FILE NAME: Oil Industry and American Petroleum Institute (API)

DATE: 1952 June-Aug

DOC#: API028

DOCUMENT DESCRIPTION: Letters, Memos, Reports, Financial Reports & Other Relevant Documents from June-Aug, 1952

THE TEXAS COMPANY
135 EAST 42ND STREET
NEW YORK 17, N. Y.

M. N. NEWQUIST, M. D.
MEDICAL DIRECTOR

June 3, 1952

Members of the Research Project Advisory Committee
Research Project MC-1, American Petroleum Institute

Dear Sirs:

As per our telegram of May 29, there will be a one-day meeting of the Research Project (MC-1) Advisory Committee on July 10, 1952, commencing at 9:30 A.M. at the Kettering Laboratory in Cincinnati. Dr. Kehoe will be unable to be present, but Dr. Horton and other members of the Kettering staff will attend.

Kindly send me any suggestions that you may have for inclusion on the agenda which I will compile and submit to the members in advance of the meeting.

Will you also inform me as to whether or not you will attend the meeting.

Very truly yours,

M. N. NEWQUIST, M. D.
Chairman, Research Project
Advisory Committee

MNN:RHS

R. W. Adams
L. C. Beard, Jr.
Kieffer Davis, M.D.
R. E. Eckardt, M.D.
T. M. Frank, M.D.
C. M. Hine, M.D.
R. M. Landon
E. K. Linder, M.D.
K. G. Mackenzie
R. C. Mithoff
R. M. Shepardson

API 05326

FOR INFORMATION OF MEMBERS AND ASSOCIATES OF MEDICAL ADVISORY COMMITTEE. 6-30-52

UNIVERSITY OF CINCINNATI
Department of Preventive Medicine and Industrial Health

The Kettering Laboratory
College of Medicine - Eden Avenue
Cincinnati 19, Ohio

June 5, 1952

Mr. David V. Stroop
Technical Service Director
American Petroleum Institute
50 West 50th Street
New York 20, New York

Dear Mr. Stroop:

In going over the last Interim Report to the Medical Advisory Committee an error was found in Table I. On page 19 of the Appendix under API Sample No. 12-6 the description shows this is the distillation residue b.<1065°F. This should be the redisue b.>1065 F. Please change your copies and the stencils accordingly.

Very truly yours,

/s/ M. J. Graf

Mary Jane Graf, Secretary to
Dr. A. W. Horton

mjg

June 30, 1952

Dr. Robert A. Kehoe
University of Cincinnati
The Kettering Laboratory
College of Medicine
Cincinnati 19, Ohio

Dear Doctor Kehoe:

Pursuant to the understanding reached by our letters of October 26 and November 5, 1947, we are enclosing the Institute's check in the amount of $2,500 payable to the University of Cincinnati as our contribution towards the development of information on fluorine and fluorine compounds for the twelve-month period ending June 30, 1953.

Very truly yours,

DVB:s
Enclosure
cc: Dr. E. Emrn Lindner
Mr. Lacey Walker

MEMO TO MR. WALKER:
This expenditure is to be charged against the Medical Research Fund.

API 05328

12 PA

THE TEXAS COMPANY

135 East 42nd Street

New York 17, N. Y.

July 2, 1952

To Member of the R.P.A. Committee
of Subcommittee on Carcinogenicity

Gentlemen:

As previously advised, there will be a meeting of the Research Project (MC-1) Advisory Committee at the Kettering Laboratory, Cincinnati, 9:30 a.m. to 4:00 p.m. EST, on Thursday, July 10, 1952.

For your confidential information an agenda with attachments is enclosed.

If you will be unable to attend the meeting, kindly let me know.

Very truly yours,

M. N. NEWQUIST, M.D.
Chairman, Research Project
Advisory Committee

MNN:JKF
ENCS.

E. W. Adams
L. C. Beard, Jr.
Kieffer Davis, M.D.
R. E. Eckardt, M.D.
T. M. Frank, M.D.
C. M. Hine
R. M. Landon
E. K. Linder, M.D.
K. G. Mackenzie
R. C. Mithoff
R. M. Shepardson

Mr. D. V. Stroop
Dr. Robert A. Kehoe

API 05329

AGENDA

Research Project (MC-1) Advisory Committee Meeting
Kettering Laboratory, Cincinnati, Ohio

July 10, 1952, 9:30 a.m. to 4:00 p.m. EST

1 - Summary of April 1952 Progress Report	Dr. A. W. Horton
2 - Comments on the Progress Report	Dr. R. E. Eckardt et al
3 - Progress of studies since April 1952 and future plans	Dr. A. W. Horton
4 - Effect of viscosity on potency and the use of embodying agents to modify viscosity	R. M. Shepardson L. C. Beard
5 - (a) Need for additional studies on straight-run, uncracked distillates and residua	
(b) Appraisal of British literature and the magnitude of the hazard in Great Britain	L. C. Beard
6 - Plans of the Sub-panel on Lubricants and Process Products Hygiene of the API Lubrication Committee	R. M. Landon K. G. Mackenzie L. C. Beard
7 - Report on mid-year meeting, General Committee, Division of Refining, May, 1952, with respect to the RPA Committee's report of April 30, 1952, to Mr. T. J. Sullivan	R. M. Landon
8 - Epidemiological Surveys (a) Among employees of petroleum companies	Dr. J. J. Phair Dr. E. K. Linder
(b) Among employees of customers	Dr. M. N. Newquist
9 - Other business	
10 - Date and place of next meetings of (a) Subcommittee on Carcinogenicity (b) RPA Committee	

COPY

SOCONY-VACUUM LABORATORIES
26 Broadway, New York 4, N. Y.

June 5, 1952

M. N. Newquist, M.D.
Medical Department
The Texas Company
135 East 42nd Street
New York 17, N. Y.

Dear Dr. Newquist:

In reply to your letter of June 3, 1952, I advise that I plan to attend the meeting of the subject committee commencing at 9:30 a.m. at the Kettering Laboratory in Cincinnati. You may wish to clarify to members whether this be Daylight Saving Time or Eastern Standard Time.

As an item for your agenda, I suggest a realistic discussion of the hazards of straight run, uncracked distillates and residua. I feel this is an aspect of our work that must be squarely faced.

The large majority of cases of cancer of the skin from contact with petroleum products that have come to our attention have a history of contact with relatively non-viscous lubricating oil distillates. To name them:

1) Mule skinners cancer in Great Britain - while there was an early history of use of shale oils, yet such have not been used for many years;

2) Cancers of the scrotum in wax pressmen - these were confirmed by tests at Kettering to be due to the pressed distillates;

3) Cutting oils containing 94% of 100" pale paraffin oil - experiments at NYU on such oil from two different manufacturers both operating on Mid-Continent crude produced cancers in mice;

4) An increasing volume of British literature of which the recent paper by Cruickshank and Goureveitch is an example;

5) Rumors of more cases of cancer of the skin from cutting oil on the Pacific Coast - our Pacific Coast representative may be able to elaborate.

While we have proven as concerns mice that high boiling catalytically cracked products are much more carcinogenic, yet we must face the fact that the cancers in men we now know of come instead from straight-run products of the character indicated.

API 05331

We feel it would be in order to request Kettering to make a realistic appraisal of the British literature and advise us of the magnitude of this hazard. Place should be provided for a brief presentation of the plans of the Sub-Panel on Lubricants and Process Products Hygiene of the API Lubrication Committee of which Messrs. Landon, Mackenzie and I are members.

I feel that closer liaison with the British workers is in order. The minutes attached to your letter of May 17, 1952, are not very helpful. Privately I have learned - "that fractions from Oklahoma bright crudes were tested biologically at Bermingham University and yielded interesting results, amongst them the finding that the most active carcinogens are concentrated in a fraction whose initial boiling point is 600 to 625°F. The upper limit of distillation was not so sharply defined as the carcinogenicity fell off gradually. Whether this effect was due to a decrease in specific activity with increase in molecular weight, or to a lower concentration of active hydrocarbon types was not clear".

The quotation above gives in my opinion some substantiation to a point that has been stressed by Drs. Eckardt and Shepardson - to the effect that viscosity appears to lessen carcinogenicity. Over the years wer have noticed that our most violent dermatitis complaints deal with products of relatively low viscosity but a boiling range higher than conventional solvents.

This would suggest that the product must be sufficiently non-volatile to stay on the skin and of sufficiently low viscosity to penetrate - and, of course, be irritant or carcinogenic. I repeat a suggestion made some time ago that it might be in order to take one of our relatively non-viscous active carcinogenic fractions and dissolve therein several percent of a material to increase viscosity without materially changing composition and then test this material of increased viscosity to determine if its carcinogenicity is lower. Thought should be given to the use of Vistanex, Alkylated Poly Styrene and Acryloids in the order mentioned; also, aluminum stearate or silica flour dispersion (run through a colloid mill) might well prove effective thickening agents for this purpose.

Very truly yours,

L. C. BEARD, JR.

LCB:EML

cc: R. E. Eckardt, M.D.; E. K. Linder, M.D.; C. M. Saunders, M.D.
Dr. R. M. Shepardson

C O P Y

May 20, 1952

. Wesley Horton
Kettering Laboratory, Cinn., Ohio

ar Dr. Horton:

m very sorry that I did not get the opportunity to discuss with you your
st recent interim Report and also other information which I had for you
en I was in Cincinnati. It was my full intention to come to the Kettering
boratory on Monday afternoon, but in the meantime, a meeting of all the
mpany affiliated industrial hygienists was called on Monday, which lasted
ll day, and I felt that I should attend this meeting because it represented
e opportunity to get together with the industrial hygienists affiliated
th the company, which rarely presents itself. Therefore, I did not get the
portunity to come out to your laboratories and so I am writing this letter
convey to you the thoughts which I have had concerning your Interim Report.

irst of all, you will remember that in February, this year, we had some dis-
ssion concerning the composition of API 86 and API 89. For your information
am enclosing a table giving the distillation data on these two samples as
epared for me by the Process Division of this company. It will be noted
at API 89 contains over 30% of material boiling above 700°F. and, there-
re, would be expected to have a relatively high potency. The predicted
tency by the ultraviolet method is 42. In our own work we ordinarily con-
der that any samples which have a predicted potency above 30 have a signi-
cant degree of carcinogenicity. API 86, although called a tar in
finery parlance, actually represents a 430°F + material from the steam
acking of kerosene, and undoubtedly the low boiling components of this
terial account for its low viscosity. It would seem, therefore, that there
s been no mistake in the labeling of this material.

ning now to your report, there are several things that were apparent to
s as I went through it. The first of these is that if you take all of the
samples which you have studied and rate them on whether or not they con-
in significant quantities of material boiling above 700°F., it would appear
at in most cases where there is much material boiling above 700°F. in the
l sample the PAC falls below 0.1. It is difficult, of course, to make a
finite distinction at 700°F. because the distillation data given in your
bles are broken into less than 750°, 750-925° and greater than 925°F. You
ll remember, however, that we have claimed that 700°F. represents a
latively critical boiling point for the carcinogenic material contained in
id catalytically cracked oils and has been found useful by us in
fferentiating oils which have what we consider to be a significant degree
carcinogenicity from those which we consider not to have a significant
gree of carcinogenicity. We have tried carefully not to apply this 700°F.
re to all types of oils, but rather, to confine our remarks specifically
the FCC oils. You have, on occasion, taken considerable exception to our
of the 700°F. figure, but in looking over your own data, it appears to
that it gives partial support at least to our previous contention that it
ves as a useful guide when it is remembered that if an oil contains 10%
a material from fluid catalytic cracking boiling above 700°F., it is in
estimation significantly carcinogenic; whereas, if it contains less than
s 10% figure, it does not have a significant degree of carcinogenicity.
we have indicated, we find this to be a useful guide, although I am sure
at you are aware of the fact that our own efforts in attempting to develop
analytical tool are an indication that we are not completely satisfied with
s guide.

the text of your report you indicate that little difference seems to exist the results which are obtained when 100 mg. of a sample are applied over a area of an animal's back as when 20 mg. of the sample are applied over small area of the animal's back. This presumably was based on the results obtained with API 243, as listed in Table 2 on page 20 of the tables of your report. However, if you look at the results of Table 1 on page 12 of your report, in which API 8 was painted on C_3H mice once a week in one group with 100 mg. over a large area of the back, and in another group, where 20 mg. were used over a small area of the back, the results do not seem to bear out this contention. Thus, in the two groups of animals, the maximum incidence of tumors (T.I./weeks) indicates that in the first group, where 100 mg. were used, this figure is $\frac{94}{24}$ whereas, in the second group, where 20 mg. were used, the results are $\frac{58}{37}$. To me this means that in the first group, 94% of the animals developed tumors in 24 weeks; whereas, in the second group, only 58% of the animals have developed tumors in 37 weeks. The corrected average latent period for tumor induction in weeks for the first group was given as 14.3 ± 2; whereas, no figure is given for the second group, but it is difficult for me to see how this could be much less than 30 weeks. It thus appears to me that a considerably greater amount of work must be done to definitely establish the point that the use of 20 mg. on a small area of the back gives results which are comparable to those which are obtained when 100 mg. are used over a large area of the back.

On page 13 of Table 1, with API Sample No. 73, two apparently identical experiments were performed on C_3H mice which were painted once a week. In the first group the maximum incidence of tumors is $\frac{83}{22}$; whereas, in the second group the maximum incidence of tumors is $\frac{95}{31}$. The corrected average latent period for tumor induction in weeks is 18 for the first group and 22.5 for the second. This represents a difference of only 4.5 weeks in the average latent period, yet the P_{MC} is 0.45 in the first group and 0.27 in the second group. This then means that a 4.5 weeks difference in average latent periods may represent a 66-2/3% error in the results.

Such a dufferebce of 4.5 weeks in the average latent period is not a very long time and would represent about what I might expect as an error of an experiment. In support of this contention, if you look at the results obtained with API 203 on page 20, where 0.075 g./100 ml. of methycholanthrene in benzene was painted on two different groups of mice, the corrected average latent period for tumor induction in weeks in the same strain of mice, namely C_3H, is 4.2 weeks. This, as you know, represents, a control sample. Thus, it would appear that from the data which have thus far been presented, there is likely to be a ± 66-2/3% error of a - approximately 30% error. This to me is not too far off from the results which have been obtained previously in the literature by investigators using subcutaneous injections of a pure carcinogen and in which they indicated that the error of quantitative determinations was of the order of ± 100% or - 50%. Again, it is my feeling that these results very strongly suggest that more duplicate experiments on exactly the same concentrations of carcinogen in a solvent, as well as duplicate determinations on oil samples, be obtained in order that we can more accurately define what the error of the biological experiments really is. You will remember that the RPA Committee has stressed within the past few months the importance of a quantitative biological test in order for the analytical tool to have any significance. Although I believe that the biological test can be semi-quantitative, I have for a long time felt that a truly quantitative test, in the

of what a chemist thinks of as a quantitative test, it is impossible our present biological testing methods. If an error of +66% or -33% is ceptable in the development of an analytical tool, then I believe the bio- gical tests will be satisfactory; but if such an error is unacceptable, a considerable amount of doubt is thrown upon the desirability of empting to develop an analytical tool by correlating results with a bio- gical test unless it be recognized that this analytical tool will only be mi-quantitative tool. I also would like to point out that in the ex- iment on API 73, there were only 12 final effective number of mice out of originals in the first group where the P_{MC} was 0.45; whereas, there were final effective number of mice out of 20 originals in the second group re the P_{MC} was 0.27. You have indicated throughout your report that the th of animals throws off the test and tends to make the results less itive than if the animals are healthy and surviving. If this is the case, one might presume that the actual potency of the first group, where only final effective mice remain, would actually be higher than the 0.45 in- ated in the table and that, therefore, the error in this duplicate ex- iment might be even greater than has been pointed out in the above paragraph

further support of what was said above, I think it is important to look at results obtained with duplicate determinations on API 79 listed on page of your Table 1. In this experiment C_3H mice were painted twice a week, a maximum incidence of tumors in one group of $\frac{100}{53}$, and in the second up of 53. In the first group only 4 final effective number of mice remain; reas 40 in the second group 15 final effective number of mice remain. is result would probably indicate a difference of more than 4 weeks in the rected average latent period for tumor induction and, therefore, an error ich might be greater than indicated above.

page 19 of Table 1, the aromatics from Sample No. 12 which boil between and 710°F., corrected, were tested and the aromatics boiling between 1010 1065°F were also tested on mice, but apparently the aromatics boiling ween 710°F. and 1010°F. were not subjected to biological testing. I rsonally believe this to be unfortunate since it is the aromatics in this ge which we consider to be the most i-portant from the carcinogenic stand- nt. It also occurs to me that the less than sign which is in front of the 65°F. figure for Sample 12-6 probably should be a more than sign. I believe is is a typographical error which you might wish to correct in future ies of your report.

page 28 of your report, in Samples 232 and 236, there is apparently a sig- ficant difference in the maximum incidence of tumors, even though it is fficult to decide why there should be such a difference when the conditions the experiment were so nearly identical. Do you believe that it would be ssible to conclude from this experiment that dodecyl benzene, painted be- a single application of a carcinogenic oil and then painted following single application, has an inhibitory effect on carcinogenesis? Personal- I do not believe, as I also feel you probably do not believe, that this the case, but, rather, that the difference in maximum incidence of tumors in two experiments is more likely simply representative of the experimental ge of technique. I would be very interested in your explanation of these fferences.

I have indicated to you above, the most satisfactory way of discussing a rt of this nature is with a personal discussion between the two indi- uals involved, and I am sorry that such a discussion could not be arranged

while I was in Cincinnati. I did not wish to take up the time of the Sub-committee on Carcinogenicity in discussing these things with you before the full committee and hence I let them slide in the belief that I would be able to discuss them with you later during the week; but having failed to have the discussion with you, I am taking this opportunity to open the discussion with you. The one point which I would bring up for discussion before the full Subcommittee on Carcinogenicity, namely, the validity of applying a standard slope line to the biological results in view of previous evidence in the literature that the slope of the line will gradually diminish as the dose of carcinogen diminishes (in subcutaneous experiments with pure carcinogens), still has not been answered completely to my satisfaction. It seems that the application of a standard slope to these experiments places undue emphasis on the initial latent period for tumor induction, which previous investigators have indicated is not a particularly reliable index. Furthermore, as I indicated to you in the course of the Subcommittee meeting, the workers in these laboratories originally applied a standard slope to the results of our own experiments but subsequently abandoned this practice when they found that it did not seem to satisfy the majority of the experiments, particularly where a wide range of relative carcinogenicity is being tested. Therefore, there is considerable doubt in my mind as to the validity of applying a standard slope line to obtain "corrected" PMC values for experimental results. I simply call this to your attention again because I believe it warrants a considerable amount of discussion before it is adopted as a general procedure.

I also have looked rather carefully at the relationship of tumor production to weight response in the animals and find it extremely difficult to find that there is any constant relationship between the two. In many experiments where considerable drops in weight have occurred, a significant number of tumors appears to have been produced at the time of this weight drop; and even in different groups of animals on the same experiment the relationship of tumor production to weight drop is not absolutely apparent to me. This then raises the question of whether or not group weights are important, or whether individual animal weights may not be the most significant factor insofar as tumor production is concerned. In my own biological experimental work on the vitamins, we used to weigh our animals individually because we found that there was a rather important difference in when animals would begin to lose weight after they were placed on a vitamin deficient diet, even though they were presumably of the same age, litter mates, and fed exactly identical diets I simply point this out as a suggestion to be considered in trying to make the test more quantitative.

Even though the above comments may sound critical of the work which you are doing let me add that I believe that it is important and significant, and I think your report was an excellent one on the whole. I have simply offered these criticisms in the hope of stimulating thought and discussion on the subject of all of these investigations.

Sincerely,
E. E. ECKARDT, M.D.

EEE:ilp
cc: Dr. C.B. Brown
Mr. H. G. M. Fischer
Mr. R. M. Shepardson - Attn: Mr. W. Priestley
Dr. M. W. Swaney - Attn: Dr. L. T. Ebny

UNIVERSITY OF CINCINNATI
DEPARTMENT OF PREVENTIVE MEDICINE AND INDUSTRIAL HEALTH

KETTERING LABORATORY
COLLEGE OF MEDICINE—EDEN AVENUE
CINCINNATI 19, OHIO

CABLE ADDRESS: KETLAB, CINCINNATI
TELEPHONE: CAPITOL 1414

RC
Pls send copies to Drs Lindberg & Newquist

July 8, 1952

Mr. D. V. Stroop
American Petroleum Institute
50 West 50th Street
New York City 20
New York

Dear Mr. Stroop:

I am sending you herewith, for your information, statements of expenditures made on behalf of American Petroleum Institute during the first quarter of 1952. I believe the statement is self-explanatory, but if you have any questions or comments, Doctor Kehoe would appreciate your bringing them to his attention.

Very truly yours,

Iola Sheppard

Iola Sheppard
Financial Secretary

IS

Enc.

API 05337

UNIVERSITY OF CINCINNATI

KETTERING LABORATORY

ACCOUNT OF AMERICAN PETROLEUM INSTITUTE

FOR 1ST QUARTER 1952

SALARIES (Based on Proportion of Time Actually Spent on Project)

Direct Salaries	8449.56	
Indirect Salaries		
Histopathological Preparation	1091.75	
Other Services	5937.87	15,479.18

MISCELLANEOUS EXPENSE

Purchase of Animals	41.40
Special Laboratory Supplies	691.24
Travel	231.49
Overhead (Proportion of Heat, Gas, Electricity, Steam, Telephone, General Laboratory Supplies, Postage, Annuities, Pensions, Maintenance, etc	3,926.51
TOTAL	20,369.82

Balance Available for Further Work at End of 1951	18,995.06	
Balance Due Kettering Laboratory at End of		
Receipts	31,692.42	
	50,687.48	
Expenditures	20,369.82	
Balance Available for Further Work at End of 1st Quarter 1952	30,317.66	
Balance Due Kettering Laboratory at End of		

API 05338

FORM 1230X. KET. LAB., 500. 7-52

Copy from D. V. Stroop for Information of Doctor Linder and Doctor Newquist.

7-11-52

UNIVERSITY OF CINCINNATI

Department of Preventive Medicine and Industrial Health

The Kettering Laboratory
College of Medicine - Eden Avenue
Cincinnati 19, Ohio

July 8, 1952

Mr. D. V. Stroop
American Petroleum Institute
50 West 50th Street
New York 20, New York

Dear Mr. Stroop:

I am sending you herewith, for your information, statements of expenditures made on behalf of American Petroleum Institute during the first quarter of 1952. I believe the statement is self-explanatory, but if you have any questions or comments, Doctor Kehoe would appreciate your bringing them to his attention.

Very truly yours,

/s/ Iola Sheppard
Financial Secretary

IS

Enc.

UNIVERSITY OF CINCINNATI

Kettering Laboratory

ACCOUNT OF AMERICAN PETROLEUM INSTITUTE

FOR 1ST QUARTER 1952

Salaries (Based on Proportion of Time Actually Spent on Project)		
Direct Salaries	$8,449.56	
Indirect Salaries.		
Histopathological Preparation	1,091.75	
Other Services	5,937.87	
		$15,479.18
Miscellaneous Expense		
Purchase of Animals		41.40
Special Laboratory Supplies		691.24
Travel		231.49
Overhead (Proporation of Heat, gas, electricity, steam, telephone, general laboratory supplies, postage, annuities, pensions, maintenance, etc.		3,926.51
TOTAL		20,369.82
Balance available for further work at end of 1951	18,995.06	
Receipts	31,692.42	
	50,687.48	
Expenditures	20,369.82	
Balance Available for Further Work at end of 1st Quarter 1952	30,317.66	

API 05340

UNIVERSITY OF CINCINNATI
DEPARTMENT OF PREVENTIVE MEDICINE AND INDUSTRIAL HEALTH

THE KETTERING LABORATORY
COLLEGE OF MEDICINE—EDEN AVENUE
CINCINNATI 19, OHIO

CABLE ADDRESS: KETLAB, CINCINNATI
TELEPHONE: CAPITOL 1414

R C / FILE

July 9, 1952

Mr. D. V. Stroop, Director
Department of Technical Services
American Petroleum Institute
50 West 40th Street
New York 20, New York

Dear Mr. Stroop:

I wish, herewith, to acknowledge with thanks the receipt of two checks, one in the amount of $5000.00 towards the skin physiology project, and the other in the amount of $2500.00 towards the development of information on fluorine, which you forwarded to Dr. Kehoe on June 30, 1952.

Very truly yours,

/s/ Iola Sheppard

Iola Sheppard
Financial Secretary

IS

cc: R. A. Kehoe

API 05341

UNIVERSITY OF CINCINNATI
DEPARTMENT OF PREVENTIVE MEDICINE AND INDUSTRIAL HEALTH

THE KETTERING LABORATORY
COLLEGE OF MEDICINE—EDEN AVENUE
CINCINNATI 19, OHIO

CABLE ADDRESS: KETLAB, CINCINNATI
TELEPHONE: CAPITOL 1414

April 11, 1952

Mr. Lacey Walker, Secretary
American Petroleum Institute
50 West 50th Street
New York City 20

Dear Mr. Walker:

I herewith acknowledge with thanks receipt of American Petroleum Institute's check in the amount of $2500.00, covering expenditures to be made on their behalf on the Skin Physiology Project.

Very truly yours,

E. R. Fortlage

E. R. Fortlage, Secretary to
Dr. Kehoe

ef

API 05342

June 30, 1952

Dr. Robert A. Kehoe
University of Cincinnati
The Kettering Laboratory
College of Medicine
Cincinnati 19, Ohio

Dear Doctor Kehoe:

Pursuant to the understanding reached by our letters of March 20 and April 3, 1952, we are enclosing the Institute's check in the amount of $5,000 payable to the University of Cincinnati as our contribution towards the skin physiology project for the twelve-month period ending June 30, 1953.

Very truly yours,

DVS:e
Enclosure
cc: Dr. E. Ebra Linder
Mr. Lacey Walker

MEMO TO MR. WALKER:
This expenditure is to be charged against the Medical Research Fund.

API 05343

April 3, 1952

Dr. Robert A. Kehoe
University of Cincinnati
The Kettering Laboratory
College of Medicine - Eden Avenue
Cincinnati 19, Ohio

Dear Doctor Kehoe:

Please express to Doctor Suskind my appreciation and thanks for the helpful information he prepared and sent to me with his letter of March 21 about the skin physiology project.

In the understanding that we shall receive copies of all periodical and special reports resulting from this research project, we are enclosing the Institute's check in the amount of $2,500 as our contribution for the six-month period ending June 30, 1952.

As of July 1, 1952 we shall make a contribution of $5,000 for the 12-month period ending June 30, 1953.

Reports should be sent to me for distribution to committee members. We should like to receive 80 copies of each report which will be made available in quantity. In cases where that number will not be available to us, one copy will be sufficient for our use in reproduction.

Very truly yours,

DVS:e
Enclosure
cc: Dr. E. Ezra Linder
Mr. Lacey Walker

MEMO TO MR. WALKER:

This expenditure is to be charged against the Medical Research Fund.

API 05344

March 25, 1952

Dr. E. Kern Linder, Chairman
API Medical Advisory Committee
c/o The Atlantic Refining Company
260 South Broad Street
Philadelphia 1, Pennsylvania

Dear Kern:

For your review there is enclosed original letter and memorandum from Doctor Raymond R. Suskind about the Skin Physiology Project. If you approve we shall prepare and send copies of this to members and associates for information in advance of the April meeting.

Also if you approve we shall send $2,500 to the University of Cincinnati as our contribution for the six months ending June 30, 1952.

Very truly yours,

DWB:e
Enclosures

UNIVERSITY OF CINCINNATI
DEPARTMENT OF PREVENTIVE MEDICINE AND INDUSTRIAL HEALTH

...ETTERING LABORATORY
...OF MEDICINE—EDEN AVENUE
...NATI 19, OHIO

CABLE ADDRESS: KETLAB, CINCINNATI
TELEPHONE: CAPITOL 1414

March 20, 1952

Dr. David V. Stroop, Director
Department of Technical Services
American Petroleum Institute
50 West 50th Street
New York 20, New York

Dear Doctor Stroop:

In Dr. Kehoe's absence I am forwarding the memorandum on the Physiology Program which you requested. I trust that it contains all of the information which you need.

If there are any questions concerning any portion of the statement which require further elucidation, Dr. Kehoe who will be back in a few days, or I, will be most pleased to answer them.

Very sincerely yours,

Raymond R. Suskind

Raymond R. Suskind, M.D.

RRS/mg

cc: Dr. R. A. Kehoe

Encl.

API 05346

RESEARCH PROGRAM

SKIN PHYSIOLOGY PROJECT

KETTERING LABORATORY, UNIVERSITY OF CINCINNATI

1952

I. Background and Purpose

The concept of the skin physiology project at the Kettering Laboratory is a natural outgrowth of the increasing demand for information about medical problems, industrial and non-industrial, in which skin function is an important factor. The establishment of this project is an attempt to satisfy a pressing need for well established scientific knowledge about the chemistry and physiology of normal skin as well as skin in abnormal environments. Since the inception of the project, the field of skin chemistry and physiology has been explored to ascertain not only what specific problems might be effectively attacked, but what techniques of study require development to facilitate an orderly approach to these separate problems.

During this period, too, the original program of the project has undergone a process of natural maturation which was characterized by expansion and the gradual inclusion of new problems in the investigative program. The latter has been possible only with an increase in trained personnel and research facilities. It has been necessary, therefore, to meet the expanding budgetary requirements of this project.

II. Specific Research Problems

The following is an outline in brief of skin problems which have been or are under investigation.

A. Sebaceous Gland Chemistry

1. The identification and localization of lipids and enzymes

API 05347

and other chemical constituents of the sebaceous gland and their secretions in normal and diseased states.

2. The quantitative study of pilosebaceous constituents in normal and diseased skin.

3. A quantitative study of lipids in various levels of the skin.

The observations which were made on the lipids and enzymes by histochemical methods are now being verified and enlarged by the study of normal and abnormal sebaceous material employing microchemical techniques. The particular interest of the group is to ascertain the normal chemical constituents of human sebum, the locale of their development and change, and the chemical alterations which occur in diseases of the pilosebaceous apparatus such as acne vulgaris, occupational acne and keratin cysts. A systematic study of the metabolism and function of the sebaceous glands is closely linked with the project's interest in percutaneous absorption since the pilosebaceous unit is probably the most important portal of entry for non-gaseous, noxious substances which pass through or into the intact skin.

The following is a list of publications of the group in connection with its sebaceous gland study:

1. Suskind, R. R.: The chemistry of the human sebaceous gland. I. Histochemical observations. J. Invest. Dermat. 17: 37-54, 1951.

2. Schmidt-Nielsen, K., Suskind, R. R. and Taylor, E.: The chemistry of the human sebaceous gland. II. Analysis of human sebaceous material from individual orifices. J. Invest. Dermat. 17: 281-290, 1951.

3. Schmidt-Nielsen, K. and Taylor, E.: Use of a quartz fiber micro balance for histochemical investigations of skin. J. Invest. Dermat. (in press).

API 05348

B. Percutaneous Absorption

1. The study of factors which influence absorption through animal skin.

2. The application of radioisotopes to the study of skin absorption problems. This includes route of penetration as well as the rate of absorption.

3. The knowledge and experience of the group with respect to absorption is employed in a practical fashion in problems of industrial hygiene. It is consulted by industry and other interested groups on such matters as cutaneous protective measures with relation to irritants, sensitizers, acnegenic and carcinogenic materials.

C. Cutaneous Irritation and Sensitization

1. The study of physiological, chemical and biological factors which influence irritation and sensitization. Problems which have been assailed and currently being studied are:

(a) The influence of the endocrines on cutaneous irritation and sensitization

(b) The influence of percutaneous absorption on irritation and sensitization

2. The development and improvement of techniques to measure the irritant and sensitizing capacity of chemical compounds. This includes both human and animal methods of evaluation (See E below).

The following are the publications in connection with the cutaneous irritation and sensitization studies:

1. Nilzén, Å.: Some endocrine aspects of skin sensitization and primary irritation. J. Invest. Dermat. 18: 7-35, 1952.

API 05349

2. Nilzén, Å.: Some aspects of epidermal testing of guinea pigs sensitized and not sensitized to 2,4-Dinitrochlorbenzene. For Dr. H. Haxthausen's "Festschrifte" to be issued October 1952.

D. Participation in the A. P. I. Project on Carcinogenicity

Several problems which have arisen in the A. P. I. project require and will continue to require the cooperation and advice of the members of the skin physiology group and their participation in the A. P. I. program. These problems include:

1. The role of percutaneous absorption and primary irritation on experimental tumor rates
2. The role of cocarcinogenicity in skin painting experiments
3. The effect of barrier creams and washing on experimental tumor induction

E. The Use of Cutaneous Techniques in Problems of Industrial Toxicology

The personnel of this project in cooperation with the other divisions of the laboratory are frequently called upon to delve into matters of industrial hygiene at a fundamental or testing level when the skin is a potential or prominent factor in the exposure. The group is organized:

1. To evaluate industrial and consumer materials for potential cutaneous irritancy, sensitizing capacity, percutaneous toxicity, acnegenic properties, etc.
2. To investigate clinical industrial problems when they may arise by surveying the plant or industry and studying the problems involved at a laboratory or clinical level. The facilities available are particularly helpful in the study of such practical problems.

III. Personnel

In its present form the program's activities are being carried out under the direction of Dr. Raymond R. Suskind. Dr. Knut Schmidt-Nielsen, a physiologist, is in charge of the microchemical and radioisotope percutaneous absorption studies. The other members of the staff include a chemical engineer who is in charge of the isotope laboratory, a technician in the isotope laboratory, a full time assistant for microchemical work and a full time technician for histochemical, cutaneous irritation and sensitization studies.

IV. Facilities

The facilities allocated to the work of the project include a well equipped histological and histochemical laboratory, an analytical laboratory especially designed for microchemical work, a constant temperature room in which a wide range of atmospheric conditions may be produced, a radioisotope laboratory, and animal quarters for breeding a hypersensitive strain of guinea pig and for housing animals on cutaneous experiments. The facilities and services of the other departments of the Kettering Laboratory have been effectively integrated into the work of the project as the particular needs have arisen.

V. Finances

The financial sponsorship of the skin physiology project was initially undertaken completely in 1948 by the Bristol-Myers Company which allocated funds for a three year period. The sponsor contributed $20,000 per year from 1948 - 1951.

Until recently the original endowment satisfied the needs of the program. With the normal development and growth of the project, the

API 05351

general increase in equipment costs and salaries, the economic requirements of the full program are now several times the amount of the project as originally planned.

As of October 1950, a grant of $10,000 per year was initiated by the Procter and Gamble Company in partial support of the irritation and sensitization studies. This endowment continues. Several months ago the Monsanto Chemical Company contributed $5,000 towards the general support of the project during the year 1951. Monsanto has made an additional contribution of $3,000 for the year 1952. Additional support is available under the terms of a contract with the United States Air Force for the work on percutaneous absorption of liquid organic compounds. This will probably not exceed the sum of $10,000 in 1952. A further grant of $3,000 has been made for the year 1952 by the Abbott Laboratories. Two other pharmaceutical companies have expressed interest recently in the support of the program. The funds made available so far towards this work have been without strings except in the case of the Air Force in which instance they are earmarked for work in the absorption section of the program.

A tabulation below summarizes the situation with respect to funds now available for 1952 including that represented in the recent recommendation of the A. P. I. Medical Advisory Committee.

Sponsors	Amounts
Monsanto Chemical Company	$3,000.00
Abbott Laboratories	3,000.00
U. S. Air Force (approximately)	10,000.00
Procter and Gamble Company	10,000.00
A. P. I.	5,000.00
Total	$31,000.00

API 05352

The total sum shown above is not sufficient to support the entire program which we have in mind, and it allows nothing for future development, but it is hoped and believed that additional sums can be obtained. Meanwhile the work will be retarded somewhat to fit the funds available.

February 14, 1952

Dr. Robert A. Kehoe
Kettering Laboratory
University of Cincinnati
Cincinnati 19, Ohio

Dear Doctor Kehoe:

Favorable consideration is being given to the recommendation of the Medical Advisory Committee for contributions to your research on basic physiology of human skin; however, we lack specific information on the origin, scope, progress, and program of the project.

It will be helpful if you can send me a prepared statement, together with the names of past and present sponsors and the amounts of their contributions.

I feel certain we will be authorized to send the recommended contribution of $2,500 within a few weeks after the receipt of such a statement from you.

Very truly yours,

DVE:s
cc: Dr. E. K. Linder
Mr. F. M. Porter

API 05354

UNIVERSITY OF CINCINNATI
DEPARTMENT OF PREVENTIVE MEDICINE AND INDUSTRIAL HEALTH

...ERING LABORATORY
...OF MEDICINE—EDEN AVENUE
...NATI 19, OHIO

CABLE ADDRESS: KETLAB, CINCINNATI
TELEPHONE: CAPITOL 1414

July 14, 1952

Mr. D. V. Stroop, Director
Department of Technical Services
American Petroleum Institute
50 West 50th Street
New York (20) New York

Dear Mr. Stroop:

We are returning to you four copies of the continuation agreement covering API Medical Research Project M-2 for the fiscal year ending June 30, 1953. This agreement has been signed on behalf of the University of Cincinnati by Mr. Frank F. Dinsmore, Chairman of the Board of Directors and Mr. Ralph C. Bursiek, Clerk of the Board.

We would appreciate your sending us two copies of the agreement for our files as soon as they have been signed by the President and Secretary of American Petroleum Institute.

Sincerely yours,

Verna Rahe

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Verna Rahe, Secretary

Encl. - 4

API 05355

3

AMERICAN PETROLEUM INSTITUTE
50 WEST 50TH STREET
NEW YORK 20, N. Y.

June 30, 1952

Board of Directors
University of Cincinnati
Cincinnati 19, Ohio

Gentlemen:

This communication is authority to continue work on investigation of the toxicity and mode of action of certain petroleum products for the year ending June 30, 1953, according to the terms of the agreement dated January 8, 1946, and on the basis of a maximum budget for operating expenses of $104,760.

Upon receipt of your approval of the continuation of the project with this maximum budget we shall pay you the sum of $50,000. The balance of $54,760, less the unexpended balance in the fund on June 30, 1952, will be paid on January 1, 1953.

It is understood that any balance remaining in the fund on June 30, 1953 will be returned to the American Petroleum Institute, and that no excess over the amount of the budget is to be obligated or spent without written authorization.

Very truly yours,

AMERICAN PETROLEUM INSTITUTE

By Frank M. Porter
President

By [signature]
Secretary

Accepted and Approved:

UNIVERSITY OF CINCINNATI
Through its Board of Directors

By [signature]
Frank F. Dinsmore, Chairman

By Ralph C Bursiek
Ralph C. Bursiek, Clerk

API 05356

Copy from D. V. Stroop for Information of Members and Associates of the Medical Advisory Committee.

7-16-52

UNIVERSITY OF CINCINNATI
Department of Preventive Medicine and Industrial Health

The Kettering Laboratory
College of Medicine - Eden Avenue
Cincinnati 19, Ohio

July 8, 1952

Mr. David V. Stroop, Director
Department of Technical Services
American Petroleum Institute
50 West 50th Street
New York 20, New York

Dear Mr. Stroop:

Enclosed are the stencils of additional individual data sheets on carcinogenicity experiments for duplication and distribution to those members and associates of the Medical Advisory Committee who are not members of the Research Project Advisory Committee.

Very truly yours,

/s/ A. W. Horton

A. Wesley Horton

AWH:fe
encls.

LEGEND FOR DATA SHEETS ON INDIVIDUAL EXPERIMENTS

Symbols used in connection with average weight curves:

- $\overline{\nabla}$ — Time of death (from disease) of i th tumor-free mouse.
- i — Time of death (from disease) of i th tumor-bearing mouse.
- $\overline{\nabla}$ or $\overline{i}$ — Time mouse killed.
- ∇ — Mouse missing from cage.

Gross and microscopic pathology:

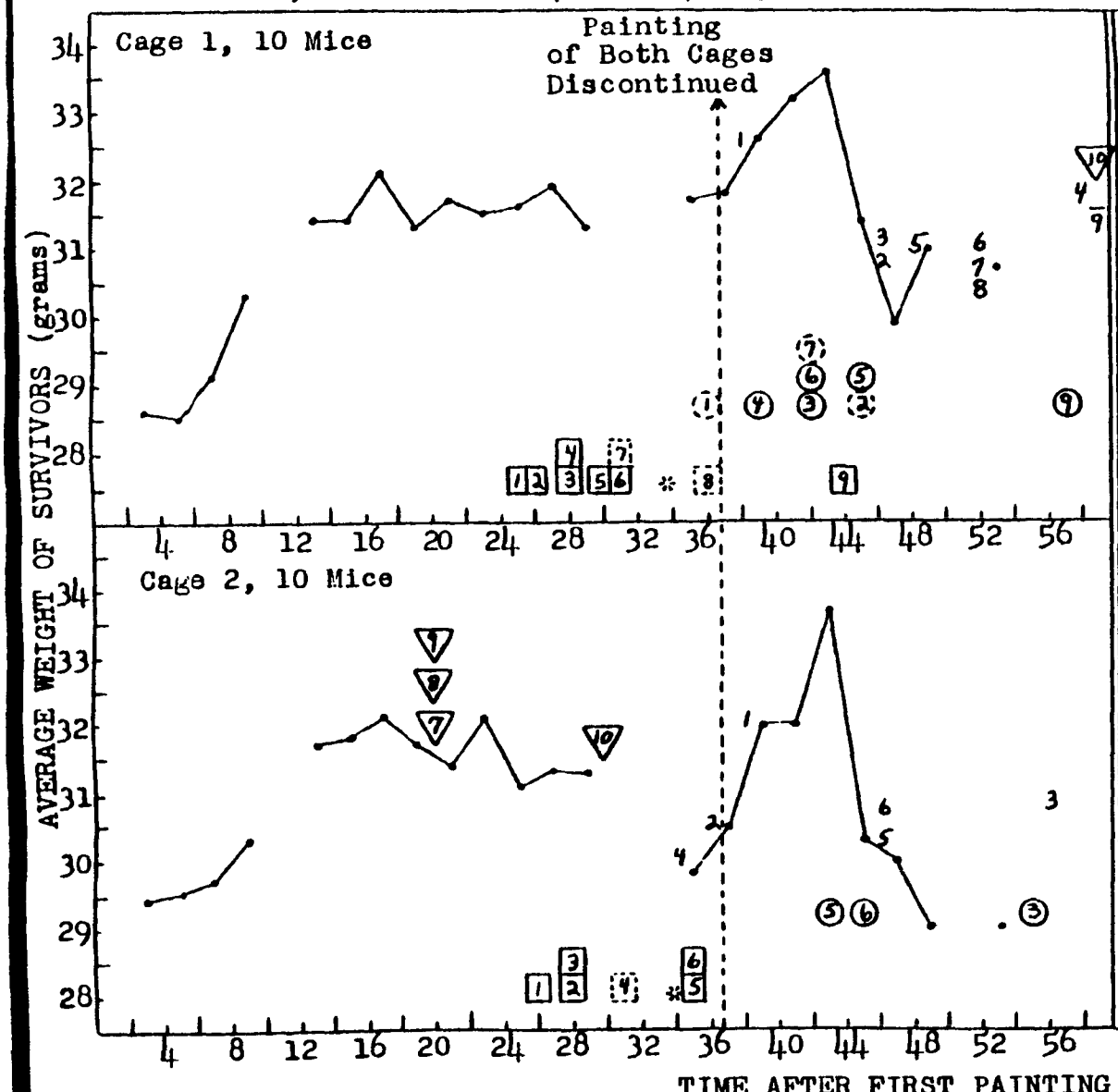
- $\boxed{i}$ — Time of appearance of first papilloma in i th mouse. When this symbol is first used for a given mouse after its death, the presence of non-invading carcinoma (intra-epithelial) or small areas of benign neoplasm was determinable only by histopathology.
- (i) — Time of appearance of papilloma which regressed later or was not confirmed by histopathology.
- $\textcircled{i}$ — Time of appearance of gross changes indicative of malignancy in tumor of i th mouse. Diagnosis confirmed except in cases where no tissue section available. When this symbol is first used for a given mouse after its death, the invasive malignancy of the tumor was determinable only by histopathology.
- (i) — Gross diagnosis of malignancy of tumor not confirmed by histopathology.
- $\boxed{i}^{NS}$ or $(i)^{NS}$ — No tissue section available for histopathology because of extensive post-mortem decomposition or cannibalism.
- * — Tumors not recorded during this week.

Cumulative dose-response curves (summation of data from all cages unless otherwise specified):

- ——•—— — Experimental curve for benign papillomas.
- — — — — — Hypothetical curve for papillomas. This curve furnishes average latent period (time for 50 percent tumor index) from which relative potency, P_{MC}, is determined).
- ⊙——⊙ — Experimental curve for grossly malignant tumors.

SKIN PAINTING EXPERIMENT

API-8-10, Fraction b. 142-175°C/0.03 mm. from Distillation of API-8, 50% Solution in Benzene



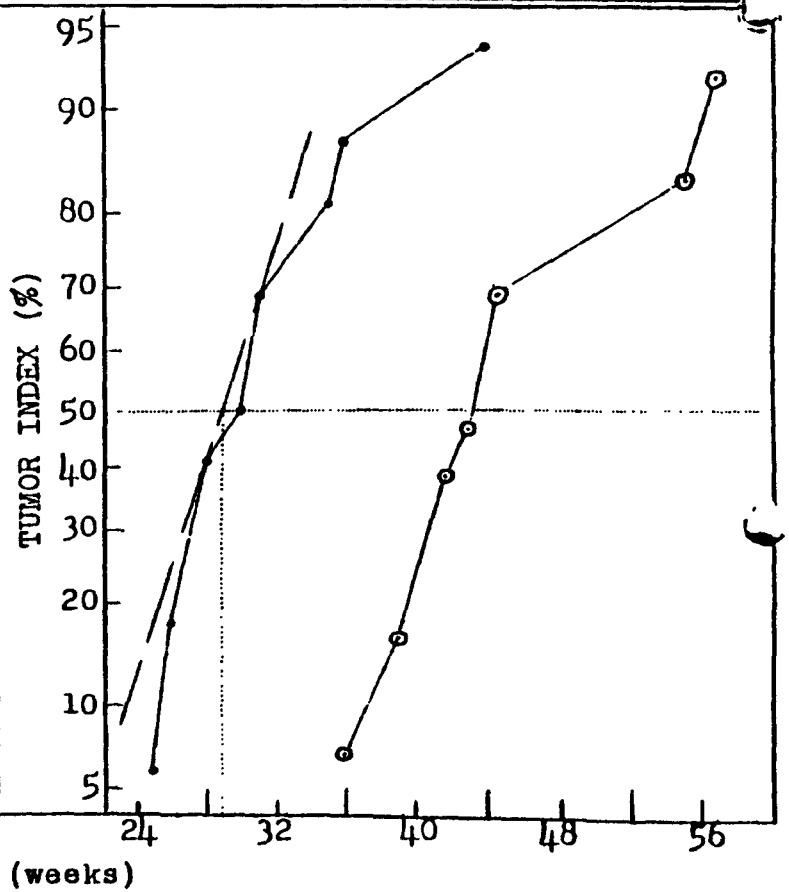
STARTING DATE: 9/5/50

STRAIN OF MICE: C3H

NUMBER OF APPLICATIONS PER WEEK: 2

DOSE PER APPLICATION: 100 mg.

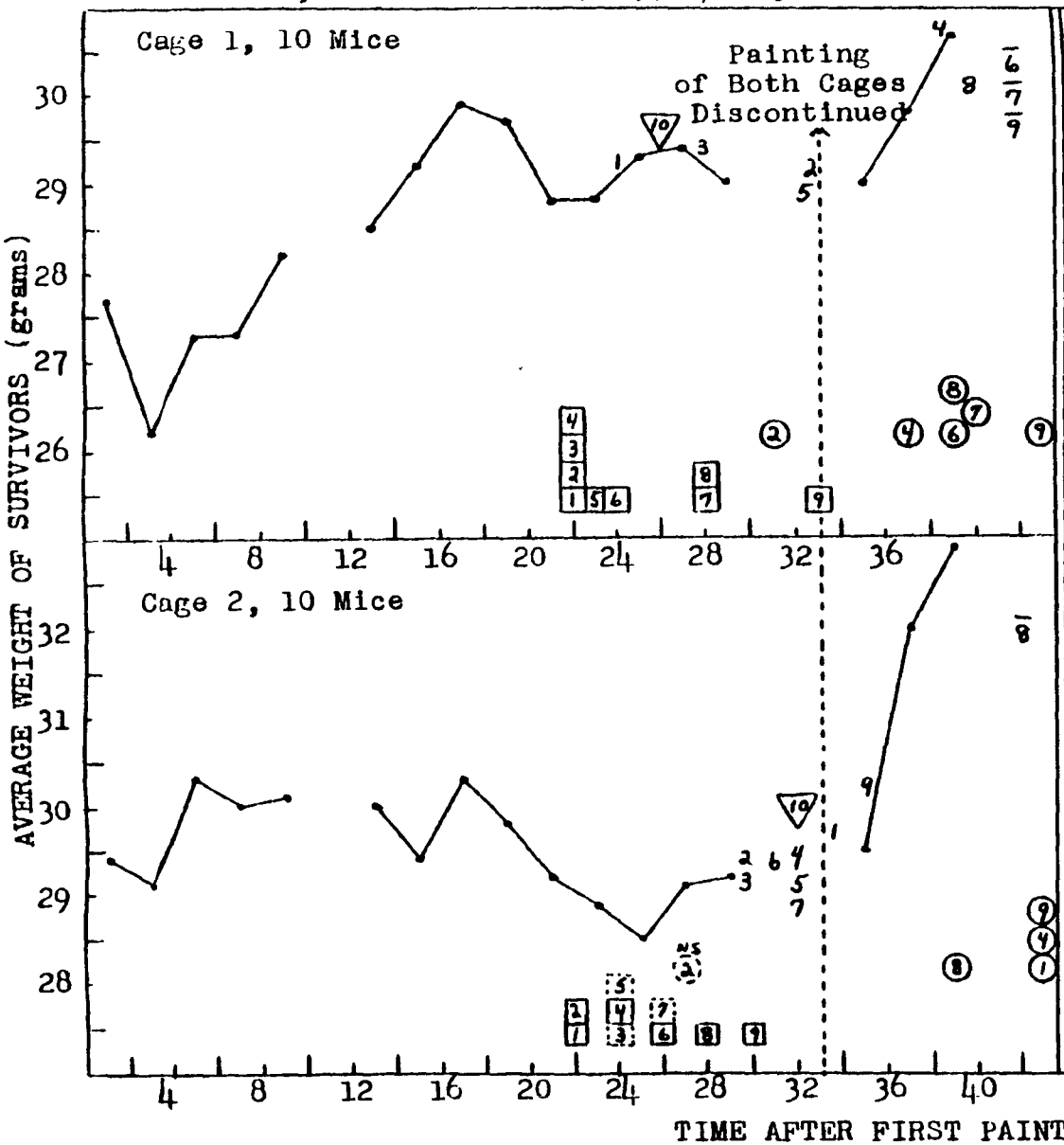
RELATIVE CARCINOGENIC POTENCY, P_{MC}: ~.1 ± .01



API 05359

SKIN PAINTING EXPERIMENT

API-8-11, Fraction b. 175-197°C/0.03 mm. from Distillation of API-8, 50% Solution in Benzene



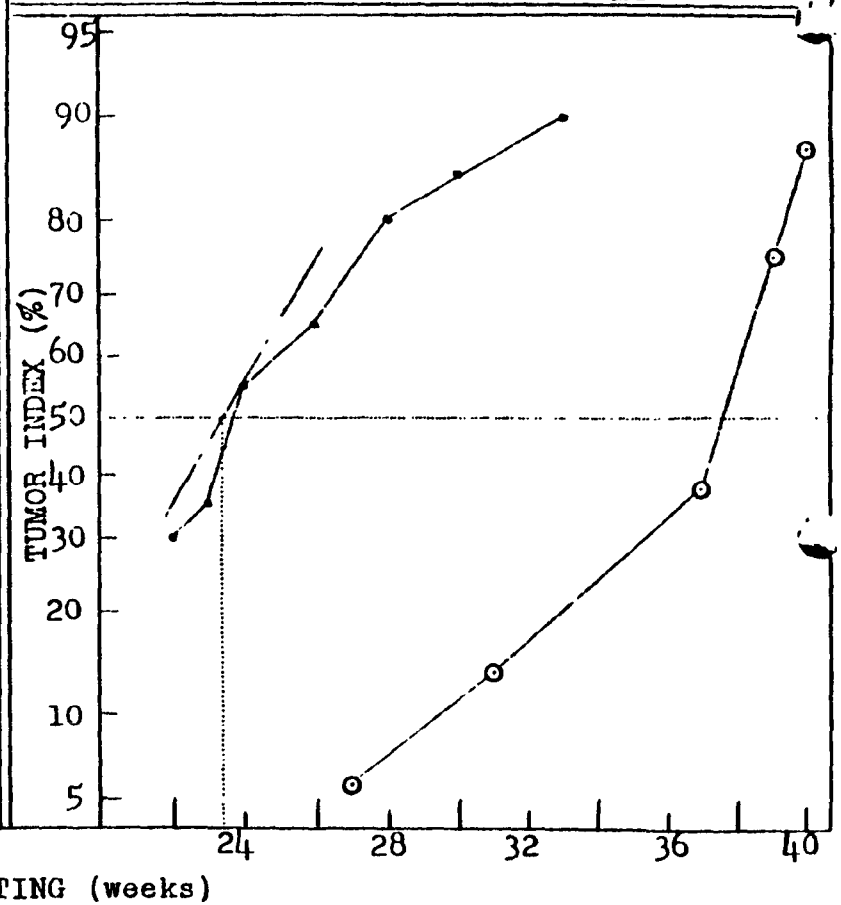
STARTING DATE: 9/5/50

STRAIN OF MICE: C3H

NUMBER OF APPLICATIONS PER WEEK: 2

DOSE PER APPLICATION: 100 mg.

RELATIVE CARCINOGENIC POTENCY, P_{MC}: ~0.13±.01

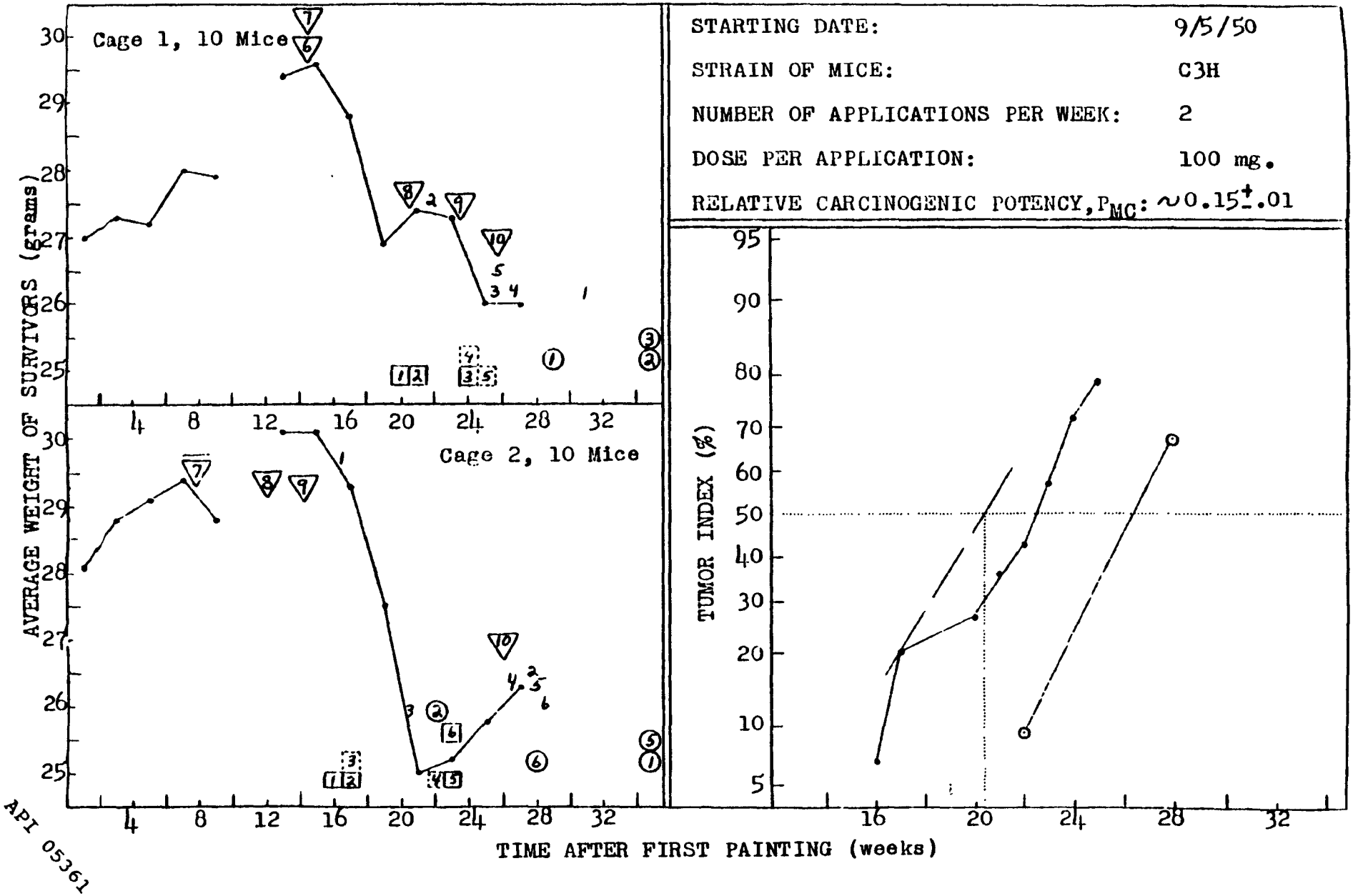


API 05360

SKIN PAINTING EXPERIMENT

API-8-13, Fraction b. 215-238°C./0.045 mm. from Distillation of API-8, 50% Solution in Benzene

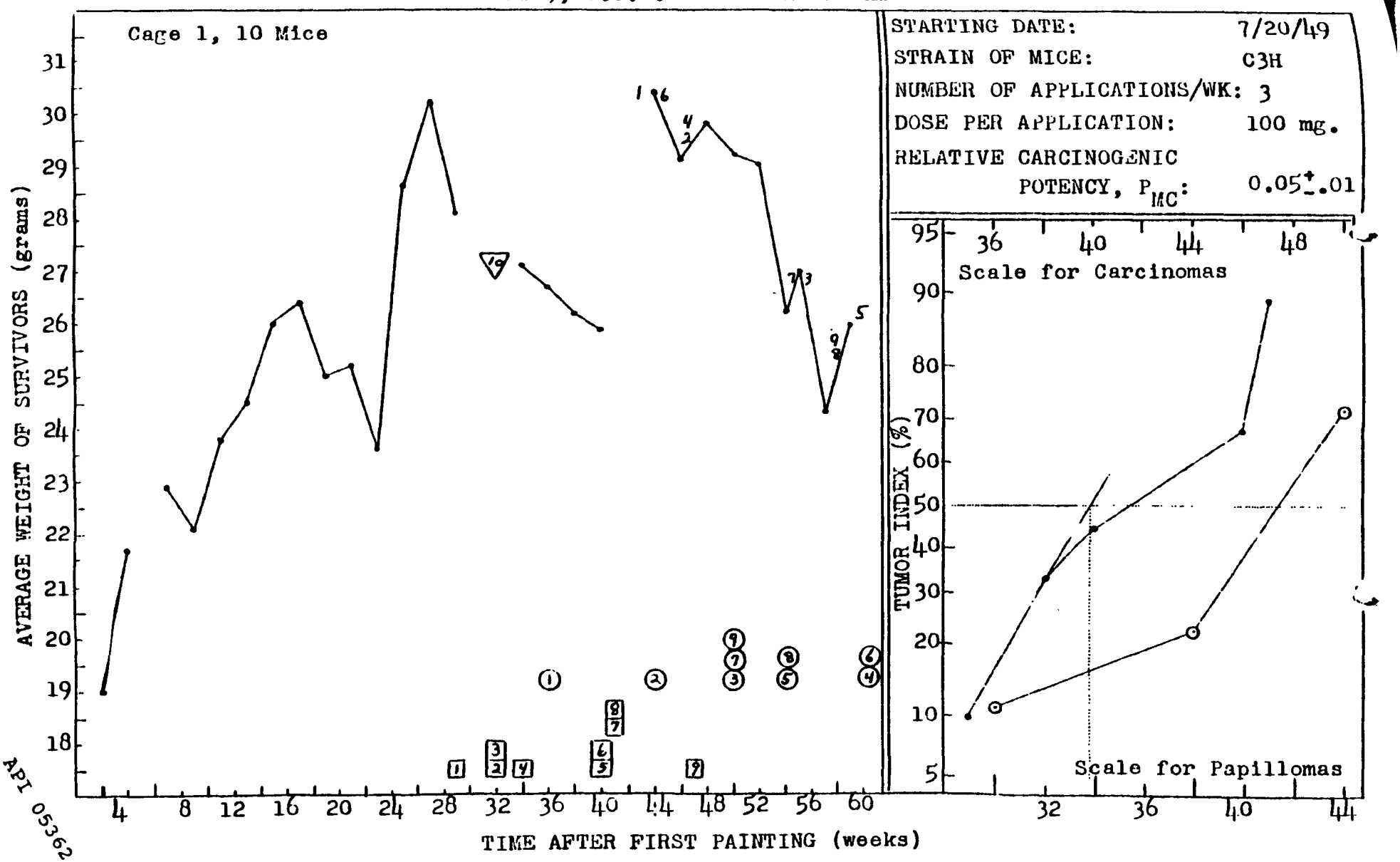
STARTING DATE:	9/5/50
STRAIN OF MICE:	C3H
NUMBER OF APPLICATIONS PER WEEK:	2
DOSE PER APPLICATION:	100 mg.
RELATIVE CARCINOGENIC POTENCY, P_{MC}:	$\sim 0.15 \pm .01$



API 05361

SKIN PAINTING EXPERIMENT

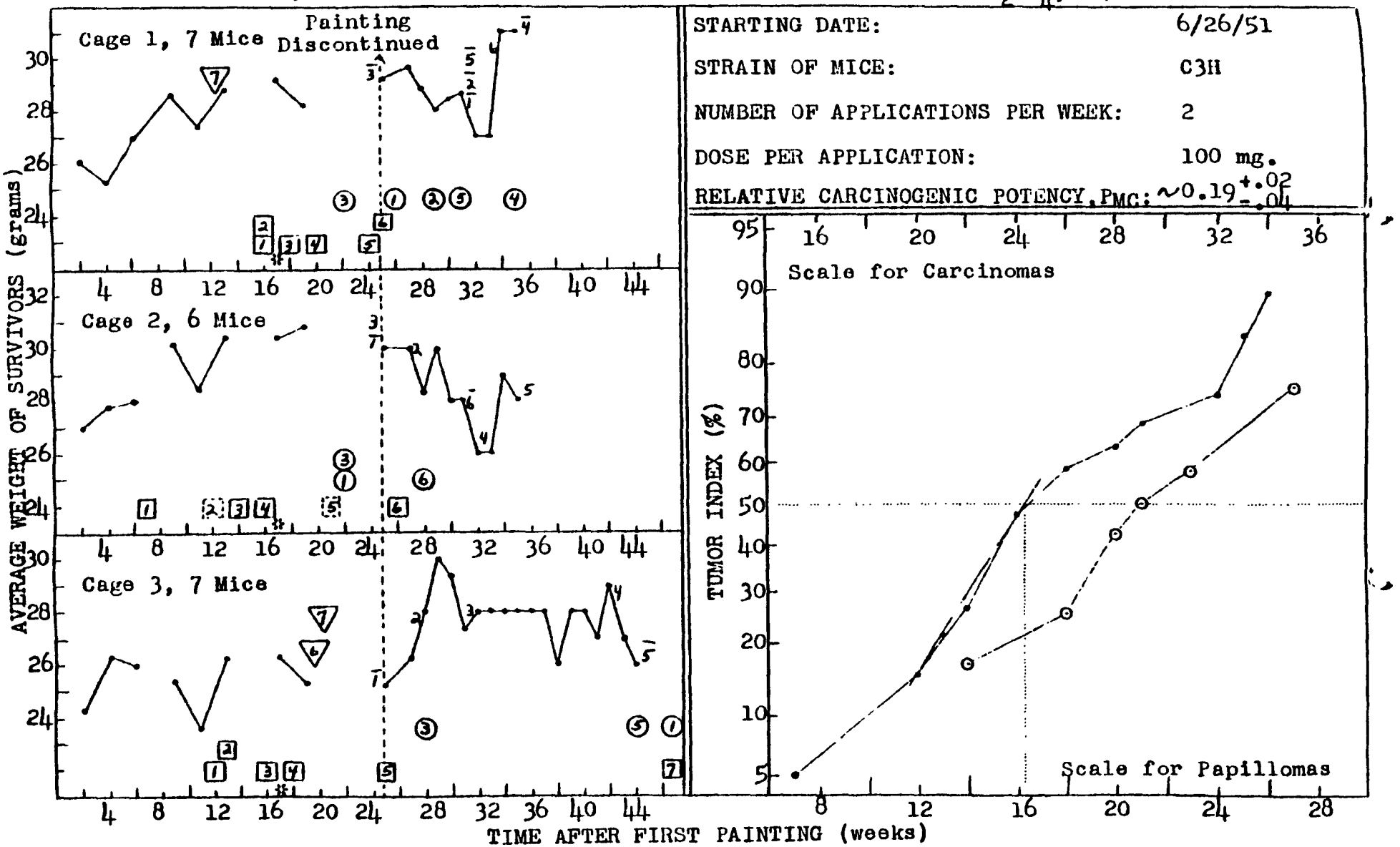
API-9, T.C.C. Cracked Residuum



API 05362

SKIN PAINTING EXPERIMENT

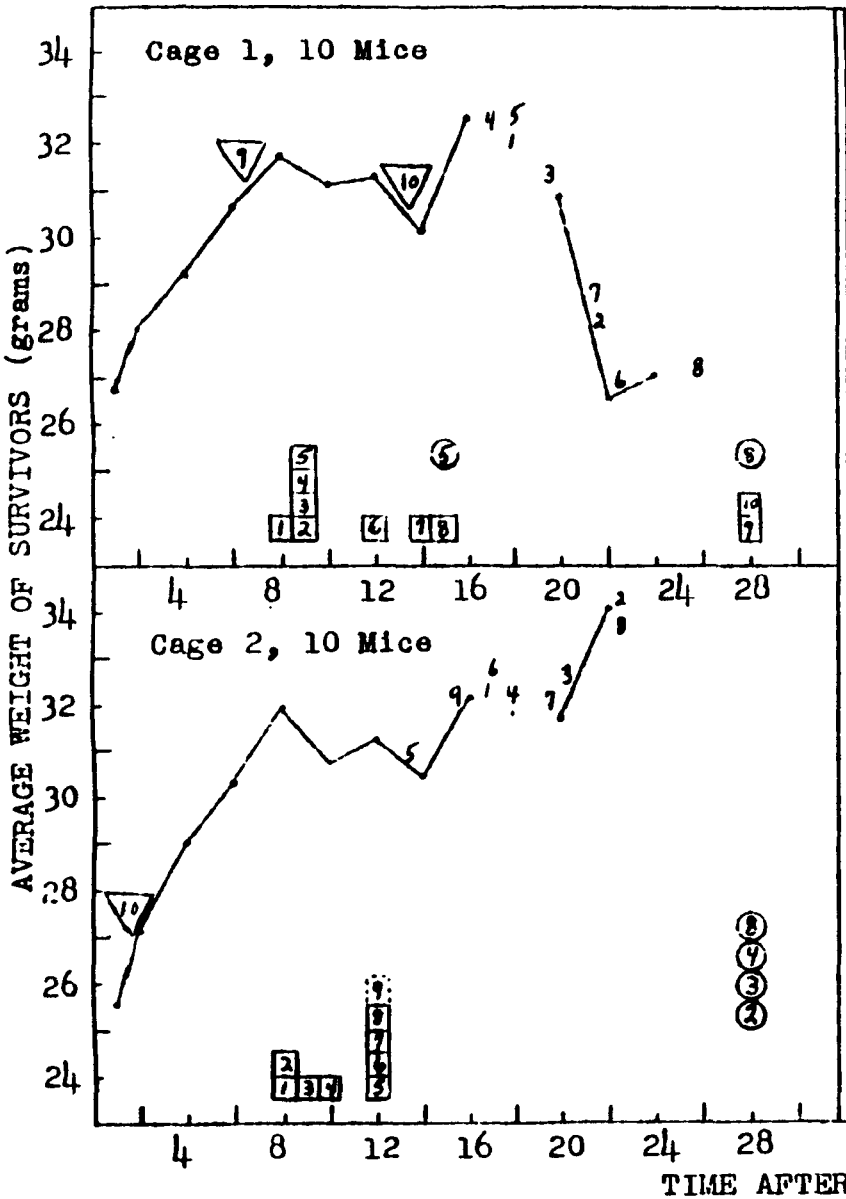
API-23-1, Extract from Solvent Extraction with Concentrated H_2SO_4, 20% Benzene



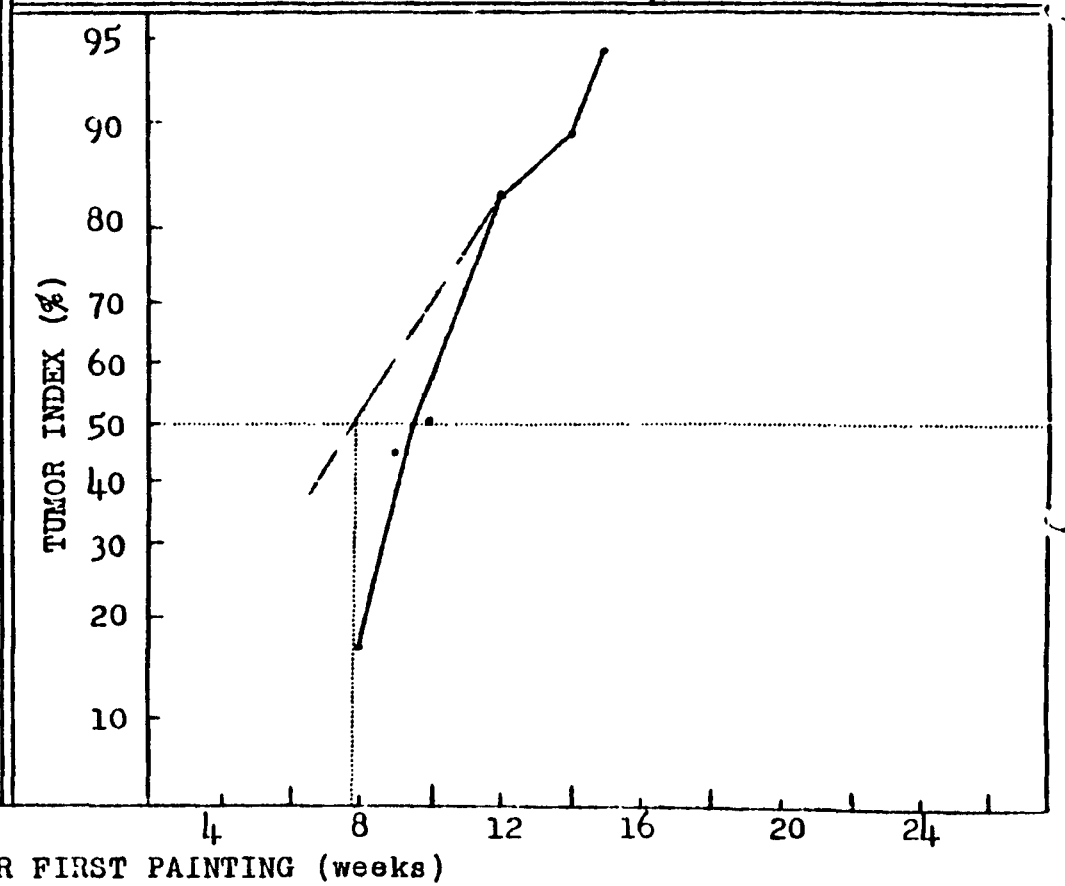
API 05363

SKIN PAINTING EXPERIMENT

API-33, Cracked Sidestream from Delayed Coking



STARTING DATE:	8/21/50
STRAIN OF MICE:	CFW
NUMBER OF APPLICATIONS PER WEEK:	3
DOSE PER APPLICATION:	100 mg.
RELATIVE CARCINOGENIC POTENCY, P_{MC}:	-

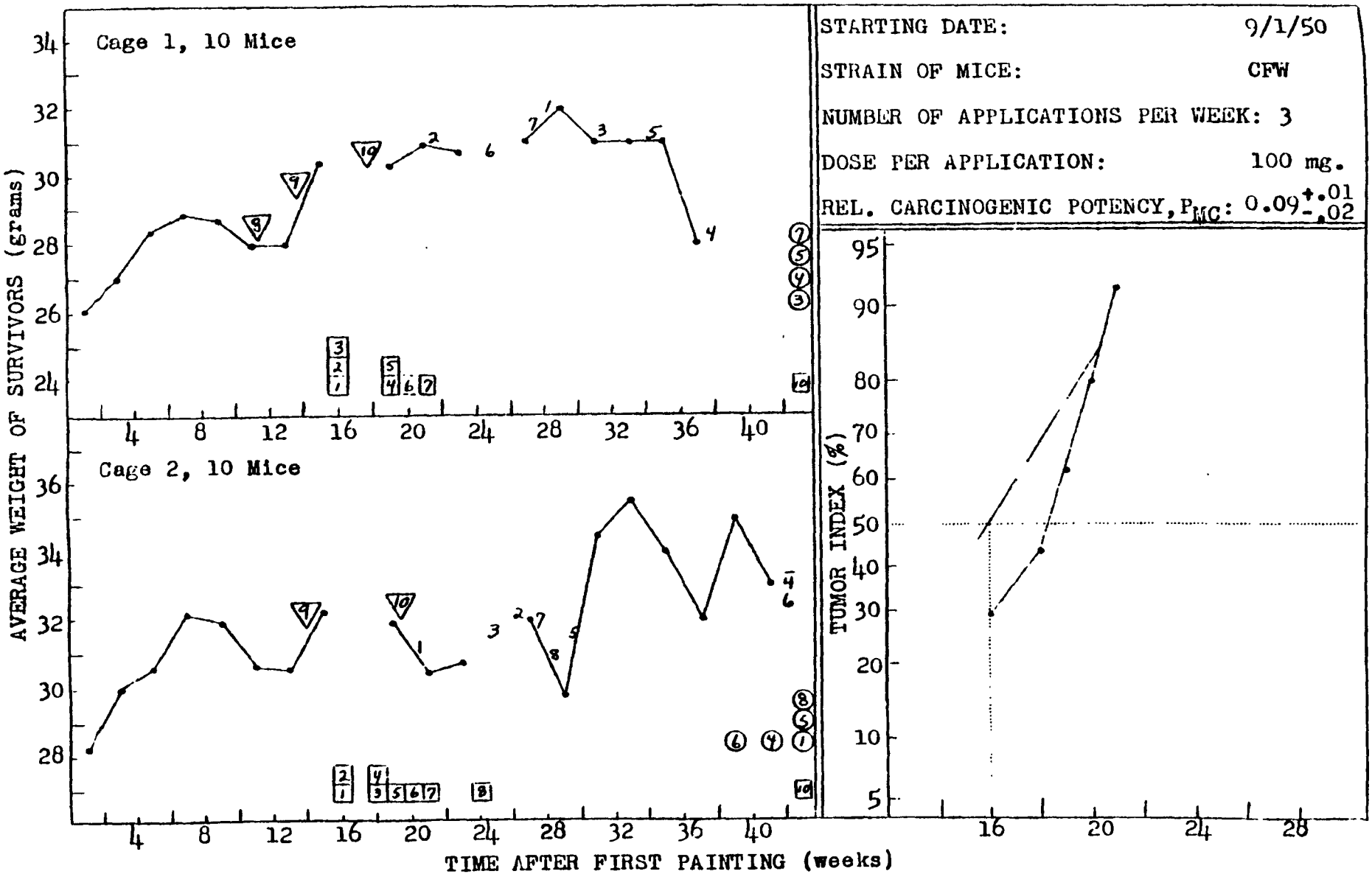


TIME AFTER FIRST PAINTING (weeks)

API 05364

SKIN PAINTING EXPERIMENT

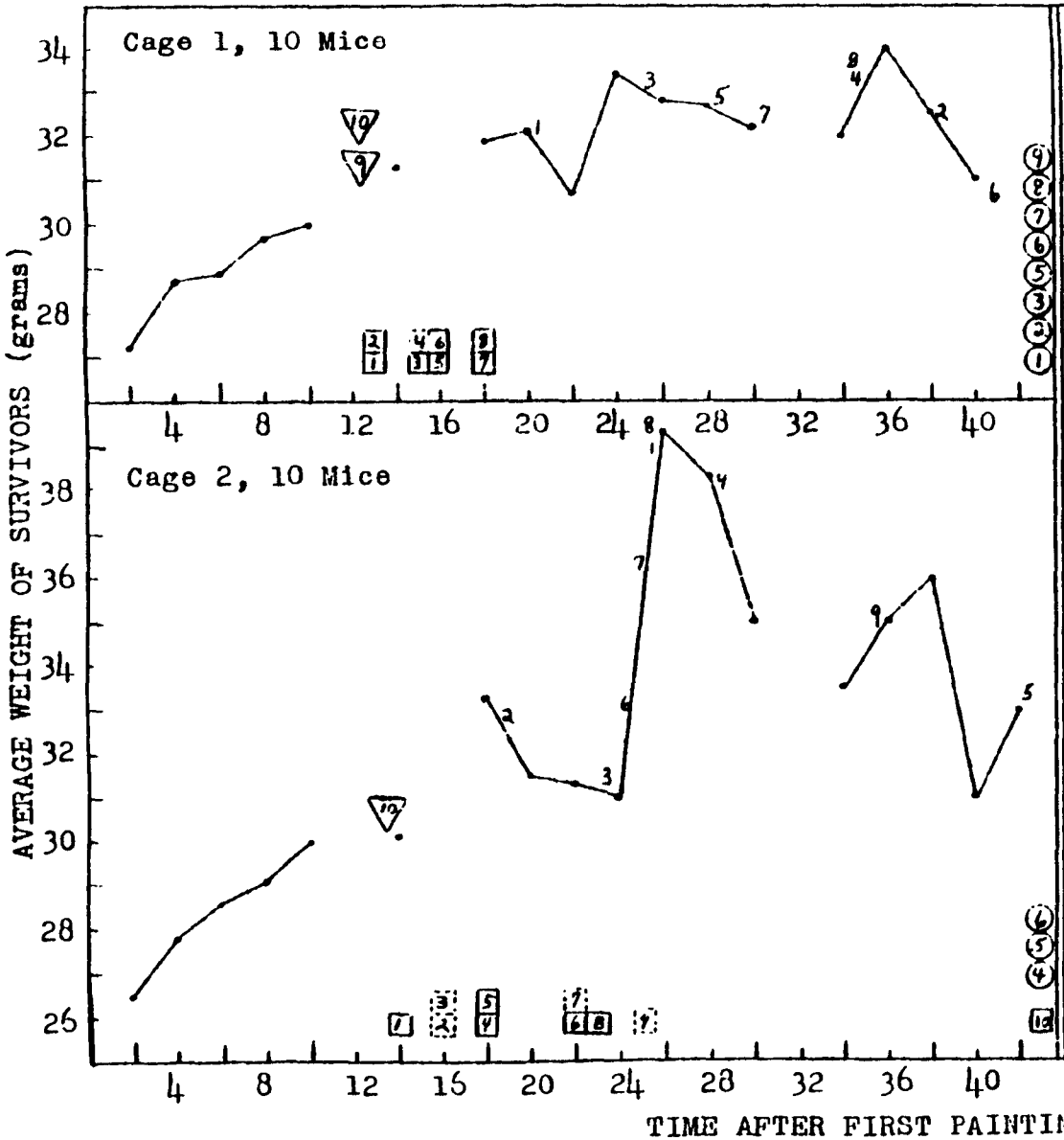
API-46, F.C.C. Cracked Sidestream



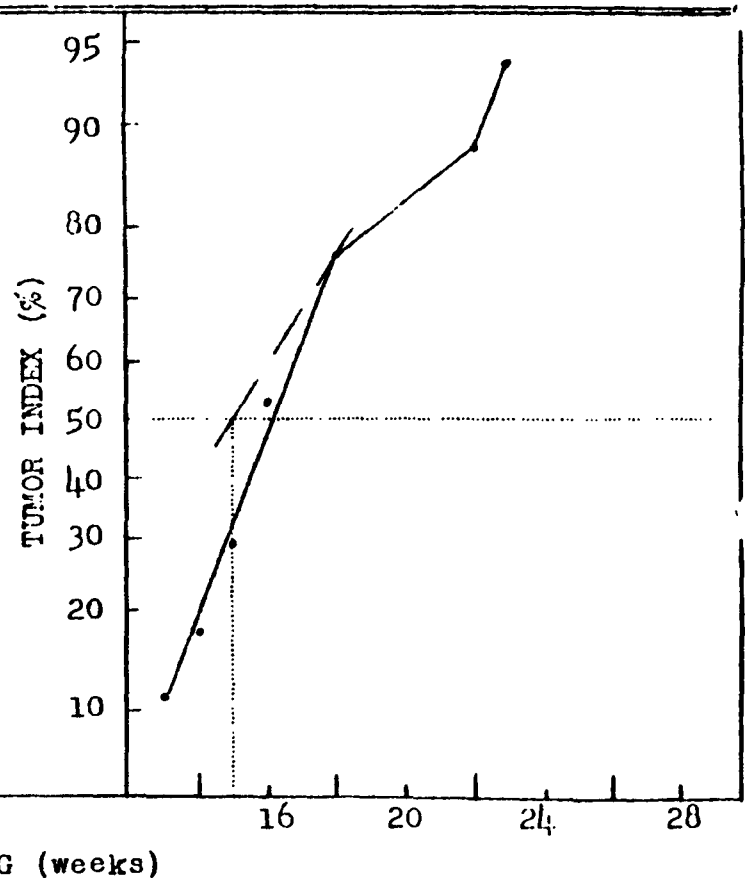
API 05365

SKIN PAINTING EXPERIMENT

API-57, Dewaxed Oil from Pressing API-56



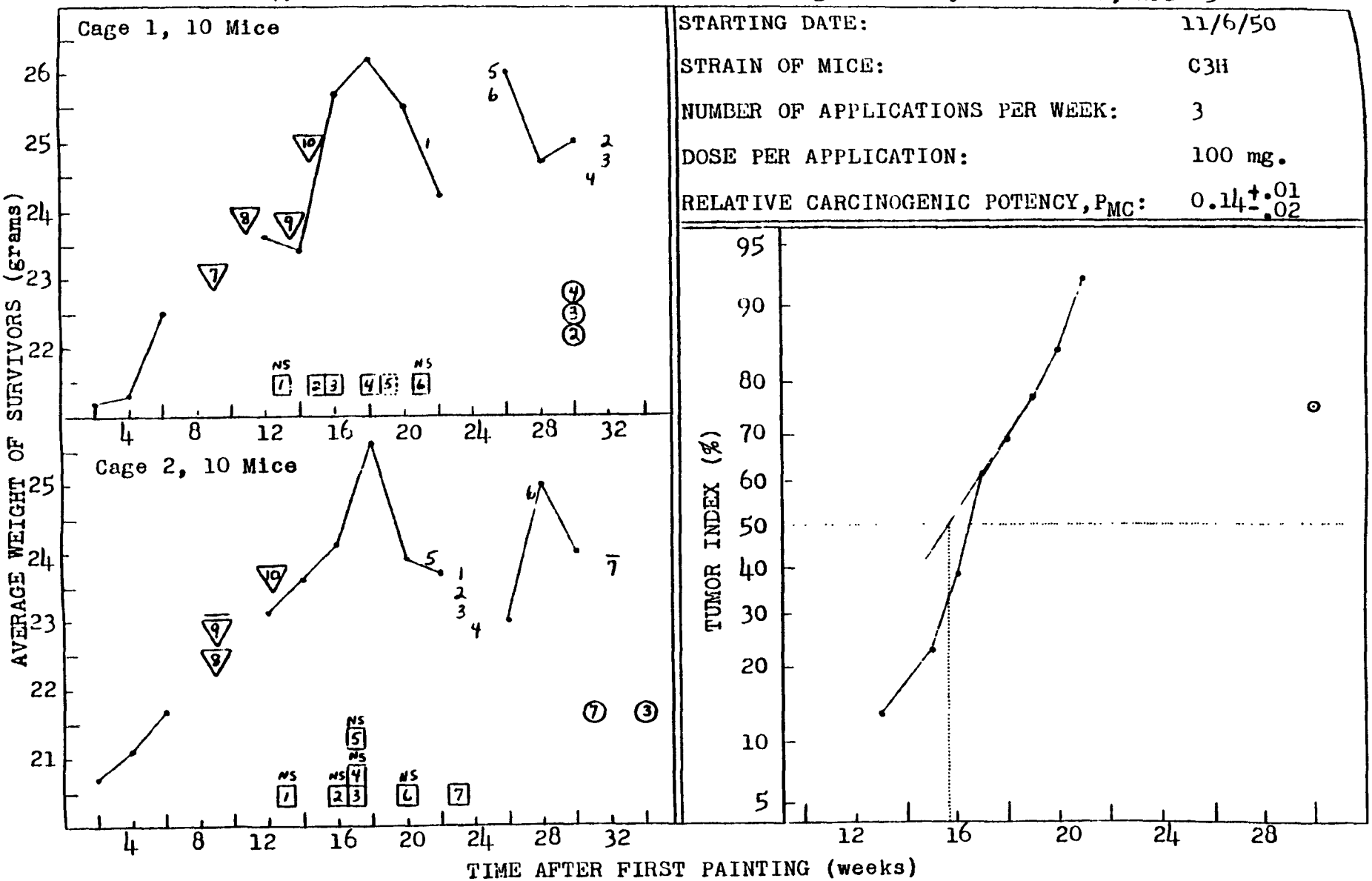
STARTING DATE:	10/20/50
STRAIN OF MICE:	CFW
NUMBER OF APPLICATIONS PER WEEK:	6
DOSE PER APPLICATION:	100 mg.
REL. CARCINOGENIC POTENCY, P_{MC}:	–



API 05366

SKIN PAINTING EXPERIMENT

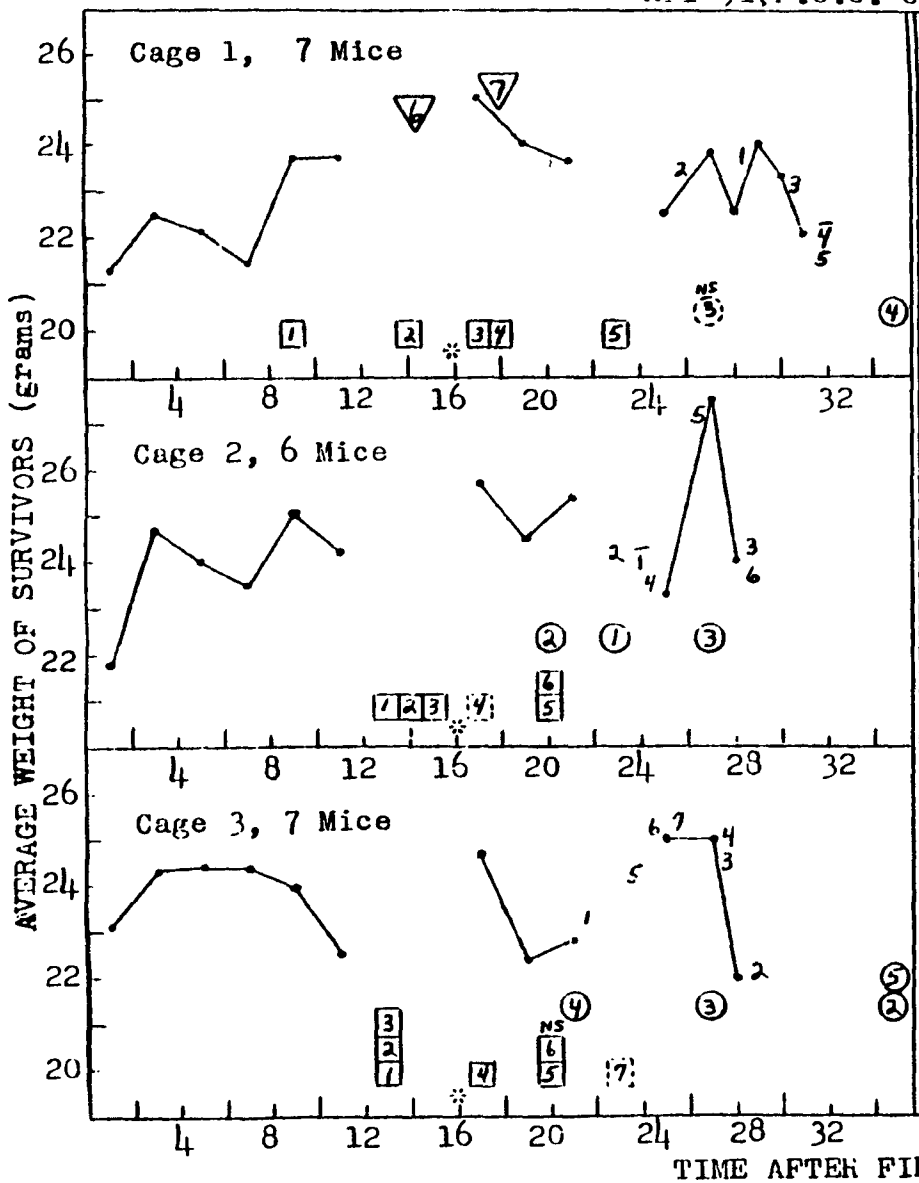
API-64, Cracked Residuum from Thermal Cracking of Catalytic Gas Oil, API-63



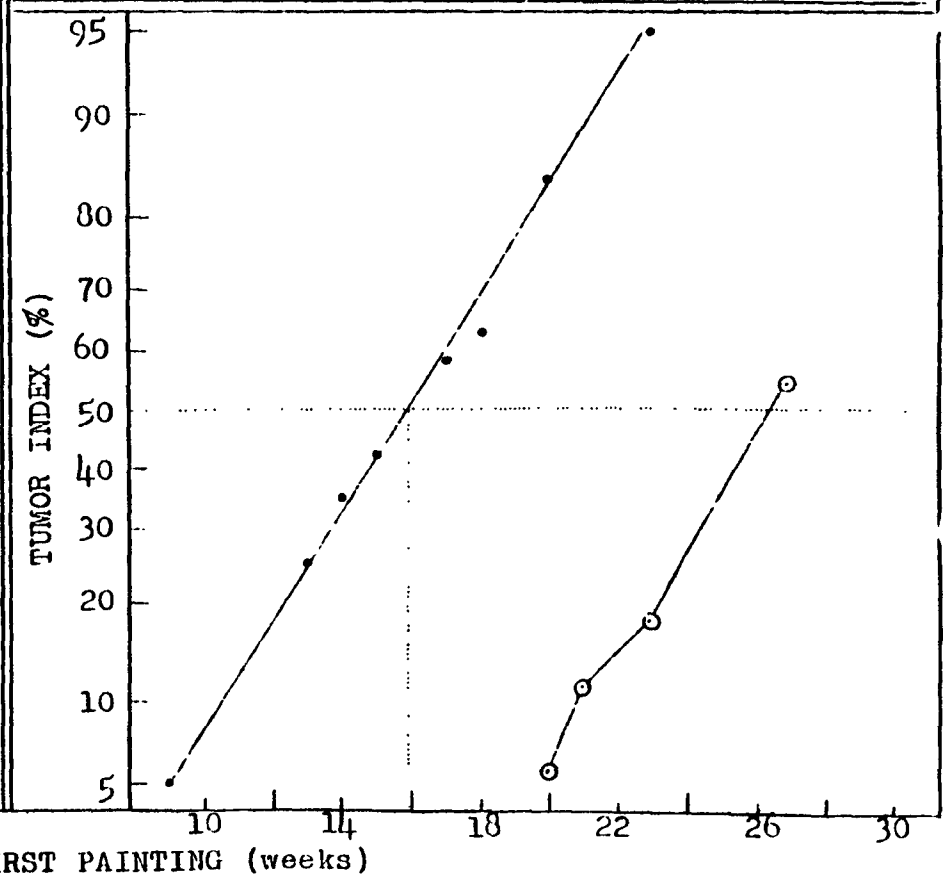
API 05367

SKIN PAINTING EXPERIMENT

API-91, F.C.C. Cracked Sidestream



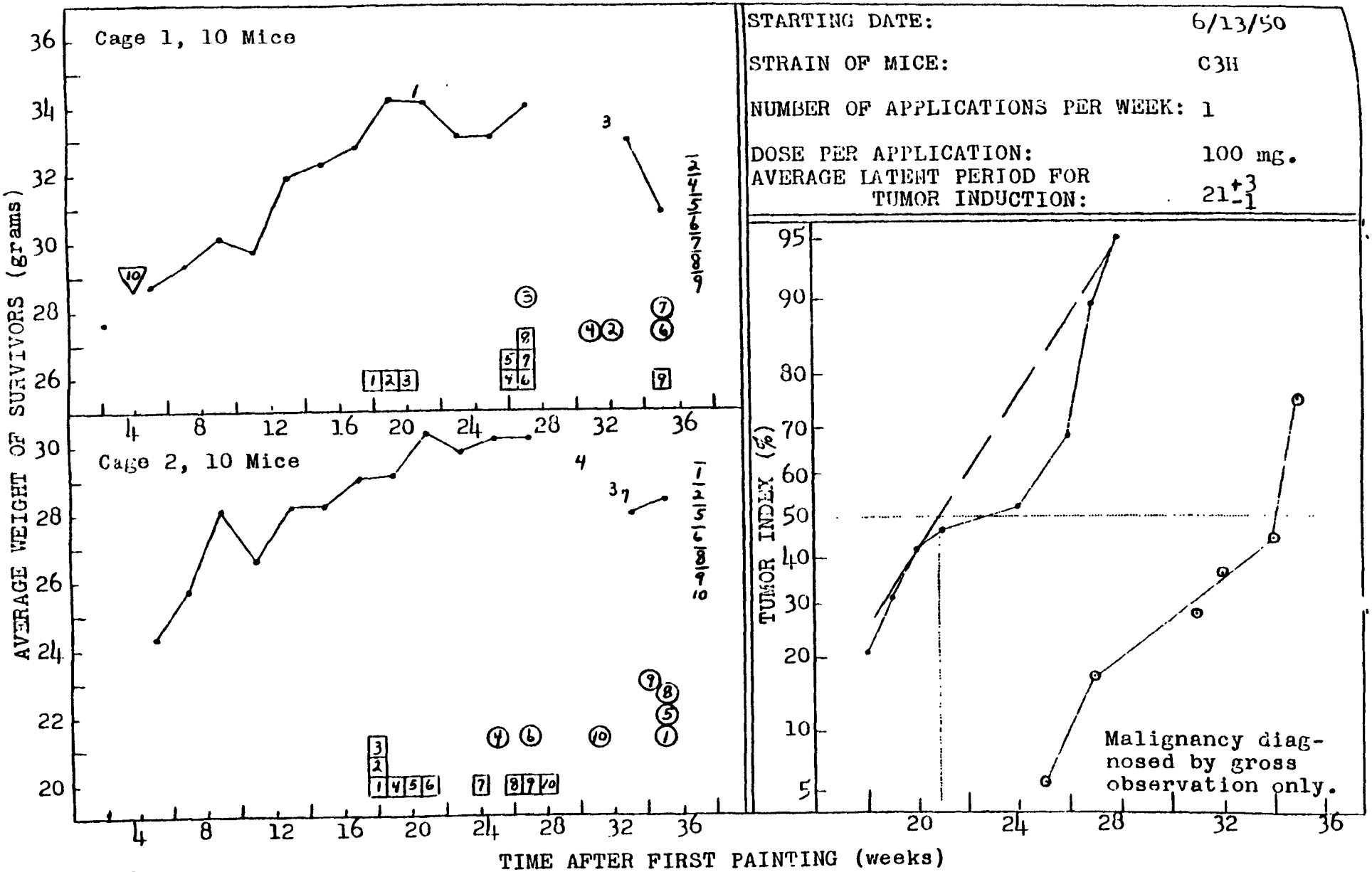
STARTING DATE:	7/5/51
STRAIN OF MICE:	C3H
NUMBER OF APPLICATIONS PER WEEK:	2
DOSE PER APPLICATION:	100 mg.
RELATIVE CARCINOGENIC POTENCY, P_{MC}:	$\sim 0.19 \pm .01$



API 05368

SKIN PAINTING EXPERIMENT

API-205, 0.3 g. Methylcholanthrene in 100 ml. Benzene

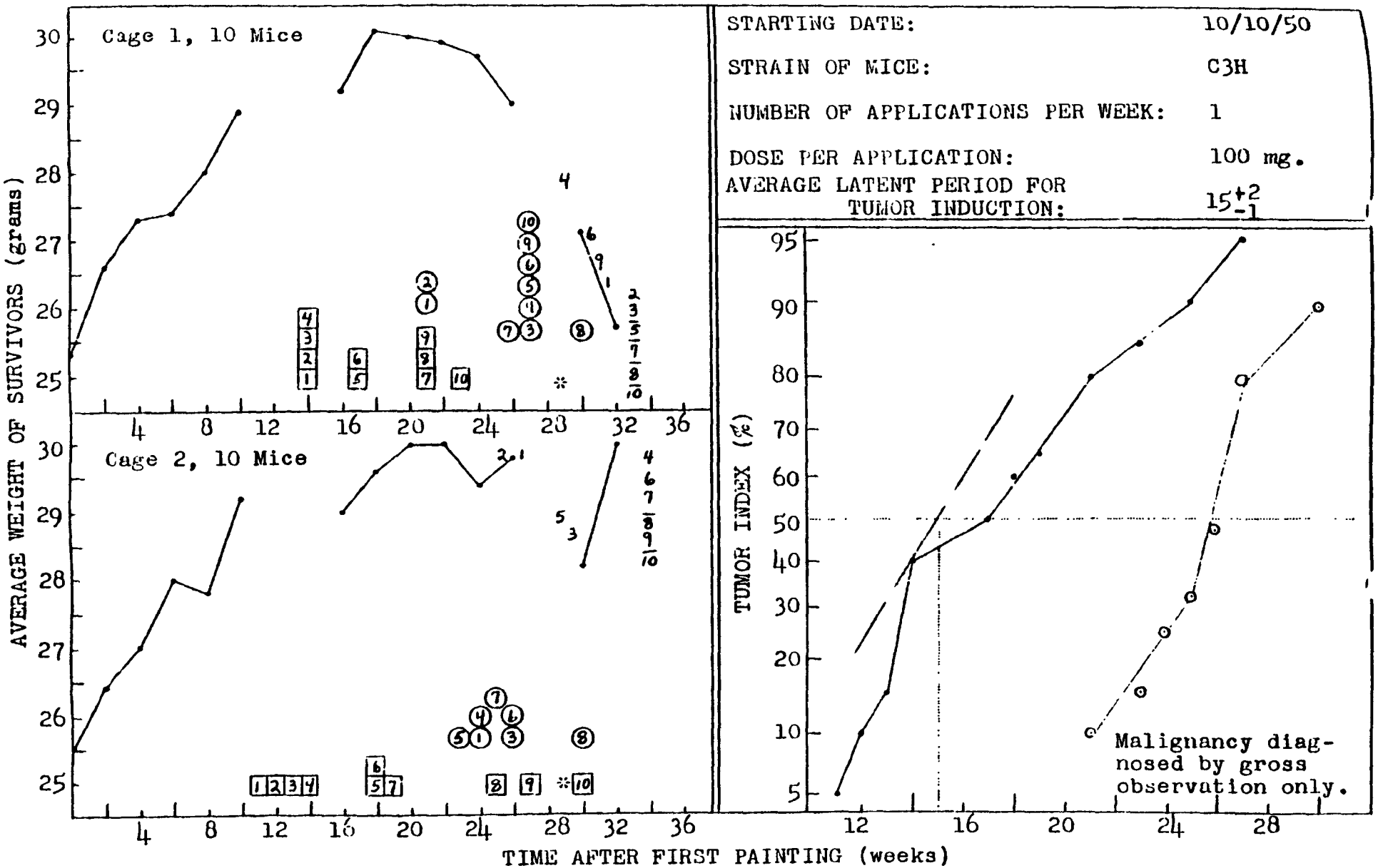


STARTING DATE:	6/13/50
STRAIN OF MICE:	C3H
NUMBER OF APPLICATIONS PER WEEK:	1
DOSE PER APPLICATION:	100 mg.
AVERAGE LATENT PERIOD FOR TUMOR INDUCTION:	21^{+3}_{-1}

API 05369

SKIN PAINTING EXPERIMENT

API-206, 0.6 gm. Methylcholanthrene in 100 ml. Benzene

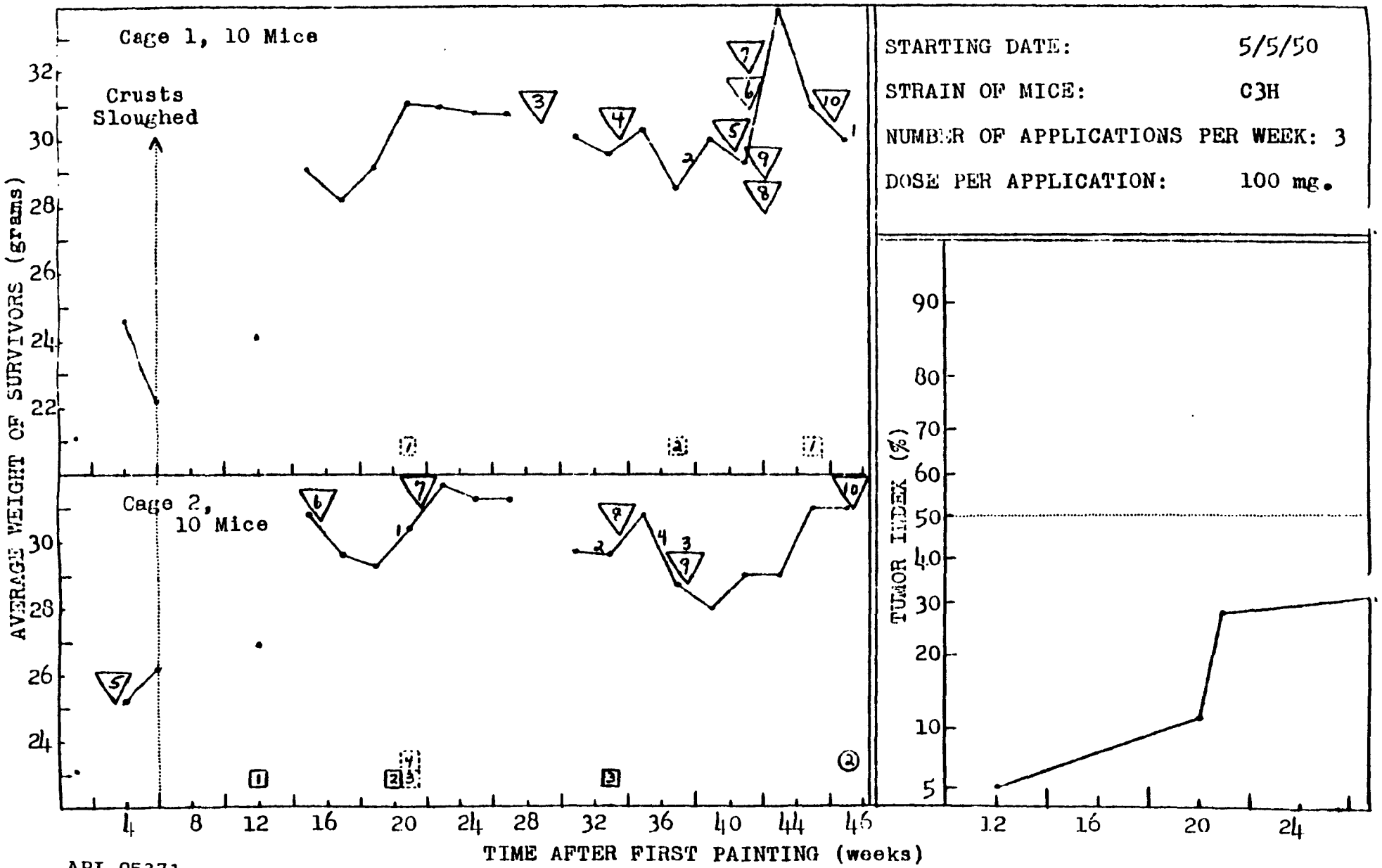


STARTING DATE:	10/10/50
STRAIN OF MICE:	C3H
NUMBER OF APPLICATIONS PER WEEK:	1
DOSE PER APPLICATION:	100 mg.
AVERAGE LATENT PERIOD FOR TUMOR INDUCTION:	15^{+2}_{-1}

API 05370

SKIN PAINTING EXPERIMENT

API-221, Dodecylbenzene (from propylene tetramer and benzene)

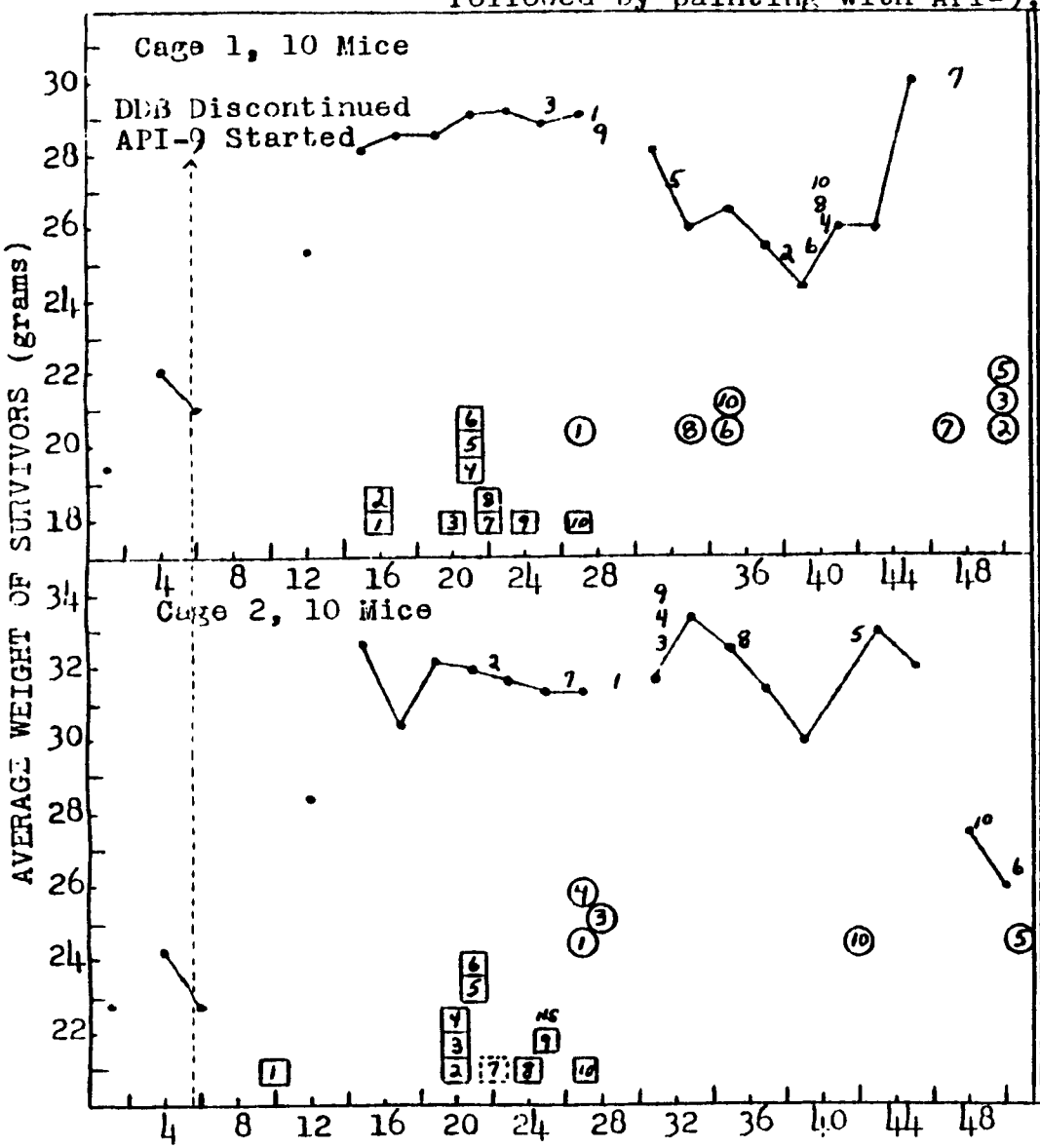


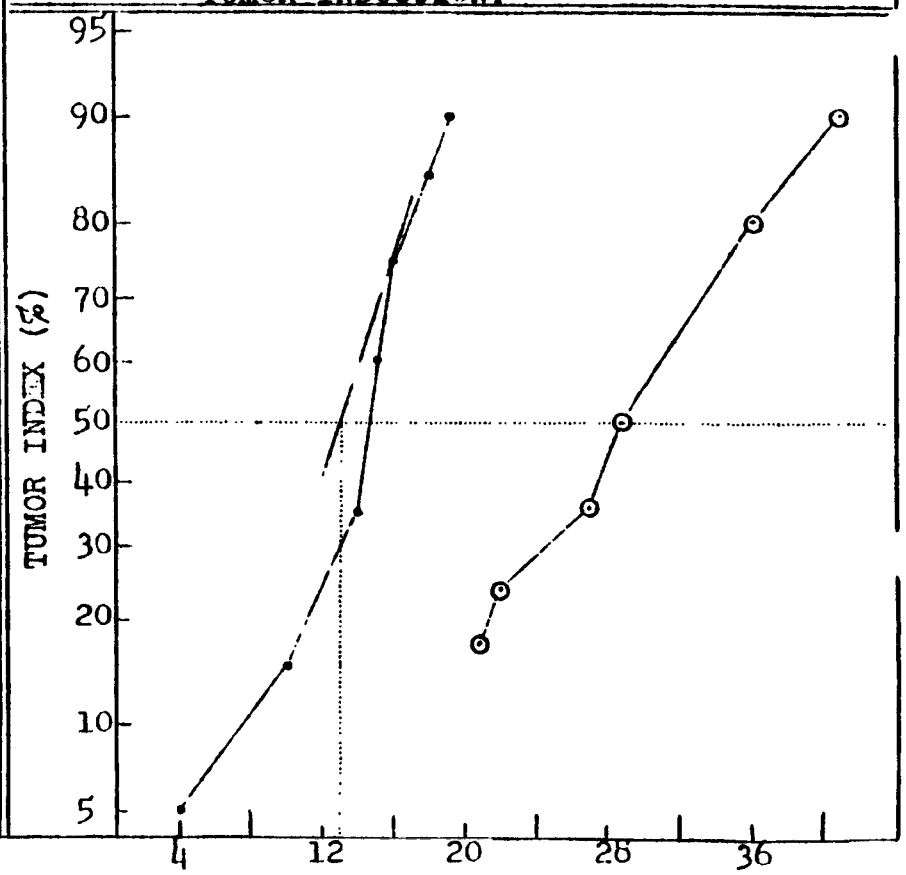
API 05371

SKIN PAINTING EXPERIMENT

API-221-9, Dodecylbenzene (DDB) painted for first six weeks[1], followed by painting with API-9, T.C.C. Cracked Residuum

STARTING DATE:	5/5/50
STRAIN OF MICE:	C3H
NUMBER OF APPLICATIONS PER WEEK:	3
DOSE PER APPLICATION:	100 mg.
AVERAGE LATENT PERIOD FOR TUMOR INDUCTION:	13.2±2



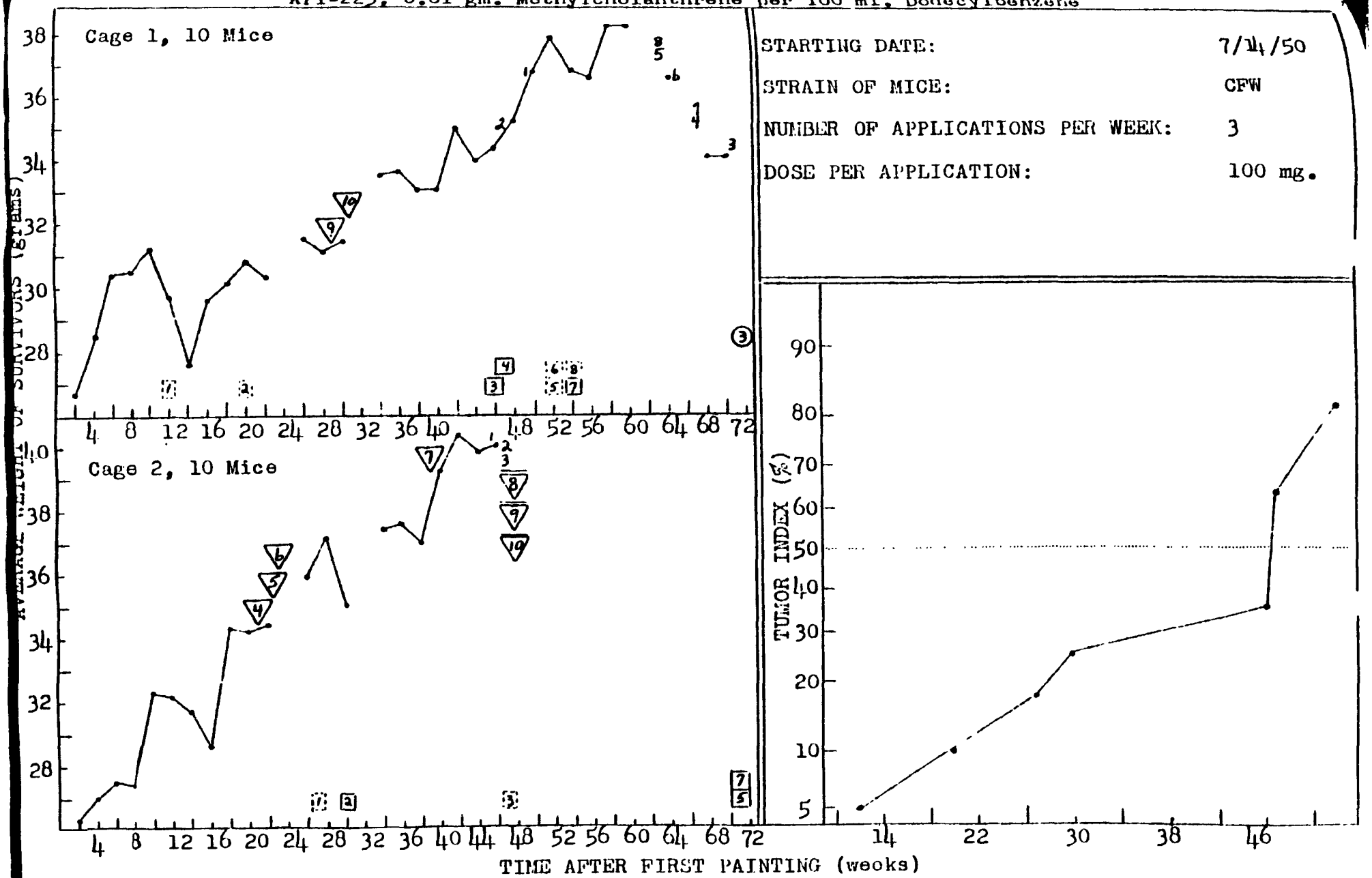


[1] Dodecylbenzene discontinued at time of sloughing of crusts.

API 05372

SKIN PAINTING EXPERIMENT

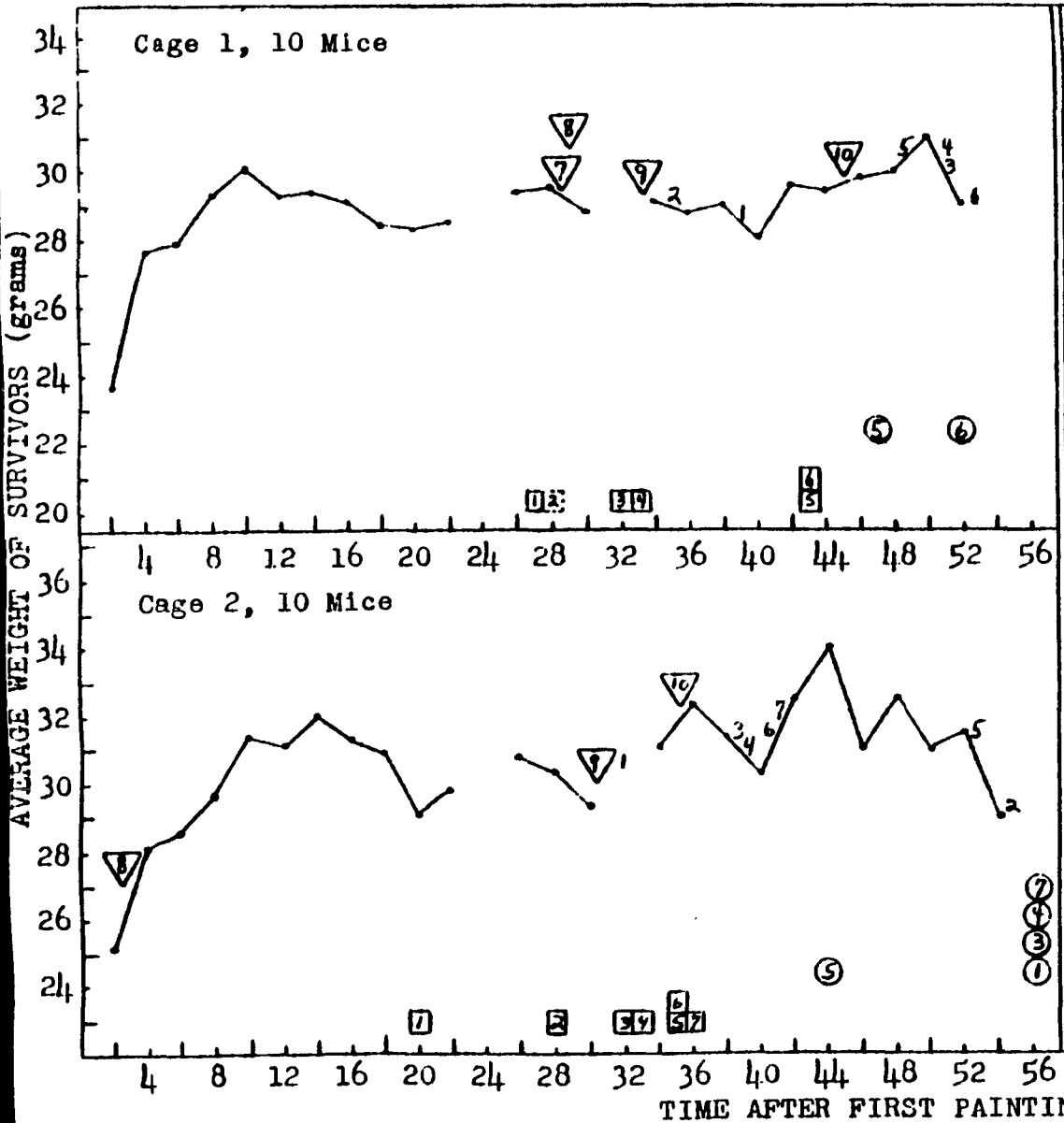
API-225, 0.01 gm. Methylcholanthrene per 100 ml. Dodecylbenzene



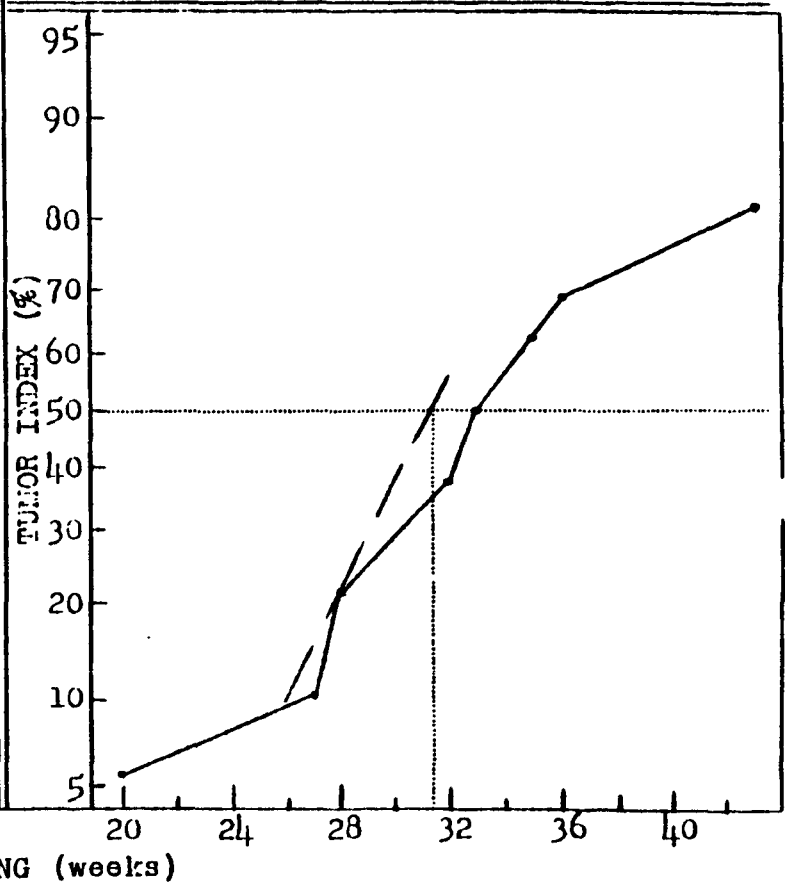
API 05373

SKIN PAINTING EXPERIMENT

API-225, 0.01 g. Methylcholanthrene per 100 ml. Dodecylbenzene



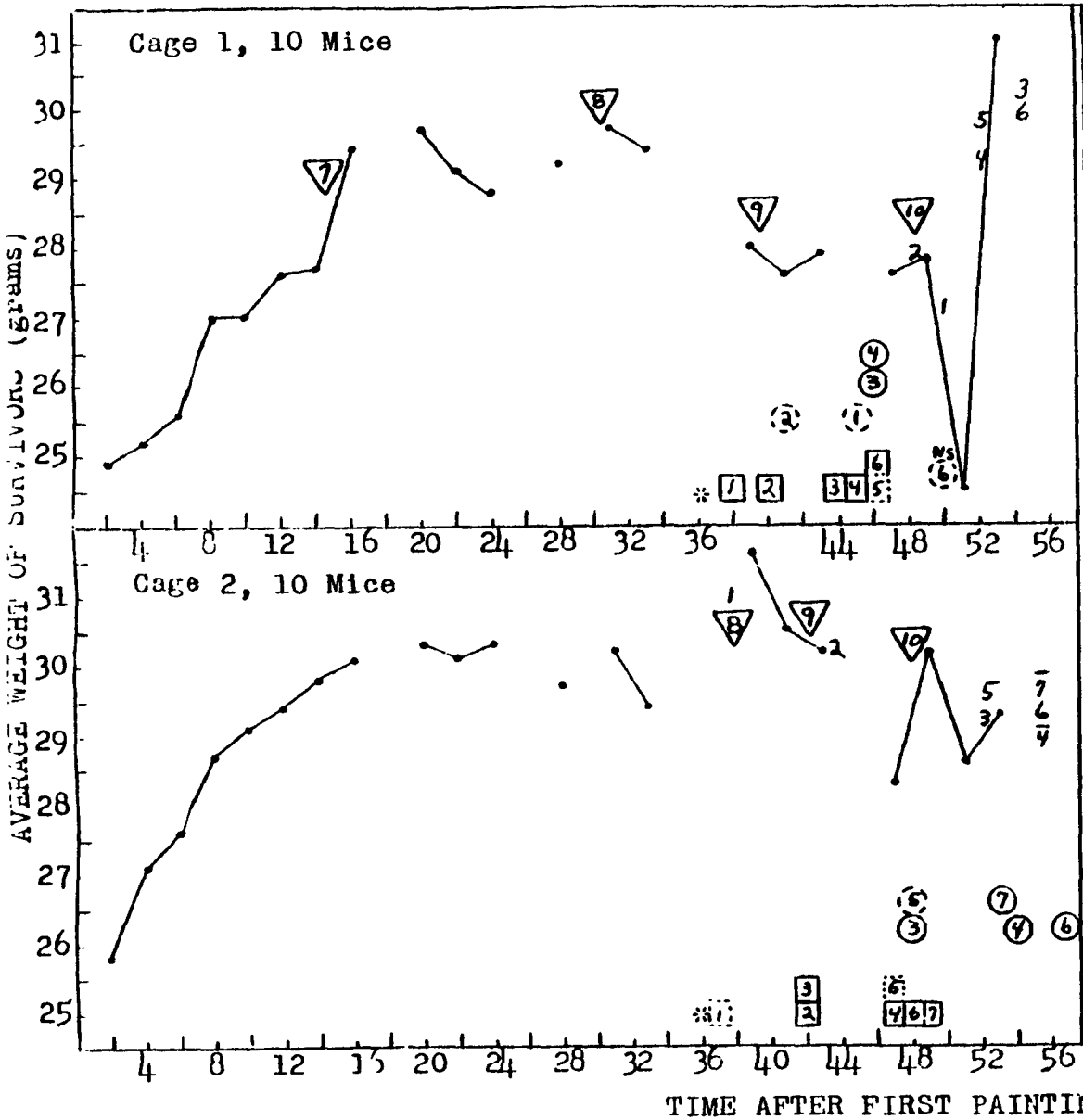
STARTING DATE:	7/14/50
STRAIN OF MICE:	C3H
NUMBER OF APPLICATIONS PER WEEK:	3
DOSE PER APPLICATION:	100 mg.
REL. CARCINOGENIC POTENCY, P_{MC}:	$0.06^{+.05}_{-.01}$



API 05374

SKIN PAINTING EXPERIMENT

API-227, 0.10 gram Methylcholanthrene per 100 ml. Benzene



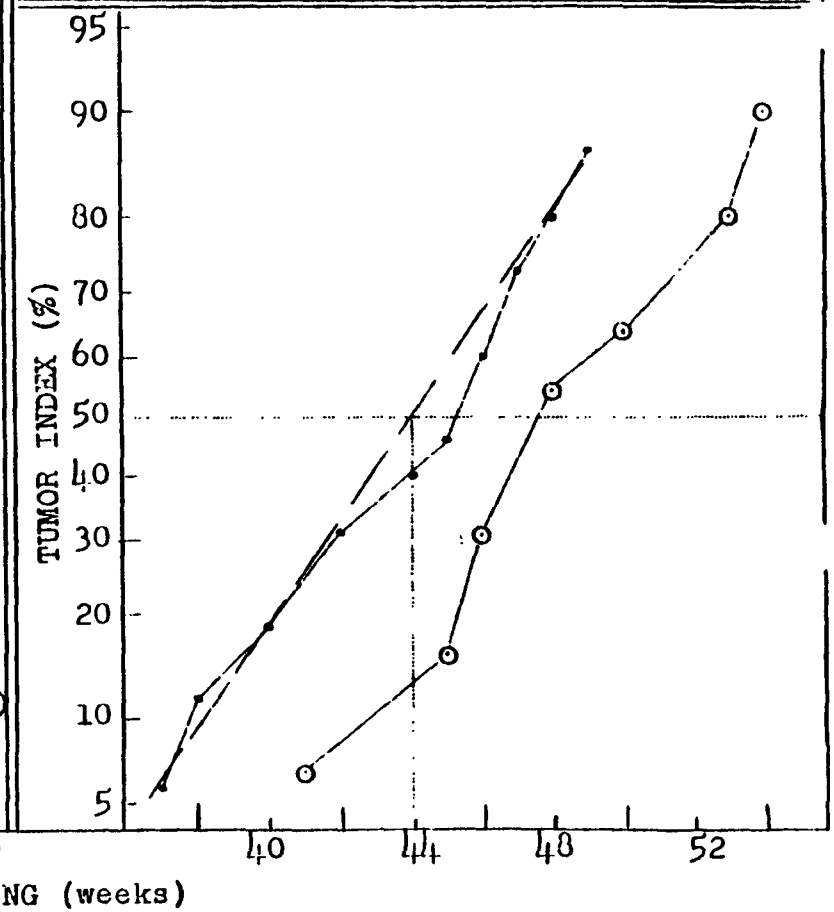
STARTING DATE: 8/22/50

STRAIN OF MICE: C3H

NUMBER OF APPLICATIONS PER WEEK: 1

DOSE PER APPLICATION: 100 mg.

AVERAGE LATENT PERIOD FOR TUMOR INDUCTION: 44^{+2}_{-12}



API 05375

UNIVERSITY OF CINCINNATI
DEPARTMENT OF PREVENTIVE MEDICINE AND INDUSTRIAL HEALTH

THE KETTERING LABORATORY
COLLEGE OF MEDICINE—EDEN AVENUE
CINCINNATI 19, OHIO

CABLE ADDRESS: KETLAB, CINCINNATI
TELEPHONE: CAPITOL 1414

Mrs. Dunham
FILE

July 18, 1952

Mr. D. V. Stroop, Director
Department of Technical Services
American Petroleum Institute
50 West 40th Street
New York 20, New York

Dear Mr. Stroop:

I wish to acknowledge with thanks the receipt of your check in the amount of $50,000.00 for work to be done on behalf of American Petroleum Institute for the year ending June 30, 1953.

Very truly yours,

Iola Sheppard

Iola Sheppard
Financial Secretary

IS

cc Dr. R. A. Kehoe

API 05376

July 17, 1952

Dr. Robert A. Kehoe
University of Cincinnati
The Kettering Laboratory
College of Medicine - Eden Avenue
Cincinnati 19, Ohio

Dear Doctor Kehoe:

This is to acknowledge your letter of July 14 and the four copies of the agreement for the 1952-53 fiscal year. Enclosed are two copies of the executed agreement for your files.

Also enclosed you will find the Institute's check payable to the University of Cincinnati in the amount of $50,000 pursuant to the terms of the agreement.

Very truly yours,

DVB:e
Enclosures
cc: Dr. E. Emmy Klotz
Mr. Lenny Walker

Note to Mr. Walker:
This expenditure is to be charged against the Medical Research Fund.

DVB

API 05377

New York 17, New York, August 7, 1952

INSTITUTE OF PETROLEUM OF GREAT BRITAIN
RESEARCH GROUP NO. 2

Mr. M. M. Newquist

Building

Dear Sir:

I have just had an opportunity to read my copy of the minutes of Meeting No. 10 of the above Research Group. I am quoting from page 2 as follows:

"It was agreed that a report should be rendered, through Research Committee, to Council who would make it available, as it thought fit, to such bodies as the sponsors, and Ministry of Fuel and Power at highest level, and to those likely to help the finances. It should not clash with the Medical Research Council and therefore should avoid medical aspects. In this connection Profes.or Cook emphasised that M.R.C. investigations were only in the early stages and M.R.C. is adverse to issuing general publications until it had something definite to say.

"It was recommended that the report should cover what has been done, what the Group is proposing to do, and the Group's relationship with the Ministry of Labour and the M.R.C.,; and it might contain, in correct perspective. a brief summary of the work done in America.

"Mr. Stevenson was asked to prepare a draft of about the length of four pages of the I.P. Journal for submission to the Research Committee in June. The Report should be fairly full for the Research Committee who could decide on suitable extracts for the I.P. Journal."

Apparently from this, the I.P. committee will take the following steps:

a. prepare a brief study of the work done in America

b. transmit this summary with a report of its own work to the Council of the Institute.

c. authorise the Council to make this summary available to "the sponsors, and Ministry of Fuel and Power at highest level, and to those likely to help the finances"

d. Research Committee to publish if it thought desirable in the I.P. Journal a summary of the work done in America

Such a step would prove most embarrassing not only to Kettering Laboratory, but the whole American Petroleum Industry. I had thought that in transmitting our reports confidentially to Col. Auld we had sufficiently safeguarded this matter. Apparently our "British cousins" are unable to either understand or to translate the "American language" into the "English language".

I would strongly urge that you immediately communicate with Col. Auld, pointing out that as yet the Medical Advisory Committee has made no publication, and specifically ask that the work in America remain confidential within Research Group No. 2.

I would also suggest that your letter be also translated into French, which I understand is pretty well known by most Englishmen.

Very truly yours,

Signed: K. G. MACKENZIE

K. G. MACKENZIE

KGM-FKL

cc: Mr. D. V. Stroop
Dr. E. K. Linder

August 13, 1952

Col. S. J. Auld
Institute of Petroleum
25 Victoria Street
London, S.W. 1, England

Dear Col. Auld:

I wish to thank you again for continuing to send me minutes of the meetings of your research groups and to acknowledge receipt of the minutes of meeting No. 10, Research Group 2.

I noted on page 2 of the above minutes that your committee's contemplated report among other things "might contain, in correct perspective, a brief summary of the work done in America." While mention may be made that similar research work is going on in America, it seems inadvisable for you to make such a report on the work being done at Kettering Laboratory, University of Cincinnati, inasmuch as (1) their progress reports, of which copies were sent to you, are not for publication, (2) they were sent to you for your personal and confidential information, (3) the reports are only progress reports, inconclusive in character, and as such they are not suitable for release as a public report and (4) since Kettering Laboratory has not yet published a report it would be embarrassing for a premature summary of their work to be released elsewhere.

While I have not yet discussed the above matter with Dr. R. A. Kehoe, it seems to me that our mutual purposes will be best served by keeping our interchange of information on a confidential basis until either party releases publicly a definite statement on his particular work.

With kindest regards and best wishes, I am

Very truly yours,

M. N. NEWQUIST, M. D.

MNN:RMS

cc: Dr. Robert A. Kehoe
Dr. E. K. Linder
Mr. D. V. Stroop

BLIND NOTE TO DVS: I would appreciate it if you would mimeograph and circularize among Members and Associates of the Sub-Committee on Carcinogenicity.

M.N.N.

API 05380

AMERICAN PETROLEUM INSTITUTE
50 WEST 50TH STREET
NEW YORK 20, N. Y.

August 22, 1952

To Members and Associates
Subcommittee on Carcinogenicity

Gentlemen:

I am enclosing a copy of the minutes of the meeting of the Research Project Advisory Committee which was held at Kettering Laboratory, Cincinnati, Ohio, July 10, 1952.

Will you kindly indicate your approval or disapproval of the actions and decisions of the R.P.A. Committee and your decision on questions 2, 3 and 4 listed on the enclosed letter ballot and return it to me. Negative votes should be accompanied by an explanation.

I will also appreciate receiving any comments and suggestions you may have concerning the research project at Kettering Laboratory.

Very truly yours,

M. N. Newquist

M. N. NEWQUIST, M. D.
Chairman, Subcommittee on
Carcinogenicity

MNN:RMS
Enclosures

mc: Members and Associates
Medical Advisory Committee

Dr. R. A. Kehoe (2)
(Without letter ballot)

API 05381

AGENDA

Research Project (MC-1) Advisory Committee Meeting
Kettering Laboratory, Cincinnati, Ohio

July 10, 1952, 9:30 a.m. to 4:00p.m. EST

1 - Summary of April 1952 Progress Report	Dr. A. W. Horton
2 - Comments on the Progress Report	Dr. R. E. Eckhardt et al.
3 - Progress of studies since April 1952 and future plans	Dr. A. W. Horton
4 - Effect of viscosity on potency and the use of embodying agents to modify viscosity	R. M. Shepardson L. C. Beard, Jr.
5 - (a) Need for additional studies on straight-run, uncracked distillates and residua	
(b) Appraisal of British literture and the magnitude of the hazard in Great Britain	L. C. Beard, Jr.
6 - Plans of the Sub-panel on Lubricants and Process Products Hygiene of the API Lubrication Committee	R. M. Landon K. G. Mackenzie L. C. Beard, Jr.
7 - Report on mid-year meeting, General Committee, Division of Refining, May 1952, with respect to the RPA Committee's report of April 30, 1952, to Mr. T. J. Sullivan	R. M. Landon
8 - Epidemiological Surveys (a) Among employes of petroleum companies	Dr. J. J. Phair Dr. E. K. Linder
(b) Among employes of customers	Dr. M. N. Newquist
9 - Other business	
10 - Date and place of next meetings of (a) Subcommittee on Carcincgenicity (b) RPA Committee	

For Information Only - Not For Publication

REPORT ON THIRD MEETING

Research Project MC-1 Advisory Committee
July 10, 1952
Kettering Laboratory
Cincinnati, Ohio

.....

MEMBERS PRESENT OR REPRESENTED

M. N. Newquist, M.D. - Chairman
R. E. Eckardt, M.D. - Acting Sec'y.
L. C. Beard, Jr.
Kieffer Davis, M.D.
C. M. Doane (For E. W. Adams)
T. M. Frank, M.D.
R. M. Landon
K. G. Mackenzie
R. C. Mithoff
R. M. Shepardson

MEMBERS ABSENT AND NOT REPRESENTED

C. M. Hine, M.D.
E. K. Linder, M.D.

OTHERS PRESENT

F. F. Heyroth, M.D. - University of Cincinnati
A. W. Horton - University of Cincinnati
Arthur Pabst (Socony-Vacuum Oil Co., Inc.)
J. J. Phair, M.D. University of Cincinnati

The attached agenda of the meeting, which had been distributed by Dr. Newquist prior to the meeting, was used as the program.

ITEMS 1 AND 3

Dr. Horton presented to each of the members the attached "Memorandum from the Kettering Laboratory, Third Meeting of the Advisory Committee, API Research Project MC-1". Dr. Horton followed the outline presented in this memorandum with additional comments, as follows:

a. The year 1951 in terms of the health of the experimental animals did not satisfy the laboratory as well as the year 1950 and, therefore, the laboratory has considerable reservations concerning the accuracy of mouse test data determined in 1951. This has led to the adoption of correction factors for the determination of the P_{MC} values of the various materials tested. One source of this difficulty was discovered in infestation of the animals with mites. These mites presumably caused an eye disease in the mice, which was thought to be due to the scratching by the animals in an attempt to rid themselves of the mites. The mites have now been controlled by using a dusting powder consisting of a low concentration of Chlordane plus pyrenones.

b. Criteria used by the laboratory for determination of what is considered a good animal test include 85% survival of the animals for at least 6 months, or until 50% of the animals have tumors.

c. Experiments are designed so that the average latent period will be not less than 100 days or more than 280 days. If the average latent period is less than 100 days or more than 280 days, it is believed that the accuracies of the P_{MC} determination will be considerably reduced.

d. The desirability of weighing the animals once a week is now recognized and attempts to weigh them at this frequency will be made in order that no breaks in the weight curves will be present in the data sheets presented to the group.

ITEM 2

In the discussion that followed on Dr. Horton's comments it was brought out by Dr. Beard that he had heard of some data from England which indicated that in straight run distillates maximum carcinogenicity is observed in the 300-400°C. cut. Dr. Horton then emphasized that the nature of the distillation must be fully understood before the significance of this observation could be accepted, since in distillations in which poor fractionation occurs a material presumably cut between 300 and 400°C. could contain considerable amounts of material boiling below 300°C. and boiling above 400°C.

Later, Dr. Beard placed on the board the following 9 variables which may affect the quantitative nature of mouse tests and their extrapolation to human significance:

1. The amount of carcinogen per unit of area.
2. The dilution of the carcinogen.
3. The frequency of application.
4. The effect of the physical state, i.e., viscosity and surface tension.
5. The health of the animals.
6. The psychic state of the animals as concerns eating.
7. The effect of area of application.
8. The persistence of carcinogenesis if applications are stopped.
9. The variability of susceptibility of human skin, i.e., black versus whites.

Mr. Shepardson then brought up the possibility that the work which Dr. Horton has done indicates that there may be several types of response to carcinogenic agents. Thus, with fuel oils and methycholanthrene it would appear that the activity of a given oil does not increase with the increase in dosage. This conclusion was reached as a result of the experiments using 20 and 100 mg. of

material per application with solutions of methycholanthrene and with API No. 8. In the latter case activity seemed to increase with dosage. Dr. Eckhardt then commented that this variation in activity might be both a function of the dosage per application and the dosage per week (frequency).

A considerable amount of discussion followed, the outgrowth of which seemed to be that a great deal more additional work will have to be done in order to develop all of the various variables which seem to influence the quantitative nature of the mouse test. There were many who expressed the opinion that to think that we could begin tapering off on the amount of effort in this program in 2 years' time is an extremely optimistic outlook. Rather, it was their feeling that this type of research will have to continue for a considerably longer period than 2 years at the present level of effort. Dr. Eckardt introduced the concept that perhaps we have the practical answers which we need at the present time to control this problem and that these various refinements of the technique, although of extreme interest, would not contribute appreciably to the development of any practical solutions. He compared to a degree the establishment of MAC values in which a considerable safety factor is always allowed, and where the MAC value is exceeded certain medical supervision is carried out. From the strictly medical standpoint, this is the type of approach which most medical departments and industrial hygiene departments will require. Whether this approach will provide the answers needed by the refiners is a question that can only be answered by the refiners.

ITEM 4

Dr. Beard brought with him a sample of alkylated polystyrene which had been shown to increase the viscosity of a catalytically cracked recycle oil from about 84 to about 1100 when 5% of the material was added to the oil. It was suggested as a possible agent to use in increasing the viscosity of carcinogenic oils without appreciably changing their chemical composition. Reference was made to a letter submitted by Mr. Shepardson which indicated that Vistanex and polypropylenes would apparently not satisfy the requirement of increasing the viscosity sufficiently with a sufficiently small addition of the agent.

ACTION Dr. Horton will test on mice some petroleum fractions of known potencies but those viscosities have been altered by the addition of alkylated polystyrenes (using Dr. Beard's sample) in order to evaluate the effect of viscosity on potency.

ITEM 5a

Dr. Beard indicated that experience thus far has shown that most occupational cancers allegedly due to petroleum products had resulted from prolonged contact with uncracked distillates and residua. For this reason it is his belief that additional studies should be carried out on this type of material in order to help us develop the answers to the problems of this type of material.

ACTION Dr. Horton feels that the samples he already has on hand including the fractions of the three crudes (Oklahoma, Kuwait, La Gunillas) presently being studied in Great Britain would suffice for the time being.

ITEM 5b

Dr. Beard suggested that it probably would be helpful if Dr. Phair could or would review critically the literature on cancer as related to petroleum with particular emphasis on keeping the members of the committee informed of any new articles which are appearing in the literature on this subject by circulating to the members of the committee a critical abstract of each of these articles. Dr. Phair felt that this could well be done by himself and is presumably planning to undertake such a critical abstracting of current literature for the committee.

ACTION While Dr. Phair is favorable to such an undertaking he hesitated to commit Kettering Laboratory in the absence of Dr. Kehoe. Therefore, this matter awaits official clearance from Kettering Laboratory.

ITEM 6

Dr. Beard told the group of the activities of the Sub-Panel on Lubricants and Process Products Hygiene of the API Lubrication Committee. A small subcommittee has been formed to discuss the advisability of labelling petroleum products in order to warn customers of potential hazards. Solvents prepared from petroleum should probably bear labels which are in conformity with those recommended by the Manufacturing Chemists' Association. Other materials, such as lube and cutting oils, should probably bear a simple label which indicates that the oil may cause skin irritation, that it should be kept off of the skin and that if it cannot be kept off of the skin, it should be washed off as soon after contact

as practicable. Mr. Mackenzie emphasized the need of making such washings practicable so that workers would not be spending half of their day washing things off of their hands.

ACTION None taken

ITEM 7

Dr. Landon reported that a verbal summary of the report of the RPA Committee was given to the General Committee, Division of Refining, in May of 1952. As a result, the General Committee, Division of Refining, addressed a letter to the chairman of the Medical Advisory Committee asking that the Committee recommend minimum standards for medical care, qualifications of medical directors and minimum standards for adequate medical records. This letter will presumably be presented to the Medical Advisory Committee at its next meeting. It was the feeling of the RPA Committee that the General Committee, Division of Refining, recognizes the importance of the carcinogenic problem to the petroleum industry and the general recommendations of Dr. Kehoe that the petroleum industry must develop the adequate medical and industrial hygiene measures to control this problem. However, the General Committee, Division of Refining, went further than the simple problem of carcinogenesis and included, presumably, all of the medical problems of the petroleum industry in their request.

ACTION None taken

ITEM 8a

Dr. Phair indicated that he has now received about 900 historical records. Apparently he is receiving very few current

records and asked the cooperation of the Committee to stimulate the various medical directors to send in their current records of cancer cases. He indicated that since April, only 35 or 36 records have been sent to him. He stated that up until the present time there has been no real call on his services in a consultation capacity. Discussion by the Committee indicated that Dr. Newquist would provide the stimulus to the various medical directors to send in their current cancer cases, and that following the action of the Medical Advisory Committee, on the request of the General Committee, Division of Refining, much of the work of Dr. Phair may be implemented because some of the companies which do not now have adequate medical records may begin to develop them on the recommendation of the API as to what constitutes adequate medical service, adequate medical personnel and adequate medical records.

ACTION — The Chairman of the Subcommittee on Carcinogenicity will aid the epidemiological studies by stimulating the various medical directors in the petroleum companies to submit the data requested by Dr. Phair.

ITEM 3b

Dr. Newquist mentioned the need for epidemiological studies among the employes of customers of petroleum products since most of the cases are apparently occurring among users rather than among manufacturers. He indicated, however, that the collection of such data would require great tact. Dr. Phair felt that the University of Cincinnati could probably make such studies at the proper time and in a proper manner.

API 05390

ACTION — It was the consenus of the RPA

Committee that the University of Cincinnati should undertake epidemiological studies among customers at an appropriate time. This matter is subject to further action by the Subcommittee on Carcinogenicity.

ITEM 9

Under item 9 on the agenda Mr. Shepardson presented a table of data collected by the Standard Oil Development Company and New York University which indicated that there are at present 4 methods which will predict tumor potency within what it is believed to be a useful range of accuracy. These 4 methods involve: (1) ultraviolet absorption at 360 μ of a 650-1000°F. cut of the oil, (2) polarographic determinations which depend upon the diffusion current at two voltages, (3) the caffein number which depends upon the ultraviolet absorption at two wave lengths of caffein extract of the oil, and (4) the high aromatics characterization which is a more complicated method and was not discussed in detail. He indicated that the Development Company is in the process of checking these four methods in three different laboratories in order to determine their reproducibility from laboratory to laboratory. He urged that the University of Cincinnati give serious consideration to checking these methods also since they have been found to be so useful by the Development Company. He indicated willingness to provide to the University of Cincinnati the details of each of the methods as soon as it had been determined that they were reproducible from laboratory to laboratory.

ACTION Dr. Horton has already been in communication with Mr. Shepardson on the above subject and he will give it further study in connection with Kettering's effort to develop an analytical tool.

API 05391

ITEM 10

The Committee adjourned at 4:30 p.m., after agreeing that the next RPA Committee meeting should be held September 24th, at the Conrad Hilton Hotel in Chicago, one day prior to the meeting of the Medical Advisory Committee which is to be on September 25th. It was felt by most members of the RPA Committee that a meeting of the Subcommittee on Carcinogenicity prior to the date of the September Medical Advisory Committee meeting would not be necessary if the Subcommittee could handle its interim work by mail. Considerable duplication of presentation and discussion can be eliminated by having the Subcommittee make its report, including Dr. Horton's report, to the Medical Advisory Committee as a whole on September 25th.

NOTE: During the meeting Dr. Horton distributed a sheaf of data sheets (copies mailed to MAC Members 7-16-52) on various mouse experiments which are to be included in the available data thus far submitted. Dr. Horton indicated that he would present a series of data tables for the consideration of the full Committee at its meeting in Chicago.

R. E. Eckardt, M.D.
Acting Secretary

M. N. Newquist, M.D.,
Chariman

MEMORANDUM FROM THE KETTERING LABORATORY

THIRD MEETING OF THE ADVISORY COMMITTEE

API RESEARCH PROJECT MC-1

July 10, 1952

A. Tests to determine applicability of standard reference curves based on methylcholanthrene to determination of relative carcinogenic potency of refinery samples.

1. Preliminary data on catalytically cracked residuum, API-63:

No. of 100 mg. Applications Per Week to C3H Mice	Average Latent Period for Tumor Induction	Relative Potency, P_{MC}
1	34 weeks	$\sim$0.13
2	22 weeks	$\sim$0.14
3	15.4 weeks	0.14

2. Further tests under way on Fuel Oil 30 (API-113), previously examined in skin painting and washing experiments.

B. Further rechecks on reference standards to clarify influence of following variables:

1. Dosage per application.
2. Change from Jax to Heston sub-line of C3H strain of mice by suppliers (Roscoe Jackson Memorial Laboratory)
3. Purity of methylcholanthrene (all commercially available grades found to contain traces of a powerful skin irritant, removable to a large extent by chromatography).

C. Results on API-83-2 indicate that mild air oxidation of catalytically cracked residua not useful for reduction of concentration of carcinogens.

D. Effects on rate of tumor induction of decreasing severity of tests by decreasing dosage per application.

1. For solutions of methylcholanthrene, same rate of tumor induction by 20 mg. and 100 mg. applications (results to be rechecked on Heston sub-line with purified methylcholanthrene).
2. For fuel oil blends (probably relatively low concentration of accelerating constituents), preliminary data indicates rate of tumor induction same for 5 mg., 20 mg., or 100 mg. applications.
3. For API-8 (catalytically cracked residuum of high potency) rate for 20 mg. applications significantly slower than for 100 mg. applications, possibly indicating a critical dosage level for action of accelerating constituents.

E. Correlation of potencies of finished lubricants with their ultraviolet absorption spectra.

1. API-99, spectrum type C (0.5), weakly acid treated naphthenic stock containing 0.2 percent antioxidant, P_{MC} 0.07.
2. API-100, spectrum type B (0.3), blended, solvent extracted lube containing no additives, yield of papillomas zero after 41 weeks of painting (3 applications per week, C3H mice).

F. Tumor yield from white oils, API-80 and 95, zero after one year of painting.

G. Fractionation studies to determine classes of 3- and 4-ring compounds responsible for carcinogenicity.

1. Exhaustive Diels-Alder reaction (maleic anhydride) on API-8 yielding anthracenes, benzanthracenes, dibenzanthracenes (?), naphthacenes, naphthopyrenes (?), and nitrogen bases (?). These classes separated by solubility properties of their succinic acid adducts and adsorption properties (on alumina) of the recovered parent compounds to prepare samples for biological testing.
2. Indications from results of biological and analytical tests on API-8-19 and 8-20 that pyrenes and anthracenes not contributing to potency of distillate fractions, boiling 700-800°F. (vacuum corrected), from API-8.
3. Fraction boiling lower than chrysene of aromatic compounds from API-12, F.C.C. residuum, being treated to remove pyrenes and anthracenes; fraction thus prepared for mouse testing to contain alkylphenanthrenes, alkylbenzfluorenes, benzphenanthrene (?), etc.
4. Further chromatographic fractionation of distillate fractions of API-8 corresponding to 8-10, 8-11, and 8-12 to separate 4-ring compounds into classes for biological tests.

H. Accelerating constituents of cracked oils.

1. Further evidence that colorless fraction from chromatography of API-8 has accelerating effect on rate of tumor induction. Potency of API-8-21 not significantly different from that of API-8, whereas comparable 50:50 blends with sec-amylbenzene (see 8-16) or with white oil and reduced crude (see 8-4) demonstrated marked reduction in potency.
2. Resin removed from API-71, T.C.C. residuum, not responsible for high potency of this relatively low boiling catalytically cracked product. Testing and further fractionation of colorless chromatographic fraction of API-71 to be carried out.
3. Low dosage tests on cracked sidestreams for further evidence on possible contribution of accelerating constituents to their moderately high potency when tested in 100 mg. applications.

LETTER BALLOT

Subcommittee on Carcinogenicity
Medical Advisory Committee, American Petroleum Institute

. . . . . .

PLEASE MARK AND RETURN TO:

Dr. M. N. Newquist, Chairman
Subcommittee on Carcinogenicity
c/o The Texas Company
135 East 42nd St., New York 17, N. Y.

. . . . . .

1. Shall the actions and decisions of the Research Project Advisory Committee, as shown in the minutes of the July 10, 1952, Meeting at Kettering Laboratory, Cincinnati, Ohio, be approved by the Subcommittee?

Yes _____ No _____ Not voting _____

2. Do you recommend that Kettering Laboratory, University of Cincinnati, make epidemiological studies of cancer among employes of customers?

Yes _____ No _____ Not voting_____

If yes, what is your opinion on the following points?

a. Random selection of plants for survey.
Yes _____ No _____ Not voting _____

b. Limit surveys to plants where cancer cases are allegedly due to petroleum products.
Yes _____ No _____ Not voting _____

c. Maintain a cancer registry wherein only cancer cases proven to be due to exposure to petroleum products would be recorded.
Yes _____ No _____ Not voting _____

3. Do you approve of continuing Research Project MC-1 at approximately its present scope and cost ($100,000 per year) for the year beginning July 1, 1953?

Yes _____ No _____ Not voting _____

4. Do you concur with the opinion of the RPA Committee that a meeting of the Subcommittee prior to September 25, 1952, is not necessary?

Yes _____ No _____ Not voting _____

It is requested that any negative vote be accompanied by an explanation.

_____
Name

_____
Company

API 05397

M. N. NEWQUIST, M.D.
135 East 42nd Street
New York 17, N. Y.

August 28, 1952

To Members and Associates
Subcommittee on Carcinogenicity

Gentlemen:

You have by now all received a copy of the minutes of the third meeting of the Research Project MC-1 Advisory Committee held at Kettering Laboratory July 10, 1952, together with a letter ballot on which to indicate your approval and disapproval of the actions and decisions of the RPA Committee and your decision on the three other questions listed.

I will appreciate receiving your ballot by return mail so that a report of the Subcommittee on Carcinogenicity can be prepared and sent to all members of the Medical Advisory Committee on September 11.

Very truly yours,

M. N. Newquist

M. N. NEWQUIST, M.D.

MNN:JKF

Marshall Clinton, M.D.
L. E. Curtis, M.D.
Kieffer Davis, M.D.
Robert E. Eckardt, M.D.
T. M. Frank, M.D.
C. H. Hine, M.D.
T. J. Kelly, M.D.
W. R. Levis, M.D.
Clark R. Miller, M.D.
James W. Osborn, M.D.
B. B. Reeve, M.D.
George M. Saunders, M.D.
Leo J. Wade, M.D.

E. W. Adams
L. C. Beard, Jr.
C. L. Brown
C. R. Brown
L. C. Burroughs
R. C. Cole
L. O. Crockett
A. E. Dooley
R. M. Landon
K. G. Mackenzie
R. C. Mithoff
J. R. Morrison
F. J. Sanders
R. M. Shepardson

mc: E. K. Linder, M.D.
D. V. Stroop

August 28, 1952

Dr. E. Kern Linder
The Atlantic Refining Company
260 South Broad Street
Philadelphia 1, Pennsylvania

Dear Doctor Linder:

Enclosed are two copies of the letter ballot which was sent to the members and associates of the Subcommittee on Carcinogenicity on August 22. This letter ballot was attached to the minutes of the meeting of the Research Project Advisory Committee held at Kettering Laboratory, July 10, 1952.

Very truly yours,

Enclosures

C O P Y

25 VICTORIA STREET

S. J. M. AULD LONDON

S.W. 1

AIR MAIL 29th August, 1952

Dr. M. N. Newquist
The Texas Company
135 East 42nd Street
New York 17, N. Y.

Dear Dr. Newquist,

I hasten on my return from holiday to reply to your letter of August 13th and to reassure you in respect of the proposed report.

There was no intention to make and there definitely will be no statement made nor excerpt included, regarding any of the work which has been the subject of mutual exchange of information between the Research Group and the Kettering Laboratory. It was my intention merely to describe in general terms for the benefit of the sponsors, the organization of the corresponding American activities and refer to any already published work. You are aware there has been some of the latter and there will be more - generally in connection with the work at New York University as published in the Journal of Industrial and Engineering Chemistry.

Now that you have drawn my attention to the matter, too, I will make a point of sending you a draft of any material which refers to American activities.

I hope there will shortly be an opportunity of your coming to this country and meeting for discussion some of the people who are specially concerned in this work.

Yours sincerely,

With kind regards, (signed) SJMAuld

SJMA*GBM

cc: Dr. E. K. Linder)
Mr. D. V. Stroop) from MNN - 9-5-52
KGM)

API 05400