



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

Danny's copy
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IN REPLY REFER TO:

114:WLC
6280

2 6 AUG 1981

From: Commander, Atlantic Division, Naval Facilities Engineering Command
To: Commanding General, Marine Corps Base, Camp Lejeune (Attention
Assistant Chief of Staff for Facilities)

Subj: Monitoring data for Trihalomethanes in drinking water; request for

Ref: (a) 40 CFR Part 141, Federal Register, Vol. 44 of 29 Nov 1979
(b) LANTNAVFACENGCOCM ltr 114:WLC 6280 of 29 Jul 1980
(c) FONECON MCB CAMP LEJEUNE (Mr. D. Sharp)/LANTNAVFACENGCOCM
(Mr. W. Carter) of 21 Aug 1981
(d) LANTNAVFACENGCOCM ltr 114:JGW 6280 of 31 Jul 1981

Encl: (1) Summary of Trihalomethanes Regulations
(2) TTHM Surveillance Report Forms-Hadnot Point
(3) TTHM Surveillance Report Forms-MCAS H NEW RIVER

1. As an amendment to the National Primary Drinking Water Standards, reference (a) establishes a maximum contaminant level (MCL) of 0.10mg/l for total Trihalomethanes (TTHM), including chloroform, that are introduced into drinking water by the reaction of naturally occurring substances with chlorine in the course of water treatment. Enclosure (1) is a complete summary of the monitoring and reporting requirements of the regulations.

2. Reference (b) initiated the monitoring program at MCB CAMP LEJEUNE for development of a TTHM data base prior to the scheduled compliance date. However, sampling will be terminated (tentatively projected for December 1981) once sufficient data have been received by this Command to characterize the potable water supplies. At such time, further action may be pursued through planned field surveys to identify sources of organic precursors and modification within treatment plant where conditions warrant.

3. Enclosures (2) and (3) are forwarded for your information and use as requested during reference (c). They document the subject monitoring program which includes samples from the Hadnot Point and MCAS H NEW RIVER plants and distribution systems. Arrangements have been made (per reference (d)) to also include the Rifle Range plant and system in the above program commencing in July 1981. Additional data will be forthcoming, upon receipt by this office.

4. Any questions or comments regarding implementation of the sampling program should be addressed to Mr. W. Carter of this Command at AUTOVON 690-4903.

J.R. Bailey
J. R. BAILEY
By Direction

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SUMMARY OF TTHM REGULATIONS

Maximum Contaminant Level (MCL): 0.10 mg/l (100 micrograms per liter)
Total Trihalomethanes

Applicability: Community water systems that add disinfectant to the treatment process (ground and surface)

Effective: Systems >75,000: 2 years after promulgation
Systems 10-75,000: 4 years after promulgation
Systems <10,000: State discretion

Monitoring requirements: Running annual average of a minimum of 4 samples per quarter per plant taken on same day. Systems using multiple wells drawing raw water from a single aquifer may, with State approval, be considered one treatment plant for determining the required number of samples.

Effective: Systems >75,000: 1 year after promulgation
Systems 10-75,000: 3 years after promulgation
Systems <10,000: State discretion

Sample Locations: 25% at extreme of distribution system; 75% at locations representative of population distribution.

Frequency:

For groundwater systems, reduced monitoring may be appropriate for certain systems; States may reduce the requirements through consideration of appropriate data including demonstration by the system that the maximum total trihalomethane potential (MTP) is less than 0.10 mg/l; the minimum frequency would be one sample per year for MTP.

For ground water systems not meeting the above MTP and for surface water systems, States may reduce the monitoring requirements if after one year of data collection, TTHM levels are consistently below 0.10 mg/l; the minimum frequency would be one sample per quarter for TTHM.

The original frequency would be reinstated if the levels exceed 0.10 mg/l or if the treatment or source is modified.

Reporting Requirements:

To State: Average of each quarterly analysis, within 30 days; until States have adopted the regulations, reporting will be to EPA unless State requests receipt of data from the public water systems.

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To Public and State: Running annual average of each quarterly sample if it exceeds MCL as prescribed by the public notification provisions.

Other Requirements:

To ensure microbiological quality: State approval of significant modifications in the treatment process for the purpose of meeting the TTHM MCL.

Analytical requirements: In accordance with specified methods (purge and trap or liquid/liquid extraction) conducted by certified laboratories.

Other Issues of Interest: Guidance on alternative disinfectants

- Conduct monitoring when chlorine dioxide is used and residual oxidants should not exceed 0.5 mg/l.
- The decision of using chloramines is best made on a case-by-case basis by the State.
- Standard plate count should be a condition for State approval of systems where process modifications are contemplated.

Laboratory Availability (interim certification):

- To qualify for interim certification. Laboratories will be required to demonstrate their ability to analyse the performance evaluation samples provided to them by EPA's Environmental Monitoring and Support Laboratory (EMSL) to within 20% of the "true value" for each THM as well as the total.
- A quality assurance program will be established to ensure a laboratory's ability to perform quality analyses.

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TTHM SURVEILLANCE REPORT FORM

Installation MCB - LA SEUNE - HADNOT POINT

Date Collected 21 OCT 80 AM

AVE 34 APPROX.

HOSP

Source	Sample Number	CHCl ₃	CHCl ₂ Br	CHClBr ₂	CHBr ₃	TTHM
WTP	086	18.6	¹³⁸ (8)	5.1	0.3	32
NH-1	087	20.6	¹³⁸ (9)	6.3	0.6	36
1202	088	19.3	¹³⁸ (8)	5.4	0.3	33
65	089	18.8	¹³⁷ (8)	5.5	0.4	33
FC-S30	090	18.7	¹³⁶ (8)	5.7	0.4	33
Reference OBS						
True						

Date Received 30 OCT 80

Date Analyzed 31 OCT 80

Remarks: WATER IS HIGHLY CONTAMINATED WITH LOW MOLECULAR WEIGHT HALOGENATED HYDROCARBONS. STRONG

INTERFERENCE IN THE REGION OF CHCl₂Br.

William C Neal
WILLIAM C. NEAL, JR.
Chief, Laboratory Services

CANNOT ~~DETERMINE~~ DETERMINE TRUE VALUE OF THAT COMPOUND. EXPERIENCE SHOWS THAT THE TRUE CONCENTRATION IS LOW, SINCE THE OTHER CONCENTRATIONS ARE LOW!

NAVY

TTHM SURVEILLANCE REPORT FORM

Installation CAMP LEJEUNE - HADNOT POINT

Date Collected 18 DEC 80 AM

Source	Sample Number	CHCl ₃	CHCl ₂ Br	CHClBr ₂	CHBr ₃	ug/L TTHM
WTP	N111	20.0	?	6.2	1.0	27 +
NA-1	112	18.7	?	7.0	1.2	25 +
1202	113	19.3	?	6.8	1.1	27 +
65	114	19.9	?	6.4	1.0	27 +
FC-530	115	19.8	?	7.3	1.2	28 +
Reference OBS						
True						

Date Received 29 DEC 80

Date Analyzed 8 JAN 81

Remarks: 22

YOU HEAVY ORGANIC INTERFERENCE AT CHCl₂Br. NEED TO ANALYZE FOR CHLORINATED ORGANICS BY GC/MS.

William C. Neal, Jr.
WILLIAM C. NEAL, JR.
Chief, Laboratory Services

CLW

NAVY

TTHM SURVEILLANCE REPORT FORM

Installation CAMP LA SEUNE - HADNOT PT

Date Collected 29 JAN 81 PM

HEAVY INTERFERENCE

Source	Sample Number	CHCl ₃	✓ CHCl ₂ Br	CHClBr ₂	CHBr ₃	ug/L TTHM
WTP	161	22.7	?	6.2	0.9	30 +
NH-1	162	27.2	?	6.3	0.8	34 +
1202	163	23.8	?	6.6	0.9	31 +
65	164	24.3	?	6.8	0.9	32 +
FC-530	165	27.5	?	7.2	1.0	36 +
Reference OBS						
True						

↘ Dichloro bromine here,

Date Received 30 JAN 81

Date Analyzed 9 FEB 81

Remarks: YOU NEED TO ANALYZE FOR CHLORINATED ORGANICS BY GC/MS.

William C. Neal, Jr.
WILLIAM C. NEAL, JR.
Chief, Laboratory Services

NAVY

TTHM SURVEILLANCE REPORT FORM

Installation CAMP LA SEUNE WADNUT POINT

Date Collected 26 FEB 81 PM

AVE 63

Source	Sample Number	CHCl ₃	CHCl ₂ Br	CHClBr ₂	CHBr ₃	ug/L TTHM
WTP	181	48.6	9.6	5.4	1.7	65
NH-1	182	54.5	13.8	5.5	0.2	74
1202	183	46.6	10.6	4.2	0.1	62
65	184	45.5	9.4	5.0	0.1	60
FC-530	185	43.6	8.5	4.2	0.1	56
Reference OBS						
True						

Date Received 9 MAR 81

Date Analyzed 9 MAR 81

Remarks:

WATER HIGHLY CONTAMINATED WITH OTHER CHLORINATED HYDROCARBONS (SOLVENTS)!

William C Neal
WILLIAM C. NEAL, JR.
Chief, Laboratory Services

CLW

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TJHM SURVEILLANCE REPORT FORM

Installation CAMP LE JEUNE (HADNOT PT)

Date Collected 14 APR 81

AVE 51 ^S/_A

Source	Sample Number	CHCl ₃	CHCl ₂ Br	CHClBr ₂	CHBr ₃	TTHM
BLD 20	296	29.1	9.3	3.9	0.2	43
" 1	297	36.9	11.3	4.7	0.3	53
" 1202	298	33.4	10.2	4.2	0.2	49
" 65	299	33.6	11.0	4.2	0.2	49
" 530	300	37.9	12.1	4.6	0.3	55
Reference OBS						
True						

Date Received 20 APR 81

Date Analyzed 22 APR 81

Remarks:

William C. Neal, Jr.

WILLIAM C. NEAL, JR.
Chief, Laboratory Services

Navy

TTHM SURVEILLANCE REPORT FORM

Installation CAMP LE JEUNE. HADNOT PT

Date Collected 11 JUN 81

Source	Sample Number	CHCl ₃	CHCl ₂ Br	CHClBr ₂	CHBr ₃	TTHM
WTP 20	316	23.6	44.0	2.8	0.4	71
NH-1	317	28.6 26.5	45.2 3.0	3.7 0.5	<0.1	30
1202	318	26.5 28.6	44.5	3.1	0.5	75
220	319	26.5	45.6	3.4	1.3	77
530	320	22.8	42.1	2.6	0.4	68
Reference OBS						
True						

Date Received 15 JUN 81

Date Analyzed 23 JUN 81

Remarks:

William C. Neal
WILLIAM C. NEAL, JR.
Chief, Laboratory Services

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TTHM SURVEILLANCE REPORT FORM

Installation MCB - NEW RIVER - AIR STATION

Date Collected 24 OCT 80 AM

AVE 122

Source	Sample Number	CHCl ₃	CHCl ₂ Br	CHClBr ₂	CHBr ₃	TTHM
AS-110 WTP	091	11.8	17.0	24.4	12.4	66
G-520	092	23.0	31.9	40.5	20.9	116
4025	093	22.6	31.4	40.7	22.0	117
710	094	16.3	27.8	41.5	25.0	111
2800	095	18.1	34.7	54.0	35.3	142
Reference OBS						
True						

END

Date Received 30 OCT 80

Date Analyzed 31 OCT 80

Remarks: AVE DOES NOT INCLUDE WTP.

William C. Neal, Jr.

WILLIAM C. NEAL, JR.
Chief, Laboratory Services

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TTHM SURVEILLANCE REPORT FORM

Installation CAMP LESEUNE - AIR STATION

Date Collected 19 DEC 80 PM

WTP

Source	Sample Number	CHCl ₃	CHCl ₂ Br	CHClBr ₂	CHBr ₃	ug/L TTHM
AS-110	N 116	25.9	17.7	10.6	1.5	56
Q-520	117	28.1	21.2	12.7	2.1	63
4025	118	35.9	35.1	28.0	12.2	111
710	119	34.6	24.1	12.6	1.5	73
2800	120	52.9	44.2	30.4	9.3	137
Reference OBS						
True						

Date Received 29 DEC 80

Date Analyzed 8 JAN 81

Remarks: 22

William C. Neal, Jr.
 WILLIAM C. NEAL, JR.
 Chief, Laboratory Services

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TTHM SURVEILLANCE REPORT FORM

Installation CAMP LA SEVNE - AIR STA

Date Collected 28 JAN 81 PM

WTP

Source	Sample Number	CHCl ₃	CHCl ₂ Br	CHClBr ₂	CHBr ₃	ug/L TTHM
AS-110	166	17.3	21.5	25.1	16.0	80
G-520	167	33.1	44.5	43.1	22.9	144
4025	168	29.1	36.5	35.0	18.3	119
710	169	22.8	34.1	38.8	23.7	121
2800	170	21.2	31.7	36.7	23.5	113
Reference OBS						
True						

Date Received 30 JAN 81

Date Analyzed 9 FEB 81

Remarks:

William C. Neal, Jr.
WILLIAM C. NEAL, JR.
Chief, Laboratory Services

NAVY

TTHM SURVEILLANCE REPORT FORM

Installation CAMP LA JEUNE - AIR STA NEW RIVER

Date Collected 18 FEB 81

AVE 97

Source	Sample Number	CHCl ₃	CHCl ₂ Br	CHClBr ₂	CHBr ₃	ug/L TTHM
WTP AS-110	186	20.7	18.7	14.7	4.0	58
G-520	187	29.8	29.6	23.4	6.5	89
4025	188	39.5	38.8	31.1	10.7	120
710	189	29.3	29.3	23.0	6.5	88
2800	190	30.8	30.3	23.5	6.7	91
Reference OBS						
True						

Date Received 9 MAR 81

Date Analyzed 9 MAR 81

Remarks:

William C Neal

WILLIAM C. NEAL, JR.
Chief, Laboratory Services

MAY

TTHM SURVEILLANCE REPORT FORM

Installation CAMP LA SEUNE - AIR STATION

Date Collected 22 APR 81 PM

AVE 104

WTP

Source	Sample Number	CHCl ₃	CHCl ₂ Br	CHClBr ₂	CHBr ₃	TTHM
AS-110	296	14.0	10.4	24.4	18.6	67
520	297	27.6	18.2	32.1	19.2	97
4025	298	20.4	17.5	38.5	25.1	102
710	299	16.9	16.5	37.0 37.0	23.8	94
2800	300	24.6	24.9	47.3	23.7	121
Reference OBS						
True						

Date Received 30 APR 81

Date Analyzed 7 MAY 81

Remarks:

William C. Neal, Jr.
 WILLIAM C. NEAL, JR.
 Chief, Laboratory Services

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TTHM SURVEILLANCE REPORT FORM

Installation CAMP LEJEUNE (NEW RIVER)

Date Collected 12 JUN 81

Source	Sample Number	CHCl ₃	CHCl ₂ Br	CHClBr ₂	CHBr ₃	TTHM
WTP 110	346	6.8	10.8	14.9	8.6	41
G-520	347	20.8	35.7	35.5	15.6	108
4025	348	16.1	25.6	27.0	13.9	83
6710	349	9.7	18.2	22.8	11.7	62
2800	350	23.9	26.0	18.2	4.6	73
Reference OBS						
True						

Date Received 15 JUN 81

Date Analyzed 23 JUN 81

Remarks:

William C Neal Jr
 WILLIAM C. NEAL, JR.
 Chief, Laboratory Services

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