

TRICHALOMETHANE SAMPLING

MONTH: FEBRUARY
 YEAR: 1983
 TIME

SAMPLE # SAMPLE LOCATION
 WTP: Tarawa Terrace Sampler: *Huracut* Date: 2/24/83

| | | |
|-----|---|------|
| 323 | Bldg STT-39A, Water Plant @ 1st Pump | 1428 |
| 324 | Bldg TT-60, TT Elem School I, Main Hall Men's Head Sink | 1432 |
| 325 | Bldg TT-48, TT Elem School II, Men's Head across Office | 1409 |
| 326 | Bldg TT-2453, TT Exchange gas Station's Ladies Room | 1421 |
| 327 | Bldg TT-35, Sewage Plant's Office Sink | 1416 |

WTP: Sampler: Date:

No SAMPLE Bldg E-23, Sewage Lift Station, Knox Trailer Park

WTP: Montford Point Sampler: *Huracut* Date: 2/24/83

| | | |
|-----|---|------|
| 328 | Bldg M-178, Water Plant @ Sink faucet | 1338 |
| 329 | Bldg M-625, Steam Plant, Bathroom Sink | 1358 |
| 330 | Bldg M-128, Branch Clinic, Men's Head <i>closed</i> | |
| 331 | Bldg M-136, Sewage Plant Sink | 1353 |
| 332 | Bldg M-231, BOQ, 1st floor Men's Head | 1347 |

WTP: New River Sampler: Date: 25 Feb 83

| | | |
|-----|--|------|
| 333 | Bldg AS-110, Water Plant @ Pump | 1245 |
| 334 | Bldg G-520, Career Planner, 2nd floor Men's Room | 1332 |
| 335 | Bldg AS-4025, Barracks Rec Room, Bathroom Sink | 1257 |
| 336 | Bldg 710, Officer's Club Gally Sink | 1320 |
| 337 | Bldg 2800, Boat Marina Men's Room | 1310 |

WTP: Holcomb Blvd Sampler: Date: 2-25-83

| | | |
|-----|---|------|
| 338 | Bldg 670, Water Plant @ Pump | 1356 |
| 339 | Bldg 4022, Fire Station, Bathroom Sink | 1431 |
| 340 | Bldg 1915, Golf Course, Men's Locker Room | 1402 |
| 341 | Bldg 5400, Berkeley Manor Elem School, Main Hall Bathroom | 1421 |
| 342 | Bldg 2615, PP Officer's Club, Gally Dishwashing Sink | 1410 |

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TRICHALOMETHANE SAMPLING

MONTH: FEBRUARY
YEAR: 1983

SAMPLE## SAMPLE LOCATION
WTP: Rifle Range Sampler: Date: TIME

343 Bldg RR-85, Water Plant @ Finish Tap 25 Feb 83 1141
344 Bldg RR-6, Fire House Sink 1144
345 Bldg RR-10, Snack Bar Sink 1200
346 Bldg RR-200, Across from Target Shed 1153
347 Bldg RR-92, Sewage Plant Sink 1149

WTP: Courthouse Bay Sampler: *Hunter* Date: 2/25/83
348 Bldg BB-190, Water Plant @ Faucet 0852
349 Bldg BB-7, Mess Hall Sink 0847
350 Bldg BB-54, Service Club 0856
351 Bldg SBB-204, Sewage Plant Sink 0834
352 Bldg BB-46, Marina Bathroom Sink 0841

WTP: Onslow Beach Sampler: *Hunter* Date: 2/25/83
353 Bldg BA-138, Water Plant 0908
354 Bldg BA-103, Mess Hall Closed / Sewage Plant 1018
355 Campsite #2, Spigot 10 (Mainland) Water Cut off
356 Campsite #1, Spigot 2 (Beachside) Water Cut off / *BA-130* 0958
357 Bldg SBA-142, Spigot at bottom of Pier Water Cut off / *Motor T 1026*

WTP: Hadnot Point Sampler: Date: 2-25-83
358 Bldg 20, Water Plant @ Pump 1505
359 Bldg NH-1, Emergency Room Sink 1515
360 Bldg 1202, Men's Room Sink 1445
361 Bldg 65, Quality Control Lab, Room 220 Sink 1530
362 Bldg FC-530, Laundry Room Sink, 1st floor 1453

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THM Sampling Information

| Sample # | WTP | Date | Time | Point of Contact |
|----------------|---------------|------------------------|-----------------|----------------------------------|
| 323 | TT* | 24 Feb 83 | 1428 | Elizabeth Betz (919) 451-5977 |
| 324 | TT | 24 Feb 83 | 1332 | |
| 325 | TT | 24 Feb 83 | 1409 | |
| 326 | TT | 24 Feb 83 | 1421 | |
| 327 | TT | 1415 Feb 83 | 1416 | |
| 328 | CJ* | 24 Feb 83 | 1338 | |
| 329 | CJ | 24 Feb 83 | 1358 | |
| 330 | Not Collected | | | |
| 331 | CJ | 24 Feb 83 | 1353 | |
| 332 | CJ | 24 Feb 83 | 1347 | |
| 333 | NR* | 24 Feb 83 | 1245 | |
| 334 | NR | 24 Feb 83 | 1332 | |
| 335 | NR | 25 Feb 83 | 1257 | |
| 336 | NR | 25 Feb 83 | 1320 | |
| 337 | NR | 25 Feb 83 | 1310 | |
| 338 | HB* | 25 Feb 83 | 1356 | |
| 339 | HB | 25 Feb 83 | 1431 | |
| 340 | HB | 25 Feb 83 | 1402 | |
| 341 | HB | 25 Feb 83 | 1421 | |
| 342 | HB | 25 Feb 83 | 1410 | |
| 343 | RR* | 25 Feb 83 | 1141 | |
| 344 | RR | 25 Feb 83 | 1144 | |
| 345 | RR | 25 Feb 83 | 1200 | |
| 346 | RR | 25 Feb 83 | 1153 | |
| 347 | RR | 25 Feb 83 | 1149 | |
| 348 | CHB* | 25 Feb 83 | 0852 | |
| 349 | CHB | 25 FEB 83 | 0847 | |
| 350 | CHB | 25 Feb 83 | 0856 | |
| 351 | CHB | 25 Feb 83 | 0834 | |
| 352 | CHB | 25 Feb 83 | 0841 | |
| 353 | OB* | 25 Feb 83 | 0908 | |
| 354-357 | Not Collected | | | |
| 358 | HP* | 25 Feb 83 | 1505 | |
| 359 | HP | 25 Feb 83 | 1515 | |
| 360 | HP | 25 Feb 83 | 1445 | |
| 361 | HP | 25 Feb 83 | 1530 | |
| 362 | HP | 25 Feb 83 | 1433 | |

*-not required by SDWA

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

Dear Mr. Rundgren:

Enclosed is a table of results of Trihalomethane analysis conducted for the past year for all eight water treatment systems aboard Marine Corps Base, Camp Lejeune.

The sampling was done by personnel in the Quality Control Laboratory, State ID#37807, located in the Natural Resources and Environmental Affairs Division, under the Assistant Chief of Staff, Facilities. The laboratory analysis, method code 215, was performed by Grainger Laboratories Inc., State ID#37709, located in Raleigh, NC.

Five samples per system were collected each day. Four were the required distribution points and one was taken at the beginning of the distribution system. During your conversation, on 5 May 1983, with Ms. Elizabeth Betz, of this command, you stated that samples from the beginning of the distribution systems were to be calculated in the averages. In compliance with that conversation, the fifth sample point result has been added with the other results for averaging.

For further information of Trihalomethanes at Camp Lejeune the point of contact is Ms. Elizabeth Betz, Supervisory Chemist, Quality Control Laboratory, telephone (919)451-5988.

Enclosure

Copy to:

LANTDIV (Code 114)

BMD, UTIL DIR

SUPVY CHEM

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TOTAL TRIHALOMETHANE ANALYSIS RESULTS

| System | ID# | Quarterly Averages units=ppb | | | | Annual Average |
|-----------------------------|-----------|------------------------------|-------------------------|-------------------------|-------------------------|-------------------|
| | | Quarter | | | | |
| | | 1982 1982 Apr-Jun | 1982 1982 Jul-Sep | 1982 1982 Oct-Dec | 1983 1983 Jan-Mar | |
| Hadnot Point ¹ | 04-67-041 | 29.7 | 43.7 | 48.4 | 44.8 | 41.57 |
| MCAS-New River ¹ | 04-67-042 | 85.9 | 105.2 | 107.4 | 98.2 | 99.17 |
| Holcomb Blvd ² | 04-67-043 | 31.1 | 24.0 | 31.4 | 31.8 | 29.57 |
| Tarawa Terrace ² | 04-67-044 | 14.1 | 19. | 13. | 19. | 16 |
| Camp Johnson ² | 04-67-045 | 7.20 | 5.8 | 8866 | 6.3 ³ | 6.97 |
| Rifle Range ² | 04-67-046 | 51.4 | 48.3 | 52.1 | 51.2 | 50.7 |
| Courthouse Bay ² | 04-67-047 | 45.0 | 42.6 | 45.4 | 40.4 | 43.35 |
| Onslow Beach ² | 04-67-048 | 51 | 38 | 37 | 44 ⁴ | 42 |

Notes

1. Hadnot Point and Marine Corps Air Station-New River systems serve populations between 10,000-74,999.
2. These systems serve populations less than 10,000.
3. In February 1983, one of the distribution sample points at Camp Johnson was secured, so only four points were averaged instead of the usual five.
4. In February, The Onslow Beach distribution points were secured. Therefore the only point collected was at the beginning of the distribution system.

Sample Dates

19 April 1982
20 April 1982
21 April 1982
22 April 1982
28 May 1982

27 May 1982
24 June 1982
25 June 1982

28 July 1982
29 July 1982

17 August 1982
21 September 1982
26 November 1982
29 November 1982

29 December 1982
26 January 1983
24 February 1983
25 February 1983

Systems

Tarawa Terrace, Camp Johnson
MCAS-New River, Holcomb Blvd
Rifle Range, Courthouse Bay, Onslow Beach
Hadnot Point
Tarawa Terrace, Camp Johnson, MCAS-New River, Rifle Range, Courthouse Bay
Holcomb Blvd, Onslow Beach, Hadnot Point,
Tarawa Terrace, Camp Johnson
MCAS-New River, Holcomb Blvd, Rifle Range, Courthouse Bay, Onslow Beach, Hadnot Point
Tarawa Terrace, Hadnot Point
Camp Johnson, MCAS-New River, Holcomb Blvd, Rifle Range, Courthouse Bay, Onslow Beach
MCAS-New River, Rifle Range
MCAS-New River, Rifle Range
Holcomb Blvd, Hadnot Point
Tarawa Terrace, Camp Johnson, MCAS-New River, Rifle Range, Courthouse Bay, Onslow Beach
MCAS-New River, Rifle Range
MCAS-New River, Rifle Range
Tarawa Terrace, Camp Johnson
MCAS-New River, Holcomb Blvd, Rifle Range, Courthouse Bay, Onslow Beach, Hadnot Point

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PPM/PPb

SUMMARY OF THM ANALYSIS FOR FEBRUARY 1983

| SAMPLE #'S | SYSTEM | FEB | DEC-FEB | SEP-NOV | JUN-AUG | MAR-MAY | RUN. AVE |
|------------|---------------------------|--------------------------|------------------------|------------|------------|-----------|---------------------------------|
| | | | JAN-MAR | OCT-DEC | JUL-SEP | APR-JUN | |
| 323-327 | TARAWA TERRACE | 0.02 19.2 | 0.02/19.2 | 0.01/12.6 | 0.02/19.1 | 0.01/11.5 | 0.02/16.6 |
| 328-332 | CAMP JOHNSON ³ | 0.01 6.3 | 0.02/19.2 | 0.01/12.6 | 0.02/18.8 | 0.01/14.1 | 0.02/16.2 |
| | | | 0.01 ³ /6.3 | 0.01/8.6 | <0.01/3.7 | 0.01/7.0 | 0.01 ³ /6.4 |
| 333-337 | NEW RIVER | 0.10 101.4 | 0.01 ³ /6.3 | 0.01/8.6 | 0.01/5.8 | 0.01/7.2 | 0.01 ³ /7.0 |
| | | | 0.10/104.7 | 0.09/92.5 | 0.11/107.3 | 0.08/83.7 | 0.10/97.05 |
| 338-342 | HOLCOMB BLVD | 0.03 31.8 | 0.10/100.2 | 0.11/107.4 | 0.10/105.2 | 0.06/85.9 | 0.10/99.675 |
| | | | 0.03/31.8 | 0.03/31.4 | 0.03/25.6 | 0.03/33.1 | 0.03/30.5 |
| 343-347 | RIFLE RANGE | 0.05 49.4 | 0.03/31.8 | 0.03/31.4 | 0.02/24.0 | 0.03/31.1 | 0.03/29.6 |
| | | | 0.05/51.3 | 0.05/51.6 | 0.05/52.2 | 0.05/46.0 | 0.05/50.2 |
| 348-352 | COURTHOUSE BAY | 0.04 40.4 | 0.05/51.2 | 0.05/52.1 | 0.05/48.3 | 0.05/51.4 | 0.05/50.8 |
| | | | 0.04/40.4 | 0.05/45.4 | 0.05/45.5 | 0.04/43.3 | 0.04/43.65 |
| 353 | ONSLow BEACH ⁴ | 0.04 44 | 0.04/40.4 | 0.05/45.4 | 0.04/42.6 | 0.05/45.0 | 0.04/43.35 |
| | | | /44 | 0.04/36.6 | 0.05/49.4 | 0.04/35.3 | 0.05 50.2 |
| 358-362 | HADNOT POINT | 0.04 44.8 | /44 | 0.04/36.6 | 0.04/38.0 | 0.05/50.3 | |
| | | | 0.04/44.8 | 0.05/48.4 | 0.03/28.5 | 0.04/37.8 | 0.04/39.9 |
| | | | 0.04/44.8 | 0.05/48.4 | 0.04/43.4 | 0.03/27.7 | 0.04/41.6 |

NOTES

1. THE STATE HAS AUTHORIZED USING THE PLANT SAMPLE IN THE AVERAGES
2. THE STATE, NOT THE REGULATIONS, RUN IN CALENDAR QUARTERS
3. CAMP JOHNSON FOR FEBRUARY 1983 IS MISSING ONE SAMPLE POINT
4. ONSLOW BEACH SYSTEM WAS PARTIALLY SECURED IN FEBRUARY 1983 THEREFORE ONLY ONE SAMPLE AT THE PLANT WAS TAKEN

GRAINGER LABORATORIES

INCORPORATED

ANALYTICAL AND CONSULTING CHEMISTS

709 West Johnson Street

Raleigh, North Carolina 27603

(919) 828-3360

ANALYTICAL LABORATORY

Environment Analysis
Construction Materials
Identification of Unknowns
Agriculture
Fuels
Textiles
Chemicals
Hazardous Waste

March 16, 1983
83-6478

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

CONSULTATION

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

Attention: AC/S Facilities

Subject: Analyses of Samples Received 3-2-83

Sample Identification: Purchase Order No. M 67001-82-M-5084

RESULTS

| <u>Sample</u> | <u>Chloroform</u> | <u>Bromodichloro- methane</u> | <u>Chlorodibromo- methane</u> | <u>Bromoform</u> | <u>Total Trihalo- methanes</u> |
|---------------|-------------------|-----------------------------------|-----------------------------------|------------------|--|
| 323 | <1 | 2 | 6 | 5 | 13 |
| 324 | <1 | 2 | 7 | 7 | 16 |
| *324 | <1 | 3 | 7 | 7 | 17 |
| 325 | 1 | 3 | 9 | 9 | 22 |
| 326 | <1 | 2 | 7 | 7 | 16 |
| 327 | 1 | 4 | 11 | 13 | 29 |
| 328 | 1 | 3 | 3 | <1 | 7 |
| 329 | 2 | 3 | 3 | <1 | 8 |
| 331 | 1 | 2 | 2 | <1 | 5 |
| 332 | 1 | 2 | 2 | <1 | 5 |
| 333 | 5 | 7 | 20 | 26 | 58 |
| 334 | 6 | 18 | 49 | 58 | 131 |
| 335 | 7 | 14 | 39 | 48 | 108 |
| 336 | 5 | 15 | 39 | 49 | 108 |
| 337 | 5 | 13 | 37 | 47 | 102 |



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RESULTS
(Continued)

| Sample | Chloroform | Bromodichloro- methane | Chlorodibromo- methane | Bromoform | Total Trihalo- methanes |
|--------|------------|---------------------------|---------------------------|-----------|-------------------------------|
| 338 | 21 | 5 | 2 | <1 | 28 |
| 339 | 23 | 5 | 1 | <1 | 29 |
| 340 | 24 | 8 | 4 | <1 | 36 |
| 341 | 24 | 5 | 1 | <1 | 30 |
| 342 | 26 | 7 | 3 | <1 | 36 |
| 343 | 30 | 10 | 3 | <1 | 43 |
| *343 | 30 | 10 | 3 | <1 | 43 |
| 344 | 32 | 11 | 3 | <1 | 46 |
| 345 | 33 | 11 | 3 | <1 | 47 |
| 346 | 42 | 14 | 4 | <1 | 60 |
| 347 | 35 | 12 | 4 | <1 | 51 |
| 348 | 25 | 10 | 4 | <1 | 39 |
| 349 | 22 | 10 | 4 | <1 | 36 |
| 350 | 23 | 10 | 4 | <1 | 37 |
| 351 | 26 | 11 | 4 | <1 | 41 |
| 352 | 31 | 13 | 5 | <1 | 49 |
| *352 | 31 | 13 | 5 | <1 | 49 |
| 353 | 32 | 9 | 3 | <1 | 44 |
| 358 | 17 | **20 | 3 | <1 | ***40 |
| 359 | 35 | **20 | 6 | <1 | ***61 |
| 360 | 18 | **20 | 3 | <1 | ***41 |

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RESULTS
(Continued)

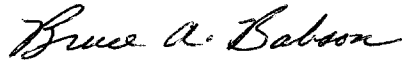
| Sample | Chloroform | Bromodichloro- methane | Chlorodibromo- methane | Bromoform | Total Trihalo- methanes |
|--------|------------|---------------------------|---------------------------|-----------|-------------------------------|
| 361 | 18 | **20 | 3 | <1 | ***41 |
| 362 | 18 | **20 | 3 | <1 | ***41 |

NOTE: All results reported in micrograms per liter.
Analysis completed 3/11/83.

*Analyzed in Duplicate.

**Reported value represents a probable upper limit on the Bromodichloromethane concentration. In this sample set Trichloroethylene interferes with the Bromodichloromethane determination.

***Reported value represents a probable upper limit on the Total Trihalomethane concentration.



Bruce A. Babson
Chemist

BAB/dd
Customer #92400
cc: Elizabeth Betz

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