

August 16, 1993

TO: L. C. Ambler

FROM: J. Himmelberger 

CC: C. Pontz

SUMMARY OF NOTES: 8/10/93 Uni-Bell Sub Committee of Potable
Water Pipe Producers Meeting.

Attendees:	Tom Torquevey (sp)	Ipex
	Dennis (didn't catch his last name)	ETI
	Clayton (ditto)	NAPCO
	Jim Rash	PW
	Bud Layton	JM
	Elroy Schmidt	Diamond
	Art Kahn	
	Dave Eckstein	

Dave E. walked everybody through the activity to date on the issue (copy of his presentation attached). It is a report of what you had a copy of with notes on meetings starting on July 20th added on. One exception is a June 16th & 17th meeting in the water district to obtain duplicate samples of pipe to check against KDHE's samples.

Obviously a great deal of discussion followed. The following points are from my notes & memory, and are not necessarily in the order they were discussed.

Liability in Case of a Law Suit

Art K. was of the opinion that any suit that might be brought would be for the expense to remediate not for any health issues, and that the suit would be aimed at the manufacturer of the pipe for not supplying a product fit for its intended use. It was implied that the action would proliferate from there (ie back to the resin people).

Magnitude of the Problem Beyond Doniphan County RWD #5

KDHE audited all their systems (approx 180) and selected 20 that generally met Donaphin's profile of low usage, non-looped, small diameter pipe. They have tested all 20 systems, 18 were OK, 2 (Franklin County and Doniphan) tested a VCM concern level.

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P&PG SALES

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Dave E. checked with FmHA to see what national records of rural water systems exist so that we might determine how broad the problem might be. No national records exist (it is all at the state level).

By checking with state level people Dave has determined that, in addition to Kansas, it would appear that systems that match Doniphan's profile could exist in North Dakota, South Dakota, Iowa, Nebraska, Oklahoma, and Texas.

Dave knows the head of the Texas FmHA well and has discussed the issue with him. Texas has over 1000 RWD systems and preliminary research has identified 3 candidates to recommend for testing.

South Dakota was singled out as the state 2nd most likely to have some systems to check, however, time has not permitted study to locate candidates.

Everybody thinks a model of Doniphan #5 should be run to aid in predicting/estimating the magnitude of the problem. A deal to accomplish this is all but done, and will be funded by The Vinyl Institute (not to exceed \$5000).

(editorial comment: Nobody thinks the problem is huge however all are unsure and are taking this situation very seriously).

EPA

Dave E. thinks they are adamant in the levels they have set (2ppb) since they really think that .2ppb is correct. Dave stated that EPA's numbers are based on including pre-cancerous something or another nodules, and if you throw out these nodules then 20ppb is the correct figure.

This prompted Bud L. to question the validity of the risk. Not much discussion was raised at this time on this subject so I deferred to comment on risk analysis at this time.

Dave E. thinks EPA wants to be a friend, and if shown how, they would like to see this problem go away as an isolated incident.

Dave thinks EPA is looking for all the answers to be given to them during the meeting on Aug 16th. Dave was thinking of trying to postpone this meeting because he is not close to having the answers, but he has decided to go ahead with what he has. He hopes to get a read on EPA's attitude. He does feel that EPA wants Doniphan fixed, since it has been stated that Doniphan is "in violation of the law".

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Public Relations

Uni-Bell wants its members to refer all media inquiries on this issue to them and the attached statement will be issued.

Remediation

No clear cut plan/recommendation exists. Ideas ranging from suggesting that EPA "watch" systems that read 2ppb and act (?) when readings reach 20ppb, to replacing pipe (how much?) in Doniphan's system, were kicked around. It was unanimous that The Industry not volunteer to pay for remediation.

Vinyl Institute

Dave E. senses that the V.I. is happy to have Uni-Bell take the active lead in resolving this issue. He feels that they are very interested, but that this is just one of the problems on their plate at this time. As a result, human resources are a problem for them, but they seem most willing to commit funds to resolve the issue.

Dave E. does think that V.I. has been remiss in the technical area. He feels this is a strength, and while some (Dow) companies have been active, much more could be done. Dave said he might solicit individual help from Uni-Bell members to lobby V.I. for some help in this area. I volunteered CT's assistance, suggesting that Dave contact you personally with any specific request he might have.

NSF

NSF has been cooperating in general, but in particular since some of the problem samples carry NSF approval (these were dug up June 16/17). They will lend some credence to statements that will be made during the Aug 16th meeting.

August 16th Meeting

The following points will be discussed.

- 1) EPA will be given NSF data (test results attached). The point will be made that pre-certified (VCM) pipe could pose a problem but that the evidence indicates that post-certified pipe will NOT pose a problem.
- 2) The model of Doniphan #5 will be discussed as to what we hope it will do for predicting other potential problem systems, but now show EPA the model as they are anticipating.

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- 3) Share the information (progress) with regard to the scope of the problem (3 Texas systems identified for testing - not much else).
- 4) Remediation update - it will be an interim report since no firm recommendations exist (this probably won't make EPA too happy).

General Comments

I did get a chance to emphasize the value of a risk analysis study. Not necessarily as a stand alone project, but rather as a parallel effort. It seemed that it would have great value if research indicated that the number of troublesome systems was going to be large. I pointed out that EPA's work has been known to be flawed (ie Asbestos). Dave again mentioned the .2ppb vs 20ppb point he had brought up. Obviously nothing was decided, but it's on their minds.

During discussions about NSF, Dave commented about the good relationship that has been established. A point of reference was used when he told about a call he had received from NSF concerning a call made to NSF from a law firm, nosing around on the subject of VCM levels in water systems. The firm was identified as Pepper (?), the one you had mentioned in our discussions. Dave identified them as a Philadelphia law firm that has done some work for CertainTeed. He concluded that CT must be doing "some work on their own, which is good". I made no comment on the issue.

In general, I sensed no "gloating" over this as a CertainTeed problem. On the contrary, Jim Rash specifically asked or commented that if we (CT) thought any of the action plans were not appropriate, or if they conflicted with any of our actions, he certainly wanted us to advise Uni-Bell. I commented that I was unaware of any conflict.

The group in general, and Jim Rash in particular, would like CertainTeed to rejoin Uni-Bell. There was some joking about us not having to wait till the first of next year to join. It was also pointed out that "new" members really get a good deal. They went so far as to give me a preliminary dues calculation form.

One point of interest regarding dues for "regular" members. It has been decided that the gross dollars needed for next year will be the same as this year. This will result in a reduction since there will be 3 new members upgrading to regular member status. This is possible due to The Vinyl Institute increasing their contribution from \$50,000 to \$200,000.

One final note, it was announced that Uni-Bell had hired a new engineer who will be on board soon. I didn't catch his name, but it was not Bob Novick.

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.

September, 1992

KDHE resampled Doniphan #5 and found VCM in water from 2.9 to 7.4 ppb. Pipe samples were obtained from 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.

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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.

April 8, 1993

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.

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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.

6/16 & 6/17 → NSF - UNIBELL #UNIBELL
DUPLICATION SAMPLES (UNIFORM RPE)

July 7, 1993

CT - SAMPLES - NSF CERTIFIED

Presentation of test results: PROPER KIDNEY (2) GOT NSF "COMMITTED"
DAMPAN R 5(2)

- 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 RVC 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.

7/10 RES P. TANDU MEMBERS

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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.

6/16 6/17 MISTY SMITH (NSF) MIST
ON WATER SAMPLE

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 concerns within TSCA, 8(e) requirements. Counsel for both VI and Uni-Bell will research and render opinion.

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.

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July 20, 1993

NSF contacts Peter Cook, Director, Drinking Water U.S. EPA to arrange meeting with Industry. Cook agrees to meet on his first available date, August 16th, in Washington. Cook also informs NSF that Steve Clark, Acting Deputy Director, Drinking Water is EPA lead on this topic. Clark will be involved in the meeting on the 16th and has been coordinating with the region to date.

Clark is currently unavailable in that he is heading the EPA's emergency efforts on water quality problems in the flooded mid-West. Certainly, Clark is a high level within the EPA.

July 23, 1993 (Friday, late p.m.)

Peter Cook contacts NSF of Clark's unexpected return to Washington. Clark agrees to a July 26 meeting with Ken Smith and Dave Eckstein. August 16th meeting appointment is maintained.

July 26th, 1993

Dr. Ken Smith and Dave Eckstein meet with Steve Clark.

Water stagnation is the problem. VCM is a possible symptom, so is lead, low residual chlorine, etc.

EPA's stance is that the current system is to test water a point of treatment. We will not alter our national policy based on this issue. We have some responsibilities, however, to pursue beyond Doniphan #5.

Enlists Industry support for scoping. Uni-Bell agrees to contact FmHA and perhaps Rural Water Association of America to determine extent of records keeping. EPA will pick likely candidates from which some sampling will need to be done. If those results are negative, EPA will consider the incident an isolated event.

Clark feels out Industry for financial participation. It's not EPA's job to decide who pays for specific clean-ups. Doniphan #5 is in violation of the law.

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Summary of Water Analysis Doniphan County RWD #5

VCM, ppb

Location	NSF 502.2	NSF 524.2	KDHE 524.2
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Julle Vertin	3.1	7	3.1
B. Cummings	2.2	5	4.2
Elyar (Flush Valve)	1.9	5	1.5
Zion Church	1.6	4	3.1
Ramselr	1.3	3	2.7
Greg Vertin	0.8	2	2.2
Christenson	ND	ND	ND
Ford	ND	ND	0.5
Johnson, George	ND	1	1.0
Liapple	ND	ND	0.8
PH #2	ND	ND	ND
Pumphouse (PH) #1	ND	ND	ND
Rush, Hylan	ND	ND	0.6
Sharp	ND	ND	ND
Staudenmaler	ND	ND	ND

Samples Collected June 16-17, 1993

NSF

**NSF Pipe Sample Analysis
Doniphan County RWD #5**

Location	Field ID	RVCM, ppm
1/4 mi E of Julie Vertin	Pipe 1 Part 1	350
	Pipe 1 Part 2	360
1/8 mi N of Eyler	Pipe 2 Part 1	360
	Pipe 2 Part 2	410
County Farm	Pipe 3 Part 1	280
	Pipe 3 Part 2	280
Original 3" Pipe ex. shed (from Carl Lee)		2
Original 2" Pipe ex. shed (from Carl Lee)		190
Original 1.5" Pipe ex. shed (KES 6-16-93)		200
400' Upstream G. Vertin Residence		430
Blair Line, 2 mi N (dug G. Vertin 6-3-93)		200

Samples Collected June 16-17, 1993

NSF

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Cross-Sectional Analysis of Pipe Doniphan County RWD #5

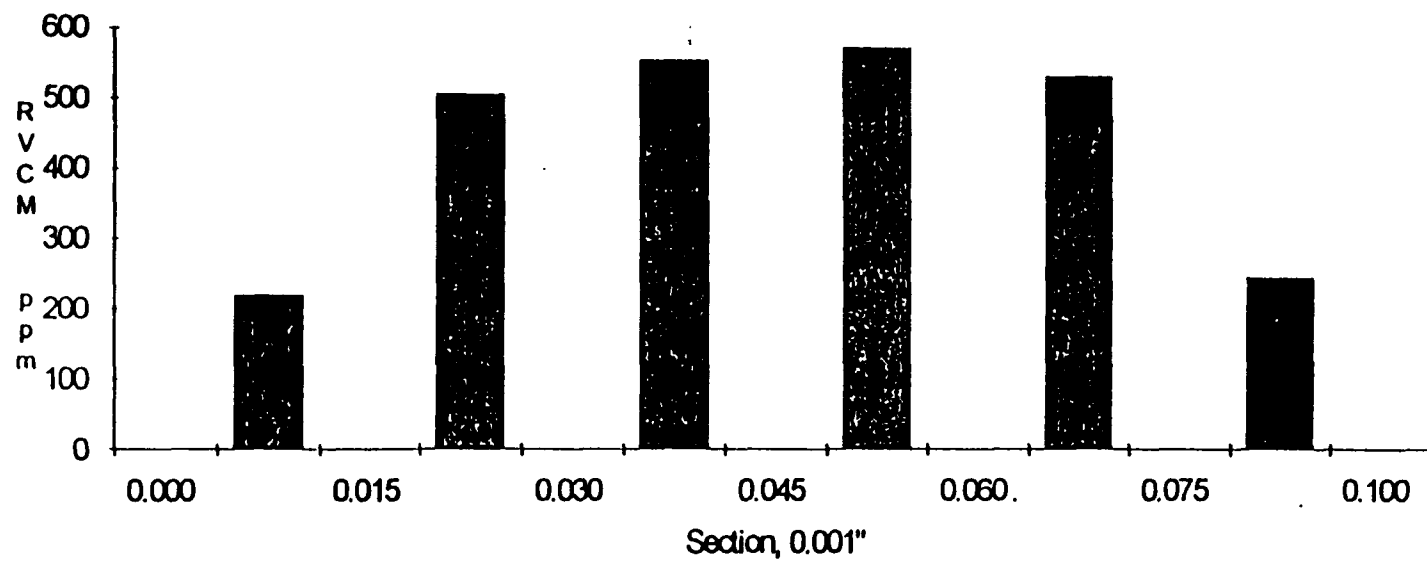
1.5" Pipe "Pipe #1 Part 1"

Section			
OD	ID	Thickness	RVC
0.000	0.015	0.015	220
0.015	0.030	0.015	510
0.030	0.045	0.015	560
0.045	0.060	0.015	580
0.060	0.075	0.015	540
0.075	0.100	0.025	250

Samples Collected June 16-17, 1993

NSF

RVC M Profile
"Original" 1.5" Pipe "Pipe #1 Part 1"



NSF

Cross-Sectional Analysis of Pipe Doniphan County RWD #5

2" Pipe ex. Shed from Carl Lee

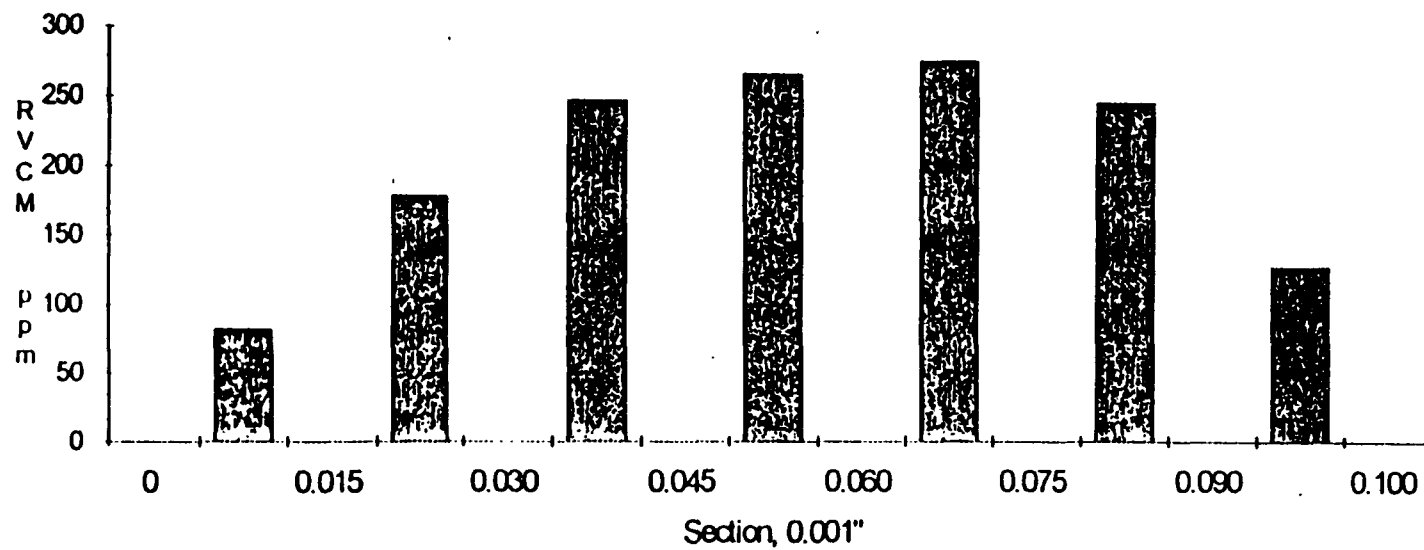
Section			
OD	ID	Thickness	RVC M
0.000	0.015	0.015	82
0.015	0.030	0.015	180
0.030	0.045	0.015	250
0.045	0.060	0.015	270
0.060	0.075	0.015	280
0.075	0.090	0.015	250
0.090	0.100	0.010	130

Samples Collected June 16-17, 1993

CTL032787

NSF

RVC Profile
"Original" 2" Pipe from Shed (Carl Lee)



CTL032788



Doniphan County (Kansas)
Standby Statement
EH&Co. Approved Draft
8/6/93

IF MY MFG. GETS A CALL
RE DONIPHAN COUNTY - UNABLE
REQUESTS THE CALL BE REFERRED
TO THEM.

Statement to be used in the event of media inquiries:

We have been notified that water in parts of the Doniphan County, Kansas Number 5 water district exceeds EPA standards for vinyl chloride monomer (VCM) content. This has been traced to migration from the PVC pipe and the industry is working diligently with the U.S. EPA, the Kansas Department of Health and Environment, and the local water district to determine the scope of the problem and develop remediation options.

The pipe in question was installed in 1969, before the current drinking water standards were put in place in 1987, and in fact predates any VCM standards, mandatory or voluntary. In addition, the pipe is of small diameter, the installation design is unique and the amount of water flowing through it is low. All of these factors contribute to the situation, which is certainly not typical of the thousands of miles of PVC pipe in service throughout the country and in compliance with current drinking water standards.

UNION WE KNOW MORE ABOUT OUR ACTIVITY
IN THE AREA SAMPLING PROTOCOL, SAMPLING
SELECTION ETC WE SHOULD ADD TO THIS
NEWS RELEASE MY THOUGHTS ONLY

CTL032789