



A/C Pipe
Producers Association

Internal Correspondence

Public Affairs Committee
TO *J. F. Welch*
FROM J. F. Welch, Vice President

DATE April 21, 1982

SUBJECT Field Problem - Weston, Wisconsin

REF: JFW correspondence, same title, March 16, 1982

ACTION REQUIRED: Review for information

On March 22, 1982, a public hearing was held in Weston, Wisconsin to review the allegations of Dr. William Croft that the A/C water system in that town is deteriorating and creating a public health hazard. Enclosed is an outline report prepared by Hal Olson (Johns-Manville) and a news article from The Daily Herald.

If you have any questions, please do not hesitate to call.

JFW/ajb

Enclosure

cc: A. Kahn, Esq.

copies to: Public Affairs Committee

H. Olson w/o enclosure
R. LeGault
B. Cook
W. Perrell
J. Woods
J. Baker
T. Dougherty
W. McCallie w/o enclosure
B. Collier w/o enclosure

F01PI21906
Chrono

C.C. 4.0250N
A/C 44 415 W0570d

Wausau

Little risk from Weston water: experts

By DON OAKLAND

The risk of getting cancer from drinking water containing asbestos fiber to the degree found in the town of Weston is very small, according to Henry Anderson, chronic epidemiologist with the state Division of Health.

Anderson was one of five speakers who addressed about 250 Weston residents at meeting held Monday night at the D.C. Everest High School.

If 100,000 persons each drank two liters of water containing 300,000 asbestos fibers per liter every day for 70 years, it is estimated one of those persons would get cancer from the asbestos, Anderson said.

This calculation is based on the known health hazards of inhaling asbestos fibers in occupational settings, Anderson said.

Other highlights of the presentations were:

- Thirty-four air samples taken in seven Weston homes by the Marathon County Department of Health found .01 or fewer fibers per cubic centimeter of air. That is 100 times less than the 20 fibers per cubic centimeter in the Occupational Health and Safety Administration regulations for occupational exposure.

- Asbestos fibers have been found in the groundwater in Weston in amounts between "an undetectable and 1.3 million fibers per liter."

- The cancer risk of asbestos fiber appears to be related to its size and shape. Longer fibers pose the greater risk. Almost all fibers found in Weston have been short.

- Analysis of six water samples taken from the Weston water sys-

tem in November were received by town officials Monday. No fibers were found in any of the samples. McCrone Laboratories of Chicago did the analysis. McCrone is "the premier lab in the world for the counting of asbestos fibers," said Jon Standridge, a electron microscopist for the state Hygiene Laboratory.

- Whether the town removes the asbestos-relevant water mains or not, the town will have to step up its water treatment program to lessen the corrosiveness of the water.

- Only one study has shown a link between high levels of asbestos fiber in drinking water and certain types of cancer.

- When asked if they would drink Weston water, all five speakers indicated without hesitation that they would.

- Major decisions by the Weston Water Utility concerning the asbestos-cement water mains are expected within 60 days.

The U.S. Environmental Protection Agency feels it must regulate a substance when it causes one cancer death per 100,000 70-year lifetimes.

The chance of being hit by lightning is three to five times out of every 100,000, 70-year lifetimes, he said.

To reach the EPA exposure level, a person would have to drink two liters of water containing 300,000 fibers per liter every day over a 70-year period, he said.

Fiber counts in Weston water have ranged from non-detectable to 46 million fibers per liter.

A comparison of census and cancer incidence data with asbestos fiber counts ranging from non-de-

tectable to more than 100 million fibers per liter in the San Francisco area found a statistical link between asbestos and cancer, said Marly Kanarek, who worked on the study.

However, that study is the only one which has shown such a link. A similar study in the Puget Sound area of Washington has found no link, he said.

"There is asbestos in the drinking water, but we strongly feel there is also asbestos in the groundwater," said Tom Bishaw, water quality superintendent for the Rhineland district office of the DNR.

In a statewide study of water distribution systems, asbestos fiber levels ranged from non-detectable to 12 million fibers per liter. Weston counts ranged from non-detectable to 1.4 million fibers per liter, Bishaw said.

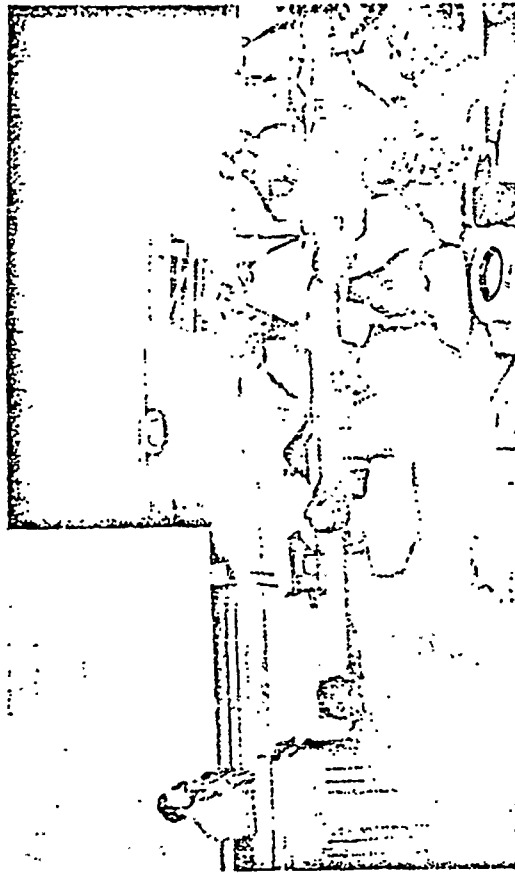
In groundwater tests, asbestos levels ranged from non-detectable to 3.4 million fibers per liter statewide and non-detectable to 1.3 million fibers per liter in the Weston area, he said.

Unless Weston treats its water to lessen its corrosiveness, the town will have problems regardless of what type of watermain it has, Bishaw said.

"Engineers have told us when we do that (treat the water), the level of asbestos will drop drastically," said Jack Allen, town chairman.

"We have no alternative but to go to a very good water treatment program," he said.

Air samples conducted by health officials in Weston homes found fiber counts 100 times lower than reported by William Craft, a University of Wisconsin-Madison can-



Discussing asbestos at Weston meet

Tom Bishaw, a state Department of Natural Resources water quality superintendent, explains tests which showed asbestos in groundwater in Weston. Listening are other speakers at the Weston meeting Monday night (from left, Henry Anderson, state Division of Health; George Million, county health officer; Carol Gannon and Jon Standridge, Division of Health; and Marly Kanarek, with the department of preventive medicine, University of Wisconsin-Madison).

—Herald photo by Rob Orcutt

cer researcher who is working as a consultant for the town.

However, the accepted method for counting and reporting air samples is to use the light microscope to count fibers and the state using a light microscope. Craft counted fibers aren't relevant, Anderson said.

Almost all the samples tested by the state Hygiene Laboratory contained short fibers, Standridge said.

With only a few exceptions, fibers counted by the EPA and state were less than a micron in length, state officials said.

Animal studies have shown hazards with fibers 10 microns or greater in length, Kanarek said.

Weston Asbestos Meeting - March 22, 1982

George Million opened the meeting (Marathon County Health Director)

"Information meeting only"
"Asbestos: Water and Air"

First speaker: Dr. Henry Anderson (Wisconsin State Public Health Department)

"Asbestos disease is dose related - duration--amount."

"Asbestos is a utilitarian product par excellence" "Many uses".

- Pictures of old industrial plants; Patterson, NJ
Made point that pictures are not indicative of today's industrial plants.

"There are now good preventative measures to avoid asbestos exposure". "Major concern now is existing old asbestos insulation". "--that care be taken in removing old insulation."

"Route of entry important", "Occupational exposure --- inhalation".

"Asbestos is one of the most studied and best understood but we still don't know all."

- Gave data on synergistic effect of smoking on asbestos disease.

Dr. Anderson spent considerable time on E.P.A. water quality model - i.e. 300,000 f/l relates to increase in cancer deaths. i.e. Drinking two liters per day of 300,000 f/l water for 70 years will result in one additional death per 100,000 deaths.

H. Olson's comment: What can we do to discredit this model?

Dr. Anderson tried to emphasize this was a low risk level (equal to getting hit by lightning) but it did cause a stir in the audience.

Second speaker: Carol Gannon from Dr. Anderson's office

Report on air samples taken:

"Nine homes tested for asbestos in air" "Two in areas other than Weston for control" "Used NIOSH method"
"Purpose of tests to determine if air from humidifiers exceeded OSHA F/cc level".

"Total samples: 43".

"Range of results: 0.01 F/cc to 0.02 F/cc"

"Results well below occupational standard of 2F/cc"

"There was no significant difference between control homes and Weston homes".

- Applause from audience -

Third speaker: Marty Kanerak, University of Wisconsin

- Described reserve mining operation that developed concern for asbestos in water supply.

Chart on Gibel study which shows "some increase in cancer to rats fed asbestos" (Kanerak mentioned asbestos fed in a filter cake containing plastic material, but did not emphasize the increase in cancer could also be attributed to the plastic.)

Referred to "government animal feeding study" (This is NIEHS Study) - "No excess cancer noted".

Connecticut Study: "Negative results" "Size and geometry of the fiber is the critical element--not chemistry of fiber".

Duluth/Minneapolis Study: "Duluth had lower cancer rate over all" "Only 15 years exposure and too early to tell".

Quebec Study: "Essentially negative according to authors, but looking closer shows some higher rates for asbestos exposure".

San Francisco Bay Area: - "Higher cancer rates for areas of high asbestos counts" "Results not likely to be due to chance" "Stable tracts gave essentially the same results".

(H. Olson's comment: This is not what Kenny Crump reports)

Washington State Study: "Totally negative"

"This is possibly because fiber size in Washington study was smaller than fiber size in San Francisco Study".

Weakness of indirect study", "It is possible asbestos was not the factor", "Should do a case control study in California", "Need more study".

(H. Olson's comment: Kanerak reported accurately but over all effect seemed to be his study did establish a cause-effect connection.)

Fourth speaker: Tom Bashau (Stand in for Bob Baumeister of Dept. Natural Resources)

"I will not discuss health effects but will report on the existence of asbestos in water in Wisconsin"

"35 systems in Wisconsin sampled for asbestos in water"

Results of testing program:

	Water Systems		
	STATEWIDE		WESTON
Fiber Level	N.D to 12×10^6 F/L		N.D. to 1.4×10^6 F/L
# Samples	$< 1 \times 10^6$	$> 1 \times 10^6$	$< 1 \times 10^6$ $> 1 \times 10^6$
	31	6	6 1
	Water Wells -		
Fiber Level	N.D. to 3.4×10^6		N.D to 1.3×10^6
# Samples	$< 1 \times 10^6$	$> 1 \times 10^6$	$< 1 \times 10^6$ $> 1 \times 10^6$
	24	2	6 1

Asbestos is prevalent in ground water.

If ground water is corrosive there is a problem with all pipes---"red water".

"You will have a problem regardless of the type of pipe you use."

Fifth Speaker: John Standridge - State of Wisconsin
Health Dept. Laboratory

- Standridge described lab procedures for counting asbestos fiber. It is difficult to count and subject to wide variations.

QUESTIONS & ANSWERS

- Q. Are there any studies that prove a positive relation between asbestos and cancer?
- A. (Kanerak) "I guess I didn't get my point across". The San Francisco study was a positive study."
- Q. Could the asbestos in the ground water be due to asbestos cement pipe in the ground?
- A. Tom Bashau"No, asbestos in ground water is found where there is no A/C pipe in the ground."

Q. Why should we believe what you are saying and not believe Croft?

A. Standbridge: "We are sure our test results for asbestos in water are accurate. McCrone Associates, E.P.A. and State lab all got similar results."

Anderson: "On air sampling our studies used procedures recommended by NIOSH. Fibers longer than 5 microns and using optical microscopy. (gave the impression Croft used a different technique) Results are like comparing oranges and apples."

Q. Is the time of the year when samples are taken a factor? (In summer when Croft took samples the velocity could be higher).

A. Tom Bashau: "We don't know."

Q. Is the town board contemplating doing nothing, and run the risk of future law suits for failure to act?

A. Tom Bashau: "The Department of Natural resources is concerned about aggressive water, and will make recommendations to control water quality. Corrosive water is a serious problem for C.I. and A/C."

Jack Allen - Chairman of Town Board:

"No decision yet on pipe removal." "Facts are conflicting between these two meetings." "Town must go into a water treatment program." "Want to get results from McCrone tests before a decision is made to pull the pipe." "Have interviewed six engineering firms. If a decision is made to pull pipe it could be done quickly." "Town Board is working hard."

Q. How deteriorated is the pipe?

A. Jack Allen: "We are having an engineering firm work on that."

(Note to H.L.O. - Write to Jack Allen and Dick Weber requesting J.M. be present during this test.)

(H.L.O. comment - In a subsequent discussion with Don Oakland (reporter) was advised there already had been some crush tests performed. I commented to Oakland that it was a good bet the tests for crush strength showed no loss of strength or we would have heard about it.)

Q. Is there a clear cut difference between breathing fiber and drinking fiber in water?

A. Million: "The evidence is clear on breathing asbestos but much less on drinking fiber."

Anderson: Went back to the Water Quality criteria model

Anderson (cont'd): i.e. 300,000 F/L for 70 years results in one additional death per 100,000.

Q. What is the length of fiber in our water?

A. Standbridge: "Most short fiber in Weston."

Tom Bashau: "A little in the high range for distribution systems but not considered long." "The longest were 8 microns but the vast majority were 1 microns or less."

Kanerak: "Fibers need to be longer than 10 microns to be a hazard."

Q. Why spend six million dollars to replace pipe if we still have asbestos in our wells?

-Applause-

No Answer.

Q. Dr. Croft took xxx samples (air). Do you have enough data from your work? (9 houses)

A. Carol Gannon: "Our results were way under occupational exposure level."

Anderson: "The number of samples doesn't matter if a wrong technique is used." "There are no studies to substantiate asbestos gets into homes from humidifiers." "It was a very serious report that asbestos in homes was exceeding occupational exposure levels." "We took it very seriously. It would have been a medical emergency." "We do not believe an emergency exists."

Q. On air counts did you only count long fibers?

A. Carol Gannon: "Counted 5 microns and longer."

Q. Is difference in Croft's air count and state air count only a difference in fiber length?

A. Anderson: Reply was somewhat evasive. "We will be willing to do some parallel sampling with Mr. Croft."

Q. How many of the panel members would drink Weston water?

A. All members raised their hands.

Q. Were there any studies done on the increase in fiber level as water moved along the pipe?

A. Kanerak: "Pipe contributed negligible amounts of fiber to the water."

Statements from a man in the audience:

"It's time we told the board to forget the asbestos problem."

-Applause-

Q. What effect will water treatment have on asbestos in water from A/C pipe?

A. Tom Bashau: "We are concerned about corrosive water on all pipes including C.I."

Q. Was the D.N.R. aware of corrosive water in Weston when the pipe was installed?

A. Tom Bashau: "I can't answer."

Jack Allen: "I can't answer directly. I can only read past minutes."

- An update on board action-

"Water has been treated. Some difference of opinion on how good was the treatment."

"We must go to a more stringent program." "Engineers tell us the asbestos count will drop drastically by treating the water."

Q. Do you have enough samples to form an opinion?

A. Tom Bashau: "D.N.R. has about 50 samples from Weston area."

Million: "Additional samples are being taken."

Q. Are there substitutes for asbestos?

A. Tom Bashau: "There are substitutes for A/C pipe, but there would be problems of red water with C.I."

Q. What action is planned for the future?

A. Jack Allen: "We will treat the water. After all samples are in we will make a decision if we should pull the pipe."

Q. What treatment is required and will it open an other "can of worms"?

A. Tom Bashau: "Zink coatings have been used with A/C pipe. No matter what kind of pipe is used it would be attacked. Not positive if another problem would result."

Q. What is the cost factor for treatment?

A. Tom Bashau: "This will be looked into by engineers."

Q. What was the difference in fiber count by you and Croft?

A. Standgridge: "A factor of at least 10."

Meeting adjourned.

After the meeting I introduced myself to Jack Allen, Chairman of the Town Board, and Dick Weber, Attorney. Neither had any significant comment to make. I asked Weber if he had noted where there had been applause from the audience. He said he did.

This meeting was covered by WSAW-TV and the Daily Herald. Dave Thompson (TV) wanted me to leave during Kanerak's presentation for an interview. I refused as I wanted to hear Kanerak but did agree to meet after the meeting. Thompson had a deadline to meet and was gone by the time the meeting ended.

I did not meet Don Oakland at the meeting, but did call him the next morning. I told him we were pleased that George Million had arranged the meeting and thought the meeting gave the citizens of Weston some valuable information.

Alan Vogt and Mike Krosnoski attended the meeting. Alan made a tape recording of Kanerak's presentation.

Alan, Mike and I all concur that the meeting went well and that it will be difficult for the Town Board to make a decision to remove A/C pipe based on current information and the general reaction of the audience.

/ba

Amelia

4/13/81

- 20% water works Industry
A/C pipe

file
VA/C. 20%
Cancer 1961

2740 35

Water + Silver ?

Weill

1. Not all mining & melting, mfg. of
Asbestos do not carry the same hazards.
Why is McDonald interested -
2. McDonald ^{study} has concluded 35 fibers per
m/c is perfectly safe, under Condition -
3. Long Cancer peak exposure is 35 yrs.
4. All evidence of occupational exposure -
disease related is reasonable to favorable
for the A/C industry.
5. Most damaging in "estimates" of disease
not necessarily facts - degree of difficulty on
a declining scale between 1970-1980

6. Little information available on end use of asbestos products.
7. Conclusion - saving from marginal approach to mitigation of asbestos. Hopefully, we should not swing all the way back -

Kateri -

1. 2/c Guilt by association
2. No data in any way suggests increased incidence of cancer by water intake
3. Ingestion of asbestos into the digestive tract isolates the fibers of the human body by bypassing digestive processes working as gatekeeper processes.
4. Remaining greatest asbestos problem
 - 1) Demolition & Solid waste disposal
 - 2)
5. Summary
 - 1) Decreasing rates of disease
 - 2) Battle to transfer to state city

II

Klein

new maturity on the part of govt and industry is well.

a. Approach

1. Cooperation of industry + govt
2. willingness to compromise

b. Carter + E.P.A.

180° from meeting in Washington
fall of 1979

c. Problem dealing with govt

1. do not paralyze decisions.
- 2.

- 3) Acceptance of Consumers by the state for
Antitrust will be increased -
- 4) Some method to Counsel the "mother"
rather than the regulator or employer
- 5) Education must be on labor too not
just pipe.

III

4/14--

1) CPPA - Study of energy ~~usage~~ consumption -

LITWAK - CHIEF ECONOMIST S.M.

Interest Rates

New Housing

Non-Residential

State - Municipal Affairs

Competition

Water Use

Forecast

Housing - 1.5 1980

1.8 1981

more 1982

Housing
34,170,000

Green feet 1980 400 million

1982 475

AC

38

1980 35

1982 42

Miller Commit to exposure water in all pipes.

In asbestos ingestion a risk -

In asbestos from A/C pipe any more asbestos

- a) length a factor
- b) dose related
- c) pipe asbestos may be greater due to material
- d) treat water to stabilize
- e) Risk 1 in 10,000 or 1 in 1000 - ?
- f) Rehabilitation of pipe in case of use

Regulations -

~~Measure~~
Bans undesirable - unsupportable
Control exposure within allowable if
proven to be required.
Protective Coatings

KING

San Diego -

He makes just good new s/c
No structural problems -
Emotional problems do exist

Vending for s/c pipe

Check Hyatt's greatly declined -
Translate data to Rome's use

HARRIS - Director, Materials Dept

Canadian Western Union Company

Examine some coatings on all pipe
Regulated by sec. (H.C.?)

TIMOTHY PH.D

No real growth until first quarter
1982. Change should occur about
mid-year 1981

Conclusions

Housing 1.3 1981
1.6 1982

Difficult 2 years

B.K.



A/C Pipe
Producers Association

~~W. W. Hittley~~
~~H. Beasley~~
~~W. Penell~~

Internal Correspondence

TO Board of Directors
International Affairs Committee

FROM *J. F. Welch*
J. F. Welch, Vice-President

JFW
9-4-84

DATE August 17, 1984

SUBJECT

U.S. National Institute of Environmental Health Sciences (NIEHS) - Asbestos Feeding Studies

- REF: (1) JFW correspondence, U.S. Environmental Protection Agency (EPA) - Advance Notice of Proposed Rulemaking on National Drinking Water Regulations
(2) JFW correspondence, same title, April 30, 1983

ACTION REQUIRED: Review for information

Reference (1) mentions the reported finding of "nodules" in rats fed chrysotile in the National Toxicology Program (NTP) animal studies.

NTP Draft Technical Report on the Toxicology and Carcinogenesis Studies of Chrysotile Asbestos in F344/N Rats

Enclosed are excerpts from the report. To summarize, oral administration of "short range" chrysotile did not cause any overt toxicity and neoplastic or nonneoplastic disease. These results are consistent with NTP studies feeding amosite and crocidolite asbestos to rats and hamsters.

In male rats fed "intermediate range" (IR) chrysotile, however, benign neoplasms called adenomatous polyps were observed in the large intestine. The incidence of these neoplasms was not statistically significant when compared to the control group (not fed asbestos) in this study. When the incidence is compared with all male control groups in NTP's oral asbestos studies, it is considered highly significant. Thus, the report concludes that there is some evidence of carcinogenicity in male rats fed intermediate range chrysotile.

In the section entitled "Discussions and Conclusions," NTP interprets the significance of these findings. Five important observations are made: (1) adenomatous polyps are benign neoplasms, (2) no malignant neoplasms were observed in this study (or any of the other oral asbestos studies), (3) the polyps did not progress to carcinomas even though, (4) this was a lifetime study that allowed progression to malignancy. Finally, no gastrointestinal tumors were observed in female rats in the same experiment.

Discussions with NTP Staff

On July 27, 1984, NTP's Board of Scientific Counselors peer reviewed the draft technical reports of the chrysotile feeding studies. According to Dr. E. E. McConnell, Project Officer, the Board determined that the polyps were "absolutely related to exposure to intermediate range chrysotile." Unfortunately, the Board did not address the question of why neoplasms were induced by IR chrysotile but not induced by amosite and crocidolite of comparable fiber dimensions in the same test animals. McConnell went on to say, "It's real. The neoplasms are definitely treatment-related. These results probably would not have been detected in a study involving a smaller number of animals (e.g. Smith, et al) and indicate that ingested asbestos certainly is not a rip-roaring carcinogen." He said that the Donham animal study, in which an asbestos dosing level of 10% resulted in a "trend toward increased colon lesions," suggested that neoplastic

CAPCO JEN 0032425

response might occur but did not do so with statistical significance. The larger number of animals in this NTP study permitted this "trend" to develop fully, in his judgement.

Public Health Significance

When questioned about the point, McConnell stated that the current findings "meant very little with regards to human health." He said (not a direct quote), "From a public health standpoint, we obviously know that inhaled asbestos is carcinogenic. Ingested asbestos is probably not much of a public health threat, especially since many of the fibers in water are much shorter than IR chrysotile. The dosing levels in these studies were 160,000 to 16 billion times greater than the projected level of possible human exposure. I'm not going to lose any sleep worrying about drinking water coming out of A/C pipe."

After the peer review meeting, McConnell discussed the Board's conclusions with NTP Director Dr. David Rall. Rall concurs with McConnell's views, including the public health implications.

Staff Analysis

It would have been highly desirable for all the NTP studies to show no evidence of carcinogenicity with all fiber types, size ranges, and animal species and sexes. The current findings demonstrating "some evidence of carcinogenicity" blemish what previously was a strong, consistent body of animal toxicology studies showing no carcinogenic effects from ingested asbestos.

It is not known whether EPA will share NTP's views about the public health implications of these findings. If anything, they complicate the question of whether asbestos in drinking water should be regulated and may well slow down the Agency's decision-making process. For example, the Office of Drinking Water may reraise the issue with the EPA Science Advisory Board. The matter definitely will be discussed at the next meeting of the National Drinking Water Advisory Council.

Staff plans to issue an A/C Advisory on this NTP study and McConnell's comments so that undue significance is not imparted to the findings. If you have any questions, please do not hesitate to call.

JFW/bwm

Enclosure

cc: A. H. Kahn, Esq.
Timothy S. Hardy, Esq.
AIA
AIA/NA
CAIC
W. E. Smith, M.D.
B. T. Commins, Ph.D.

copies to: Board of Directors

L. Ambler
L. Cejudo
J. M. Couture
B. Layton
L. Taylor



International Affairs Committee

R. Dorner	E. van der Rest
A. Junes	E. Costa
G. Zaviezo	J. Schmaus
M. A. Elola	F. Mansour
A. Lluch	P. Hart
R. Hobbs	A. Saoulis
R. Jalan	V. Pattabhi
H. Hudson	C. Barton
S. Al-Tarkait	C. Saeng-Xuto
M. Delcourt	B. Giboin
B. Dubois	J. Bryant

0172081301
Chrono