

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

OFFICIAL RECORD COPY

License number

06-30022-01

Docket or Reference number

030-33081

Amendment No. 01

Jule Biotechnologies, Inc.

25 Science Park, Suite 695
New Haven, Connecticut 06511

In accordance with NRC Form 314 "Certificate Of Disposition Of Materials" and letter dated May 7, 1997, License Number 06-30022-01 is hereby terminated.



For the U.S. Nuclear Regulatory Commission

**ORIGINAL SIGNED BY:
RICHARD GIBSON, JR.**

By

Nuclear Materials Safety Branch
Region I
King of Prussia, Pennsylvania 19406

Date

JUN - 4 1997

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PDR ADOCK 03033081
C PDR

ML 10

JUN - 4 1997

George Leka
President
Jule Biotechnologies, Inc.
25 Science Park, Suite 695
New Haven, Connecticut 06511

Dear Mr. Leka:

Please find enclosed Amendment No. 01 terminating License No. 06-30022-01 as requested by NRC Form 314 "Certificate Of Disposition Of Materials" and letter dated May 7, 1997. The facility at 25 Science Park, Suite 681, New Haven, Connecticut may be released for unrestricted use.

Your cooperation with us is appreciated.

Sincerely,

**ORIGINAL SIGNED BY:
RICHARD GIBSON, JR.**

Richard Gibson, Jr.
Division of Nuclear Materials Safety

License No. 06-30022-01
Docket No. 030-33081
Control No. 124569

Enclosure:
Amendment No. 01

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ML 10

DOCUMENT NAME: R:\WPS\MLTR\L0630022.01

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OFFICE	DNMS/RI	N	DNMS/RI				
NAME	RGibson/rxg						
DATE	06/04/97		06/ /97		06/ /97		06/ /97

May 28, 1997

MS 16
J-2

Attn: Richard Gibson, Jr.
Division of Nuclear Materials Safety
U.S. Nuclear Regulatory Commission, Region I
475 Allendale Road
King of Prussia, PA 19406-1415

06-30022-01

Re: Mail Control No. 124569

Page 1 of 2

Dear Mr. Gibson:

I am writing in response to your letter dated May 20, 1997. Following please find the additional information which you requested:

1. The survey instrument used to scan the solid waste held for decay-in-storage prior to release as ordinary trash is as follows:

Manufacturer: S.E. International, Inc.
P.O. BOX 39
156 Drake Lane
Summertown, TN 38483

Model #: Radiation Alert Monitor 5 Serial # 01891

Types of Radiation which can detect and efficiencies are as follows:

Alpha: 2.5 MeV (mega electron volts)
>80% efficiency

Low Energy Beta: 50 KeV (Kilo electron volts)
>35% efficiency

Beta: 150 KeV; 75% efficiency

Gamma: 10 KeV with window
40 KeV with sidewall

Iodine-125: 0.5mCi and above

The background level at the time of the survey was from 0-10 CPM.

The survey was performed by myself: Diane L. Kichar-- Radiation Safety Director

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JUN - 2 1997

FAX REC'D MAY 28 1997

2. I have reviewed the amount of activity disposed into the sink and have verified that it is well below the concentration listed in Table 3 of Appendix B to Part 20. All references made to 10 CFR 20.1 through 10 CFR 20.602 are compatible with the corresponding sections of 10 CFR 20.1001 through 10 CFR 20.2402.

3. There were NO such additional records of burial, or records of offsite releases such as effluent releases, incineration, or radioactive material spills. All of our radioactivity was decayed-in-storage and disposed of as described in my letter dated May 7, 1997.

I hope that this information allows you to complete the review of our decommissioning application. Thank you for your help with this matter.

Sincerely,

A handwritten signature in cursive script that reads "Diane L. Kichar".

Diane L. Kichar
Radiation Safety Director

MAY 20 1997

License No. 06-30022-01
Docket No. 030-33081
Control No. 124569

George Leka
President
Jule Biotechnologies, Inc.
25 Science Park, Suite 695
New Haven, Connecticut 06511

Dear Mr. Leka:

This is in reference to your letter dated May 7, 1997 requesting to terminate Nuclear Regulatory Commission License No. 06-30022-01. In order to continue our review, we need the following additional information:

1. Specify the survey instrument used to scan the solid waste held for decay-in-storage prior to release as ordinary trash. Include the manufacturer and model number, the types of radiation detected, the efficiency of the survey instrument and the background level at the time of the survey. In addition, specify the individual(s) who performed the survey.
2. Effective January 1, 1994, the regulations of 10 CFR 20.1001 through 20.2402 superseded the regulations of 10 CFR 20.1 through 20.602. In your letter, you stated that the amount of activity disposed into the sink for sulfur-35 complied with the standards set in Part 20, Appendix B, Table I, Column 2. This is in reference to the regulations of 10 CFR 20.1 through 20.602. Please evaluate all references to 10 CFR 20.1 through 10 CFR 20.602 in your letter for compatibility with the corresponding sections of 10 CFR 20.1001 through 10 CFR 20.2402 and comply with the concentration listed in Table 3 of Appendix B to Part 20 for the release of sulfur-35 to the sanitary sewer.
3. Please note that when a licensee terminates licensed activities or licensed activities are transferred to another licensee, the regulations in 10 CFR 30.35(g) require that records of information important to decommissioning be transferred to the NRC or to a successor licensee to ensure their long-term availability. You have already provided us with your closeout survey results, records of release to the sanitary sewer and your waste disposals. If applicable, please transfer any additional records, as were applicable to your program, that pertain to:
 - a. the decommissioning of your facility including records of burials; and

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ML 10

George Leka, President
Jule Biotechnologies, Inc.

-2-

- b. records of offsite releases and waste disposal including effluent releases, incineration, and radioactive material spills.

Records may be transferred to the USNRC Region I, 475 Allendale Road, King of Prussia, Pennsylvania 19406.

We will continue our review upon receipt of this information. Please reply in duplicate to my attention at the Region I Office and refer to Mail Control No. 124569. If you have any technical questions regarding this deficiency letter, please call me at (610) 337-5071.

If we do not receive a reply from you within 30 calendar days from the date of this letter, we shall assume that you do not wish to pursue your application.

Sincerely,

ORIGINAL SIGNED BY:
RICHARD GIBSON, JR.

Richard Gibson, Jr.
Division of Nuclear Materials Safety

License No. 06-30022-01
Docket No. 030-33081
Control No. 124569

Enclosures:

1. 10 CFR Parts 20 and 30

DOCUMENT NAME: R:\WPS\DLTR\L0630022.01

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OFFICE	DNMS/RI	N	DNMS/RI				
NAME	RGibson/rxg						
DATE	05/20/97	05/	/97	05/	/97	05/	/97

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030-33081

NRC FORM 314

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0028

EXPIRES: 06/30/98

(6-95)

10 CFR 30.36(c)(1)(iv)

10 CFR 40.42(c)(1)(iv)

10 CFR 70.38(c)(1)(iv)

CERTIFICATE OF DISPOSITION OF MATERIALS

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION COLLECTION REQUEST: 30 MINUTES. THIS SUBMITTAL IS USED BY NRC AS PART OF THE BASIS FOR ITS DETERMINATION THAT THE FACILITY HAS BEEN CLEARED OF RADIOACTIVE MATERIAL BEFORE THE FACILITY IS RELEASED FOR UNRESTRICTED USE. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0028), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503. AN AGENCY MAY NOT CONDUCT OR SPONSOR, AND A PERSON IS NOT REQUIRED TO RESPOND TO, A COLLECTION OF INFORMATION UNLESS IT DISPLAYS A CURRENTLY VALID OMB CONTROL NUMBER.

INSTRUCTIONS: ALL ITEMS MUST BE COMPLETED - PRINT OR TYPE
SEND THE COMPLETED CERTIFICATE TO THE NRC OFFICE SPECIFIED ON THE REVERSE

LICENSEE NAME AND ADDRESS

LICENSE NUMBER

JULE BIOTECHNOLOGIES, INC.
25 SCIENCE PARK, STE. 695
NEW HAVEN, CT 06511

06-30022-01

LICENSE EXPIRATION DATE

May 31, 1998

A. MATERIALS DATA (Check one and complete as necessary)

THE LICENSEE OR ANY INDIVIDUAL EXECUTING THIS CERTIFICATE ON BEHALF OF THE LICENSEE CERTIFIES THAT:
(Check and/or complete the appropriate item(s) below.)

- ☐ 1. NO MATERIALS HAVE EVER BEEN PROCURED OR POSSESSED BY THE LICENSEE UNDER THIS LICENSE.
- OR
- ☒ 2. ALL ACTIVITIES AUTHORIZED BY THE LICENSE HAVE CEASED AND ALL MATERIALS PROCURED AND/OR POSSESSED BY THE LICENSE NUMBER CITED ABOVE HAVE BEEN DISPOSED OF IN THE FOLLOWING MANNER. (If additional space is needed, use the reverse side or provide attachments.)

Describe specific material transfer actions and, if there were radioactive wastes generated in terminating this license, the disposal actions including the disposition of low-level radioactive waste, mixed waste, Greater-than-Class-C waste, and sealed sources, if applicable.

For transfers, specify the date of the transfer, the name of the license recipient, and the recipient's NRC license number or Agreement State name and license number.

If materials were disposed of directly by the licensee rather than transferred to another licensee, licensed disposal site or waste contractor, describe the specific disposal procedures (e.g., decay in storage)

(SEE ATTACHMENTS)

B. OTHER DATA

- ☒ 1. OUR LICENSE HAS NOT YET EXPIRED; PLEASE TERMINATE IT.
2. A RADIATION SURVEY WAS CONDUCTED BY THE LICENSEE TO CONFIRM THE ABSENCE OF LICENSED RADIOACTIVE MATERIALS AND TO DETERMINE WHETHER ANY CONTAMINATION REMAINS ON THE PREMISES COVERED BY THE LICENSE. (Check one)

☐ NO (Attach explanation)☒ YES, THE RESULTS (Check one)☒ ARE ATTACHED, or☐ WERE FORWARDED TO NRC ON (Date)

FEE EXEMPT

3. THE PERSON TO BE CONTACTED
REGARDING THE INFORMATION
PROVIDED ON THIS FORM

NAME

DIANE L. KICHAR

TELEPHONE NUMBER

(Include Area Code)

(203)786-5490

4. MAIL ALL FUTURE CORRESPONDENCE REGARDING THIS LICENSE TO MR. GEORGE LEKA
JULE BIOTECHNOLOGIES, INC.
25 SCIENCE PARK
NEW HAVEN, CT 06511

CERTIFYING OFFICIAL

I CERTIFY UNDER PENALTY OF PERJURY THAT THE FOREGOING IS TRUE AND CORRECT

124569

PRINTED NAME AND TITLE

DIANE L. KICHAR, MGR. R & D

SIGNATURE

Diane L. Kichar

DATE

5/7/97

WARNING: FALSE STATEMENTS IN THIS CERTIFICATE MAY BE SUBJECT TO CIVIL AND/OR CRIMINAL PENALTIES. NRC REGULATIONS REQUIRE THAT SUBMISSIONS TO THE NRC BE COMPLETE AND ACCURATE IN ALL MATERIAL RESPECTS. 18 U.S.C. SECTION 1001 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTIONS.

MAY 14 1997

FILE CERTIFICATES AS FOLLOWS:

IF YOU ARE A DISTRIBUTOR OF EXEMPT PRODUCTS, SEND TO:

DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR SAFETY
OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS
U.S. NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555-0001

ALL OTHERS, IF YOU ARE LOCATED IN:

CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, MAINE,
MARYLAND, MASSACHUSETTS, NEW HAMPSHIRE, NEW
JERSEY, NEW YORK, PENNSYLVANIA, RHODE ISLAND, OR
VERMONT, SEND APPLICATIONS TO:

LICENSING ASSISTANCE SECTION
NUCLEAR MATERIALS SAFETY BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

ALABAMA, FLORIDA, GEORGIA, KENTUCKY, MISSISSIPPI,
NORTH CAROLINA, PUERTO RICO, SOUTH CAROLINA,
TENNESSEE, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA,
SEND APPLICATIONS TO:

NUCLEAR MATERIALS SAFETY SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION II
101 MARIETTA STREET NW, SUITE 2800
ATLANTA, GA 30323-0199

IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI,
OHIO, OR WISCONSIN, SEND APPLICATIONS TO:

MATERIALS LICENSING SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION III
801 WARRENVILLE ROAD
LISLE, IL 60532-4351

ALASKA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO,
HAWAII, IDAHO, KANSAS, LOUISIANA, MONTANA, NEBRASKA,
NEVADA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA,
OREGON, PACIFIC TRUST TERRITORIES, SOUTH DAKOTA,
TEXAS, UTAH, WASHINGTON, OR WYOMING, SEND
APPLICATIONS TO:

MATERIAL RADIATION PROTECTION SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TX 76011-8064

May 7, 1997

Licensing Assistance Section
Nuclear Materials Safety Branch
U.S. Nuclear Regulatory Commission, Region I
475 Allendale Road
King of Prussia, PA 19406-1415

Page 1 of 2

Dear NRC Representative:

The radioactive materials on our site were all decayed in storage. As per our license agreement, our radioactive waste was held in decay for over 10 half-lives. Jule, Inc. only purchased a total of 2.289 mCi. The first shipment of ^{35}S was 1.176 mCi and was received on 9/3/93. It has now decayed for 15.3 half-lives. The second shipment of ^{35}S was 1.113 mCi and was received on 8/22/94. It has now decayed for 11.3 half-lives.

The second shipment (Received 8/22/94) was not used at all. Approximately 0.53 uCi of activity remained in the 100 ul volume contained in the vial. This was diluted into 2 Liters of municipal tap water and discarded into the sewage system. This specific sink was then flushed with water for 1/2 hour after discarding the ^{35}S . This discarded amount is well below the quantity listed in Part 20, Appendix B, Table I, Column 2 for ^{35}S . The original container from Amersham was rinsed out, scanned for any remaining activity and then the label was defaced. This container was then discarded into the regular solid waste.

The first shipment (Received 9/3/93) waste consisted of primarily dried electrophoresis gels on filter paper backing, gloves, eppendorf tubes, and pipette tips. All of this solid waste was scanned with a low-energy radioactivity detector to verify that there was no activity remaining above background. All of the radioactivity tape labelling was removed and the waste was discarded into the regular solid waste disposal. During the period when the ^{35}S was being utilized, most of the original activity used always stayed on the gels on the filter paper backing. The rest ran into a buffer tank containing approximately 500-600 mL of liquid (buffer). This was discarded as described below.

A portion of the first shipment activity was disposed into the sewage system during the time period of January 1994 - August 1994. The form of ^{35}S used was water soluble. The amount of activity disposed into the sink each time complied with the standards set in Part 20, Appendix B, Table I, Column 2 for ^{35}S . The records of this sewage disposal is included in this packet.

An entire survey was conducted of the Restricted Area. This included both a Geiger counter scan and swipes taken at various locations throughout the area. This determined whether any contamination remained on the premises covered by the license. The swipes were then brought over to a scintillation counter at Yale University. The results of the swipe survey are included in this packet along with a drawing showing the restricted area surveyed.

In addition, all of the signs indicating "Radioactive Lab" and any notices pertaining to the NRC or to the radioactivity will be removed once the NRC has notified me that Jule Biotechnologies, Inc. has been formally decommissioned.

All of the activity always remained on site. There was absolutely no transfer of activity to any other sites and we did not use any waste contractor. Please call me if there are any questions regarding this information.

Sincerely,

Diane L. Kichar

Diane L. Kichar
Radiation Safety Director

SEWAGE SYSTEM DISPOSAL RECORD

<u>DATE</u>	<u>AMOUNT USED</u>	<u>DILUTION</u>	<u>AMT. INTO SINK</u>
1/5/94	0.5uCi	2 Liters	0.001uCi
1/18/94	2 uCi	4 Liters	0.005uCi
1/25/94	1 uCi	2 Liters	0.002uCi
1/28/94	1 uCi	2 Liters	0.002uCi
2/1/94	3 uCi	3 Liters	0.004uCi
2/9/94	1 uCi	2 Liters	0.002uCi
2/14/94	1 uCi	2 Liters	0.002uCi
2/16/94	1 uCi	2 Liters	0.002uCi
2/21/94	2 uCi	4 Liters	0.005uCi
2/30/94	4 uCi	4 Liters	0.01uCi
3/9/94	5 uCi	5 Liters	0.015uCi
3/21/94	5 uCi	5 Liters	0.015uCi
4/4/94	4 uCi	4 Liters	0.01uCi
4/14/94	6 uCi	5 Liters	0.02uCi
4/22/94	1 uCi	2 Liters	0.002uCi

SWIPO SURVEY SCINTILLATION COUNTER RESULTS

PROTOCOL : 0 Easy Count
DATE : 1997/05/00
TIME : 00:40

Libr NOT FOUND, EasyCount used

Wallac 1409/11 LSC version 1.4

Counting mode : DPM
Quench index : SQP(E)
Isotope(s) : H3,P32,S35
Protocol name : Easy Count
Counting time : 60
Repeats : 1
Cycles : 1
Replicates : 1
2 sigma % : 0.01
Minimum cpm : 0.00 Checking time: 10
Sp. library of isotope H3 : Wallac
Sp. library of isotope P32 : Wallac
Sp. library of isotope S35 : Wallac
Vial type : Not specified
Liquid system : Not specified
Advanced modes : Chemlum
Output to Printer :
POS,CTIME,CPM1,CPM2,CPM3
Additions to Printer : Listing,Header
Header : Libr NOT FOUND, EasyCount used
Spectrum : Beta
FNCT1 = EFF : (EFF1+EFF2)

Unknown Samples:

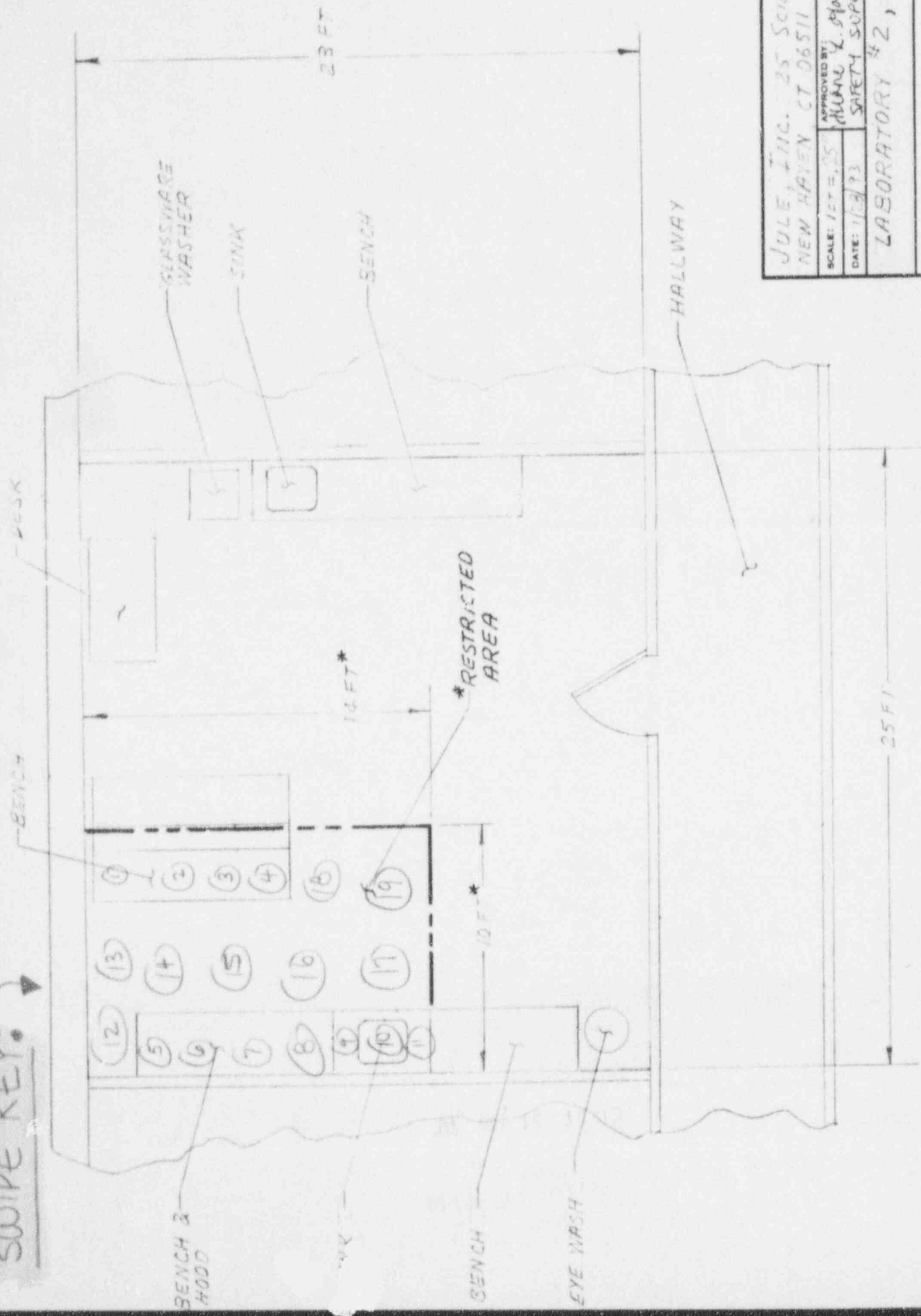
SWIPE #

Pos	CTime	H3_CPM	P32_CPM	S35_CPM
(12)	60	0.0	0.0	0.0
(11)	60	0.0	0.0	0.0
(10)	60	0.0	0.0	23.6
(9)	60	0.0	37.5	0.0
(8)	60	0.0	0.0	0.0
(7)	60	0.0	25.9	0.0
(6)	60	0.0	0.0	34.8
(5)	60	0.0	0.0	0.0
(4)	60	0.0	0.0	25.7
(3)	60	0.0	0.0	27.6
(2)	60	35.3	0.0	0.0
(1)	60	41.3	0.0	0.0

Pos	CTime	H3_CPM	P32_CPM	S35_CPM
(19)	60	45.2	0.0	0.0
(18)	60	55.1	0.0	0.0
(17)	60	0.0	0.0	27.2
(16)	60	0.0	0.0	26.7
(15)	60	0.0	0.0	30.8
(14)	60	31.1	0.0	0.0
(13)	60	0.0	0.0	40.6

Total activity:	H3	1243.3 DPM	0.021 kBq
	P32	64.1 DPM	0.001 kBq
	S35	266.6 DPM	0.005 kBq

SWIPE KEY: →



JULIE, INC. 25 SCIENCE P. NEW HAVEN CT 06511 (203) 7	
SCALE: 1" = 2' 0"	APPROVED BY: Diane L. Mayburg SAFETY SUPERVISOR
DATE: 1/24/93	LABORATORY #2, SUITE

BETWEEN:

License Fee Management Branch, ARM
and
Regional Licensing Sections

FOR LFMS USE)
INFORMATION FROM LTS

Program Code: 03620
Status Code: 0
Fee Category: 3M
Exp. Date: 20030531
Fee Comments:
Decom Fee Assur Req'd: N

LICENSE FEE TRANSMITTAL

A. REGION I

1. APPLICATION ATTACHED

Applicant/Licensee: JULE BIOTECHNOLOGIES, INC.
Received Date: 970514
Docket No: 3033081
Control No.: 124569
License No.: 06-30022-01
Action Type: Termination

2. FEE ATTACHED

Amount: /
Check No.: /

3. COMMENTS

Signed M. A. Perkins
Date 5/14/97

B. LICENSE FEE MANAGEMENT BRANCH (Check when milestone 03 is entered /)

1. Fee Category and Amount: 3M Termination

2. Correct Fee Paid. Application may be processed for:

Amendment /
Renewal /
License /

3. OTHER /

Signed SC
Date 6/3/97

1997 MAY 28 PM 5:52

RECEIVED BY LFDCB	
Date	May 28, 1997
Log	May 9 I
By	SC
Date Completed	6/3/97

Termination
FEE EXEMPT