## FILE FOLDER

## **DESCRIPTION ON TAB:**

	11331.1B Test Well
	Permit Applicat.
	Outside/inside of actual folder did not contain hand written information
8	Outside/inside of actual folder did contain hand written information
	*Scanned as next image

Confidential Records Management, Inc. New Bern, NC 1-888-622-4425 9/08 11331 OPERATIONS REPORT (WATER)

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

DIANT	RAW	DELIVERED	WASHING FILTERS	MAX. DEL.	POTABLE WATER USED	WELLS MAX. SAFE YIELD/DAY	PLANT CAPACITY DAY	TREATMENT
PLANT	IXA			2 000	13	5,900	5,000	LIME
HADNOT POINT	117,348	115,549	1,796	3,988		2,304	2,000	LIME
HOLCOMB BLVD.	34,129	33,110	1,018	1,427	3			LIME
	27,414	26,433	979	1,029	3	1,152	1,000	LIME
TARAWA TERRACE				425	3	622	750	ZEOLITE
MONTFORD POINT	11,621	10,900	719		3	4,081	3,500	LIME
MCAS	21,848	20,107	1,740	757				ZEOLITE
	6,067	5,597	468 est.	277	3	648	600	
RIFLE RANGE			1,003	744	3	864	600	ZEOLITE
COURTHOUSE BAY	18,626	18,070			3	250	250	ZEOLITE
ONSLOW BEACH	3,323	3,067	254	134	3	230	1	

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 K-18,626 D. 226 4939 R. 3743197 0- 18,070 3556929 224 6869 186268 WW- 1,003 18070 HD- 744 5.2 031635 035759 029342 033214 2293 2545 110/9,258 5-3 84 5-4 2200 018008 011919 184800 015-368 010139 1780 818400 2640 003200 2,545 2,293 2,640 1,780 9,258 03 R-4990180 R- 3,323 0-3944703 4568362 3914037 D- 3,067 4218,18 30666 WW 254 HD- 134 5-1 5-2 722688 320199 709131 308307 32 1355700 1189200 80) 2,545 32 F-1 F. 2 X 2000 64,000 756497 757862 750507 752311 38 599000 555,100 30/1,154

> 64000 254000

190000

5000

599



TT-38

R- 27,414 2. 26,433 WW 979 HD- 1,029

R. 12219904 11971812 248092

D. 10607528 10343202 26,4326

31 6 18 186 5-X31 930 55-8 950 X170 94,860 884 95 979

R. 21,848 D- 20,107 WW- 1,740 HD- 757

AS-110 R. 987844 798949 188895

D. 140900 939832 201068

29 Filters was hed 410 290 x 6000 1,740,000

2. 6,067 D- 5,597 WW Est 468

R. 2504229 2428449 7578,000

0.15-70749 15-14779 55970

MD- 277

RR.



R-34,129 R D-33,110 3726409  $WW_{-1,018}$  3407800  $HD_{-1,427}$  318609

R- 117,348 D- 1157,549 WW 1,796 HD-3,988

1 : . . .

R 505-165-3 4921828 129825

HP- 20

7. D.
498/2/4 4395-123
4865265 4312288
115549 82,8351796
1796
177345
45
39900
1,795,5-00

R. 11,621 D. 10,900 WW. 719 HD- 425 14, P-178

R.

311117

088148

222969

X48

10,702,572

D.
379407
314528
64879
× 168
10,899,672

80)8743

0825-8600

5.2

109 X6600



DATE: NOVEMBER 1986

DLANT	RAW	DELIVERED	WASHING FILTERS	MAX. DEL.	POTABLE WATER USED	WELLS MAX. SAFE YIELD/DAY	PLANT CAPACITY DAY	TREATMENT
PLANT	IXA			2 210	13	5,900	5,000	LIME
HADNOT POINT	81,797	80,092	1.675	3.310		0.004	2,000	LIME
HOLCOMP PLVD	33,016	31,926	1.088	1.234	3	2,304	2,000	
HOLCOMB BLVD.			053	1.069	3	1,152	1,000	LIME
TARAWA TERRACE	27,189	26,335	.852	1.009	2	622	750	ZEOLITE
MONTFORD POINT	11,615	10,894	.719	.438	3	022		1 7115
PIONTI OND TOZINI		10 664	1,440	.727	3	4,081	3,500	LIME
MCAS	20,106	18,664	20440		3	648	600	ZEOLITE
RIFLE RANGE	5,715	5,181	.524EST	.211	-		500	ZEOLITE
	10 600	18,197	.997	.740	3	864	600	ZEOLITE
COURTHOUSE BAY	18,600	10,137			3	250	250	ZEOLITE
ONSLOW BEACH	2,588	2,353	.226	.100			1,314	

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. 3998600 2.0814650 R- 33,016 3726409 0495385 D. 31,926 31,926,500 27219,100 WW-1,088 HD- 1, 234 31 31 6 186 700 5500 1,023,000 65,100 65,100 HP-20 D- 4474175 R. 81, 797 R-5186776 7-5054369 4395123 4961214 D. 80,092 505/653 79052 93,155 135123 WW-1,675 HD-3,310 ×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 1245-6024 D. 10870884 210 300 23,6120 10607528 D- 26,335 26,3356 WW- 852 HD- 1,069 779,000 1885 180 164 164 73440 5 X 400 X3

754,000

1885

950 779,000

492

820

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R-11, 615	R 536289	2- 444254
D. 10,894	3/1/17	379407
WW- 719	225172	64847
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HD_438	70,808	10,894
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80) 8, 737	69544200	08258600
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	4824000	
109	8737100	
6600		
719400		

	19 765	40	Meas	
R.	120, 106		R 1/37044	D - 327543
	18,664		987844	140900
	1,440	24	14,920,000	18,664,300
	727	1/0		

1,440

RR-85

R. 5,715 2-162255900 R. 257630900 5,181,000 D- 5,181 250422900 7208,000 WW- EST 524 HD\_211 5-1 5-2

out 89451900 86133900 3318000

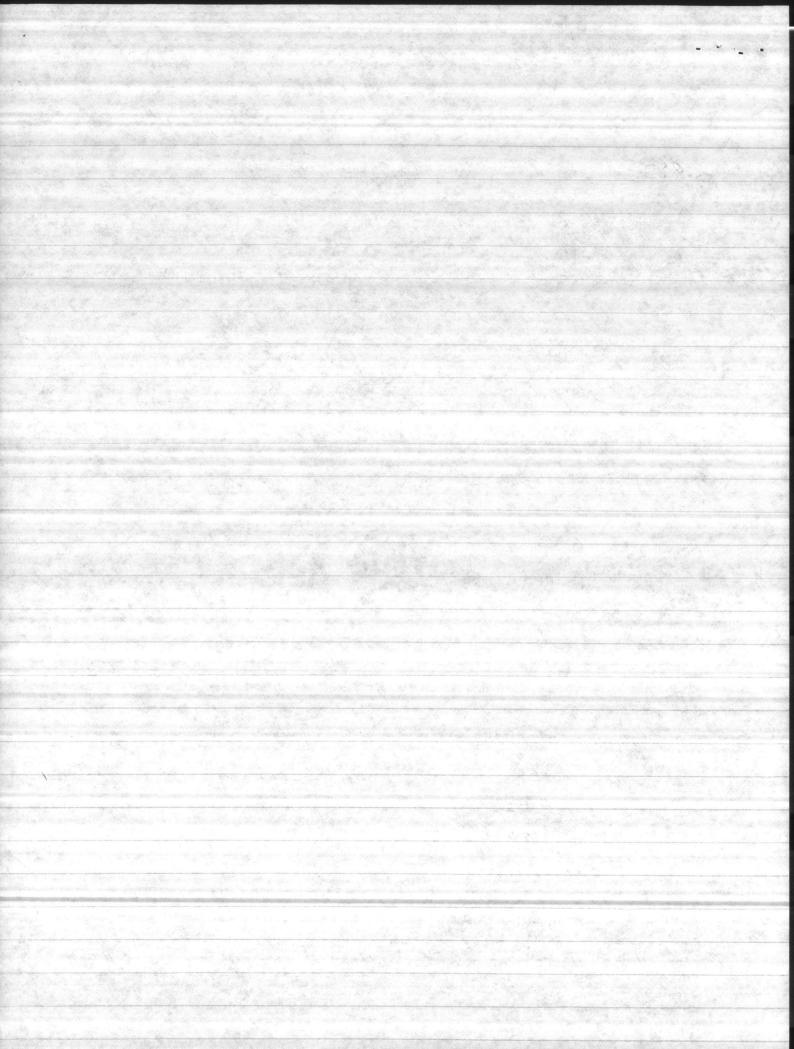
CHB-190

R-18,600 R. 392919700 D. 2283/36000 2264939000 18,600,000 D- 18,197 18,197,000 WW-997 HD- 740

> 3079 2,250 2,954 5-1 38838000 5-2 34185000 2550,000 35759000 2,039 10,322

110/10322

5-4 13958000 204600 5-3-20962000 792000 2,039000 18008000 996600



0.8. 2- 3968238 R. 2,588 R\_ 5441098 4990180 3944703 0- 2,353 4509180 2353,500 WW- 226 HD-100 5-2 734769 330729 320199 722688 1,208,100 1053,000 1,208 1,053

#####################################
(1985) - 1985 -

DI ANT	RAW	DELIVERED	WASHING FILTERS	MAX. DEL.	POTABLE WATER USED	WELLS MAX. SAFE YIELD/DAY	PLANT CAPACITY DAY	TREATMENT
PLANT	IVAW		1.005	A 979	13	5,900	5,000	LIME
HADNOT POINT	97,473	95,475	1,995	1,154	3	2,304	2,000	LIME
HOLCOMB BLVD.	26,437	25,523	912	897	3	1,152	1,000	LIME
TARAWA TERRACE	21,091	20,415	673	501	3	622	750	ZEOLITE
MONTFORD POINT	11,896	11,155	739	711	3	4,081	3,500	LIME
MCAS	19,546	18,044	1,500 629est		3	648	600	ZEOLITE
RIFLE RANGE	6,219	5,583			3	864	600	ZEOLITE
COURTHOUSE BAY	18,765	17,738	1,025	768 118	3	250	250	ZEOLITE
ONSLOW BEACH	2,971	2,703	266	110				

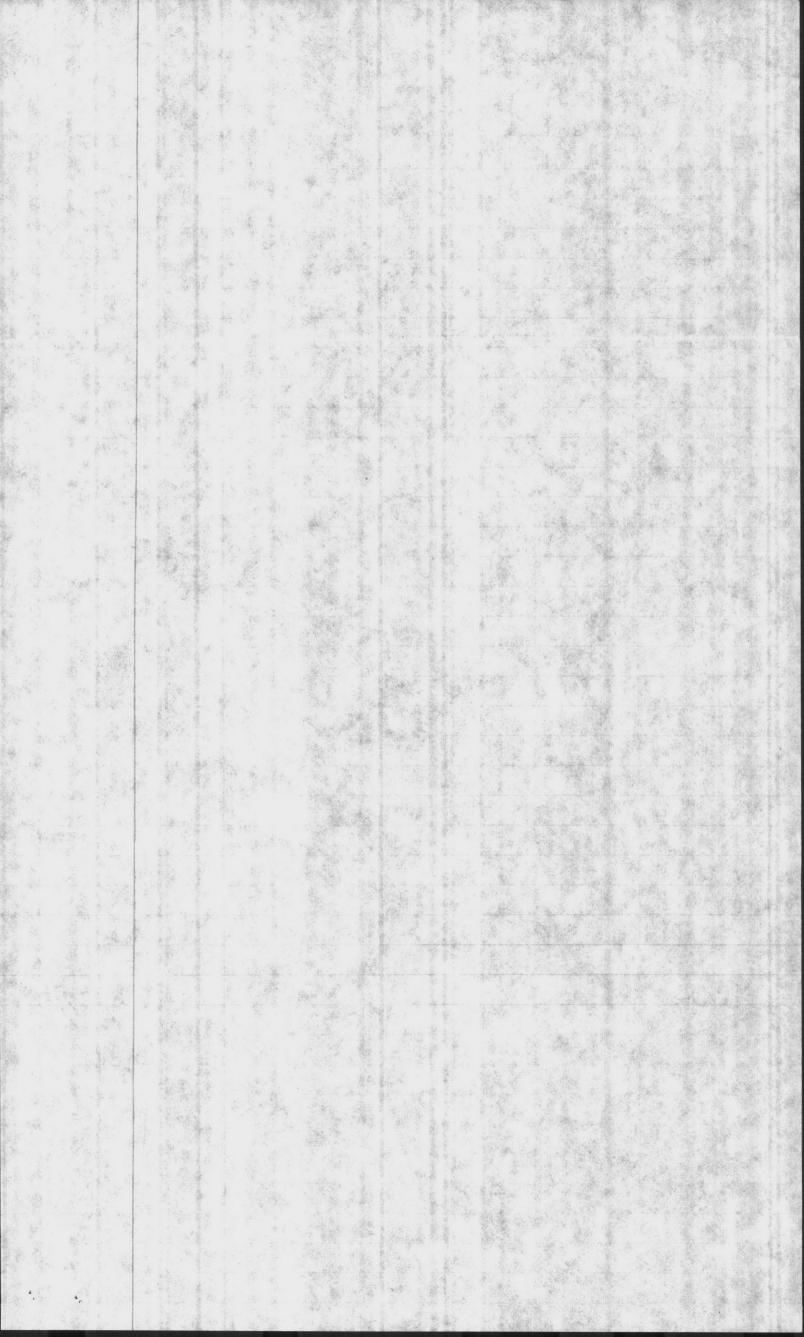
WATER IN MILLION GALLONS

REMARKS:

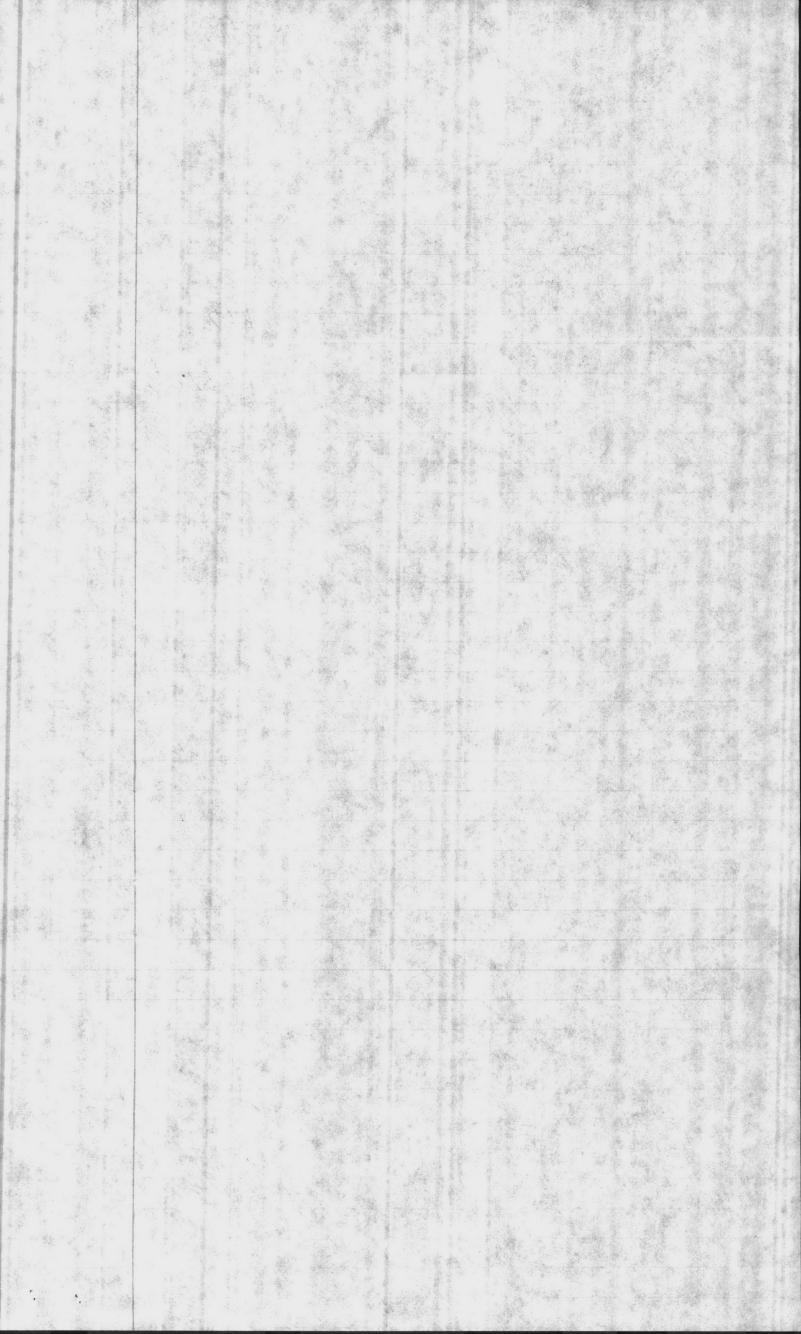


	40	10172		
STATE OF THE PROPERTY OF	4B	MB-670	206	9008
	26,437	R. 4223988	D. 106	
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Art F		912		
		HP.20		
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		×39	900	
		1,99	5,000	
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		TT-38		
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36 T. J.	20,415	12656315	1107503	19
	673	12456024	1087088	
HD-	897	200291	20,415	000
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1		X95		
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65,280



M-178 R- 11,896 D- 11,155 766907 5/0657 WW\_ '739 444254 536289 66403 230618 HD-501 X 168 11,069,664 11,155,704 5.1 18160900 77373700 73457300 13082600 3916400 5078300 3916400 112 8994,700 x 6600. 80/8,994 739,200 AS-110 R. 19,546 R. 2-D- 18,044 507985 231504 137044 WW. 1,500 327543 94460 180442 HD- 711 25 X10 250 x 6000 1,500,000 RR. 85 R- 6,219 R- 264885900 0-167838900 257630900 162255900 D- 5,583 5,583,000 7255000 WW. EST. 629 HD- 239 5-1 5-2



BB-190

R. 18,765-D- 17,738 WW 1,025 HD- 768

410034000 392919700 17114300

2300874000

94 ×2200 206,800 818,400 1,025,200

3,038,000 5.3-23843000 20962000 2881,000

5-1-41876000

38838000

13958000

5.2 36698000

34185000

25 13,000

R. 2,971 D. 2,703 WW. 266 HD. 118 BA-138

R
58748400

54410980

4337420

399527200 396823800 2703,400

33 74886300 80 72,667 73476900 1,409,4.00 1,409,4.00 66000

1--2

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519900

F-1 40 76816200 30)1195 76200700 615500 40 519900 × 5000 1195400 200000



DATE: February 1987

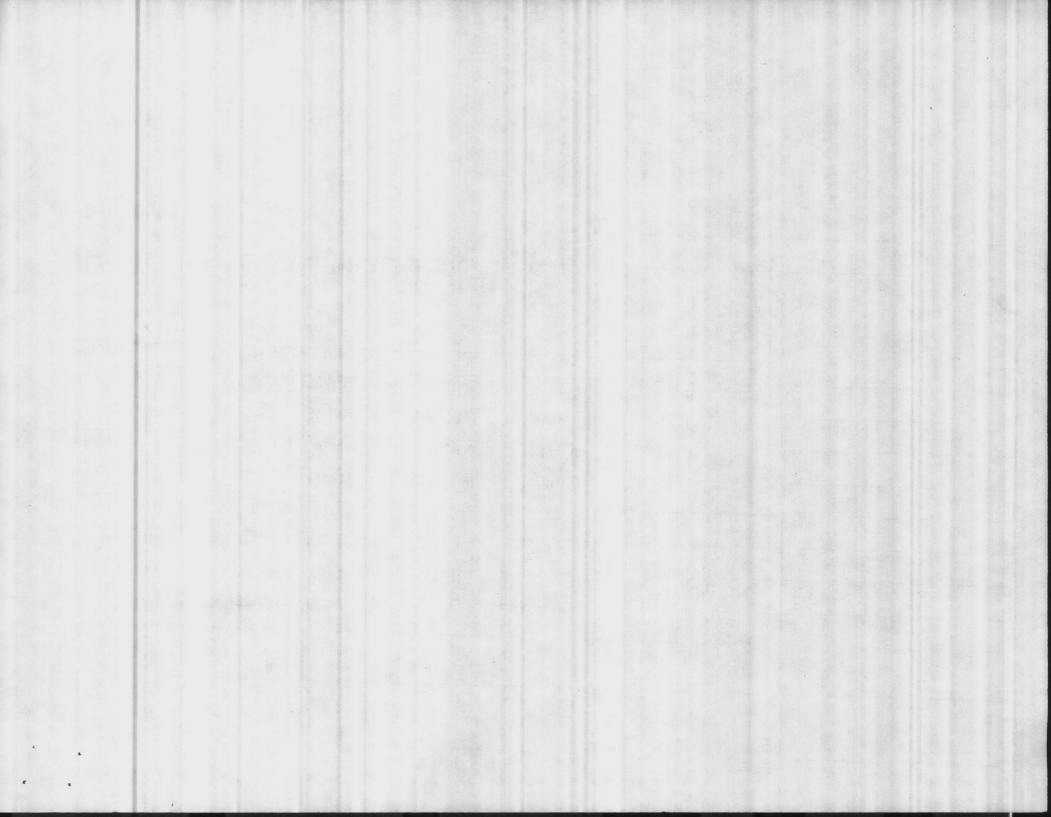
PLANT	RAW	DELIVERED	WASHING FILTERS	MAX. DEL.	POTABLE WATER USED	WELLS MAX. SAFE YIELD/DAY	PLANT CAPACITY DAY	TREATMENT
		*	1 005 000	4,780,000	13	5,900	5,000	LIME
HADNOT POINT	116,200,000	115,539,000	1,835,000	1,060,000	2	2,304	2,000	LIME
HOLCOMB BLVD.	14,023,000		421,000	863,000		1,152	1,000	LIME
TARAWA TERRACE	20,033,000		726,000	327,000	2	622	750	ZEOLITE
MONTFORD POINT	9,461,000		576,000	709,000		4,081	3,500	LIME
MCAS	18,633,000		1,320,000			648	600	ZEOLITE
RIFLE RANGE	5,065,000		316,000	213,000		864	600	ZEOLITE
COURTHOUSE BAY	14,218,000	13,514,000	893,000	643,000		250	250	ZEOLITE
ONSLOW BEACH Total	3,747,000	2,019,000		99,000	4			

WATER IN

GALLONS

REMARKS:

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



## WATER FLOW

DATE.	FEB	19	87	
DATE.				

DLANT	RAW	DELIVERED	WASHING FILTERS	MAX. DEL.	POTABLE WATER USED	WELLS MAX. SAFE YIELD/DAY	PLANT CAPACITY DAY	TREATMENT
PLANT			- 25	4,780,000	13	5,900	5,000	LIME
HADNOT POINT		115,539,000		1 060,000		2,304	2,000	LIME
HOLCOMB BLVD.	14,023,000		425,000	863800	3	1,152	1,000	LIME
TARAWA TERRACE	20,033,000	1			3	622	750	ZEOLITE
MONTFORD POINT	9,461,000	/ /		327008	3	4,081	3,500	LIME
1CAS	18,633,000	17,3/3 000			3	648	600	ZEOLITE
RIFLE RANGE	5,065,000		316000	2/3 000	3	864	600	ZEOLITE
COURTHOUSE BAY	14,218,000	13,514,000		643 000	3	250	250	ZEOLITE
ONSLOW BEACH	3,747,000	2,019,000	235000	99 000	1 3			

201,380 190,406 6,322,000 8694,000

WATER IN MILLION GALLONS

REMARKS:

28,200,000 GALLON PUMPEO FROM 20 TO BZOE 670



1.5384891 116,200 R.5652557 D4787750 4665430 115 539 102,245 5536357 5269442 116,200,000 1,797 123,320 WW 1835 115,539 4,780 HO 4,780 39960 1,835,400 HB (9) 1426563 4613204 R 14,023 1337295 4472973 6,996 P 8,930 8926,800 14,023,100 WW .42/ .246 HD 1.060 1,060 35/00 70200 35100

R 260330 D 19307 WW .726 HD 863

(R) 13070402 12**970070** 20033200

11389711 11304586 3513,100 meter was

(0)

138 x 5260 725880

M-178

R 9,461 D 8885 WW 576 HO,327 R 197524
600421
197103
x 48
9,460,944

0 609430 572262 37268 ×168 6,261,624

2 768 1600

4365300

5-1 84714000 81434100 3279900 95,5 80,000 7645200

95 X6000 = 576 600

R = 5,065 R = 85 0 = 4,899 = 4,827 W = 316 = 335 W = 316 = 335 W = 313 = 313 W = 313 = 3

 $\begin{array}{r} 5-196711100 & 5-2 & 9767100 \\ 94898900 & 08062900 \\ \hline 1,812200 & 1704200 \\ \hline 3,616,400 & \\ \hline 168000 & \times 3600 \\ \hline 19-8 & 158,238 \\ \hline 316 & \\ \end{array}$ 

CHB

2 33/522000 R. 4392621 231 8008000 42593720 14,218 13514 000 133249 13,524 13,514 , 893 ,942 WW , 643 .643 HO 040870000 5-1 46248000 039037000 4402 4000 2224000 1,833,000 53 028659000 5 74 026492000 019266000 017746600 1,520,000 3167,000 X 26406 7,744,000 739200 70 Time X X 2200 + 154 = 154000

B R 3,747 O 2,019 WH 1,235 HO 1099 108 (R), 667782 6293678 4016607 2,019,100 2,019,100

77982700 77907700 77466160 77877000 516600 530700 36735600 3/ 77547800 52 35583300 76289900 1047,300 1,152,3000 1,257,900 35 time 2,41,0200 X 5000 X 2000 175,000

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DATE: JANUARY 1987

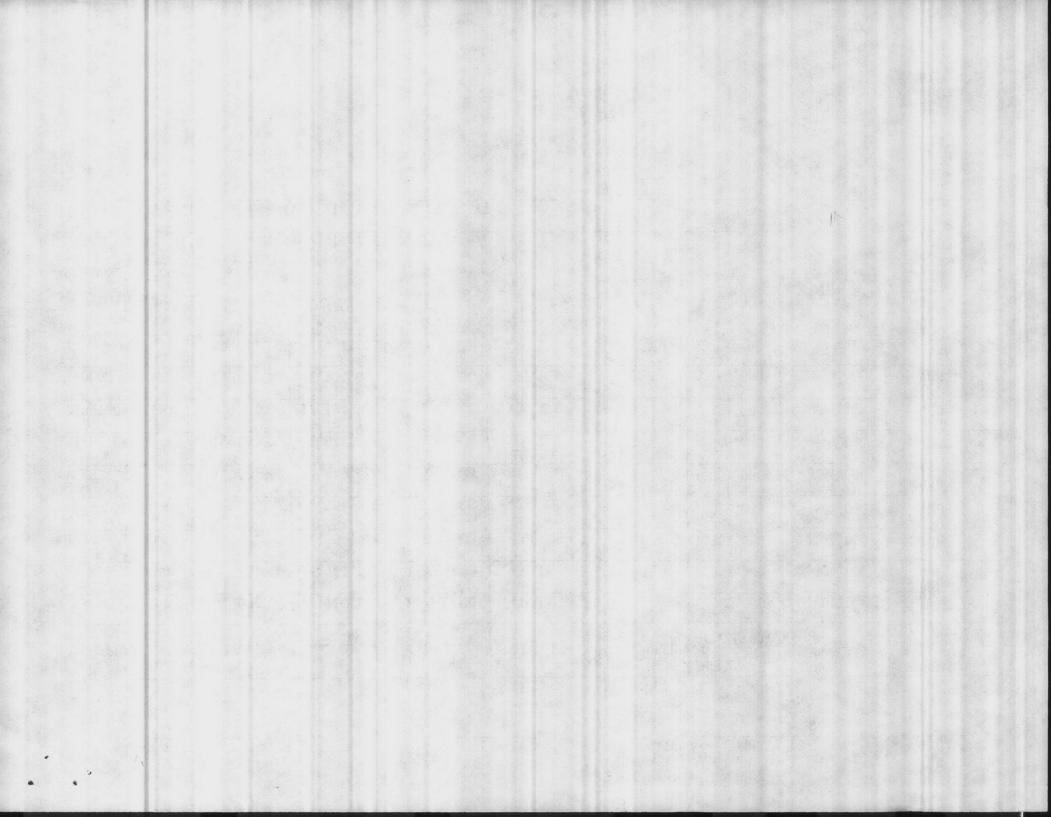
PLANT	RAW	DELIVERED	WASHING FILTERS	MAX.DEL	POTABLE WATER USED	WELLS MAX.SAFE YIELD/DAY	PLANT CAPACITY DAY	TREATMENT
HADNOT POINT	98,658,000	96,780,000	1,875,000	4,446,000	13	5,900,000	5,900,000	1ime
HOLCOMB BLVD.	27,549,000	26,741,000	807,000	1,452,000	3	2,304,000	2,304,000	lime
TARAWA TERRACE	23,748,000	22,954,000	794,000	977,000	3 77	1,152,000	1,152,000	1ime
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			. 1000			

WATER IN GALLONS

REMARKS:

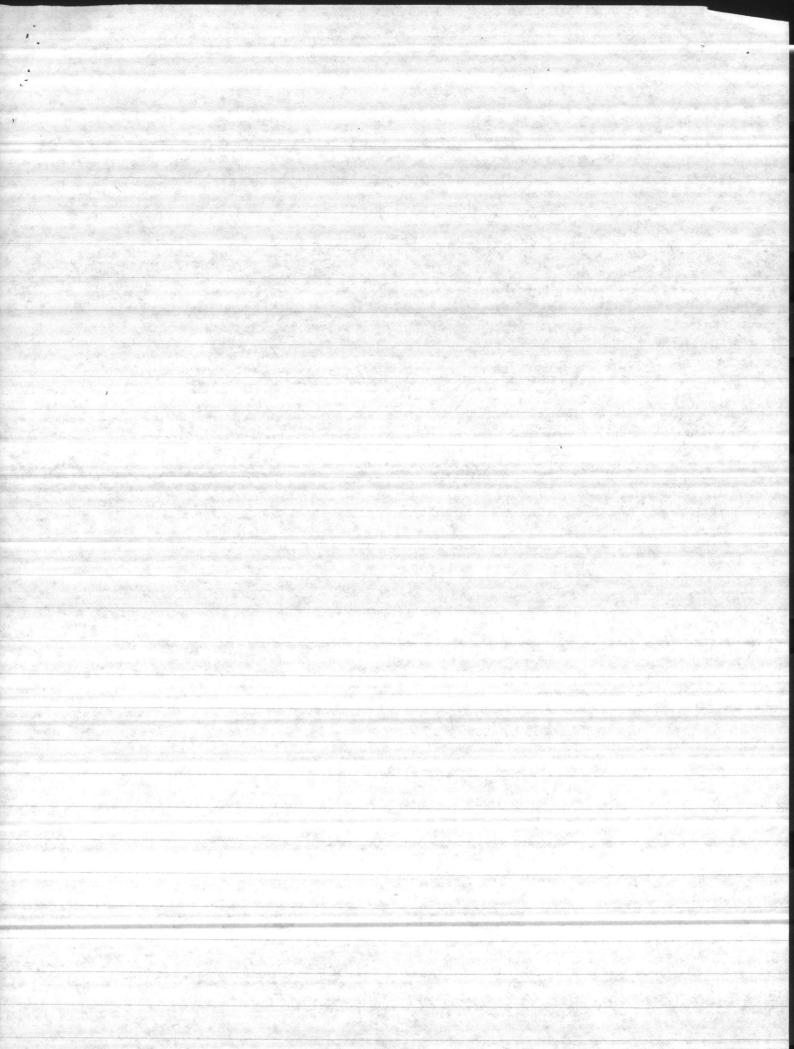
4,800,000 gallons pumped from Bldg. 20 to Bldg. 670

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



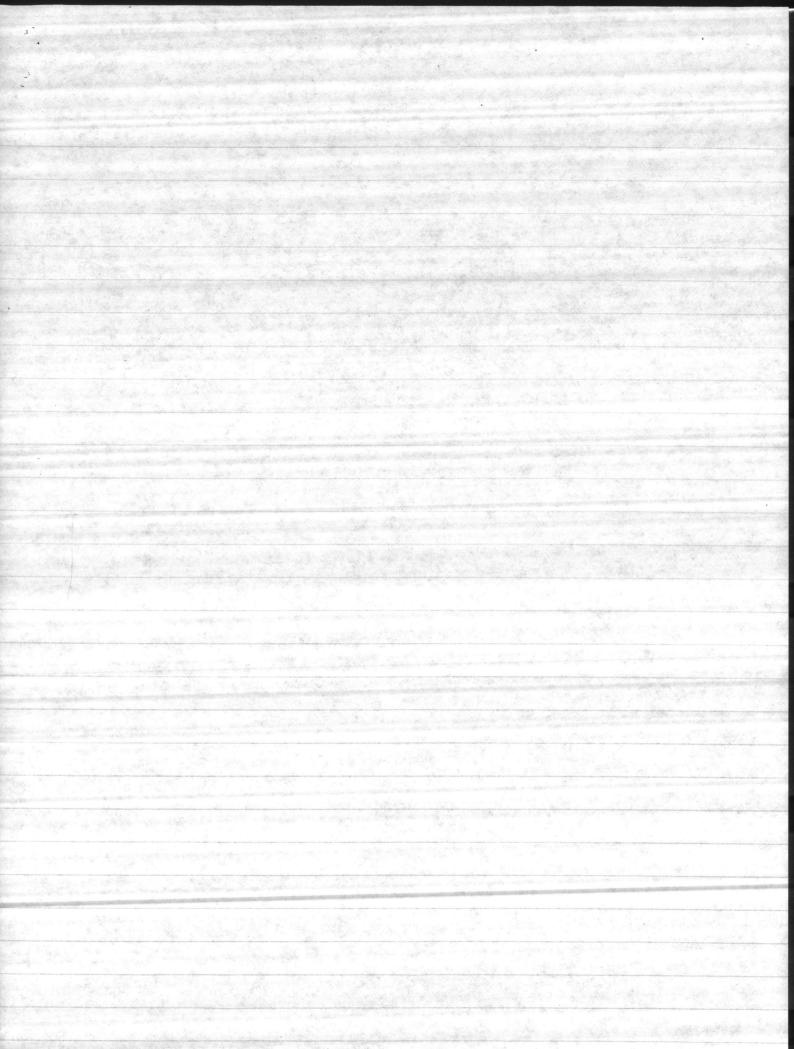
HP

	R	7	Δ
R. 98,658	5536357	5268442	4665436
D. 96,780	5349394	5/6/2/2	4569650
WW. 1,875	186963	108230	96,780
40. 4,446			1875
	47		98655
	₹ 3	9906	
	1,8	75,300	
	HB		
R: 27549	R.	Δ.	
D: 26741	4472973	/	337295
w: 807	4223988	_/(	263886
40:1452	248985	2	26,7407
			808
			275487
	35,/00	25,	
	£53,		
	807,200		
	5/,500	70	0
	15,000	(3/)	300
607	GALS PUMPED	FROM 20	3
GE7	GAIS PUMPED	70 77-	38



## TT- 38

R: 23,748	R. 17700700	7	11304280
D = 72,954	12656315		11075039
WW: 794	044385		229541
4A: 977			794
	151		237481
<b>.</b>	X 5260		
	794260		
	M - 178		
**************************************			
	R	Δ	
R: 11,209	1000 451		572262
D: 10,350	766907		5) 6657
ww: 759	733514		61605
HD: 471	× 48		x168 10,349640
"	11,208672		<b>)</b>
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	4061400		5155400
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## AS-110

R . 21028		R	<u>D</u>
D: 19 409		355912	702076
WW: 1,620		23/504	507985
HA: 810		124408	194085
			1620
	-di-fa-	57 .	850.15
		X10 7270	The Alberta
		X60	30
		1,620,0	00
		RR-85	
R: 7,233		R	Δ
A: 6041		272/18900	173879900
ww: 979		264885900	167838900
HA: 253		7,233,000	6,041,000
			S-3_
		8-1	0806 2900.
		948 98960	07242900
		9166980	participae paperante de la constitución de la const
a company		3229100	650000
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	+ 558	+31	9,459 117
			45 1500

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## BA-138

R: 2390		R.	0.
D: 2/34		62930786	401660700
ww: 256		58748400	39 9527200
HA: 97		4185380	2,133,500
Acres Agreement		S-1	2-5
5 m	33	76289900	35583300
	80/2657	74886300	34330400
21335	33 2000	1403600	1 25 29 00
21333	66,000		
2 38		T. J. San	
		F-L	F. 2
		77377000	77437600
		76816200	76846500
2-10-10-10-10-10-10-10-10-10-10-10-10-10-	Santan Carlo Santan Santan Santan Santan Santa	560800	591100
			560800
		38	11311
		30/11529	
	,6	38	
	190,000	XS	000
	256	190	000

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		3	2,304,000	2,304,000	1 ime
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	FST,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						

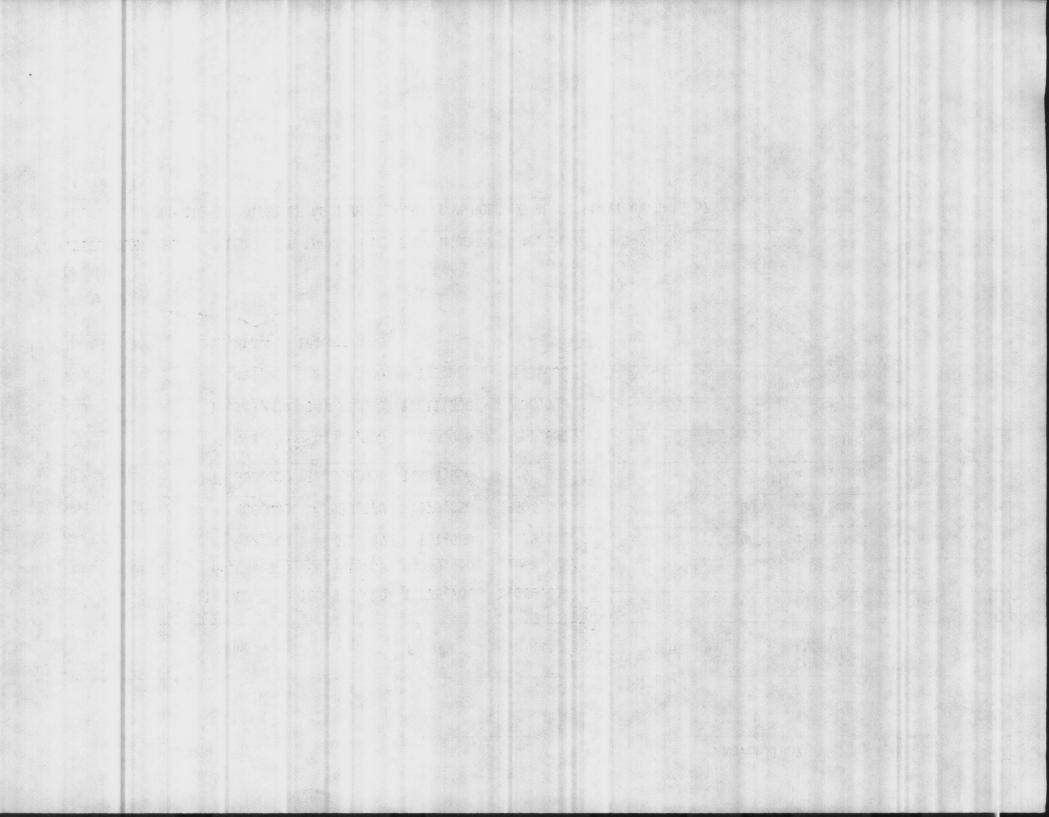
212,328,900 194,688,390

WATER IN GALLONS

REMARKS:

T. T.TFTOWFDOW DUE TO WATER BEING TRANSFERRED FROM HOMCOMB BLVD. PLANT ON 3-5-87.

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

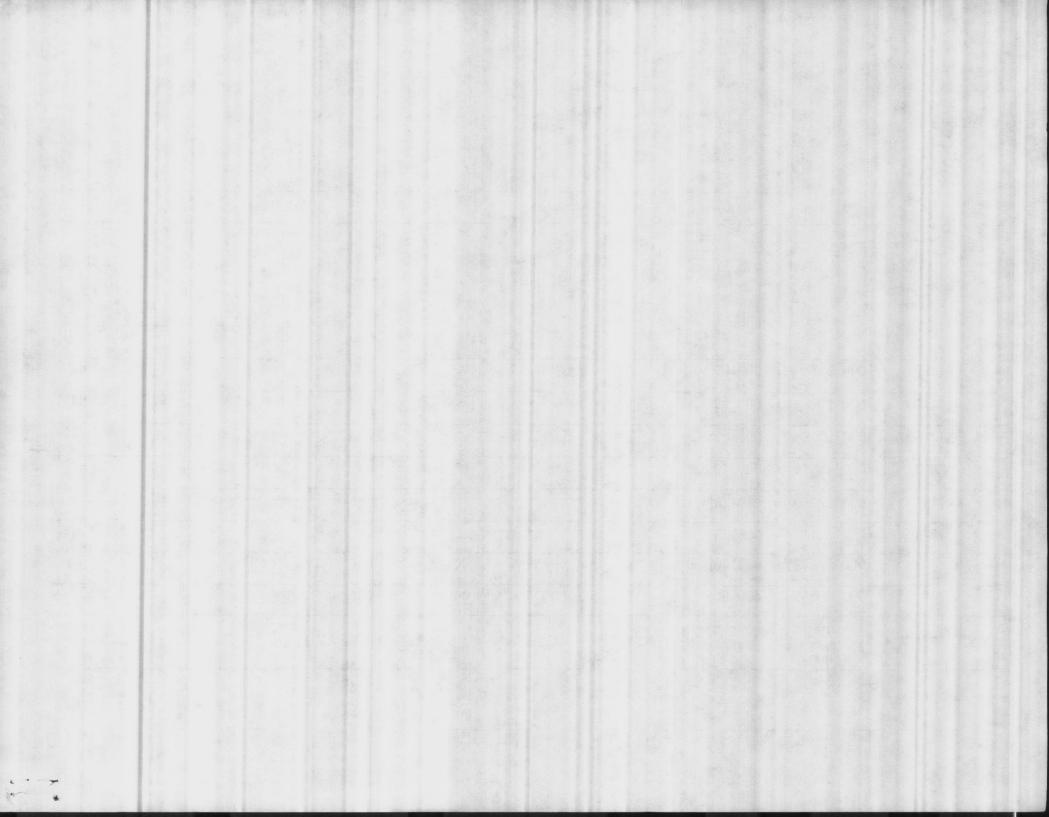


DATE: SEPTEMBER 1987

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	1 ime
HOLCOMB BLVD.	61,410,000	59,085,000	2,321,100	3,596,000	3	2,304,000	2,304,000	1 ime
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

<sup>\*</sup> Hadnot Point Raw Estimated



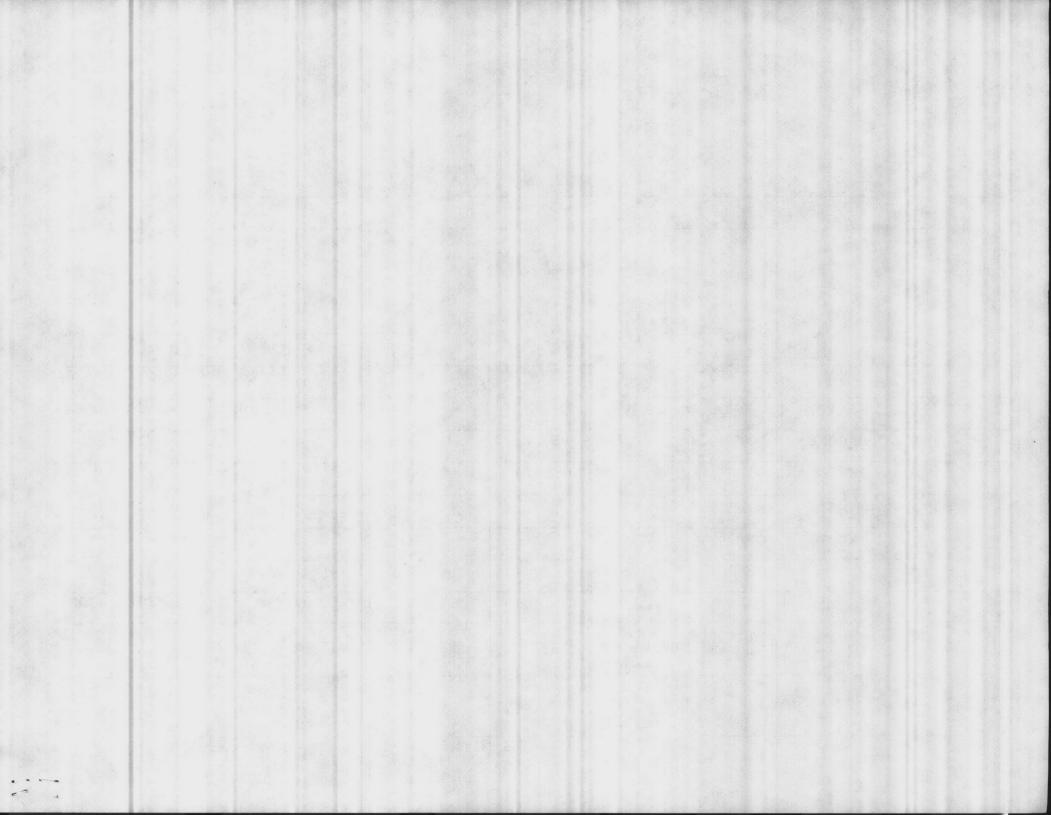
DATE: SEPT. 87

PLANT	RAW	DELIVERED	WASHING FILTERS	MAX.DEL	POTABLE WATER USED	WELLS MAX.SAFE YIELD/DAY	PLANT CAPACITY DAY	TREATMENT
HADNOT POINT	126272060	123,329,000	2,114,900	5073,000	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	16,978000	16,491000	643,600	1,636,000	3	4,081,000	4,081,000	lime
RIFLE RANGE	6209,000	6,04/000.	246600	387,000	3	648,000	648,000	zeolite
COURTHOUSE BAY	13,820,000	12,738 600	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	6502000	11528,0	00			

WATER IN GALLONS

REMARKS:

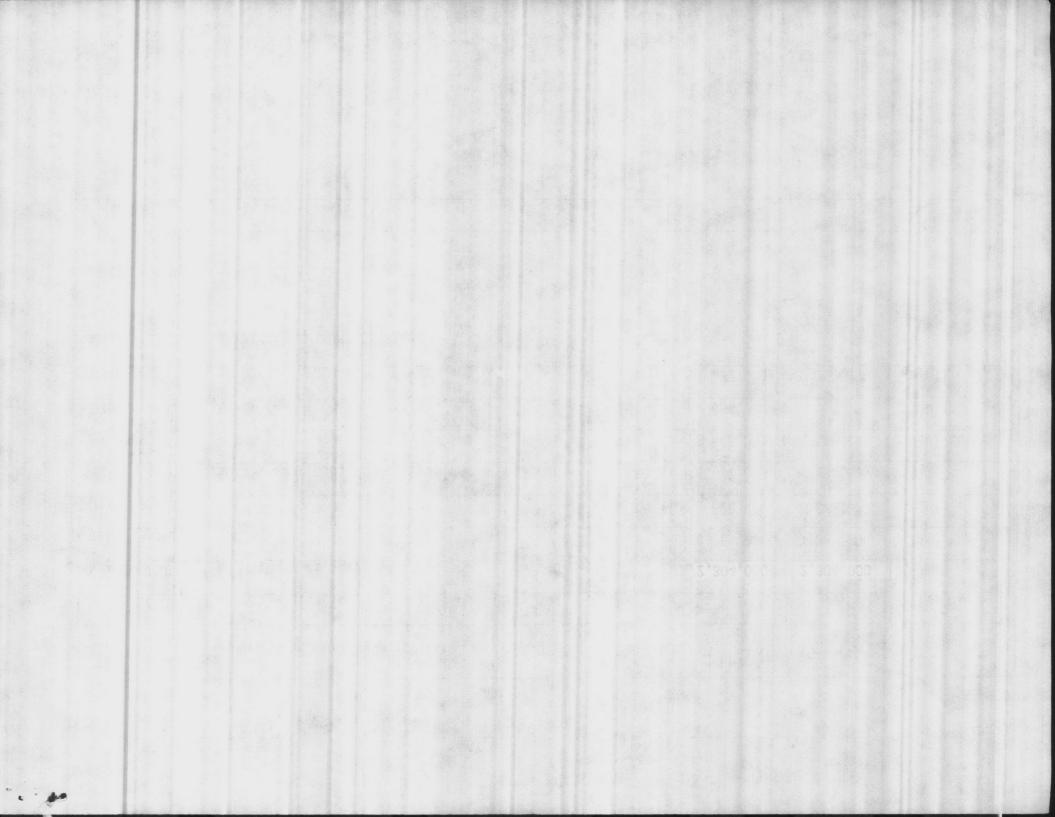
P. Paus FST.



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	1ime
TARAWA TERRACE				1	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	1ime
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				

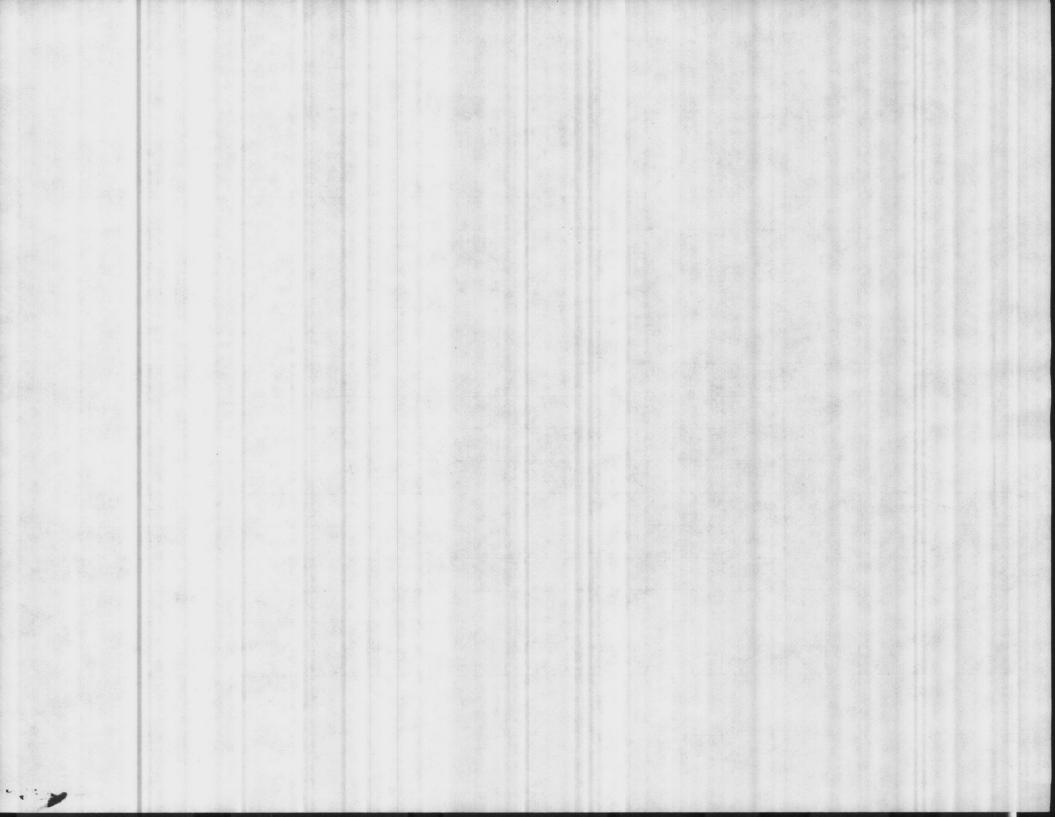
WATER IN GALLONS



DATE: A46 1887

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	4504,000	13	5,900,000	5,900,000	1ime
HOLCOMB BLVD.	78,285,560	75,521,000	2,764,500	3,504,00,0	. 3	5 8 66 86 8 2,304,000	2,304,000	1ime
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	812000	3	4,081,000	4,081,000	1ime
RIFLE RANGE	6,230,000	5,901,000	258,600	225,000	3	648,000	648,000	zeolite
COURTHOUSE BAY	15,801,860	14,827000	995,000	598,000	3	864,000	864,000	zeolite
ONSLOW BEACH	4,052,000	3 646,000	254,000	149,000	<b>3</b>	250,000	250,000	zeolite
TOTAL FLOW	24/2086500	231,994 060	7.883.500	98420	00			

WATER IN GALLONS

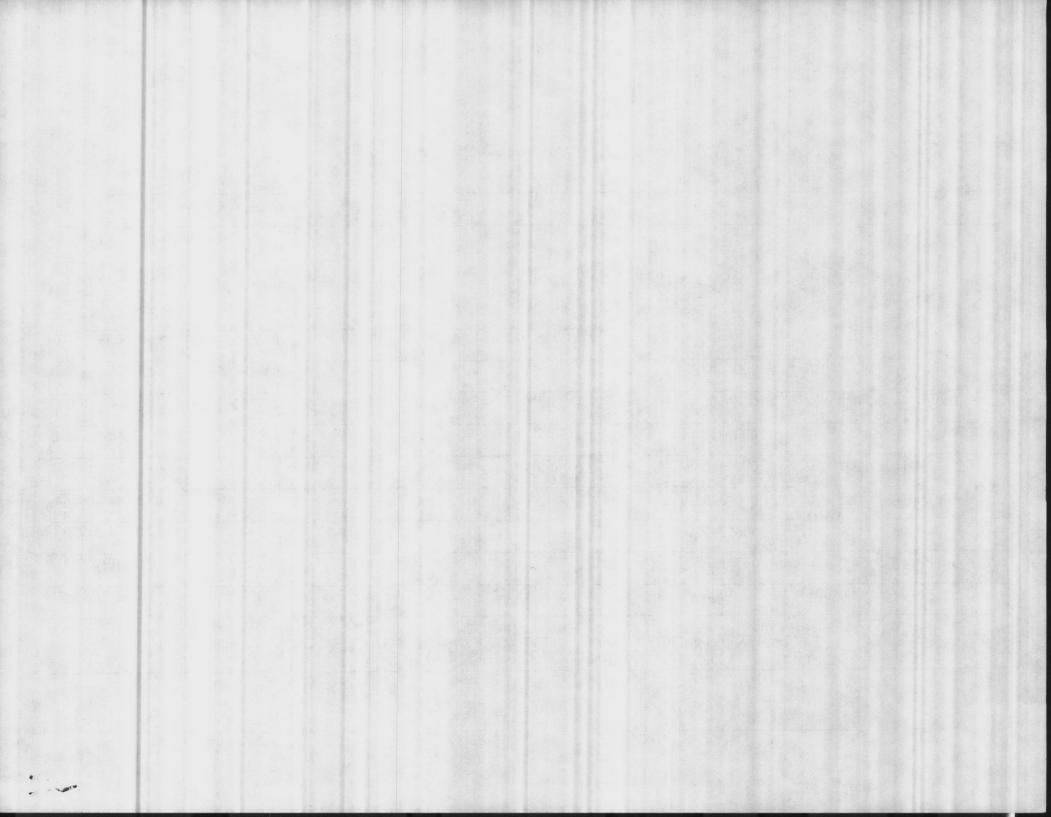


DATE:

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	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	1 ime
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	1ime
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				

WAT	ER	IN	GAL	LONS

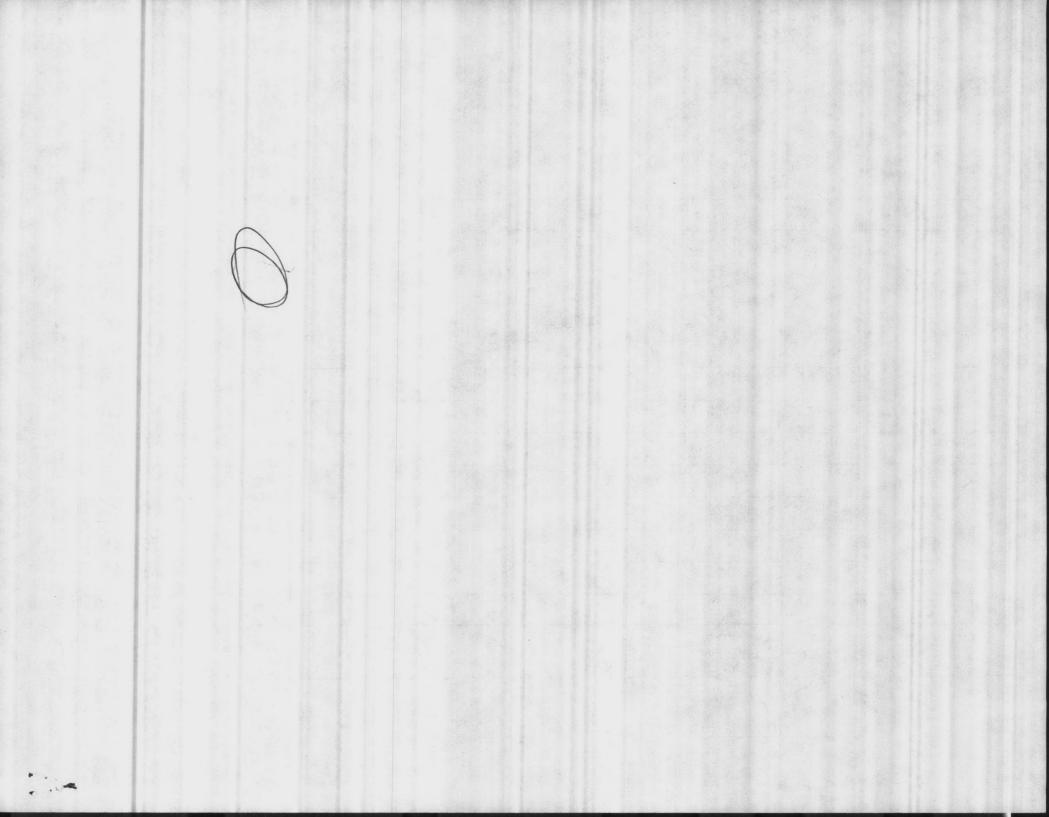


WATER FLOW

DATE: 544/ 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, 155,000	1,915,300	3,963,000	13	5,900,000	5,900,000	1ime
HOLCOMB BLVD.	95,579,000	91,323,000	3,463800	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	1498,800	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	1014,000	675,000	3	864,000	864,000	zeolite
ONSLOW BEACH	5338000	3.625000	247500	267,500	3	250,000	250,000	zeolite

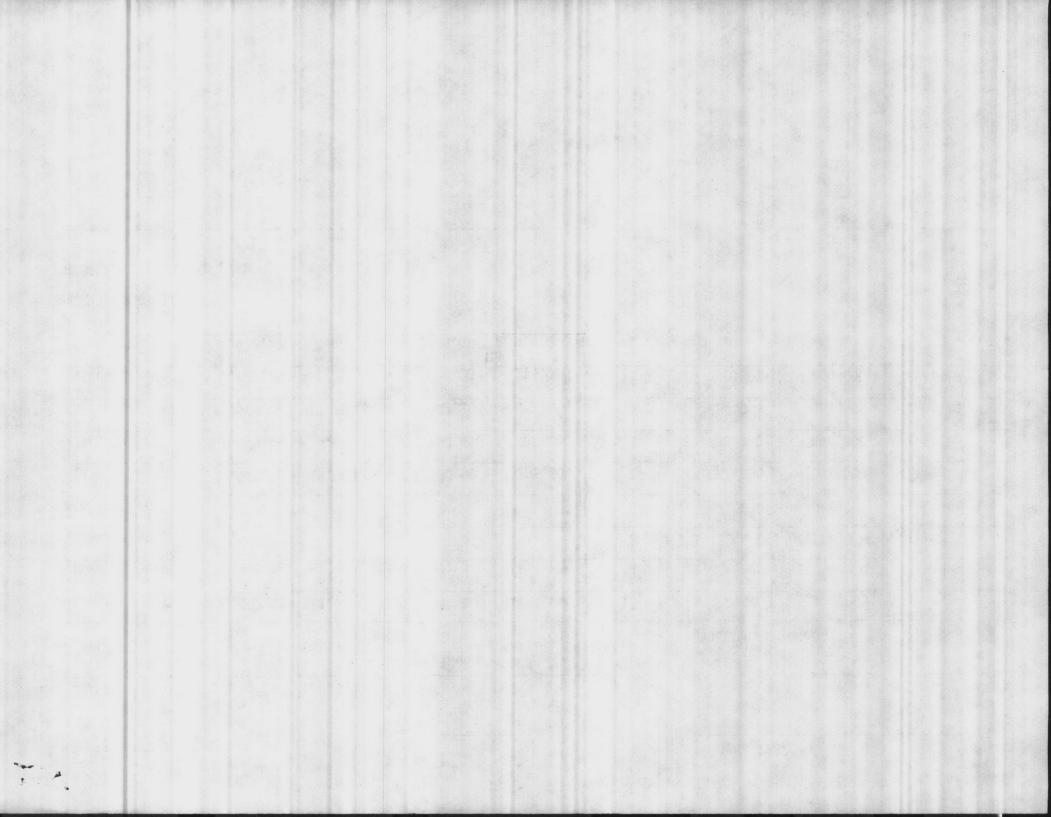
WATER IN GALLONS



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				

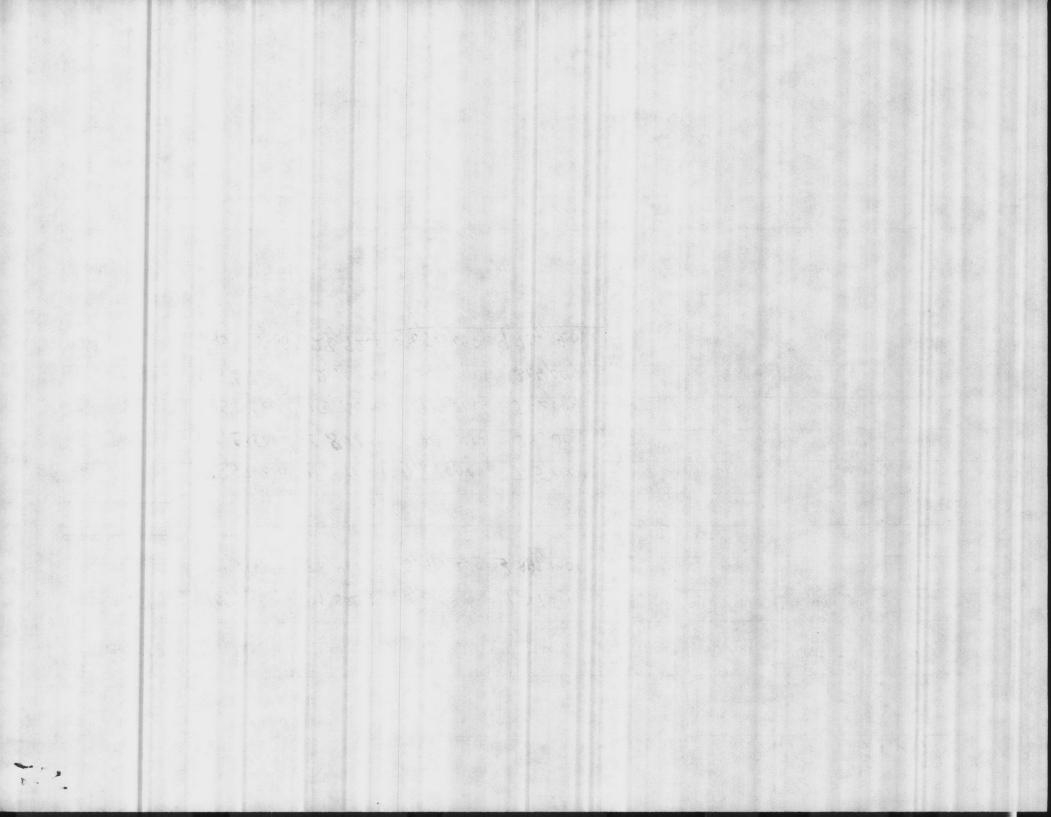
WATER IN GALLONS



DATE: JUNE 1587

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	1 ime
HOLCOMB BLVD.	91,366,000	88 467 000	3, 9/7, 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	16,986,000	1,680,000	765,000	3	4,081,000	4,081,000	lime
RIFLE RANGE	7,505,000	5,828000	250,400	283,000	3	648,000	648,000	zeolite
COURTHOUSE BAY	15,596,000	13,256,000	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, 675,600	228,926,000	8,773,650	9,914,000			***************************************	

WATER IN GALLONS



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	1ime
HOLCOMB BLVD.	81,451,000	78,273,000	3,720,000	3,727,000	3	5,000,000	5,000,000	lime
TARAWA TERRACE				<b>\</b>	3	1,152,000	1,152,000	1ime
MONTFORD POINT		79997 8-			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	229,308,000	213,348,000	8,660,000	9,035,000	,			

WATER IN GALLONS

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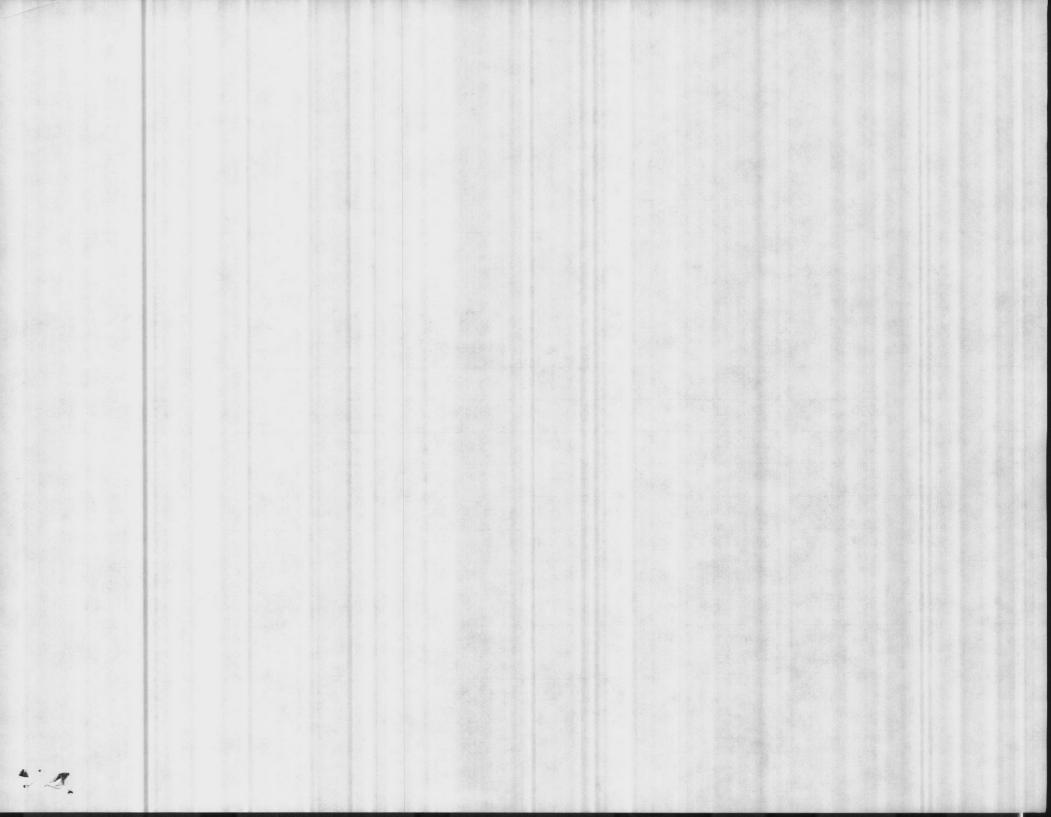
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DATE: \_\_ APRIL 1987

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	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	606.00	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				•

WATE	P	TN	GAI	10	NC
MAIL	-1	TIA	UML	LU	CI

REMARKS:



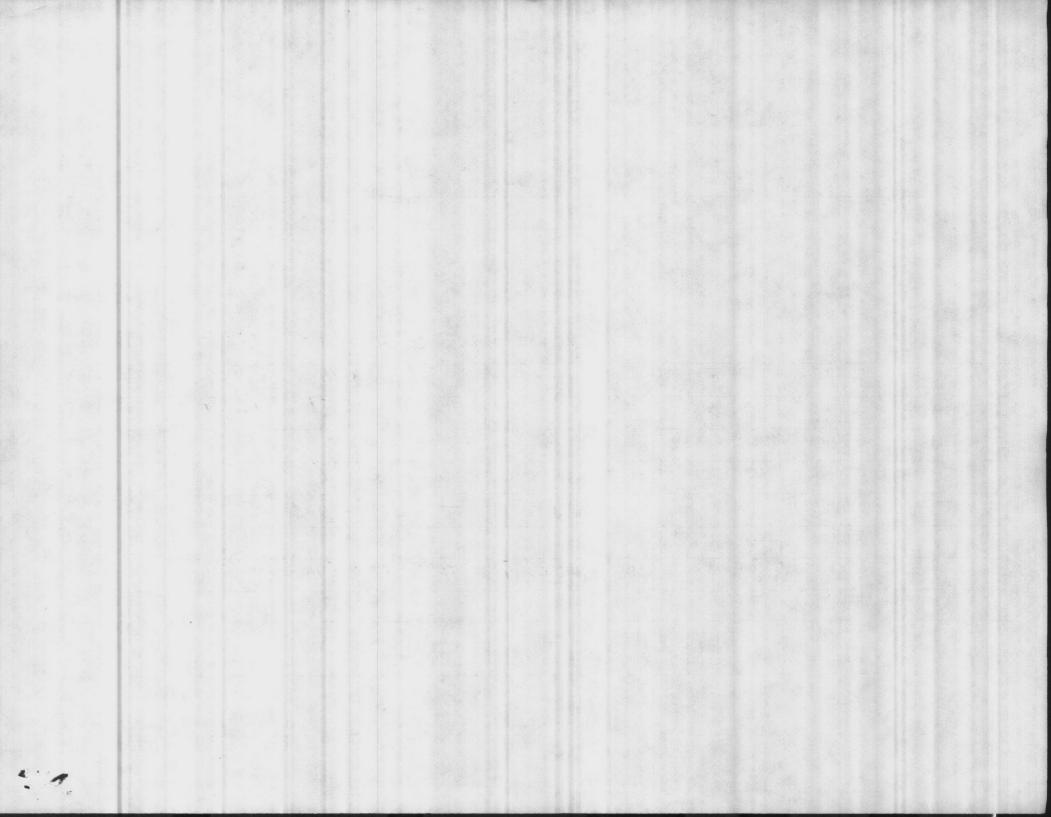
WATER FLOW

DATE: APRIL 1987

PLANT	RAW	DELIVERED	WASHING FILTERS	MAX.DEL	POTABLE WATER USED	WELLS MAX.SAFE YIELD/DAY	PLANT CAPACITY DAY	TREATMENT
HADNOT POINT	102,832,600	99,022,000	1,875,000	4,083,000	13	5,900,000	5,900,000	1ime
HOLCOMB BLVD.	62 068,000	61234,000	5482,600	2672000	3	2,304,000	2,304,000	lime
TARAWA TERRACE		46.		/ / \	3	1,152,000	1,152,000	lime
MONTFORD POINT					3.	622,000	622,000	zeolite
MCAS	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	60.6000	3	864,000	864,000	zeolite
ONSLOW BEACH	3363,000	2,911,000	175,600	282000	3	250,000	250,000	zeolite
TOTAL FLOW	209,830,000	200,806,000	103/000	00/88/00	566			

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: LANTNAVFACENGCOM (Code 114)

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

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HOUSE THE Year 1987

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES Contaminant Code: 3000

Serial # 04-67-041 AN. C. DEPARTMENT OF SUNAN RESSURCES

RAW WATER COLIFORMS (MFF) FINISHED FILTERED DISTRIBUTION SYSTEM COLIFORMS (MFP) REPEAT SAMPLES A 3 5 AVE. COLIFORMS
THROOT T NO. OF COLIFORMS FER: TOTAL PLATE COUNT TOTAL PLATE COUNT CULIFURMS 100 ml. NO. OF SUPLES COL | FORMS 100 ml. COLIFORNS per 100 ml. COLIFORMS
per 100 ml.
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per 100 ml. COLIFORMS per 100 ml. COLIFORNS per 100 ml. COLIFORNS per 100 ml. COLIFORMS per 100 ml. COLIFORMS per 100 ml. TOTAL COLONIES COLIFORM COLIFORM TOTAL COLONIES COLIFORM COLONIES VOLUME FILTERED TOTAL COLONIES COLIFORM COLONIES VOLUME 2 3 00000000 35.5 -8-7 8 9 - 15-11 12 000000000 0 13-14 15 16 17 18 19 35.1 0000000 22 23 24 25 26 000000000 9 22 29 29 30 HE HEDIA ARITH. HEAR CIST. TOTAL MG. SAMPLES BRI MEndo BACTERIAL TPC HEDIA DENSITY 7.0 STOTEM SAMPLES EXCEIDING 3/50. 4/100, 7/200. 13/500ml 0 GEO. MEAN

LAB ID # 37807

Elizabeth a Beg CERT CEADE: B-WELL # 4087-W ENCLOSURE (1)



Year \_1987

WATER INCHINER PLANT AT LIGHT DE PETITIE REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Contaminant Code: 3000

Serial # 04-67-043

			Sell	. 8/	W WATE	R COL	I FORMS	(MFF)			FILT	ERED	FINI	SHED			:		STRIBU		YSTE					
		. A			3			G.						!	1			COLIF	DRHS (	MFP)			REPE	AT SAH	PLES	
			1					1. **						•				1	2	3	1	. 5				1
- DATE	FILTERED ml.	TOTAL		YOLUME FILTERED ml.	TOTAL	COLIFORM	VOLUME FILTERED #1.	TOTAL	COLIFORM	RO. OF COLIFORMS FER 100 ml.	TOTAL PLATE COURT	Per CULIFURNS	TOTAL PLATE COUNT	HFP COLIFORNS	TOTAL PLATE COUNT	AVE. COLIFORNS	NO. OF SWPLES	COLIFORMS per 100 ml.	COLIFORNS per 100 ml.	COLIFORMS	COLIFORMS per 100 ml.	COLIFORMS per 100 ml.	COLIFORMS	COLIFORMS	COLIFORMS per 100 ml.	1 TOTAL TOTAL
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LAB ID # 37807

Elizabetts a Biz CERT CENDE B-WELL # 4087-W



Month MAY Year 1987

MARINE COLPS AIR STATION WATER TREATHENT PLANT AT Camp Le jeune Method Code: 303

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES Contaminant Code: 3000 Setial # 04-67-042 RAW WATER COLIFORMS (MFF) FINISHED DISTRIBUTION SYSTEM FILTERED. COLIFORMS (MFP) REPEAT SAMPLES AVE. COLLIFORMS
THINDS
THOSE
T NO. OF COLIFORNS TOTAL PLATE COUNT CULIFUMS 100 al. TOTAL PLATE COUNT EXMINED
COLIFORMS
per 100 ml. PER. COLIFORNS 100 ml. INCURATOR TEMP 100.ml. COLIFORNS
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per 100 ml. COLIFORMS per 100 ml. YOLUME FILTERED . TOTAL COLONIES COLONIES COLIFORM TOTAL COLONIES COLONIES COLONIES 35,5 000000 7 0 7 9 - 15-11 12 000000 35,5 +3 14 15 is 17 18 19 319 0000 . 0 35. 7 . 0 00 21 22 23 24 25 00000 26 35. 177 29 29 30 31 ME HEDIA BRI MENDO BACTERIAL ARITH. HEAR CIST. TOTAL MG. SAMPLES

LAB ID # 37807

DENSITY GEO. MEAN

. TPC MEDIA

1.0 SYSTEM SAMPLES EXCEIDING 3/50. 4/100 7/200. 13/50001 0 Replets a Bety CERT CRADE B-WELL # 4087-W



· Honth MAY Year \_1987 TARAWA TERRACE

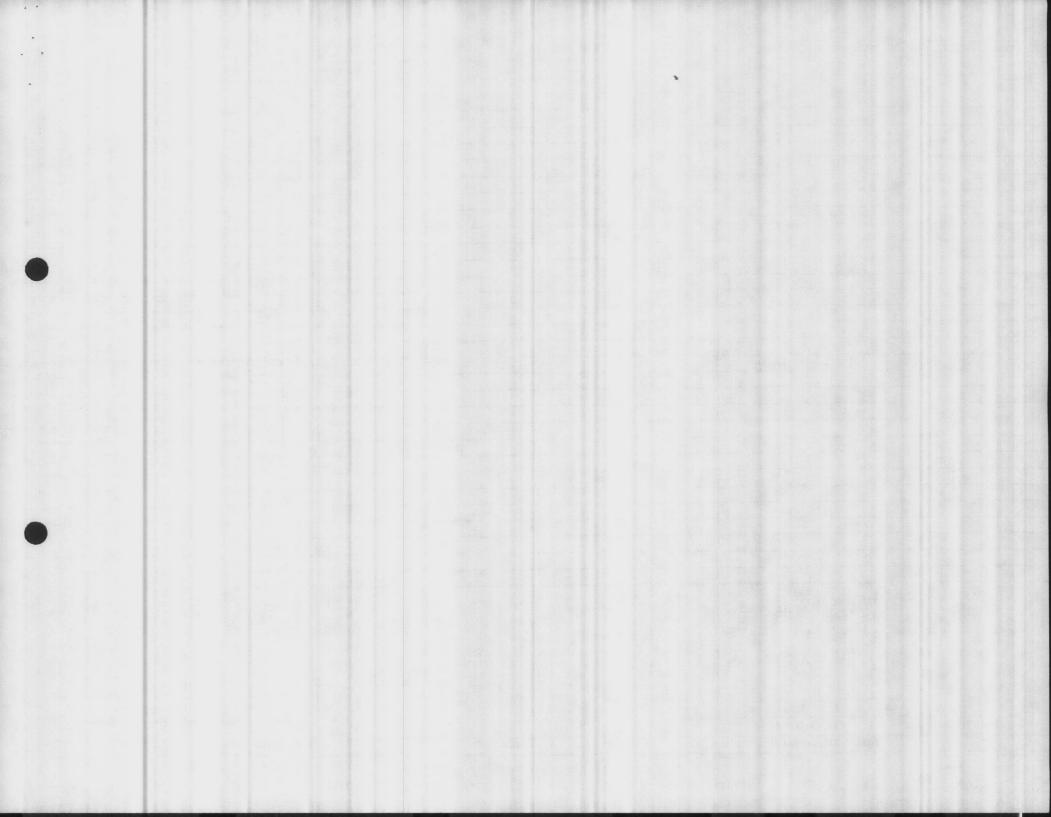
ACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES CONTAMINANT Code: 3000

Serial # 04-67-044 REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

			1	R	POPPARAMENT	ER COL	I FORMS	(MFF)			FILT	ERER	FINI	SHED		5 - 1	•	DI	STRIBU	TION S	YSTEM					1
		. A			8			¢.						1			•		DRHS (				REPE	AT SAM	PLES	
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· LAB ID # 37807

ElizabethaBeth CERT CEADE B-WELL BURE 8714



Month MAY Year \_1987

CAMP JOHNSON WATER TREATHENT PLANT AT Camp Lejeune Method Code:

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF NEALTH SERVICES Contaminant Code:

303 3000

Serial # 04-67-045

AN. C. DEPARTMENT OF SUNAN RESQUECES

DISTRIBUTION SYSTEM RAW WATER COLIFORNS (MFF) FILTERES. FINISHED COLIFORMS (MFP) REPEAT SAMPLES NO. OF COLIFORNS TOTAL PLATE COUNT TOTAL PLATE COUNT TOTAL PLATE COUNT AVE. COLIFORMS
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· LAB ID # 37807

WELL # 4087-W Elizabethales CERT CRADE B-WELL



Henth MAY Year 1987

WATER TREATHENT PLANT AT Camp Le Jeune REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Contaminant Code: 3000

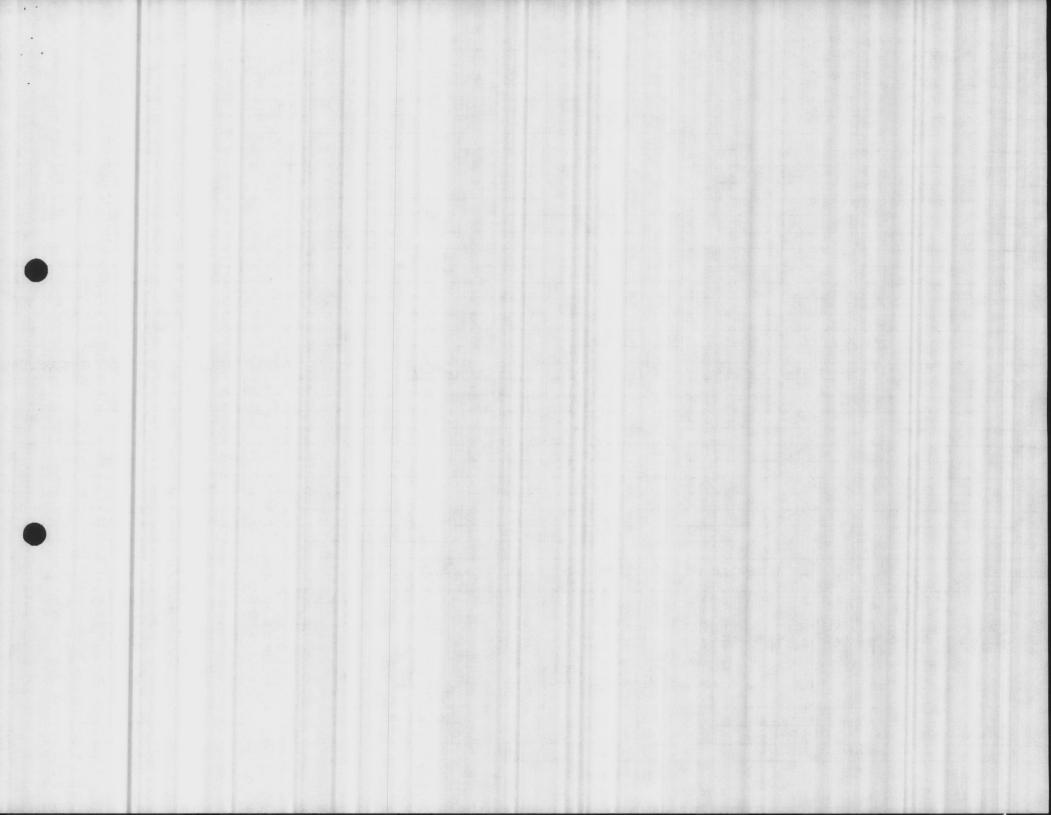
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. LAB ID # 37807

Elizabeth GBety CERT CRADE B-WELL # 4087-W



Honth MAY Year \_1987

MOURTHOUSE TRAY WATER TREATHENT PLANT AT Camp Lejeune

Contaminant Code: 303. 3000

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Serial # 04-67-047

M. C. DEPARTMENT OF HUNAW RESCURCES

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Honth MAY Year 1987

ONSLOW BEACH

WATER TREATHENT PLANT AT Camp Lejeune REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

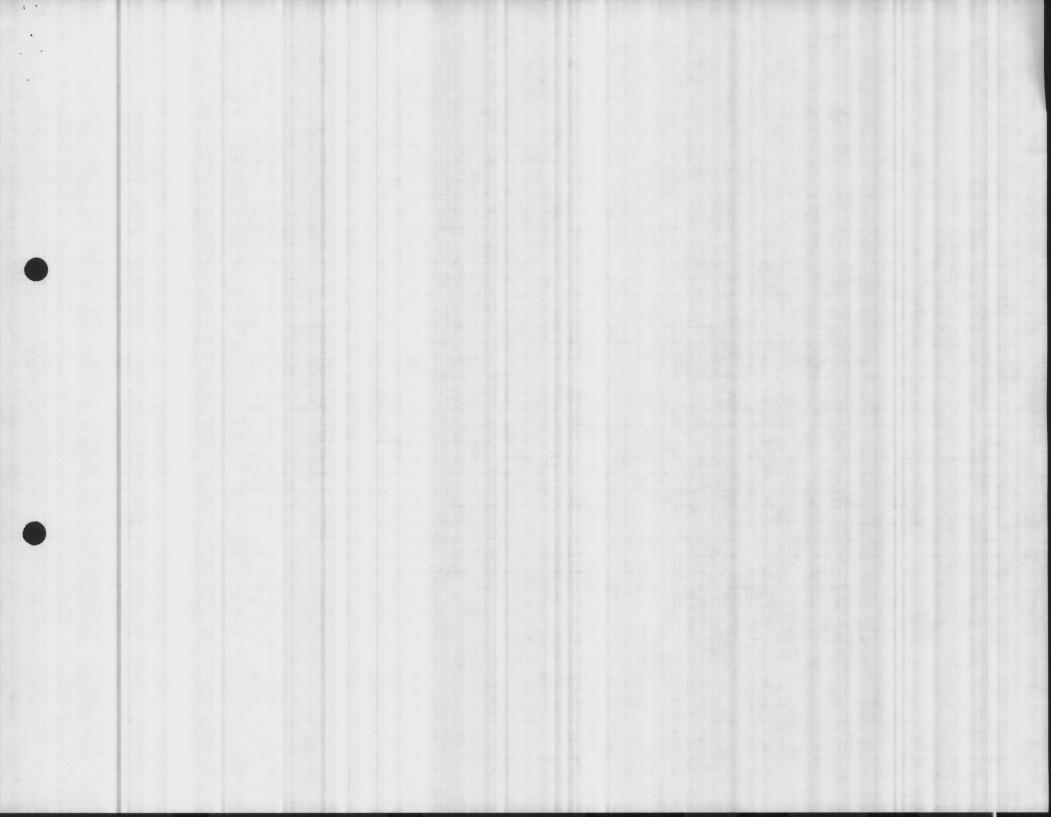
Contaminant Code: 3000

Serial # 04-67-049 A. C. DEPARTMENT OF SUMAN RESSURCES

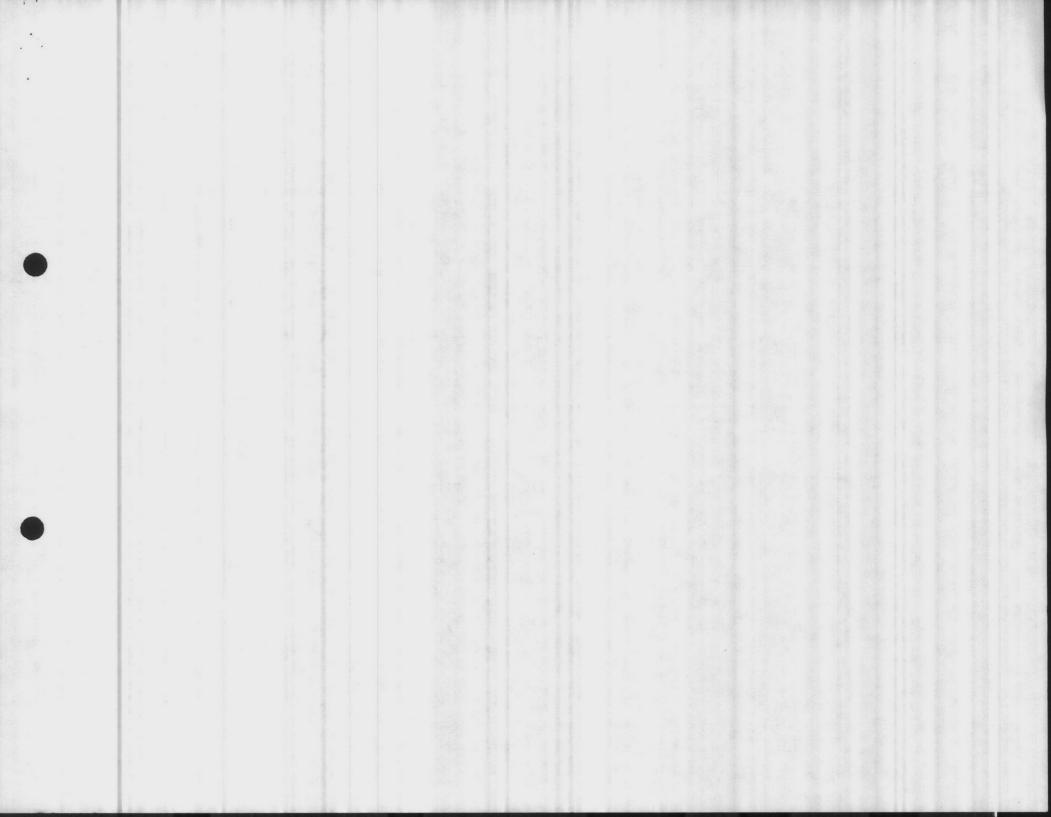
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. LAB ID # 37807

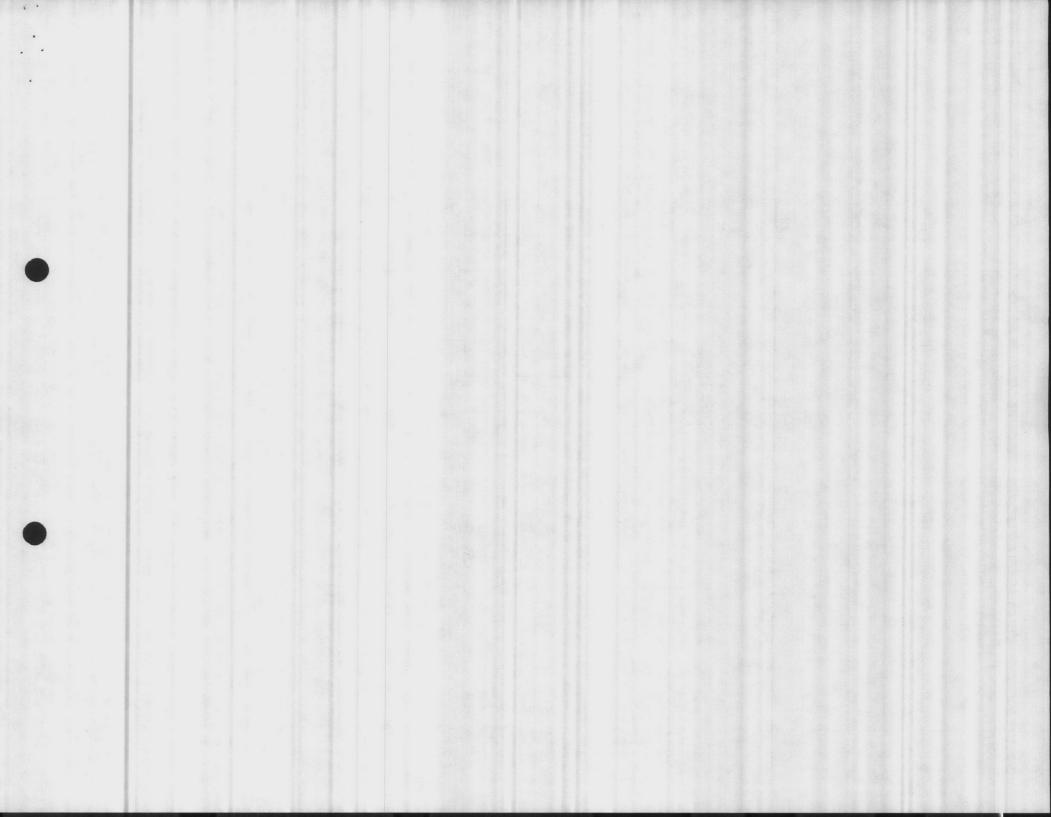
ElizabethaBety CERT CRADE B-WELL # 4087-W



MCBCL 11330 3 (REV 6-84)		ntarivitis i i i				-	5-26-8	3,7	5-26	
PARAMETER SERIAL 04-67	HADNOT POINT	CAMP JOHNSON	TARAWA TERRACE - 044	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD -a+3	NEW RIVER		
H (IN LAG 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 <sub>3</sub>	40			0	0	8	28	24		
BICARBONATES AS CaCO <sub>3</sub>	18			176	186	192	44	96		
CHL DES AS C1	16			48	20	44	18	60		
HARDNESS AS CaCO <sub>3</sub>	60			44	54	58	62	64		
IRON AS Fe		DOWN.								
FLUORIDE AM	A.A. 1.11 1.42	Down,		0.18	0,16	0.12	0.65	0.54		
CHLORINE RESIDUAL	0,9			1.4	1.4	1.0		1,0		
TURBIDITY PM	0.1			0.2	0.1	0,1	1.2 1.0 0.5	0.4		
TOTAL PHOSPHATE	012			10,2			0.3			
URTHO PHOSPHATE										
META PHOSPHATE				1						
STABILITY	+0.4			-0.9	-0.4	-0.1	+0.3	+6.1		
REMARKS	0.1	1							СОРУ ТО	
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						<u> </u>			D WATER T	REATMENT
NOTE: All results reported					LABORATORY ANA	ALYSIS BY			□ PMU	☐ MCAS PMU
and specific conduct	lance. One liter	or polable water is	assumed to weig		CAROL S	HORES			ENCLO	SURE LA



CHEMICAL ANALYSIS	- WATER T	REATMENT PLA	NTS				DATE COLLECTED 5-19-8		DATE OF ANALYSIS 5-19-87
ARAMETER Serial*04-67	HADNOT POINT -041	CAMP JOHNSON	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY -047	RIFLE RANGE	HOLCOMB BLVD -04-3	NEW RIVER	
H (IN LAS NOT PLANT)	8.8			7.6	8.0	8,4	8.6	8.8	
PHENOLTHALEIN ALKALINITY	4			0	0	2	4	14	
METHYL ORANGE NLKALINITY	60			170	182	170	66	120	
CARBONATES AS CaCO <sub>3</sub>	8			0	0	4	8	28	
BICARBONATES AS CaCO <sub>3</sub>	52			170	182	166	58	92	
DRIDES AS C1	14			24	18	26	12	66	
HARDNESS AS CaCO <sub>3</sub>	60			52	50	48	78	50	
RON AS Fe		DOWN							
FLUORIDE AM	A, A. 0.80 0.63			0.15	0.12	0.09	0.96	0,43	
CHLORINE RESIDUAL	1.0			1,4	1.5	1.1	1.0	0.8	
TURBIDITY PM	0.2			0.1	0.1	0.1	0.2	0.5	
TOTAL PHOSPHATE									
ORTHO PHOSPHATE									
META PHOSPHATE									
STABILITY	40,4			40.6	-0.2	+0.1	40.3	+0.3	
REMARKS '									СОРУ ТО
									D UTIL DIR D
									WATER TREATMENT
NOTE: All results reported	in parts per milli	ion unless otherwise r	noted except for	pH, temperature.	LABORATORY AN	ALYSIS BY			□ PMU □ MCAS PMU
and specific condu	ctance. One lifer	of potable water is	assumed to weig	gii one kilogram.	CAROL	SHORES			ETICLOSURE (

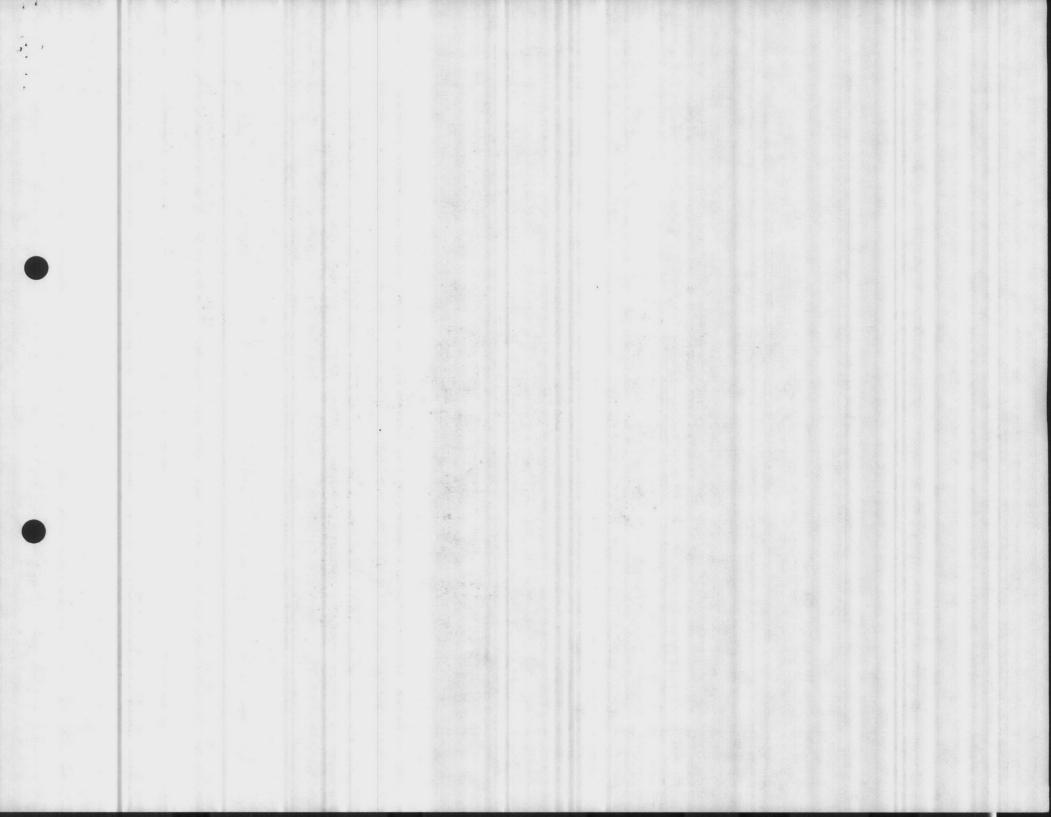


CHEMICAL ANALYSIS	- WATER TE	REATMENT PL	ANTS				5-12-8		DATE OF ANALYSIS  5-12-87
ARAMETER SERIAL #04-67	HADNOT POINT	CAMP JOHNSON	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD -043	NEW RIVER	
H (IN LAS NOT PLANT)				7.7	7,9	7,9	8.6	9,0	
HENOLTHALEIN LKALINITY	14			0	0	0	2	12	
ETHYL ORANGE LKALINITY	62			172	178	176	62	118	
ARBONATES AS CaCO <sub>3</sub>	28			0	0	0	4	24	
IICARBONATES IS CaCO 3	34			172	178	176	58.	94	
RIDES AS C1	26			38	36	64	26	68	
HARDNESS AS CaCO <sub>3</sub>	82			60	48	72	98	78	
RON AS Fe	A.A.	NWOCI							
LUORIDE AM	0.88			0.14	0.11	0.09	0.93	0,40	
CHLORINE RESIDUAL	1.0			1.2	1,2.	1.0	1.2	0.8	
TURBIDITY PM	0.2			0.1	0.1	0,1	0.5	0.4	
TOTAL PHOSPHATE									
OPTHO PHOSPHATE									
META PHOSPHATE									
STABILITY	+0,3			-0.5	-0.4	-0.3	10.1		
REMARKS .									СОРУ ТО
									D UTIL DIR D
									□ WATER TREATMENT
NOTE: All results reported	in parts per millio	on unless otherwise	e noted except for	pH, temperature.	LABORATORY AN	IALYSIS BY			□ PMU □ MCAS PMU
and specific condu	uctance. One liter	of potable water is	s assumed to weig	gh one kilogram	CAROL	SHORE	S		D NREAD D FILE
									- NOT OCHE



CHEMICAL ANALYSIS MCBCL 11330/3 (REV 6-84)	- WATER T	REATMENT PL	ANTS				DATE COLLECTED	37	DATE OF ANALY	rsis - 87
PARAMETER SFR. AL#04-67	HADNOT POINT	CAMP JOHNSON	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD -0+3	NEW RIVER		
PH (IN LAS 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	138	186	56	130	1	
CARBONATES AS CaCO <sub>3</sub>	8			0	0	8	4	16		
BICARBONATES AS CaCO 3	60			134	188	178	52	114		
RIDES AS C1	16			26	20	30	10	58		
HARDNESS AS CaCO <sub>3</sub>	104			60	52	74	78	70		
RON AS Fe	A.A.	DOWN					- 69			
FLUORIDE PM	1.03			0.16	0.11	0.09	0.98	0,41		
CHLORINE RESIDUAL	1.0	1		1.3	1.5	1.0	1.1	0.8	•	
TURBIDITY PM	3.1			0,2	0.1	0.1	0.2	0.8		
TOTAL PHOSPHATE										
ORTHO PHOSPHATE										
META PHOSPHATE										
STABILITY	+0.2			-0.5	-0.2	10.2	0.0	+0.2		
REMARKS .									сору то	
								tanger of	UTIL DIR	0
						18			D WATER T	REATMENT
NOTE: All results reported	in parts per mill	ion unless otherwise	noted except for	pH, temperature,	LABORATORY AND	ALYSIS BY			□ PMU	☐ MCAS PMU
and specific condu	ctance. One liter	r of potable water is	assumed to weig	gh one kilogram.	CAROL	SHORE.	5		D NREAD	SURE 12

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## Memorandum

DATE: 9 June 1987

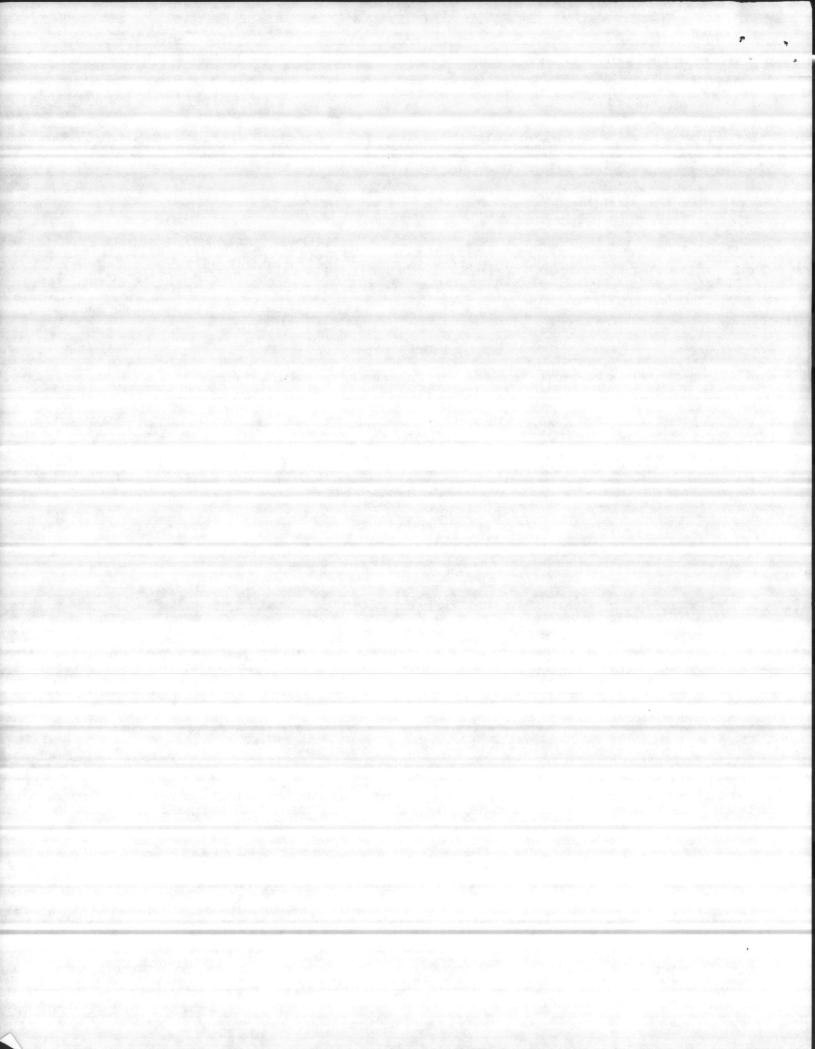
FROM: Utilities System General Foreman

то: Director, Utilities Via: Utilities General Foreman

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

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

BYRON M. FRAZELLE II

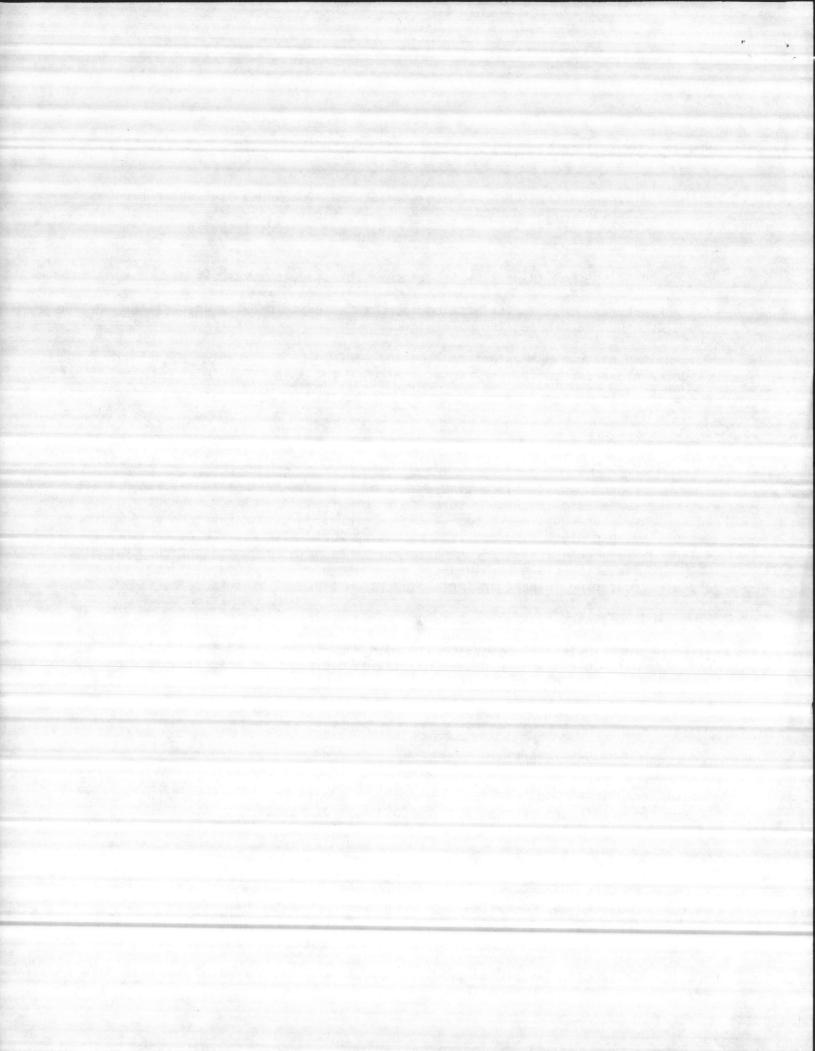


## GENERAL COMMENTS (HISTORY)

- 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 antennaes.
- 6. Although I hate to critize, it certainly appears Public Works Inspector personnel do not possess the expertize 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 and 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.

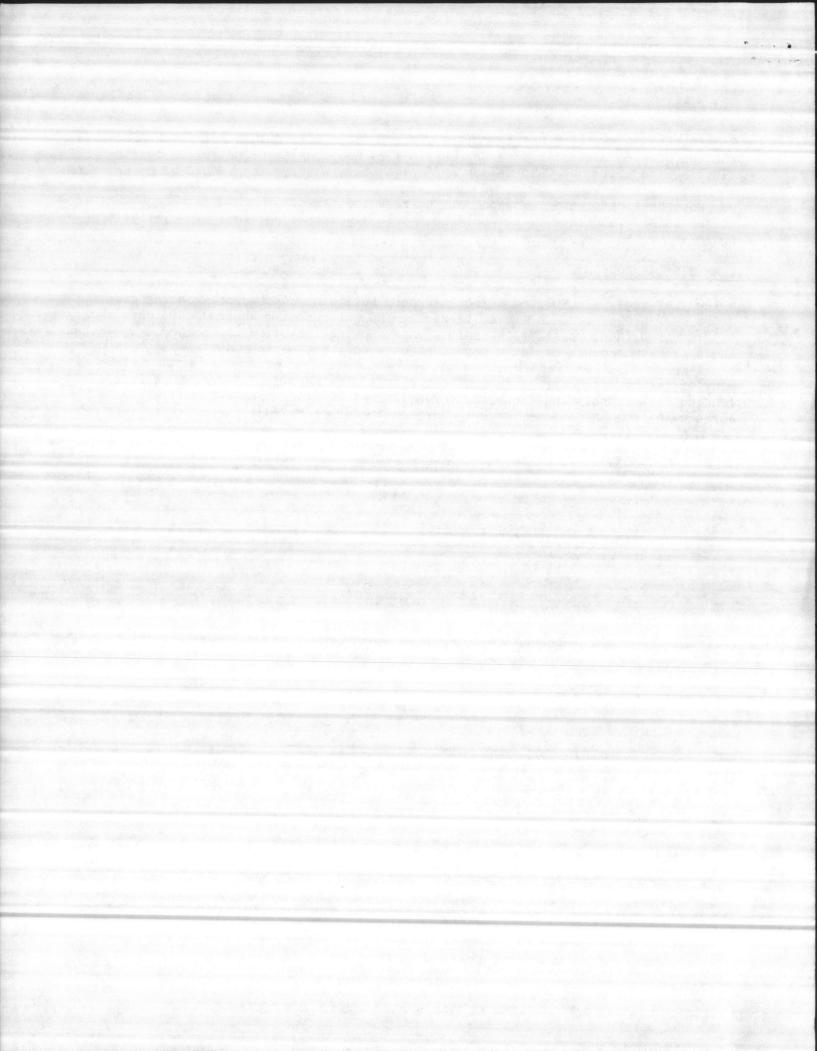


- 8. Page 65, para. 6c is of immediate concern since we are in a hurricane area. If the top were to blow off, a strong possibility would exist of pollution to the distribution system at Camp Geiger and a long term water outage would be experienced.
- 9. Why the floats were removed from the elevated tanks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



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, Pacilities. 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

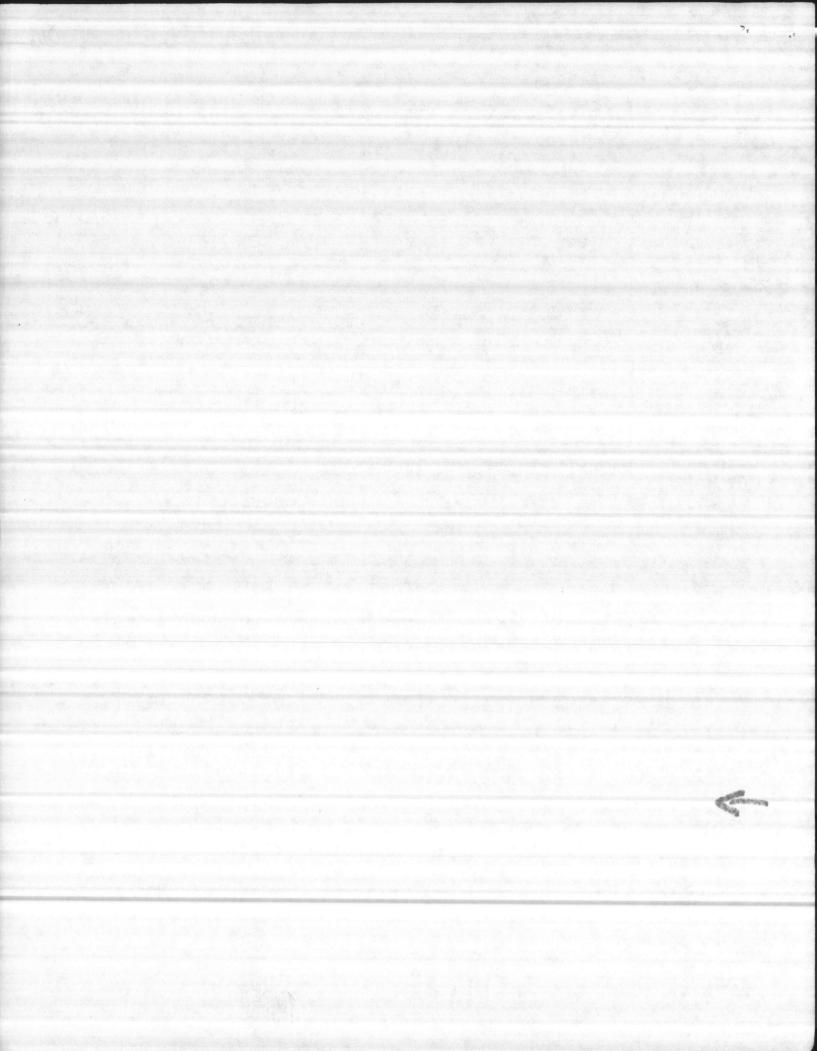
Encls: (1) Dept of Health Forms

(2) Chemical Analysis Forms

Copy to: LANTNAVFACENGCOM (Code 114)

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ONSLOW BEACH WATER TREATHENT PLANT AT Camp Lejeune Method Code:

REPORT OF PACTERIOLOGICAL RESULTS TO DIVISION OF MEALTR SERVICES Contaminant Code: IN AUGUST 1987

303 3000

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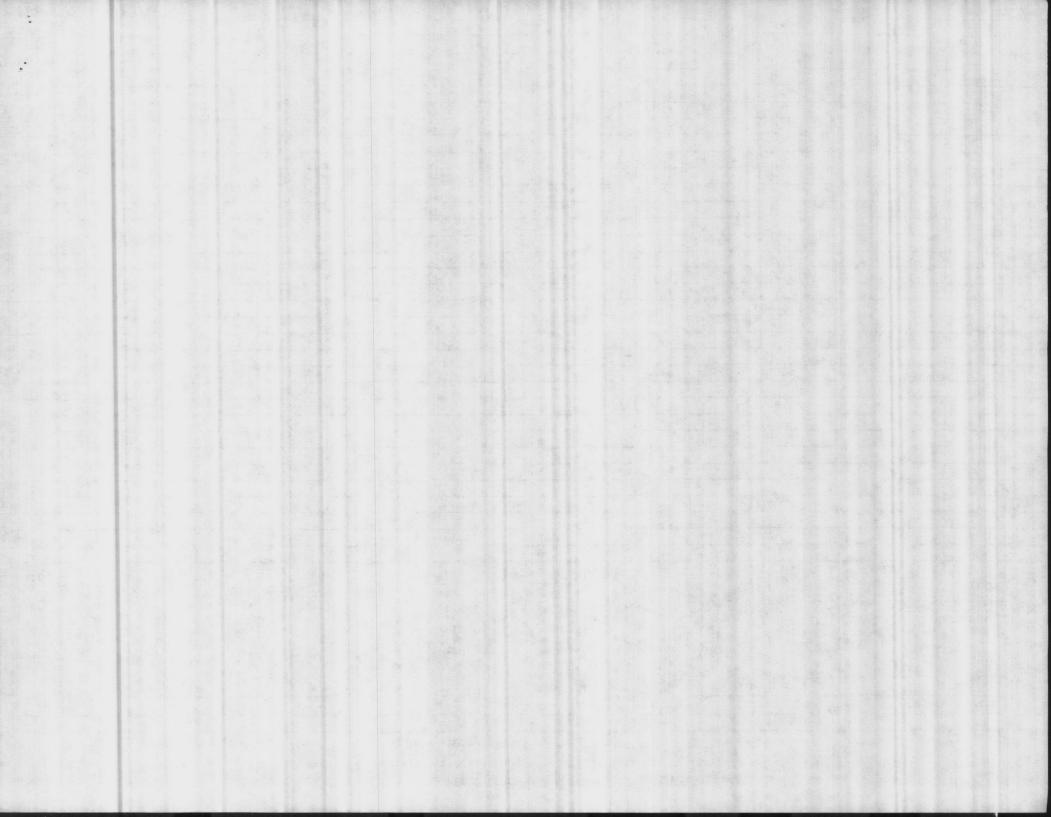
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AUGUST 1987 COURTHOUSE BAY WATER TREATHENT FLANT AT Camp Lejeune Method Code:
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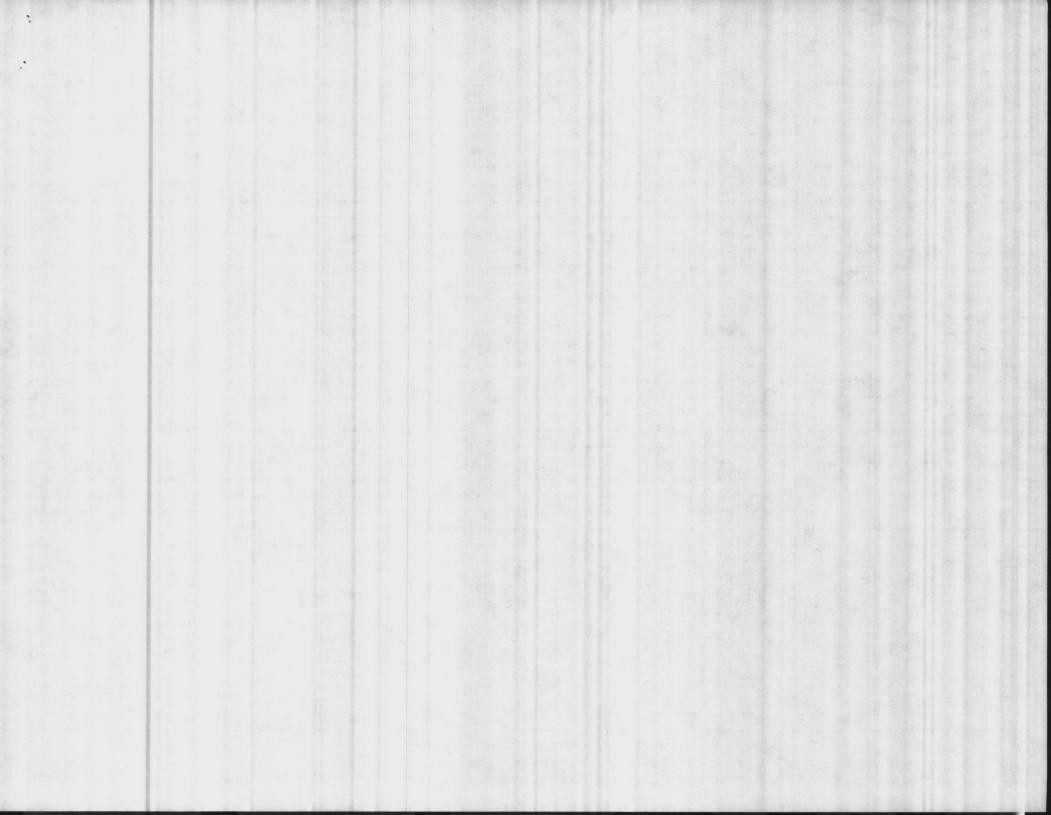
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REPORT OF SACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES Contaminant Code:

303

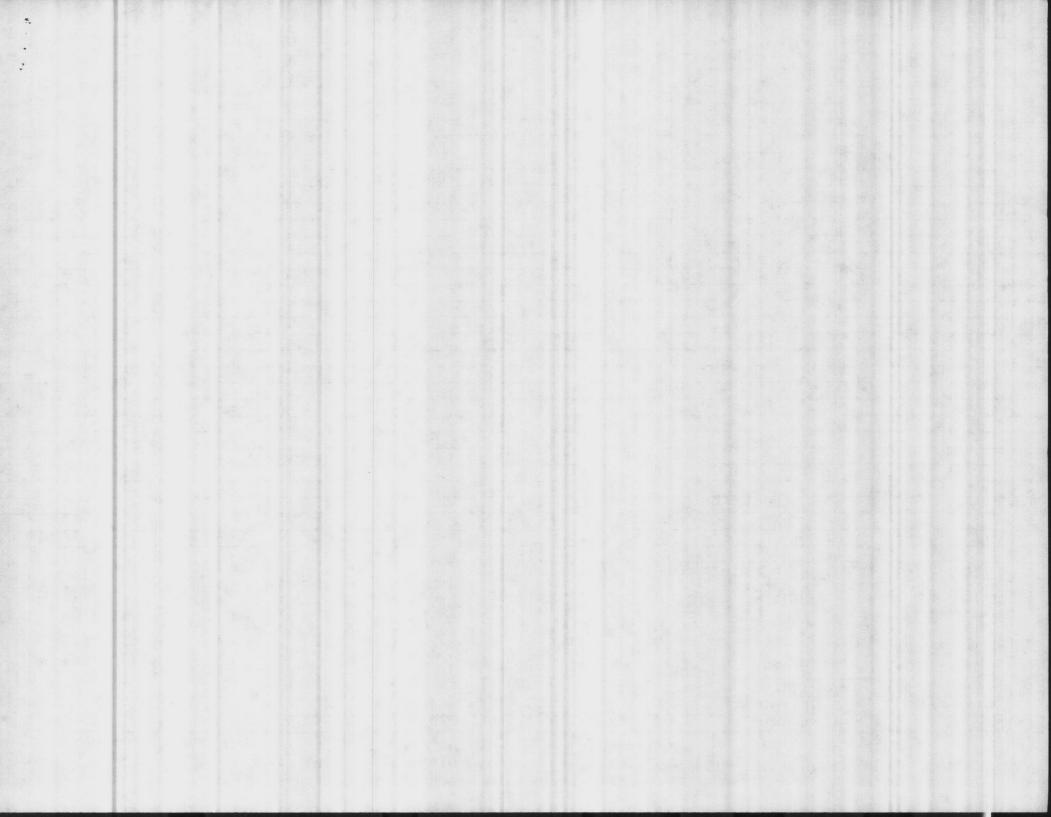
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AUGUST 1987 TARAWA TERRACE WATER TREATHENT PLANT AT Camp Lejeune Method Code: 303
REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF MEALTH SERVICES Contaminant Code: 3000

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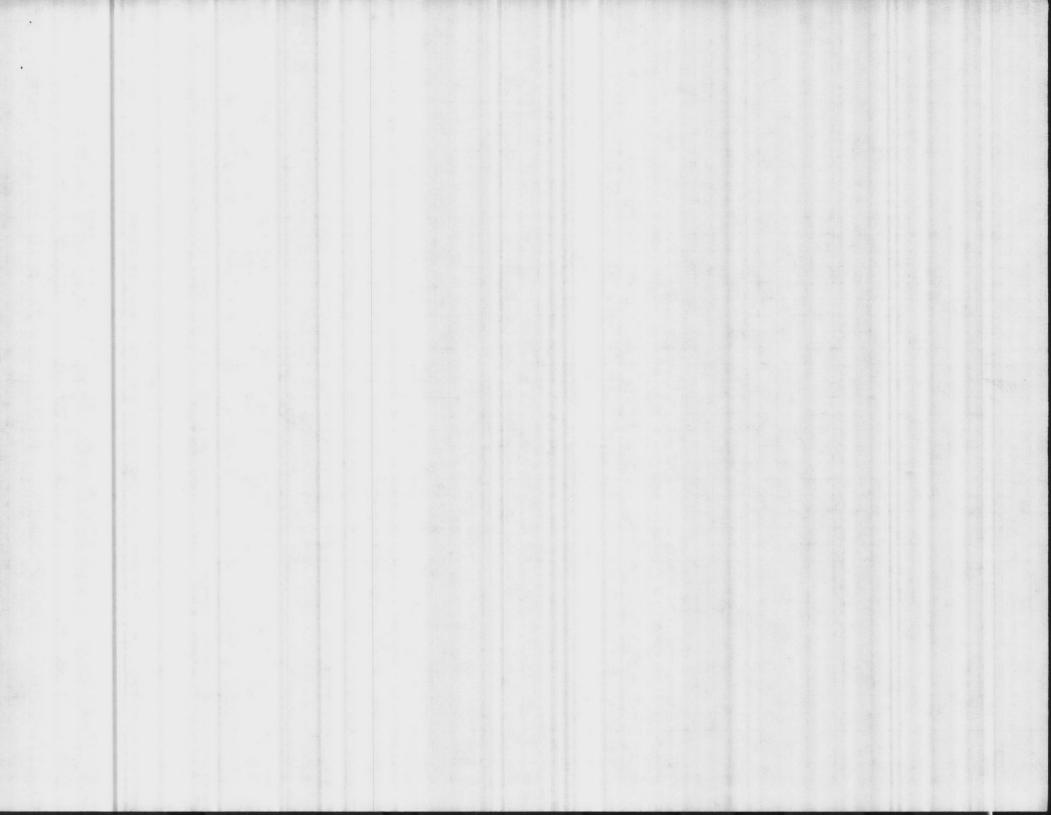
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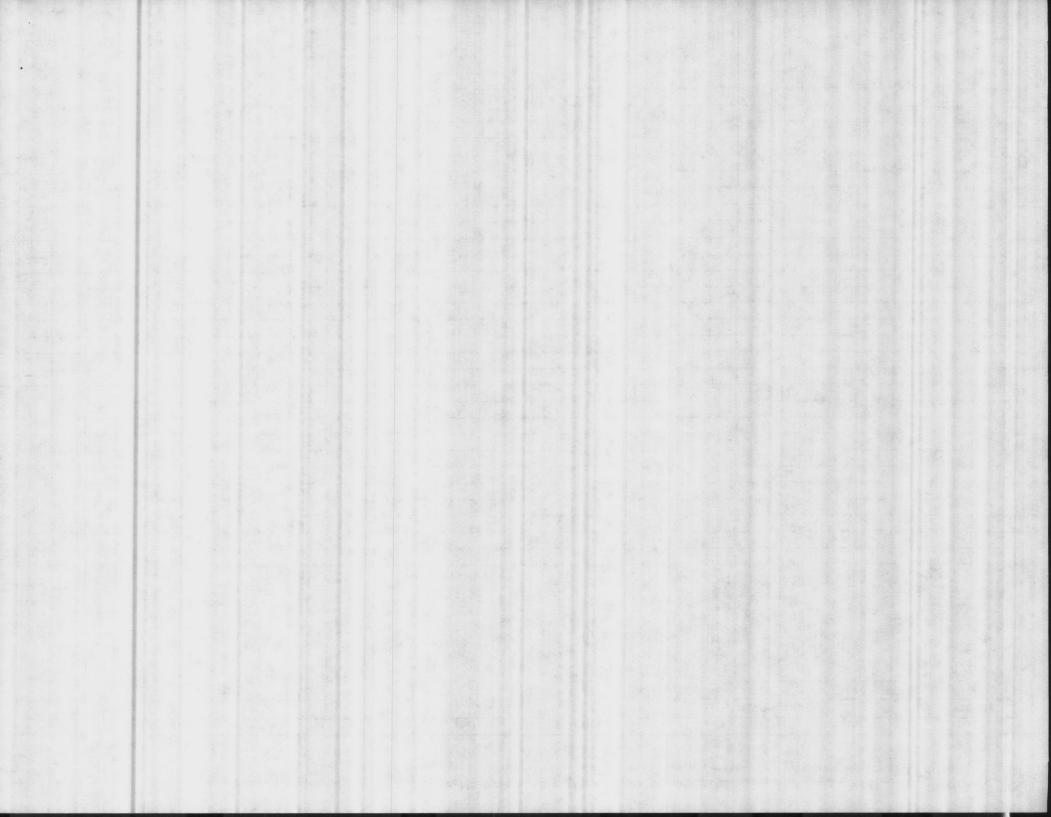
AUGUST

RIFLE RANGE WATER TREATHENT PLANT AT Camp Lejeune Method Code:

303 3000

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

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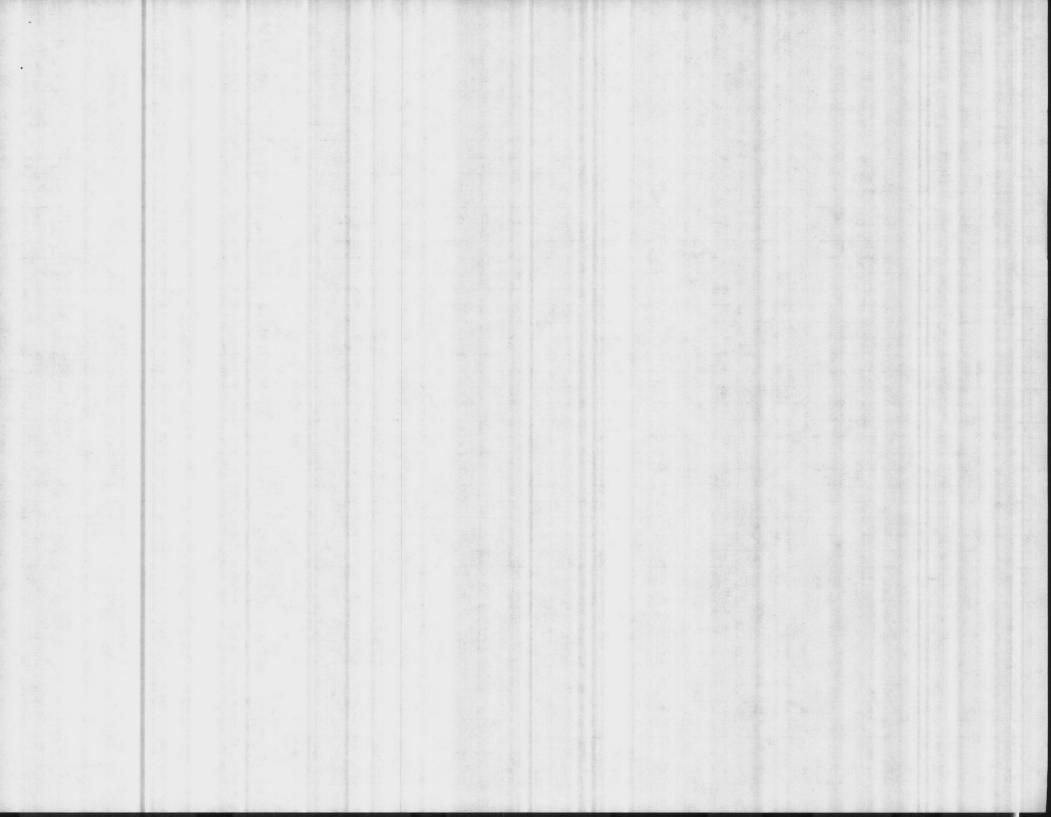
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HADNOT POINT WATER TREATHENT FLANT AT Camp Lejeune Method Code:

303 3000

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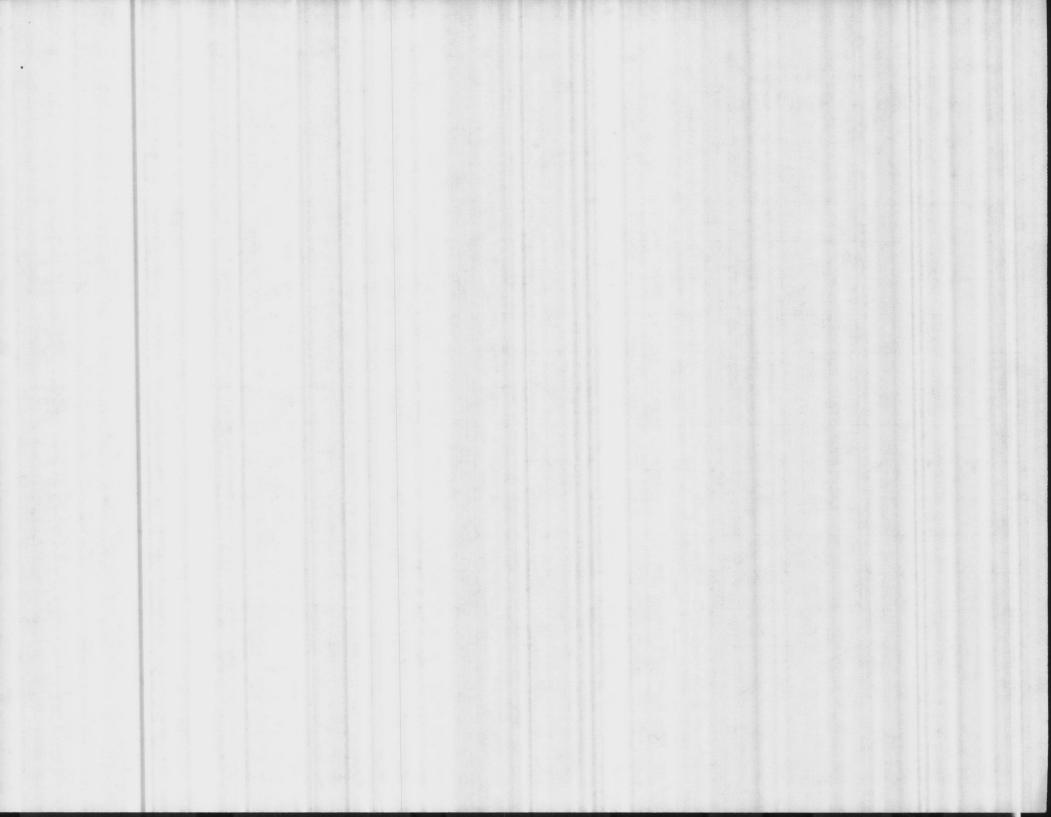
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HEMICAL 1CBCL 1133	ANA	ALYSIS - WA	ATER TREAT	BORATORY REPO	NTS		8-11-8		8-11-8	
PLANTER (UNITS)		HADNOT POINT 04-67-041	MCAS NEW RIVER 04-67-042	HOLCOMB BLVD 04-67-043	COURTHOUSE BAY 04-67-046	RIFLE RANGE 04-67-047	ONSLOW . BEACH 04-67-048			
H-LABORATOR	٧.	9.1	8.7	8.6	7.7	8.2	7.6			
STABILITY		-0.6	0.0	10.2	-0.7	-0.3	-0.7			
HENOLTHALEIN LKALINITY (PPM)	1	8	12	2	0	0	0			
METHYL ORANGE MEALINITY (PPM)		48	136	60	172	150	160			
AS CACO3 (PPM)		16	24	4	0	0	0			200
AS CACO3	5	32	112	56	172	150	160			
CHLORIDES AS CI (PPM)		14	74	12	18	24	20		1	1985 1985
AS CACOS (PPM)		60	50	68	56	42	68			
Iron as Fe (ppm)		_	-				_			
Fluorise (ppm)	Am	1.00	0.57	1.00.94	0.12	0.10	0.14			
	Am/ Pm	0.8	1.0	0.8	0.6	0.7	0.9			
CHLORINE RESIDUAL (PPM)		1.1	0.8	1.1	1.2	1.0	1.1			
REMARKS:						1		COPY TO:	MD II	
								M WATER TRE	EATMENT, UTIL T	DIV. BMD
						,		M PMU, NAY	HOSP A PMU	, MCAS-NR
								DIVISION OF	HEALTH SER	vices Esources
REPORT DAT		-87		H.J. 13				I NREAD	B Fi⊔	E (ATTACH WKST



HEMICAL	ANA	ALYSIS - WI	CROBIOLOGY LA	TMENT FLA	NITS		PATE COLLECTED		DATES) MALYZED
CBCL 1133	50/3	(REV 7-87)					8-25-8	7	8-25-87
PLANTER (UNITS)		HADNOT POINT 04-67-041	MCAS NEW RIVER 04-67-042	HOLCOMB BLVD 04-67-043	BAY	RIFLE RANGE 04-67-047	ONSLOW BEACH 04-67-048	-	
H-LABORATOR	٧.	8.2	8.8	8.6	8.0	8.4	7.6		
TABILITY		-0.1	+0,2	0	-0.4	-0.1	-0.2		
HENOLTHALEIN LIKALINITY (PPM)	1	0	8	4	0	0	0		
LEALINITY (PPM)	Ē	70	/32	60	182	172	184		
AS CACOS (PPM)		0	16	8	0	0	0		
AS CACO3	5	70	116	52	182	172	184		
CHLORIDES AS CI (PPM)		14	66	14	10	38	28		1
AS CACOS (PPON)		72	92	74	78.	82	60		
IRON AS FE. (ppm)								40	
Eweise (ppm)		0.70	0.65	0.96	0.14	0.11	0.15		
(NTUS)	Pm	0.70.7	1.3	0.809	0.7	0.8	0.8		
CHLORINE Residual (PPM)		1.0	0.7	1.4	1.2	1.1	1.1		
Remarks:								COPY TO:	
								WATER TRE	LATMENT, UTIL DIV, BMD
						•			HOSP PMU, MCAS-NR
								DIVISION OF	HEALTH SERVICES OF HUMAN RESOURCES
REPORT DAT		1-87		REPORT PREP	ared by: S. Shore			1 NREAD	₩ FILE (ATTACH WKS



## LOCATIONS OF AUXILIARY ENGINES

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

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Wells serving Hadnot Point
Bldg. 603 - Murphy 4 cyl Diesel
      660 - Murphy 4 cyl Diesel
      608 - Ford 4 cvl 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
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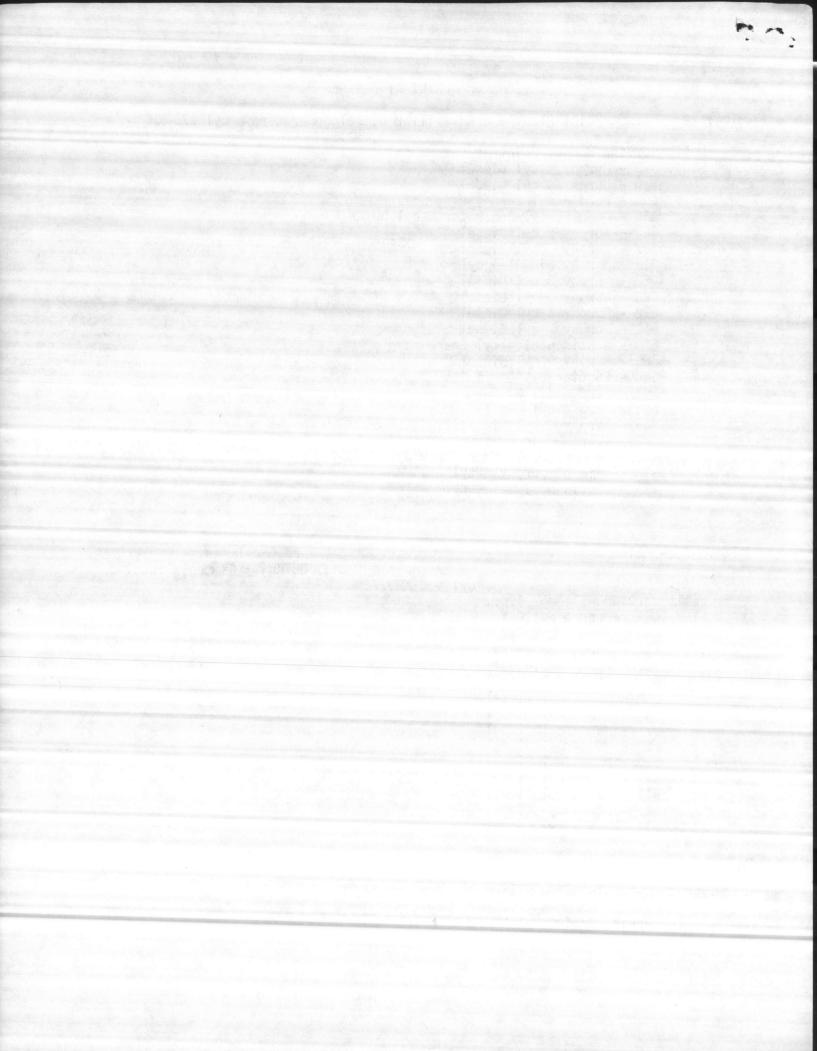
Bldg. 670 - Holcomb Blvd. Plant - 1 Ford 8 cyl Gas, 1 Ford 6 cyl Gas, 1 Waukesha Generator 6 cyl Gas, 85°KW, 1sCummens Diesel 6 cyl 400 KW

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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
647 - Ford 4 cyl Gas
42 - MWM 4 cyl Diesel
43 - MWM 4 cyl Diesel
45 - MWM 4 cyl Diesel
47 - MWM 4 cyl Diesel
48 - MWM 4 cyl Diesel
49 - MWM 4 cyl Diesel
410 - MWM 4 cyl Diesel
411 - MWM 4 cyl Diesel
412 - MWM 4 cyl Diesel
414 - MWM 4 cyl Diesel
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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 auxilary 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

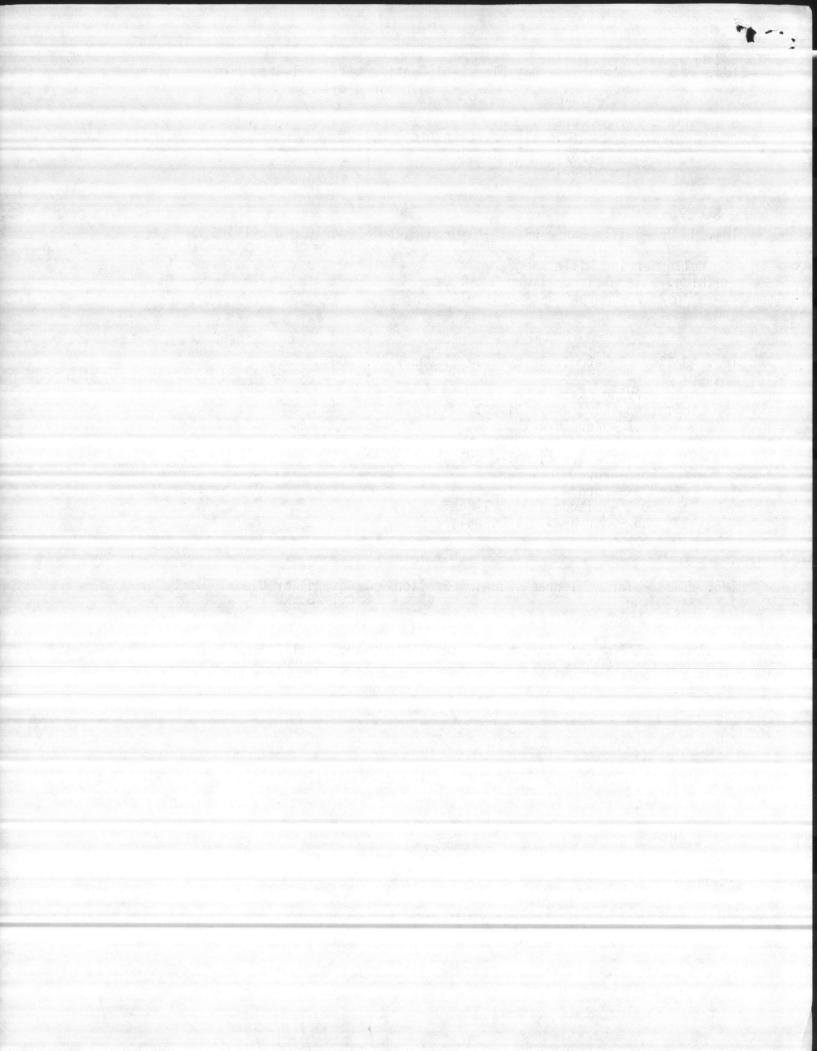
Wells serving Rifle Range Bldg. 45 - Allis Chalmers 4 cyl Gas 227 - Murphy 3 cyl Diesel

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

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



& CAB

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 Micro-biology Laboratory, located in the Natural Resources and Environmental Affairs Division, Assistant Chief of Staff, Pacilities. 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)

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Year 1987

OF HEALTH SERVICES Contaminant Code:

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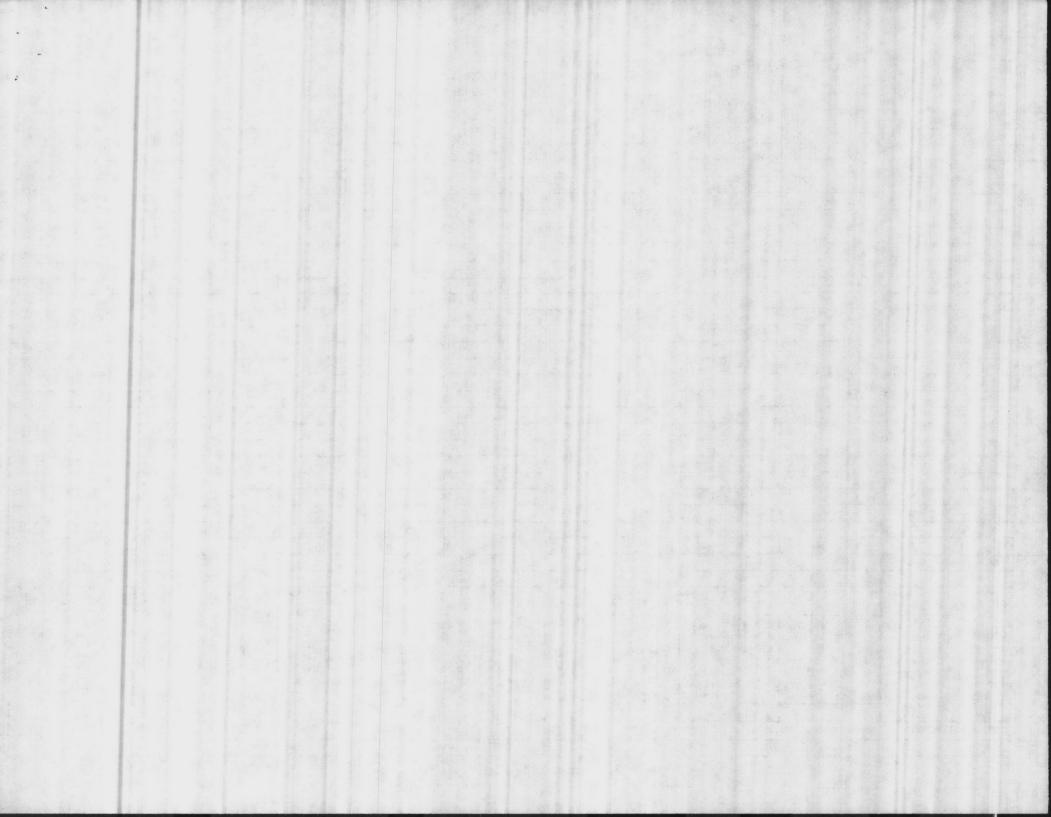
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Year 1987

MIN STATISM WATER TREATHENT PLANT AT Camp Le Jeune

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

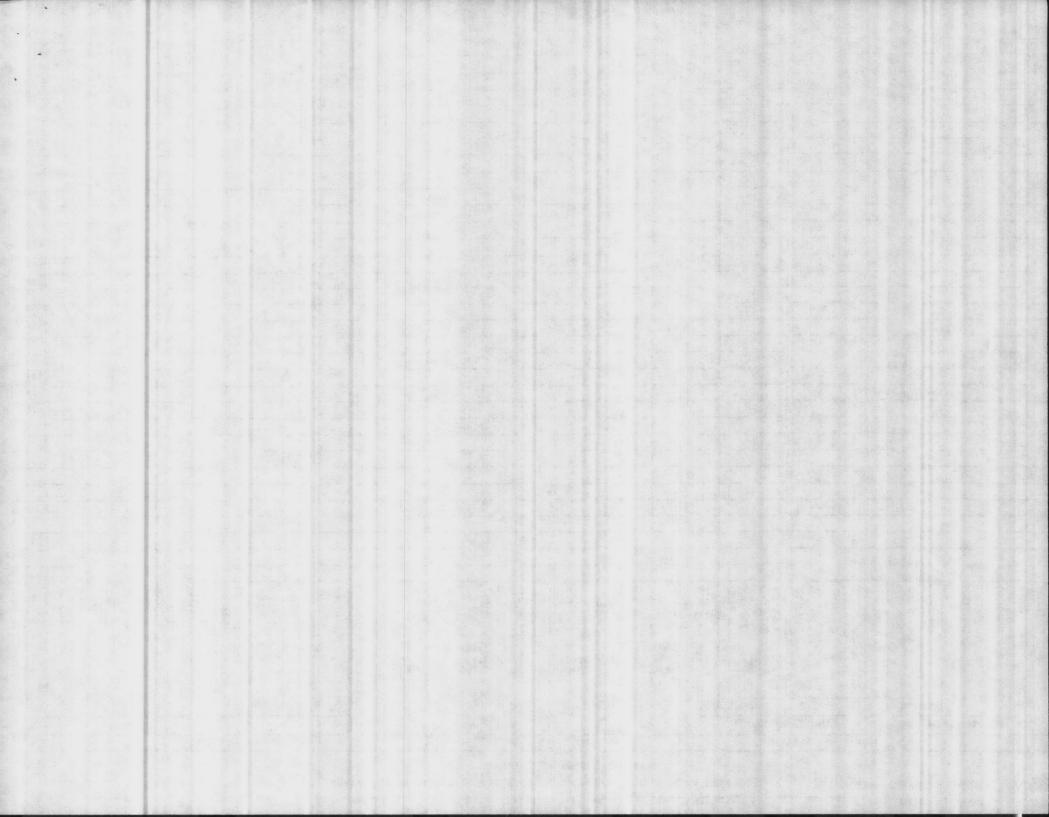
Contaminant Code: 3000

Setial # 04-67-047

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Elizabethar CERT CEADE B-WELL # 4087-W



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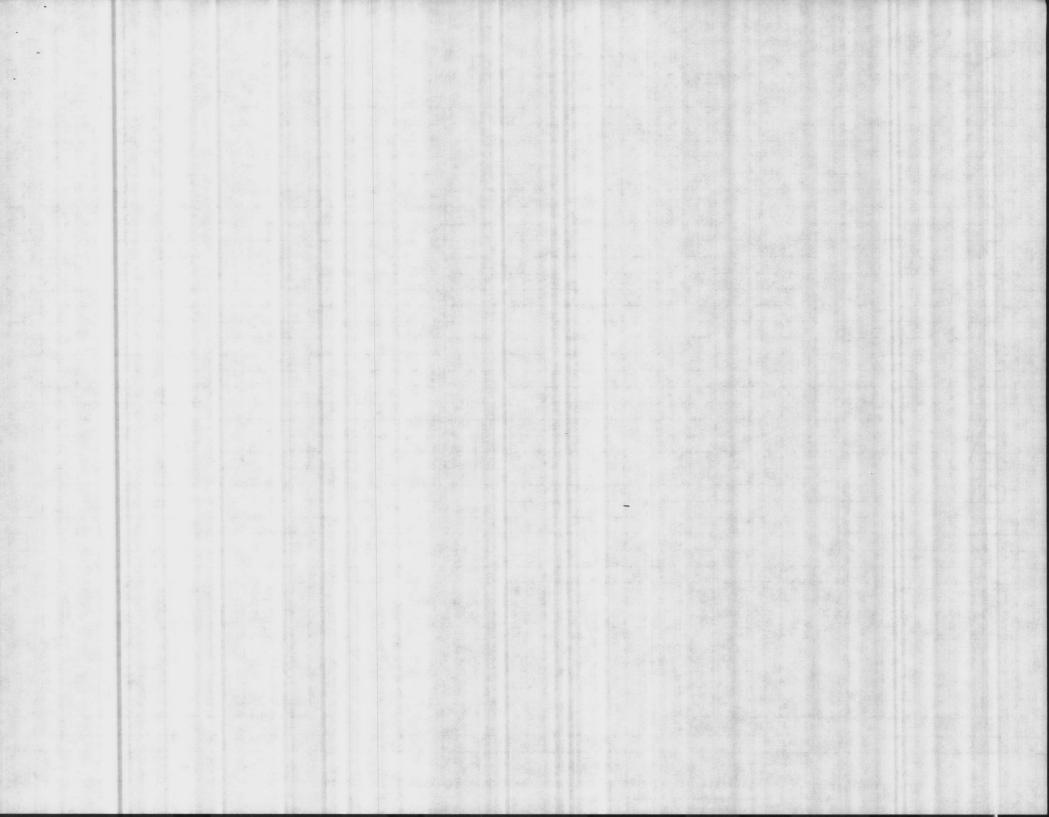
Year 1987 . REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES Contaminant Code:

Setial # 04-67-043 AN. C. DEPARTMENT OF HUMAN RESOURCES

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Elizabeth Cl Bos CERT CRADE B-WELL # 4087-W



Year 1987 :

MAICA INCAINCAL PLANT AT LIGHT LE JEUNE

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES Contaminant Code:

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Setial # 04-67-044 AN. C. DEPARTMENT OF SUNAN RESOURCES

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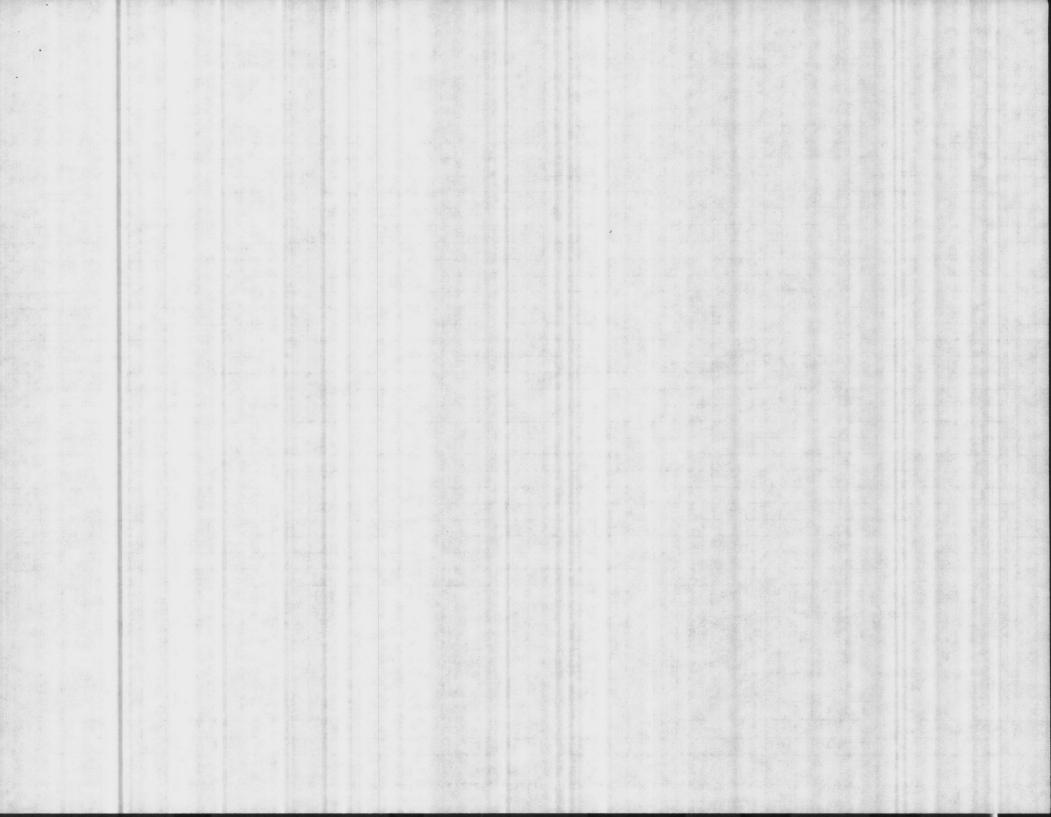
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Contaminant Code:

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Year 1987

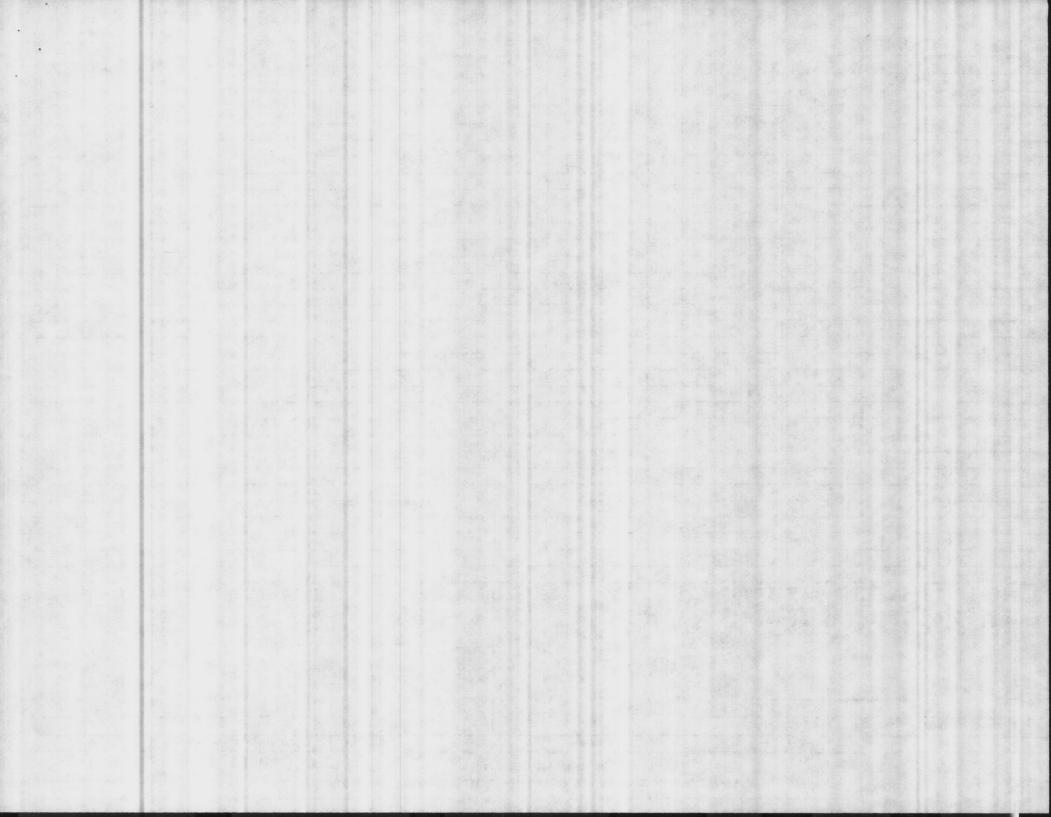
REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Serial # 04-67-046 AN. C. DEPARTMENT OF BUHAN RESCURCES

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LAB ID # 37307

Elizabeth Get CERT CHADE B-WELL # 4087-W



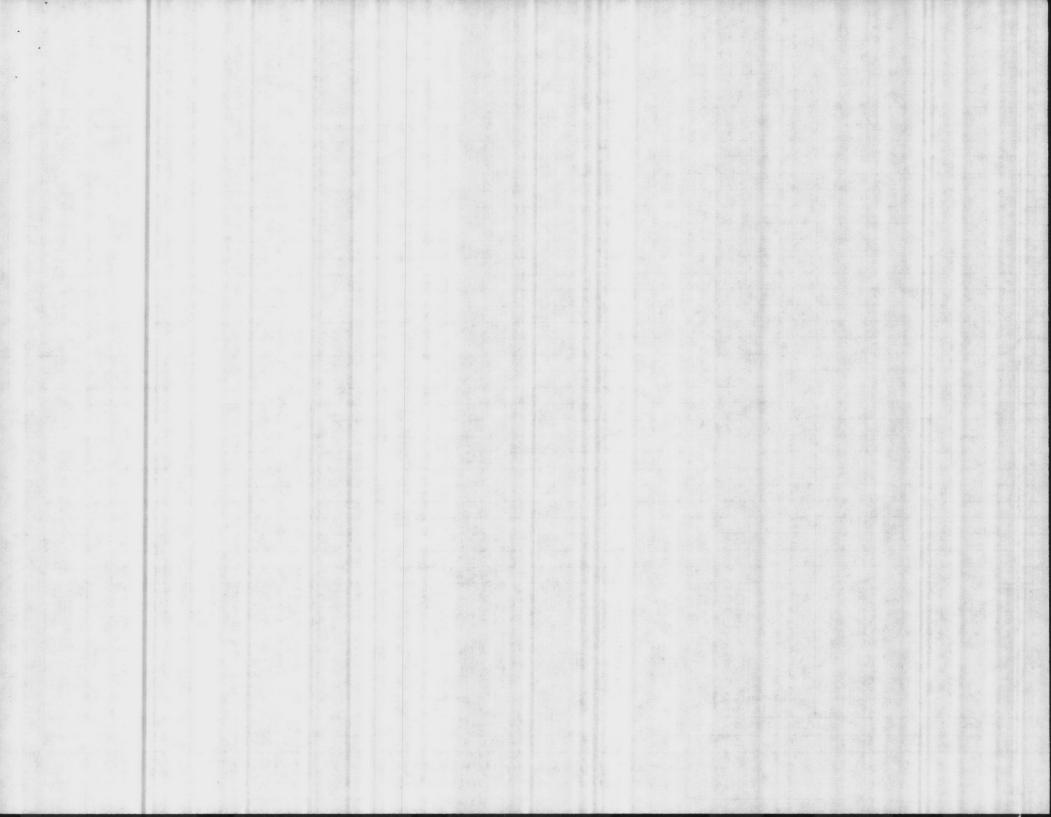
Year 1937

Contaminant Code: 3000

			1	R	TAW WAT	ER COL	FORMS	(MFF)			FILT	EREC	FINIS	HED			A			TION S	STEN			491		
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LAB ID # 37307

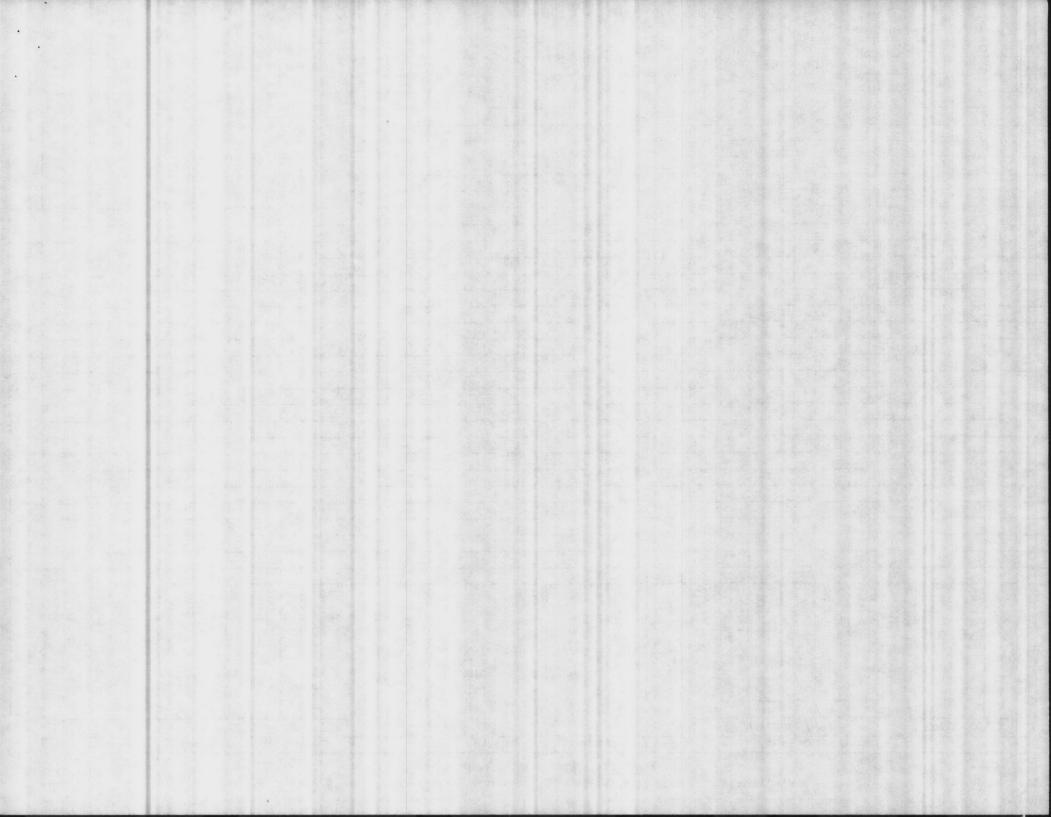
Elizabeth a Get CERT CRADE B-WELL # 4087-W



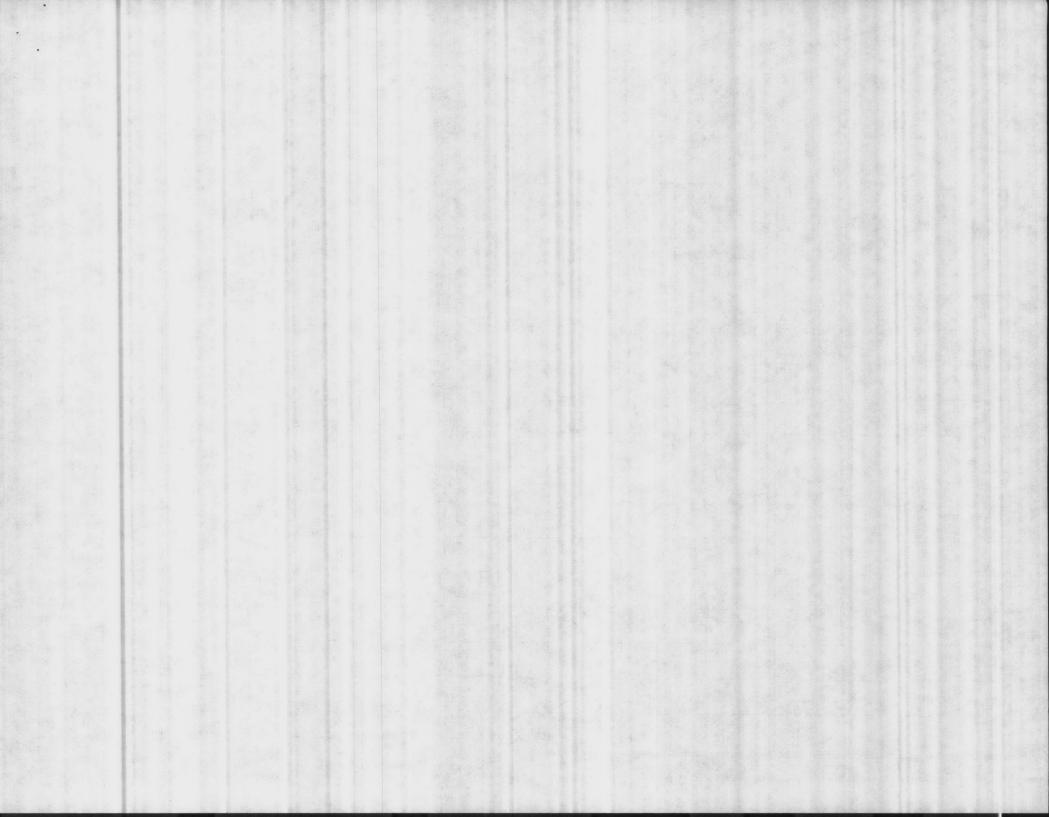
Contaminant Code: 3000

Year 1987 Serial # 04-67-048 REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF H

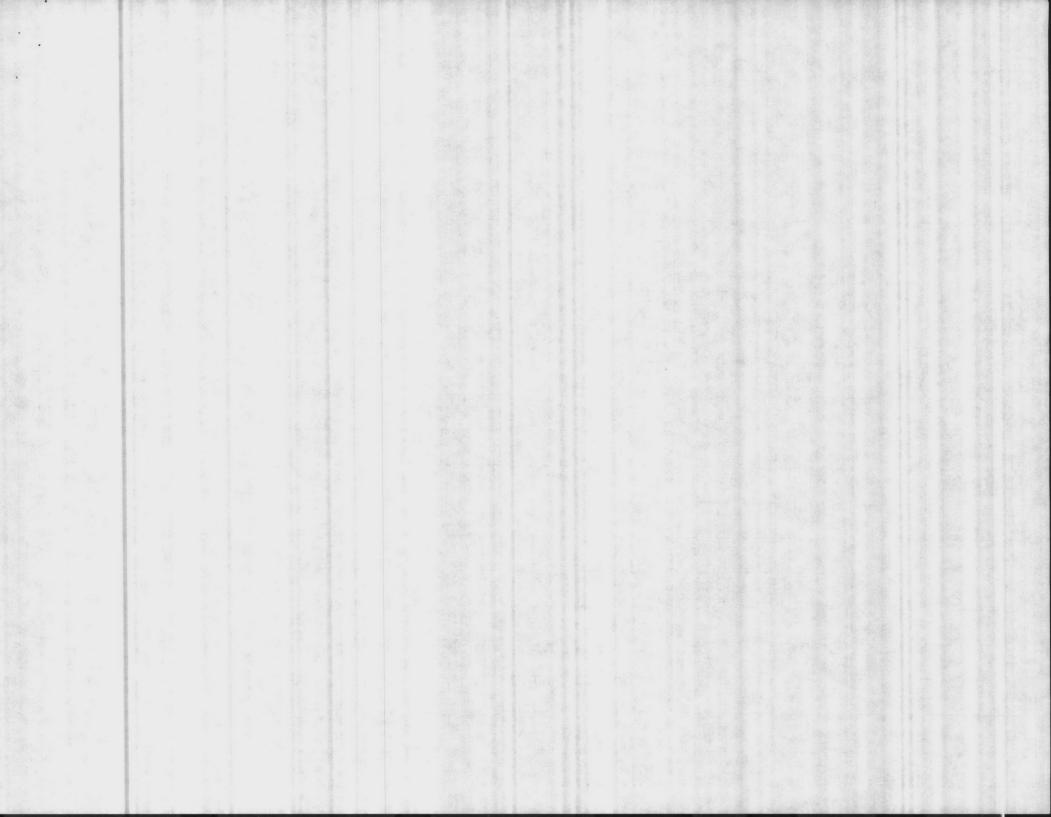
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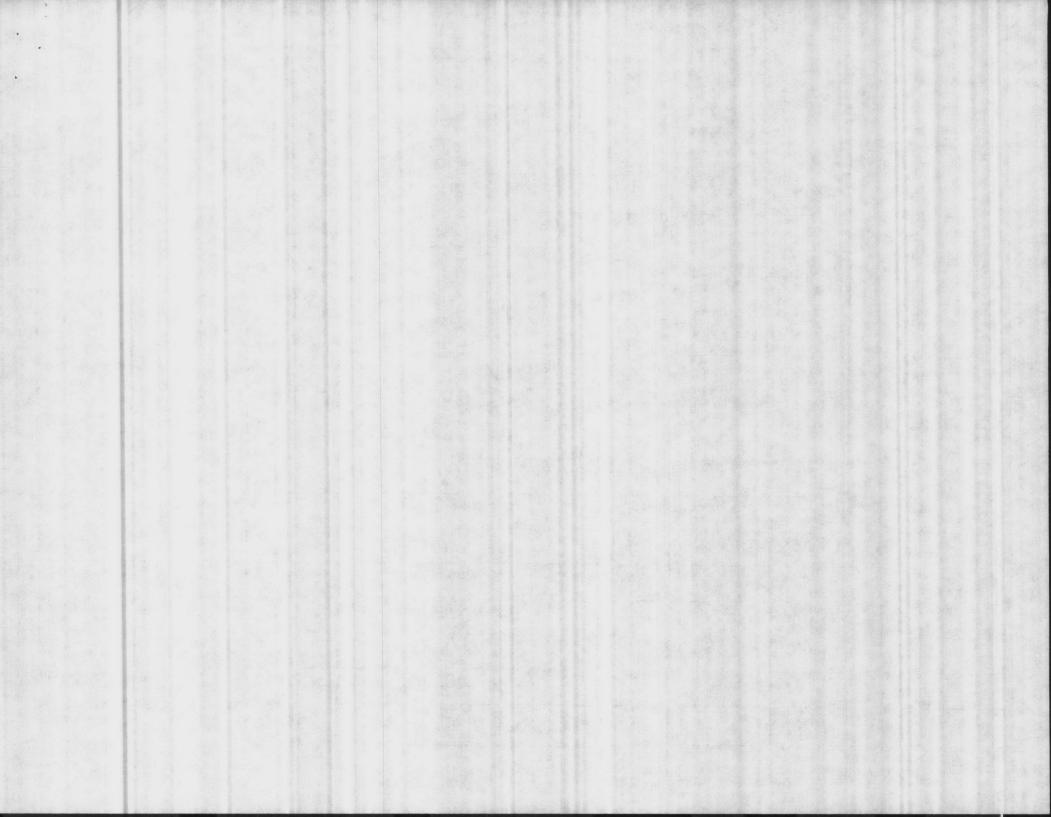
CHEMICAL ANALYSIS MCBCL 11330/3 (REV 6-84)	- WATER T	REATMENT PL	ANTS				DATE COLLECTED 4 - 7-87		DATE OF ANALYSIS 4-7-87
PARAMETER SERVAL#04-67	HADNOT POINT	CAMP JOHNSON	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	
PH (IN LAG NOT PLANT)	8.6			7.4	8.0	8,3	8.5	8.7	
PHENOLTHALEIN ALKALINITY	2			0	0	0	2	10	
METHYL ORANGE ALKALINITY	50			156	170	160	60	112	
CARBONATES AS CaCO <sub>3</sub>	4			0	0	0	4	20	
BICARBONATES AS CaCO <sub>3</sub>	46			156	170	160	56	92	
CHLORIDES AS C1	10			20	14	44	6	50	
HARDNESS AS CaCO <sub>3</sub>	64			48	68	60	64	50	
RON AS Fe			A.A			100			
FLUORIDE PM	0.74			0.16	0.12	0.10	1.10	0.52	
CHLORINE RESIDUAL	1.0		100	1.5	1.6	1.0	1.4	0.8	
TURBIDITY PM	0.5			0,4	0.2	0.1	0.1	0.5	
TOTAL PHOSPHATE									
ORTHO PHOSPHATE									
META PHOSPHATE									
STABILITY	+0.3		· ·	-0.8	-0.2	0.0	+0.1	1+0.1	
REMARKS	0:57								СОРУ ТО:
									D UTIL DIR D
									□ WATER TREATMENT
NOTE All results reported and specific conduc	in parts per millio	on unless otherwise	noted except for ph	I, temperature,	LABORATORY ANA			<u> </u>	□ PMU □ MCAS PMU
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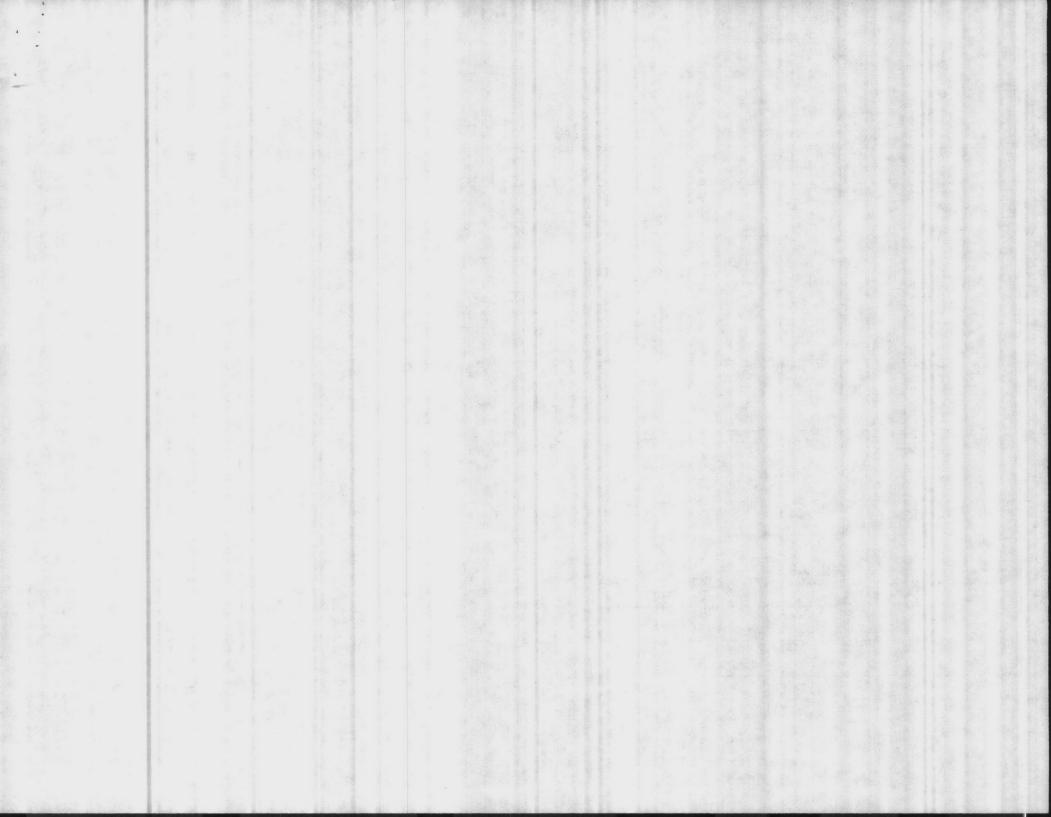
CHEMICAL ANALYSIS	- WATER TI	REATMENT PL	ANTS				DATE COLLECTED 4 -14 -87		DATE OF ANALYSIS 4-14-87
PARAMETER Serial*04-47	HADNOT POINT	CAMP JOHNSON	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD -043	NEW RIVER	
H (IN LAG NOT PLANT)	8.7			7.5	7.6	8.3	8.8	9,0	
PHENOLTHALEIN ALKALINITY	6			0	0	0	4	12	
METHYL ORANGE ALKALINITY	60			160	170	170	62	110	
CARBONATES AS CaCO <sub>3</sub>	12			0	0	0	8	24	
BICARBONATES AS CaCO 3	48			160	170	170	54	86	
CHLORIDES AS C1	10			20	20	66	10	60	
HARDNESS AS CaCO <sub>3</sub>	74			50	54	64	80	50	
RON AS Fe			A.A.	Down					
FLUORIDE PM	0.91			0.18	0.14	0.12	0.74	0.48	
CHLORINE RESIDUAL	1.1			1.4	1.4	1,1	1,2	1.0	1
TURBIDITY PM	0.2			0.2	0.2	0.2	0.4	0.3	
TOTAL PHOSPHATE									
ORTHO PHOSPHATE								1	
META PHOSPHATE									
STABILITY	+0.3			-0.6	-0,5	+0.1	40,3	10.2	
REMARKS									СОРУ ТО:
							•		D UTIL DIR D
			rage						□ WATER TREATMENT
NOTE All results reported	in parts per millio	on unless otherwise	noted except for ph	I, temperature,	LABORATORY AN	ALYSIS BY			□ PMU □ MCAS PM
and specific condu	ictance One liter	of potable water is	assumed to weigh	one kilogram	H J . E	RURNS			O NREAD O FILE



CHEMICAL ANALYSIS MCBCL 11330 3 (REV 6-84)	- WATER TR	EATMENT PLA	ANTS				DATE COLLECTED 4-21-8	7	DATE OF ANALYSIS 4-21-87
ARAMETER	HADNOT POINT	CAMP JOHNSON -045	TARAWA TERRACE - 044	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD -04.3	NEW RIVER	
H (IN LAS NOT PLANT)	8.8			7.4	7.6	8.1	8.5	8.6	
HENOLTHALEIN LKALINITY	4			0	0	0	6	10	
ETHYL ORANGE LKALINITY	50			160	180	170	60	116	
ARBONATES AS CaCO <sub>3</sub>	8			0	0	0	12	20	
ICARBONATES S CaCO 3	42	***		160	180	170	48	96	
HLORIDES AS C1	10			20	16	50	14	60	
ARDNESS AS CaCO3	60			56	46	56	60	44	
RON AS Fe		*	A.A	Down			- 03		
LUORIDE AM	1.10			0.16	0.14	0.12	0.93	0.51	
HLORINE RESIDUAL	1.0			1,2	1.4	1.0	1.2	0.8	
URBIDITY PM	0.1			0.2	0.1	0.1	0.2	0.3	
OTAL PHOSPHATE						41.4			
RTHO PHOSPHATE				1948		4. 1914			
META PHOSPHATE									
TABILITY	10.5			-0.6	-0.4	0.0	10.2	+6.2	
EMARKS .									СОРУ ТО
									UTIL DIR D
			-		E.				□ WATER TREATMENT
IOTE All results reported	in parts per million	n unless otherwise	noted except for ph	d. temperature,	LABORATORY ANA	ALYSIS BY			□ PMU □ MCAS PM
and specific condu	ctance One liter o	or potable water is	assumed to weigh	one knogram	H.T.B	SURNS			☐ NREAD ☐ FILE



tites		MEATHERETE	Alsto	· · · · · · · · · · · · · · · · · · ·			DATE COLLECTE	87	H-28	-87
PARAMETER STRIPE OH-61	HADNOT POINT - 24(	CAMP JOHNSON -045	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD -043	NEW RIVER		
PH (IN LAW NOT PLANT)	7.8			7.7	7.9	8.1	9.2	8.4		
PHENOLTHALEIN ALKALINITY	0			0	0	0	4			
METHYL ORANGE	62	4.8						10		
CARBONATES AS CaCO3				162	176	192	56	102	+	3
IICARBONATES IS CaCO 3	0			0	0	0	8	20		
	62		3723	162	176	192	48	82		18 4.2
CHLORIDES AS C1	14			26	16	64	16	58		
HARDNESS AS CaCO <sub>3</sub>	68			32	64	70	66	70		
RON AS Fe			R.A.	Down	Visit Na					
LUORIDE PM	0.95			0.14	0.1	0.1	0.90	0,46	a de de la companya d	
CHLORINE RESIDUAL	1.0			1.5						
URBIDITY	0.3	The state of the s			1.0	1.0	0.2	0.8		
OTAL PHOSPHATE	0.9			0.1	0.2	0.3	0.9	6.2		
ORTHO PHOSPHATE		4		2.35						
IETA PHOSPHATE										S. Pr.
TABILITY	-0,2			-0.2	-0.2	0.0	+1.0	10		
EMARKS					-0.2	010	1 + 1.10	0.0	COPY TO:	**
					page 1				D UTIL DIR	0
						•	100 S 100		□ WATER TE	477.5
OTE: All results reported in and specific conduct	n parts per million	unless otherwise no	oted except for pH,	temperature, .t	ABORATORY ANAL	YSIS BY			□ PMU	☐ MCAS PMU
·	and one mer or	potable water is a	ssumed to weigh o	one kilogram.	HIR				D NREAD	D 511.5





## UNITED STATES MARINE CORPS MARINE CORPS BASE

CAMP LEJEUNE, NORTH CAROLINA 28542-5001

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,

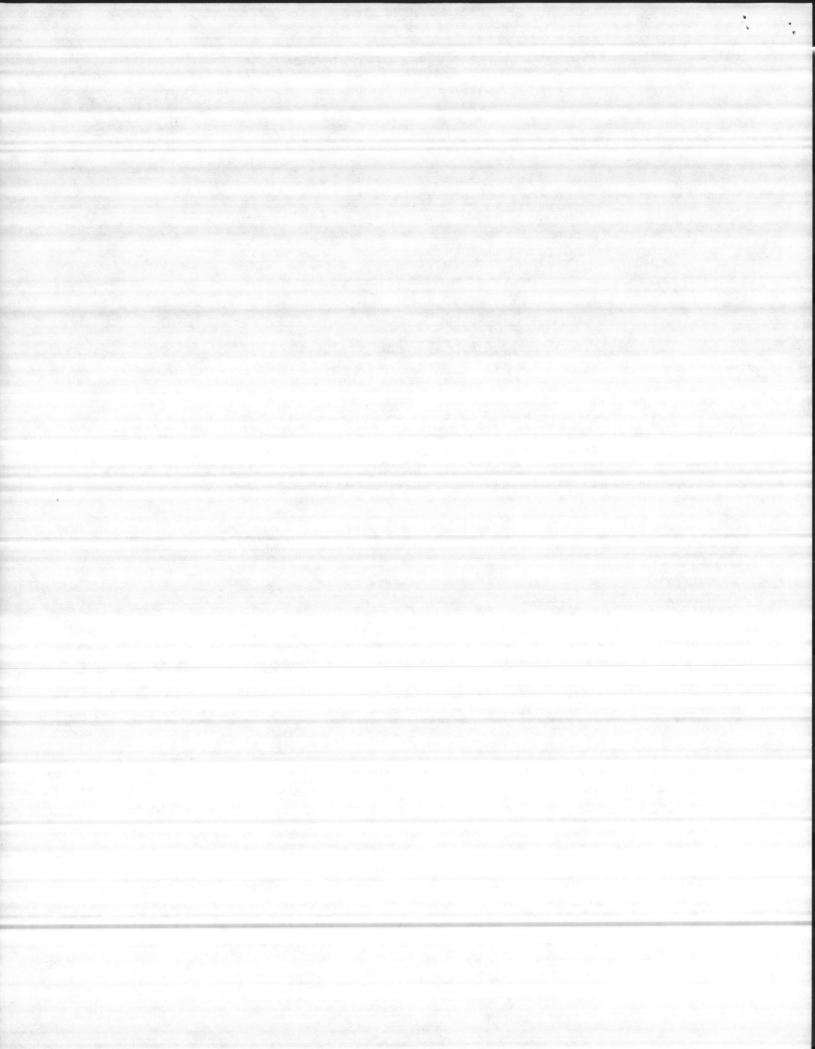
J. I. WOOTEN, Director Natural Resources Division By direction of the Commanding General

#### Encls:

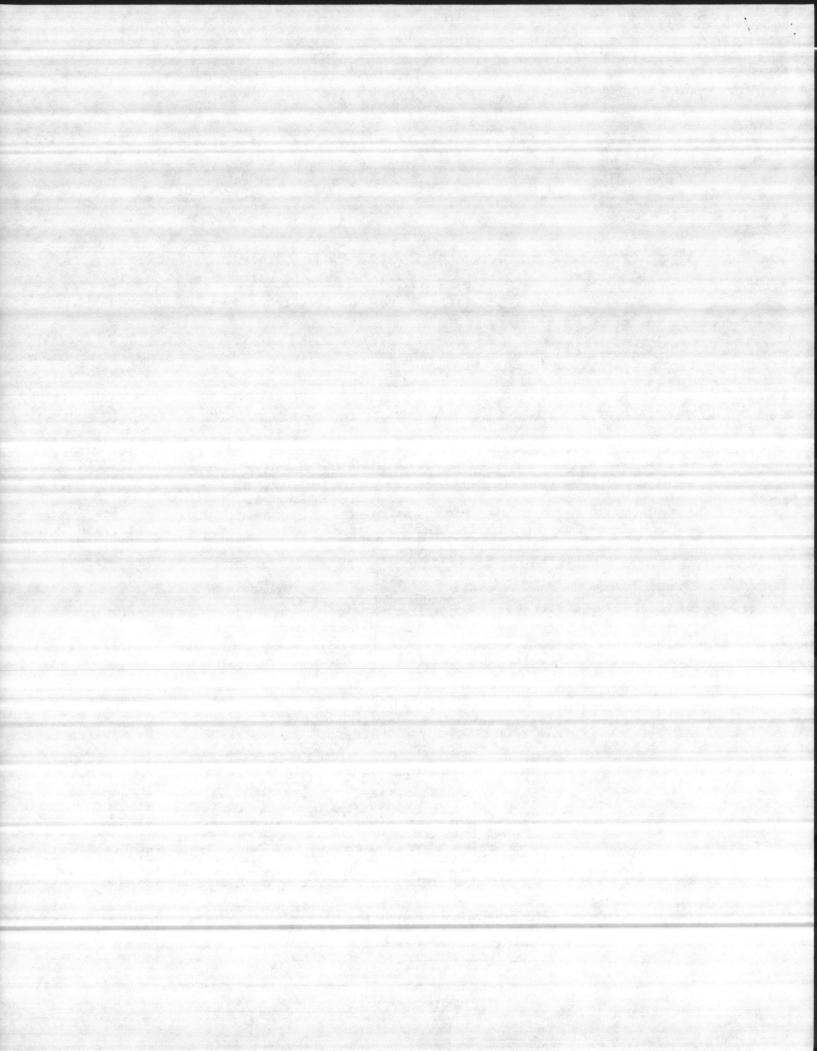
- (1) TTHM Analysis for HP
- (2) TTHM Analysis for MCAS
- (3) TTHM Analysis for HB

Copy to: LANTDIV

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



14-67-041	ems Above Heavy Line
(1-7)  stem: HADNOT POINT	Type of System:  (>) Community ( ) Non-Community
THE CAME LETTEUNE NC Zip 28542	Source of Water:  (><) Ground ( ) Both ( ) Surface ( ) Purchased
eress: Mans At Above Zip	Source of Sample:  (X) Distribution Tap ( ) House Tap ( ) Plant Tap ( ) Well Ta;
lephone Number: (319)  lected By: Environmental Chem. * Miceo, Laboratory  te Collected: 12 31 86 Time: PM  MM DD YY (38-41)  (31-36)  cation of Sampling Point: FC-530  dress where sample was collected)	Type of Treatment:  ( ) None
Loc. Code (28-30)	Type of Sample: (37)  (➤) D-Regular ( ) M-M.R.T.  ( ) C-Check ( ) S-special
ate Drinking Water Parameters (Required) ntaminant Name Method Results Mg/l	Optional Parameters (List as needed)  Contaminant Name Method Results M  ID
(14-16) (17-21) (105) Endrin (11-16) (17-21) (10	2941 (hlore Jacon 215 0.00) 2944 (hlore blownethern 215 0.00) 2944 (hlore blownethern 215 0.00) 2942 Becomotoan 215 0.00 2950 TTHM: 215 0.00
ate Extracted 1-6-87 Date Report	

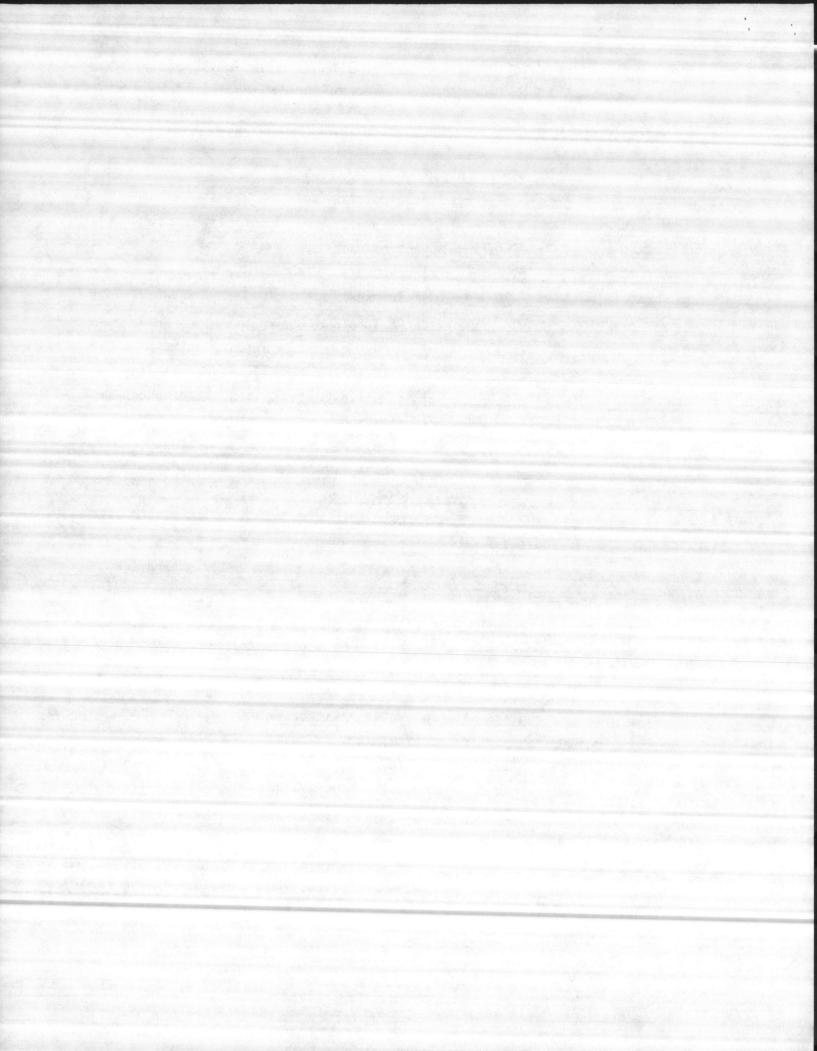


3 37720 c. Lab. ID.



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

WA	TER SYSTEM	INFORMATION		•	
TER SYSTEM ID# 04-67-042	TYPE (	OF SYSTEM:			
	× ×	COMMINITY	()	NON-COMMUNI	TY
STEM NAME: Marine Corps Air Stat	on SOURCE	E OF WATER:	100		
DRESS: Commanding General, Marine			()	вотн	
Buse Camp Le Teune ZIP 285			()	PURCHASED	
UNTY: Ons low		OF TREATMENT:			
PORT TO: Facilities NREAT	7 () 1	NONE	$\infty$	LIME	
DRESS: Same as a bove		CHLORINATED	()	SODA ASH	
ZIP		FLUORIDATED		POLYPHOSPHA	TE
LEPHONE: (919) 451-5977	(X) I	FILTERED	$\otimes$	WATER SOFT	IER
		ALUM,	()	OTHER	
	SAMPLE IN	FORMATION			Plant and sales
URCE OF SAMPLE		OF SAMPLE			
) DISTRIBUTION TAP ( ) HOUSE TAP			()	M-M.R.T.	
) PLANT TAP ( ) WELL TAP		C-CHECK	()	S-SPECIAL	
MPLING LOCATION (Address): A5					
TE COLLECTED: 12-31-86			:56	(am) pm	
LLECTED BY: Environmental Chemist			.1		
Micro Laboratory					
F	OR LABORATO	ORY USE ONLY			
STATE	DRINKING V	NATER PARAMETE	RS		
TAMINANT NAME METHOD RESU	LTS CONTA	MINANT N	IAME	METHOD	RESULTS
ID mg/	1	[D			mg/l
2005 Endrin 201	29	O41 Chlore	form	215	0.005
2010 Lindane 201	29	943 Bromod	lichlorometh	ane 215	0.011
2015 Methoxychlor 201	29	Chlore	dibromometh	ane 215	0.029
2020 Toxaphene 201	29	942 Bromof	form	215	0.063
2105 2, 4-D 203	29	950 Total	THM	215	0.108
2110 2, 4, 5-TP 203		-			
				and place or an artist of the second	
- was transferred that the second of the second second second					
TE RECEIVED 01-06-87 DATE AND	ALYZED O	1-08-87	REPORTED	BY E. FO	lk
E EXTRACTED 01-08-87 DATE RE	PORTED_ O	1-09-87	SAMPLE L	AB 231-20	
IARKS:				ENCLOS	URE DI



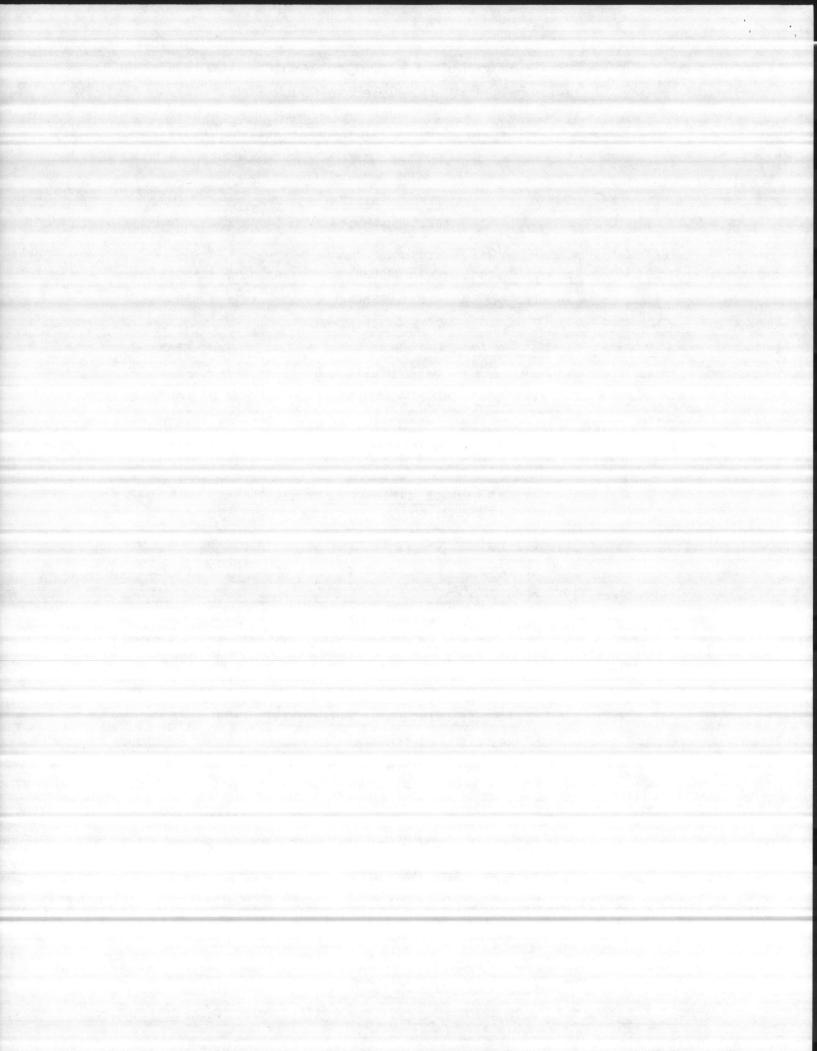
3 37720 c. Lab. ID.

ARKS:



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

TER SYSTEM ID# 04-67-042	TYPE OF SYS			
		OILM:		
	M condun	17mV / \	NON-COMMINI	mv.
STEM NAME: Marine Corps Air Station	(X) COMMUN	IATED.	NON-COMMUNI	11
			DOTU	
DRESS: Commanding General, Marine Corp				
Base Camp Le Teune ZIP 28542	( ) SURFAC		PURCHASED	
UNTY: Ons low	TYPE OF TRE		LIME	
PORT TO: Facilities NREAD	( ) NONE			
DRESS: Same as a bove	(x) CHLORI		SODA ASH	
EPHONE: (919) 451-5977	( ) FLUORI		POLYPHOSPHA	
LEPHONE: (9/9) 45/-597/	(X) FILTER		WATER SOFTN	IER
	( ) ALUM	()	OTHER	
SAN	MPLE INFORMA	TION		
RCE OF SAMPLE	TYPE OF SAM	(PLE		
DISTRIBUTION TAP ( ) HOUSE TAP	D-REGI	JLAR ()	M-M.R.T.	
PLANT TAP ( ) WELL TAP	( ) C-CHE	CK ()	S-SPECIAL_	
MPLING LOCATION (Address): A5-28	300			
TE COLLECTED: 12-31-86	TIME COLLEC	TED: 10:30	(am) pm	
LECTED BY: Environmental Chemist-	LOC. CODE:	003		
Micro Laboratory		emailine and the second of		
FOR L	ABORATORY US	SE ONLY		
STATE DRI	NKING WATER	PARAMETERS		
TAMINANT NAME METHOD RESULTS	CONTAMINA	NT NAME	METHOD	RESULTS
ID mg/l	ID			mg/l
2005 Endrin - 201	2941	Chloroform	· 215	0.007
2010 Lindane 201	2943	Bromodichlorometha	ane 215	0.015
2015 Methoxychlor 201	2944	Chlorodibromometha	ane 215	0.037
2020 Toxaphene 201	2942	Bromoform	215	0.060
2105 2, 4-D 203	2950	Total THM	215	0.125
2110 2, 4, 5-TP 203	Complement with the second control			
		i yang mengangan menanti dan mengan Masakan pinda		
RECEIVED 01-06-87 DATE ANALYZ	ED 01-08		BY E. FOR AB 231-20	



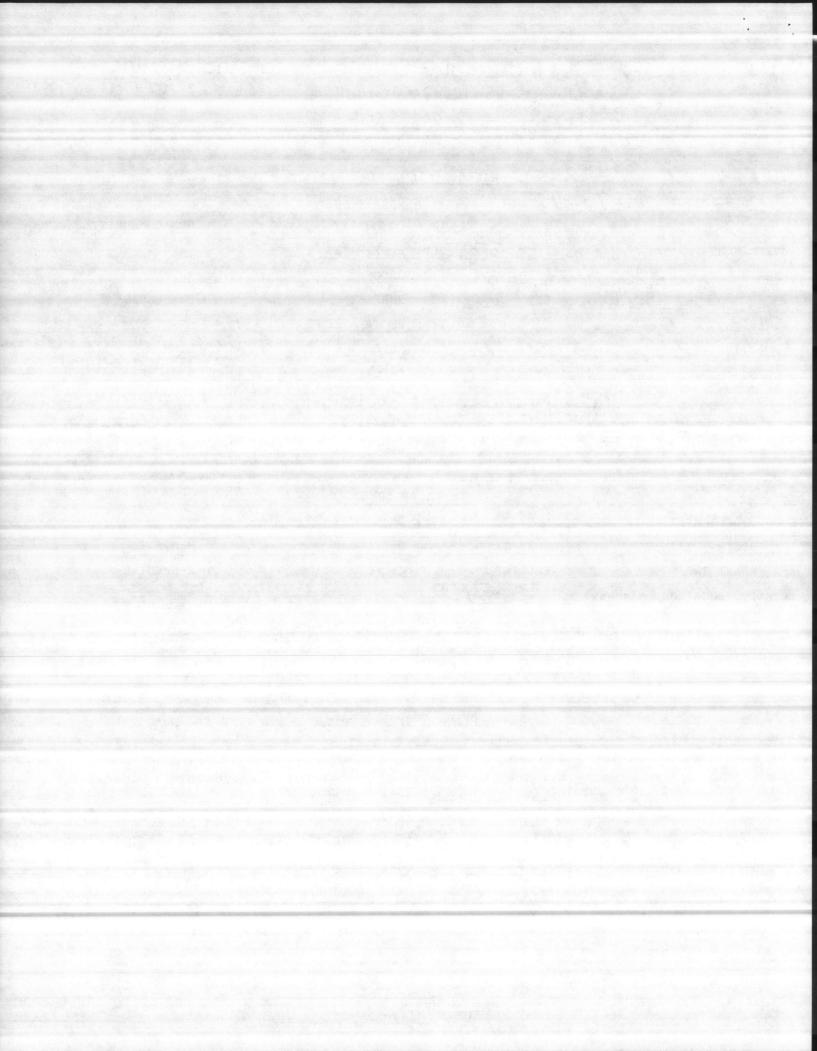
3 37720 c. Lab. ID.

ARKS:



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

		WATER	SYSTEM INFORM	ATION			
TER SYSTEM ID# 04-6	7-042		TYPE OF SYST	EM:			
			(X) COMMUNI	TY	( ) NOI	N-COMMUNI	TY
STEM NAME: Marine	Ocas Ai	Station		TER:			
<i>A</i>	. 01		GROUND		( ) BO	ГН	
Base Camo I			( ) SURFACE		( ) PUI		
UNTY: Ons low		20512	TYPE OF TREA				
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LEPHONE: $(9/9)$ 4	51-51	//_	(X) FILTERE				IEK
			( ) ALUM	·	( ) OTI	iek	e Maria Maria Maria
		SAM	PLE INFORMAT	ION			
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DISTRIBUTION TAP	( ) HOU	ISE TAP	D-REGUL	AR	( ) M-1	1. R. T.	
) PLANT TAP	( ) WEI	L TAP	( ) C-CHECK		( ) s-:	SPECIAL	
APLING LOCATION (Addre	ess):	15-710	7				
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And the second s	ro Lako			Alfagoria			
	10 2410	/	ABORATORY USE	ONLY	care in the		
		STATE DRI	NKING WATER P	ARAMETERS			
TAMINANT NAME	METHOD	RESULTS	CONTAMINANT	NAME		METHOD	RESULTS
ID		mg/l	ID				mg/l
2005 Endrin	201		2941	Chloroform		215	0.007
2010 Lindane	201		2943	Bromodichlor	omethane	215	0.014
2015 Methoxychlor	201		2944	Chlorodibrom	omethane	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		en e			e Na Carl Laple No.	
white was expected to the same						and the second	
E RECEIVED 01-06	-87	DATE ANALYZ	ED 01-08	-87 RFF	ORTED BY	E. Fol	lk
		DATE REPORT			IPLE LAB		- 1
E EXTRACTED 01-08	0/	WIE KELOKI	01-07	SAF	. DE CUD		

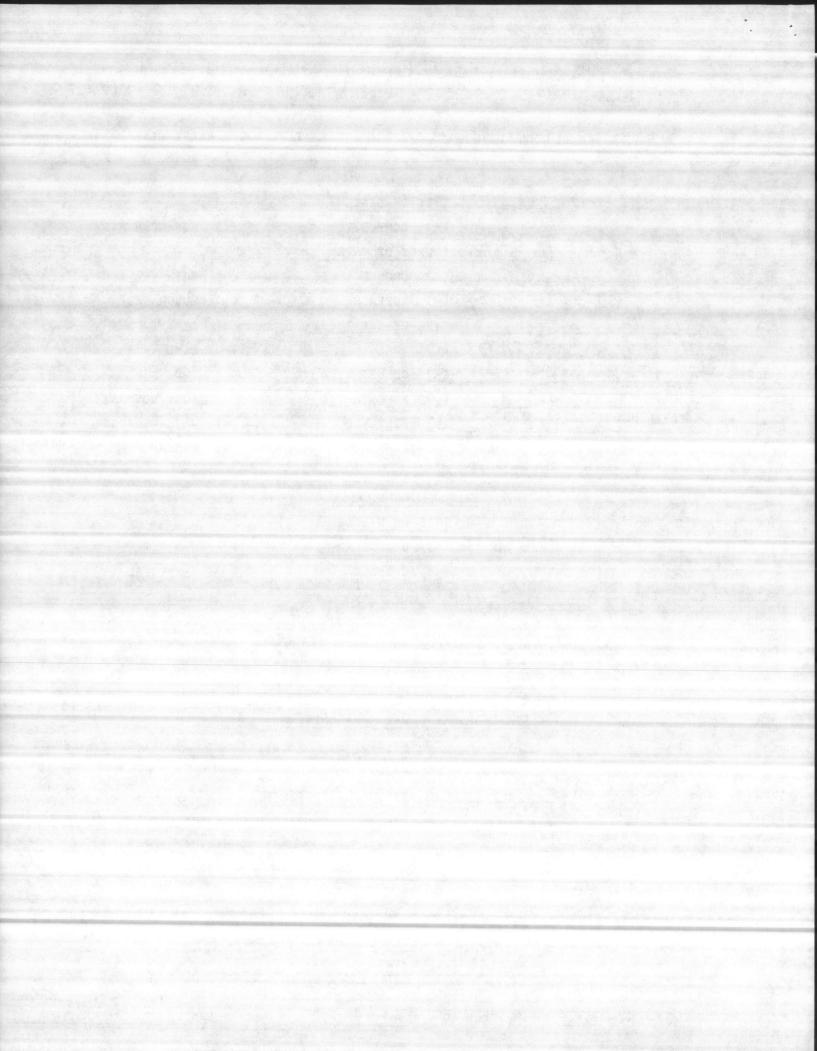


3 37720 C. Lab. ID.



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

		WATER	SYSTEM INFORM	MATION					
TER SYSTEM ID# 04-6	7-042		TYPE OF SYST	EM:					
			(X) COMMUNI	TY	( ) NO	N-COMMUNI	TY		
STEM NAME: Marine	orps Air	Station	SOURCE OF WAT	TER:					
			GROUND	er e	( ) BO	гн			
Base Camp I		and the beginning the Control of the			( ) PU	RCHASED			
UNTY: Ons low			TYPE OF TREAT	TMENT:					
PORT TO: Facilitie		READ	( ) NONE			ME			
	s a bou		CHLORINA	ATED	( ) so	DA ASH			
	ZI	P	( ) FLUORIDA	ATED	( ) PO	LYPHOSPHA	TE		
EPHONE: (919) 4	51-59	77	(X) FILTERE	D	W WA	TER SOFT	NER		
			( ) ALUM		( ) OT	HER			
	45	7			The state of the s				
		SAM	PLE INFORMATI	ON		Carlo			
RCE OF SAMPLE		and the	TYPE OF SAMP	LE					
DISTRIBUTION TAP	( ) HOU	SE TAP	D-REGULAR () M-M.R.T.						
PLANT TAP	( ) WEL	L TAP	( ) C-CHECK		( ) s-:	SPECIAL			
APLING LOCATION (Addre	ss):	A5-110	0						
			TIME COLLECT	ED: 9:42	(ar	pm_			
			LOC. CODE:						
	ro Labor				80 min - 1777 - 1860		and the same of th		
		/	ABORATORY USE	ONLY	9 - 19 <b>-</b>				
		STATE DRIN	NKING WATER PA	ARAMETERS					
TAMINANT NAME	METHOD	RESULTS	CONTAMINANT	NAME		METHOD	RESULTS		
ID .		mg/l	n ID				mg/l		
2005 Endrin	201	a has recorded and the ch	2941	Chloroform		215	0.005		
2010 Lindane	201		2943	Bromodichlor	omethane	215	0.00		
2015 Methoxychlor	201		2944	Chlorodibrom	omethane	215	0.016		
2020 Toxaphene	201		2942	Bromoform		215	0.034		
2105 2, 4-D	203		2950	Total THM		215	0.062		
2110 2, 4, 5-TP	203					al resident			
English of the state of the sta	CONC. C. C. Market								
Control of the Contro				A SACRAS FORMS					
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E EXTRACTED 01-08	Committee Commit	ATE REPORTE	ED 01-09			131-20			



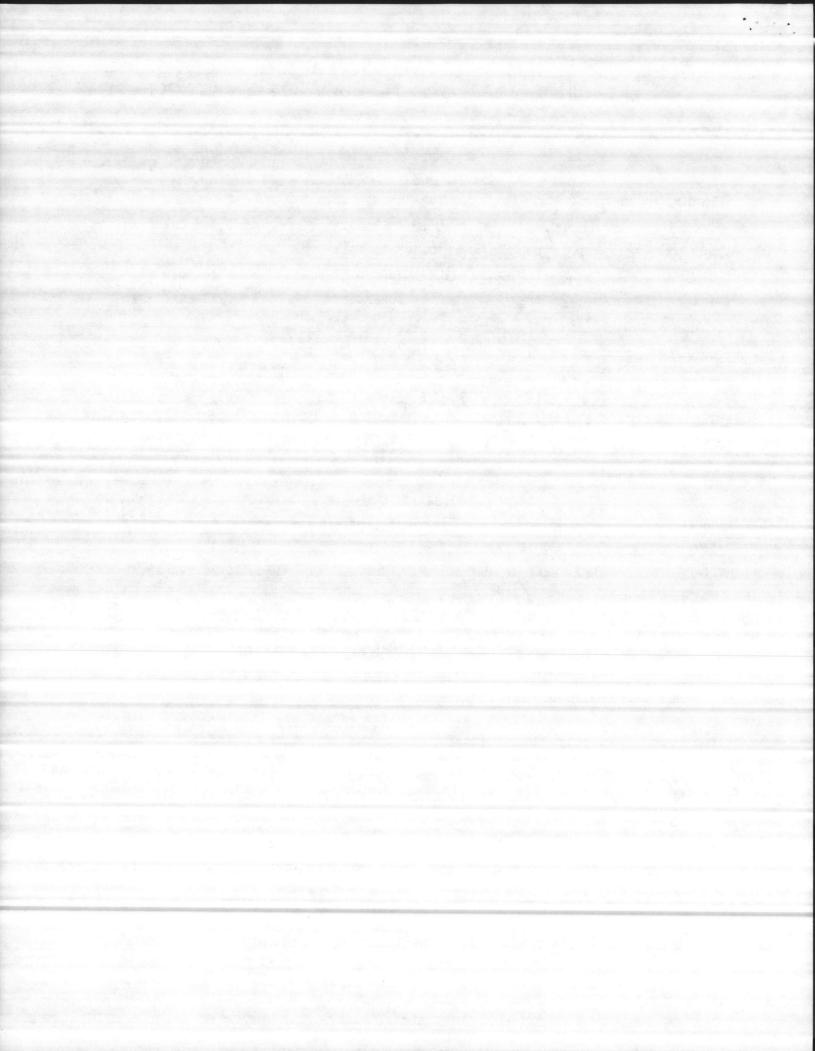
3 37720 c. Lab. ID

ARKS:



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

			WATER	SYSTEM INFORM	MATION							
TER SYSTEM	ID# 04-6	7-042	2	TYPE OF SYST	EM:							
					TY	( ) NO	N-COMMUNI	TY				
STEM NAME:	Marine	Corps A	ir Station	SOURCE OF WA	TER:							
DRESS:		. 01	1 . 4	S(X) GROUND		( ) BO	тн					
				( ) SURFACE		( ) PU	RCHASED					
UNTY:	Ons low			TYPE OF TREA								
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DRESS:	Same	05 a. bo	e	(X) CHLORIN	ATED	( ) so	DA ASH					
		z:	I P	( ) FLUORIDA	ATED	( ) PO	LYPHOSPHA	TE				
LEPHONE:	(919) 4	151-59	777	(X) FILTERE	D	₩A	TER SOFTN	IER				
				( ) ALUM		( ) OT	HER	IER				
			SAM	PLE INFORMATI	ON							
URCE OF SA	MPLE			TYPE OF SAMPLE								
) DISTRIB	UTION TAP	( ) но	JSE TAP	D-REGUL	M.R.T.							
				( ) C-CHECK		() s-	SPECIAL					
MPLING LOC	ATION (Addr	ess):	G 520		·	A CONTRACTOR						
TE COLLECT	ED:	2-31-B	6	TIME COLLECT	ED: //:	12 6	pm					
LECTED BY				LOC. CODE:	007	_						
	Mic	cro Laho	ntory			*						
	AND THE PERSON		FOR L	ABORATORY USE	ONLY							
			STATE DRI	NKING WATER P	ARAMETERS							
TAMINANT	NAME	METHOD	RESULTS	CONTAMINANT	NAME		METHOD	RESULTS				
ID			mg/l	ID			A Company of the Comp	mg/l				
2005 E	ndrin	201 _		_ 2941	Chloroform		215	0.008				
2010 L	indane	201 _		2943	Bromodichlor	omethane	215	0.013				
2015 M	lethoxychlor	201 _		2944	Chlorodibrom	nomethane	215	0.028				
2020 T	'oxaphene	201 _		_ 2942	Bromoform		215	0.048				
2105 2	, 4-D	203 _		2950	Total THM		215	0.097				
2110 2	, 4, 5-TP	203 _					-					
- I was an												
E RECEIVE	D 01-06	-87	DATE ANALYZI	ED 01-08	Anni Santalian da Malanda Alban	ORTED BY						
E EXTRACT	ED 01-08	-87	DATE REPORT	ED 01-09	-87_SAN	APLE LAB	23/-20	-/				

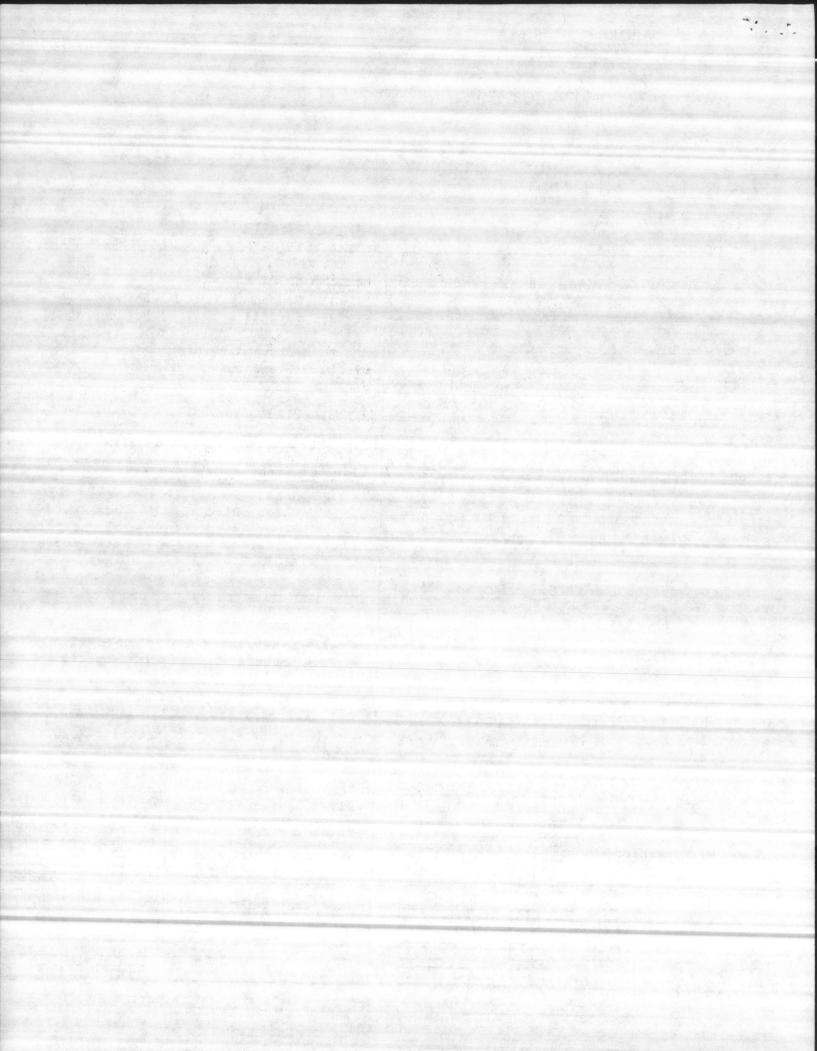


.c. 3 7 7 2 0 Lab. ID (42-46)



## ORGANIC CHEMICAL ANALYSES - PUBLIC WATER SYSTEM

	ems Above Heavy Line
14-67-043	
(1-7) ne of	Type of System:
stem: HOLCOMB BLVD	( ) Non-Community
iress: Commanding GENERAL MARINE CORPS	Source of Water:
ASE CAMP LETEUNE NO Zip 28542	(><) Ground ( ) Both ( ) Surface ( ) Purchased
inty: Otolow .	
port To: ATT FACILITIES ATTN: NREAD	Source of Sample:
dress: Same AS ABOVE	( ) Distribution Tap ( ) House Tap ( ) Plant Tap ( ) Well Tap
Zip	(X) Flant Tap ( ) well Tap
lephone Number: (919)451 - 5977	Type of Treatment:  ( ) None (X) Lime
llected By: ENVIRONMENTAL CHEM. + MICED LABORATORY	(X) Chlorinated ( ) Soda Ash
te Collected: 12 31 86 Time: 9:12 AM PM	(×) Fluoridated ( ) Polyphosphate (×) Filtered (×) Water Softener
MM DD YY (38-41)	( ) Alum ( ) Other
(31-36) cation of Sampling Point: BLDC 670	
dress where sample was collected)  Loc. Code	Type of Sample: (37)
marks: (28-30)	(C) D-Regular ( ) M-M.R.T.
	( ) C-Check ( ) S-Special
ate Drinking Water Parameters (Required)	Optional Parameters (List as needed)
ntaminant Name Method Results Mg/1	Contaminant Name Method Results Mg
0-13) (14-16) (17-21)	(10-13) (14-16) (17-21) 1 294/ chloroton 2115
05 Endrin	2943 Bromatichemethous 15 01.00
015 Methoxychlor	2944 Chlorodibronny 21.15 LO. Od
)20 Toxaphene	2942 Bromotorm 215 60.00
105 2,4-D	2950 TTHM DISTELLE
110 2,4,5-TP (Silvex)	and the state of t
ate Received 1-6-87 Date Repo	rted /- 8-87 Reported By The
te Extracted 1-8-87 Date Anal	yzed / 7 87 Lab Number 231-20-5
	MM DD YY ENGLOSURE 13!



(6) -05

11331 NREAD

NOV 1 2 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: LANTNAVFACENGCOM (Code 114)

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

Writer: E. Betz, NREAD, x5977 Typist: S. Trianoski, 12 Nov 1986 State of the same of the same

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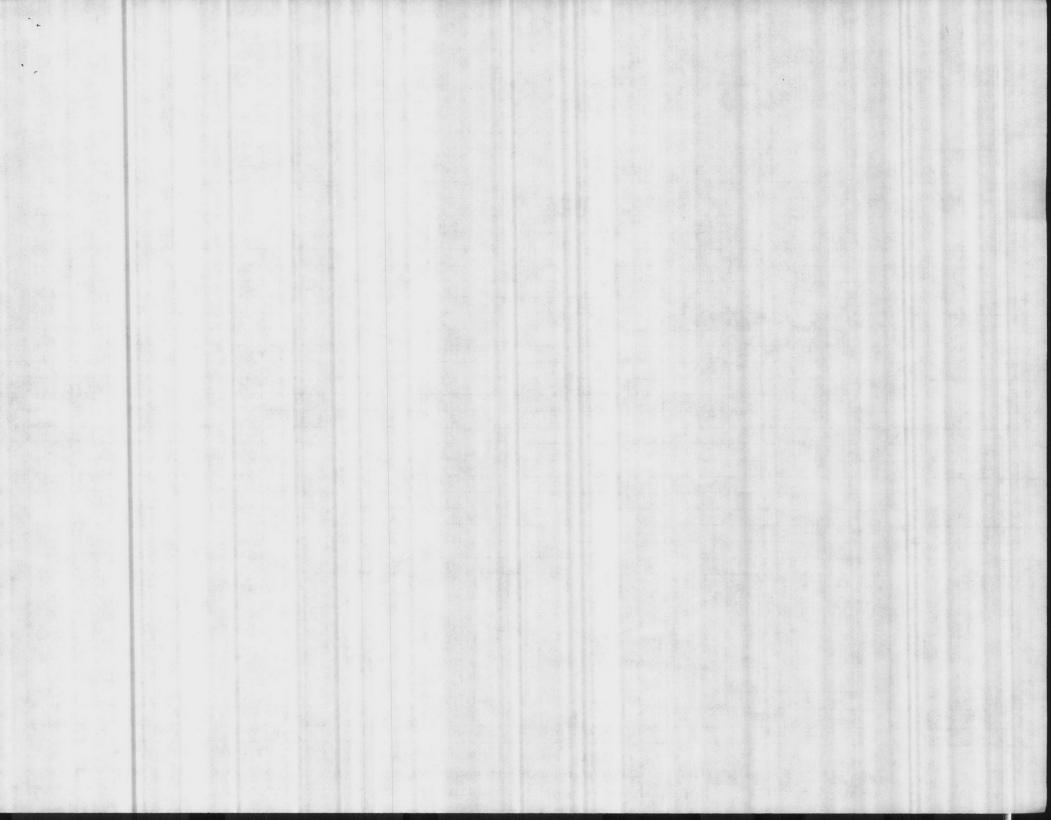
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3000

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES Contaminant Code: 3000 Social # 04-67-041 N. C. DEPARTHENT OF HUMAN RESOURCES

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	RAW WATER COLIFORMS (MFP)					FILTERED FINISHED						DISTRIBUTION SYSTEM									-	-					
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303 3000

HOLCOME BLUB WATER TREATHENT PLANT AT Camp Lejeune Method Code:

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES Contaminant Code:

N. C. DEPARTMENT OF HUHAN RESOURCES

Serial # 04-67-043 FINISHED DISTRIBUTION SYSTEM FILTERES REPEAT SAMPLES COLIFORMS (MFP) . 5 NO. OF COLIFORMS PER 100'ml. TOTAL PLATE COUNT TOTAL PLATE COUNT TOTAL PLATE COUNT per 100 ml. AVE. COLIFORMS per 100 ml. COL1 FORMS 100 ml. NO. OF SAMPLES EXAMINED INCUBATOR TEMP. YOLUME FILTERED ml. COLIFORMS per 100 ml. COLIFORMS Sper 100 ml. COLIFORMS per 100 ml PLANKTON VOLUNE FILTERED = TOTAL COLONIES COLONIES TOTAL COLONIES COLIFORM COLIFORM COLIFORM COLONIES 2 3 4 5 6 35.5 7 000000 -9 10 11 12 13 000 0000 14 0 35.0 15 16 17 18 19 20 21 0000 0 0 35.4 00 22-23 24 25 26 2.7 28 0 00 00 31,5 30 ..31 CIST. TOTAL FC. SAMPLES BRI MENDO DACTERIAL ARITH. HEAR HE HEOIA 2.0 SYSTEM SAMPLES EXCERDING 3/50. 4/100, 7/200. 13/500mi O Elizabetto Bett B-Well 4087-W TPC HEDIA PEHSITY GEO. HEAM

LAB # 37307



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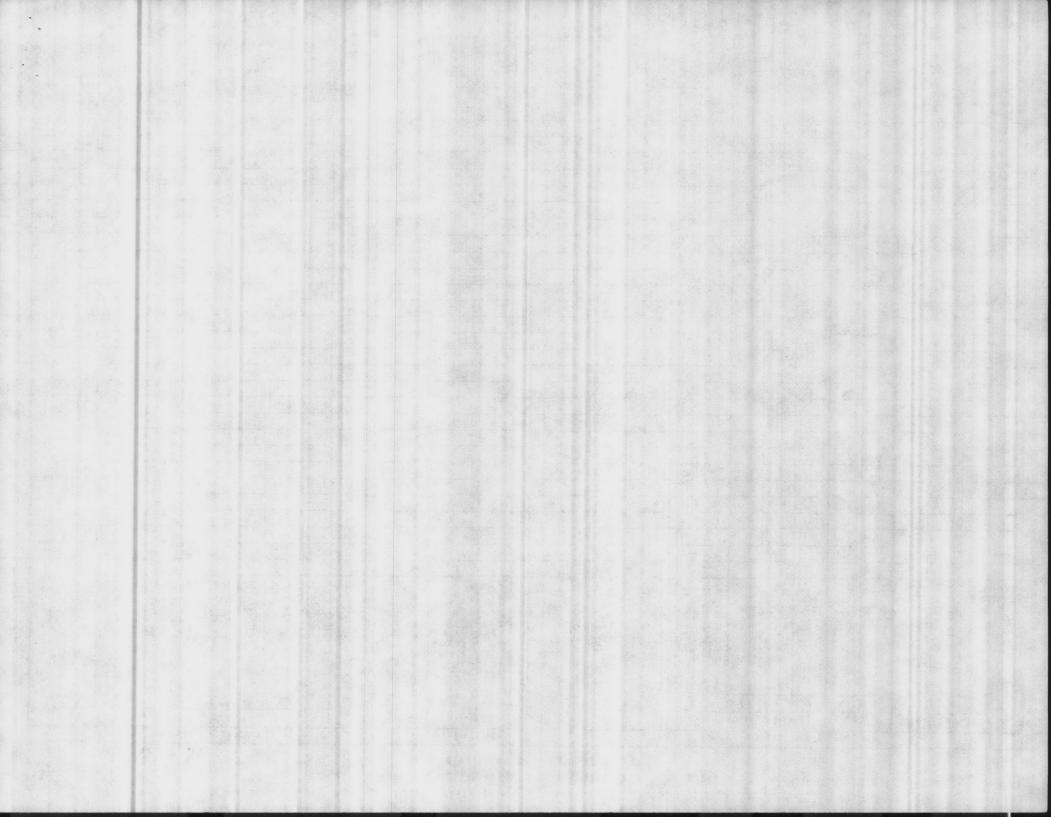
WHEINE WEIS MIR STOTION WATER TREATHENT PLANT AT Camp Lejeune

Contaminant Code: 3000

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Serial # 04-67-042 N. C. DEPARTMENT OF HUMAN RESOURCES

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TARAMATERRACE WATER TREATHENT PLANT AT Camp Lejeune

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Method Code: Contaminant Code:

303 3000

Serial # 04-67-044

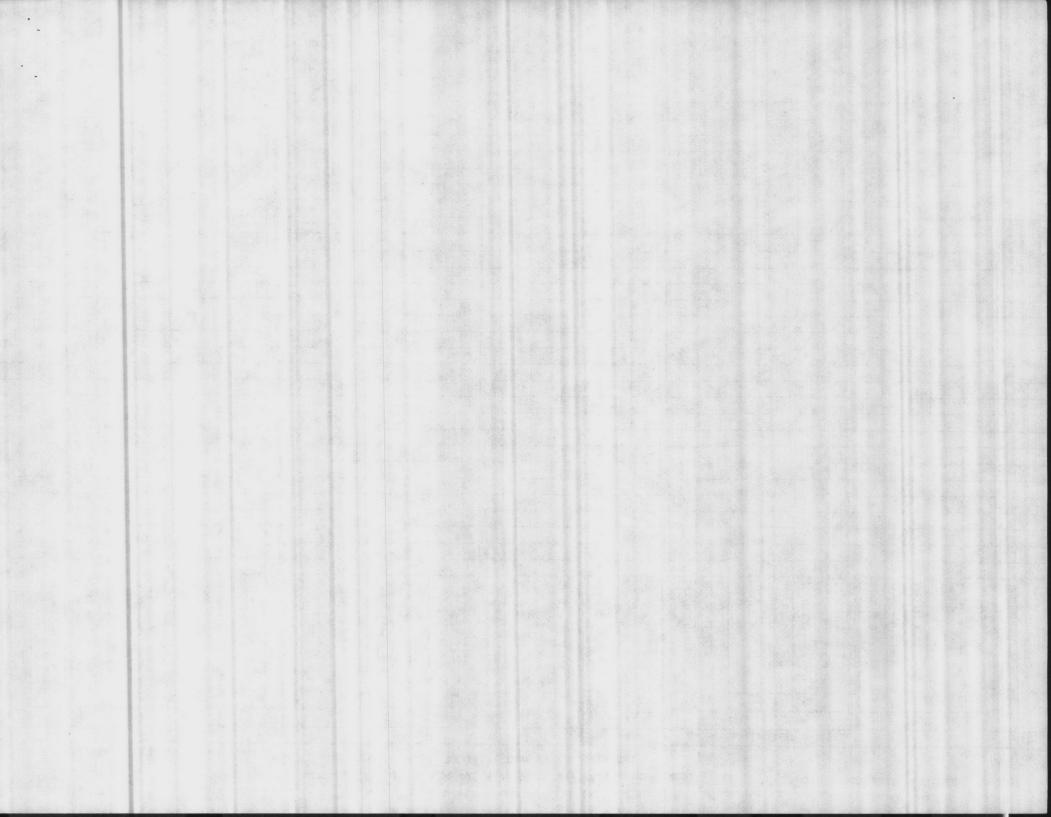
N. C. DEPARTMENT OF HUMAN RESOURCES

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onth OCTOBEL car 1986

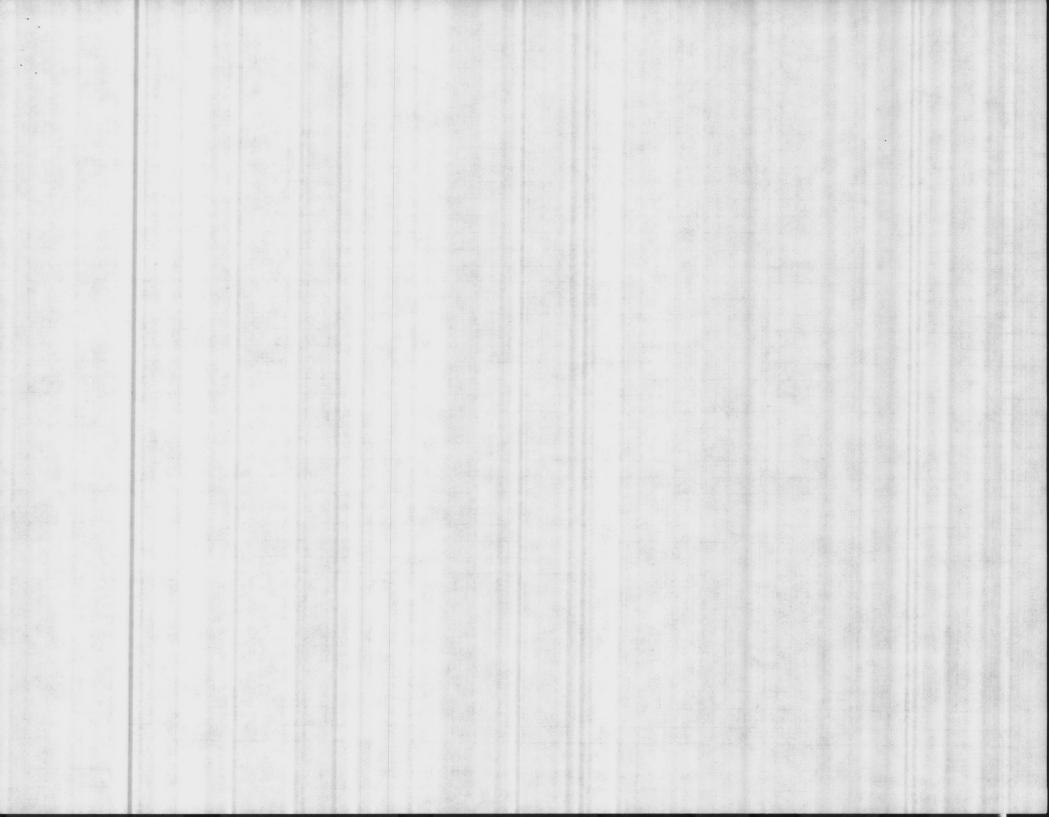
CAMP JOHNSON WATER TREATHENT PLANT AT Camp Lejeune Method Code: 303

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES Contaminant Code: 3000

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES Serial # 04-67-045

N. C. DEPARTMENT OF HUHAN RESOURCES

"""1		LLLA	1	RA	W WATE	ER COL	FORMS	(HFP)			FILT	EREC	FINIS	HED			*	DIS	TRIBUT	ION SY	STEM				_	_	
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onth OCTUBER car 1986

KIFLE KANGE WATER TREATHENT PLANT AT Camp Lejeune Method Code:

Contaminant Code:

303 3000

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

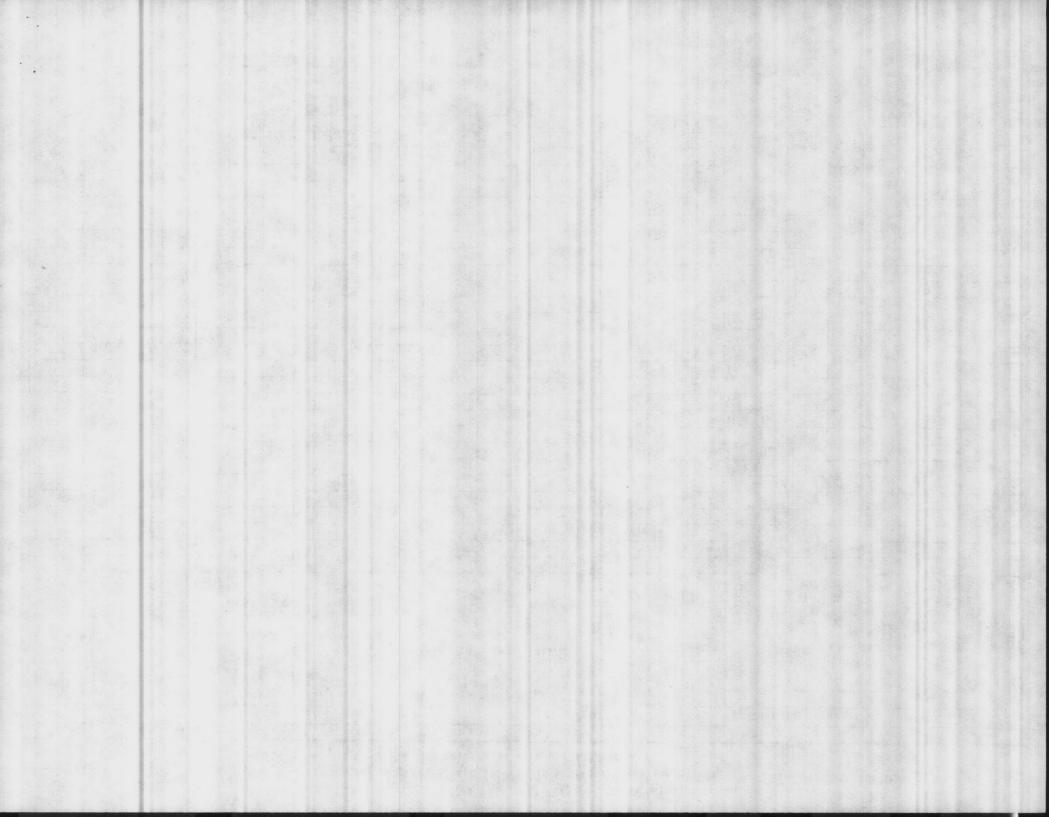
Serial # 04-67-046 N. C. DEPARTMENT OF HUMAN RESOURCES

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Honth William Year 1984

COURTHOUS - 1549 NATER TREATHENT PLANT AT Camp Lejeune

Contaminant Code: 3000

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Serial # 04-67-047 N. C. DEPARTMENT OF HUMAN RESOURCES

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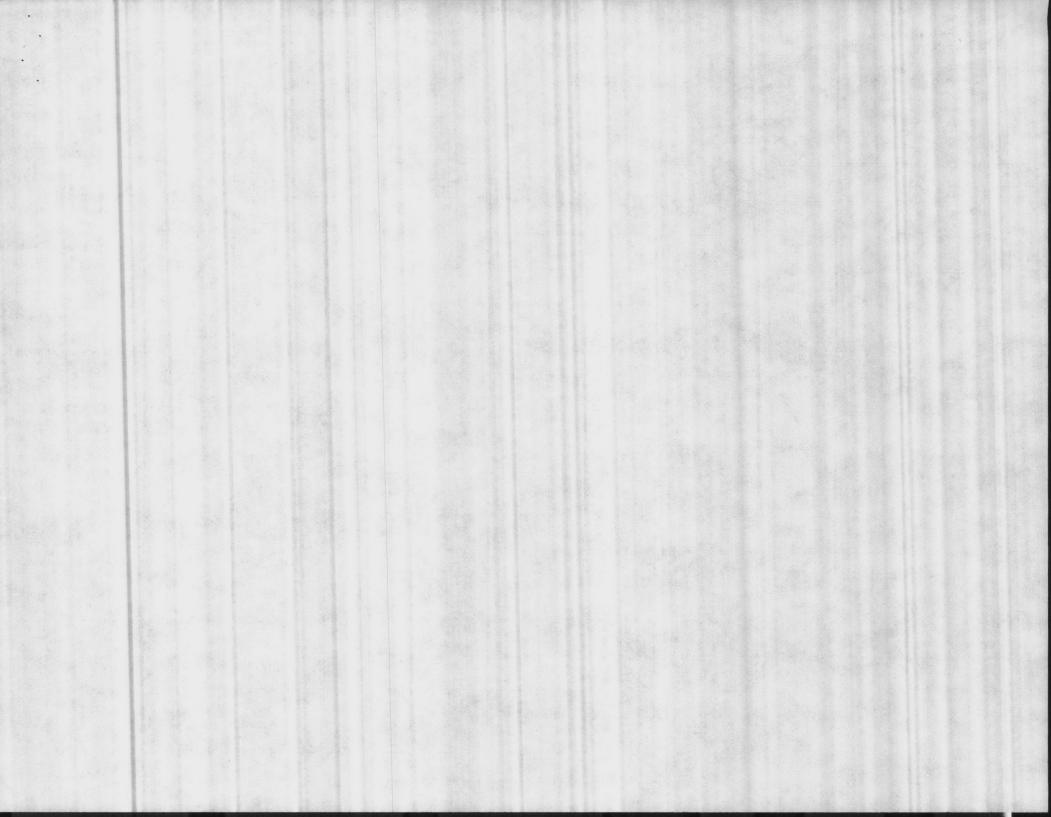
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Contaminant Code: 3000 WATER TREATHENT PLANT AT Camp Lejeune REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES Serial # 04-67-04 % N. C. DEPARTMENT OF HUMAN RESOURCES

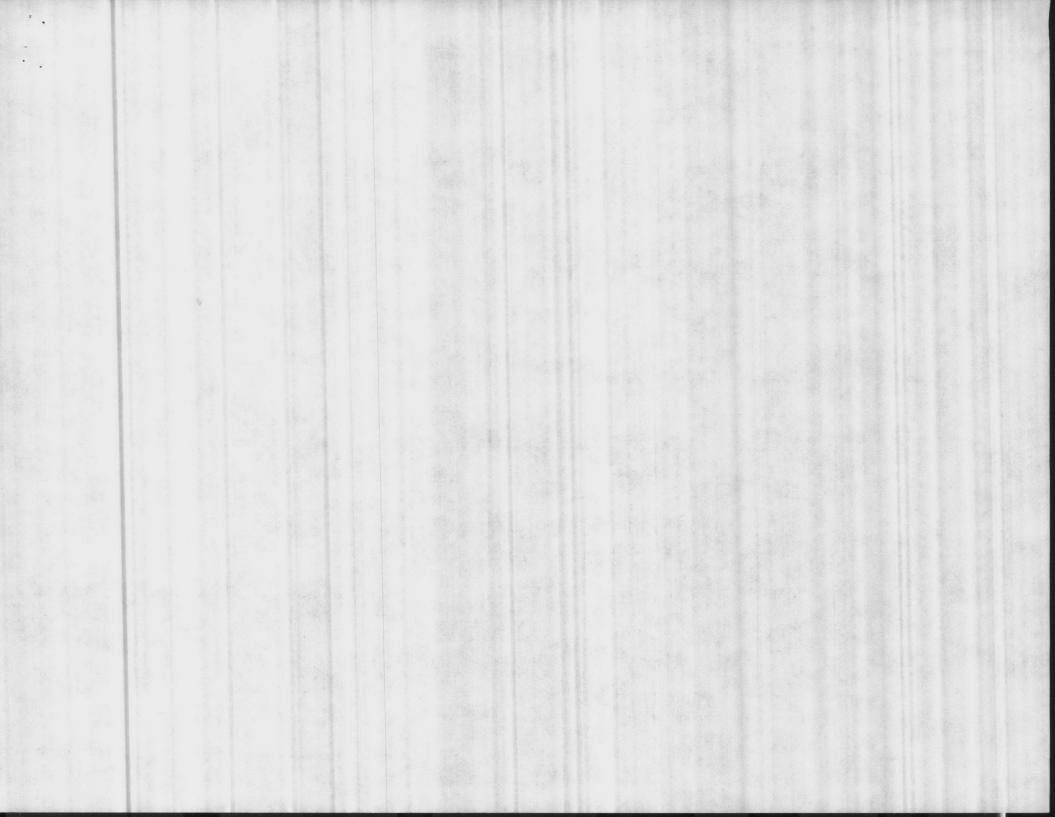
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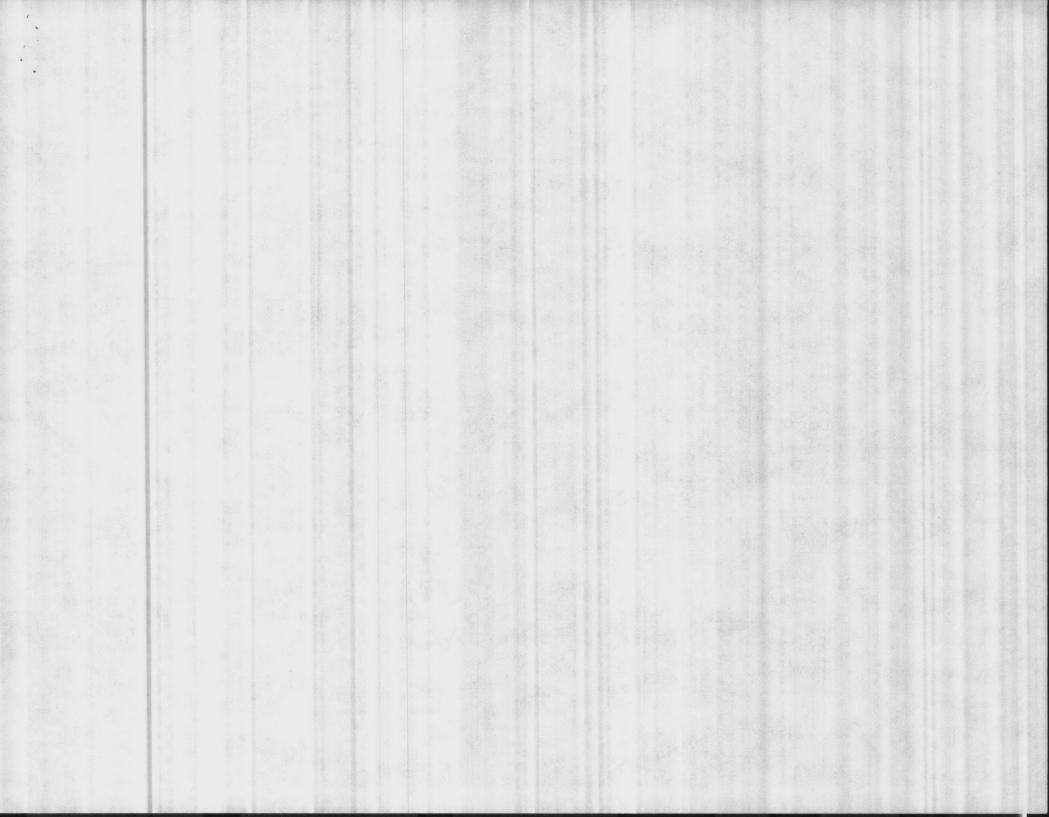
CHEMICAL ANALYSIS MCBCL 11330 3 (REV 6-84)	WATER TR	REATMENT PLA	ANTS				DATE COLLECTED	6	DATE OF ANAL	yşis 8 C
PARAMETER SERIES - N-47	HADNOT POINT	CAMP JOHNSON -045	TARAWA TERRACE - 244	ONSLOW BEACH -048	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD >+3	NEW RIVER		
PH (IN LAS LOT PLINT)	8.5	7.4	9.7	7.4	7.8	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 CaCO3	8	Ö	36	0	0	0	8	28		
BICARBONATES AS CaCO <sub>3</sub>	46	176	4	160	170	140	48	132.		
CHLORIDES AS C1	10.	10	10	18	16	20	10	64		
HARDNESS AS CaCO3	64	72	50	54	64	52	64	60		
IRON AS Fe	20.04	0.23	10.04	0.18	20.04	10.04	20:04	20.04		
FLUORIDE PM	0.56	0.15	0.18	0.16	0.11	0.09	0.94	0.62		V #11
CHLORINE RESIDUAL	1.1	1.2	1.0	1,4	1,4	1.0	1.1	0.8		
TURBIDITY PM	0.2	1.6	0.8	0.2	0.2	0.2	0.4	0.4		
TOTAL PHOSPHATE		1.8			14. 6.					
ORTHO PHOSPHATE		0.9			M.C.					
META PHOSPHATE		0.9								
STABILITY	+0.5	-0.6	+0.7	-0.7	-0.3	-0.1	+0.4	+0.2		
HEMARKS									СОРУ ТО:	
									UTIL DIR	
									O WATER I	REATMENT
NOTE: All results reported and specific condu	in parts per million ectance. One liter o	n unless otherwise of potable water is	noted except for phassumed to weigh	H, temperature, one kilogram.	LABORATORY ANA		ANE		ENCLO  NREAD	SURE SUR



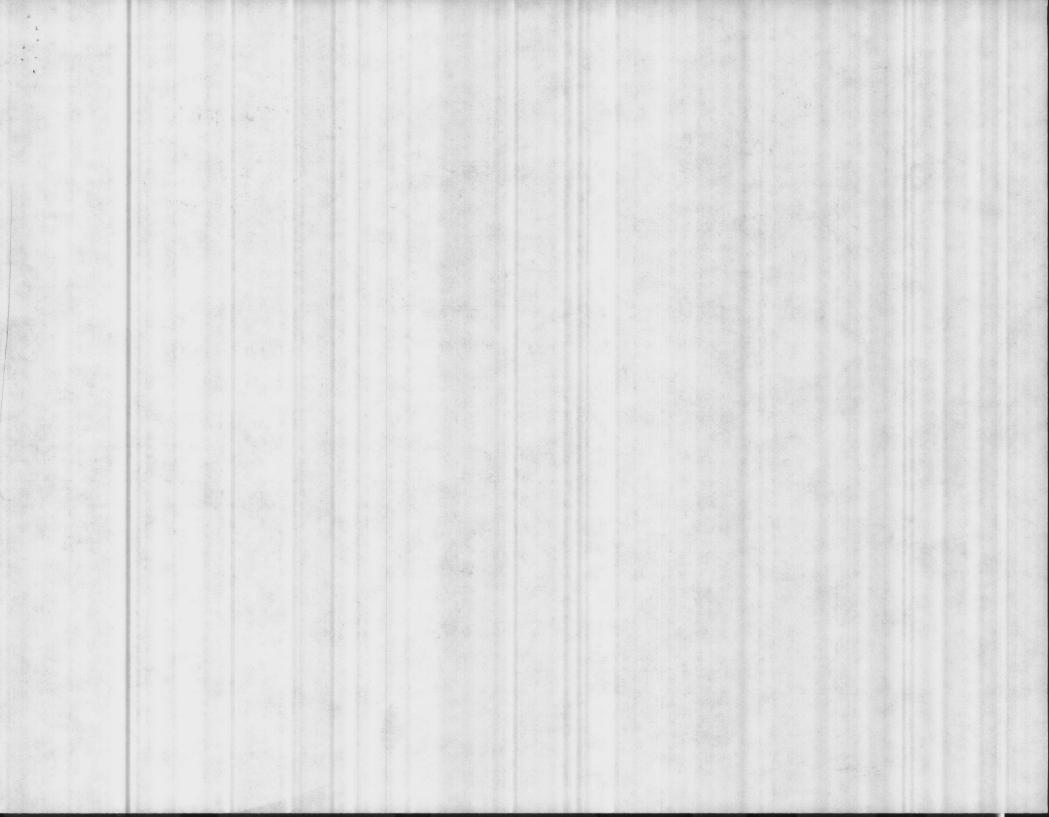
CHEMICAL ANALYSIS MCBCL 11330 3 (REV 6-84)	- WATER TE	REATMENT PLA	ANTS				DATE COLLECTED		DATE OF ANAL	ysis 1 - 86
PARAMETER	HADNOT POINT	CAMP JOHNSON	TARAWA TERRACE - 2-14	ONSLOW BEACH -OHS	COURTHOUSE BAY -247	RIFLE RANGE	HOLCOMB BLVD ->+3	NEW RIVER O1Z		
PH (IN LAS INST PLANT)	9.1	7.3	8.4	7.2	7,8	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 <sub>3</sub>	28	0	8	0	0	0	8	20		
BICARBONATES AS CaCO <sub>3</sub>	28	178	48	164	186	162	88	140		
CHLORIDES AS C1	10	12	14	20	22	38	16	66		
HARDNESS AS CaCO <sub>3</sub>	64	70	74	52	64	70	90	44		
IRON AS Fe	20.04	0,20	<0.04	0.18	20.04	20.04	20.04	20.04		
FLUORIDE PM	0.93	0.17	0.64	0.14	0.10	0.09	0.84	0.53		
CHLORINE RESIDUAL	1.1	1.0	1,0	1.3	1.6	1.1	0.9	0.8		
TURBIDITY PM	0.4	1.1	0.2	0.3	0.2	0.3	0.2	0.6		
TOTAL PHOSPHATE		1.8								
ОЯТНО РНОЯРНАТЕ		0.9								
META PHOSPHATE		0.9								
STABILITY	+0.7	-0.6	10.2	-0.7	-0,2	-0.1	10.3	10.2		
HEMARKS									COPY TO:	
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NOTE: All results reported and specific condu	in parts per millio	n unless otherwise	noted except for phassumed to weigh	H, temperature,	LABORATORY ANA	ALYSIŞ BY			□ PMU	☐ MCAS PMU
and specific condu	ctance. One mer	or polable mater is	and to morgin	3	L. LAWE	+ T.1	BARBER		□ NREAD	□ FILE



CHEMICAL ANALYSIS	- WATER TR	EATMENT PLA	NTS				DATE COLLECTED 1402TS	16	DATE OF ANALY	T86
PARAMETER	HADNOT POINT	CAMP	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD .	NEW RIVER		
РН	8.0	7.3	3.6	7.8	8.4	8.5	8.4	8.7		
PHENOLTHALEIN	0	0	8	0	8	4	2	8		
METHYL ORANGE	58	194	60	162	168	162	64	164		
CARBONATES AS CaCO3	0	0	16	0	16	8	4	16		
BICARBONATES AS CaCO <sub>3</sub>	58	194	44	162	152	154	60	148		
CHLORIDES AS C1	10	8	12	18	14	18	12	54		
HARDNESS AS CaCO <sub>3</sub>	60	70	78	64	46	50	72	54		
RON AS Fe	10.04	0.19	40.04	0.15	40.04	<0.04	40.04	<0,04		
FLUORIDE AM /PM	1.08/1.13		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./	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							- 30	
META PHOSPHATE		0.6				<u></u>		2 m 2		
STABILITY	-0.4	-1.0	+0.2	-0.6	-0.2	0	+0.1	0		
REMARKS									COPY TO:	
08	POND PH	= 8.3							UTIL DIR	0
									WATER T	REATMENT
NOTE: All results reported	d in parts per million	n unless otherwise	noted except for ph	I, temperature,	LABORATORY ANA	LYSIS BY			₽MU	₩ MCAS PMU
and specific cond	uctance. One liter of	of potable water is	assumed to weigh	one kilogram.	LABORATORY ANA	bee			□ NREAD	FILE



CBCL 11330 3 (REV 6-84)		EATMENT PLA	ANTS				10-28-	36	DATE OF ANAL	17515 28-86
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METHYL ORANGE ALKALINITY	54	170	58	160	170	170	50	150		
CARBONATES AS CaCO3	8	0	8	0	0	0	8	44		
BICARBONATES AS CaCO <sub>3</sub>	46	170	50	160	170	170	42	106		
CHLORIDES AS C1	14	10	10	20	14	38	10	64		
HARDNESS AS CaCO <sub>3</sub>	64	60	70	72	62	60	60	48		
IRON AS Fe	10.04	0.20	40.04	0.19	40.04	10:04	40.04	20.04		
FLUORIDE AM PM	1.05	0.17	0.55	0.17	0.13	0.11	0.87	0.59		
CHLORINE RESIDUAL	1.0	1.0	1.0	1.4	1.3	1.0	0.8	0.8		
TURBIDITY AMPM	0.50.4	1.0	0.6	0.5	0.5	0.5	1.34.9	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									COPY TO:	
()	B Por	nd =	7.8 pH						DUTIL DIR	0
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NOTE: All results reported and specific cond	d in parts per million uctance. One liter of				H. Burn		PP		D PMU  NREAD	MCAS PM



11331 NREAD 9 Apr 87

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

Dear Mr. 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. Ns. 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

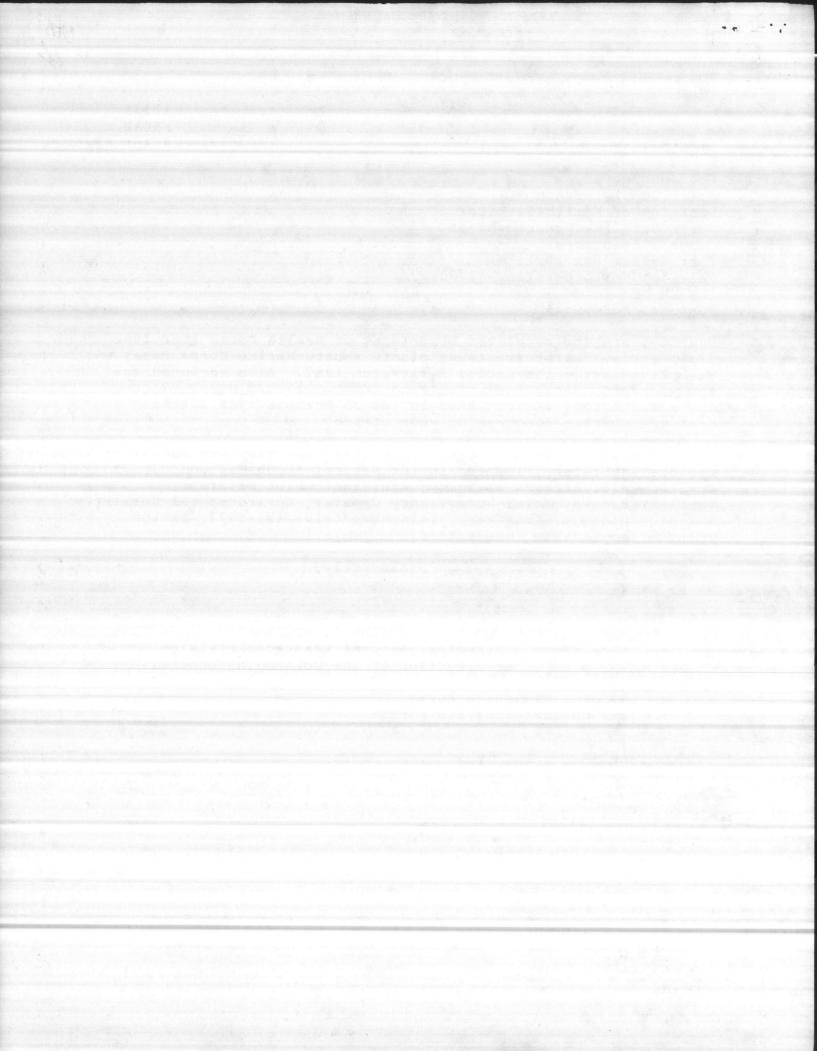
(2) Chemical Analysis Forms

Copy to: LANTNAVPACENGCOM (Code 114)

Blind copy to:

BMO (Attn: Util Dir)
Supvy Chem (2)

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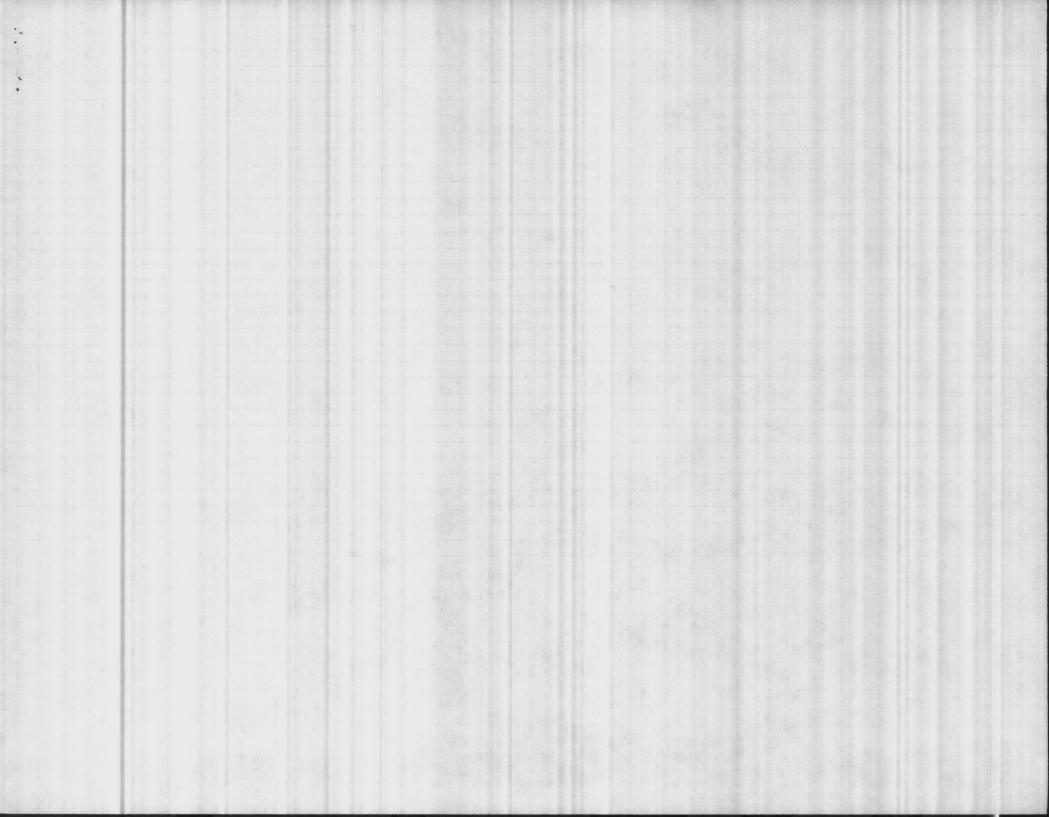
WATER TREATMENT PLANT AT Lamp Lejeune

\_\_\_\_ method tode: 303

Contaminant Code: 3000

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

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HONEN MARCH Year 1987

MARINE CORFO AIR STATION

WATER TREATMENT PLANT AT Camp Lejeune Method Code:

ERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES CONTAMINANT Code: REPORT OF BAGTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

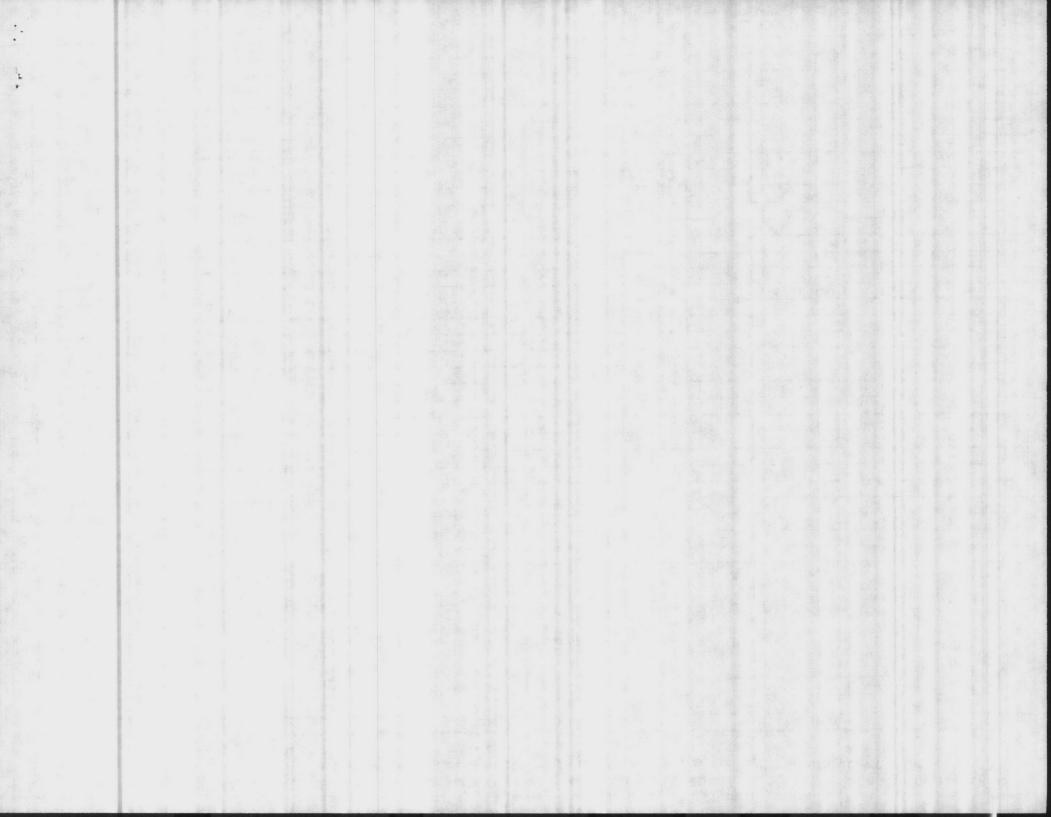
N. C. DEPARTMENT OF HUMAN RESUMECES

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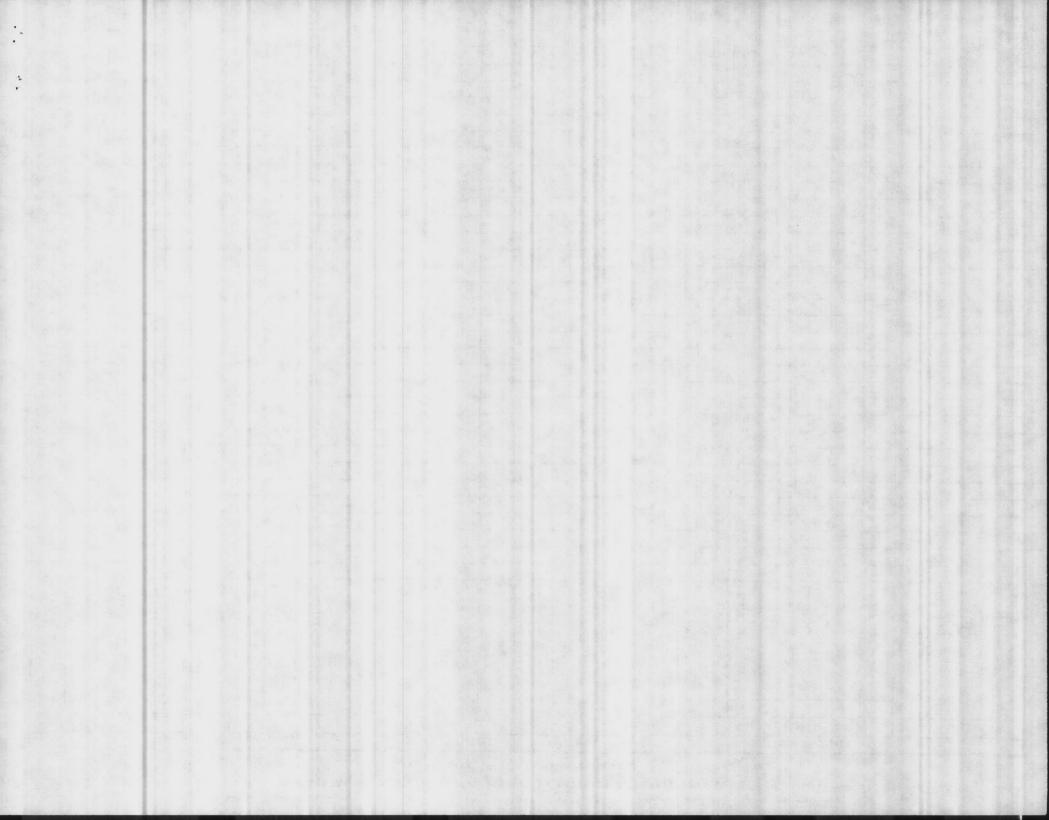
rear 1987

WATER TREATMENT PLANT AT LIGHT LE JEUTE REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

\_\_\_ HELHOU COUE. Contaminant Code:

3000

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HONEN WAKET Year 1987

TAKAWA TEKKALE WATER TREATHENT PLANT AT Lamp Lejeune Method Lode: 3000 REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES Contaminant Code: 3000 . TAKAWA IEKKALE WATER TREATHENT PLANT AT Lamp Lejeune

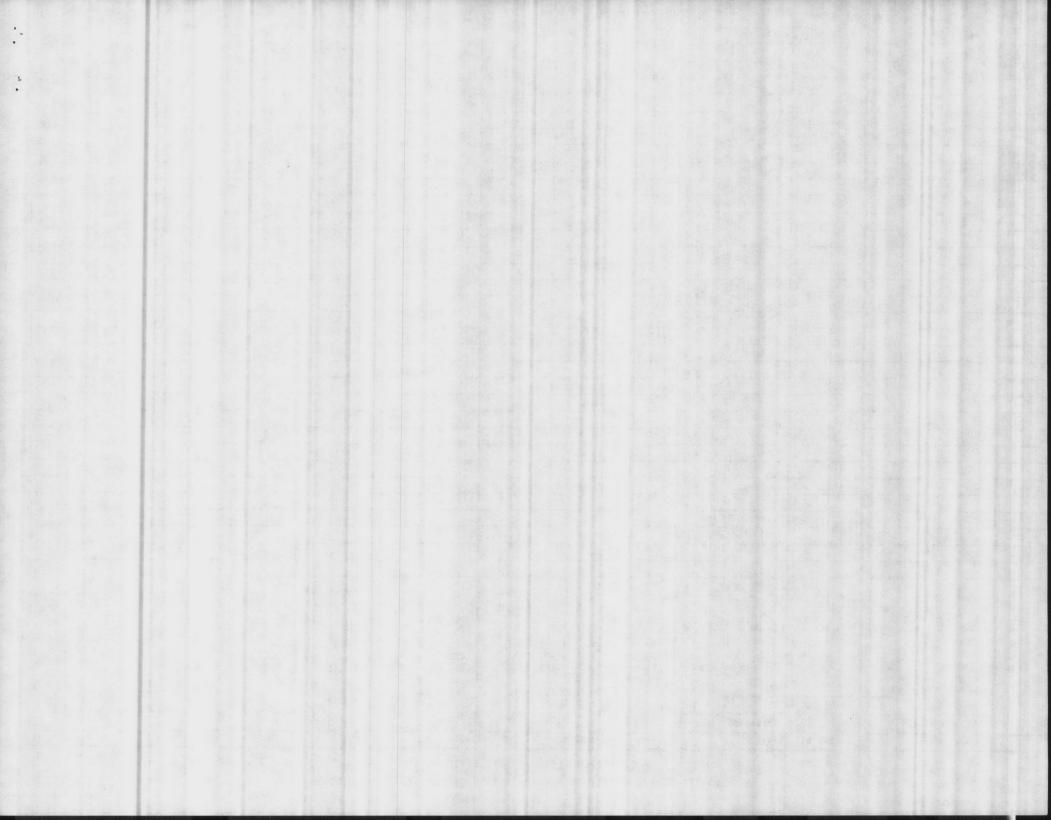
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Elizabeth a Berg

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method code: 303

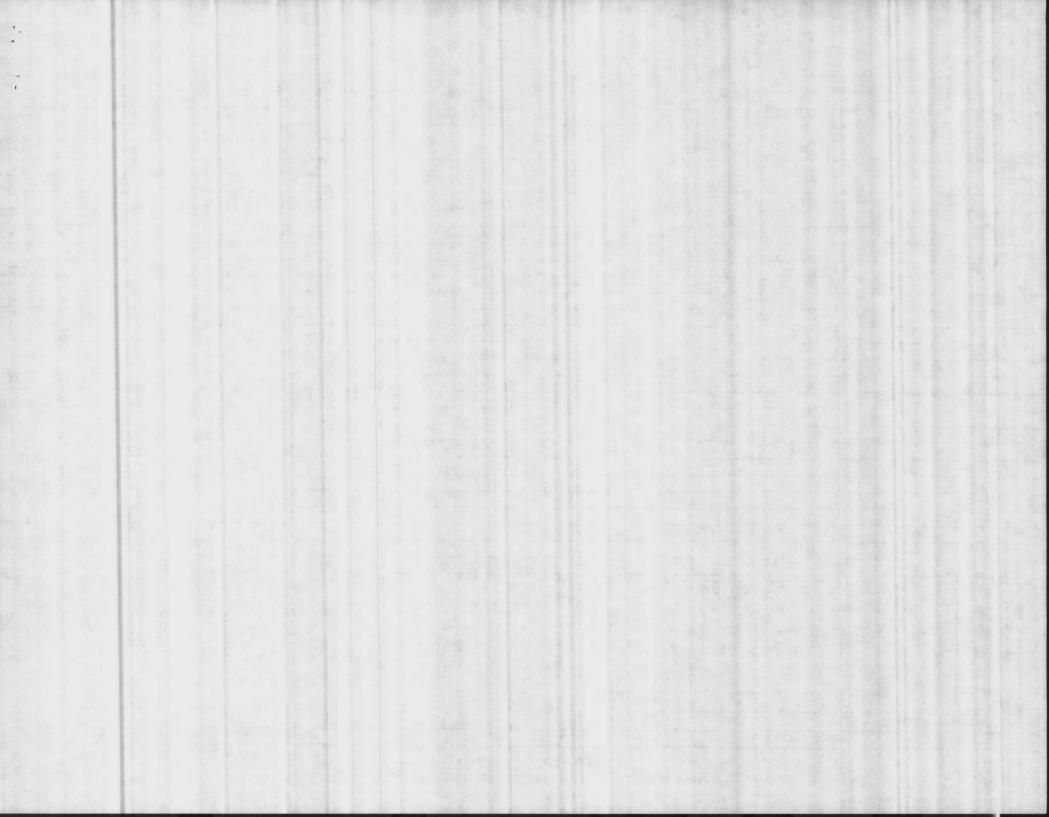
REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES Contaminant Code: 3000

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WATER TREATHENT PLANT AT Lamp Le Jeune REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES \_\_\_ Herilan cone.

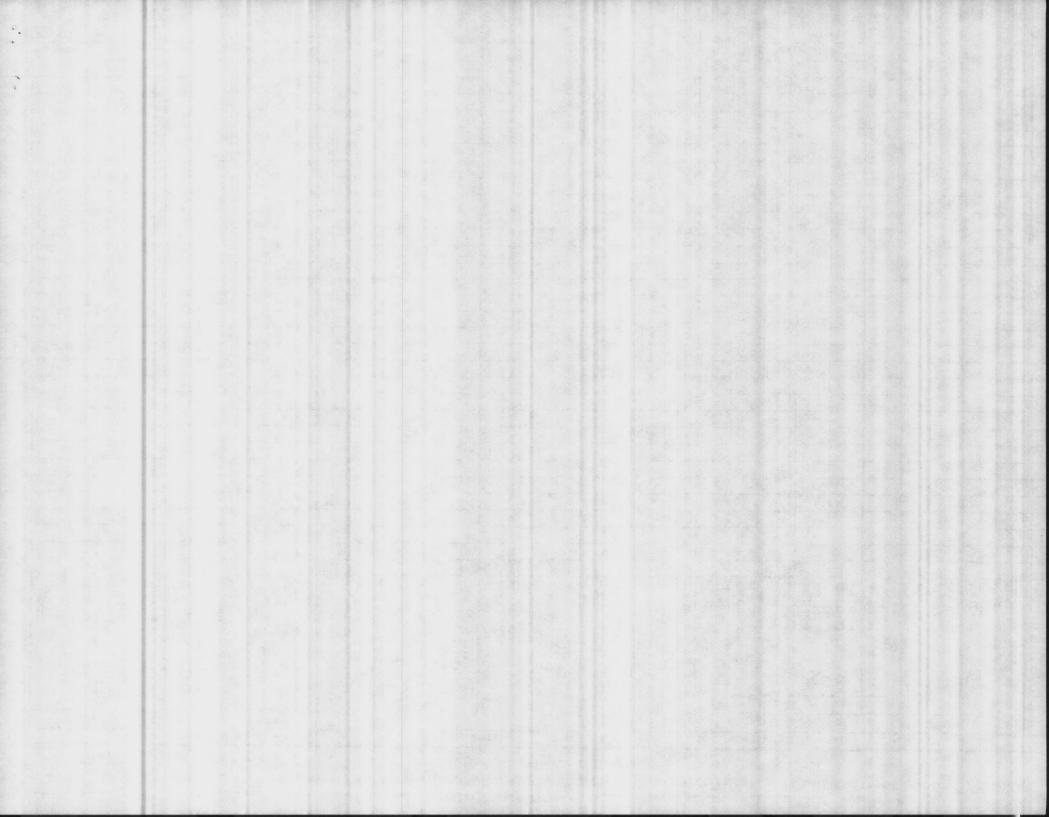
Contaminant Code: 3000

LUL

Setial # 04-67-04

N. C. DEPARTMENT OF BUHAN RESCURGES

Setial # 04-67-046 ""  RAW WATER COLIFORNS (NFP)  A B C								FILT	EREC	FINES	וובס		: DISTRIBUTION SYSTEM														
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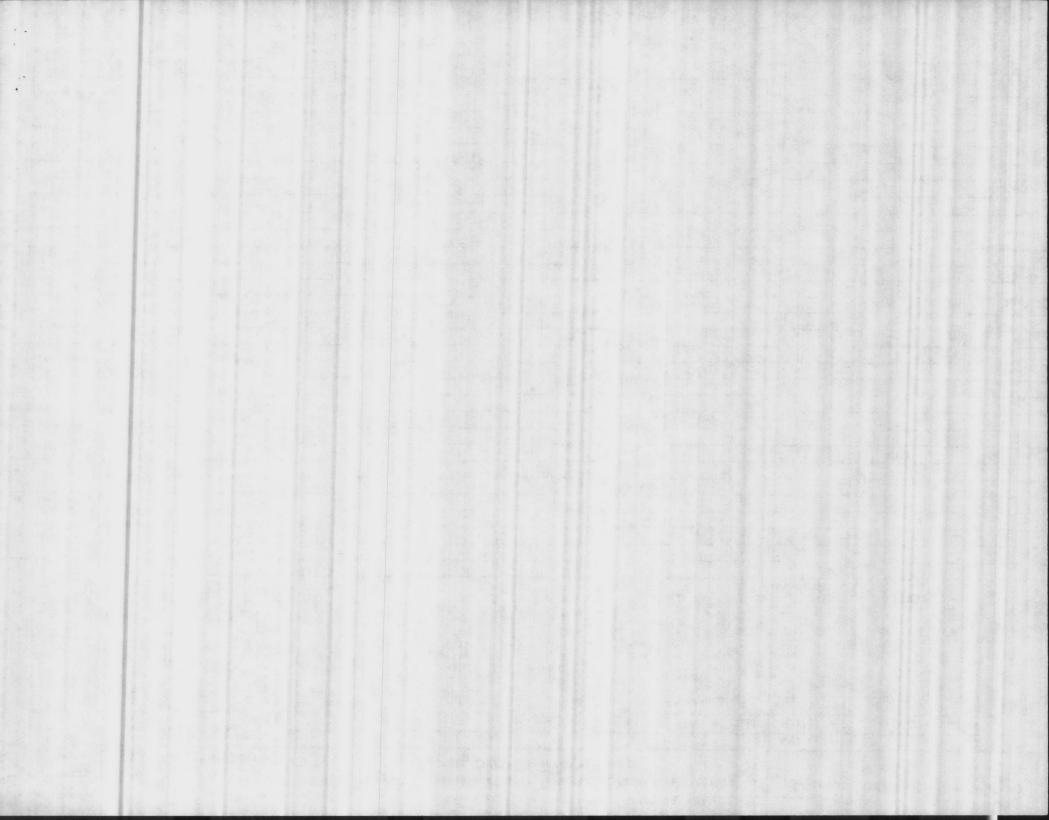
REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

WATER TREATHENT PLANT AT Lamp Le Jeune

\_\_\_\_ method code: Contaminant Code:

LUL 3000

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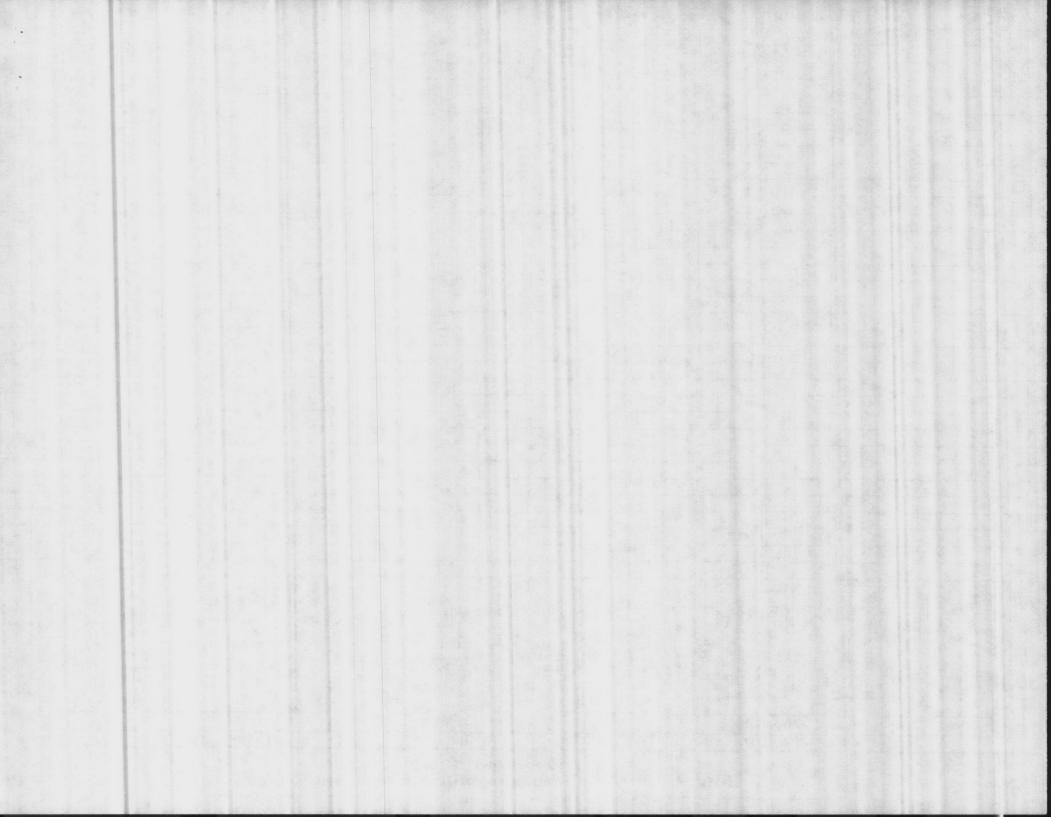
REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

UNDLOW DEACH WATER TREATHERT PLANT AT Lamp Lejeune

\_\_\_\_ method tode: 505 Contaminant Code: 3000

Setial # 04-67-048 N. C. DEPARTMENT OF HUNAN RESUURCES

	M WATER COLIFORMS (MFP)  8	TOTAL PLATE COUNT PAGE 1100 001	TOTAL PLATE COUNT THE COUNT	TOTAL PLATE COUNT	AVE. COLIFORNS per 100 ml. no. OF SANZLES	COLIFOI	COLIFORNS Per 100 ml.  COLIFORNS Per 100 ml.	8 8	COLIFORNS COLIFORNS COLIFORNS Per 100 ml.		INCUSATOR TEMP.
11	NO. OF COLIFORNS FER 100 ml.	TOTAL PLANE COURT COURT LANGE PAGE 100 ml.	COL 1 FO	TOTAL PLATE COUNT	AVE. COLIFORMS per 100 ml. NO. OF SAMPLES	-	2 3		ORMS. 00 ml. 0RMS	00MS 00 ml.	TOR TEMP.
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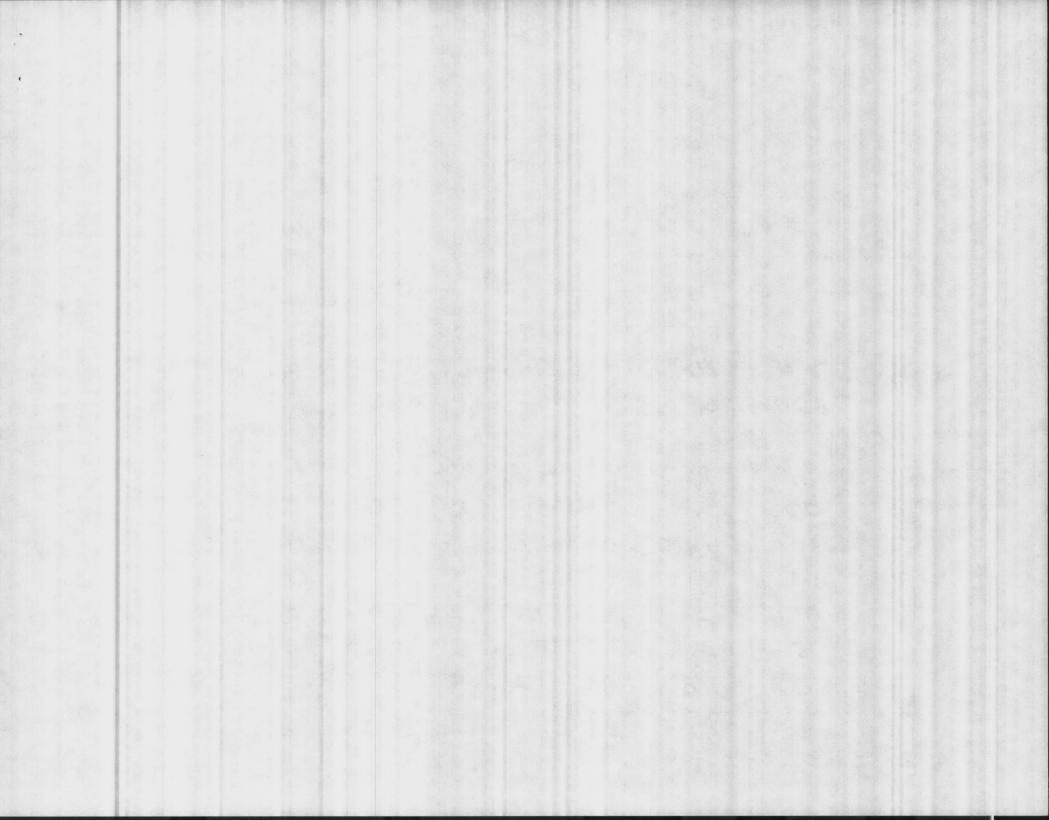


CHEMICAL ANALYSIS	- WATER T	REATMENT PL	ANTS				3-3-8	7	3-3-	87
PARAMETER SERVAL#04-67	HADNOT POINT	CAMP JOHNSON	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY -047	RIFLE RANGE	HOLCOMB BLVD -04-3	NEW RIVER		
PH (IN LAG NOT PLANT)	8.8	7.3	8.6	7.4	8.1	8.2	8.3	8.6		
PHENOLTHALEIN ALKALINITY	4	0	4	0	0	2	0	14		
METHYL ORANGE ALKALINITY	50	168	52	160	180	164	60	130		
CARBONATES AS CaCO <sub>3</sub>	8	0	8	0	0	4	0	28		
BICARBONATES AS CaCO <sub>3</sub>	42	168	44	160	180	160	60	102		
CHLORIDES AS C1	10	10	18	20	16	66	14	60		Last last
HARDNESS AS CaCO <sub>3</sub>	72	54	62	60	56	60	64	60		
RON AS Fe			A.A.	DOWN	FOR R	EPAIRS				
FLUORIDE PM	0.80	0.12	0.76	0.12	0.10	0.09	0.79	52		
CHLORINE RESIDUAL	1.0	1.2	1.0	0.5	1.4	0.8	1.0	1.0		
TURBIDITY PM	0.6	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:	
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NOTE: All results reported and specific condu	in parts per millio	on unless otherwise of potable water is	noted except for p	H, temperature, n one kilogram.	LABORATORY AN	ALYSIS BY			□ PMU	☐ MCAS PMU
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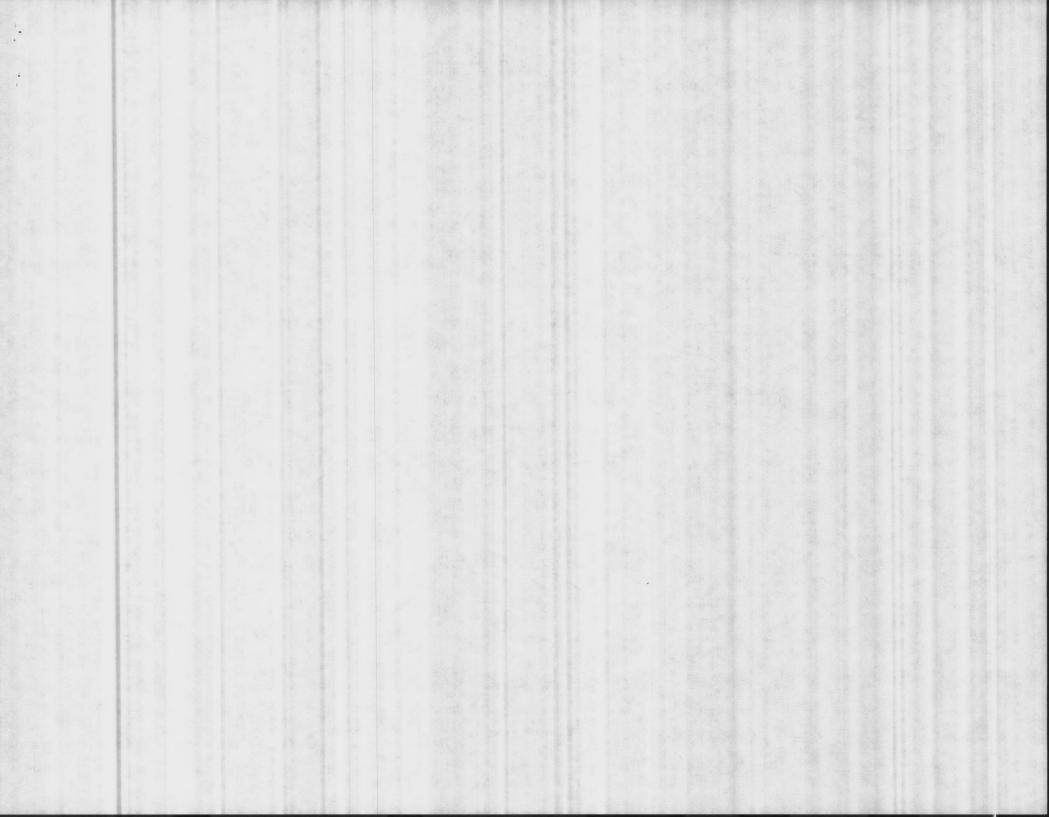


CHEMICAL ANALYSIS MCBCL 11330/3 (REV. 6-84)		REATMENT PL	ANTS			No.	3-10-8	37	DATE OF ANALYSIS 3-10-87
PARAMETER Serial*04-67	HADNOT POINT	CAMP JOHNSON	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD -043	NEW RIVER	
PH (IN LAS NOT PLANT)		7.5	8.7	7.5	8.1	8.3	8.9	8.8	
PHENOLTHALEIN ALKALINITY	2	0	4	0	0	2	6	8	
METHYL ORANGE ALKALINITY	50	164	60	150	166	160	56	130	
CARBONATES AS CaCO <sub>3</sub>	4	0	8	0	0	4	12	16	
BICARBONATES AS CaCO <sub>3</sub>	46	164	52	150	166	156	44	114	
CHLORIDES AS C1	14	10	10	20	10	50	10	60	
HARDNESS AS CaCO <sub>3</sub>	64	60	70	58	54	60	66	42	
IRON AS Fe			A.A.	Down	4				
FLUORIDE AM	0.76	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 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	10.1	
REMARKS '									СОРУ ТО:
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NOTE: All results reported	d in parts per millio	on unless otherwise of potable water is	noted except for phassumed to weigh	f, temperature,	LABORATORY AN	ALYSIS BY			□ PMU □ MCAS PMU
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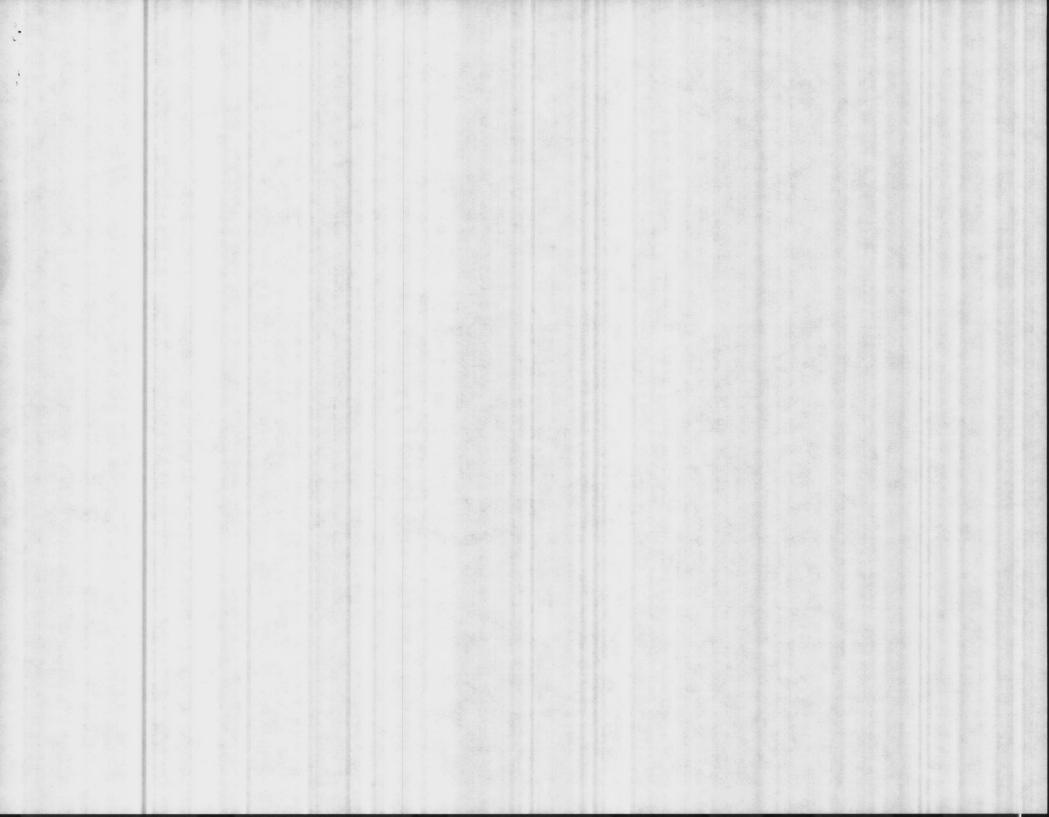
CHEMICAL ANALYSIS MCBCL 11330/3 (REV. 6-84)	- WATER T	REATMENT PL	ANTS			The state of	3-17-87		3-17-	87
PARAMETER SERIAL#04-67	HADNOT POINT	CAMP JOHNSON	TARAWA TERRACE - 044	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD ーのよう	NEW RIVER		
PH (IN LAG NOT PLANT)	8.2	8.2	8.6	7.6	8.3	8.4	8.6	8.8		
PHENOLTHALEIN ALKALINITY	0	0	2	0	0	0	2	12		
METHYL ORANGE NEKALINITY	58	66	58	162	178	162	52	144		
CARBONATES AS CaCO <sub>3</sub>	0	0	4	0	0	0	4	24		
BICARBONATES AS CaCO <sub>3</sub>	58	66	54	162	178	162	48	120		
CHLORIDES AS C1	8	8	8	18	20	48	8	58		
HARDNESS AS CaCO <sub>3</sub>	66	64	66	60	68	56	66	54		
RON AS Fe			A.A.	DOWN						
LUORIDE AM	0.25	0.65	0.69	0.17	0.12	0.10	0.90	0.58		
HLORINE RESIDUAL	1.0	1.0	1.0	1.2	1.2	1.1		0.7		
URBIDITY PM	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.1		
OTAL PHOSPHATE		0.4			58					
ORTHO PHOSPHATE		0.2								
META PHOSPHATE		6.2								
STABILITY	0.0	+0.2	+0.1	-0.4	+0.2	+0.1	+0.2	105		
REMARKS '		2							СОРУ ТО:	
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									□ WATER T	REATMENT
NOTE: All results reported	in parts per millio	on unless otherwise	noted except for ph	i, temperature,	LABORATORY ANA	ALYSIS BY			□ PMU	☐ MCAS PMU
and specific condu	ctance. One liter	of potable water is	assumed to weigh	one kilogram.	LANE +	BURN	<		□ NREAD	D FILE

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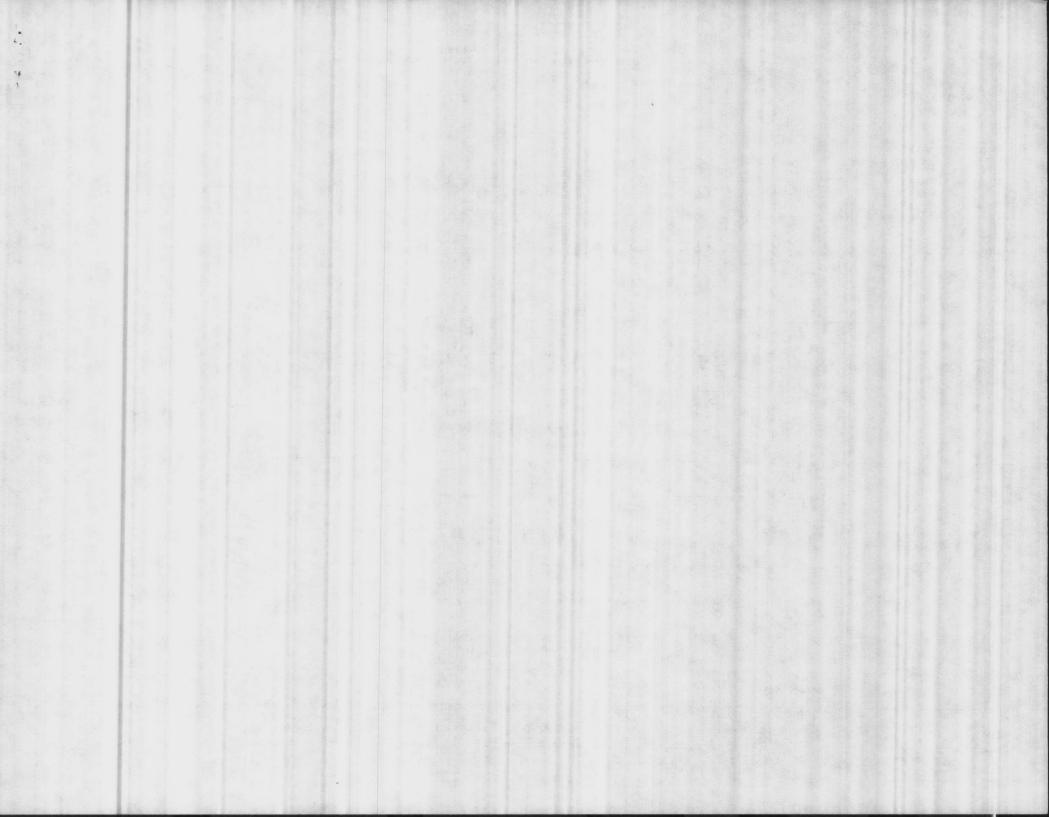
CHEMICAL ANALYSIS MCBCL 11330/3 (REV. 6-84)	- WATER TO	REATMENT PL	ANTS				3-24-		3-24	-87
PARAMETER SERIAL*04-67	HADNOT POINT	CAMP JOHNSON	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER		
PH (IN LAS NOT PLUT)				7.4	8.1	8.2	8.4	8.8		
PHENOLTHALEIN ALKALINITY	4			0	0	4	4	20		
METHYL ORANGE ALKALINITY	70			160	174	156	56	130		
CARBONATES AS CaCO3	8			0	0	8	8	40		
BICARBONATES AS CaCO <sub>3</sub>	62			160	174	148	48	90		
CHLORIDES AS C1	10			18	20	50	10	60		
HARDNESS AS CaCO <sub>3</sub>	74			64	54	54	68	48		
IRON AS Fe				A.A.	DOWN			14-14-2		
FLUORIDE AM	0.61			0.14	0.11	0.09	0.98	0.52		
CHLORINE RESIDUAL	1.1			1,2	1.2	1.0	1.1	0.8		
TURBIDITY PM	1.1			0.1	0.1	0.1	0.2	1.1		
TOTAL PHOSPHATE										
ORTHO PHOSPHATE										
META PHOSPHATE									a gr	
STABILITY	10.4		S. 905	-0.6	-0.1	-0.1	10.2	10.2		
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							36		□ WATER	TREATMENT
NOTE All results reported	in parts per millio	on unless otherwise	noted except for	pH, temperature,	LABORATORY AN	ALYSIS BY			□ PMU	□ MCAS PMU
and specific condu	ictance. One liter	of potable water is	assumed to weig	gh one kilogram.	BURNS				□ NREAD	O FILE

ENCLOSURE | |21



CHEMICAL ANALYSIS MCBCL 11330/3 (REV. 6-84)	- WATER TO	REATMENT PL	ANTS				3-31-8	37	3-31	- <b>87</b>
PARAMETER	HADNOT POINT	CAMP JOHNSON	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD -043	NEW RIVER		
PH (IN LAS 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 <sub>3</sub>	0			0	0	0	4	32		
SICARBONATES AS CaCO <sub>3</sub>	56			168	194	186	54	116		
CHLORIDES AS C1	6			26	16	48	10	60		
HARDNESS AS CaCO <sub>3</sub>	60			54	60	62	66	44		
RON AS FE  FLUORIDE  PM	0.19			A.A. 0.14	DOWAL 0.12	0.11	0.92	0.58		
CHLORINE RESIDUAL	1.0			1.2	1.21	1.1	1.5	0.8		
TURBIDITY PM	0.1			0.1	0.1	0.1	0.1	0.2		
TOTAL PHOSPHATE						1				
ORTHO PHOSPHATE		1						1.5		
META PHOSPHATE										
STABILITY	-0.4			-0.6	-0.2	-0.5	-0.1	0.0		
REMARKS									COPY TO:	
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NOTE: All results reported and specific condu	in parts per millio	on unless otherwise	noted except for assumed to weigh	pH, temperature.	LABORATORY AND	ALYSIS BY			□ PMU	□ MCAS PMU
and specific condu					BARBER	=			D NREAD	G FILE

ENCLOSURE Q



11331 NREAD DEC 0 9 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 NRBAD, Assistant Chief of Staff, Pacilities. 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

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WATER TREATHENT PLANT AT Camp Lejeune Method Code:

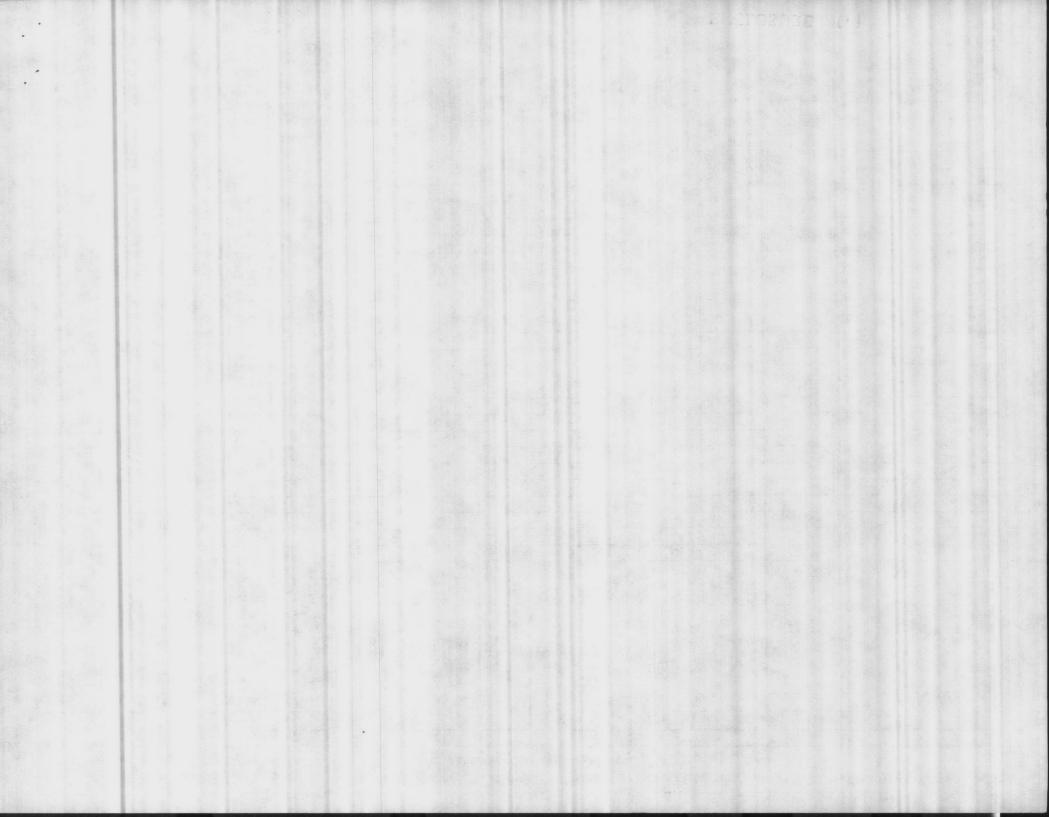
REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES COntaminant Code:

303 3000

Serial # 04-67-04

N. C. DEPARTMENT OF HUMAN RESOURCES

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Ionth NOVEMBER car 1986 REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES Contaminant Code: 3000

Setial # 04-67-04Z N. C. DEPARTMENT OF HUNAN RESOURCES

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WONTH THE WILLIAM Year 1986 : NOWDING DUND

WATER TREATHENT PLANT AT Camp Lejeune Method Code: 303

Contaminant Code: 3000

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Serial # 04-67-043 N. C. DEPARTMENT OF HUMAN RESOURCES

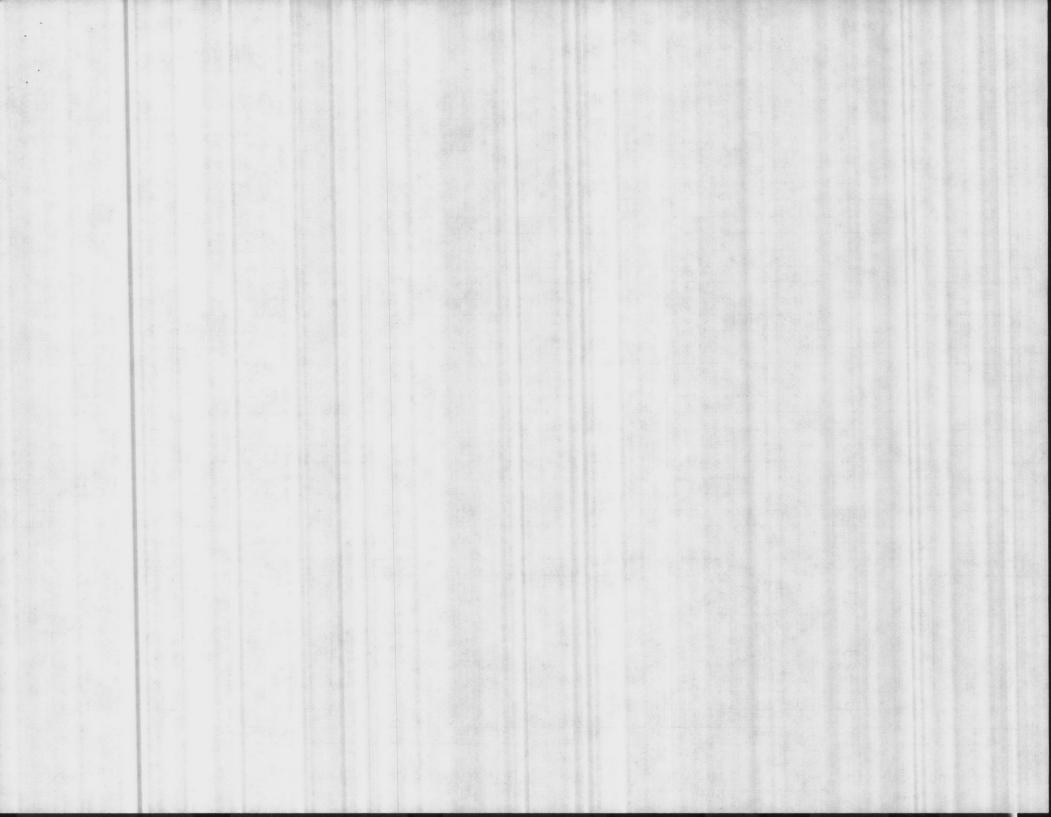
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LAB ID# 37807

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IONIA LIVERINE REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES car 1986

MATER TREATHENT PLANT AT Camp Lejeune

Contaminant Code: 303

Setial # 04-67-044

N. C. DEPARTMENT OF HUMAN RESOURCES

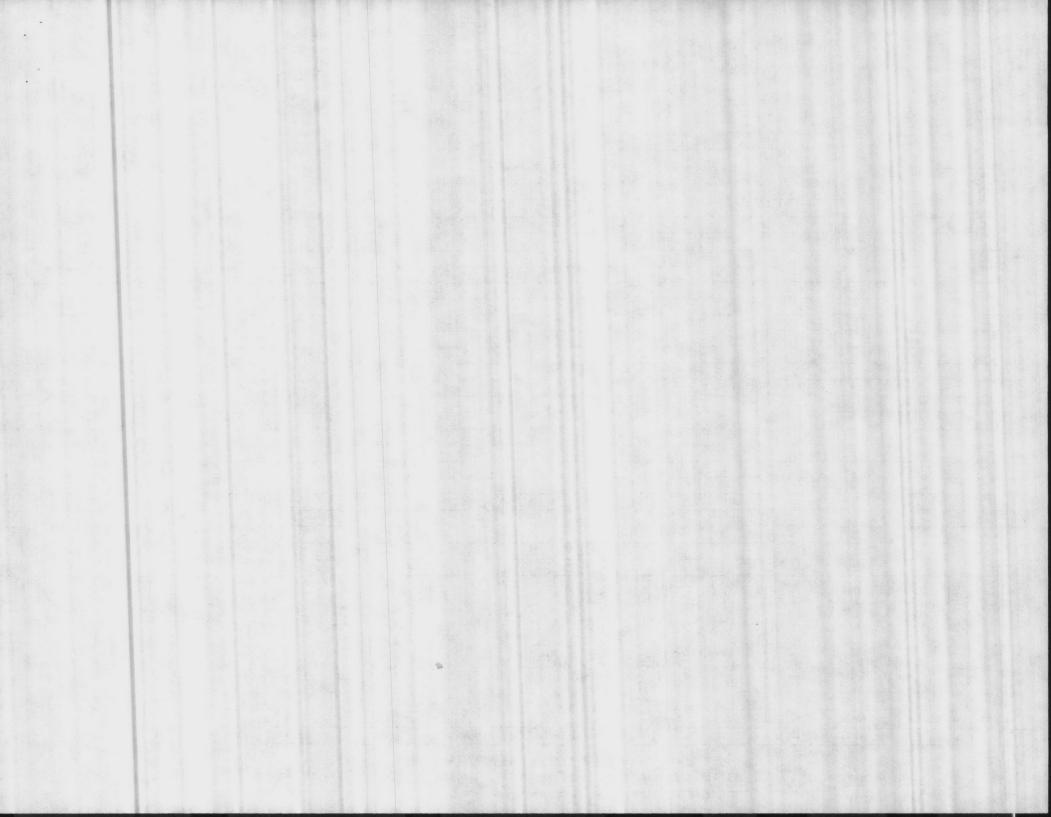
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REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES COntaminant Code: 3000

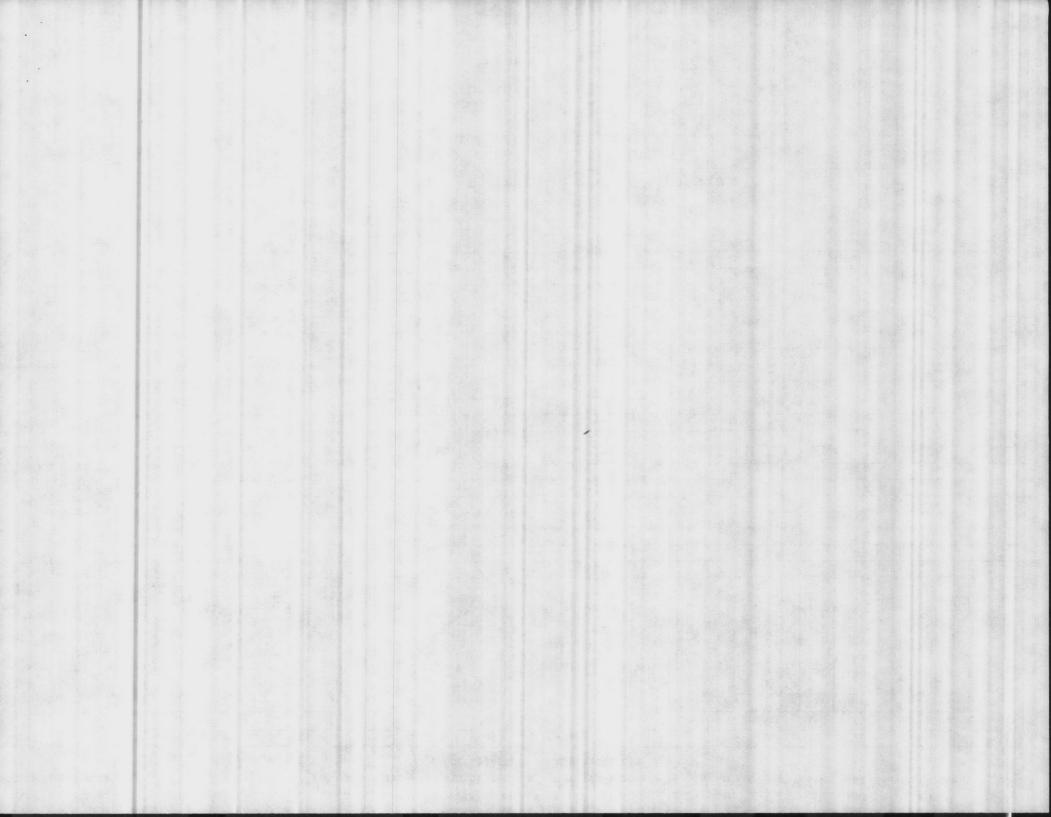
Serial # 04-67-045 N. C. DEPARTMENT OF HUMAN RESOURCES

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LAB ID # 37807

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HONTH HOVEMBEIL Year 1986

NIFLE KANGE

WATER TREATHENT PLANT AT Camp Le jeune

Method Code: Contaminant Code:

303 3000

Setial # 04-67-046

N. C. DEPARTMENT OF HUMAN RESOURCES

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

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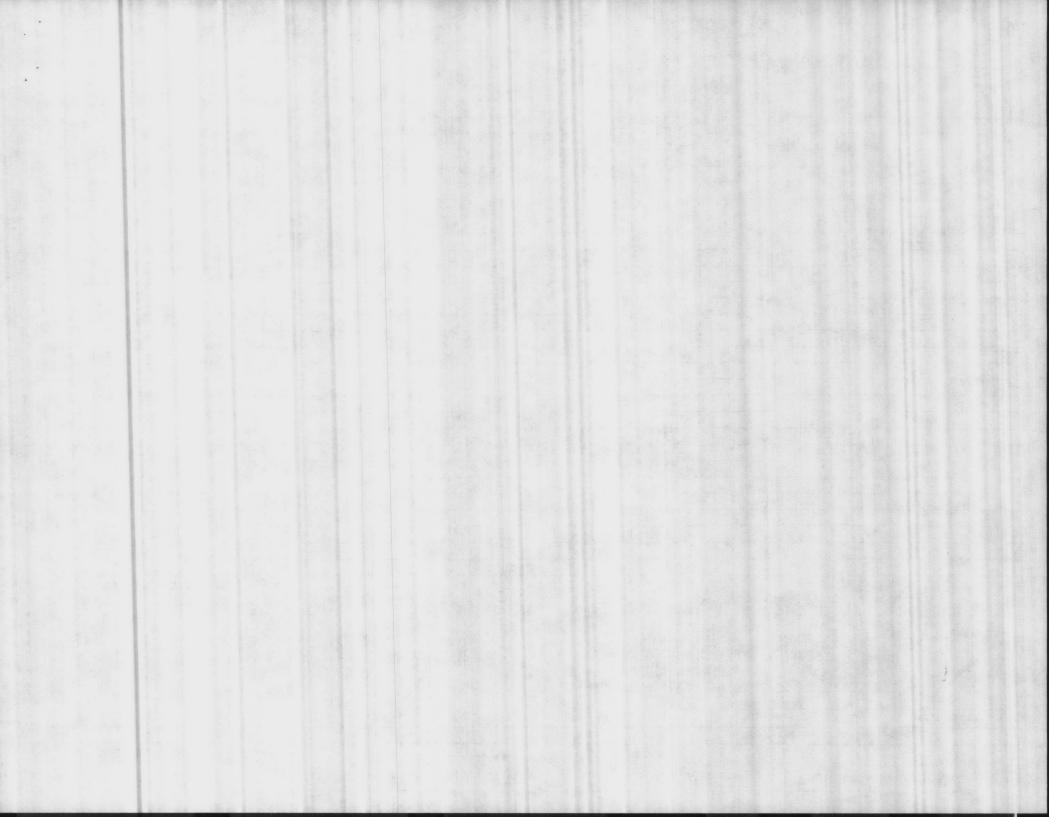
303 3000

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES COntaminant Code:

N. C. DEPARTMENT OF HUHAN RESOURCES

Serial # 04-67-047 RAW WATER COLIFORMS (MFF) DISTRIBUTION SYSTEM FILTERES. FINISHED COLIFORMS (MFP) REPEAT SAMPLES 5 MEP COLIFORMS NO. 07 TATOT STAJA TRUOD TOTAL PLATE COUXT TOTAL COLIFORMS PER. Per 100 ml. AVE. COLIFORMS per 100 ml. PLATE NO. OF SAPLES EXAMINED INCUBATOR TEMP YOLUME FILTERED m1. YOLUME FILTERED ml. 100 ml. COLIFORMS 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 COLIFORM TOTAL COLIFORM TOTAL COLONIES COLONIES TOTAL COLONIES 3 00 4 0 0 35.0 5 6 8 9 1: 11 12 0 0 0 4 0 34.9 13 15 16 17 18 00 0 4 0 35.0 0 19 20 21 22 23 24 25 0 3 10 0 35.0 26 27 23 23 30 31 BBL mendo DETERIAL ARITH. HEAN DENSITY GEO. HEAN ME HEDIA 1.0 | CIST. TOTAL NO. SAMPLES O SYSTEM SAMPLES EXCELLEING 3/50. 4/100, 7/200. 13/500mi O Elizabetts abet B-WELL 40.87-W TPC HESTA

LAB ID # 37807



IONIN AVEVERIOR

1car 1986

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

LINGSON DEACH WATER TREATHENT PLANT AT Camp Lejeune Method Code: 303

Contaminant Code: 3000

Serial # 04-67-048 N. C. DEPARTMENT OF HUHAN RESOURCES

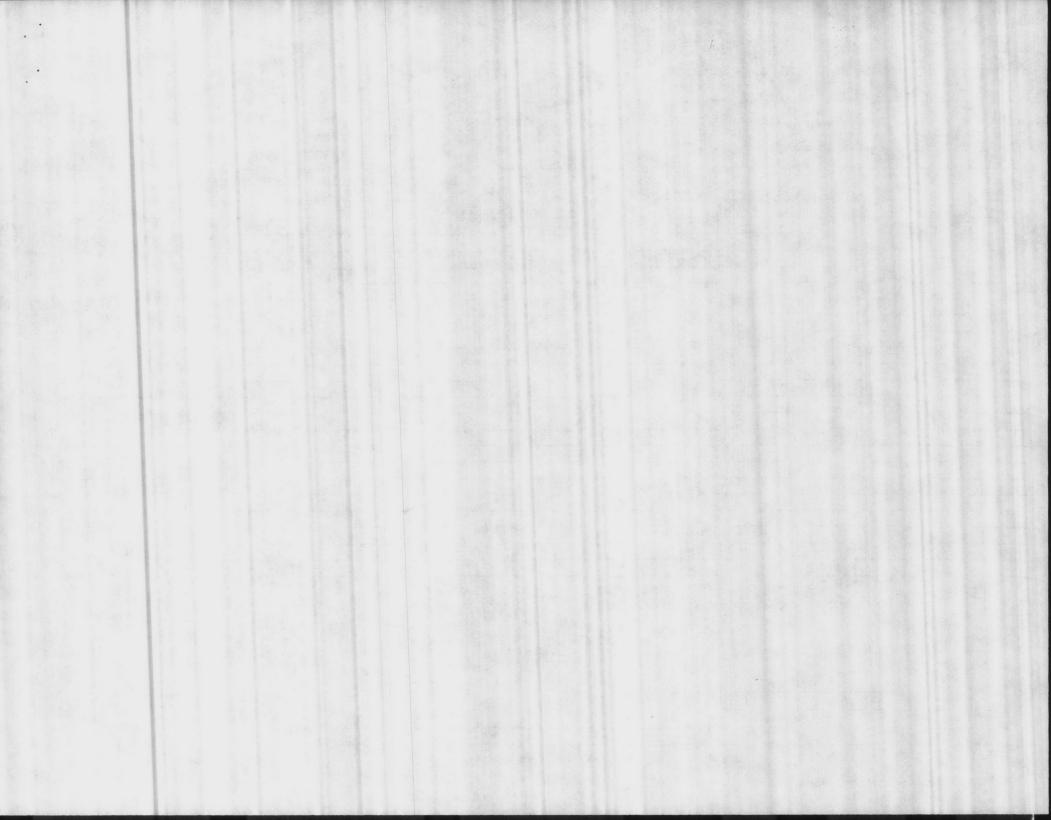
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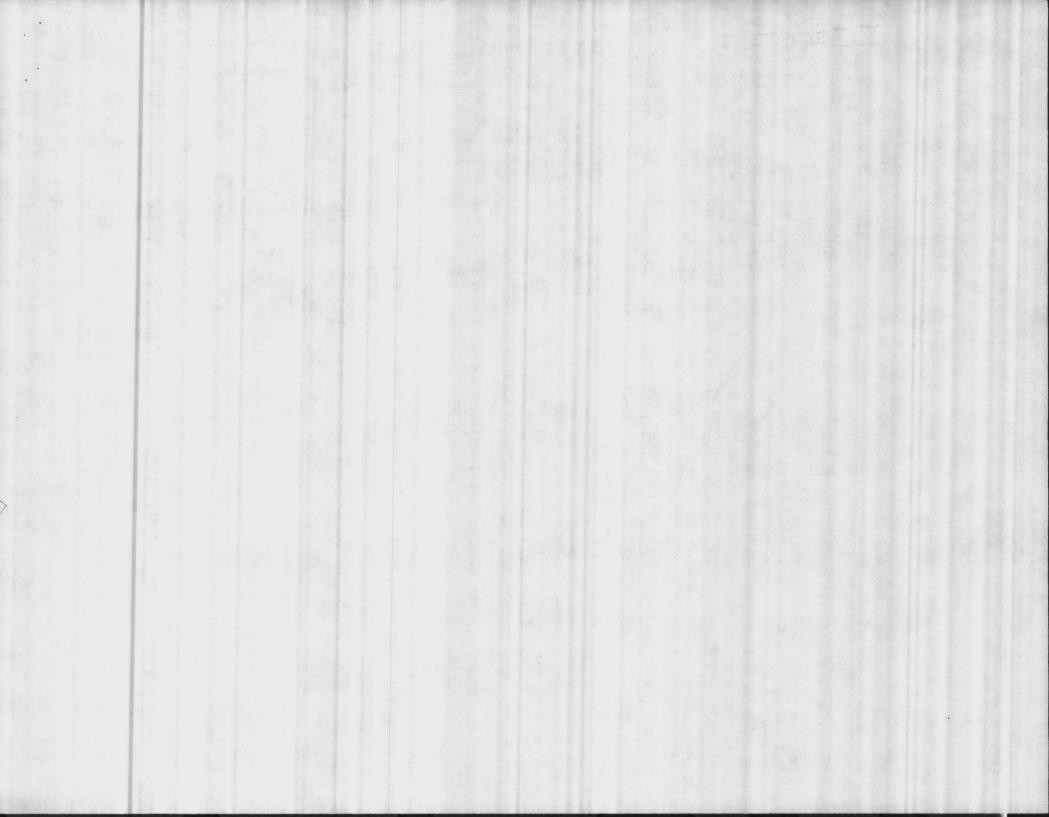
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B-WELL

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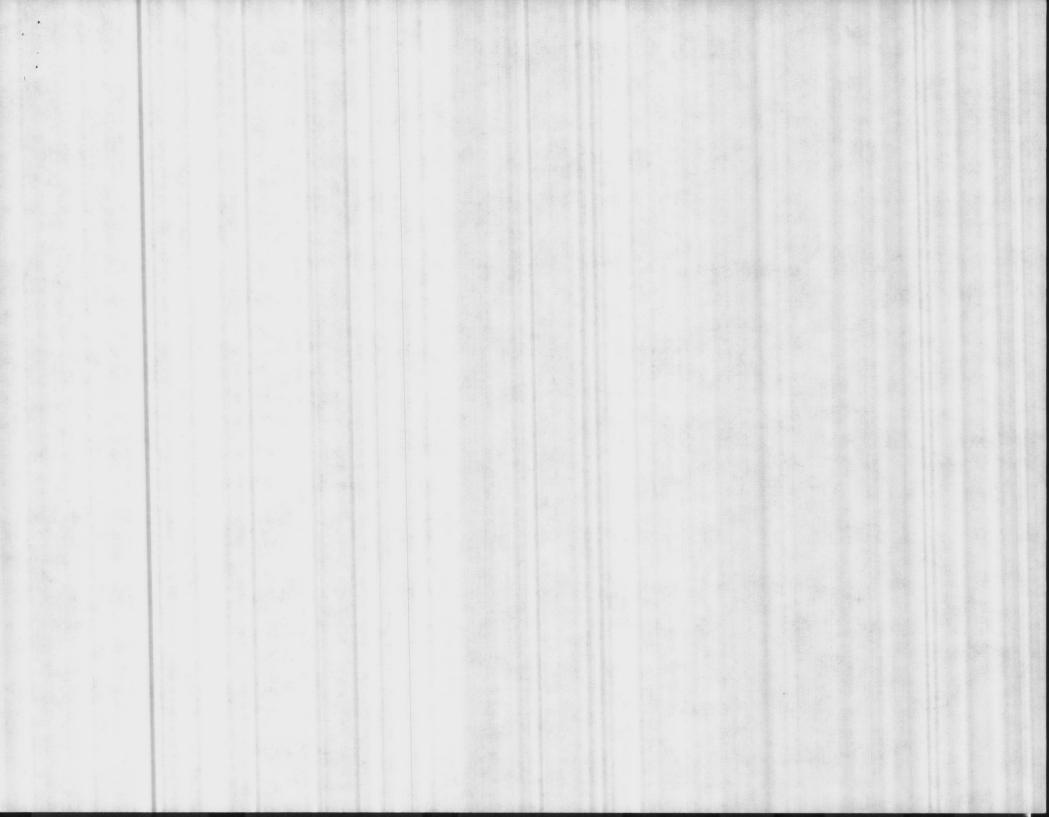
CHEMICAL ANALYSIS MCBCL 11330/3 (REV 6-84)	WATER TR	EATMENT PL	ANTS				DATE COLLECTED	86	DATE OF ANALY	
PARAMETER SEEIN FOR-41	HADNOT POINT - 941	CAMP JOHNSON	TARAWA TERRACE -044	ONSLOW BEACH -048	COURTHOUSE BAY -247	RIFLE RANGE	HOLCOMB BLVD >+3	NEW RIVER OHZ		
PH (IN LAW NOT PLANT)	9.2	7. 3	8.5	7.4	7.7	8.0	8.4	8.6		
PHENOLTHALEIN ALKALINITY	10	0	4	0	0	٥	2	18		
METHYL ORANGE ALKALINITY	42	170	58	150	170	170	54	146		
CARBONATES AS CaCO <sub>3</sub>	20	0	8	0	0	0	4	36		
BICARBONATES AS CaCO <sub>3</sub>	22	170	50	150	170	170	50	110		
CHLORIDES AS C1	16	_10	16	18	14	40	10	60		
HARDNESS AS CaCO <sub>3</sub>	52	60	70	58	72	60	70	44		
IRON AS Fe	20.04	0.24	40.04	0.12	0.06	10.04	0.04	20.04		
FLUORIDE PM	1.08	0.25	0.83	0.20	0.15	0.14	1.08	0.59		
CHLORINE RESIDUAL	_1,	1.4	1.0	1.5	1.4	1.0	1.0	0.8		
TURBIDITY PM	0.5	0.9	0.5	0.4	0.4	0.6	0.6	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		
HEMARKS									COPY TO:	
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NOTE: All results reported and specific conduc	in parts per million	unless otherwise	noted except for pH	, temperature,	LABORATORY ANA	ALYSIS BY	EN	CLOSURE	PMU	Q-MCAS PMU
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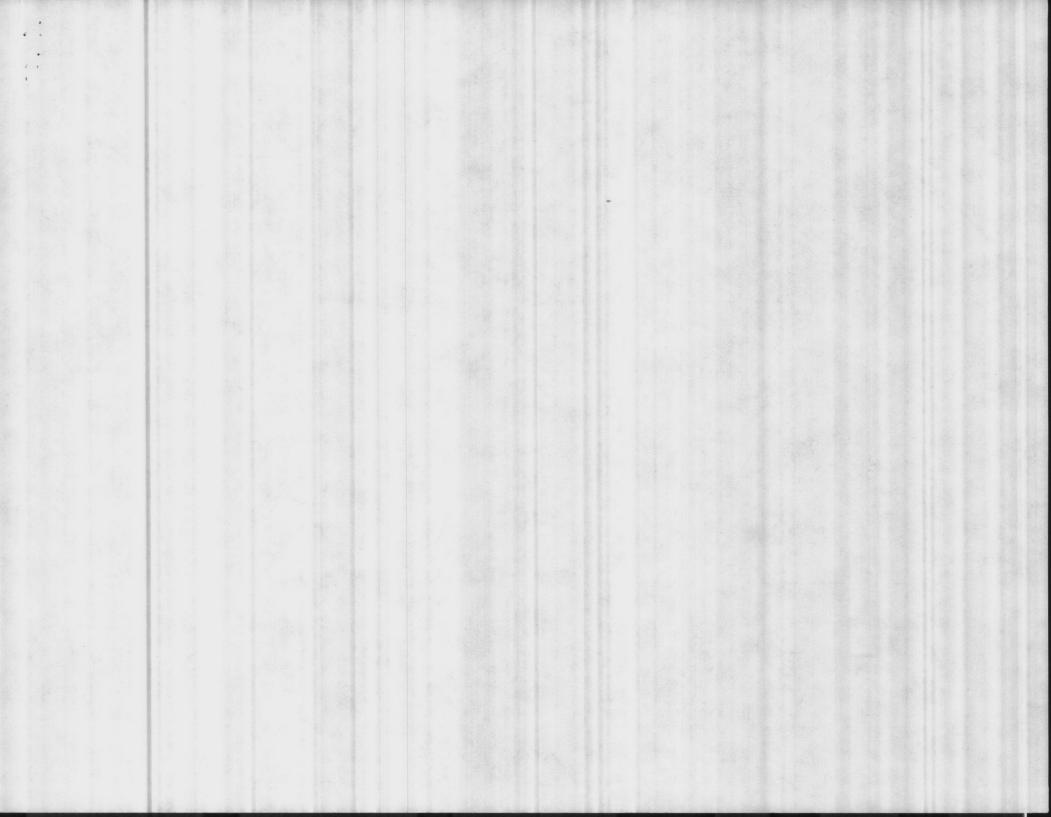
CHEMICAL ANALYSIS MCBCL 11330/3 (REV 6-84)	- WATER TR	EATMENT PLA	ANTS				DATE COLLECTED	80	DATE OF ANAL	YSIS Z-86		
PARAMETER	TONDAH TONOA TOPA	CAMP JOHNSON	TARAWA TERRACE -044	ONSLOW BEACH -048	COURTHOUSE BAY -247	RIFLE RANGE - QU'G	HOLCOMB BLVD -0+3	NEW RIVER				
PH (IN LAW NOT PLINIT)	8.7	7.4	8.7	7.7	8. 2	8-0	8-6	8.7				
PHENOLTHALEIN ALKALINITY	4	Q	10	0	0	0	G	16				
METHYL ORANGE ALKALINITY	54	176	48	/70	168	170	56	148				
CARBONATES AS CaCO <sub>3</sub>	8	٥	20	σ	0	0	12	32				
BICARBONATES AS CaCO <sub>3</sub>	46	176	28	170	168	170	44	116				
CHLORIDES AS C1	/0	14	16	24	20	44	16	60				
HARDNESS AS CaCO <sub>3</sub>	74	68	74	54	44	62	78	5-2				
RON AS Fe	L0.04	0.21	0.24	0.12	20.04	L0.04	20.04	20.04				
FLUORIDE PM	0.95	0.18	0.81	0.17	0.13	0.12	0.77	0.59				
CHLORINE RESIDUAL	/· o	1.2	1.0	1.5	1.5	1.6	0.9	0.7				
TURBIDITY PM	0.6	1.1	5.8	0.5	6.4	0.5	0.8	0.8				
TOTAL PHOSPHATE		1.95										
ORTHO PHOSPHATE		1.11										
META PHOSPHATE		0.84										
STABILITY	10.4	-0.8	70.1	-0.5	-0.1	-0.2	40-2	40.1				
REMARKS									COPY TO:			
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	OTE: 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.											
and specific conduc	ctunes. One litter of	polabio water is a		and Knogram.	LANE \$	SARBE	-5-		□ NREAD ☑ FILE			



CHEMICAL ANALYSIS MCBCL 11330/3 (REV. 6-84)	- WATER TR	EATMENT PLA	NTS				DATE COLLECTED  11-18-		DATE OF ANAL	
PARAMETER	HADNOT POINT -04(	CAMP NOSNHOL	TARAWA TERRACE TOMM	ONSLOW BEACH -048	COURTHOUSE BAY -247	RIFLE RANGE - OU (	HOLCOMB BLVD -0+3	NEW RIVER		
PH (IN LAW NOT PLINIT)	8. 2.	7.2	8.2	7. 3	7. 9	7.7	8.0	8.3		
PHENOLTHALEIN ALKALINITY	4	0	0	0	0	0	O	10	#	
ETHYL ORANGE LKALINITY	68	168	50	168	184	184	62	154		
CARBONATES AS CaCO <sub>3</sub>	8	0	0	0	0	O	0	20		
BICARBONATES AS CaCO <sub>3</sub>	60	168	50	168	184	184	62	134		
CHLORIDES AS C1	16	14	14	24	22	46	16	66		
HARDNESS AS CaCO <sub>3</sub>	80	6 Z	74	52	46	62	68	48		
RON AS Fe	40.04	0.14	20.04	20.04	20.04	20.04	20.04	40.04		
LUORIDE PM	0.45	0.20	0.88	0.18	0.14	0.13	0.89	0.58		
CHLORINE RESIDUAL	1. 0	. 11	1.0	1.5	1. ]	1.0	0.9	1.0		
TURBIDITY PM	0.4	0.9	6,3	0.4	0.5	0.4	0.8	0-6		
TOTAL PHOSPHATE		2.7								
ORTHO PHOSPHATE		1.3								
META PHOSPHATE		14								
STABILITY	0	- 0.6	0	-0.7	- 0.3	-0.4	-0.3	-0.1		
REMARKS									COPY TO:	
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							à WATER T	REATMENT		
NOTE: All results reported and specific condu	in parts per million	unless otherwise	noted except for pH	, temperature,	LABORATORY ANA	LYSIS BY			42 PMU	MCAS PMU
and specific condu	ctance. One mer of	Polable Water is	accumed to weight	and knogram.	LANG	\$ 5/4 0/0	26-4		□ NREAD	Q_FILE .



CHEMICAL ANALYSIS MCBCL 11330 3 (REV 6-84)	WATER TR	EATMENT PLA	ANTS				DATE COLLECTED	86	DATE OF ANAL	.YSIS 5-86
PARAMETER SERIA POY-47	HADNOT POINT	CAMP JOHNSON	TARAWA TERRACE -044	ONSLOW BEACH -048	COURTHOUSE BAY -247	RIFLE RANGE - Q4 (	HOLCOMB BLVD ≎13	NEW RIVER		
PH (IN LAW NOT PLANT)	8.5	7. 3	8.6	7.3	7. 7	8-0	P. 3	8-6	2.74	
PHENOLTHALEIN ALKALINITY	4	0	6	0	. 0	.0	ح	18		
METHYL ORANGE ALKALINITY	54	170	46	156	170	160	5-0	140		
CARBONATES AS CaCO <sub>3</sub>	8	٥	12	0	a	0	4	36		1 10 14 14 14 14 14 14 14 14 14 14 14 14 14
BICARBONATES AS CaCO <sub>3</sub>	46	170	34	156	170	160	46	104		
CHLORIDES AS C1	10	10	10	20	16	Z6	10	60		
HARDNESS AS CaCO <sub>3</sub>	64	5-6	80	56	48	52	64	46		
IRON AS Fe	40.04	0.18	20.64	0.09	0-05	0.05	40.04	20.04		
FLUORIDE PM	1.44	0.20	0.78	0.18	0.16	0.14	0.94	0.63		7.0
CHLORINE RESIDUAL	1.1	1. 3	1.0	1.3	1.4	1.1	/. 0	0.9		
TURBIDITY PM	02	2.2	0.1	0.1	0.1	0./	0.1	0.1		
TOTAL PHOSPHATE		1.8					8 1			
ORTHO PHOSPHATE		1.0								
META PHOSPHATE		0.8								
STABILITY	40.3	-0.6	40.3	-0.8	-o.y	-0.2	-0.1	+0.1		
REMARKS									СОРУ ТО:	
			•				<u> </u>		CLUTIL DIR	σ
							6 WATER T	REATMENT		
NOTE: All results reported					LABORATORY ANA	LYSIS BY			<del>Б</del> -РМИ	MCAS PMU
and specific conduction	tance. One liter of	potable water is	assumed to weigh	one knogram.	Burens	+ LA	NE		□ NREAD	E FILE



FLING YOS



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

James G. Martin, Governor

Phillip J. Kirk Secretary

December 2, 1986

MEMORANDUM

FO:

Water Supply Systems

Operators and Managers

FRUM:

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:

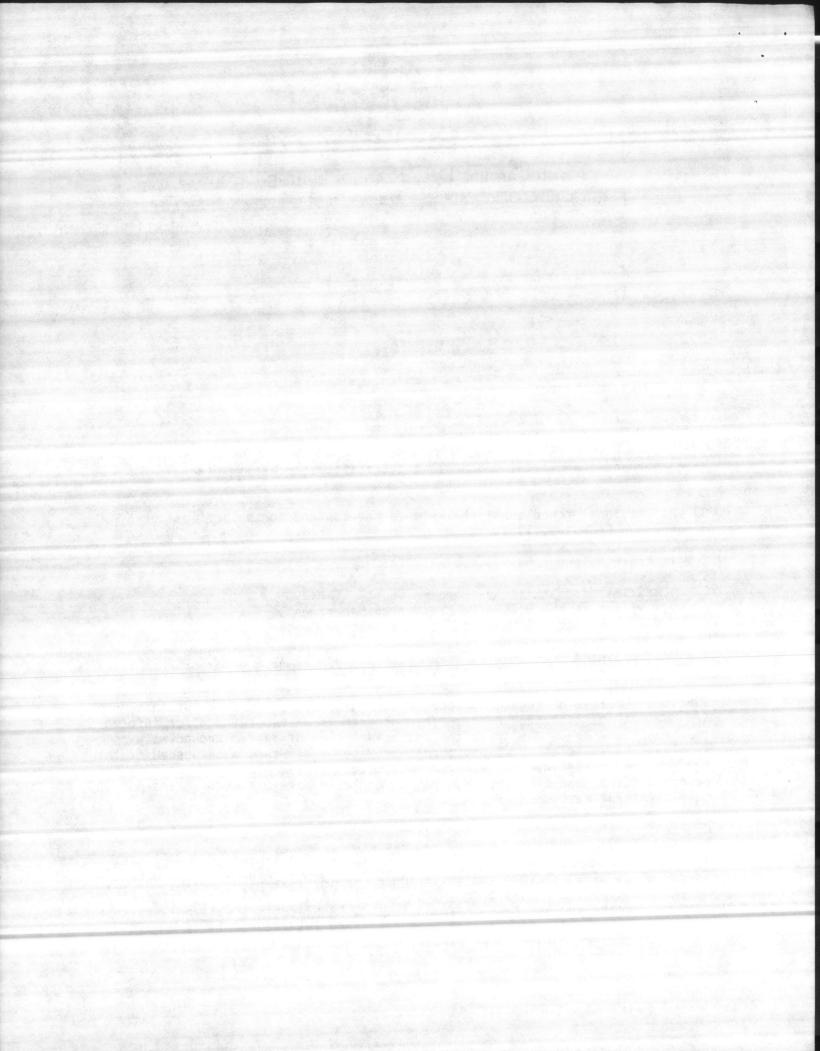
- 1. Wilmington at the New Hanover County Library.
- Wilson at the Wilson County Health Department.
   New Bern at the West New Bern Recreation Center.

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

Specific information regarding locations, schedules, and course outlines provided on the attached sheets. This program is developed to offer information and training in the operation and maintenance of public ground water 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 (NCWTFO 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

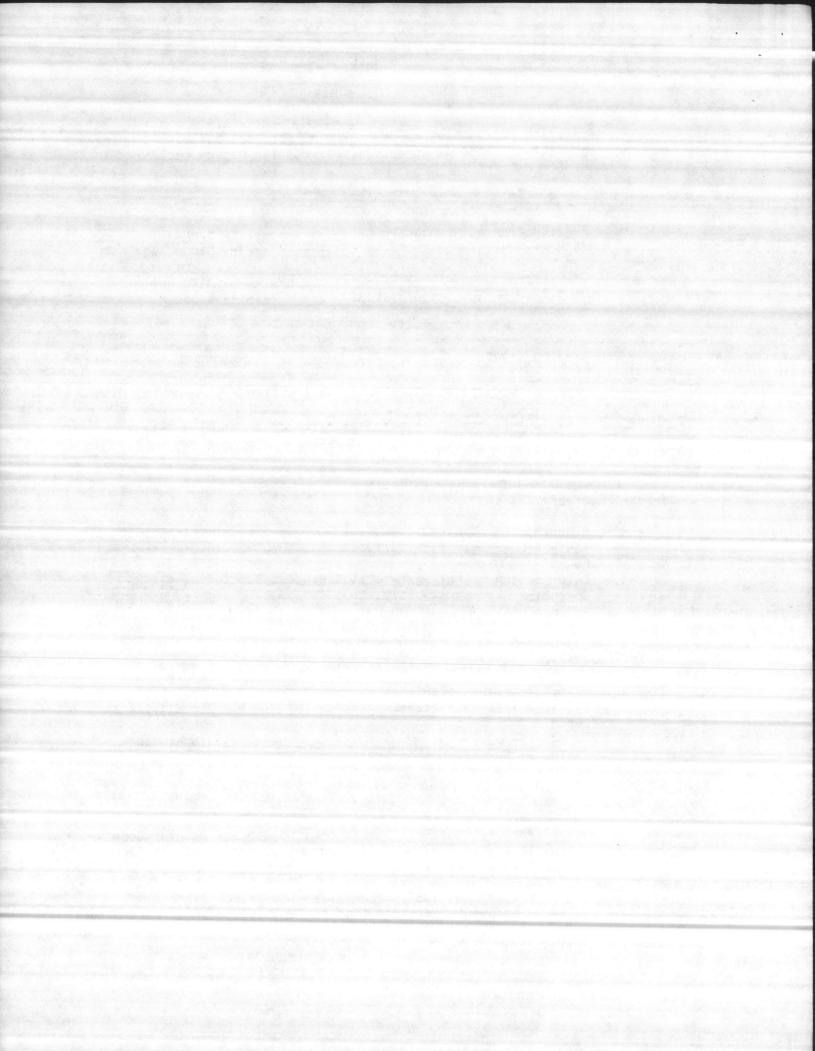
# GROUND WATER SYSTEM TRAINING SCHOOL

Location:	Greenville, NC Department of Human Resources Building, Conference Room, 404 St. Andrews Street (see location map on back)	9
Monday, Fe	bruary 9, 1987	
9:00 a.m. 9:30 12 Noon 1:00 p.m.	Math Macon Reavis	
3:00 4:30	Distribution & Storage Systems Wayne Floyd	
Tuesday, F	ebruary 10, 1987	
9:00 a.m. 12 Noon 1:00 p.m. 3:00 4:30	Lunch	
Wednesday,	February 11, 1987	
9:00 a.m. 11:00 12 Noon	Fluoridation Fred Hill Taste & Odor David Bissette Lunch	
1:00 p.m. 3:00 4:30	Chlorination & Equipment Glen Snader Corrosion Bucky Moore Adjourn	
Thursday,	February 12, 1987	
9:00 a.m. 11:00 12 Noon	Public & Press Relations Pat Williamson	
1:00 p.m. 3:30 4:30	Pumps Jim Higdon Review Questions & Answers Mike Bell 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.



#### C-WELL

## GROUND WATER SYSTEM TRAINING SCHOOL

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

## Tuesday, January 13, 1987

8:30 a.m. 9:00		Brenda Buc Mike Bell
11:30	Lunch	HIVE DELL
12:30 p.m.	Monitoring & Standards	Jim Wiselv
2:00	Break	O'III WISCIJ
2:15	Well Site Locations	Mike Formy Muyal
3:00	Distribution & Storage Systems	Fred Hill
4:00	Adjourn	
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# Tuesday, January 20, 1987

8:30 a.m. Water Chemistry and Kits	THE WISELA
10:30 Chlorination	Glen Snade
11: 30 Lunch	
12:30 p.m. Chlorination Equipment	Glen Snader
1:30 Math Review	Glen Snade
2:00 Break —	
2:15 Water Pumps (Operation & Maintenance)	Jim Hiddon
4:00 Adjourn	o i iii i i gaon

# Tuesday, January 27, 1987

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

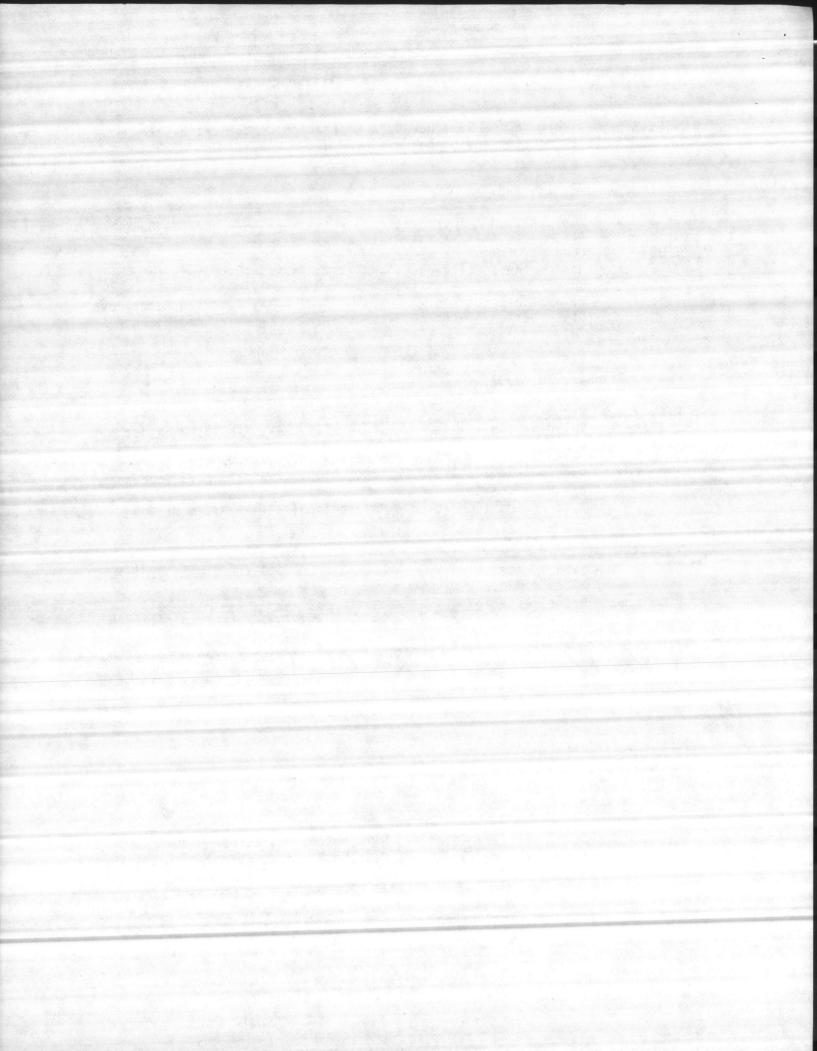
Tuesday, February 3, 1987

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

# Wednesday, January 21, 1987

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

# Wednesday, January 28, 1987

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

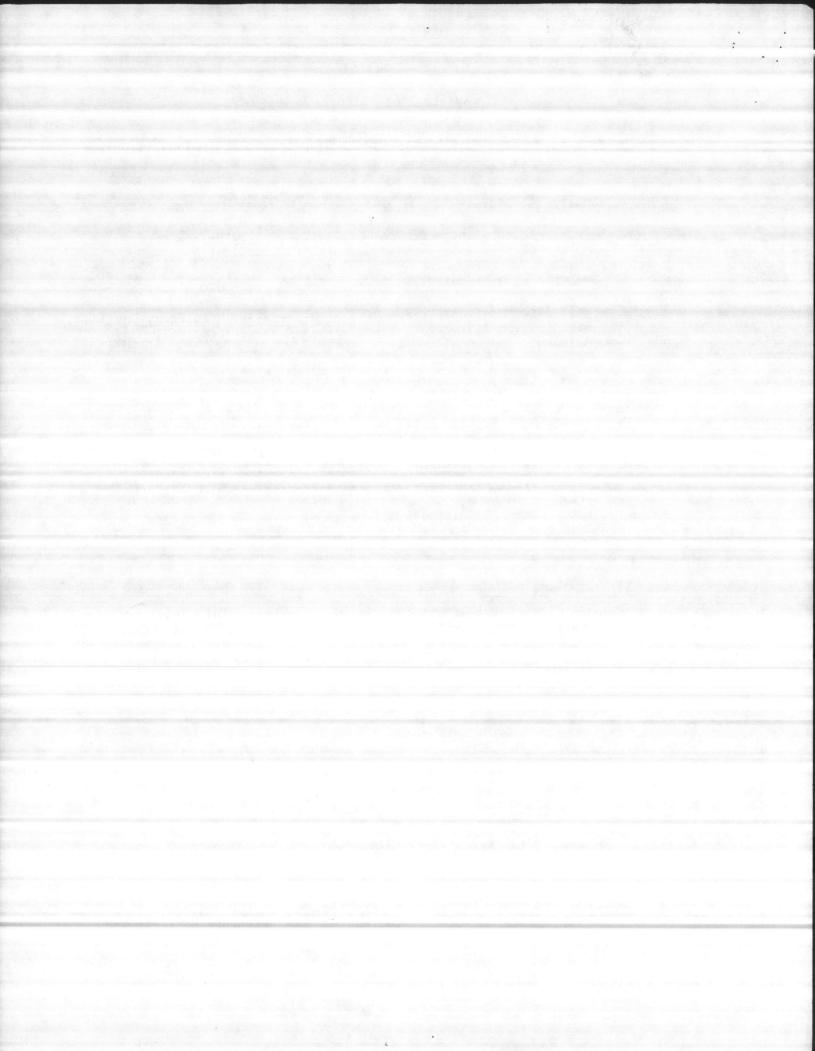
Wednesday, February 4, 1987

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. 9:30	Registration & Introduction		
12 Noon	Lunch	Wallace Marin	
1:00 p.m.	Monitoring & Standards	Jim Wisely	
2:30	Break		
2:45	Well Site Locations	Mike Formy Duva	1
3:30	Distribution & Storage Systems	Fred Hill	
4:30	Adjourn		8

## Thursday, January 22, 1987

9:00 a.m.	Water Chemistry and KitsChlorination	Jim	Wisely
11:00	Chlorination	Gle	n Snader
12 Noon	Lunch		-0
1:00 p.m.	Chlorination Equipment Math Review Break	Gle	Snade
2:00	Math Review	Gle	Snade
2:30	Break		
2:45	Water Pumps (Operation & Maintenance)	Jim	Higdon
4:30	Adjourn		32014

## Thursday, January 29, 1987

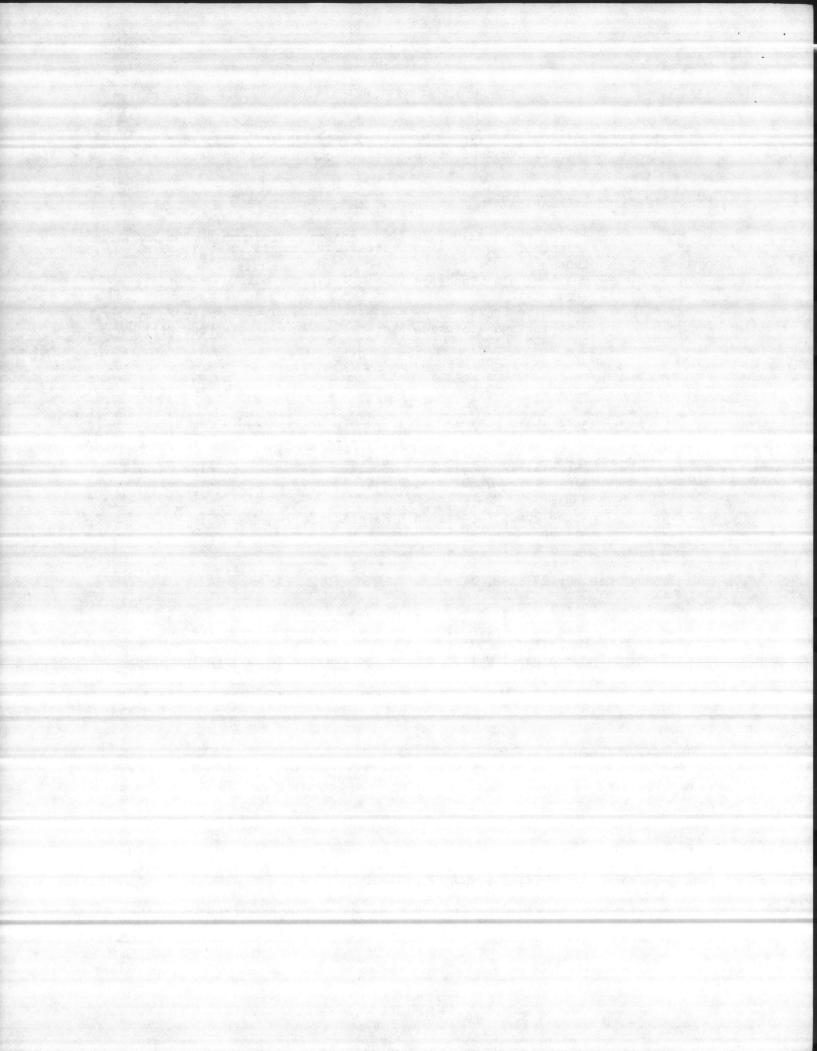
9:00 a.m.	Water Bacteriology	Mike Bell
11:00	Water Bacteriology Treatment Alternatives	Fred Hill
12 Noon	Lunch	
1:00 p.m.	Hydrology & Well Construction	Ralph Harpe
3:00	Break	
3:15	Review Questions & Answers	Mike Bell
4:30	Adjourn	

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.

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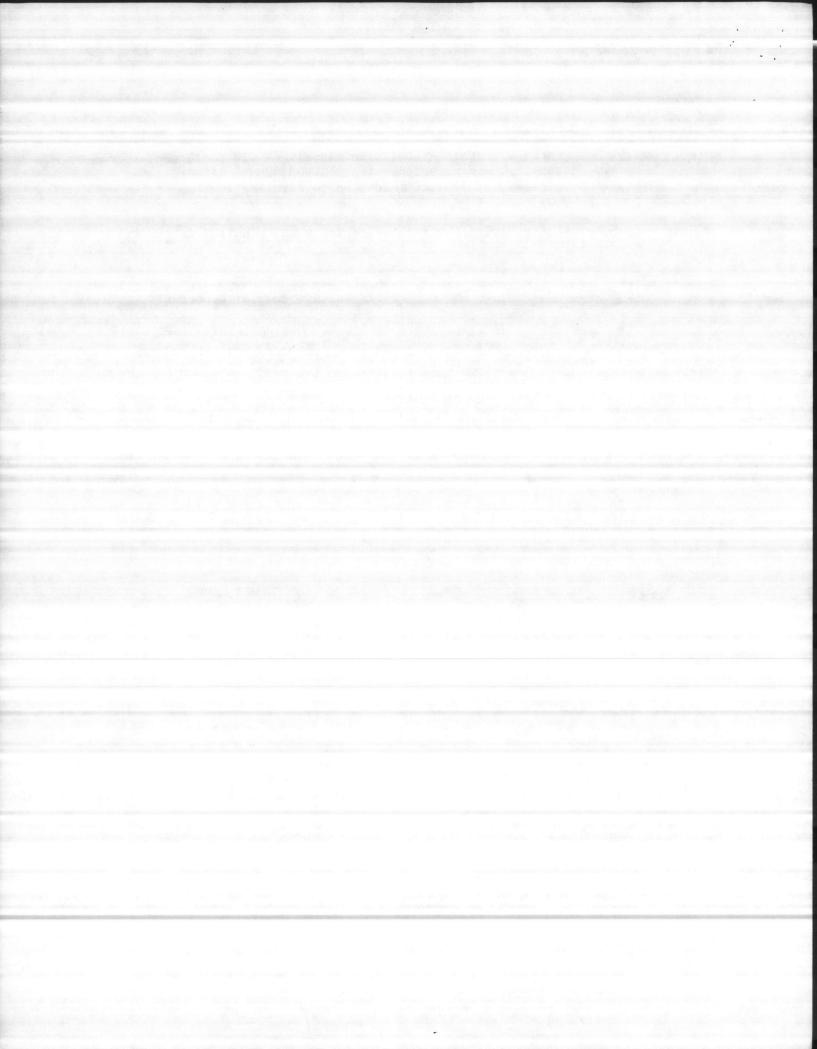
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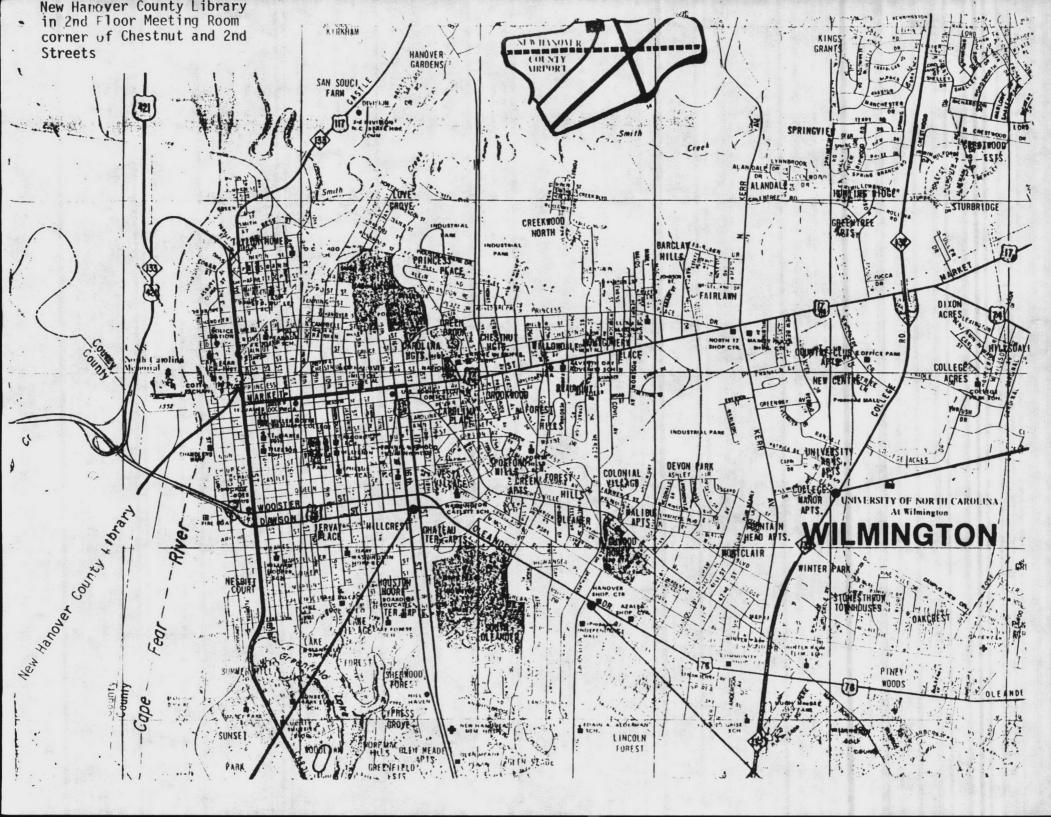
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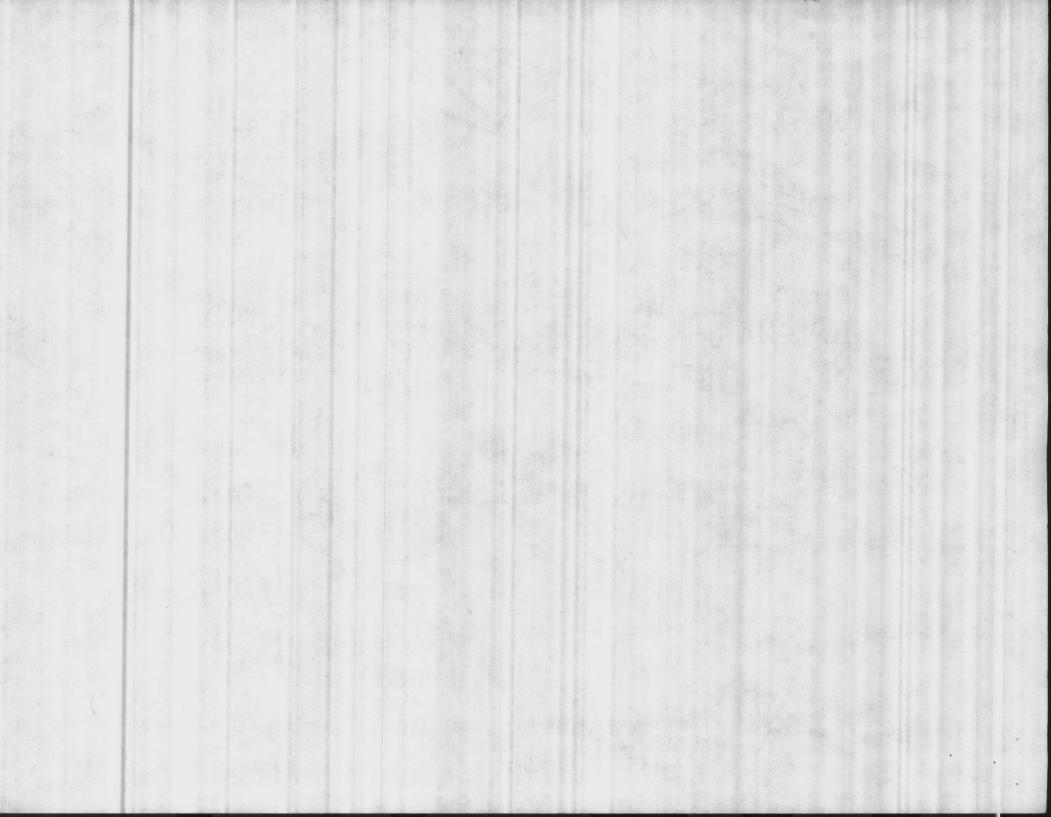
 Greenville on February 13, 1987, in the ECU Regional Development Institute (Auditorium) at the corner of First and Reade Streets.

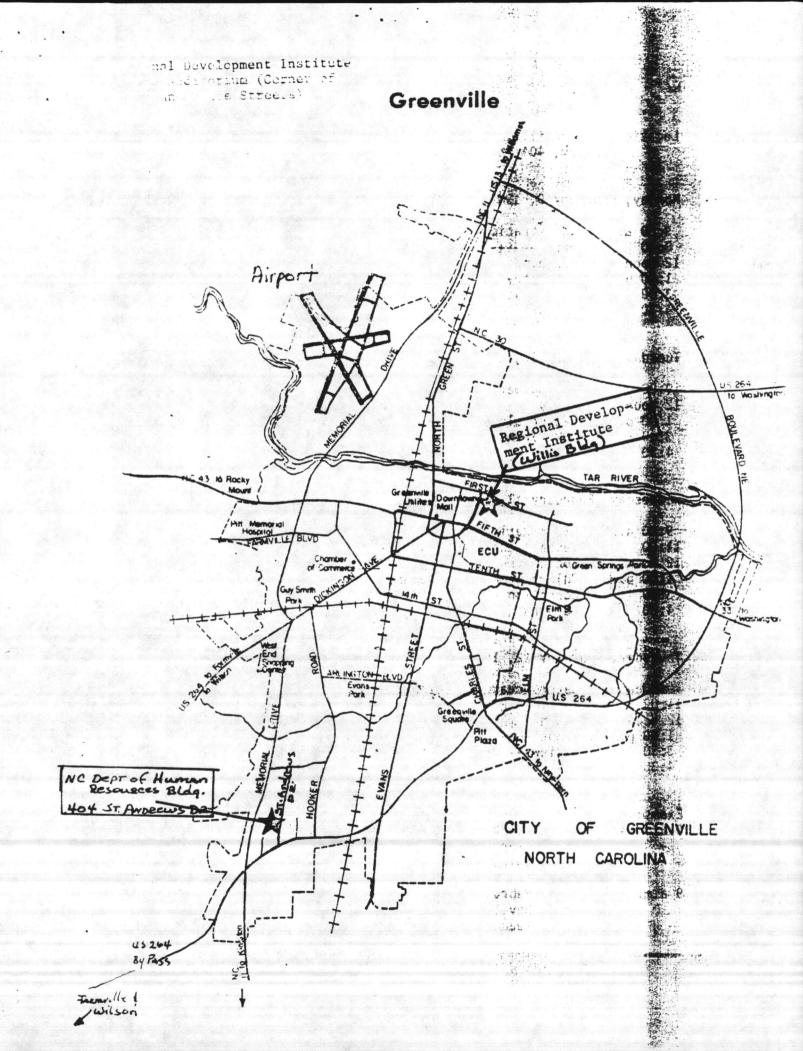
Exams will begin at 9:00 a.m. in both locations.

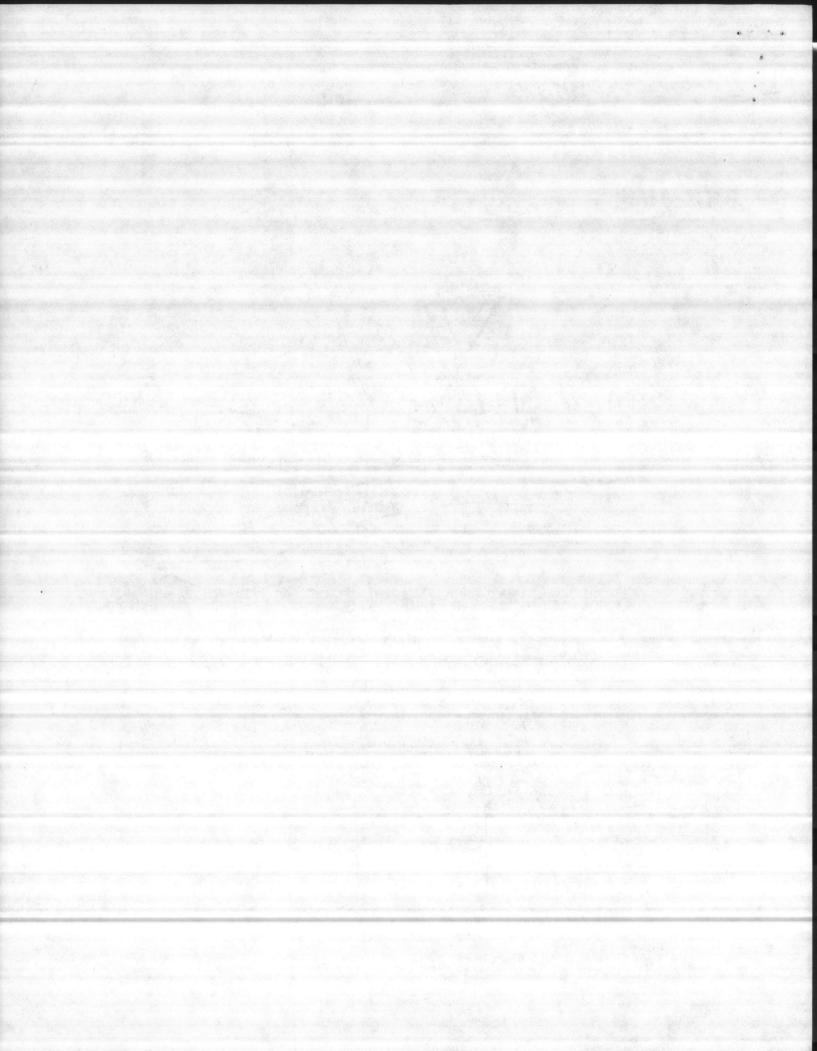
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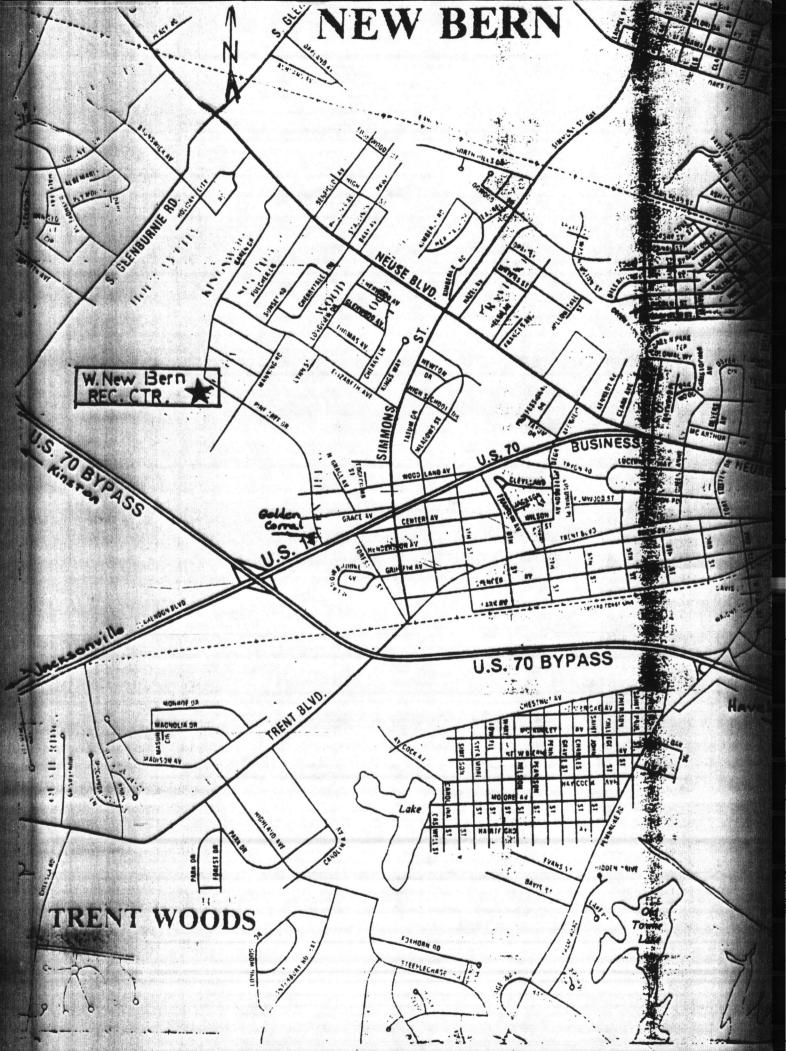


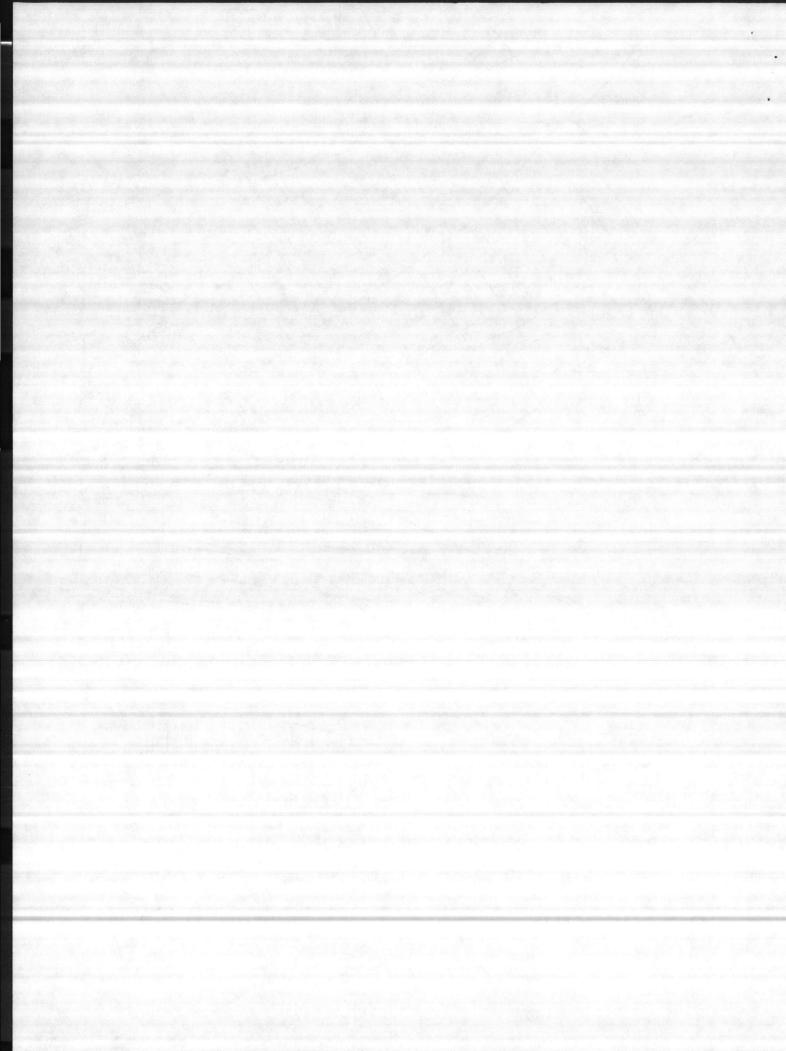


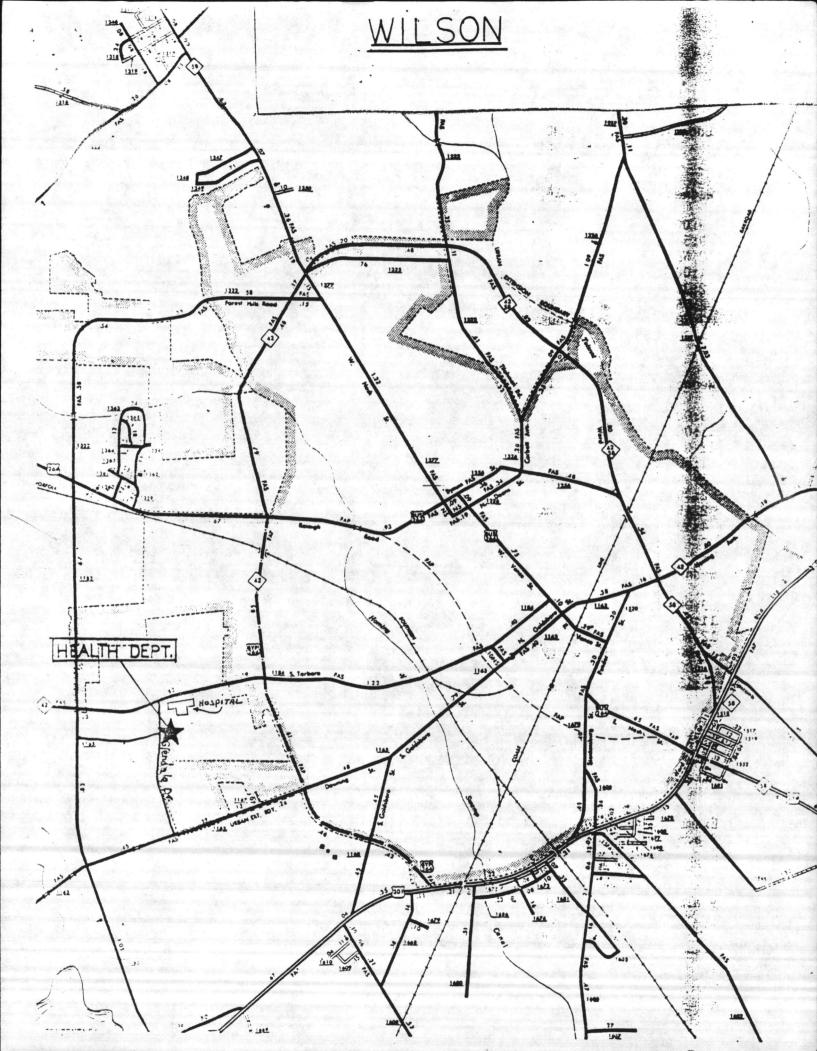


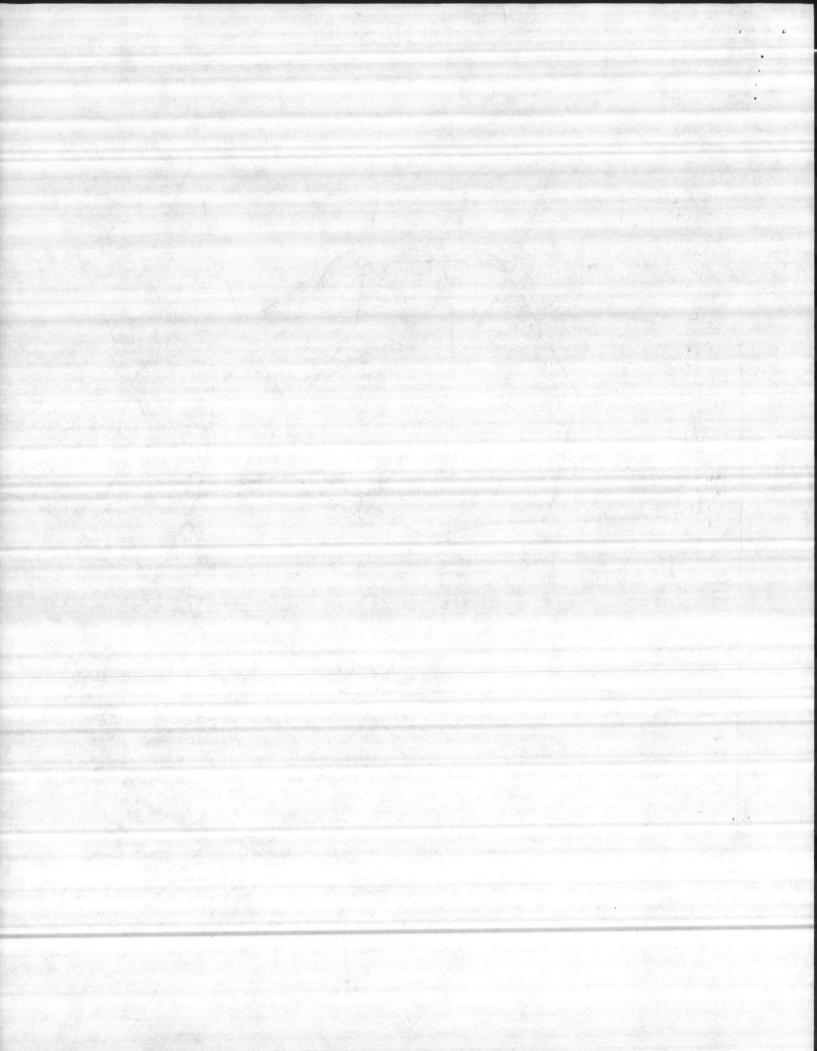












11331 NREAD 6 Jan 87

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: LANTNAVFACENGCOM (Code 114)

Blind copy to: BMO (Attn: Util Dir)



HONIN DECEMBER Year 1986

HADNOT TOINT WATER TREATHENT PLANT AT Camp Lejeune

Method Code: Contaminant Code:

303 3000

Serial # 04-67-041

N. C. DEPARTMENT OF HUMAN RESOURCES

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

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			3															1	2	3	1	. 5				
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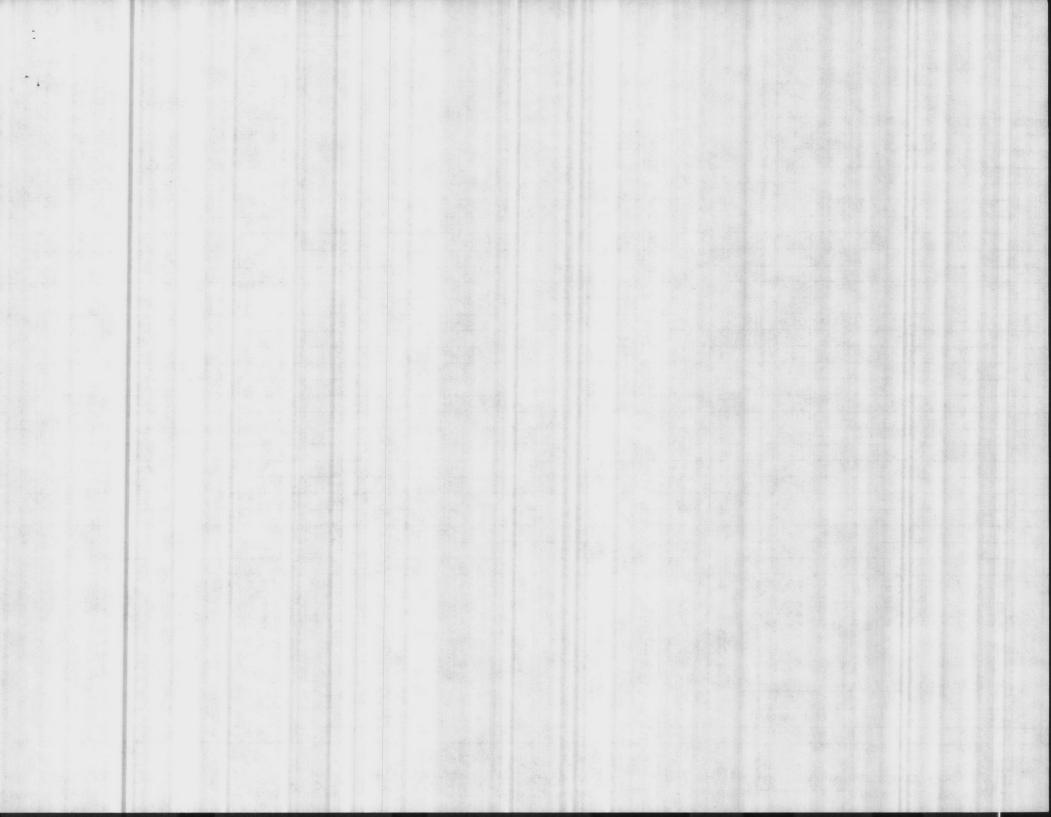
HONLA PELBINIDEIL Year 1984

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Contaminant Code: 303

3000

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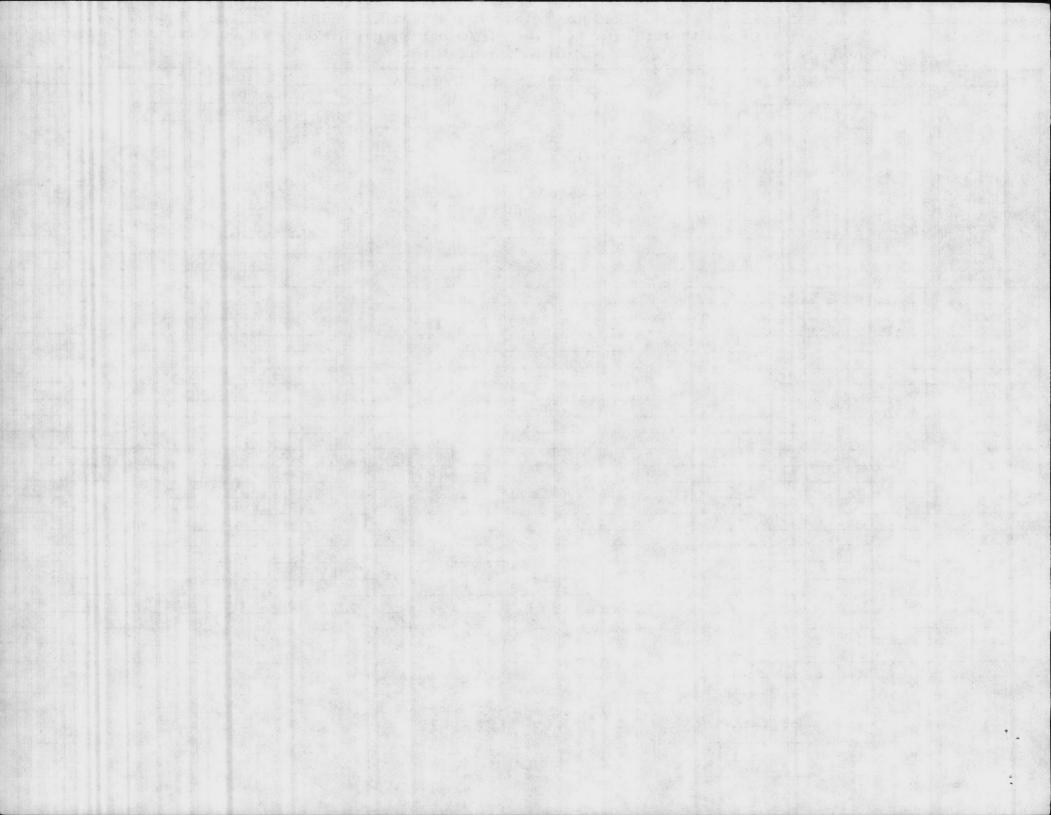
Year 1986

WATER TREATHENT PLANT AT Camp Lejeune

Contaminant Code: 303

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

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HONTH WECENIBER Year 1986

THICAWA IERRACE WATER TREATMENT PLANT AT Camp Lejeune Method Code: 303

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES Contaminant Code: 3000

3000

N. C. DEPARTMENT OF HUMAN RESOURCES

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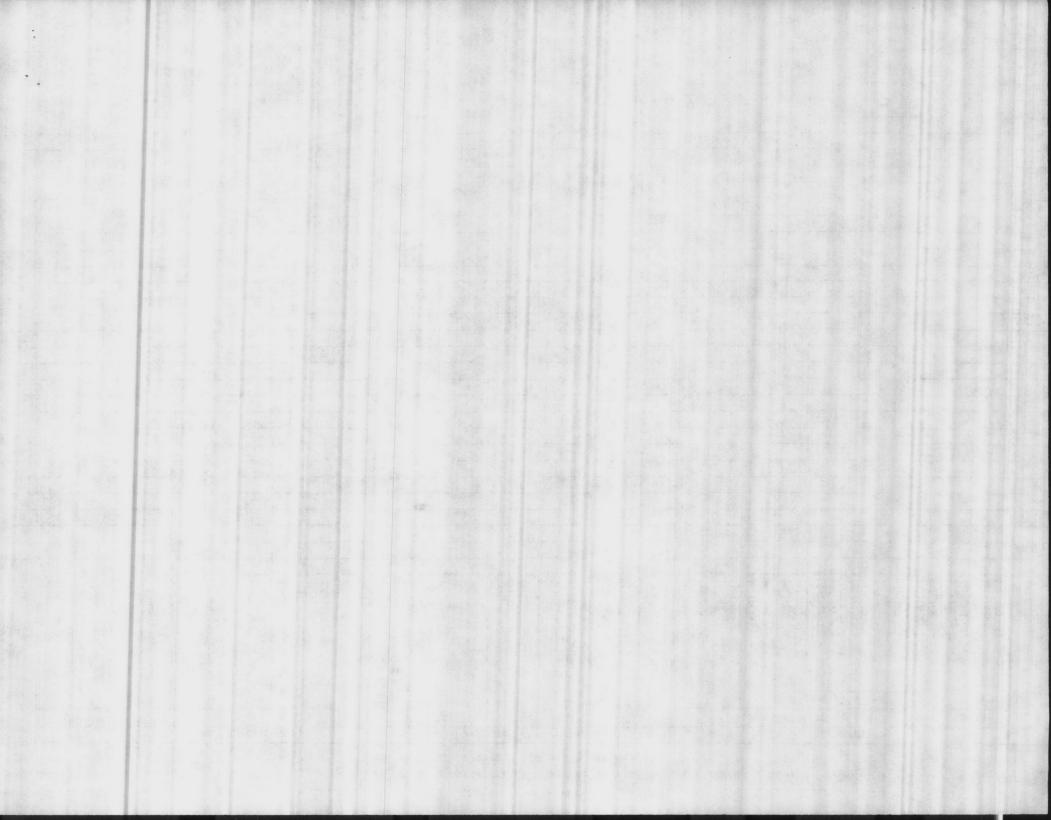
CAMP JOHNSON WATER TREATHENT PLANT AT Camp Le jeune

Contaminant Code:

303 3000

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

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HONLA DECEMBEL

Year \_ 1986

MIFLE KANGE

WATER TREATHENT PLANT AT Camp Le jeune

Contaminant Code: 303

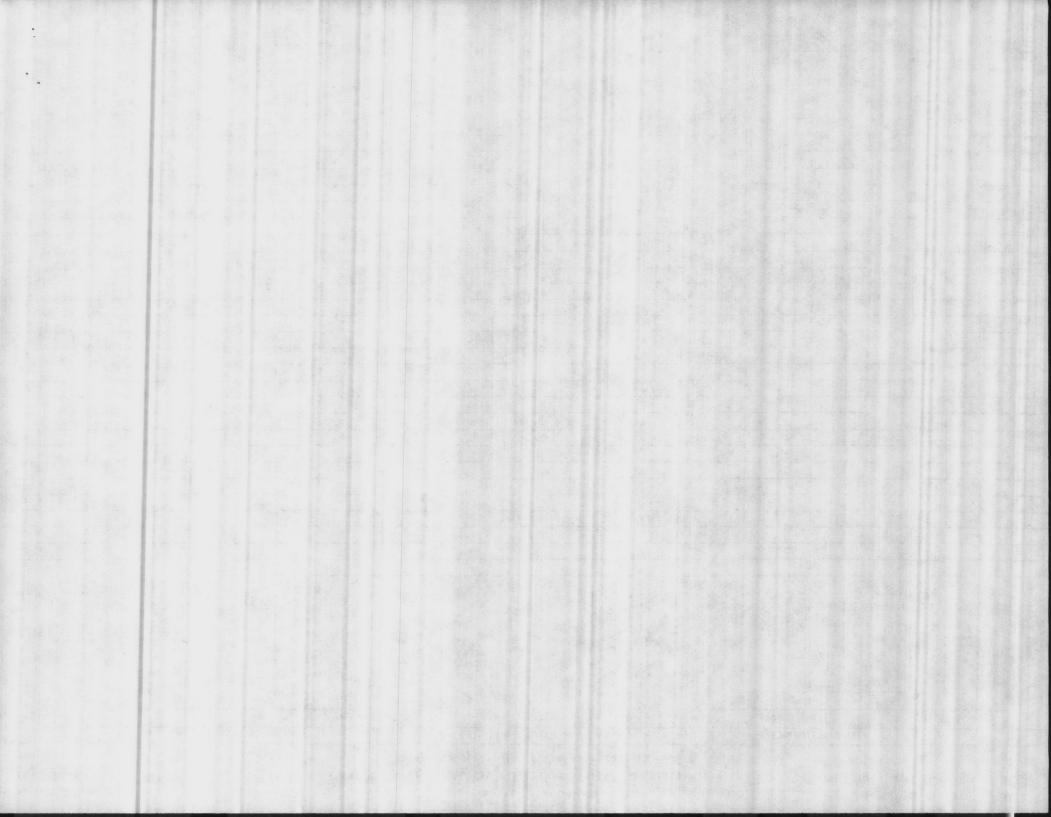
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REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Serial # 04-67-04le

N. C. DEPARTMENT OF HUHAN RESOURCES

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HONIN DECEMBER Year 1986

COURTHOUSE BAY WATER TREATHENT PLANT AT Camp Lejeune

Method Code: Contaminant Code:

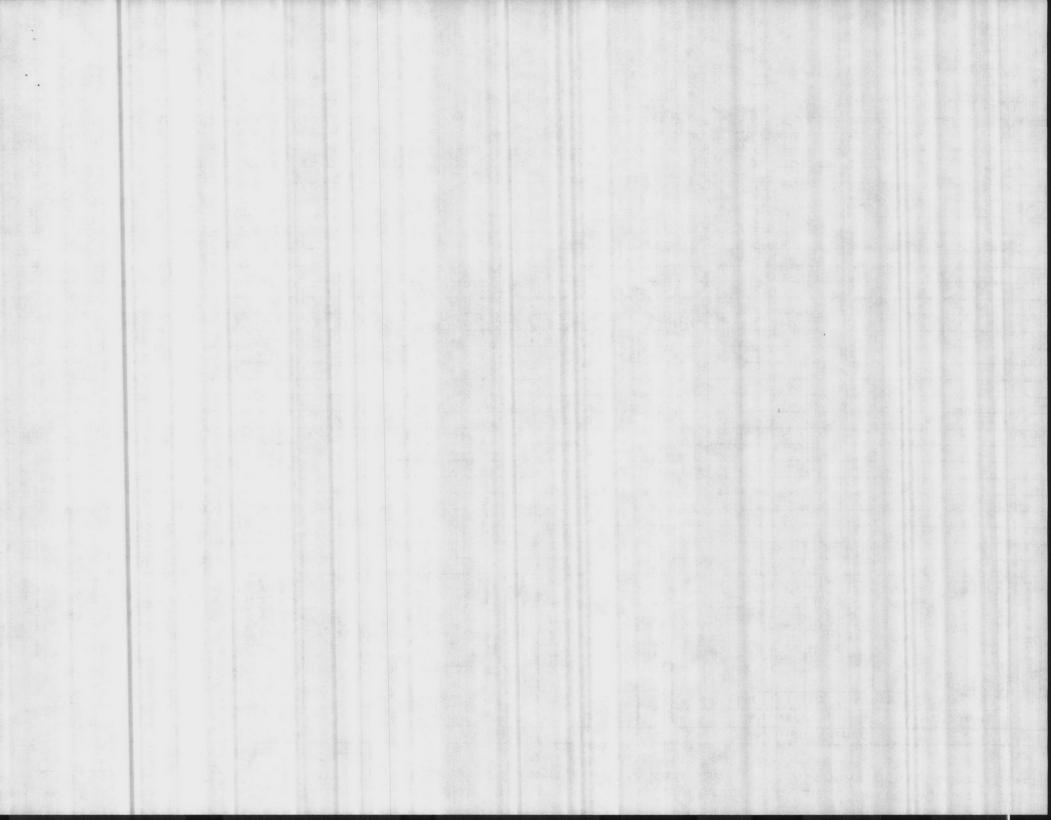
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N. C. DEPARTMENT OF HUMAN RESOURCES

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

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HONLA DECEMBER

Year 1984

ONSLOW BEACH WATER TREATHENT PLANT AT Camp Lejeune Method Code:
REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES Contaminant Code:

303 3000

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

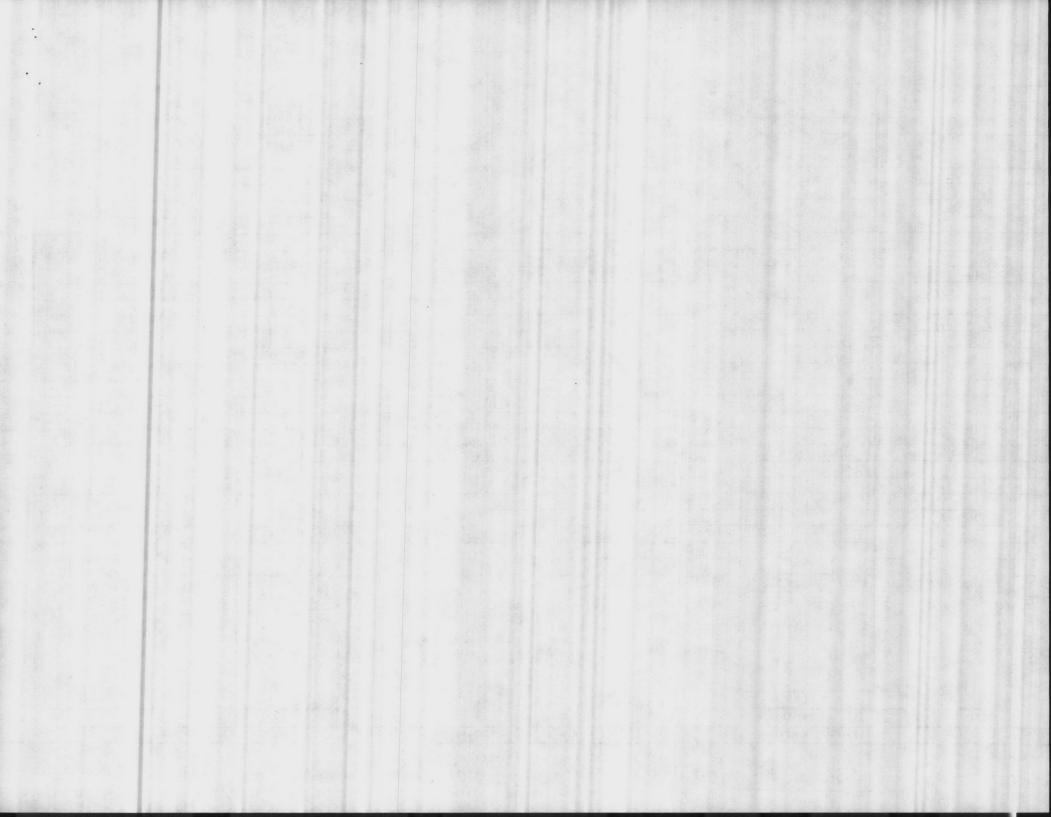
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LAB ID # 37807

Elizabeth CP Bety B-WELL'

4087-W



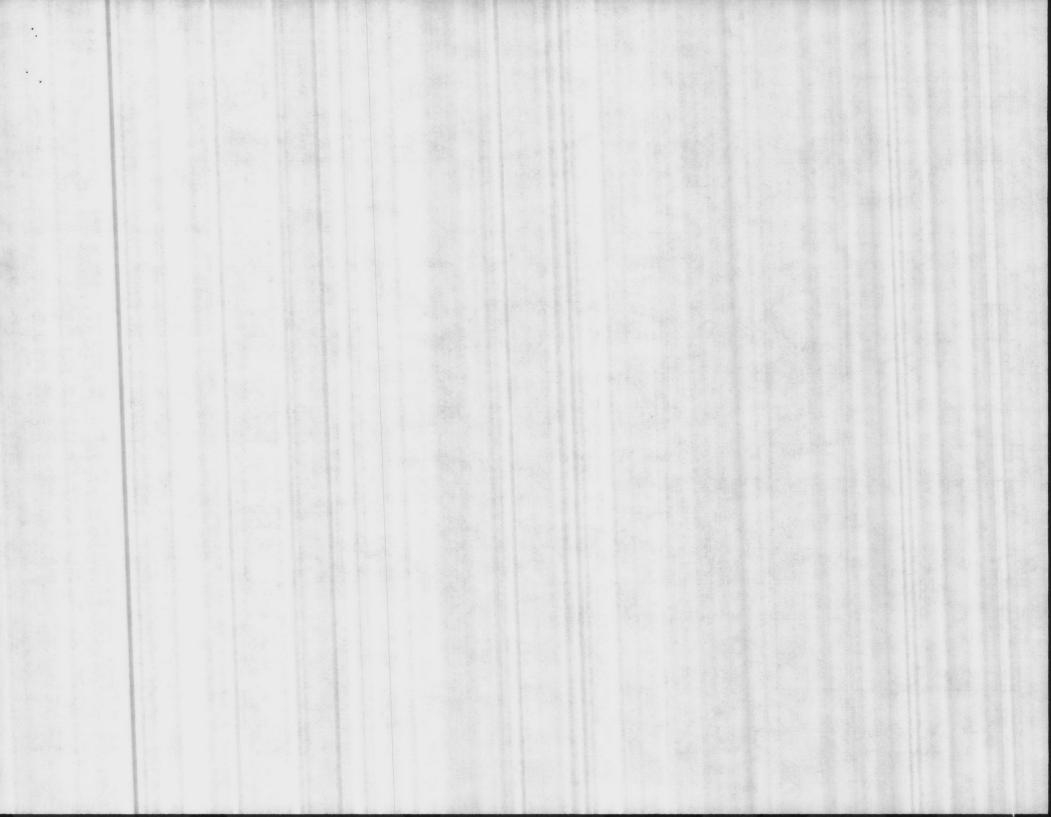
CHEMICAL ANALYSIS MCBCL 11330/3 (REV 6-84)	- WATER T	REATMENT PL	ANTS'				DATE COLLECTED		12 - 2 - 8	
PARAMETER عندام العالم	HADNOT POINT	CAMP JOHNSON -245	TARAWA TERRACE -044	ONSLOW BEACH -048	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD OH 3	NEW RIVER		
PH (IN LASS NOT PLANT)	8.8	7.7	8.9	7.6	8.0	8.4	8.8	8.7		
PHENOLTHALEIN ALKALINITY	6	0	le	0	0	0	4	8		
METHYL ORANGE ALKALINITY	62	184	46	166	<b>a</b> 176	166	52	166		
CARBONATES AS CaCO <sub>3</sub>	12	0	12	0	0	0	8	16		
AS CACO 3	50	184	34	166	176	166	44	150		
CHLORIDES AS C1	12	14	20	20	/8	24.	12	58		
HARDNESS AS CaCO3	66	74	84	50	-54	50	58	60		
RON AS Fe	<0.04	0.19	<0.04	<0.04	0.11	40.04	<0.04	<0.04		
FLUORIDE PM	1.21	0.20	1,10	0.18	0.15	0.12	1.16	0.64		
CHLORINE RESIDUAL	1.0	1.3	1.0	1.4	1.5	1.0	1.0	0.8		
TURBIDITY PM	0.1	0.4	0.1	0.1	0.1	2.0	0.3	0.4		
TOTAL PHOSPHATE		2.2								<u> </u>
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									сору то:	
									A UTIL DIR	0
				•					X WATER T	REATMENT
NOTE: All results reported and specific conduction	in parts per millio	on unless otherwise of potable water is	noted except for p	H, temperature, h one kilogram.	LABORATORY ANA	ALYSIS BY			EL PMU	X MCAS PMU
242 H T 1 T ST					LANE + BUR	808			□ NREAD	X FILE



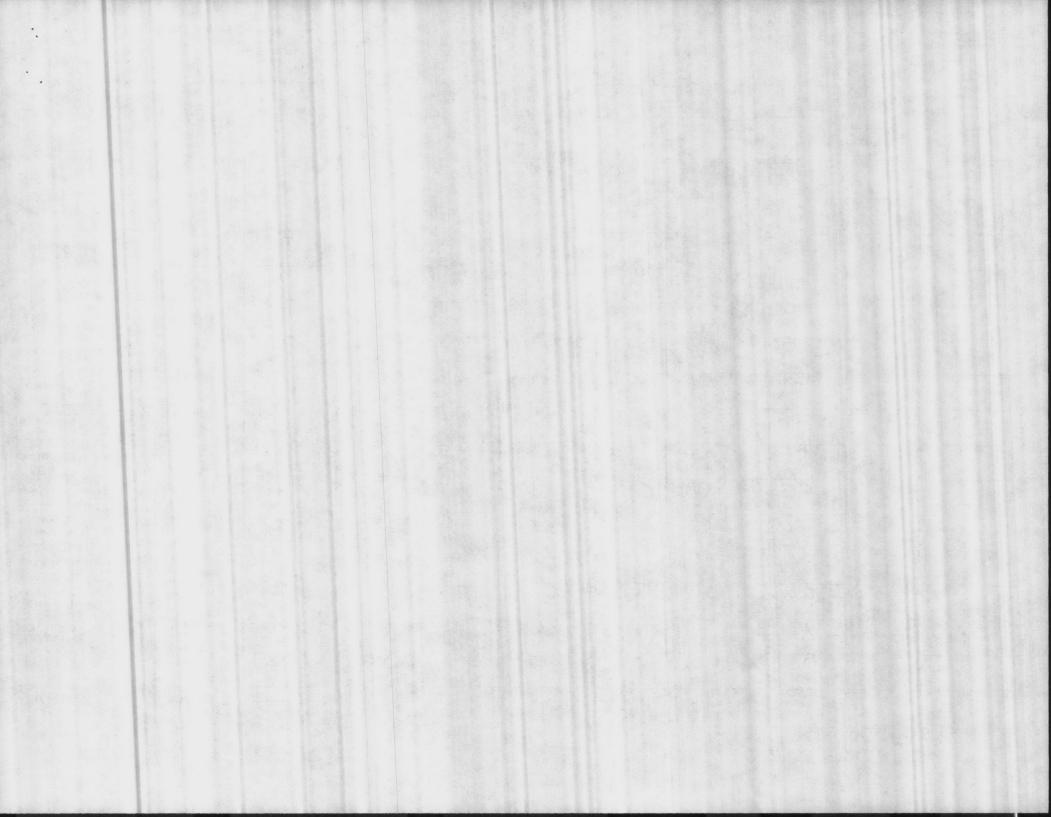
CHEMICAL ANALYSIS MCBCL 11330 3 (REV 6-84)	- WATER T	REATMENT PL	ANTS				12 - 9 - 84		12-9-	
PARAMETER	HADNOT POINT	CAMP JOHNSON -945	TARAWA TERRACE	ONSLOW BEACH -048	COURTHOUSE  BAY  OHT	RIFLE RANGE - 246	HOLCOMB BLVD 1343	NEW RIVER		
PH (IN LAW NOT PLANT)	8.4	7.5	8.7	7.5	8.0	8.3	8.5	8.7		
PHENOLTHALEIN ALKALINITY	4	0	4	0	0	2	4	16		
METHYL ORANGE ALKALINITY	40	170	44	160	170	140	50	144		
CARBONATES AS CaCO3	12	0	8	0	0	4	8	32		
BICARBONATES AS CaCO <sub>3</sub>	48	170	36	160	170	136	42	112		
CHLORIDES AS C1	10	10	14	20	14	20	10	40		
HARDNESS AS CaCO <sub>3</sub>	64	60	60	40	50	54	56	44		
IRON AS Fe	<0.04	0.27	<0.04	0.15	<0.04	40,04	40.04	40.04		
FLUORIDE PM	0.82	0.17	0.97	0.16	0.13	0.11	0.91	0.58		- X
CHLORINE RESIDUAL	0.9	1.3	1.1	1.3	1.5	1.0	1.2	0.8		
TURBIDITY	0.1	1.6	0.8	0.1	0.1	0.9	0.1	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	10.1		
HEMARKS									сору то:	
		-			4 3 8 8	•			XX UTIL DIR	o
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NOTE: All results reported and specific condu					LABORATORY ANA	ALYSIS BY			₩ PMU	MCAS PMU
					LANE + BUE	ENS.			□ NREAD	TE FILE



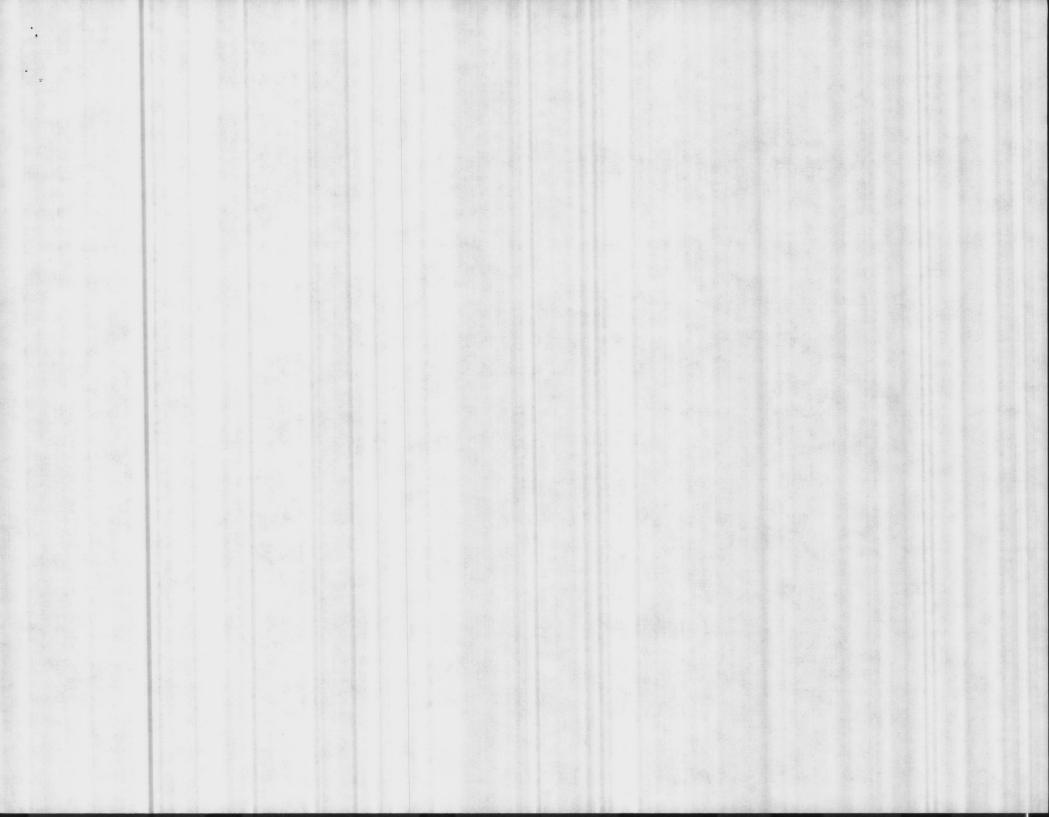
CHEMICAL ANALYSIS MCBCL 11330/3 (REV 6-84)	- WATER T	REATMENT PL	ANTS	4-1	16734		DATE COLLECTED  12-16-8		12-16-	
PARAMETER	HADNOT POINT -241	CAMP JOHNSON -245	TARAWA TERBACE -0-19	ONSLOW BEACH -048	COURTHOUSE BAY	RIFLE RANGE - OH G	HOLCOMB BLVD -5+3	NEW RIVER		
PH (IN LAW NOT PLANT)	9.0	7.3	8.5	7.3 •	7.8	8.0		8.4		
PHENOLTHALEIN ALKALINITY	10	0	2	0	0	0	Q'	12		
METHYL ORANGE ALKALINITY	40	190	40	164	194	160	A F S	136		
CARBONATES AS CaCO3	20	0	4	0	0	0	<b>4</b>	24		
BICARBONATES AS CaCO <sub>3</sub>	20	190	34	164	194	160	V	112		
CHLORIDES AS C1	10	10	14	20	20	50	SW.	60		
HARDNESS AS CaCO <sub>3</sub>	50	40	64	52	52	54	909	46		
IRON AS Fe	<0.04	0.22	<0.04	0.14	40.04	40.04	200	40.04		
FLUORIDE PM	0.92	0.15	0.85	0.14	0.10	0.09	SH.	0.56		
CHLORINE RESIDUAL	1.1	1.4	1.0	1.3	1.2	1.0	UT	0.8		
TURBIDITY	0.2	1.2	0.1	0.1	0.1	0.4	0	0.1		
TOTAL PHOSPHATE	10 Sec. 10	2.6					3			
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:	
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NOTE: All results reported and specific condu	in parts per millio	n unless otherwise of potable water is	noted except for pl assumed to weigh	H, temperature, one kilogram.	LABORATORY ANA				R PMU	MCAS PML
					LANE + BI	IRNS 63			□ NREAD	E FILE



CHEMICAL ANALYSIS MCBCL 11330 3 (REV 6-84)	WATER TE	REATMENT PL	ANTS				12 - 23 -		12-23	
PARAMETER SIEIR ON-67	HADNOT FOINT FOINT	CAMP JOHNSON -045	TARAWA TERRACE -244	ONSLOW BEACH	COURTHOUSE BAY -247	RIFLE RANGE	HOLCOMB BLVD -⊋+3	NEW RIVER		
PH (IN LAIS NOT PLANT)	8.4	7.3	8.7	7.5	7.7	8.2	8.7	8.6		180
PHENOLTHALEIN ALKALINITY	4	0	6	0	0	0	8	14		
METHYL ORANGE	50	170	40	170	176	170	46	140		
CARBONATES AS CaCO <sub>3</sub>	8	0	12	0	0	0	16	28		
BICARBONATES AS CaCO <sub>3</sub>	42	170	28	170	176	170	30	112		
CHLORIDES AS C1	12	10	12	20	16	30	10	60.		
HARDNESS AS CaCO3	44	58	74	56	48	56	56	44		
IRON AS Fe	<0.04	0.23	0.15	0.15	40.04	10.04	20.04	<004		
FLUORIDE PM	1.18	0.14	0.91	0.13	0,10	0.09	0.64	0.55		
CHLORINE RESIDUAL	1.0	1.1	1.0	1.3	1.4	1.0	1. 1	0.8		
TURBIDITY  TO PM	0.3	0.4	2.8	0.1	0.1	0.1	0.1	0.1		
TOTAL PHOSPHATE		2.4								
ORTHO PHOSPHATE		1.4				See See See				
META PHOSPHATE		1.2								• +
STABILITY	+0.3	-0.6	+0.3	-0.4	-0.4	0.0	+0.2	+0.1		
REMARKS									COPY TO:	
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				•			•		NATER T	REATMENT
NOTE: All results reported in and specific conduction	in parts per millio	n unless otherwise of potable water is	noted except for p	H, temperature, n one kilogram.	LABORATORY ANA	ALYSIS BY			DA PMU	MCAS PMU
					LANE + BUR	NS 602			□ NREAD	X FILE



CHEMICAL ANALYSIS MCBCL 11330.3 (REV 6-84)	- WATER T	REATMENT PL	ANTS			_	12-30-86		12 - 30	
PARAMETER SEEIN ON-61	HADNOT POINT	CAMP JOHNSON -045	TARAWA TERRACE -014	ONSLOW BEACH -048	COURTHOUSE BAY -247	RIFLE RANGE	HOLCOMB BLVD -2+3	NEW RIVER		
PH (IN LAW NOT PLANT)	8.4	7.4	8.7	7.5	8.1	8.3	8.4	8.5		
PHENOLTHALEIN ALKALINITY	le	0	4	0	0	2	4	6		
METHYL ORANGE NEKALINITY	70	166	44	160	180	150	60	150		
CARBONATES AS CaCO3	12	0	8	0	0	4	8	12		erek a mana e
BICARBONATES AS CaCO <sub>3</sub>	58	166	36	160	180	146	52	138		
CHLORIDES AS C1	14	10	14	20	20	34	12	80	<u> </u>	
HARDNESS AS CaCO3	72	60	70	60	50	50	44	50		
RON AS Fe	<0.04	0.17	<0.04	0.14	20.04	<0.04	<0.04	<0.04		
FLUORIDE PM	0.30	0.16	1.31	0.16	0.13	0.11	0.82	0.72		
CHLORINE RESIDUAL	1.0	1.3	1.0	0.5	1.3	1.0	1.0	0.8		
TURBIDITY PM	0.4	1.2	0.4 5.5	0.1	0.1	0.1	0.1	0.4		
TOTAL PHOSPHATE		1.8								
ORTHO PHOSPHATE		1.1								
META PHOSPHATE		0.7				<u>'</u>				
STABILITY	+0.2	-0.5	+0.2	-0.5	-0.1	0.0	+0.1	0.0		
REMARKS				- /					СОРУ ТО:	
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NOTE: All results reported and specific conduc	in parts per millio	on unless otherwise of potable water is	noted except for p	H, temperature,	LABORATORY ANA	ALYSIS BY			A PMU	MCAS PML
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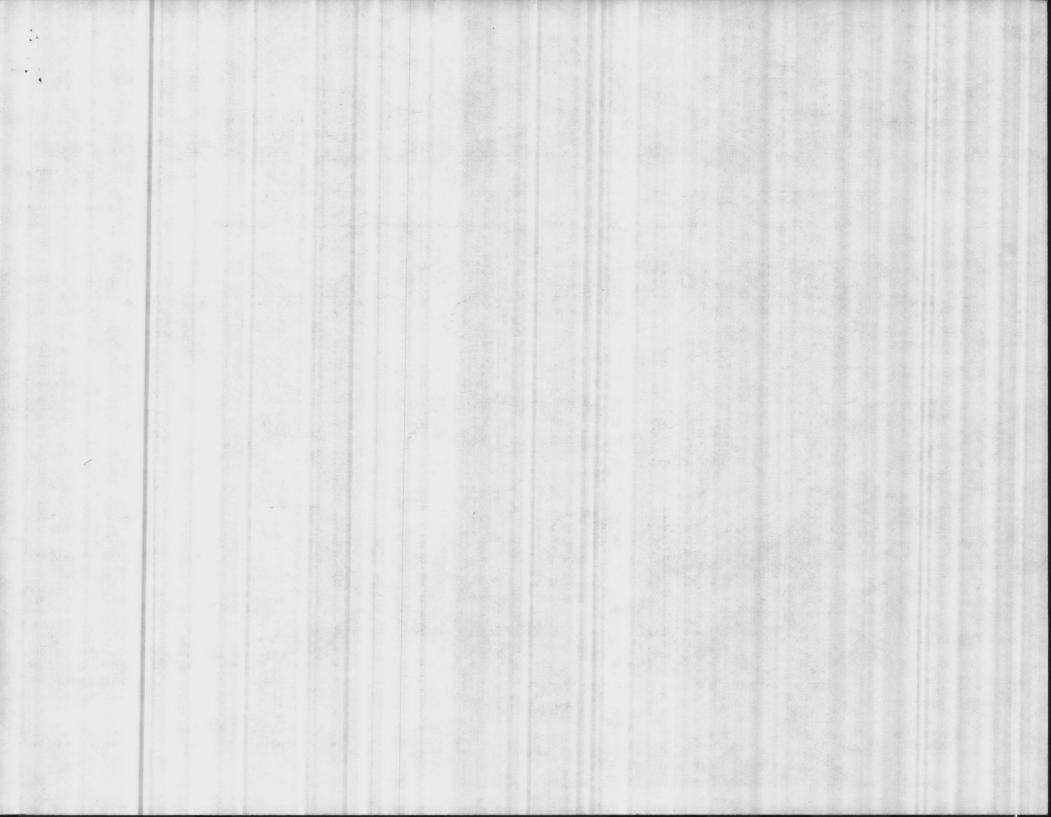
CHEMICAL ANALYSIS (CBCL 11330 3 (REV 6-84)	- WATER TI	REATMENT PL	ANTS				DATE COLLECTED		DATE OF ANA	LYSIS
ARAMETER STEIR ST-47	HADNOT POINT	CAMP JOHNSON -243	TARAWA TERRACE -0:14	ONSLOW BEACH -OHS	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD -5+3	NEW RIVER		
+ (IN LAW NOT PLANT)										
HENOLTHALEIN LKALINITY										
ETHYL ORANGE KALINITY										
ARBONATES AS CaCO3										
CARBONATES S CaCO 3										
HLORIDES AS C1										
ARDNESS AS CaCO3										
ON AS Fe										
LUORIDE PM										
HLORINE RESIDUAL										
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OTAL PHOSPHATE										
RTHO PHOSPHATE								2		
ETA PHOSPHATE										
TABILITY										
MARKS									СОРУ ТО:	
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OTE: All results reported in	parts per million	n unless otherwise	noted except for p	H, temperature,	LABORATORY ANA	LYSIS BY			□ PMU	MCAS PMU
and specific conducts	ance. One liter of	or potable water is	assumed to weigh	one knogram.					□ NREAD	□ FILE



CHEMICAL ANALYSIS -	- WATER TI	REATMENT PL	ANTS				DATE COLLECTED	)	DATE OF ANA	LYSIS
ARAMETER SEEIGH SH-47	HADNOT POINT	CAMP JOHNSON -045	TARAWA TERRACE -044	ONSLOW BEACH -OH8	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD -2+3	NEW RIVER		
H (IN LAW NOT PLANT)										
HENOLTHALEIN LKALINITY										
ETHYL ORANGE LKALINITY			100							
ARBONATES AS CaCO3										
ICARBONATES S CaCO 3								g and		
CHLORIDES AS C1										
HARDNESS AS CaCO <sub>3</sub>										•
RON AS Fe					l sur					
LUORIDE PM				A S						
CHLORINE RESIDUAL										
URBIDITY PM					e de la companya de l					
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and specific conducta	ince. One liter	of potable water is	assumed to weigh	one kilogram.					□ NREAD	D FILE



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ARAMETER SERIAL ON-61	HADNOT POINT -241	JOHNSON -045	TAHAWA TERRACE -0:19	ONSLOW BEACH -OH8	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD 2+3	NEW RIVER		
H (IN LAW NOT PLANT)										
HENOLTHALEIN LKALINITY										
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and specific conducta	nce. One liter (	of potable water is	assumed to weigh	one kilogram.					□ NREAD	D FILE



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

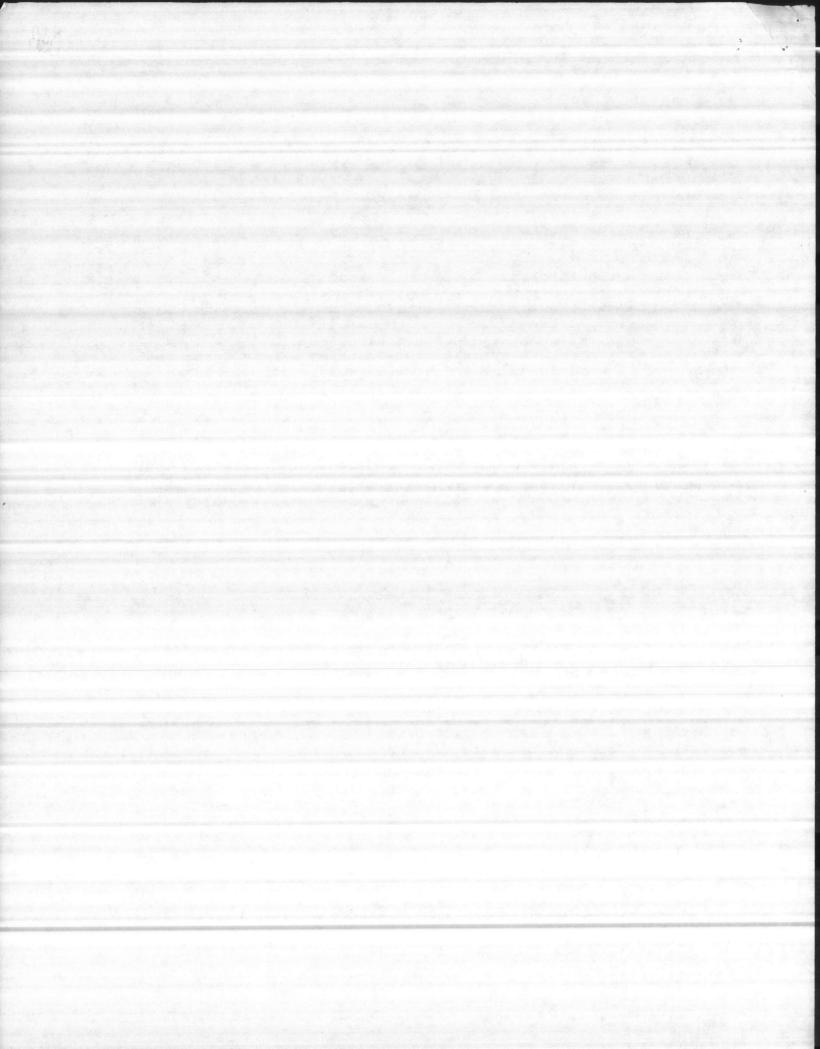
Encls: (1) Dept of Health Forms

(2) Chemical Analysis Forms

Copy to: LANTNAVFACENGCOM (Code 114)

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

Water Typist Betz Trianski Date Typed 7 Fly 87 Word Provensor Number 11331



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Serial # 04-67-04)

N. C. DEPARTMENT OF HUNAN RESCURCES

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LAB ID # 37807

Elizabeth a Bety CERT CENDE B-WELL

# 4087-W



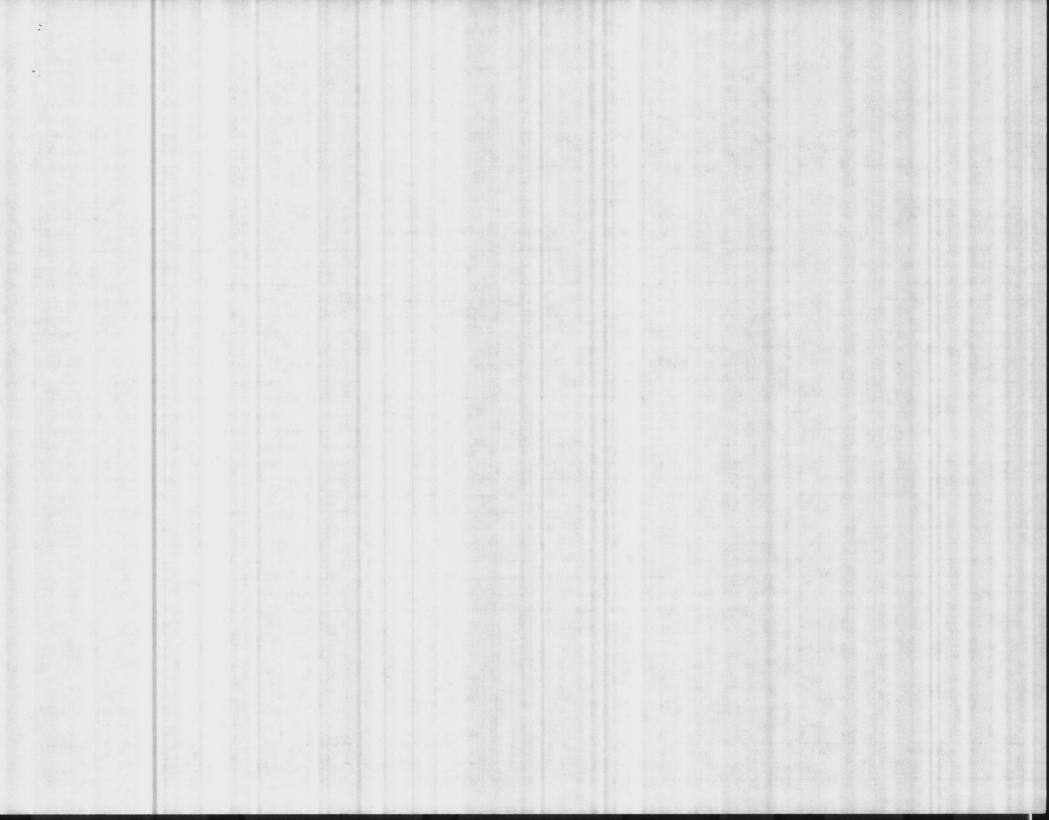
Serial # 04-67-042

RAW WATER COLIFORNIS (MFP) FILTERES CHELNIE DISTRIBUTION SYSTEM COLIFORMS (MFP) REPEAT SAMPLES 5 NO. OF COLIFORNIS FER TOTAL PLATE COUNT TOTAL PLATE COUNT TOTAL PLATE COUNT CULIFUMS .. NO. OF SUPLES EXMINED COLIFORNS COL 1 FORMS 100 ml. YOLUME FILTERED #1. COLIFORNS per 100 el. COLIFORNS per 100 el. COLIFORNS per 100 ml. COLIFORMS per 100 ml. COLIFORMS per 100 ml. COLIFORMS per 100 ml. COLIFORMS per 100 ml. TOTAL COLIFORM TOTAL COLOMIES COLIFORM COLOMIES TOTAL COLONIES COLIFORM VOLUME 4 % 2 3 5 7 . 000000 35. 15-11 12 13. 14 + 14 0000 7 1000 35 15 is 17 19 20 21 22 23 24 25 26 27 00 00 29 4 0 10 29 30 TOTAL FG. SAMPLES 21
SAMPLES EXCEIDING 3/50. 4/100. (7/29). 13/50001 (0) MF MEDIA BBI. mEndo DACTERIAL ARITH. HEAR 0 CIST. TPC HEDIA DENSITY GEO. MEAN

LAB ID # 37807

Elizabeth O Bet

CERT CRADE: B-WELL # 4087-W



Setial # 04-67-043

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LAB ID # 37807

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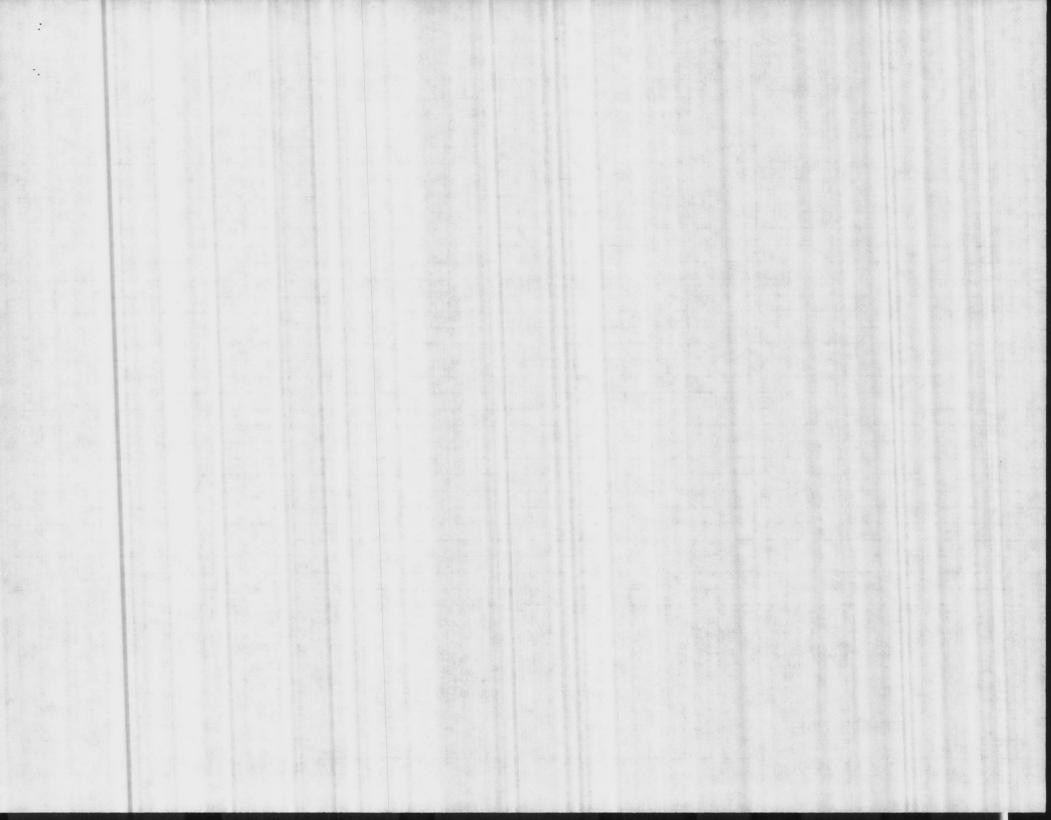


Year 1701 TARAMA TERRACE REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES CONCEMENTATIC COURS: DOOR Serial # 04-67-044 ... C. DEPARTMENT OF SUNAN RESOURCES

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LAB ID # 37807

Elizatets a Boty CERT CRADE B-WELL # 4087-W



YEAR \_ 1 CHAP ZONG OF REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Setial # 04-67-045

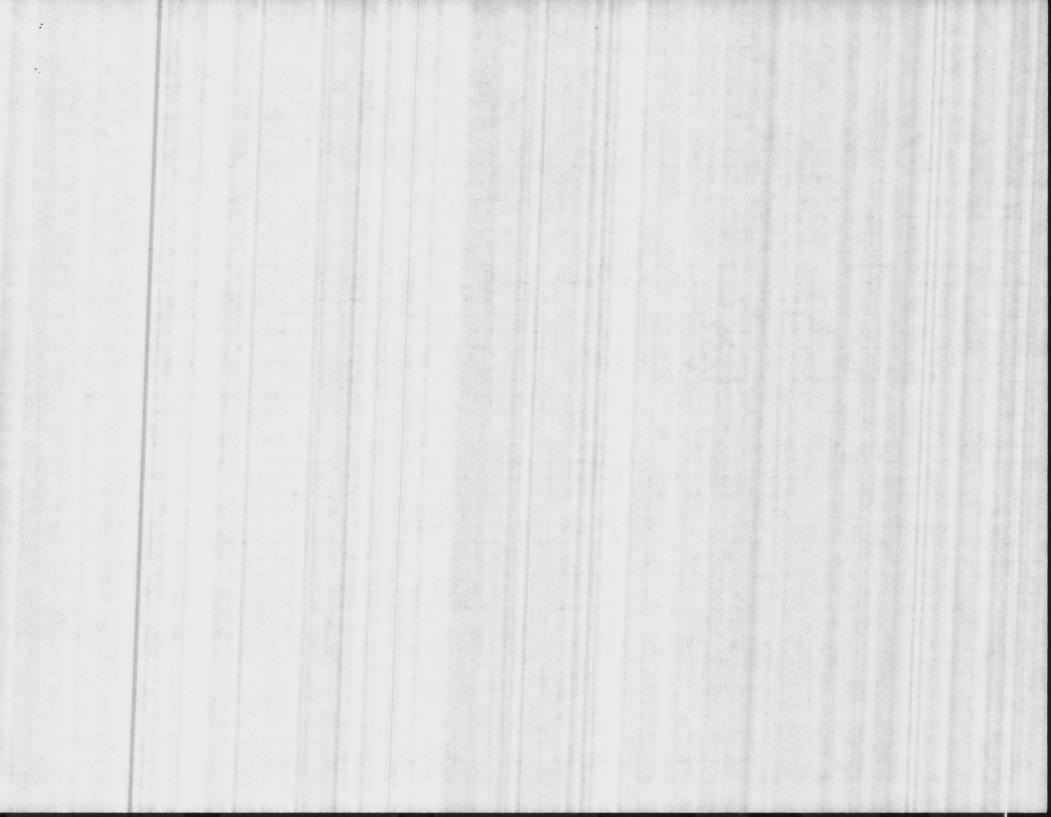
N. C. DEPARTMENT OF BUHAN RESSURGES

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LAB ID # 37807

anabets a Bit CERT CEADE: B-WELL

# 4087-W



Year 14X1 Setial # 04-67-046

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LAB ID # 37807

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- COURTHOODE DAY REPORT OF EXCLESION OF RESULTS TO DIVISION OF REALTH SERVICES

A. C. DEPARTMENT OF HUNAN RESOURCES Setial # 04-67-047 RAW WATER COLIFORMS (HEP) FINISHED FILTERES. DISTRIBUTION SYSTEM COLIFORMS (MFP) REPEAT SAUPLES NO. OF COLIFORNS TOTAL PLATE COURT TOTAL PLATE COUNT TOTAL PLATE COUNT CULIFURNS . AVE. COLIFORNS per 100 ml. NO. OF SMPLES PER: COL | FORMS 100.ml. COLIFORNS per 100 ml. COLIFORNS per 100 ml. COLIFORMS per 100 ml. COLIFORMS per 100 ml. COLIFORMS per 100 ml COLIFORNS per 100 ml. COLIFORNS Per 100 ml. COLIFORNS per 100 ml TOTAL COLIFORM YOLUME TOTAL COLLIFORM COLLIFORM COLONIES YOUNE COLIFORM TOTAL COLONIES 35. 4 1010 1010 0 - 15-11 12 13. 35.4 .00 00 4 15 16 19 20 21 22 23 24 25 26 27 35, 28 00 29 4 00 0 29 30 erst. TOTAL FG. SAMPLES 1/200 7/200. 13/50001 0

LAB ID # 37807

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# 4087-W CERT CHANE B-WELL



Tear \_\_ 18 CONCERNITION DEPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES CONCERNITION COME.

Setial # 04-67-048 X. C. DEPARTMENT OF SUNAN RESSURCES

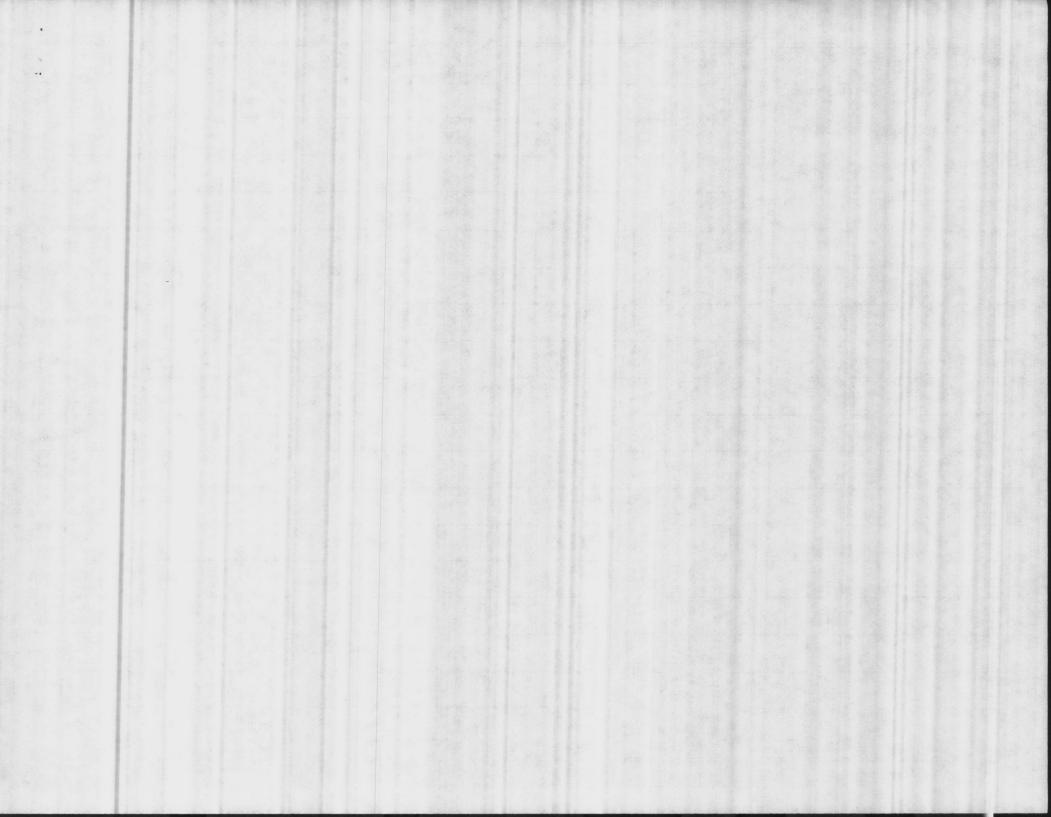
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LAB ID # 37807

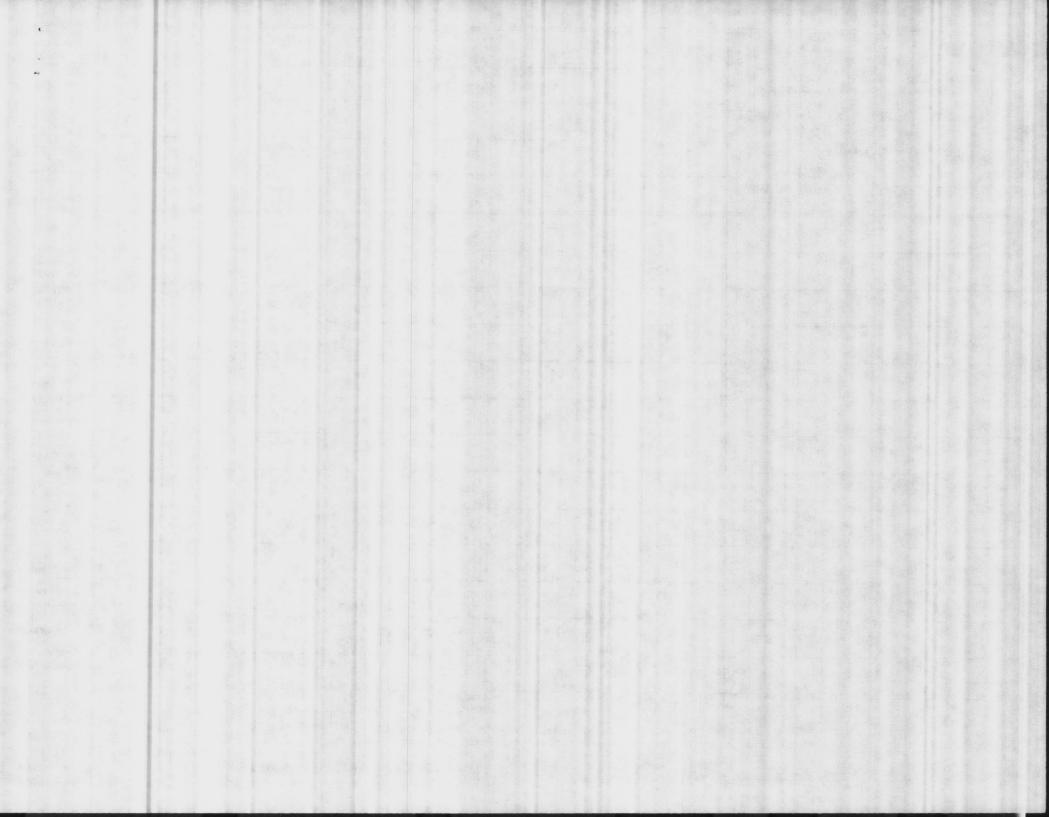
Elizabets a Bet CERT CENDE B-WELL # 4087-W



CHEMICAL AN	ALYSIS - WI	ATER TREA	TMENT PLA	NTS		7-7-5	,	DATEGS ANALYZED 7-7-87	
PLANT NAMETER (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	i e		
H-LABORATORY	918	9.5	816	810	914	7.6.			
TABILITY	+0,4	00	+0.3	-0.5	-0.1	-6.8			
HEMOLTHALEIN LKALINITY (PPM)	6	6	4	0	2	0 .			
ETHYL ORANGE LEALINITY (PPM)	54	140	66	166	(30	150			
AS CACOS (PPM)	12	12	8	0	4	0			
ICARBONATES AS CACO3	42	158	52	106	126	150			
Miceibes As CI (PPM)	14	70	10	14	48	26			
ARDHESS AS CACOS (PPM)	62	56	60	50	50	52			
CRON AS FE. (ppm)		_	AIR	, Dow	n -				
Lucrice Am/	1.07	6.58	0.99	0.12	0.10	0.17			
LESIDITY AM	0:3	0.2	0.307	011	0:1	0.2			
HLORINE RESIDUAL (PTM)	1,0	6.8	1.2	1.3	1,1	1.5			
REMARKS:							COPY TO:	MD F	
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7-7-87			REPORT PREPA	SWWY			1 NREAD		MACH WEST

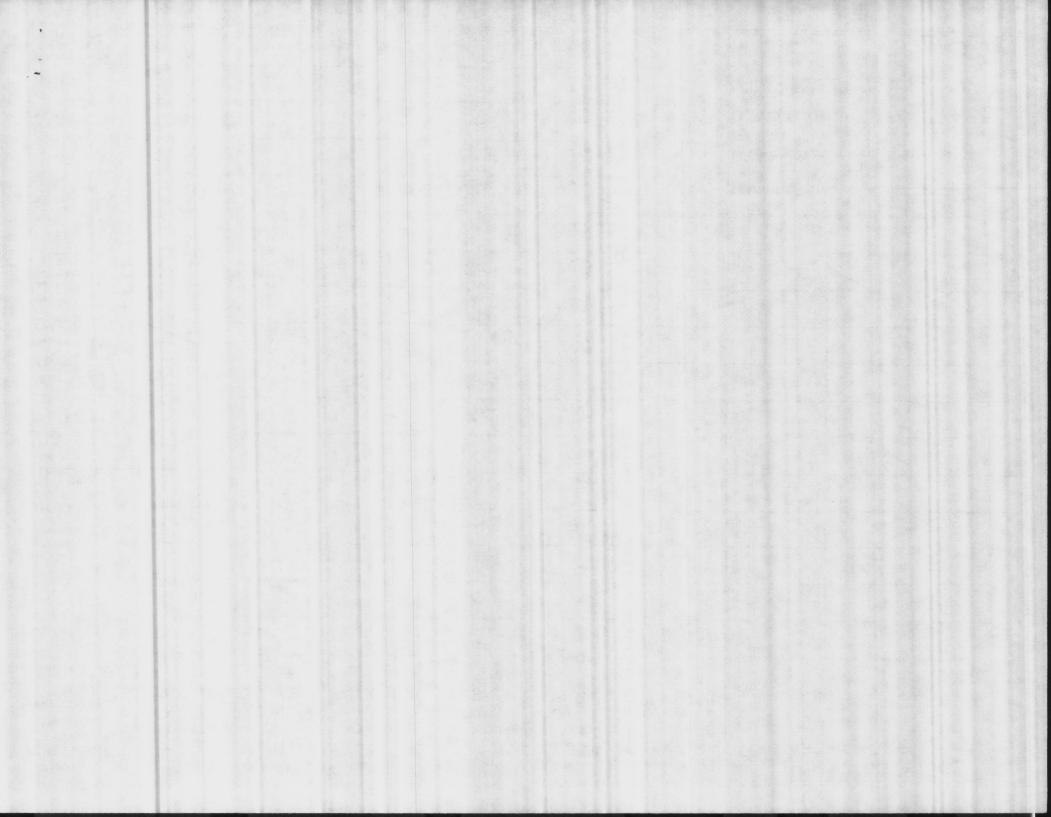


CHEMICAL A	CHEMISTRY & MIC NALYSIS - W/ 3 (REV 7-87)	ATER TREA	TMENT PLA	NTS		7-14-8	7	7-14-8	
PLANT MAMETER (UNITS)	HADNOT POINT 04-67-041	MCAS NEW RIVER 04-67-042	HOLCOMB BLVD 04-67-043	COURTHOUSE BAY 04-67-046	RIFLE RANGE 04-67-047	ONSLOW . BEACH 04-67-048	Fac		
H-LABORATORY	8.7	816	816	7.8	8.3	7.6			
STABILITY	+0.3	0.0	10.6	-015	-012	-0.8			
PHEMOLTHALEIN ALKALINITY (PPM)	4	12.	4	6	6	0	1.7		
METHYL ORANGE ALKALINITY (PPM)	60	140	56	160	156	150			
AS CACOS (PPM)	8	24	8	0	0	0			
BICARBONATES AS CACO3 (PPM)	52'	116	48	160	156	150			
CHLORIDES AS CI (PPM)	10'	70	16,	14	44	20			
HARDNESS AS CACOS (PPM)	70	49	60	50	50	54			
IRON AS FE.		=	1	A.A	Down				
Fluorise AN (ppm)	MME	•55	1:00	0.13	6.10	0.16			
TURBIDITY AN	1	0.1	8:5	OI.	011	6.4			
CHLORINE RESIDUAL (PPM)	0,9	0,9	1.0	1.2	1.0	116			
REMARKS:				1			COPY TO:	MD II	
							1/	EATMENT, UTIL D	IV, BMD
								HOSP DIFMU	
				26.0		•	DIVISION OF	HEALTH SER	vices Esources
7-14-8	7		REPORT PREP	Burns			I NREAD	d File	(ATTACH WKST

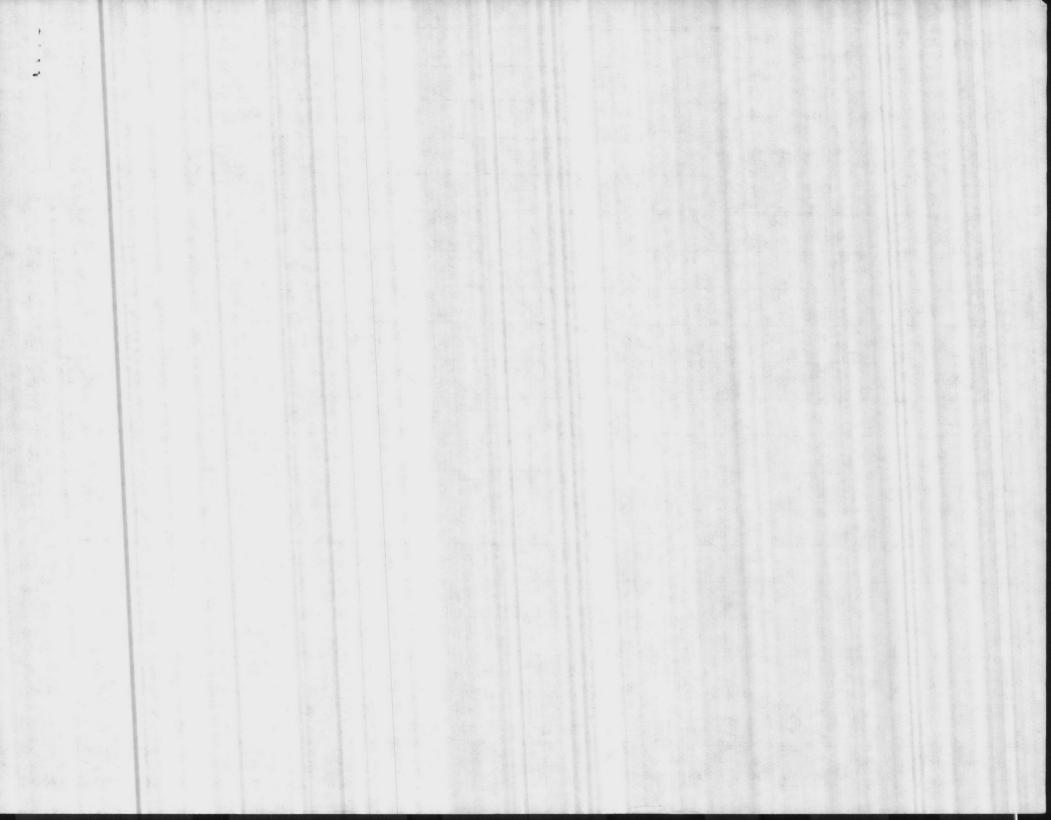


CHEMICAL	AN	ALYSIS - WI (REV 7-87)	ATER TREA	TMENT PLA	NTS		7-21-87		1-21-87
PLA MAMETER (UNITS)	NT	HADNOT POINT 04-67-041	MCAS NEW RIVER 04-67-042	HOLCOMB BLVD 04-67-043	COURTHOUSE BAY 04-67-046	RIFLE RANGE 04-67-047	ONSLOW . BEACH 04-67-048		
H-LABORATOI	ŁY	9,5	8.5	8.7	7.9	8,2	7.6		
TABILITY		10.3	+0.2	+06	- 6.4	- 0.1	-0.6		
HENOLTHALEII (LKALINITY (PPM)	4	4	10	6	0	0	0		
LEALINITY	E	60	144	52	160	160	160		
AEBONATES AS CACOS (PPM)		8	20	12	0	0	0		
SICARBONATE AS CACO3 (PPM)	5	52	122	40	160	160	160		
CHLORIDES AS C! (PPM)		10	70	10	16	50	18		
AS CACOS		56	54	60	56	60	56		
IRON AS FE.									
FLUORIDE (ppm)	Am	1.01	0.54	0.98	0.12	0.09	0.13		
TURBIDITY (NTUS)		0.20.2	0.1	0.20.6	Dil	601	0.2		
CHLORINE RESIDUAL (PPM)	V i iii	1.10	0.8	114	(,4	1.0	1.7		
Remarks:								COPY TO:	MD II
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REPORT DA		7		REPORT PREP	Burns		•	N.C. DEPT	HEALTH SERVICES OF HUMAN RESOURCES

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ENVIRONMENTAL ( CHEMICAL AN MCBCL 11330/3	NALYSIS - WA	ATER TREA	TMENT PLA	INTS		7-28-8		7-24-87
PLANT MAMETER (UNITS)	HADNOT POINT 04-67-041	MCAS NEW RIVER 04-67-042	HOLCOMB BLVD 04-67-043	COVETHOUSE BAY 04-67-046	RIFLE RANGE 04-67-047	ONSLOW . BEACH 04-67-048		
H-LABORATORY	8.4	8.6	8.6	8.0	8.2.	7.5		
TABILITY	10.4	40,2	t015	7013	-0.1	-017		
HEMOLTHALEIN LIKALINITY (PPM)	2	8	4	0	0	6		
LETHYL ORANGE VEALINITY (PPM)	56	138	60	164	154	156		
AEBONATES AS CACOS (PPM)	4	16	8	0	U	6		
SICARBONATES AS CACO3 (PPM)	52	122	52	164	154	156		
CHLORIDES ASCI (PPM)	12	70	16	18	40	20		
AS CACOS (PPM)	62	48	70	56	56	60		
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CHLORINE RESIDUAL (FFM)	110	018	019	1.3	117	1.3		
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REPORT DATE: 7-28	-87		REPORT PREP	Burns			N.C. DEPT	OF HUMAN RESOURCES





## UNITED STATES MARINE CORPS

Natural Resources and Environmental Affairs Division Marine Corps Base Camp Lejeune, North Carolina 28542

11331 NREAD FFR 0 6 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

hair d. Wester

Director

Encls: (1) Dept of Health Forms

(2) Chemical Analysis Forms

Copy to:

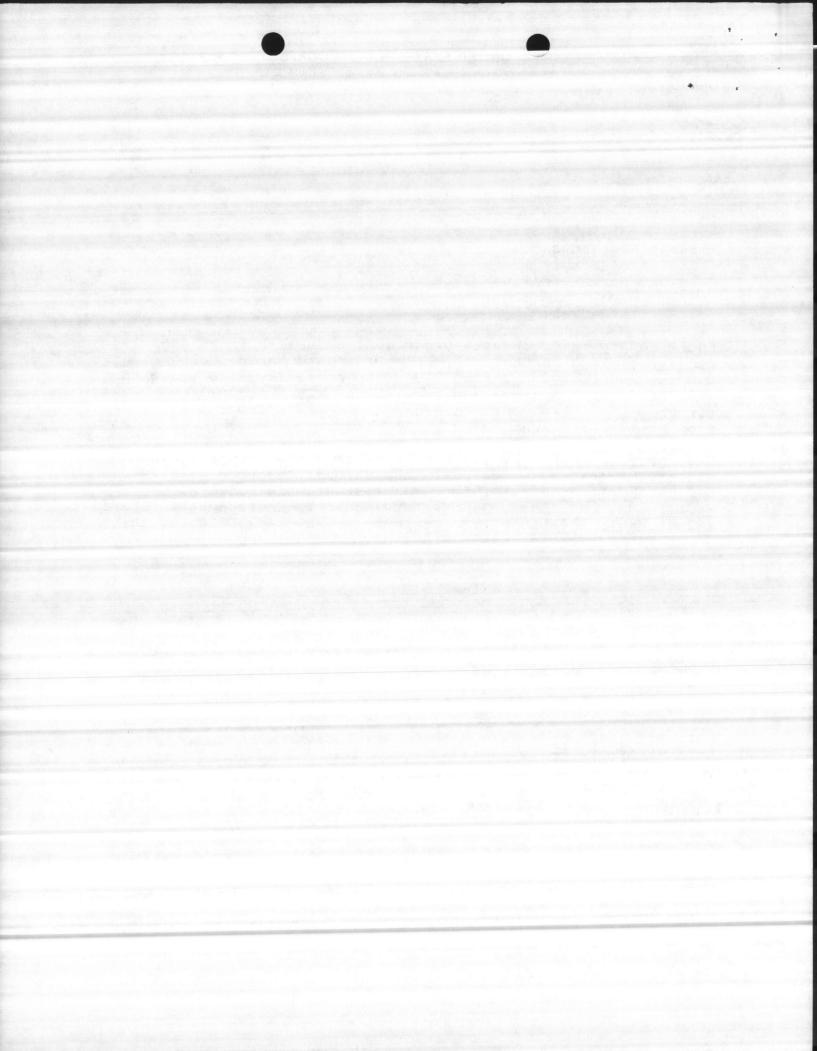
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HONEN JANUARY Year \_1987

MADNOT FOINT

BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES Contaminant Code: 3000

3000

Serial # 04-67-041

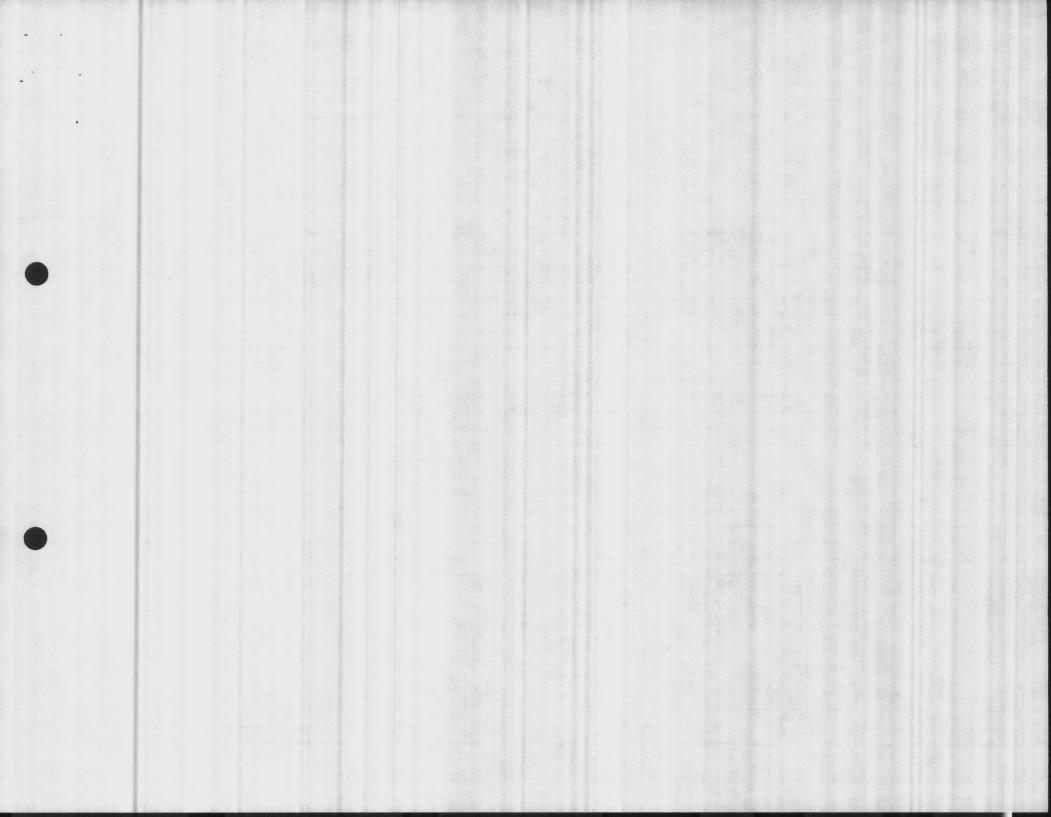
REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES N. C. DEPARTMENT OF HUNAN RESOURCES

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Honth JANUARY

Year 1987

MATER TREATMENT PLANT AT Camp Lejeune Method Code:

Contaminant Code:

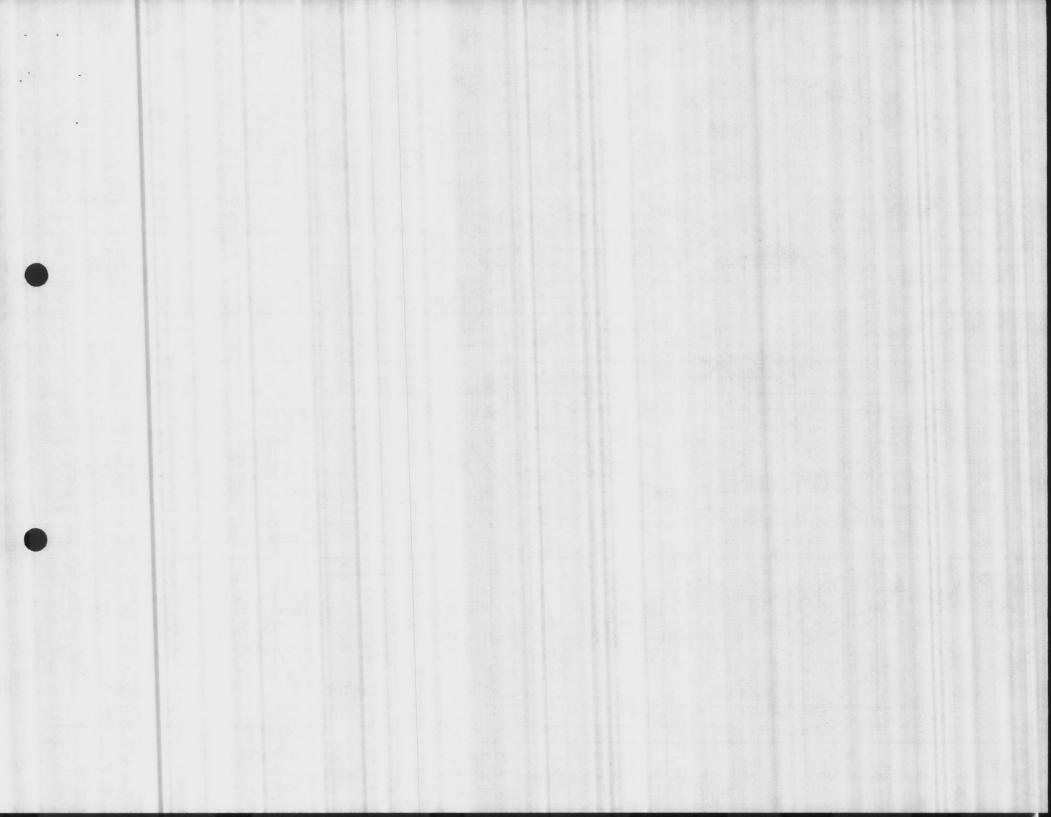
303 3000

Serial # 04-67-042

N. C. DEPARTMENT OF HUNAN RESOURCES

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

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HONLA LANUHKY Year 1987

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

HOLLOING OLVO WATER TREATHENT PLANT AT Camp Lejeune

Method Code: 303

3000 Contaminant Code:

Serial # 04-67-043

N. C. DEPARTMENT OF HUNAN RESOURCES

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HONEN JANUAKY

Year 1987

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WATER TREATMENT PLANT AT Camp Lejeune

Method Code: Contaminant Code:

303 3000

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

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HONLA JANUARY Year 1987

CHIMP JOHNSON

WATER TREATHENT PLANT AT Camp Lejeune

Method Code: Contaminant Code:

303 3000

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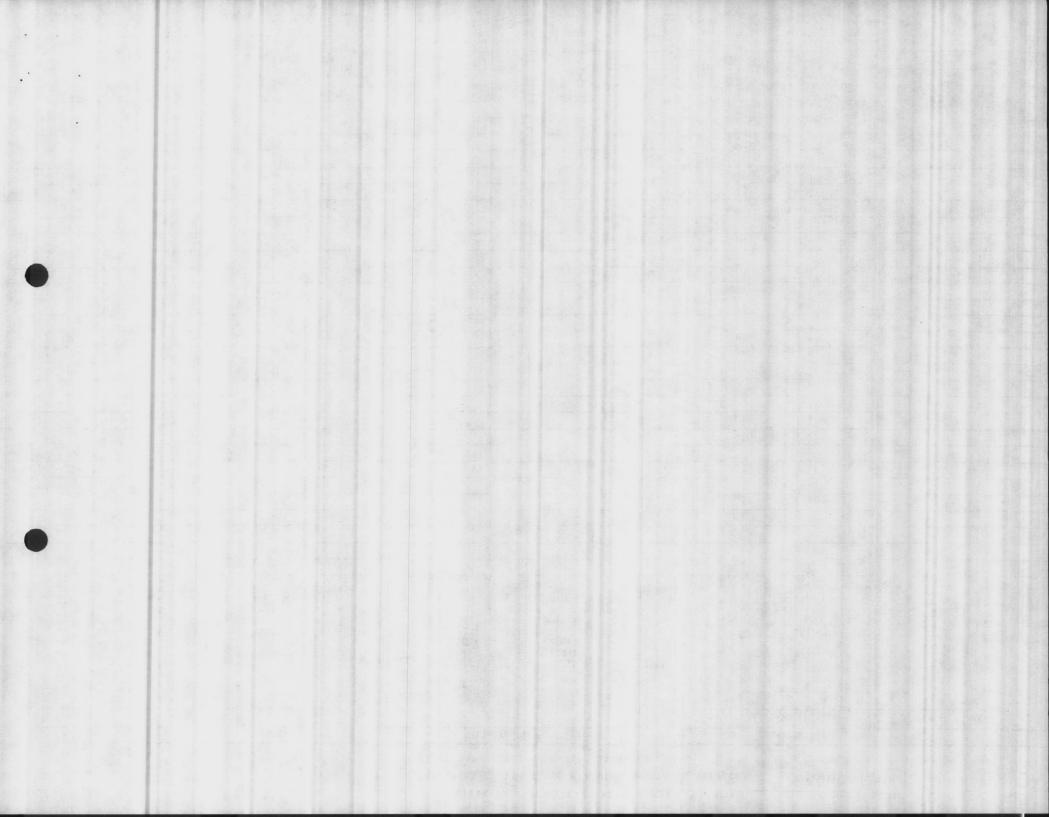
N. C. DEPARTMENT OF HUNAN RESOURCES

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

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Elizabeth O. Buty B. West



HONTH JANUARY Year 1987

KIFLE KANGE

WATER TREATHENT PLANT AT Camp Lejeune

Method Code: Contaminant Code:

303 3000

Serial # 04-67-046

N. C. DEPARTMENT OF HUNAN RESOURCES

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

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HONTH JANUARY

YEAR 1987

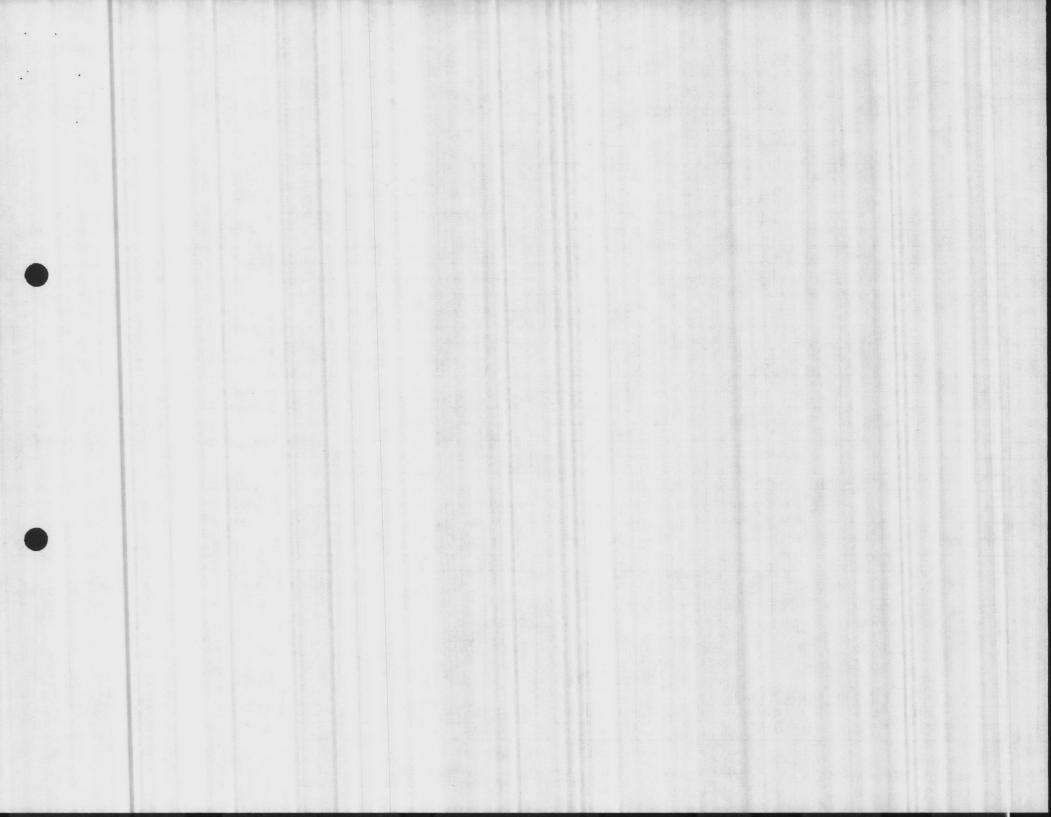
REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Contaminant Code: 3000 

N. C. DEPARTMENT OF HUNAN RESOURCES

Serial # 04-67-047 FILTERES." RAW WATER COLIFORNS (MFP) FINISHED DISTRIBUTION SYSTEM COLIFORMS (MFP) REPEAT SAMPLES 3 4 5 TOTAL PLATE COUNT RO. OF COLIFORNIS FER. 100 ml. TOTAL PLATE COUNT TOTAL MFF CULIFURMS per 100 ml. AVE. COLIFORMS per 100 ml. NO. OF SAMPLES EXAMINED MFP COLIFORMS par 100 ml. INCUBATOR TEM COUNT YOLUNE FILTERED MI. TOTAL COLONIES YOLUME FILTERED D1. COLIFORMS
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LAB ID # 37307



HONEN MANURKY Year 1987

WATER TREATMENT PLANT AT Camp Lejeune

Method Code: Contaminant Code:

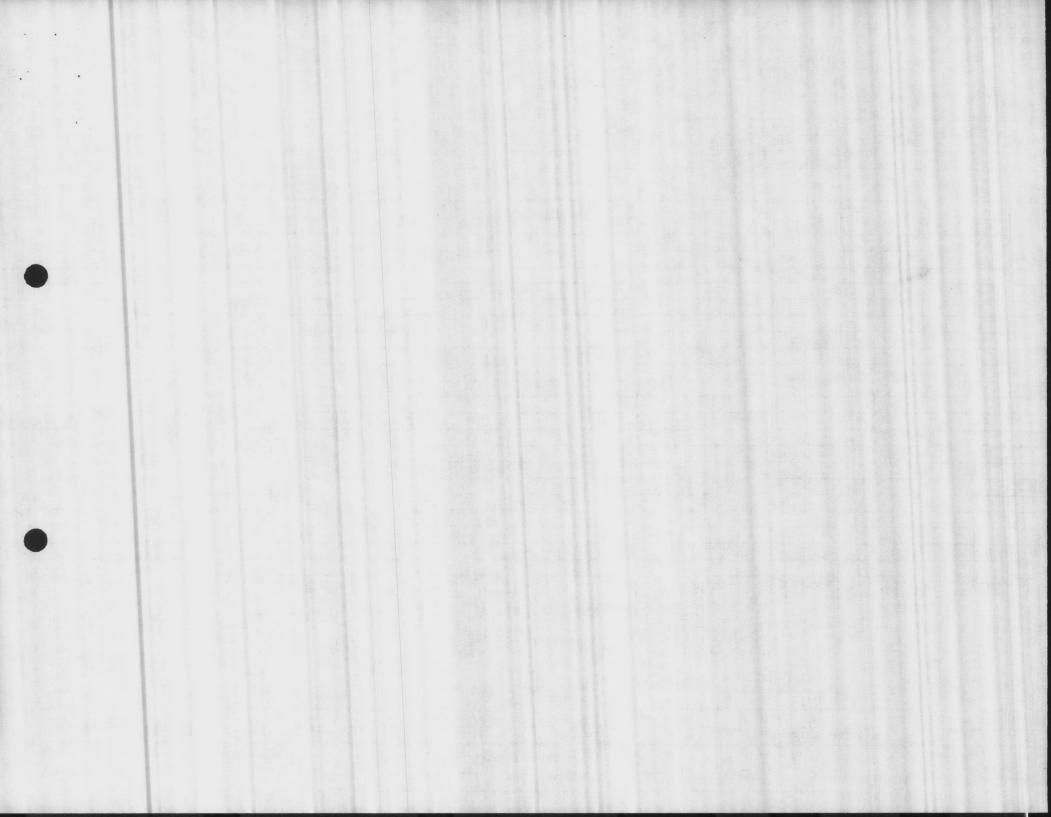
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REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Serial # 04-67-048

N. C. DEPARTMENT OF HUMAN RESOURCES

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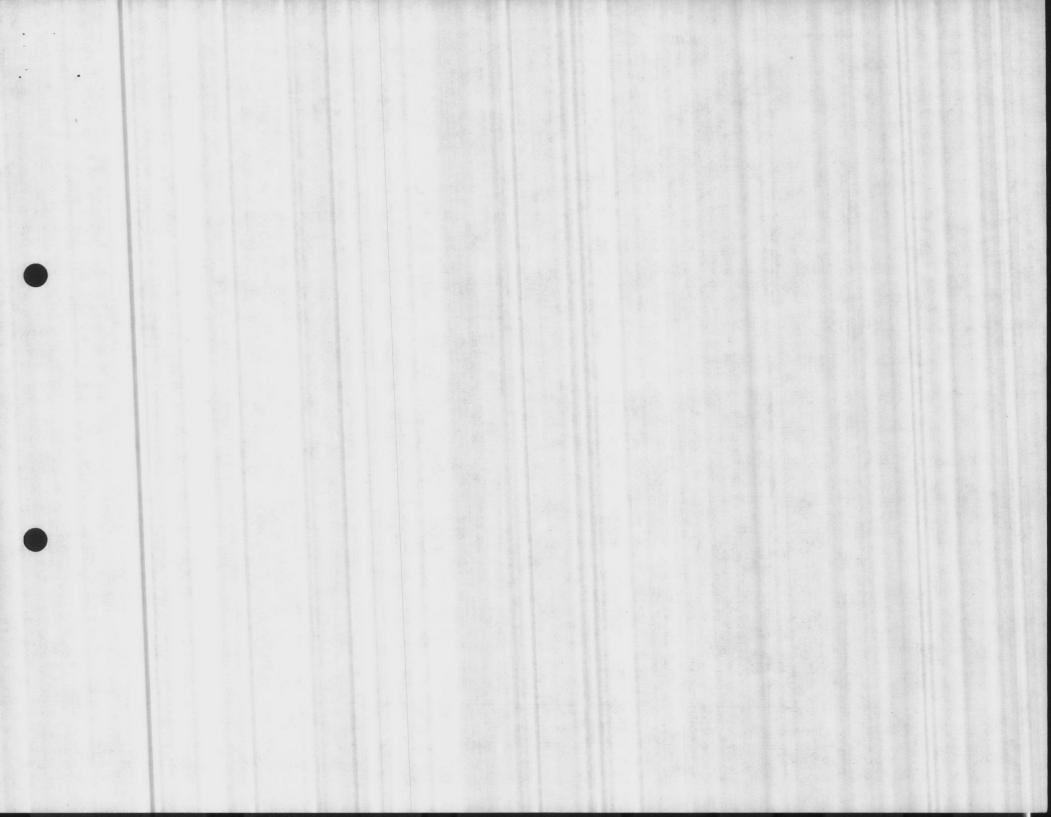
CHEMICAL ANALYSIS — WATER TREATMENT PLANTS MCBCL 11330/3 (REV. 6-84)							DATE COLLECTED  1 - 6 - 87			DATE OF ANALYSIS 1 - 6 - 87	
PARAMETER SERIAL#04-67	HADNOT POINT	CAMP JOHNSON	TARAWA TERRACE - 044	ONSLOW BEACH	COURTHOUSE BAY -047	RIFLE RANGE	HOLCOMB BLVD -043	NEW RIVER			
PH (IN LAS NOT PLANT)	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	82	186	52	162	160	154	56	152			
CARBONATES AS CaCO <sub>3</sub>	8	0	4	0	0	0	8	12.			
BICARBONATES aCO <sub>3</sub>	74	186	48	162	160	154	48	140			
CHLORIDES AS C1	12.	14	16	24	24	46	16	66			
HARDNESS AS CaCO <sub>3</sub>	88	54	58	52	58	48	64	58			
RON AS Fe	< 0.04	0.18	< 0.04	0.12	< 0.04	< 0.04	< 0.04	<0.04			
FLUORIDE PM	0.18	0.15	NO SAMPLE 0.96	0.16	0.12	0.11	0.92	0.56			
CHLORINE RESIDUAL	0.7	1.2	1.0	1.3	1.3	1.0	1.2	0.9			
TURBIDITY PM	1.3 0.7	0.3	NO SAMPLE	0.5	0.5	0.2	0.1	0.1			
TOTAL PHOSPHATE		1.8				•					
OHTHO 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:		
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									WATER TREATMENT		
NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature. LABORATORY ANALYSIS BY									PMU	MCAS PMU	
and specific conductance. One liter of potable water is assumed to weigh one kilogram.  L. LANE AND C. SHORES								D NREAD	FILE SURE 16		



CHEMICAL ANALYSIS — WATER TREATMENT PLANTS MCBCL 11330/3 (REV. 6-84)								37	DATE OF ANALYSIS /-/3-87		
PARAMETER SERIAL*04-67	HADNOT POINT	CAMP JOHNSON	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD ーのよう	NEW RIVER			
PH (IN LAG 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 <sub>3</sub>	8	D	8	0	0	0	8	12			
RICH REPORTES	46	178	42	162	184	164	48	136			
CHLORIDES AS C1	10	12	14	20	14	50	16	60			
HARDNESS AS CaCO <sub>3</sub>	62	64	80	110	64	62	64	46			
RON AS Fe	<0.04	0.21	40.04	0.22	<0.04	<0.04	<0.04	0.06			
FLUORIDE PM	0.85	0.17	0.77	0.15	0.11	0.11	0.90	0.56			
CHLORINE RESIDUAL	1.0	1.5	1.0	1.0	1.5	1.1	0.9.	0.9			
TURBIDITY PM	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1			
TOTAL PHOSPHATE		2.2				•					
OHTHO 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:		
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NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, LABORATORY ANALYSIS BY									PMU TO MCAS PMU		
and specific conductance. One liter of potable water is assumed to weigh one kilogram  H. BURNS AND L. LANE									□ NREAD D FILE		

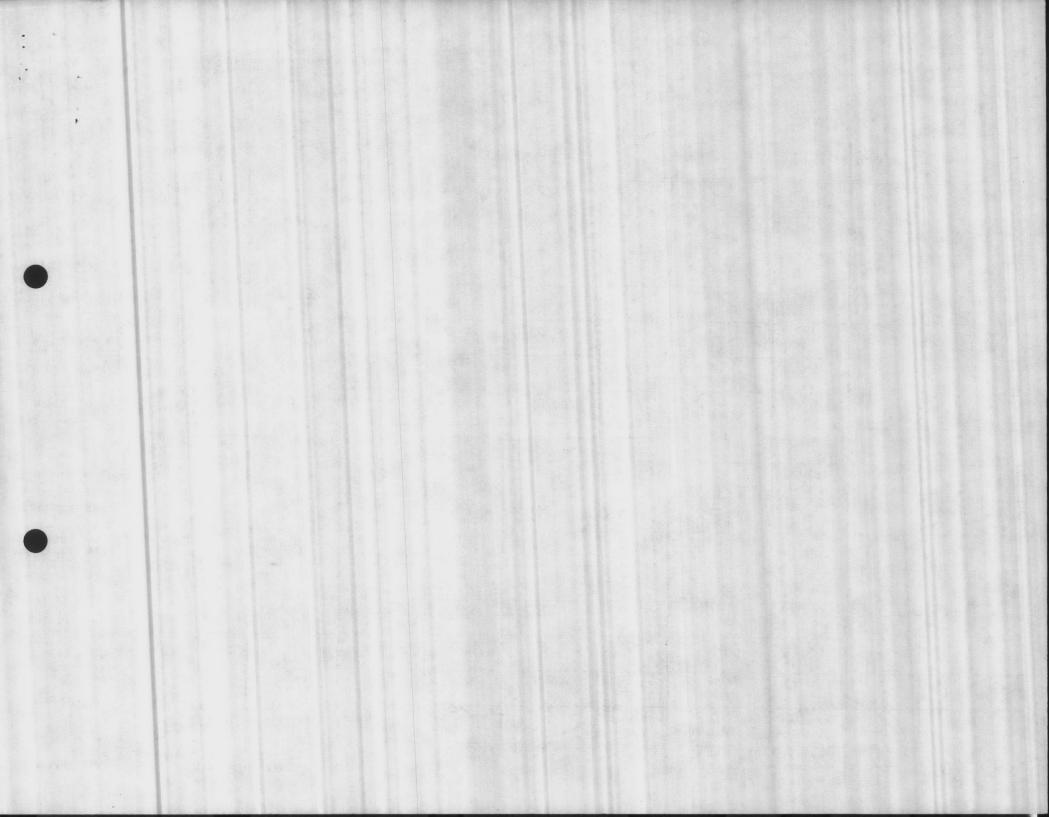


CHEMICAL ANALYSIS — WATER TREATMENT PLANTS MCBCL 11330/3 (REV. 6-84)							DATE COLLECTED	1-20-87	DATE OF ANALYSIS 1 - 20-87		
PARAMETER SERVAL#04-67	HADNOT POINT	CAMP JOHNSON	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD -043	NEW RIVER			
H (IN LAG NOT PLANT)	8.1	7.5	9.1	7.4	8.1	8.3	8.7	8.8			
PHENOLTHALEIN ALKALINITY	0	0	8	0	0	4	4	8			
ETHYL ORANGE LKALINITY	54	186	44	160	184	160	52	176			
CARBONATES AS CaCO <sub>3</sub>	0	0	16	0	0	8	8	16			
RBONATES CO <sub>3</sub>	54	186	28	160	184	152	44	160			
CHLORIDES AS C1	12	10	16	18	18	54	14	72			
HARDNESS AS CaCO3	62	54	68	160	54	60	60	56			
RON AS Fe	< 0.04	0.18	<0.04	0.29	< 0.04	<0.04	<0.04	< 0.04			
LUORIDE AM	0.77	0.12	0.60	0.11	0.09	0.08	0.84	0.58			
CHLORINE RESIDUAL	1.0	1.0	1.1	1.1	1.4	1.0	0.8	0.8			
TURBIDITY PM	0.2	1.5	0.3	0.5	0.4	0.1	0.3	0.2			
TOTAL PHOSPHATE		2.2									
ORTHO PHOSPHATE	前 第	1.0									
META PHOSPHATE		1.2									
STABILITY	-0.4	-0.6	+0.9	-0.5	-0.2	0.0	+0.2	+0,1			
REMARKS									СОРУ ТО:		
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NOTE All results reported in parts per million unless otherwise noted except for pH, temperature. LABORATORY ANALYSIS BY									PMU MCAS PMU		
and specific conductance. One liter of potable water is assumed to weigh one kilogram.  H. BURNS AND L. LANE									D NREAD P FILE		



CHEMICAL ANALYSIS MCBCL 11330/3 (REV. 6-84)	- WATER TE	REATMENT PLA	ANTS				DATE COLLECTED	-27-87	DATE OF ANAL	YSIS /- 27-87
ARAMETER Serial#04-67	HADNOT POINT	CAMP JOHNSON	TARAWA TERRACE - 044	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD -74.3	NEW RIVER		
H (IN LAG 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 LICKALINITY	52	174	42	158	182	162		150		
CARBONATES AS CaCO <sub>3</sub>	12	0	12	0	0	0	- ,	24		
RBONATES aCO 3	40	174	30	158	182	162	-	126		
CHLORIDES AS C1	14	16	18	30	20	56	-	64		-4
HARDNESS AS CaCO <sub>3</sub>	58	64	78	48	52	54	-	58		
RON AS Fe		/NS7	RUMENT	DOWN.			<u> </u>			
FLUORIDE AM	0.99	0.17 .	0.8/	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 PM	0.9	1.5	0.6	0.4	0.3	0.3		1.0		
TOTAL PHOSPHATE		3.33								
OHTHO PHOSPHATE		1.21								
META PHOSPHATE		2.12								
STABILITY	+0.6	-0.5	+0.9	-0.5	0.0	-0.1	-	+0.2		
REMARKS									СОРУ ТО	
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NOTE: All results reported i	n nade per millio	on unless otherwise	noted except for o	H temperature	LABORATORY ANA	ALYSIS BY			· PMU	MCAS PMU

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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 Laurl 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 Pederal Register, Volume 45, Number 168, dated 27 August 1980. The analysis is run by the Environmental Chemistry and Nicrobiology 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 Date Typed 4 Mar 87 Encls: (1) Dept of Health Forms (2) Chemical Analysis Forms Word Processor Number 11331 Copy to: Blind copy to: BMO (Attn: Util Dir), Supvy Chem (2)

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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:

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The analysis is run by the Environmental Chemistry and Nicrobiology 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

Date Typed 4 Mar 87
Word Processor Number 11331

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

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HADNOT POINT

HADNOT POINT WATER TREATHENT PLANT AT Camp Lejeune Method Code:

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES Contaminant Code:

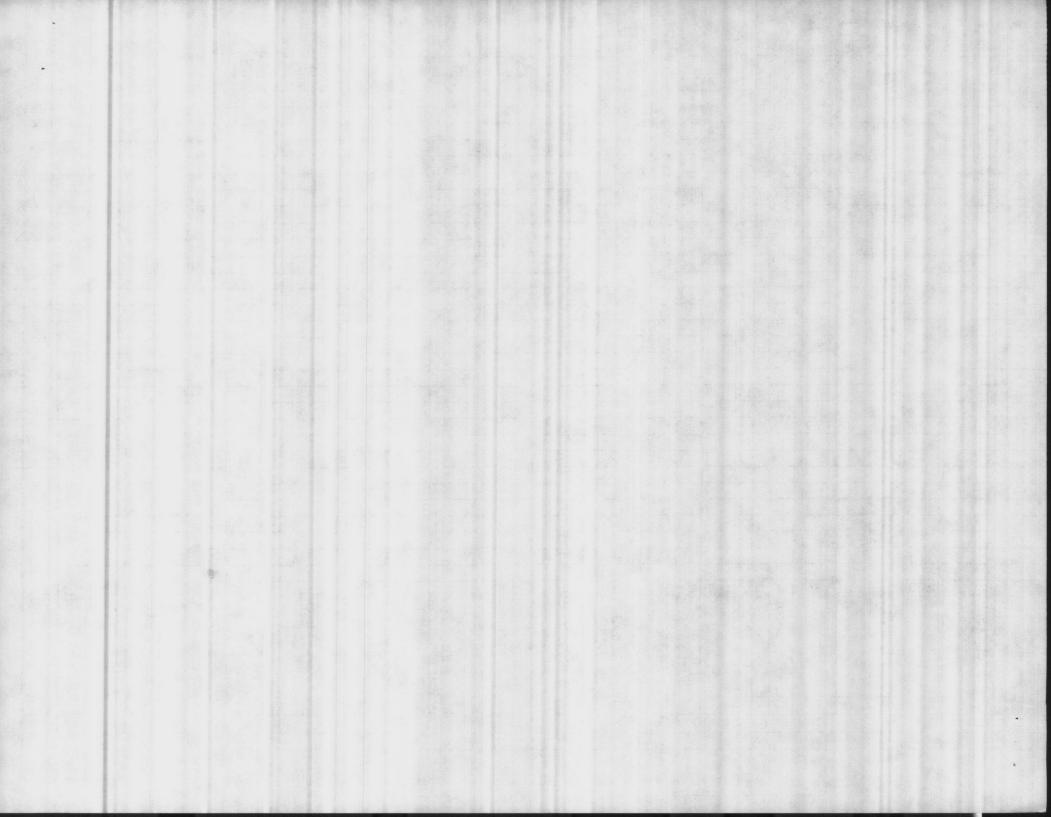
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Setial # 04-67-041 RAW WATER COLIFORNS (MFP) FILTERES. .. FINISHED DISTRIBUTION SYSTEM COLIFORMS (MFP) REPEAT SAMPLES AVE. COLIFORMS
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1.0 SYSTEM SAMPLES EXCELDING 3/50 4/100 7/200. 13/500ml O MEDIA BBI mEndo DECTERIAL ARITH. HEAR DENSITY GEO. HEAN TPC MEDIA

LAB ID# 37807

Analithase 52 Burn 9337-14



. HONEN FEBRUARY Year 1987

MARINE CORPS AIR STATION WATER TREATMENT PLANT AT Camp Lejeune

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

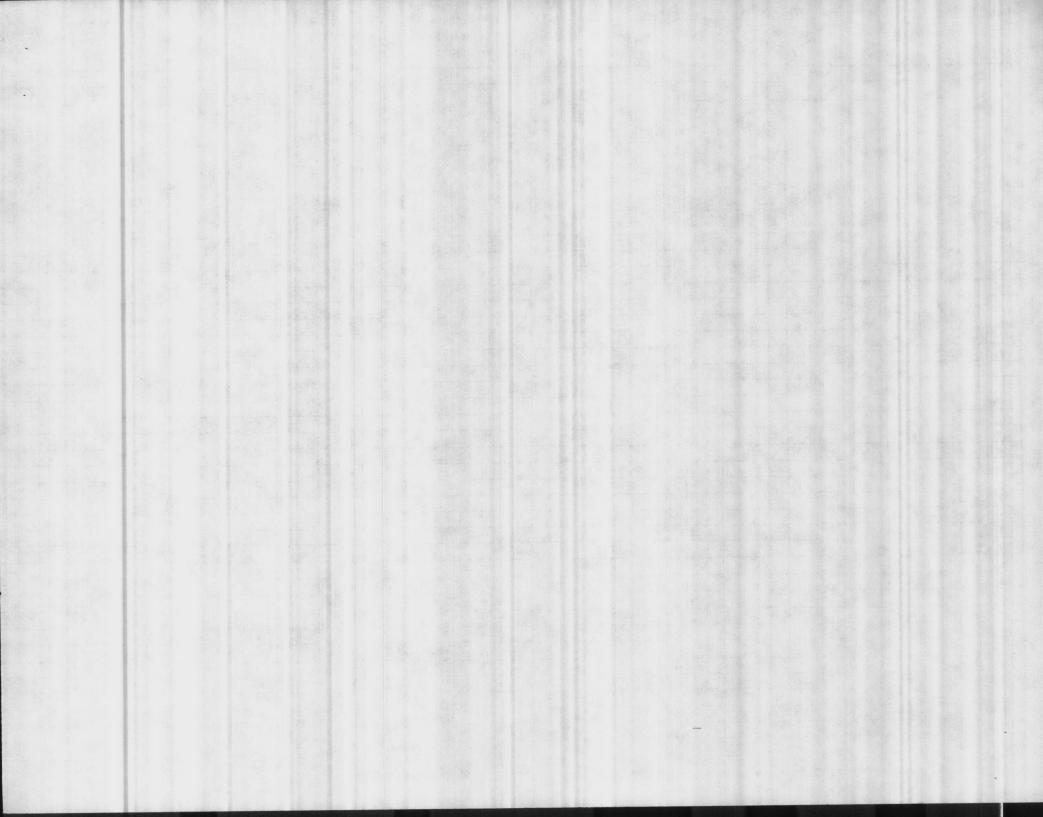
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Method Code: Contaminant Code:

N. C. DEPARTMENT OF HUMAN RESOURCES

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ININ FEBRUARY 1987

REHUNANE FILTER PROCEDURE

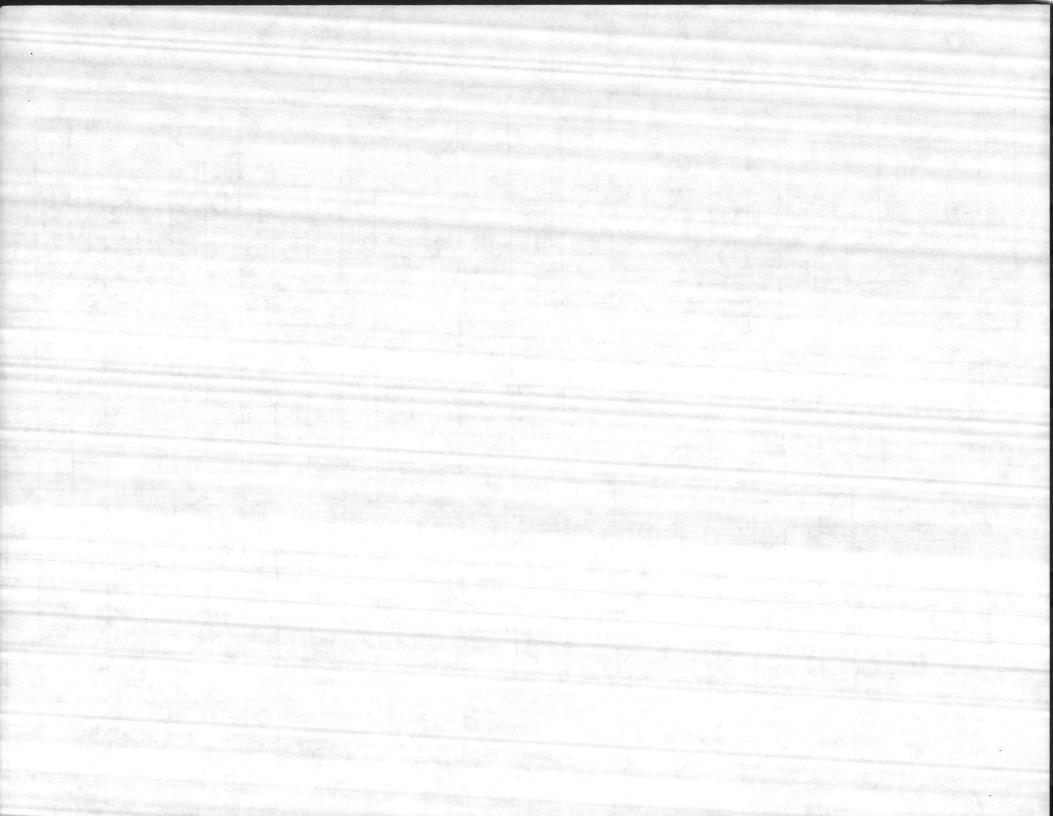
Houcome Bus WATER TREATHENT PLANT AT Camp Lejeune Method Code:

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES Contaminant Code:

303 3000

Serial # 04-67-043 N. C. DEPARTMENT OF HUMAN RESCURCES

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Year 1937

Method Code: 303 Contaminant Code: 300

TACAWA TERRACE WATER TREATHENT PLANT AT Camp Lejeune
REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

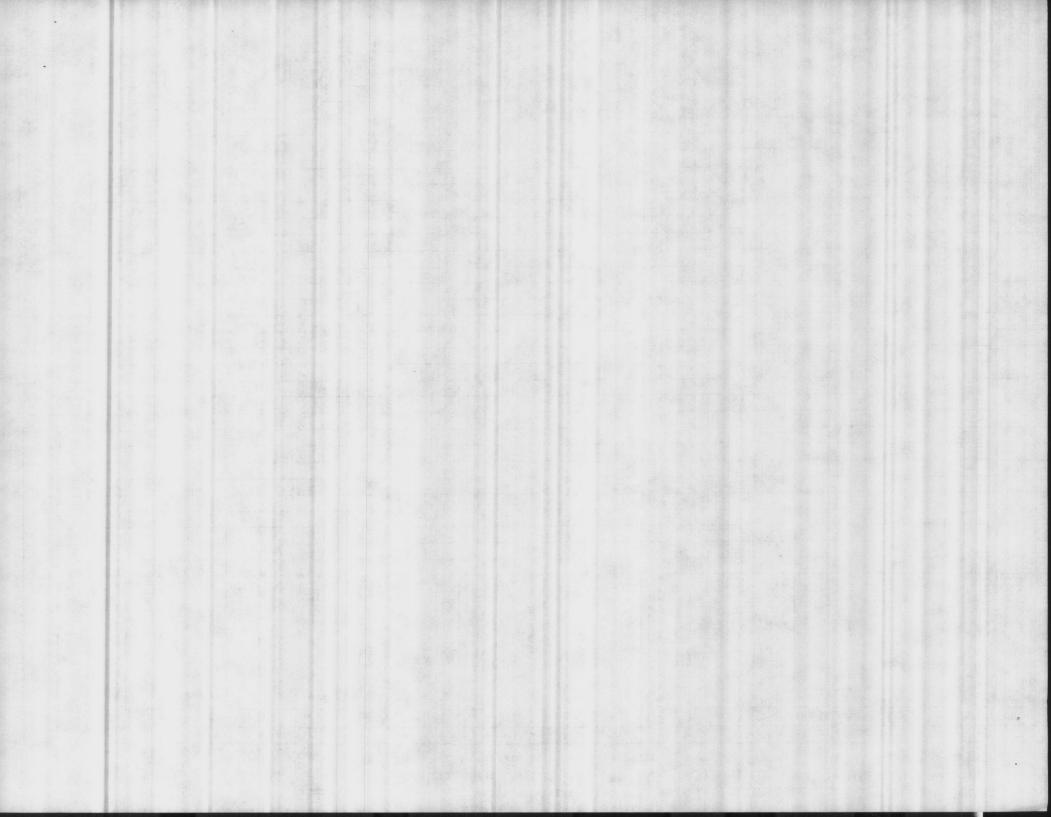
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N. C. DEPARTMENT OF HUMAN RESOURCES

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LABILD # 37807

Elizabeth (Bett B West)



HONEN EEBRUARY Year 1987

CAMP JOHNSON

\_\_ WATER TREATMENT PLANT AT Camp Lejeune

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

Method Code: Contaminant Code:

303 3000

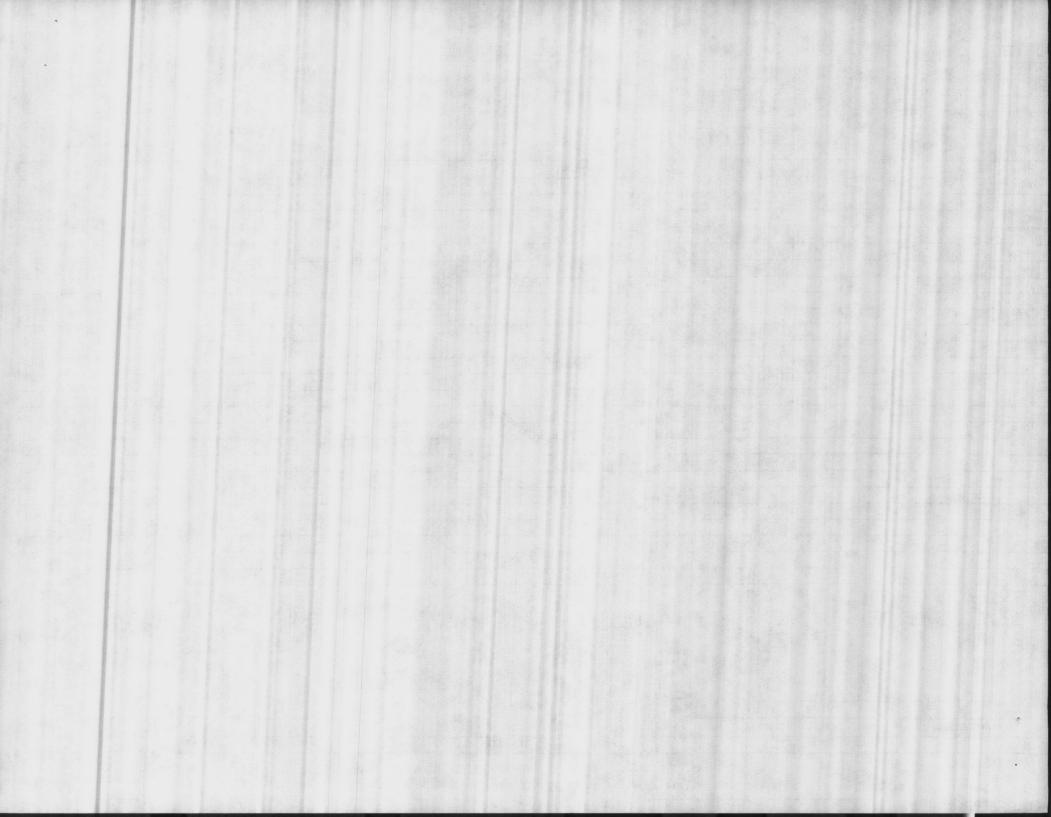
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N. C. DEPARTMENT OF HUNAN RESOURCES

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LAB IN # 37807

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Year 1987

RIFLE RANGE

WATER TREATHENT PLANT AT Camp Le jeune

Method Code: Contaminant Code:

303 300

Serial # 04-67-046

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

N. C. DEPARTMENT OF HUMAN RESOURCES

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HONEN FEBRUARY Year 1987

ARITH. HEAN

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DACTERIAL

COURTHOUSE BAY WATER TREATHENT PLANT AT Camp Le jeune

303 300

Method Code: Contaminant Code:

REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

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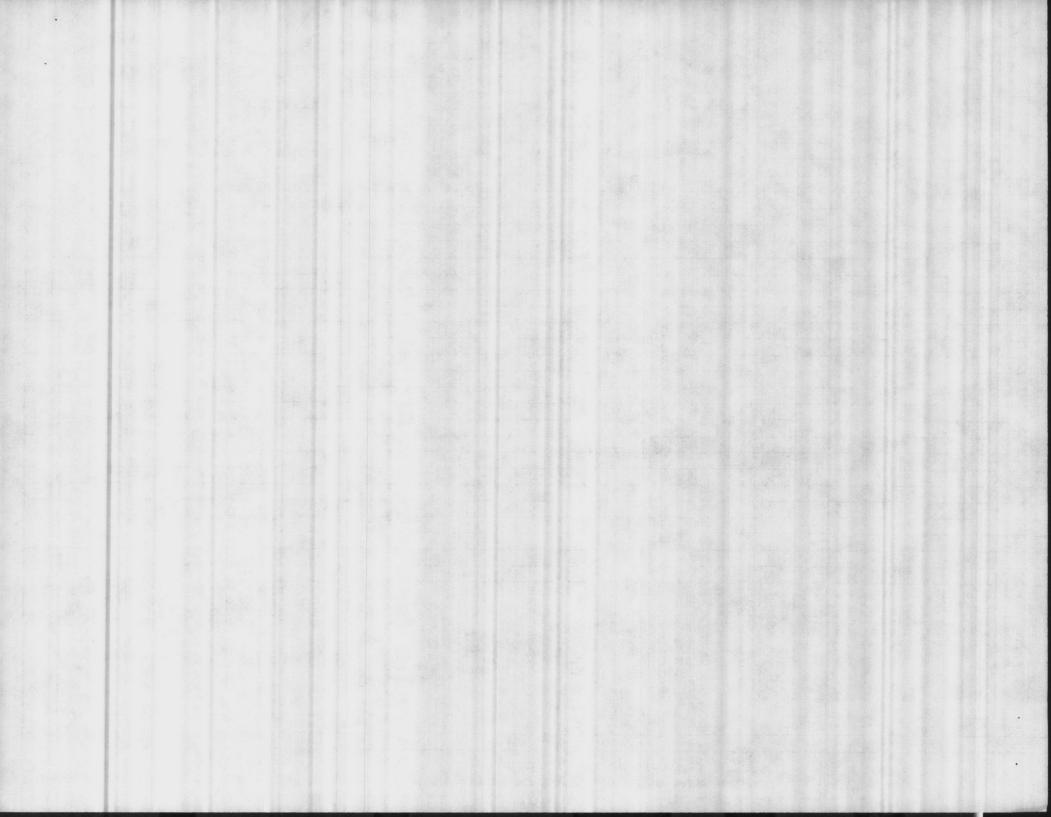
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MIN FEBRUARY 1987

ONSLOW BEACH

HENDRANE FILTER PROCEDURE

WATER TREATHENT PLANT AT Camp Lejeune REPORT OF BACTERIOLOGICAL RESULTS TO DIVISION OF HEALTH SERVICES

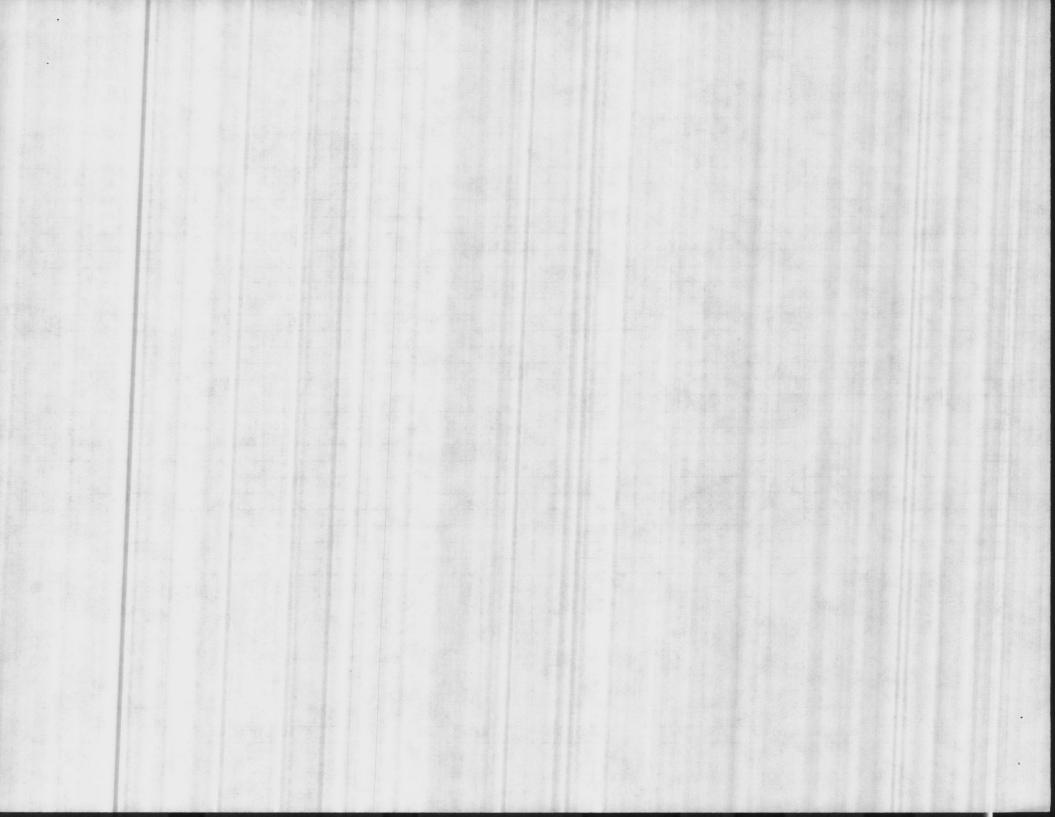
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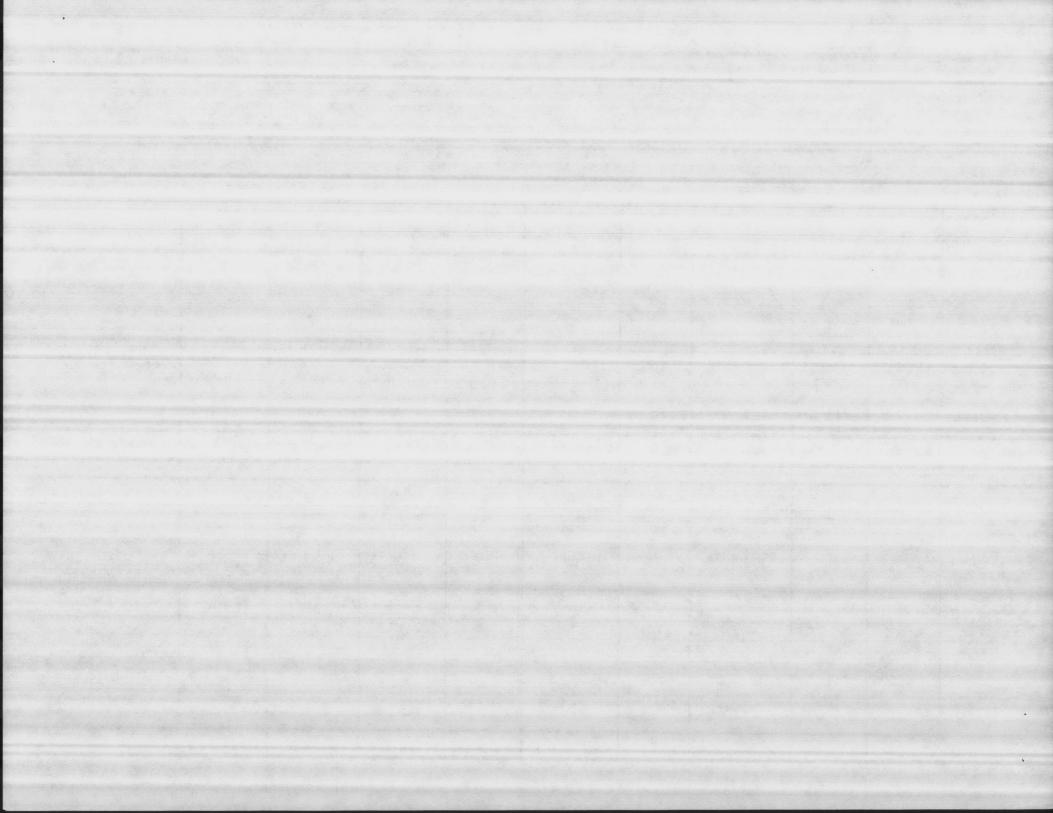
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N. C. DEPARTMENT OF BUHAN RESSURCES

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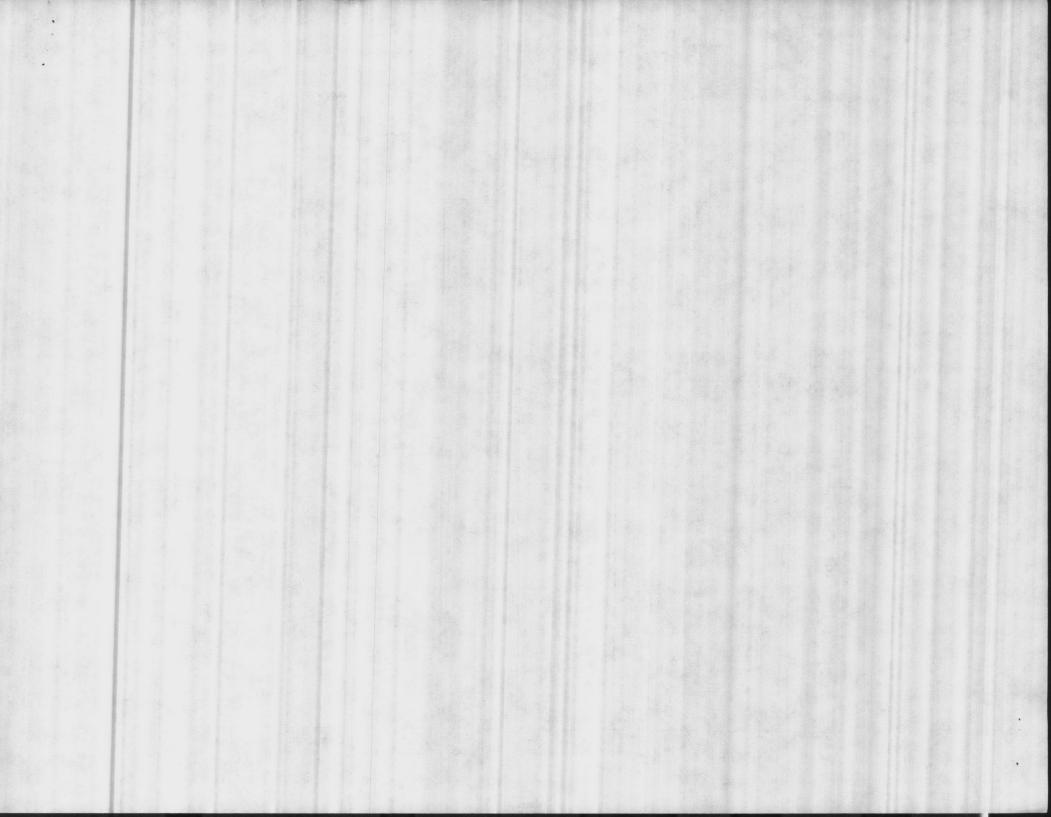
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CHLORIDES AS C1	12	12	16	18	18	48	10	56	
HARDNESS AS CaCO3	62	68	74	52	60	62	76	54	
IRON AS Fe	20.04	0.21	0.06	0.17	10.04	20.04	20.04	0.05	
FLUORIDE AM	1.17	0.14	0.76	0.13	0.10.	0.09	1.00	0.53	
CHLORINE RESIDUAL	1.0	1,2	1.0	1.5	1,3	1.0	1.0	1.0	
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NOTE: All results reported and specific condu	in parts per millio	on unless otherwise	noted except for phassumed to weigh	f, temperature,	LABORATORY AN	ALYSIS BY			D PMU D MGAS PMU
and specific condu	ciance. One mer	or polable water is	weight	The Anogram.	L. Lane	2 4	H. Buens		D NREAD D FILE



CHEMICAL ANALYSIS MCBCL 11330/3 (REV. 6-84)	- WATER TR	EATMENT PLA	NTS				DATE COLLECTED	1	DATE OF ANALYSIS	
PARAMETER	HADNOT POINT	CAMP JOHNSON ~045	TARAWA TERRACE - 044	ONSLOW BEACH	COURTHOUSE BAY -047	RIFLE RANGE	HOLCOMB BLVD -043	NEW RIVER		•
PH (IN LAG NOT PLANT)	8,5	7.4	9.3	7.5	8.2	3.2	NO SHAPKE	8.8		•
PHENOLTHALEIN ALKALINITY	6	0	16	0	0	C	_	12		
METHYL ORANGE ALKALINITY	60	180	36	166	17.4	160	-	146		
CARBONATES AS CaCO <sub>3</sub>	12_	0	32	0	0	0	-	24		
BICARBONATES AS CaCO <sub>3</sub>	48	180	4	166	174	160		120		
CHLORIDES AS C1	12	10	16	20	18	50	-	60		
HARDNESS AS CaCO <sub>3</sub>	66	64	62	62	54	54	-	50		10
IRON AS Fe	_	AA	Down	_		_		_		
FLUORIDE PM	082	0.12	0.83	0.13	0.11.	0.09	1	054		
CHLORINE RESIDUAL	1.0	1.1	1.0	1.0	1,3	0.8	_	0.8		
TURBIDITY PM	1.9	1.0	7.8	0.9	1.1	0.7	-	1.0		
TOTAL PHOSPHATE		1.70								
ORTHO PHOSPHATE		1.00								
META PHOSPHATE		0.70								
STABILITY	10.4	-0.7	10.8	-0.6	0.0	0.0	_	10.3		
REMARKS .									COPY TO	
				+					D UTIL DIR (	J
						1000			- WATER TREA	TMENT
NOTE All results reported	in parts per million	n unless otherwise r	noted except for ph	H. temperature,	LABORATORY ANA	ALYSIS BY			□ PMU □	MCAS PMU
and specific conduct.	ctance. One liter o	or potable water is	assumed to weigh	one kilogram.	L. LANE	+ 30	RNS		D NPEAD	D FILE



CHEMICAL ANALYSIS	- WATER TE	REATMENT PL	ANTS				DATE COLLECTED 2-17-8	7	DATE OF ANALYSIS 2 - 17-37
PARAMETER Serial#04-67	HADNOT POINT -041	CAMP JOHNSON	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY -047	RIFLE RANGE	HOLCOMB BLVD ーのよう	NEW RIVER	•
H (IN LAD NOT PLANT)		8.0	7.7	7.9	8.6	3.7	NO	9,2	
PHENOLTHALEIN ALKALINITY	8	0	20	0	6	6		20	
METHYL ORANGE ALKALINITY	52	184	58	170	871	174		150	
CARBONATES AS CaCO <sub>3</sub>	16	0	40	0	12	12		40	
BICARBONATES AS CaCO <sub>3</sub>	36	184	18	170	166	162		110	
CHLORIDES AS C1	14	14	20	174	20	50		52	
HARDNESS AS CaCO <sub>3</sub>	66	56	66	70	54	56		56	
IRON AS Fe	_	~	A.A.	DOWN				-	
FLUORIDE PM	0.76	0.15	0.76	0.14	0,10	0.09	_	0.51	
CHLORINE RESIDUAL		1,2	1,0	1.5	1,5	1,0	+	0.9	
TURBIDITY PM	0.9	3,3	2.0	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 .									СОРУ ТО
			100						D UTIL DIR
					· · · · · · · · · · · · · · · · · · ·				□ WATER TREATMENT
NOTE: All results reported	in parts per millio	on unless otherwise	noted except for p	oH, temperature,	LABORATORY AN	ALYSIS BY			□ PMU □ MCAS PMU
and specific condu	octance. One liter	of potable water is	assumed to weig	h one kilogram	L. LANE	4 BUR	NS		D NREAD D FILE



PARAMETER SERVAL#04-67	HADNOT POINT -041	CAMP JOHNSON -045	TARAWA TERRACE - 044	ONSLOW BEACH	COURTHOUSE BAY -047	RIFLE RANGE -046	HOLCOMB BLVD -043 NO	NEW RIVER	
PH (IN LAS NOT PLANT)	3.4	7.4	9.6	7.4	8.2	8.3	SAMPLE	8.9	
PHENOLTHALEIN ALKALINITY	4	0	4	0	0	4		20	
METHYL ORANGE ALKALINITY	74	176	44	156	174	154		148	
CARBONATES AS CaCO3	8	0	8	0	0	8		40	
BICARBONATES AS CaCO <sub>3</sub>	66	176	36	156	174	146		108	
CHLORIDES AS C1	10	12	16	20	16	44	1 1 1 1 1 1 1	56	
HARDNESS AS CaCO <sub>3</sub>	68	62	64	54	60	64		70	
RON AS Fe	4			AA	DOWN	<b>K</b>			
FLUORIDE AM	1.14	0.17	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 PM	0.7	1-1	1.9	0.6	0.3	1.0		0.7	
TOTAL PHOSPHATE		2.4							
URTHO PHOSPHATE		1.0							
META PHOSPHATE		1.4							
STABILITY	+0.8	- 0.5	+1.4	-0.5	+0.1	+0.5		+0.8	
REMARKS '									СОРУ ТО
									D UTIL DIR D
						4.			□ WATER TREATMENT
NOTE: All results reported	in parts per millio	on unless otherwise r	noted except for pl	H temperature	LABORATORY ANA	ALYSIS BY			□ PMU □ MCAS PMU

