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API - meeting
Technical Com.

STANDARD OIL DEVELOPMENT COMPANY

RESEARCH AND DEVELOPMENT DEPARTMENT

15 WEST 51ST STREET, NEW YORK 19, N. Y.

H. G. M. FISCHER
ASST. MANAGER

February 9, 1949

~~S. O. D. CONFIDENTIAL~~

Dr. McIver Woody
Medical Department
Building

minutes attached

Dear Dr. Woody:

In response to your request as Chairman of the Subcommittee on Carcinogenicity of the Medical Advisory Committee of the A.P.I., dated November 22, 1948, an invitation was extended to the members of the Medical Advisory Committee to attend a meeting for the purpose of considering the problem of sample testing. The meeting was held on January 31, 1949, in the A.P.I. Board Room and the recommendations arrived at are given in the attached.

The outcome of the discussion was reviewed by the writer at the meeting of the Subcommittee on Carcinogenicity on February 1, 1949, and since no serious objections were voiced by the members of your Committee, I assume that the technical advisors have discharged their assignment in a manner acceptable to the Subcommittee.

I believe it was agreed that you will send copies of the attached review of the discussion to all members of the Medical Advisory Committee.

Very truly yours,

HGMF:HC
CC:Mr.D.V.Stroop

H. G. M. Fischer
H. G. M. FISCHER

~~S. O. D. CONFIDENTIAL~~

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MEETING OF THE TECHNICAL ADVISORS
OF THE
SUBCOMMITTEE ON CARCINOGENICITY
MEDICAL ADVISORY COMMITTEE
AMERICAN PETROLEUM INSTITUTE

January 31, 1949
New York, N.Y.

A meeting of the Technical Advisors of the Subcommittee on Carcinogenicity was held in the A.P.I. Board Room, 30 Rockefeller Plaza, New York City, at 10:00 A.M., January 31, 1949. Present were:

R. C. Cole	H. P. Lankelma
A. E. Doolley	W. R. Myers for H. W. Field
N. J. Gothard	C. A. Swan
A. E. Hoag	H. A. Warwick
A. W. Horton	N. B. Wilson for H. E. Zuidema
E. G. Mackenzie	McIver Woody
H. G. M. Fischer, Acting Chairman	

Letters were received from the following regretting their inability to attend:

E. W. Adams
L. C. Beard, Jr.
R. S. Benson
H. H. Zuidema

Review of Discussion

1. Purpose of Meeting

The acting chairman read his letter of January 7, 1949, to Mr. D. V. Stroop (copy attached) outlining the purpose of the meeting to the effect that the technical advisors would redefine the objectives of the program to be co-ordinated by Dr. Horton and aid him with the selection of samples suitable for study by the Kettering Laboratory of Applied Physiology, University of Cincinnati, College of Medicine, under the direction of Dr. R. A. Kehoe. The group concurred in this.

2. Objectives

There appear to be two main objectives, which were worded as follows:

(a) It is desired to establish in what crudes and fractions thereof compounds are present that may possess carcinogenic properties and the type of processes that may either concentrate or create them and, if so, under what conditions.

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(b) Establish analytical procedures that will permit distinguishing between fractions, according to biological testing, that possess carcinogenic properties and those that do not. It would be useful if an index could be devised whereby a refiner could measure the degree of carcinogenicity in fractions that are being handled in a refinery or in products that are delivered to the trade.

Mr. Mackenzie proposed that priority be given Item (b) because a suitable and reliable analytical procedure would obviate the need for biological testing of an unnecessarily large number of samples. The analytical procedure would screen the inactive or the least active from the most active materials for biological testing and would serve to avoid overtaxing the capacity of available facilities.

The group agreed to the objectives as outlined, and to Mr. Mackenzie's proposal.

5. Selection of Samples for Testing

(a) Crudes

The thought was expressed that the testing of various types of crudes from different sources (domestic and foreign) would produce information of value to the producing and operating companies. However, it was the consensus of the group that the testing of crudes should be deferred until the examination of feed stocks from various sources to a variety of conversion processes and the study of products resulting therefrom discloses specific properties that should be traced to crude source, in which case selected crudes should receive closer scrutiny in the future.

(b) Processes

It appears that conversion processes, both thermal and catalytic, deserve prime attention. These were listed as follows:

<u>Thermal</u>	-	Gas Oil
		Resids
		Reforming
		Coking
		Gas Reversion
		Steam Cracking

In this connection, Dr. Les Beard, in his letter of January 13 to H. G. M. Fischer, suggested that serious consideration should be given to "thermally cracked residuum from processes operating at high temperatures and on aromatic charge stock. If requested to do so, I believe that it would be possible for us to supply you with a sample of vapor phase (DeFlorez) tar from an old DeFlorez unit operating on Mirando charge with a transfer line temperature of about 900."

Catalytic - Houdry
TCC
Fluid
Houdriflow
Cycloversion
Hydroforming

Catalytic desulfurization was also mentioned; however, it was decided that this would be of marginal interest in view of the fact that the operation is carried out under relatively mild conditions with little, if any, conversion of the feed stock to lower or higher molecular weight products. This operation may merit consideration at a later date.

(c) Miscellaneous

Rod Wax
Slack Wax
Raw lube stocks (unrefined)
Solvent extracts
(Furfural, Phenol, SO₂, etc.)

In this connection, acid sludge or oily products derived from acid sludge were mentioned. The group agreed that this would be of marginal interest in view of the fact that most acid oils contain relatively large quantities of sulfuric acid and additional processing would be required to render them suitable for animal experimentation. The item will remain on the program for future consideration.

Referring to the previously quoted letter, Dr. Los Beard also suggested "slack wax from pressing paraffin distillates, preferably where the paraffin distillate has had no acid treatment", and "Rod Wax - that paraffin which accumulates in the collecting lines and crude tanks, particularly from wells in California, which, because of their depth, produce 'warm' crude."

It was agreed that Dr. Horton will solicit from the companies participating in this program representative samples of the feed stocks to the processes listed and products therefrom, and whatever information can be obtained on operating conditions and yields, and that he will concentrate his investigation primarily on such samples as can be expected to yield the most pertinent information for tying together the biological and analytical phases of the problem.

Dr. Horton briefly outlined the scope of his analytical program. In this connection, the acting chairman stated that extensive information had already been obtained which may prove useful to Dr. Horton and expressed the hope that all companies having such information in their possession would freely disclose it to him. Dr. Horton stated that in his preliminary contacts with various companies he had received excellent co-operation.

4. Samples Tested by the Kettering Laboratory

Dr. Horton reviewed the results of the studies by the Kettering Laboratory of Applied Physiology, College of Medicine, University of Cincinnati, on eight samples which had been selected some time ago by the Subcommittee on Carcinogenicity. The results were reported in detail under date of November 5, 1948, by Dr. F. F. Heyroth. Only one sample, Oil No. W-3632 (a clarified oil from catalytic cracking) disclosed a high order of carcinogenic activity. Another oil, W-3631, (a residual from thermal cracking) produced only one tumor of a low grade of malignancy. A third oil, No. 11980, (a low-boiling distillate from catalytic cracking) produced changes in the skin of two animals which gave a moderate evidence of malignancy. In this connection, Dr. Horton stressed the need for subjecting as many animals as possible to a pathological examination in order to avoid errors that frequently arise from gross observation. He cited an example where lesions that had been reported as tumors by visual inspection (Oil No. 3631) were found to be not malignant when areas of the skin were examined microscopically. In another case (Oil Y-8005-2) a tumor was found that was not detected by visual examination.

The group agreed that the largest possible number of animals should receive a pathological examination in order to make the results of the biological testing as reliable and useful as possible. Gross examination appears to be adequate for judging the results of samples which have a high carcinogenic activity.

The question was raised whether information was available on the feed stocks to the processes from which the eight A.F.I. samples were produced, and also yield data and operating conditions. Mr. Warrick, who had been instrumental in obtaining these samples, stated that such information had not been requested, as it was doubted that it would have been furnished; however, he agreed to acquaint Dr. Horton with his contacts in procuring these samples and Dr. Horton will attempt to obtain whatever information the respective companies may be in a position to disclose to him.

5. Products from Other Industries

In order to permit drawing suitable comparisons between products derived from petroleum and products from other related sources, it is recommended that samples be obtained of coal tar, water gas tar, and shale oil (domestic and foreign) for study.

6. Funds Available

In view of the possibility that appropriated funds may not be adequate to finance the work to be undertaken by the Kettering Laboratory when the full program goes into effect, the question was raised as to how much money was available. According to information supplied by Mr. Stroop, the Kettering Laboratory received a grant of

\$25,000 in 1948 which appears to be sufficient to cover their operating expenses until July 1, 1949. An additional \$25,000 is on deposit which can then be made available if needed. In addition, Mr. Stroop has included in his list of subscriptions a request for \$25,000 to be ready for Dr. Kehoe on January 1, 1950, to cover the six months' period to July 1, 1950. Dr. Horton indicated that he expected to have laboratory facilities available by June 1, 1949, and that the biological laboratory will be in a position to handle about one hundred samples, with provisions for approximately 4,500 mice.

It is anticipated that in order to carry out the recommendations arrived at by the technical advisors, the Kettering laboratory may require the services of an additional pathologist, and Dr. Horton may require the addition of another member to his staff.

The meeting adjourned at 12:45 P.M.

Roxy Dowling
Acting Secretary

2/8/49

(C O P Y)

STANDARD OIL DEVELOPMENT COMPANY

Research and Development Department
15 West 51st Street
New York 19, N.Y.

January 7, 1949

Mr. D. V. Stroop
American-Petroleum Institute
50 West 50th Street
New York City

Dear Mr. Stroop:

You will recall that among the recommendations adopted at the meeting of the API Medical Advisory Committee Sub-Committee on Carcinogenicity on November 11, 1948, at Chicago, Item 4 (appearing in the minutes) reads as follows:

"That the fundamental chemical and physical studies that are indicated to investigate the operational technical aspects of this problem may require considerably more money than anticipated; and it is recommended that the technical advisers group consider the problem again and present their recommendations to the Sub-committee on Carcinogenicity."

In this connection, Dr. McIver Woody, Chairman of the Sub-committee on Carcinogenicity, has written me as follows:

"Now that Dr. A. Wesley Horton has been selected by Dr. Kehoe to investigate the chemical aspects of the problem, it will be greatly appreciated if you would call a meeting of the technical advisers to confer with Dr. Horton on methods of selecting samples for future testing, taking into account the nature of the crude, its source, the temperature conditions, etc."

As I understand the situation, it is desired that the technical advisers redefine the objectives of the program to be coordinated by Dr. Horton and aid him with the selection of suitable samples for study by the Kettering Laboratory of Applied Physiology, University of Cincinnati, College of Medicine, under the direction of Dr. R. A. Kehoe.

I shall be glad to conduct this meeting in response to Dr. Woody's invitation and would suggest the date of January 31, 1949, in the API Board Room on the 20th floor at 50 West 50th Street, New York City, at 10:00 A.M.

Since the group will wish to arrive at definite conclusions and recommendations, it is hoped that the technical advisers will find it convenient to attend this meeting in person.

If you are in agreement with this method of putting into effect the recommendation adopted by the Medical Advisory Committee, I shall appreciate your extending an invitation to Dr. Horton and the associate members of the Medical Advisory Committee to attend this meeting and to others who you feel would be interested in participating in the discussion.

Please advise.

Very truly yours,

HGMF:HC
CC: Dr. McI. Woody
Dr. J.P. Holt

/s/ H. G. M. Fischer
H. G. M. FISCHER

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