

KANSAS VINYL CHLORIDE MONOMER CONTAMINATION

an Executive Summary of Work to Date
by Dave Eckstein, Deputy Executive Director
Uni-Bell PVC Pipe Association

June, 1992

Kansas Department of Health and Environment (KDHE) detects Vinyl Chloride Monomer (VCM) in water in Doniphan County Rural Water District #5 (< 1 ppb to 8.9 ppb) while testing for carbon tetrachloride. No other VOC's were found leading suspicion to PVC pipe. KDHE samples "6 or 7" other rural districts. "A couple" had 1 sample out of three over 1 ppb. Resampling found no detects in all cases.

July, 1992

KDHE provides public notice of vinyl chloride contamination to Doniphan #5's customers advising the use of an alternate source of drinking water. ~ 130 RESIDENTIAL CONNECTIONS; 82.5 MILES 1 1/2" - 2" DIAMETER '67-70

September, 1992

KDHE resampled Doniphan #5 and found VCM in water from 2.9 to 7.4 ppb. Pipe samples were obtained sections removed for repair. Three pipe samples were filled with water containing 1 mg./l free chlorine. Ten day results showed VCM at 11.1, 7.3 and 7.2 ppb. Samples were filled with distilled water and 10 day residence resulted in VCM at 5 to 15 ppb. 10 @ 10 DAYS, 20 @ 20 DAYS, 30 @ 30 DAYS.

CTL032801

December, 1992

KDHE contacts Uni-Bell PVC Pipe Association of suspicion of 20+ year old PVC Pipe with VCM contamination problem. Uni-Bell verifies with Vinyl Institute (VI) scientific community membership the opinion that the pipe could not be the VCM source. Uni-Bell recommends National Sanitation Foundation (NSF) as a proper test facility for VCM in pipe and water sampling.

March 22, 1993

EPA Region VII contacts Uni-Bell of NSF findings of extraordinary VCM levels (270-330 ppm) found in PVC Pipe samples from Doniphan #5 and requests assistance in remediation techniques.

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1977 - 10 ppm in k/hu
1987 - 2 ppb EXTRACTED INTO WATER

April 8, 1993

1988 - 3.2 ppm in k/hu ; 2 ppb in WATER

Teleconference with KDHE, Uni-Bell and EPA Region VII. Reviewed testing history including above as well as verification that further testing consistently showed no detects in all post-VCM certified pipes. Doniphan #5 pipe was manufactured by CertainTeed Corp. Uni-Bell was requested to assist in development of remediation alternatives and notification of CertainTeed Corp.

Uni-Bell notified CertainTeed and VI of conference call. Uni-Bell and VI identified a project team of Dr. Ron McCreedy, Dow Chemical, Don Goodman, Occidental, Dr. Byeong Jo, CertainTeed, Bob Burnett, Vinyl Institute and Dave Eckstein, Uni-Bell.

April 29, 1993

Conference call with VI Technical Committee members and Uni-Bell determines that NSF should be contracted to serve as lead agency to coordinate governmental agencies and perform testing to determine the actual source of VCM.

CTL032802

May 19, 1993

Meeting in Ann Arbor with NSF and members of the Uni-Bell/VI project team to define NSF contractual involvement. Consensus results in a not-to-exceed \$25,000 project to include record review, water and pipe testing, remediation recommendations and governmental coordination. Industry names Dave Eckstein of Uni-Bell as project lead.

May 28, 1993

NSF names Dr. Ken Smith, Vice President of Conformity as project lead.

July 7, 1993

Presentation of test results:

- 1) Data satisfies scientific representatives of both NSF and Industry that the 23 year old pipe is the source of the VCM in the water.
- 2) It is further agreed that a check with the currently accepted migration model (Bellem et al 1987) would predict this behavior given known resin R/VCM levels of 2000+ ppm pre-1974.

NSF agrees to prepare an interim report which will include sampling protocol and test results. Further the report will preview the final report which will include a presentation of remediation alternatives and their relative merits.

July 7-9, 1993

Uni-Bell Board of Directors telephoned of meeting findings. Uni-Bell Board Chairman commissions a special Board Sub-Committee to consist of all PVC potable water pipe producers. Jim Rash, of PW Pipe, agrees to serve as Sub-Committee Chairman.

CTL032803

July 13, 1993

VI Executive Board conducts teleconference to update on findings. Executive Board agrees to a July 27 meeting under the VI, Issues Management Committee to include Uni-Bell and VI representatives to include technical input, business analyst, legal and public relations experts in Washington, DC to develop a proposed plan of action.

July 14, 1993

Industry and NSF project leads agree that the data has changed the original project. Priority now includes coordination with governmental agencies to preview reactions and needs.

July 15, 1993

NSF agrees to organize a meeting of NSF/Industry and EPA. NSF also agrees to hold interim report until such meetings occur.

VI Technical Committee Chair informed VI legal counsel and project team leader of

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Industry Team Leader contacts KDHE for VCM testing details. KDHE reports approximately 200 rural water districts in Kansas. They identified 20 of the most suspect systems (oldest pipes) and took three or four samples from points farthest from the water entry point to obtain longest residence time. These twenty locations included retest of Doniphan #5. One other system, Franklin County Rural Water District #4 also tested at a VCM concern level. Some other tests were erratic.

JULY 20 - NSF REEST CONTACT - PETER COOK - EPA, STEVE CLARK
DRINKING WATER
- EPA WANTS TO SCOPE ISSUE; FIND DATA ON WIDTH OF IT
THERE.
- FINANCIAL RESPONSIBILITY ON REMEDIATION; NO RESPONSIBILITY
MADE TO SPECS IN PLACE @ THE TIME.

CTL032804