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CONFIDENTIAL

AMERICAN PETROLEUM INSTITUTE

SUBCOMMITTEE ON CARCINOGENICITY

MINUTES OF INTERIM MEETING

June 3, 1949

copy letter to Dr. Woody of 6/8 attached herewith.

An interim meeting of the Subcommittee on Carcinogenicity was held on Friday, June 3rd, 1949, at 15 West 51st Street, New York City.

MEMBERS PRESENT	ASSOCIATES PRESENT
Marshall Clinton	L.C. Beard, Jr.
T.M. Frank	H.P. Lankelma
A.E. Hoag	K.G. Mackenzie
J.P. Holt	R.M. Shepardson (representing H.G.M. Fischer)
T.J. Kelly	H.H. Zuidema
M.N. Newquist	
McIver Woody	

GUESTS

R.W. Faulk - Shell Oil Company
A. Wesley Horton - University of Cincinnati

ADVISOR

D.V. Stroop - API

TOTAL IN ATTENDANCE - 15

MEMBERS ABSENT	ASSOCIATES ABSENT
L.E. Curtis	R.S. Bonsib
W.R. Levis	A.E. Dooley
C.A. Swan	H.G.M. Fischer

Minutes of the meeting of March 11th were approved as issued.

Mr. Stroop stated that the API prefers not to be included in the American Cancer Society's list of grants-in-aid for cancer research.

Dr. Horton submitted a progress report. (Copy of the report is attached as Appendix A).

Dr. Woody said the Federal Security Administration has awarded over $450,000. in federal grants for cancer control and teaching activities. The

largest amount, $35,000. went to the Pennsylvania Department of Health, where Dr. Shilen, Director of the Division of Industrial Hygiene, has set up an occupational cancer control program with a physician and a nurse. At a later date, two engineers and a statistician will be assigned to the project. The attached forms (Appendix B) are being prepared in quantity for use in their surveys and are essentially identical with the form submitted to them by Dr. Hueper to insure uniform data from the various states participating in the industrial cancer program. The oil industries located in the Philadelphia area are high on their agenda.

Dr. Hoag and Dr. Newquist spoke briefly concerning articles on cancer they have written for the Socony-Vacuum News and Texaco Topics respectively. It was agreed that other companies could well afford to follow their example.

T.M. FRANK
Secretary

McIVER WOODY
Chairman

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APPENDIX A

API PROJECT ON CARCINOGENICITY AT THE UNIVERSITY OF CINCINNATI

The program at the Kettering Laboratory is roughly divided into three major phases. Of perhaps most immediate importance is the effort to pin point throughout the industry materials and operations which represent potential hazards from the cancer standpoint. The second phase, which will be prosecuted simultaneously with the first phase, will involve the concentration and isolation of the compounds responsible for the carcinogenic action of certain catalytically cracked oils which have already been tested biologically. From the physical and chemical properties of such concentrates, an effort will be made to develop an analytical tool which may then be applied to any refinery stream to determine its carcinogenicity without resorting to animal testing. The third major phase will be an epidemiological study of cancer in the petroleum industry.

In carrying out the first phase in the program, as described above, a series of typical refinery samples will be tested on suitable laboratory animals to determine their relative carcinogenic potencies. It is expected that, in the course of the coming year ending June 1, 1950, testing of approximately 150 to 200 such samples will be started at the Kettering Laboratory. Thus an average of about 12 samples from each of the following processes will be studied:

1. Non-catalytic gas oil cracking
2. Viscosity breaking of residues and extracts
3. Naphtha reforming
4. Polyforming
5. Coking operations
6. Houdry catalytic cracking
7. Fluid catalytic cracking
8. Thermofor catalytic cracking
9. Cycloversion
10. Houdryflow cracking
11. Hydroforming
12. Slack waxes and aromatic extracts therefrom
13. Solvent extracts from lube oils and heavy gas oils.

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The potencies of the samples will be compared with those of coal tar and shale oil fractions on which clinical data is available from England.

In considering the selection of samples from each of the processes listed, attention is at present being restricted to those intermediates or products with a distillation end point above 650°F. On the basis of confidential information supplied to the Kettering Laboratory by each of the API member companies on such materials and the unit operations producing them, a sampling program is being organized which will cover the current range of variations in each process. Careful consideration is being given not only to the characteristics of the particular products which will be tested for carcinogenicity but to the feed stocks and the unit operating conditions as well. In this manner it will be possible to correlate the effect of the trends in available charge stocks and refining practices with the relative carcinogenic potencies of products formed. Thus, the results of the testing program now planned should permit prediction of potential hazards as unit operations change in the years to come.

As yet, a list of the specific samples to be tested during the coming year has not been prepared since the necessary data from the individual companies is not complete. However, sufficient information is available to permit the selection of a small number of samples from thermal cracking of high boiling materials, both virgin gas oils and those previously subjected to catalytic cracking. In additionit is planned to request samples of high boiling oils from TCC units since to date no physiological testing of the heaviest products from these operations has been carried out.

In reporting results of tests on future oil samples, a direct comparison with a solution of a known concentration of a standard carcinogenic hydrocarbon in a standard solvent will be made. Preliminary tests are being run with solutions of methylcholanthrene in benzene, at concentrations from 0.01% to 0.6%. Previous results have indicated that the tumor incidence curves for typical heavy catalytically

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cracked oils may be compared nicely with the curves for such standard solutions.

In further work the effect of the benzene solvent on the tumor incidence and the induction period in mice will be determined. Various non-volatile solvents, such as methylnaphthalene, are being considered for this purpose. However, it must be kept in mind that benzene solutions of methylcholanthrene have been employed as standards for many years in studies by English scientists. Their use may therefore facilitate the interpretation of our laboratory results in terms of practical hazards to exposed workers.

A. W. Horton

A. Wesley Horton

June 3, 1949.

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BIH-C-1a

OCCUPATIONAL CANCER RECORD

1. Name — 2. Place of Death: City: — Hospital:

Residence

3. State: — City: — Street:

4. Social Security No. — 5. Sex — 6. Color or Race:

Age

7. Date of Birth: — 8. Years: Mos. Days: — 9. Date of Death:

10. Occupation: — 11. Industry or Business:

Method of Diagnosis

12. Cause of Death: — 13. Clinical: Biopsy: Autopsy: Other:

14. Name of Physician: — 15. Street: — 16. City:

17. Clinical Diagnosis: — 18. Pathologic Diagnosis: — 19. Primary Site:

20. Date of First Symptoms: — 21. Date of First Visit to Physician:

22. Date of First Diagnosis: — 23. Stage of Disease at First Diagnosis:

24. History of Other Illnesses of Site Affected: — 25. History of Injury to Site Affected:

26. Exposure: Have you ever handled or worked near any of the following? If yes, give details.

NAME OF SUBSTANCE	NAME OF EMPLOYER	DATE	LENGTH OF EXPOSURE	DESCRIBE TYPE OF EXPOSURE AND ESTIMATE PERCENT OF WORKING TIME EXPOSED:

APPENDIX B

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BIH-C-1b
Occupational Cancer Record - Page 2

27. Occupational History: List Occupations in Chronological Order beginning with last or present one.

Dates FROM	Dates TO	NAME OF EMPLOYER	ADDRESS OF EMPLOYER	TYPE OF BUSINESS OR PRODUCT MADE	TITLE OF JOB	TYPE OF WORK PERFORMED

28. Are there any other important materials to which you have been exposed? (Hobbies; Habits; Medicines; Cosmetics; Diets; Environment)

29. Additional Information Obtainable at: (List Physician; Laboratory; Hospital; Insurance Co; Plant Medical Department Clinic; Tumor Registry, etc.)

Name: Address:

Name: Address:

Name: Address:

30. Any other information pertaining to Tumor (Multiplicity, sites, etc.):

APPENDIX B

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BIH-C-2

PLANT CANCER RECORD

1. Name of Company _____ 2. Location: _____

3. In operation since: _____ 4. Products Manufactured: _____

5. Number of workers employed:

		In plant:	In office:
Male:	_____	_____	_____
Female:	_____	_____	_____
White:	_____	_____	_____
Colored:	_____	_____	_____

6. Name of plant official _____ 7. Name of Plant Physician _____

8. Insurance Carrier: _____ 9. Carcinogenic hazards: _____

10. Operations involved: _____ 11. Number of workers exposed:
a. Constant exposure
b. Intermittent exposure
c. Occasional exposure

12. Sex of exposed workers: Male: Female: 13. Race: White: Colored:

14. Duration of exposure:

	Number:	Years:
	Number:	Years:
	Number:	Years:

15. Rate of turnover in exposed group (s)

16. Cancers Observed in exposed group (s) Total number: Period:

17. Cancers by sites:

APPENDIX B

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APPENDIX B

BIH-C-3

PLANT CANCER RECORD

Date:

1. Name of Company:

2. Location: 3. In Operation since:

4. Products Manufactured:

5. Number of Workers: Total, Females, Males, White, Colored — Office: — Production:

6. Name of Plant Manager: 7. Plant Physician:

8. Insurance Carrier:

9. Carcinogenic Hazards:

10.

Operations Involved	Number of Workers: Total, White, Colored, Male, Female	Exposure: Constant, Intermittent, Occasional
a		
b		
c		
d		
e		
f		
g		
h		
i		
j		
k		
l		
m		
n		

11.

Type of Exposure: Inhalation, Skin, Ingestion, Other	Duration of Exposure: Average, Longest	Cancers Observed: Site, Number, Period
a		
b		
c		
d		
e		
f		
g		
h		
i		
j		
k		
l		
m		
n		

12. Rate of Labor Turnover:

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(Interim Sub-Com. Med.Adv.API)

Meeting held in New York,
Friday, June 3, 9:30 A.M.
Room 673, ESSO S.O. Co.,
15 W. 51st St.

NOTES FOR THE MEETING

Samples from processes listed in February 1 meeting.

Attempt to show effect of varying feed stocks and operating conditions with minimum number of samples.

Reserve 150 of the 200 samples for refinery samples. Rest on samples for analytical tool from laboratory.

Specific Samples

1. Clarified slurries from FCCU already indicted - some variation shown. 3632 nearly most potent.
2. Effect of thermal cracking on heavy cat. cycle stock.
3. Effect of selected feeds in Houdry and TCC.
4. Highly aromatic samples from 2 and 3 - pass Houdry operation. Does recycling increase carcinogen concentration or destroy carcinogens previously formed?
5. Effect of sulfur and nitrogen Hydrogenation by Union HCOOH extraction of N bases.
6. Slack wax (or slop on outside of presses). Crude sources of those causing scrotal cancers.
   Rhodessa, E. Texas Ok.

Started 6 concentrations of Me-chol. in benzene from 0.01% to 0.6% 3 times a week.
Also 3631 and 3632.

Ask Lewis about meeting at Chester, Thursday, June 23.

May 31, 1949

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