

DEPARTMENT OF HUMAN RESOURCES
DIVISION OF HEALTH SERVICES
ENVIRONMENTAL HEALTH SECTION

REPORT OF INVESTIGATION OR INSPECTION OF water system

Place visited Holcolmb Boulevard WTP Date January 29 1985
Address USMC, Camp Lejeune, NC Time spent _____
By whom Fred Hill
Willard Price, W&S Supt.; Elizabeth Betz, Chemist; Lt. Ron Curley, Preventive
Persons contacted Medicine; Col. Luttrell, Base Maintenance Officer; Gold Johnson, Jr., Utility
(Owner, agent, tenant, manager, other) Director
Reason for visit Complaints from water distribution system regarding petroleum odor.
Copies to: C. E. Rundgren
M. P. Bell

REPORT:

Complaints from the water distribution system were received at the WTP on January 27, 1985, concerning a petroleum odor in the water. Plant personnel immediately investigated and confirmed the complaint.

Supervisors were contacted and the treatment facilities shut down. Investigation by plant personnel revealed a high concentration of petroleum odor in the 1.0 MG finished water reservoir and not at the remainder of the treatment plants. All other treatment plants were re-started on January 27, 1985.

The reservoir at the Holcolmb Boulevard plant has four high service pumps on the concrete top, two of which have auxiliary gasoline motors. Investigation revealed a gasoline line from the outside (above ground) storage tank through the concrete wall of the reservoir under the pump room floor. Corrosion of the ferrous line (1" x 20') at the concrete slab allowed gasoline leakage (± 1.0 gal.) directly into the reservoir.

The reservoir was drained and washed with high pressure water then refilled on 1/28/85. A slight petroleum odor was present in the head space on 1/29.

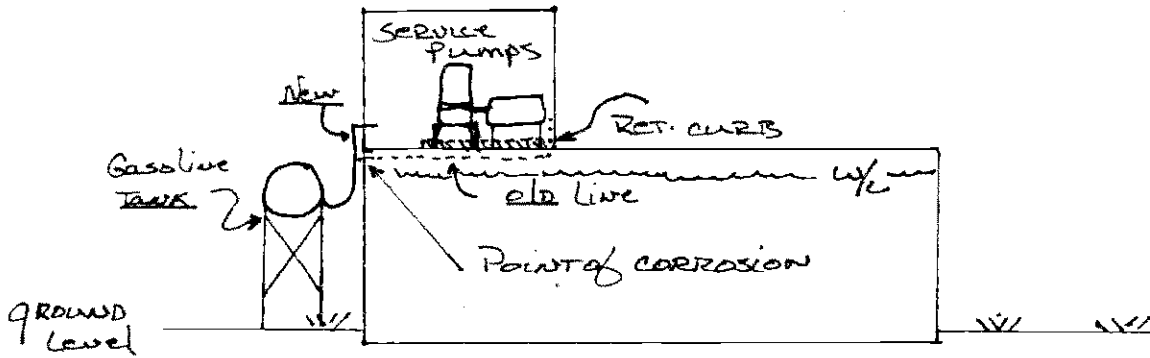
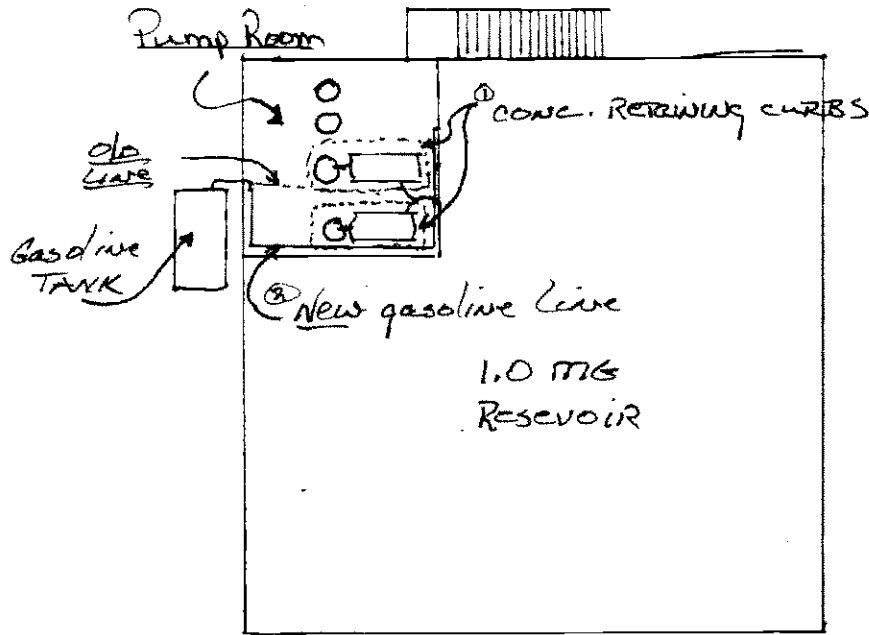
Cleaning the reservoir with a powdered activated carbon slurry and stiff brushes was discussed as an option. The decision is to be based on results of organic analyses.

Samples were collected from the distribution system, reservoir, and WTP filter effluent. Gas chromatography analyses indicated no EDB or gasoline present; however, T.C.E. was found up to ± 1000 ug/l (ppb).

Additional samples are to be collected from other treatment plants, wells, and the distribution system for organic analyses, specifically TCE. Decisions will be made regarding the continued/altered operation of the wells and treatment facilities based on these results.

To prevent a recurrence: (1) the gasoline supply line has been re-routed above the concrete slab and (2) concrete retaining curbs will be constructed around the gasoline motors.

USMC - Camp Lejeune
Hokomab Blvd WTP
1/29/85



Please Rush it
J. Stearns

STATE LABORATORY OF PUBLIC HEALTH
DIVISION OF HEALTH SERVICES
N. C. DEPARTMENT OF HUMAN RESOURCES
P.O. BOX 28047 - 306 N. WILMINGTON ST., RALEIGH 27611

X ORGANIC CHEMICAL ANALYSES-PRIVATE WATER SYSTEM

Complete All Items Above Heavy Line
(See Instructions on Reverse Side)

308, 309,
310, 311

4/8/50/1

Name of System: WTP-CAMP Lejeune
Address: Bldg. 670 - WTP
ZIP: _____
County: ONslow
Report To: J. Fred Hill
Address: 404 St Andrews St
Breville NC
ZIP: _____
Collected By: Elizabeth C. Bly
Date Collected: 1/29/85 Time: 1420 AM
PM
Location of Sampling Point: Bldg 670 TREATED
BEFORE RESERVOIR

Source of Water: <input checked="" type="checkbox"/> Ground <input type="checkbox"/> Surface	<input type="checkbox"/> Both <input type="checkbox"/> Purchased
Source of Sample: <input checked="" type="checkbox"/> House Tap <input type="checkbox"/> Well Tap	
Type of Sample: <input type="checkbox"/> Raw <input checked="" type="checkbox"/> Treated	
Type of Treatment: <input type="checkbox"/> None <input checked="" type="checkbox"/> Chlorinated <input type="checkbox"/> Fluoridated <input checked="" type="checkbox"/> Filtered <input type="checkbox"/> Alum	<input checked="" type="checkbox"/> Lime <input type="checkbox"/> Soda Ash <input type="checkbox"/> Polyphosphate <input type="checkbox"/> Water Softener <input type="checkbox"/> Other
Type of Analysis Desired: <input checked="" type="checkbox"/> Regular Parameters <input checked="" type="checkbox"/> Optional Parameters	<input type="checkbox"/> Both

Remarks:
PETROLEUM PRODUCT ANALYSIS

Gasoline & EDB
HS

Regular Parameters	Results	units
Chloride		mg/l
Fluoride		mg/l
Iron		mg/l
Manganese		mg/l
Nitrate		mg/l
Nitrite		mg/l
Phosphate		mg/l
Sulfate		mg/l
Total Hardness-CaCO ₃ (Ca, Mg)		mg/l
Total Hardness-CaCO ₃		mg/l
Total Solids		mg/l
Turbidity		NTU
Zinc		mg/l

Optional Parameters (List as needed)	Results
<u>NO gasoline hydrocarbons</u>	
<u>indicated by purge and trap analysis.</u>	
<u>TRICHLOROETHYLENE</u>	<u>339.8 ppb</u>
<u>EDB</u>	<u>< 50 ppt</u>

Received 1/30/85 n.w. Date Reported 1-31-85 Reported By John R. Neal
Analyzed 1/30/85 1-30-85 HS Laboratory Number 510308
n.w.

Call Reservoirs
 &
 Please Rush
 H. Shears

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ORGANIC CHEMICAL ANALYSES-PRIVATE WATER SYSTEM

Complete All Items Above Heavy Line
 (See Instructions on Reverse Side)

Name of System USMC - Camp Lejeune
 Address Bldg. 670 - WTP
 ZIP _____
 County Onslow
 Report To: J. Fred Hill
 Address: 404 St Andrews St
Greenville NC
 ZIP 27834
 Collected By: Elizabeth A. Boly
 Date Collected: 29 JAN 1985 Time: 1405 AM
 PM
 Location of Sampling Point: Bldg 670 Reservoir

Source of Water:
 Ground
 Surface
 Both
 Purchased

Source of Sample:
 House Tap
 Well Tap

Type of Sample:
 Raw
 Treated

Type of Treatment:
 None
 Chlorinated
 Fluoridated
 Filtered
 Alum
 Lime
 Soda Ash
 Polyphosphate
 Water Softener
 Other

Type of Analysis Desired:
 Regular Parameters
 Optional Parameters
 Both

Remarks:
PETROLEUM PRODUCT ANALYSIS

methane 2 samples per
EAB & Gasoline
HS

Regular Parameters		Optional Parameters (List as needed)	
	Results		Results
pH	units		
Arsenic	mg/l		
Lead	mg/l		
Iron	mg/l		
Manganese	mg/l		
Copper	mg/l		
Zinc	mg/l		
Calcium	mg/l		
Magnesium	mg/l		
Hardness-CaCO ₃ (Ca, Mg)	mg/l		
Alkalinity-CaCO ₃	mg/l		
Chloride	mg/l		
Color	units		
Turbidity	NTU units		
Fluoride	mg/l		
		<u>No gasoline hydrocarbons indicated by purge and trap analysis.</u>	
		<u>TRICHLOROETHYLENE</u>	<u>8.2 ppb</u>
		<u>EAB</u>	<u><50 ppt</u>

Date Received 1/30/85 JW Date Reported 1-31-85 Reported by John R. Neal
 Date Analyzed 1/30/85 Laboratory Number 500309
HS 1-30-85 JW

Please Rush
J. Swears

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N.C. DEPARTMENT OF HUMAN RESOURCES
P.O. BOX 28047 - 306 N. WILMINGTON ST., RALEIGH 27611

ORGANIC CHEMICAL ANALYSES - Petroleum Prod.

Complete All Items Above Heavy Line
(See Instructions on Reverse Side)

Name of System: USMC-Camp Lejeune

Address: Bldg 670 - WTP

ZIP: _____

County: Onslow

Report To: J. Fred Hill

Address: 404 St Andrews St
Greenville NC ZIP 27834

Telephone Number: () - -

Collected By: Elisabeth O. Betz

Date Collected: 29 JAN 1985 Time: 1315 AM PM

Location of Sampling Point: MOQ 2212 PARADISE POINT
(Address where sample was collected)

Remarks: gasoline & EDB CAMP LEJEUNE

Source of Water:

Ground Both

Surface Purchased

Source of Sample:

Distribution Tap House Tap

Well Tap

Type of Sample:

Raw Treated

Type of Treatment:

None Lime

Chlorinated Soda Ash

Fluoridated Polyphosphate

Filtered Water Softener

Alum Other

Type of Sample:

Regular Private

Check Special

WATER SYSTEM I.D. NUMBER (COPY FROM MAILING LABEL)

□ □ - □ □ - □ □ □

State Drinking Water Parameters (Required)

Optional Parameters (List as needed)

	Results	Results
(CHLORINATED HYDROCARBONS:)		
Endrin	mg/l 5	<i>No gasoline hydrocarbons indicated by purge and trap analysis</i>
Lindane	mg/l 4	
Methoxychlor	mg/l 3	
Toxaphene	mg/l 4	
(CHLOROPHENOXY:)		
2,4-D	mg/l 3	<i>TRICHLOROETHYLENE 1,040.9 ppb</i> <i>EDB 250 ppb</i>
2,4,5-TP	mg/l 4	

Date Received 1/30/85 NW Date Reported 1-31-85 Reported By J. L. Neal

Date Extracted 1-30-85 HS Date Analyzed 1-30-85 HS Laboratory Number 5 0310

Comments: (+) HS

#500310

North Carolina Department of Human Resources
 Division of Health Services
 Occupational Health Laboratory

ANALYSIS REPORT

Company: USMC Camp Lejeune
 Address: Bldg. 670 Gas tank
 Service Requested: _____
 Sample Taken On: 1/29/85 By: Betz
 Submitted To Laboratory On: 1/30/85 By: Federal Express
 Date of Analysis: 1-30-85 Date Reported: 1-31-85
 Analyzed By: JM

LABORATORY NUMBER	SAMPLE NUMBER	DESCRIPTION	REMARKS	RESULTS IN
500311		Bulk gasoline	Gasoline hydrocarbons present. No trichloroethylene identified. Sample not analyzed for EDB.	

COMMENTS:

REPORTED BY: John S. Neal
 Chief, Occupational Health Lab