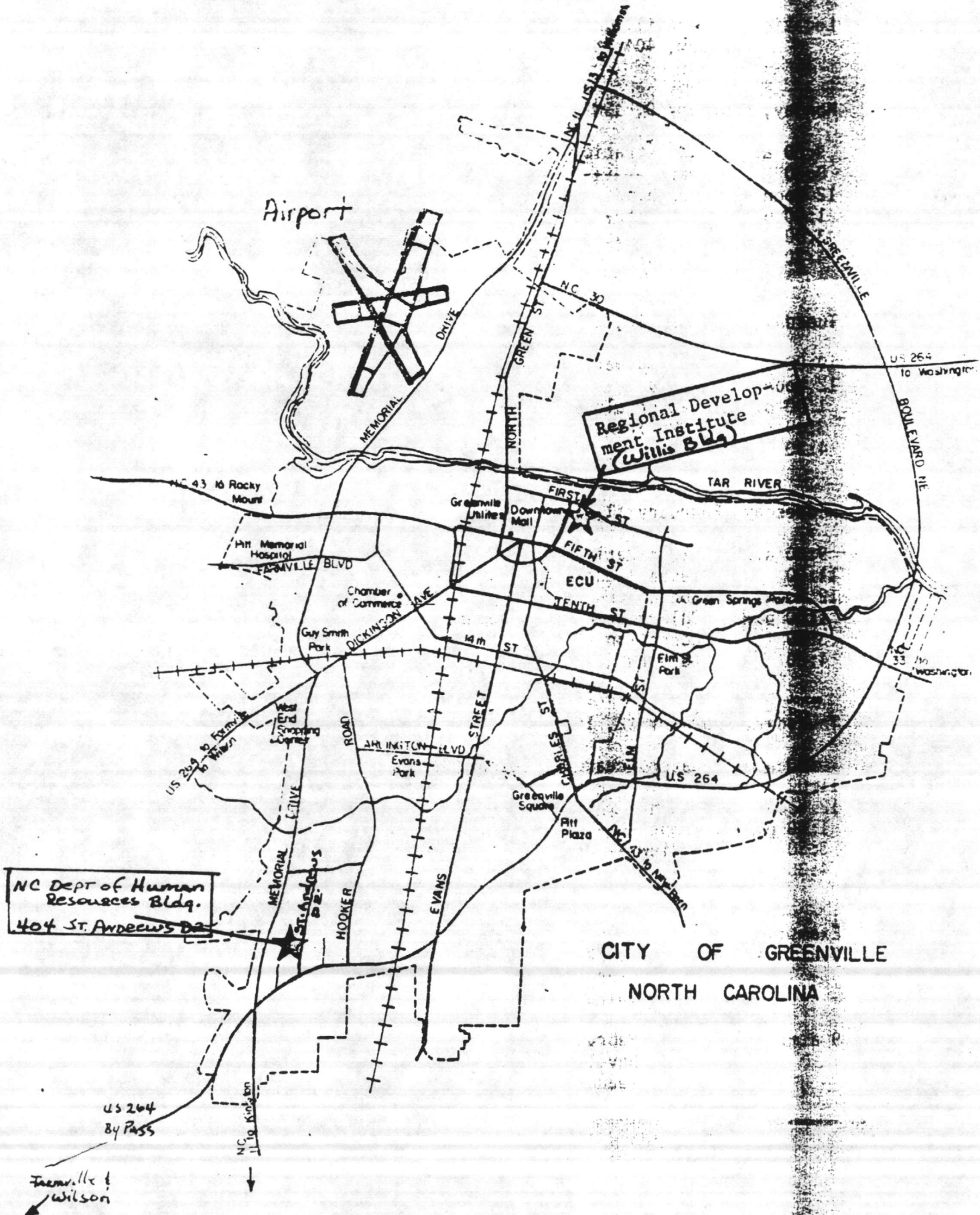
New Hanover County Library

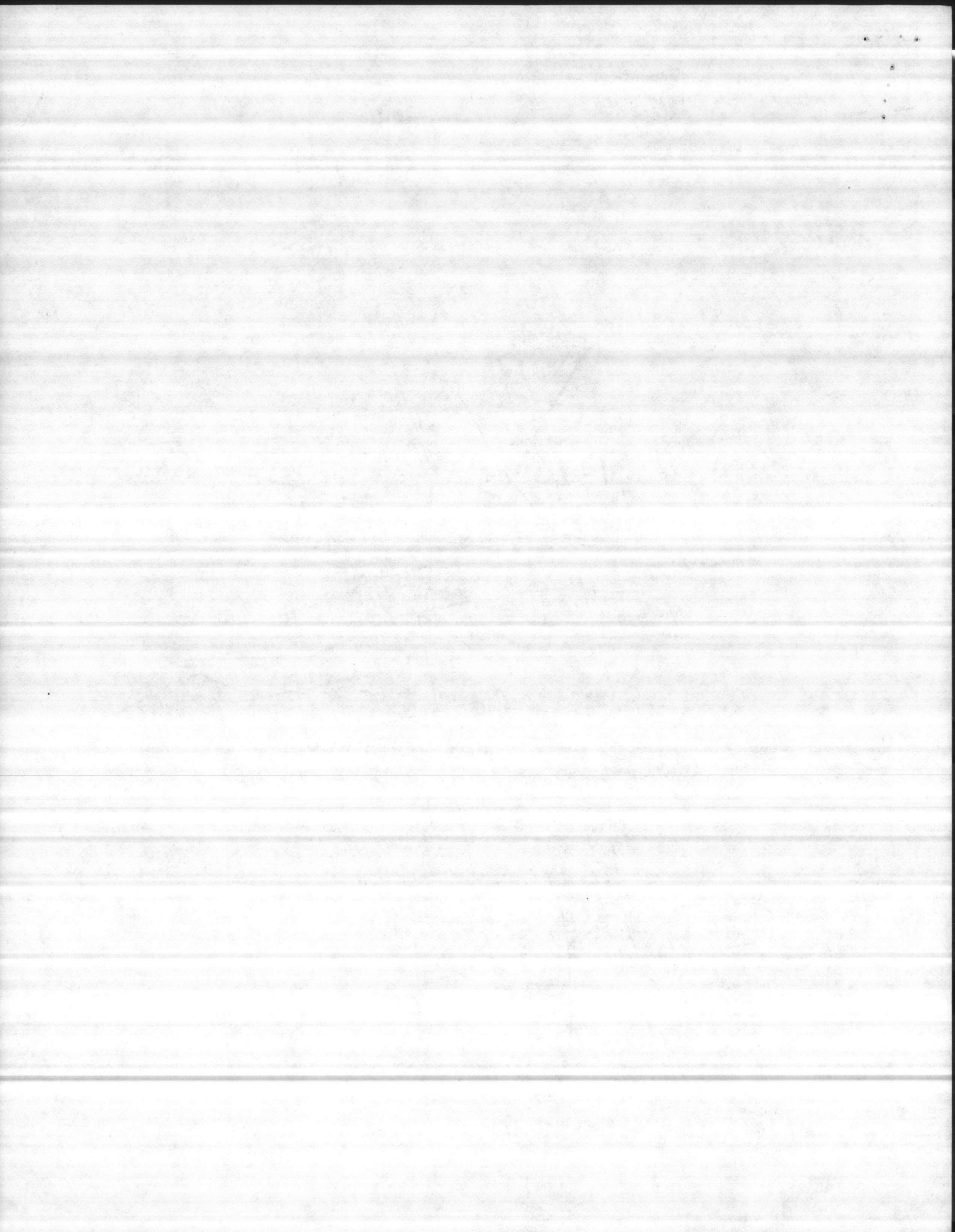
New Hanover County Library



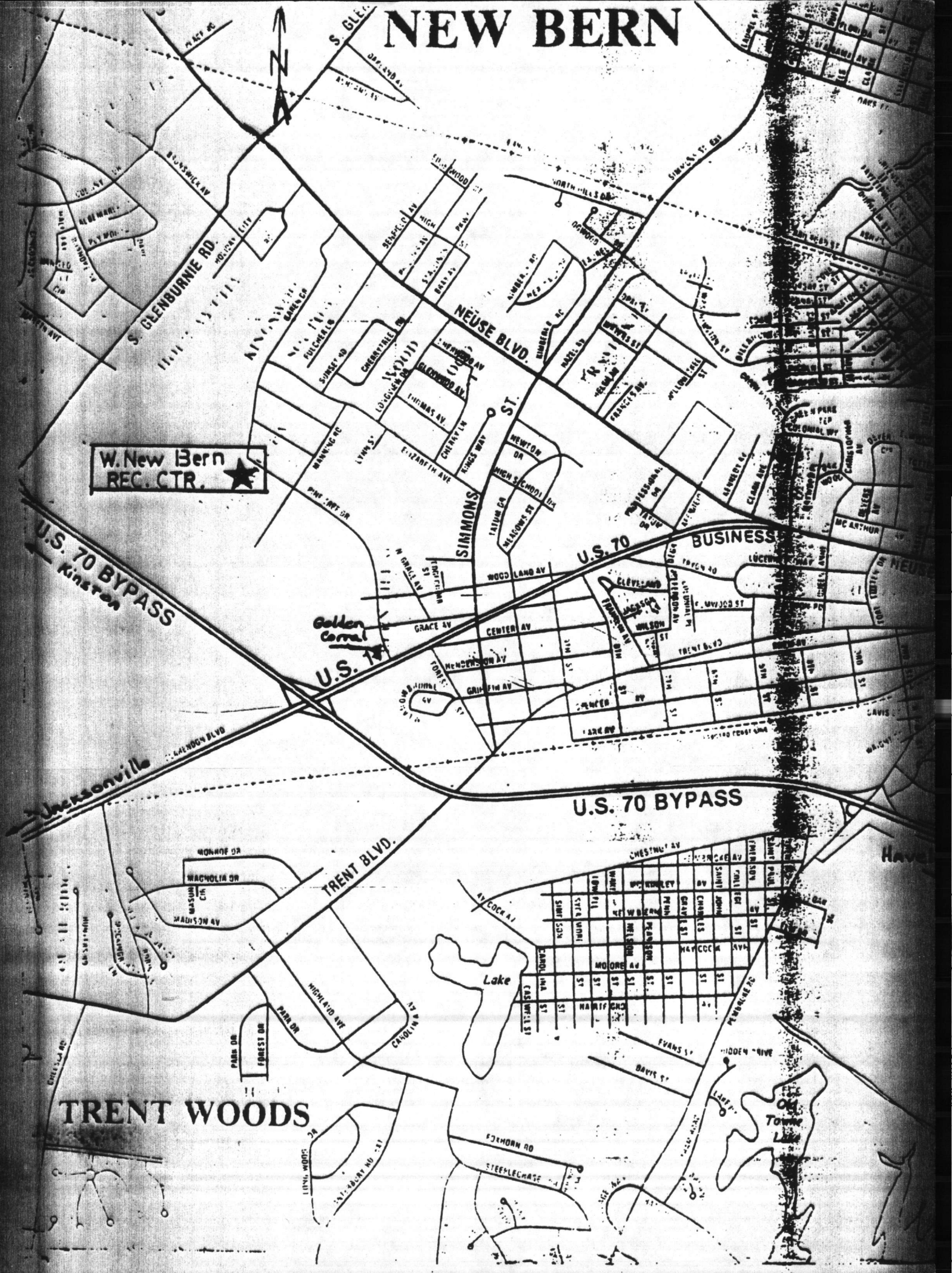
Regional Development Institute
Auditorium (Corner of
Memorial Drive & Streets)

Greenville





NEW BERN



W. New Bern
REC. CTR. ★

U.S. 70 BYPASS
Kinston

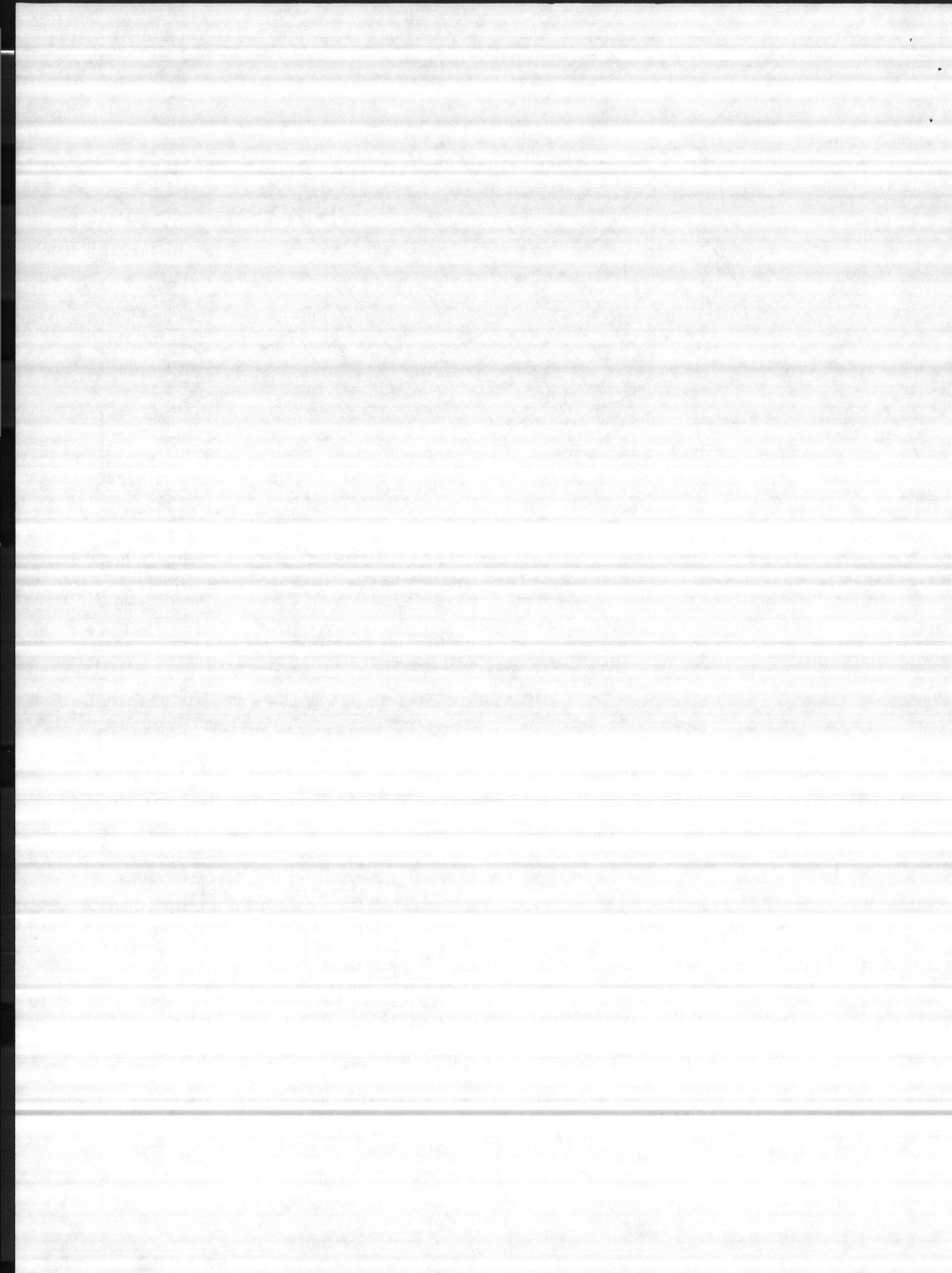
Jacksonville

U.S. 70 BYPASS

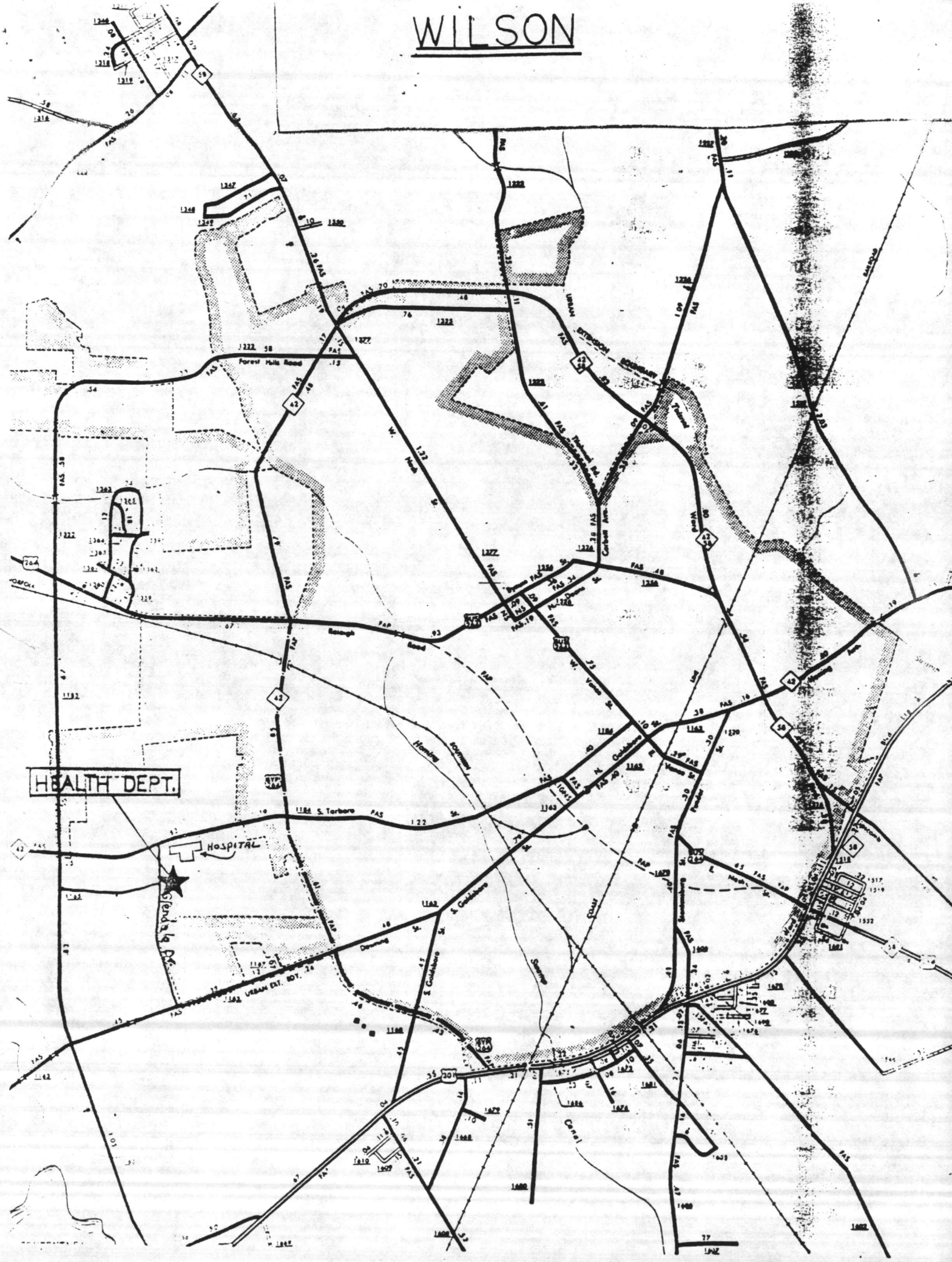
TRENT WOODS

Lake

Old Towne Lake



WILSON



HEALTH DEPT.

HOSPITAL

Stendley Ave

Forest Hills Road

WILSON

USA
02

11331
NREAD
6 Jan 87

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 1986. 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 Environmental Chemistry and Microbiology Laboratory, located in the Natural Resources and Environmental Affairs Division, Assistant Chief of Staff, Facilities. Ms. Betz, Supervisory Chemist, Environmental Chemistry and Microbiology Laboratory, telephone (919) 451-5977, is the point of contact in this matter.

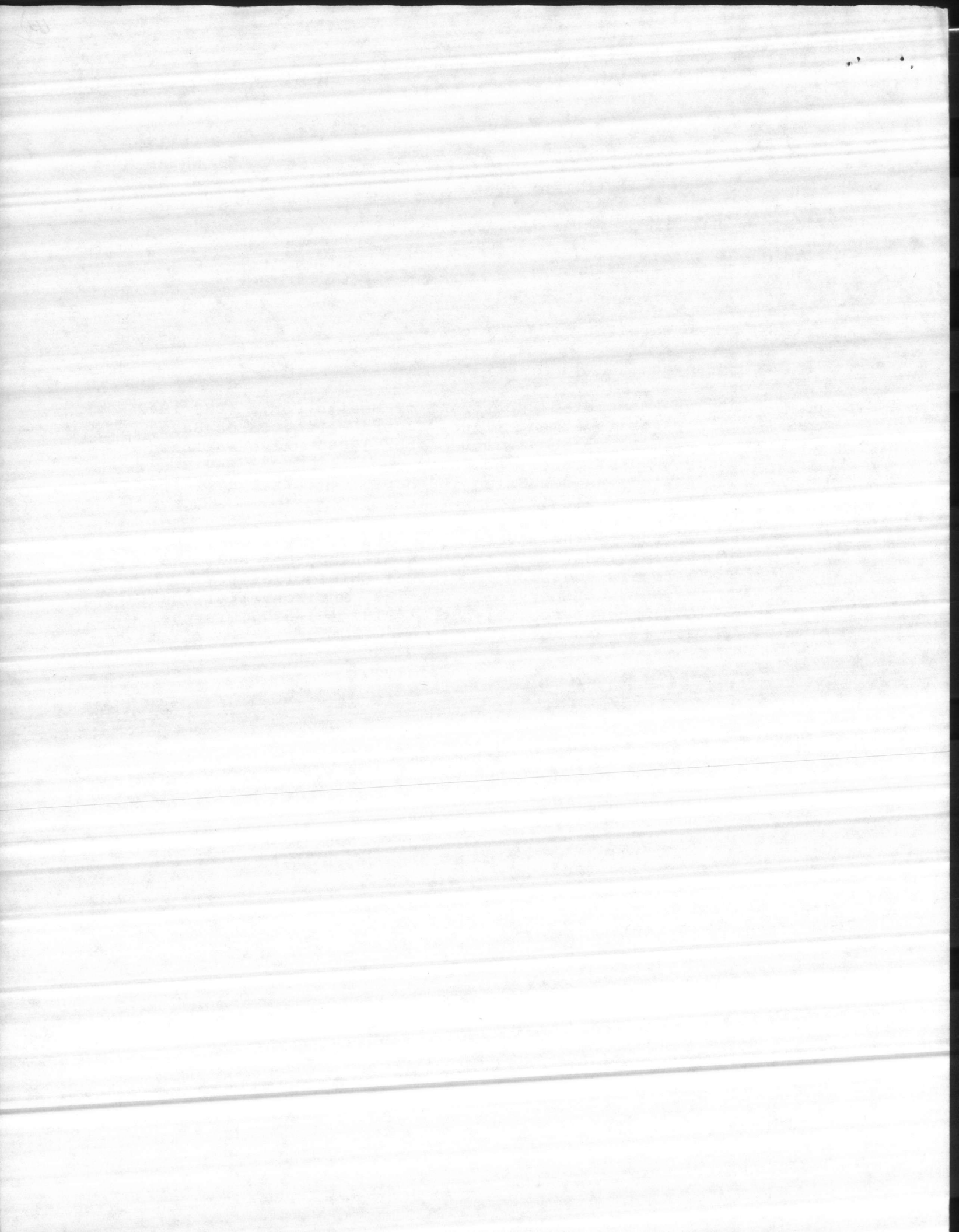
Sincerely,

JULIAN I. WOOTEN
Director

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

Copy to:
LANTNAVFACENCOM (Code 114)

Blind copy to:
BMO (Attn: Util Dir)



Month DECEMBER
 Year 1986

MADNOT 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

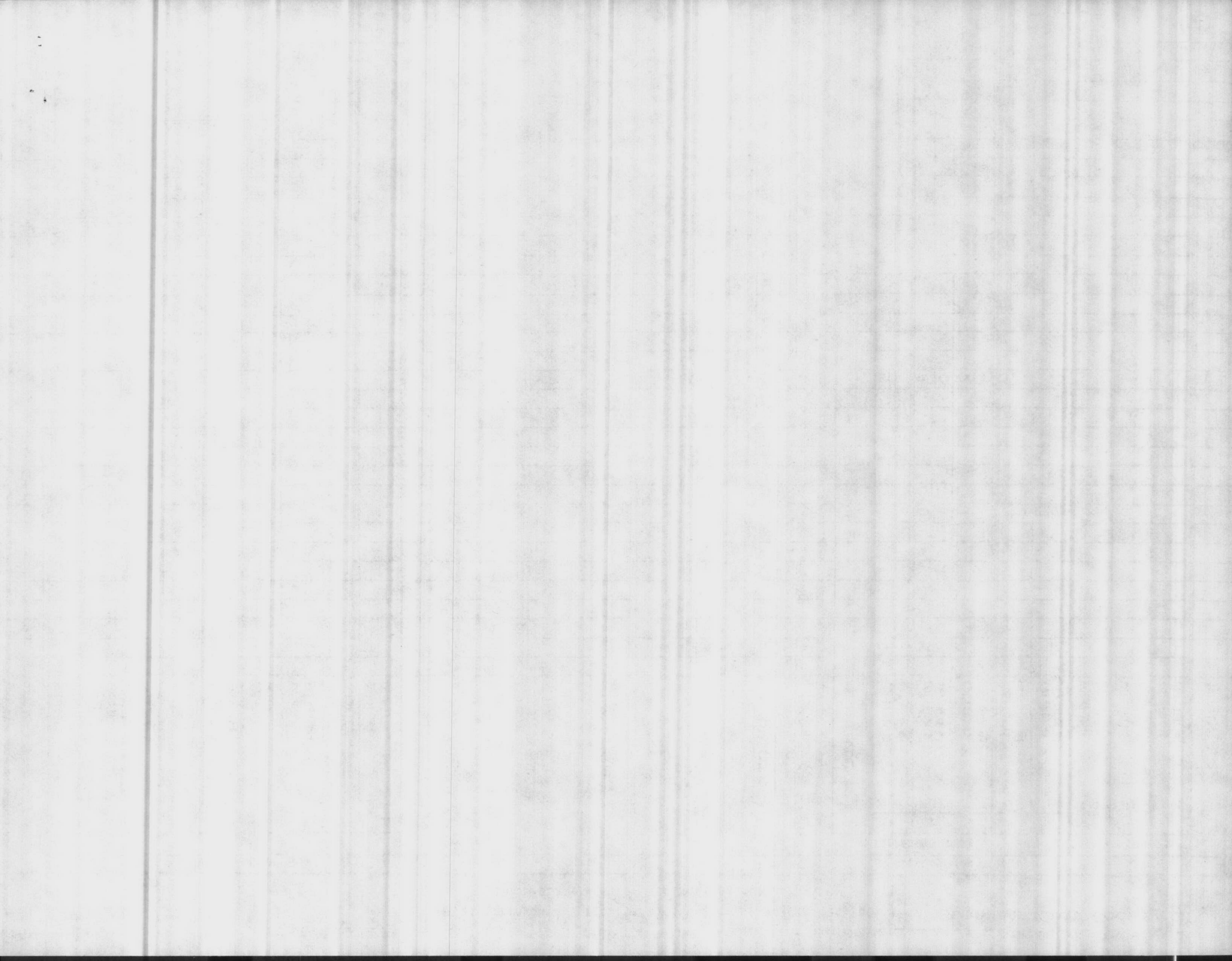
Serial # 04-67-041

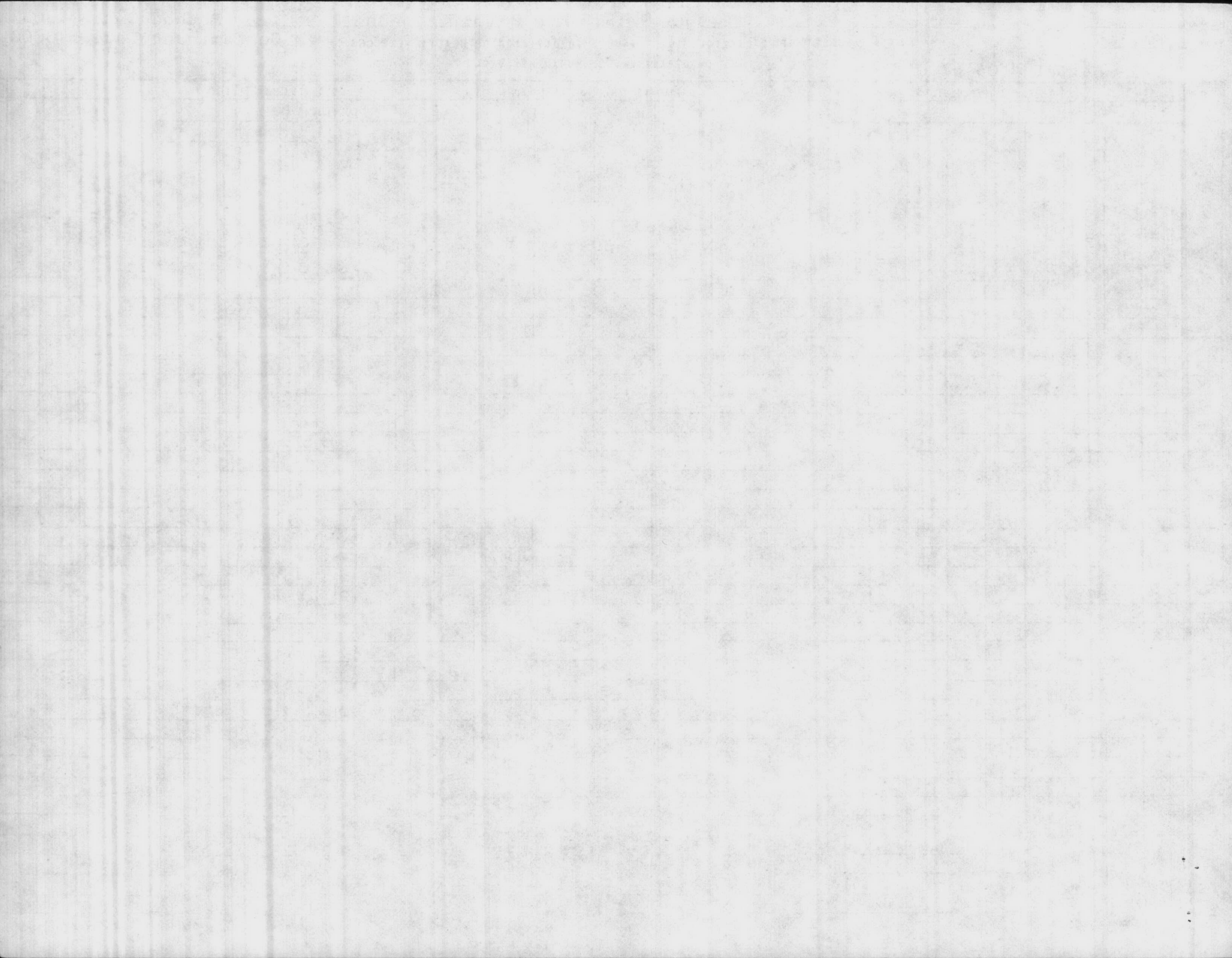
DATE	RAW WATER COLIFORMS (MFP)									NO. OF COLIFORMS PER 100 ml.	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	DISTRIBUTION SYSTEM										INCUBATOR TEMP.
	A			B			C									COLIFORMS (MFP)					REPEAT SAMPLES					
	VOLUME FILTERED ml.	TOTAL 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.	COLIFORMS per 100 ml.	
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MFP MEDIA												TOTAL NO. SAMPLES														
BRL mEndo												SAMPLES EXCEEDING 3/50. (4/100) 7/200. 13/500ml														
DACTERIAL DENSITY																										
ARITH. MEAN																										
GEO. MEAN																										
TPC MEDIA																										

LAB ID # 37807

Elizabeth Betty B WELL 4087-W







Month DECEMBER
Year 1986

LIKAWA TERRACE

WATER TREATMENT PLANT AT Camp Lejeune

Method Code: 303

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Contaminant Code: 3000

Serial # 04-67-044

N. C. DEPARTMENT OF HUMAN RESOURCES

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.	DISTRIBUTION SYSTEM									
	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.
1																									
2																						35.5			
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9																						35.3			
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27																									
28																									
29																						35.0			
30																									
MF MEDIA	BBL mEndo			BACTERIAL DENSITY			ARITH. MEAN						TOTAL NO. SAMPLES						20						
TPC MEDIA							GEO. MEAN			1.0			SAMPLES EXCEEDING 3/50. (4/100) 7/200. 13/500ml			0									

LAB ID # 37807

Elizabeth A. Belf B-WELL 4087-W



Month DECEMBER
 Year 1986

CAMP JOHNSON

WATER TREATMENT PLANT AT Camp Lejeune

Method Code: 303

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Contaminant Code: 3000

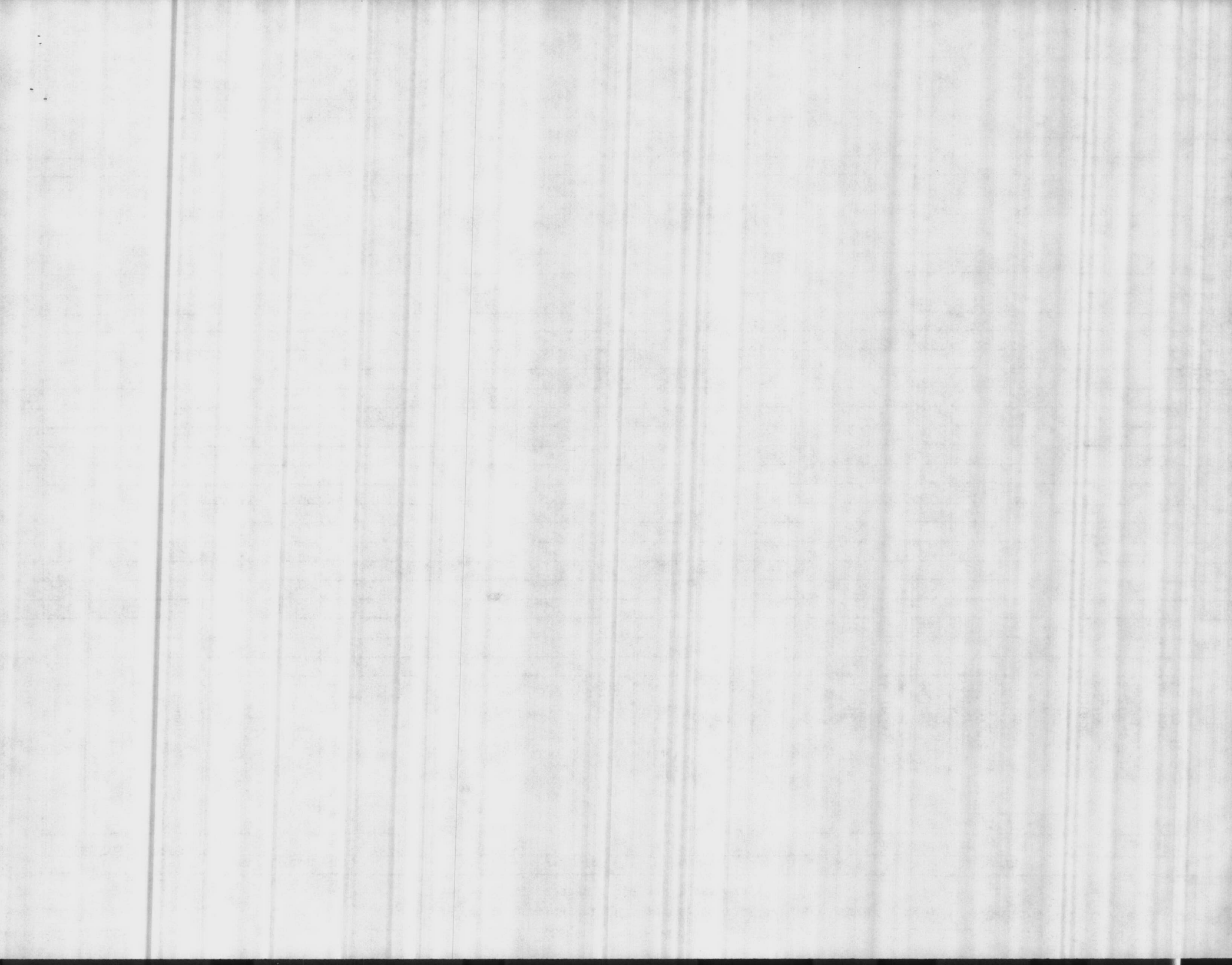
Serial # 04-67-045

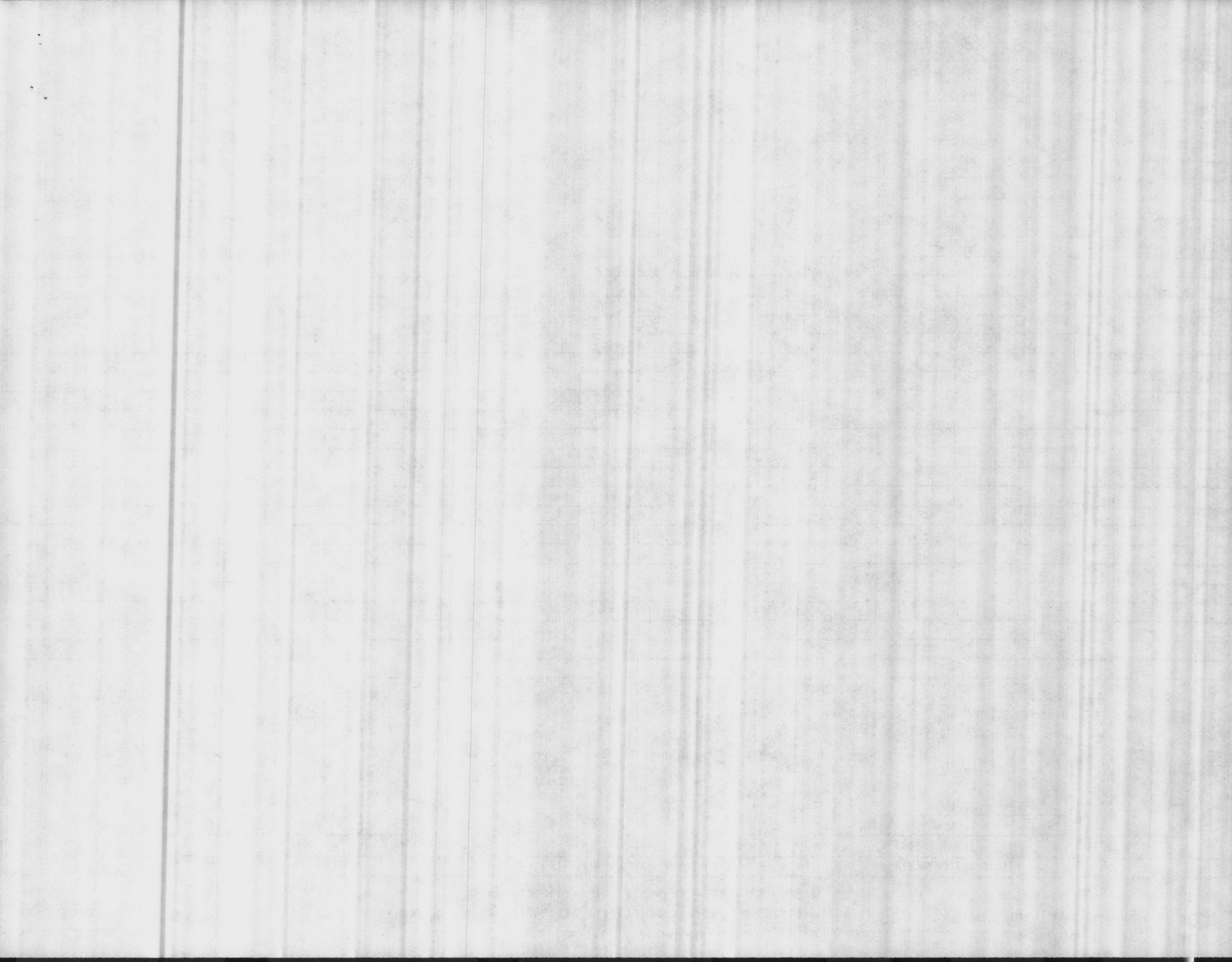
N. C. DEPARTMENT OF HUMAN RESOURCES

DATE	RAW WATER COLIFORMS (MFP)						NO. OF COLIFORMS PER 100 ml.	FILTERED TOTAL PLATE COUNT	FINISHED TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	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	VOLUME FILTERED ml.	TOTAL COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES																
1																						
2																					35.5	
3																						
4																						
5																						
6																						
7																						
8																						
9										0	N	0		0							35.3	
10																						
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14																						
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16										0	N	0		0							35.3	
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29																						
30										0	N	0	0								35.0	
31																						
MFP MEDIA		BBL mEndo		BACTERIAL DENSITY		ARITH. MEAN						AVE. COLIFORMS per 100 ml.		NO. OF SAMPLES EXAMINED		TOTAL NO. SAMPLES						
TPC MEDIA						GEO. MEAN						10				10						
														SAMPLES EXCEEDING 3/30 (4/100) 7/200, 13/500-1					0			

LAB ID # 37807

Elizabeth A. B... B-WELL 4087-W





Month DECEMBER
 Year 1986

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

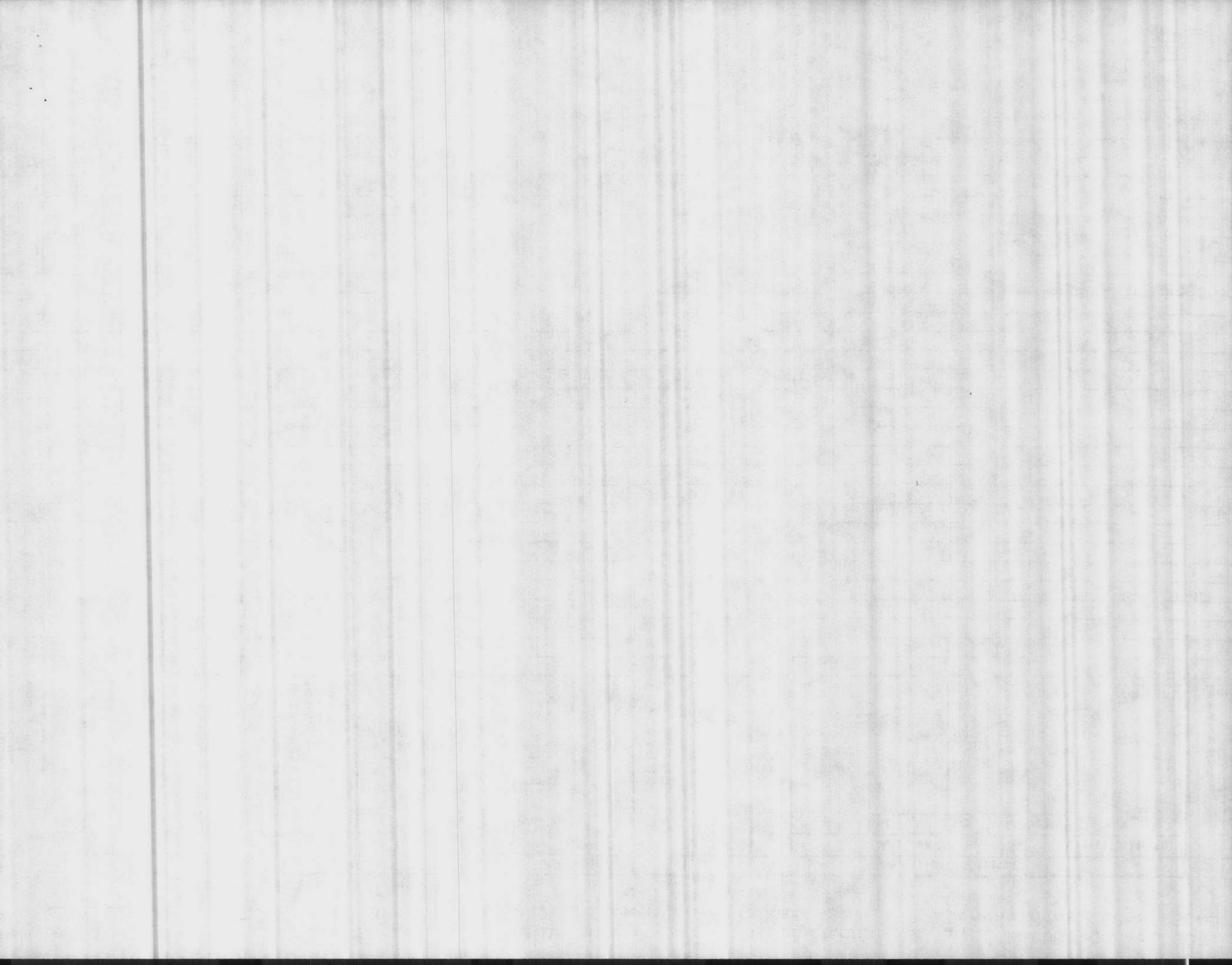
DATE	RAW WATER COLIFORMS (MFP)						NO. OF COLIFORMS PER 100 ml.	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	DISTRIBUTION SYSTEM					INCUBATOR TEMP.				
	A		B		C								COLIFORMS (MFP)						REPEAT SAMPLES			
	VOLUME FILTERED ml.	TOTAL COLONIES	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													0	4	0		0	0	0			35.5
3																						
4																						
5																						
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9													0	4		0	0	0	0			35.3
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29																						
30													0	4		0	0	0	0		10	35.0
31																						
MF MEDIA	BBL mEndo		BACTERIAL DENSITY	ARITH. MEAN		GEO. MEAN							0	DIST. SYSTEM	TOTAL NO. SAMPLES					20		
TPC MEDIA													10		SAMPLES EXCEEDING 3/50, 7/100, 7/200, 13/500ml					0		

LAB ID * 37807

Elizabeth A. Berg

B-WELL

4087-W





CHEMICAL ANALYSIS -- WATER TREATMENT PLANTS

MCBCL 11330.3 (REV 6-84)

DATE COLLECTED

12-2-86

DATE OF ANALYSIS

12-2-86

PARAMETER	HADNOT POINT -041	CAMP JOHNSON -045	TARAWA TERRACE -044	ONSWLOW BEACH -048	COURTHOUSE BAY -047	RIFLE RANGE -046	HOLCOMB BLVD -043	NEW RIVER -042		
PH (IN LAB NOT PLANT)	8.8	7.7	8.9	7.6	8.0	8.4	8.8	8.7		
PHENOLTHALEIN ALKALINITY	6	0	6	0	0	0	4	8		
METHYL ORANGE ALKALINITY	62	184	46	166	176	166	52	166		
CARBONATES AS CaCO ₃	12	0	12	0	0	0	8	16		
BICARBONATES AS CaCO ₃	50	184	34	166	176	166	44	150		
CHLORIDES AS Cl	12	14	20	20	18	24	12	58		
HARDNESS AS CaCO ₃	66	74	84	50	54	50	58	60		
IRON AS Fe	<0.04	0.19	<0.04	<0.04	0.11	<0.04	<0.04	<0.04		
FLUORIDE	AM	1.21	0.97	1	0.15	0.12	1.16	0.64		
	PM	1.20	0.20	1.10	0.18	0.12	1.00	0.64		
CHLORINE RESIDUAL	1.0	1.3	1.0	1.4	1.5	1.0	1.0	0.8		
TURBIDITY	AM	0.1	0.1	0.1	0.1	2.0	0.3	0.4		
	PM	0.2	0.4	0.2	0.1	0.1	1.2	0.4		
TOTAL PHOSPHATE		2.2								
ORTHO PHOSPHATE		1.1								
META PHOSPHATE		1.1								
STABILITY	+0.5	-0.4	+0.3	-0.4	-0.2	+0.1	+0.2	+0.2		

REMARKS

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

LANE + BURNS

EBB



CHEMICAL ANALYSIS — WATER TREATMENT PLANTS

MCBCL 11330 3 (REV 6-84)

DATE COLLECTED

12-9-86

DATE OF ANALYSIS

12-9-86

PARAMETER	HADNOT POINT	CAMP JOHNSON	TARAWA TERRACE	ONSLow BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER		
	-041	-045	-044	-048	-047	-046	-043	-042		
PH (IN LAB IN PLANT)	8.6	7.5	8.7	7.5	8.0	8.3	8.5	8.7		
PHENOLTHALEIN ALKALINITY	4	0	4	0	0	2	4	16		
METHYL ORANGE ALKALINITY	60	170	44	160	170	140	50	144		
CARBONATES AS CaCO ₃	12	0	8	0	0	4	8	32		
BICARBONATES AS CaCO ₃	48	170	36	160	170	136	42	112		
CHLORIDES AS Cl	10	10	14	20	14	20	10	60		
HARDNESS AS CaCO ₃	64	60	60	60	50	56	56	46		
IRON AS Fe	<0.04	0.27	<0.04	0.15	<0.04	<0.04	<0.04	<0.04		
FLUORIDE	AM	0.82	0.97	0.16	0.13	0.11	0.91	0.58		
	PM	0.88	0.17	0.98	0.16	0.13	0.93	0.58		
CHLORINE RESIDUAL	0.9	1.3	1.1	1.3	1.5	1.0	1.2	0.8		
TURBIDITY	AM	0.1	0.8	0.1	0.1	0.9	0.1	0.1		
	PM	0.1	1.6	2.2	0.1	0.1	0.4	0.1		
TOTAL PHOSPHATE		2.0								
ORTHO PHOSPHATE		1.1								
META PHOSPHATE		0.9								
STABILITY	+0.3	-0.4	+0.1	-0.5	-0.2	0.0	+0.2	+0.1		

REMARKS

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

LANE + BURNS



CHEMICAL ANALYSIS -- WATER TREATMENT PLANTS

MCBCL 11330/3 (REV 6-84)

DATE COLLECTED

12-16-86

DATE OF ANALYSIS

12-16-86

PARAMETER	HADNOT POINT -041	CAMP JOHNSON -045	TARAWA TERRACE -044	ONSLow BEACH -048	COURTHOUSE BAY -047	RIFLE RANGE -046	HOLCOMB BLVD -043	NEW RIVER -042
PH (IN LAB NOT PLANT)	9.0	7.3	8.5	7.3	7.8	8.0		8.4
PHENOLTHALEIN ALKALINITY	10	0	2	0	0	0	PLANT IS TEMPORARLY SHUT DOWN	12
METHYL ORANGE ALKALINITY	40	190	40	164	194	160		136
CARBONATES AS CaCO ₃	20	0	4	0	0	0		24
BICARBONATES AS CaCO ₃	20	190	36	164	194	160		112
CHLORIDES AS Cl	10	10	14	20	20	50		60
HARDNESS AS CaCO ₃	50	60	64	52	52	54		46
IRON AS Fe	<0.04	0.22	<0.04	0.14	<0.04	<0.04		<0.04
FLUORIDE AM	0.92		0.85					
FLUORIDE PM	0.99	0.15	1.23	0.14	0.10	0.09		0.56
CHLORINE RESIDUAL	1.1	1.4	1.0	1.3	1.2	1.0		0.8
TURBIDITY AM	12.7		0.1					
TURBIDITY PM	0.2	1.2	0.5	0.1	0.1	0.4	0.1	
TOTAL PHOSPHATE		2.6						
ORTHO PHOSPHATE		1.4						
META PHOSPHATE		1.2						
STABILITY	+0.4	-0.4	+0.3	-0.5	-0.2	0.0		0.0

REMARKS

COPY TO:

UTIL DIR _____

WATER TREATMENT

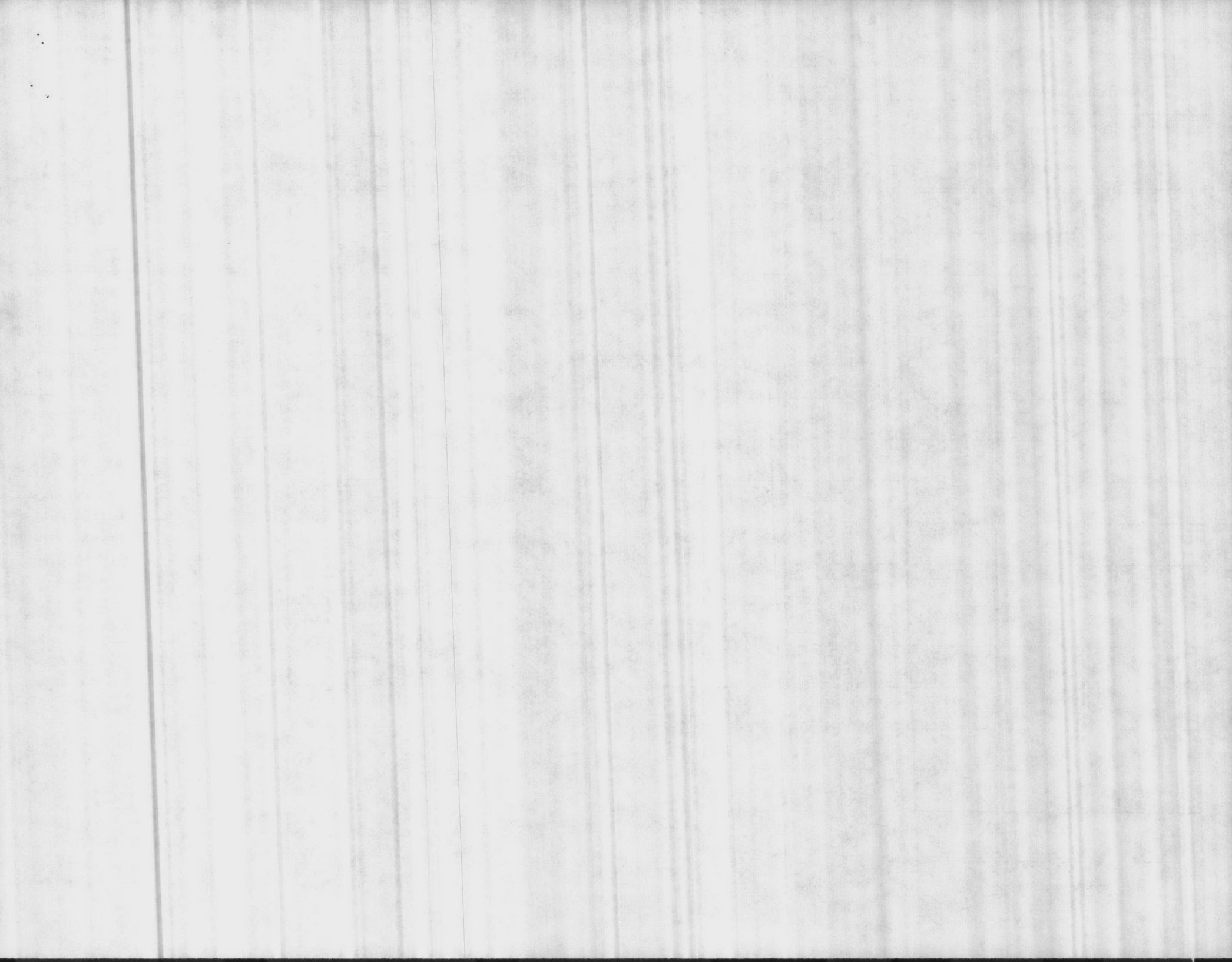
PMU MCAS PMU

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

LANE + BURNS ^{EB}



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

DATE COLLECTED
 12-23-86

DATE OF ANALYSIS
 12-23-86

PARAMETER	HADNOT POINT -241	CAMP JOHNSON -245	TARAWA TERRACE -244	ONSLow BEACH -248	COURTHOUSE BAY -247	RIFLE RANGE -246	HOLCOMB BLVD -243	NEW RIVER -242
PH (IN LAB NOT PLANT)	8.6	7.3	8.7	7.5	7.7	8.2	8.7	8.6
PHENOLTHALEIN ALKALINITY	4	0	6	0	0	0	8	14
METHYL ORANGE ALKALINITY	50	170	40	170	176	170	46	140
CARBONATES AS CaCO ₃	8	0	12	0	0	0	16	28
BICARBONATES AS CaCO ₃	42	170	28	170	176	170	30	112
CHLORIDES AS Cl	12	10	12	20	16	30	10	60
HARDNESS AS CaCO ₃	64	58	74	56	48	56	56	46
IRON AS Fe	<0.04	0.23	0.15	0.15	<0.04	<0.04	<0.04	<0.04
FLUORIDE	Am 1.08 Pm 1.18	0.14	0.91 0.84	0.13	0.10	0.09	0.64 0.68	0.55
CHLORINE RESIDUAL	1.0	1.1	1.0	1.3	1.4	1.0	1.1	0.8
TURBIDITY	Am 0.3 Pm 0.9	0.4	0.1 2.8	0.1	0.1	0.1	0.1 0.6	0.1
TOTAL PHOSPHATE		6.6						
ORTHO PHOSPHATE		1.4						
META PHOSPHATE		1.2						
STABILITY	+0.3	-0.6	+0.3	-0.4	-0.4	0.0	+0.2	+0.1

REMARKS

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

LANE + BURNS *EB*



CHEMICAL ANALYSIS -- WATER TREATMENT PLANTS

MCBCL 11330.3 (REV 6-84)

DATE COLLECTED

12-30-86

DATE OF ANALYSIS

12-30-86

PARAMETER	HADNOT POINT -241	CAMP JOHNSON -245	TARAWA TERRACE -244	ONSLow BEACH -248	COURTHOUSE BAY -247	RIFLE RANGE -246	HOLCOMB BLVD -243	NEW RIVER -242		
PH (IN LAB NO. PLANT)	8.4	7.4	8.7	7.5	8.1	8.3	8.4	8.5		
PHENOLTHALEIN ALKALINITY	6	0	4	0	0	2	4	6		
METHYL ORANGE ALKALINITY	70	166	44	160	180	150	60	150		
CARBONATES AS CaCO ₃	12	0	8	0	0	4	8	12		
BICARBONATES AS CaCO ₃	58	166	36	160	180	146	52	138		
CHLORIDES AS Cl	14	10	14	20	20	34	12	80		
HARDNESS AS CaCO ₃	72	60	70	60	50	50	64	50		
IRON AS Fe	<0.04	0.17	<0.04	0.14	<0.04	<0.04	<0.04	<0.04		
FLUORIDE	AM	0.30	1.31	0.16	0.13	0.11	0.82	0.72		
	PM	0.79	0.16	1.22	0.16	0.13	0.88	0.72		
CHLORINE RESIDUAL	1.0	1.3	1.0	0.5	1.3	1.0	1.0	0.8		
TURBIDITY	AM	1.0	0.4	0.1	0.1	0.1	0.1	0.4		
	PM	0.4	1.2	5.5	0.1	0.1	0.9	0.4		
TOTAL PHOSPHATE		1.8								
ORTHO PHOSPHATE		1.1								
META PHOSPHATE		0.7								
STABILITY	+0.2	-0.5	+0.2	-0.5	-0.1	0.0	+0.1	0.0		

REMARKS

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

BURNS ^{SB}



CHEMICAL ANALYSIS -- WATER TREATMENT PLANTS
 MCBCL 11330.3 (REV 6-84)

DATE COLLECTED

DATE OF ANALYSIS

PARAMETER	HADNOT POINT	CAMP JOHNSON	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER		
Serial # 01-67	-041	-045	-044	-048	-047	-046	-043	-042		
PH (IN LAB NOT PLANT)										
PHENOLTHALEIN ALKALINITY										
METHYL ORANGE ALKALINITY										
CARBONATES AS CaCO ₃										
BICARBONATES AS CaCO ₃										
CHLORIDES AS Cl										
HARDNESS AS CaCO ₃										
IRON AS Fe										
FLUORIDE	AM									
	PM									
CHLORINE RESIDUAL										
TURBIDITY	AM									
	PM									
TOTAL PHOSPHATE										
ORTHO PHOSPHATE										
META PHOSPHATE										
STABILITY										

REMARKS

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



CHEMICAL ANALYSIS -- WATER TREATMENT PLANTS

MCBCL 11330.3 (REV 6-84)

DATE COLLECTED

DATE OF ANALYSIS

PARAMETER	HADNOT POINT	CAMP JOHNSON	TARAWA TERRACE	ONSLow BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER		
SERIAL # 21-67	-241	-245	-244	-248	-247	-246	-243	-242		
PH (IN LAB NOT PLANT)										
PHENOLTHALEIN ALKALINITY										
METHYL ORANGE ALKALINITY										
CARBONATES AS CaCO ₃										
BICARBONATES AS CaCO ₃										
CHLORIDES AS Cl										
HARDNESS AS CaCO ₃										
IRON AS Fe										
FLUORIDE	AM									
	PM									
CHLORINE RESIDUAL										
TURBIDITY	AM									
	PM									
TOTAL PHOSPHATE										
ORTHO PHOSPHATE										
META PHOSPHATE										
STABILITY										

REMARKS

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



CHEMICAL ANALYSIS -- WATER TREATMENT PLANTS

MCBCL 11330.3 (REV 6-84)

DATE COLLECTED

DATE OF ANALYSIS

PARAMETER	HADNOT POINT	CAMP JOHNSON	TARAWA TERRACE	ONSLow BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER		
Series # 04-67	-041	-045	-044	-048	-047	-046	-043	-042		
PH (IN LAB NOT PLANT)										
PHENOLTHALEIN ALKALINITY										
METHYL ORANGE ALKALINITY										
CARBONATES AS CaCO ₃										
BICARBONATES AS CaCO ₃										
CHLORIDES AS Cl										
HARDNESS AS CaCO ₃										
IRON AS Fe										
FLUORIDE	Am									
	Pm									
CHLORINE RESIDUAL										
TURBIDITY	Am									
	Pm									
TOTAL PHOSPHATE										
ORTHO PHOSPHATE										
META PHOSPHATE										
STABILITY										

REMARKS

COPY TO:

UTIL DIR

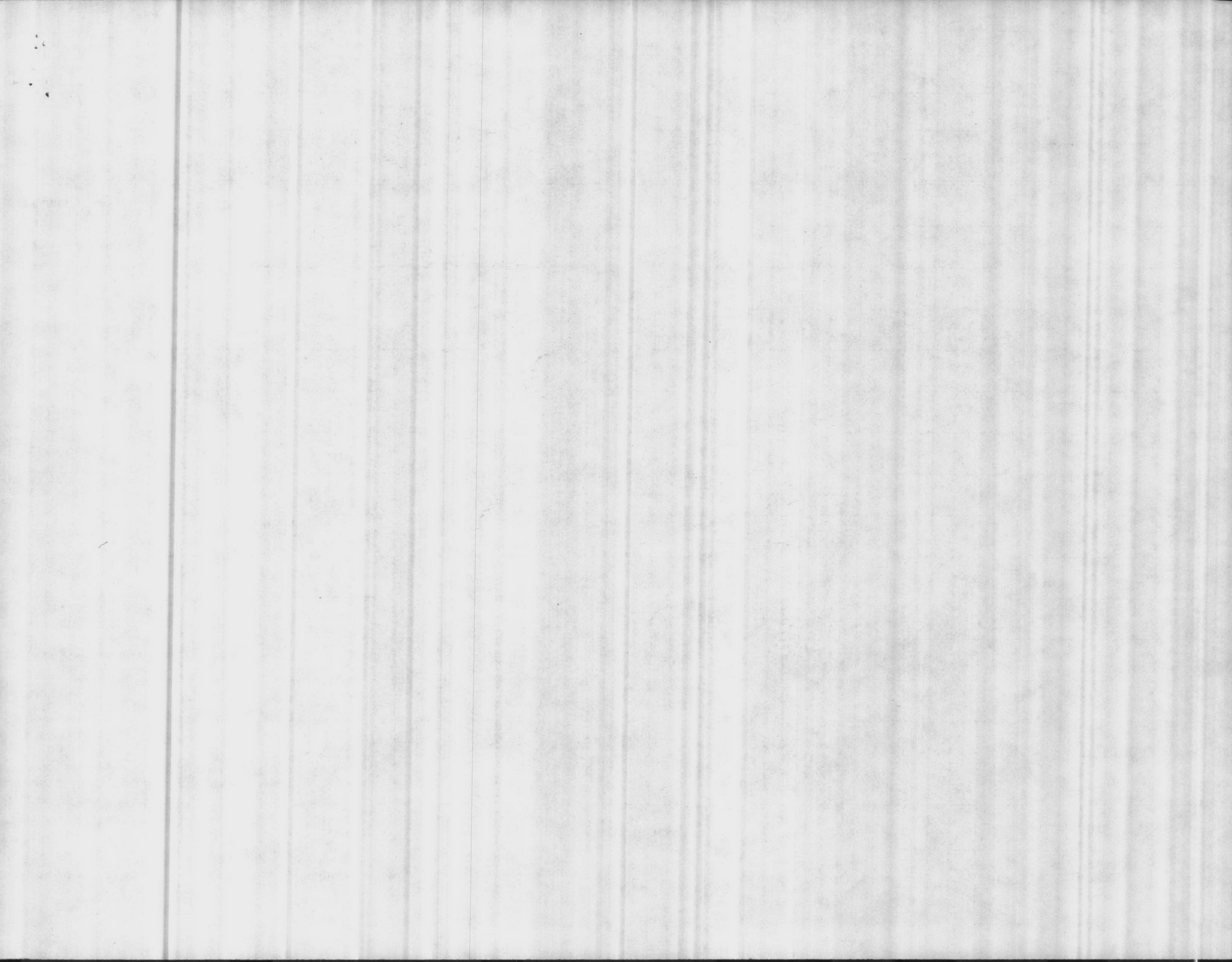
WATER TREATMENT

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



ChapB

11331
NREAD
7 Aug 87

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 July 1987. 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 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,

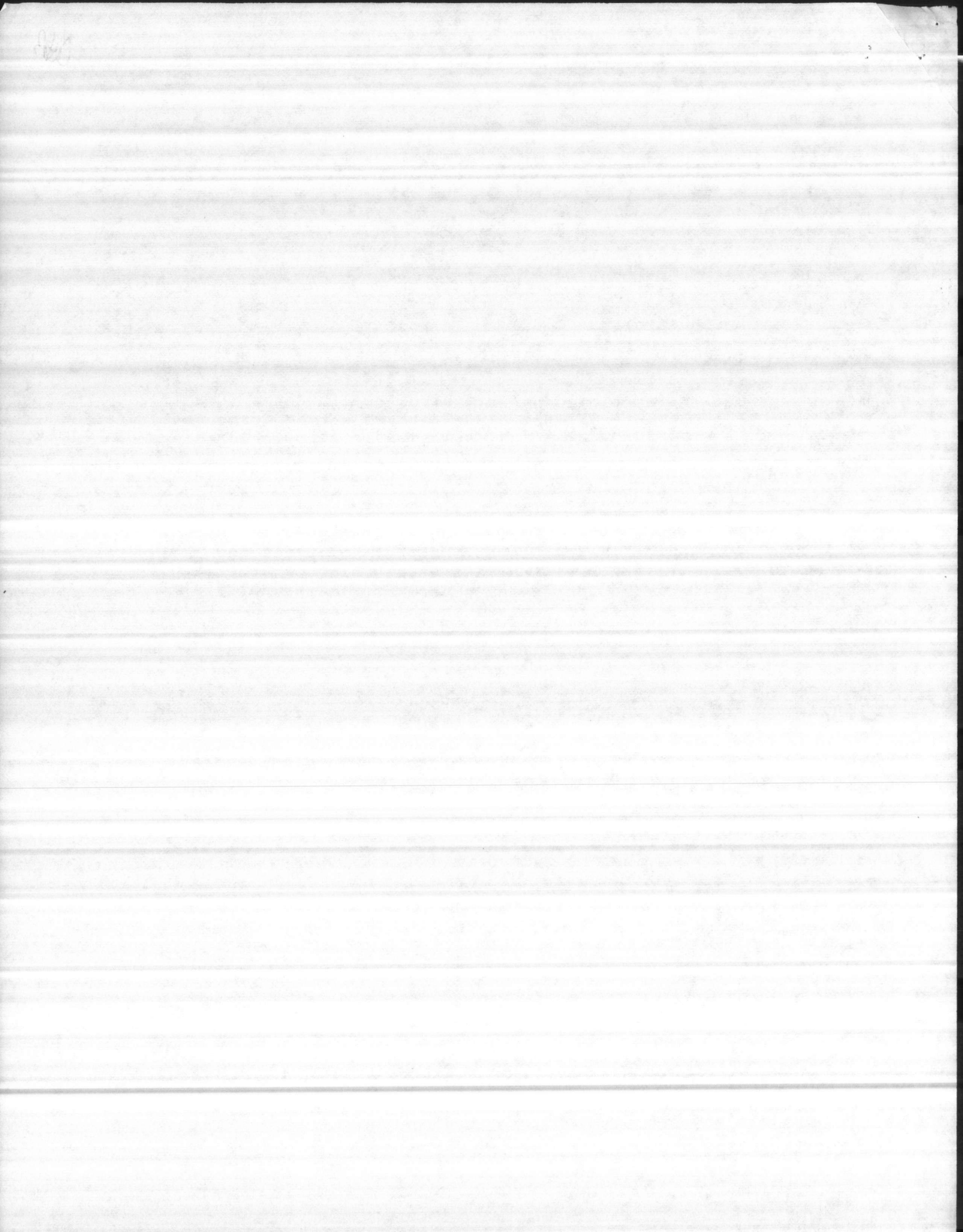
JULIAN I. WOOTEN
Director, Natural Resources Division
By direction of the Commanding General

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

Copy to:
LANTNAVFACENCOM (Code 114)

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

Writer/Typist Betz/Lianaski
Date Typed 7 Aug 87
Word Processor Number 11331



Serial # 04-67-041

U. S. DEPARTMENT OF HEALTH SERVICES

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		
	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	77											0	9	0	0	0	0	0	0	35
8																				
9																				
10																				
11																				
12																				
13																				
14	14											0	9	0	0	0	0	0	0	35
15																				
16																				
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19																				
20																				
21																				
22																				
23	23											0	9	0	0	0	0	0	0	35
24																				
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26																				
27																				
28	28											0	9	0	0	0	0	0	0	35
29																				
30																				
31																				
MF MEDIA		BBI mEndo		BACTERIAL DENSITY		ARITH. MEAN						0	DIST. SYSTEM		TOTAL NO. SAMPLES					30
TPC MEDIA						GEO. MEAN						1.0			SAMPLES EXCEEDING 1/50. (4/100) 7/200. 13/500ml					30

LAB ID # 37807

Elizabeth A. Betty

CERT GRADE B-WELL # 4087-W



AIR STATION
Serial # 04-67-042

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

CONTAMINATION CODE: 500

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			INTEGRATOR LOW
	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	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	
1																						
2																						
3																						
4																						
5																						
6																						
7	27											0	7	0	0	0	0	0	0			35
8																						
9																						
10																						
11																						
12																						
13																						
14	14											0	7	0	0	0		0	0			35
15																						
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19																						
20																						
21																						
22																						
23																						
24																						
25																						
26																						
27																						
28	28											0	7	0	0	0		0				35
29																						
30																						
31																						
HF MEDIA	BRL mEndo		BACTERIAL DENSITY	ARITH. MEAN		GEO. MEAN						0	DIST. SYSTEM	TOTAL NO. SAMPLES								21
TPC MEDIA												1.0		SAMPLES EXCEEDING 3/50, 4/100, 7/200, 13/500ml								0

LAB ID # 37807

Elizabeth O. Betz

CERT GRADE: B-WELL # 4087-W



Serial # 04-67-043

N. C. DEPARTMENT OF HUMAN RESOURCES

DATE	RAW WATER COLIFORMS (MFP)									NO. OF COLIFORMS PER 100 ml.	FILTERED	FINISHED	TOTAL PLATE COUNT	DISTRIBUTION SYSTEM										
	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.	
1																								
2																								
3																								
4																								
5																								
6																								
7	37													0	7	0/0	0/0	0/0	0/0		35			
8																								
9																								
10																								
11																								
12																								
13	>14																							
14														0	7	0/0	0/0	0/0	0/0		35			
15																								
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18																								
19																								
20																								
21																								
22																								
23																								
24																								
25																								
26																								
27																								
28	28													0	7	0/0	0/0	0/0	0/0		35			
29																								
30																								
31																								
MF MEDIA		BBL mEndo			BACTERIAL DENSITY		ARITH. MEAN								0		DIST. SYSTEM		TOTAL NO. SAMPLES					2
TPC MEDIA							GEO. MEAN								1.0				SAMPLES EXCEEDING 3/50. 4/100. 7/200. 13/500ml					0

LAB ID # 37807

Elizabeth A. Bely

CERT GRADE: B-WELL # 4087-W



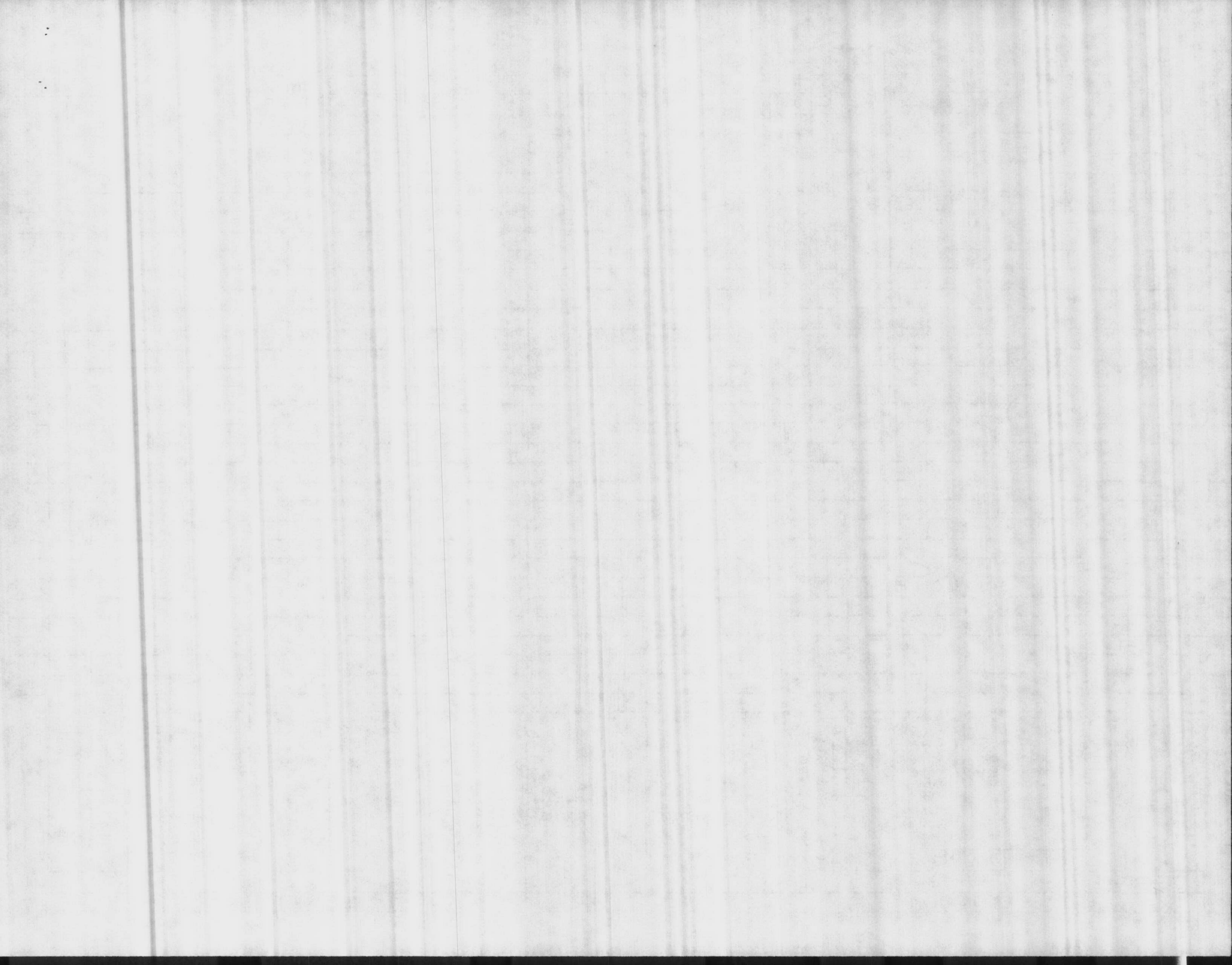
Serial # 04-67-044

N. C. DEPARTMENT OF HUMAN RESOURCES

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	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	
1																					
2																					
3																					
4																					
5																					
6																					
7	→											0	4	0	0						35
8																					
9																					
10																					
11																					
12																					
13																					
14	→											0	4	0	0		0				35
15																					
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19																					
20																					
21																					
22																					
23																					
24																					
25																					
26																					
27																					
28	→											0	4	0	0		0				35
29																					
30																					
31																					
MFP MEDIA		BBL mEndo		BACTERIAL DENSITY		ARITH. MEAN						0	DISTR. SYSTEM		TOTAL NO. SAMPLES					12	
TPC MEDIA						GEO. MEAN						1.0			SAMPLES EXCEEDING 3/50, 4/100, 7/200, 13/500-ml					0	

LAB ID # 37807

Elizabeth A. Boyd CERT GRADE B-WELL # 4087-W





Serial # 04-67-046

RIPLE RANGE

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Contaminant Code: 5000

N. C. DEPARTMENT OF HUMAN RESOURCES

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.		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																							
3																							
4																							
5																							
6																							
7	77											0	3	0	0	0					35.4		
8																							
9																							
10																							
11																							
12																							
13																							
14	714											0	3	0	0	0					35.4		
15																							
16																							
17																							
18																							
19																							
20																							
21																							
22																							
23																							
24																							
25																							
26																							
27																							
28	728											0	3	0	0	10					35.4		
29																							
30																							
31																							
MF MEDIA	BBL mEndo		BACTERIAL DENSITY	ARITH. MEAN	GEO. MEAN							0	1.0	DISTR. SYSTEM		TOTAL NO. SAMPLES	SAMPLES EXCEEDING 3/50, 4/100, 7/200, 13/500 ml			9	0		

LAB ID # 37807

Elyzabeth A. [Signature]

CERT GRADE B-WELL # 4087-W



Serial # 04-67-047

U. S. DEPARTMENT OF HEALTH SERVICES

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

CONCERNING CODE: 5000

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.		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																							
3																							
4																							
5																							
6																							
7	77											0	4	0/0	0/0						35.4		
8																							
9																							
10																							
11																							
12																							
13																							
14	74											0	4	0/0	0/0	0/0					35.4		
15																							
16																							
17																							
18																							
19																							
20																							
21																							
22																							
23																							
24																							
25																							
26																							
27																							
28	28											0	4	0/0		0/0					35.4		
29																							
30																							
31																							
MF MEDIA	BBL mEndo		BACTERIAL DENSITY		ARITH. MEAN								0	DISTR. SYSTEM		TOTAL NO. SAMPLES					12		
TPC MEDIA					GEO. MEAN								1.0			SAMPLES EXCEEDING 3/50. (4/100) 7/200. 13/500ml					0		

LAB ID # 37807

Elizabeth A. Berg

CERT GRADE B-WELL # 4087-W



Serial # 04-67-048

A. C. DEPARTMENT OF HUMAN RESOURCES

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																					
3																					
4																					
5																					
6																					
7	77											0	2	0	0				35.4		
8																					
9																					
10																					
11																					
12																					
13																					
14	74											0	2	0	0				35.4		
15																					
16																					
17																					
18																					
19																					
20																					
21																					
22																					
23																					
24																					
25																					
26																					
27	28											0	2	0	10				35.4		
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. 13/500ml		0			

LAB ID # 37807

Elizabeth A. Betz CERT GRADE B-WELL # 4087-W



CHEMICAL ANALYSIS - WATER TREATMENT PLANTS
MCBCL 11330/3 (REV 7-87)

DATE COLLECTED

7-7-87

DATE(S) ANALYZED

7-7-87

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	8.18	8.5	8.16	8.10	8.14	7.6			
STABILITY	+0.4	0.0	+0.3	-0.5	-0.1	-0.8			
PHENOLTHALEIN ALKALINITY (PPM)	6	6	4	0	2	0			
METHYL ORANGE ALKALINITY (PPM)	54	140	60	166	130	150			
CARBONATES AS CaCO ₃ (PPM)	12	12	8	0	4	0			
BICARBONATES AS CaCO ₃ (PPM)	42	128	52	166	126	150			
CHLORIDES AS Cl (PPM)	14	70	10	14	48	20			
HARDNESS AS CaCO ₃ (PPM)	62	50	60	50	50	52			
IRON AS Fe (PPM)	-	-	A. I. A. DOWN		-	-			
FLUORIDE (PPM)	AM 1.07	0.58	0.99	0.93	0.12	0.10	0.17		
	PM 1.07								
TURBIDITY (NTUS)	AM 0.2	0.2	0.3	0.7	0.1	0.1	0.2		
	PM 0.2								
CHLORINE RESIDUAL (PPM)	1.0	0.8	1.2	1.3	1.1	1.5			

REMARKS:

COPY TO:

- UTIL DIR, BMD _____
- WATER TREATMENT, UTIL DIV, BMD
- PMU, NAYHOSP PMU, MCAS-NR
- DIVISION OF HEALTH SERVICES
N.C. DEPT OF HUMAN RESOURCES

REPORT DATE:

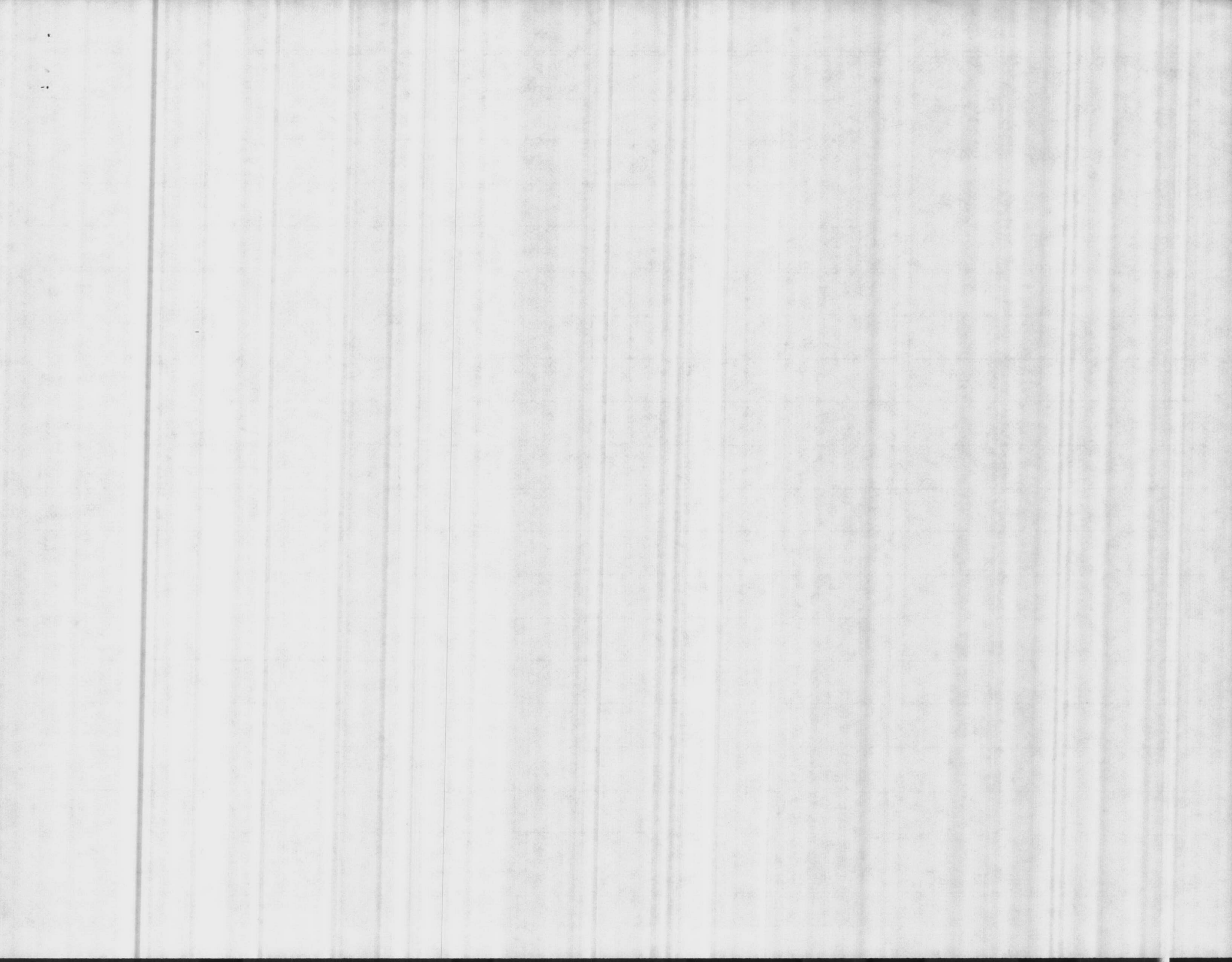
7-7-87

REPORT PREPARED BY:

H. J. Burns

NREAD

FILE (ATTACH WKST)



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

DATE COLLECTED

7-14-87

DATE(S) ANALYZED

7-14-87

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	8.7	8.6	8.6	7.8	8.3	7.6		
STABILITY	+0.3	0.0	+0.6	-0.5	-0.2	-0.8		
PHENOLTHALEIN ALKALINITY (PPM)	4	12	4	6	6	0		
METHYL ORANGE ALKALINITY (PPM)	60	140	56	160	156	150		
CARBONATES AS CaCO ₃ (PPM)	8	24	8	0	0	0		
BICARBONATES AS CaCO ₃ (PPM)	52	116	48	160	156	150		
CHLORIDES AS Cl (PPM)	10	70	161	14	44	20		
HARDNESS AS CaCO ₃ (PPM)	70	44	60	50	50	54		
IRON AS Fe (PPM)	--	=	=	A.A	Down	--		
FLUORIDE (PPM)	AM PM 0.75	0.55	1.00	0.13	6.10	0.16		
TURBIDITY (NTUS)	AM PM 0.2	0.1	8.5	0.1	0.1	6.4		
CHLORINE RESIDUAL (PPM)	0.9	0.9	1.4	1.2	1.0	1.6		

REMARKS:

COPY TO:

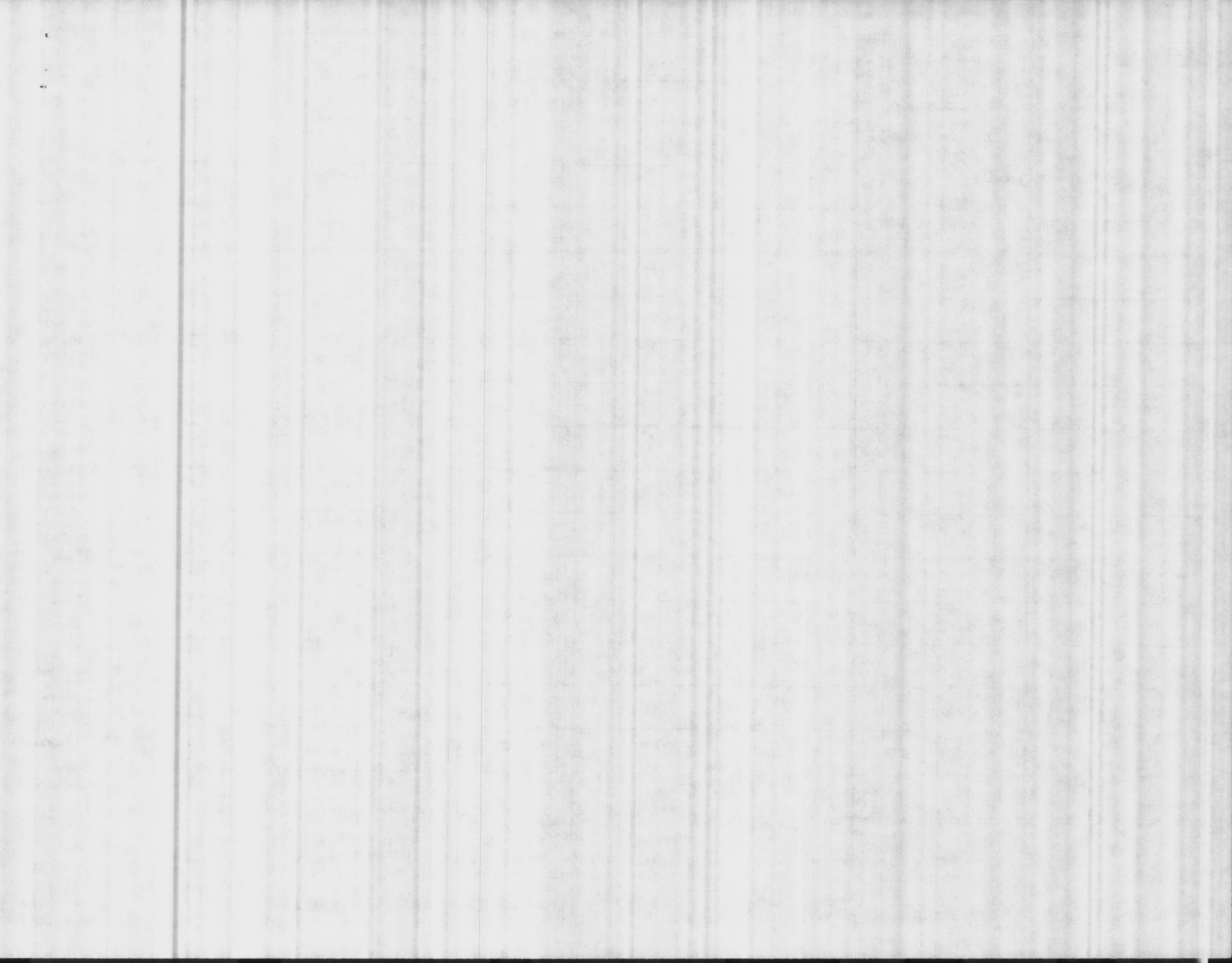
- UTIL Dir, BMD
- WATER TREATMENT, UTIL Div, BMD
- PMU, NAVHOSP PMU, MCAS-NR
- DIVISION OF HEALTH SERVICES
N.C. DEPT OF HUMAN RESOURCES
- NREAD FILE (ATTACH WKST)

REPORT DATE:

7-14-87

REPORT PREPARED BY:

H. J. Burns



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

DATE COLLECTED

7-21-87

DATE(S) ANALYZED

7-21-87

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	9.5	8.5	8.7	7.9	8.2	7.6		
STABILITY	+0.3	+0.2	+0.6	-0.4	-0.1	-0.6		
PHENOLTHALEIN ALKALINITY (PPM)	4	10	6	0	0	0		
METHYL ORANGE ALKALINITY (PPM)	60	144	52	160	160	160		
CARBONATES AS CaCO ₃ (PPM)	8	20	12	0	0	0		
BICARBONATES AS CaCO ₃ (PPM)	52	122	40	160	160	160		
CHLORIDES AS Cl (PPM)	10	70	10	16	50	18		
HARDNESS AS CaCO ₃ (PPM)	56	54	60	56	60	56		
IRON AS Fe (PPM)								
FLUORIDE (PPM)	AM	1.01	0.54	0.99	0.12	0.09	0.13	
	PM	0.78		0.94				
TURBIDITY (NTUS)	AM	0.2	0.1	0.2	0.1	0.1	0.2	
	PM	0.2		0.6				
CHLORINE RESIDUAL (PPM)		1.10	0.8	1.4	1.4	1.0	1.7	

REMARKS:

COPY TO:

UTIL DIR, BMD

WATER TREATMENT, UTIL DIV, BMD

PMU, NAYHOSP PMU, MCAS-NR

DIVISION OF HEALTH SERVICES
 N.C. DEPT. OF HUMAN RESOURCES

NREAD

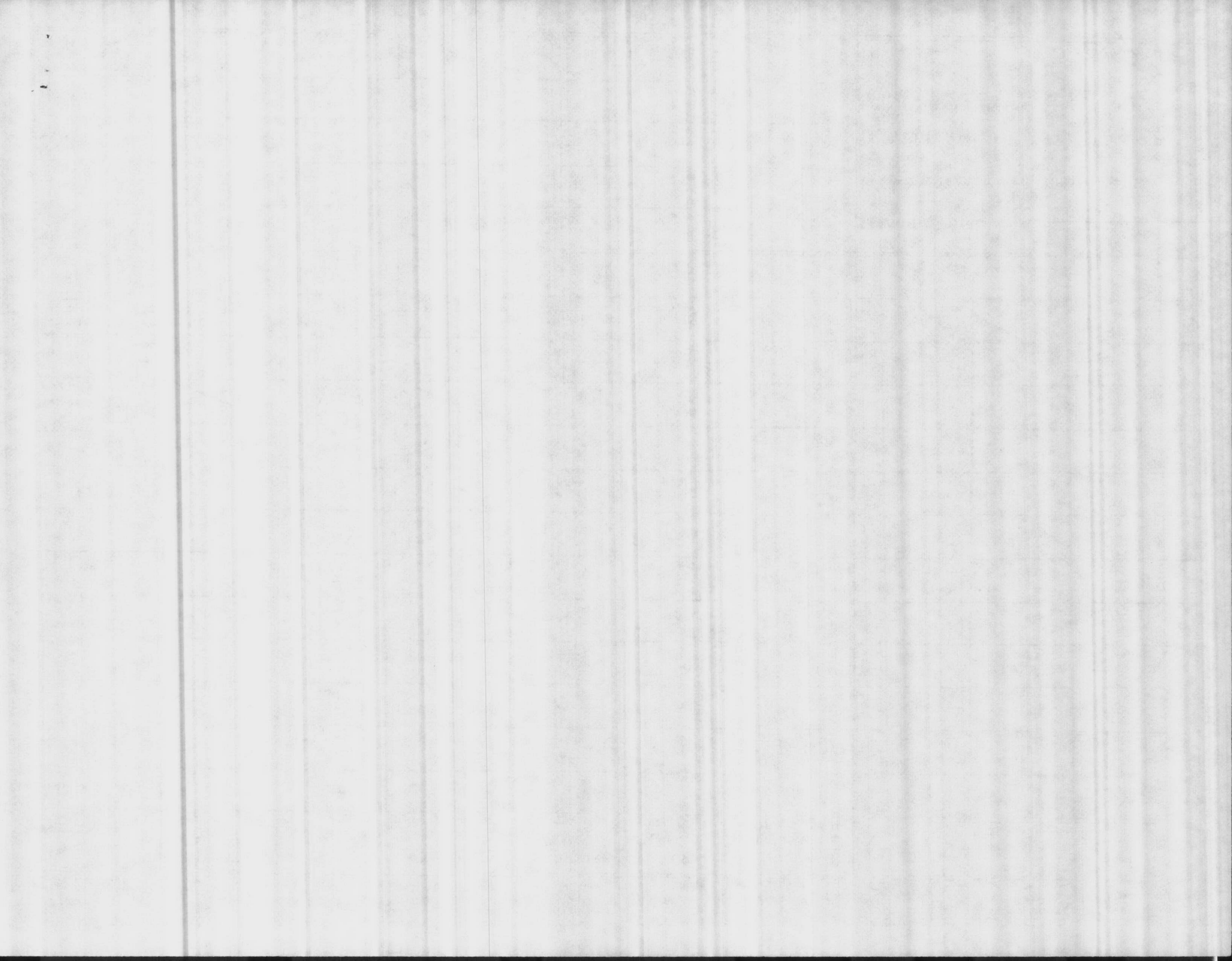
FILE (ATTACH WKST)

REPORT DATE:

7-21-87

REPORT PREPARED BY:

M. J. Burns



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

DATE COLLECTED

7-28-87

DATE(S) ANALYZED

7-28-87

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	8.4	8.6	8.6	8.0	8.2	7.5			
STABILITY	+0.4	+0.2	+0.5	+0.3	-0.1	-0.7			
PHENOLTHALEIN ALKALINITY (PPM)	2	8	4	0	0	0			
METHYL ORANGE ALKALINITY (PPM)	56	138	60	164	154	156			
CARBONATES AS CaCO ₃ (PPM)	4	16	8	0	0	0			
BICARBONATES AS CaCO ₃ (PPM)	52	122	52	164	154	156			
CHLORIDES AS Cl (PPM)	12	70	16	18	40	20			
HARDNESS AS CaCO ₃ (PPM)	62	48	70	56	56	60			
IRON AS Fe (PPM)			A.A. Down						
FLUORIDE (PPM)	AM	0.58	1.12	0.99	6.14	0.11	0.15		
	PM								
TURBIDITY (NTUS)	AM	0.7	0.1	0.1	0.2	0.2	0.6		
	PM								
CHLORINE RESIDUAL (PPM)		0.8	0.9	1.3	1.7	1.3			

REMARKS:

COPY TO:

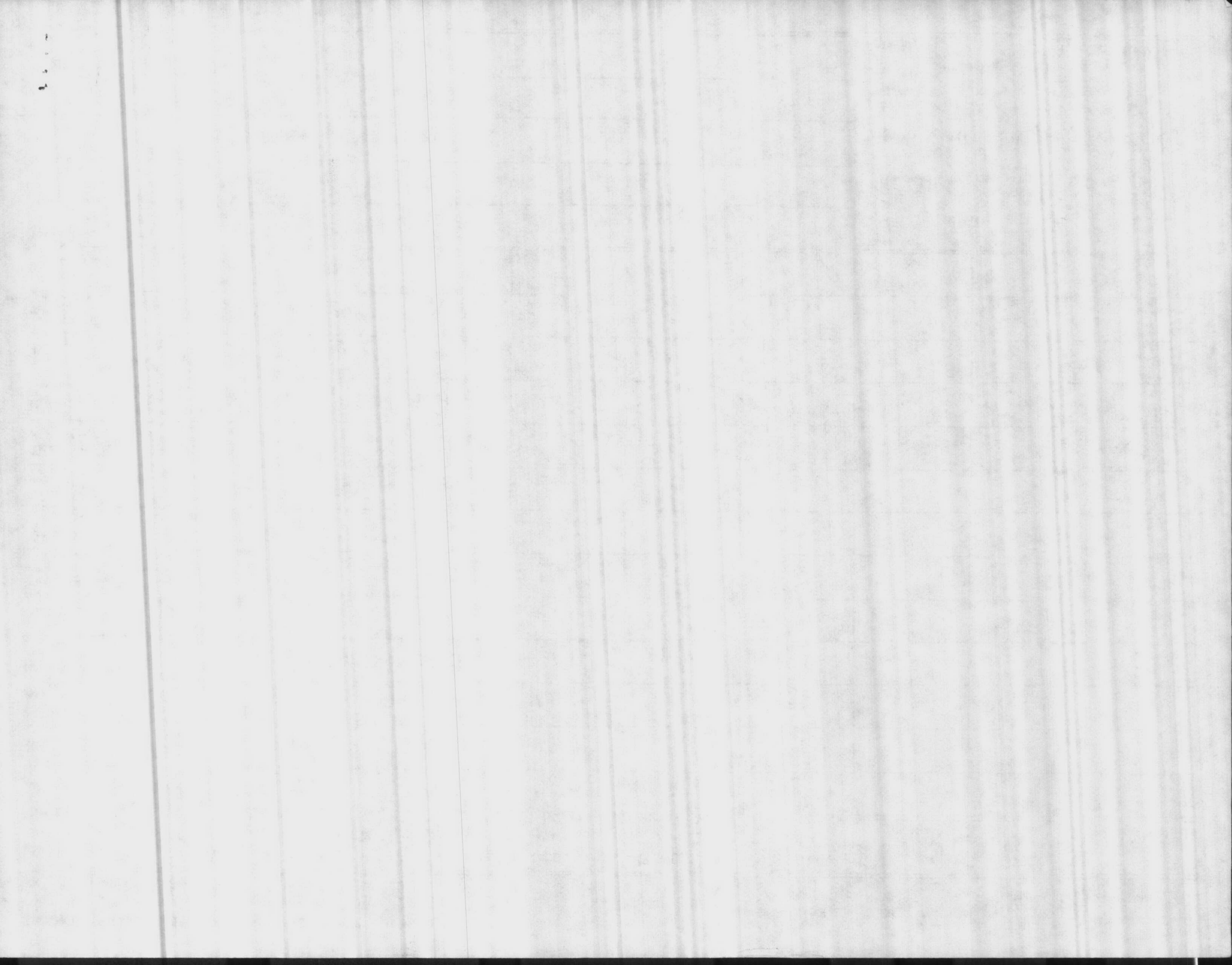
- UTIL DIR, BMD _____
 WATER TREATMENT, UTIL DIV, BMD
 PMU, NAVHOSP PMU, MCAS-NR
 DIVISION OF HEALTH SERVICES
 N.C. DEPT OF HUMAN RESOURCES
 NREAD FILE (ATTACH WKST)

REPORT DATE:

7-28-87

REPORT PREPARED BY:

H. J. Burns





03

UNITED STATES MARINE CORPS
Natural Resources and Environmental Affairs Division
Marine Corps Base
Camp Lejeune, North Carolina 28542

BT

IN REPLY REFER TO:

11331
NREAD

FEB 06 1987

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 January 1987. 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 Environmental Chemistry and Microbiology Laboratory, located in the Natural Resources and Environmental Affairs Division, Assistant Chief of Staff, Facilities. Ms. Betz, Supervisory Chemist, Environmental Chemistry and Microbiology Laboratory, telephone (919) 451-5977, is the point of contact in this matter.

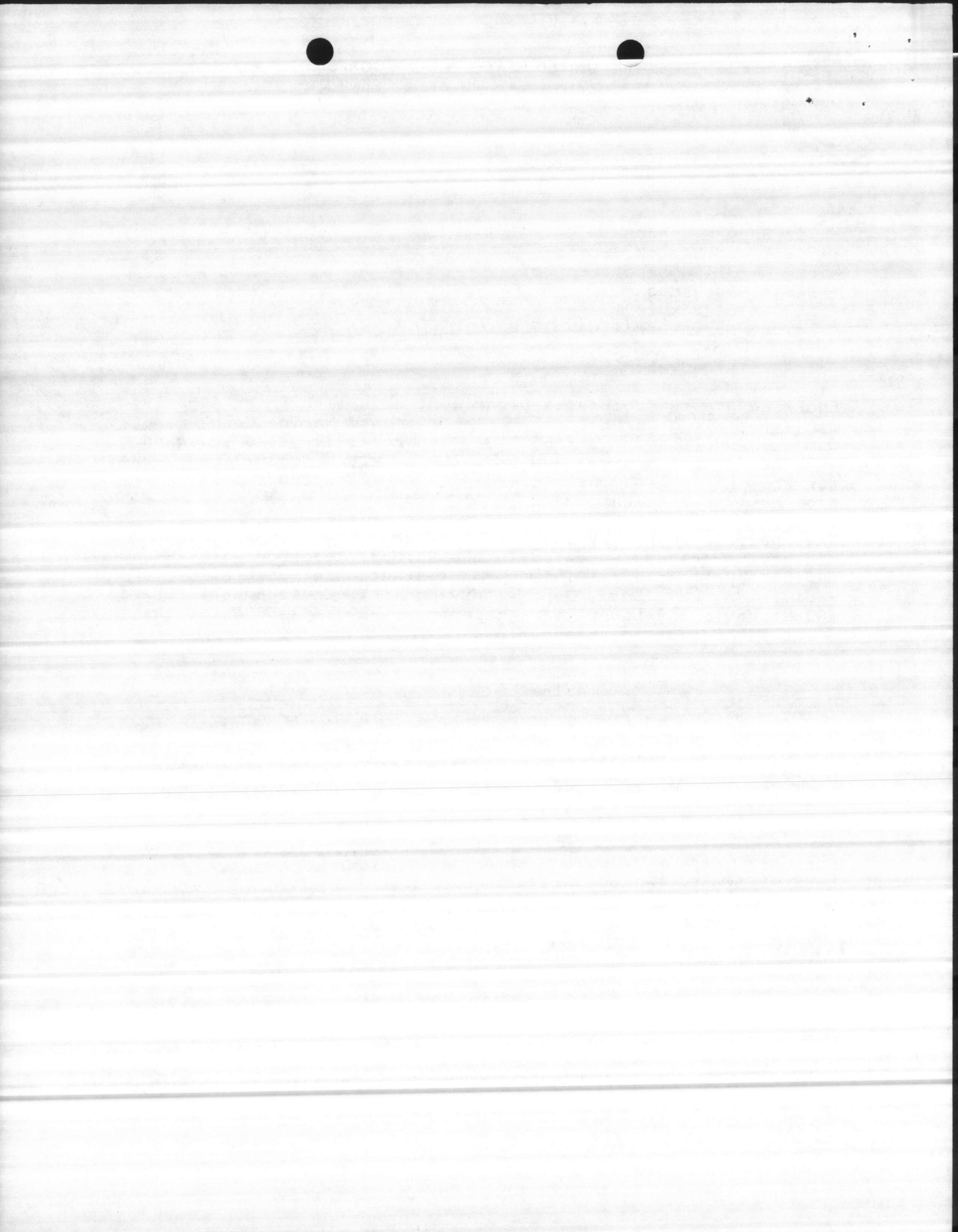
Sincerely,

Julian I. Wooten
JULIAN I. WOOTEN
Director

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

Copy to:
LANTNAVFACENGCOM (Code 114)

Blind copy to:
BMO (Attn: Util Dir)
Supvy Chem (1)



Month JANUARY
 Year 1987

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

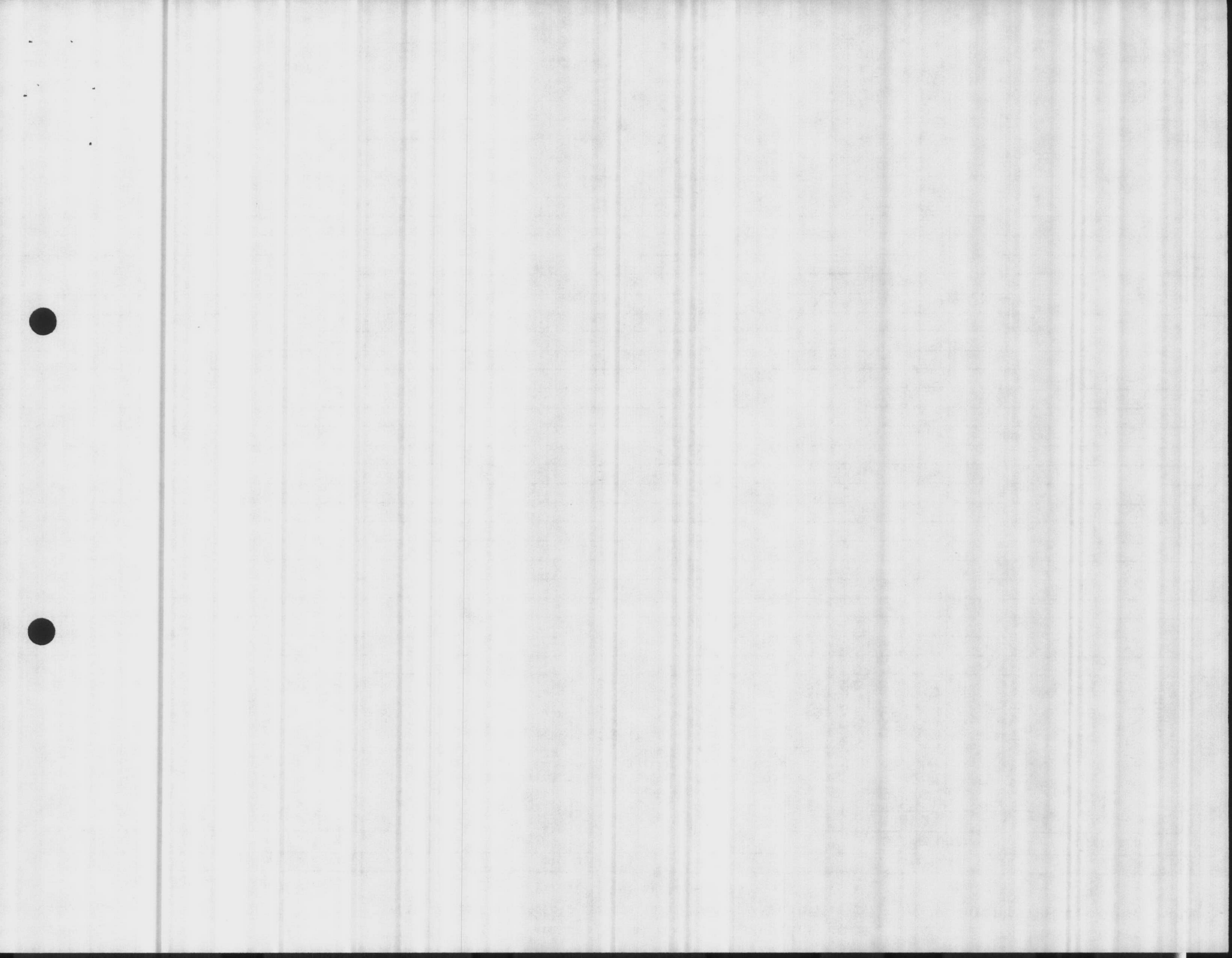
Serial # 04-67-041

DATE	RAW WATER COLIFORMS (MFP)									NO. OF COLIFORMS PER 100 ml.	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	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.						
1																													
2																													
3																													
4																													
5																													
6															0	9	0	0	0	0	0	0	0	0	0	0	35.5		
7																													
8																													
9																													
10																													
11																													
12																													
13															0	9	0	0	0	0	0	0	0	0	0	0	35.5		
14																													
15																													
16																													
17																													
18																													
19																													
20															0	9	0	0	0	0	0	0	0	0	0	0	35.1		
21																													
22																													
23																													
24																													
25																													
26																													
27															0	9	0	0	0	0	0	0	0	0	0	0	35.0		
28																													
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30																													
31																													
MF MEDIA	RBL mEndo			DACTERIAL DENSITY	ARITH. MEAN		GEO. MEAN								0	DIST. SYSTEM	TOTAL NO. SAMPLES					SAMPLES EXCEEDING 3/50, (4/100, 7/200, 13/500) ml						36	0

LAB ID# 57307

Elizabeth B. Bell

B-Well 4-087-W
 ENCLOSURE (1)



Month JANUARY
 Year 1987

MARINE CORPS AIR STATION

WATER TREATMENT PLANT AT Camp Lejeune

Method Code: 303
 Contaminant Code: 3000

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

U. S. DEPARTMENT OF HUMAN RESOURCES

Serial # 04-67-042

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.	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																					
3																					
4																					
5																					
6												0	7	0	0	0	0	0	35.5		
7																					
8																					
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12																					
13												0	7	0	0	0	0	0	35.5		
14																					
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16																					
17																					
18																					
19																					
20												0	7	0	0	0	0	0	35.1		
21																					
22																					
23																					
24																					
25																					
26																					
27												0	7	0	0	0	0	0	35.0		
28																					
29																					
30																					
31																					
MF MEDIA		BBL mEndo		BACTERIAL DENSITY		ARITH. MEAN						0		DIST. SYSTEM		TOTAL NO. SAMPLES		28			
TPC MEDIA						GEO. MEAN						1.0				SAMPLES EXCEEDING 3/50, (4/100), 7/200, 13/500ml		0			

LAB ID # 37307

Elizabeth A. Bely B Well 4087-W



Month JANUARY
Year 1987

HOLLAND DAVID

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 # 04-67-043

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.	TOTAL PLATE COUNT	COLIFORMS (MFP)					REPEAT SAMPLES			
	VOLUME FILTERED ml.	TOTAL COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	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												0	7	0	0	0	0	0	0	0	0	35.5
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10																						
11																						
12																						
13												0	7	0	0	0	0	0	0	0	0	35.5
14																						
15																						
16																						
17																						
18																						
19																						
20												0	7	0	0	0	0	0	0	0	0	35.1
21																						
22																						
23																						
24																						
25																						
26																						
27												0	7	0	0	0	0	0	0	0	0	35.0
28																						
29																						
30																						
31																						
MF MEDIA	RBI mEndo		BACTERIAL DENSITY		ARITH. MEAN		GEO. MEAN					0	DIST. SYSTEM	TOTAL NO. SAMPLES					28			
TPC MEDIA												10		SAMPLES EXCEEDING 3/50, 4/100, 7/200, 13/500=1					0			

LAB ID # 37807

Elizabeth A. Bell B-WELL 4087-W



Month JANUARY
 Year 1987

IAKAWA TERRACE

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 # 04-67-04

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																					
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5																					
6										0	4	0	0	0	0			35.5			
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13										0	4	0	0		0	0		35.5			
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18																					
19																					
20										0	4	0	0			0		35.1			
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25																					
26																					
27										0	4	0	0				0	35.0			
28																					
29																					
30																					
31																					
MFP MEDIA		BBL mEndo		BACTERIAL DENSITY		ARITH. MEAN				0		DIST. SYSTEM		TOTAL NO. SAMPLES					16		
TPC MEDIA						GEO. MEAN								SAMPLES EXCEEDING 3/50, (3/100), 7/200, 13/500ml					0		

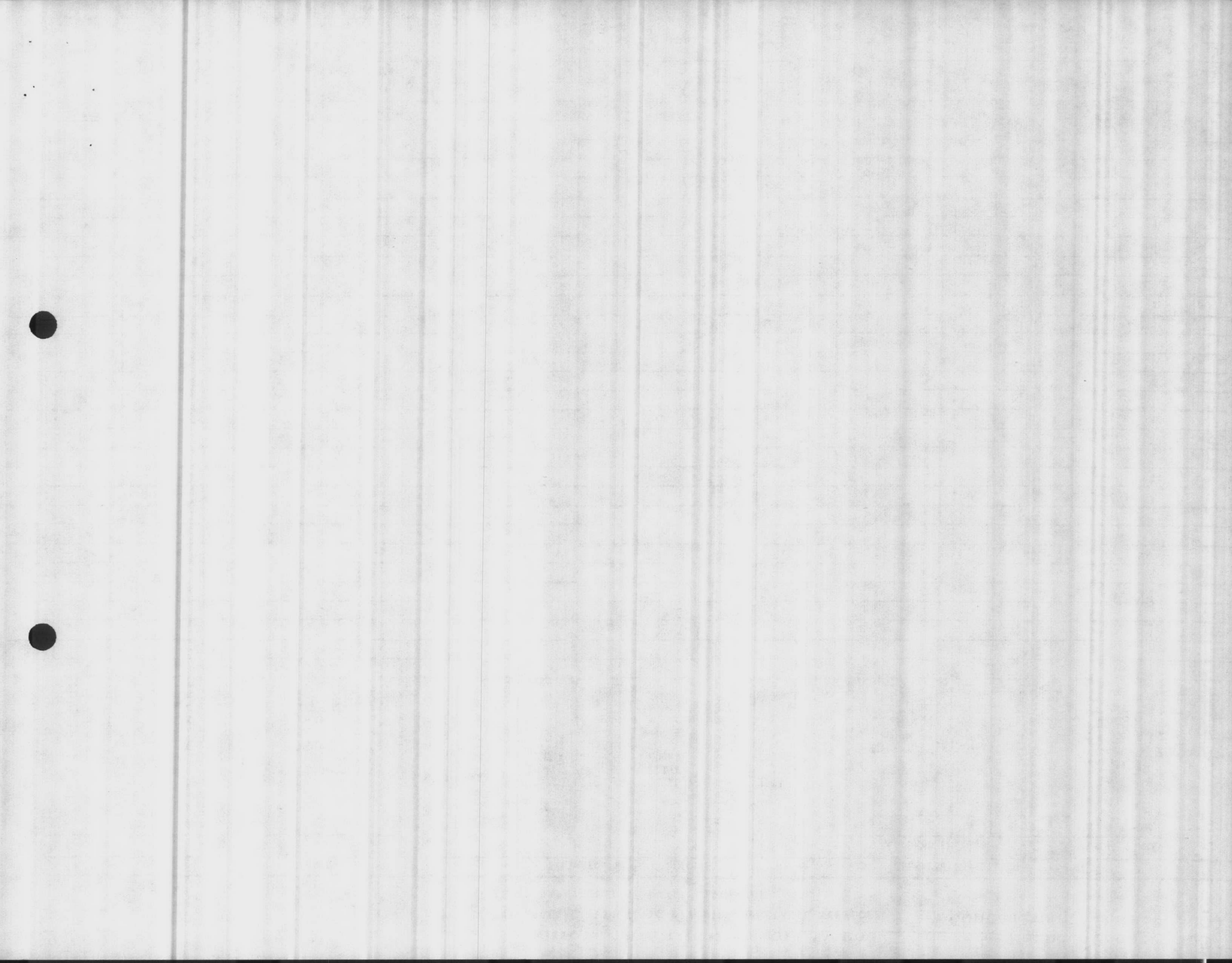
LAB ID # 37807

Regal with A.B.H.

B. WELL

4087-W





Month JANUARY
 Year 1987

RIFLE RANGE

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 # 04-67-046

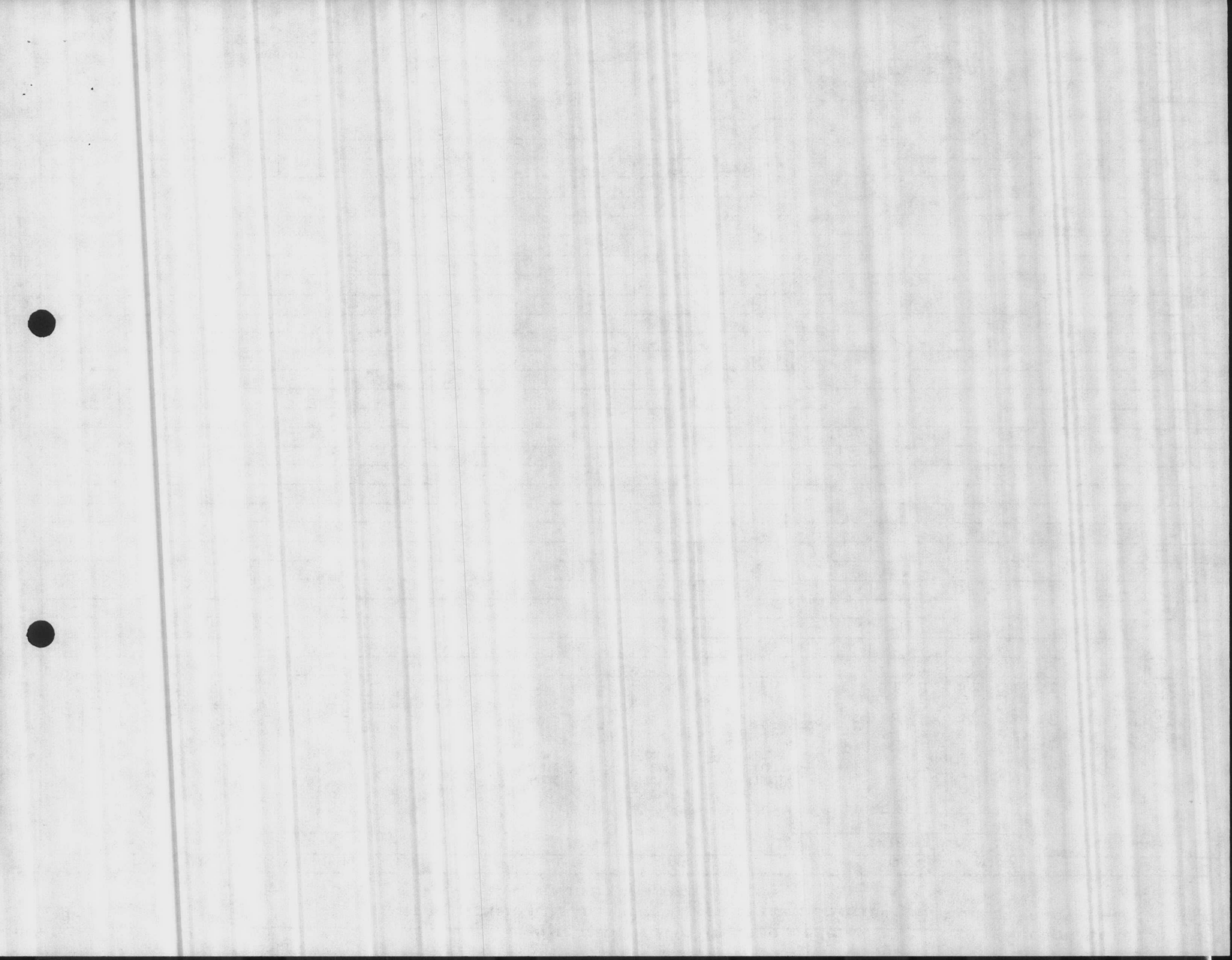
DATE	RAW WATER COLIFORMS (MFP)						NO. OF COLIFORMS PER 100 ml.	FILTERED TOTAL PLATE COUNT	FINISHED TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	DISTRIBUTION SYSTEM COLIFORMS (MFP)					REPEAT SAMPLES			INCUBATOR TEMP.		
	A		B		C							AVE. COLIFORMS per 100 ml.	NO. OF SAMPLES EXAMINED	1	2	3	4	5	COLIFORMS per 100 ml.		COLIFORMS per 100 ml.	COLIFORMS per 100 ml.
	VOLUME FILTERED ml.	TOTAL COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES																
1																						
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3																						
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6										0	3	0	0	0						35.5		
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25																						
26																						
27										0	3	0	0	0						35.0		
28																						
29																						
30																						
31																						
MFP MEDIA		BRI mEndo		BACTERIAL DENSITY		ARITH. MEAN				0	DIST. SYSTEM	TOTAL NO. SAMPLES					12					
TPC MEDIA						GEO. MEAN				1.0		SAMPLES EXCEEDING 3/50, 4/100, 7/200, 13/500ml					0					

LAB ID # 37807

Elizabeth A. Betz

B-Well

4087-W



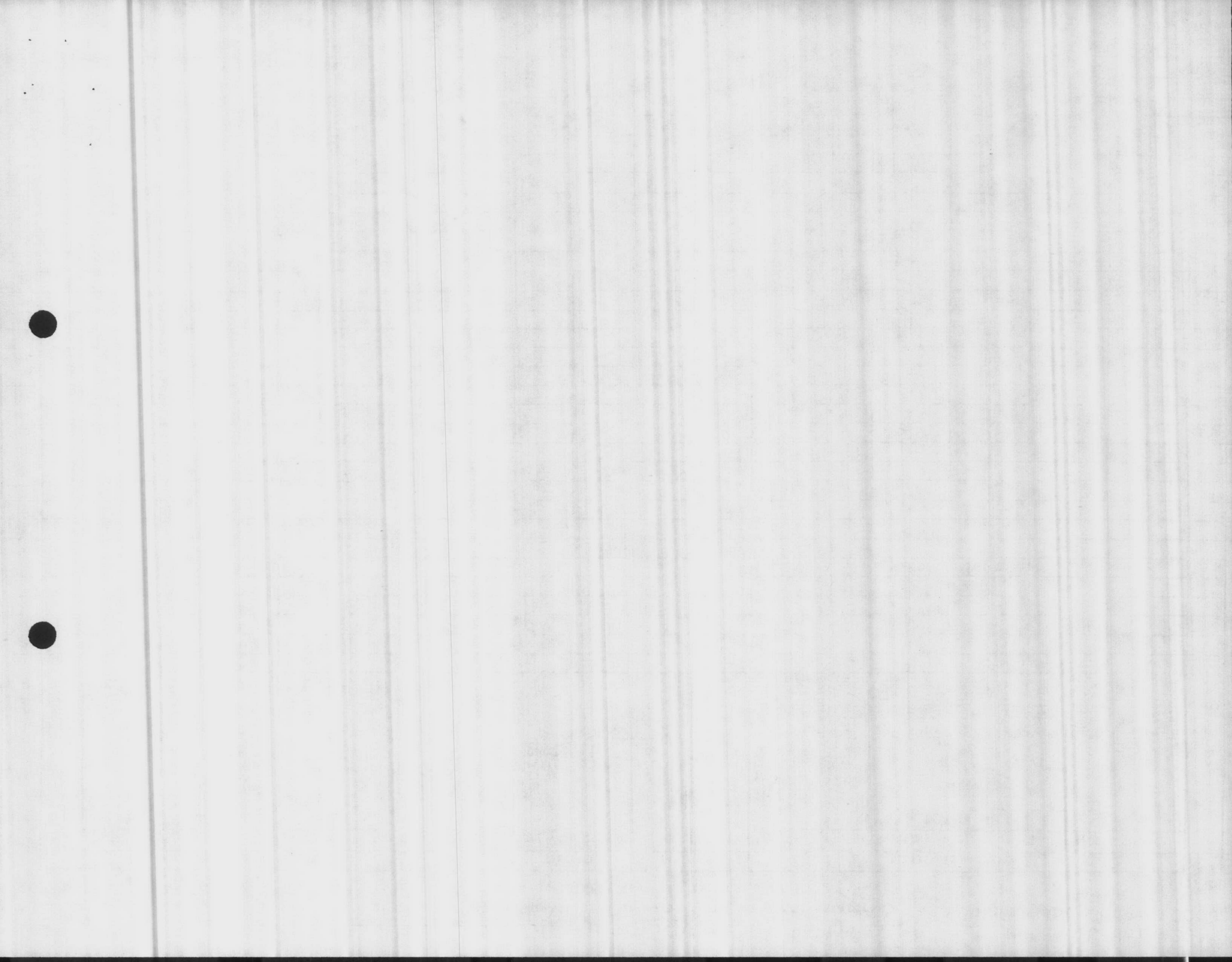
Serial # 04-67-047

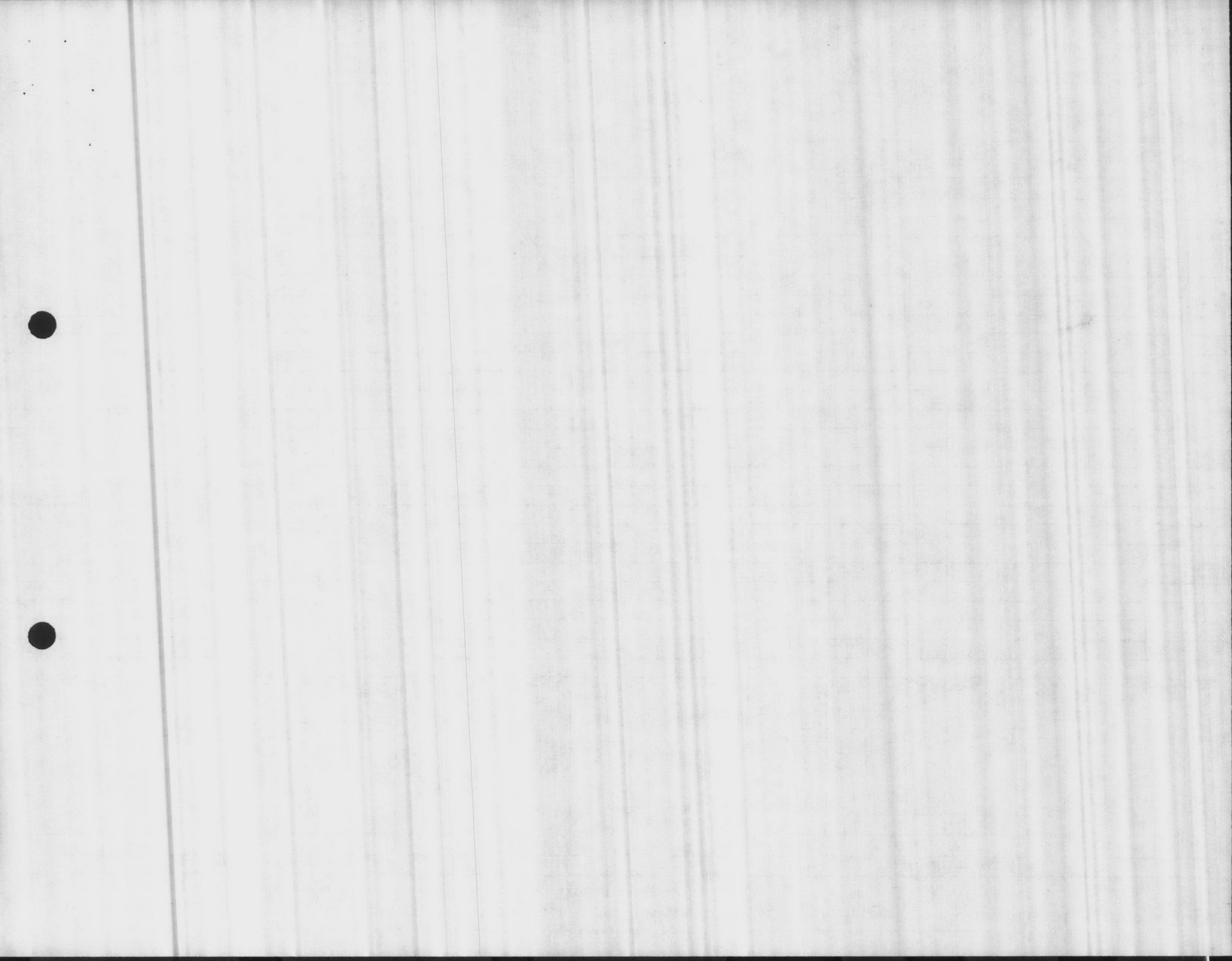
N. C. DEPARTMENT OF HUMAN RESOURCES

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	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																					
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6													0	4	0	0	0	0		35.5	
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13													0	4	0	0	1	0	0	35.5	
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19																					
20													0	4	0	0		0	0	35.1	
21																					
22																					
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25																					
26																					
27													0	4	0	0	0		0	35.0	
28																					
29																					
30																					
31																					
MFP MEDIA	BBL mEndo		BACTERIAL DENSITY		ARITH. MEAN								0	DIST. SYSTEM	TOTAL NO. SAMPLES					16	
TPC MEDIA					GEO. MEAN								10		SAMPLES EXCEEDING 3/50, (4/100), 7/200, 13/500ml					0	

LAB ID # 37307

Elizabeth A. Betz B-Well 4087-W





CHEMICAL ANALYSIS — WATER TREATMENT PLANTS

MCBCL 11330/3 (REV. 6-84)

DATE COLLECTED

1-6-87

DATE OF ANALYSIS

1-6-87

PARAMETER	HADNOT POINT -041	CAMP JOHNSON -045	TARAWA TERRACE -044	ONSLow BEACH -048	COURTHOUSE BAY -047	RIFLE RANGE -046	HOLCOMB BLVD -043	NEW RIVER -042
PH (IN LAB NOT PLANT)	8.6	7.7	8.7	7.4	7.8	8.1	8.9	8.7
PHENOLTHALEIN ALKALINITY	4	0	2	0	0	0	4	6
METHYL ORANGE ALKALINITY	82	186	52	162	160	154	56	152
CARBONATES AS CaCO ₃	8	0	4	0	0	0	8	12
BICARBONATES AS CaCO ₃	74	186	48	162	160	154	48	140
CHLORIDES AS Cl	12	14	16	24	24	46	16	66
HARDNESS AS CaCO ₃	88	54	58	52	58	48	64	58
IRON AS Fe	< 0.04	0.18	< 0.04	0.12	< 0.04	< 0.04	< 0.04	< 0.04
FLUORIDE	AM 0.18 PM 0.29	0.15	NO SAMPLE 0.96	0.16	0.12	0.11	0.92 0.97	0.56
CHLORINE RESIDUAL	0.7	1.2	1.0	1.3	1.3	1.0	1.2	0.9
TURBIDITY	AM 1.3 PM 0.7	0.3	NO SAMPLE 0.5	0.5	0.5	0.2	0.1 0.2	0.1
TOTAL PHOSPHATE		1.8						
ORTHO PHOSPHATE		0.9						
META PHOSPHATE		0.9						
STABILITY	+0.1	-0.6	0.0	-0.6	-0.4	-0.2	+0.1	-0.1

REMARKS

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

L. LANE AND C. SHORES

ENCLOSURE (2)



CHEMICAL ANALYSIS — WATER TREATMENT PLANTS
MCBCL 11330.3 (REV 6-84)

DATE COLLECTED
1-13-87

DATE OF ANALYSIS
1-13-87

PARAMETER SERIAL#04-67	HADNOT POINT -041	CAMP JOHNSON -045	TARAWA TERRACE -044	ONSLow BEACH -048	COURTHOUSE BAY -047	RIFLE RANGE -046	HOLCOMB BLVD -043	NEW RIVER -042
PH (IN LAB NOT PLANT)	8.6	7.4	8.4	7.3	7.7	8.0	8.5	8.5
PHENOLTHALEIN ALKALINITY	4	0	4	0	0	0	4	6
METHYL ORANGE ALKALINITY	54	178	50	162	184	164	56	148
CARBONATES AS CaCO ₃	8	0	8	0	0	0	8	12
BICARBONATES AS CaCO ₃	46	178	42	162	184	164	48	136
CHLORIDES AS Cl	10	12	14	20	14	50	16	60
HARDNESS AS CaCO ₃	62	64	80	110	64	62	64	46
IRON AS Fe	<0.04	0.21	<0.04	0.22	<0.04	<0.04	<0.04	0.06
FLUORIDE	Am 0.85 Pm 0.88	0.17	0.77 0.76	0.15	0.11	0.11	0.90 0.93	0.56
CHLORINE RESIDUAL	1.0	1.5	1.0	1.0	1.5	1.1	0.9	0.9
TURBIDITY	Am 0.1 Pm 0.2	0.1	0.2 0.4	0.1	0.1	0.1	0.1 0.2	0.1
TOTAL PHOSPHATE		2.2						
ORTHO PHOSPHATE		1.0						
META PHOSPHATE		1.2						
STABILITY	+0.1	-0.5	0.0	-0.5	-0.3	-0.1	+0.1	0.0

REMARKS

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 AND L. LANE



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

DATE COLLECTED

1-20-87

DATE OF ANALYSIS

1-20-87

PARAMETER SERIAL #04-67	HADNOT POINT -041	CAMP JOHNSON -045	TARAWA TERRACE -044	ONSLow BEACH -048	COURTHOUSE BAY -047	RIFLE RANGE -046	HOLCOMB BLVD -043	NEW RIVER -042		
PH (IN LAB NOT PLANT)	8.1	7.5	9.1	7.4	8.1	8.3	8.7	8.8		
PHENOLTHALEIN ALKALINITY	0	0	8	0	0	4	4	8		
METHYL ORANGE ALKALINITY	54	186	44	160	184	160	52	176		
CARBONATES AS CaCO ₃	0	0	16	0	0	8	8	16		
BICARBONATES AS CaCO ₃	54	186	28	160	184	152	44	160		
CHLORIDES AS Cl	12	10	16	18	18	54	14	72		
HARDNESS AS CaCO ₃	62	54	68	160	54	60	60	56		
IRON AS Fe	<0.04	0.18	<0.04	0.29	<0.04	<0.04	<0.04	<0.04		
FLUORIDE	Am 0.77 pm 0.86	0.12	0.60 0.43	0.11	0.09	0.08	0.84 0.84	0.58		
CHLORINE RESIDUAL	1.0	1.0	1.1	1.1	1.4	1.0	0.8	0.8		
TURBIDITY	Am 0.2 pm 0.3	1.5	0.3 1.5	0.5	0.4	0.1	0.3 0.2	0.2		
TOTAL PHOSPHATE		2.2								
ORTHO PHOSPHATE		1.0								
META PHOSPHATE		1.2								
STABILITY	-0.4	-0.6	+0.9	-0.5	-0.2	0.0	+0.2	+0.1		

REMARKS

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 AND L. LANE



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

DATE COLLECTED 1-27-87

DATE OF ANALYSIS 1-27-87

PARAMETER SERIAL #04-67	HADNOT POINT -041	CAMP JOHNSON -045	TARAWA TERRACE -044	ONSLOW BEACH -048	COURTHOUSE BAY -047	RIFLE RANGE -046	HOLCOMB BLVD -043	NEW RIVER -042
PH (IN LAB NOT PLANT)	8.8	7.6	8.9	7.6	8.2	8.1	NO SAMPLE	8.8
PHENOLTHALEIN ALKALINITY	6	0	6	0	0	0	-	12
METHYL ORANGE ALKALINITY	52	174	42	158	182	162	-	150
CARBONATES AS CaCO ₃	12	0	12	0	0	0	-	24
BICARBONATES AS CaCO ₃	40	174	30	158	182	162	-	126
CHLORIDES AS Cl	14	16	18	30	20	56	-	64
HARDNESS AS CaCO ₃	58	64	78	48	52	54	-	58
IRON AS Fe	INSTRUMENT DOWN						-	-
FLUORIDE	Am 0.99 Pm 1.07	0.17	0.81 0.77	0.15	0.12	0.11	-	0.57
CHLORINE RESIDUAL	0.9	1.4	1.0	1.6	1.5	1.0	-	0.7
TURBIDITY	Am 0.9 Pm 0.6	1.5	0.6 0.9	0.4	0.3	0.3	-	1.0
TOTAL PHOSPHATE		3.33						
ORTHO PHOSPHATE		1.21						
META PHOSPHATE		2.12						
STABILITY	+0.6	-0.5	+0.9	-0.5	0.0	-0.1	-	+0.2

REMARKS

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

L. LANE AND H. BURNS



11331
NREAD
4 Mar 87

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 1-28 February 1987. 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 February 1987 collection from the Holcomb Blvd. Water Treatment Plant was positive. On the membrane filter 45 colonies/100 ml were counted. Five colonies were picked off and run through Lauri Trypose Broth Tubes and Brilliant Green Bile Broth tubes. All five were confirmed to be coliform. Check samples were collected on 4 and 5 February 1987 and were negative.

Although only nine samples are required of the Holcomb Blvd. System, 28 were collected in February 1987. Our determination of the enclosed data is that the contaminated sample was not a representative sample. It is requested that one of the 19 extra samples be submitted 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 Environmental Chemistry and Microbiology Laboratory, located in the Natural Resources and Environmental Affairs Division, Assistant Chief of Staff, Facilities. Ms. Betz, Supervisory Chemist, Environmental Chemistry and Microbiology Laboratory, 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:
LANTNAVFACENGCOM (Code 114)

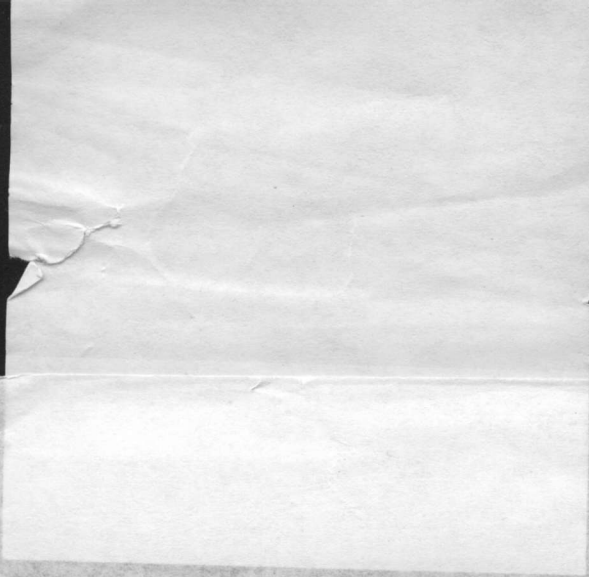
Blind copy to: BMO (Attn: Util Dir), Supvy Chem (2)

Date Typed

Betz / Monoski
4 Mar 87

Word Processor Number 11331

#



Wm. H. ...
1881
1881

...

11331
NREAD
4 Mar 87

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

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Sincerely,

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

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

Betz / Monoski
Date Typed 4 Mar 87
Word Processor Number 11331

Copy to:
LANTNAVFACENGCOM (Code 114)
Blind copy to: BMO (Attn: Util Dir), Supvy Chem (2)

MEMORANDUM FOR THE DIRECTOR

Date: 11/18/81
13021

by

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					REPEAT SAMPLES			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	0.1																				
4	0.1																				
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28																					
29																					
30																					
31																					
MF MEDIA	BBL mEndo		BACTERIAL DENSITY	ARITH. MEAN	0	DISTRIBUTION SYSTEM					0	TOTAL NO. SAMPLES	34								
TPC MEDIA			GEO. MEAN	1.0						1.0	SAMPLES EXCEEDING 3/50 (4/100) 7/200, 13/500ml			0							

LAB ID # 37807

Elizabeth A. Be... B. Wall... 1987



Month FEBRUARY
 Year 1987

MARINE CORPS AIR STATION

WATER TREATMENT PLANT AT Camp Lejeune

Method Code: 303

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Contaminant Code: 300

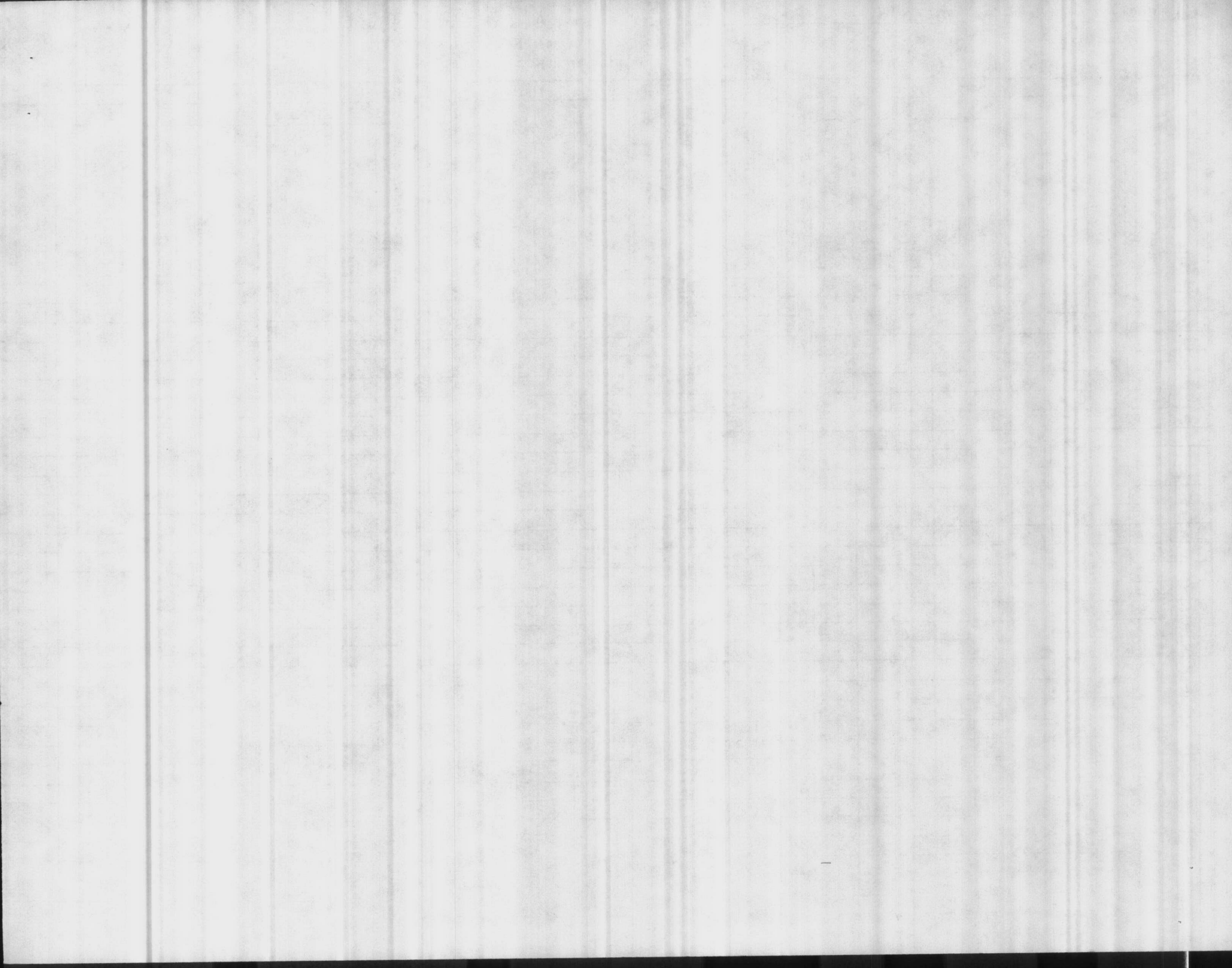
Serial # 04-67-042

N. C. DEPARTMENT OF HUMAN RESOURCES

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				
	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	VOLUME FILTERED ml.	TOTAL COLONIES	VOLUME FILTERED ml.	TOTAL COLONIES														
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MP MEDIA	BBL mEndo		BACTERIAL DENSITY	ARITH. MEAN		GEO. MEAN				0		10		TOTAL NO. SAMPLES		SAMPLES EXCEEDING 1/50, 1/100, 1/200, 13/500 ml		2		

LAB ID # 37807

Elizabeth A. Boyd B.W.H. 4087-W



DATE FEBRUARY
 YEAR 1987

HOLCOMB BLVD

MEMBRANE FILTER PROCEDURE
 WATER TREATMENT PLANT AT Camp Lejeune

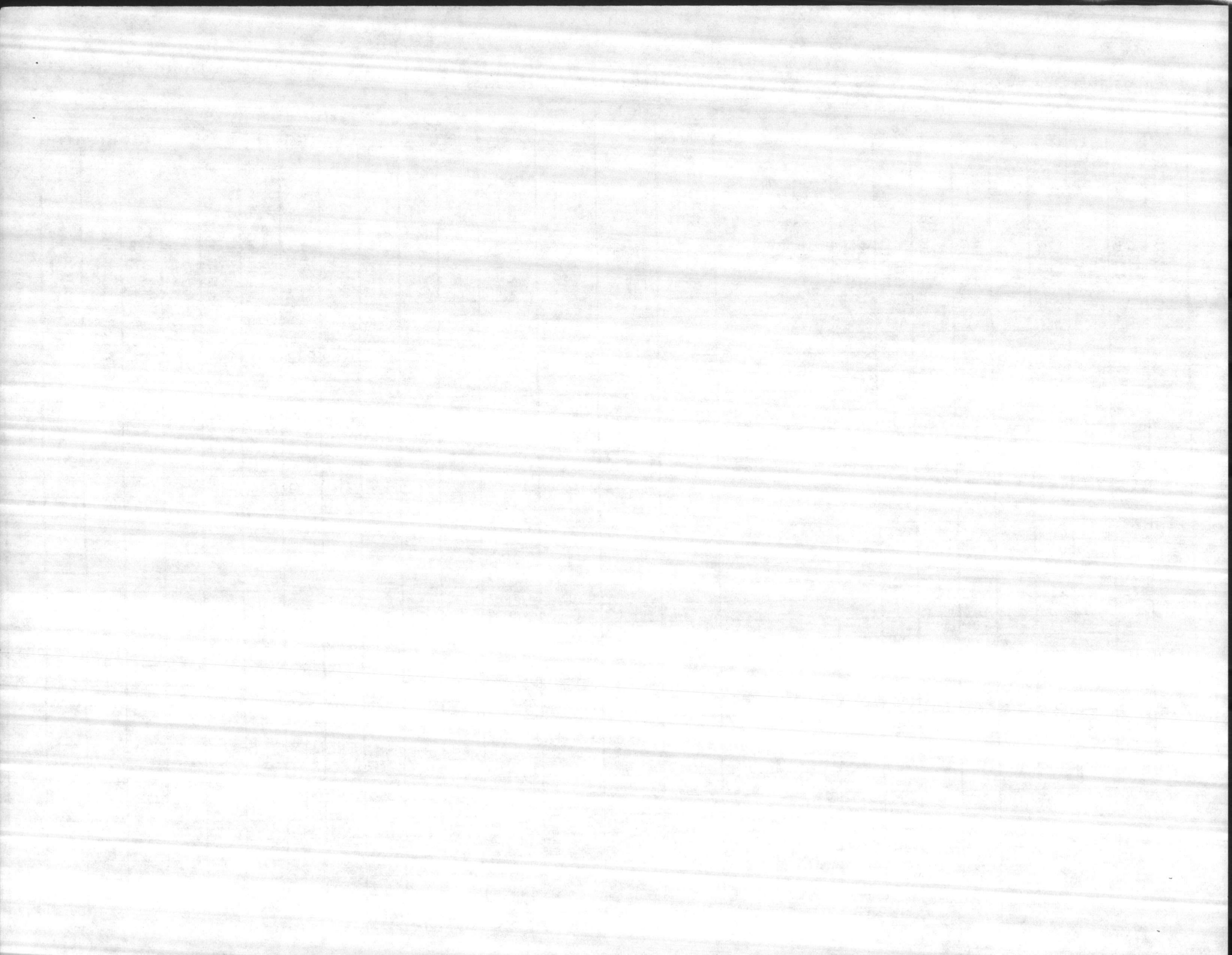
REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Method Code: 303
 Contaminant Code: 3000

Serial # 04-67-043

N. C. DEPARTMENT OF HUMAN RESOURCES

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	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	ON	OW						
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4														6.43	7	45	0	0	0	0	0	0	0	0	0	0	0	0	35
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MF MEDIA TPC MEDIA	BBL mEndo			BACTERIAL DENSITY			ARITH. MEAN			GEO. MEAN			6.61	7	TOTAL NO. SAMPLES					28									
LAB ID # 37307													1.14	7	SAMPLES EXCEEDING 3/50 (4/100) 7/200 13/500					1									



Month FEBRUARY
 Year 1937

TARAWA TERRACE

WATER TREATMENT PLANT AT Camp Lejeune

Method Code: 303

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

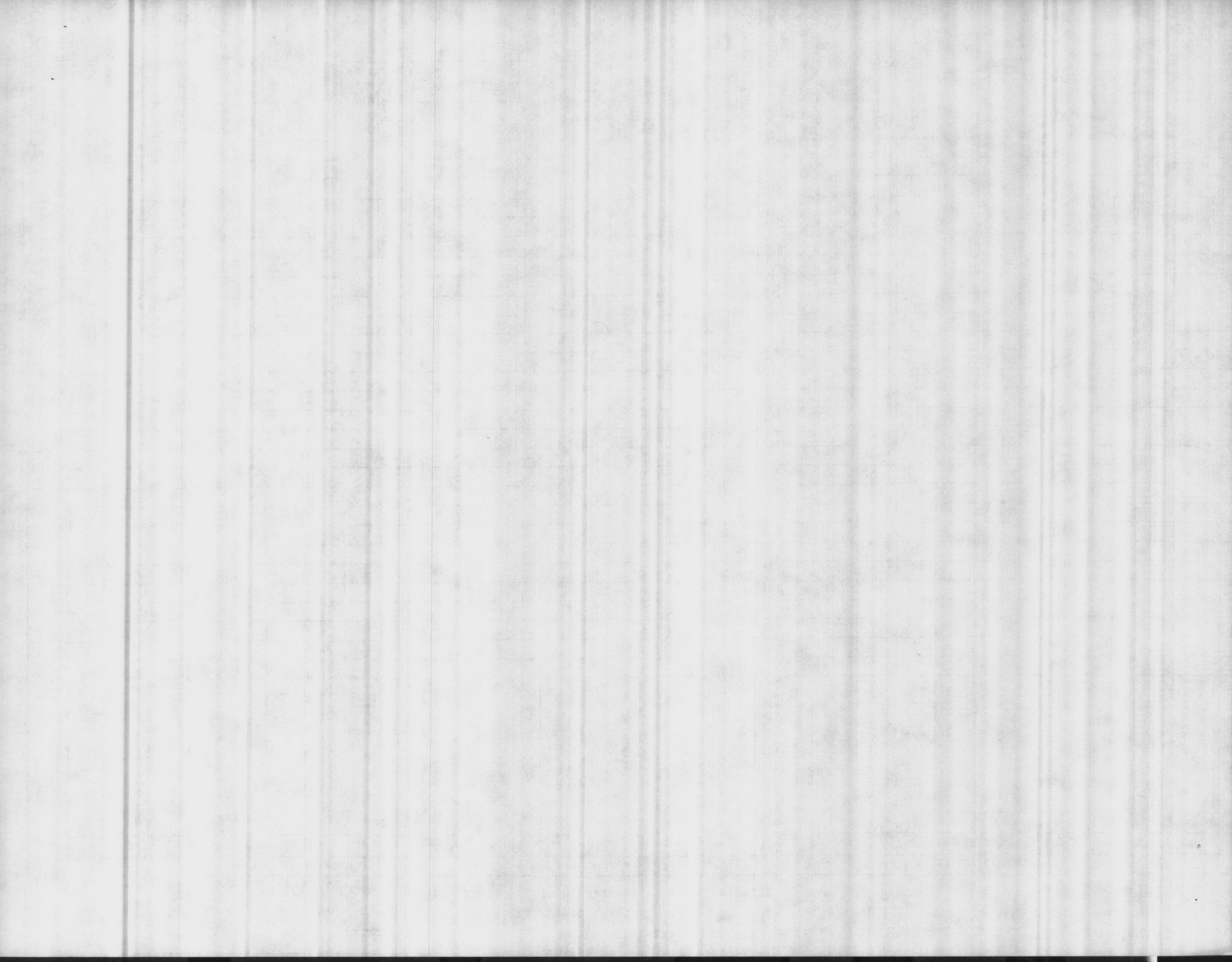
Contaminant Code: 300

Serial # 04-67-044

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.	DISTRIBUTION SYSTEM					REPEAT SAMPLES					
	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	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.	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.			
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	MF MEDIA	BBL mEndo			DACTERIAL DENSITY	ARITH. MEAN								0	DIST. SYSTEM	TOTAL NO. SAMPLES										1
	TPC MEDIA					GEO. MEAN								10		SAMPLES EXCEEDING 3/30, (4/100) 7/200, 13/500ml									0	

LAB ID # 37807

Elizabeth C. Betz B. W. 4087 W



Month FEBRUARY
Year 1937

CAMP JOHNSON

WATER TREATMENT PLANT AT Camp Lejeune

Method Code: 303

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Contaminant Code: 3000

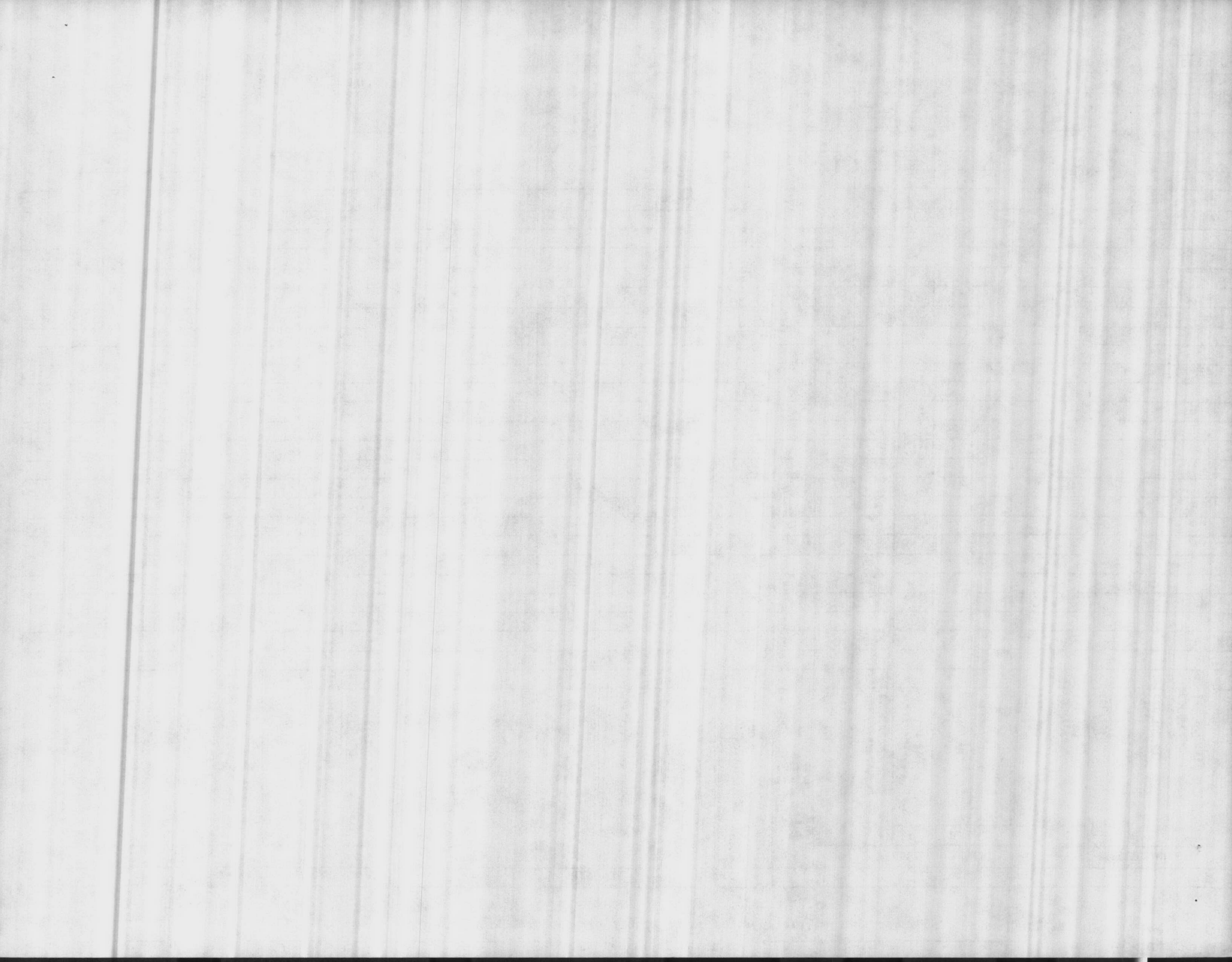
N. C. DEPARTMENT OF HUMAN RESOURCES

Serial # 04-67-045

DATE	RAW WATER COLIFORMS (MFP)						NO. OF COLIFORMS PER 100 ml.	FILTERED TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	FINISHED TOTAL PLATE COUNT	MFP COLIFORMS per 100 ml.	TOTAL PLATE COUNT	DISTRIBUTION SYSTEM COLIFORMS (MFP)					REPEAT SAMPLES			INQUIRY 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																AVE. COLIFORMS per 100 ml.	NO. OF SAMPLES EXAMINED	COLIFORMS per 100 ml.
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MFP MEDIA		BRI mEndo		BACTERIAL DENSITY		ARITH. MEAN						0		DIST. SYSTEM		TOTAL NO. SAMPLES							8	
TPC MEDIA						GEO. MEAN						1.0				SAMPLES EXCEEDING 3/50, 4/100, 7/200, 13/500ml							0	

LAB ID # 37807

Pliggett & Co. B. Well 4087-W



Month FEBRUARY
 Year 1987

RIFLE RANGE

WATER TREATMENT PLANT AT Camp Lejeune

Method Code: 303

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Contaminant Code: 300

N. C. DEPARTMENT OF HUMAN RESOURCES

Serial # 04-67-046

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									
	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.	COLIFORMS per 100 ml.
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MFP MEDIA		BBL mEndo		BACTERIAL DENSITY		ARITH. MEAN		GEO. MEAN		D		DIST. SYSTEM		TOTAL NO. SAMPLES		SAMPLES EXCEEDING 3/500		4/1000		7/200		13/5000			

LAB ID # 37807

Elizabeth O. Belfrage B M U 4087-6



Month FEBRUARY
 Year 1987

COURTHOUSE BAY

WATER TREATMENT PLANT AT Camp Lejeune

Method Code: 303

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Contaminant Code: 300

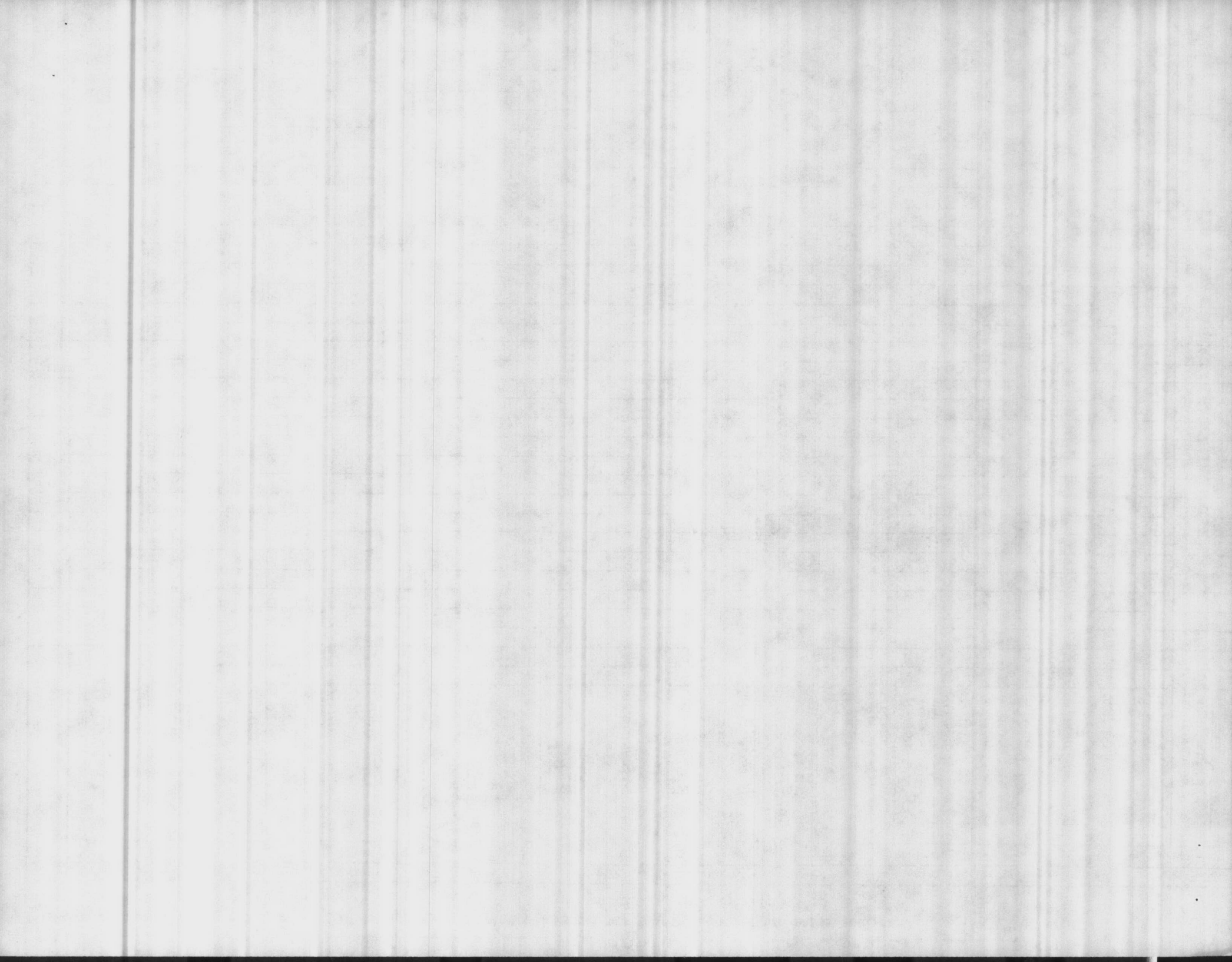
Serial # 04-67-047

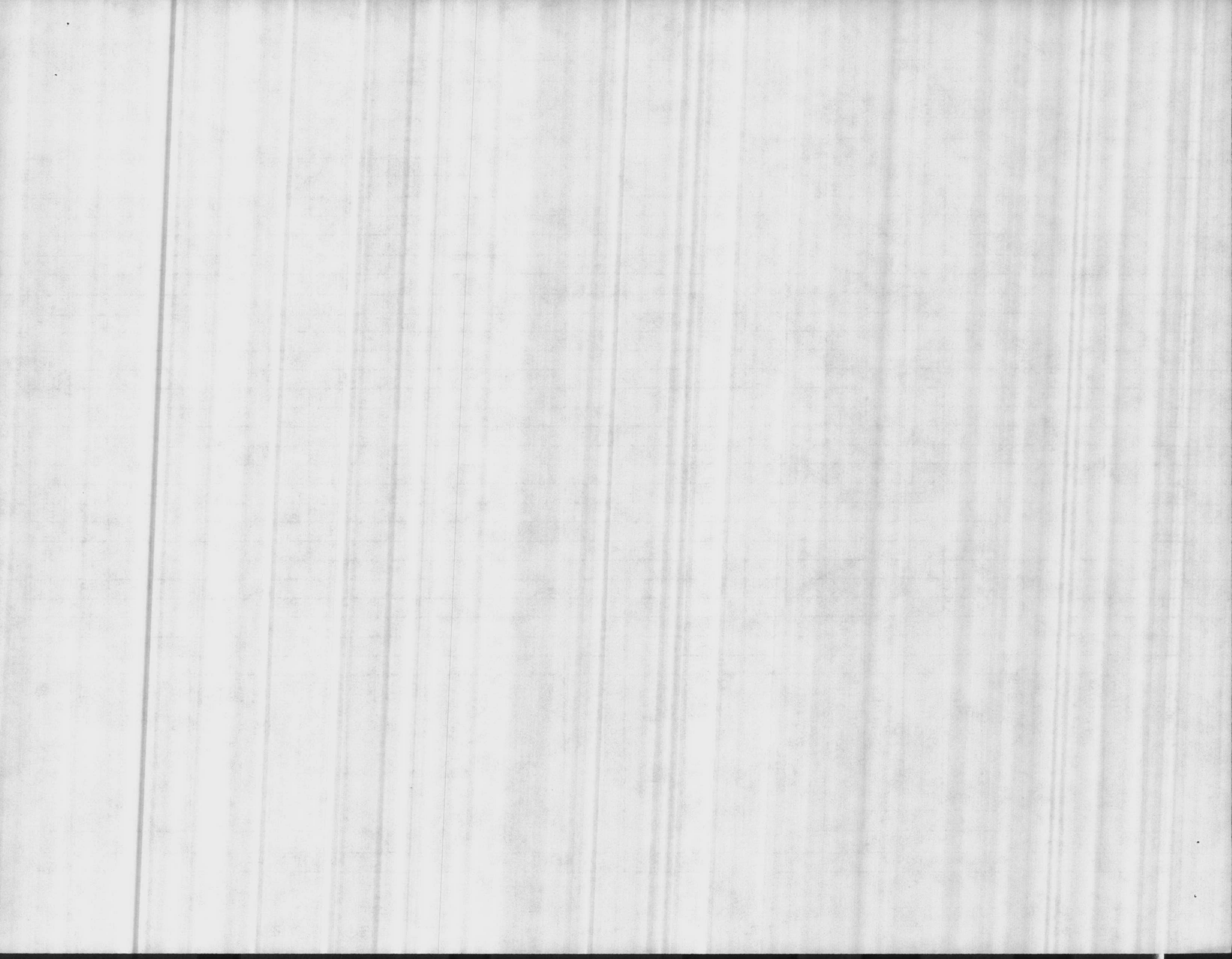
N. C. DEPARTMENT OF HUMAN RESOURCES

DATE	RAW WATER COLIFORMS (MFP)								NO. OF COLIFORMS PER 100 ml.	FILTERED		FINISHED		DISTRIBUTION SYSTEM						TOTAL PLATE COUNT		
	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.				
1																						
2																						
3														0	4	0	0	0	0			35
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30																						
31																						
MF MEDIA		BBL mEndo		BACTERIAL DENSITY		ARITH. MEAN								0		DIST. SYSTEM		TOTAL NO. SAMPLES				
TPC MEDIA						GEO. MEAN								1,0				SAMPLES EXCEEDING 3/500 4/100 7/200 13/500ml				

LAB ID #378)7

Elizabeth Bay B Well 4087-10





CHEMICAL ANALYSIS -- WATER TREATMENT PLANTS

MCBCL 11330 3 (REV. 6-84)

DATE COLLECTED
2-3-87

DATE OF ANALYSIS
2-3-87

PARAMETER SERIAL #04-67	HADNOT POINT -041	CAMP JOHNSON -045	TARAWA TERRACE -044	ONSLow BEACH -048	COURTHOUSE BAY -047	RIFLE RANGE -046	HOLCOMB BLVD -043	NEW RIVER -042
PH (IN LAB NOT PLANT)	8.4	7.2	8.4	7.4	7.9	8.0	8.3	8.5
PHENOLTHALEIN ALKALINITY	4	0	4	0	0	0	0	10
METHYL ORANGE ALKALINITY	56	174	50	174	178	168	74	144
CARBONATES AS CaCO ₃	8	0	8	0	0	0	0	20
BICARBONATES AS CaCO ₃	48	174	42	174	178	168	74	124
CHLORIDES AS Cl	12	12	16	18	18	48	10	56
HARDNESS AS CaCO ₃	62	68	74	52	60	62	76	54
IRON AS Fe	20.04	0.21	0.06	0.17	20.04	20.04	20.04	0.05
FLUORIDE	Am	1.17	0.76				1.00	
	Pm	1.21	0.14	0.79	0.13	0.10	1.04	0.53
CHLORINE RESIDUAL	1.0	1.2	1.0	1.5	1.3	1.0	1.0	1.0
TURBIDITY	Am	0.9	0.8				0.9	
	Pm	1.1	1.7	1.5	1.1	1.2	3.2	1.6
TOTAL PHOSPHATE		3.0						
ORTHO PHOSPHATE		1.2						
META PHOSPHATE		1.8						
STABILITY	+0.6	-0.7	+0.6	-0.7	-0.1	-0.1	+0.2	+0.1

REMARKS

COPY TO

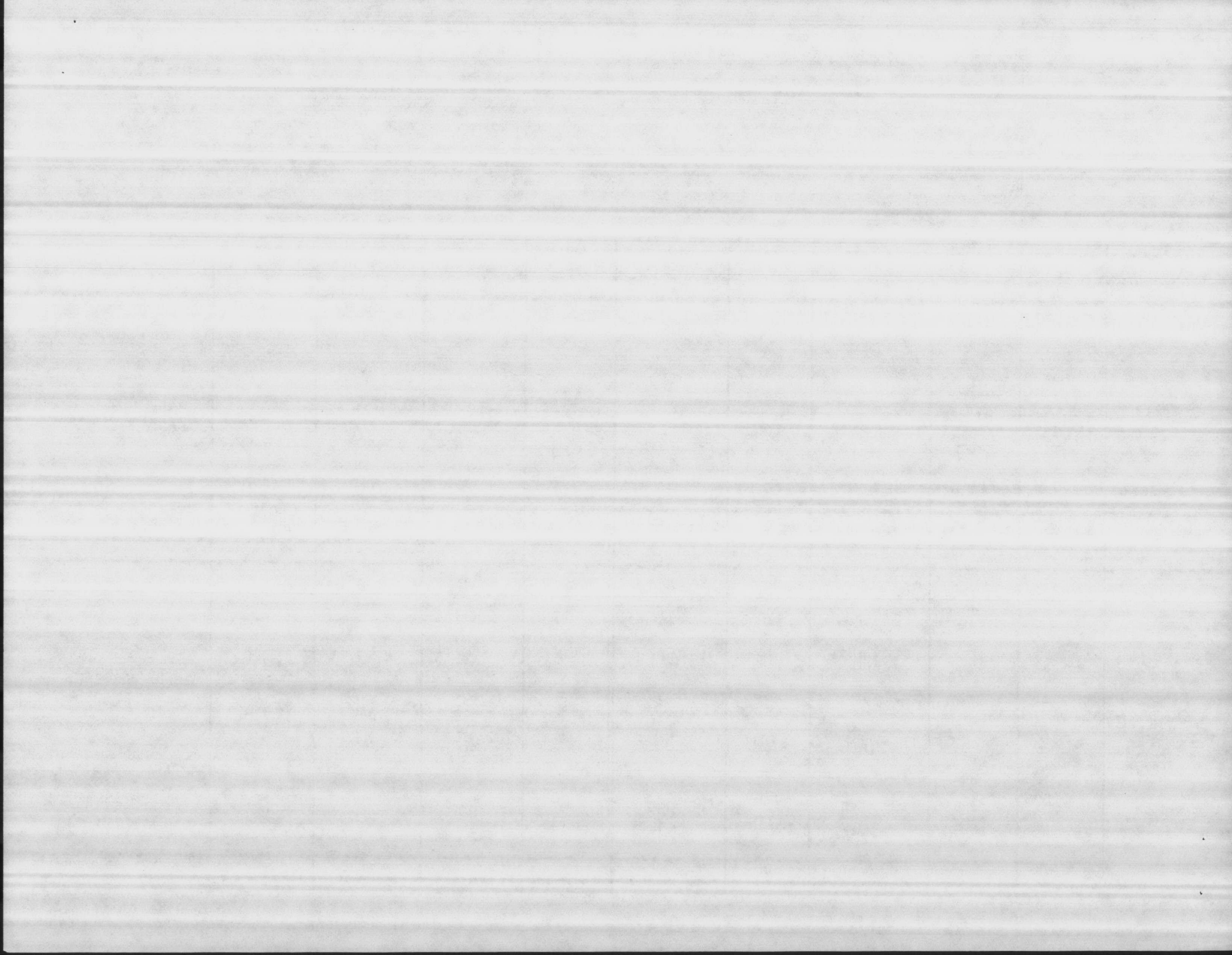
- UTIL DIR
- WATER TREATMENT
- PMU MCAS PMU
- NREAD FILE

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

L. Lane + H. Burns

ENCLOSURE (2)



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

DATE COLLECTED
 2-10-87

DATE OF ANALYSIS
 2-10-87

PARAMETER SERIAL #04-67	HADNOT POINT -041	CAMP JOHNSON -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	9.3	7.5	8.2	3.2	NO SAMPLE	8.8
PHENOLTHALEIN ALKALINITY	6	0	16	0	0	0	-	12
METHYL ORANGE ALKALINITY	60	180	36	166	174	160	-	146
CARBONATES AS CaCO ₃	12	0	32	0	0	0	-	24
BICARBONATES AS CaCO ₃	48	180	4	166	174	160	-	120
CHLORIDES AS Cl	12	10	16	20	18	50	-	60
HARDNESS AS CaCO ₃	66	64	62	62	54	54	-	50
IRON AS Fe	-	AA	DOWN	-	-	-	-	-
FLUORIDE	Am 0.82 Pm 0.85	0.12	0.83 0.71	0.13	0.11	0.09	-	0.54
CHLORINE RESIDUAL	1.0	1.1	1.0	1.0	1.3	0.8	-	0.8
TURBIDITY	Am 1.9 Pm 0.9	1.0	7.8 2.4	0.9	1.1	0.7	-	1.0
TOTAL PHOSPHATE		1.70						
ORTHO PHOSPHATE		1.00						
META PHOSPHATE		0.70						
STABILITY	+0.4	-0.7	+0.8	-0.6	0.0	0.0	-	+0.3

REMARKS

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

L. KANE + BURNS



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

DATE COLLECTED
2-17-87

DATE OF ANALYSIS
2-17-87

PARAMETER SERIAL # 04-67	HADNOT POINT -041	CAMP JOHNSON -045	TARAWA TERRACE -044	ONSLow BEACH -048	COURTHOUSE BAY -047	RIFLE RANGE -046	HOLCOMB BLVD -043	NEW RIVER -042
PH (IN LAB NOT PLANT)	9.3	8.0	7.7	7.9	8.6	8.7	NO SAMPLE	9.2
PHENOLTHALEIN ALKALINITY	8	0	20	0	6	6	—	20
METHYL ORANGE ALKALINITY	52	184	58	170	178	174	—	150
CARBONATES AS CaCO ₃	16	0	40	0	12	12	—	40
BICARBONATES AS CaCO ₃	36	184	18	170	166	162	—	110
CHLORIDES AS Cl	14	14	20	174	20	50	—	52
HARDNESS AS CaCO ₃	66	56	66	70	54	56	—	56
IRON AS Fe	—	—	A.A.	DOWN	—	—	—	—
FLUORIDE Am Pm	0.76 0.86	0.15	0.76 0.67	0.14	0.10	0.09	—	0.51
CHLORINE RESIDUAL	0.9	1.2	1.0	1.5	1.5	1.0	+	0.9
TURBIDITY Am Pm	1.7 1.6	3.3	2.0 4.1	3.1	1.2	1.4	—	1.4
TOTAL PHOSPHATE		2.4						
ORTHO PHOSPHATE		1.1						
META PHOSPHATE		1.3						
STABILITY	+1.3	-0.6	+2.0	-0.8	-0.2	0.0		0.5

REMARKS

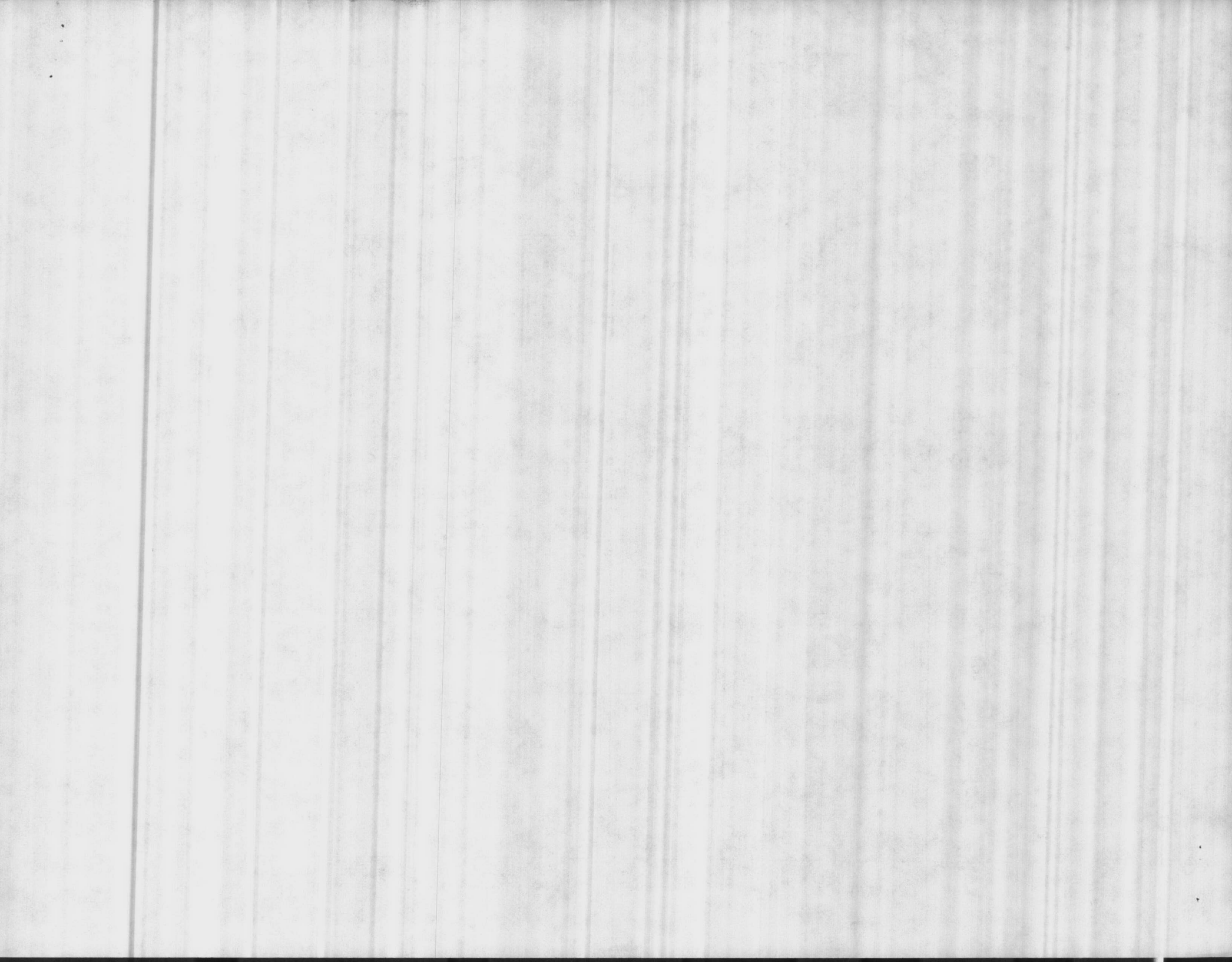
COPY TO

- 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

L. LANE & BURNS



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

DATE COLLECTED
 2-24-87

DATE OF ANALYSIS
 2-24-87

PARAMETER SERIAL# 04-67	HADNOT POINT -041	CAMP JOHNSON -045	TARAWA TERRACE -044	ONSLow BEACH -048	COURTHOUSE BAY -047	RIFLE RANGE -046	HOLCOMB BLVD -043	NEW RIVER -042	
PH (IN LAB NOT PLANT)	8.4	7.4	9.0	7.4	8.2	8.3	NO SAMPLE	8.9	
PHENOLTHALEIN ALKALINITY	4	0	4	0	0	4	↑ NO SAMPLE	20	
METHYL ORANGE ALKALINITY	74	176	44	156	174	154		148	
CARBONATES AS CaCO ₃	8	0	8	0	0	8		40	
BICARBONATES AS CaCO ₃	66	176	36	156	174	146		108	
CHLORIDES AS Cl	16	12	16	20	16	44		56	
HARDNESS AS CaCO ₃	68	62	64	54	60	64		70	
IRON AS Fe	← AA DOWN →								
FLUORIDE Am Pm	1.14 1.16	0.17	1.60 1.47	0.15	0.12	0.10		0.55	
CHLORINE RESIDUAL	1.1	1.2	1.0	1.1	1.4	1.0		0.8	
TURBIDITY Am Pm	0.7 1.1	1.1	1.9 1.9	0.6	0.3	1.0		0.7	
TOTAL PHOSPHATE		2.4							
ORTHO PHOSPHATE		1.0							
META PHOSPHATE		1.4							
STABILITY	+0.8	-0.5	+1.4	-0.5	+0.1	+0.5	↓	+0.8	

REMARKS

- COPY TO
- UTIL DIR
 - WATER TREATMENT
 - PMU MCAS PMU
 - NREAL 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 + L. Lane.

