

Freeman Corr File

TO: Laura Lodisio Region V EPA
RCRA Enforcement 54E-12

FROM: Mark Tustle

SUBJECT-MESSAGE

- Russ Cerh had said that the department had made an effort to identify the source of the Freeman Odor in the early '80s. Attached is what I found in our Water Supply files. It looks like EPA did the analytical work. The first letter indicates that alcohols and/or acetates are present. The letter also indicates that additional funding would be required for further work.

As this previous work was not exhaustive and analytical techniques have improved over the last 9 years, it is still reasonable for us to ask that the odorous compound(s) be identified.
cc: Ted Bostler

REPLY

SIGNED

DATE

Mark Tustle 1/21/88

SIGNED _____ DATE _____

Saukville

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE: August 10, 1979

SUBJECT: Analytical Results; Data Set Others 462 Samples from Saukville

FROM: Emilio Sturino, Chief Organic Lab Section, CRL *John R. Maddox (for E. Sturino)*

TO: Donald Maddox, Chief Technical Support Section

Thru: Curtis Ross, Director Central Regional Laboratory *CR*

RECEIVED
S. E. D.
AUG 20 10 52 AM '79

This is to inform you that a multicomponent organic matrix was detected in sample 079-PV02S41. The matrix consists of at least fourteen components; each component is present at less than 5 ppb.

The sample was subjected to gas chromatographic with flame ionization detection and to gas chromatographic/mass spectral analysis. The results indicate that the organic matrix present in the sample are not due to gasoline, fuel oils or other natural hydrocarbons. Furthermore, none of the components contain chlorine or other halogens. The mass spectral data indicates that these components may be alcohols or acetates. The boiling point of the mixture ranges from 150° to 250°C.

We have presently reached the point where large amounts of resources are needed to make any further progress on the identification of any of the components in the matrix. We have therefore, at this time, ceased our efforts; however, all of the mass spectral data is saved on computer tape so that it can be retrieved at any time for re-analysis.

If you have any questions regarding these analyses, please call me at (312) 353-8370.

Maddox: Call me and let me know if you want more time spent on this
CR

RECEIVED
S. E. D.

AUG 20 10 52 AM '79

August 14, 1979

Mr. Michael Harrigan
The Village of Saukville
100 S. Main
Saukville, Wisconsin 53080

Dear Mr. Harrigan:

Results of the samples collected in Saukville on July 11, 1979 have been inconclusive, as I indicated to you in our phone conversation. In discussions with laboratory personnel, it was decided that due to the nature of the compounds present, further effort as to the identity of the compounds is not warranted. The compound breaks down in the course of analysis, making identification extremely difficult. However, laboratory personnel did indicate several characteristics of the compound which may be of interest. The compound is actually a multicomponent mixture which does not appear to be chlorinated, nor does it appear to be a hydrocarbon such as gasoline or fuel oil. It does not appear to be of natural origin either. I will forward a copy of the report we receive from the laboratory.

The analyses done to date, which yielded useful information, were a quantitative analysis by gas chromatography of a sample which was refrigerated and analyzed very soon after collection. The characteristics identified were found primarily by extraction of the activated carbon samples which were collected concurrently with the water samples.

If you are unable to solve your problems and need further assistance, please contact me at (312) 353-2151.

Sincerely,

Dennis Beckmann
Environmental Engineer

INSPECTION REPORT
OF DRINKING WATER CONTAMINATION
AT THE VILLAGE OF SAUKVILLE, WISCONSIN
BY
THE HAZARDOUS WASTE INVESTIGATIONS SECTION
SURVEILLANCE AND CONTROL DIVISION - REGION V, U.S. EPA

I. LOCAL GOVERNMENT

Village of Saukville
100 South Main Street
Saukville, Wisconsin 53080
Telephone: (414) 284-9423

II. DATE OF INSPECTION

July 29, 1980

III. PARTICIPANTS

Village of Saukville
Michael C. Harrison, Administrator
Jerry Dickman, Operator

State of Wisconsin
Ted Bosch, Chief - (414) 257-6939
Romolo Diano, Environmental Engineer - (414) 257-4424
James R. Reyburn, Investigator - (414) 257-4408

U.S. EPA - Region V
Richard E. Boice, Chemical Engineer - (312) 886-6220
Karen A. Waldvogel, Environmental Engineer - (312) 886-3345

IV. OBJECTIVE

Determine cause of no odor in the Village of Saukville Well No. 2 as requested in a memorandum to William Sanders from Dale S. Bryson.

V. DISCUSSION AND OBSERVATIONS

As noted in my August 1, 1980 memorandum, there is presently no immediate well contamination problem because Well No. 4 is on line and Well No. 2 is being used solely for non-contact cooling water by Freeman Chemical Company.

The attached well logs may give a trained person an idea of the probability that surface water would reach the well water aquifer.

VI. SAMPLES COLLECTED

On July 29, 1980 samples were collected from each Village of Saukville well as follows:

<u>SAMPLE NUMBER</u>	<u>TIME</u>	<u>WELL NUMBER</u>	<u>WELL USE</u>
COVB16S01	8:45 a.m.	1	Back up for Well No. 4
COVB16S02	9:00 a.m.	2	Non-contact cooling water for Freeman Chemical " " " " " " " " " " " "
COVB16D02	9:00 a.m.	2	
COVB16S03	9:30 a.m.	3	Back up to Wells 4 & 1
COVB16S04	9:45 a.m.	4	Main well for drinking water

Samples were collected through spouts at each pump house after purging five minutes. Required U.S. EPA and Viar contract sampling and preservation techniques were followed. Metals were analyzed by the Region V Central Regional Laboratory, and organics by the Viar contract laboratory.

VII. SAMPLE RESULTS

The analytical results are attached. No benzene or trichloroethylene was detected. Of the metals only iron and manganese concentrations could be considered high. Of the organics only methylene chloride, chloroform and bis (2-ethylhexyl) phthalate were above the detectable limits. The methylene chloride and chloroform measurements should be neglected because these parameters were quantified at nearly the same level in the blank (COVB16R05). The bis (2-ethylhexyl) phthalate measurement should also be neglected because, even though it was quantified at 51 ug/l in sample COVB16D02, it was not detected in the duplicate sample COVB16S02. In addition, bis (2-ethylhexyl) phthalate is often picked up from laboratory or sampling apparatus.

VIII. CONCLUSIONS

Our analytical results did not determine any organic pollutants to be present in the Village of Saukville wells.

Attachments:

1. Map
2. Analytical Results
3. Well Logs

Report Prepared By:

Richard E. Boice 4/6/80

December 11, 1980

375-1884 (Metro)

HISTORY OF EFFORTS TO RESOLVE WATER CONTAMINATION
PROBLEMS AT WELL #2.

- February, 1979 - Complaints were received by the Village concerning odor of the drinking water. The Village requested the D.N.R. to sample all wells to determine the source of the problem.
- 27, February, 1979 - D.N.R. responded in a letter indicating that the source of the odor problem seemed to be Well #2. Mr. T. Bosch of the D.N.R. recommended using Well #2 only when necessary to maintain pressure during high demand. DNR could not identify the nature or source of contaminant at that time.
- 28 February 1979 - The Village quit pumping water from Well #2 and took this well completely off of the Village supply system.
- 23 March 1979 - DNR required chemical storage lists from Freeman Chemical Corp., Tri-Par Oil and Saukville Feeds.
- 11 April 1979 - D.N.R. phoned to indicate samples of Village water had been referred to U.S. Environmental Protection Agency for testing.
- 19 April 1979 - Village of Saukville Well #3 developed a coupling separation and had to be taken out of service. Well #2 had to be turned back on to maintain pressure until Well #3 was repaired.
- 23 April, 1979 - Letter received from Freeman Chemical indicating that they had tested Well #2 water and could find no compounds connected with their operation.
- 26 April 1979 - Repairs to Well #3 completed and Well #2 was taken out of service. Well #2 has not been used for drinking water in Saukville since this date.
- 27 April 1979 - Village Administrator's weekly memo distributed to all media. Recapped all of above information through this date.
- 31 May 1979 - Village of Saukville broke ground for a new well and pumphouse #4.
- 4 June 1979 - Letter from Joseph Harrison of E.P.A. indicated initial samples of water showed no organics present in a significant amount. Bottles were mailed to Village for collection of additional samples. Samples were mailed to E.P.A. on June 5, 1979.
- 7 June 1979 - Saukville Engineers Ruekert & Mielke conducted an aeration experiment and test to determine if odor could be removed by this method. Test results showed aeration to be marginally effective in removing odor. Plans were made to test purification with activated carbon filtration.
- 11 June 1979 - Dr. William Keck, Expert in underground water hydrology from University of Michigan was flown to Saukville at Village expense to analyze the flow of groundwater and recommend action on identification and containment of contaminant at Well #2. He recommended turning the well back on and pumping the water to waste if necessary to draw any contaminant from the area to Well #2 and prevent it from spreading elsewhere in the underground water supply. He said that based on the natural flow of underground water, it was highly unlikely that the pollutant would spread to other wells in Saukville.
- 12 June 1979 - Village began pumping Well #2 to waste (not for consumption) per Dr. Keck's recommendation.
- 27 June 1979 - Ruekert & Mielke conducted experiments with activated carbon filtration which were successful in removing odor from Well #2. However, the engineers reported that rather than permanent charcoal filtration, it would be more cost effective to construct a new main from Well #2 to Freeman Chemical Corp. for use as non-contact cooling water. Engineers

inadequate pumping — city with Well #2 off. D.N.R. suggests limiting water supply or immediate connection to Freeman of Well #2.

- 11 July 1979 - Dennis Beckman from E.P.A. visited Saukville and met with Village and D.N.R. officials. He collected carbon samples which had Well #2 water saturation and raw water samples from Well #2. Drove them back to Chicago.
- 24 July 1979 - Village Officials met with officials of Freeman Chemical Corp. and Village indicated that water supply was limited without Well #2 - that Freeman as largest user would have to be shut off so that residential users could be supplied. Freeman Chemical agreed to pay for the cost of having a main installed to pump Well #2 water directly to Freeman for non-contact cooling water.
- 14 August 1979 - Letter from Dennis Beckmann of E.P.A. indicated that results of samples taken on 7/11/80 were inconclusive. Beckmann stated that "due to the nature of compounds present, further effort as to identity of the compounds not warranted". A memo attached from the E.P.A. lab indicated that they had ceased efforts of identification of compound at that time.
- 4 September 1979 - D.N.R. approved water main extension to Freeman Chemical Corp. Construction started in November.
- 8 November 1979 - D.N.R. letter of Ted Bosch indicates threshold odor tests were run on all wells. Contaminant had increased at Well #2 at that time. By continuously pumping Well #2, Well #1 was protected according to the D.N.R.
- 29 November 1979 - Well #2 connection to Freeman Chemical Corp. completed. All Well #2 water is now pumped directly to Freeman Chemical Corp.
- 11 January 1980 - Check for \$20,259.21 received from Freeman Chemical Corp. for cost of installing new main.
- 15 January 1980 - Edwin Zylstra of the U. S. Environmental Protection Agency visited Saukville to take additional samples of Well #2 water. Sandra S. Ganderbring, Director of the Enforcement Division of E.P.A. had requested "priority sampling" of the Village Well #2 water. Village Administrator contacted Mr. Ed. DiDomenico of E.P.A. and was informed that a woman had complained to a "Congressman Eckerdt" about previous well problems and that he had requested E.P.A. to check further.
- 13 February 1980 - Ted Bosch of D.N.R. sent results of threshold odor tests run on all Saukville wells. The test results showed that the "contaminant" is still increasing at Well #2 but that there is no evidence of contamination at any of the other 3 municipal wells.
- 16 February 1980 - Village of Saukville dedicates its new Well #4 Pumphouse and Reservoir. This well was put into service and has been tested by all agencies as safe. The additional capacity generated by this new facility should meet the Village needs for the next 10 years.
- 18 February 1980 - Received letter from Ed DiDomenico of E.P.A. indicating the results of tests on water samples taken 1/15/80. Two organic compounds were identified:
1. Benzene at 0.2 parts per billion level
 2. Trichloroethylene at 0.5 parts per billion level
- They did not have any indication as to where the compounds were coming from at that time. Phone conversations with Mr. DiDomenico indicated that these quantities are not high enough to enforce action against and that the E.P.A. could not prevent Freeman from discharging the non-contact cooling water from Well #2 into the Milwaukee River at this level of concentration and the carcinogenic effect was negligible at this level.
- 19 February 1980 - Letter from E.P.A. of 2/18/80 was distributed to Village Board, Village President and made available to all members of the media at the regular Village Board meeting on this date.
- 16 May 1980 - Ted Bosch of D.N.R. transmitted results of 5/12/80 threshold odor tests on all wells. Bosch stated that "our results showed Wells 1, 3 and 4 are not contaminated. Well #2 is still contaminated at approximately the same level".

Saukville and collected samples of Well #2, Well #1 and Well #4 water. An inspection was also made of Freeman, Tri-Par and Saukville Feeds plants. Village Administrator directed a letter to Ms. Sandra Ganderbring on this date requesting results of all tests made on Saukville water samples.

- 23 September 1980 - Ted Bosch of D.N.R. reported that samples taken on September 8 indicated that the water quality in Well #2 was improving. He states that "the last 2 tests have shown improvement in the water quality at Well #2.
- 4 November 1980 - Milwaukee Journal reported in the Accent North Section on the contaminants in Well #2 water. This was included as part of a story on a hearing for Freeman Chemical held by the D.N.R. re: discharging of non-contact cooling water into the Milwaukee River. The Milwaukee Journal had previously reported on Well #2 and E.P.A. tests on June 7, 1979 and September 4, 1979.
- 18 November 1980 - Edwin Zystra of the E.P.A. visited Saukville and took water samples from Well #1 and Well #2 for testing.
- 26 November 1980 - Village received a letter from Ed DiDomenico of E.P.A. with test results of samples taken in July of 1980. The results were inconclusive because the contract lab which had done the tests did not analyze the samples at the lower levels required. (The tenth of a part per billion level) DiDomenico stated that a quicker turn around time would be requested on the November 18 samples.
- 7 December 1980 - Milwaukee Journal reported on front page of Sunday Edition on an unrelated "secret" cleanup of chemical waste in Washington County involving Freeman Chemical and D.N.R.
- 8 December 1980 - Village resident Mr. Heeren contacted Village Administrator for a copy of E.P.A. test results on Well #2. He had several months previously contacted the Village and had been given copies of this data. Indicated he had lost same and wanted additional copies. Copies were provided as requested.
- 10 December 1980 - Milwaukee Journal reported contacted Village Administrator regarding a conversation which he had with an "unidentified" Village resident who had "just" obtained copies of E.P.A. test results from the Village Office. Resident felt that Journal should investigate same as it could relate to Freeman Chemical Corp. Reporter described resident as a very "excitable" individual.
- 10 December 1980 - Milwaukee Journal printed a story on front page heading "E.P.A. FINDS TOXICS IN SAUKVILLE WATER." All of the information reported in the Journal story had been previously released to the press in February of 1980. News stories had previously appeared citing the same information as the Journal reported on this date. Story indicated that Benzene and Trichloroethylene are cancer causing. It did not report what the risk levels are nor whether the E.P.A. considers the concentration found to be hazardous. It was also not made clear that the only well which was affected by the contaminant was Well #2 and that the use of this well for Human Consumption had been discontinued nearly 2 years previous (in February of 1979).
- 11 December 1980 - Village Administrator contacted Donald Maddox Chief of the Regional Technical Support Section of E.P.A. in an effort to obtain detailed information on the "cancer causing" effect of Benzene and Trichloroethylene. Maddox reported that the E.P.A. had no knowledge of the cancer risk at the tenths of one part per billion level of these compounds. (The February samples showed two tenths (0.2) of one part per billion of Benzene and five tenths (0.5) of one part per billion of Trichloroethylene. He stated that for Trichloroethylene the lowest concentration of risk which has been determined is the 2 whole parts per billion level (not tenths of 1 part). He stated that if 1,000,000 persons were to consume 2 liters of water per day containing 2 parts per billion of Trichloroethylene that one (1) of these people would contract cancer. This is based on tests on lab animals.

In the case of Benzene (0.2 parts per billion found in Well 2 water) the lowest concentration for which risk has been determined is the 1.5 parts per billion level. Again, if 1,000,000 persons consumed 2 liters of water per day containing 1.5 parts per billion of Benzene for their lifetime, one of these people would contract cancer.

Village Administrator received several calls from residents on this date indicating that they had read the story and got the impression that contaminant was still in the Village water supply. Village Administrator contacted the Journal reporter expressing great concern over the story and Journal reporter agreed that it may have been misinterpreted. He stated that another story would appear on this date clearing up the concerns which I had expressed. No story appeared.

In addition to the above referenced tests the Village takes weekly water samples and sends them to the State Laboratory of Hygiene for bacteria testing. This practice has been followed for years.