

GRAINGER LABORATORIES INCORPORATED

ANALYTICAL AND CONSULTING CHEMISTS

Raleigh, North Carolina 27603

709 West Johnson Street

(919) 828-3360

October 13, 1982

82-5049

.

Environment Analysis Construction Materials Fuels Textiles Chemicals Hazardous Waste

ANALYTICAL LABORATORY

Identification of Unknowns Commanding General Marine Corps Base Camp Lejeune, N.C. 28542

Attention: AC/S Facilities

Subject: Analyses of samples received 10/1/82

Sample Identification: Purchase Order# M67001-82-M-9318

- A, Hadnot Point, 9/29/82, 0908 hr 1.
- 2. B, Holcomb Blvd., 9/29/82, 0927
- 3. C, Tarawa Terrace, 9/29/82, 0940
- D, Camp Johnson, 9/29/82, 1000 E, New River, 9/29/82, 1017 4.
- 5.
- 6. F, Rifle Range, 9/29/82, 1045
- 7. G, Courthouse Bay, 9/29/82, 1105
- H, Onslow Beach, 9/29/82, 1120 8.

For results see attached page.

that iam R. Cottrell

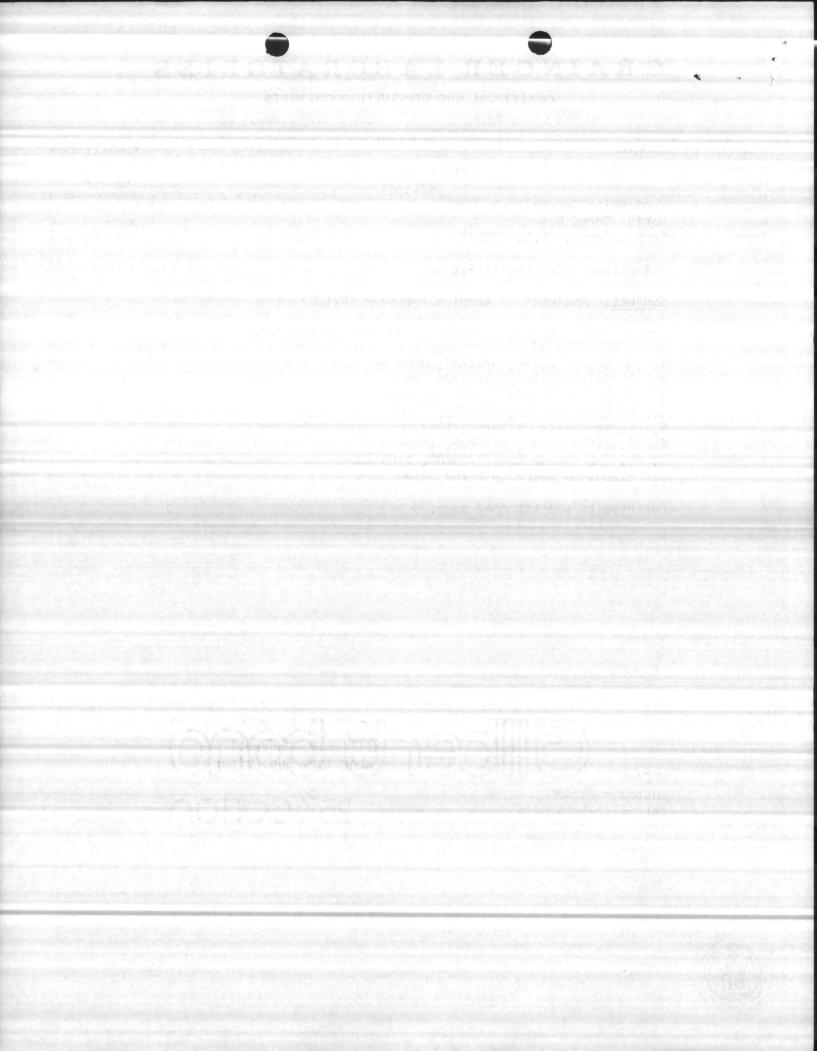
Laboratory Supervisor

WRC/ab Customer #92400 cc: Elizabeth Betz



CONSULTATION **Metallurgical Services**

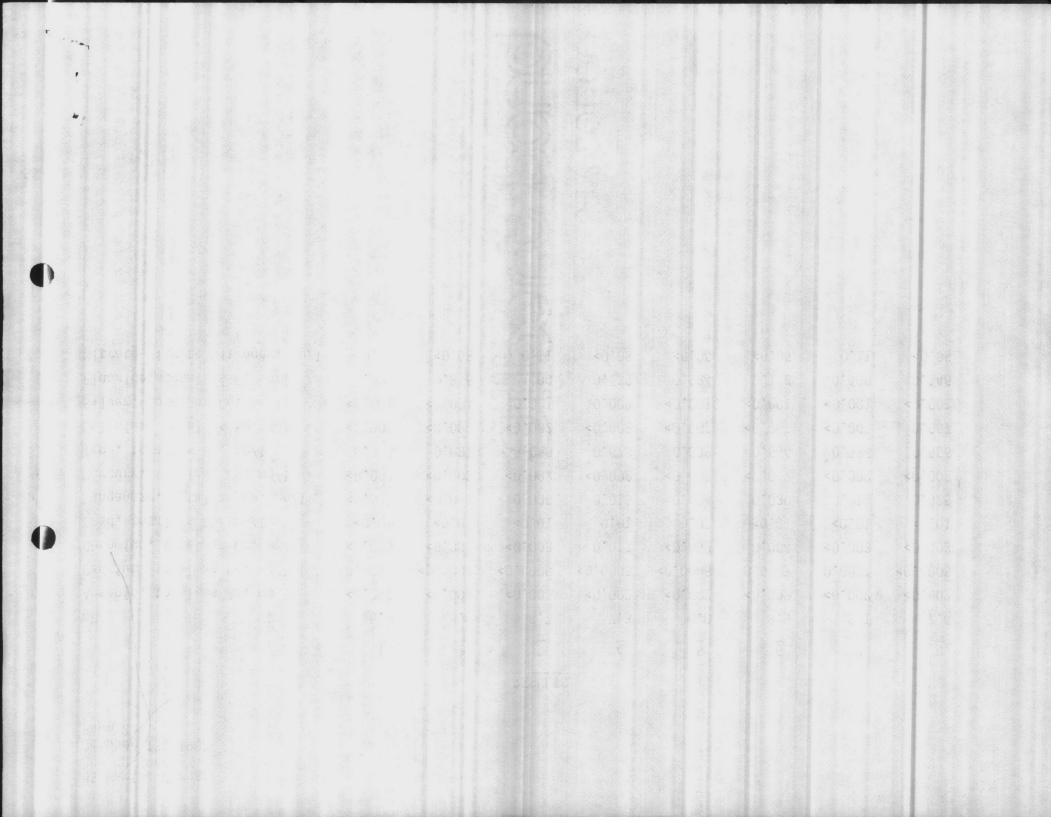
Pollution Abatement Process Development Quality Control Methods Development Special Investigation Pesticides RCRA



US Marine Corps GLI 82-5049 October 13, 1982 Page 2

	RESULTS							
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
рН	8.9	8.8	8.7	7.3	8.0	8.3	8.1	7.4
Arsenic, total as As, mg/l	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Cadmium, total as Cd, mg/l	0.0011	<0.0005	<0.0005	<0.0005	<0.0005	0.0007	0.0011	<0.0005
Chromium, total as Cr, mg/l	<0.003	<0.003	<0.003	0.017	<0.003	0.004	<0.003	<0.003
Lead, total as Pb, mg/l	<0.01	<0.01	<0.01	0.01	0.02	<0.01	<0.01	<0.01
Manganese, total as Mn, mg/l	<0.002	<0.002	0.006	0.015	0.004	0.030	0.011	0.025
Mercury, total as Hg, mg/l	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Iron, total as Fe, mg/l	0.045	0.037	0.020	0.673	0.338	0.544	0.536	0.556
Selenium, total as Se, mg/l	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.007
Silver, total as Ag, mg/l	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001
Fluoride, total as F, mg/l	0.994	0.856	1.00	0.139	0.924	0.126	0.109	0.146
Nitrate-Nitrite Nitrogen, mg/1	0.17	<0.05	0.11	<0.05	<0.05	<0.05	0.11	<0.05





GRAINGER LABORATORIES

ANALYTICAL AND CONSULTING CHEMISTS

Raleigh, North Carolina 27603

709 West Johnson Street

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ANALYTICAL LABORATORY

September 23, 1982 82-4805

Environment Analysis Construction Materials Identification of Unknowns Agriculture Fuels C Textiles M Chemicals C

Commanding General Marine Corp. Base Camp Lejeune, NC 28542

Attention: AC/S Facilities

Subject: Analyses of samples received 9/7/82

Sample Identification: Purchase Order M93182-2242-0001

1.	HB,	0930,	8.2,	19
2.	TT,	0945,	8.2,	20
3.	MP,	1005,	7.1,	20
4.	NR,	1035,	7.6,	20
5.	RR,	1100,	8.0,	23
6.	CHB	, 1125	, 7.9	, 21
7.	0B,	1145,	7.1,	21
8.	HP,	1210,	8.8,	20

For results see attached page.

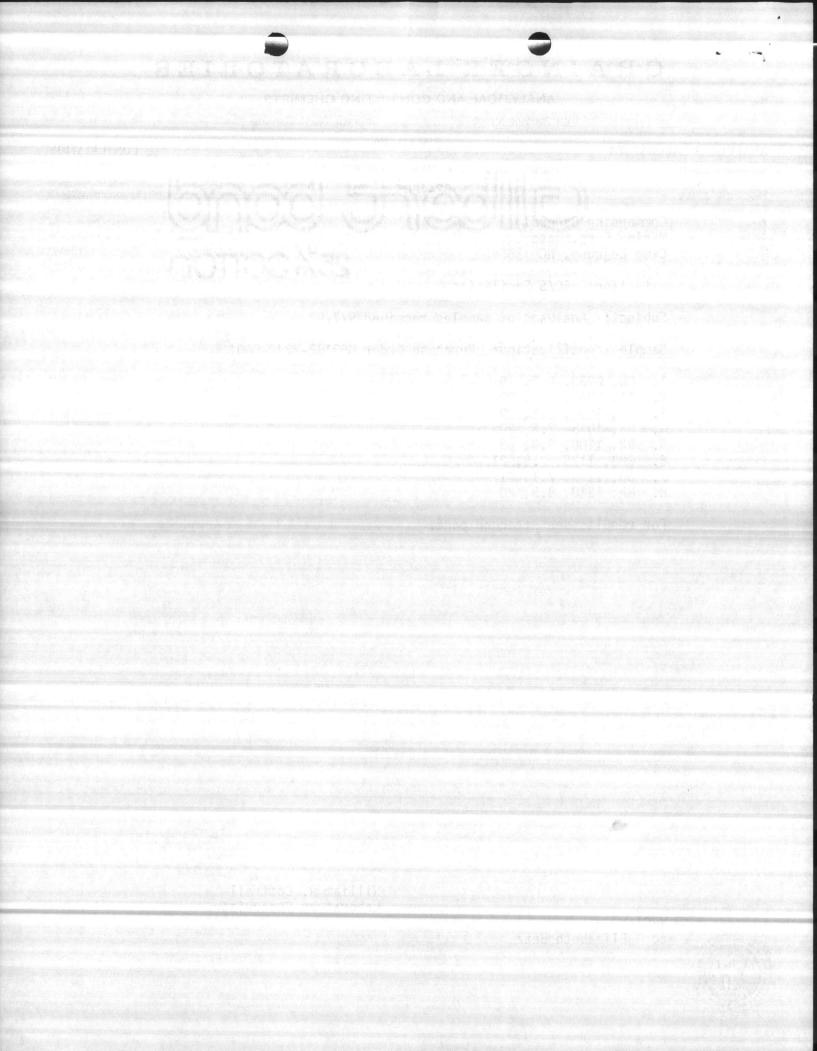
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William R. Cottrell Laboratory Supervisor CONSULTATION

Metallurgical Services Pollution Abatement Process Development Quality Control Methods Development Special Investigation Pesticides RCRA

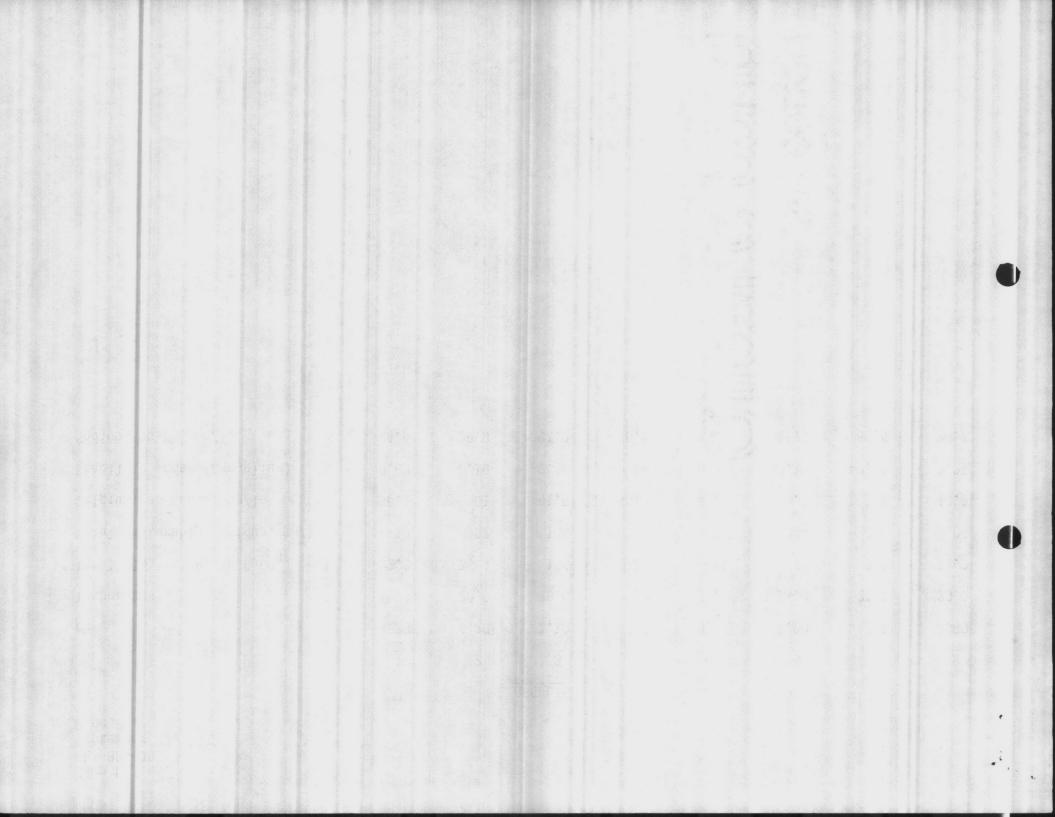


WRC/ab cc: Elizabeth Betz



Camp Lejeune GLI 82-4805 September 23, 1982 Page 2

			RESULTS					
	<u>1</u>	2	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
рН	8.20	8.20	7.10	7.6	8.00	7.90	7.1	8.80
Temperature, °C	19.0	20.0	20.0	20.0	23.0	21.0	21.0	20.0
Total Alkalinity, as CaCO ₃ , mg/l	82.3	76.4	166	136	151	164	155	51.9
Total Filterable Residue, mg/l	10	152	126	320	230	246	140	106
Calcium, as CaCO ₃ , mg/l	56.1	101	41.9	48.0	44.3	50.0	111	40.9
Stability Index (Langelier)	0.03	0.19	-0.95	-0.59	0.06	-0.12	-0.54	0.25
Sodium, as Na, mg/l	24.4	19.8	81.9	79.8	88.7	81.5	66.4	20.7



RELEVANT



STATES MARINE CORPS MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA 28542

Copy is 83 m

NREAD/JIW/jc 11330 JAN 1 7 1983

Thesa

From: Commanding General To: Commanding Officer, Naval Regional Dental Center Subj: Fluoride Testing of Base Water Supply Ref: (a) OPNAVINST 11330.1 of 1 Aug 1973 Encl: (1) Semi-Annual Fluoride Well Water Analyses

1. In accordance with the reference, the enclosure is forwarded.

samples were collected and analyzed for fluoride concentration.

J. T. MARSHALL

By direction

Blind copy to: UtilDiv, BMain SupvChem



Relevent

Relevant





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

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NREAD/JIW/jc 11330 JAN 1 7 1983

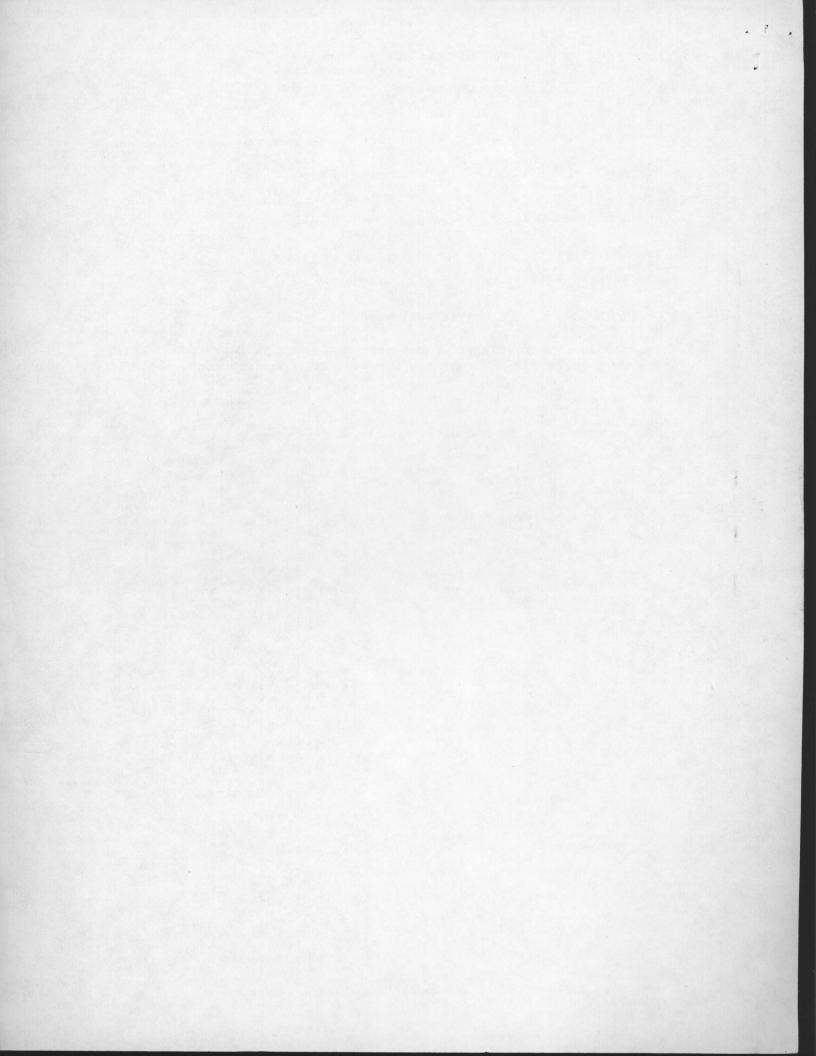
Thesa

	From	Commanding General
	To:	Commanding Officer, Naval Regional Dental Center
1	Subji	Fluoride Testing of Base Water Supply
	Ref:	(a) OPNAVINST 11330.1 of 1 Aug 1973
	Encl:	(1) Semi-Annual Fluoride Well Water Analyses
	1. In sample	accordance with the reference, the enclosure is forwarded. s were collected and analysed for fluoride concentration.

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Blind copy to: UtilDiv, BMain SupvChem

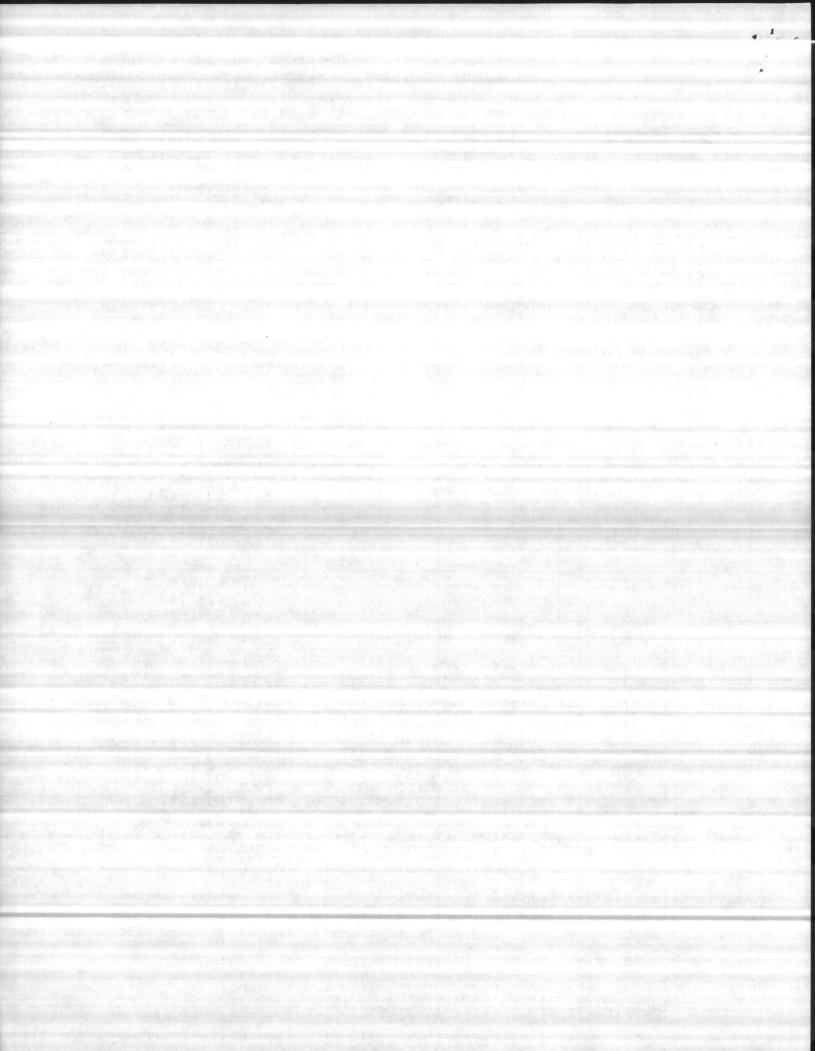




SEMIANNUAL WELL FLUORIDE RECORD

Well #;	mg/1	Well #:	mg/1	Well #:	mg/1	Well #:	mg/1
нр 602	0.52	<u>нв</u> 643	0.27	<u>RR</u> 45	0.13	MCAS 106	0.97
603	0.18	644	0,44	47	0-18	• 131	0.31
606 _	0, 22	645	0.60	97	0.13	203	1,03
608	0.13	646	0.18	<u>CHB</u> 43	0.13	-3506-	Closed
609	. 0.08	647	0.18	44	0113	4140	0.36
610	CLOSED	648	018	220	0,18	4150	0.36
613	0.22	649	0,13	221	0118	5001	0.36
615	SERVICE	650	0118	BB 97	013	5009	0.31
616	0.22	<u>CG</u> 100	0.22	A-5	0,22	1256 (N)	1.15
620	0.18	104	CLOSED	<u>MP</u> 142	0.22	1255(0)	0.48
.632	0,13	201	0.22	168	0.18	1254(P)	b.18
633	0.18	325 502	0.18 2.12	197	0.13	1253(Q)	1.15
634	0,13	504	0.22	267 628	0.18	1251 (R)	1.82
635	0.40	600	0.36	629	0.18	190(S)	0.22
636	0.08	604	80.0	630	0.18	191(T)	0,78
637	0.13	700	0.48	<u>TT</u> 26	O: 2.2 Out of Service	• • • • • • • • • • • • • • • • • • • •	
638	0,18	901	CLOSED	30	0.31		
639	0.13	1000	0,52	31	0.27	• • • • • • • • • • • • • • • • • • •	
640	0.22	1001	0.18	52	0.27		
641	0,13	VL 108	فتعجف	53	0.18		
642	0.18	VL 110	CLOSED	54	0.22		
651	0.18	VI. 154	CLOSED	67	0118		
652	0.31	<u>OB</u> 164	0,22	en e		•	
653	0,18	BA 190	0118			in the second second	·
654 655 LCH4006	0.18 0.22 CLOSED						
LC114007	0.27						

ENCLOSURE (1)



RELEVANT

Goto To 83

NREAD/JIN/dr 11330 ZZAUG 1983

Prom: Commanding General To: Commanding Officer, Neval Hospital

Subj: Fluoride Testing of Base Water Supply

Ref: (a) OTHAVINST 11330.1 of 1 Aug 1973

Encl: Semi-Annual Fluoride Well Water Analyses

1. In accordance with the reference, the enclosure is forwarded. These samples were collected and enalyzed for fluoride concentration.

M. G. LILLEY By direction

Blind copy to: UtilDiv, Bhain SupvChem

RELEVANT





Goo m

NREAD/JIW/dr 11330 ZZAUG 1983

Prote: Commanding General To: Commanding Officer, Haval Hospital

Subj: Fluoride Testing of Base Water Supply

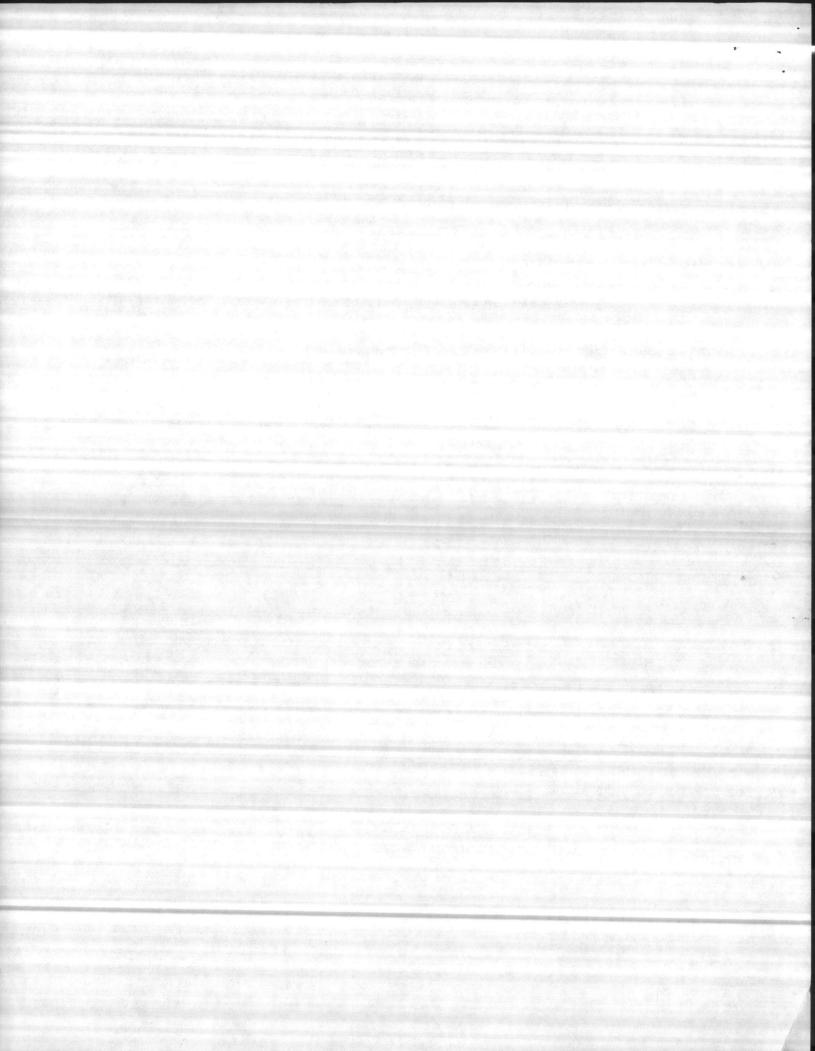
Ref: (s) OTHAVINST 11330.1 of 1 Aug 1973

Encl: Semi-Annual Fluoride Well Water Analyses

1. In accordance with the reference, the enclosure is forwarded. These samples were collected and analyzed for fluoride concentration.

M. G. LILLEY By direction

Blind copy to: UtilDiv, Briain SupvChem

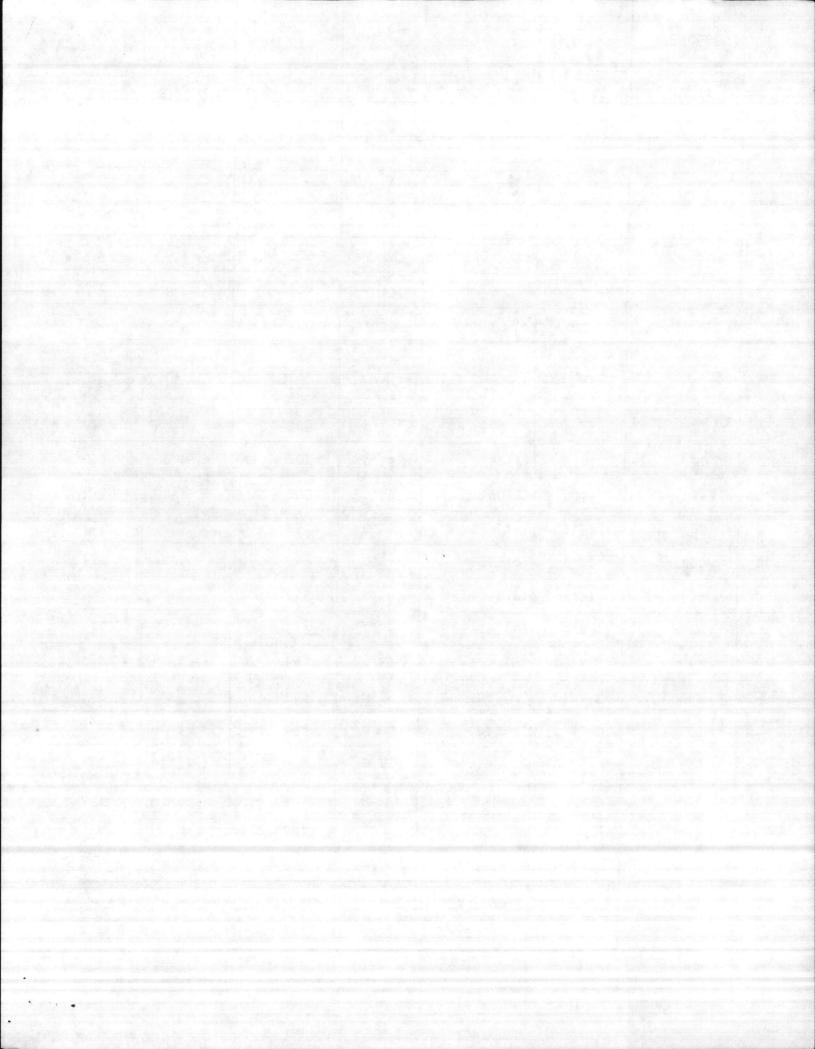


SEMIANNUAL WELL FLUORIDE RECORD

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Well #:	mg/1	Well #:	mg/1	Well #:	mg/1	Well #:	mg']
HP 602	. 0.24	<u>HP</u> 652	0.25	. <u>cg</u> 1000	0.32	<u>CHB</u> 43	0.0
603	0.16	· 653	0.17	1001	0.17	44	0.0
606	0.22	654	0.25	MCAS 106	1.72	2.20	0.1
603	0.11	655	0.14	131	0.30	221	0.13
609	0.08	LCH 4006	0.20	203	0.67	BB 97	.0.0
610	Out of Service	LCH 4007	0.21	4140	0.38	A-5	0.10
513	0.18	<u>нв</u> 643	0.28	41.50	0.26	<u>MP</u> 142	0.2
: 615	0.18	644	0.24	5001	0.25	168	Out Serv
-616	Out of Service	645	0.25	5009	0.27	197	0.1
620	0.17	646	0.19	1256(N)	0.28	267	0.1
632	0.11	647	0.15	1255(0)	0.40	628	Out Serv
633	0.17	648	0.16	1254 (P)	1.23	629	0.1
634	0.11	. 649	0.14	1253(Q)	0.35	630	0.1
635	0.27	650	0.15	- 1251(R)	1.62	<u>TT</u> 25	0.2
636	0.13	<u>CG</u> 100	0.19	190(5)	0.59	26	0.2
637	0.19	201	0.35	191(T)	_ 0.65	30	0.3
638	0.17	325	0.17	<u>OB</u> 164	0.22	31;	0.1
· 639	0.12	502	2.45	BA 190 .	0.18	52	• 0.2
640	0.16	504	0.19	<u>RR</u> 45	0.11	53	0.
641	0.14	600	0.25	47	0.13	54	0.
642	0.12	604	0.15	97	0.11	67	0.
651	Out of Service	700	0.24				
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BASE MAINTENANCE DEPARTMENT Marine Corps Base Camp Lejeune, North Carolina 28542

> MO 11330. / MAIN/RES/gbg 19 Oct 1978

MAINTENANCE ORDER 11330 . WICH SI

From: Base Maintenance Officer To: Distribution List

Subj: Standing Operating Procedures - Potable Water Sampling

- Encl: (1) Fluoride Sampling Procedures
 - (2) Chemical Analysis Procedures
 - (3) Bacteriological Sampling Procedures
 - (4) Semi-Annual Well Fluoride Sampling Procedures

1. <u>Purpose</u>. To publish a standard procedure for potable water sampling technique and schedule for the Marine Corps Base in accordance with state and naval regulations, and the Safe Drinking Water Act.

2. Responsibilities.

a. The General Foreman, Water Treatment Branch, is responsible for the proper collection of potable water samples from the distribution system and water treatment plants. The General Foreman is also responsible for the delivery of water samples to the Quality Control Laboratory, Building 65.

b. The Chief, Quality Control Laboratory is responsible for

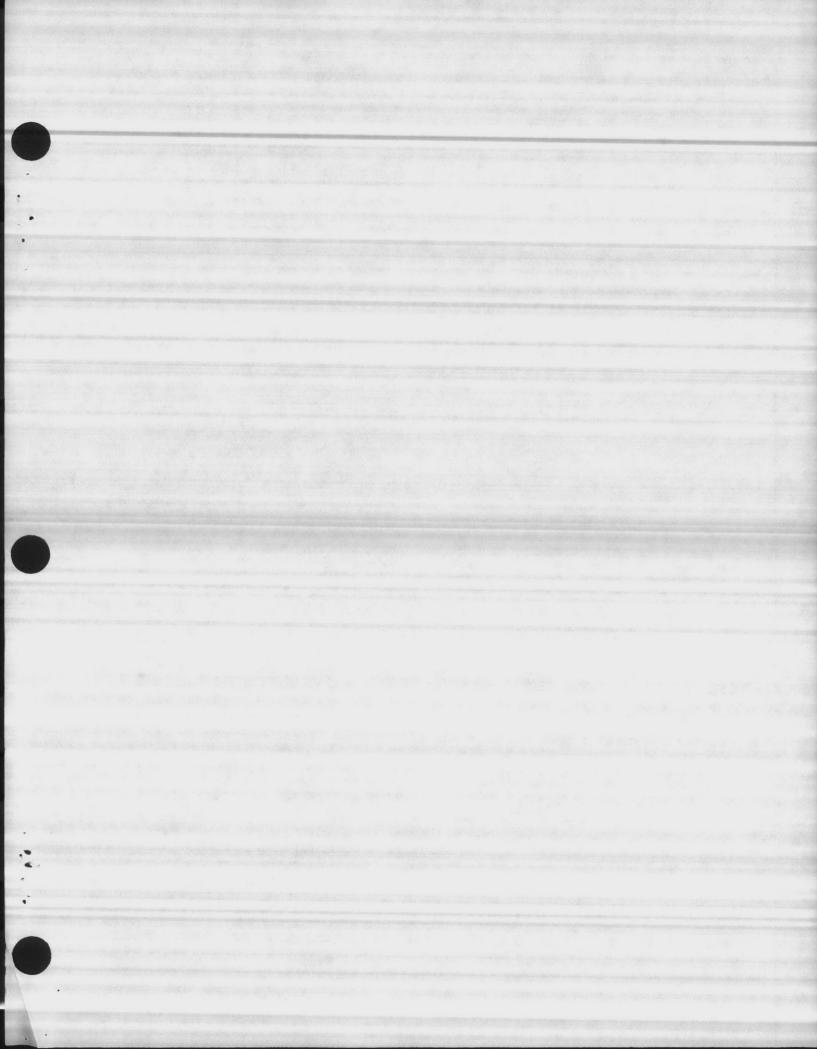
(1) Instructing water samplers (designated by the General Foreman, Water Treatment Branch) in the proper sampling techniques.

(2) Providing adequate containers for sampling.

3. Frequency of Sampling.

a. Fluoride samples of treated and untreated water will be collected daily (seven days per week) from the Hadnot Point, Tarawa Terrace, and Holcomb Blvd Water Treatment Plants. (See Enclosure (1) for procedures.)

b. Chemical analysis samples of treated water will be collected weekly from all Water Treatment Plants. (See Enclosure (2) for procedures.)



MO 11330 19 Oct 1978

c. Bacteriological analysis samples of all potable water distribution systems will be collected weekly. (See Enclosure (3) for procedures.)

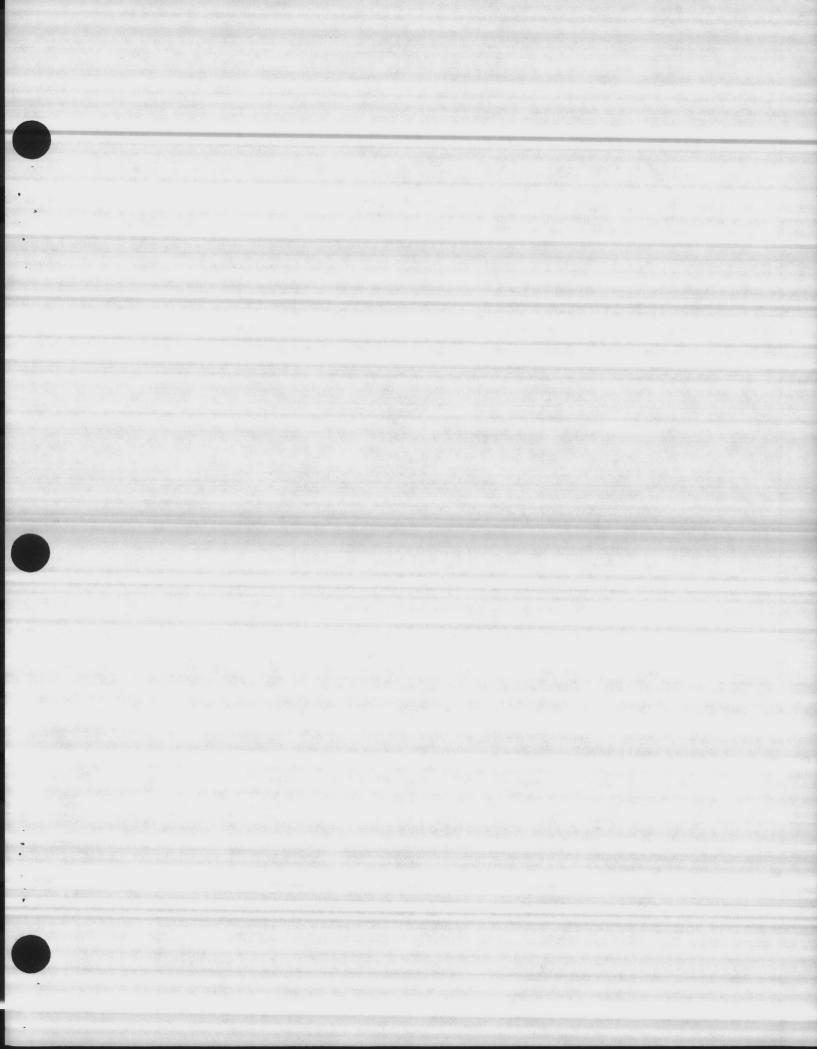
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d. Fluoride analysis samples of well water will be collected semiannually. (See Enclosure (4) for procedures.)

e. Repeat or check samples will be collected as required.

J. KOVACH

DISTRIBUTION: Dir, NREA Div Dir, Utilities Div Dir, Admin Div Dir, Opns Div



BASE MAINTENANCE DIVISION Marine Corp's Base Camp Lejeune, North Carolina 28542

MO 11330.1 Ch 1 MAIN/BB/bb 7 October 1981

MAINTENANCE ORDER 11330.1 Ch 1

From: Base Maintenance Officer To: Distribution List

Subj: Standing Operating Procedures - Potable Water Sampling

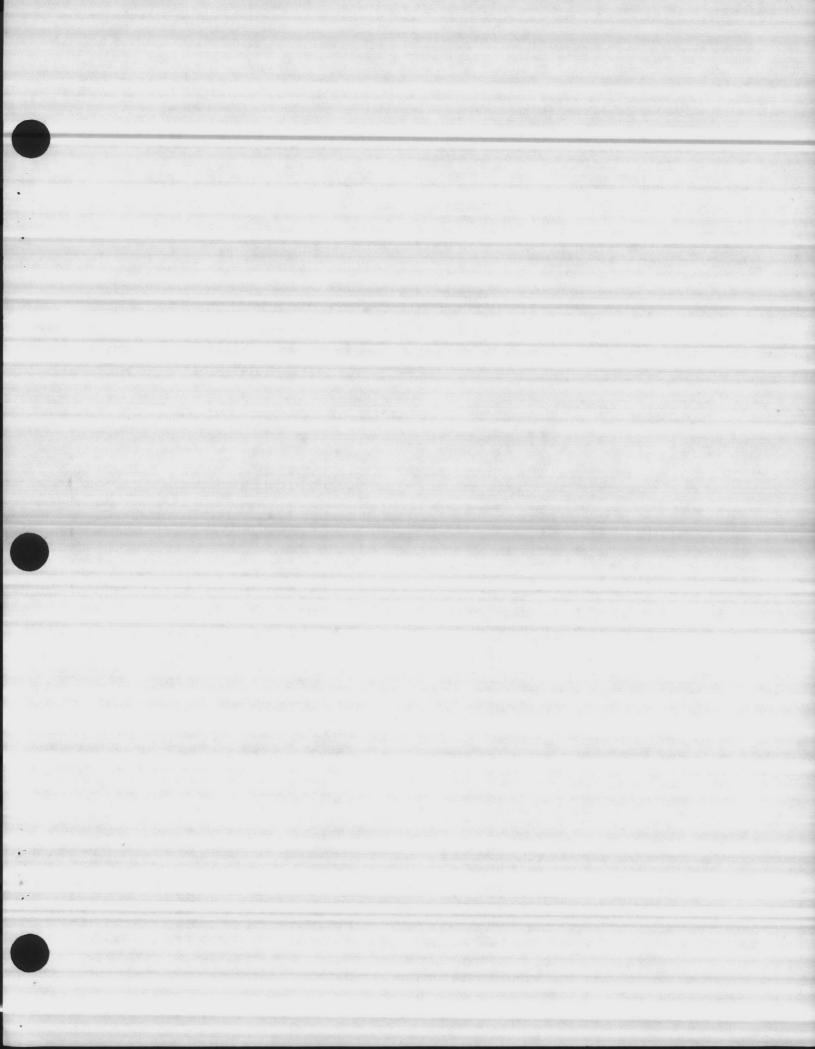
1. Purpose. To direct pen change to the basic Order.

2. Action. Renumber Maintenance Order 11330 to Maintenance Order 11330.1.

H. MOUNT

Distribution: BMO (3) AdminBr (5) M&RBr (45) NREABr (7) OprsBr (7) UtilBr (16)





Fluoride Sampling Procedures

1. General.

a. Daily samples will be collected from the raw and treated water from each Water Treatment Plant that adds fluoride to the water.

b. Sample locations will be designated by the General Foreman, Water Treatment Plant.

c. Fluoride samples will be collected each morning and delivered to the laboratory by 1000 hours.

2. Apparatus.

a. Plastic bottles, 500 mls. Each bottle to be labeled (i.e., raw, treated).

b. Sample carrier or container.

3. Sampling Procedure.

a. Turn on the spigot and run water (to waste) approximately one minute or longer to clear the line.

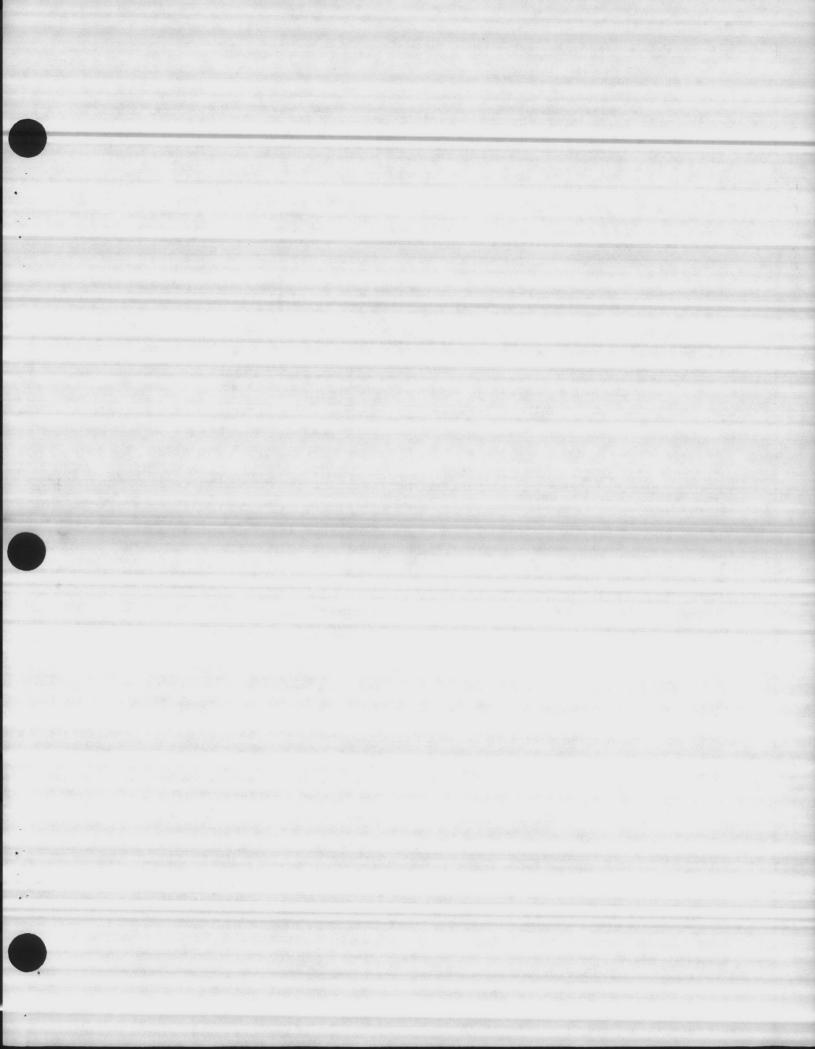
b. Rinse the sample bottle with the sample two times. (Note: This step is important to assure a good sample).

1

c. Fill the sample bottle.

d. Deliver the samples to the laboratory.

e. Pick up bottles for the next day's samples.



MO 11330, 19 Oct 1978

Enclosure (2)

Chemical Analysis Sampling Procedures

1. General.

a. Samples will be collected each Tuesday from all the Water Treatment Plants' treated water. These samples are used to determine that proper treatment and chemical additions have been performed.

b. Sample bottles will be provided by the laboratory.

2. Apparatus.

a. Sample bottle, 1000 mls, plastic prelabeled.

b. Chlorine residual label sticker on bottle.

c. Sample container or carrier.

3. Sampling Procedure.

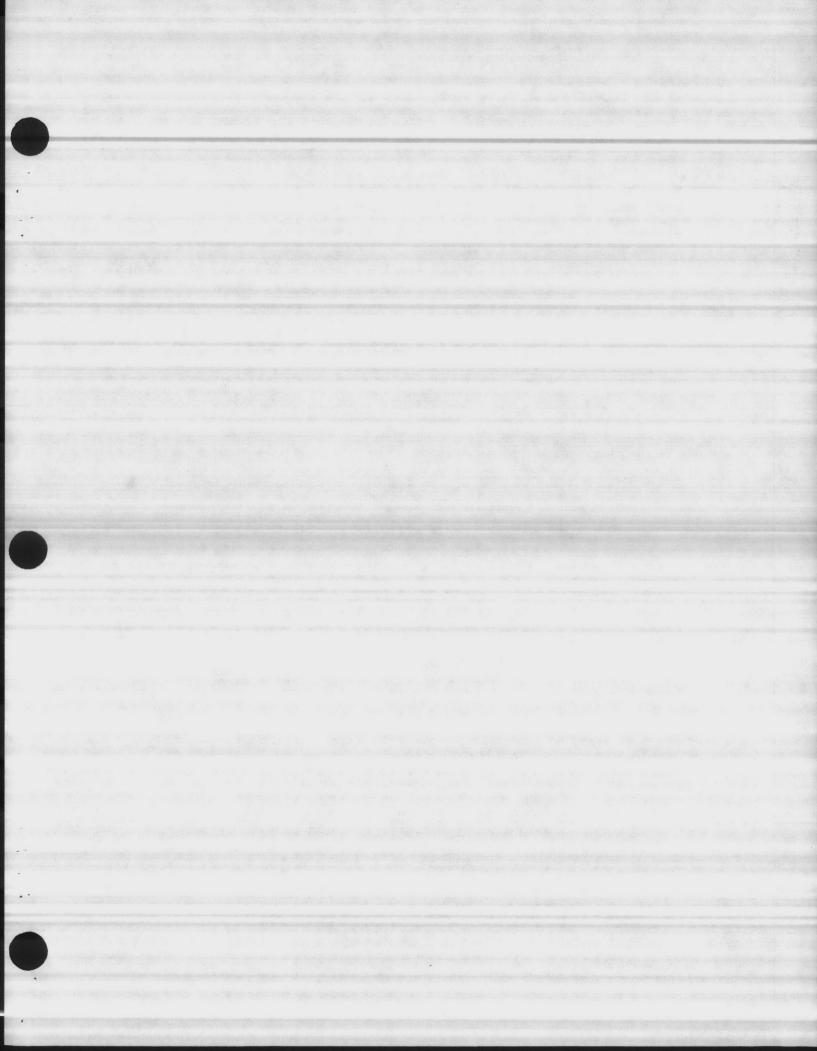
a. Turn on the spigot and run the water (to waste) approximately one minute or longer to clear the line.

b. Rinse the sample bottle with the sample two times (i.e., fill up the bottle and discard the contents).

c. Fill the sample bottle with the sample.

d. Test for the chlorine residual and record it on the sample bottle.

e. Deliver the samples to the laboratory.



Bacteriological Sampling Procedure

1. General.

a. Bacteriological sampling will be conducted each Tuesday. The purpose of the sampling is to insure disinfection and that bacteria do not exceed the limits established by the Safe Drinking Water Act of four per 100 militers (mls), or more than an average of 1 per 100 mls for the distribution system.

b. It is extremely important that proper precautions and techniques are used to preclude water samples from becoming contaminated with bacteria from hands, clothing, etc.

c. DO NOT take samples from outside spigots or from leaking spigots.

d. When taking samples from spigots that have aerators, remove the aerator before running the water (to waste) and collecting the sample. After the sample is collected replace the aerator.

2. Apparatus.

a. Sterile sample bottle, approximately 100 mls.

b. Foreceps

c. Jar containing alcohol - saturated cotton balls

d. Bacteriological Sample Form (MCBCL 11330/4)

e. Lighter or matches

f. Chlorine Test Kit

g. Sample bottle rack or holder

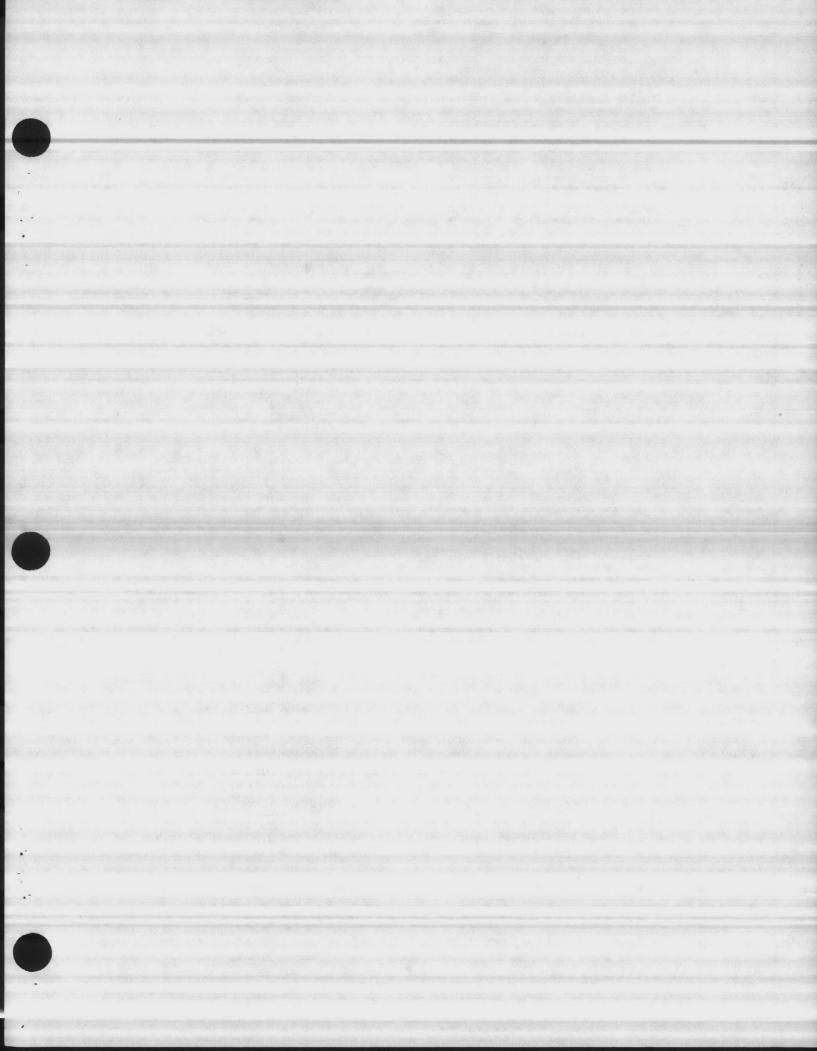
3. Sampling Procedure.

a. Select the proper building (as indicated on the Sample Collection Form).

b. Select the proper number bottle that corresponds to the sample site.

c. Remove faucet aerator, if necessary, and run the water (to waste) for five minutes.

Enclosure (3)



MO 11330. 1 19 Oct 1978

a. Perform a chlorine check on the water, and record the results on the form. (Note: Chlorine residual should be 0.2 mg/l, or higher).

e. Shut off the water and flame the spigot for about one minute to sterilize.

f. Turn on the water and run (to waste) a few seconds.

g. Remove the top of the sample bottle, taking care not to handle the neck of the bottle or the inside of the cap, and collect about 100 mls of sample. (Note: DO NOT rinse the bottle. DO fill only to the shoulder of the bottle, leaving about one inch of air space).

h. Recap the bottle and return it to the sample carrier.

4. Bacteriological Form MCBCL 1130/4.

a. Record the chlorine residuals in the appropriate place.

b. In "roving" area sample, write the building number sampled.

c. The person collecting the samples must sign and date the form in the place indicated.

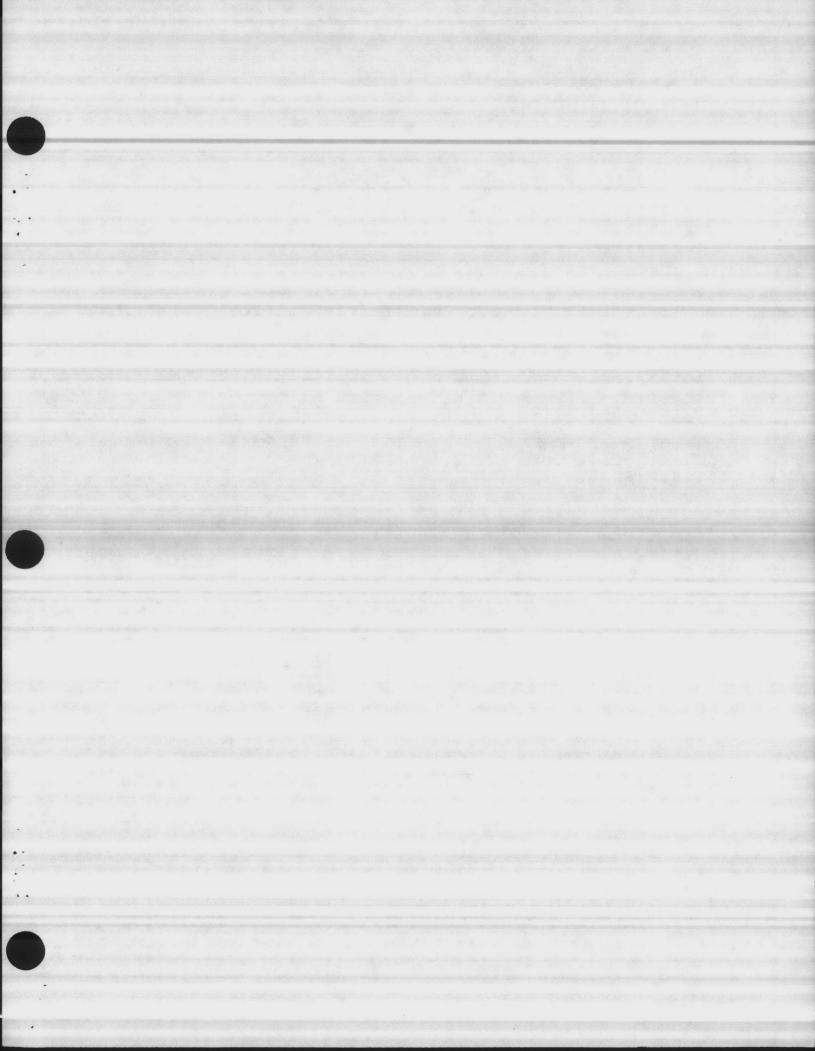
d. Return the samples and form to the laboratory by 1400 hours.

5. Repeat Samples.

a. From time to time the bacteria count will exceed the permissible limit of four per 100 mls and resampling must be conducted. The Quality Control Laboratory will notify the General Foreman by telephone of this need.

2

b. Resampling will consist of at least two additional samples taken from the location in question. Resampling procedures will be performed as outlined in the Sampling Procedures.



MO 11330.1 19 Oct 1978

Semi-annual Well Fluoride Sampling Procedures

1. General.

a. Fluoride samples are collected twice a year from the well sites.

b. Sampling periods are from January to June and from July to December.

c. Sample collection times will be agreed upon by the General Foreman and Chief, Quality Control Laboratory. Ideally, these samples should be collected during a one-week period, time and schedule permitting.

2. Apparatus.

a. Plastic or glass sample bottles.

b. List of wells.

c. Sample carrier or container.

3. Sampling Procedure.

a. Turn on the well sample spigot and run the water (to waste) to clear the line.

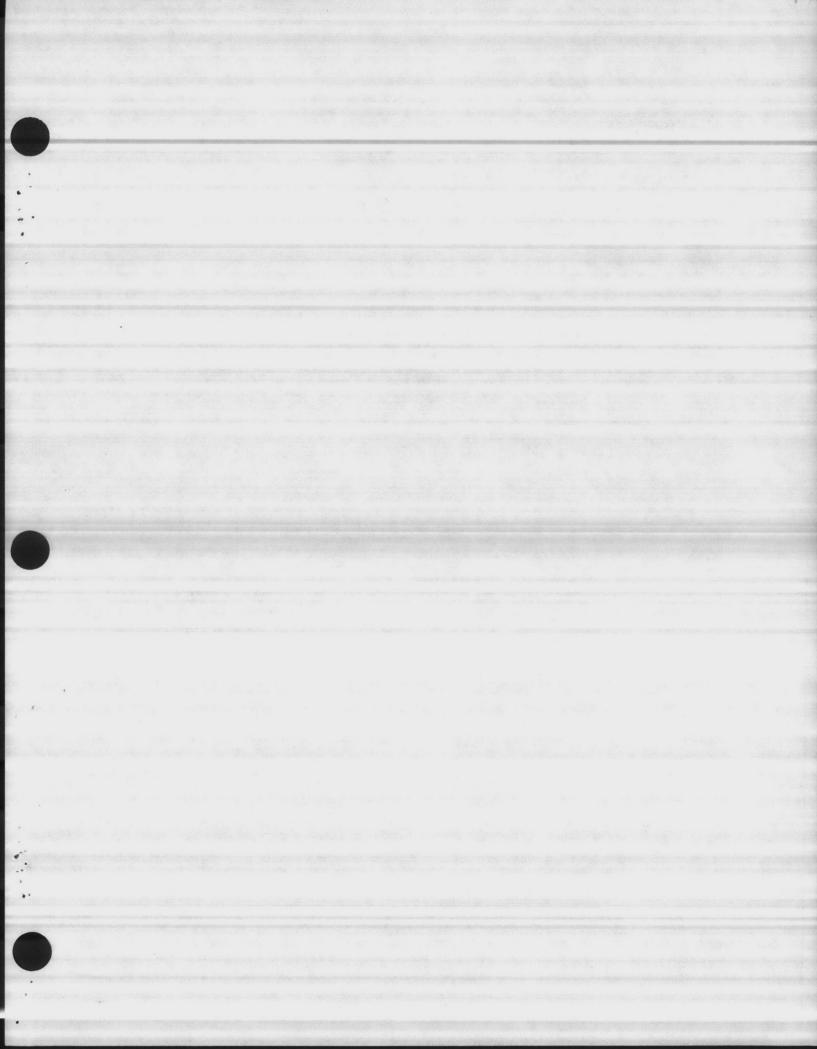
b. Rinse the sample bottle twice by filling and discarding the sample in the bottle.

c. Fill the sample bottle with the sample.

d. Record the well building number on the tape on the bottle.

e. Deliver the samples to the laboratory.

1



ASSISTANT CHIEF OF STAFF, FACILITIES HEADQUARTERS, MARINE CORPS BASE

DATE 2-1-82

TO:	
BASE MAINT O	DIR, FAMILY HOUSING
PUBLIC WORKS O	DIR, UNACCOMPANIED PERS HSG
COMM-ELECT O	BASE FIRE CHIEF
MCTODIRANOPORT O	
ATTN:	
1. Attached is forwarded for	info/action

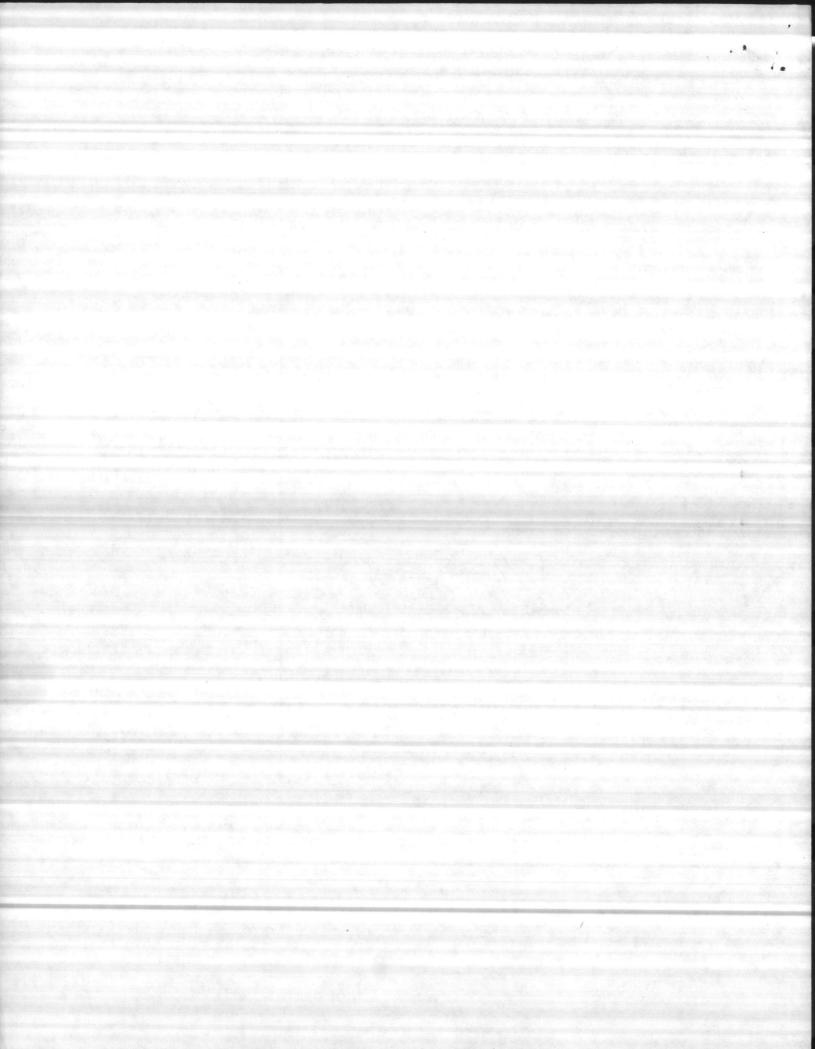
2. Please initial, or comment, and return all papers to this office.

3. Your file copy

J. H. Ftygerdd

"LET'S THINK OF A FEW REASONS WHY IT CAN BE DONE"

MCBCL 5216/21 (REV. 2-81)





DEPARTMENT OF THE NAVY ATLANTIC DIVISION NAVAL FACILITIES ENGINEERING COMMAND NORFOLK, VIRGINIA 23511

TIRC

TELEPHONE NO. 444-9558

AUTOVON 690-9558

114:WLC 11330

2 8 JAN 1982

From: Commander, Atlantic Division, Naval Facilities Engineering Command To: Distribution

Subj: Corrosivity Monitoring of Drinking Water

Ref: (a) Title 40, Code of Federal Regulations, Part 141, "National Interim Primary Drinking Water Regulations"

Encl: (1) Naval Energy and Environmental Support Activity (NAVENENVSA) Bulletin 078 of Jan 1982

1. Reference (a) requires suppliers of "community public water systems" to monitor the corrosivity characteristics of their water. Corrosivity monitoring includes measurements of parameters such as pH, alkalinity, total dissolved solids, hardness and calculation of the Langelier Index (i.e., whether the source is scale forming, corrosive or in chemical balance).

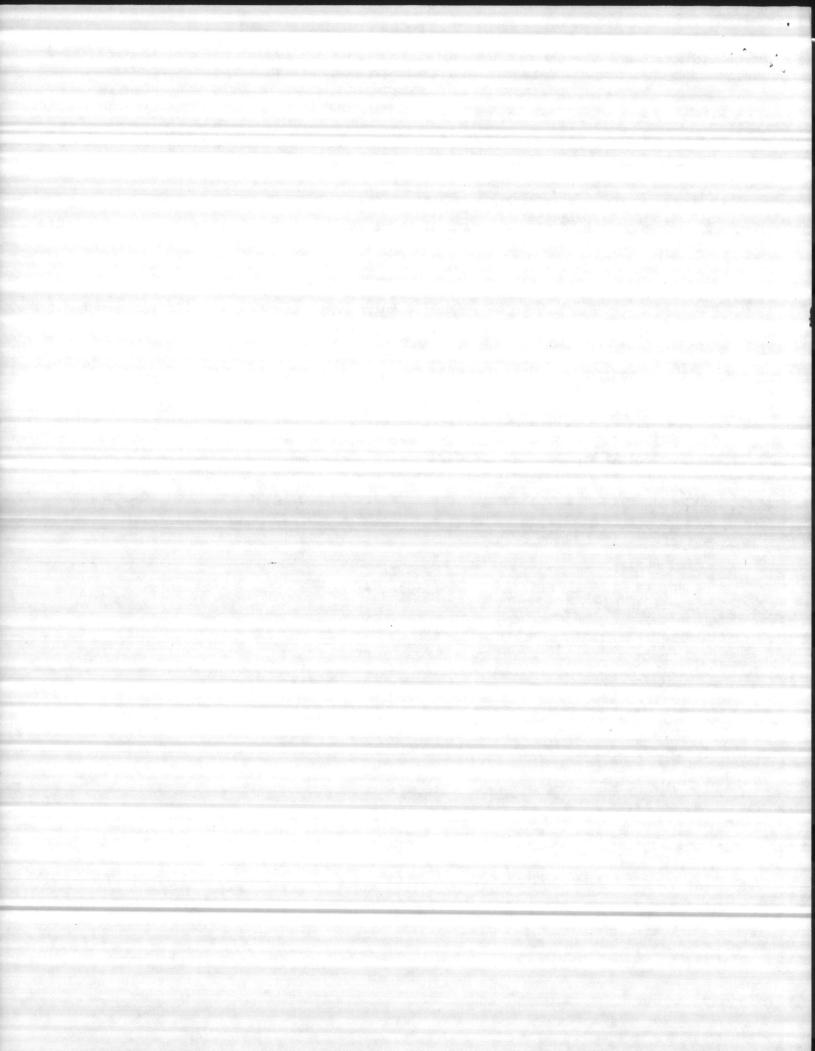
2. The subject monitoring requirements become effective 27 February 1982 and mist be completed within 12 months of this date. Therefore, enclosure (1), which summarizes these requirements, is being forwarded for your information and use.

3. Should there be questions regarding this matter, please contact Mr. Wallace Carter, LANTNAVFACENGCOM, Code 114, telephone number (804) 444-9558 or AUTOVON 690-9558.

S. R. BAIL By direction

Distribution: CNTT DET BAINBRIDGE MCB CAMP LEJEUNE MCAS CHERRY POINT NAVRADSTA R SUGAR GROVE NAVSTA ROOSEVELT ROADS

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INFORMATION



BULLETIN

Naval Energy and Environmental Support Activity IB-078 Port Hueneme, California 93043 January 1982

CORROSIVITY MONITORING

UNDER THE

SAFE DRINKING WATER ACT

The National Interim Primary Drinking Water Regulations (40 CFR 141) of August 27, 1980 requires "community public water systems" to monitor the corrosivity characteristics of the water. The requirements for corrosivity monitoring become effective February 27, 1982. All requirements must be completed within 12 months of this date.

INTRODUCTION

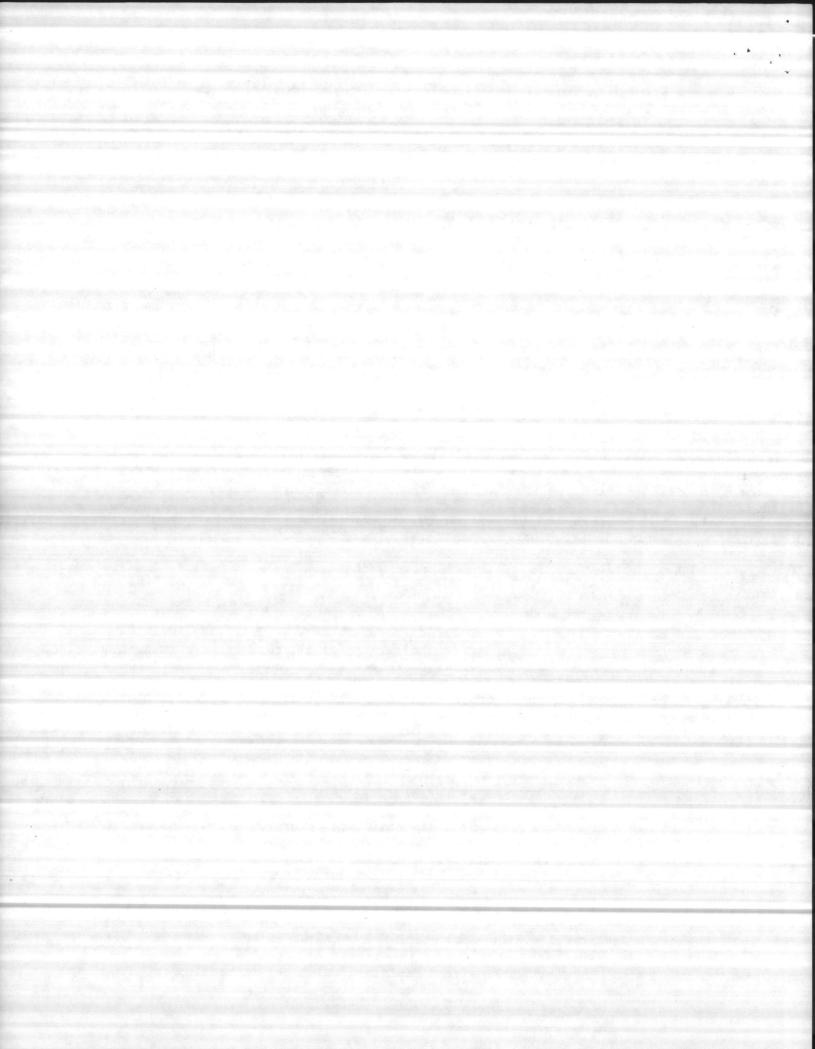
The corrosiveness of drinking water may have serious health and ecomomic consequences. Not only does corrosiveness of water affect the look and taste of water, but also can produce by-products in a distribution system that may be hazardous to human health. Corrosive water can dissolve cadmium, lead, zinc, iron, and copper piping materials. For this reason EPA promulgated special monitoring regulations for corrosivity.

Navy shore activities in the United States that own or operate a "community public water system" must comply with the requirements of the regulation. A "community public water system" by definition is a system for providing the public piped water for human consumption. Further, the system has at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents. The system includes: (1) all collection, treatment, storage, and distribution facilities under control of the operator of such a system and used primarily in connection with the system; and (2) any collection or pretreatment storage facilities not under such control that are used primarily in "connection with the system.

A naval activity that purchases all of its water, but does not operate collection or treatment facilities and does not sell water to any person outside Navy owned property is not subject to these requirements. Booster chlorination is not considered a treatment facility but rather a process for insuring adequate chlorination. A Navy activity that purchases all of its water and sells it to any person outside Navy owned property may be subject to these requirements. In this case, booster chlorination may qualify as a treatment facility for drinking water.

COMPLIANCE REQUIREMENTS

The regulation requires the monitoring of those parameters that affect corrosivity. Specifically, the parameters are pH, alkalinity, total dissolved solids (total filterable residue), hardness, and the Langelier Index. Laboratories performing these analyses must use analytical methods approved by EPA. Also, the laboratories must be EPA approved or state certified.



Sampling is required at a representative entry point to the water distribution system for the following conditions:

- Surface Water Sources: Two samples per treatment plant are required for analysis where surface water is the source wholly or in part. One sample is to be taken during mid-winter and one sample in mid-summer.
- Groundwater Sources: One sample per treatment plant is required for analysis where groundwater is the source. Multiple wells drawing from the same aquifier may (with state approval) be considered one facility for determining the number of samples.
- NOTE: The term "treatment plant" is not clearly defined at 40 CFR 141. The activity should contact the state, if it has primary enforcement responsibility, or the EPA regional office for definition of the term "treatment plant" as used in this regulation.

Results of analysis must be reported within the first 10 days of the month following the month in which the results are received. The results are submitted to EPA regional offices or the state offices where the state has primacy for drinking water.

"Community public water systems" also are required to report the type of construction materials used in the distribution system. This information should be forwarded with the results of the corrosivity monitoring.

States which have primacy may impose additional sampling and reporting requirements.

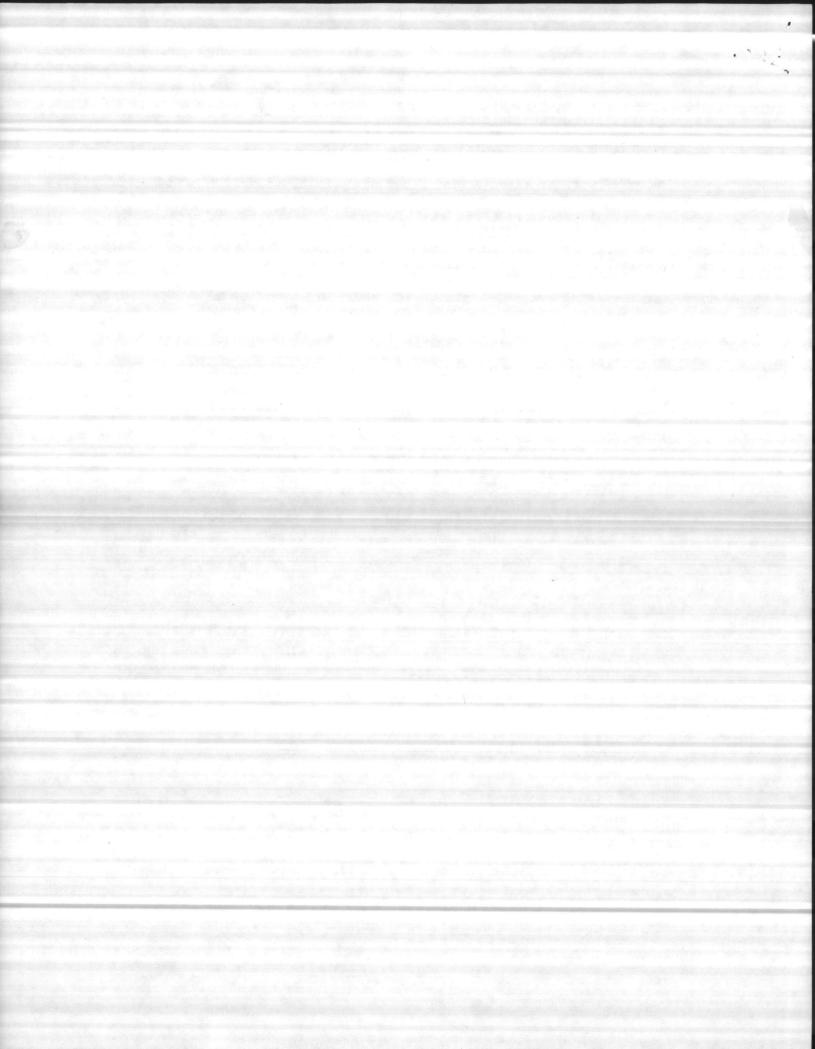
RESPONSIBILITY

Details on complying with the requirements of the National Interim Primary Drinking Water Regulations are given in NAVFACINST 11330.14A of 12 February 1980. Where required, shore activities are responsible for operating and maintaining facilities to provide drinking water. These responsibilities include: sampling, conducting analyses, and submitting reports required by the National Interim Primary Drinking Water Regulations.

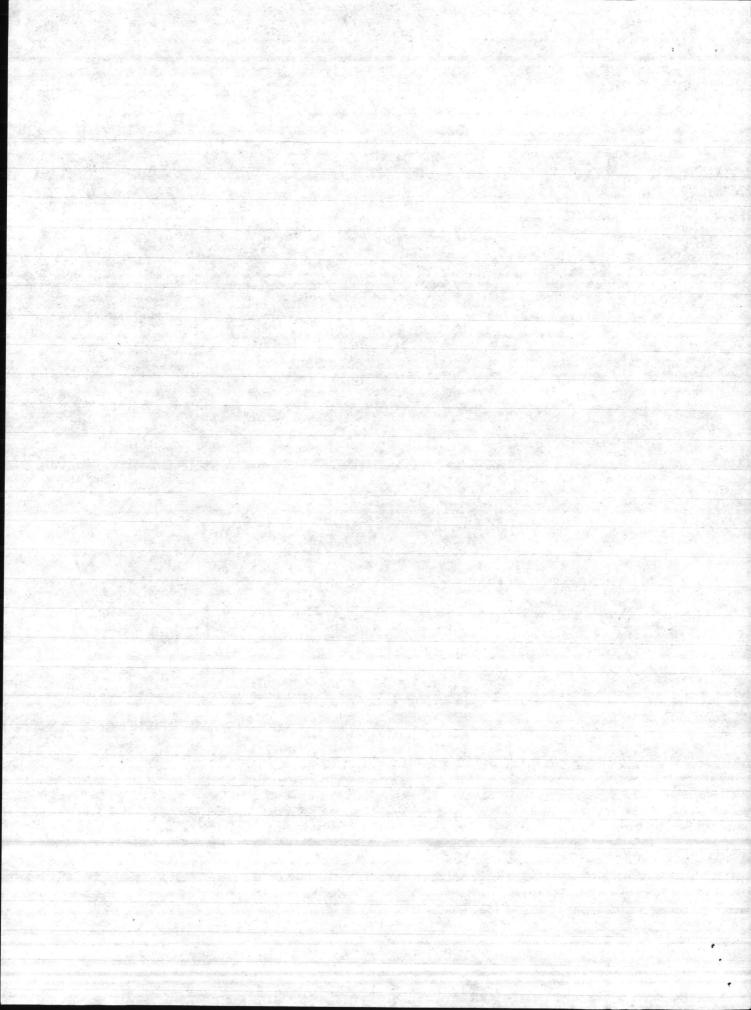
For more information or assistance contact the cognizant Naval Facilities Engineering Command (NAVFAC) Engineering Field Division.

NORTHDIV		Code	114	A/V	443-4972	
SOUTHDIV		Code	114C	A/V	794-5510	
CHESDIV		Code	114.2	A/V	288-3761	
LANTDIV		Code	1142	A/V	690-7313	
WESTDIV/San	Bruno	Code	1142	A/V	859-7494	
WESTDIV/San	Diego	Code	1141	A/V	958-8853	
WESTDIV/Seat		Code	1143	A/V	439-8666	
PACDIV		Code	11419	A/V	471-3948	

This information bulletin was prepared by Gary Gasperino, NEESA 112W/GG



9/30/82 Sodium STABILITY CORPOSIVITY HB 24 PPM HB ,03 19.8 PPM .19 +T TT 81,9 M - . 95 MP AS 99.8 AS -,59 88.7 RR .06 RR 81.5 BB -. 12 BB 66.4 B8 BA -.54 20.7 HP HP -,25



COPY TO PRICE

450 Willow

11330 NREAD

JUL 1 8 1985

From: Commanding General, Marine Corps Base, Camp Le jaune To: Commanding Officer, Bantal Clinic, Harine Corps Base, Camp Le jaune

Subj: FLUORIDE TESTING OF BASE WATER SUPPLY

Ref: (a) OPEAVIEST 11330.1 of 1 Aug 1973

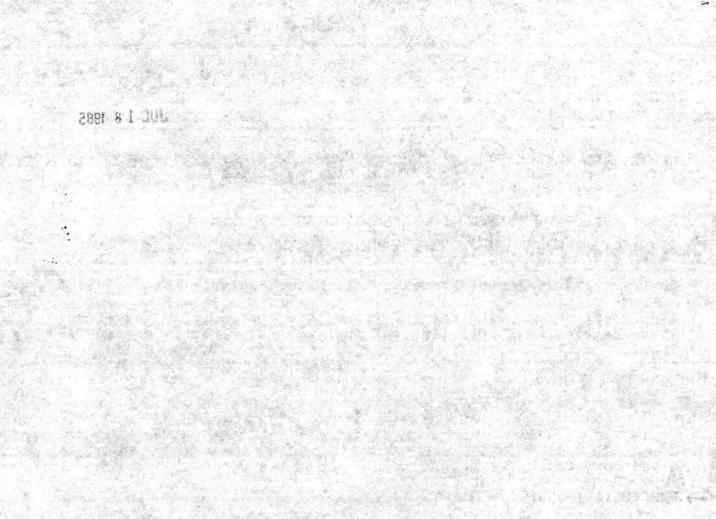
Encl: (1) Semi-Annual Fluoride Well Weter Analysis for July 1985

1. In accordance with the reference, the enclosure is forwarded. These samples were collected and analyzed for fluoride concentration.

> J. I. WOOTEN By direction :

Blind copy to: SupvyChem → EMO (UtilDir)

> Writer: E. Betz, NREAD, 5977 Typist: A. Blackstock, 17 July 1985



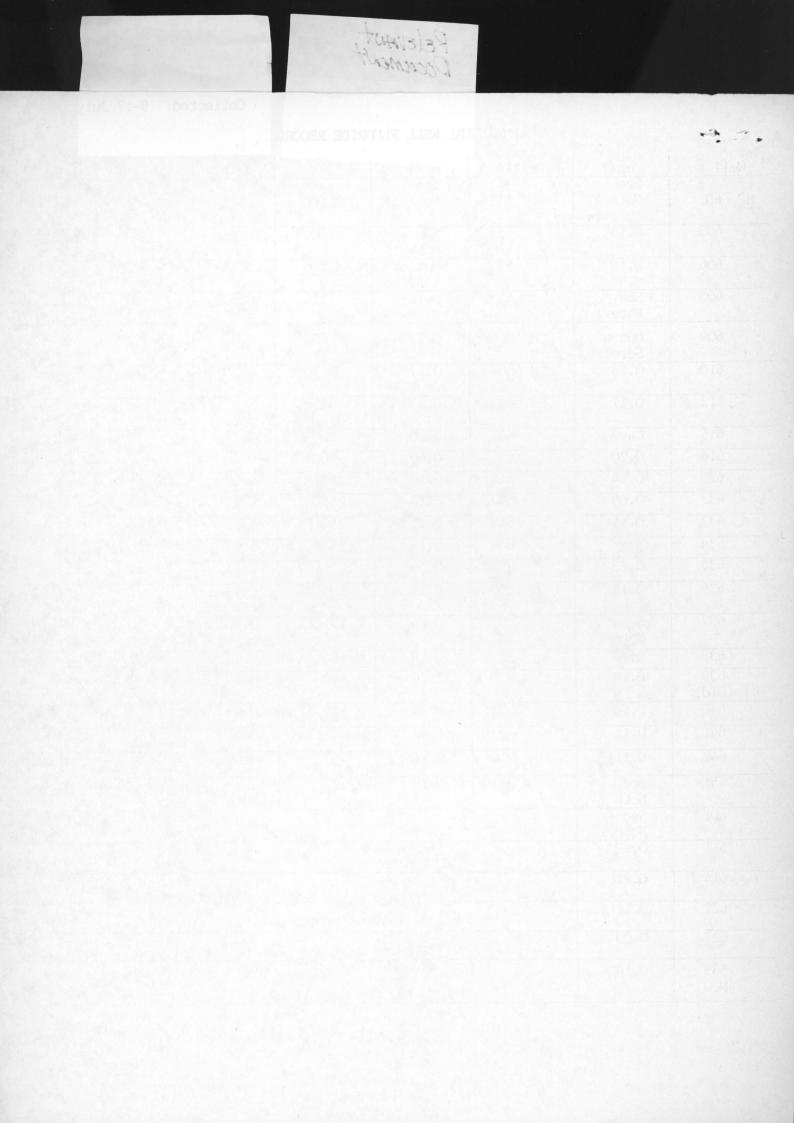
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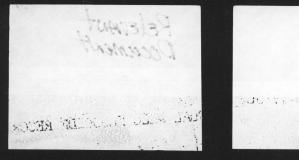
		SEMIANN		ORIDE RECORD)			
Well #	mg/1	Well #	mg/l	Well #	mg/1	Well #	mg/1	
<u>HP</u> 602	See Note 1	<u>HP</u> 652	See Note 1	<u>CG</u> 1000	0.42	CHB 43 New	Torn Down 0.07	
603	0.15	653	See Note 1	. 1001	0.20	44	0.08	
606	0.18	654	Out of Service	MCAS 106	1.84	220	0.10	
608	See Note 1	655	0.12	131	0.65	221	0.11	
609	Out of Service	LCH 4006	0.17	203	1.93	BB 97	See Note 2	
610	0.13	LCH 4007	0.17	4140	0.29	A-5	Out of Service	
613	0.17	<u>HB</u> *643	0.23	4150	See Note 1	<u>MP</u> 142	0.12	
61.5	Caved	*644	0.20	5001	0.28	168	0.22	
616	0.20	*645	0.45	5009	0.26	197	0.09	
620	0.14	646	0.18	1256(N)	1.17	267	0.10	
632	0.09	647	0.14	1255(0)	1.27	628	0.10	
633	0.15	648	0.15	1254(P)	0.56	629	0.11	
634	See 1	649	0.19	1253(Q)	1.42	630	0.12	
635	See Note 1 0.23	650	0.14	1251(R)	0.66	TT 25	0.18	
636	0.12	<u>CG</u> 100	0.21	190(S)	0.94	26	See Note 1	
637	See Note 1	201	0.24	191(T)	0.65	30	Out of Service	
638	0.15	325	0.18	OB 164	0.18	31	0.11	
639 (01d)	0.10	502	2.26	BA 190	0.15	52	1.02	
640	0.13	504	0.20	<u>RR</u> 45	0.09	53	Caved	
641	0.11	600	1.46	47	0.11	54	0.13	
642	. 0.11.	604	0.14	97	0.09	67	0.11	
651	See Note 1	700	0.18	RR 227	See Note 1	TT New Well	See Note 1	
601	See Note 1							
611	0.19		NOTES:					
614	0.21		1. Thes	e wells have	been secu	red because o	of	
621	0.11			vent contami				
627	0.09					lant. It is	solelv	
639 (New)	0.14	2. BB-97 does not pump to a plant. It is solely for the demo range.						
				Geno Idil	60.			

*These wells now pump to Tarawa Terrace plant.

Enclosure (1)







Jaho Vienza - Jan Janaar

Well #	mg/1	Well #	mg/1	Well #	mg/1	Well #	mg/1	
HP 602	See Note 1	<u>HP</u> 652	See Note 1	<u>CG</u> 1000	0.42	CHB 43 New	Torn Dow 0.07	
603	0.15	653	See Note 1	1001	0.20	44	0.08	
606	0.18	654	Out of Service	<u>MCAS</u> 106	1.84	220	0.10	
608	See Note 1	655	0.12	131	0.65	221	0.11	
609	Out of Service	LCH 4006	0.17	203	1.93	BB 97	See Note 2	
610	0.13	LCH 4007	0.17	4140	0.29	A-5	Out of Service	
613	0.17	<u>HB</u> *643	0.23	4150	See Note 1	<u>MP</u> 142	0.12	
615	Caved	*644	0.20	5001	0.28	168	0.22	
616	0.20	*645	0.45	5009	0.26	197	0.09	
620	0.14	646	0.18	1256(N)	1.17	267	0.10	
632	0.09	647	0.14	1255(0)	1.27	628	0.10	
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634	See 1	649	0.19	1253(Q)	1.42	630	0.12	
635	0.23	650	0.14	1251(R)	0.66	TT 25	0.18	
636	0.12	<u>CG</u> 100	0.21	190(S)	0.94	26	See Note 1	
637	See Note 1	201	0.24	191(T)	0.65	30	Out of Service	
638	0.15	325	0.18	OB 164	0.18	31	0.11	
639 (01d)	0.10	502	2.26	BA 190	0.15	52	1.02	
640	0.13	504	0.20	<u>RR</u> 45	0.09	53	Caved	
641	0.11	600	1.46	47	0.11	54	0.13	
642	0.11	604	0.14	97	0.09	67	0.11	
651	See Note 1	700	0.18	RR 227	See Note 1	TT New Well	See Note 1	
601	See Note 1						HOLE I	
611	0.19		NOTES:					
614	0.21			e wells have	been soon	ced because		
621	0.11			vent contamin		<u>eu peçause (</u>		
627	0.09	2. BB-97 does not pump to a plant. It is solely						
639 (New)	0.14	for the demo range.						

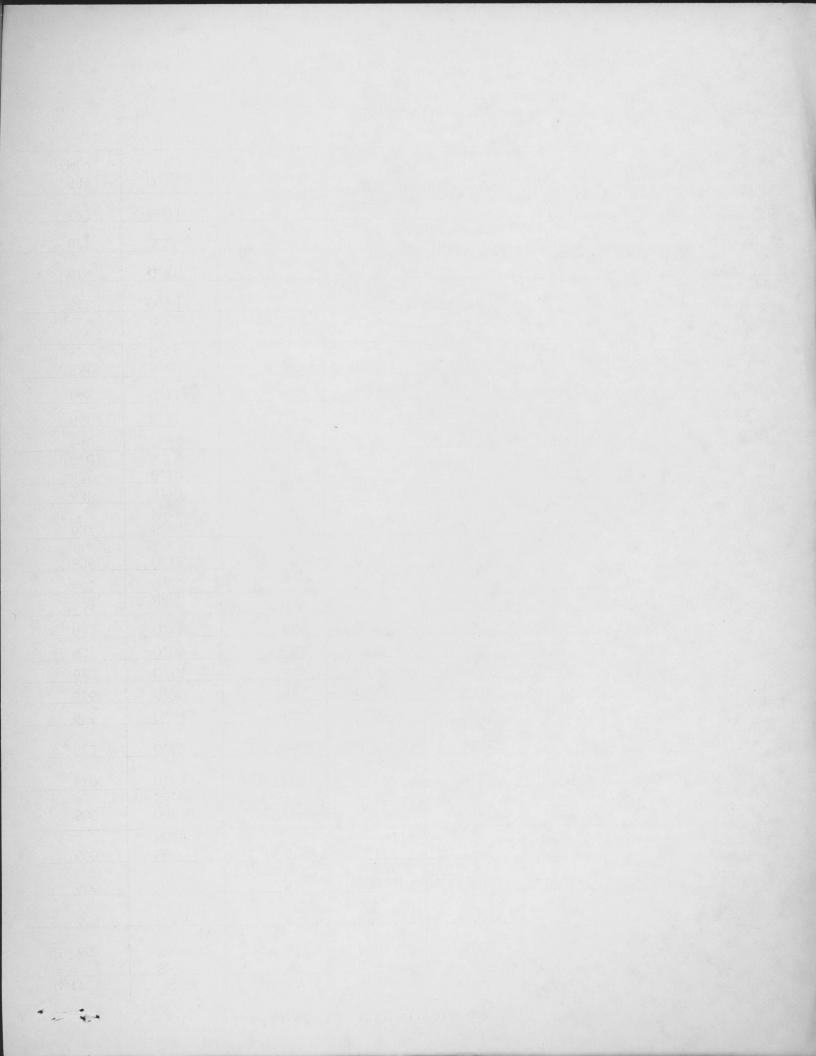
SEMIANNUAL WELL FLUORIDE RECORD

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*These wells now pump to Tarawa Terrace plant.

Enclosure (1)



RELEVIANT

NREAD/EAB/jc 11330 22 Feb 1984

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Copy 83

From: Commanding General To: Commanding Officer, Dental Clinic

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Subj: Fluoride Testing of Base Water Supply

Ref: (a) OPNAVINST 11330.1 of 1 Aug 1973

Encl: (1) Semi-Annual Fluoride Well Water Analyses for July 1983 (2) Semi-Annual Fluoride Well Water Analyses for Feb 1984

1. In accordance with the reference, the enclosures are forwarded. These samples were collected and analyzed for fluoride concentration.

> J. I. WOOTEN By direction

Blind copy to: Util Dir, BMainD

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NREAD/EAB/jc 11330 22 Feb 1984

From: Commanding General To: Commanding Officer, Dental Clinic

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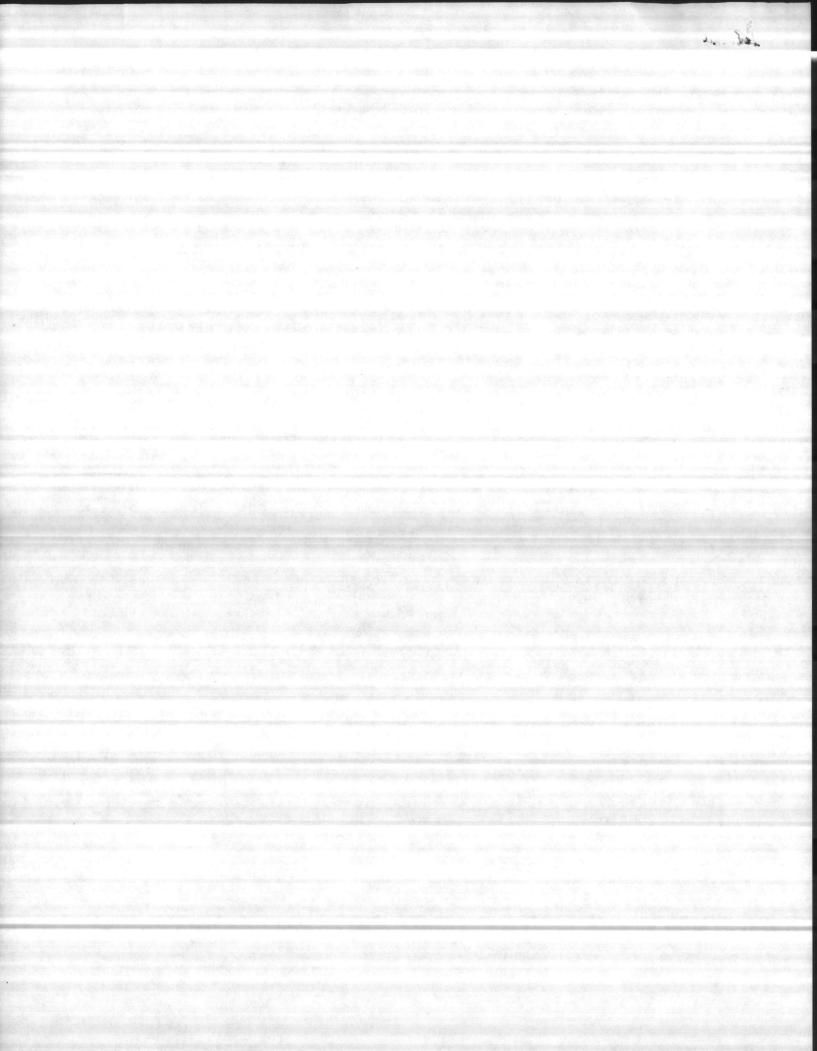
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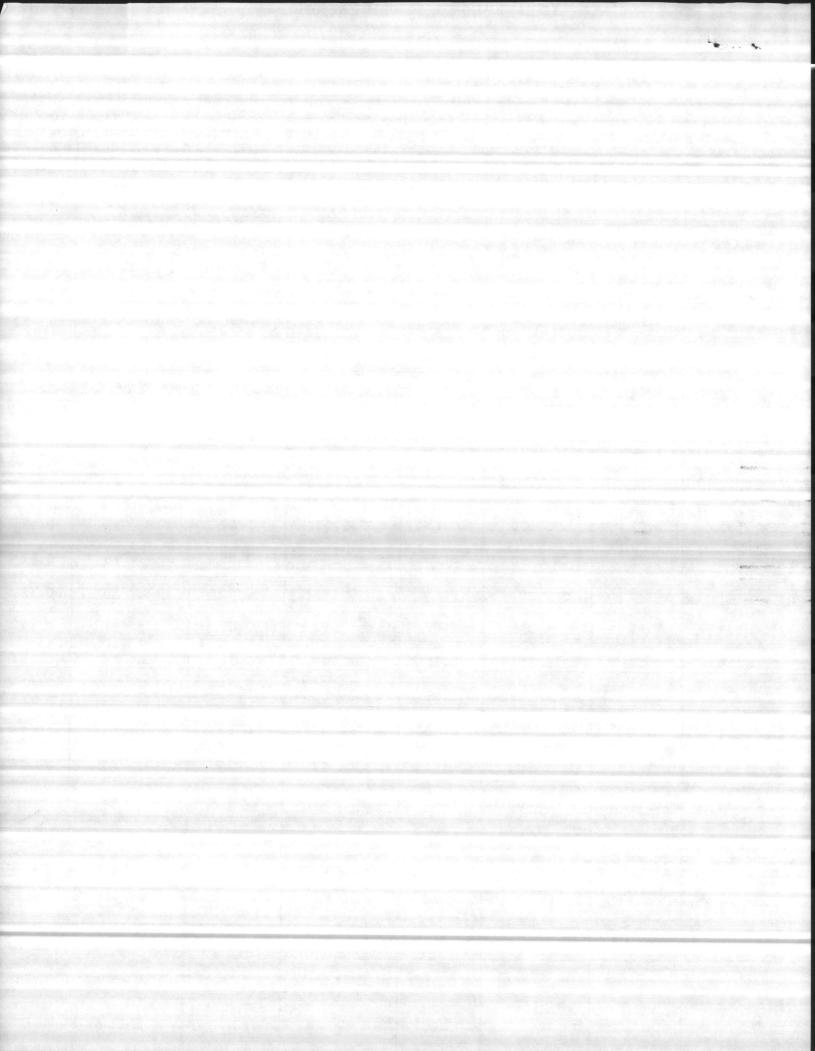
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	SEMIANNU	AL WELL FLI	UORIDE RECORD			
1 mg/1	Well #:	mg/1	Well #:	mg/1	Well #:	mg '1
. 0.24	<u>HP</u> 652	0.25	<u>CG 1000</u>	0.32	<u>СНВ</u> 43	0.08
0.16	653	0.17	1001	0.17	44	0.09
0,22	654	0.25	MCAS 106	1.72	220	0.11
0.11	655	0.14 .	1.31	0.30	221	0.13
0.08	LCH 4006	0.20	203	0.67	BB 97	.0.07
Out of Service	LCH 4007	0.21	4140	0.38	A-5	0.10
0.18	<u>HB</u> 643	0.28	41.50	0.26	MP 142	0.21
0.18	644 [\]	0.24	5001	0.25	168	Out of Service
Out of Service	645	0.25 .	5009	0.27	197	0.15
0.17	646	0.19	1256(N)	0.28	267	0.14
0.11	647	0.15	1255(0)	0.40	628 ·	Out of Service
0.17	648	0.16	1254(P)	1.23	62.9	0.13
0.11	649	0.14	1253(Q)	0.35	630	0.12
0.27	650	0.15	- 1251(R)	1.62	<u>TT</u> 25	0.23
0.13	<u>CG</u> 100	0.19	190(5)	0159	26 -	0.22
0.19	201	0.35	191(T)	_0.65	30	0.32
0.17	325	0.17	<u>OB</u> 164 ·	0.22	, 31 '	0.17
0.12	502.	2.45	BA 190 .	0.18	52	0.20
0.16	504	0.19	<u>RR</u> 45	0.11	53	0.18
0.14	. 600	0.25	47	0.13	54	0.19
0.12	604 .	0.15	97	0.11	67	0.15
Out of Service	. 700	0.24				
		1.1				
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SEMIANNUAL WELL FLUORIDE RECORD

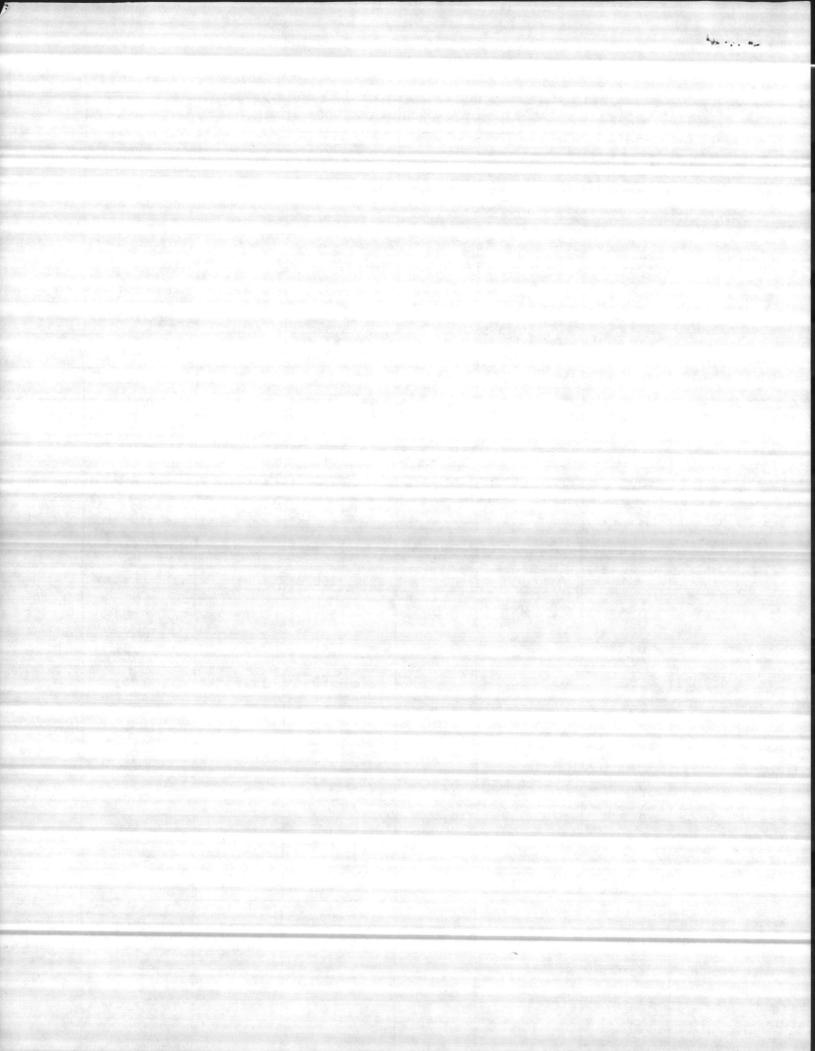
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Well #: .	mg/1	Well #:	mg/1	Well #:	mg/1	Well #:	mg'l
<u>HP</u> 602	0.23	<u>HP</u> 652	0.24	<u>CG</u> 1000	Out of Service	CHB 43	0.11
603	0.14	653	0.17	1001	0.12	44	0.10
606	0.21	- 654	0.25	MCAS 106	1.20	220	0.11
605	Out of Service	655	0.14	131	0.46	221	0.12
609	0.09	LCH 4006	Out of Service	203	1.39	BB 97	0.07
610	Service	LCH 4007	0.20	4140	0.29	A-5	0.10
613	0.18	<u>HB</u> 643	0.26	· 4150	0.27	<u>MP</u> 142	0.20
615	Service	644	0.49	5001	0.27	168	Dut of Service
615	0.18	645	0.54	5009	0.27	197	0.15
620	0.17	646	0.21	1256(N)	0.19	267	0.15
632	0,11	647	0.22	1255(0)	1.28	628	Service
633	. 0.15	648	0.15	1254(P)	· 1.30	629	0.16
634	0.12	649	0.21	1253(Q)	. 1.56	630	0.74
635	0.24	650	0.15	1251(R)	1.87	TT 25.	0.24
636	0.11	<u>CG</u> 100	0.18	190(S)	0.61	26	0.23
637	0.12	201	0.32	191(T)	0.71	30	0.28
638	0.16	325	0.19	<u>OB</u> 164	0.24	31 '	0.17
639	0.11	502	2.31	BA 190	0.21	52.	0.23
640	.0.15	504	0.20	<u>RR</u> 45	0.11	53	Dut of Service
641	0.12	600	0.52	47	0.14	54 ·	0.20
. 642	0.12	. 604	0.20	97	0.13	67	0.16
651	0.16	700	0.25		al de la compañía		
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			de la companya	•	· E	closure (2	



FEVANT DOCUMENT

11330 NREAD 12 Jul 1984

T-11330 (15)

From: Commanding General, Marine Corps Base, Camp Lejeune To: Commanding Officer, Dental Clinic, Camp Lejeune, NC 28542

Subj: FLUORIDE TESTING OF BASE WATER SUPPLY

Ref: (a) OPNAVINST 11330.1 of 1 Aug 1973

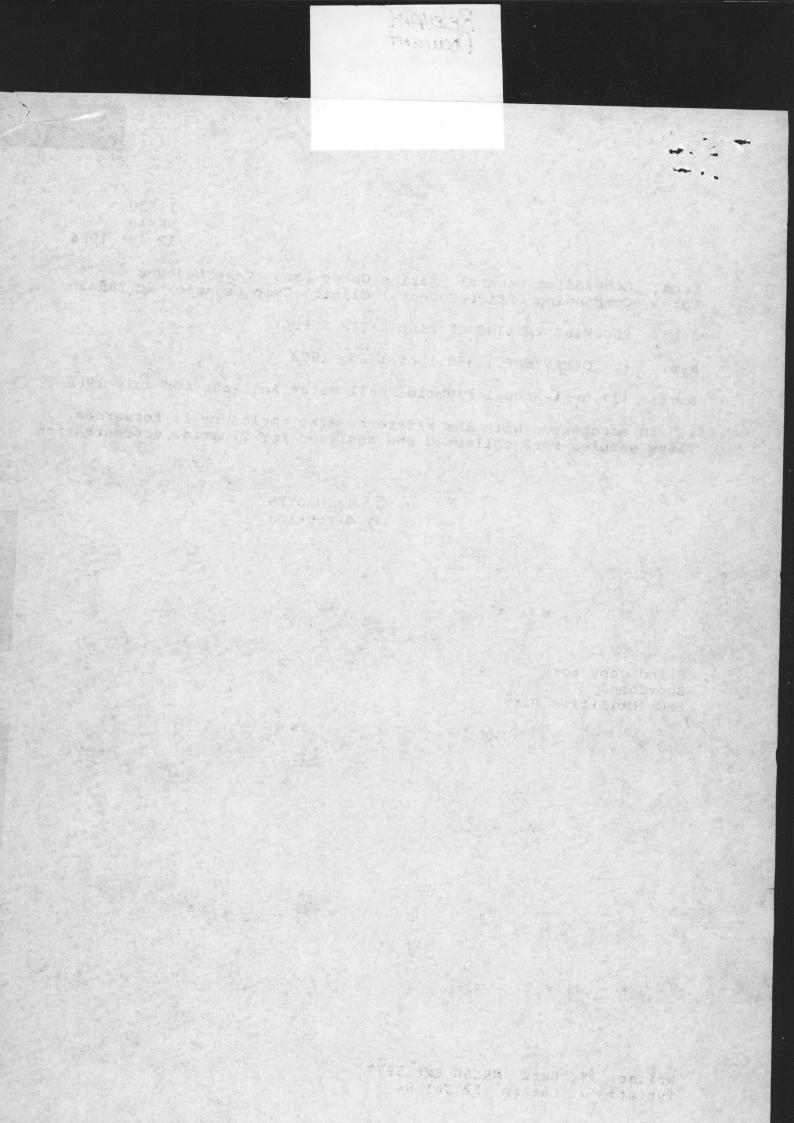
Encl: (1) Semi-Annual Fluoride Well Water Analyses for July 1984

1. In accordance with the reference, the enclosure is forwarded. These samples were collected and analyzed for fluoride concentration.

> J. I. WOOTEN By direction

Blind copy to: SupvChem BMO (Utilities Dir)

Writer: E. Betz, NREAD Ext 5977 Typist: J. Latham, 12 Jul 84







11330 NREAD 12 Jul 1984 (45)

From: Commanding General, Marine Corps Base, Camp Lejeune To: Commanding Officer, Dental Clinic, Camp Lejeune, NC 28542

Subj: FLUORIDE TESTING OF BASE WATER SUPPLY

Ref: (a) OPNAVINST 11330.1 of 1 Aug 1973

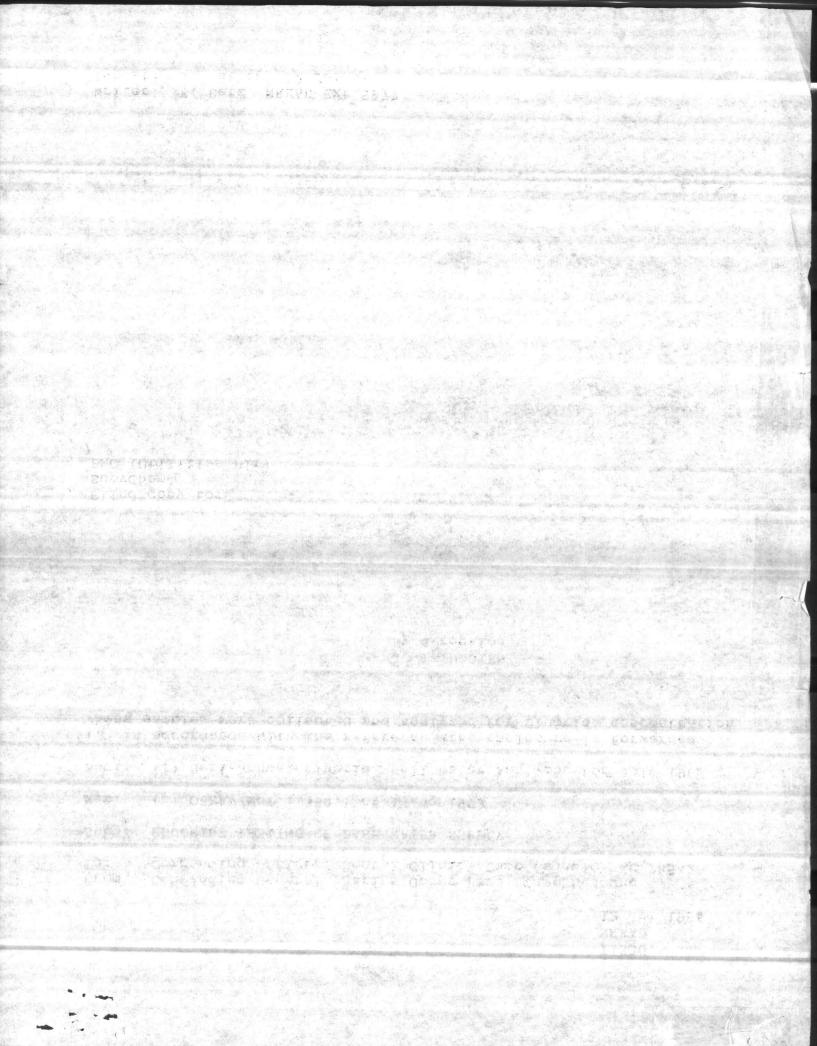
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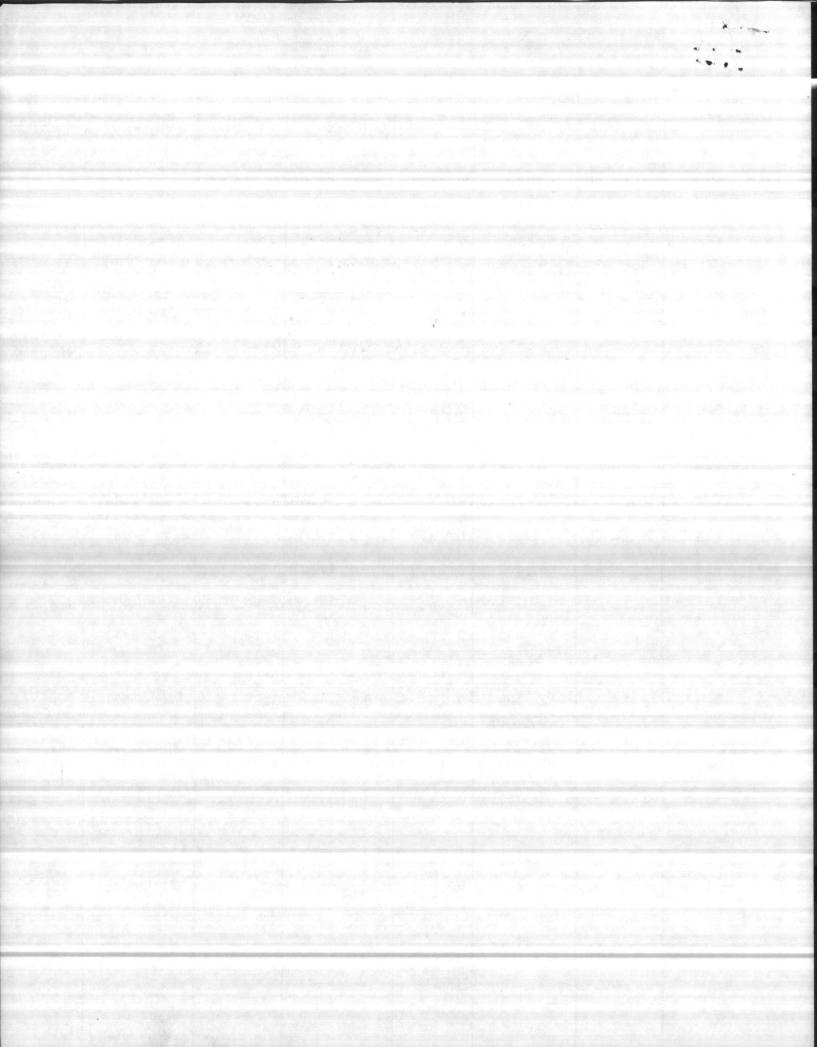


SEMIANNUAL WELL FLUORIDE RECORD

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Well #:	1 mg/1	Well # :	1 mg/1	Well #:	mg/1	L Well #:	1 mg'1
<u>HP</u> 602	0.20	нр 652	0.21	CG 1000	0.29	<u>СНВ</u> 43	0.06
603	0.14	653	0.14	1001	0.14	44	0.07
606	0.14	654	0.10	MCAS 106	1.71	220	
603	0.15	655	0.11	131	.0.92	221	0.10
609	0.11	LCH 4006	Out of Service	203	0.52	BB 97	0.09
610	Out of Service.	LCH 4007	0.16	4140	0.30	A-5	0.09
613	0.17	<u>нв</u> 643	0.25	4150	0.22	MP 142	0.18
615	Out of Service	644	0.23	5001	0.22	168	Out of
616	0.18	645	0.23	5009	0.23	197	0.12
620	0.18	646	0.17	1256(N)	· · · · · · · · · · · · · · · · · · ·	267	0.12
632	0.08	647	0.13	1255(0)		62.8	Out of Service
633	0.14	648	0.15	1254(P)		629	0.13
634	0.12	649	0.19	1253(Q)		630	0.10
635	0.12	650	0.14	1251(R)	0.39	<u>TT</u> 25	0.20
636	0.12	<u>CG</u> 100	0.19	190(S)	0.83	26	0.17
637	0.11	201	0.26	191(T)	0.60	30	0.26
639	0.13	325	0.16	<u>OB</u> 164	0.18	31 '	0.16
639	0.09	502	0.13	BA 190	0.14	52	0.18
640	0.12	504	0.15	<u>RR</u> 45	0.09	53	Caved In
641	0.09	600	0.14	47	0.11	54	0.17
642	0.10	604	0.10	97	0.06	67	0.17
651	0.12	700	0.16				
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CHEMICAL ANALYSIS — WATER TREATMENT PLANTS MCBCL 11330/3 (REV. 3-82)

MCBCL 11330/3 (REV. 3-82)		and the second sec						25 JAN	83
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	•
PH	8.6	7.2	8.3	6.9	8.0	8,2	8.5	8.5	
PENOLTHALEIN ALKALINITY	12	0	10	0	0	0	16	16	
METHYL ORANGE ALKALINITY	60	176	66	150	196	176	66	160	
CARBONATES AS CaCO3	24	0	20	0	0	0	32	32	
BICARBONATES	36	176	46	150	196	176	34	128	
CHLORIDES AS C1	10	16	16	20	20	30	12	100	
HARDNESS AS CaCO3	60	64	88	66	62	60	20	62	
IRON AS Fe	40.04	6.41)	0.10	0.12	0.07	0.43	0.06	0.09	
FLUORIDE AM	0.97	0.48	1.00	0,52	0.40	0.40	0.94	1.06	
	1.0	1.3	1.0	1.0	1.2	1.0	0,9	1.5	
TURBIDITY AM	0.20	0,20	7.9	0.16	0,14	1.0	0.24	0,30	
TOTAL PHOSPHATE		2.52			0,38				
		1.13			0.16				
META PHOSPHATE		1.39			0.22				
STABILITY	0.0		to.2		to. 2	-0.3	0.0	+0.2	

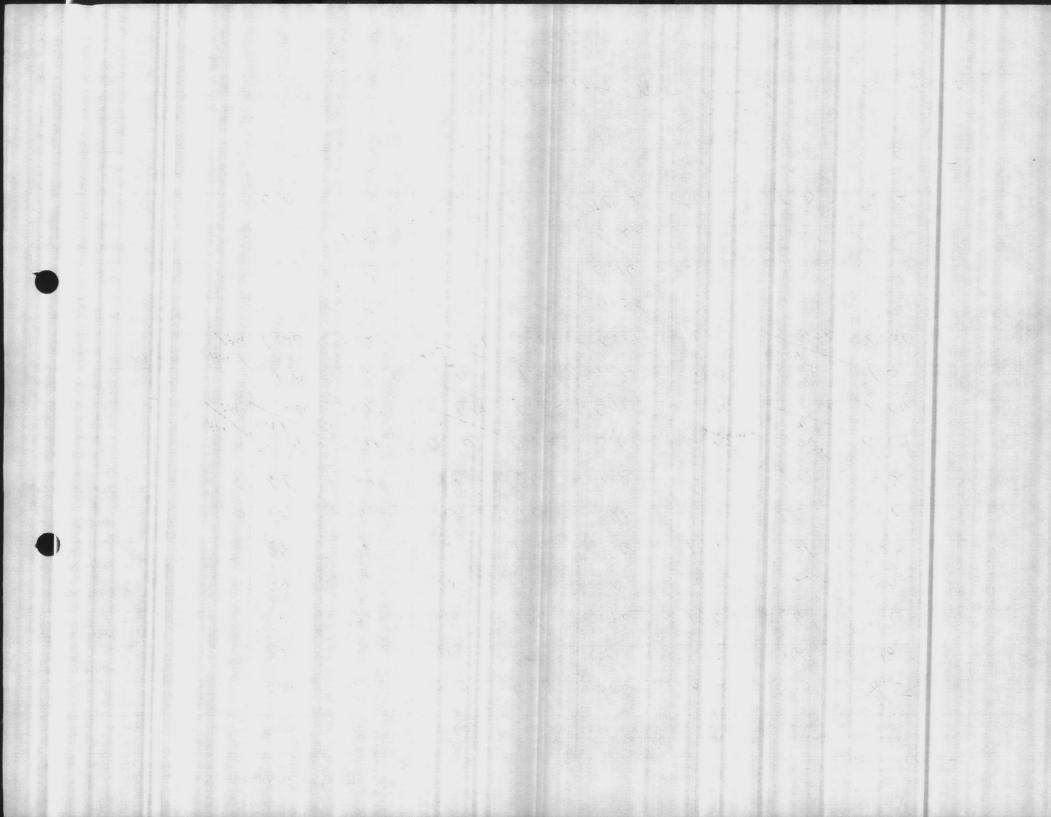
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NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, and specific conductance. One liter of potable water is assumed to weigh one kilogram.

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CHEMICAL ANALYSIS — WATER TREATMENT PLANTS MCBCL 11330/3 (BEV. 3-82)

MCBCL 11330/3 (REV. 3-82)								29 MARCH	83
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	•
РН	8.7	7.4	8.5	7.4	8.7	8.4	8.8	8.9	
PENOLTHALEIN ALKALINITY	12	0	6	0	8	8	14	28	
METHYL ORANGE ALKALINITY	74	194	72	146	176	166	70	140	
CARBONATES AS CaCO3	24	0	12	0	16	16	28	48	
BICARBONATES AS CaCO ₃	50	194	60	146	160	150	42	92	
CHLORIDES AS C1	12	50	12	14	14	26	18	70	
HARDNESS AS CaCO3	68	68	80	72	70	50	60	72	
IRON AS Fe	0.04	0.48	0.15	0.06	0.04	0,15	0.07	0.08	
FLUORIDE AM	0.81	0.55	0.94	0.26	0.26	0.12	1.01	0.91	
CHLORINE RESIDUAL	1.0	1.3	1.0	1.1	1.3	1.0	0.9	1.2	
TURBIDITY AM	0.20	0.29	0.42	0.17	0,14	0,39	0.19	0,24	
TOTAL PHOSPHATE		1.78			0,83				L
ORTHO PHOSPHATE		0.76			0.24				
META PHOSPHATE		1.02			0.59				
STABILITY	+0.4		+ 0.2			+0.3	+0.3	+0.2	

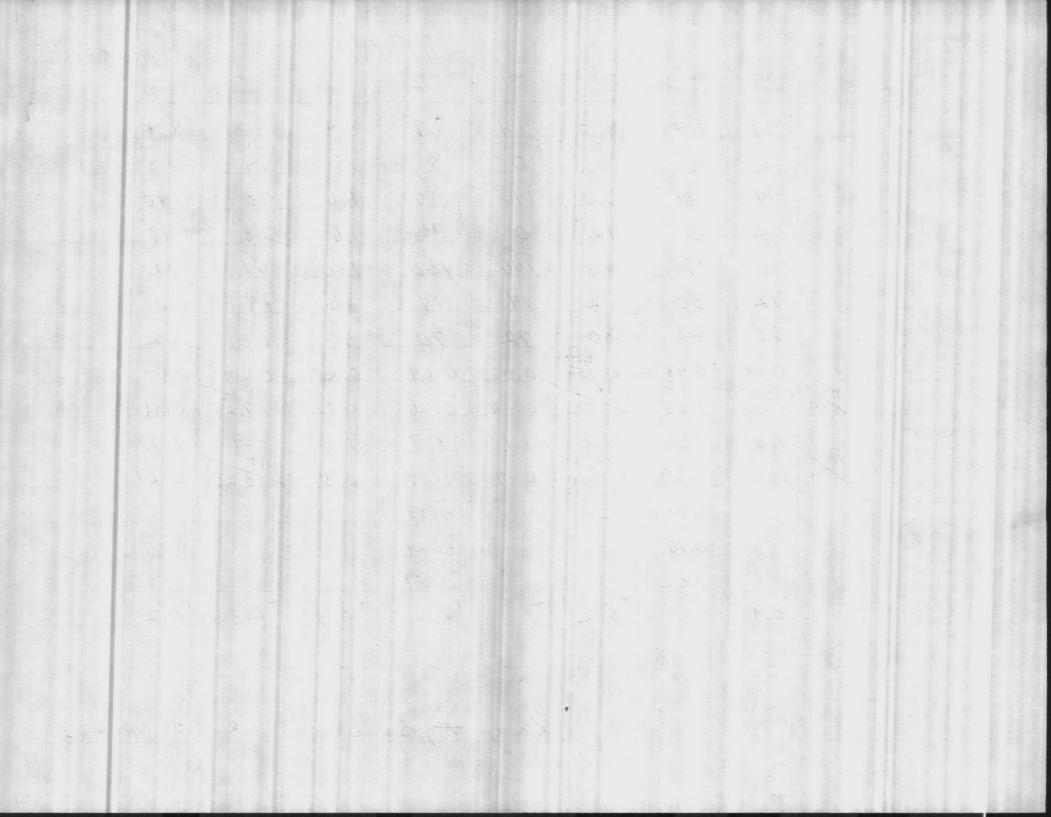
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NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, LABORATORY ANALYSIS BY and specific conductance. One liter of potable water is assumed to weigh one kilogram.

Burns, Julogelle 29 MARCH 83

Mr. Price DATE COLLECTED



CHEMICAL ANALYSIS - WATER	TREATMENT	PLANTS			T	IR PRIEZ	-	DATE COLLECTE	iva D
ICBCL 11330/3 (REV. 3-82)	HADNOT	MONTFORD	TARAWA	ONSLOW	COURTHOUSE	RIFLE	НОЦСОМВ	3-15-	83
PARAMETER	POINT	POINT	TERRACE	BEACH	BAY	RANGE	BLVD	RIVER	•
н	9.3	7.3	9.0	7.5	8.5	8.3	9.0	8.7	
ENOLTHALEIN LKALINITY	2	0	4	0	2	0	4	4	
ETHYL ORANGE KALINITY	36	170	56	150	140	150	60	130	
ARBONATES AS CaCO3	4	0	8	0	4.	0	8	8	
ICARBONATES S CaCO ₃	32	170	48	150	136	150	52	122	
HLORIDES AS C1	10	50	10	16	10	20	10	104	
ARDNESS AS CaCO3	48	70	88	60	60	50	64	60	
ON AS Fe	0.04	0.50	0.10	0.22	0.04	0.04	0.06	0,08	
UORIDE A.N.N.	0.97	0.26	0.94	0.21	0,26	0.12	1.04		
HLORINE RESIDUAL	1.0	1.4	1.0	1.2	1,3	1.0	1.0	1.5	
JRBIDITY	0.20	0.26	0.76	0,18	0.18	0,16	0.46		
OTAL PHOSPHATE		252			1.13				
		0.77			0.16				
ETA PHOSPHATE		1.75			0.97				
TABILITY	+0.3	-	+0,3	-	+0.1	0.0	+0,1	0.0	

13UENS, MONAHON & HUNVEDTT J-13-83	NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature and specific conductance. One liter of potable water is assumed to weigh one kilogram	BURNS, NONAHON & HUNNEDTT	DATE OF ANALYSIS 3-15-83
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Rion - 562680 - Snapper - MCAS A 910 72579 - "- T.T. × 91072579 -Push. 1689 - Grand Prix - Mets - 697 - B-20 - B-20- Storage Push. A6905H = Simplicity - T.T. 1003320 - Survey (-169054 · voo3319 Port. VA200 - 1422652 - RR, 11 - 1513793 -C.H.B. Puch SN 110023 670 13 wheel 368609 PAN 2069414

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CHEMICAL ANALYSIS — WATER 1 MCBCL 11330/3 (REV. 3-82)	FREATMENT	PLANTS			HR	pricé		DATE COLLECTER	
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB	NEW RIVER	•
PH	8.7	7.3	9.0	7.5	8.7	8,5	(9.3)	8.7	
ENOLTHALEIN LKALINITY	2	0	3	0	2	2	5	4	
IETHYL ORANGE ILKALINITY	64	164	44	150	140	142	56	174	
CARBONATES AS CaCO3	4	0	6	0	4.	4	10	8	
BICARBONATES AS CaCO ₃	60	164	38	150	136	/38	46	166	
CHLORIDES AS C1	10	44	12	18	14	24	20	48	
HARDNESS AS CaCO3	80	64	68	60	60	58	68	40	
RON AS Fe	0.05	0.43)	0,09	0.15	0.04	0.04	0.24	0.07	
LUORIDE A.H.	0.81	0.35	1.01	0,30	0.30	0.16	1.10		
	1.0	1.4	1,0	1.3	1.3	1.2	1.0	1.3	
	0.26	0,20	1.00	0.20	0.12	0.20	0.80	0.35	
OTAL PHOSPHATE		2.08			1,40				
ORTHO PHOSPHATE		0.92			0,45				
ETA PHOSPHATE		1.16		1. 198	0.95				
STABILITY	+0.3		+0.2		+0.3	+0.1	+0.6	+0.1	

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, LABORATORY ANALYSIS BY and specific conductance. One liter of potable water is assumed to weigh one kilogram.

DATE OF ANALYSIS Monahan + Lectrulle 3 -22-83

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CHEMICAL ANALYSIS — WATER 1 MCBCL 11330/3 (REV. 3-82)	REATMENT	PLANTS			MR	PRICÉ		DATE COLLECTED		
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER		
ዝ	8.3	(6.8)	(7.0)	6.9	8.1	7.8	8.2	7.7		
ENOLTHALEIN LKALINITY	2		0	0	2	0	2	0		
NETHYL ORANGE ILKALINITY	60	170	130	150	140	160	64	184		
CARBONATES AS CaCO3	4	0	0	0	4.	0	4	0		
SICARBONATES IS CaCO ₃	56	170	130	150	136	160	60	184		
HLORIDES AS C1	10	50	10	16	10	20	10	90		
HARDNESS AS CaCO3	74	80	156	60	56	50	74	70		
RON AS Fe	0.06	0.62	0.15	0,14	0.04	0.05	0.11	0.15		
LUORIDE A.N.	1.10	0.35	0.81	0.26	0.31	0.17	1.04	0.78		
CHLORINE RESIDUAL	1.0	1.4	1.0	1.2	1.0	1.3	1.0	1,4		
rurbidity A, H, P,H,	0.42	0.28	0.76	0,16	0.20	0,18	0.25	0.54		
OTAL PHOSPHATE		2.60			1,21		-			
RTHO PHOSPHATE		1.38			0.52					
ETA PHOSPHATE		1.22			0.69					
TABILITY	+0.4		+0,5		+0.3	0.0	+0,4	-0.2		

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, and specific conductance. One liter of potable water is assumed to weigh one kilogram.	LABORATORY ANALYSIS BY	DATE OF ANALYSIS
	BURNS, HUNRYCUTT & MONAHAN	/ NARCH 83

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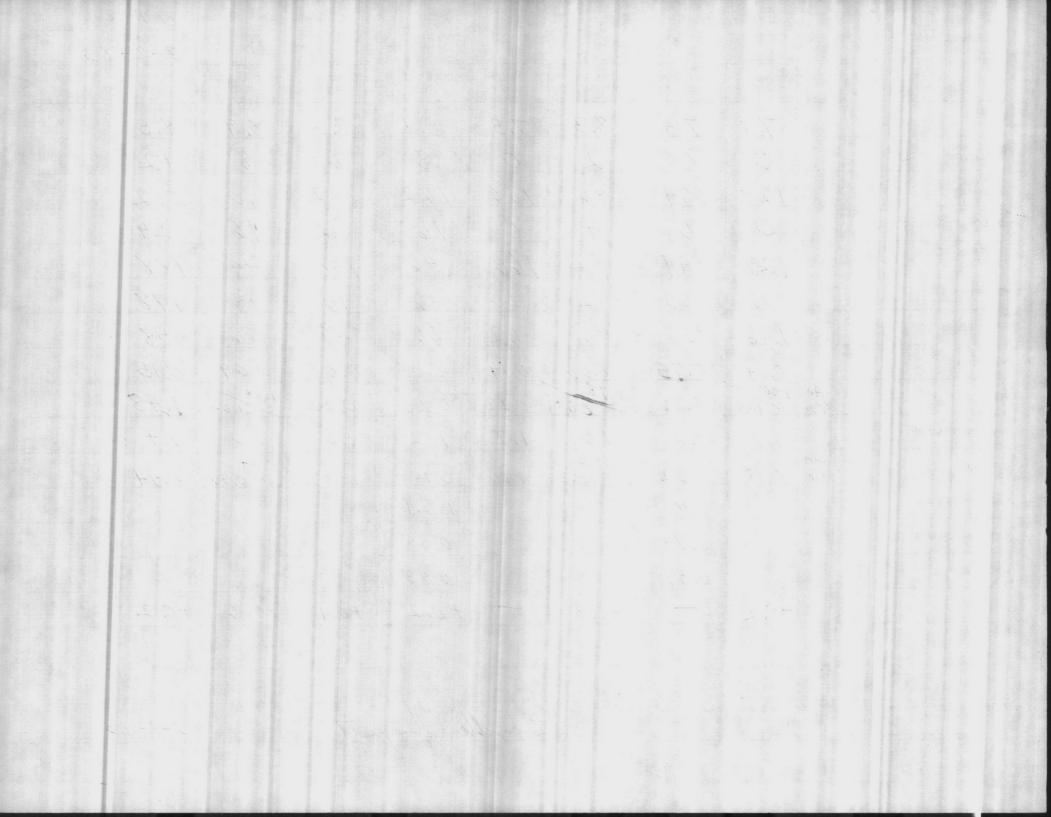
MCBCL 11330/3 (REV. 3-82)								3-8-	83
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	
РН	7.7	7.3	8.3	7,5	8.4	8.3	8,9	8.5	
PENOLTHALEIN ALKALINITY	0	0	2	0	8	6	8	12	
METHYL ORANGE ALKALINITY	128	194	86	166	162	162	60	212	
CARBONATES AS CaCO3	0	0	4	0	16	12	16	24	
BICARBONATES AS CaCO ₃	128	194	82	166	146	150	44	188	
CHLORIDES AS C1	16	60	12	20	16	16	18	178	
HARDNESS AS CaCO3	136	100	96	62	66	48	56	58	
IRON AS Fe	0.04	0.75	0.05	0.14	0.05	0.08	0.09	0.15	
FLUORIDE A		0.26	0.78	0.22	0.26	0,22	1.00	1.48	
CHLORINE RESIDUAL	1.0	1,3	1.0	1.2	1.2	1.0	1.0	1.4	
TURBIDITY A		0,32	0.18	0.20	0,18	0.22	0.24	0.44	
TOTAL PHOSPHATE		1.30			1,21				
ORTHO PHOSPHATE		0.73			0,38				
		0.57			0,83				
STABILITY	-0.2	-	+0,3	-	+0.2	+0,1	+0.6	+0.2	

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, LABORATORY ANALYSIS BY and specific conductance. One liter of potable water is assumed to weigh one kilogram.

DATE OF ANALYSIS 3-8-83

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Mr. Price DATE COLLECTED



CHEMICAL ANALYSIS — WATER TREATMENT PLANTS MCBCL 11330/3 (REV. 3-82)

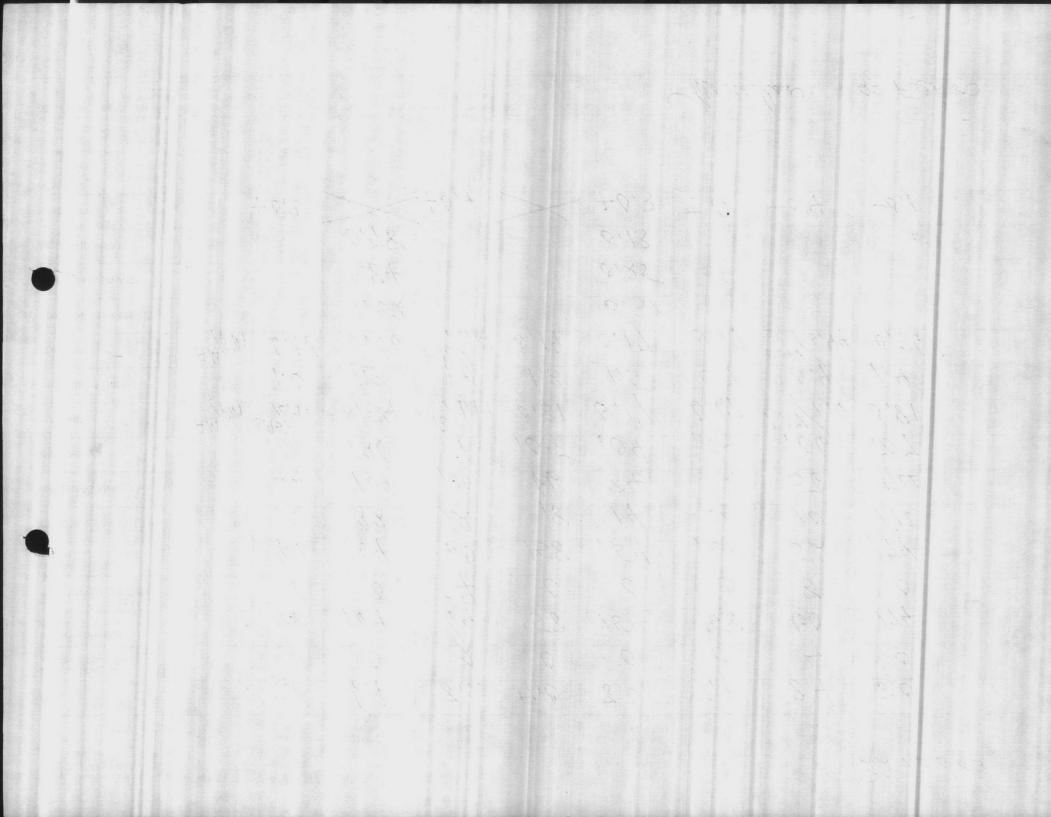
MCBCL 11330/3 (REV. 3-82)		2. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.			· the real	i 		22 FEB	83
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	
PH	7,0	6.9	8.2	7.0	8,0	7,9	8.4	8.0	
PENOLTHALEIN ALKALINITY	0	0	2	0	0	0	4	0	
METHYL ORANGE ALKALINITY	66	164	64	158	154	158	60	174	
CARBONATES AS CaCO3	0	0	4	0	0	0	8	0	
BICARBONATES CaCO ₃	66	164	60	158	154	158	52	174	
CHLORIDES AS C1	12	22	12	18	14	20	10	110	
HARDNESS AS CaCO3	144	104	100	66	84	52	56	74	
IRON AS Fe	,04	,26	11.	105	.04	,04	,06	,07	
	0.95/91	0,39	1.13/1.19	0.31	0.17	0,17	1.27/1.16	0.81	
	1.0	1.3	1.0	1.3	1,5	0.7	0.9	1,4	
	0.18	0.26	2.20/1.80	0,19	0,17	0.17	0.46 0.44	0,36	
TOTAL PHOSPHATE		1.62			0.38	a set a sec			
		0,84			0.25	100			
META PHOSPHATE	and the second	0.78			0.13				
STABILITY	+0.3	X	40.4	×	+0.3	+0	+0.4	-0,1	

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, LABORATORY ANALYSIS BY and specific conductance. One liter of potable water is assumed to weigh one kilogram.

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DATE OF ANALYSIS; 22 Feb 83

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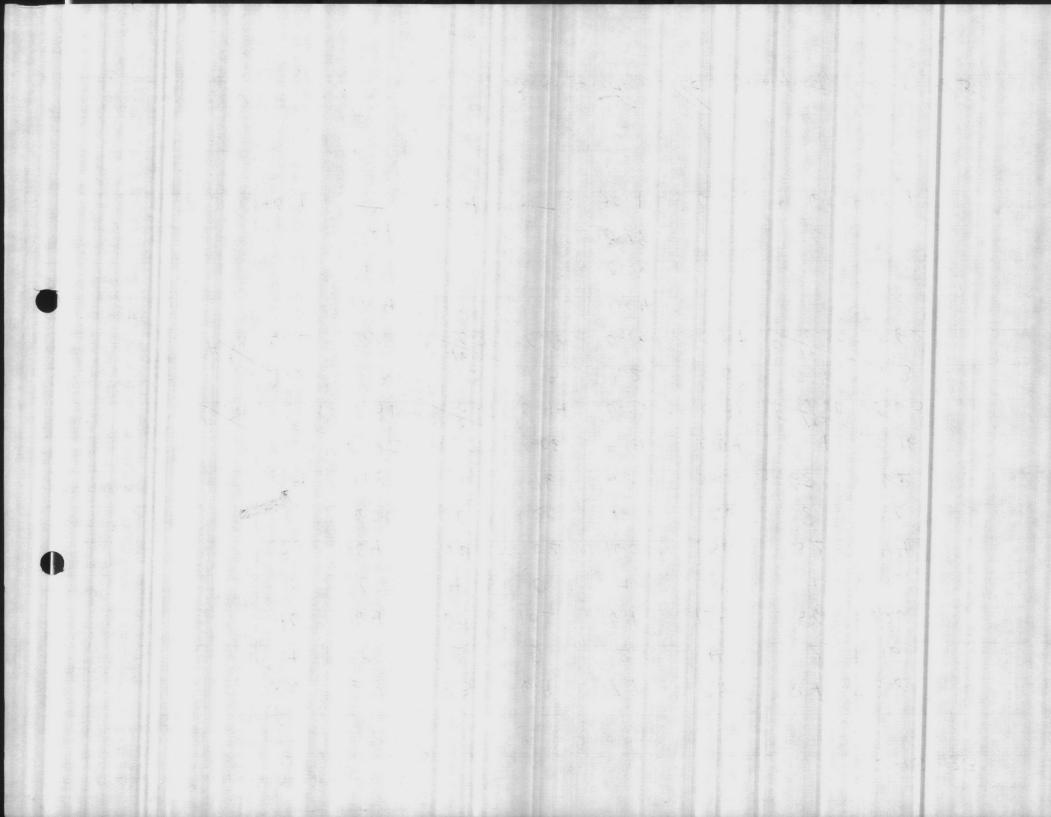


CHEMICAL ANALYSIS — WATER 1 MCBCL 11330/3 (REV. 3-82)	REATMENT	PLANTS				HR. PR.		RIVER . 8.8		
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB		•	
РН	8.6	6.8	8.3	6.9	7.9	7,9	8.4	8.8		
PENOLTHALEIN	4	0	2	0	2	4	2			
IETHYL ORANGE ALKALINITY	40	164	60	102	164	164	56	126		
CARBONATES AS CaCO3	8	0	4	0	4	8	4	32		
ARBONATES CaCO ₃	32	164	56	102	160	156	52			
HLORIDES AS C1	10	60	10	20	16	26	8	90		
HARDNESS AS CaCO3	54	118	86	76	58	60	68	62		
RON AS Fe	0.04	0.82	0,12	0.06	0.04	0.04	0.04	0.16		
LUORIDE A.M.	0.88	0.31	0.98 91	0.44	0.39	0.31	0.91	0.63		
CHLORINE RESIDUAL	1.0	1.3	1.0	1.3	1.2	110	0.9	1.3		
TURBIDITY A, M.	0.12	0,28	0.46	81.0	0.16	0.14	0.40	6,62		
		1.04			1104					
DRTHO PHOSPHATE		0,77			0,25					
IETA PHOSPHATE		0:27			0.79					
TABILITY	+0.9		+0.4		+0,1	0.0	+0.6	+0.4		

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, LABORATORY ANALYSIS BY and specific conductance. One liter of potable water is assumed to weigh one kilogram. Toppelle & H URN

DATE OF ANALYSIS 15-83

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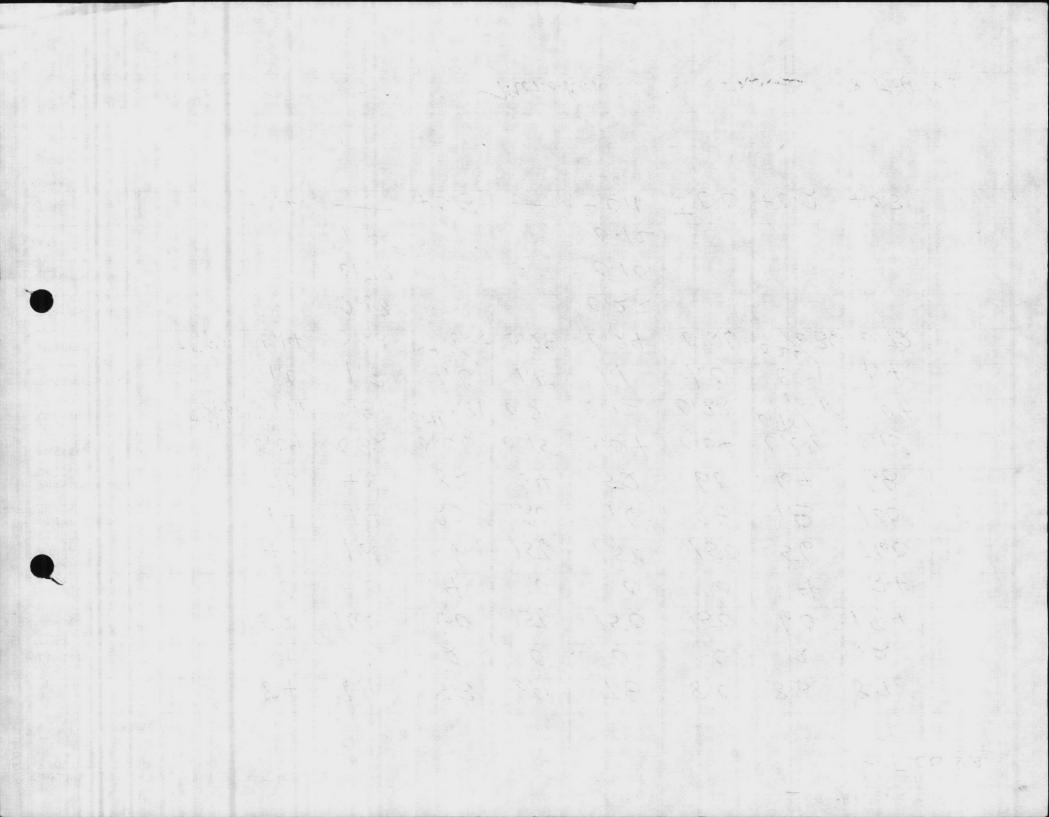


MCBCL 11330/3 (REV. 3-82)				<u>ilina</u>		1		8 Fe	683
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	
РН	8.4	6.9	8.3	6.9	7.8	8.0	8.3	8.7	
PENOLTHALEIN ALKALINITY	4	0	2	0	0	0	2	12	
METHYL ORANGE ALKALINITY	52	160	60	156	150	150	60	184	
CARBONATES AS CaCO3	8	0	4	0	0.	0	4	24	
RBONATES AS CaCO ₃	44	160	56	156	150	150	56	160	
CHLORIDES AS C1	14	14	20	20	16	28	18	100	
HARDNESS AS CaCO3	70	48	82	64	52	60	64	68	
RON AS Fe	0.04	0.32	0.06	0.15	0.04	0.04	0.07	0.15	
	m 1.10/1.16	0.31	0.91 0.81	0.26	0.12	0.22	0.98/0.98	1.04	
CHLORINE RESIDUAL	1.0	1.3	1.0	1.5	1.1	1.0	0.9	1.4	
	1 0.14	0.23	0.40	0,28	0.24	0.26	0.2%.36		
TOTAL PHOSPHATE		2.08			0.22				
ORTHO PHOSPHATE		0.73			0.10				
		1.35			0.12				
STABILITY	+0.4		+0.3		-0.1	-0.0	+0.2	+0.3	

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, LABORATORY ANALYSIS BY and specific conductance. One liter of potable water is assumed to weigh one kilogram Monokon Fachpelle & Burn

DATE OF ANALYSIS

HR. PRICE DATE COLLECTED



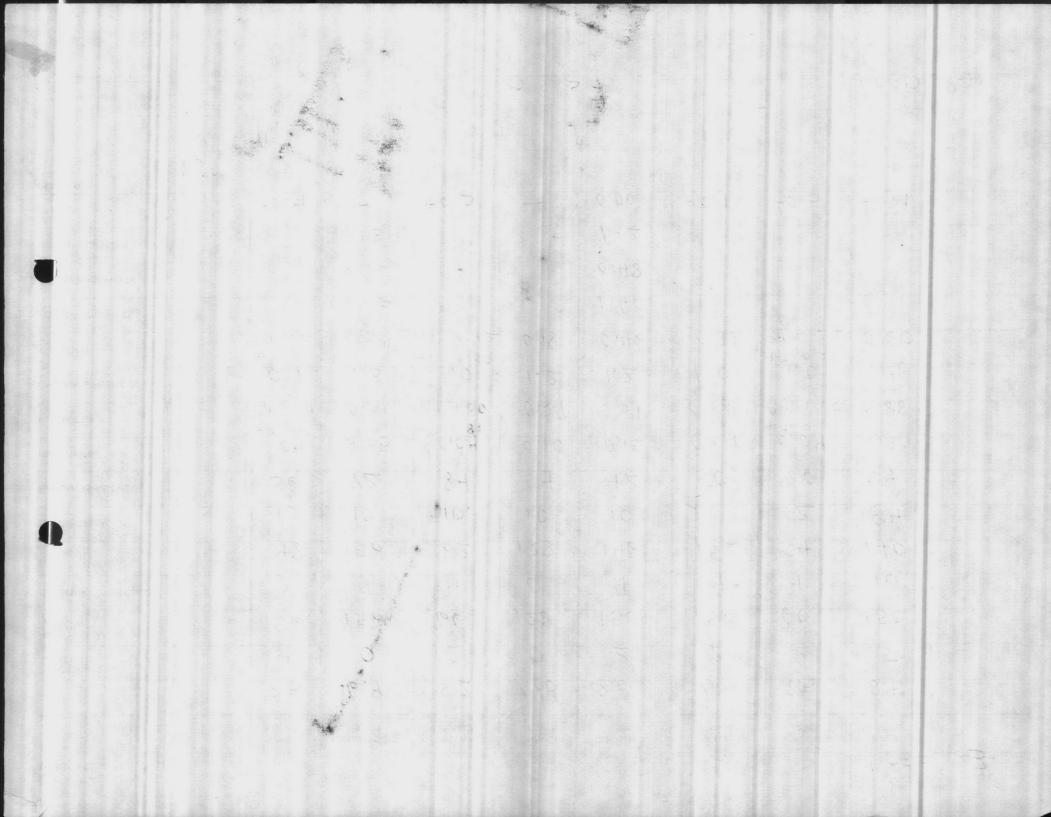
CHEMICAL ANALYSIS — WATER TREATMENT PLANTS MCBCL 11330/3 (REV. 3-82)

MCBCL 11330/3 (REV. 3-82)	1 FEB 82								
PARAMETER	HADNOT POINT	MONTFORD	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB	NEW RIVER	
PH	8.5	6.9	8,2	7.00	8.00	7,9	8.5	8.5	
PENOLTHALEIN ALKALINITY	4	0	2	0	2	2	2	5	
METHYL ORANGE ALKALINITY	56	156	66	128	150	156	60	150	
CARBONATES AS CaCO3	8	0	4	0	4.	4	4	10	
BICARBONATES AS CaCO 3	48	156	62	128	146	152	54	140	
Sucorides as C1	10	10	10	10	10	20	12	84	
HARDNESS AS CaCO3	56	72	84	54	42	50	60	54	
RON AS Fe	0.04	0.35	0.04 A.R. 0.88	0.10	0.15	0.09	0.04	0,20	
LUORIDE	A.H. 1.00 P.N. 1.09	0.31	P.N. 1.00	0.27	0.31	0.18	A.N. 0.91 P.N. 1.00	0.88	
	0.9	1.3	1.0	1.2	1.2	1,0	1.0	1.4	
FURBIDITY	0.22	0,30	A.N. 0,30 P.N. 0.42	0.18	0.46	0.32	A.M. 0.20 P.M 0.22		
OTAL PHOSPHATE		2.05			1,60	-Horas			
		0.92		•	0.48				
META PHOSPHATE		1.13			1.12				
STABILITY	+0.4		+0.3	-	0.00	-0,1	+0.5	+0,1	

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DATE COLLECTED

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, and specific conductance. One liter of potable water is assumed to weigh one kilogram.	BURNS +	DATE OF ANALYSIS	
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CHEMICAL ANALYSIS — WATER TREATMENT PLANTS MCBCL 11330/3 (REV. 3-82)

MCBCL 11330/3 (REV. 3-82)	18 JAN 8	18 JAN 83							
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	
РН	8.5	7.0	8,4	6.9	7.9	1.9	7.9	8,2	
PENOLTHALEIN ALKALINITY	20	0	8	0	4	10	0	10	
METHYL ORANGE ALKALINITY	62	180	64	150	150	172	118	186	
CARBONATES AS CaCO3	40	0	16	0	8.	20	0	20	
BICARBONATES AS CaCO3	22	180	48	150	142	152	118	166	
LORIDES AS C1	12	10	12	18	16	16	10	122	
HARDNESS AS CaCO3	62	54	84	66	80	56	116	70	
IRON AS Fe	20.04	0.45	0.12	0.09	0.05	0,30	0.06	0,17	
FLUORIDE AMPM	1.09	0.44	0.94	0.36	0.40	0,31	1.00	1.00	
CHLORINE RESIDUAL	0.9	1.0	1.3	1,3	1.2	1.0	0,9	1.4	
TURBIDITY AM	0.12	0.20	0.84	0,12	0.12	0.78	0.22	0.44	
TOTAL PHOSPHATE		1.17			1,35				
		0.77			0,38				
META PHOSPHATE		0.40		and and a second	0,97				
STABILITY REMARKS	+ 0.3		+0.4		0.0	0.0	+	+ 0.2	

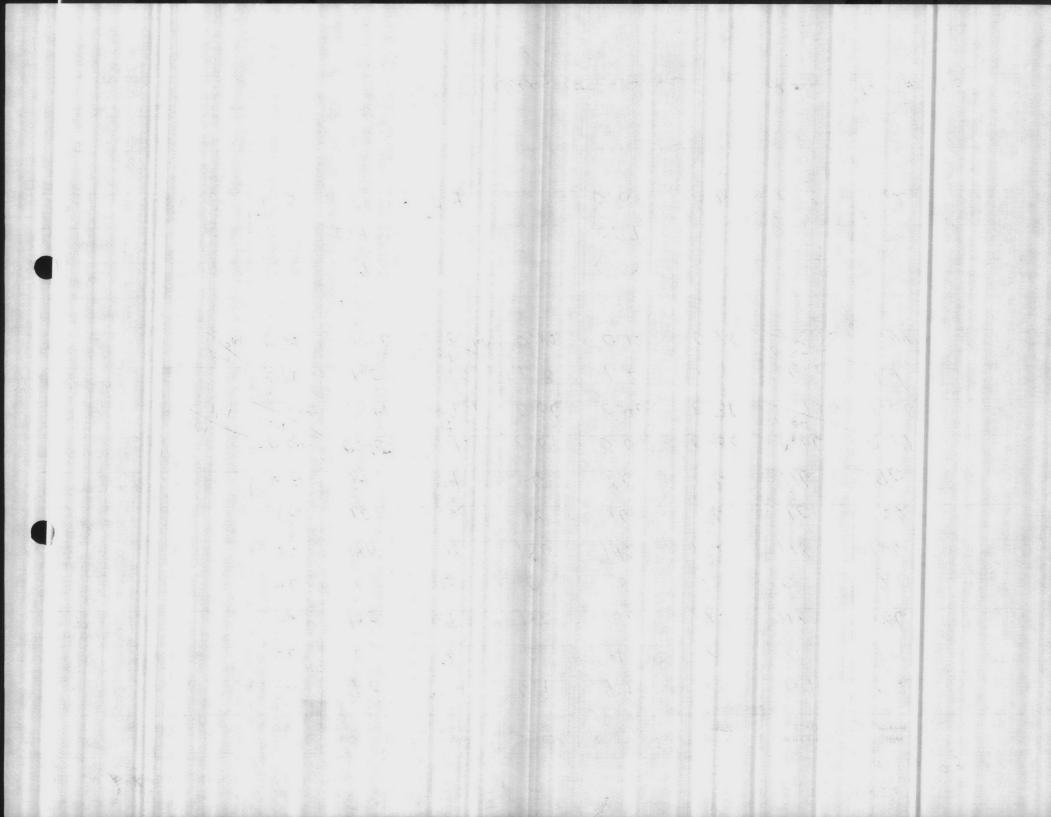
MR. Price DATE COLLECTED

DATE OF ANALYSIS

18 JAN 83

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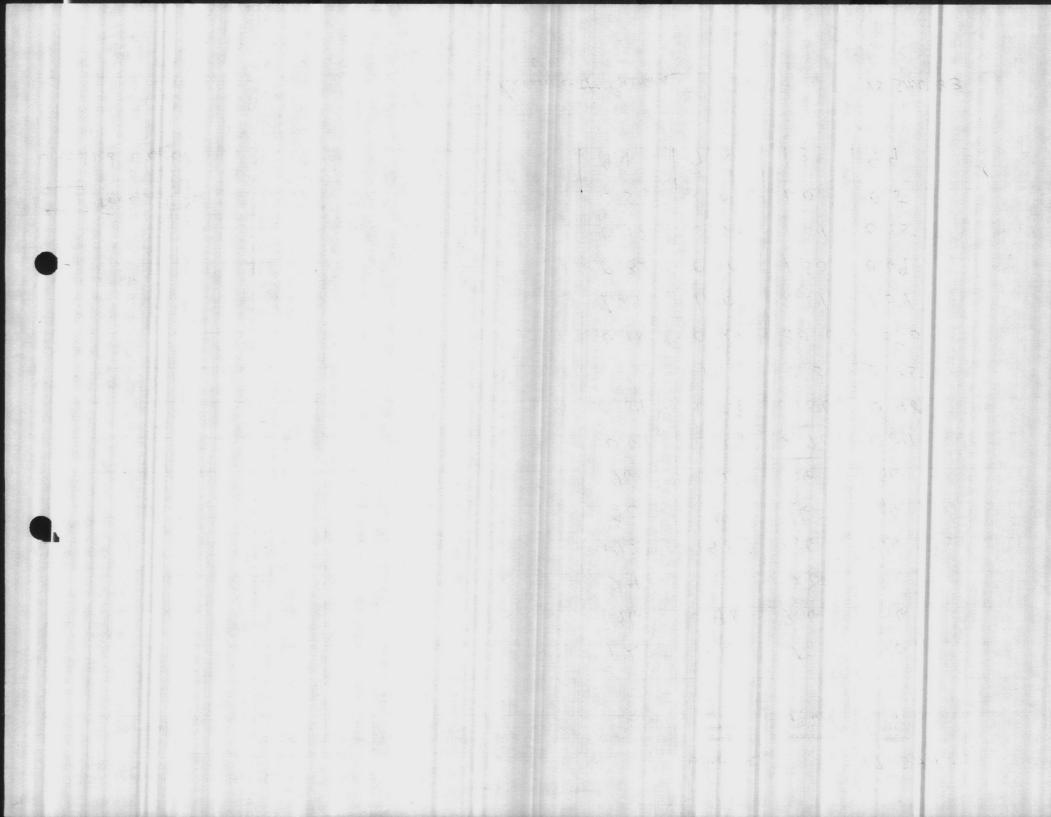
NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, LABORATORY ANALYSIS BY and specific conductance. One liter of potable water is assumed to weigh one kilogram.



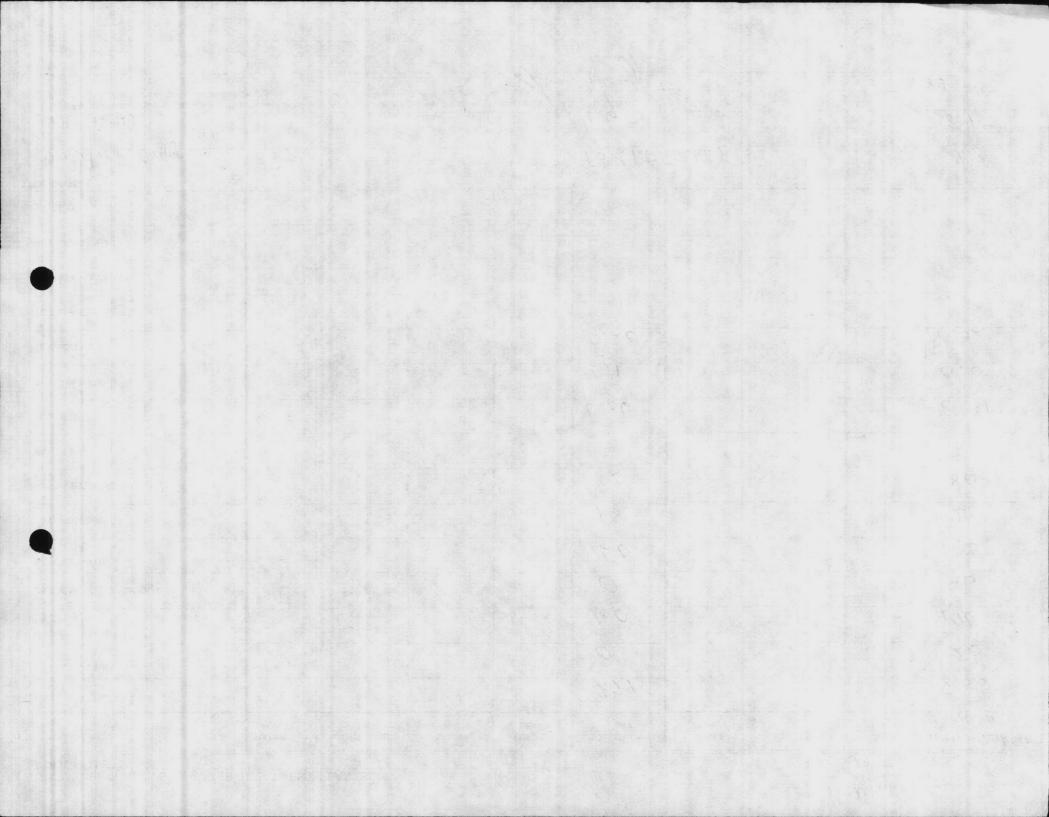
CHEMICAL ANALYSIS — WATER TREATMENT PLANTS MCBCL 11330/3 (REV. 3-82)						WASH RAC	t	MC. Price DATE COLLECTED 17 JAN 83		
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE	HOLCOMD BLVD 1340	NEW RIVER /400		
РН						2				
PENOLTHALEIN ALKALINITY				A	12	20	10	10		
METHYL ORANGE ALKALINITY					196	198	206	196		
CARBONATES AS CaCO3					24	40	20	20		
BICARBONATES AS CaCO 3					172	158	186	176		
LORIDES AS C1					20	18	16	16		
HARDNESS AS CaCO3					76	82	96	96		
RON AS Fe	a state				0.09	0.09	2.70	0.41		
LUORIDE					0,84	0,31	0.56	0.48		
						0.0	0.3	0.85		
TURBIDITY					0,18	0.24	30.0	15.0		
TOTAL PHOSPHATE					1,24	1.10	2.34	1.54		
					0,32	0.80	1.30	0.69		
META PHOSPHATE					0.92	0,30	1.04	0,85		
MADILITY Free CO2					0.5	0,0	1.0	0.5		
Dissolved Oxygen					9.4	7.0	9.3	9.9		

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, LABORATORY ANALYSIS BY DATE OF ANALYSIS and specific conductance. One liter of potable water is assumed to weigh one kilogram. All results reported in parts per million unless otherwise noted except for pH, temperature, LABORATORY ANALYSIS BY DATE OF ANALYSIS IS IN A SALVANA A SALVANA

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CHEMICAL ANALYSIS — WATE MCBCL 11330/3 (REV. 3-82)								Mr. Pri DATE COLLEC 13 Jan.	83
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	AMTRAC AREN WASH BAD
РН					7.74				8.55
PENOLTHALEIN ALKALINITY					0.				(20)
METHYL ORANGE ALKALINITY					160				176
CARBONATES AS CaCO3		Program and			0				40
BICARBONATES			- <u>1</u>		160		-		136
CHLORIDES AS C1					18				20
HARDNESS AS CaCO3					82				80
IRON AS Fe									
FLUORIDE					0.36				0,31
CHLORINE RESIDUAL					0,9				0.0
TURBIDITY					0.20				0.32
TOTAL PHOSPHATE								10	
				· ·		NETRO-A			
META PHOSPHATE					74				
STABILITY									
REMARKS			L	<u>I.</u>	<u> </u>			<u> </u>	
Dissolved Oxygen					9.5 (9.67	teated)			4.3
PH (field)					7.6				8.45
NOTE: All results reported in parts per m and specific conductance. One li	nillion unless otherw iter of potable water	ise noted except for r is assumed to weig	pH, temperature, gh one kilogram.	LABORATOR AL	Alerezcutt	2		DATE OF ANA	LYSIS



CHEMICAL ANALYSIS — WATER TREATMENT PLANTS MCBCL 11330/3 (REV. 3-82)

MCBCL 11330/3 (REV. 3-82)	CBCL 11330/3 (REV. 3-82)								11 JAN 1983		
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER			
РН	8.5	6.8	8.0	6,9	7,9	8.0	8.2	8.7			
PENOLTHALEIN ALKALINITY	6	0	4	0	6	8	6	20			
METHYL ORANGE ALKALINITY	54	168	72	162	180	160	74	182			
CARBONATES AS CaCO3	12	0	8	0	12	16	12	40			
CARBONATES CaCO ₃	42	168	64	162	168	144	62	142			
CHLORIDES AS C1	10	10	10	16	16	24	13	90			
HARDNESS AS CaCO3	60	56	88	62	64	50	74	40			
IRON AS Fe	0.06	0.32	0.26	0.09	0.04	0.29	0.04	0.19			

HARDNESS AS CaCO ₃		60	56	88	62	64	50	74	40	
IRON AS Fe		0.06	0.32	0.26	0.09	0.04	0.29	0.04	0.19	
FLUORIDE	AM PM	0.97 1.03	0.36	0.91 0.94	0.27	0.40	0.18	0.97	0.91	
CHLORINE RESIDUAL		1.1	1.3	1.0	1.0	1.2	0.9	0.9	1.4	
TURBIDITY	AM PM	0.20	0.20	2.30 1.40	0.19	0.26	0.84	0.20	0.86	
TOTAL PHOSPHATE	•		2.70			2.00				- internet
CATHO PHOSPHATE			0.92			0.52				
META PHOSPHATE	-		1.78			1.48				
STABILITY		40.7		+0.4		+0.2	+0.2	40.4	+0.3	
REMARKS		100 M					-	<u> </u>		

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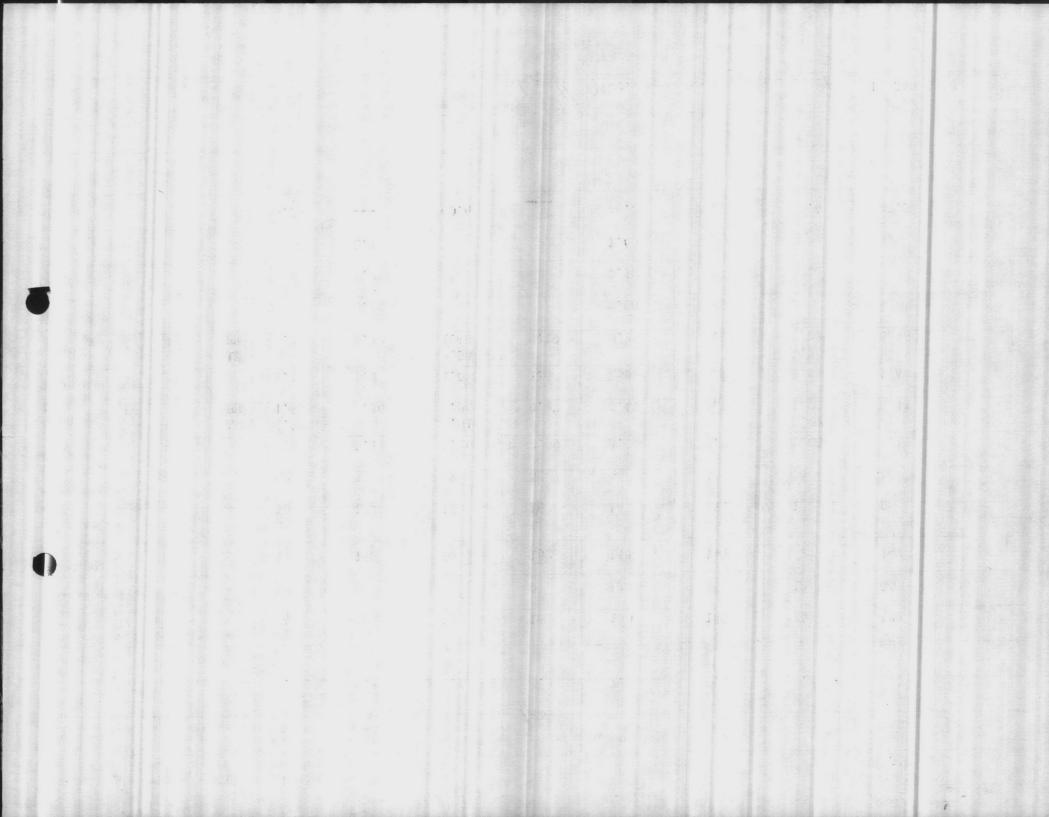
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NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, LABORATORY ANALYSIS BY and specific conductance. One liter of potable water is assumed to weigh one kilogram.

DATE OF ANALYSIS 11 JAN 1983

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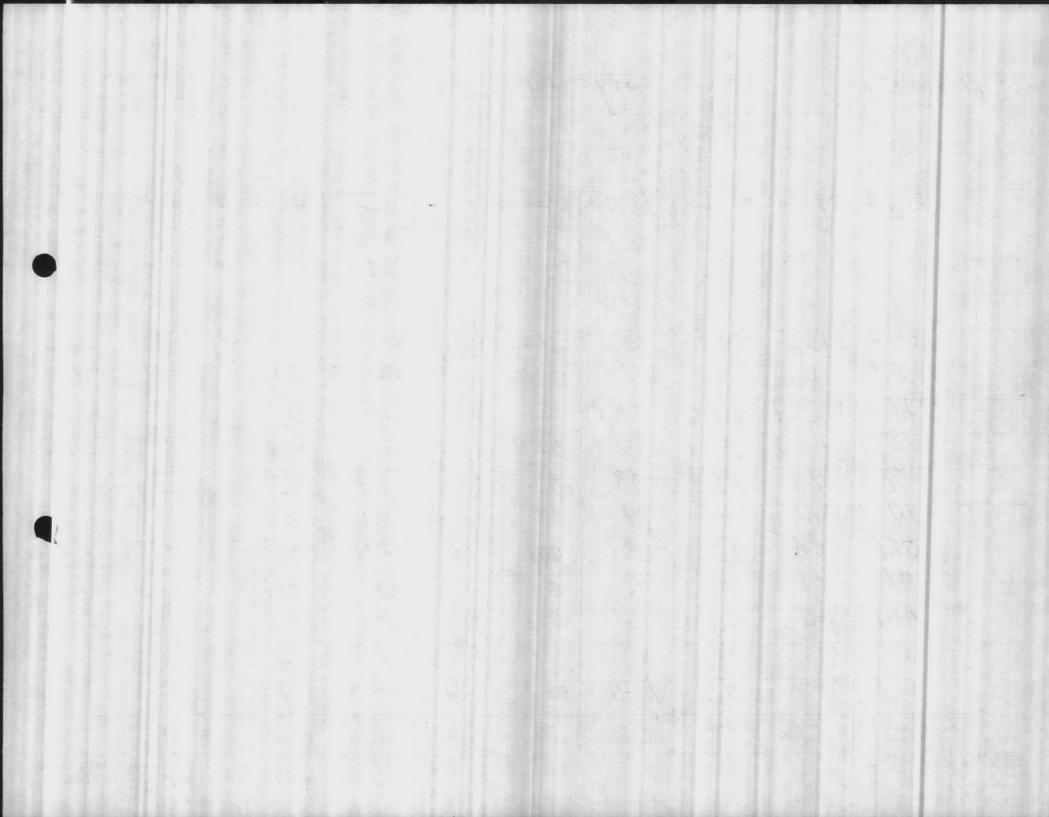
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CHEMICAL ANALYSIS — WATER T MCBCL 11330/3 (REV. 3-82)	REATMENT	PLANTS				144		DATE COLLECTED	Y 1983
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB	NEW RIVER	
РН	8,60	6.81	8.03	6.86	7.87	7.90	8.26	8,08	
PENOLTHALEIN ALKALINITY	8	0	4	0	8	8	6	8	
METHYL ORANGE ALKALINITY	52	168	86	160	176	170	74	146	
CARBONATES AS CaCO3	16	0	8	0	16	16	12	16	
BICARBONATES AS CaCO 3	36	168	78	160	160	154	62	130	
LORIDES AS C1	12	12	8	20	18	24	12	94	
HARDNESS AS CaCO3	54	60	106	66	66	58	82	72	
IRON AS Fe	0.04	0.28	0.29	0,06	0.09	0.25	0.04	0.21	
FLUORIDE AMM	1.02/05	0.45	1.05 1.02	6.32	0.45	0.18	1.02,96	0.79	
CHLORINE RESIDUAL	1.0	1.4	1.0	1.2	1,3	1.0	0.9	1.5	
	0.18	0,28	0.76 2.30	0.18	0,22	0.62	0.26 0.16	0.98	
TOTAL PHOSPHATE		3,30			2.70			0.10	
ORTHO PHOSPHATE		1.04			0.70	- Hart		~	
META PHOSPHATE		2.26			2.00				
STABILITY	+0.78	-	+ 0.45	-	+0.07	+0.12	+0.42	+0.13	

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, LABORATORY ANALYS BY and specific conductance. One liter of potable water is assumed to weigh one kilogram.

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DATE OF ANALYSIS

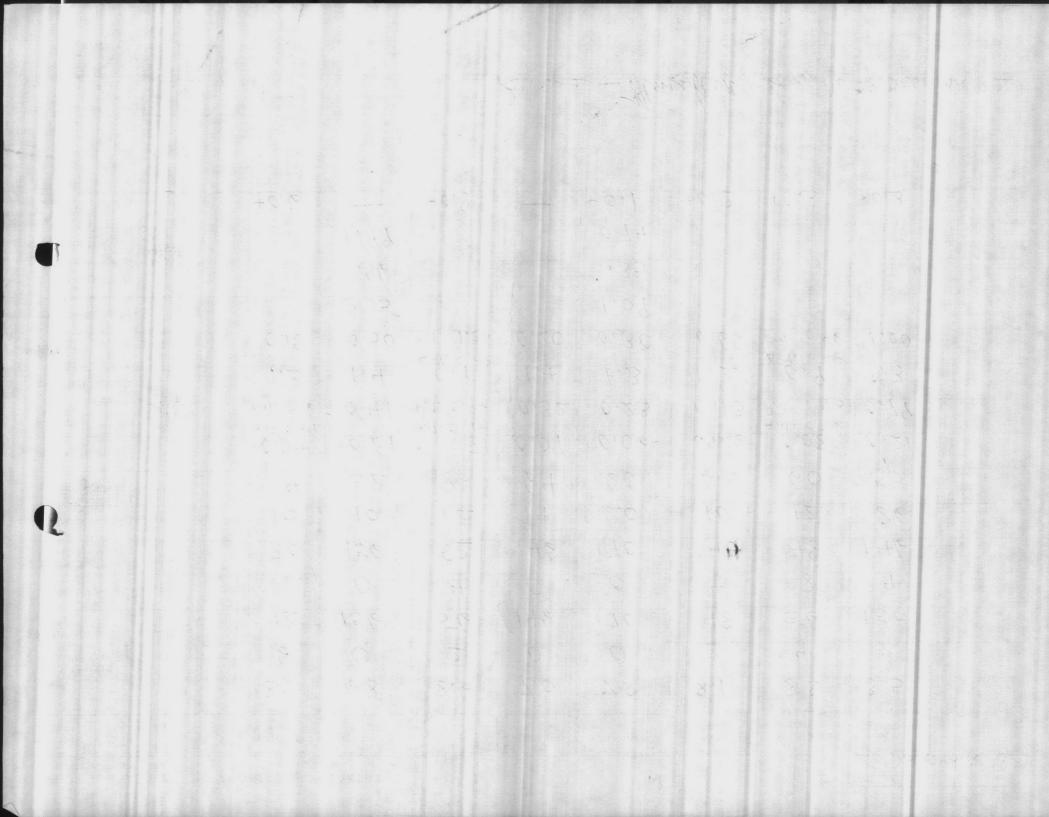


CHEMICAL ANALYSIS — WATER MCBCL 11330/3 (REV. 3-82)	RTREATMENT	PLANTS			MR	DATE COLLECTED			
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	
PH	8.9	6.8	8.6	7.0	7.8	8.1	8,5	8.5	
PENOLTHALEIN ALKALINITY	6	0	2	0	0	2	4	2	
METHYL ORANGE ALKALINITY	42	156	56	146	170	148	56	150	
CARBONATES AS CaCO3	12	0	4	0	0	4	8	4	
BICARBONATES AS CaCO ₃	30	156	52	146	170	148	48	146	
ORIDES AS C1	10	10	12	14	120	10	12	86	
HARDNESS AS CaCO3	54	52	86	64	60	62	60	50	
IRON AS Fe	0.04	0.24	0.18	0.07	0.06	0,26	0.08	0,21	
FLUORIDE	A.M 0.89 P.M. 0.96	0.41	A.N. 0.96 P.N. 0.96	0.32	0,23	0.13	A.M. 0.96 P.H. 0.93		
CHLORINE RESIDUAL	1.3	1.4	0.9	1.4	1.3	1.2	0.9	1,3	
TURBIDITY	0.18	0.30	A.A. 0.38 P.H. 1,20	0,20	0,30	0.66	A:M. 0.28 P.H. 0.46		
TOTAL PHOSPHATE		2.95			1.09				
		,96			,35				
PHOSPHATE		1.99			0.74				
STABILITY	+0.6		+0,8	-	+0.1	+0.2	+03	40.3	

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, and specific conductance. One liter of potable water is assumed to weigh one kilogram.

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DATE OF ANALYSIS 28 DECEMBER 82



CHEMICAL ANALYSIS - WATER TREATMENT PLANTS

CHEMICAL ANALYSIS — WATE MCBCL 11330/3 (REV. 3-82)	R TREATMENT	PLANTS		. ME		MR P6		DATE COLLECTED	
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB	NEW RIVER	•
PH	8.6	7.1	8,4	7.0	7,7	8.1	8.5	8,4	
ENOLTHALEIN ILKALINITY	4	0	2	0	0	2	4	6	
NETHYL ORANGE	54	160	70	70	164	150	60	144	
CARBONATES AS CaCO3	8	0	4	0	0	4	8	12	
ICARBONATES IS CaCO 3	46	160	66	70	164	146	52	132	
LORIDES AS C1	12	30	12	24	22	30	12	90	
IARDNESS AS CaCO3	60	100	90	64	60	56	62	62	
RON AS Fe	0.04	0,35	0.15	0.06	0.05	0.18	0.07	0,15	
LUORIDE	A.H. 0.61 P.H. 0.61	0.32	A.N. 0.72 P.N. 0.99	0,32	0.32	0.32	P.1 0.89		
	1.0	1.4	1.0	1,4	1.3	1.0	0.9	1.3	
URBIDITY	0.12	0,26	A.N 1.90 PH 1.00	0,20	0.30	0.28	A.M. 0.22 P.M. 0.32		
OTAL PHOSPHATE		1,84			1,00				
THO PHOSPHATE		0.73			0,28				
ETA PHOSPHATE		1.11			0.72				
TABILITY	0.6	_	0,7		-0.1	0.0	0.4	0.1	

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NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, LABORATORY ANALYSIS BY and specific conductance. One liter of potable water is assumed to weigh one kilogram.

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MCBCL 11330/3 (REV. 3-82)	/BCL 11330/3 (REV. 3-82)										
PARAMETER		HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	TT 719	TT 2726
PH		8.8	7.0	8.3	7.1	8.1	8.2	8.4	8.2	8.4	8.5
PENOLTHALEIN ALKALINITY		8	0	6	0	6	6	8	6	4	4
METHYL ORANGE ALKALINITY	1.2	42	184	56	160	160	156	682	152	58	58
CARBONATES AS CaCO3		16	0	12	0	12	12	16	12	8	8
RBONATES aco3	- AL	26	184	44	160	148	144	52	140	50	50
CHLORIDES AS C1		12	50	10	18	16	24	12	82	10	10
HARDNESS AS CaCO3		58	96	76	68	60	54	76	70	76	90
IRON AS Fe		0.07	0.42	0.09	0.09	0.28	0.14	0.07	0.16	0.11	0.11
FLUORIDE	AM PM	0.93	0.41	0.86	0.13	0.27	0.27	0.83	0.79	0.96	0.99
CHLORINE RESIDUAL		1.0	1.3	1.0	1.5	1.2	110	1.0	1.5	0.9	0.9
TURBIDITY	AM PM	0.14	0.26	0.34	0.12	0.82	0.26	0.28	0.68	0.34	0.42
TOTAL PHOSPHATE			1.46			0.96					
ORTHO PHOSPHATE			0.633			0.28			2017-10-2		
META PHOSPHATE			0.83			0.68					
STABILITY		+0.6		+0.1		+0.0	40.1	+0.2	-0.1		

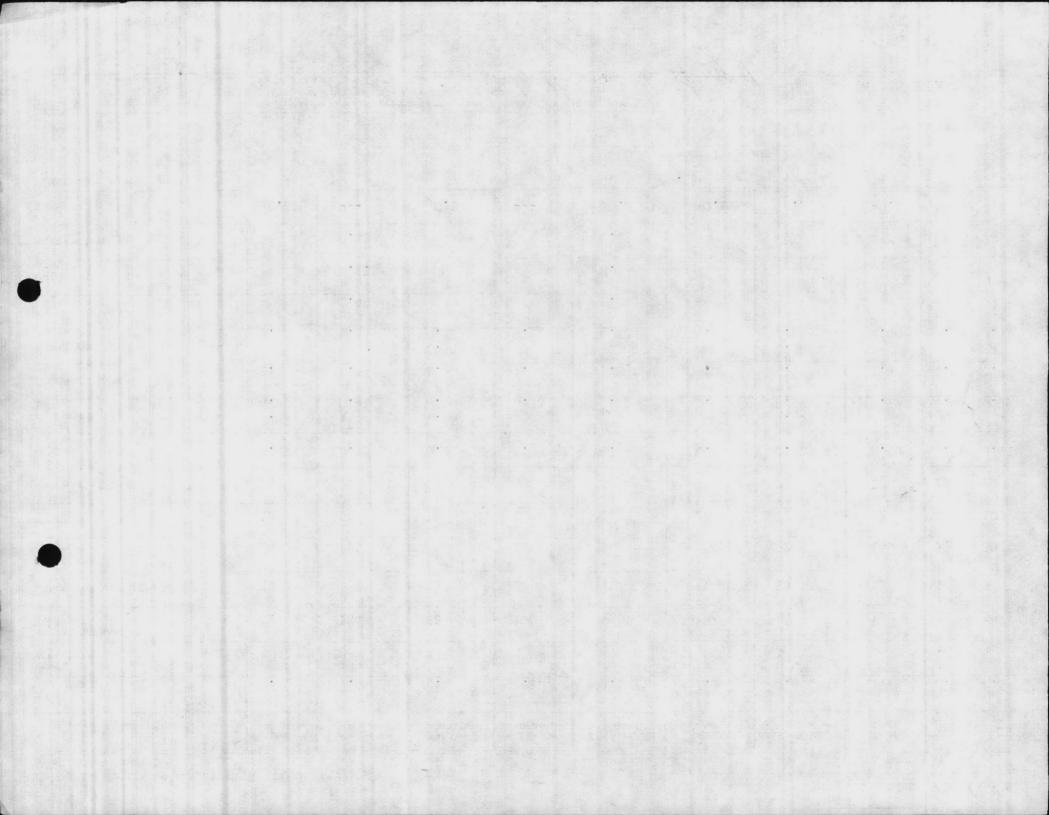
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NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, LABORATORY ANALYSIS BY and specific conductance. One liter of potable water is assumed to weigh one kilogram.

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CBCL 11330/3 (REV. 3-82)										
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE	HOLCOMB BLVD	NEW RIVER		
ዝ	8.5	6.7	8.2	6.9	7.9	7.9	8.3	8.2		
PENOLTHALEIN ALKALINITY	4	0	4	0	0	2	4	6		
IETHYL ORANGE LKALINITY	42	180	62	156	176	150	64	194		
CARBONATES AS CaCO3	8	0	8	0	0	4	8	12		
CaRBONATES	34	180	54	156	176	146	56	182		
CHLORIDES AS C1	16	(110)	14	18	18	28	16	94		
IARDNESS AS CaCO3	44	182	74	≩60	78	44	72	60		
RON AS Fe	0.04	0.81	0.12	0.08	0.46	0.15	0.08	0.24		
LUORIDE AM	0.89 0.99	0.36	1.11	0.36	0.36	0.23	0.96 1.14	1.02		
CHLORINE RESIDUAL	1.0	1.3	1.0	1.4	1.0	1.1	1.0	1.5		
TURBIDITY AM PM	0.12	0.48	0.78	0.17	1.10	0.30	0.24 0.23	0.84		
OTAL PHOSPHATE		2.18			1.68					
HTHO PHOSPHATE		0.81			0.52					
ETA PHOSPHATE	-	1.37			1.16					
STABILITY	+0.4		+0.4		+0.3	0.0	+0.3	+0.3		

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, and specific conductance. One liter of potable water is assumed to weigh one kilogram.	LABORATORY ANALYSIS BY	DATE OF ANALYSIS
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MCBCL 11330/3 (REV. 3-82)						=		30 Hou	
PARAMETER	HADNOT	MONTFORD	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	an an a An an
РН	8.64	1.02	8.35	6.86	11.75	7.57	8.42		· · · · · · · · · · · · · · · · · · ·
PENOLTHALEIN ALKALINITY	116	0	12	0	0			8.02	
METHYL ORANGE ALKALINITY	50	180	10	136	190	6	10	10	
CARBONATES AS CaCO3	32	0	24	0	0	156	62	196	
BI BONATES AS CaCO ₃	18	180	416	136	150	12	420	20	and an and a second sec
CHLORIDES AS C1	16	14	14	20	22	30	20	90	
HARDNESS AS CECO3	58	66	812	48	72	56	74	80	
IRON AS Fe	006	0.23	0.18	0.18	0.29	0.14	0.04	0,15	
FLUORIDE TM	1.00	0.49	1.08	0.56	0.36	0.27	1.02	1.08	
	1.0	1,4	1.0	1.4	1.2	1.0	1.0	1.11	
TURBIDITY Arn	0.37	0.46	2.0	0.30	0.86	0,36	0.25	0.61	
AL PHOSPHATE		1.60			0.82	2,36	- 0.20	0.61	
		1.54			0.44				
HETA PHOSPHATE		1.06			0.38				
STABILITY	· 0.45		0.25		0.20	+	0,28	0.00	
REMARKS							1 - 1 2 0	0.00	1

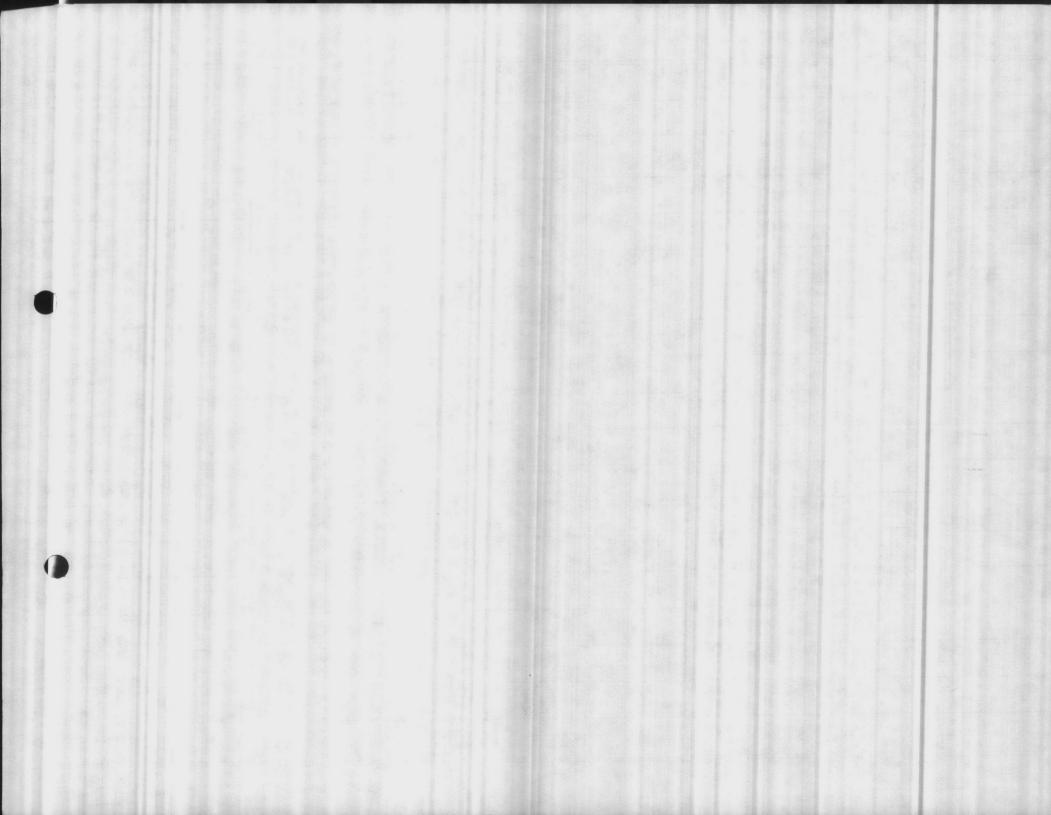
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NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, LABORATORY ANALYSIS BY and specific conductance. One liter of potable water is assumed to weigh one kilogram.

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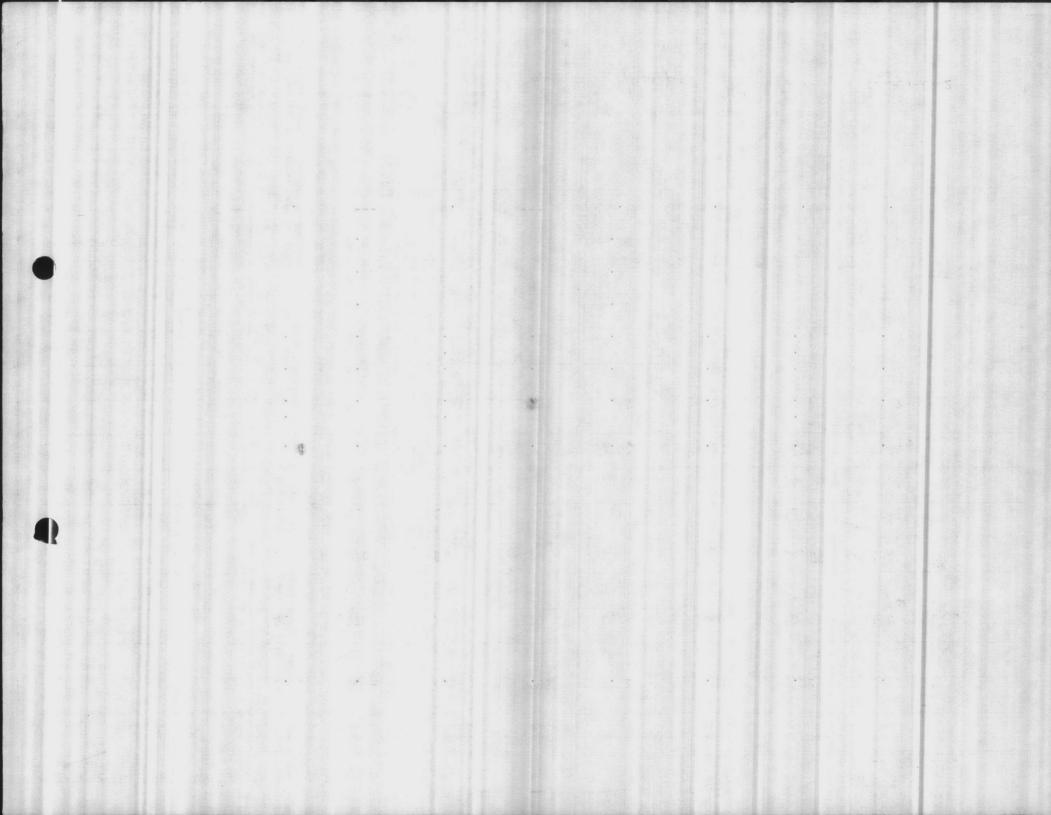
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ACBCL 11330/3 (REV. 3-82)										
HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB	NEW RIVER			
8.53	6.96	8.23	6.88	7.82	8.01	8.22	7.98			
2	0	4	0	4	8	8	8			
42	170	76	170	188	160	70	170			
4	0	8	0	8	16	16	16			
38	170	68	170	180	144	54	154			
12	12	14	20	12	48	12	86			
60	64	82	68	70	54	74	58			
0.04	0.55	0.07	0.07	0.50	0.21	0.05	0.09			
0.94	0.41	1.00	0732	0.41	0.27	0.83 0.87	0.87			
1.0	1.3	1.0	1.4	1.3	1.60	1.0	1.4			
0.25	0.58	0.60	0.13	1.10	0.48	0.18 0.16	0.34			
	2.80			1.17						
	0.92			0.38						
	1.88			0.79						
+0.82		40.51		+0.13	+0.19	+0.40	+0.08			
	POINT	POINT POINT 8.53 6.96 2 0 42 170 4 0 38 170 12 12 60 64 0.04 0.55 0.94 0.41 1.13 0.41 1.0 1.3 0.25 0.58 2.80 0.92 1.88 1.88	POINT POINT TERRACE 8.53 6.96 8.23 2 0 4 42 170 76 4 0 8 38 170 68 12 12 14 60 64 82 0.04 0.55 0.07 0.94 0.41 1.00 1.13 0.41 1.04 1.0 1.3 1.6 0.25 0.58 0.60 2.80 0.92 1.88	POINT POINT TERRACE BEACH 8.53 6.96 8.23 6.88 2 0 4 0 42 170 76 170 4 0 8 0 38 170 68 170 12 12 14 20 60 64 82 68 0.04 0.55 0.07 0.07 0.94 0.41 1.00 0.232 1.0 1.3 1.0 1.4 0.25 0.58 0.60 0.13 2.80 1.88	POINT POINT TERRACE BEACH BAY 8.53 6.96 8.23 6.88 7.82 2 0 4 0 4 42 170 76 170 188 4 0 8 0 8 38 170 68 170 180 12 12 14 20 12 60 64 82 68 70 0.04 0.55 0.07 0.07 0.50 0.94 1.00 1.4 1.3 0.41 1.0 1.3 1.0 1.4 1.3 0.25 0.58 0.60 0.13 1.10 2.80 1.17 0.38 0.38 0.79	POINT TERRACE BEACH BAY RANGE 8.53 6.96 8.23 6.88 7.82 8.01 2 0 4 0 4 8 42 170 76 170 188 160 4 0 8 0 8 16 38 170 68 170 180 144 12 12 14 20 12 48 60 64 82 68 70 54 0.04 0.55 0.07 0.07 0.50 0.21 0.94 1.04 1.04 0.32 0.41 0.27 1.0 1.3 1.0 1.4 1.3 1.00 0.25 0.58 0.60 0.13 1.10 0.48 2.80 1.17 0.38 1.17 1.18 0.48	POINT TERRACE BEACH BAY RANGE BLVD 8.53 6.96 8.23 6.88 7.82 8.01 8.22 2 0 4 0 4 8 8 42 170 76 170 188 160 70 4 0 8 0 8 16 16 38 170 68 170 180 144 54 12 12 14 20 12 48 12 60 64 82 68 70 54 74 0.04 0.55 0.07 0.07 0.50 0.21 0.05 0.94 1.00 0.32 0.41 0.27 0.83 1.13 0.41 1.04 0.232 0.41 0.27 0.83 0.25 0.58 0.60 0.13 1.10 0.48 0.16 2.80 1.17 1.17 1.17 <td>POINT TERRACE BEACH BAY RANGE BLVD RIVER 8.53 6.96 8.23 6.88 7.82 8.01 8.22 7.98 2 0 4 0 4 8 8 8 42 170 76 170 188 160 70 170 4 0 8 0 8 16 16 16 38 170 68 170 180 144 54 154 12 12 14 20 12 48 12 86 60 64 82 68 70 54 74 58 0.04 0.55 0.07 0.07 0.50 0.21 0.05 0.09 0.94 1.00 1.44 1.3 1.00 1.4 0.27 0.87 0.87 1.0 1.3 1.0 1.4 1.3 0.016 0.14 0.27</td>	POINT TERRACE BEACH BAY RANGE BLVD RIVER 8.53 6.96 8.23 6.88 7.82 8.01 8.22 7.98 2 0 4 0 4 8 8 8 42 170 76 170 188 160 70 170 4 0 8 0 8 16 16 16 38 170 68 170 180 144 54 154 12 12 14 20 12 48 12 86 60 64 82 68 70 54 74 58 0.04 0.55 0.07 0.07 0.50 0.21 0.05 0.09 0.94 1.00 1.44 1.3 1.00 1.4 0.27 0.87 0.87 1.0 1.3 1.0 1.4 1.3 0.016 0.14 0.27		

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, I and specific conductance. One liter of potable water is assumed to weigh one kilogram.	LABORATORY ANALYSIS BY		DATE OF ANALYSIS 23 NOV 1982	
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Mr Price



CHEM AL ANALYSIS - WATER TREATMENT PLANTS

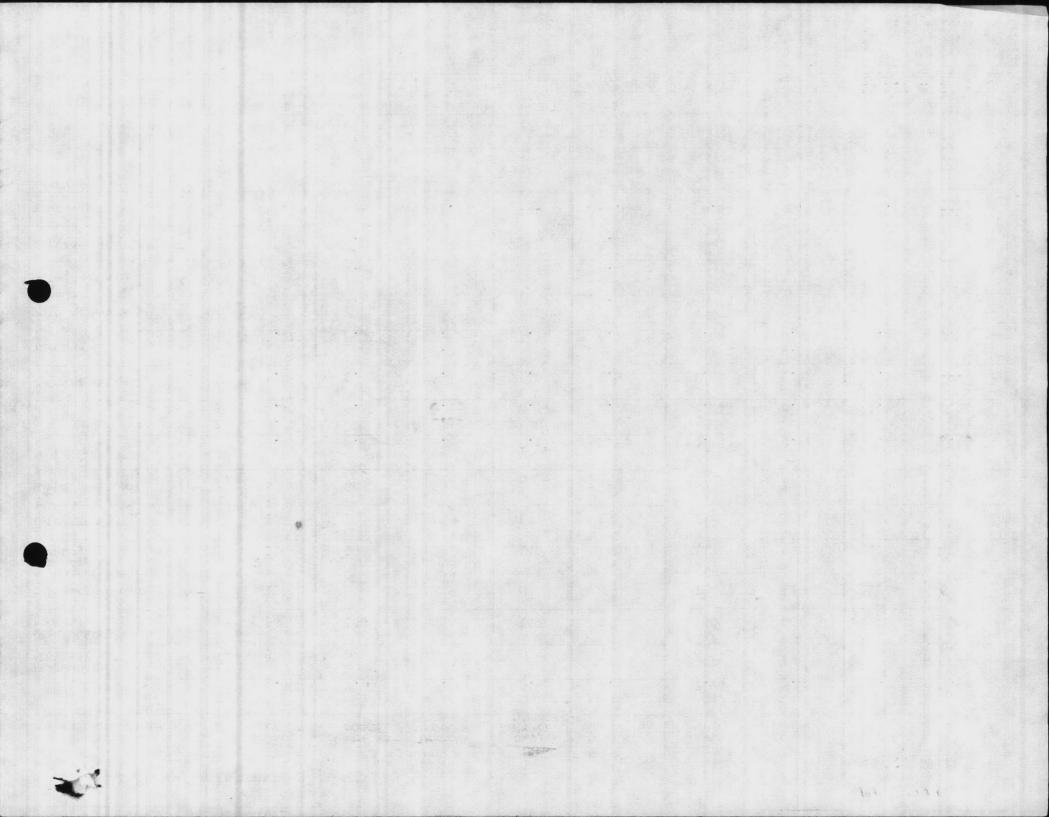
ICBCL 11/30/3 (REV. 3-82)										
PARAMETER		HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	RR-45
РН		8.40	6.96	7.99	6.85	7.63	7.94	8.29	8.26	7.08
PENOLTHALEIN ALKALINITY		8	0	4	0	4	6	6	14	0
METHYL ORANGE ALKALINITY		54	166	66	140	168	160	66	200	180
CARBONATES AS CaCO3		16	0	8	0	8	12	12	28	0
CaCO3		38	166	58	140	160	148	54	172	180
CHLORIDES AS C1		10	10	10	18	16	32	16	110	10
HARDNESS AS CaCO3		60	68	78	76	62	60	70	50	172
IRON AS Fe		0.09	0.36	0.14	0.21	0.38)	0.25	0.10	0.26	1.60
FLUORIDE	AM PM	0.87 0.90	0.27	0.80	0.27	0.32	0.23	0.90 0.94	1.10	0.23
		1.0	1.4	1.0	1.0	1.2	1.0	1.0	1.3	
TURBIDITY	AM PM	0.21	0.31	0.38 0.43	0.16	0.99	0.46	0.21 0.26	0.74	3.80
TOTAL PHOSPHATE	•		1.40			0.88			-	
ORTHO PHOSPHATE			0.81			0.35				
META PHOSPHATE			0.59		and the second	0.53				
STABILITY		+0.64	+	+0.20		-0.09	+0.06	+0.35	+0.17	

REMARKS

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NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature,	LABORATORY ANALYSIS BY	DATE OF ANALYSIS
and specific conductance. One liter of potable water is assumed to weigh one kilogram.	Lacharelle Monahan & Beving	16 NOV 1982
Contraction of the second se		

Mn. Price DATE COLLECTED



CHEMICAL ANALYSIS - WA	TER TREATMENT	PLANTS			Constant.			Mr Pri DATE COLLECT 16 NOV 1	TED
PARAMETER	<u>828~67</u>	22-97	Nežoro Vileor vetj	Ašter Pilee s	COURTHOUSE 85 BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	
PH	6.92	7.03							
PENOLTHALEIN ALKALINITY	0	0							
METHYL ORANGE ALKALINITY	196	180			-				
CARBONATES AS CaCO3	0	0							
CARBONATES AS CaCO ₃	196	180							
CHLORIDES AS C1	66	8							
ARDNESS AS CaCO3	232	170							
RON AS Fe	4.00	2.05	1.04	0.31			k.		
LUORIDE	0.23	0.18			Ĩ				
URBIDITY	13.0	4.3							
TAL PHOSPHATE									
ORTHO PHOSPHATE		fler et se							
TABILITY							and the		

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, and specific conductance. One liter of potable water is assumed to weigh one kilogram	LABORATORY ANALYSIS BY	ľ	DATE OF ANALYSIS
NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, and specific conductance. One liter of potable water is assumed to weigh one kilogram.	Tachazelle monchan +	Surna	16 NOV 1982

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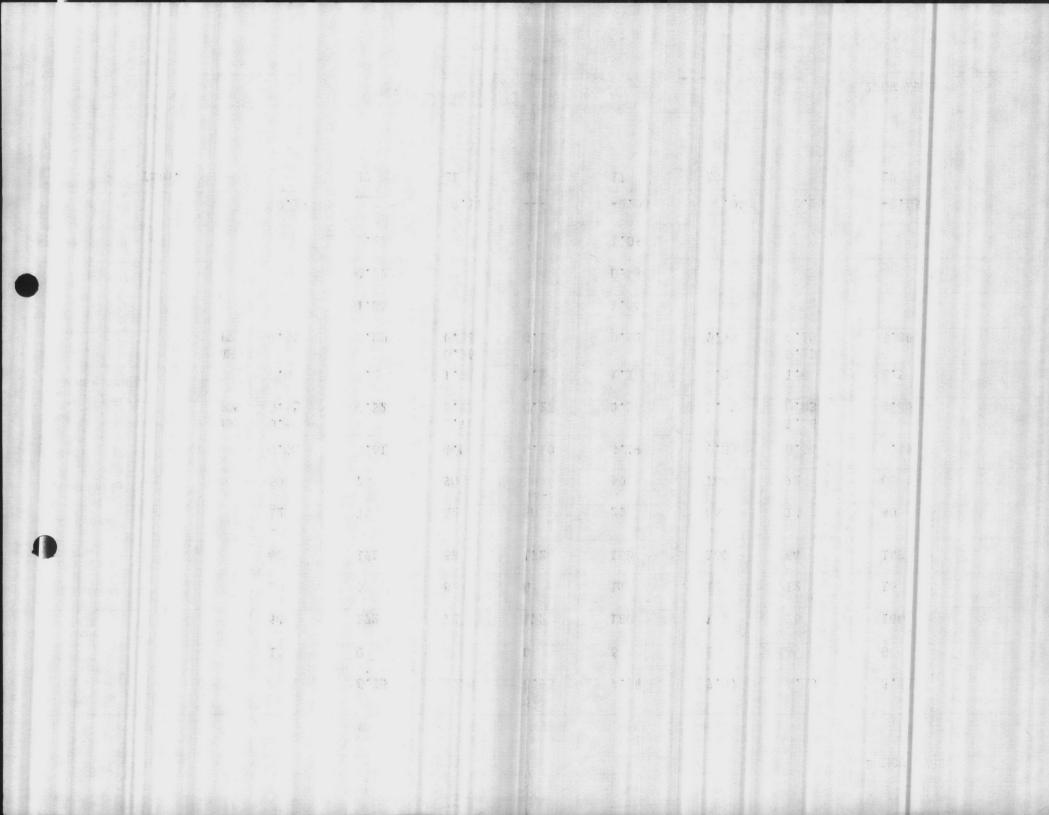
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MCBCL 11330/3 (REV. 3-82)								2 NOV 1982	
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB	NEW RIVÉR	
рн	8.62	6.95	8.20	6.93	7.94	7.97	8.33	8.08	
PENOLTHALEIN ALKALINITY	10	0	4	0	6	6	6	8	
METHYL ORANGE ALKALINITY	60	172	76	172	180	172	76	164	
CARBONATES AS CaCO3	20	0	8	0	12	12	12	16	
BICARBONATES CaCO ₃	40	172	68	172	169	160	64	148	
CHLORIDES AS C1	12	14	12	18	20	44	16	80	
HARDNESS AS CaCO3	60	74	90	56	50	76	72	60	
IRON AS Fe	0.04	0.61	0.04	0.10	0.19	0.39	0.04	0.19	
FLUORIDE AM PM	0.69	0.32	1.10	0.27	0.36	0.23	1.16 0.83	0.80	
CHLORINE RESIDUAL	0.8	1.2	1.0	1.2	1.2	1.0	1.0	1.5	
TURBIDITY AM	0.18	0.29	0.26 0.36	0.16	0.52	0.94	0.23 0.18	0.89	
TOTAL PHOSPHATE		1.04			1.54				
ORTHO PHOSPHATE		0.77			0.48		and the second		
META PHOSPHATE		0.27			1.06				
STABILITY	+0.29		+0.18		-0.08	+0.04	+0.26	-0.05	
REMARKS Temp.		20	21	20	17	19		20	13117

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, and specific conductance. One liter of potable water is assumed to weigh one kilogram. LABORATORY ANALYSIS BY Lachapelle Monshan & Burns DATE OF ANALYSIS 2NOV 1982

Mr. Price DATE COLLECTED



MCBCL 11330/3 (REV. 3-82)								9 NOV 1982		
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB	NEW RIVÊR .		
РН	8.25	6.94	8.27	6.90	7.73	7.97	8.36	8.14		
PENOLTHALEIN	6	0	6	0	4	8	8	8		
METHYL ORANGE ALKALINITY	62	170	66	154	180	176	72	168		
CAPPENATES AS CaCO3	12	0	12	0	8	16	16	16		
AS CaCO ₃	50	170	54	154	172	160	56	152		
CHLORIDES AS C1	12	20	10	18	18	42	14	100		
HARDNESS AS CaCO3	64	68	86	56	70	64	82	64		
IRON AS Fe	0.04	0.30	0.10	0.15	0.42	0.44	0.04	0.23		
FLUORIDE AM	0.65	0.23	0.97	0.36	0.49	0.32	0.80	0,90		
CHLORINE RESIDUAL	0.9	1.4	1.0	1.2	1.2	1.1	0.9	1.5		
TURBIDITY AM PM	0.20	0.30	0.26	0.16	1.00	1.00	0.32	1.00		
		0.66			2.52					
ORTHO PHOSPHATE		0.55		1	0.96					
		0.11			1.56					
STABILITY	+0.72		+0.577		+0.05	+0.29	+0.53	+0.18		

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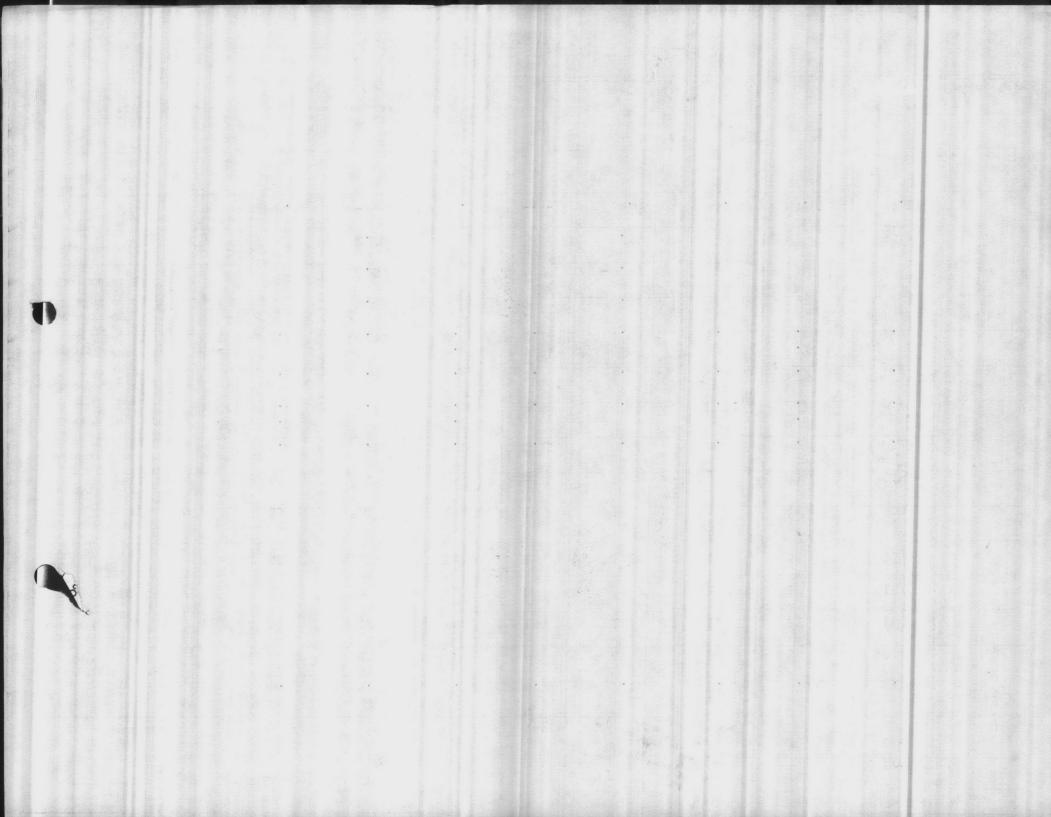
NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, and specific conductance. One liter of potable water is assumed to weigh one kilogram.

DATE OF ANALYSIS

9 NOV 1982

Mr Price

DATE COLLECTED

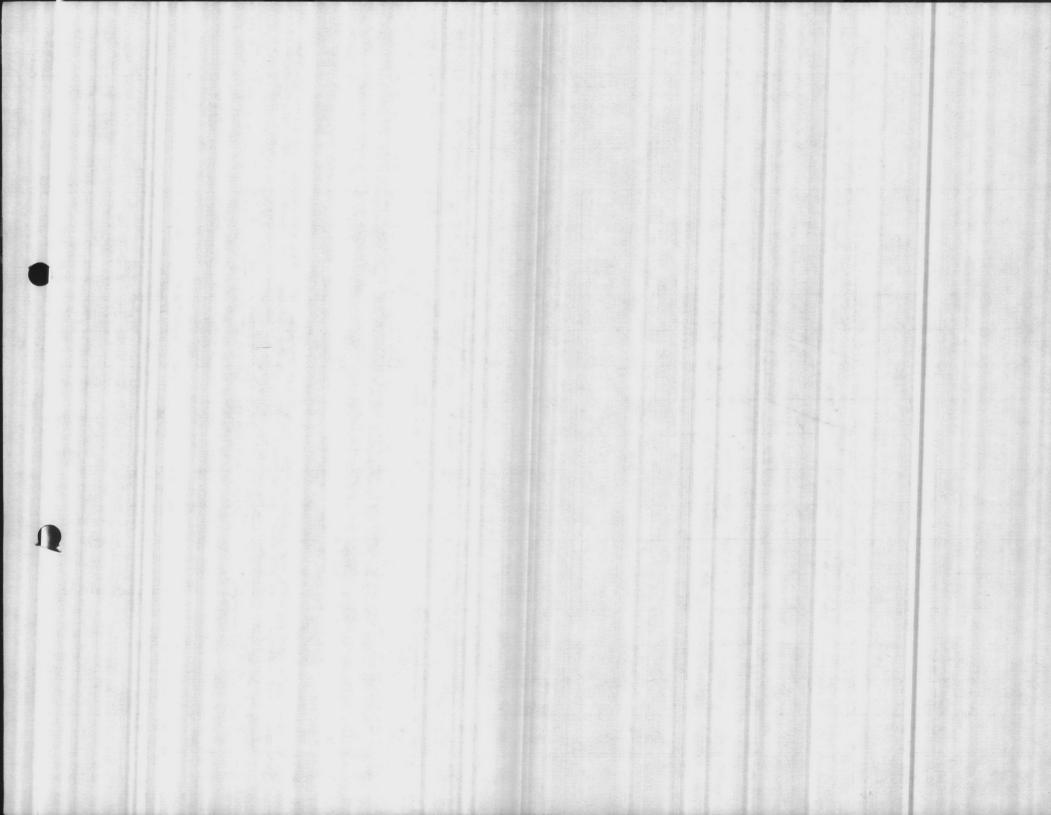


CHEMICAL ANALYSIS WATER TREATMENT PLANTS

CHEMICAL ANALYSIS — WATER MCBCL 11330/3 (REV. 3-82)	TREATMENT	PLANTS						Mr. Price DATE COLLECTED 26 OCT 82	2
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB	NEW RIVER	•
PH	8.1	6.8	8.4	7.0	1.7	7.9	8,1	8.1	
PENOLTHALEIN ALKALINITY	2	0	6	0	0	4	4	8	
METHYL ORANGE ALKALINITY	60	160	52	162	166	166	62	170	
CARBONATES AS CaCO3	4	0	12	0	0.	8	8	16	
BICARBONATES AS 2aCO 3	56	160	40	162	166	158	54	154	
CHLORIDES AS C1	6	10	6	12	8	36	4	60	
HARDNESS AS CaCO3	48	58	78	60	68	58	62	66	
IRON AS Fe	0.04	0.30	0.04	0.10	0.04	6.53	0.04	0.14	
	0.94	0.36	0.94	0.32	0.27	0.23	2.14	0.94	
CHLORINE RESIDUAL	1.0	1.4	1.0	1.3	1.3	1.2	0.9	1.4	
TURBIDITY	0.40	0.36	0.38	0.28	0.42	2.8	0.26	0.92	
TOTAL PHOSPHATE		1.68			0.69				
		0.84			0.22				
META PHOSPHATE		0.84			0.47				
STABILITY	+0.2		+0.3		-0.2	-0.1	to.1	-0.1	

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, LABORATORY ANALYSIS BY and specific conductance. One liter of potable water is assumed to weigh one kilogram.

DATE OF ANALYSIS 2600782



CHEMICAL ANALYSIS - WATER TREATMENT PLANTS

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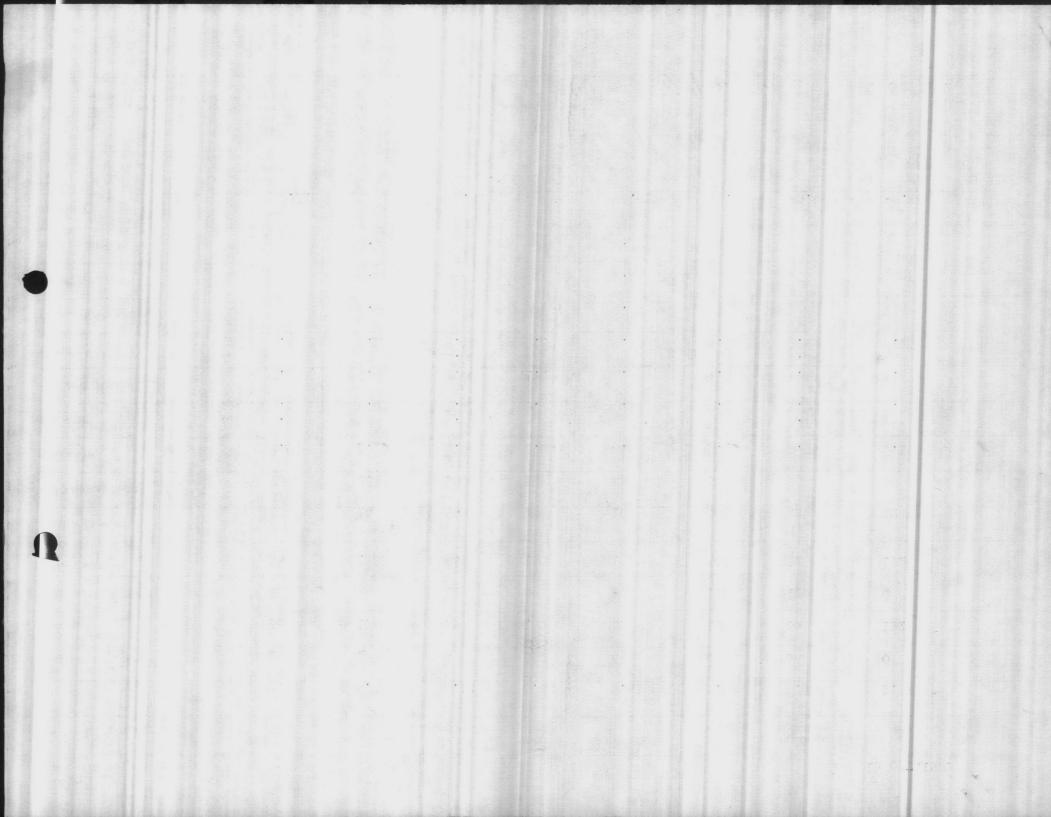
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Mr Price

HEMICAL ANALYSIS — WATER TREATMENT PLANTS CBCL 11330/3 (REV. 3-82)								
HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVÉR	
8.22	6.88	8.18	6.88	7.67	8.05	8.34	7.67	
2	0	6	0	4	8	6	0	
58	176	76	1.60	174	160	64	192	
4	0	12	0	8	16	12	0	
54	176	64	160	166	144	52	192	
10	14	14	20	16	34	12	124	
80	66	90	58	88	50	70	68	
0.04	0.33	0.09	0.04	0.08	0.48	0.04	0.10	
1.10	0.29	0.87	0.29	0.38	0.20	1.13	1.00	
1.0	1.4	1.0	1.2	1.2	1.0	1.1	1.4	
0.22	0.21	2.50 1.30	0.20	0.30	6.00	0.21 0.19	0.44	
	0.64			1.38				
	0.59			0.52				
	0.05			0.86				
+0.52		+0.51		+0.12	+0.24	+0.49	-0.16	T.H.
	HADNOT POINT 8.22 2 58 4 54 54 10 80 0.04 1.10 1.16 1.0 0.22	HADNOT POINT MONTFORD POINT 8.22 6.83 2 0 58 176 4 0 54 176 10 14 80 66 0.04 0.33 1.10 0.29 1.0 1.4 0.22 0.21 0.64 0.59 0.05 0.05	HADNOT POINT MONTFORD POINT TARAWA TERRACE 3.22 6.83 8.18 2 0 6 58 176 76 4 0 12 54 176 64 10 14 14 80 66 90 0.04 0.33 0.09 1.10 0.87 1.13 1.0 1.4 1.0 1.10 0.29 1.13 1.0 1.4 1.0 0.22 0.21 1.30 0.59 0.59	HADNOT POINT MONTFORD POINT TARAWA TERRACE ONSLOW BEACH 3.22 6.83 8.18 6.38 2 0 6 0 58 176 76 160 4 0 12 0 54 176 64 160 10 14 14 20 80 665 90 58 0.04 0.33 0.09 0.04 1.10 0.29 1.13 0.29 1.0 1.4 1.0 1.2 0.22 0.21 1.30 0.29 1.0 1.4 1.0 1.2 0.22 0.21 1.30 0.20 0.22 0.21 1.30 0.20 0.64 - - - 0.59 - - -	HADNOT POINT MONTFORD POINT TARAWA TERRACE ONSLOW BEACH COURTHOUSE BAY 3.222 6.83 8.18 6.88 7.67 2 0 6 0 4 58 176 76 160 174 4 0 12 0 8 54 176 644 160 166 10 14 14 20 16 80 66 90 58 88 0.04 0.33 0.09 0.04 0.08 1.10 0.29 1.13 0.29 0.38 1.0 1.4 1.0 1.2 1.2 0.22 0.21 1.30 0.20 0.30 0.22 0.21 1.30 0.20 0.30 0.64 1 1.38 0.52 0.59 0.05 0.05 0.86 0.86 0.86	HADNOT POINT MONTFORD POINT TARAWA TERRACE ONSLOW BEACH COURTHOUSE BAY RIFLE RANGE 8.22 6.83 8.18 6.88 7.67 8.05 2 0 6 0 4 8 58 176 76 160 174 160 4 0 12 0 9 16 54 176 64 160 166 144 10 14 14 20 16 34 80 66 90 58 88 50 0.04 0.33 0.09 0.04 0.08 0.48 1.10 0.29 1.13 0.29 0.38 0.20 1.0 1.4 1.0 1.2 1.2 1.0 0.22 0.21 1.30 0.20 0.30 6.00 0.22 0.21 1.30 0.20 0.30 6.00 0.22 0.21 1.30 0.20 <td< td=""><td>HADNOT POINT MONTFORD POINT TARAWA TERRACE ONSLOW BEACH COURTHOUSE BAY RIFLE RANGE HOLCOMB BLVD 3.22 6.83 8.18 6.88 7.67 8.05 8.34 2 0 6 0 4 8 6 58 176 76 160 174 160 64 4 0 12 0 8 16 12 54 176 64 160 166 144 52 10 14 14 20 16 34 12 80 66 90 58 88 50 70 0.04 0.33 0.09 0.04 0.08 0.48 0.04 1.10 0.29 1.13 0.29 0.38 0.20 1.00 1.16 0.29 1.13 0.29 0.38 0.20 1.00 1.0 1.4 1.0 1.2 1.2 1.0 1.1</td><td>HADNOT POINT MONTFORD POINT TARAWA TERRACE ONSLOW BEACH COURTHOUSE BAY RIFLE RANGE HOLCOMB BLVD NEW RIVER 3.22 6.83 8.18 6.88 7.67 8.05 8.34 7.67 2 0 6 0 4 8 6 0 10 58 176 76 160 174 160 644 192 10 4 0 12 0 8 16 12 0 192 192 10 14 14 20 16 34 12 192 192 192 10 110 14 14 20 16 34 12 124 12 124 12 124 12 124 12 124 12 124 12 124 12 124 12 124 12 124 12 124 12 124 12 124 12 124 12 124 12</td></td<>	HADNOT POINT MONTFORD POINT TARAWA TERRACE ONSLOW BEACH COURTHOUSE BAY RIFLE RANGE HOLCOMB BLVD 3.22 6.83 8.18 6.88 7.67 8.05 8.34 2 0 6 0 4 8 6 58 176 76 160 174 160 64 4 0 12 0 8 16 12 54 176 64 160 166 144 52 10 14 14 20 16 34 12 80 66 90 58 88 50 70 0.04 0.33 0.09 0.04 0.08 0.48 0.04 1.10 0.29 1.13 0.29 0.38 0.20 1.00 1.16 0.29 1.13 0.29 0.38 0.20 1.00 1.0 1.4 1.0 1.2 1.2 1.0 1.1	HADNOT POINT MONTFORD POINT TARAWA TERRACE ONSLOW BEACH COURTHOUSE BAY RIFLE RANGE HOLCOMB BLVD NEW RIVER 3.22 6.83 8.18 6.88 7.67 8.05 8.34 7.67 2 0 6 0 4 8 6 0 10 58 176 76 160 174 160 644 192 10 4 0 12 0 8 16 12 0 192 192 10 14 14 20 16 34 12 192 192 192 10 110 14 14 20 16 34 12 124 12 124 12 124 12 124 12 124 12 124 12 124 12 124 12 124 12 124 12 124 12 124 12 124 12 124 12 124 12

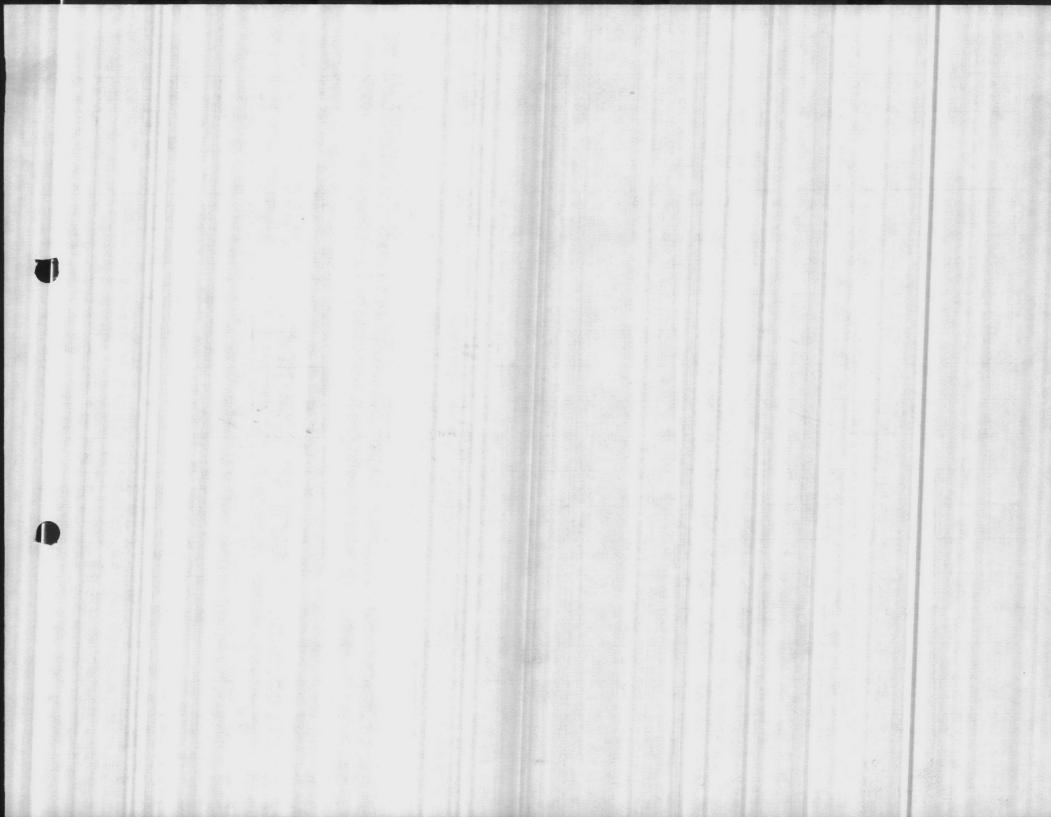
NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature,	LABORATORY ANALYSIS BY	DATE OF ANALYSIS
and specific conductance. One liter of potable water is assumed to weigh one kilogram.	Tachenelle Moneban flexescell	19 OCT 1982



ICBCL 11330/3 (REV. 3-82)								12 00782		
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVÉR	PUMP SIN	
РН	8.76	7.25	8.34	1.24	7.82	8.28	8.74	8.64		
PENOLTHALEIN ALKALINITY	10	0	10	0	0	8	14	26		
METHYL ORANGE ALKALINITY	64	176	96	160	180	156	70	150		
CARBONATES AS CaCO3	20	0	20	0	0.	16	28	52		
BICARBONATES AS CaCO ₃	44	176	76	160	180	140	42	98		
LORIDES AS C1	12	12	16	22	22	24	20	80		
HARDNESS AS CaCO3	84	68	108	70	70	60	90	98		
IRON AS Fe	0.04	0.34	(1.13)	0.05	0.25	0.35	0.04	0.08		
FLUORIDE AM	0.66	0.38	0.94	0.38	0.62	0.34	0.97	0.62		
CHLORINE RESIDUAL	1.0	1.4	1.0	1.5	1.0	1.1	1.0	1.4		
TURBIDITY	0.28	0.27	0.62	0.24	0.88	1.2	0.24	0.48	0.90 1.2	
TOTAL PHOSPHATE		* 1.13			\$ 4.60					
		0.84			1.84					
		0.29			2.76					
STABILITY	+0.34		+0.26		-0.21	10.12	+0.38	+0.29		

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, and specific conductance. One liter of potable water is assumed to which one kiloarem	LABORATORY ANALYSIS BY	DATE OF ANALYSIS
and specific conductance. One liter of potable water is assumed to weigh one kilogram.	fleney cut	1200782 1300782

MR. PRICE DATE COLLECTED



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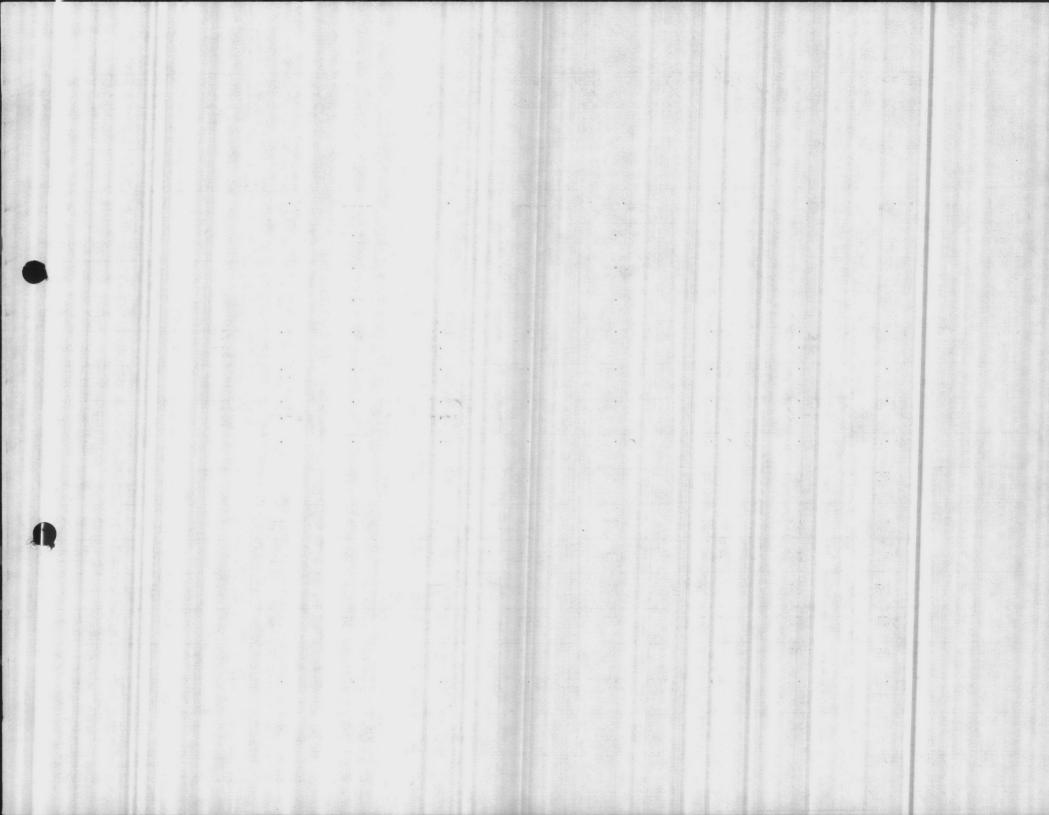
MCBCL 11330/3 (REV. 3-82)							5 Oct 1982	
HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	
8.33	7.16	8.24	7.23	7.88	8.17	8.43	8.33	
4	0	6	0	6	4	10	10	
46	170	72	166	200	162	72	134	
8	0	12	0	12	8	20	20	
38	170	60	166	188	154	52	114	
12	12	12	18	22	32	14	64	
60	50	90	66	68	68 .	76	52	
0.04	0.30	0.07	0.09	0.58	0.51	0.06	0.18	
0.84	0.38	0.97	0.34	0.38	0.25	1.04	0.70	
0.9	1.2	1.0	1.5	1.3	1.2	1.0	1.4	
0.18	0.24	0.31 0.40	0.24	1.20	1.65	0.26 0.30	0.74	
	2.34			0.73				
	1.00			0.45				
	1.34			0.28				
+0.18		+0.29		+0.05	+0.19	+0.35	+0.11	
	POINT	POINT POINT 8.33 7.16 4 0 46 170 8 0 38 170 12 12 60 50 0.04 0.30 0.84 0.97 0.18 0.24 2.34 1.00 1.34	POINT POINT TERRACE 8.33 7.16 8.24 4 0 6 46 170 72 8 0 12 38 170 60 12 12 12 60 50 90 0.04 0.30 0.07 0.84 0.39 0.97 0.97 0.38 1.10 0.9 1.2 1.0 0.91 2.34 0.40 1.34 1.34	POINT POINT TERRACE BEACH 8.33 7.16 8.24 7.23 4 0 6 0 46 170 72 166 8 0 12 0 38 170 60 166 12 12 12 18 60 50 90 66 0.04 0.30 0.07 0.09 0.34 0.97 0.34 0.34 0.9 1.2 1.0 1.5 0.18 0.24 0.40 0.24 2.34 1.00 1.34	POINT POINT TERRACE BEACH BAY 8.33 7.16 8.24 7.23 7.88 4 0 6 0 6 46 170 72 166 200 8 0 12 0 12 38 170 60 166 188 12 12 12 18 22 60 50 90 66 68 0.04 0.30 0.07 0.09 0.58 0.34 0.39 1.10 0.34 0.38 0.9 1.2 1.0 1.5 1.3 0.18 0.24 0.40 0.24 1.20 2.34 0.40 0.45 0.45 1.34 0.28 0.28 0.28	POINT POINT TERRACE BEACH BAY RANGE 8.33 7.16 8.24 7.23 7.88 8.17 4 0 6 0 6 4 46 170 72 166 200 162 8 0 12 0 12 8 33 170 60 166 188 154 12 12 12 18 22 32 60 50 90 66 68 68 0.04 0.30 0.07 0.09 0.58 0.51 0.34 0.39 1.10 0.34 0.38 0.25 0.9 1.2 1.0 1.5 1.3 1.2 0.18 0.24 0.40 0.24 1.20 1.65 2.34 0.73 1.00 0.45 1.34 0.28	POINT POINT TERRACE BEACH BAY RANGE BLVD 8.33 7.16 8.24 7.23 7.88 8.17 8.43 4 0 6 0 6 4 10 46 170 72 166 200 162 72 8 0 12 0 12 8 20 33 170 60 166 188 154 52 12 12 12 18 22 32 14 60 50 90 66 68 68 76 0.04 0.30 0.07 0.09 0.58 0.51 0.06 0.84 0.97 0.38 1.10 0.34 0.38 0.25 1.30 0.9 1.2 1.0 1.5 1.3 1.2 1.0 0.91 0.24 0.40 0.24 1.20 1.65 0.30 0.13	

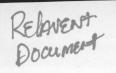
NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, and specific conductance. One liter of potable water is assumed to weigh one kilogram.

DATE OF ANALYSIS 5 Oct 1982

Mr. Price DATE COLLECTED

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10 March 1985

Water Plant Operator Foreman

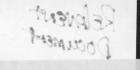
Director, Utilities Branch

TRICHLORETHELENE TESTING, TARAWA TERRACE NEW WELL; INFORMATION CONCERNING

1. THE new well at Tarawa Terrace was started and put on line at 1045, 11 March 1985. Samples were collected by NREAD personnel at the well head and Tarawa Terrace Water Plant prior to starting the well.

2. After 24 hours operation, NRED personnel sampled the well head and Tarawa Terrace Water Plant on 12 March 1985; well was secured at 1045 on 12 March 1985 and appropriate "DO NOT RUN" signs posted.

B. M. FRAZELLE, II



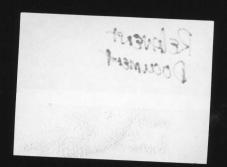
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i. The new wall at larawa fearate was started and put on line at 10/5, 11 -March 1985. Samples were collected by HALAD pergannel at the well hand and tarewa larrate water Plant prior to starting the well.

After 24 hours overstool. Will performal sampled the woll wend and Tarash Portage Ster Plant on 12 March 1983, well was secured at 1945 on 12 warch 1983 and appropriate "36 MOT 201" signs rested

B. M. FRAZILIA . IT





10 March 1985

Water Plant Operator Foreman

Director, Utilities Branch

TRICHLORETHELENE TESTING, TARAWA TERRACE NEW WELL; INFORMATION CONCERNING

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B. M. FRAZELLE, II

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13 monthés
14 monthés
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11330 MAIN 5 Mar 85 WRP.

From: Base Maintenance Officer, Marine Corps Base, Camp Lejeune To: Natural Resources and Environmental Affairs Division, Marine Corps Base, Camp Lejeune

Subj: 24-HOUR TRIAL RUN OF TARAWA TERRACE NEW WELL

1. It is recommended that the following samples be taken during the subject trial:

a. Prior to turning on the new well, a treated water sample at the treatment plant, and a raw water sample at the well head should be taken.

b. After 24 hours, another treated water sample at the treatment plant and a raw water sample at the well head should be taken.

2. The treated water samples should be taken from the header between the spiractor and filters. This would be a more representative sample for a 24-hour test.

G. S. JOHNSON, JR. By direction

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 Principo unning on angeness offic for fourmater garpie at the Lose then this and a raw we constrain at the well would be taken.

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The production complete should be based from the reader bounder to surrector and filtense. Informations a more representative public for a Memory cost.

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11330 MAIN 5 Mar 85

From: Base Maintenance Officer, Marine Corps Base, Camp Lejeune To: Natural Resources and Environmental Affairs Division, Marine Corps Base, Camp Lejeune

Subj: 24-HOUR TRIAL RUN OF TARAWA TERRACE NEW WELL

1. It is recommended that the following samples be taken during the subject trial:

a. Prior to turning on the new well, a treated water sample at the treatment plant, and a raw water sample at the well head should be taken.

b. After 24 hours, another treated water sample at the treatment plant and a raw water sample at the well head should be taken.

2. The treated water samples should be taken from the header between the spiractor and filters. This would be a more representative sample for a 24-hour test.

G. S. JOHNSON, JR. By direction See an interpretation of a second reaction of the second se

2. The results ber samples should be track the neader booketer the spiration and fillense (Missionull he a more representative formation of nour best. C407C40 C-N-10 0282 CAMP LEJEUNE COMMANDING GENERAL MARINE CORPS FASE CAMP LEJEUNE NC 28542

R-JC

CORROSIVITY ANALYSIS

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Please check off the construction materials present in your distribution system. If you have more than one distribution system, fill out a separate form for each one. This form must be completed by every community public water supply including purchase supplies. Complete and return this form to the address at the bottom of the page by February 1983.

Lead from piping, solder, caulking, interior lining of distribution mains, alloys and home plumbing

Copper from piping and alloys, service lines and home plumbing

Galvanized piping, service lines and home plumbing

Ferrous piping materials such as cast iron and steel

Asbestoes cement pipe

X Vinyl lined asbestoes cement pipe

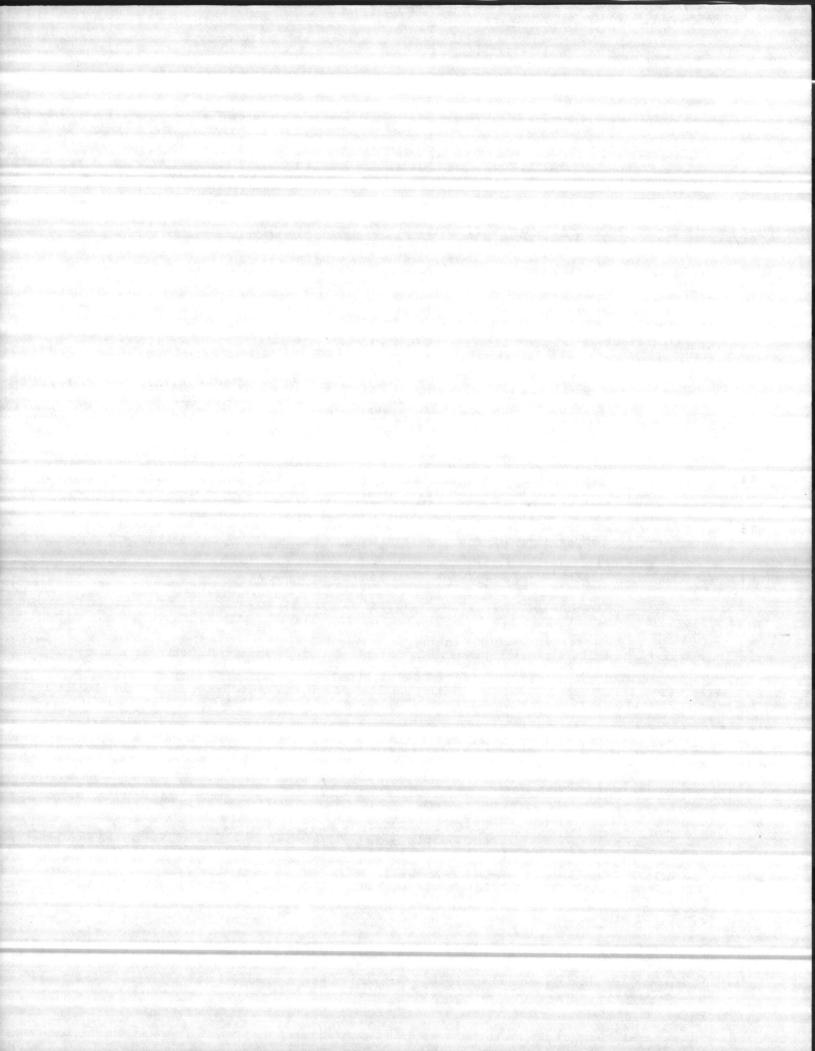
____ Coal tar lined pipes and tanks

_ Other (describe) P. V.C.

Return this form to:

Charles E. Rundgren, Head Water Supply Branch Division of Health Services P. O. Box 2091 Raleigh, North Carolina 27602-2091

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B-670

C467040 C-N-10 0282 CAMP LEJEUNE COMMANDING GENERAL MARINE CORPS PASE CAMP LEJEUNE NC 28542

CORROSIVITY ANALYSIS

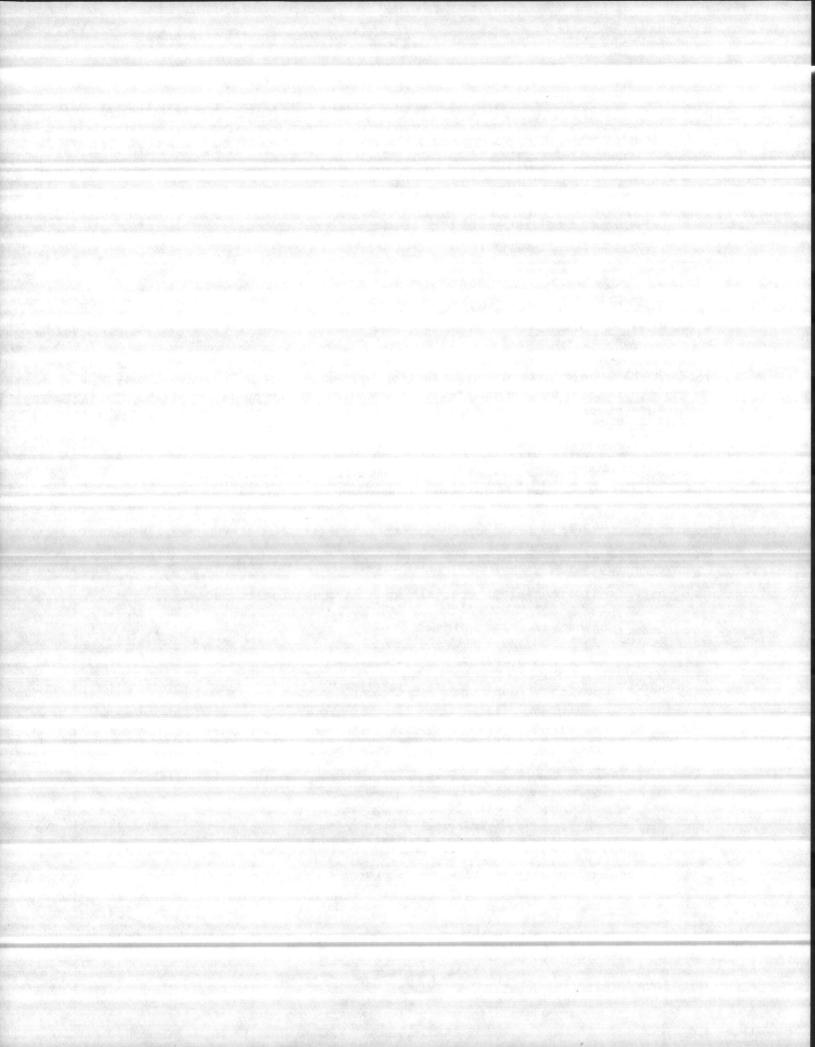
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	-	Lead from piping, solder, caulking, interior lining of distribution mains, alloys and home plumbing
	V	Copper from piping and alloys, service lines and home plumbing
	1	Galvanized piping, service lines and home plumbing
	K	Ferrous piping materials such as cast iron and steel
	1	Asbestoes cement pipe
<u>brak</u> ,	X	Vinyl lined asbestoes cement pipe
	x	Coal tar lined pipes and tanks
	1	Other (describe) PiV.C.

Return this form to:

Charles E. Rundgren, Head Water Supply Branch Division of Health Services P. O. Box 2091 Raleigh, North Carolina 27602-2091



CAMP LEJEUNE COMMANDING GENERAL MARINE CORPS BASE CAMP LEJEUNE NC 28542

77-38

CORROSIVITY ANALYSIS

Please check off the construction materials present in your distribution system. If you have more than one distribution system, fill out a separate form for each one. This form must be completed by every community public water supply including purchase supplies. Complete and return this form to the address at the bottom of the page by February 1983.

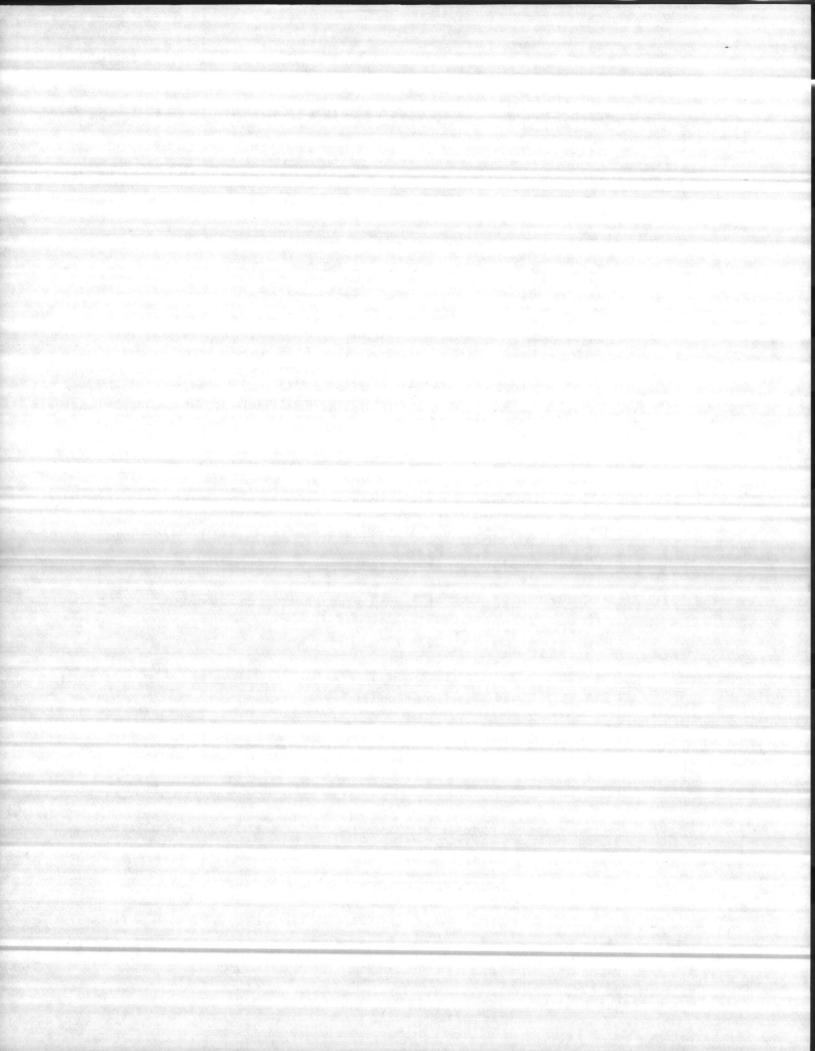
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	K	Lead from piping, solder, caulking, interior lining of distribution mains, alloys and home plumbing
- 14 	1	_ Copper from piping and alloys, service lines and home plumbing
	1/	_ Galvanized piping, service lines and home plumbing
<u> </u>	V	Ferrous piping materials such as cast iron and steel
	X	Asbestoes cement pipe
	X	Vinyl lined asbestoes cement pipe
- p	t	Coal tar lined pipes and tanks
	V	Other (describe) AVC .

Return this form to:

Charles E. Rundgren, Head Water Supply Branch Division of Health Services P. O. Box 2091 Raleigh, North Carolina 27602-2091

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CAMP LEJEUNE COMMANDING GENERAL MARINE CORPS BASE CAMP LEJEUNE NC 28542

CORROSIVITY ANALYSIS

2023

M-178

Please check off the construction materials present in your distribution system. If you have more than one distribution system, fill out a separate form for each one. This form must be completed by every community public water supply including purchase supplies. Complete and return this form to the address at the bottom of the page by February 1983.

Lead from piping, solder, caulking, interior lining of distribution mains, alloys and home plumbing

Copper from piping and alloys, service lines and home plumbing

Galvanized piping, service lines and home plumbing

Ferrous piping materials such as cast iron and steel

Asbestors cement pipe

Vinyl lined asbestoes cement pipe

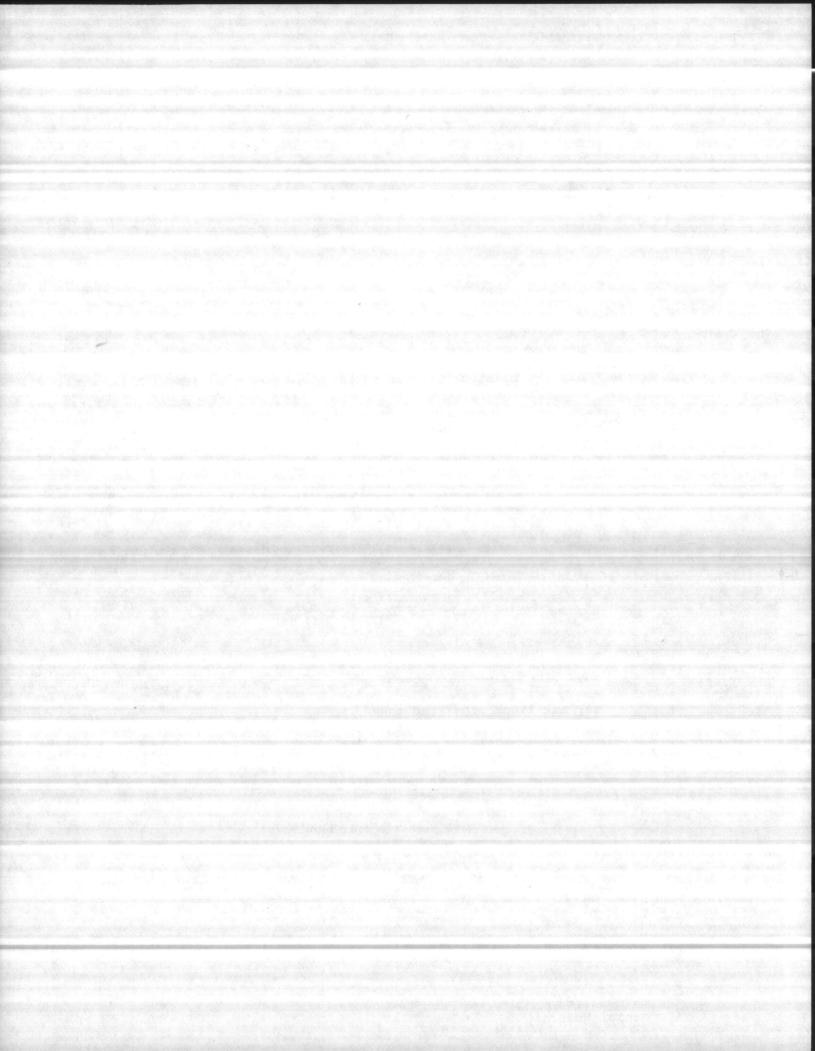
Coal tar lined pipes and tanks

Other (describe) P.V.C.

Return this form to:

Charles E. Rundgren, Head Water Supply Branch Division of Health Services P. O.-Box 2091 Raleigh, North Carolina 27602-2091

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C467040 C-N-10 0282 CAMP LEJEUNE COMMANDING GENERAL MARINE CORPS BASE CAMP LEJEUNE NC 28542

CORROSIVITY ANALYSIS

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Please check off the construction materials present in your distribution system. If you have more than one distribution system, fill out a separate form for each one. This form must be completed by every community public water supply including purchase supplies. Complete and return this form to the address at the bottom of the page by February 1983.

Lead from piping, solder, caulking, interior lining of distribution mains, alloys and home plumbing

Copper from piping and alloys, service lines and home plumbing

Galvanized piping, service lines and home plumbing

Ferrous piping materials such as cast iron and steel

Asbestoes cement pipe

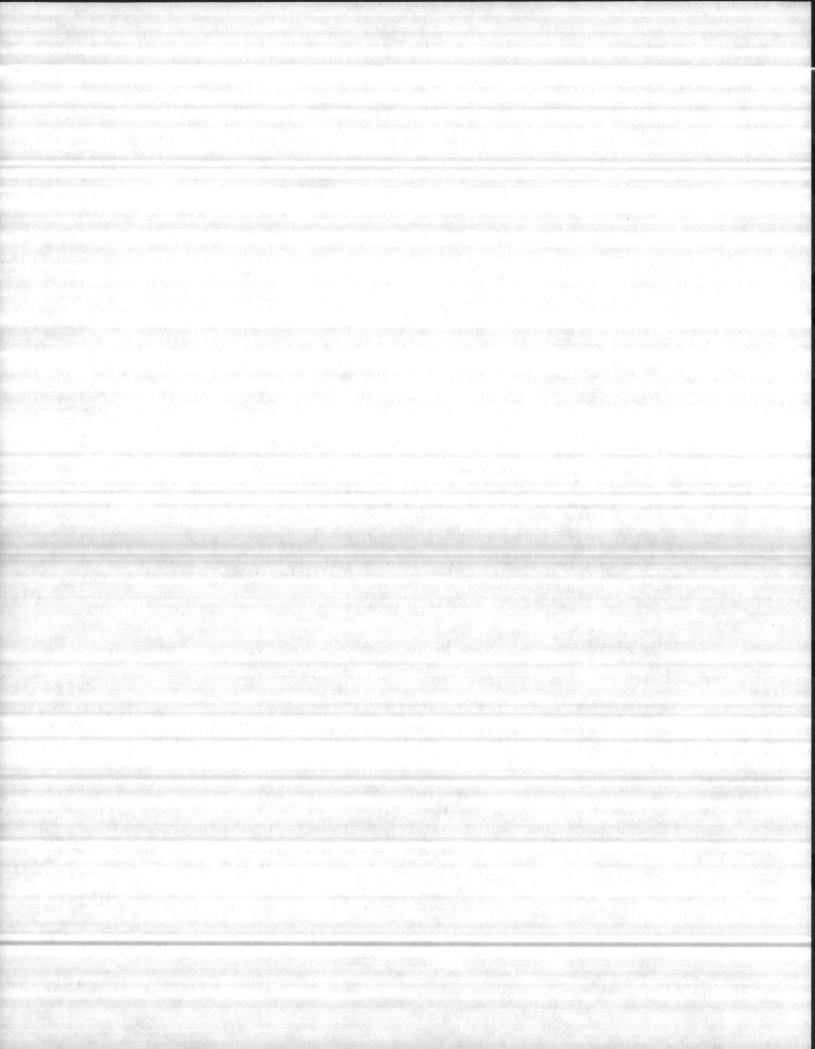
Vinyl lined asbestoes cement pipe

_ Coal tar lined pipes and tanks

Other (describe) P.VC.

Return this form to:

Charles E. Rundgren, Head Water Supply Branch Division of Health Services P. O. Box 2091 Raleigh, North Carolina 27602-2091



RR- 85

0407040 CHNH10 0282 CAMP LEJEUNE COMMANDING SENERAL MARINE CORPS EASE CAMP LEJEUNE NC 28542

CORROSIVITY ANALYSIS

Please check off the construction materials present in your distribution system. If you have more than one distribution system, fill out a separate form for each one. This form must be completed by every community public water supply including purchase supplies. Complete and return this form to the address at the bottom of the page by February 1983.

- Lead from piping, solder, caulking, interior lining of distribution mains, alloys and home plumbing
- Copper from piping and alloys, service lines and home plumbing

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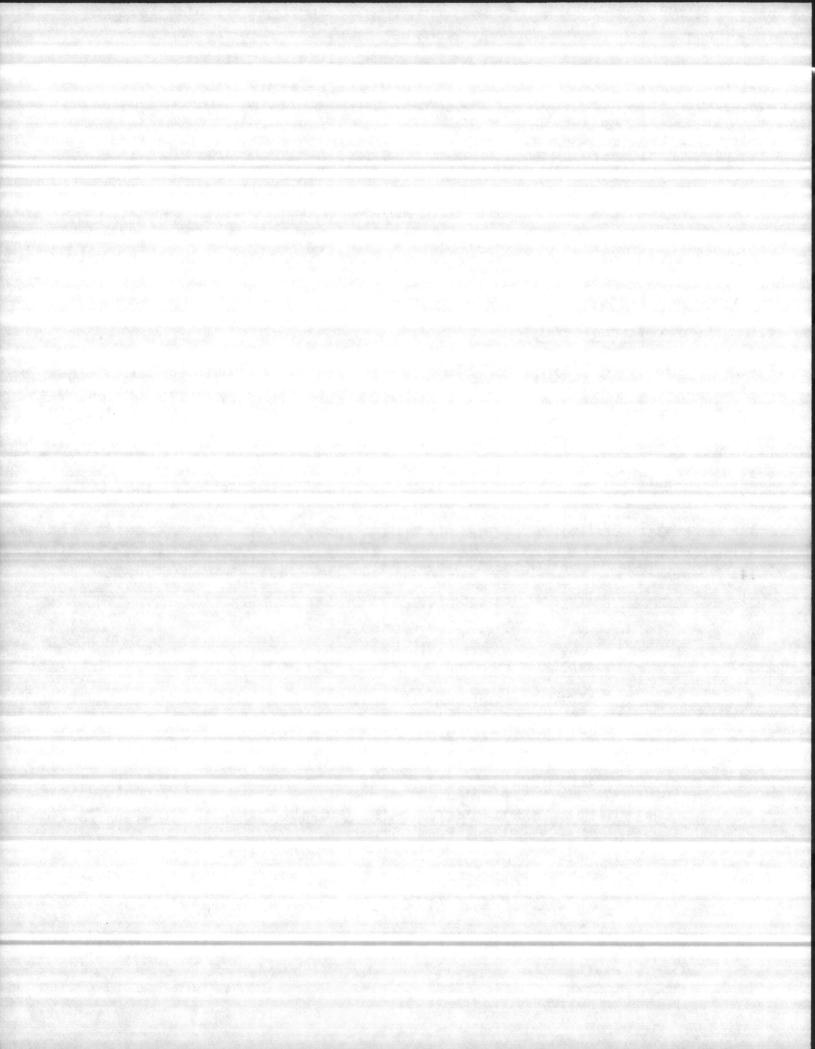
- Galvanized piping, service lines and home plumbing
- Ferrous piping materials such as cast iron and steel
- Asbestoss cement pipe
- _____ Vinyl lined asbestoes cement pipe
 - X Coal tar lined pipes and tanks

X Other (describe)

Return this form to:

Charles E. Rundgren, Head Water Supply Branch Division of Health Services P. O. Box 2091 Raleigh, North Carolina 27602-2091

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BR-190

C467040 C-N-10 0282 CAMP LEJEUNE COMMANDING GENERAL MARINE CORPS BASE CAMP LEJEUNE NC 28542

CORROSIVITY ANALYSIS

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Please check off the construction materials present in your distribution system. If you have more than one distribution system, fill out a separate form for each one. This form must be completed by every community public water supply including purchase supplies. Complete and return this form to the address at the bottom of the page by February 1983.

Lead from piping, solder, caulking, interior lining of distribution mains, alloys and home plumbing

Copper from piping and alloys, service lines and home plumbing

Galvanized piping, service lines and home plumbing

Ferrous piping materials such as cast iron and steel

Asbestoes cement pipe

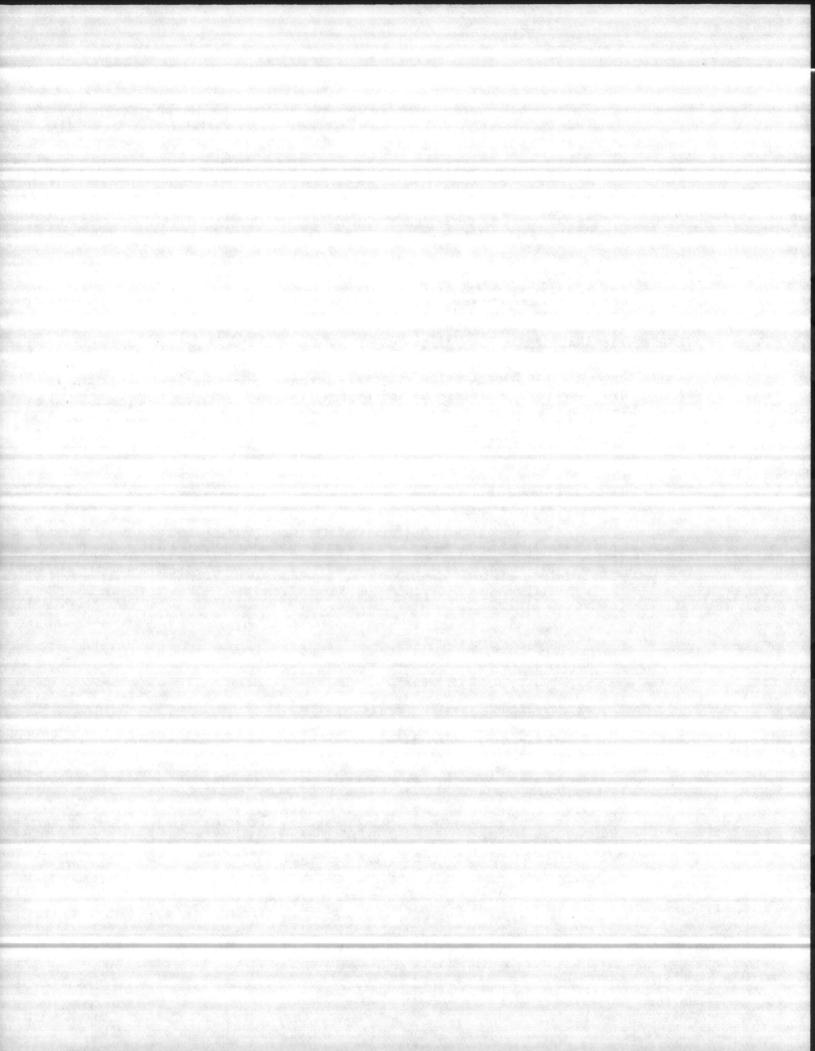
Vinyl lined asbestoes cement pipe

Coal tar lined pipes and tanks

Other (describe) P.V.C.

Return this form to:

Charles E. Rundgren, Head Water Supply Branch Division of Health Services P. 0.-Box 2091 Raleigh, North Carolina 27602-2091



D467040 C-N-10 0282 CAMP LEJEUNE -COMMANDING GENERAL MARINE CORPS BASE CAMP LEJEUNE NC 28542

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CORROSIVITY ANALYSIS

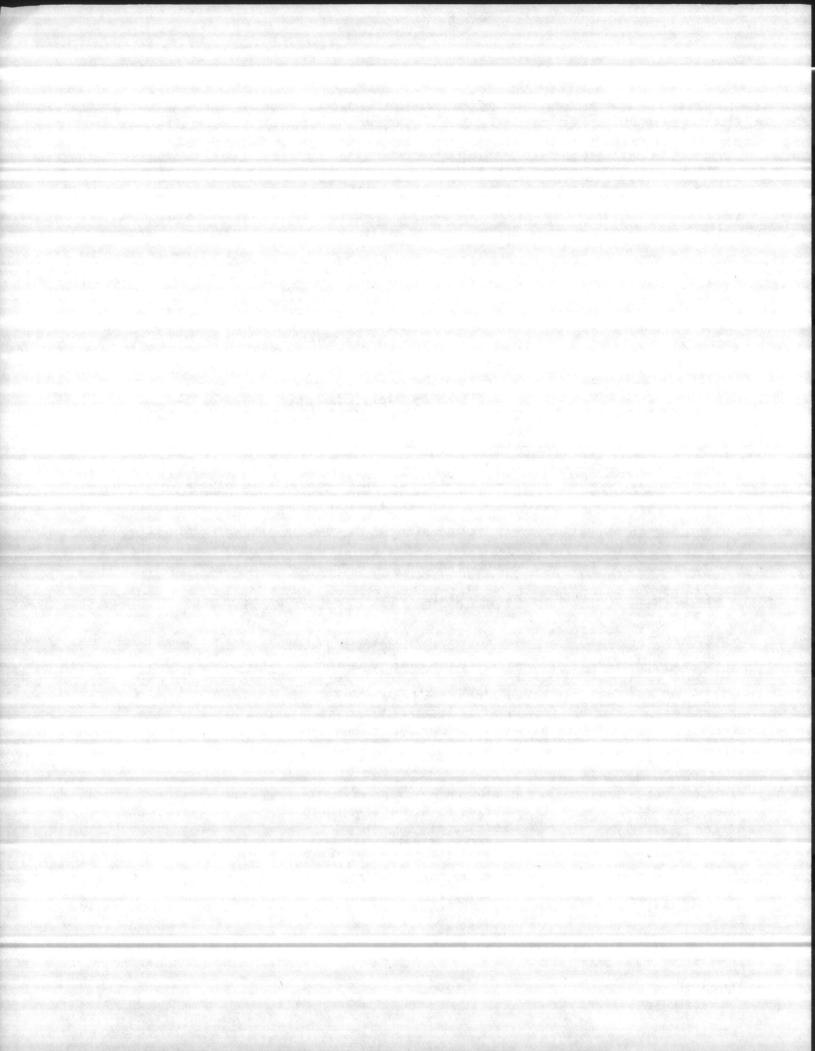
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Lead from piping, solder, caulking, interior lining of distribution mains, alloys and home plumbing Copper from piping and alloys, service lines and home plumbing Galvanized piping, service lines and home plumbing Ferrous piping materials such as cast iron and steel Asbestoes cement pipe Vinyl lined asbestoes cement pipe Coal tar lined pipes and tanks Other (describe) PVC

Return this form to:

Charles E. Rundgren, Head Water Supply Branch Division of Health Services P. 0.-Box 2091 Raleigh, North Carolina 27602-2091



CHEMICAL ANALYSIS — WATER MCBCL 11330/3 (REV. 3-82)	R TREATMENT	PLANTS	<u></u>		ur ***	DATE COLLECTED 25 October 83			
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	
РН	8.9	7,3	8.6	7.3	8,4	8.3	8,9	8.5	
PENOLTHALEIN ALKALINITY	6	0	8	0	6	6	6	10	1 - 1 - 1 1
METHYL ORANGE ALKALINITY	50	192	68	160	170	158	62	154	
CARBONATES AS CaCO3	12	0	16	0	12	12	12	20	
BICARBONATES AS CaCO ₃	38	192	52	160	158	146	50	134	
CHLORIDES AS C1	6	40	8	16	14	22	8	74	
HARDNESS AS CaCO3	56	78	86	64	58	52	62	66	
RON AS Fe	20.04	0.50	20.04	0.10	20.04	20.04	60,04	0.08	
FLUORIDE	1.02	0,19	0.72	0.19	0.11	0.11	1.0 4		
	1,0	1,6	1.3	1.4	1.3	1.0	1.1	1.3	
TURBIDITY	0.18	0.44	0.23	0.20	81,0	0.17	0,18	0,24	
TOTAL PHOSPHATE		4.60			2.00				
		2.26			.69				
META PHOSPHATE	- Antonia	2.34			1.31				
STABILITY	+0.3	-0.4	+0.3	-0.7	+0.1	+0.1	+0.3	+0.2	

MR PRIEZ

NOTE:	All results reported in parts per million unless otherwise noted except for pH, temperature, and specific conductance. One liter of potable water is assumed to weigh one kilogram.	LABORATORY ANALYSIS BY	DATE OF ANALYSIS
		LACHAPELLE, BUENS & MONRAND	25 007 83

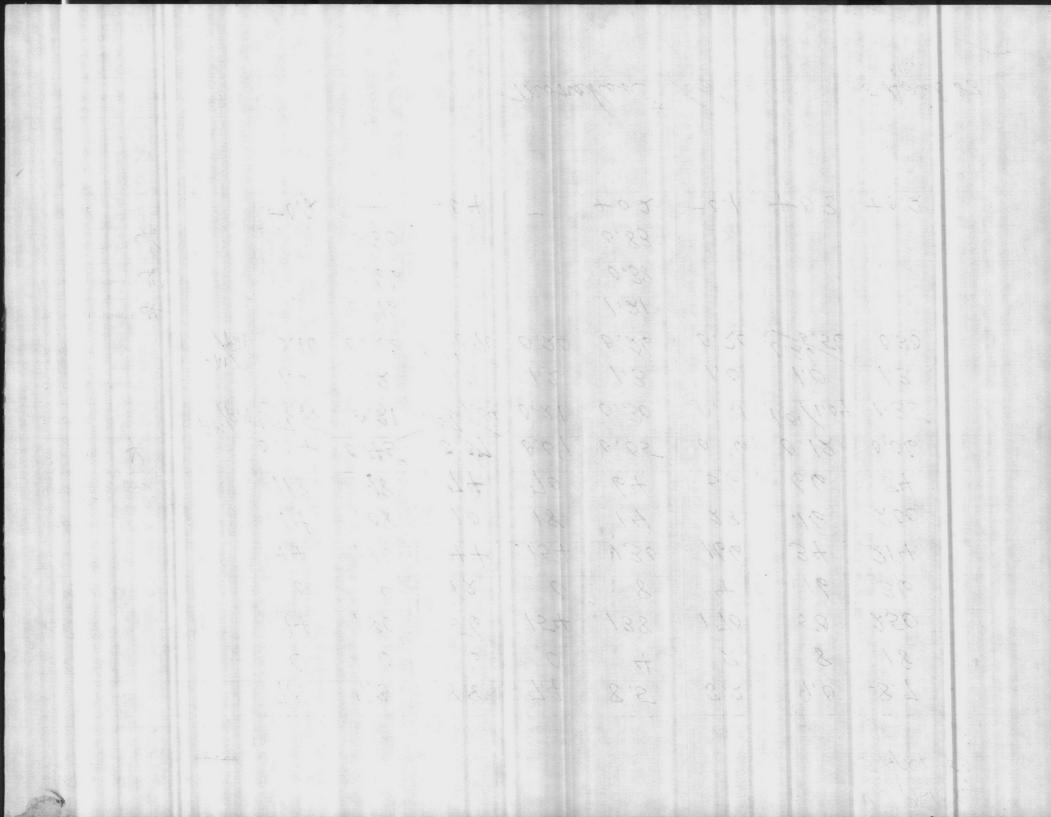
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CHEMICAL ANALYSIS — WATER TREATMENT PLANTS MCBCL 11330/3 (REV. 3-82)

MCBCL 11330/3 (REV. 3-82)						Contraction of the second second		3 APRIL	83
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB	NEW RIVER	
РН	7.7	7,3	8.8	7.4	8.5	8.2	9.0	8.7	··· ···
PENOLTHALEIN ALKALINITY	0	0	6	0	4	2	8	18	
METHYL ORANGE ALKALINITY	94	180	56	154	138	170	50	250	
CARBONATES AS CaCO3	0	0	12	0	8.	4	16	36	14
BICARBONATES AS CaCO ₃	94	180	44	154	130	166	34	214	
CHLORIDES AS C1	14	108	10	18	14	28	16	200	
HARDNESS AS CaCO3	118	98	74	70	64	56	66	84	
	0.04	0.45	0.07	0.09	0.05	0.06	0.12	0.06	
	PM 0,77	0.21	1.07.04		0.30	0,21	1.01/1.04	1.35	
	1.0	1.2	1.0	1.2	1.3	1.0	10	13	
	Pm 0.16	0.26	0.24 .70	0,20	0.26	0.20	012656	0,30	
		0.96			1.21				
ORTHO PHOSPHATE		0.66			0.38				
		0.30			0.83				
STABILITY	-0.2	-	+0.4	1	+0.2	-0.1	+0.3	+0.2	

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, LABORATORY ANALYSIS BY and specific conductance. One liter of potable water is assumed to weigh one kilogram. Monahom

DATE OF ANALYSIS 5 April 83



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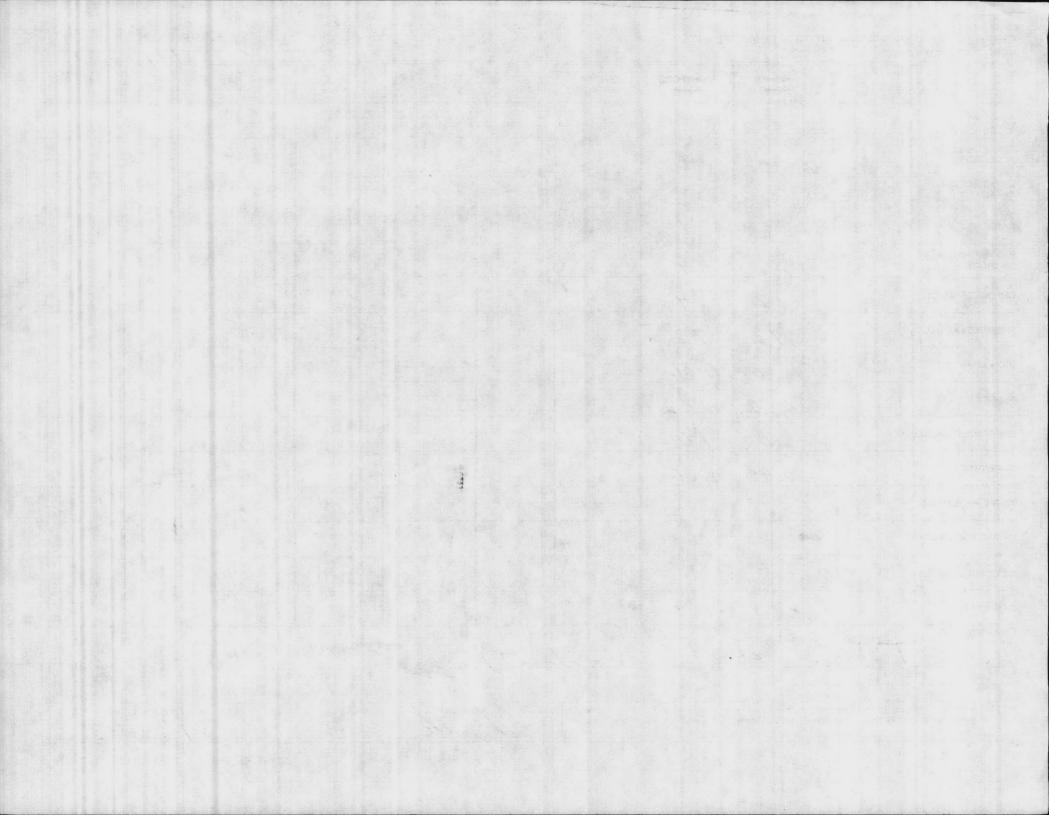
CHEMICAL ANALYSIS — WA MCBCL 11330/3 (REV. 3-82)	TER TREATMENT				н	R PRies		DATE COLLECT	
PARAMETER	HADNOT	MONTFORD POINT Rm. 25	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	
РН	8.8	8.8					-		
PENOLTHALEIN ALKALINITY	4	4					a sector		
METHYL ORANGE ALKALINITY	50	52							
CARBONATES AS CaCO3	8	8					C. States		
BICARBONATES AS CaCO ₃	42	44	A. L. C.						
CHLORIDES AS C1	12	14							
HARDNESS AS CaCO3	72	72							
RON AS Fe	0.06	0.06							
FLUORIDE	0.62	0.62			1				
	1.0	1.0							
TURBIDITY	0.98	1.00					And the second		
TOTAL PHOSPHATE									
ORTHO PHOSPHATE				11 - F12					
META PHOSPHATE									
STABILITY	+0.3	+0.3							

TT #2 School (complaint)

Coli-FORM -NEGATIVE

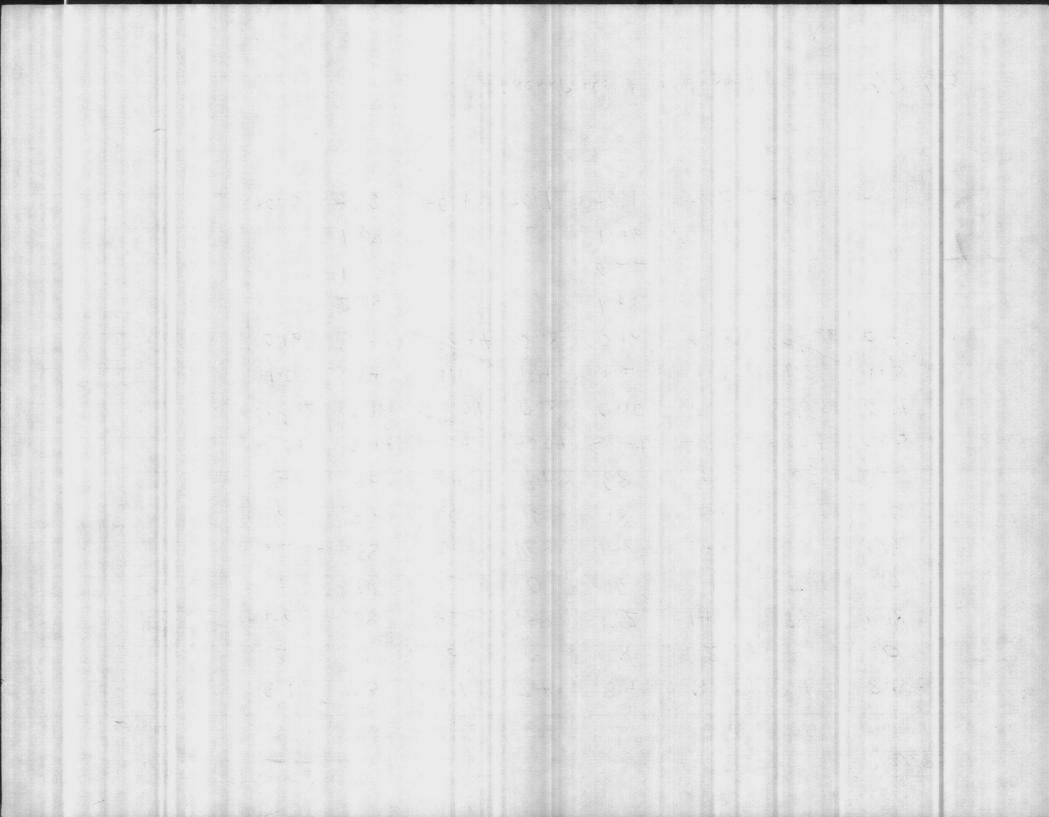
NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, LABORATORY AMALYSIS BY and specific conductance. One liter of potable water is assumed to weigh one kilogram.

DATE OF ANALYSIS -28-83



CHEMICAL ANALYSIS — WA MCBCL 11330/3 (REV. 3-82)		PLANTS			NR	DATE COLLECTED			
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	
РН	8.7	7.3	8.7	7.4	8.4	8.1	8.4	8.5	
PENOLTHALEIN	2	0	6	0	8	2	4	10	
METHYL ORANGE ALKALINITY	66	188	62	158	172	148	96	198	
CARBONATES AS CaCO3	4	0	12	0	16	4	8	20	
BICARBONATES AS CaCO 3	62	188	50	158	156	144	88	178	
CHLORIDES AS C1	6	34	10	16	18	24	8	100	
HARDNESS AS CaCO3	74	56	84	74	68	48	100	62	
RON AS Fe	20.04	0.44	20.04	20.04	20.04	20.04	20.04	0.05	
LUORIDE	0.96	0.16	1.15	0.18	0.10	0.10	0.89	0.74	
	1.0	1.4	1.1	1,4	1.2	1.0	1,2	1.3	
URBIDITY	0.16	0.39	0.36	0.18	0.16	0,18	024	6.4D	
OTAL PHOSPHATE		2.18			1.68				
		1.10			0,22				
ETA PHOSPHATE		1,08			1.46				
TABILITY	+0.3	-0.8	+0.4	-0.7	+0.1	-0,3	+0.3	+0.1	

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, and specific conductance. One liter of notable water is assumed to weight and billion	LABORATORY ANALYSIS BY	DATE OF ANALYSIS
NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, and specific conductance. One liter of potable water is assumed to weigh one kilogram.	LACHAPELLE + MONAHAN)	9/27/83

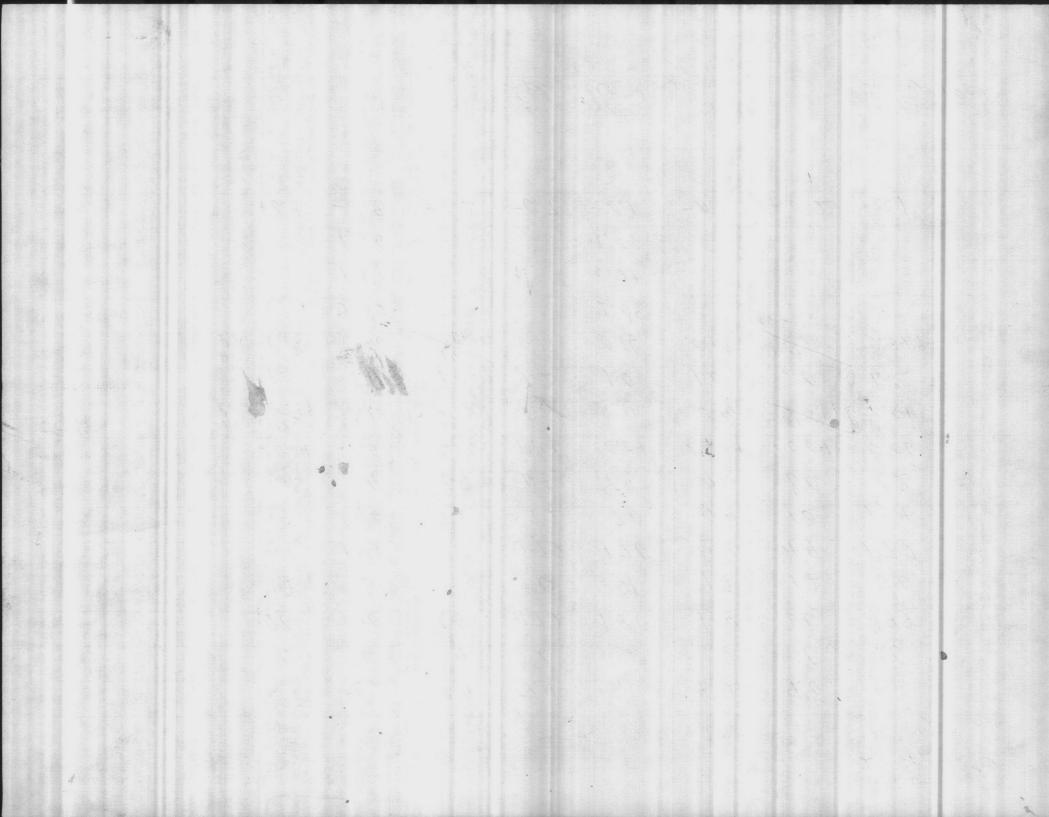


CHEMICAL ANALYSIS — WATER MCBCL 11330/3 (REV. 3-82)			DATE COLLECTED 20 Sep						
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	
РН	8,8	7.2	8.9	7.4	8.0	8.2	9.0	8.5	
PENOLTHALEIN	6	0	4	0	2	6	6	10	
IETHYL ORANGE LKALINITY	60	190	46	172	180	158	56	192	
CARBONATES AS CaCO3	12	0	8	0	4.	12	12	20	
BICARBONATES AS CaCO ₃	48	190	36	172	176	146	44	172	
CHLORIDES AS C1	14	46	12	22	20	24	10	144	
HARDNESS AS CaCO3	64	64	68	68	68	46	60	62	
RON AS Fe	20.04	0.50	6.06	0.06	10.04	20.04	40.04	0.08	
LUORIDE A!		0.18	0.84 0.60	0.20	0.11	0,10	0.81	0.84	
	1.0	1.1	1.0	1.2	1.0	1.0	1.0	1,3	
		0,50	0.26	0.18	0.16	0.18	0.26	0.34	
TOTAL PHOSPHATE		2.52			2.08				
DRTHO PHOSPHATE		1.17			0.25				
IETA PHOSPHATE		1,35			1.83		1.315		
STABILITY	+0.4	-0.8	+0.2	-0,7	-0.1	-0.1	+0.2	+0,1	

MR PRICE

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, and specific conductance. One liter of potable water is assumed to weigh one kilogram.

DATE OF ANALYSIS 20 Sep 1983



MCBCL 11330/3 (REV. 3-82)

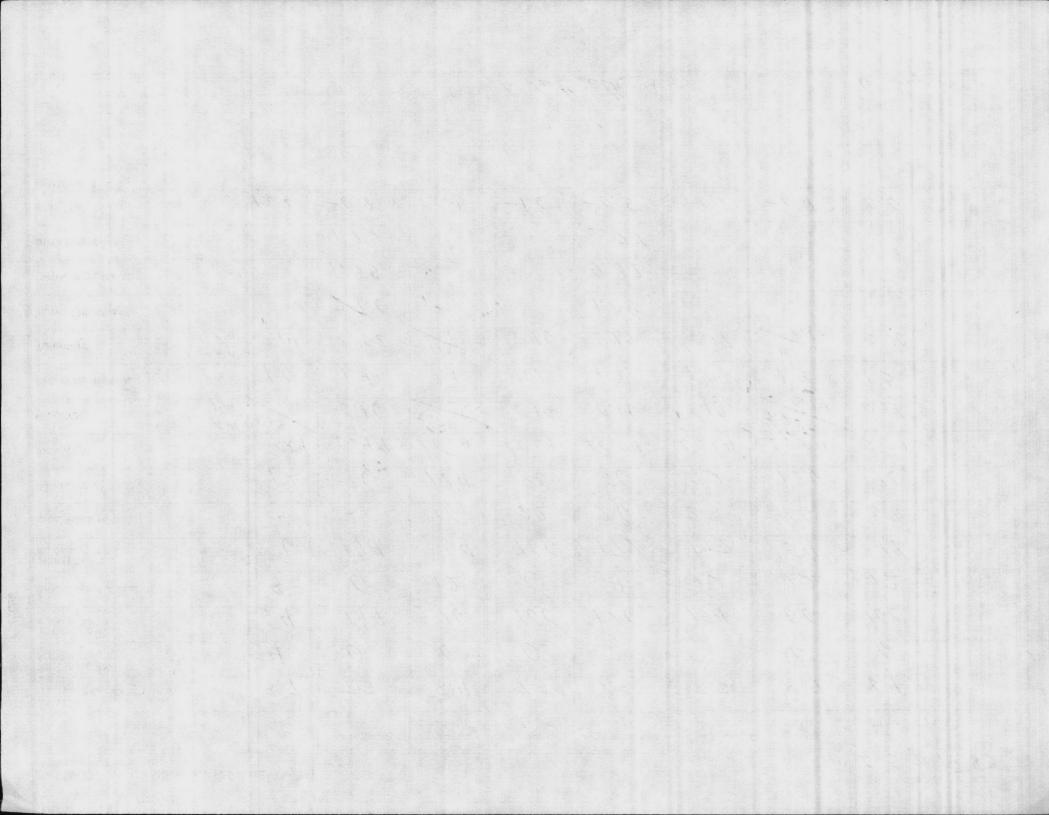
MCBCL 11330/3 (REV. 3-82)			the second s					6 Sep	19 82
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	
PH	8.7	7.3	8.4	7.3	7.8	8.3	8.9	8.4	
PENOLTHALEIN	4	0	6	0	2	6	6	6	
METHYL ORANGE ALKALINITY	64	194	76	160	176	154	66	160	and the second s
CARBONATES AS CaCO3	8	0	12	0	4	12	12	12	1
BICARBONATES AS CaCO3	56	194	64	160	172	142	54	148	
CHLORIDES AS C1	14	38	16	22	26	28	16	88	
HARDNESS AS CaCO3	92	86	124	80	56	92	136	90	
IRON AS Fe	20.04	0.49)	20.04	20.04	20.04	20.04	20.04	0.07	
FLUORIDE	AM 1.13 Pm 1.10	0.16	0.75	0.19	0.11	0.10	(1.22)	0.58	
	1.0	1.4	1.1	1.2	1.1	1.0	1.3	1.5	
TURBIDITY	Am Pm 0.14	0.52	0.20	0.16	0,15	0.17	0.18	0.30	-
TOTAL PHOSPHATE		2.60			1.09				
ORTHO PHOSPHATE		1.35			0.32				
META PHOSPHATE		1.25			0.77				
STABILITY	+0.2	-0.8	to.1	-1.0	-0.5	-0.1	+0.4	0.0	a and

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NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, LABORATORY ANALYSIS BY and specific conductance. One liter of potable water is assumed to weigh one kilogram.

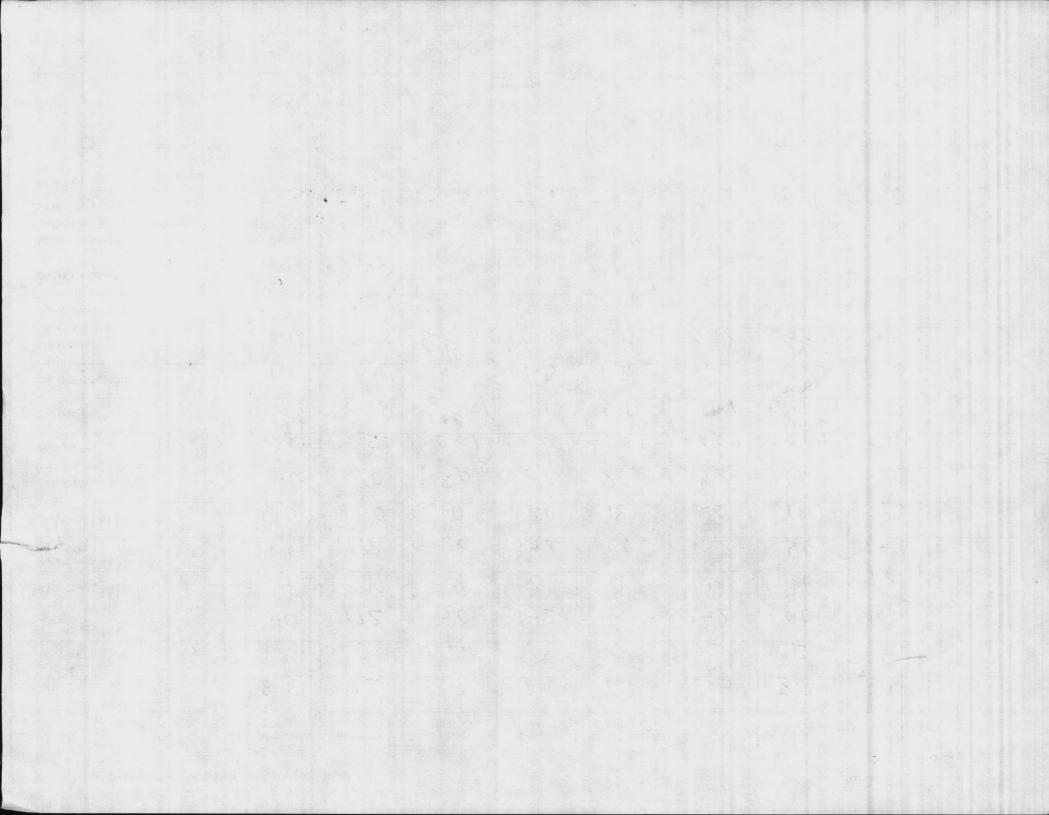
DATE OF ANALYSIS 6 Sep 1983

Price DATE COLLECTED 6 Sep 1983



CHEMICAL ANALYSIS — WA MCBCL 11330/3 (REV. 3-82)	TER TREATMENT	PLANTS			MR PRICE			DATE COLLECTE	
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	
PH	8,99	7.2	8.7	7.4	7.9	8.3	8.8	8.5	
PENOLTHALEIN ALKALINITY	2	0	2	0	0	2	2	6	
METHYL ORANGE ALKALINITY	40	172	50	142	160	142	60	160	
CARBONATES AS CaCO3	4	0	4	0	0.	4	4	12	
BICARBONATES	36	172	46	142	160	138	56	148	
CHLORIDES AS C1	10	30	10	20	18	20	10	90	
HARDNESS AS CaCO3	40	70	80	62	80	52	60	50	
RON AS Fe	20.04	0.50	0.07	0.10	20.04	20.04	20.04	0.11	
LUORIDE	0.94	0.16	0.62	0.16	0.11	0.09	0.84	0.76	
	1.0	1.4	1.1	1.5	1.2	1.0	0.9	1.3	
TURBIDITY	0.18	0.40	0.40	0.18	0.18	0.18	0.14	0.52	
OTAL PHOSPHATE		2.24			2.08				
ORTHO PHOSPHATE		1.00			0.41				
IETA PHOSPHATE		1.24			1.67				
STABILITY	+0.5	- 0.9	to.3	-0.7	-0.3	0.0	+0.4	0.0	

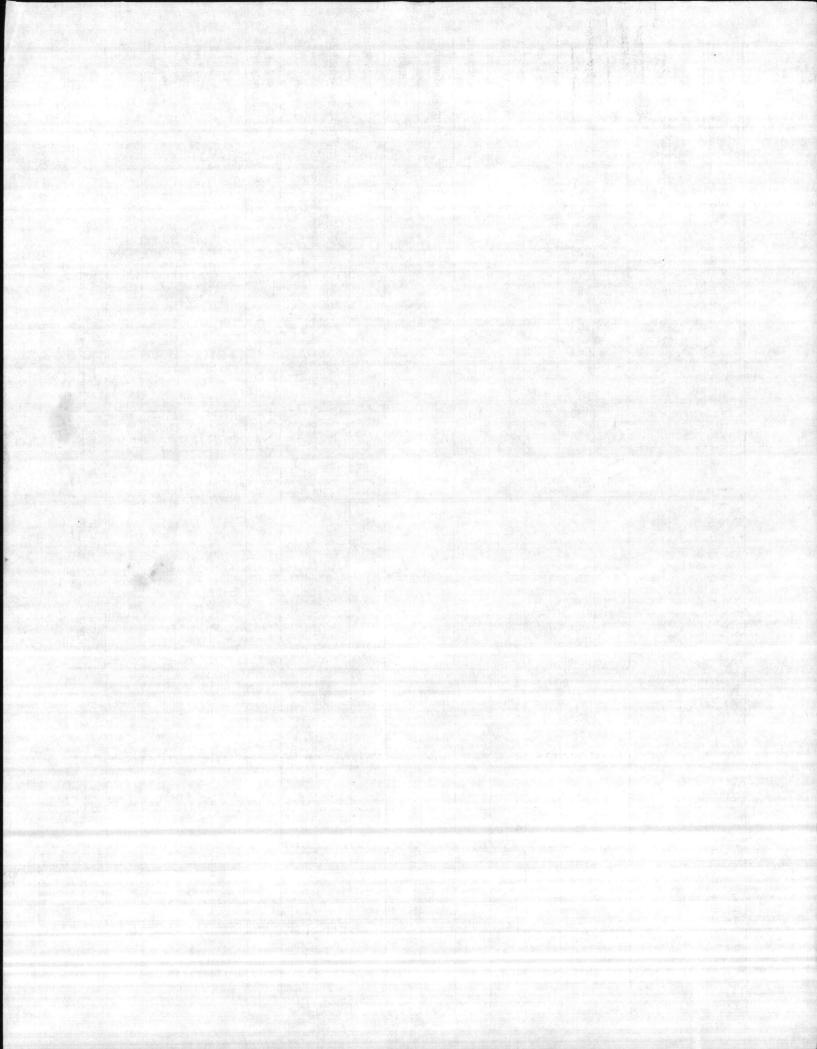
NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, LABORATORY ANALYSIS BY and specific conductance. One liter of potable water is assumed to weigh one kilogram. DATE OF ANALYSIS mo



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Me PRICE

CHEMICAL ANALYSIS - WATER MCBCL 11330/3 (REV. 3-82)		AREA #Z AREA #5 TT POOL							26 AUGUST 1983	
PARAMETER	HADNOT POINT-	MONTFORD POINT	TARAWA TERRAGE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB	NEW RIVER		
PH	6.91	7.77	7.88							
PENOLTHALEIN ALKALINITY	0	0	0							
METHYL ORANGE ALKALINITY	12	36	10							
CARBONATES AS CaCO3	0	0	0				THE			
BICARBONATES AS CaCO ₃	12	36	10							
CHLORIDES AS C1	76	22	292							
HARDNESS AS CaCO3	48	70	124							
IRON AS Fe	· Anne a	3. 14 M					T. Market			
FLUORIDE										
CHLORINE RESIDUAL (FRER)			2,/							
TURBIDITY		1.5	1. 1. 1							
TOTAL PHOSPHATE										
ORTHO PHOSPHATE										
META PHOSPHATE							1 the state			
STABILITY			-0,41						· · · · · · ·	
COPY TO WATER TRE	ATMENT	* PML					•			
NOTE: All results reported in parts per mil and specific conductance. One lite	LABORATORY AN	1 -1	2		DATE OF ANALY	sis UST 1983				



CHEMICAL ANALYSIS — WATER TREATMENT PLANTS MCBCL 11330/3 (REV. 3-82)

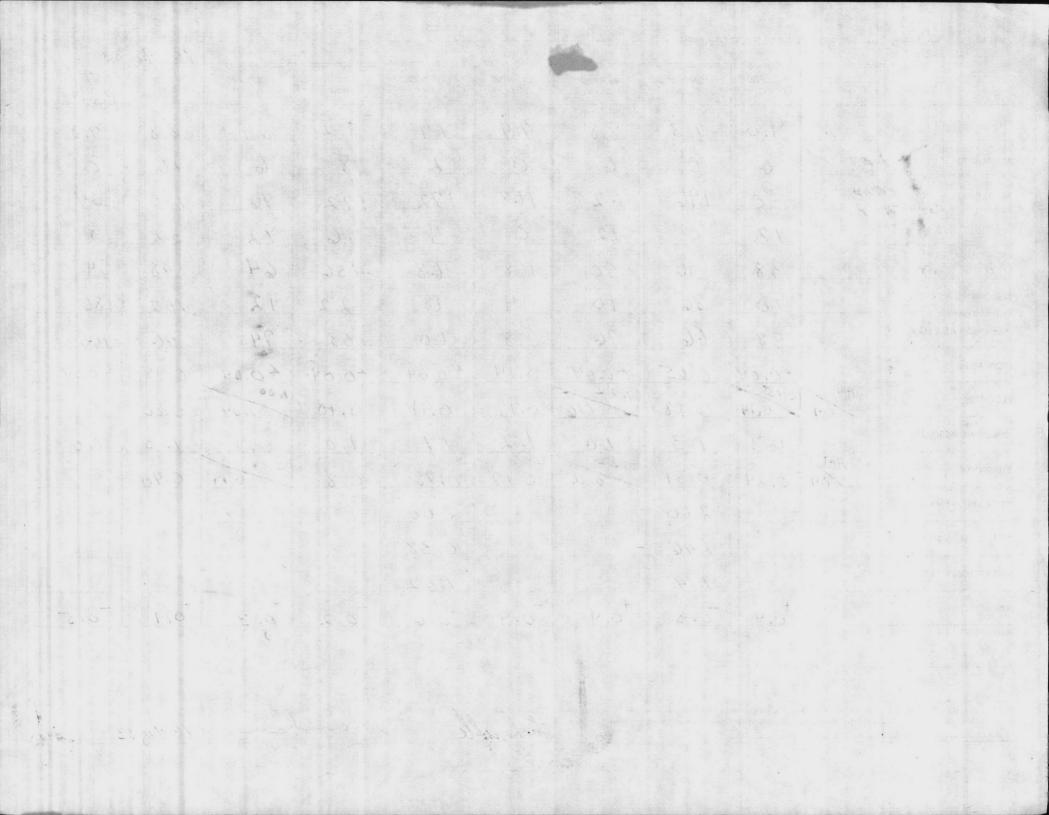
MCBCL 11330/3 (REV. 3-82)									16 Aug 83	
PARAMETER		HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW	TT Pool
PH		9.0	7.3	8,8	7.4	7.7	8.2	8.7	8,8	7.8
PENOLTHALEIN ALKALINITY	7	6	0	6	0	2	8	6	16	0
METHYL ORANGE ALKALINITY		50	196	62	168	172	172	76	180	54
CARBONATES AS CaCO3		12	0	12	0	4.	16	12	32	0
BICARBONATES AS CaCO ₃		38	196	50	168	168	156	64	148	54
CHLORIDES AS C1		10	36	10	14	18	22	12	102	186
HARDNESS AS CaCO3		58	66	76	58	60	58	74	46	106
RON AS Fe		40.04	6.65	40.04	0.14	20.04	40.04	20.04	0,18	40.04
	PM	0,15	0,18	1.22	0.17	0.1)	0.10	1.00	0,86	
CHLORINE RESIDUAL		0,9	1.3	1.0	1.2	1.1	1.0	0.9	1.3	1.0
TURBIDITY	AM	0,24	0.31	0,22	0.17	0,18	0.8	0.16	0.40	
TOTAL PHOSPHATE			2.60			2.00				
ORTHO PHOSPHATE			1.46			0.38		1.11		
META PHOSPHATE			1.14			1.62				
STABILITY		+ 0.4	-0.8	+0,4	-0.9	-0.6	-0.2	+ 0.3	+0.1	-0.5

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, LABORATORY ANALYSIS BY and specific conductance. One liter of potable water is assumed to weigh one kilogram.

DATE OF ANALYSIS

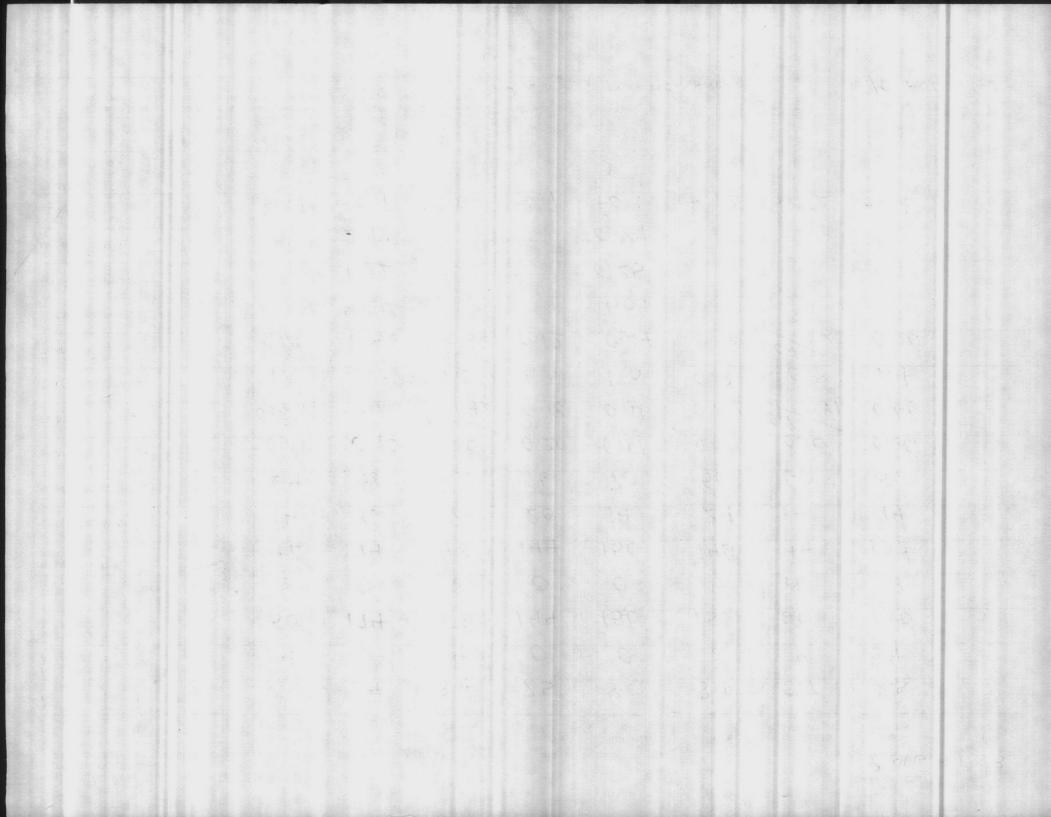
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Mr. Price DATE COLLECTED



CHEMICAL ÁNALYSIS — WATER MCBCL 11330/3 (REV. 3-82)	R TREATMENT	PLANTS			1	R PRice		P AUGU	
PARAMETER		MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	
PH	8.8	7.4	8.4	7.5	8.0	8.1	8.7	8.5	
PENOLTHALEIN ALKALINITY	4	0	4	0	0	2	8	4	
METHYL ORANGE ALKALINITY	50	174	56	144	150	150	60	130	
CARBONATES AS CaCO3	8	0	8	0	0.	4	16	8	
BICARBONATES AS CaCO ₃	42	174	48	144	150	146	44	122	
CHLORIDES AS C1	14	36	8	20	14	24	14	94	
HARDNESS AS CaCO3	64	48	82	56	70	50	60	56	
RON AS Fe	0.11	0.90	0.10	0.20	0.17	0.09	0,10	0.26	
FLUORIDE	0,15	0.20	1.05 1.42	0.18	0.11	0.12	0.98	0.66	
	1.0	1.3	1.0	1,3	1.3	0,8	0.8	1.4	
FURBIDITY	0.26	0.56	0.36	0.12	0.24	0.18	0.16	0.26	
OTAL PHOSPHATE		4.80			1,09				
DRTHO PHOSPHATE		1.82		•	0.25				
		2.98			0.84				
STABILITY	+0.7	-0.7	0.0	-0.7	+0.1	+0,2	+0.2	+0.1	

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature,	LABORATORY ANALYSIS BY	DATE OF ANALYSIS
and specific conductance. One liter of potable water is assumed to weigh one kilogram.	BUSNS, BOTZ + NONOHAND	10 AUGUST 83



CHEMICAL ANALYSIS - WATER T	REATMENT	PLANTS				HE PR	Lice.	DATE COLLECT	
MCBCL 11330/3 (REV. 3-82) PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB		TT POOL
РН	8.6	7.3	8.5	7.5	8.2	8.2	8.7	8.7	7.3 8.0
PENOLTHALEIN ALKALINITY	4	0	2	0	4	2	6	14	0
METHYL ORANGE ALKALINITY	60	174	62	150	156	150	60	184	70
CARBONATES AS CaCO3	8	0	4	0	8	4	12	28	0
BICARBONATES AS CaCO ₃	52	174	58	150	148	146	48	156	70
CHLORIDES AS C1	8	70	10	10	14	20	10	74	30
HARDNESS AS CaCO3	60	142	78	58	64	50	64	48	90
RON AS Fe	0.04	0.96	0.07	0.10	0.08	0.04	20.04	0.14	0.07
LUORIDE A. N	0.18	0.18	1.23 .96	0.18	0.08	0.08	0.99	1.06	0.99
	1.0	1.3	1.0	0.8	1,0	1.2	1.2	1.4	0.3
FURBIDITY	0.26	0.42	0.46	0.20	0.26	0.18	0.14	0.22	0.16
TOTAL PHOSPHATE		1,24			0		- 0110		0.,0
ORTHO PHOSPHATE		1.00			0				
META PHOSPHATE		0.24			0				
STABILITY	+0.1	-0.4	+0.2	-0,6	+0.1	+0.2	+0.2	+0.2	
REMARKS									

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature,	LABORATORY ANALYSIS BY	DATE OF ANALYSIS
and specific conductance. One liter of potable water is assumed to weigh one kilogram.	BURNS	3 AUGUST 83

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CHEMICAL ANALYSIS — WATER TREATMENT PLANTS MCBCL 11330/3 (REV. 3-82)

MCBCL 11330/3 (REV. 3-82)				. A Barris		. <u>Mala 1997 - 1997</u>		5 JUL	Y83
PARAMETER	HADNOT POINT	MONTFORD POINT		ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	
РН	8.71	7,26	8,58	7.38	8.28	8.09	8.92	8.56	
PENOLTHALEIN ALKALINITY	2	0	2	0	6	0	4	10	
METHYL ORANGE ALKALINITY	56	180	60	158	172	156	52	146	
CARBONATES AS CaCO3	4	0	4	0	12	0	8	20	
BICARBONATES AS CaCO ₃	52	180	56	158	160	156	44	126	
CHLORIDES AS C1	16	34	10	20	16	26	12	46	
HARDNESS AS CaCO3	60	48	76	82	56	48	70	82	
IRON AS Fe	0.40	6.83	0.05	0.19	0.04	0.05	0.04	0.23	
	1.05 02	0.33	1.26/123	0.24	0.14	0.19	0.98 92	0,66	
CHLORINE RESIDUAL	1,0	1.1	1.1	1.2	1.2	1.0	1.0	1.2	
TURBIDITY AMPM	3.4	0.42	0.49 0.42	0.24	0,20	0.26	1.05,24	0.46	
TOTAL PHOSPHATE		2.08			0,35		, , ,		
ORTHO PHOSPHATE		1,24			0.07				
META PHOSPHATE		0.84			0.28				
STABILITY	40.29		+0.24	- <u>-</u> -	-0.01	-0.24	+0.27	+017	
REMARKS		110	and the second range of the second	Iron -				<u> </u>	
	e-Saryphe		100		<u>\</u>	• • • • •			
NOTE: All results reported in parts per mill and specific conductance. One lite	lion unless otherwi	ise noted except for	pH, temperature,		ALYSIS BY	onaku	n	DATE OF ANALYS	15 /8-3
								We Voo	/

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CHEMICAL ANALYSIS — WATE MCBCL 11330/3 (REV. 3-82)						i		5 JUL	Y 83
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	
н	8.71	7,26	8,58	7.38	8.28	8.09	8.92	8.56	
ENOLTHALEIN LKALINITY	2	0	2	0	6	0	4	10	
ETHYL ORANGE KALINITY	56	180	60	158	172	156	52	146	
ARBONATES AS CaCO3	4	0	4	0	12	0	8	20	
ICARBONATES S CaCO ₃	53	180	56	158	160	156	44	126	
HLORIDES AS C1	16	34	10	20	16	26	12	46	
ARDNESS AS CaCO3	60	48	76	82	56	48	70	82	
ION AS Fe	0.40	0.83	0.05	0.19	0.04	0.05	0.04	0.23	
	an 1.05/02	0.33	1.26/123	0.24	0.14	0.19	0.98,92	0,66	
HLORINE RESIDUAL	1,0	1.1	1.1	1.2	1.2	1.0	1.0	1.2	
	m 3.4	0.42	0.49 0.42		0.20	0.26	1.05/24	0.46	
OTAL PHOSPHATE		2,08			0,35				
RTHO PHOSPHATE		1.24		•	0.07				
ETA PHOSPHATE		0.84			0.28				
TABILITY	70.29		+0.24		-0.01	-0.24	+0.27	+017	
REMARKS	Re-Somple	H.P.	7-6.83 -	Iron ;	<.04				
	Ke-Sampie								

MR . PRICE

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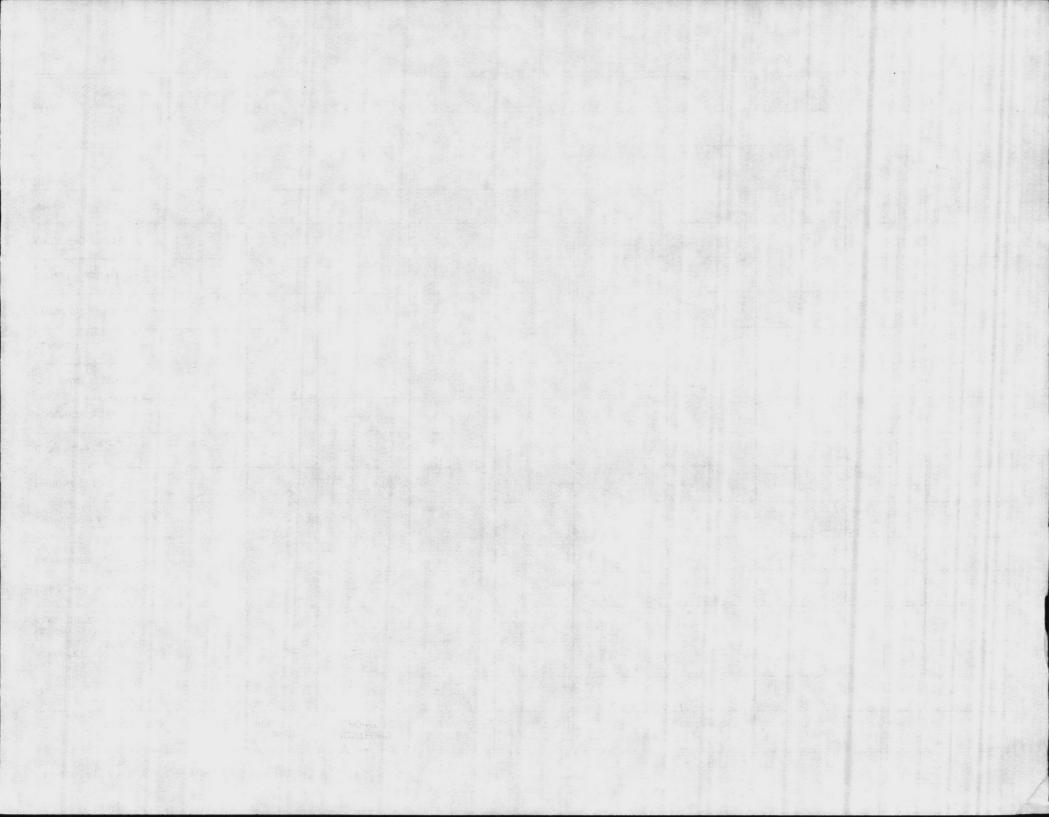
CHEMICAL ANALYSIS - WATER TREATMENT PLANTS RESAMPLE H.P. FINISHED H20 MCBCL 11330/3 (REV. 3-82)

MCBCL 11330/3 (REV. 3-82)								7/6	183
PARAMETER	HADNOT POINT	POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	
PH		RES.	H.L.						
PENOLTHALEIN ALKALINITY			1						
METHYL ORANGE ALKALINITY									
CARBONATES AS CaCO3				1					
BICARBONATES AS CaCO ₃									
CHLORIDES AS C1									
HARDNESS AS CaCO3									
IRON AS Fe		0.60	20.04						
FLUORIDE	et The Deside	A A							
CHLORINE RESIDUAL									
TURBIDITY		1.2	.28						
TOTAL PHOSPHATE									
ORTHO PHOSPHATE									
META PHOSPHATE									
STABILITY									
REMARKS			1		······································				

NOTE:	All results reported in parts per million unless otherwise noted except for pH, tem	perature, LABORATORY ANALYSIS BY
	and specific conductance. One liter of potable water is assumed to weigh one I	kilogram.

DATE OF ANALYSIS

DATE COLLECTED

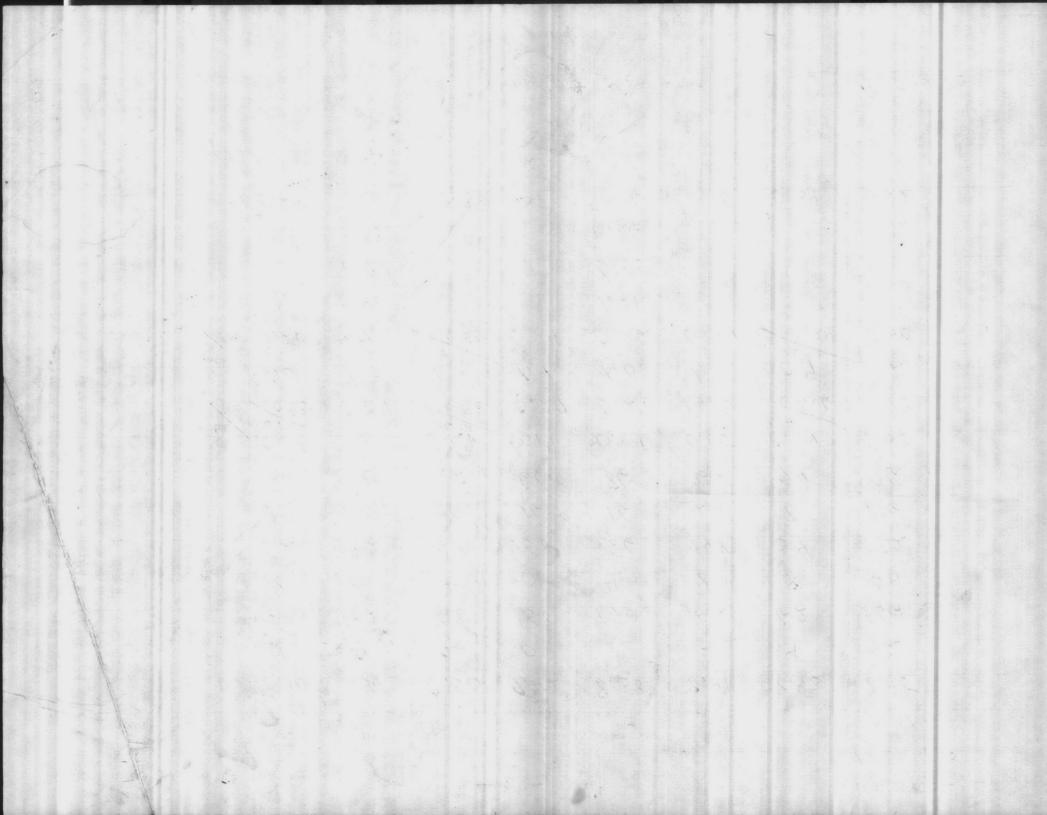


CHEMICAL ANALYSIS - WATER TREATMENT PLANTS MCBCL 11330/3 (REV. 3-82)

	HADNOT	MONTFORD	TARAWA	ONSLOW	COURTHOUSE	RIFLE	HOLCOMB	12 July NEW	
PARAMETER	POINT	POINT	TERRACE	BEACH	BAY	RANGE	BLVD	RIVER	
H	8.80	7.36	8.50	7.62	8.38	8.41	8.93	8,95	
ENOLTHALEIN LKALINITY	4	0	2	0	2	4	4	12	
ETHYL ORANGE LKALINITY	60	182	68	158	170	156	62	156	
ARBONATES AS CaCO3	8	0	4	0	4.	8	8	24	
ICARBONATES S CaCO 3	52	182	64	158	166	148	54	132	
HLORIDES AS C1	14	40	10	16	16	22	8	116	
ARDNESS AS CaCO3	66	60	92	60	86	66	74	76	
ON AS Fe	0.04	1.07	0.09	0.17	0.04	0,05	0.04	0.08	
UORIDE AM	1.09	0.57	0.86	0.27	0.27	0,13	1.06	0.79	
HLORINE RESIDUAL	1.0	1.3	1.0	1.4	1.0	1.0	0.9	1.2	
JRBIDITY AM	0,20	1.4	0.74	0.24	0,22	0,24	0.20	0,40	
DTAL PHOSPHATE		4.60			1.21				
		0.77			0,35				
ETA PHOSPHATE		3.83			0,86				
TABILITY	+0.24		+0,13		+0.16	+0,06	+0.34	10.22	
MARKS		and the second se	AND STORES				1 0101	1 2/22 1	

MR. Price DATE COLLECTED

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, and specific conductance. One liter of potable water is assumed to weigh one kilogram.	LABORATORY ANALYSIS BY	DATE OF ANALYSIS
	Henercutt Monatan	12 July 83



CHEMICAL ANALYSIS - WATER TREATMENT PLANTS MCBCL 11330/3 (BEV 3-82)

MCBCL 11330/3 (REV. 3-82)		and the second	in the second					7-26-	83
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE		NEW RIVER	
PH	8.9	713	8.7	7.3	8,3	8.2	8.9	8.8	
PENOLTHALEIN ALKALINITY	8	0	6	0	8	4	8	16	
METHYL ORANGE ALKALINITY	64	186	64	160	170	164	66	196	
CARBONATES AS CaCO3	16	0	12	ð	16	8	16	32	
BICARBONATES AS CaCO ₃	48	186	52	160	154	156	50	164	
CHLORIDES AS C1	8	46	8	12	16	24	12	134	
HARDNESS AS CaCO3	66	60	82	80	60	48	70	50	
IRON AS Fe	0.04	0.67	0,08	0.04	0.04	0,05	0.04	0,07	
FLUORIDE 4	M 0.13 m 0.18	0.32	0.99	0,27	0.23	0.23	0.8399	1.06	
CHLORINE RESIDUAL	0.8	1.4	1.0	1.0	1.3	1.0	1.0	1.2	
	m 0.16	0.30	0:40	0.14	0.16	0.17	0.16,14	0,24	
		2,52			0.28				
		1.38			0.10				
		1.14			0.18				
STABILITY	+0.4	-	+0.3	5	0.0	-0.1	+0.4	+0.1	

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, LABORATORY ANALYSIS BY and specific conductance. One liter of potable water is assumed to weigh one kilogram.

e. LABORATORY ANALYSIS BY n. Lachupelle monstone

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DATE OF ANALYSIS

MR. PRICE WAR

ne prest 0.6 -01 1-0.4 1-0.1 114 2:23 Line D'IP Sp 20 212 0.67 0.04 7.07 100 100 10 8.3

CHEMICAL ANALYSIS - WATER TREATMENT PLANTS MCBCL 11330/3 (REV. 3-82)

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					and the second s	and the second	7-26-	
HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH		RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	1.
8.9	7,3	8.7	7.3	8,3	8.2	8.9	8.8	
8	0	6	0	8	4			
64	186	64	160	170	164	66		
16	0	12	Ð	16.	8	16		
48	186	52	160	154	WHERE AND A COL	50		
8	46	8	12	16	The beach of the particular	12		法制度
66	60	82	80	60	The second s	70	50	
0-04	6.67	0,08	0.04	0.04	- Cart Bride Toll	0.04	0,07	
0,13	0.32	0.99	0,27	train and of their	Service States	0.83 99		
0.8	1.4	1.0	1.0	1.3	STAL AND ADDED	1.0	1.2	
0.16	0.30	0:40,52	0.14	0.16	0.17	0,10,14	0,24	
	2.52			0.28				
	1.38							
	1.14				$\label{eq:states} \begin{split} & \left\{ \begin{array}{c} \mathbf{f}_{1} \\ \mathbf{f}_{2} \\ \mathbf{f}_{3} \\ \mathbf$			
+0.4	-	+0.3		0.0	-0.1	+0.4	+0.1	
	POINT 8.9 8 64 16 48 7 66 0.04 0.13 0.18 0.16	POINT POINT 8.9 7.3 8 0 64 $/86$ 16 0 48 186 7 46 66 60 7 46 66 60 7 46 66 60 7 6.67 6.18 0.47 0.18 0.32 0.78 1.4 0.16 0.30 2.52 1.38 1.14 1.14	POINT POINT TERRACE 8.9 $7/3$ 8.7 8 0 6 64 $/86$ 64 16 0 12 48 186 52 7 48 186 52 7 46 8 66 60 82 7 46 8 66 60 82 7 46 8 66 60 82 0.08 0.67 0.08 0.18 0.32 0.99 0.18 0.32 0.99 0.18 0.30 0.99 0.18 0.30 0.99 0.16 0.30 0.99 0.16 0.30 0.952 2.52 1.38 1.14 1.14 1.14 1.14	POINT TERRACE BEACH 8.9 $7/3$ 8.7 $7/3$ 8 0 6 0 64 $/86$ 64 $/60$ 16 0 12 0 48 186 52 $/60$ 7 7.3 8.7 7.3 64 $/86$ 64 $/60$ 16 0 12 0 48 186 52 $/60$ 7 46 8 12 66 60 82 80 7.08 7.46 8.04 0.799 0.727 0.727 0.18 0.32 7.09 0.277 0.78 7.44 7.0 7.0 0.16 0.30 0.40 7.0 0.16 0.30 0.40 7.0 0.16 0.30 0.40 7.0	POINT POINT TERRACE BEACH BAY $\$, 9$ $7/3$ $\$, 7$ $7/3$ $\$, 3$ $\$$ 0 6 0 $\$$ 8 0 6 0 $\$$ 644 $/86$ 644 $/60$ 170 16 0 12 0 $1/6$ 48 186 572 160 1574 $\$$ 466 $\$$ 12 16 48 186 572 160 1574 $\$$ 446 $\$$ 12 $1/6$ 660 82° 80 60 0.04 0.67 0.08 0.04 0.04 0.18 0.32 7.09 0.27 0.23 0.18 1.4 1.0 1.0 1.3 0.16 0.30 0.49 0.14 0.16 0.16 0.30 0.49	POINT POINT TERRACE BEACH BAY PRANGE 8.9 $7/3$ 8.7 $7/3$ 8.3 8.2 8 0 6 0 8 4 64 $/86$ 64 $/60$ 8 4 64 $/86$ 64 $/60$ 8 4 16 0 12 0 $1/6$ 8 48 186 52 160 1574 156 7 446 8 12 $1/6$ 8 48 186 52 160 1574 156 7 446 8 12 $1/6$ 24 66 60 82 80 60 48 0.04 0.67 0.87 0.077 0.23 0.73 0.18 0.32 7.09 0.27 0.23 0.73 0.16	POINT POINT TERRACE BEACH BAY PANGE BLVD * $\$,9$ $7,3$ $\$,7$ $7,3$ $\$,3$ $\$,2$ $\$,9$ $\$$ 0 6 0 $\$$ 4 $\$$ 64 $/86$ 64 $/60$ $\$$ 4 $\$$ 64 $/86$ 64 $/60$ 170 $/64$ 66 16 0 12 0 $1/6$ $\$$ $1/6$ 48 186 52 160 1574 1576 50 $\$$ 46 $\$$ 12 $1/6$ 24 12 66 60 82 80 60 48 70 0.44 6.67 0.98 0.04 0.05 0.044 0.18 0.32 7.09 0.27 0.23 0.73 0.73 0.18 0.44 0.16 0.17 <td>POINT TERRACE BEACH BAY PANGE BLUD RIVER 8.9 7.3 8.7 7.3 8.3 8.2 8.9 8.8 8 0 6 0 8 4 8 16 64 186 64 160 170 164 66 176 16 0 12 0 16 8 16 32 48 186 52 160 1574 1576 50 164 7 46 8 12 16 8 16 32 48 186 52 160 1574 1576 50 164 7 46 8 12 $1/6$ 244 12 132 660 82 80 60 48 700 50 0.48 0.32 0.98 0.04 <</td>	POINT TERRACE BEACH BAY PANGE BLUD RIVER 8.9 7.3 8.7 7.3 8.3 8.2 8.9 8.8 8 0 6 0 8 4 8 16 64 186 64 160 170 164 66 176 16 0 12 0 16 8 16 32 48 186 52 160 1574 1576 50 164 7 46 8 12 16 8 16 32 48 186 52 160 1574 1576 50 164 7 46 8 12 $1/6$ 244 12 132 660 82 80 60 48 700 50 0.48 0.32 0.98 0.04 <

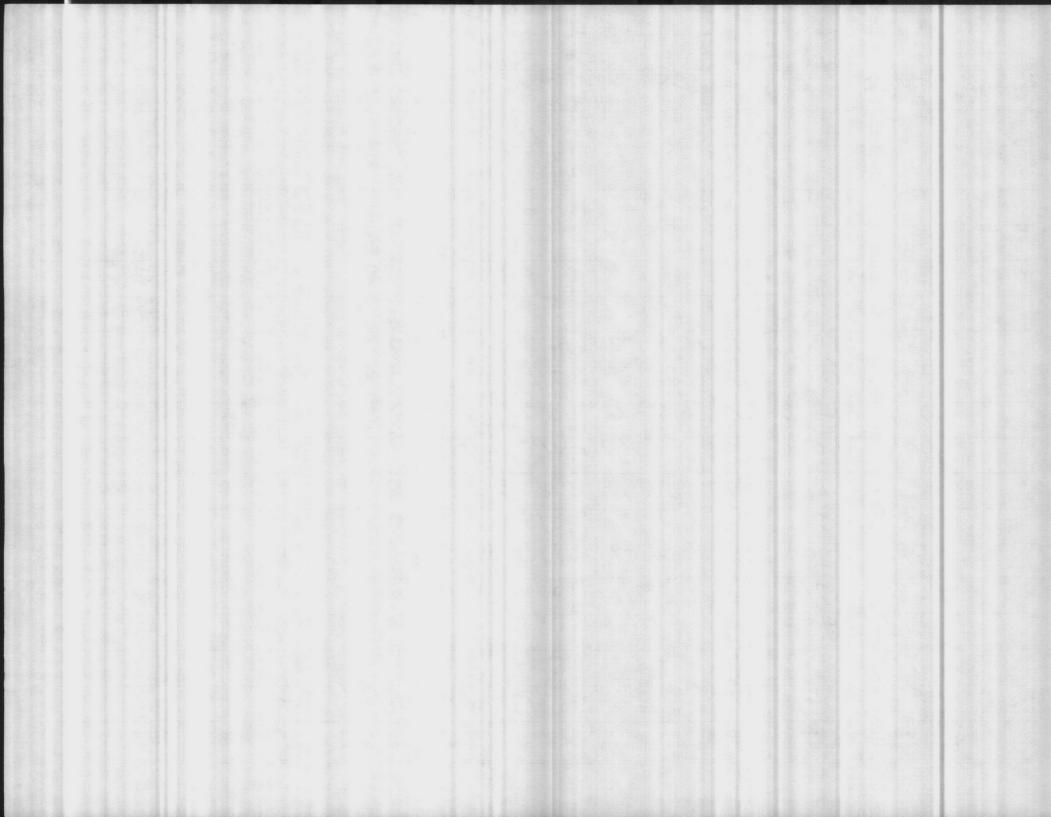
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NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, LAI and specific conductance. One liter of potable water is assumed to weigh one kilogram.

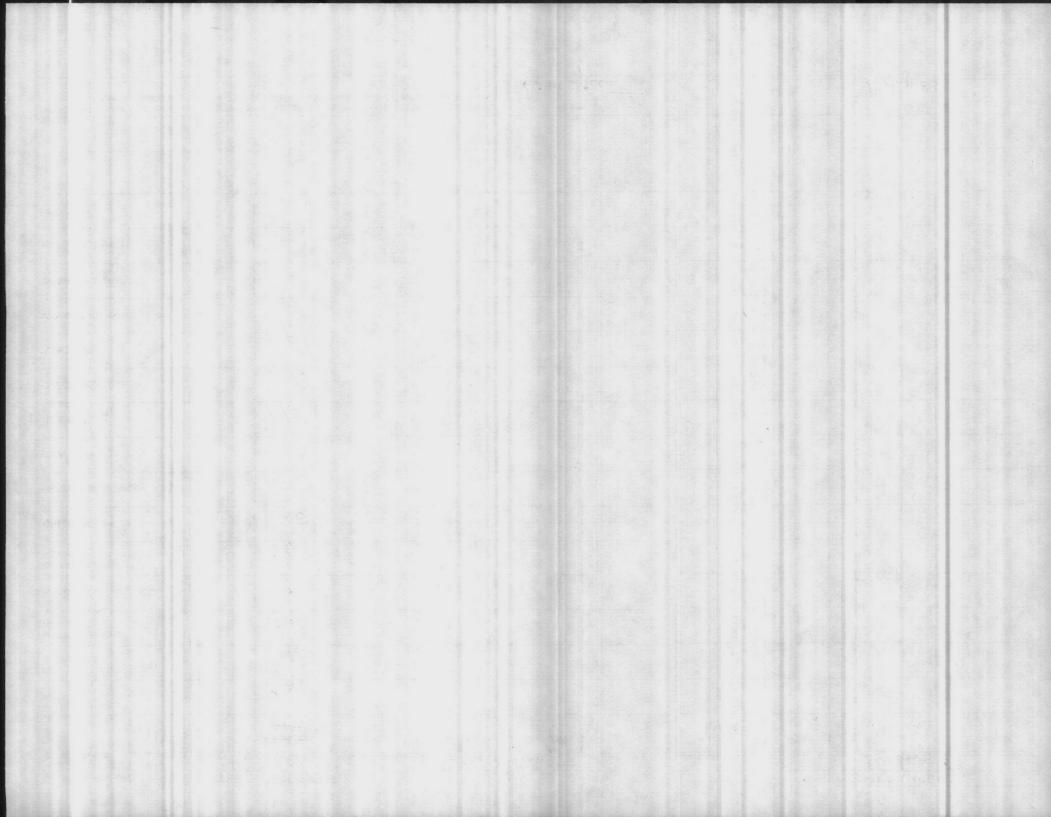
e. LABORATORY ANALYSIS BY ... Lachapelle monston

DATE OF ANALYSIS

MR. PRICE DATE COLLECTED



CHEMICAL ANALYSIS - WA MCBCL 11330/3 (REV. 3-82)	TER TREATMENT	PLANTS	Comp	la:n+				DATE COLLECT	
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	•
PH	8.88								
	4								
IETHYL ORANGE LKALINITY	34								
ARBONATES AS CaCO3	8								
SICARBONATES S CaCO ₃	26								
CHLORIDES AS C1	20								
ARDNESS AS CaCO3	60								
RON AS Fe									
LUORIDE	1.15				1				
	0.6	1							
URBIDITY	1.2								
OTAL PHOSPHATE									
RTHO PHOSPHATE									
TABILITY									
EMARKS					J.				E
IOTE: All popular population and				,		·			
IOTE: All results reported in parts pe and specific conductance. On	e liter of potable water	is assumed to weig	pH, temperature, h one kilogram.	LABORATORY AN	Cutt			DATE OF ANALY	

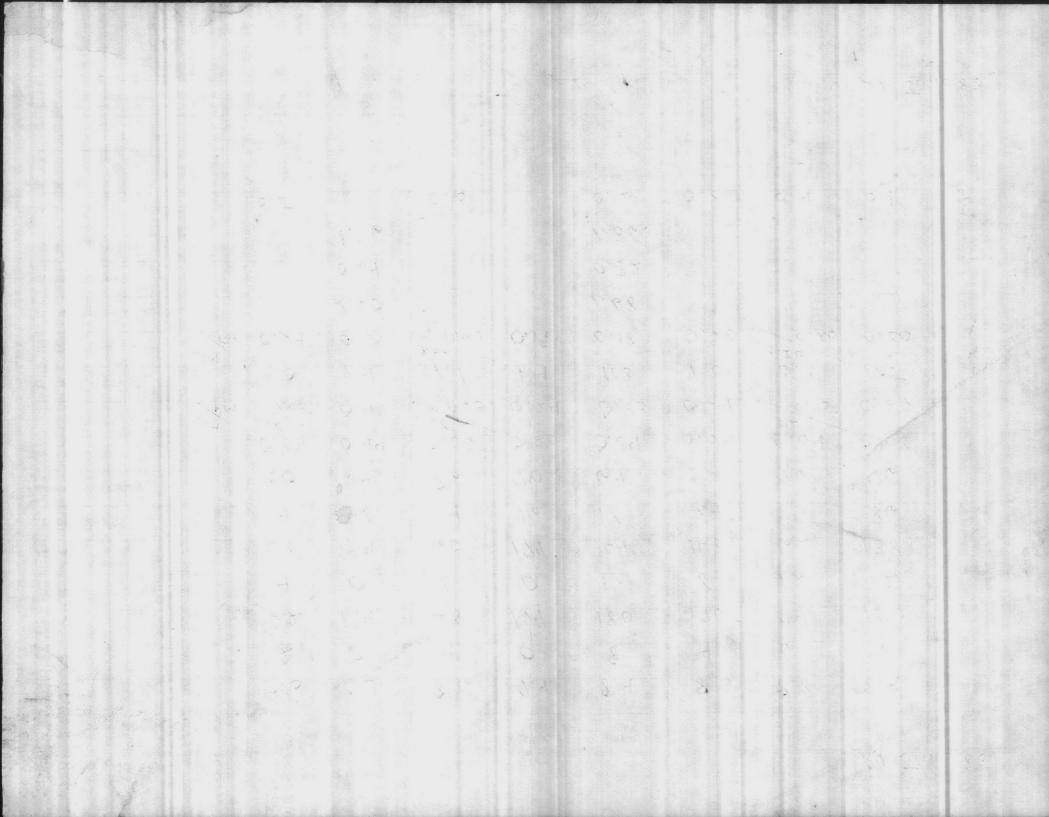


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MR. PRICE

CHEMICAL ANALYSIS — WATER MCBCL 11330/3 (REV. 3-82)	TREATMENT	PLANTS	and the second second			-	111月第	DATE COLLECTED	
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	
РН	9.0	7,3	8,6	7.4	8,4	8,3	8.8	8.4	
PENOLTHALEIN ALKALINITY	2	0	4	0	8	4	6	6	
METHYL ORANGE ALKALINITY	62	194	68	174	180	176	74	150	
CARBONATES AS CaCO3	4	0	8	0	16	8	12	12	
BICARBONATES AS CaCO ₃	58	194	60	174	164	168	62	138	
CHLORIDES AS C1	14	48	14	16	18	24	16	86	
HARDNESS AS CaCO3	70	64	86	70	64	52	76	76	
IRON AS Fe	0.04	0,44)	0.06	0.20	0.04	0.04	0.04	0.08	
FLUORIDE AM	1.08	0.42	1.08	0.24	0,33	0,24	1.02	0.66	
CHLORINE RESIDUAL	1.0	1.4	1.1	1.4	1.3	1.0	0.9	1.5	
	0.24	0,34	0.62	0,19	0.18	0,20	0.20	0.30	
TOTAL PHOSPHATE		2.60			1.68				
ORTHO PHOSPHATE		0:84			0,32		一十期		
META PHOSPHATE		1.76			1.36				
STABILITY	+ 0.5		+ 0.3		+ 0,2	0.0.	+	F 0.1	

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, LABORATORY ANALYSIS and specific conductance. One liter of potable water is assumed to weigh one kilogram. LABORATORY ANALYSIS DATE OF ANALYSIS 21 June 83



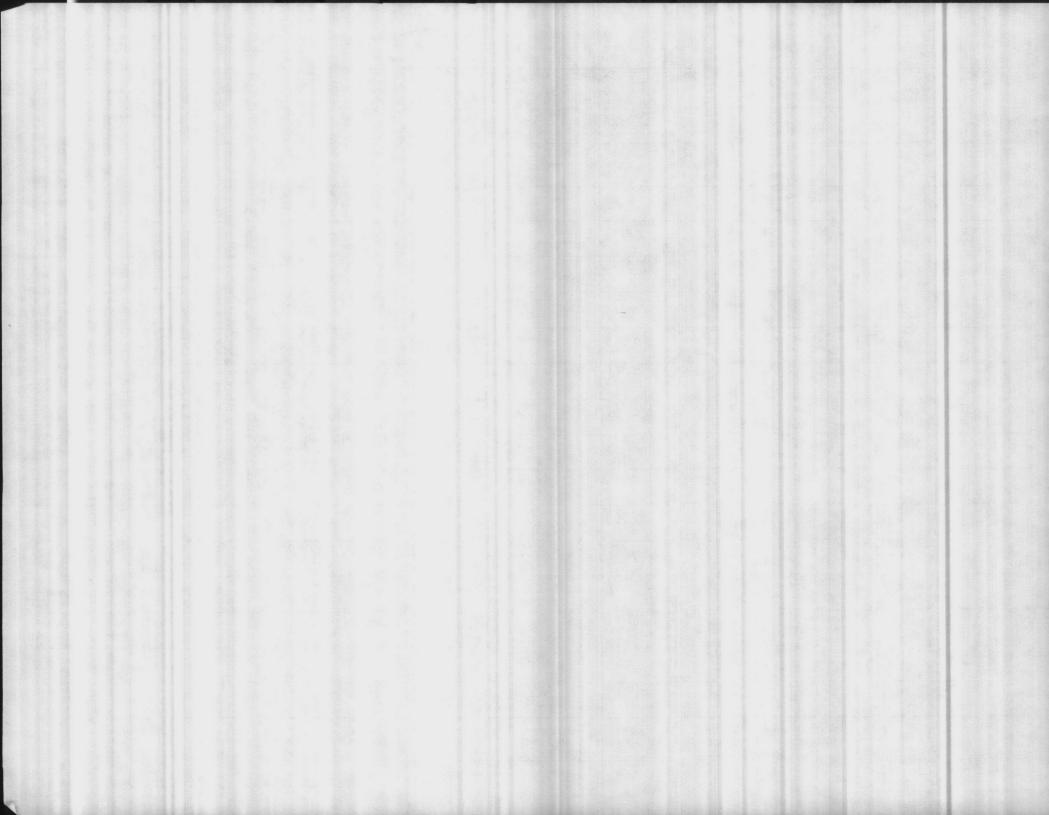
MR. PRICE

CHEMICAL ANALYSIS - 1 MCBCL 11330/3 (REV. 3-82)	WATER T	REATMENT	PLANTS				1		DATE COLLECTER	
PARAMETER		HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE	HOLCOMB BLVD	NEW RIVER	
РН		9.0	7.3	8,6	7.4	8.4	8,3	8.8	8.4	
PENOLTHALEIN ALKALINITY		2	0	4	0	ø	4	6	6	
METHYL ORANGE ALKALINITY		62	194	68	174	180	176	74	150	
CARBONATES AS CaCO3		4	0	8	0	16	8	12	12	
BICARBONATES AS CaCO ₃		58	194	60	174	164	168	62	138	
CHLORIDES AS C1		14	48	14	16	18	24	16	86	
HARDNESS AS CaCO3		70	64	86	70	64	52	76	76	
RON AS Fe		0.04	(0.44)	0.06	0.20	0.04	0.04	6.04	0.08	
LUORIDE	AM	1.08	0.42	1.08	0.24	0,33	0.24	1.02	0.66	
		1.0	1.4	1.1	1.4	1.3	1.0	0.9	1.5	
TURBIDITY	AM	0.24	0,34	0.62	0,19	0.18	0,20	0.20	0.30	
TOTAL PHOSPHATE			2.60			1.68				
ORTHO PHOSPHATE			0:84		•	0,32				
META PHOSPHATE			1.76			1.36				
STABILITY		t 0.5		+ 0,3		+ 0,2	0.0	+ 0.4	0.1	

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, LABORATORY ANALYS and specific conductance. One liter of potable water is assumed to weigh one kilogram.

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BUANG Monahan 21 June 83



CHEMICAL ANALYSIS - WATER TREATMENT PLANTS MCBCL 11330/3 (BEV. 3-82)

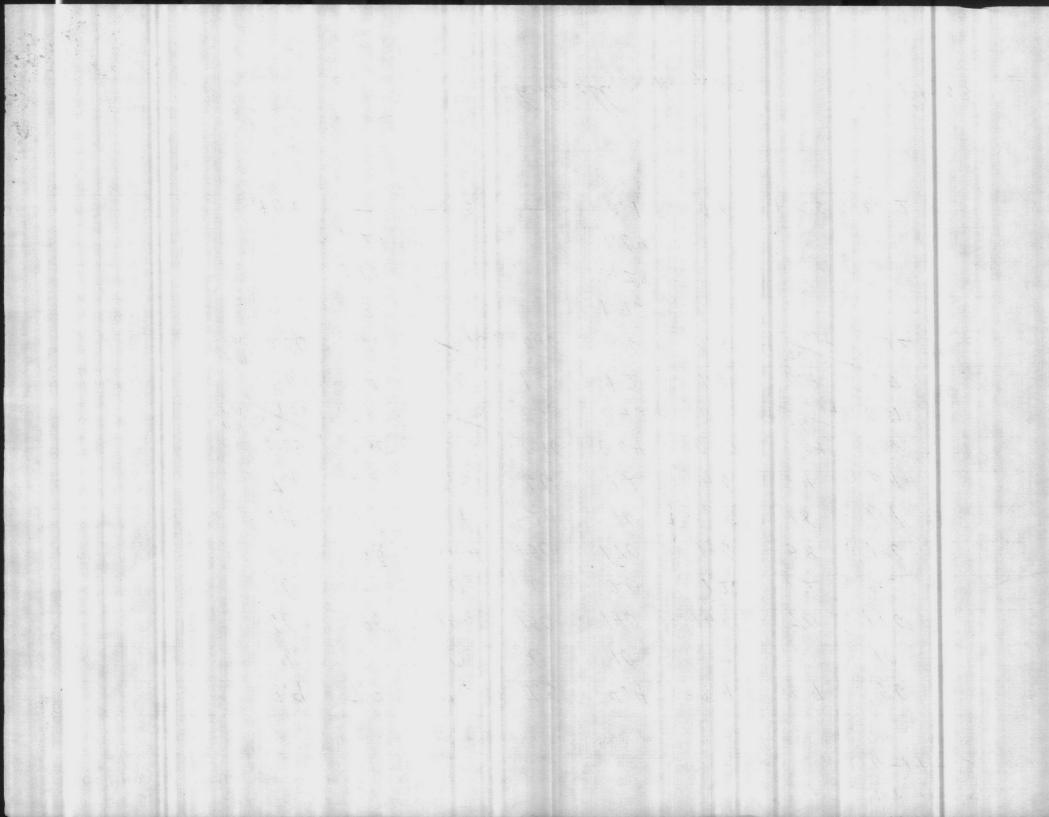
MCBCL 11330/3 (REV. 3-82)				Sec.	Aller and the	<u> 1987 - 1987 - 1987</u>		6-14-	-83
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	
РН	8.9	7.3	7.6	7.5	8.4	8.4	8.9	8.6	
PENOLTHALEIN	8	0	0	0	10	6	6	10	
METHYL ORANGE ALKALINITY	66	196	144	150	190	148	10	156	
CARBONATES AS CaCO3	16	0	0	0	20.	12	12	20	
BICARBONATES AS CaCO 3	50	196	144	150	170	136	58	136	411
CHLORIDES AS C1	14	40	14	20	16	28	18	114	
HARDNESS AS CaCO3	76	22	98	66	72	46	74	64	
IRON AS Fe	0.05	(0.30)	0.06	0.16	0.04	0.07	0.04	0.06	
	AM 1.05 M 1.08	0.33	1.05	0.28	0.42	0.19	0.98	0.81	4
CHLORINE RESIDUAL	1.0	1.4	1.0	1.2	1.2	1.0	0.9	1,3	
TURBINITY	AM PM 0.26	0.20	32.0	0.16	0.16	0,18	0.20	0.22	
TOTAL PHOSPHATE		2.34			1.92				
ORTHO PHOSPHATE		1.13			0,28				
META PHOSPHATE		1.21			1.64				
STABILITY	+0.4	-	-0,3	_	+0.1	0.0	+ 0.5	+0.2	

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, and specific conductance. One liter of potable water is assumed to weigh one kilogram.

DATE OF ANALYSIS

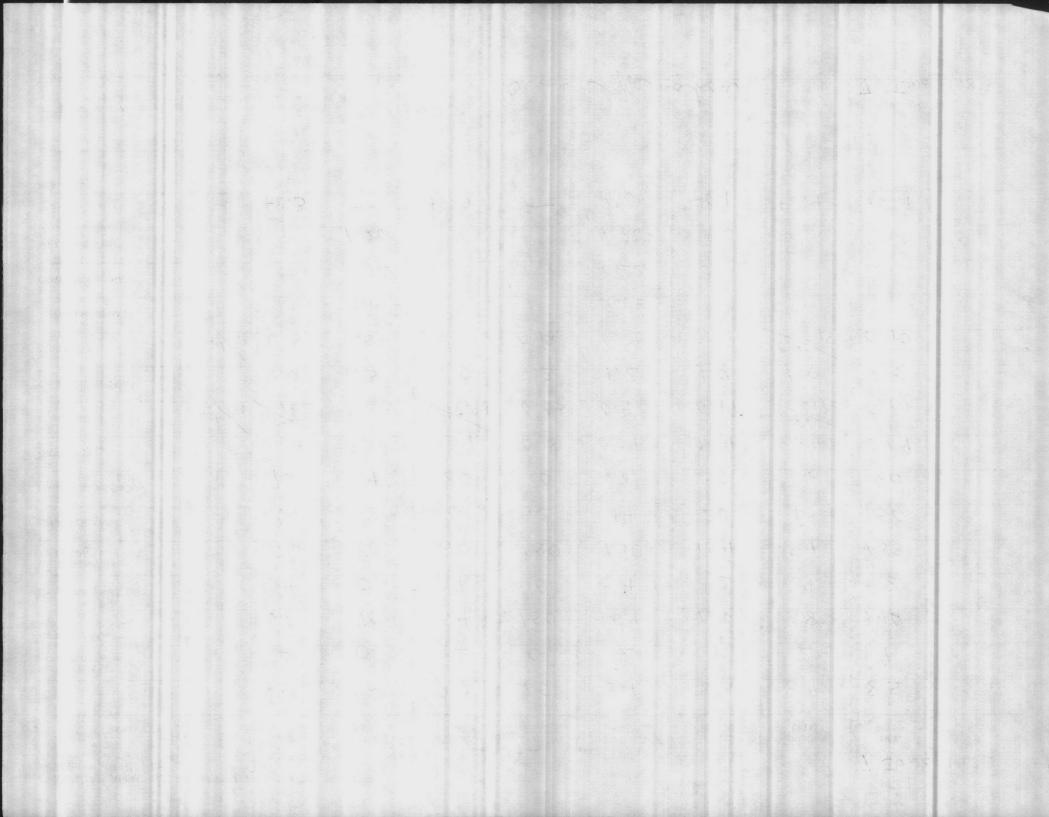
Mr. Price

DATE COLLECTED

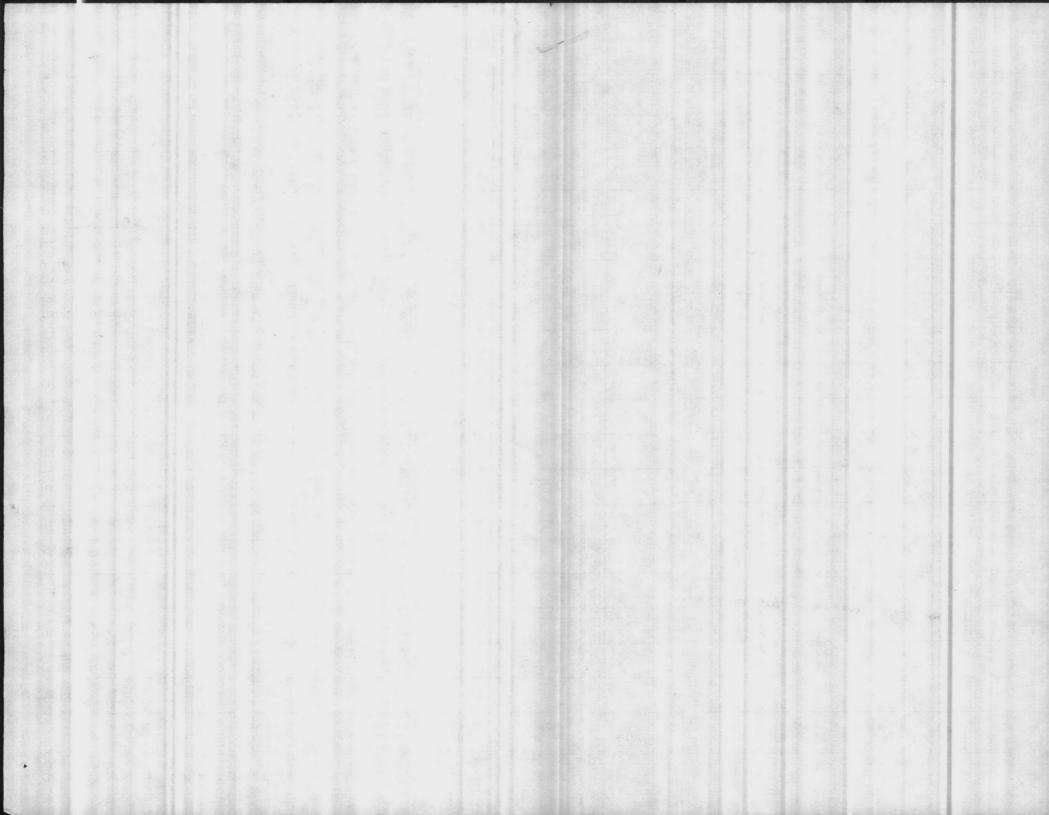


CHEMICAL ANALYSIS - WATE MCBCL 11330/3 (REV. 3-82)	ER TREATMENT	PLANTS				MR PRIE		DATE COLLECTED 7 JUNE 1983		
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB	NEW RIVER		
PH	8.8	7,3	8.8	7.5	8.4	8,3	8.9	8.5		
PENOLTHALEIN ALKALINITY	2	0	2	0	2	1	2	4		
IETHYL ORANGE	60	170	54	150	154	156	58	146		
CARBONATES AS CaCO3	4	0	4	0	4	2	4	8		
BICARBONATES AS CaCO3	56	170	50	150	150	154	54	/38		
CHLORIDES AS C1	6	38	6	12	14	20	10	50		
HARDNESS AS CaCO3	76	24	80	70	68	50	66	60		
RON AS Fe	0.04	0.36	0.07	0.18	0.04	0.04	0.04	0.09		
	P.H 1.02 1.02	0.33	1.11 0.98	0.33	0.42	0.19	0.88	6.74		
	1.0	1.3	1.0	1.2	1.2	1.0	1.0	1.3		
	PH 0.18	0,54	0.44	0.18	0.20	0.18	0.20	0.40		
TOTAL PHOSPHATE		2.18			2.08					
		0.92		•	0.22					
IETA PHOSPHATE		1.26	and the second s		1.86					
STABILITY	+0.3	-	+0.3		0.0	+0.1	+0.4	+0.1		

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, and specific conductance. One liter of potable water is assumed to weigh one kilogram.	LABORATORY ANALYSIS BY Burns Monshow	DATE OF ANALYSIS
	I succes of forestard	T JUNE 1983



CHEMICAL ANALYSIS - WATER MCBCL 11330/3 (REV. 3-82)	TREATMENT	PLANTS						DATE COLLECTER	3 /
PARAMETER	HADNOT POINT	MONTFORD	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB	NEW RIVER	. 1
РН								8.2	
PENOLTHALEIN ALKALINITY									
METHYL ORANGE ALKALINITY								150	
CARBONATES AS CaCO3								2	
BICARBONATES AS CaCO ₃								148	
CHLORIDES AS C1							1.1	64	
HARDNESS AS CaCO3								70	
IRON AS Fe								0.10	
FLUORIDE				. Barring	1				
CHLORINE RESIDUAL	- trained				-				
TURBIDITY								0.38	
TOTAL PHOSPHATE		- 44						0.20	
ORTHO PHOSPHATE									
META PHOSPHATE	-								
STABILITY			in the second	a settion of		Real Providence			
COMPLAIN	T CA	MP Gei	Ger N	IESSHA	LL		CoLI-+	ioen = Q	5
NOTE: All results reported in parts per milli	ion unless otherw	ise noted except for	pH temperature					/	
and specific conductance. One liter	of potable water	is assumed to weig	gh one kilogram.)6	ABur-2	1		DATE OF ANALYS	



CHEMICAL ANALYSIS - WATER TREATMENT PLANTS MCBCL 11330/3 (REV. 3-82)

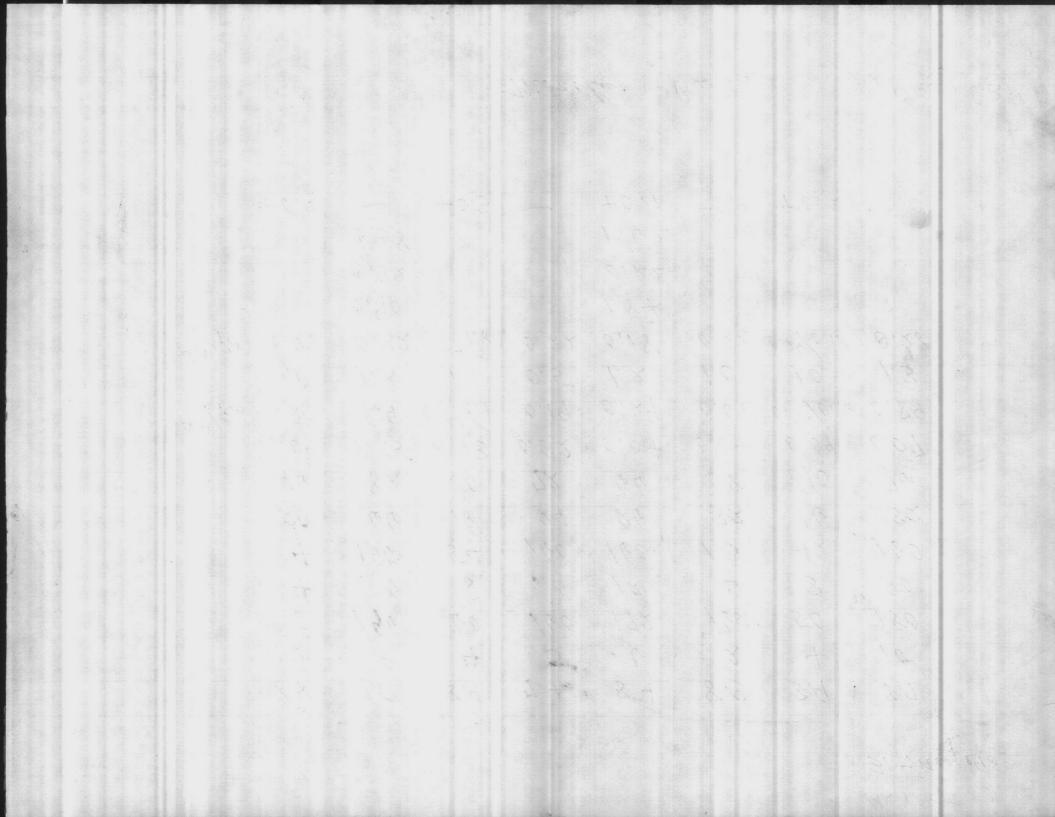
CHEMICAL ANALYSIS MCBCL 11330/3 (REV. 3-82)	S — WATER T	REATMENT	PLANTS						DATE COLLECT	ay 1983
PARAMETER		HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	▼
РН		8.8	7,5	8,9	7.4	8.4	8.3	8.9	8.7	
PENOLTHALEIN ALKALINITY		2	0	4	0	6	2	4	10	
METHYL ORANGE ALKALINITY		8	196	60	160	172	162	50	180	
CARBONATES AS CaCO3		4	0	8	0	12	4	8	20	6
BICARBONATES AS CaCO ₃	10 J	4	196	54	160	160	158	42	160	
CHLORIDES AS C1		20	66	18	24	26	32	16	132	
HARDNESS AS CaCO3		66	82	80	72	66	58	90	76	
RON AS Fe		0,04	0.55	0.13	0.32	0.04	0.04	0.04	0.07	
FLUORIDE	AM/PM	0,85	0,29	0.89 0.99	0.19	0,29	0.09	0.78/0.96		
CHLORINE RESIDUAL		1.0	1.3	1.0	0.5	1,2	1.0	1.0	1.3	
TURBIDITY	AM/qm	0,29	0.32	0.54 80	0,22	0,18	0.22	0.24/0.18	0.28	
TOTAL PHOSPHATE			0.90			1.84				
ORTHO PHOSPHATE			0.82		1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	0,22				
	1		0.08	and the second		1.62				
STABILITY		+0.2		+0.3	-	+0.1	-0,1	+0,2	±0,0	

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NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, LABORATORY ANALYSIS BY and specific conductance. One liter of potable water is assumed to weigh one kilogram.

DATE OF ANALYSIS

MR. PRICE



CHEMICAL ANALYSIS — WATER TREATMENT PLANTS MCBCL 11330/3 (REV. 3-82)

MCBCL 11330/3 (REV. 3-82)						<u>,</u>		24 MA	
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE		COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	BEACH # 2
PH	8.7	7.4	8.5	7.5	8.3	8.3	8.7	8.4	7.5
PENOLTHALEIN ALKALINITY	1	0	11	0	1	- 1-	2	1	0
METHYL ORANGE ALKALINITY	40	160	64	156	162	160	60	140	160
CARBONATES AS CaCO3	2	0	2	0	2	2	4	2	0
BICARBONATES AS CaCO ₃	38	160	62	156	160	158	56	138	160
CHLORIDES AS C1	10	10	8	18	18	26	10	84	26
HARDNESS AS CaCO3	60	60	80	76	76	52	20	68	50
IRON AS Fe	6.04	0.56	20.04	5.09	6.04	6.04	6.04	0.14	6.40
FLUORIDE AM	1.05	0,19	1.05	0,9	0.24	6.09	1.05	0.47	
CHLORINE RESIDUAL	0.9	1.3	1.0	1.0	1.1	10	1.3	1.4	
TURBIDITY	0.28	0.38	0.26	1.4	0.20	0.22	0.30	0.32	0.24
TOTAL PHOSPHATE		3.00			1.46				
		1.68		i	0.25				
		1.32			1.21			1110	
STABILITY	+ 0,3		+ 0.2		+ 0,3	0.0	+ 0.2	0.0	

Mr. Price

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THE DIFFERENCES BETWEEN OB#1 + #2 WAS BECAUSE #1 WAS TAKEN AT SINK, BY OPERATOR, AND #2 WAS TAKEN AT PUMP, BY FOREMAN, THE

 COLPRECT LOCATIONS OF RAW * TREATED SAMPLE POINTS SHOULD BE MARKED IN ALL PLANTS TO AVOID FUTURE SAMPLING EREORS.

 NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, and specific conductance. One liter of potable water is assumed to weigh one kilogram.

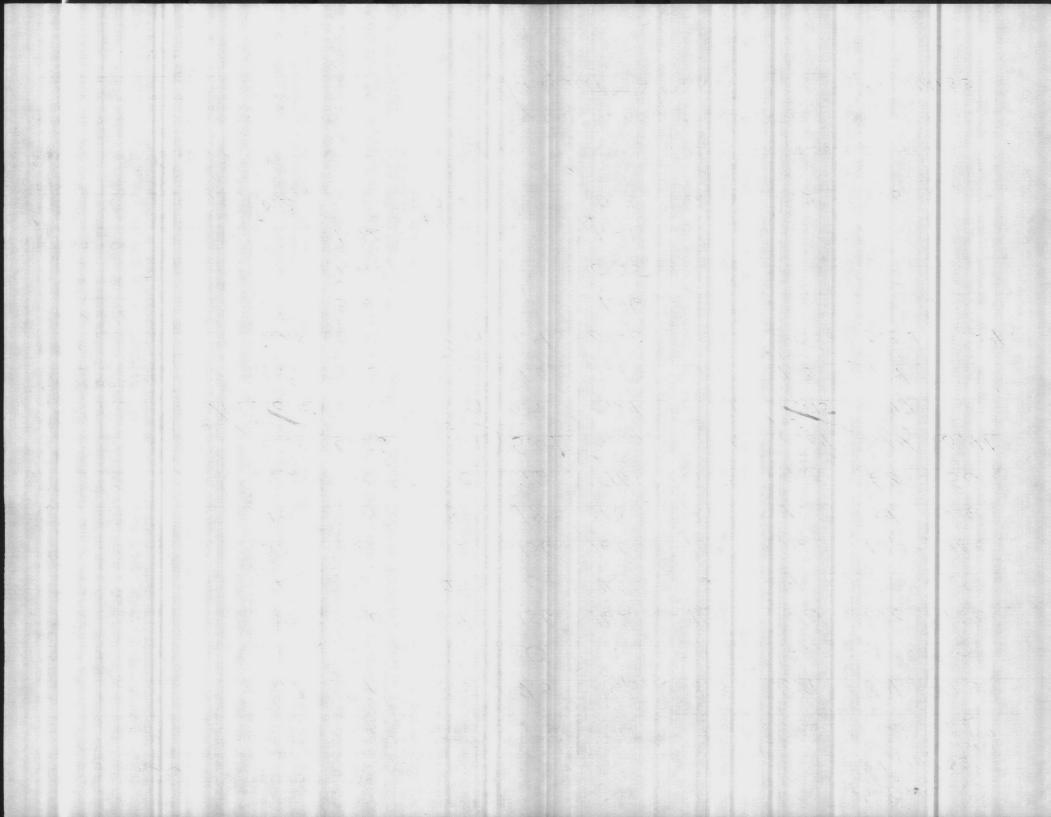
 LABORATORY ANALYSIS BY

 DATE OF ANALYSIS

 Advoid FUTURE SAMPLING EREORS.

 DATE OF ANALYSIS

 Advoid FUTURE SAMPLING EREORS.



MCBCL 11330/3 (REV. 3-82)						-	a di la sali	17 MAY 8.	3
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB	NEW RIVÉR	
н	8,8	7.3	8.7	7.4	8.2	8.4	8,9	8.5	
ENOLTHALEIN LKALINITY	4	0	6	0	4	5	6	10	
IETHYL ORANGE LKALINITY	50	182	66	162	184	178	66	198	
ARBONATES AS CaCO3	8	0	12	0	8	10	12	20	
ICARBONATES S CaCO ₃	42	182	54	162	176	168	54	178	
CHLORIDES AS C1	14	14	16	22	16	30	14	118	
ARDNESS AS CaCO3	54	84	84	80	88	54	64	60	
RON AS Fe	6.04	6.79	0.07	0.08	-0.04	0,18	0.07	0.05	
	0.94	0.26	0.81	0.26	0.26	0,30	0.94	1.01	
HLORINE RESIDUAL	0.9	1.2	1.1	1.2	1.2	0.7	1.0	1.3	
URBIDITY AM PM	0.26	0.42	0,34	0.22	0.18	0.44	0.38	0.24	
OTAL PHOSPHATE		2.54			1.13				
RTHO PHOSPHATE		1.17			0,13				
IETA PHOSPHATE		1.37		No Sector	1.00				
TABILITY	+ 0.2		+ 0.3		0.0	+ 0,1	+0.4	+ 0.1	
REMARKS									

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, LABORATORY ANALYSY BY and specific conductance. One liter of potable water is assumed to weigh one kilogram.

DATE OF ANALYSIS 17 MAY 83

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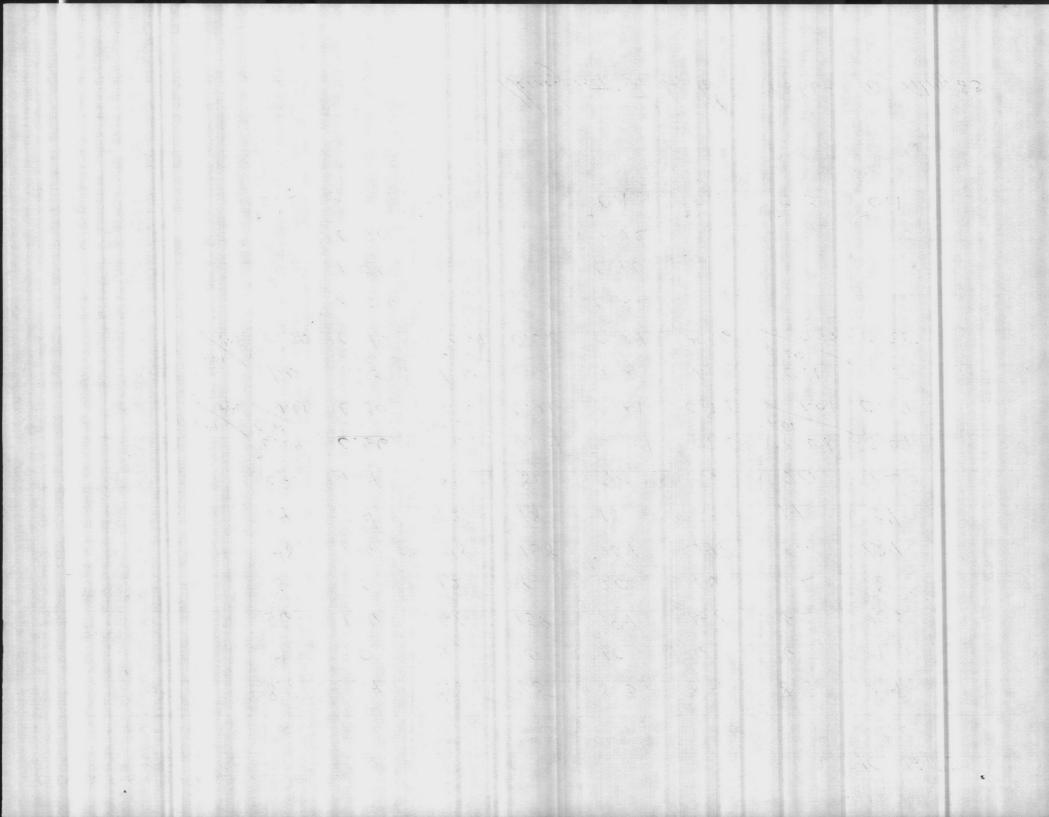
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MCBCL 11330/3 (REV. 3-82)		and and and		and and a				10 MAY 8.	3
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	1
พ	8.7	7.4	8.8	7.5	8.3	8.4	8.8	8.4	
PENOLTHALEIN	4	0	6	0	10	6	6	4	
METHYL ORANGE ILKALINITY	56	176	60	158	184	158	62	132	
CARBONATES AS CaCO3	8	0	12	0	20	12	12	8	
BICARBONATES AS CaCO ₃	48	176	48	158	164	146	50	124	
CHLORIDES AS C1	14	24	12	18	18	24	14	84	
HARDNESS AS CaCO3	62	104	84	80	70	52	20	72	
RON AS Fe	0.04	6.66	0.09	6.04	6.04	0,15	40.04	0.07	
LUORIDE AM	0.98	0,30	1.01	0.26	0.21	0.17	1.01	0.67	
	1.0	1.3	1.0	1.2	1.2	1.0	0.9	1.5	
TURBIDITY AM	0.30	0.46	0.46	0,58	0.24	0.46	0.30	0,35	
TOTAL PHOSPHATE		2.00			0.22				
		1.30			0.10				
ETA PHOSPHATE		0.70			0,12				
STABILITY	+ 0.2	and the second	+0,4		+0,1	+0,1	t 0,3	10.1	

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, and specific conductance. One liter of potable water is assumed to weigh one kilogram.

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CHEMICAL ANALYSIS - WATER TREATMENT PLANTS

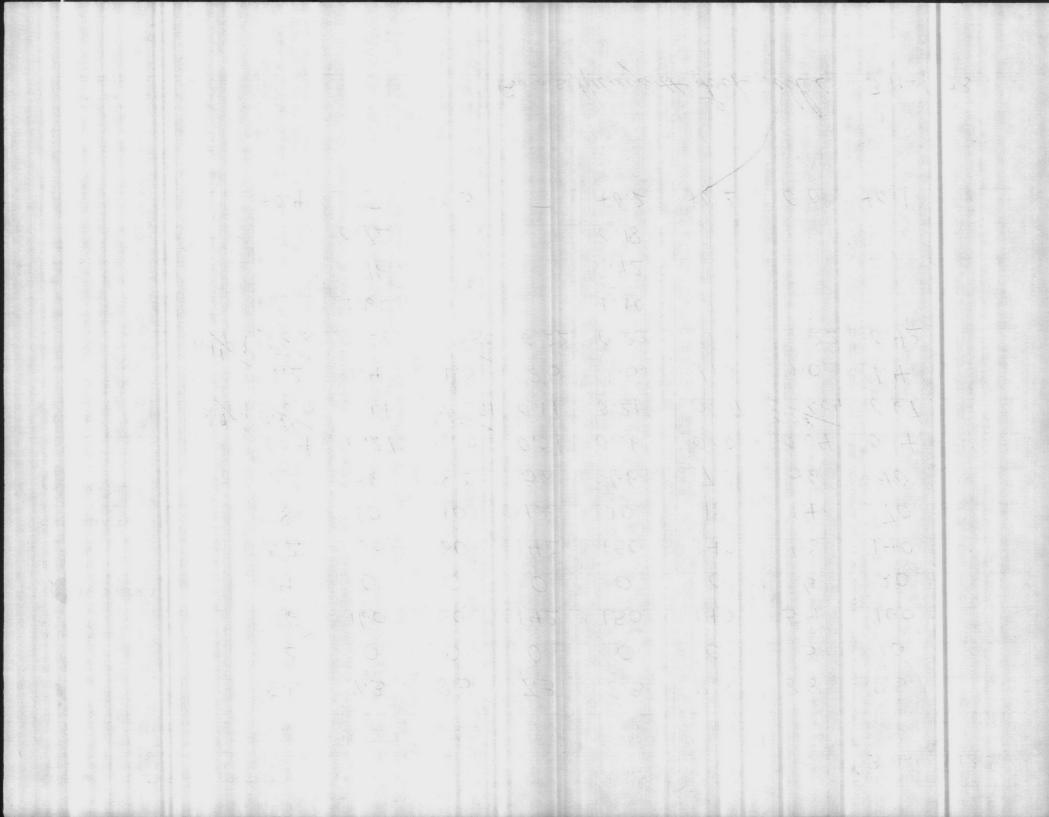
CHEMICAL ANALYSIS — WATER T MCBCL 11330/3 (REV. 3-82)	REATMENT	PLANTS			MR F	RIEE		DATE COLLECTED 3 MAY 1983		
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB	NEW RIVER	•	
PH	8.5	7.3	8.5	7.3	8.3	8.3	8.8	8.5		
PENOLTHALEIN ALKALINITY	2	0	0	0	0	0	3	10		
METHYL ORANGE ALKALINITY	56	160	60	142	150	140	54	160		
CARBONATES AS CaCO3	4	0	0	0	0.	0	6	20		
BICARBONATES AS CaCO ₃	52	160	60	142	150	140	48	140		
CHLORIDES AS C1	8	10	10	12	10	18	14	70		
HARDNESS AS CaCO3	62	36	82	56	66	72	56	40	-	
RON AS Fe	0.04	0.27	0.10	0,07	0.06	0.10	0.04	0.14		
LUORIDE A.M.P.M	0.91	0.17	0.98 0.91	0.17	0.21	0.07	0.98	0.67		
CHLORINE RESIDUAL	1.2	1.4	1.0	2.5	1.5	1,0	1.0	1.4		
N.H.A.M.	0.36	0.28	0,20	0.22	0.22	0.28	0.22	0.42		
OTAL PHOSPHATE		1.60			1.10					
ORTHO PHOSPHATE		.96			.92					
IETA PHOSPHATE		0.72			0.18					
TABILITY	+0.4	-	+0.3		+0.2	+0.2	0,0	40.1		

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NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, LABORATORY ANALYSIS BY and specific conductance. One liter of potable water is assumed to weigh one kilogram. 12

DATE OF ANALYSIS 3 83 MAY

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CHEMICAL ANALYSIS - WATER TREATMENT PLANTS

CHEMICAL ANALYSIS - WATER T MCBCL 11330/3 (REV. 3-82)	REATMENT	PLANTS				NR PRIC		DATE COLLECT	
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	M.P. TREATED
РН	8.7	7.3	8.6	7.3	8.4	8.4	8.7	7.8	7.3
PENOLTHALEIN ALKALINITY	12	0	10	0	8	6	10	0	0
METHYL ORANGE ALKALINITY	70	216	76	104	190	162	76	162	210
CARBONATES AS CaCO3	24	0	20	0	16	12	20	0	0
BICARBONATES AS CaCO ₃	46	216	56	104	174	150	56	162	210
CHLORIDES AS C1	14	54	10	20	20	24	20	94	50
HARDNESS AS CaCO3	98	62	106	68	80	62	92	104	32
IRON AS Fe	20.04	0.27	40.04	8.05	20.04	0.23	0.08	0,09	0,14
FLUORIDE AT PH	1.13	0.47	1.16	0.30	0.30	0.21	1.04	0.81	0.47
CHLORINE RESIDUAL	1.0	1.4	[.]	1,4	1.2	1.2	1.0	1.4	1.4
TURBIDITY A.N.PM	0,18	0.19	0,36	0.18	0,21	0,52	0,31		0.16
TOTAL PHOSPHATE		2.70			0.84				2.18
ORTHO PHOSPHATE		1.40			0,22				1,26
META PHOSPHATE		1.30			0.62				0.92
STABILITY	+0.4		+0,5		+0.4	+0.2	+0.4	-0.3	

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, LABORATORY ANALYSIS BY and specific conductance. One liter of potable water is assumed to weigh one kilogram.

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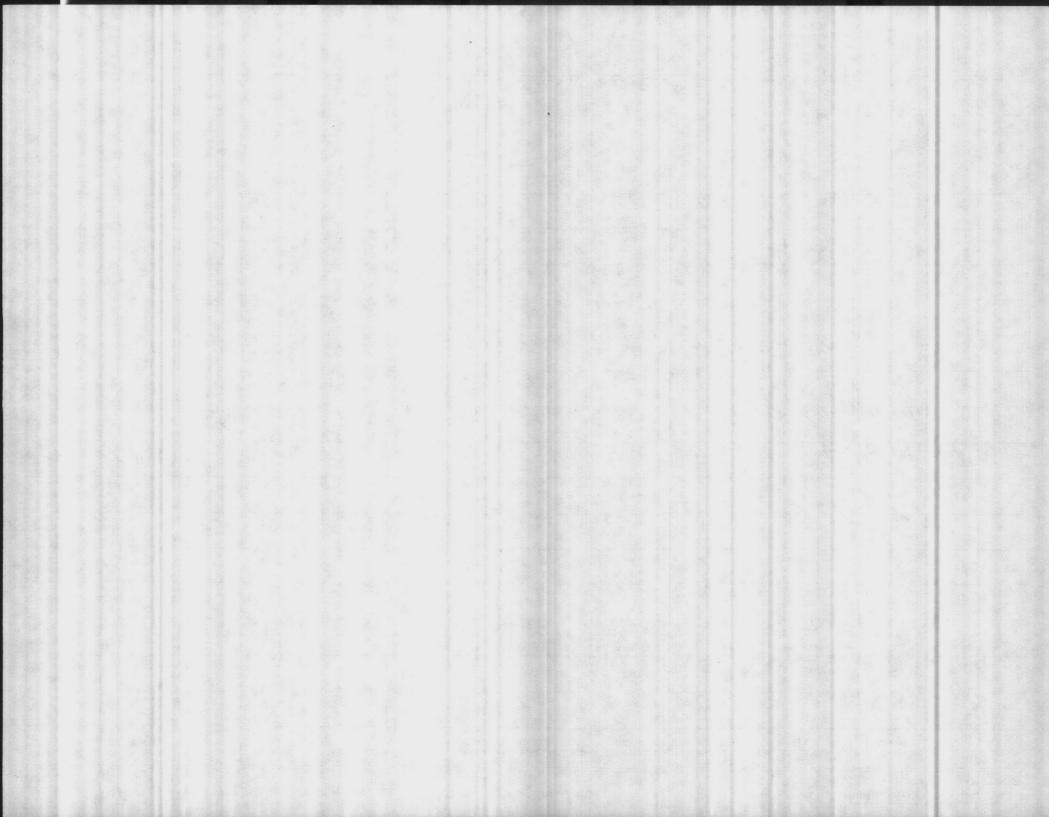
CHEMICAL ANALYSIS - WATER MCBCL 11330/3 (REV. 3-82)	R TREATMENT	PLANTS		
		HOUTCORD	TADAWA	T

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CHEMICAL ANALYSIS - W	ATER TR	EATMENT	PLANTS			MR P	RIEL		DATE COLLECTER	
MCBCL 11330/3 (REV. 3-82)		HADNOT	MONTFORD	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE	HOLCOMB	3 MA	1983
<u>э</u> н		8.5	7.3	8.5	7.3	8.3	8.3	8.8	8.5	
PENOLTHALEIN ALKALINITY		2	0	0	0	. 0	0	3	10	
ETHYL ORANGE LKALINITY		56	160	60	142	150	140	54	160	
CARBONATES AS CaCO3		4	0	0	0	0.	0	6	20	
BICARBONATES AS CaCO ₃		52	160	60	142	150	140	48	140	
CHLORIDES AS C1		8	10	10	12	10	18	14	70	
IARDNESS AS CaCO3		62	36	82	56	66	72	56	40	
RON AS Fe	·	0.04	0.27	0.10	0,07	0.06	0.10	0.04	0,14	
	1.1/0.1	0.91	0.17	0.98 0.91	0.17	0.21	0.07	0.98	0.67	
		1.2	1.4	1.0	2.5	1.5	1,0	1.0	1.4	
	h.h.	0.36	0.28	0,20	0,22	0.22	0.28	0.22	0.42	
OTAL PHOSPHATE	•		1.60			1.10				
DRTHO PHOSPHATE			.96			.92				
AETA PHOSPHATE			0.72			0.18				
STABILITY		+0.4	. —	+0.3	-	+0.2	+0.2	0.0	40.1	

NOTE: All resul and spe	ts reported in parts per million unless otherwise noted except for pH, temperature, cific conductance. One liter of potable water is assumed to weigh one kilogram.	LABORATORY A	11	 bely	ell	 DATE OF ANALY	rsis 83	Contraction and
			1 /					-

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CHEMICAL ANALYSIS - WATER TREATMENT PLANTS

MCBCL 11330/3 (REV. 3-82)		and a subscription						12 APRIL	83
PARAMETER	HADNOT POINT	MONTFORD POINT	TARAWA TERRACE	ONSLOW BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	
РН	8,8	7.3	8.7	7.3	8.2	8.3	8.7	8.9	
PENOLTHALEIN ALKALINITY	2	0	2	0	0	2	2	4	
METHYL ORANGE ALKALINITY	50	140	50	142	160	120	50	52	
CARBONATES AS CaCO3	4	0	4	0	0	4	4	8	
BICARBONATES AS CaCO ₃	46	140	46	142	160	116	46	44	
CHLORIDES AS C1	10	14	10	20	14	20	10	70	
HARDNESS AS CaCO3	60	92	84	62	64	44	68	60	
RON AS Fe	0.04	0.47	0.06	0.11	0.26	0.05	0.04	0,21	
	0.77	0.07	0.70,74	0.16	0.16	0.12	0.91/0.63	0,39	Ask Kil
	1.0	1,4	1.0	1.2	1.3	1.0	1.0	1.3	
TURBIDITY AM	0.20	0.30	0.47/0.36	0.18	1.0	0.24	0.21/0.24	0.53	
TOTAL PHOSPHATE	and the second	1.26			1,00				
		0.96		•	0.38				
		0,30			0,62				
STABILITY	+0.5	-	+0.4	-	+0.2	+0.1	+0.4	+0.3	

NOTE: All results reported in parts per million unless otherwise noted except for pH, temperature, and specific conductance. One liter of potable water is assumed to weigh one kilogram.

LABORATORY ANALYSIS BY

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* monakan DATE OF MALYSIA

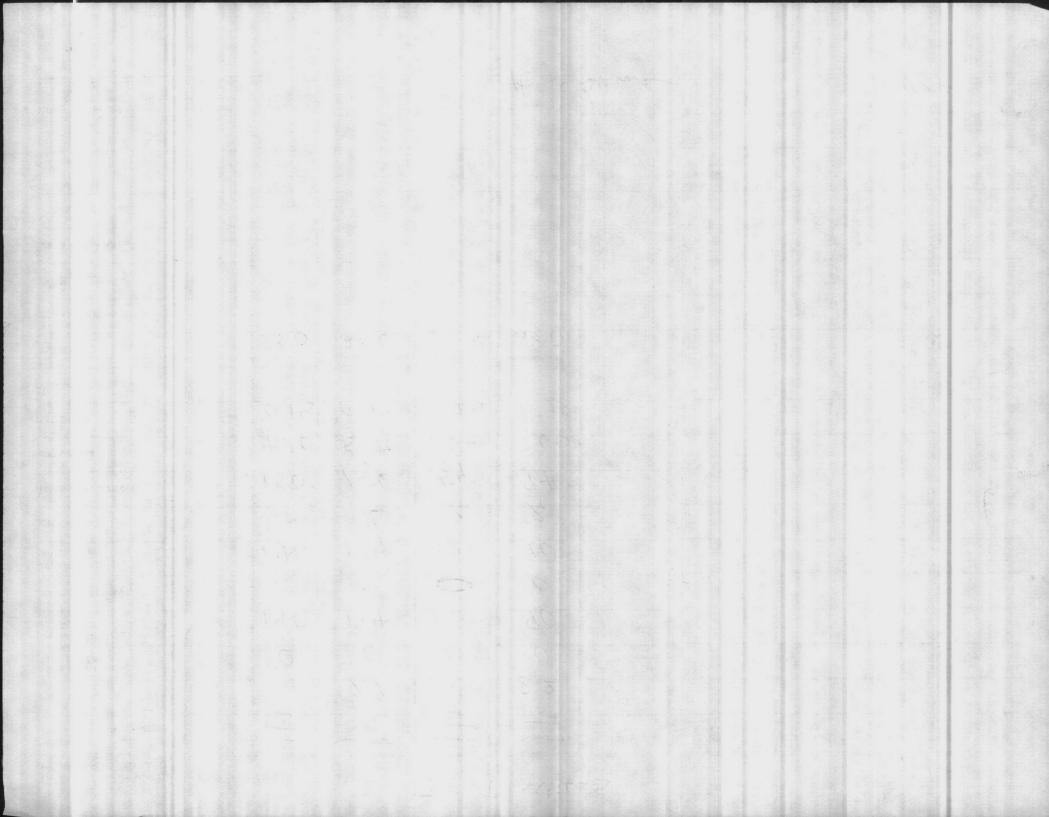
MR PRICE WAR

DATE COLLECTED

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TEST WELLS

ACBCL 11330/3 (REV. 3-82)			-				1	7/10/	84
PARAMETER	-HADNOT	MONTFORD		BEACH	COURTHOUSE BAY	RIFLE RANGE	HOLCOMB BLVD	NEW RIVER	
и	7.9	7.9	# 8.3	8.2					
ENOLTHALEIN LKALINITY	0	0	0	0					
IETHYL ORANGE ILKALINITY	140	184	120	90					
ARBONATES AS CaCO3	0	0		0					
NCARBONATES S CaCO ₃	140	184	120	90					
CHLORIDES AS C1	10	2	2	2					
IARDNESS AS CaCO3	150	156	54	94		And Sec.			
RON AS Fe	4.20	5.00	1.64	2.60					
LUORIDE	0.15	0.34	1,25	0,28	1				
HLORINE RESIDUAL									
URBIDITY	23.0	25.0	29.0	30.0					
OTAL PHOSPHATE									
ORTHO PHOSPHATE									
IETA PHOSPHATE									
STABILITY									
REMARKS						1.21			
									1
				and an					
IOTE: All results reported in parts per m and specific conductance. One li	illion unless otherwi ter of potable water	se noted except for is assumed to weig	pH, temperature, gh one kilogram.	LABORATORY AN	ANYSIS BY			DATE OF ANALYS	sis -



STATE LABORATORY OF HYGIENE

(NORTH CAROLINA STATE BOARD OF HEALTH)

ANALYSIS OF WATER

LABORATORY	NUMBER	Q3876					
SENT BY	.H. KELLAM,	SANITARY EN	G.				
	NAVY DEP	r.					
ADDIEDS		, N.C.					
SOURCE	CTED MECHANI	ICAL SYSTEM	in an		C	OUNTY ON	SLOW
MARKED DIST	. RIFLE RANG	HE, U.S. MAR	INE CO	RPS			
COLLECTED.					REPORTE	D9-10-4	2
COLLECTED	BY						
				CAL ANALY		0	
COLI-AEROGE	NES GROUP.						
			en energia		0.1cc		
TOTAL COUNT							
colonies per cc.	Nutrient agar	2500	L	itmus agar		Acid	0
				ANALYSIS			
Sediment	0	Color	very	slight	Turbidi	ity0	
Odor-cold	0	Odor-	hot	0			
		CHEM	ICAL	ANALYSIS			
рH 7.7	Chlorides	8 ppn	ı. Alum		ppm. I	[ron	ppm.
Manganese	ppm.	Alkalinity		ppm. Nitrites	I	0	
Total Hardness_		ppm			· · · · · · · · · · · · · · · · · · ·		ppm.
REMARKS			Red Pr				
<u></u>							
John H. Hamilto	on, M. D., Dire	ctor		MLS		A	nalyst.

(For explanation of analysis see other side)



Alkalinity.—Nearly all the waters of the State are naturally alkaline. An acid water, whether natural or due to improper dosage of aluminum sulphate, will be found injurious to metal pipes and unsuitable for use in boilers.

Alum Dosage.—Where alum is used as a coagulant, the dosage should be controlled by hydrogenion concentration (pH) (determinations. Proper dosage will result in good flocculation and a clear effluent with very little residual alum. An improperly working filter may pass a precipitate of aluminum hydrate.

Chlorides.—The normal amount varies greatly. In some localities near the coast it is as high as sixty or seventy parts per million, while in many regions it is below five parts.

A marked increase for the locality points towards pollution.

Nitrogen.—Nitrogenous organic matter may exist in water as albuminoid nitrogen, ammonia, nitrite or nitrates. The first is due to the presence of vegetable or animal tissues. By decomposition this is changed to ammonia, and this in turn to nitrites and nitrates.

The presence of nitrites usually indicates recent pollution by sewage or other organic matter.

An excessive amount of nitrates points to a continued or past pollution.

Hardness is due to mineral matter in solution. The *Temporary Hardness* is removed by boiling. The *Permanent Hardness* may only be removed by the addition of some softening agent, as soda.

The Incrustants include all the scale-forming ingredients of the water.

Typhoid Bacteria do not originate in water. They get into water only from contact with human beings or from human excreta. Their isolation from water is a rare occurence, though unfortunately their presence is not so rare. The purity of water must be estimated by other means, chief of which is the presence or absence of the *Colon bacillus*.

Bacteria of the Coli-aerogenes group are inhabitants of the intestines of man and animals. Their presence in so small a quantity as ten cubic centimeters is undesirable, and if found in one cubic centimeter it is still more significant of pollution.

The U. S. Treasury Department standard for the examination of water on Interstate Common Carriers requires that not more than one out five 10 c.c. portions of any sample examined shall show the presence of organisms of the *B. coli group*. The water purification plants in the State should attempt to produce water which shall not exceed this limit of impurity.

The Acid-producing Bacteria are in most cases Colon bacilli or other bacteria which indicate pollution.

Total Bacteria Count.—All unsterilized waters contain bacteria, most of them harmless. No absolute standard for all waters can be fixed.

Both bacterial and chemical changes are continually taking place in water. Therefore slight differences between results obtained at the laboratory and at the filter plant may be expected.



ANALYSIS OF WATER

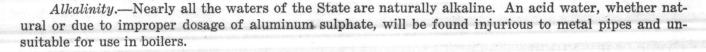
LABORATORY NUMBER	Q 2819				
SENT BY N. H. Kellam, S	en al an				
ADDRESS Navy Department		he he share the second			
).				
SOURCE Drilled pump we	and the second second		COL	INTV	Onslow
MARKED Well No. 2 - Ri					
COLLECTED 7-23-42					
COLLECTED BY				lang sanan T	angalanan sing
COLLECTED BI					
	BACTERIOLOG	SICAL ANALY	'SIS		
COLI-AEROGENES GROUP.	50cc		10cc	0	
	1cc0		0.1cc		
TOTAL COUNT after 24 Hrs.	at 37.5°C.	n i tradicio dalla di L'Arganica de Sarte			
colonies per cc. Nutrient agar_	4500	Litmus agar	0	Acid	0
	PHYSICAL	ANALYSIS			
Sediment0	Color	0	Turbidity_		0
Odor-cold0	Odor-hot	0	a maring an ang tang		
		L ANALYSIS			
pH_7.8 Chlorides	8ppm. Alu	m	ppm. Iror	1	ppm.
Manganeseppm.	Alkalinity	ppm. Nitrites	J	0	
Total Hardness	ppm				ppm.

John H. Hamilton, M. D., Director MLS Analyst.

(For explanation of analysis see other side)



EXPLANATIONS



Alum Dosage.—Where alum is used as a coagulant, the dosage should be controlled by hydrogenion concentration (pH) (determinations. Proper dosage will result in good flocculation and a clear effluent with very little residual alum. An improperly working filter may pass a precipitate of aluminum hydrate.

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23

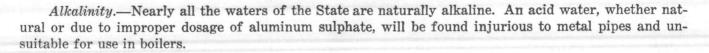
(NORTH CAROLINA STATE BOARD OF HEALTH)

ANALYSIS OF WATER

LABORATORY NUMBER Q 643
SENT BYN. H. Kellam, Sanitary Engineer
ADDRESS Navy Department
New River, N. C.
SOURCE <u>Spring</u> COUNTY
MARKEDRifle_Range U. S. Marine_Corps
COLLECTED4-20-42RECEIVED4-22-42REPORTED4-27-42
COLLECTED BY
BACTERIOLOGICAL ANALYSIS
COLI-AEROGENES GROUP. 50cc 10cc
1cc 0 0.1cc
TOTAL COUNT after 24 Hrs. at 37.5°C.
colonies per cc. Nutrient agarl0Litmus agar0Acid0
PHYSICAL ANALYSIS
Sediment Very slight Color Turbidity Very slight
Odor-cold0OO
CHEMICAL ANALYSIS
pH_6.0ppm. Ironppm. Ironppm.
Manganeseppm. Alkalinityppm. Nitrites0
Total Hardnessppmppm.
REMARKS
John H. Hamilton, M. D., DirectorMLSAnalyst.

(For explanation of analysis see other side)





Alum Dosage.—Where alum is used as a coagulant, the dosage should be controlled by hydrogenion concentration (pH) (determinations. Proper dosage will result in good flocculation and a clear effluent with very little residual alum. An improperly working filter may pass a precipitate of aluminum hydrate.

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THE PERMUTIT COMPANY

MAIN OFFICE ... NEW YORK, N.Y.

Water Conditioning

WATER CONDITIONING OF EVERY TYPE FOR INDUSTRY, FOR MUNICIPALITIES, FOR RESIDENCES. SWIMMING POOL EQUIPMENT. CHEMICAL FEEDS. POWER PLANT SPECIALTIES, ETC.

September 22, 1944.

AUTOMATIC AND MANUAL EQUIPMENT FOR REMOVAL OF HARDNESS, DIRT, IRON, OIL, TASTE AND ODOR, OTHER TROUBLESOME IMPURITIES FROM WATER. CO2 METERS. INTERNAL BOILER FEEDWATER TREATMENT.

N. D. DOANE B3I E. MOREHEAD STREET CHARLOTTE, N. C. (ZONE 3)

Mr. N. H. Kellum, Chemist in Charge of Main Softening Plant, Camp LeJeune, New River, N. Carolina.

Re: Rifle Range Well Samples.

Dear Mr. Kellum:

Attached you will find our laboratory report covering three of the well water samples from the Rifle Range area, which you recently forwarded. Sample from well T was reported by the laboratory as broken in transit. If you have not already done so, please another sample from well T.

Copy of these analyses as also being sent to Mr. Monroe for his use in connection with the design of the proposed treatment plant for the Rifle Range.

Yours very truly,

THE PERMUTIT COMPANY.

W.Doane

N. D. Doane.

Encls. cc-New York NDD:C

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MAIN DEFICE NEW YORK NY

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THE PERMUTIT COMPANY

MAIN OFFICE ... NEW YORK, N.Y.

Water Conditioning

WATER CONDITIONING OF EVERY TYPE FOR INDUSTRY, FOR MUNICIPALITIES, FOR RESIDENCES. SWIMMING POOL EQUIPMENT. CHEMICAL FEEDS. POWER PLANT SPECIALTIES, ETC.

October 12, 1944.

AUTOMATIC AND MANUAL EQUIPMENT FOR REMOVAL OF HARDNESS,DIRT, IRON, OIL, TASTE AND ODOR, OTHER TROUBLESOME IMPURITIES FROM WATER. CO2 METERS. INTERNAL BOILER FEEDWATER TREATMENT.

N. D. DOANE 831 E. MOREHEAD STREET CHARLOTTE, N. C. (ZONE 3)

Mr. N. H. Kellum, Chemist-in-Charge, Water Softening Plant, Camp Lejeune, New River, N. C.

Re: Rifle Range Well Samples.

Dear Mr. Kellum:

Attached is our laboratory report on the last two well water samples you forwarded from Wells T and T_1 .

Thanking you for your cooperation in forwarding the samples, and looking forward to seeing you soon, I am

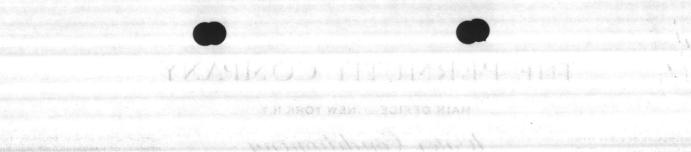
Yours very truly,

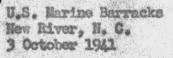
THE PERMUTIT COMPANY.

cc-Mr. B. E. Beavin Encl. NDD:C

no. Doane

N. D. Doane.





Shallow Wells-Permanent Water Supply-Tent Camp Area By Layne Atlantic Company

Status of Pumping Equipment 8 Output

Lowno	Mmbor	ing		1	lavy]	letter	ring f	ichene
		Na Contraction (1997) A Contra						
n	Well			AN AN		RC4	Well	
CONTRACTOR OF CONTRACTOR	Woll						Well	
and the second	Well		٠			A 10 10 10 10 10 10	Well	
	Well-		*			an and the state	Well	
12	Well		*	和大学 12	心藏法	HEH	Well	

All wells equipped as follows:

Pumps

100 g.p.m. - Leyne Bowler Deep Well Turbine having 50* setting (50' of 4" screw connection black steel pipe to pump bowls). 3' of 8" bouls - 3 stages. 91-9" of 4" Tail Pipe. 15" Strainer 61' of 1/8" Airline and Altitude gage (except "F" well, which has 53'-6" of airline). 7/8" Oil lubricated shaft inside 1-1/4" tubing. A" Flange connection on discharge of pump complete with 3ª pressure gage.

Motors 3 H.P. - U.S. Electric Motor, 1750 R.P.M. 220 Volts, 3phase, 60 cycle. Motor class C, Type 1 (open protected, continuous operation).

Condense and a	Burnets Branciscon 4	B . De marine enderson	Second in such as the second
WELDING GS	LOIEGALINGUES A	CAMPLE LET BREED	operation.
	All and a second second		The Property of the second sec

The Rest and and see

	<u>Noll</u>	Discharge	Pressure	Drawlown From Static	Remarks
	"C"(1)	75 gan 👔	البد	Mater Level 401	Discharge line Throttlod
	uB#(3) #E#(2)	75 gpm 110 grm	11/ 9.5/	41 33	"
	aEa(2) aEa(4) aCa(2)	110 grm 110 grm	7// 8//	281 381	
Total	Output :	480 gym	. 69	1200 gallons	per day

Jennings B. Knoebel Asst. Construction Engineer and ge lindering the second reading for the line. The line are set to be the second second second second second

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	al Calendar					Capill No	
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By N. H. Stellan Date 5/27/42

Sample from Well No. 2 Rifle Range Total Solids 184 PPM Dissolved Solids 149 PPM Suspended Solids <u>35</u>PPM Volatile Solids PPM ×..

Phenol. Alk. as CaCo	03 PPM	Silica as Sio2	30	PPM
Total Alk. "	" <u>140</u> "	Ferrous Iron as Fe	0	
Carbonates " "	tt	Total Iron as Fe	1.1	
Bicarbonates " "	140 "	Aluminum as Al	3.4	- 11
Chlorides as Cl.	15 "	Calcium as Ca	46.9	
Sulphates as SO4	72.8 "	Magnesium as Mg	7.8	" "
Nitrites as No2	- a	Sodium as Na	9.9	
Carbon Dioxide as C				

pH 7.7 Soap Hardness as CaCO3 150 PPM Odor Vary Slight Turbidity 10.

REMARKS

WATCH ANALYSIS

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	No. Cherry		· * 128
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Ferrous Iron as Fe

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Calcium as Co.

Hagnesium as Mg.

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Turbidity

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By <u>NHK21/an</u> Date <u>5/21/42</u>

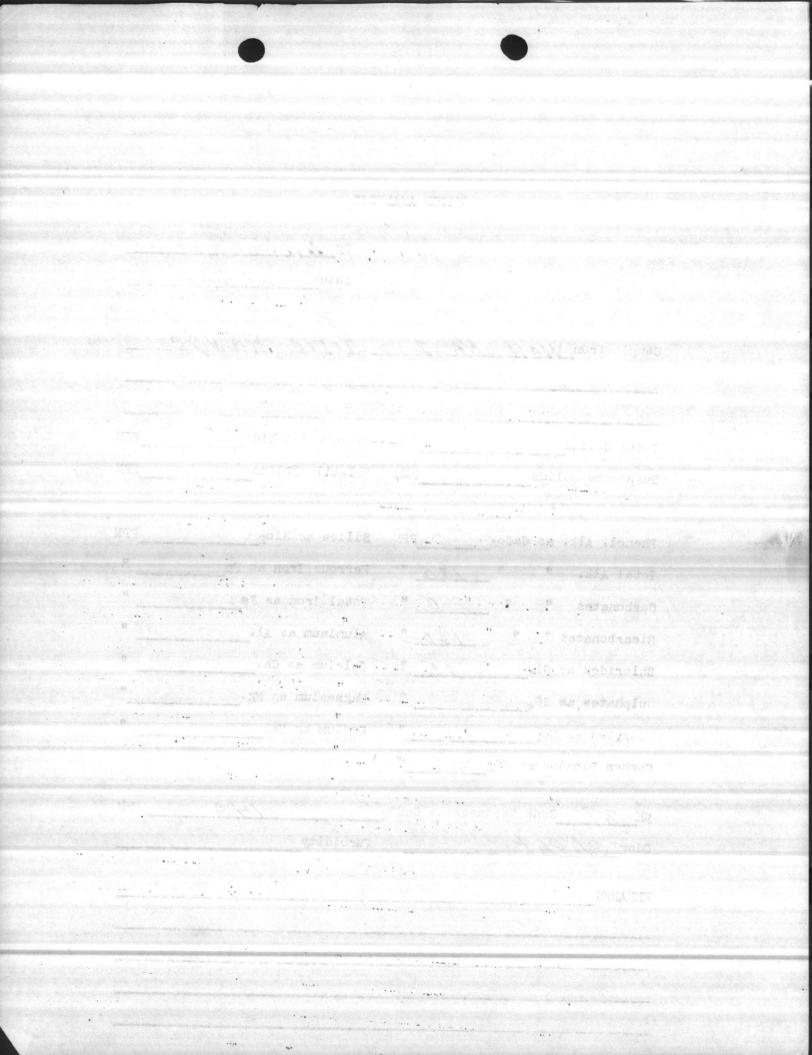
Samp'e from Well No 2 Rifle Range

PPM PPM
ssolved Solids PPM
latile Solids PPM
100

Phenol. Alk. as CaCo3	O PPM	Silica as Sio2	PPM
Total Alk. " "	130 "	Ferrous Iron as Fe	
	0 "	Total Iron as Fe	
Bicarbonates " "	130 "	Aluminum as Al	
Chlorides as Cl.	15."	Calcium as Ca.	11
Sulphates as SO4		Magnesium as Mg	
Nitrites as No2	. 11	Sodium as Na	"
Carbon Dioxide as CO2			

pH 7.7 Soap Hardness as CaCO3 140 PPM Odor Slight Turbidity

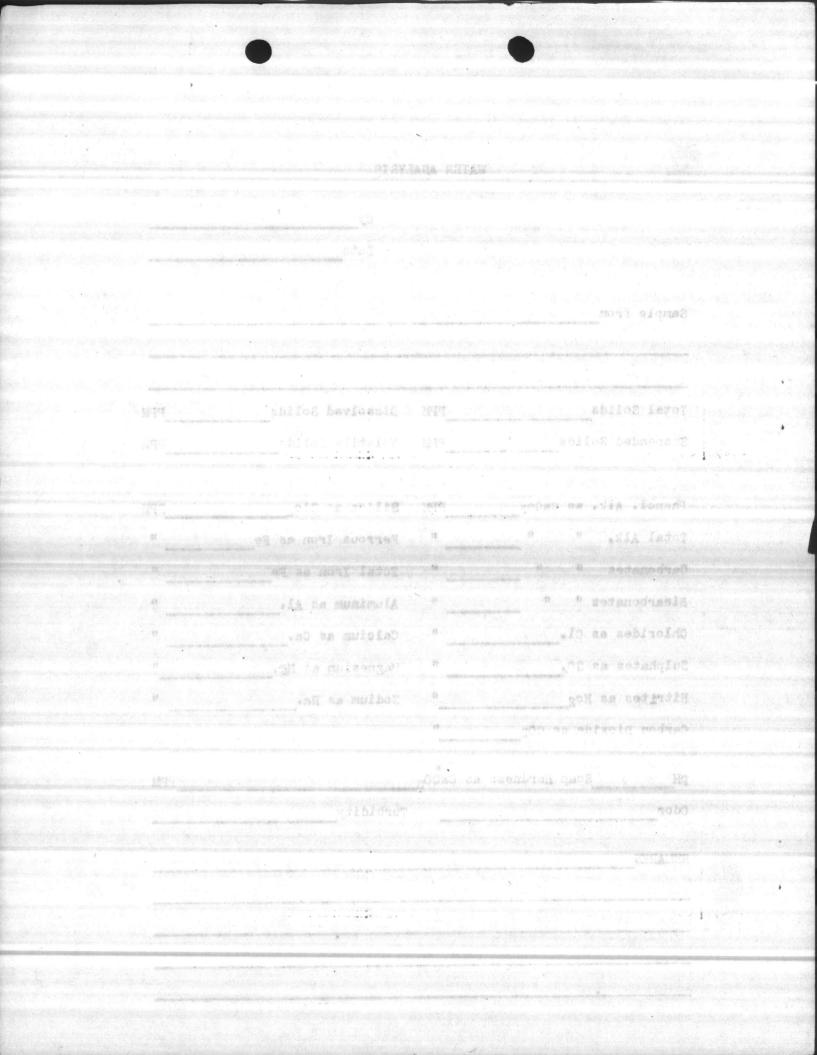
REMARKS



3.0

By______ Date <u>5/16/42</u>

Total Śolids	PPM	Dissolved Solids	PP
Suspended Solids	_PPM	Volatile Solids	PPI
•			
Phenol. Alk. as CaCoz 🖉	PPM	Silica as Sio2	PPN
Total Alk. " " 160		Ferrous Iron as Fe	"
Carbonates " 0		Total Iron as Fe 0.6	"
Bicarbonates " " 160	_ "	Aluminum as Al.	
Chlorides as Cl	- "	Calcium as Ca	11
Sulphates as SO4		Magnesium as Mg.	<u>,</u> "
Nitrites as No2		Sodium as Na	11
Carbon Dioxide as CO2	11		
pHSoap Hardness as	CaCOz		PPM
odor <u>slight</u>		Turbidity 10	
REMARKS			
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Odor

REMARKS

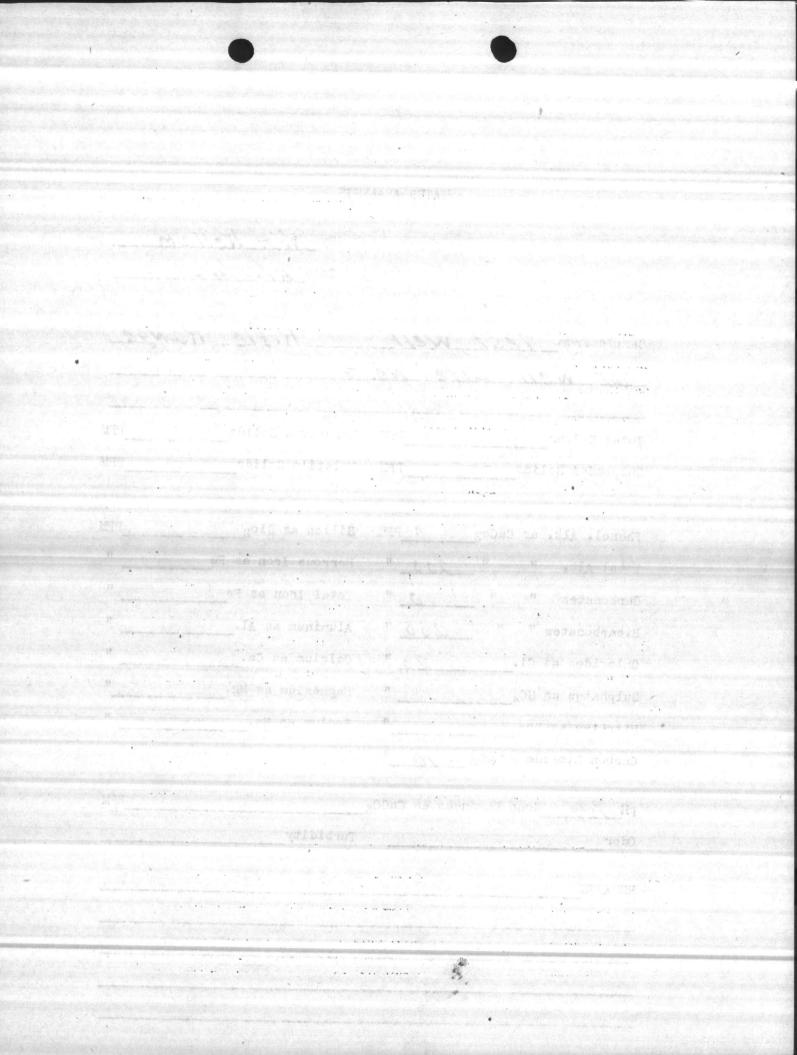


WATER ANALYSIS

By N. H. Kellam Date 5/11/42

Sample from test W at Well Site	NO.	Rifle_Mai	Nge
Total Solids	PPM	Dissolved Solids	PPM
Suspended Solids	PPM	Volatile Solids	PPM
Phenol. Alk. as CaCoz	/ PPM	Silica as Sio2	PPM
Total Alk. " "		Ferrous Iron as Fe	"
Carbonates " "		Total Iron as Fe	11
Bicarbonates " "2		Aluminum as Al	
Chlorides as Cl.		Calcium as Ca	
Sulphates as SO ₄		Magnesium as Mg	
Nitrites as No2		Sodium as Na	11
Carbon Dioxide as CO2			
pH 7.4 Soap Hardness	as CaCO	1	PPM

Turbidity







By N. H. Mellam Date 5/1/42

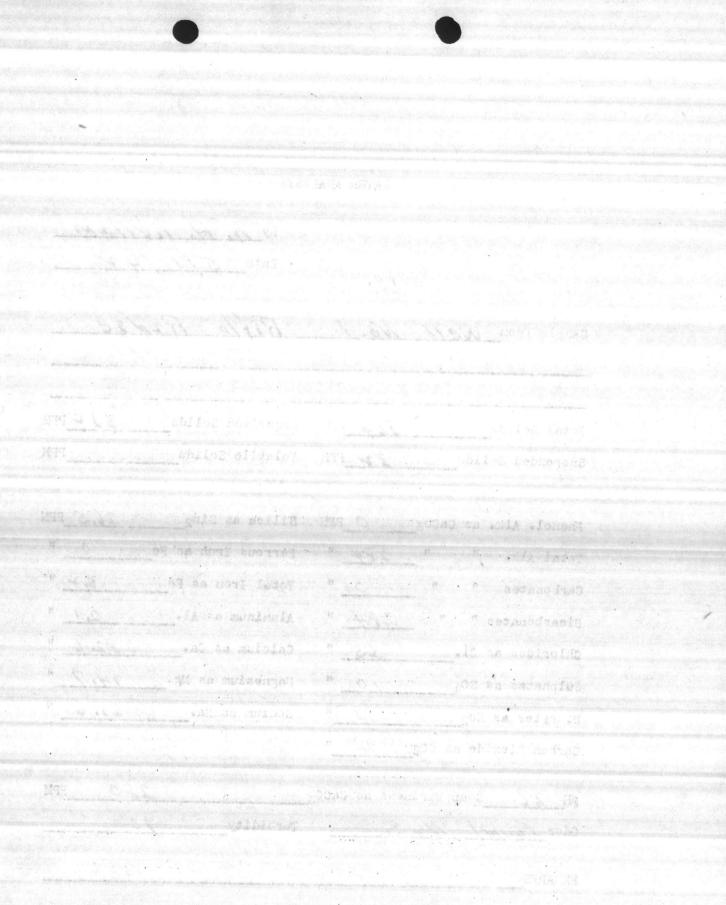
Sample from Well No. 1 Rifle Range

Total Solids	364 PPM	Dissolved Solids	332 PPM
Suspended Solids	32 PPM	Volatile Solids	PPM

Phenol. Alk. as CaCo3	O PPM	Silica as Sio2	26.5	PPM
Total Alk. " "_	284 "	Ferrous Iron as Fe	0	n
Carbonates " "	0 "	Total Iron as Fe	0.2	11
Bicarbonates " "	284 "	Aluminum as Al	2.1	. 11
Chlorides as Cl	35 "	Calcium as Ca	82.6	. "
Sulphates as SO4	10 "	Magnesium as Mg	14.7	"
Nitrites as No2	0 "	Sodium as Na	27.6	. "
Carbon Dioxide as CO2	4 "			

pH 7.6 Soaj	Hardness as	CaCO3	280	PPM
odor Faint			10	

REMARKS







By N. H. Kellam Date 4-17-42

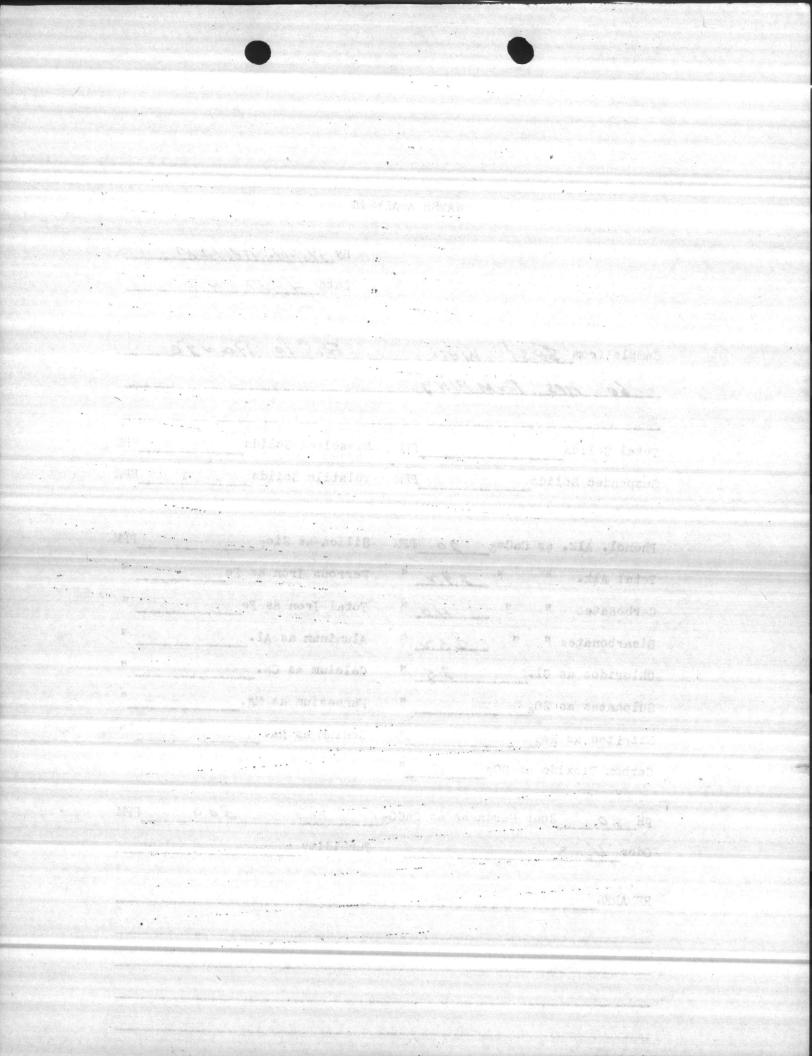
Rifle Range Sample from Sest Wiell 60 HIS Prmping

Total Solids	PPM	Dissolved SolidsPPM
Suspended Solids	PPM	Volatile SolidsPPM

Phenol. Alk. as CaCoz 20	PPM	Silica as Sio2	PPM
Total Alk. " " _ 292	. "	Ferrous Iron as Fe	
Carbonates " " 46	"	Total Iron as Fe	
Bicarbonates " " 232	"	Aluminum as Al.	1 1
Chlorides as Cl. 35		Calcium as Ca	ft
Sulphates as SO ₄		Magnesium as Mg	ti
Nitrites as No2	"	Sodium as Na	
Carbon Dioxide as CO2	Ħ		

pH 80	Soap Hardness	as CaCO3_	e and and a grader and a second	300	PPM
odor Hr -	5		Turbidity	terra a construction de la const	

REMARKS



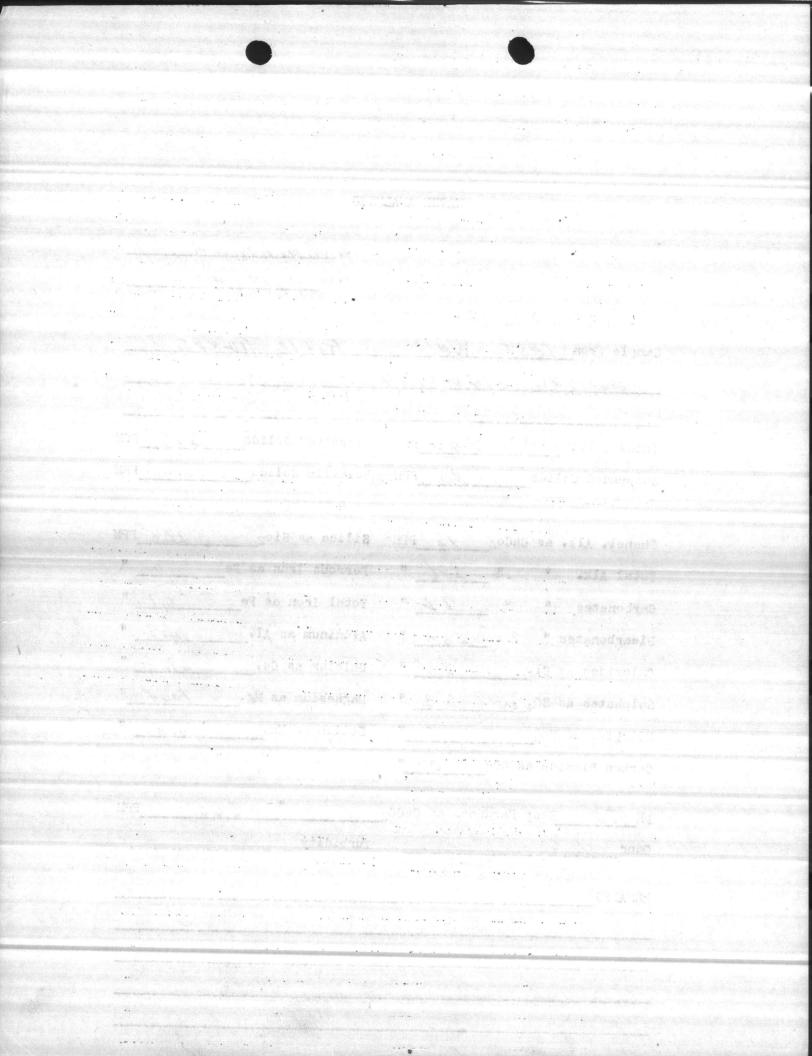




By N.H. Kellam Date 4/17/42

Total Solids	342 PPM	Dissolved Solids	314 PPM
Suspended Solids	ZO PPM	Volatile Solids	PPM
Phenol. Alk. as CaCo3_	<u>/6</u> PPM	Silica as Sio ₂	28,5 PPM
Total Alk. " "		Ferrous Iron as Fe	0 ",
Carbonates " "	32 "	Total Iron as Fe	0,1 "
Bicarbonates " "	254 "	Aluminum as Al	4.7 "
Chlorides as Cl.	34 "	Calcium as Ca	69, 2 "
Sulphates as SO4	23 "	Magnesium as Mg	10.4"
Nitrites as No2	0 "	Sodium as Na.	26.8 "
Carbon Dioxide as CO2	"		
pH 6.0 Soap Hard	ness as CaCOg	2	o PPM
odor Hys		Turbidity	

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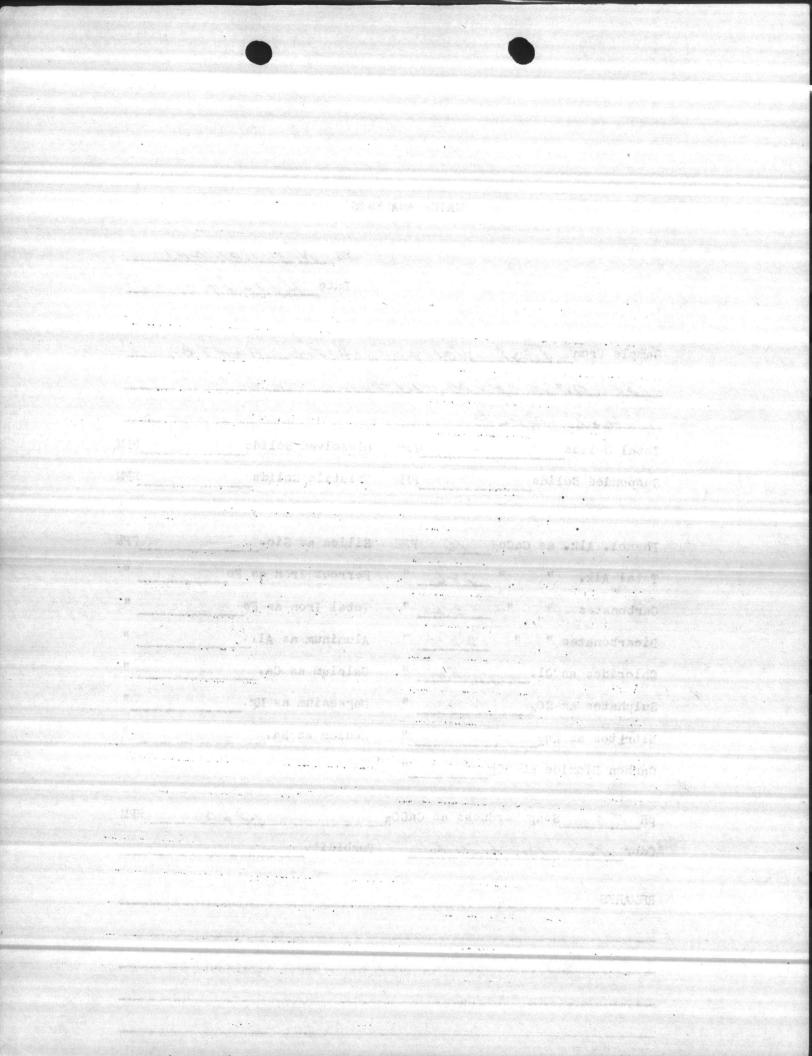
By N. H. Kellam Date 4/16/42

Sample from Test	Well	Rifle Ran	170
30 hrs Pr	mpin		
467' Deep)		
Total Solids	PPM	Dissolved Solids	PPM
Suspended Solids	PPM	Volatile Solids	PPM

Phenol. Alk.	as CaCoz	16	PPM	Silica as Sio2	PPM
Total Alk.	11 II _	286		Ferrous Iron as Fe	, n
Carbonates	ti 11	22		Total Iron as Fe	
Bicarbonates	" "	234		Aluminum as Al	11
Chlorides as	c1	34		Calcium as Ca	
Sulphates as	s04		м	Magnesium as Mg	"
Nitrites as	No2		"	Sodium as Na.	f1
Carbon Dioxi	de as CO2	0	11		and show the second

260 pH_ f. 0____ Soap Hardness as CaCO3____ PPM odor Hrs Distanct Turbidity

REMARKS







By N.H. Kellam

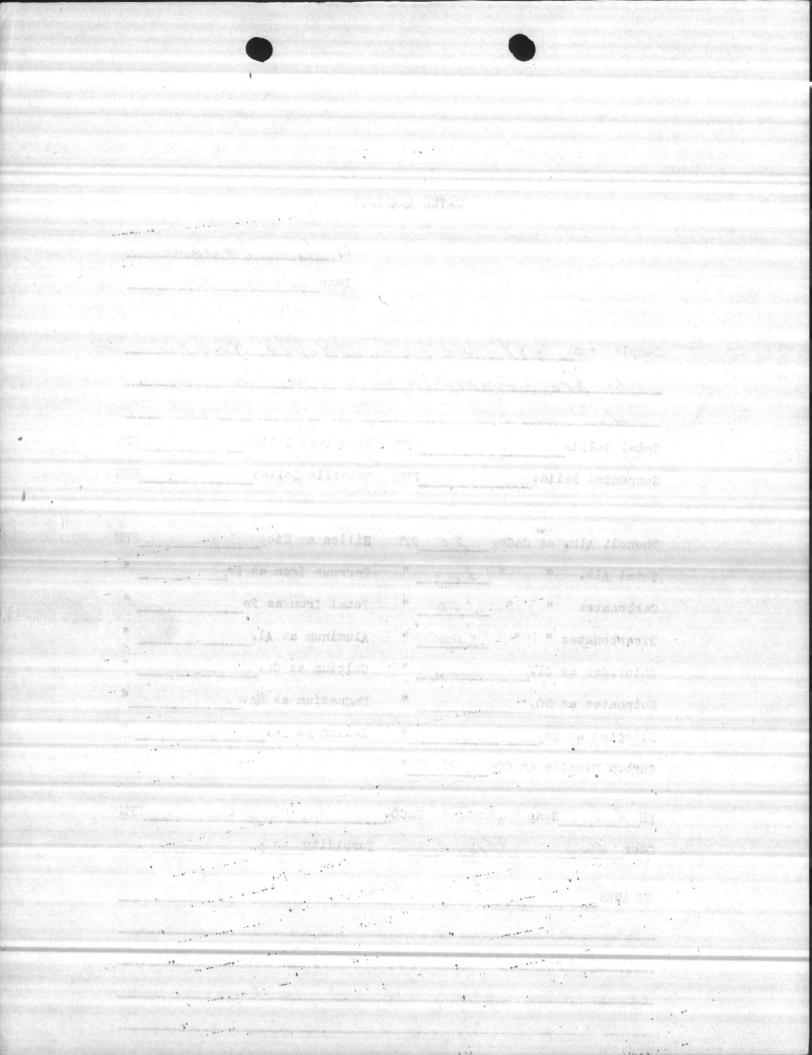
Date 4-15-42

Sample from test	Well	Rifle Ran	90
15 hrs Pri	MPING	<u>.</u>	
4.62' Deep)		
Total Solids	PPM	Dissolved Solids	PPM
Suspended Solids	PPM	Volatile Solids	PPM

Phenol. Alk.	as	CaCo3_	20	PPM	Silica as Sio2	PPM
Total Alk.	u	14	324		Ferrous Iron as Fe	
Carbonates	11	" _	40		Total Iron as Fe	
Bicarbonates	Ħ	11 _	184		Aluminum as Al	11
Chlorides as	c1.		33	"	Calcium as Ca	"
Sulphates as	S04			- "	Magnesium as Mg.	"
Nitrites as	No2_		. Algorithe in a	11	Sodium as Na	
Carbon Dioxi	de a	s CO2	0	1		

266 pH 6. 0 Soap Hardness as CaCO3_ PPM Odor Has Distinct Turbidity

REMARKS







By N.K. Kellam Date Appil 14-42

Dissolved Solids	PPMPPM
Volatile Solids	PPM
Silica as Sio2	PPN
Ferrous Iron as Fe	
Total Iron as Fe	11
Aluminum as Al	11
Calcium as Ca	"
Magnesium as Mg	
Sodium as Na	"
	Total Iron as Fe Aluminum as Al Calcium as Ca Magnesium as Mg

S = RR 45 S, = RR 47 T = RR 46 - Not in Use T, = RR 227 or 51 - Stone Bay in here we have DIVERT STAR themail Alia as the second of the Shillow as him and A doit charge Alexandrandes " SAC " " cotenidancia ab an ini ulai and the part of the

