Investigative and Enforcement Services

Settlement Agreement

USDA, APHIS, IES
4700 River Road, Unit 85
Riverdale, MD 20737
Phone: (301) 734-8684
Fax: (301) 734-4328

RESPONDENT:
University of California-Davis
One Shields Avenue
Davis, CA 95616

CASE NUMBER CA05004-AC
DUE ON OR BEFORE November 24, 2005
CONTACT (b)(6), (b)(7)c
PHONE

DATE	CITATION	DESCRIPTION
21 AUG 04	9 CFR 3.75(a)	**Housing facilities.** Failed to maintain housing for non-human primates in good repair to protect the animals from harm. The thermostat and cut off switch were not maintained in good repair, resulting in the deaths of seven non-human primates from excessively high temperatures.
	9 CFR 3.76(a)	**Heating, cooling, and temperature.** Failed to ensure the animal housing facility was sufficiently cooled when necessary to protect non-human primates from temperature extremes and to provide for their health and well being, resulting in the deaths of seven non-human primates.

PENALTY $4,815 **TERMS**

Titles 7, 15, 19, and 21 of the United States Code authorize the Secretary of Agriculture to impose civil penalties and other sanctions to resolve violations after providing notice and opportunity for a hearing.

You may waive your right to a hearing and agree to pay the specified civil penalty in settlement of this matter. If you do not agree to the specified penalty, a complaint shall be issued charging you with the violation(s) and seeking higher penalties. You will have the opportunity for a hearing before an Administrative Law Judge to present your case.

I acknowledge that I have been given an opportunity for a hearing and waive such hearing. I neither admit nor deny the violations cited above and agree to pay the civil penalty in full settlement of this matter.

Signature of Respondent: (b)(6), (b)(7)c **Date:** 11/21/05

PAYMENT RECORD - FOR IES USE ONLY

Payment Type	Date	Amount	Signature of IES Representative

QUALITY IS O[redacted]R PRIORITY FOR BOX 2180 [redacted]
SEQ# 005 $ 0[redacted]481500 BA# 947 11-28-05 20[redacted]

usbancorp.

DO NOT CASH IF THIS DOCUMENT DOES NOT HAVE A LARGE FAINT IMAGE OF THE UC SEAL LOGO OVER A FADING PATTERN OF THE UNIVERSITY NAME

UNIVERSITY OF CALIFORNIA
DAVIS, CALIFORNIA 95616
REVOLVING FUND

Drawn on
Wachovia Bank, N.A.
Greenville, South Carolina
In Cooperation With & Payable if Desired
at Wells Fargo Bank, N.A.
64759-686791

CHECK DATE	CHECK NUMBER
11/16/2005	92396

67-1
532

PAY *Four thousand eight hundred fifteen and 00/100 Dollars* **$4,815.00**

PLEASE CASH PROMPTLY
SUBJECT TO CANCELLATION
AFTER 180 DAYS

TO THE ORDER OF USDA APHIS, (GENERAL)(CA05004-AC)
P O BOX 979043
ST LOUIS, MO 63197-9000

(b)(6), (b)(7)c

⑈000092396⑈ (b)(4) ⑈0000481500⑈

THE REVERSE SIDE OF THIS DOCUMENT MUST ... IPH. THIS PAPER IS ALTERATION PROTECTED.

UC DAVIS: VICE CHANCELLOR — ADMINISTRATION

November 21, 2005

USDA, APHIS, (General) (CA05004-AC)
P.O. Box 979043
St. Louis, MO 63197-9000

RE: University of California, Davis
Case Number: CA05004-AC

Please see the enclosed payment of $4,815 and settlement agreement form for the civil penalty assessed by the Secretary of Agriculture as a full settlement for the August 21, 2004 animal housing facility incident.

Per our conversation with IES Assistant Director, Allison Khroustalev, we have submitted a FOAIA request to obtain the USDA Investigation and Assessment report regarding the incident.

Sincerely,

(b)(6), (b)(7)c

cc: Institutional Animal Care and Use Committee
AAALAC

Ruth A
McDermott/MD/APHIS/USDA
10/20/2005 11:13 AM

To Robert M Gibbens/CO/APHIS/USDA, Connie R Morris/CO/APHIS/USDA, Timothy R Fordahl/CO/APHIS/USDA, Elizabeth D
cc
bcc
Subject CA05004-AC Univ of California-Davis

The subject case has been sent a stip for $4,815. Attached is a copy of the Settlement Agreement and Cover Letter. If you have any questions, please cal (b)(6), (b)(7)c Thank you.

CA05004-AC Ltr Univ of CA Davis.doc ca05004.doc
Ruth Ann

Ruth Ann McDermott
Case Examiner
Investigative and Enforcement Services
Riverdale, MD
301-734-0575
e-mail: Ruth.A.McDermott@aphis.usda.gov

USDA

United States Department of Agriculture

Animal and Plant Health Inspection Service

Marketing & Regulatory Programs Business Services

4700 River Road
Riverdale, MD
20737

OCT 19 2005

University of California-Davis
One Shields Avenue
Davis, CA 95616

Dear Sir(s):

The Animal and Plant Health Inspection Service (APHIS) enforces regulations in order to protect the health and care of animals, plants, and agricultural industry. Violations of these regulations jeopardize the animal and plant health systems that are vital to protect American agriculture.

Our investigation shows that you have violated Federal Regulations as described on the enclosed Civil Penalty Stipulation Agreement form. APHIS laws and regulations provide for administrative and criminal penalties to enforce these regulatory requirements. The amount of the monetary penalty, or possible criminal charges, depends on the number and severity of the violations.

The Secretary of Agriculture may assess a civil penalty for such violations after notice and an opportunity for a hearing. However, you may waive your right to a hearing and settle this matter by paying $4,815 and signing the **agreement form.** You may voluntarily accept this reduced agreement to avoid further action.

Please pay the civil penalty by certified check or money order made payable to the Treasurer of the United States. Write the Case Number (CA05004-AC) on your check or money order and mail it with the signed agreement form to:

USDA, APHIS, (General) (CA05004-AC)
P. O. Box 979043
St. Louis, MO 63197-9000

If we do not receive your signed stipulation agreement and payment within 30 days, we will seek higher civil or criminal penalties for each violation. You may contact our office at telephone number (301) 734-8684 if you have any questions.

Sincerely,

Allison Khroustalev
Assistant Director, Enforcement
Investigative and Enforcement Services

Enclosure

cc: T. Fordahl, IES, WR
E. Kelpis, IES CO
Dr. R. Gibbens, AC, WR

APHIS:IE (b)(6), (b)(7)c *9:10/19/05:CA05004-AC Univ of CA Davis*

Investigative and Enforcement Services

Settlement Agreement

USDA, APHIS, IES
4700 River Road, Unit 85
Riverdale, MD 20737
Phone: (301) 734-8684
Fax: (301) 734-4328

RESPONDENT:
University of California-Davis
One Shields Avenue
Davis, CA 95616

CASE NUMBER CA05004-AC
DUE ON OR BEFORE November 24, 2005
CONTACT
PHONE (b)(6), (b)(7)c

DATE	CITATION	DESCRIPTION
21 AUG 04	9 CFR 3.75(a)	**Housing facilities.** Failed to maintain housing for non-human primates in good repair to protect the animals from harm. The thermostat and cut off switch were not maintained in good repair, resulting in the deaths of seven non-human primates from excessively high temperatures.
	9 CFR 3.76(a)	**Heating, cooling, and temperature.** Failed to ensure the animal housing facility was sufficiently cooled when necessary to protect non-human primates from temperature extremes and to provide for their health and well being, resulting in the deaths of seven non-human primates.

PENALTY $4,815 **TERMS**

Titles 7, 15, 19, and 21 of the United States Code authorize the Secretary of Agriculture to impose civil penalties and other sanctions to resolve violations after providing notice and opportunity for a hearing.

You may waive your right to a hearing and agree to pay the specified civil penalty in settlement of this matter. If you do not agree to the specified penalty, a complaint shall be issued charging you with the violation(s) and seeking higher penalties. You will have the opportunity for a hearing before an Administrative Law Judge to present your case.

I acknowledge that I have been given an opportunity for a hearing and waive such hearing. I neither admit nor deny the violations cited above and agree to pay the civil penalty in full settlement of this matter.

Signature of Respondent: **Date:**

PAYMENT RECORD - FOR IES USE ONLY

Payment Type	Date	Amount	Signature of IES Representative

Robert M Gibbens/CO/APHIS/USDA
10/18/2005 09:50 AM

To (b)(6), (b)(7)c
cc Kathleen.M.Garland@aphis.usda.gov@USDA,
bcc (b)(6), (b)(7)c
Subject Re: CA05004-AC Univ of CA-Davis

I concur.

TO: DCT
10-18-05
gs

Robert M. Gibbens, DVM
Director, Western Region
USDA, APHIS, Animal Care
2150 Centre Ave.
Bldg B, MS 3W11
Ft. Collins, CO 80526
970/494-7478
Janice L Sedgwick

Janice L Sedgwick
10/18/2005 05:39 AM

To: Robert M Gibbens/CO/APHIS/USDA@USDA
cc:
Subject: CA05004-AC Univ of CA-Davis

We have reviewed the subject case and will be issuing a stipulation in the amount of $4,815. If you are aware of any aggravating or mitigating factors we have not already considered in our decision, please let me know by Nov 2. If we do not hear from you, we will proceed with our planned enforcement action.

Settlement agreement and penalty worksheet are attached.

ca05004.doc ca05004-1.xls

(b)(6), (b)(7)c
USDA APHIS IES
4700 River Road, Unit 85
Riverdale, MD 20737
(b)(6), (b)(7)c
Fax: 301-734-4328

Animal Care Penalty Worksheet

(b)(2)High

(No less than $200)	Agency Stipulation Recommendation:	$4,812.50

University of California - Davis
CA05004-AC

United States Department of Agriculture

Animal and Plant Health Inspection Service

Animal Care
Western Region

2150 Centre Ave.
Building B
Mail Stop # 3W11
Ft. Collins, CO 80526
Phone: 970/494-7478
Fax: 970/494-7461

October 13, 2005

Certified Mail – Return Receipt
7004 1160 0002 7010 9734

University of California, Davis
One Shields Avenue
Davis, CA 95616

Registration # 93-R-0433
Customer # 9192
Renewal Date: September 15, 2005

Re: Certificate Cancellation
Failure to Renew

Dear Registrant:

Our records indicate that your facility has failed to submit an updated registration form, as required in the Animal Welfare Act, and is therefore in violation of the regulations.

Accordingly, you must immediately submit an updated APHIS Form 7011. However, if your facility is no longer conducting regulated activities, you need to submit a letter to this office requesting termination of your registration in lieu of the APHIS Form 7011.

Please note that if we do not receive a response within 20 days from your receipt of this letter, we will be forced to take enforcement action against your facility for failure to comply with Federal regulations.

If you have any questions about this matter, please feel free to contact this office at the above address or telephone number.

Sincerely,

Ray Flynn, DVM
Assistant Director
Western Region, Animal Care

(b)(6), (b)(7)c

Robert M Gibbens/CO/APHIS/USDA
10/05/2005 10:39 AM

To ruth.a.mcdermott@aphis.usda.gov
cc Kathleen.M.Garland@aphis.usda.gov@USDA, (b)(6), (b)(7)c
bcc
Subject Re: CA05004 - - UC Davis

The investigative report documents the deaths of 7 NHPs at UC Davis due to the overheating of the room they were housed in. The overheating was due to failure of the rooms thermostat, and the subsequent failure of the high temperature cut out switch. The animals were checked as per the facility's SOPs, which calls for twice daily checks - the morning check (8 AM) found the NHPs (note: 6 were found dead, 1 was moribund and euthanized, 1 was revived).

The following list of potential violations was included in the investigative report:

X **2.31(d)(1)(vi)** - failure of the IACUC to ensure the animal living conditions were appropriate {given that 2 systems failed (eg., thermostat and cut off switch), I don't believe we could prove this as an AWA violation}

X **2.38(k)(1)** - this section requires the facility to comply with the regs and standards unless an IACUC approved exception is in place {this section's intent is directed at IACUC approved exceptions and does not apply to the 7 NHP deaths}

3.75(a) - this section requires housing facilities to be maintained in good repair so that NHPs are contained securely therein and protected from injury - the thermostat and cut off switch were not maintained in good repair

3.76(a) - this section goes to temperature (gives max and min, and time frames)

X **3.80(a)(2)(ii) and (vi)** - primary enclosure requirements: (ii) refers to protection from injury; (vi) refers to shelter and protection from temperature extremes {3.75(a) is more applicable than 3.80 because the deaths were caused by failed systems (ie., facilities not maintained in good repair), not by the failure of the primary enclosures to protect the NHPs from injury}

UC Davis has no prior history of enforcement action. UC Davis exhibited good faith by reporting the incident to us and by taking immediate steps to ensure the problem would not recur. A stipulation for violations of **Sections 3.75(a) and 3.76(a)** is recommended.

Robert M. Gibbens, DVM
Director, Western Region
USDA, APHIS, Animal Care
2150 Centre Ave.
Bldg B, MS 3W11
Ft. Collins, CO 80526
970/494-7478

Animal and Plant Health Inspection Service
Investigative and Enforcement Services

USDA, APHIS, IES
WESTERN REGION
2150 Centre Ave.
Bldg. B-3W10
FORT COLLINS, CO 80526

(b)(6), (b)(7)c

Memorandum

***TO**: Dr. Robert Gibbens, USDA APHIS AC WR Director*
cc: Allison Khroustalev, USDA APHIS IES

***FROM**:* (b)(6), (b)(7)c

***DATE**: September 30, 2005*

***SUBJECT**: CA05004-AC*

Dr. Gibbens,

Submitted for your information is a copy of the report of violation involving University of California-Davis. The report documents violations of Title 9, CFR, Part 2 and 3, Animal Welfare Act, Regulations and Standards. On August 21, 2004, a mechanical failure occurred and resulted in the death of seven out of the eight housed nonhuman primates. The staff veterinarian who examined the animals stated the body temperature of the two live nonhuman primates found in this room was 109 degrees Fahrenheit. One of these primates was later euthanized. UCD personnel estimated the animal room to be approximately 115 degrees Fahrenheit when discovered.

If you have any questions pertaining to this investigation, please do not hesitate to phone me at (b)(6), (b)(7)c

Enclosure

UNITED STATES DEPARTMENT OF AGRICULTURE
ANIMAL PLANT HEALTH INSPECTION SERVICE
INVESTIGATIVE AND ENFORCEMENT SERVICES
WESTERN REGION
FORT COLLINS, COLORADO

REPORT OF INVESTIGATION

Violators: University of California-Davis
One Shields Ave.
Davis, CA 95616
(530)752-2364

Case Number: CA05004-AC

Violation(s): 9 CFR 2

Investigator: (b)(6), (b)(7)c
USDA, APHIS, IES
2150 Centre Ave.
Bldg. B-3W10
Fort Collins, CO 80526-8117
(b)(6), (b)(7)c

Date: September 29, 2005

SYNOPSIS

Violator: University of California-Davis is a university at which animal research is conducted. Their USDA registration number is 93-R-0433.

Previous History: The University of California-Davis (UCD) has no violation history in CITS.

Violation Events: On August 21, 2004, a catastrophic mechanical failure occurred in an UCD animal room, which resulted in the death of seven out of the eight housed nonhuman primates (*Macaca fascicularis*, aka: Rhesus macaque). The cause of the mechanical failure was the malfunction of a heat controller and a safety sensor that turns the system off when excessive temperatures are reached. The staff veterinarian who examined the animals stated the body temperature of the two live nonhuman primates found in this room was 109 degrees Fahrenheit (normal average is 98.6 degrees Fahrenheit). One of these primates was later euthanized. UCD personnel estimated the animal room to be approximately 115 degrees Fahrenheit when discovered. A report shows the HVAC equipment in this animal room is the original equipment from 1965.

EXPLANATION OF THE EVIDENCE

August 21, 2004

X 9 CFR 2.31(d)(1)(vi)

IACUC Involvement of Care and Use of Animals

University of California-Davis IACUC failed to assure the animal's living conditions were appropriate and contributed to their health and comfort, as evidenced by:

Exhibit 1- Letter from (b)(6), (b)(7)c (b)(6), (b)(7)c , indicates he notified the USDA that due to a mechanical failure, seven nonhuman primates died at UCD.

Exhibit 2 – Statement from (b)(6), (b)(7)c shows he was present when six nonhuman primates were found dead in an over heated room, which was approximately 115 degrees Fahrenheit. He stated a mechanic told him a heater malfunction was the likely cause of the over heated room.

Exhibit 3- Animal Incident Report indicates a UCD animal technician found eight nonhuman primates down while conducting animal husbandry duties. This report states six of the eight animals were dead and two nonhuman primates were still alive, however, they were in poor condition. This report states the room temperature was estimated at 115 degrees Fahrenheit when the animals were found ill/expired and the cages were very hot to the touch the day of discovery and on the following day after the incident.

Exhibit 4- Affidavit of (b)(6), (b)(7)c shows she discovered the over heated room which housed six dead nonhuman primates and two ill ones. (b)(6), (b)(7)c indicated the temperature gauge for this animal room was broke and that she had experienced other nonhuman primate rooms in that building that were excessively warm in the past.

Exhibit 5- Statement from (b)(6), (b)(7)c indicates she was notified of an over heated nonhuman primate room with primates that were 'down'. She stated upon examination of the primates, six were dead and two were alive. (b)(6), (b)(7)c ; stated the body temperature of the two live nonhuman primates was 109 degrees Fahrenheit (normal is 98.6).

Exhibit 6- Affidavit of (b)(6), (b)(7)c ; affirms seven nonhuman primates died due to a heat system malfunction in an animal room. Another nonhuman primate suffered hyperthermia, however, she survived the event.

Exhibit 7- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34276 shows the animal was found in an overheated room in a non-responsive state. This record indicates the animal's body temperature was 109 degrees Fahrenheit at time of discovery.

Exhibit 8- CPRC Request for Necropsy report shows animal number MCY34276 was diagnosed with Pulmonary Congestion.

Exhibit 9- CPRC Pathology/Necropsy Report indicates animal number MCY34276 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 10- CPRC Animal Death Record for animal MCY 34276 shows the animal was diagnosed with Pulmonary Congestion.
Exhibit 11- CRPRC-ICU Record shows animal MCY34276 was diagnosed with Hyperthermia. It also indicates this nonhuman primate had a body temperature of 105.6 degrees Fahrenheit prior to it being euthanized.
Exhibit 12- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34273 shows the animal was found dead in her cage.
Exhibit 13- CPRC Request for Necropsy report shows animal number MCY34273 was diagnosed with Pulmonary Congestion.
Exhibit 14- CPRC Pathology/Necropsy Report indicates animal number MCY34273 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 15- CPRC Animal Death Record for animal MCY 34273 shows the animal's Probable Cause of Death was hyperthermia.
Exhibit 16- CPRC Animal Death Record for animal MCY 34273 shows the animal was diagnosed with Pulmonary Congestion.
Exhibit 17- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34274 shows the animal was found dead in her cage.
Exhibit 18- CPRC Request for Necropsy report shows animal number MCY34274 was diagnosed with Pulmonary Congestion.
Exhibit 19- CPRC Pathology/Necropsy Report indicates animal number MCY34274 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 20- CPRC Animal Death Record for animal MCY 34274 shows the animal's Probable Cause of Death was hyperthermia.
Exhibit 21- CPRC Animal Death Record for animal MCY 34274 shows the animal was diagnosed with Pulmonary Congestion.
Exhibit 22- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34278 shows the animal was found dead in her cage.
Exhibit 23- CPRC Request for Necropsy report shows animal number MCY34278 was diagnosed with Pulmonary Congestion as cause of death.
Exhibit 24- CPRC Pathology/Necropsy Report indicates animal number MCY34278 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 25- CPRC Animal Death Record for animal MCY 34278 shows the animal's Probable Cause of Death was hyperthermia.
Exhibit 26- CPRC Animal Death Record for animal MCY 34278 shows the animal was diagnosed with Pulmonary Congestion.

Exhibit 27- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34279 shows the animal was found dead in her cage.
Exhibit 28- CPRC Request for Necropsy report shows animal number MCY34279 was diagnosed with Pulmonary Congestion as cause of death.
Exhibit 29- CPRC Pathology/Necropsy Report indicates animal number MCY34279 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 30- CPRC Animal Death Record for animal MCY 34279 shows the animal's Probable Cause of Death was hyperthermia.
Exhibit 31- CPRC Animal Death Record for animal MCY 34279 shows the animal was diagnosed with Pulmonary Congestion.
Exhibit 32- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34280 shows the animal was found dead in her cage.
Exhibit 33- CPRC Request for Necropsy report shows animal number MCY34280 was diagnosed with Pulmonary Congestion as cause of death.
Exhibit 34- CPRC Pathology/Necropsy Report indicates animal number MCY34280 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 35- CPRC Animal Death Record for animal MCY 34280 shows the animal's Probable Cause of Death was hyperthermia.
Exhibit 36- CPRC Animal Death Record for animal MCY 34280 shows the animal was diagnosed with Pulmonary Congestion.
Exhibit 37- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34281 shows the animal was found dead in her cage.
Exhibit 38- CPRC Request for Necropsy report shows animal number MCY34281 was found dead in her cage.
Exhibit 39- CPRC Pathology/Necropsy Report indicates animal number MCY34281 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 40- Exhibit 7- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34275 shows the animal was found in an overheated room in a minimally responsive condition. This record indicates the animal's body temperature was 109 degrees Fahrenheit at time of discovery.
Exhibit 41- CRPRC-ICU Record shows animal MCY34275 was diagnosed with Hyperthermia. It also indicates this nonhuman primate had a body temperature of 105.6 degrees Fahrenheit prior to bringing it down to 97 degrees Fahrenheit 1.5 hours later.
Exhibit 42- CRPCR Master Problem List shows animal MCY34275 was diagnosed with hyperthermia.

Exhibit 43- Statement from (b)(6), (b)(7)c (b)(6), (b)(7)c , indicates two HVAC equipment failures caused the above mentioned animal room to overheat. She stated the specific equipment that failed (control linkage and cut off switch) were original equipment installed in the facility in 1965.
Exhibit 44- Statement from (b)(6), (b)(7)c , affirms the HVAC system failed in the above mentioned animal room.
Exhibit 45- Work Order Tracking List shows UCD has had numerous excessive heat problems in many of the UCD facility animal rooms.
Exhibit 46- Interoffice Memo to USDA Dr. Bob Gibbens from USDA (b)(6), (b)(7)c (b)(6), (b)(7)c indicates he visited UCD after the incident and confirmed the above mentioned facts pertaining to the death of seven nonhuman primates.

X 2.38(k)(1)

Compliance with Standards

UCD failed to comply in all respects with the regulations set forth in subpart C of part 2, 9CFR and part 3, 9CFR for the care and housing of animals, as evidenced by:

Exhibit 1- Letter from Stan Nosek, UCD Institutional Official/Vice (b)(6), (b)(7)c , indicates he notified the USDA that due to a mechanical failure, seven nonhuman primates died at UCD.
Exhibit 2 – Statement from (b)(6), (b)(7)c , shows he was present when six nonhuman primates were found dead in an over heated room, which was approximately 115 degrees Fahrenheit. He stated a mechanic told him a heater malfunction was the likely cause of the over heated room.
Exhibit 3- Animal Incident Report indicates a UCD animal technician found eight nonhuman primates down while conducting animal husbandry duties. This report states six of the eight animals were dead and two nonhuman primates were still alive, however, they were in poor condition. This report states the room temperature was estimated at 115 degrees Fahrenheit when the animals were found ill/expired and the cages were very hot to the touch the day of discovery and on the following day after the incident.
Exhibit 4- Affidavit o (b)(6), (b)(7)c , shows she discovered the over heated room which housed six dead nonhuman primates and two ill ones. (b)(6), (b)(7)c indicated the temperature gauge for this animal room was broke and that she had experienced other nonhuman primate rooms in that building that were excessively warm in the past.
Exhibit 5- Statement from (b)(6), (b)(7)c indicates she was notified of an over heated nonhuman primate room with primates that were 'down'. She stated upon examination of the primates, six were dead and two were alive. (b)(6), (b)(7)c stated the body temperature of the two live nonhuman primates was 109 degrees Fahrenheit (normal is 98.6).
Exhibit 6- Affidavit o (b)(6), (b)(7)c affirms seven nonhuman primates died due to a heat system malfunction in an animal room. Another nonhuman primate suffered hyperthermia, however, she survived the event.

Exhibit 7- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34276 shows the animal was found in an overheated room in a non-responsive state. This record indicates the animal's body temperature was 109 degrees Fahrenheit at time of discovery.
Exhibit 8- CPRC Request for Necropsy report shows animal number MCY34276 was diagnosed with Pulmonary Congestion.
Exhibit 9- CPRC Pathology/Necropsy Report indicates animal number MCY34276 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 10- CPRC Animal Death Record for animal MCY 34276 shows the animal was diagnosed with Pulmonary Congestion.
Exhibit 11- CRPRC-ICU Record shows animal MCY34276 was diagnosed with Hyperthermia. It also indicates this nonhuman primate had a body temperature of 105.6 degrees Fahrenheit prior to it being euthanized.
Exhibit 12- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34273 shows the animal was found dead in her cage.
Exhibit 13- CPRC Request for Necropsy report shows animal number MCY34273 was diagnosed with Pulmonary Congestion.
Exhibit 14- CPRC Pathology/Necropsy Report indicates animal number MCY34273 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 15- CPRC Animal Death Record for animal MCY 34273 shows the animal's Probable Cause of Death was hyperthermia.
Exhibit 16- CPRC Animal Death Record for animal MCY 34273 shows the animal was diagnosed with Pulmonary Congestion.
Exhibit 17- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34274 shows the animal was found dead in her cage.
Exhibit 18- CPRC Request for Necropsy report shows animal number MCY34274 was diagnosed with Pulmonary Congestion.
Exhibit 19- CPRC Pathology/Necropsy Report indicates animal number MCY34274 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 20- CPRC Animal Death Record for animal MCY 34274 shows the animal's Probable Cause of Death was hyperthermia.
Exhibit 21- CPRC Animal Death Record for animal MCY 34274 shows the animal was diagnosed with Pulmonary Congestion.
Exhibit 22- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34278 shows the animal was found dead in her cage.
Exhibit 23- CPRC Request for Necropsy report shows animal number MCY34278 was diagnosed with Pulmonary Congestion as cause of death.

Exhibit 24- CPRC Pathology/Necropsy Report indicates animal number MCY34278 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 25- CPRC Animal Death Record for animal MCY 34278 shows the animal's Probable Cause of Death was hyperthermia.
Exhibit 26- CPRC Animal Death Record for animal MCY 34278 shows the animal was diagnosed with Pulmonary Congestion.
Exhibit 27- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34279 shows the animal was found dead in her cage.
Exhibit 28- CPRC Request for Necropsy report shows animal number MCY34279 was diagnosed with Pulmonary Congestion as cause of death.
Exhibit 29- CPRC Pathology/Necropsy Report indicates animal number MCY34279 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 30- CPRC Animal Death Record for animal MCY 34279 shows the animal's Probable Cause of Death was hyperthermia.
Exhibit 31- CPRC Animal Death Record for animal MCY 34279 shows the animal was diagnosed with Pulmonary Congestion.
Exhibit 32- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34280 shows the animal was found dead in her cage.
Exhibit 33- CPRC Request for Necropsy report shows animal number MCY34280 was diagnosed with Pulmonary Congestion as cause of death.
Exhibit 34- CPRC Pathology/Necropsy Report indicates animal number MCY34280 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 35- CPRC Animal Death Record for animal MCY 34280 shows the animal's Probable Cause of Death was hyperthermia.
Exhibit 36- CPRC Animal Death Record for animal MCY 34280 shows the animal was diagnosed with Pulmonary Congestion.
Exhibit 37- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34281 shows the animal was found dead in her cage.
Exhibit 38- CPRC Request for Necropsy report shows animal number MCY34281 was found dead in her cage.
Exhibit 39- CPRC Pathology/Necropsy Report indicates animal number MCY34281 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 40- Exhibit 7- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34275 shows the animal was found in an overheated room in a minimally responsive condition. This record indicates the animal's body temperature was 109 degrees Fahrenheit at time of discovery.
Exhibit 41- CRPRC-ICU Record shows animal MCY34275 was diagnosed with Hyperthermia. It also indicates this nonhuman primate had a body

temperature of 105.6 degrees Fahrenheit prior to bringing it down to 97 degrees Fahrenheit 1.5 hours later.
Exhibit 42- CRPCR Master Problem List shows animal MCY34275 was diagnosed with hyperthermia.
Exhibit 43- Statement from (b)(6), (b)(7)c (b)(6), (b)(7)c indicates two HVAC equipment failures caused the above mentioned animal room to overheat. She stated the specific equipment that failed (control linkage and cut off switch) were original equipment installed in the facility in 1965.
Exhibit 44- Statement from (b)(6), (b)(7)c affirms the HVAC system failed in the above mentioned animal room.
Exhibit 45- Work Order Tracking List shows UCD has had numerous excessive heat problems in many of the UCD facility animal rooms.
Exhibit 46- Interoffice Memo to USDA Dr. Bob Gibbens from USDA (b)(6), (b)(7)c (b)(6), (b)(7)c indicates he visited UCD after the incident and confirmed the above mentioned facts pertaining to the death of seven nonhuman primates.

3.75(a) Housing Facilities

UCD failed to assure housing for nonhuman primates protected the contained animals from harm due to a failed heating device, as evidenced by:

Exhibit 1- Letter from (b)(6), (b)(7)c (b)(6), (b)(7)c indicates he notified the USDA that due to a mechanical failure, seven nonhuman primates died at UCD.
Exhibit 2 – Statement from (b)(6), (b)(7)c , shows he was present when six nonhuman primates were found dead in an over heated room, which was approximately 115 degrees Fahrenheit. He stated a mechanic told him a heater malfunction was the likely cause of the over heated room.
Exhibit 3- Animal Incident Report indicates a UCD animal technician found eight nonhuman primates down while conducting animal husbandry duties. This report states six of the eight animals were dead and two nonhuman primates were still alive, however, they were in poor condition. This report states the room temperature was estimated at 115 degrees Fahrenheit when the animals were found ill/expired and the cages were very hot to the touch the day of discovery and on the following day after the incident.
Exhibit 4- Affidavit of (b)(6), (b)(7)c shows she discovered the over heated room which housed six dead nonhuman primates and two ill ones. (b)(6), (b)(7)c indicated the temperature gauge for this animal room was broke and that she had experienced other nonhuman primate rooms in that building that were excessively warm in the past.
Exhibit 5- Statement from (b)(6), (b)(7)c indicates she was notified of an over heated nonhuman primate room with primates that were 'down'. She stated upon examination of the primates, six were dead and two were alive. (b)(6), (b)(7)c stated the body temperature of the two live nonhuman primates was 109 degrees Fahrenheit (normal is 98.6).

Exhibit 6- Affidavit of (b)(6), (b)(7)c affirms seven nonhuman primates died due to a heat system malfunction in an animal room. Another nonhuman primate suffered hyperthermia, however, she survived the event.
Exhibit 7- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34276 shows the animal was found in an overheated room in a non-responsive state. This record indicates the animal's body temperature was 109 degrees Fahrenheit at time of discovery.
Exhibit 8- CPRC Request for Necropsy report shows animal number MCY34276 was diagnosed with Pulmonary Congestion.
Exhibit 9- CPRC Pathology/Necropsy Report indicates animal number MCY34276 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 10- CPRC Animal Death Record for animal MCY 34276 shows the animal was diagnosed with Pulmonary Congestion.
Exhibit 11- CRPRC-ICU Record shows animal MCY34276 was diagnosed with Hyperthermia. It also indicates this nonhuman primate had a body temperature of 105.6 degrees Fahrenheit prior to it being euthanized.
Exhibit 12- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34273 shows the animal was found dead in her cage.
Exhibit 13- CPRC Request for Necropsy report shows animal number MCY34273 was diagnosed with Pulmonary Congestion.
Exhibit 14- CPRC Pathology/Necropsy Report indicates animal number MCY34273 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 15- CPRC Animal Death Record for animal MCY 34273 shows the animal's Probable Cause of Death was hyperthermia.
Exhibit 16- CPRC Animal Death Record for animal MCY 34273 shows the animal was diagnosed with Pulmonary Congestion.
Exhibit 17- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34274 shows the animal was found dead in her cage.
Exhibit 18- CPRC Request for Necropsy report shows animal number MCY34274 was diagnosed with Pulmonary Congestion.
Exhibit 19- CPRC Pathology/Necropsy Report indicates animal number MCY34274 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 20- CPRC Animal Death Record for animal MCY 34274 shows the animal's Probable Cause of Death was hyperthermia.
Exhibit 21- CPRC Animal Death Record for animal MCY 34274 shows the animal was diagnosed with Pulmonary Congestion.
Exhibit 22- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34278 shows the animal was found dead in her cage.
Exhibit 23- CPRC Request for Necropsy report shows animal number MCY34278 was diagnosed with Pulmonary Congestion as cause of death.

Exhibit 24- CPRC Pathology/Necropsy Report indicates animal number MCY34278 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 25- CPRC Animal Death Record for animal MCY 34278 shows the animal's Probable Cause of Death was hyperthermia.
Exhibit 26- CPRC Animal Death Record for animal MCY 34278 shows the animal was diagnosed with Pulmonary Congestion.
Exhibit 27- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34279 shows the animal was found dead in her cage.
Exhibit 28- CPRC Request for Necropsy report shows animal number MCY34279 was diagnosed with Pulmonary Congestion as cause of death.
Exhibit 29- CPRC Pathology/Necropsy Report indicates animal number MCY34279 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 30- CPRC Animal Death Record for animal MCY 34279 shows the animal's Probable Cause of Death was hyperthermia.
Exhibit 31- CPRC Animal Death Record for animal MCY 34279 shows the animal was diagnosed with Pulmonary Congestion.
Exhibit 32- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34280 shows the animal was found dead in her cage.
Exhibit 33- CPRC Request for Necropsy report shows animal number MCY34280 was diagnosed with Pulmonary Congestion as cause of death.
Exhibit 34- CPRC Pathology/Necropsy Report indicates animal number MCY34280 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 35- CPRC Animal Death Record for animal MCY 34280 shows the animal's Probable Cause of Death was hyperthermia.
Exhibit 36- CPRC Animal Death Record for animal MCY 34280 shows the animal was diagnosed with Pulmonary Congestion.
Exhibit 37- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34281 shows the animal was found dead in her cage.
Exhibit 38- CPRC Request for Necropsy report shows animal number MCY34281 was found dead in her cage.
Exhibit 39- CPRC Pathology/Necropsy Report indicates animal number MCY34281 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 40- Exhibit 7- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34275 shows the animal was found in an overheated room in a minimally responsive condition. This record indicates the animal's body temperature was 109 degrees Fahrenheit at time of discovery.
Exhibit 41- CRPRC-ICU Record shows animal MCY34275 was diagnosed with Hyperthermia. It also indicates this nonhuman primate had a body

temperature of 105.6 degrees Fahrenheit prior to bringing it down to 97 degrees Fahrenheit 1.5 hours later.
Exhibit 42- CRPCR Master Problem List shows animal MCY34275 was diagnosed with hyperthermia.
Exhibit 43- Statement from (b)(6), (b)(7)c (b)(6), (b)(7)c indicates two HVAC equipment failures caused the above mentioned animal room to overheat. She stated the specific equipment that failed (control linkage and cut off switch) were original equipment installed in the facility in 1965.
Exhibit 44- Statement from (b)(6), (b)(7)c affirms the HVAC system failed in the above mentioned animal room.
Exhibit 45- Work Order Tracking List shows UCD has had numerous excessive heat problems in many of the UCD facility animal rooms.
Exhibit 46- Interoffice Memo to USDA Dr. Bob Gibbens from USDA (b)(6), (b)(7)c (b)(6), (b)(7)c indicates he visited UCD after the incident and confirmed the above mentioned facts pertaining to the death of seven nonhuman primates.

3.76(a) Heating/Temperature

UCD failed to ensure the animal housing facility was sufficiently cooled when necessary to protect nonhuman primates from temperature extremes and to provide for their health and well-being, as evidenced by:

Exhibit 1- Letter from (b)(6), (b)(7)c (b)(6), (b)(7)c , indicates he notified the USDA that due to a mechanical failure, seven nonhuman primates died at UCD.
Exhibit 2 – Statement from (b)(6), (b)(7)c shows he was present when six nonhuman primates were found dead in an over heated room, which was approximately 115 degrees Fahrenheit. He stated a mechanic told him a heater malfunction was the likely cause of the over heated room.
Exhibit 3- Animal Incident Report indicates a UCD animal technician found eight nonhuman primates down while conducting animal husbandry duties. This report states six of the eight animals were dead and two nonhuman primates were still alive, however, they were in poor condition. This report states the room temperature was estimated at 115 degrees Fahrenheit when the animals were found ill/expired and the cages were very hot to the touch the day of discovery and on the following day after the incident.
Exhibit 4- Affidavit of (b)(6), (b)(7)c , shows she discovered the over heated room which housed six dead nonhuman primates and two ill ones. (b)(6), (b)(7)c indicated the temperature gauge for this animal room was broke and that she had experienced other nonhuman primate rooms in that building that were excessively warm in the past.
Exhibit 5- Statement from (b)(6), (b)(7)c indicates she was notified of an over heated nonhuman primate room with primates that were 'down'. She stated upon examination of the primates, six

were dead and two were alive. (b)(6), (b)(7)c stated the body temperature of the two live nonhuman primates was 109 degrees Fahrenheit (normal is 98.6).
Exhibit 6- Affidavit of (b)(6), (b)(7)c affirms seven nonhuman primates died due to a heat system malfunction in an animal room. Another nonhuman primate suffered hyperthermia, however, she survived the event.
Exhibit 7- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34276 shows the animal was found in an overheated room in a non-responsive state. This record indicates the animal's body temperature was 109 degrees Fahrenheit at time of discovery.
Exhibit 8- CPRC Request for Necropsy report shows animal number MCY34276 was diagnosed with Pulmonary Congestion.
Exhibit 9- CPRC Pathology/Necropsy Report indicates animal number MCY34276 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 10- CPRC Animal Death Record for animal MCY 34276 shows the animal was diagnosed with Pulmonary Congestion.
Exhibit 11- CRPRC-ICU Record shows animal MCY34276 was diagnosed with Hyperthermia. It also indicates this nonhuman primate had a body temperature of 105.6 degrees Fahrenheit prior to it being euthanized.
Exhibit 12- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34273 shows the animal was found dead in her cage.
Exhibit 13- CPRC Request for Necropsy report shows animal number MCY34273 was diagnosed with Pulmonary Congestion.
Exhibit 14- CPRC Pathology/Necropsy Report indicates animal number MCY34273 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 15- CPRC Animal Death Record for animal MCY 34273 shows the animal's Probable Cause of Death was hyperthermia.
Exhibit 16- CPRC Animal Death Record for animal MCY 34273 shows the animal was diagnosed with Pulmonary Congestion.
Exhibit 17- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34274 shows the animal was found dead in her cage.
Exhibit 18- CPRC Request for Necropsy report shows animal number MCY34274 was diagnosed with Pulmonary Congestion.
Exhibit 19- CPRC Pathology/Necropsy Report indicates animal number MCY34274 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 20- CPRC Animal Death Record for animal MCY 34274 shows the animal's Probable Cause of Death was hyperthermia.
Exhibit 21- CPRC Animal Death Record for animal MCY 34274 shows the animal was diagnosed with Pulmonary Congestion.
Exhibit 22- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34278 shows the animal was found dead in her cage.

Exhibit 23- CPRC Request for Necropsy report shows animal number MCY34278 was diagnosed with Pulmonary Congestion as cause of death.
Exhibit 24- CPRC Pathology/Necropsy Report indicates animal number MCY34278 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 25- CPRC Animal Death Record for animal MCY 34278 shows the animal's Probable Cause of Death was hyperthermia.
Exhibit 26- CPRC Animal Death Record for animal MCY 34278 shows the animal was diagnosed with Pulmonary Congestion.
Exhibit 27- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34279 shows the animal was found dead in her cage.
Exhibit 28- CPRC Request for Necropsy report shows animal number MCY34279 was diagnosed with Pulmonary Congestion as cause of death.
Exhibit 29- CPRC Pathology/Necropsy Report indicates animal number MCY34279 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 30- CPRC Animal Death Record for animal MCY 34279 shows the animal's Probable Cause of Death was hyperthermia.
Exhibit 31- CPRC Animal Death Record for animal MCY 34279 shows the animal was diagnosed with Pulmonary Congestion.
Exhibit 32- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34280 shows the animal was found dead in her cage.
Exhibit 33- CPRC Request for Necropsy report shows animal number MCY34280 was diagnosed with Pulmonary Congestion as cause of death.
Exhibit 34- CPRC Pathology/Necropsy Report indicates animal number MCY34280 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 35- CPRC Animal Death Record for animal MCY 34280 shows the animal's Probable Cause of Death was hyperthermia.
Exhibit 36- CPRC Animal Death Record for animal MCY 34280 shows the animal was diagnosed with Pulmonary Congestion.
Exhibit 37- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34281 shows the animal was found dead in her cage.
Exhibit 38- CPRC Request for Necropsy report shows animal number MCY34281 was found dead in her cage.
Exhibit 39- CPRC Pathology/Necropsy Report indicates animal number MCY34281 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 40- Exhibit 7- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34275 shows the animal was found in an overheated room in a minimally responsive condition. This record indicates the animal's body temperature was 109 degrees Fahrenheit at time of discovery.

Exhibit 41- CRPRC-ICU Record shows animal MCY34275 was diagnosed with Hyperthermia. It also indicates this nonhuman primate had a body temperature of 105.6 degrees Fahrenheit prior to bringing it down to 97 degrees Fahrenheit 1.5 hours later.
Exhibit 42- CRPCR Master Problem List shows animal MCY34275 was diagnosed with hyperthermia.
Exhibit 43- Statement from (b)(6), (b)(7)c (b)(6), (b)(7)c , indicates two HVAC equipment failures caused the above mentioned animal room to overheat. She stated the specific equipment that failed (control linkage and cut off switch) were original equipment installed in the facility in 1965.
Exhibit 44- Statement from (b)(6), (b)(7)c affirms the HVAC system failed in the above mentioned animal room.
Exhibit 45- Work Order Tracking List shows UCD has had numerous excessive heat problems in many of the UCD facility animal rooms.
Exhibit 46- Interoffice Memo to USDA Dr. Bob Gibbens from USDA (b)(6), (b)(7)c (b)(6), (b)(7)c indicates he visited UCD after the incident and confirmed the above mentioned facts pertaining to the death of seven nonhuman primates.

3.80(a)(2)(ii)
3.76(a) 3.80(a)(2)(vi)

Primary Enclosure

UCD failed to ensure the metal primary enclosures which contained nonhuman primates, protected them from injury and extreme temperatures, as evidenced by:

Exhibit 1- Letter from (b)(6), (b)(7)c (b)(6), (b)(7)c , indicates he notified the USDA that due to a mechanical failure, seven nonhuman primates died at UCD.
Exhibit 2 – Statement from (b)(6), (b)(7)c , shows he was present when six nonhuman primates were found dead in an over heated room, which was approximately 115 degrees Fahrenheit. He stated a mechanic told him a heater malfunction was the likely cause of the over heated room.
Exhibit 3- Animal Incident Report indicates a UCD animal technician found eight nonhuman primates down while conducting animal husbandry duties. This report states six of the eight animals were dead and two nonhuman primates were still alive, however, they were in poor condition. This report states the room temperature was estimated at 115 degrees Fahrenheit when the animals were found ill/expired and the cages were very hot to the touch the day of discovery and on the following day after the incident.
Exhibit 4- Affidavit of (b)(6), (b)(7)c , shows she discovered the over heated room which housed six dead nonhuman primates and two ill ones (b)(6), (b)(7)c indicated the temperature gauge for this animal room was broke and that she had experienced other nonhuman primate rooms in that building that were excessively warm in the past.

Exhibit 5- Statement from (b)(6), (b)(7)c indicates she was notified of an over heated nonhuman primate room with primates that were 'down'. She stated upon examination of the primates, six were dead and two were alive. (b)(6), (b)(7)c stated the body temperature of the two live nonhuman primates was 109 degrees Fahrenheit (normal is 98.6).
Exhibit 6- Affidavit of (b)(6), (b)(7)c affirms seven nonhuman primates died due to a heat system malfunction in an animal room. Another nonhuman primate suffered hyperthermia, however, she survived the event.
Exhibit 7- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34276 shows the animal was found in an overheated room in a non-responsive state. This record indicates the animal's body temperature was 109 degrees Fahrenheit at time of discovery.
Exhibit 8- CPRC Request for Necropsy report shows animal number MCY34276 was diagnosed with Pulmonary Congestion.
Exhibit 9- CPRC Pathology/Necropsy Report indicates animal number MCY34276 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 10- CPRC Animal Death Record for animal MCY 34276 shows the animal was diagnosed with Pulmonary Congestion.
Exhibit 11- CRPRC-ICU Record shows animal MCY34276 was diagnosed with Hyperthermia. It also indicates this nonhuman primate had a body temperature of 105.6 degrees Fahrenheit prior to it being euthanized.
Exhibit 12- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34273 shows the animal was found dead in her cage.
Exhibit 13- CPRC Request for Necropsy report shows animal number MCY34273 was diagnosed with Pulmonary Congestion.
Exhibit 14- CPRC Pathology/Necropsy Report indicates animal number MCY34273 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 15- CPRC Animal Death Record for animal MCY 34273 shows the animal's Probable Cause of Death was hyperthermia.
Exhibit 16- CPRC Animal Death Record for animal MCY 34273 shows the animal was diagnosed with Pulmonary Congestion.
Exhibit 17- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34274 shows the animal was found dead in her cage.
Exhibit 18- CPRC Request for Necropsy report shows animal number MCY34274 was diagnosed with Pulmonary Congestion.
Exhibit 19- CPRC Pathology/Necropsy Report indicates animal number MCY34274 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 20- CPRC Animal Death Record for animal MCY 34274 shows the animal's Probable Cause of Death was hyperthermia.
Exhibit 21- CPRC Animal Death Record for animal MCY 34274 shows the animal was diagnosed with Pulmonary Congestion.

Exhibit 22- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34278 shows the animal was found dead in her cage.
Exhibit 23- CPRC Request for Necropsy report shows animal number MCY34278 was diagnosed with Pulmonary Congestion as cause of death.
Exhibit 24- CPRC Pathology/Necropsy Report indicates animal number MCY34278 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 25- CPRC Animal Death Record for animal MCY 34278 shows the animal's Probable Cause of Death was hyperthermia.
Exhibit 26- CPRC Animal Death Record for animal MCY 34278 shows the animal was diagnosed with Pulmonary Congestion.
Exhibit 27- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34279 shows the animal was found dead in her cage.
Exhibit 28- CPRC Request for Necropsy report shows animal number MCY34279 was diagnosed with Pulmonary Congestion as cause of death.
Exhibit 29- CPRC Pathology/Necropsy Report indicates animal number MCY34279 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 30- CPRC Animal Death Record for animal MCY 34279 shows the animal's Probable Cause of Death was hyperthermia.
Exhibit 31- CPRC Animal Death Record for animal MCY 34279 shows the animal was diagnosed with Pulmonary Congestion.
Exhibit 32- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34280 shows the animal was found dead in her cage.
Exhibit 33- CPRC Request for Necropsy report shows animal number MCY34280 was diagnosed with Pulmonary Congestion as cause of death.
Exhibit 34- CPRC Pathology/Necropsy Report indicates animal number MCY34280 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 35- CPRC Animal Death Record for animal MCY 34280 shows the animal's Probable Cause of Death was hyperthermia.
Exhibit 36- CPRC Animal Death Record for animal MCY 34280 shows the animal was diagnosed with Pulmonary Congestion.
Exhibit 37- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34281 shows the animal was found dead in her cage.
Exhibit 38- CPRC Request for Necropsy report shows animal number MCY34281 was found dead in her cage.
Exhibit 39- CPRC Pathology/Necropsy Report indicates animal number MCY34281 died of severe pulmonary congestion and alveolar edema, due to exposure to hyperthermia.
Exhibit 40- Exhibit 7- California Primate Research Center (CPRC) Animal Record for nonhuman primate number 34275 shows the animal was found in

an overheated room in a minimally responsive condition. This record indicates the animal's body temperature was 109 degrees Fahrenheit at time of discovery.

Exhibit 41- CRPRC-ICU Record shows animal MCY34275 was diagnosed with Hyperthermia. It also indicates this nonhuman primate had a body temperature of 105.6 degrees Fahrenheit prior to bringing it down to 97 degrees Fahrenheit 1.5 hours later.

Exhibit 42- CRPCR Master Problem List shows animal MCY34275 was diagnosed with hyperthermia.

Exhibit 43- Statement from (b)(6), (b)(7)c (b)(6), (b)(7)c , indicates two HVAC equipment failures caused the above mentioned animal room to overheat. She stated the specific equipment that failed (control linkage and cut off switch) were original equipment installed in the facility in 1965.

Exhibit 44- Statement from (b)(6), (b)(7)c , affirms the HVAC system failed in the above mentioned animal room.

Exhibit 45- Work Order Tracking List shows UCD has had numerous excessive heat problems in many of the UCD facility animal rooms.

Exhibit 46- Interoffice Memo to USDA Dr. Bob Gibbens from USDA (b)(6), (b)(7)c (b)(6), (b)(7)c indicates he visited UCD after the incident and confirmed the above mentioned facts pertaining to the death of seven nonhuman primates.

OTHER EVIDENCE

Exhibit 47- USDA APHIS Annual Report of Research Facility, dated 10/16/02, indicates by signing this form, UCD acknowledged and agreed to comply with the Animal Welfare Act during the time period of the above mentioned incident.

Exhibit 48- USDA Animal Care License shows UCD is a registered facility to practice animal use research.

Exhibit 49- USDA APHIS Annual Report of Research Facility, dated 12/01/04, shows UCD is currently registered with the USDA.

Exhibit 50- Protocol 10162 indicates the nonhuman primates mentioned in this case were research animals at UCD.

Exhibit 51- UCD Laboratory Animal Monthly Care Record for animal room (b)(2)High, (b)(7)f (subject room housing subject animals) indicates the check off list was prematurely initialed prior to attending to the duties listed on this document. (b)(6), (b)(7)c admits in her affidavit to checking off the items prior to conducting the listed duty (Exhibit 4).

Exhibit 52- Maintenance Record indicates the subject building housing the subject nonhuman primates was checked at 5:55 a.m. on 8/21/04, and all appeared to be fine. However, (b)(6), (b)(7)c states in her affidavit that when she examined the subject nonhuman primates at approximately 9:30 a.m., the animals were in a rigor mortis condition, which takes approximately 3-12 hours to set in an animal (Exhibit 6).

Exhibit 53- Internet Information indicates the subject nonhuman primates, *Macaca mulatto* (Rhesus macaque) has a normal body temperature between 36-40 degrees Celsius (96.8 and 104 degrees Fahrenheit).

Exhibit 54- Internet Information shows hyperthermia is an acute condition resulting from the body absorbing more heat than it can dissipate, usually due to excessive heat exposure. It shows body temperatures above 104 degrees Fahrenheit are life threatening and can cause organ failure.

Exhibit 55- Internet Information indicates Pulmonary Edema (pulmonary congestion) is a manifestation of Congestive Heart Failure.

EXHIBIT LIST

Exhibit 1- Letter of notification from (b)(6), (b)(7)c dated 9/14/04
Exhibit 2- Statement from (b)(6), (b)(7)c dated 12/15/04
Exhibit 3- Animal Incident Report, dated 8/21/04
Exhibit 4- Affidavit of (b)(6), (b)(7)c , dated 1/24/05
Exhibit 5- Statement from (b)(6), (b)(7)c , dated 12/15/04
Exhibit 6- Affidavit of (b)(6), (b)(7)c dated 12/16/04
Exhibit 7- CPRC Animal Record, dated 6/3/02-8/21/04
Exhibit 8- CPRC Necropsy Request, dated 8/21/04
Exhibit 9- Pathology: Necropsy Report, dated 8/25/04
Exhibit 10- Animal Death Record, dated 8/21/04
Exhibit 11- CRPRC ICU Record, dated 8/21/04
Exhibit 12- CPRC Animal Record, dated 5/30/02-8/21/04
Exhibit 13- CPRC Necropsy Request, dated 8/21/04
Exhibit 14- Pathology: Necropsy Report, dated 8/25/04
Exhibit 15- Animal Death Record, dated 8/21/04
Exhibit 16- Animal Death Record, dated 8/21/04
Exhibit 17- CPRC Animal Record, dated 6/30/02-8/21/04
Exhibit 18- CPRC Necropsy Request, dated 8/21/04
Exhibit 19- Pathology: Necropsy Report, dated 8/25/04
Exhibit 20- Animal Death Record, dated 8/21/04
Exhibit 21- Animal Death Record, dated 8/21/04
Exhibit 22- CPRC Animal Record, dated 6/3/02-8/21/04
Exhibit 23- CPRC Necropsy Request, dated 8/21/04
Exhibit 24- Pathology: Necropsy Report, dated 8/25/04
Exhibit 25- Animal Death Record, dated 8/21/04
Exhibit 26- Animal Death Record, dated 8/21/04
Exhibit 27- CPRC Animal Record, dated 6/3/02-8/21/04
Exhibit 28- CPRC Necropsy Request, dated 8/21/04
Exhibit 29- Pathology: Necropsy Report, dated 8/25/04
Exhibit 30- Animal Death Record, dated 8/21/04
Exhibit 31- Animal Death Record, dated 8/21/04
Exhibit 32- CPRC Animal Record, dated 6/3/02-8/21/04
Exhibit 33- CPRC Necropsy Request, dated 8/21/04
Exhibit 34- Pathology: Necropsy Report, dated 8/25/04
Exhibit 35- Animal Death Record, dated 8/21/04
Exhibit 36- Animal Death Record, dated 8/21/04
Exhibit 37- CPRC Animal Record, dated 5/30/02-8/21/04
Exhibit 38- CPRC Necropsy Request, dated 8/21/04
Exhibit 39- Pathology: Necropsy Report, dated 8/25/05
Exhibit 40- CPRC Animal Record, dated 6/3/02-11/30/04
Exhibit 41- CRPRC-ICU Record, date 8/21/04
Exhibit 42- Master Problem List, dated 8/21/04-9/17/04
Exhibit 43- Summary of FO&M Events, dated 9/10/04

Exhibit 44- Statement from (b)(6), (b)(7)c , undated
Exhibit 45- Work Order Tracking List, dated 12/14/04
Exhibit 46- Interoffice Memo, dated 8/25/04
Exhibit 47- USDA Application for Registration, dated 10/16/02
Exhibit 48- USDA APHIS Animal Care License, expiration date 9/15/05
Exhibit 49- USDA Annual Report of Research Facility, dated 12/1/04
Exhibit 50- UCD Protocol for Animal Use and Care, dated 7/3/04
Exhibit 51- Laboratory Animal Monthly Care Record, dated 8/04
Exhibit 52- (b)(2)High, (b)(7)f Maintenance Log, dated 8/04
Exhibit 53- Internet Information on Primate Body Temperatures, dated 9/27/05
Exhibit 54- Internet Information on Hyperthermia, dated 9/27/05

WITNESS LIST

(b)(6), (b)(7)c

(b)(6), (b)(7)c

93-R-0433
9192

UNIVERSITY OF CALIFORNIA, DAVIS

BERKELEY • DAVIS • IRVINE • LOS ANGELES • MERCED • RIVERSIDE • SAN DIEGO • SAN FRANCISCO SANTA BARBARA • SANTA CRUZ

LARRY N. VANDERHOEF
Chancellor at Davis

STAN NOSEK
Vice Chancellor – Administration

OFFICE OF THE VICE CHANCELLOR – ADMINISTRATION
ONE SHIELDS AVENUE
DAVIS, CALIFORNIA 95616-8540

September 14, 2004

Kathy Garland, DVM
Area Supervisor, Western Region, Animal Care
Mail Stop #3W11
2150 Centre Ave., Building B
Fort Collins, CO 80526-8117

RE: ~~Registration 93-R-0433~~
Primate Fatalities

Dr. Garland,

On August 21, 2004 at approximately 8:30 a.m. an animal care technician discovered a catastrophic mechanical failure, which resulted in the death of seven nonhuman primates (*Macaca fascicularis*). The cause of the mechanical failure was a malfunctioning controller, which continually called for heat, *and* a malfunctioned safety sensor that turns the system off when excessive temperature are reached.

These animals are monitored routinely twice a day by the animal care staff, at approximately 8:30 a.m. and again at 3:00 p.m. During this time of monitoring the animal care staff checks the well being of the animals, feed, water, and environmental conditions. In addition, the mechanical system is frequently monitored by the night facilities crew. On August 21, 2004 the system was checked at 5:55 a.m. and no abnormalities were noted. At approximately 8:30 a.m., six animals were found dead in their cage. The two surviving animals were treated by the veterinary staff. One was euthanized and the other has recovered.

The building that housed these animals also housed an additional 24 nonhuman primates and they have all been relocated to the California National Primate Research Center. The rooms housing the additional animals are on a separate HVAC system, which was operating normally. Nonetheless, as a precautionary measure these rooms have been closed for housing animals until upgrades or environmental monitors can be put in place.

Sincerely,

(b)(6), (b)(7)c

tf

cc:

(b)(6), (b)(7)c

SEP 2 0 2004

GOVERNMENT EXHIBIT 1
Page 1 of 1
APHIS FORM 7070 (MAR 95)

(b)(6), (b)(7)c **04:04 PM 8/21/2004, ARS**

To: (b)(6), (b)(7)c
From (b)(6), (b)(7)c
Subject: ARS
Cc: (b)(6), (b)(7)c
Bcc:
Attached:

As you know there was a room at the (b)(2)High, (b)(7)f had an extremely elevated temperature. Because the temp was so high a number of animals died. I want to give you my account of what happened. (b)(6), (b)(7)c went to perform the morning heath check, feeding and cleaning at approx 8:00. I received a 911 page from therapeutics at 9:05. I was in an experiment at the time (BBA53), and I wasn't able to get to a phone right away. Shortly after I got the page (b)(6), (b)(7)c called me on the radio and told me that (b)(6), (b)(7)c had just come back from (b)(2)High, (b)(7)f and she said that a (b)(2)High, (b)(7)f was very hot and that the animals were all down in there cages (b)(6), (b)(7)c had paged the on call vet, (b)(6), (b)(7)c , who said she would meet me over at (b)(2)High, (b)(7)f Because of the timed blood draws I wasn't able to leave right away, so (b)(6), (b)(7)c went back to meet the Vet. When they went in the room to evaluate the condition of the animals there were six dead and two alive still. They rushed the two that were alive back here to therapeutics for treatment. The vet staff was able to bring the animals temps down and gave both animals fluids. One of the animals was unresponsive to any kind of stimulus and ultimately had to be euthanized. The other animal responded well to treatment and was moved to (b)(2)High, (b)(7)f Tang and water bottles were put up for her drink and therapeutics will monitor her. While the vet staff were treating the two animals that were still alive I called physical plant to inform that about the temp in the room (approx 115 by the vet's judgement), and then I went over to collect the dead animals. I had to bring the animals out to the anteroom to place them in bags because the room was to hot to stay in. When I came out of the room into the hall a physical plant tech (I didn't get his name) came in. I'm not sure if (b)(6), (b)(7)c called physical plant before I did but he was informed already that a number of animals had died from the heat. He told me that everything there mechanically was working correctly. He said that the compressor was on and working, and that because everything was working on top that it had to be because of a control problem that the room was so hot. He said that the heater probably got stuck on. He asked me what time our technician had gone through the rooms. I told him that she had gone through at approx 8:30. He then told me that he had a guy over there checking the compressors and other things at 6:00. He then said he would talk to the other physical plant technician to find out if there were any problems at 6:00. He asked if we were going to put animals back in the room right away or not. I told him that we of course were not. He then said he would put a work order in for Monday morning to get someone to fix the problem. I asked him how confident he was that there wouldn't be a problem with any of the other rooms and he said he was sure the other rooms would be fine. He had his guys check the temps of each room from on top of the building and that was the only room that was hot. I asked him how hot the room actually was, he said it was 115 degrees. I then finished bagging the rest of the animals and brought them back to the CNPRC and weighed them and placed them in the necropsy cold storage locker.

The animal number are as follows:
Dead
MCY 34278 wt 5.87kg
MCY 34279 wt 7.31kg
MCY 34273 wt 2.88kg

GOVERNMENT EXHIBIT 9
Page 1 of 2
APHIS FORM 7070 (MAR 95)

MCY 34274 wt 4.33kg
MCY 34280 wt 2.34kg
MCY 34281 wt 4.50kg

All weights are after the animals were in black bags.

Euthanized
MCY 34276 wt 3.51kg

Alive
MCY 34275

If you have any questions please call me. (b)(6), (b)(7)c

(b)(6), (b)(7)c

California National Primate Research Center

Tel: (530)752-1641

California National Primate Research Center

Animal Incident Report
August 21, 2004
Location: CLAS – ARDF-3
Prepared by: (b)(6), (b)(7)c

Background:
The Primate Center rents 6 rooms in the building (b)(2)High, (b)(7)f These rooms are used as swing space. The animals housed in this location are not on active research projects. On the date of this occurrence there were a total of 40 cynomolgus macaques housed in this location. Each room holds a maximum of 12 animals. The Primate Center has housed animals in this location since 2002. Animal technicians from the Primate Center attend to the animals a minimum of 2 times per day. In the morning between 8:00am and 9:00am animals are checked as part of routine morning health procedures. Technicians also feed the animals and clean the room and cages. Environmental enrichment is also provided in the morning. In the afternoon between 2:00pm and 3:00pm, technicians return to check the animals and provide afternoon feeding.

Saturday August 21, 2004:

8:00 – 8:30am: The weekend animal technician assigned to the this area arrived at (b)(2)High, (b)(7)f to perform routine morning care. Upon entering room 3 she noted that the room was extremely hot and that all of the animals (n=8) were down in their cages. She exited the room and immediately contacted the AHT in Therapeutics and the on-call vet, Dr. (b)(6), (b)(7)c , was called. Two technicians me (b)(6), (b)(7)c at room (b)(2)High, (b)(7)f proceeded to enter the room and evaluate the animals. (See attached veterinary report). The five other rooms in the building were not out of normal temperature range.

The 2 animals that were still alive were transported back to the Primate Center by the veterinarian, and provided with emergency treatment.

Th (b)(6), (b)(7)c r for Animal Car (b)(6), (b)(7)c t, was notified by the therapeutics technician of the incident (b)(6), (b)(7)c proceeded to call Physical Plant to report the high temp in the room and request that they check the remaining rooms. He returned to (b)(2)High, (b)(7)f at approximately 10:00am to handle the animals that had expire (b)(6), (b)(7)c reported that the room was still very hot, estimated to be approximately 115 degrees by the Physical Plant technician that was checking the building. The expired animals (n=6) were bagged and returned to the Primate Center for evaluatio (b)(6), (b)(7)c t checked the remaining rooms to verify that the temperature was within normal range.

GOVERNMENT EXHIBIT 3
Page 1 of 2
APHIS FORM 7070 (MAR 95)

10:00am:
Meeting with (b)(6), (b)(7)c
The decision was made that the remaining animals at (b)(2)High, (b)(7)f should be moved back to the Primate Center. Several animal care supervisors were called in, rooms in the Primate Center quarantine building were caged and the remaining 32 animals were transported back to the Primate Center by noon.

Sunday August 22, 2004:

(b)(6), (b)(7)c returned to (b)(2)High, (b)(7)f ; Sunday morning to clean the rooms and begin to remove cages. She reported (b)(2)High, (b)(7)f being so hot that she could not enter the room for more then 5 minutes at a time. Cages were still too hot to be removed.

Reports attached:

Veterinary report
Necropsy report – (b)(6), (b)(7)c

August 29, 2004

GOVERNMENT EXHIBIT 3
Page 2 of 2
APHIS FORM 7070 (MAR 90)

AFFIDAVIT

I, (b)(6), (b)(7)c being duly sworn on oath make the following statement:

To (b)(6), (b)(7)c , who I know to be an Investigator for the United States Department of Agriculture. I affirm, under oath that the following statement is true and correct, and is provided under my own free will.

I am an (b)(6), (b)(7)c employed at the University of California-Davis California National Primate Research Center (CNPRC). I can be contacted through (b)(6), (b)(7)c (b)(6), (b)(7)c , at the above mentioned facility in Davis, CA, 95616, (b)(6), (b)(7)c

In reference to an incident that occurred on Saturday, August 21, 2004, in which 7 cynomologus macaques died, these are the events that occurred as I recall:

At approximately 8:00 a.m., I arrived at (b)(2)High, (b)(7)f located at the University of California-Davis, (b)(2)High, (b)(7)f Davis, CA. for routine cleaning and feeding of the housed non-human primates. Prior to going into (b)(2)High, (b)(7)f I signed off on the Laboratory Animal Monthly Care Record checklist, as I didn't anticipate any problems. When I opened the door into the animal room, it felt extremely warm to the touch. As I walked in the room, I noticed that the room was extremely hot and all of the animals were down in their cages. I exited the room immediately and drove back to the (CNPRC) which is approximately 4 miles from the (b)(2)High, (b)(7)f I did not call for help from ARC, as it was a Saturday and no offices were open, the building didn't have an accessible telephone and our cell phones were taken away from all technicians due to misuse of the telephones by some technicians.

(b)(6), (b)(7)c

SIGNATURE OF AFFIANT

Subscribed and sworn to before me at _____ (b)(6), (b)(7)c
on this 24th day of January, 2005.

GOVERNMENT EXHIBIT 4
Page 1 of 2
APHIS FORM 7070 (MAR 96)

DESIGNATED PURSUANT TO 7 U.S.C. 2217 TO ADMINISTER OATHS, AFFIDAVITS, AND AFFIRMATIONS, AUTHORITY NO:

Encl 1

AFFIDAVIT

I, (b)(6), (b)(7)c being duly sworn on oath make the following statement:

When I arrived at CNPRC, I notified another Animal Health Technician of the situation at (b)(2)High, (b)(7)f who notified (b)(6), (b)(7)c The on-call veterinarian, (b)(6), (b)(7)c (b)(6), (b)(7)c was also notified.

I drove with another technician back (b)(2)High, (b)(7)f to meet (b)(6), (b)(7)c She arrived at the building at approximately 9:45 a.m. We entered the room and I helped to open all of the cages for (b)(6), (b)(7)c (b)(6), (b)(7)c to evaluate the animals. (b)(6), (b)(7)c determined that all but two of the macaques were dead. We took the two live monkeys back to CNPRC for treatment. (b)(6), (b)(7)c immediately began treatment on the two live animals with IV fluid therapy, steroids, antibiotics, and external cooling. After approximately two hours of therapy, on of the animal's temperature was 102 degrees and was not responding to therapy. (b)(6), (b)(7)c euthanized this animal. The remaining monkey recovered and is now in good health.

I am aware that the temperature gauge for this room was broke. I do not know when this occurred or what the cause was. I have experienced other non-human primate rooms in this building excessively warm in the past. When this happened, the maintenance personnel were notified to correct the problem. I cannot recall specific dates of when this type of problem happened before, but I do remember this has happened in the past, just not to this extreme which resulted in the death of animals.

I have read this statement and affirm it's true to the best of my knowledge.

(b)(6), (b)(7)c

SIGNATURE OF AFFIANT

Subscribed and sworn to before me at _____
on this 24th day of January, 2005.

(b)(6), (b)(7)c

GOVERNMENT EXHIBIT 4
Page 2 of 2
APHIS FORM 7070 (MAR 96)

APHIS FORM 7162 (NOV 92) Replaces VS Form 3-59G which is obsolete.

DESIGNATED PURSUANT TO 7 U.S.C. 2217 TO ADMINISTER OATHS, AFFIDAVITS, AND AFFIRMATIONS, AUTHORITY NO:

Encl 1

California National Primate Research Center – Veterinary Staff

On Sat, Aug 21st at ~9:30am I was contacted at home by the CNPRC veterinary technician. She told me the animal husbandry techs had found a room at (b)(2)High, (b)(7)f that was very hot, the animals were all lying down in their cages, they were unsure if they animals were dead or alive.

I met the husbandry techs at the (b)(2)High, (b)(7)f When I entered the animal holding area (and the ante room) I estimated the temperature to be 110-115 degrees F. All visible animals were recumbent. We opened all cages and checked all the animals. Six of the eight animals were dead, two animals in a bottom cage (pair housed) were still alive. One animal was non-responsive but breathing, the other animal was minimally responsive. These two animals were transported to the CNPRC for treatment.

During my travel from (b)(2)High, (b)(7)f CNPRC I contacted the (b)(6), (b)(7)c , she in turn contacted our department head, head of Research Services and the Campus Veterinarian.

Upon arrival at the CNPRC, rectal temps for both animals were 109 degrees (our rectal thermometers report to read up to 109.9). Treatment was started for both animals (IV fluid therapy, steroids, antibiotics, external cooling, and anti-seizure medication). After ~2 hours of therapy, one animal's temp was 102 degrees, she had no corneal reflex, and she also had no response to deep pain. This animal was euthanized. The other animal responded well to therapy. After 2 1/2 hours, she was aware of her environment, interacting with observers, rectal temp at that time was 97.9 degrees. The following day, this animal had mild ataxia but was eating/drinking on her own and still very aware of her environment. To my knowledge, the animal is clinically stable at this time.

(b)(6), (b)(7)c

GOVERNMENT EXHIBIT 5

Page 1 of 1

APHIS FORM 7070 (MAR 95)

AFFIDAVIT

I, (b)(6), (b)(7)c being duly sworn on oath make the following statement:

To (b)(6), (b)(7)c , who had identified herself as an Investigator for the United States Department of Agricluture. I give this statement voluntarily.

I am a (b)(6), (b)(7)c employed at the California National Primate Research Center (CNPRC). On Saturday, August 21, 2004, I was on call for any emergency animal care needed at CNPRC and was scheduled to go the primate facility at approximately 10:00 a.m. At approximately 9:30 a.m., I received a telephone call at home, from an Animal Health Technician at CNPRC. I was told the animal husbandry technicians had found a very hot animal room in a building at the (b)(2)High, (b)(7)f The technician told me all of the primates (cynomolgus macaques) were lying down in their cages, and that they were unsure if the animals were dead or alive.

I immediately drove to the (b)(2)High, (b)(7)f which is only a few miles from my home. When I entered the animal holding area, which includes an ante room (a sealed wash room, located between the building hall and the animal room), I noticed the rooms were extremely warm. I estimated the room temperature to be approximately 110-115 degrees Fahrenheit. I did not look at the thermometer on the outside wall, and the room did not contain a thermometer.

All visible animals in the room (inside their cages), were recumbent. There were eight animals in the room, housed in separate cages with socialization doors, located on two metal rolling carts. With the assistance of the technicians (b)(6), (b)(7)c , we unlocked the cages and opened the doors to check on the health status of the enclosed primates. I checked all eight animals and found six of the eight animals to be dead, and the two animals in a bottom cage

(b)(6), (b)(7)c

SIGNATURE OF AFFIANT

Subscribed and sworn to before me at CNPRC, Sacramento, CA
on this 16 day of December, 2004

(b)(6), (b)(7)c

APHIS FORM 7162 Replaces VS Form 3-59G which is obsolete.
(NOV 92)

DESIGNATED PURSUANT TO 7 U.S.C. 2271 TO
ADMINISTER OATHS, AFFIDAVITS, AND AFFIRMATIONS,
AUTHORITY NO: 3171

GOVERNMENT EXHIBIT 6
Page 1 of 3
APHIS FORM 7070 (MAR 95)

AFFIDAVIT

I, (b)(6), (b)(7)c being duly sworn on oath make the following statement:

(b)(6), (b)(7)c dead (pair housed) were still alive. While picking up one of the primates, a massive amount of hair came out of the animal. In my hand (b)(6), (b)(7)c In checking the animals, I had discovered the dead animals were in a (b)(6), (b)(7)c rigor rigamortis condition. One of the live primates was non-responsive, but breathing. The other live animal was minimally responsive. The two live animals were transported to the CNPRC for treatment.

During the short drive from the ARS facility to CNPRC, I contacted the (b)(6), (b)(7)c (b)(6), (b)(7)c who in turn, contacted our department head, head of Research Services and the campus attending veterinarian.

Upon arrival at the CNRPC, rectal temperatures for both animals were 109 degrees Fahrenheit (our rectal thermometers report to read up to 109.9 degrees). The normal body temperature for this species is approximately 98.6 degrees Fahrenheit. Treatment was started for both animals, which included I.V. fluid therapy, steroids, antibiotics, external cooling, and anti-seizure medication). After approximately two hours of therapy, one of the animal's temperature was 102 degrees Fahrenheit and she no corneal reflex and no response to deep pain. This animal was euthanized. The other animal responded well to therapy. After 2 ½ hours, she was aware of her environment, interaction with observers, and her rectal temperature dropped down to 97.9 degrees. The following day, this same animal had mild ataxia but was eating/drinking on her own and still very aware of her environment. To my knowledge, this animal is clinically stable at this time.

(b)(6), (b)(7)c

SIGNATURE OF AFFIANT

Subscribed and sworn to before me at CNPRC; Sacramento, CA
on this 16 day of December, 2004

(b)(6), (b)(7)c

DESIGNATED PURSUANT TO 7 U.S.C. 2271 TO
ADMINISTER OATHS, AFFIDAVITS, AND AFFIRMATIONS,
AUTHORITY NO: 3171

GOVERNMENT EXHIBIT 6
Page 2 of 3
APHIS FORM 7070 (MAR 95)

APHIS FORM 7162 Replaces VS Form 3-59G which is obsolete.
(NOV 92)

AFFIDAVIT

I, (b)(6), (b)(7)c , being duly sworn on oath make the following statement:

Although I have no proof, I surmise the heat began to heat the room at approximately midnight, then continued on through the night. Most of the enclosed animals were already in a rigamortis state when I found them, and it normally takes anywhere from 3-12 hours for rigamortis to set in. I do not recall the room having any odor when I entered it. Some of the animals were in a traumatic position when found, which may indicate the possibility of seizures prior to their demise.

I have read this statement and affirm it's true to the best of my knowledge.

(b)(6), (b)(7)c

SIGNATURE OF AFFIANT

GOVERNMENT EXHIBIT 6 Page 3 of 3 APHIS FORM 7070 (MAR 95)

Subscribed and sworn to before me at CNPRC, Sacramento, CA
on this 16 day of December, 2004

(b)(6), (b)(7)c

APHIS FORM 7162 Replaces VS Form 3-59G which is obsolete.
(NOV 92)

DESIGNATED PURSUANT TO 7 U.S.C. 2217 TO ADMINISTER OATHS, AFFIDAVITS, AND AFFIRMATIONS, AUTHORITY NO: 3171

34276	California Primate Research Center									
Animal Number										Page
Date	WEIGHT (KG)	TB TEST	24-HR READING	48-HR READING	72-HR READING	APPETITE (G,F,P)*	HYDRATION (G,F,P)*	STOOL (N,SS,L,B)**	Observation	Init
6/3/02	2.1	M/R	0	0	0				.2cc ket	
6/18/02	2.3	M/L	0	0	0				.2cc ket; Tattoo	
7/1/02	2.3	M/R	0	0	0				.3cc ket; Bled CBC, serum, rectal swab, stool	
|									sample + 7ml green tops w/o #2131	
07.17.02						FAST ~~60~~	G	N	SO: BAR Anesthetized w/ 0.3cc keta-	
									mine IM to collect Herpes B swabs	
									+ 3mls blood due to employee	
									exposure	
7-17-02	2.6	M/L	0	0	0				.3cc ket.	
7-19-02	2.3			~~0~~	~~0~~				.3cc ket.	
7/30/02	2.4	M/R	0	0	0				.3cc ket.	
8-14-02		M/L	0	0	0				.3mls ket	
8-26-02									.3Mls ket. QU screen out w/o 3168	(b)(6), (b)(7)c
[redacted]									gave additional 0.8 cc ketamine	
									& 0.07 ml medetomidine, physical	
									exam WNL, thoracic radiographs	
									WNL A: satisfactory screen out exam	
8/26/02	NOT A FOIA DELETION								MOVED → ARDE 3-4 CRX01	
									MO # 429	
9/27/02	2.64	M/R	–	–	–				0.3cc Ket. Dental	
3/3/03	2.95	M/L	–	–	–				.5cc Ket Bled 3mls CRX 01 w.o.#5383	
5/28/03	3.14	M/R	–	–	–				0.3 ml Ket	

* G = good, F = fair, P = poor
** N = normal, SS = semi-solid, L = liquid, B = Bloody

D4681 (2/90)

GOVERNMENT EXHIBIT 7
Page 1 of 3
APHIS FORM 7070 (MAR 95)

730620.01

① EE should read "FAST" 07.17.02 ev
②③ EE wrong ... 7/19/02

34276	California Primate Research Center	2
Animal Number		Page

Date	Weight (kg)	TB Test	24-HR Reading	48-HR Reading	72-HR Reading	Appetite (G,F,P)*	Hydration (G,F,P)*	Stool (N,SS,L,B)*	Observation	Init
7/30/03	3.30									
9/25/03	3.30	M/L	–	–	–				.3cc ket, Dental	
11-20-03	3.26									
1/27/04	3.60	M/R							.3cc Ket, Dental	
3.29.04	3.6									
5.19.04	3.3	M/L	–	–	–				.4cc KET	
7.20.04	3.5									

(b)(6), (b)(7)c

730620.01

* G = good, F = fair, P = poor
** N = normal, SS = semi-solid, L = liquid, B = Bloody

GOVERNMENT EXHIBIT 7
Page 2 of 3
APHIS FORM 7070 (MAR 95)

D4681 (2/90)

mcy 34276 Animal Number	California Primate Research Center	3 Page

Date	Weight (kg)	TB test	24-HR reading	48-HR reading	72-HR reading	Appetite (G,F,P)*	Hydration (G,F,P)*	Stool (N,SS,L,B)*	Observation	Init
8/21/04	3.1								S: Notified by animal care tech of increased temp in holding room @ ARS facility. Animal non-responsive, breathing — transported to CNPRC. T > 109.0°F, began IOF + external cooling. Gave 0.3 ml Sedu-Delta, IV ⊗ 0.6 ml Bactril IM ⊗. Animal began vomiting red-brown fluid, fluid in mouth + nose. Aspirated fluid using suction ⊗ Animal began having mild muscle tremors - gave 0.05 ml Valium IV ⊗. See ICU sheet A: Severe hyperthermia P: Begin IVF + monitor closely 11:30 - Animal non-responsive to deep pain, no corneal/palpebral reflex. HR=110 A: Animal moribund P: Humane euthanasia w/ 1.5 ml euth sln IV ⊗	

(b)(6), (b)(7)c

730620.01

* G = good, F = fair, P = poor
** N = normal, SS = semi-solid, L = liquid, B = Bloody

4681 (2/90)

GOVERNMENT EXHIBIT 7
Page 3 of 3
APHIS FORM 7070 (MAR 95)

COE 8/21/04 5

CALIFORNIA PRIMATE RESEARCH CENTER

REQUEST FOR NECROPSY

INVESTIGATOR (b)(6), (b)(7)c

ROOM (b)(2)High, (b)(7)f | SEX: F | ID: mcy 34276 (SP NUMBER)

CAGE: 52 | AGE: 5y

PROJECT: CRX01/8724 | DISP CODE: D K

DEATH DATE: 8 21 04 (MO DAY YR)

3.10 kg

REQUESTED BY:

WEIGHT AFTER DEATH 3.5 KG (7.20-04)

☐ Charge to Center
☐ Charge to ID# _____

☒ FOUND DEAD
☐ DEATH OBSERVED
☐ EUTHANIZED

TIME OF DEATH _____ A.M. _____ P.M.

OTHER _____

METHOD USED:

NATURE OF EXPERIMENT:

BIOHAZARDS: ☐ Infectious agents ☐ Radiation ☐ Chemicals

SPECIFY AGENT:

CLINICAL HISTORY:

5/30/02 - RECEIVED IN QUARANTINE.

CLINICAL DIAGNOSIS:

☐ MODIFY NECROPSY

GOVERNMENT EXHIBIT 8 Page 1 of 1 APHIS FORM 7070 (MAR 95)

PATHOLOGIST TO COMPLETE:

NECROPSY Performed b (b)(6), (b)(7)c at 345 (time) A.M. / P.M. on 8/25/04 (date)

NECROPSY DIAGNOSIS: Pulmonary Congestion - Diffuse, Marked

D1909 (2/87) 741031.03

Animal Chart Pathologist Investigator SNOMED/Files

CALIFORNIA PRIMATE RESEARCH CENTER
PATHOLOGY: NECROPSY REPORT

ANIMAL I.D.:	MCY34276	SEX:	F	DEATH DATE:	8-21-04
ROOM-CAGE:	(b)(2)High, (b)(7)f	AGE:	5y	TYPE OF DEATH:	Medical Cull
INVESTIGATOR:	(b)(6), (b)(7)c	PROJECT CODE:	CRX01	TIME OF DEATH:	
PATHOLOGIST:		CLINICIAN:		DATE OF NECROPSY:	8-25-04
BODY WEIGHT AFTER DEATH:		3.10 kg		TIME NECROPSY BEGAN:	3:45 pm

CLINICAL HISTORY:

CLINICAL DIAGNOSIS: Open.

MODIFY NECROPSY: None.

GROSS OBSERVATIONS: A tattoo on the skin of the right medial thigh of this adult female cynomolgus monkey reads 34276. Diffusely the skeletal muscle is a dark maroon color. Diffusely the lung is a variegated dark red and light red color. The pleura is moist and glistening and the parenchyma is spongy and resilient. No other significant changes are seen in the remainder of the tissues.

GROSS DIAGNOSIS: LUNG: PULMONARY CONGESTION, DIFFUSE, MARKED

COMMENTS: The results of histopathology will be presented in the final necropsy report.

HISTOPATHOLOGY:

9 slides containing 23 tissue sections were examined and consisted of the following (number denotes block and slide containing tissue):

Alimentary Tract		**Reproductive Sys**	**Salivary Gland**
Lip	4	Scrotum	Sublingual
cheek pouch	4	Testis	Submandibular
Gingiva		Epididymis	Parotid
Pharynx		Penis	
Tongue		Prostate	**Respiratory System**
Esophagus		seminal vesicle	Larynx
Stomach			Bronchus 3
Cardia		**Endocrine System**	Trachea

GOVERNMENT EXHIBIT 9

APHIS FORM 7070 (MAR 90)

PATHOLOGY: NECROPSY REPORT

Fundus		thyroid gland		Lung	
Body		parathyroid gland		Cranial	
Pylorus		adrenal gland		Middle	
small intestine		pituitary gland		Caudal (left)	3
Duodenum				Nasal mucosa	
Jejunum		**Lymphoid System**		**Peripheral Nervous Sys**	
Ileum	1	Tonsil			
Cecum	1	Thymus		sciatic nerve	
large intestine		Spleen		brachial plexus	
Proximal	1	lymph nodes			
Middle		Axillary			
Rectum		Inguinal	4	**Hematopoietic System**	
Anus		Iliac		Femoral bone marrow	
		Obturator			
		Mesenteric	2	**Skeletal Muscle**	
Digestive System		Ileocecocolic	1	Leg	2
Liver	2	Tracheobronchial	3	Diaphragm	
gall bladder				**Synovium**	
Pancreas				**Bone**	
		Central Nervous System		**Tooth**	
		Brain			
Urinary System		Cerebrum &		**Skin**	
		basal gng	7	Palm	
Kidney	3	Cerebrum &		Sole	
Ureter		hypothalamus	8	Inguinal	4
Urinary bladder		Midbrain	9	Teat	
Urethra		Cerebellum &		Mammary gland	
		brainstem	9	Axillary	
Reproductive Sys.		Occipital lobe	9	Back	
Clitoris					
Vulva		**Spinal Cord**		**Cardiovascular Sys.**	
Vagina		Cervical			
Cervix		Thoracic		Myocardium	
Uterus	6	Lumbar		Left vn	5
Fallopian tube		Sacral		Right vn	5
Ovary	5	**Special Senses**		Septum	5
Umbilical cord		Eye		Aorta Thoracic	
Placenta		Ear		Abdominal	

Significant tissue changes are presented as morphologic diagnoses in the final diagnosis section.

NECROPSY REPORT Abbreviations

MN	minimal
ML	mild
MD	moderate
MK	marked
SV	severe

GOVERNMENT EXHIBIT 9

Page 2 of 3

APHIS FORM 7070 (MAR 95)

PATHOLOGY: NECROPSY REPORT

F focal
MF multifocal
D diffuse
DSM disseminated
FE focally extensive

MALT mucosal associated lymphoid tissue

E eosinophilic
H histiocytic
L lymphocytic
N neutrophilic
P plasmacytic

Final Diagnosis

LARGE INTESTINE (PROXIMAL): COLITIS, L-H-P, D, ML

SPLEEN: RED PULP CONGESTION, D, MK

MESENTERIC LYMPH NODE: LYMPHOFOLLICULAR HYPERPLASIA, MF, MD

TRACHEOBRONCHIAL LYMPH NODE: VASCULAR CONGESTION, D, MK

LUNG: A) ALVEOLAR EDEMA, MF TO COALESCING, SV
B) VASCULAR CONGESTION, D, MK

CHEEK POUCH: ACCESSORY SALIVARY GLAND SIALOADENITIS, L-H, MF, ML

OVARY: CORPUS LUTEUM

UTERUS: SECRETORY PHASE

Comments

Most significantly there was severe pulmonary congestion and alveolar edema which can account for the death of this animal; these changes are consistent with exposure to hyperthermia.

GOVERNMENT EXHIBIT 10 Page 1 of 1 APHIS FORM 7070 (MAR 95)

CALIFORNIA REGIONAL PRIMATE RESEARCH CENTER

ANIMAL DEATH RECORD

Species: mcy ID #: 34276 Date of Death: 8 21 04

Type of Death: Date Reported: 8 21 04

D ☒ Spontaneous Death Home Location (b)(2)High, (b)(7)f

X ☐ Experimental Design Present Locatic

A ☐ Experimental Accident Weight: 3.5kg (7.20.04)

M ☐ Medical Cull Diagnostic Sex: F

K ☒ Medical Cull

S ☐ Surgical Cull

Probable Cause of Death (technician or clinician):

Signed

Pathological Diagnosis (clinician or pathologist): Pulmonary Congestion

☐ Necropsy not performed Signe (b)(6), (b)(7)c

D1010 (8/95)M Original—Animal Chart Yellow—Data Entry

CRPRC - ICU Record

Animal #: MCY 34276 Problem: Hyperthermia Date: 8/21/04

Time	Patient data			IV Fluids					Lab data						Additional medications
	Temp	HR	RR	Type	Add's	Rate (mls/hr)	Total volume rec'd	Urine output	Na Cl	K	pH	Hct	glu	HCO_3	
10:10	105.6			LRS		90									.05 valium IV
10:15	103.7	210	30												.6 Baytril IM
10:40	102.2	200	40	LRS			71								.3 Solu-Delta-Cortef IV
10:56	101.2														
11:25	99.0	100	weak	LRS		90	131								

GOVERNMENT EXHIBIT 1 Page 1 of 1 APHIS FORM 7070 (MAR 98)

Weight: (pre) 3.16 (post) _____

*Animals should be monitored every 30-60 minutes

34273	California Primate Research Center	1
Animal Number		Page

Date	WEIGHT (KG)	TB TEST	24-HR READING	48-HR READING	72-HR READING	APPETITE (G,F,P)*	HYDRATION (G,F,P)*	STOOL (N,SS,L,B)*	Observation	Init
5/30/02									Received in QU 1-7	[illegible]
6/3/02	2.1	M/R	0	0	0				.2cc ket	[illegible]
6/18/02	2.0	M/L	0	0	0				.2cc ket; Tattoo	[illegible]
7/1/02	2.3	M/R	0	0	0				.3cc ket; Bled 10mls serum, CBC	
|									rectal swab, stool sample	[illegible]
7/17/02	2.4	M/R ①	0	0	0					
7-19-02	2.3			0	0				.3cc Ket.	JP
7/30/02	2.5	M/R	0	0	0				.3cc Ket.	JP
8-14-02	2.4	M/L	0	0	0				.3mls ket.	JP
8-26-02									.4mls Ket. QU Screen out w/ 3168	JP
[redacted]									quarantine screen out exam,	
									gave additional 0.5ml ketamine &	
VACCINATED TETANUS									0.07 ml medetomidine, animal is	
									very lean, & has an enlarged uterus,	
NOT A FOIA DELETION									thoracic radiographs WNL,	
									tattoo reads "24273"	
									A: satisfactory screen out exam	[illegible]
8/26/02									MOVED → ARDE 3-1 CRX01 MO# 429	JP
② 9/27/02	~~4.41~~	M/R	–	–	–				0.3cc Ket.	[illegible]
3/3/03	2.47	M/L	–	–	–				.5cc Ket Bled 3mls CRX 01 w.o.#5383	
										RSD
5/28/03	2.74	M/R	–	–	–				0.2 ml Ket	[illegible]
7/30/03	2.90									[illegible]
9/25/03	2.60	M/L	–	–	–				.3cc ket; Dental	[illegible]
11-20-03	2.82									[illegible]

* G = good, F = fair, P = poor
** N = normal, SS = semi-solid, L = liquid, B = Bloody

①WO: should read M/L 7/17/02 JP
② E.E. Should read 2.41 [illegible] 9/28/03

730620.01

GOVERNMENT EXHIBIT 12
Page 1 of 2
APHIS FORM 7070 (MAR 95)

All redactions on this page are pursuant to (b)(6) & (b)(7)(c).

34273	California Primate Research Center	2
Animal Number		Page

Date	Weight (kg)	TB Test	24-HR Reading	48-HR Reading	72-HR Reading	Appetite (G,F,P)*	Hydration (G,F,P)*	Stool (N,SS,L,B)*	Observation	Init
1/27/4	2.61	M/R							.3cc Ket Dental	CA/ORS
3.29.04	2.9									KB/Fc
5.19.04	2.6	M/L	—	—	—				.3cc KET	KB
5 7.20.04 (1)	3.0									KB/Fc
8/21/04	2.88								Found dead in cage	BV

* G = good, F = fair, P = poor
** N = normal, SS = semi-solid, L = liquid, B = Bloody

730620.01

DED-7-20-04 28

GOVERNMENT EXHIBIT 12
Page 2 of 2
APHIS FORM 7070 (MAR 95)

CALIFORNIA PRIMATE RESEARCH CENTER

REQUEST FOR NECROPSY

INVESTIGATOR (b)(6), (b)(7)c

ROOM (b)(2)High, (b)(7)f

CAGE: 1

PROJECT: CRX01/6724

SEX: F

AGE: 5y10m

DISP CODE: D

ID: MCY 34273 (SP NUMBER)

DEATH DATE: 8 / 21 / 04 (MO DAY YR)

REQUESTED BY:

WEIGHT AFTER DEATH 3.0 KG (7.20.04) 2.88 kg

☐ Charge to Center
☐ Charge to ID# ____

☒ FOUND DEAD
☐ DEATH OBSERVED
☐ EUTHANIZED

TIME OF DEATH ____ A.M. ____ P.M.

OTHER ____

METHOD USED:

NATURE OF EXPERIMENT:

BIOHAZARDS: ☐ Infectious agents ☐ Radiation ☐ Chemicals

SPECIFY AGENT:

CLINICAL HISTORY:

5/30/02 - Received in Quarantine.

8/21/04 - Found Dead in cage.

CLINICAL DIAGNOSIS:

☐ MODIFY NECROPSY

GOVERNMENT EXHIBIT 13
Page 1 of 1
APHIS FORM 7070 (MAR 95)

PATHOLOGIST TO COMPLETE:

NECROPSY Performed b (b)(6), (b)(7)c at 4:45 (time) A.M. / P.M. on 8, 25, 04 (date)

NECROPSY DIAGNOSIS: Pulmonary Congestion + Diffuse; Marked

D1909 (2/87) 741031.03

Animal Chart Pathologist Investigator SNOMED/Files

CALIFORNIA PRIMATE RESEARCH CENTER
PATHOLOGY: NECROPSY REPORT

ANIMAL I.D.:	MCY34273	SEX:	F	DEATH DATE:	8-21-04
ROOM-CAGE:	(b)(2)High, (b)(7)f	AGE:	5y 10m	TYPE OF DEATH:	Spontaneous Death
INVESTIGATOR:	(b)(6), (b)(7)c	PROJECT CODE:	CRX01	TIME OF DEATH:	
PATHOLOGIST:		CLINICIAN:	Allen	DATE OF NECROPSY:	8-25-04
BODY WEIGHT AFTER DEATH:	2.88 kg			TIME NECROPSY BEGAN:	4:45 pm

CLINICAL HISTORY:

- 5/30/02: Received in quarantine
- 8/21/04: Found dead in cage

CLINICAL DIAGNOSIS: Open.

MODIFY NECROPSY: None.

GROSS OBSERVATIONS: A tattoo on the skin of the right medial thigh of this adult female cynomolgus monkey reads 34273. A small amount of red bloody fluid is present on the skin of the face, around the nose and on the upper lip. Diffusely the skeletal muscle is a light red color. Focally extensively approximately 90% of the lung is a dark red brown color. The remainder, mostly ventrally and more extensively on the right side, is bright red. The lung is a spongy resilient consistency and moist over the pleural surface. No other significant changes are seen in the ren

GROSS DIAGNOSIS: LUNG: PULMONARY CONGESTION, DIFF

COMMENTS: The results of histopathology will be presented

HISTOPATHOLOGY:

9 slides containing 23 tissue sections were examined and consisted of the following (number denotes block and slide containing tissue):

Alimentary Tract		Reproductive Sys	Salivary Gland
Lip	4	Scrotum	Sublingual
cheek pouch	4	Testis	Submandibular

GOVERNMENT EXHIBIT 14
Page 1 of 4
APHIS FORM 7070 (MAR 86)

PATHOLOGY: NECROPSY REPORT

Gingiva	
Pharynx	
Tongue	
Esophagus	4
Stomach	
Cardia	
Fundus	
Body	
Pylorus	
small intestine	
Duodenum	
Jejunum	
Ileum	1
Cecum	1
large intestine	
Proximal	1
Middle	
Rectum	
Anus	

Digestive System

Liver	2
gall bladder	
Pancreas	

Urinary System

Kidney	3
Ureter	
Urinary bladder	
Urethra	

Reproductive Sys.

Clitoris	
Vulva	
Vagina	
Cervix	
Uterus	6
Fallopian tube	
Ovary	5
Umbilical cord	
Placenta	
Epididymis	
Penis	
Prostate	
seminal vesicle	

Endocrine System

thyroid gland	
parathyroid gland	
adrenal gland	
pituitary gland	

Lymphoid System

Tonsil	
Thymus	
Spleen	
lymph nodes	
Axillary	
Inguinal	1
Iliac	
Obturator	
Mesenteric	2
Ileocecocolic	
Tracheobronchial	3

Central Nervous System

Brain	
Cerebrum & basal gng	7
Cerebrum & hypothalamus	8
Midbrain	9
Cerebellum & brainstem	9
Occipital lobe	9

Spinal Cord

Cervical	
Thoracic	
Lumbar	
Sacral	

Special Senses

Eye	
Ear	
Parotid	

Respiratory System

Larynx	
Bronchus	3
Trachea	4
Lung	
Cranial	
Middle	
Caudal (right)	3
Nasal mucosa	

Peripheral Nervous Sys

sciatic nerve	
brachial plexus	

Hematopoietic System

Femoral bone marrow	

Skeletal Muscle

Leg	2
Diaphragm	

Synovium

Bone

Tooth

Skin

Palm	
Sole	
Inguinal	
Teat	
Mammary gland	
Axillary	
Back	

Cardiovascular Sys.

Myocardium		
	Left vn	5
	Right vn	5
	Septum	5
Aorta	Thoracic	
	Abdominal	

Significant tissue changes are presented as morphologic diagnoses in the final diagnosis section.

PATHOLOGY: NECROPSY REPORT

NECROPSY REPORT Abbreviations

MN	minimal
ML	mild
MD	moderate
MK	marked
SV	severe
F	focal
MF	multifocal
D	diffuse
DSM	disseminated
FE	focally extensive

MALT mucosal associated lymphoid tissue

E	eosinophilic
H	histiocytic
L	lymphocytic
N	neutrophilic
P	plasmacytic

Final Diagnosis

KIDNEY: NEPHRITIS, L-H, INTERSTITIAL, MF, MN

LUNG: A) ALVEOLAR EDEMA, FE, SV
B) VASCULAR CONGESTION, D, MK

TRACHEOBRONCHIAL LYMPH NODE: PNEUMOCONIOSIS, DSM, MEDULLA, ML

LIP: ACCESSORY SALIVARY GLAND SIALOADENITIS, L-H, MF, ML

CHEEK POUCH: SIMILAR TO LIP

UTERUS: SECRETORY PHASE

PATHOLOGY: NECROPSY REPORT

BRAIN (SLIDE 7): MENINGEAL VASCULAR CONGESTION: D, MK

BRAIN (SLIDE 8): SIMILAR TO BRAIN (SLIDE 7)

BRAIN (SLIDE 9): SIMILAR TO BRAIN (SLIDE 7)

Comments

Most significantly there was severe pulmonary congestion and alveolar edema, which can account for the death of this animal; these changes are consistent with exposure to hyperthermia.

ENTERED 8/23/04 PA

CALIFORNIA REGIONAL PRIMATE RESEARCH CENTER

ANIMAL DEATH RECORD

Species: MCY ID #: 34273 Date of Death: 8/21/04

Type of Death: Date Reported: 8/21/04

D ☒ Spontaneous Death Home Location: (b)(2)High, (b)(7)f

X ☐ Experimental Design Present Location: ~~2.88~~

A ☐ Experimental Accident Weight: 2.88 Kg

M ☐ Medical Cull Diagnostic Sex: Female

K ☐ Medical Cull

S ☐ Surgical Cull

Probable Cause of Death (technician or clinician): HYPERTHERMIA

Signed (b)(6), (b)(7)c

Pathological Diagnosis (clinician or pathologist):

☐ Necropsy not performed Signed

D1010 (8/95)M Original—Animal Chart Yellow—Data Entry ❐

CALIFORNIA REGIONAL PRIMATE RESEARCH CENTER

ANIMAL DEATH RECORD

Species: mcy ID #: 34273

Date of Death: 8 21 04

Date Reported: 8 25 04

Type of Death:

D ☒ Spontaneous Death

X ☐ Experimental Design

A ☐ Experimental Accident

M ☐ Medical Cull Diagnostic

K ☐ Medical Cull

S ☐ Surgical Cull

Home Location: (b)(2)High, (b)(7)f

Present Locatior

Weight: 3.0 kg (7.20.04)

Sex: F

Probable Cause of Death (technician or clinician): _____

Signed _____

Pathological Diagnosis (clinician or pathologist): Pulmonary Congestion

☐ Necropsy not performed

Sign (b)(6), (b)(7)c

D1010 (8/95)M Original—Animal Chart Yellow—Data Entry

34274	California Primate Research Center	1
Animal Number		Page

Date	Weight (kg)	TB Test	24-HR Reading	48-HR Reading	72-HR Reading	Appetite (G,F,P)*	Hydration (G,F,P)*	Stool (N,SS,L,B)*	Observation	Init
6/3/02	3.0	M/R	0	0	0				.3cc ket	
6/18/02	2.9	M/L	0	0	0				.3cc ket; Tattoo	
7/1/02	2.9	M/R	0	0	0				.3cc ket; CBC, serum, rectal swab	
"									stool sample + 7mls greentops	
7-17-02	2.4	M/L	0	0	0				.3 mls ket.	
7-19-02	3.0		&	&					.3cc ket.	
7/30/02	2.9	M/R	0	0	0				.3cc ket	
8-14-02	3.1	M/L	0	0	0				.3mls ket	
8-26-02	3.03								.4mls ket. QU screen out w/o 3168	
									quarantine screen out exam,	
									gave additional 0.5 cc ketamine &	
									0.09 ml medetomidine. physical exam	
									unremarkable, thoracic radiographs	
									WNL A: satisfactory screen out exa	
8/26/02									MOVED → ARDE 3-2 CRX01 MD # 429	
9/27/02	3.02	M/R	-	-	-				0.3cc Ket. Dental	
3/3/03	3/51	M/L	-	-	-				.5cc Ket Bled 3mls CRX 01 w.o.#5383	
5/28/03	3.34	M/R	-	-	-				0.4 ml ket	
7/30/03	3.80									
9/25/03	4.00	M/L	-	-	-				.4cc ket, Dental	
11-20-03	4.06									
1/27/14	4.37	M/R							.4cc Ket Dental	

VACCINATED TETANUS [redacted]

NOT A FOIA DELETION

730620.01

* G = good, F = fair, P = poor
** N = normal, SS = semi-solid, L = liquid, B = Bloody

① ② EE wrong box JB 7/19/02

GOVERNMENT EXHIBIT 17
Page 1 of 2
APHIS FORM 7070 (MAR 95)

All redactions on this page are pursuant to (b)(6) & (b)(7)(c).

34274	California Primate Research Center	2
Animal Number		Page

Date	WEIGHT (KG)	TB TEST	24-HR READING	48-HR READING	72-HR READING	APPETITE (G,F,P)*	HYDRATION (G,F,P)*	STOOL (N,SS,L,B)*	Observation	Init
3.29.04	4.2									KB/FC
5.19.04	3.9	M/L	–	–	–				.4cc KET	KB
7.20.04	4.5									KB/FC
8/21/04	4.33								Found dead in cage	BV

* G = good, F = fair, P = poor
** N = normal, SS = semi-solid, L = liquid, B = Bloody

730620.01

GOVERNMENT EXHIBIT 17
Page 2 of 2
APHIS FORM 7070 (MAR 95)

CALIFORNIA PRIMATE RESEARCH CENTER

REQUEST FOR NECROPSY

INVESTIGATOR (b)(6), (b)(7)c

ROOM (b)(2)High, (b)(7)f SEX: F

CAGE: 2 AGE: 6y

PROJECT: CRX01/8724 DISP CODE: D

ID: MCY 3427 14 (SP NUMBER)

DEATH DATE: 8 21 04 (MO DAY YR)

REQUESTED BY:

WEIGHT AFTER DEATH 4.33 kg 4.5 KG (7.20.04)

☐ Charge to Center
☐ Charge to ID# _____

☒ FOUND DEAD
☐ DEATH OBSERVED
☐ EUTHANIZED

TIME OF DEATH _____ A.M. _____ P.M.

OTHER _____

METHOD USED:

NATURE OF EXPERIMENT:

BIOHAZARDS: ☐ Infectious agents ☐ Radiation ☐ Chemicals

SPECIFY AGENT:

CLINICAL HISTORY:

5/30/02 – RECEIVED IN QUARANTINE.

8/21/04 – FOUND DEAD IN CAGE.

CLINICAL DIAGNOSIS:

☐ MODIFY NECROPSY

GOVERNMENT EXHIBIT 18 Page 1 of 1 APHIS FORM 7070 (MAR 95)

PATHOLOGIST TO COMPLETE:

(b)(6), (b)(7)c

NECROPSY Performed ___ at 4:15 (time) A.M. P.M. on 8/25/04 (date)

NECROPSY DIAGNOSIS: Pulmonary Congestion + D. Marked

D1909 (2/87) 741031.03

Animal Chart Pathologist Investigator SNOMED/Files

CALIFORNIA PRIMATE RESEARCH CENTER
PATHOLOGY: NECROPSY REPORT

ANIMAL I.D.:	MCY34274	SEX:	F	DEATH DATE:	8-21-04
ROOM-CAGE	(b)(2)High, (b)(7)f	AGE:	6y	TYPE OF DEATH:	Spontaneous Death
INVESTIGATOR:		PROJECT CODE:	CRX01	TIME OF DEATH:	
PATHOLOGIST:	(b)(6), (b)(7)c	CLINICIAN:	(b)(6), (b)(7)c	DATE OF NECROPSY:	8-25-04
BODY WEIGHT AFTER DEATH:	4.33 kg			TIME NECROPSY BEGAN:	4:15 pm

CLINICAL HISTORY:

- 5/30/02: Received in quarantine
- 8/21/04: Found dead in cage

CLINICAL DIAGNOSIS: Open.

MODIFY NECROPSY: None.

GROSS OBSERVATIONS: A tattoo on the skin of the right medial thigh of this adult female cynomolgus monkey reads 34274. A small amount of dark red moist and dry blood is present on the skin of the distal portion of the nose and the proximal portion of the upper lip. The skin over the face and neck is an erythematous congested red color. The skin of the medial thigh and the pubic region is an erythematous red color. Diffusely the skeletal muscle is a light red color. There is green discoloration of the subcutis over the abdomen. Diffusely the lung is a red congested color, very dark red on 95% of the left lung lobe and dark red on the right lung lobe. The pleural surface over lungs is very moist and glistening. There are no other significant changes seen in the remainder of the tissues.

GROSS DIAGNOSIS: LUNG: PULMONARY CONGESTION, DIFFUSE, MARKED

COMMENTS: The results of histopathology will be presented in the final necropsy report.

HISTOPATHOLOGY:

9 slides containing 23 tissue sections were examined and consisted of the following (number denotes block and slide containing tissue):

PATHOLOGY: NECROPSY REPORT

Alimentary Tract
Lip 4
cheek pouch 4
Gingiva
Pharynx
Tongue
Esophagus 4
Stomach
Cardia
Fundus
Body
Pylorus
small intestine
Duodenum
Jejunum
Ileum 1
Cecum 1
large intestine
Proximal 1
Middle
Rectum
Anus

Digestive System
Liver 2
gall bladder
Pancreas

Urinary System
Kidney 3
Ureter
Urinary bladder
Urethra

Reproductive Sys.
Clitoris
Vulva
Vagina
Cervix
Uterus 6
Fallopian tube
Ovary 5
Umbilical cord
Placenta

Reproductive Sys
Scrotum
Testis
Epididymis
Penis
Prostate
seminal vesicle

Endocrine System
thyroid gland
parathyroid gland
adrenal gland
pituitary gland

Lymphoid System
Tonsil
Thymus
Spleen 2
lymph nodes
Axillary
Inguinal 4
Iliac
Obturator
Mesenteric 2
Ileocecocolic 1
Tracheobronchial 3

Central Nervous System
Brain
Cerebrum & basal gng 7
Cerebrum & hypothalamus 8
Midbrain 9
Cerebellum & brainstem 9
Occipital lobe 9

Spinal Cord
Cervical
Thoracic
Lumbar
Sacral

Special Senses
Eye
Ear

Salivary Gland
Sublingual
Submandibular
Parotid

Respiratory System
Larynx
Bronchus 3
Trachea 4
Lung
Cranial
Middle
Caudal (right) 3
Nasal mucosa

Peripheral Nervous Sys
sciatic nerve
brachial plexus

Hematopoietic System
Femoral bone marrow

Skeletal Muscle
Leg 2
Diaphragm
Synovium
Bone
Tooth

Skin
Palm
Sole
Inguinal 4
Teat
Mammary gland 4
Axillary
Back

Cardiovascular Sys.
Myocardium
Left vn 5
Right vn 5
Septum 5
Aorta Thoracic
Abdominal

Significant tissue changes are presented as morphologic diagnoses in the final diagnosis section.

PATHOLOGY: NECROPSY REPORT

NECROPSY REPORT Abbreviations

MN	minimal
ML	mild
MD	moderate
MK	marked
SV	severe
F	focal
MF	multifocal
D	diffuse
DSM	disseminated
FE	focally extensive

MALT mucosal associated lymphoid tissue

E	eosinophilic
H	histiocytic
L	lymphocytic
N	neutrophilic
P	plasmacytic

Final Diagnosis

CHEEK POUCH: ACCESSORY SALIVARY GLAND SIALOADENITIS, L-H, MF, ML

LUNG: A) ALVEOLAR EDEMA, MF TO COALESCING, SV
B) VASCULAR CONGESTION, D, MK

UTERUS: PROLIFERATIVE, EARLY

Comments

Most significantly there was severe pulmonary congestion and alveolar edema, which can account for the death of this animal; these changes are consistent with exposure to hyperthermia.

GOVERNMENT EXHIBIT 20 Page 1 of 1 APHIS FORM 7070 (MAR 96)

ENTERED 8/23/04 PA

CALIFORNIA REGIONAL PRIMATE RESEARCH CENTER

ANIMAL DEATH RECORD

Species: MCy ID #: 34274 Date of Death: 8/21/04

Type of Death: Date Reported: 8/21/04

D ☒ Spontaneous Death Home Location: (b)(2)High, (b)(7)f

X ☐ Experimental Design Present Location: _____

A ☐ Experimental Accident Weight: 4.33 kg

M ☐ Medical Cull Diagnostic Sex: Female

K ☐ Medical Cull

S ☐ Surgical Cull

Probable Cause of Death (technician or clinician): HYPERTHERMIA

_____ Signed (b)(6), (b)(7)c

Pathological Diagnosis (clinician or pathologist): _____

_____

☐ Necropsy not performed Signed _____

D1010 (8/95)M Original—Animal Chart Yellow—Data Entry

GOVERNMENT EXHIBIT 21 Page 1 of 1 APHIS FORM 7070 (MAR 95)

CALIFORNIA REGIONAL PRIMATE RESEARCH CENTER

ANIMAL DEATH RECORD

Species: MCY ID #: 34274 Date of Death: 8/21/04

Type of Death: Date Reported: 8/25/04

D ☒ Spontaneous Death Home Location:

(b)(2)High, (b)(7)f

X ☐ Experimental Design Present Locatio

A ☐ Experimental Accident Weight: 4.5kg (7.20.04)

M ☐ Medical Cull Diagnostic Sex: F

K ☐ Medical Cull

S ☐ Surgical Cull

Probable Cause of Death (technician or clinician): _____

Signed _____

Pathological Diagnosis (clinician or pathologist): Pulmonary Congestion

☐ Necropsy not performed Signe

(b)(6), (b)(7)c

D1010 (8/95)M a Entry

34278	California Primate Research Center	1
Animal Number		Page

Date	Weight (kg)	TB Test	24-HR Reading	48-HR Reading	72-HR Reading	Appetite (G,F,P)*	Hydration (G,F,P)*	Stool (N,SS,L,B)*	Observation	Init
6/3/02	3.0	M/R	0	0	0				.3cc ket	
6/18/02	3.3	M/L	0	0	0				.3cc ket; Tattoo	
7/1/02	3.5	M/R	0	0	0				.4mls ket; Bled cbc, serum, stool sample	
									rectal swab + 7mls green top w/o #2131	
7-17-02	3.1	M/L	0	0	0				.3cc ket.	
7-19-02	3.5								.4cc ket.	
7/30/02	3.5	M/R	00	0	0				.4cc ket.	
8-14-02	3.5	M/L	0	0	0				.4mls ket.	
8-26-02	3.91								.4mls ket. QUSCREENOUT w/o 3168	
									quarantine screen out exam.	
									gave additional 1.0 ml ketamine &	
									0.1ml medetomidine, PE revealed	
									NSF except retained deciduous	
									lower canines, thoracic radiographs	
									mild/moderate increased interstitial	
									pattern A: Sat. screen out exam	
8/26/02									MOVED → ARDE 3-26 CRX01 MO# 4129	
9/27/02	4.11	M/R	-	-	-				0.4 cc Ket. Dental	
3/3/03	5.11	M/L	-	-	-				.5cc Ket Bled 3mls CRX 01 w.o.#5383	
5/20/03	5.63	M/L	-	-	-				0.5 ml ket	
7/30/03	5.60									
9/25/03	5.70	M/L	-	-	-				.6cc ket, Dental	

[redacted]
VACCINATED TETANUS

NOT A FOIA DELETION

730620.01

* G = good, F = fair, P = poor
** N = normal, SS = semi-solid, L = liquid, B = Bloody

DEE: Should be "1" JP 7/31/08

GOVERNMENT EXHIBIT 22
Page 1 of 4
APHIS FORM 7070 (MAR 95)

34278	California Primate Research Center	2
Animal Number		Page

Date	Weight (kg)	TB Test	24-HR Reading	48-HR Reading	72-HR Reading	Appetite (G,F,P)*	Hydration (G,F,P)*	Stool (N,SS,L,B)*	Observation	Init
11-20-03	5.34									[illegible]
1/27/4	5.58	N/R							.Socket Dental	CR/OBS

* G = good, F = fair, P = poor
** N = normal, SS = semi-solid, L = liquid, B = Bloody

730620.01

VP7

GOVERNMENT EXHIBIT 22
Page 2 of 4
APHIS FORM 7070 (MAR 95)

34278	California Primate Research Center	3
Animal Number		Page

Date	WEIGHT (KG)	TB TEST	24-HR READING	48-HR READING	72-HR READING	APPETITE (G,F,P)*	HYDRATION (G,F,P)*	STOOL (N,SS,L,B)*	Observation	Init
1/28/04									gave 0.7 cc ketamine	

DATE: 1/28/04

WEIGHT kg: 5.63

PHYSICAL EXAM

Temperature ϕ °F
HR 160 RR 22
Pulses strong
Gen.Body Condition obese
1. Integument see below
2. Oral Cavity WNL
3. Eyes WNL 4. Ears WNL
5. Musculoskeletal see below
6. Thorax Auscultation WNL
7. Abdominal Palpation obese
8. Spleen WNL 9. Liver WNL
10. Lymph Nodes WNL
11. Urogenital n/a
12. Rectal Palpation n/a

DRUG cefazolin DOSE 113
AMT. 0.35 ROUTE im FREQ. BID
START 1/28 END 2/1 DAYS 5
ANIM. # 34278 LOC. 1333-5
CHARGED ADD. COMMENTS:

									® arm has small, raised	
									nodule (~1 cm diameter),	
									w/ central umbilicated region,	
									expressed small amt blood &	
									apx 2 x 2 mm piece of necrotic	
									tissue, flushed w/ ~2 cc NS, surrounding tissue became	
									edematous & unable to fully	
									express	
									A: arm abscess - etiology	
									unknown	
									P: start Rx w/ cefazolin,	
									wound c daily	KB
1/29/04					F	P	G	N	S: BAR. arm wound much	SS
									less swollen, P: cont. Rx,	
									area. tomorrow & released	KB
1/30/04					F	P	G	N	S: BAR, gave 0.6 cc ketamine,	SS
									arm wound much improved	

730620.01

* G = good, F = fair, P = poor
** N = normal, SS = semi-solid, L = liquid, B = Bloody

GOVERNMENT EXHIBIT 22
Page 3 of 4
APHIS FORM 7070 (MAR 96)

All redactions on this page are pursuant to (b)(6) & (b)(7)(c).

34278	California Primate Research Center	4
Animal Number		Page

Date	Weight (kg)	TB test	24-hr reading	48-hr reading	72-hr reading	Appetite (G,F,P)*	Hydration (G,F,P)*	Stool (N,SS,L,B)*	Observation	Init
1/30/04									P: continues to vocalize daily,	
									assess 2/2 to discharge to	
									home cage	VB
1/31/04						P	6	5%	SO: BAR @ arm, no swelling	
									or D/C	JB
2/1/04						0/2	G	Scant	SO: BAR no swelling or	
									D/C noted A/P: see 1/30/04	JB
2/2/04						0/B	G	N	SO: BAR, eating enrichment f	
									fruit, not chow, arm lesion	
									resolved P: Discharge to home	
									cage tomorrow	VB
3.29.04	5.6									YB/FC
5.19.04	5.4	My/L	—	—	—				.6cc KET	FC/YB
7.20.04	5.8									YB/FC
8/21/04	5.87								Found dead in cage	BV

730620.01

* G = good, F = fair, P = poor
** N = normal, SS = semi-solid, L = liquid, B = Bloody

GOVERNMENT EXHIBIT 22

APHIS FORM 7070 (MAR 90)

CALIFORNIA PRIMATE RESEARCH CENTER

REQUEST FOR NECROPSY

(b)(2)High, (b)(7)f

INVESTIGATOR: (b)(6), (b)(7)c

CAGE: 26

PROJECT: ERX01/8724

SEX: F

AGE: 8y2m

DISP CODE: D

ID: MCM 31427 8 (SP / NUMBER)

DEATH DATE: 8 / 21 / 04 (MO / DAY / YR)

5.87 kg

REQUESTED BY:

WEIGHT AFTER DEATH ~~5.8~~ KG (7.20-04)

☐ Charge to Center
☐ Charge to ID# _____

☒ FOUND DEAD
☐ DEATH OBSERVED
☐ EUTHANIZED

TIME OF DEATH _____ A.M. / _____ P.M.

OTHER _____

METHOD USED:

NATURE OF EXPERIMENT:

BIOHAZARDS: ☐ Infectious agents ☐ Radiation ☐ Chemicals

SPECIFY AGENT:

CLINICAL HISTORY:

5/30/02 – RECEIVED IN QUARANTINE.

1/28/04 – ® ARM ABSCESS. CEFAZOLIN 0.35ml IM t.i.d. x 5 DAYS.

8/21/04 – FOUND DEAD IN CAGE.

CLINICAL DIAGNOSIS:

☐ MODIFY NECROPSY

GOVERNMENT EXHIBIT 23 Page 1 of 1 APHIS FORM 7070 (MAR 95)

PATHOLOGIST TO COMPLETE:

NECROPSY Performed (b)(6), (b)(7)c at 2:55 (time) A.M. / P.M. on 8/25/04 (date)

NECROPSY DIAGNOSIS: Pulmonary Congestion, Diffuse, Marked

Animal Chart Pathologist Investigator SNOMED/Files

CALIFORNIA PRIMATE RESEARCH CENTER
PATHOLOGY: NECROPSY REPORT

ANIMAL I.D.:	MCY34278	SEX:	F	DEATH DATE:	8-21-04
ROOM-CAGE:	(b)(2)High, (b)(7)f	AGE:	8y 2m	TYPE OF DEATH:	Spontaneous Death
INVESTIGATOR:	(b)(6), (b)(7)c	PROJECT CODE:	CRX01	TIME OF DEATH:	
PATHOLOGIST:		CLINICIAN:	(b)(6), (b)(7)c	DATE OF NECROPSY:	8-25-04
BODY WEIGHT AFTER DEATH:	5.87 kg			TIME NECROPSY BEGAN:	2:55 pm

CLINICAL HISTORY:

- 5/30/02: Received in quarantine
- 1/28/04: Right arm abscess. Cefazolin 0.35 ml IM tid x 5 days
- 8/21/04: Found dead in cage

CLINICAL DIAGNOSIS: Open.

MODIFY NECROPSY: None.

GROSS OBSERVATIONS: A tattoo on the skin of the right medial thigh of this adult female cynomolgus monkey reads 34278. Diffusely the skeletal muscle is a light red color. A moderate amount of gelatinous subcutaneous edema is present over the left lateral and ventral thorax. Diffusely the lung is a variegated dark red and light red congested color. No other significant changes are seen in the remainder of the tissues.

GROSS DIAGNOSIS: LUNG: PULMONARY CONGESTION, DIFFUSE, MARKED

COMMENTS: The results of histopathology will be presented in the final necropsy report.

HISTOPATHOLOGY:

9 slides containing 23 tissue sections were examined and consisted of the following (number denotes block and slide containing tissue):

Alimentary Tract	Reproductive Sys	Salivary Gland
Lip	Scrotum	Sublingual
cheek pouch	Testis	Submandibular
Gingiva	Epididymis	Parotid
Pharynx	Penis	

PATHOLOGY: NECROPSY REPORT

Tongue
Esophagus
Stomach
Cardia
Fundus
Body
Pylorus
small intestine
Duodenum
Jejunum
Ileum 1
Cecum 1
large intestine
Proximal 1
Middle
Rectum
Anus

Digestive System
Liver 2
gall bladder
Pancreas

Urinary System
Kidney 3
Ureter
Urinary bladder
Urethra

Reproductive Sys.
Clitoris
Vulva
Vagina
Cervix
Uterus 6
Fallopian tube
Ovary 5
Umbilical cord
Placenta

Prostate
seminal vesicle

Endocrine System
thyroid gland
parathyroid gland
adrenal gland
pituitary gland

Lymphoid System
Tonsil
Thymus
Spleen 2
lymph nodes
Axillary
Inguinal
Iliac
Obturator
Mesenteric 2
Ileocecocolic 1
Tracheobronchial 3

Central Nervous System
Brain
Cerebrum & basal gng 7
Cerebrum & hypothalamus 8
Midbrain 9
Cerebellum & brainstem 9
Occipital lobe 9

Spinal Cord
Cervical
Thoracic
Lumbar
Sacral
Special Senses
Eye
Ear

Respiratory System
Larynx
Bronchus 3
Trachea 4
Lung
Cranial
Middle
Caudal (right) 3
Nasal mucosa
Peripheral Nervous Sys
sciatic nerve
brachial plexus

Hematopoietic System
Femoral bone marrow

Skeletal Muscle
Leg
Diaphragm
Synovium
Bone
Tooth

Skin
Palm
Sole
Inguinal
Teat
Mammary gland
Axillary
Back

Cardiovascular Sys.

Myocardium
Left vn 5
Right vn 5
Septum 5
Aorta Thoracic
Abdominal

Significant tissue changes are presented as morphologic diagnoses in the final diagnosis section.

PATHOLOGY: NECROPSY REPORT

NECROPSY REPORT Abbreviations

MN	minimal
ML	mild
MD	moderate
MK	marked
SV	severe
F	focal
MF	multifocal
D	diffuse
DSM	disseminated
FE	focally extensive

MALT mucosal associated lymphoid tissue

E	eosinophilic
H	histiocytic
L	lymphocytic
N	neutrophilic
P	plasmacytic

Final Diagnosis

LIVER: HEPATOCELLULAR LIPIDOSIS, ZONAL, CENTROLOBULAR AND BRIDGING, MD, PERIPHERAL AND MIDZONAL, ML

KIDNEY: A) MINERALIZATION, PELVIS, MF, ML
B) PYELITIS, L-H, F, MN

LUNG: VASCULAR CONGESTION AND ALVEOLAR EDEMA, D, SV

CHEEK POUCH: ACCESSORY SALIVARY GLAND SIALOADENITIS, L-H, MF, ML

Comments

Most significantly there was severe pulmonary congestion and alveolar edema which can account for the death of this animal; these changes are consistent with exposure to hyperthermia.

CALIFORNIA REGIONAL PRIMATE RESEARCH CENTER

ENTERED 1/23/04 PA

ANIMAL DEATH RECORD

Species: MCY ID #: 34278 Date of Death: 8/21/04

Type of Death: Date Reported: 8/21/04

D ☑ Spontaneous Death Home Location: (b)(2)High, (b)(7)f

X ☐ Experimental Design Present Location: _____

A ☐ Experimental Accident Weight: 5.87 kg

M ☐ Medical Cull Diagnostic Sex: Female

K ☐ Medical Cull

S ☐ Surgical Cull

Probable Cause of Death (technician or clinician): HYPERTHERMIA

_____ Signed (b)(6), (b)(7)c

Pathological Diagnosis (clinician or pathologist): _____

_____

☐ Necropsy not performed Signed _____

D1010 (8/95)M Original—Animal Chart Yellow—Data Entry ☐

CALIFORNIA REGIONAL PRIMATE RESEARCH CENTER

ANIMAL DEATH RECORD

Species: mcy ID #: 34278

Date of Death: 8/21/04

Date Reported: 8/25/04

Type of Death:

D ☒ Spontaneous Death

X ☐ Experimental Design

A ☐ Experimental Accident

M ☐ Medical Cull Diagnostic

K ☐ Medical Cull

S ☐ Surgical Cull

Home Location: (b)(2)High, (b)(7)f

Present Location: _____

Weight: 5.8kg (7.20-04)

Sex: F

Probable Cause of Death (technician or clinician): _____

Signed _____

Pathological Diagnosis (clinician or pathologist): Pulmonary Congestion

☐ Necropsy not performed

Sign (b)(6), (b)(7)c

D1010 (8/95)M Original—Animal Chart Yellow—Data Entry

34279	California Primate Research Center	1
Animal Number		Page

Date	Weight (kg)	TB Test	24-HR Reading	48-HR Reading	72-HR Reading	Appetite (G,F,P)*	Hydration (G,F,P)*	Stool (N,SS,L,B)*	Observation	Init
6/3/02	3.5	M/R	1	0	0				.3cc ket	
6/18/02	3.9	M/L	0	0	0				.4cc ket; Tattoo	
7/1/02	3.9	M/R	0	0	0				.4mls ket; Bled CBC, Serum, rectal swab, stool sample + 7mls green top #2131	
7-17-02	2.6	M/L	0	0	0				.3cc ket.	
7-19-02	3.9								.4cc ket.	
7/30/02	4.0	M/R	0	0	0				.4cc ket.	
8-14-02	4.0	M/L	0	0	0				.4mls ket	
8-26-02	4.38								.4mls ket. QU screen out w/o 3168	
[redacted] VACCINATED TETANUS									quarantine screen out exam, gave additional 0.5ml ketamine & 0.12ml medetomidine, animal has scars on abdomen & moderate tartar; thoracic radiographs WNL	
									A: satisfactory screen out exa	VS
8/26/02									MOVED → ARD 3-27 CRX #1	SP
									Mo #429	
9/27/02	4.39	M/R	-	-	-				___cc Ket. Dental	
3/3/03	5.8	M/L	-	-	-				.5cc Ket Bled 3mls CRX 01 w.o.#5383	
5/28/03	6.04	M/L	-	-	-				0.5 ml Ket	
7/30/03	7.00									
9/25/03	7.20	M/L	-	-	-				.7cc ket, Dental	

* G = good, F = fair, P = poor
** N = normal, SS = semi-solid, L = liquid, B = Bloody

730620.01

GOVERNMENT EXHIBIT 27

APHIS FORM 7070 (MAR 90) (2/90)

All redactions on this page are pursuant to (b)(6) & (b)(7)(c).

34279	California Primate Research Center	2
Animal Number		Page

Date	Weight (kg)	TB Test	24-HR Reading	48-HR Reading	72-HR Reading	Appetite (G,F,P)*	Hydration (G,F,P)*	Stool (N,SS,L,B)*	Observation	Init
11-20-03	7.14									FC
1/27/4	8.25	N/A							.7cc Ket Dental	CR/OBS
3.29.04	8.1									SB/FC
5.19.04	7.7	1/2	—	—	—				.8cc KET	FC/SB
7.20.04	7.6									SB/FC
8/21/04	7.31								Found dead in cage	RV

730620.01

* G = good, F = fair, P = poor
** N = normal, SS = semi-solid, L = liquid, B = Bloody

GOVERNMENT EXHIBIT 27
Page 2 of 2
APHIS FORM 7070 (MAR 90)

CALIFORNIA PRIMATE RESEARCH CENTER

REQUEST FOR NECROPSY

(b)(2)High, (b)(7)f

INVESTIGATOR: (b)(6), (b)(7)c	CAGE: 27	SEX: F	ID: MCY 34279 (SP / NUMBER)
	PROJECT: CRX01/8/04	AGE: 64	DEATH DATE: 8 21 04 (MO DAY YR)
		DISP CODE: D	

REQUESTED BY:

WEIGHT AFTER DEATH: ~~7.16~~ 7.31 kg (7.30.04) KG

☐ Charge to Center
☐ Charge to ID# ____

☒ FOUND DEAD
☐ DEATH OBSERVED
☐ EUTHANIZED

TIME OF DEATH ____ A.M. ____ P.M.

OTHER ____

METHOD USED:

NATURE OF EXPERIMENT:

BIOHAZARDS: ☐ Infectious agents ☐ Radiation ☐ Chemicals

SPECIFY AGENT:

CLINICAL HISTORY:

5/30/02 - Received in Quarantine.

8/21/04 - Found dead in cage.

CLINICAL DIAGNOSIS:

☐ MODIFY NECROPSY

GOVERNMENT EXHIBIT 28 Page 1 of 1 APHIS FORM 7070 (MAR 95)

PATHOLOGIST TO COMPLETE:

NECROPSY Performed by (b)(6), (b)(7)c at 2:30 (time) A.M. / P.M. on 8 25 04 (date)

NECROPSY DIAGNOSIS: Pulmonary Congestion + Diffuse, Marked

Animal Chart Pathologist Investigator SNOMED/Files

CALIFORNIA PRIMATE RESEARCH CENTER
PATHOLOGY: NECROPSY REPORT

ANIMAL I.D.:	MCY34279	SEX:	F	DEATH DATE:	8-21-04
ROOM-CAGE:	(b)(2)High, (b)(7)f	AGE:	6y	TYPE OF DEATH:	Spontaneous Death
INVESTIGATOR:	(b)(6), (b)(7)c	PROJECT CODE:	CRX01	TIME OF DEATH:	
PATHOLOGIST:		CLINICIAN:	(b)(6), (b)(7)c	DATE OF NECROPSY:	8-25-04
BODY WEIGHT AFTER DEATH:	7.31 kg			TIME NECROPSY BEGAN:	2:30 pm

CLINICAL HISTORY:

- 5/30/02: Received in quarantine
- 8/21/04: Found dead in cage

CLINICAL DIAGNOSIS: Open.

MODIFY NECROPSY: None.

GROSS OBSERVATIONS: A tattoo on the skin of the right medial thigh of this adult female cynomolgus monkey reads 34279. A moderate amount of bloody fluid is present on the skin of the face. Diffusely the skeletal muscle is a light red color. Diffusely the lung is a variegated light and dark red congested color, the pleura is moist over the surface, and the lung has a spongy resilient consistency. No other significant changes are seen in the remainder of the tissues.

GROSS DIAGNOSIS: LUNG: PULMONARY CONGESTION, DIFFUSE, MARKED

COMMENTS: The results of histopathology will be presented in the final necropsy report.

HISTOPATHOLOGY:

9 slides containing 23 tissue sections were examined and consisted of the following (number denotes block and slide containing tissue):

Alimentary Tract	Reproductive Sys	Salivary Gland
Lip	Scrotum	Sublingual
cheek pouch	Testis	Submandibular
Gingiva	Epididymis	Parotid
Pharynx	Penis	

PATHOLOGY: NECROPSY REPORT

Tongue
Esophagus
Stomach
  Cardia
  Fundus
  Body
  Pylorus
small intestine
  Duodenum
  Jejunum
  Ileum 1
Cecum 1
large intestine
  Proximal 1
  Middle
  Rectum
Anus

Digestive System
Liver 2
gall bladder
Pancreas

Urinary System

Kidney 3
Ureter
Urinary bladder
Urethra

Reproductive Sys.
Clitoris
Vulva
Vagina
Cervix
Uterus 6
Fallopian tube
Ovary 5
Umbilical cord
Placenta

Prostate
seminal vesicle

Endocrine System
thyroid gland
parathyroid gland
adrenal gland
pituitary gland

Lymphoid System
Tonsil
Thymus
Spleen 2
lymph nodes
  Axillary
  Inguinal
  Iliac
  Obturator
  Mesenteric 2
  Ileocecocolic 1
  Tracheobronchial 3

Central Nervous System
Brain
Cerebrum & basal gng 7
Cerebrum & hypothalamus 8
Midbrain 9
Cerebellum & brainstem 9
Occipital lobe 9

Spinal Cord
  Cervical
  Thoracic
  Lumbar
  Sacral
Special Senses
Eye
Ear

Respiratory System
Larynx
Bronchus 3
Trachea 4
Lung
  Cranial
  Middle
  Caudal (right) 3
Nasal mucosa
Peripheral Nervous Sys

  sciatic nerve
  brachial plexus

Hematopoietic System
Femoral bone marrow

Skeletal Muscle
Leg
Diaphragm
Synovium
Bone
Tooth

Skin
  Palm
  Sole
  Inguinal
  Teat
  Mammary gland
  Axillary
  Back

Cardiovascular Sys.

Myocardium
  Left vn 5
  Right vn 5
  Septum 5
Aorta Thoracic
  Abdominal

Significant tissue changes are presented as morphologic diagnoses in the final diagnosis section.

GOVERNMENT EXHIBIT 29
Page 2 of 3
APHIS FORM 7070 (MAR 95)

PATHOLOGY: NECROPSY REPORT

NECROPSY REPORT Abbreviations

MN	minimal
ML	mild
MD	moderate
MK	marked
SV	severe
F	focal
MF	multifocal
D	diffuse
DSM	disseminated
FE	focally extensive

MALT mucosal associated lymphoid tissue

E	eosinophilic
H	histiocytic
L	lymphocytic
N	neutrophilic
P	plasmacytic

Final Diagnosis

LUNG: A) VASCULAR CONGESTION, D, MK
B) ALVEOLAR EDEMA, MF TO COALESCING, SV

UTERUS: PROLIFERATIVE PHASE

Comments

Most significantly there was severe pulmonary congestion and alveolar edema which can account for the death of this animal; these changes are consistent with exposure to hyperthermia.

CALIFORNIA REGIONAL PRIMATE RESEARCH CENTER

ENTERED 8/23/04 PA

ANIMAL DEATH RECORD

Species: Mcy ID #: 34279 Date of Death: 8/21/04

Type of Death: Date Reported: 8/21/04

D ☑ Spontaneous Death Home Location (b)(2)High, (b)(7)f

X ☐ Experimental Design Present Location: _____

A ☐ Experimental Accident Weight: 7.31 Kg

M ☐ Medical Cull Diagnostic Sex: Female

K ☐ Medical Cull

S ☐ Surgical Cull

Probable Cause of Death (technician or clinician): HYPERTHERMIA

_____ Signed (b)(6), (b)(7)c

Pathological Diagnosis (clinician or pathologist): _____

_____

☐ Necropsy not performed Signed _____

D1010 (8/95)M

GOVERNMENT EXHIBIT 21 Page 1 of 1 APHIS FORM 7070 (MAR 99)

CALIFORNIA REGIONAL PRIMATE RESEARCH CENTER

ANIMAL DEATH RECORD

Species: MCM ID #: 34279

Date of Death: 8/21/04 SE

Date Reported: 8/25/04

Type of Death:

D ☒ Spontaneous Death

X ☐ Experimental Design

A ☐ Experimental Accident

M ☐ Medical Cull Diagnostic

K ☐ Medical Cull

S ☐ Surgical Cull

Home Location: (b)(2)High, (b)(7)f

Present Locatio

Weight: 7.6kg (4-20-04

Sex: F

Probable Cause of Death (technician or clinician): _____

Signed _____

Pathological Diagnosis (clinician or pathologist): Pulmonary Congestion

(b)(6), (b)(7)c

☐ Necropsy not performed

Sig

D1010 (8/95)M Original—Animal Chart Yellow—Data Entry

All redactions on this page are pursuant to (b)(6) & (b)(7)(c).

34280 | California Primate Research Center

Animal Number | Page

Date	Weight (kg)	TB Test	24-HR Reading	48-HR Reading	72-HR Reading	Appetite (G,F,P)*	Hydration (G,F,P)*	Stool (N,SS,L,B)*	Observation	Init
6/3/02	1.7	M/R	0	0	0				.2cc ket	
6/18/02	1.9	M/L	0	0	0				.2cc ket; Tattoo	
06-19-02						G	G	N	SO; BAR Reported for digit trauma —	
									not confirmed.	
7/1/02	2.1	M/R	0	0	0				.2cc ket; Bled CBC, serum, rectal swab	
1									Stool sample + 7mls green top w/o #2131	
7-17-02	1.6	M/L	0	0	0				.2cc Ket.	
7-19-02	2.0								.2cc ket.	
7/30/02	2.0	M/R	0	0	0				.2cc ket.	
8-14-02	2.2	M/L	0	0	0				.2 mls ket	
8-26-02	2.12								.3 Mls ket. QU screen out w/o 3168	
									quarantine screen out exam,	
									animal required additional 1.0	
									ml ketamine & 0.07 ml medetomidine,	
									PE unremarkable other than animal being	
									very small, radiographic films unremarkable	
									A: satisfactory screen out exam	
8/26/02									MOVED → ARDE 3-28 CRX#1	
									MD# 429	
9/27/02	2.16	M/R	-	-	-				0.3cc Ket. Dental	
3/3/03	2.13	M/L	-	-	-				.5cc Ket Bled 3mls CRX 01 w.o.#5383	
5/28/03	2.29	M/R	-	-					0.2 ml ket	

[redacted] VACCINATED TETANUS

NOT A FOIA DELETION

730620.01

* G = good, F = fair, P = poor

** N = normal, SS = semi-solid, L = liquid, B = Bloody

GOVERNMENT EXHIBIT 32 Page 1 of 2 APHIS FORM 7070 (MAR 90)

4681 (2/90)

34280	California Primate Research Center	2
Animal Number		Page

Date	Weight (kg)	TB Test	24-HR Reading	48-HR Reading	72-HR Reading	Appetite (G,F,P)*	Hydration (G,F,P)*	Stool (N,SS,L,B)*	Observation	Init
7/30/03	2.40									SC
9/25/03	2.30	M/L	-	-	-				.2cc ket, Dental	CR
11-20-03	2.27									FC
1/27/4	2.16	M/R							.2cc Ket Dental	CR/DRS
3.29.04	2.3									CR/FC
5.19.04	2.2	M/L	-	-	-				.2cc KET	CR
7.20.04	2.4									CR/FC
8/21/04	2.34								Found dead in cage	CR

* G = good, F = fair, P = poor
** N = normal, SS = semi-solid, L = liquid, B = Bloody

730620.01

GOVERNMENT EXHIBIT 32
Page 2 of 2
APHIS FORM 7070 (MAR 95)

CALIFORNIA PRIMATE RESEARCH CENTER

REQUEST FOR NECROPSY

(b)(2)High, (b)(7)f

INVESTIGATOR (b)(6), (b)(7)c

CAGE: T16

PROJECT: RX01/8724

SEX: F

AGE: 6y3m

DISP CODE: D

ID: mcy34280 (SP NUMBER)

DEATH DATE: 8 21 04 (MO DAY YR)

REQUESTED BY:

WEIGHT AFTER DEATH: 2.34 kg ~~2.4 KG~~ (7.20.04)

☐ Charge to Center
☐ Charge to ID# _____

☒ FOUND DEAD
☐ DEATH OBSERVED
☐ EUTHANIZED

TIME OF DEATH _____ A.M. _____ P.M.

OTHER _____

METHOD USED:

NATURE OF EXPERIMENT:

BIOHAZARDS: ☐ Infectious agents ☐ Radiation ☐ Chemicals

SPECIFY AGENT:

CLINICAL HISTORY:

5/30/02 - RECEIVED IN QUARANTINE.

8/21/04 - FOUND DEAD IN CAGE.

CLINICAL DIAGNOSIS:

☐ MODIFY NECROPSY

GOVERNMENT EXHIBIT 33 Page 1 of 1 APHIS FORM 7070 (MAR 95)

PATHOLOGIST TO COMPLETE:

NECROPSY Performed (b)(6), (b)(7)c at 5:15 (time) A.M. / ~~P.M.~~ on 8/25/04 (date)

NECROPSY DIAGNOSIS: Pulmonary Congestion, Diffuse, MARKED

D1909 (2/87) 741031.03

Animal Chart Pathologist Investigator SNOMED/Files

CALIFORNIA PRIMATE RESEARCH CENTER
PATHOLOGY: NECROPSY REPORT

ANIMAL I.D.:	MCY34280	SEX:	F	DEATH DATE:	8-21-04
ROOM-CAGE:	(b)(2)High, (b)(7)f	AGE:	6y 3m	TYPE OF DEATH:	Spontaneous Death
INVESTIGATOR:	(b)(6), (b)(7)c	PROJECT CODE:	CRX01	TIME OF DEATH:	
PATHOLOGIST:		CLINICIAN:	(b)(6), (b)(7)c	DATE OF NECROPSY:	8-25-04
BODY WEIGHT AFTER DEATH:	2.34 kg			TIME NECROPSY BEGAN:	5:15 pm

CLINICAL HISTORY:

- 5/30/02: Received in quarantine
- 8/21/04: Found dead in cage

CLINICAL DIAGNOSIS: Open.

MODIFY NECROPSY: None.

GROSS OBSERVATIONS: A tattoo on the skin of the right medial thigh of this adult female cynomolgus monkey reads 34280. Diffusely the skeletal muscle is a light reddish brown color. Bilaterally in the deep subcutis and skeletal muscle of the mid thoracic region there is dark red contusion for a diameter of approximately 2 cm. Focal extensively over the subcutis of the back, especially the caudothoracic and lumbar regions, there is a moderate amount of dark red gelatinous edema fluid. Diffusely the lung is collapsed and a dark red congested color. The parenchyma has a spongy resilient consistency. There are no other significant changes seen in this animal.

GROSS DIAGNOSIS: LUNG: PULMONARY CONGESTION, DIFFUSE, MARKED

COMMENTS: The results of histopathology will be presented in the final necropsy report.

HISTOPATHOLOGY:

9 slides containing 23 tissue sections were examined and consisted of the following (number denotes block and slide containing tissue):

Alimentary Tract		Reproductive Sys	Salivary Gland
Lip	7	Scrotum	Sublingual

PATHOLOGY: NECROPSY REPORT

cheek pouch 7
Gingiva
Pharynx
Tongue
Esophagus 3, 7
Stomach
Cardia
Fundus
Body
Pylorus
small intestine
Duodenum
Jejunum
Ileum 1
Cecum 1
large intestine
Proximal 1
Middle
Rectum
Anus

Digestive System
Liver 2
gall bladder
Pancreas

Urinary System
Kidney 3
Ureter
Urinary bladder
Urethra

Reproductive Sys.
Clitoris
Vulva
Vagina
Cervix
Uterus 6
Fallopian tube
Ovary 5
Umbilical cord
Placenta

Testis
Epididymis
Penis
Prostate
seminal vesicle

Endocrine System
thyroid gland
parathyroid gland
adrenal gland
pituitary gland

Lymphoid System
Tonsil
Thymus
Spleen 2
lymph nodes
Axillary
Inguinal 7
Iliac
Obturator
Mesenteric 2
Ileocecocolic 1
Tracheobronchial 3

Central Nervous System
Brain
Cerebrum & basal gng 4
Cerebrum & hypothalamus 8
Midbrain 9
Cerebellum & brainstem 9
Occipital lobe 9

Spinal Cord
Cervical
Thoracic
Lumbar
Sacral
Special Senses
Eye
Ear

Submandibular
Parotid

Respiratory System
Larynx
Bronchus 3
Trachea 7
Lung
Cranial
Middle
Caudal (right) 3
Nasal mucosa
Peripheral Nervous Sys
sciatic nerve
brachial plexus

Hematopoietic System
Femoral bone marrow

Skeletal Muscle
Leg 2
Diaphragm
Synovium
Bone
Tooth

Skin
Palm
Sole
Inguinal 4
Teat
Mammary gland
Axillary
Back

Cardiovascular Sys.

Myocardium
Left vn 5
Right vn 5
Septum 5
Aorta Thoracic
Abdominal

Significant tissue changes are presented as morphologic diagnoses in the final diagnosis section.

PATHOLOGY: NECROPSY REPORT

NECROPSY REPORT Abbreviations

MN	minimal
ML	mild
MD	moderate
MK	marked
SV	severe
F	focal
MF	multifocal
D	diffuse
DSM	disseminated
FE	focally extensive

MALT mucosal associated lymphoid tissue

E	eosinophilic
H	histiocytic
L	lymphocytic
N	neutrophilic
P	plasmacytic

Final Diagnosis

SPLEEN: RED PULP CONGESTION, D, MK

LUNG: A) ALVEOLAR EDEMA, MF TO COALESCING, SV
B) VASCULAR CONGESTION, D, MK

UTERUS: SECRETORY PHASE, EARLY

LIP: ACCESSORY SALIVARY GLAND SIALOADENITIS, L-H, MF, ML

Comments

Most significantly there was severe pulmonary congestion and alveolar edema, which can account for the death of this animal; these changes are consistent with exposure to hyperthermia.

ENTERED 8/23/04 PA

GOVERNMENT EXHIBIT 35 Page 1 of 1 APHIS FORM 7070 (MAR 95)

CALIFORNIA REGIONAL PRIMATE RESEARCH CENTER

ANIMAL DEATH RECORD

Species: MCY ID #: 34280 Date of Death: 8/21/04

Type of Death: Date Reported: 8/21/04

D ☒ Spontaneous Death Home Location: (b)(2)High, (b)(7)f

X ☐ Experimental Design Present Location: _____

A ☐ Experimental Accident Weight: 2.34

M ☐ Medical Cull Diagnostic Sex: Female

K ☐ Medical Cull

S ☐ Surgical Cull

Probable Cause of Death (technician or clinician): HYPERTHERMIA

_____ Signe (b)(6), (b)(7)c

Pathological Diagnosis (clinician or pathologist): _____

_____

☐ Necropsy not performed Signed _____

D1010 (8/95)M Original—Animal Chart Yellow—Data Entry ☐

GOVERNMENT EXHIBIT 3e Page 1 of 1 APHIS FORM 7070 (MAR 96)

CALIFORNIA REGIONAL PRIMATE RESEARCH CENTER

ANIMAL DEATH RECORD

Species: mcy ID #: 34280 Date of Death: 8/21/04

Type of Death: Date Reported: 8/25/04

D ☒ Spontaneous Death Home Location: (b)(2)High, (b)(7)f

X ☐ Experimental Design Present Location:

A ☐ Experimental Accident Weight: 2.4kg

M ☐ Medical Cull Diagnostic Sex: F

K ☐ Medical Cull

S ☐ Surgical Cull

Probable Cause of Death (technician or clinician): _____

_____ Signed _____

Pathological Diagnosis (clinician or pathologist): Pulmonary Congestion

_____

☐ Necropsy not performed (b)(6), (b)(7)c

D1010 (8/95)M Original—Animal Chart Yellow—Data Entry ☐

34281	California Primate Research Center	
Animal Number		Page

Date	Weight (kg)	TB Test	24-HR Reading	48-HR Reading	72-HR Reading	Appetite (G,F,P)*	Hydration (G,F,P)*	Stool (N,SS,L,B)*	Observation	Init
5/30/02									Received in Qu 1	
6/3/02	3.4	M/R	0	0	0				.3cc ket	
6/18/02	3.2	M/L	0	0	0				.3cc ket; Tattoo	
7/1/02	3.2	M/R	0	0	0				.3cc ket; Bled CBC, Serum, rectal swab	
1									stool sample + 7mls green tops w/o #2131	
7-17-02	2.6	M/L	0	0	0				.3cc Ket.	
7-19-02	3.0								.3cc ket.	
7/30/02	3.0	M/R	1	0	0				.3cc ket.	
8-14-02	3.0	M/L	0	0	0				.3mls Ket.	
8-26-02	3.18								.3mls ket. Qu screen out w/o 3168	
[redacted] VACCINATED TETANUS									quarantine screen out exam	
									animal required additional 0.5 ml	
									ketamine IM, & 0.09 ml medetomidine,	
									PE WNL except for moderate	
NOT A FOIA DELETION									alopecia likely 2° to self plucking/	
									thoracic radiographs WNL	
									A: satisfactory screen out exam	
8/26/02									MOVED → (b)(2)High, (b)(7)f CRX01	
									Mo # 429	
9/27/02	3.35	M/R	-	-	-				0.3cc Ket. Dental	
3/3/03	3.75	M/L	-	-	-				.5cc Ket Bled 3mls CRX 01 w.o.#5383	
5/28/03	4.22	M/R	-	-	-				0.4 ml Ket	
7/30/03	4.40									

* G = good, F = fair, P = poor
** N = normal, SS = semi-solid, L = liquid, B = Bloody

730620.01

GOVERNMENT EXHIBIT 37
Page 1 of 2
APHIS FORM 7070 (MAR 95)

34281	California Primate Research Center	2
Animal Number		Page

Date	Weight (kg)	TB Test	24-HR Reading	48-HR Reading	72-HR Reading	Appetite (G,F,P)*	Hydration (G,F,P)*	Stool (N,SS,L,B)*	Observation	Init
9/25/03	4.50	M/L	–	–	–				.4cc ket, Dental	CR
11-20-03	4.36									
1/27/4	4.74	M/A							.4cc Ket Dental	CM/DMS
3.29.04	4.9									
5.19.04	4.4	M/L	–	–	–				.5cc KET	
7.20.04	4.7									
8/21/04	4.50								Found dead in cage	

* G = good, F = fair, P = poor
** N = normal, SS = semi-solid, L = liquid, B = Bloody

730620.01

GOVERNMENT EXHIBIT 37
Page 2 of 2
APHIS FORM 7070 (MAR 95)

CALIFORNIA PRIMATE RESEARCH CENTER

REQUEST FOR NECROPSY

(b)(2)High, (b)(7)f

INVESTIGATOR: (b)(6), (b)(7)c	CAGE: 77	SEX: F	ID: MCY 34281 (SP NUMBER)
	PROJECT: CRB01	AGE: 6y 11m	DEATH DATE: 8 / 21 / 04 (MO / DAY / YR)
		DISP CODE: D	

REQUESTED BY:

WEIGHT AFTER DEATH 4.50 KG

☑ Charge to Center
☐ Charge to ID# _____

☑ FOUND DEAD
☐ DEATH OBSERVED
☐ EUTHANIZED

TIME OF DEATH _____ A.M. _____ P.M.

OTHER _____

METHOD USED:

NATURE OF EXPERIMENT:

BIOHAZARDS: ☐ Infectious agents ☐ Radiation ☐ Chemicals

SPECIFY AGENT:

CLINICAL HISTORY:

5/30/02 - RECEIVED IN QUARANTINE.

8/21/04 - FOUND DEAD IN CAGE.

CLINICAL DIAGNOSIS:

☐ MODIFY NECROPSY

PATHOLOGIST TO COMPLETE:

NECROPSY Performed by _____ at _____ (time) A.M. P.M. on ____/____/____ (date)

NECROPSY DIAGNOSIS:

GOVERNMENT EXHIBIT 38

Page 1 of 1

APHIS FORM 7070 (MAR 95)

Original - Animal's Chart Yellow - Colony Services

D1909 (2/87) 741031.03

Animal Chart Pathologist Investigator SNOMED/Files

CALIFORNIA PRIMATE RESEARCH CENTER
PATHOLOGY: NECROPSY REPORT

ANIMAL I.D.:	MCY34281	SEX:	F	DEATH DATE:	8-21-04
ROOM-CAGE:	(b)(2)High, (b)(7)f	AGE:	6y 11m	TYPE OF DEATH:	Spontaneous Death
INVESTIGATOR:	(b)(6), (b)(7)c	PROJECT CODE:	CRX01	TIME OF DEATH:	
PATHOLOGIST:		CLINICIAN	(b)(6), (b)(7)c	DATE OF NECROPSY:	8-25-04
BODY WEIGHT AFTER DEATH:	4.50 kg			TIME NECROPSY BEGAN:	3:20 pm

CLINICAL HISTORY:

- 5/30/02: Received in quarantine
- 8/21/04: Found dead in cage

CLINICAL DIAGNOSIS: Open.

MODIFY NECROPSY: None.

GROSS OBSERVATIONS: A tattoo on the skin of the right medial thigh of this adult female cynomolgus monkey reads 34281. A moderate amount of red bloody fluid is present on the skin of the face. A small amount of gelatinous pink edema fluid is present in the subcutis of the medial aspect of the right stifle in the subcutis. Diffusely the skeletal muscle is a light red color. Diffusely the lung is a red congested color, the pleura is moist and glistening, and the parenchyma is a spongy resilient consistency. No other significant changes are seen in the remainder of the tissues.

GROSS DIAGNOSIS: LUNG: PULMONARY CONGESTION, DIFFUSE, MARKED

COMMENTS: The results of histopathology will be presented in the final necropsy report.

HISTOPATHOLOGY:

9 slides containing 23 tissue sections were examined and consisted of the following (number denotes block and slide containing tissue):

Alimentary Tract		Reproductive Sys	Salivary Gland
Lip	4	Scrotum	Sublingual
cheek pouch	4	Testis	Submandibular

PATHOLOGY: NECROPSY REPORT

Gingiva
Pharynx
Tongue
Esophagus
Stomach
  Cardia
  Fundus
  Body
  Pylorus
small intestine
  Duodenum
  Jejunum
  Ileum 1
Cecum 1
large intestine
  Proximal 1
  Middle
  Rectum
Anus

Digestive System
Liver 2
gall bladder
Pancreas

Urinary System

Kidney 3
Ureter
Urinary bladder
Urethra

Reproductive Sys.
Clitoris
Vulva
Vagina
Cervix
Uterus 6
Fallopian tube
Ovary 5
Umbilical cord
Placenta

Epididymis
Penis
Prostate
seminal vesicle

Endocrine System
thyroid gland
parathyroid gland
adrenal gland
pituitary gland

Lymphoid System
Tonsil
Thymus
Spleen
lymph nodes
  Axillary
  Inguinal 4
  Iliac
  Obturator
  Mesenteric 2
  Ileocecocolic 1
  Tracheobronchial

Central Nervous System
Brain
Cerebrum & basal gng 7
Cerebrum & hypothalamus 8
Midbrain 9
Cerebellum & brainstem 9
Occipital lobe 9

Spinal Cord
  Cervical
  Thoracic
  Lumbar
  Sacral
Special Senses
Eye
Ear

Parotid

Respiratory System
Larynx
Bronchus 3
Trachea 4
Lung
  Cranial
  Middle
  Caudal (right) 3
Nasal mucosa
Peripheral Nervous Sys

  sciatic nerve
  brachial plexus

Hematopoietic System
Femoral bone marrow

Skeletal Muscle
Leg 2
Diaphragm
Synovium
Bone
Tooth

Skin
  Palm
  Sole
  Inguinal 4
  Teat
  Mammary gland
  Axillary
  Back

Cardiovascular Sys.

Myocardium
  Left vn 5
  Right vn 5
  Septum 5
Aorta Thoracic
  Abdominal

Significant tissue changes are presented as morphologic diagnoses in the final diagnosis section.

PATHOLOGY: NECROPSY REPORT

NECROPSY REPORT Abbreviations

MN	minimal
ML	mild
MD	moderate
MK	marked
SV	severe
F	focal
MF	multifocal
D	diffuse
DSM	disseminated
FE	focally extensive

MALT mucosal associated lymphoid tissue

E	eosinophilic
H	histiocytic
L	lymphocytic
N	neutrophilic
P	plasmacytic

Final Diagnosis

KIDNEY: NEPHRITIS, L-H, F, MN

LUNG: A) ALVEOLAR EDEMA, MF TO COALESCING, SV
B) VASCULAR CONGESTION, D, MK

TRACHEOBRONCHIAL LYMPH NODE: PNEUMOCONIOSIS, DSM, MEDULLA, ML

CHEEK POUCH: ACCESSORY SALIVARY GLAND SIALOADENITIS, L-H, MF, ML

OVARY: CORPUS LUTEUM

UTERUS: SECRETORY PHASE

Comments

Most significantly there was severe pulmonary congestion and alveolar edema, which can account for the death of this animal; these changes are consistent with exposure to hyperthermia.

34275 | California Primate Research Center

Animal Number | Page

Date	Weight (kg)	TB Test	24-HR Reading	48-HR Reading	72-HR Reading	Appetite (G,F,P)*	Hydration (G,F,P)*	Stool (N,SS,L,B)*	Observation	Init
6/3/02	2.3	M/R	0	0	0				.2cc ket	
6/18/02	2.1	M/L	0	0	0				.2cc ket; Tattoo	
7/1/02	2.5	M/R	0	0	0				.3cc ket; Bled CBC, serum, rectal swab	
1									Stool sample +7mls green tops W/O# 2131	
7-17-02	3.3	M/L	0	0	0				.3 M/s Ket.	
7-19-02	2.3		(1) Ø	(2) Ø					.3cc ket	
7/30/02	2.4	M/R	0	0	0				.3cc ket.	
8-14-02	2.4	M/L	0	0	0				.3 M/s Ket.	
8-26-02	2.5 kg								.3 M/s Ket. QU screen W/O# 3168	
									quarantine screen out exam,	
									gave additional 1.0 cc Ketamine	
									& 0.07 ml medetomidine, physical	
									exam revealed moderately	
									enlarged uterus, otherwise WNL	
									thoracic radiographs show mild	
									interstitial pattern A: satisfactory	
									screen out exam	
8/26/02									MOVED → (b)(2)High, (b)(7)f CRX01 Moved 9/29	
9/27/02	2.63	M/R	-	-	-				0.3cc Ket. Dental	
3/3/03	2.85	M/L	-	-	-				.5cc Ket Bled 3mls CRX 01 w.o.#5383	
5/28/03	2.99	M/R	-	-	-				0.3 ml Ket	
7/30/03	3.20									

VACCINATED TETANUS

NOT A FOIA DELETION

730620.01

* G = good, F = fair, P = poor
** N = normal, SS = semi-solid, L = liquid, B = Bloody

04681 (2/90)

GOVERNMENT EXHIBIT 40
Page 1 of 7
APHIS FORM 7070 (MAR 95)

(1) (2) EE wrong box JS 7/19/02

34275	California Primate Research Center	2
Animal Number		Page

Date	Weight (kg)	TB Test	24-HR Reading	48-HR Reading	72-HR Reading	Appetite (G,F,P)*	Hydration (G,F,P)*	Stool (N,SS,L,B)*	Observation	Init
9/25/03	2.90					G	G	N	OBR, sedated when observed	
									upated for road D/C, NS	
									abnormalities observed,	
									slight redness to left nare	
									within cavity only. @ vet	
									confirmed road D/C @ CTM	
									.3cc ket, Dental	CR
11-20-03	2.98									FC
1/27/4	2.97	N/R							.3cc ket Dental	CR/DAS
3.29.04	3.3									KB/FC
5.19.04	3.2	N/2	-	-	-				.3cc KET	KB
7.20.04	3.4									KB/FC

G = good, F = fair, P = poor
N = normal, SS = semi-solid, L = liquid, B = Bloody

DWO-5-19-04 KB

GOVERNMENT EXHIBIT 46
Page 27 of 27
APHIS FORM 7070 (MAR 95)

MCy 34275	California Primate Research Center	3
Animal Number		Page

Date	WEIGHT (KG)	TB TEST	24-HR READING	48-HR READING	72-HR READING	APPETITE (G,F,P)*	HYDRATION (G,F,P)*	STOOL (N,SS,L,B)*	Observation	Init
8/21/04	2.9								S: Notified by animal care tech of increased temp in holding room @ ARS facility. O: Animal minimally responsive, breathing - transported to CNPRC. T >109° F, began IVF and external cooling. Gave 0.3ml Sulu-Delta IV @ 0.6ml Baytril IM @ Animal began having vertical nystagmus + muscle tremors - gave 0.1 ml Valium IV. See ICU sheet A: Severe hyperthermia P: Begin IVF monitor closely	S
									12:30 — T = 97.0, animal active + moderately alert, interacting w/observer. Head restrained + moved to room 1411 - Unit functioning, offered rice cereal, chew, fruit A: Stable, hyperthermia P: CTM closely	S
									5:00pm gave 0.6ml Baytril IM @ Animal is alert and active in cage.	SA
8/22/04					F	G	N		SO BAR	A
									O: Animal active, mild ataxia, interacts w/observer A: Stable clinical stats @ this time P: Cont abx to limit bacterial translocation from GI tract, CTM,	S

DRUG Baytril DOSE 15
AMT. 0.6 ROUTE im FREQ. BID
START 8/22 END 8/26 DAYS 4
ANIM. # 34275 LOC. 1412-6
CHARGED ADD. COMMENTS:

* G = good, F = fair, P = poor
** N = normal, SS = semi-solid, L = liquid, B = Bloody

GOVERNMENT EXHIBIT 40
Page 3 of 7
APHIS FORM 7070 (MAR 96)

MCY 34275 | California Primate Research Center | 4

Animal Number | Page

Date	WEIGHT (KG)	TB TEST	24-HR READING	48-HR READING	72-HR READING	APPETITE (G,F,P)*	HYDRATION (G,F,P)*	STOOL (N,SS,L,B)*	Observation	Init
8/22/04									offer supps + ORT	S
8/23/04						F	G	N	SO: BAR didn't drink ort	
									ate FRT + some RC	
									Mild tremors, interacts w/ observer	
									A: Stable + improving clinical status	
									P: cm	S
8/23/04									moved to HO/333-5	
8/24/04						P	G	A	SO: BAR animal has mild/moderate	
									tremors, interacts well w/	
									observer, very aggressive,	
									decline in appetite P: tempt	
									to eat, continue to monitor	
									closely. OGT prn	VB
8/25/04						P	G	N	SO: BAR	
									A/P See 8/24/04	
8/26/04						F/P	G	N	SO: BAR, ate some enrichment,	
									not drinking Boost, P: Relocate	
									to 1605-32, admit to OP,	
									monitor appetite closely, OGT	
									prn	VB
8/26/04									D/C → 1605	
8/27/04						F/P	G	N	SO: BAR ate some enrichment	
									+ edges of biscuits eaten	
									A: Recovering fr. severe hyperthermia	
									P: Start supps ✓ ABS, OGT prn	

ORT (FRT) RC MJ (FSB) Peanuts
Vegetables Other
Start 8/18 End 9/1 Days 5
Animal # 34275 Loc. 1605-32
Charged

730620.01

* G = good, F = fair, P = poor
** N = normal, SS = semi-solid, L = liquid, B = Bloody

GOVERNMENT EXHIBIT 40
Page 4 of 7
APHIS FORM 7070 (MAR 96)

34275	California Primate Research Center	5
Animal Number		Page

Date	WEIGHT (KG)	TB TEST	24-HR READING	48-HR READING	72-HR READING	APPETITE (G,F,P)*	HYDRATION (G,F,P)*	STOOL (N,SS,L,B)*	Observation	Init
8/28/04						F/P	G	cc	SO: BAR. OP monitoring. There were 8	
									cookies and cage. Few were partially	
									eaten. Eating supplements P: monitor	
									appetite closely. OGT prn	PG
8/29/04						F	G	N	SO BAR ate enrichment	
									adequate stool P: CTM	A
8/30/04						P	G	N	SO: confirmed poor appetite.	
									Gave 0.5 mg kg as OGT	
									to 120 mg sustacal. P: CTM	
									appetite	PG
8/31/04						P/F	G	N	SO: BAR, kept emesis, poor appetite	
									confirmed, emesis presumed 2°	
									to anesthesia yesterday	
									P: CTM, ✓ wt, CBC & chem prn	KB
① 9/1/04										
9/3/04						F	G	cc	SO: BAR - OP monitoring F/P see 8/31/04	
9/7/04	2.96					F/G	G	N	SO: BAM. OP monitoring. F/P 8/31/04	PG
9/8/04						F/P	G	N	SO: BAM. OP monitoring. Pellet eat	
									chow but ate enrichments. stable.	
									P: CTM. ✓ weights	PG
9/10/04	2.89									EV
9/13/04									DA: Wt loss P: RO ✓ CBC & Chem	
									Consider supplements Cont to	
									watch Wt	PG
9.13.04	2.84	M/12	-	-	-				.3cc Ket	KB

730620.01

* G = good, F = fair, P = poor
** N = normal, SS = semi-solid, L = liquid, B = Bloody

OEE-DB-9/16/04

GOVERNMENT EXHIBIT 40
Page 5 of 7
APHIS FORM 7070 (MAR 95)

D4681 (2/90)

34275 Animal Number	California Primate Research Center	6 Page

Date	WEIGHT (KG)	TB TEST	24-HR READING	48-HR READING	72-HR READING	APPETITE (G,F,P)*	HYDRATION (G,F,P)*	STOOL (N,SS,L,B)**	Observation	Init
9/17/04	2.97								SO: BAR - anes w/ Ket 0.3ml IM	
									Mamtany wt - still mod/thn	
									Bleed 3ml for CBC/chem collected	
									UA ura cysto P: CTM Await labs	Los
9/20/04						G	G	cc	SO: BAR - Op monitoring - UA (9/17) wnl	
									CBC (9/17) HCT 32.2 MCV 58	
									Hypochromasia P: Await chem. Req	
									Perm for Iron dextran. SRA Emailed ⊗	Los
9/21/04									SO: Spoke to SRA - Perm for Iron	
DRUG Iron Dextran DOSE 30									Dextran P: Begin Iron Dextran	Los
AMT. 0.15 ROUTE IM FREQ. q 7d										
START 9/21 END 10/20 DAYS 30										
ANIM. # 34275 LOC. 1605-32										
CHARGED ___ ADD. COMMENTS: 4x. 7od										
9/23/04									SO Chem (9/17) wnl P: cont Rx	Los
9/27/04						G	G	cc	SO: BAR - OP monitoring P: Cont Rx	
9/1/04 ①									SO w/conf. poor appt. P: CTM	SB/AW
10/5/04						G	G	N	SO: BAR - Op monitoring P: cont Rx	
									recheck CBC next week	Los
10/13/04									SO: BAR. Own pull bled 0.5	
									ml for CBC ⊄ perm ⊄	PG
10/15/04						G	G	cc	SO: BAR - op monitoring CBC (10/13)	
									HCT 37.9 MCV 57. P: cont Rx assess	
									to D/C next week	Los
10/19/04						½	G	N	SO: BAR Animal is thin, fair	
									amt of stool under cage	
									P: Re CBC next wk s/ reassess	

* G = good, F = fair, P = poor
** N = normal, SS = semi-solid, L = liquid, B = Bloody

① [illegible] 9/29/04

730620.01

GOVERNMENT EXHIBIT 40
Page 6 of 7
APHIS FORM 7070 (MAR 95)

34275	California Primate Research Center	7
Animal Number		Page

Date	Weight (kg)	TB test	24-hr reading	48-hr reading	72-hr reading	Appetite (G,F,P)*	Hydration (G,F,P)*	Stool (N,SS,L,B)*	Observation	Init
10/20/04						Ce	G	N	SO: RAR - OP monitoring - animal stable	
									wt & CBC. P: Discontinue Iron dextran	
									Begin daily vitamin therapy	
10/22/04						Ce	Ce	N	SO: RAR - OP monitors P: cont vits.	
10/26/04						Ce	Ce	N	SO: RAR - OP monitoring P: cont PC	
10/28/04						F	Ce	Ce	SO: RAR - OP monitoring P: cont -	
									Rev CBC next week	
11/01/04						F-	Ce	Ce	SO: RAR - OP monitoring P: see 10/28/04	
11/05/04						G	G	Ce	SO: RAR. OP monitoring. P: see 10/28/04	
11/8/04						G	G	N	SO: RAR. Draw fasting Abs for CBC	
11/10/04	3.09									
11/12/04						Ce	Ce	N	SO: RAR CBC (11/8) HCT 37.1	
									MCV 56 +1 Hypochromasia P: cont PC	
11/16/04						Ce	Ce	N	SO: RAR - OP monitoring P: cont	
11/18/04						Ce	Ce	N	SO: RAR - OP monitoring P: cont vit supp	
11/22/04						Ce	Ce	Ce	SO: RAR - OP monitoring P: cont TO monitor	
11/24/04						Ce	Ce	N	SO: RAR - OP monitoring P: cont vit supp	
11/30/04						66		N	SO: RAR - OP monitoring/ animal is stable	
									consulted w - clinical labs and decided	
									that she is border line WNL and no work	
									up is needed at this time maintaining	
									wt, good app A. MCV 56 boarder line	
									abnormal p- D/C from OP	

Vegetable Other Oral vitamins + Iron
Start 10/20/04 End 11/19/04 Days 30
Animal # 34275 Loc. 1605-32
Charged

* G = good, F = fair, P = poor
** N = normal, SS = semi-solid, L = liquid, B = Bloody

730620.01

GOVERNMENT EXHIBIT 40
Page 4 of 7
APHIS FORM 7070 (MAR 96)

CRPRC - ICU Record

Animal #: MCY 34275 Problem: Hyperthermia Date: 8-21-04

Time	Patient data			IV Fluids					Lab data						Additional medications
	Temp	HR	RR	Type	Add's	Rate (mls/hr)	Total volume rec'd	Urine output	Na Cl	K	pH	Hct	glu	HCO_3	
10:00	1055	210	70	LRS		90									0.1 mL valium IM
10:10	103														0.6 Baytril IM
10:40	98.8	200	40												0.3 Solu-Delta-Cortef IV
10:55	97.3			LRS		90	98								
11:20	97.0	210	50	LRS		~~75~~ 90	136								added heating blanket
11:35	96.8														
11:50	96.8														
123	97.0														

GOVERNMENT EXHIBIT 41 Page 1 of 1 APHIS FORM 7070 (MAR 89)

Weight: (pre) 2.90 (post) _____

*Animals should be monitored every 30-60 minutes

MASTER PROBLEM LIST

Animal #: may 34275
Date problem list initiated: _____
Gender: _____

Origin: _____
D.O.B. _____
Quarantine Date: 4/3/02

BIOHAZARD PRECAUTION: _____

Number	Problem	Date Entered	Date Resolved
1	Hypothermia	8/21/04	
2	microcytosis, hyperchromasia	9/17/04	

File all lab work beneath this pa

GOVERNMENT EXHIBIT 42
Page 1 of 1
APHIS FORM 7070 (MAR 95)

ARS Primate Facility—
Summary of FO&M Events related to J-1

Friday, August 20:

FO&M Ventilation Shop moves equipment and materials to the south attic of the (b)(2)High, (b)(7)f facility including heap filters, photometer and a dop generator for work on the heap exhaust system on south side of bldg—work associated with AALAC accreditation and intended to correct air exchange

Saturday, August 21:

5:55 a.m.

FO&M week-end operator (b)(6), (b)(7)c checked attic on north end of bldg, noted inspection sheet and indicated no problems relative to thermostat reading for room (b)(2)High, (b)(7)f By protocol, FO&M does not check equipment within the animal room because the rooms are restricted and require protective clothing.

7:00 a.m.

FO&M Ventilation crew arrives to replace Hepa filters on south end of bldg. scheduled as overtime for AALAC work. This is a different crew from the FO&M week-end/night operators. This work was on equipment what was separate and isolated from the equipment that failed in the north end of the building.

8:30 a.m.

FO&M week-end operators notified of animal fatalities by telephone from on site animal staff. FO&M week-end operator dispatched to site. Advised by animal staff that primates were dead and no need for FO&M to do any work. FO&M operator left site but did not shut heat down.

Monday, August 23

12:30 a.m.

FO&M returns (b)(2)High, (b)(7)f turn off the circuit breaker for the heater in (b)(2)High, (b)(7)f

8:00 a.m.

FO&M Refrigeration and HVAC/Control shop coordinate to troubleshoot what went wrong. HVAC mechanic determined two equipment failures: 1) a temperature control linkage came apart (located in corridor outside of (b)(2)High, (b)(7)f

animal room); and 2) a high temperature cut off switch was not working (located in attic of the building). A subsequent review determined that this high temperature cut off switch located in the attic was 'dead' for some time since FO&M located another dead switch in the facility when they were troubleshooting. FO&M is replacing all cut off switches in the facility as a result of this failure. Note that both the control linkage and the cut off switch were original equipment installed in the facility in about 1965.

(b)(6), (b)(7)c

(b)(6), (b)(7)c

Deleted: le

I responded Monday morning to the Refrigeration Shops request for a Controls person. The (b)(2)High, (b)(7)f 3 control panel had a 20 psi control signal from the room temperature controller calling for full heat. The heating Strips power had been shut off, but the refrigerant cooling did not come on until we disconnected the 20 psi control signal and tapped it off. The (b)(2)High, (b)(7)f temperature display was still at 90 degrees F. Monday morning because the control signal was at 20 psi and the cooling solenoid was not enabled(cooling on 0-5 psi.).

I found the temperature controller linkage had come apart and that caused the controller to call for full heat. The linkage holes and pivot pins did not show wear, but I adjusted the spring retainer that secures the linkage on the temperature capillary side to firm up the attachment point. The controller pneumatic output was 20 psi when the linkage came apart which calls for full heat. The temperature controller pointer was indicating minimum temperature on the door display when the linkage came apart. After the repair, the controller operation was responsive and repeatable.

There is a high temperature cut out switch that should have disabled the heating strips at 85 deg. F. room air temperature, but the capillary sensor had lost its fill and it failed to disable the heat strips on high room temperature. The failure of the temperature controller and the "fail-safe" high temperature cut-out switch proved to be a tragic combination.

I tested the rest of the (b)(2)High, (b)(7)f rooms high temperature heat cut out switches and found one more defective switch at the South side of (b)(2)High, (b)(7)f I recorded the test date above the switches in the panels and informed (b)(6), (b)(7)c that we needed two replacement switches minimum.

I called in a work order for the ventilation shop to install new belts and check bearings and balance of the room circulation fan to correct a small amount of vibration on the fan. The frame supporting the three temperature capillary bulbs for room (b)(2)High, (b)(7)f are mounted on the fan housing. Vibration can fatigue the capillary tubing over a period of time. (b)(6), (b)(7)c informed me there is another "dead capillary tube" in the unistrut channel coming from (b)(2)High, (b)(7)f control panel so this may not be the first high temperature capillary failure for this room. The capillary support frame may need to be mounted independently from the fan to isolate it from mechanical vibration.

I informed the ARS office and talked with (b)(6), (b)(7)c about (b)(2)High, (b)(7)f She informed me that they had (b)(6), (b)(7)c alarms for the (b)(2)High, (b)(7)f rooms so they had some protection besides the high temperature cut out switch. Access to the (b)(2)High, (b)(7)f is more controlled, but the fan should be inspected for vibration when the new temperature capillary is installed in (b)(2)High, (b)(7)f

GOVERNMENT EXHIBIT 44
Page 1 of 2
APHIS FORM 7070 (MAR 06)

I still have some work to do for (b)(2)High, (b)(7)f recheck the temperature controller operation; 2. install a pneumatic tempe ature transmitter alongside the existing cap illary sensors with tubing to the hallway and attic control panels; 3. remount temperature sen or support frame isolating it from the fan housing. I will.update you when this work is complete.

Thanks for your attention and concern in this matter.

(b)(6), (b)(7)c

Work Order	Description
1115131	REPLACEMENT OF BOILER, COOLING TOWER & CHILLER
1115146	CONDENSING UNIT REPLACEMENTS
1145091	DECOMMISSION INCUBATOR IN RM DE-11
1156609	67, SEC 1, MONTHLY, WATER COOLING TOWERS, ARS J-1 NORTH
1156610	67, SEC 1, MONTHLY, WATER COOLING TOWERS, ARS J-1 SOUTH
1156637	67, SEC 3, MONTHLY, WATER COOLING TOWERS, ARS J-1 (A/C)
1165472	TOO HOT - RM IS -1 TEMP SHOULD BE 68 TO 72 - ANIMAL RM
1165582	TEMP NEEDS SLIGHT ADJUSTING RANGE SHOULD BE SET TO 68-72
1169522	57, SEC 11, PMMR, WALK-INS: ARS ISO HSG
1211180	CEILING IS LEAKING IN THE HALLWAY OUTSIDE OF IS 4
1211365	REPLACE WATER HOSE ON TOWER MAKE-UP
1217835	68, SEC 4, PMMR, CHILLER MAINTENANCE, ARS J1, CHILLER (SHRIVER)
1217842	68, SEC 4, PMMR, CHILLER MAINTENANCE, ARS-J1 A/C CHILLER
1218079	68, SEC 4, PMMR, CHILLER MAINTENANCE, ARS J1, CHILLER (SHRIVER)
1218087	68, SEC 4, PMMR, CHILLER MAINTENANCE, ARS-J1 A/C CHILLER
1234458	TOO COLD - BODY BOX SHOULD BE 38-42 CURRENTLY BELOW FREEZING
1235096	RM IS- 5 CHANGE ANIMAL RM TEMP SHOULD BE RUNNING 68 LOW
1235481	WATER LEAKING FROM COOLING TOWER IN SOUTH ATTIC CHECK WEDNESDAY
1239530	67, SEC 1, MONTHLY, WATER COOLING TOWERS, ARS J-1 NORTH
1239531	67, SEC 3, MONTHLY, WATER COOLING TOWERS, ARS J-1 (A/C)
1239532	67, SEC 1, MONTHLY, WATER COOLING TOWERS, ARS J-1 SOUTH
1239828	HEATER IS NOT WORKING
1243164	MR- HEAT PUMP NOT WORKING AT ARS J-1 FOR IS-9
1247177	COOLER IS 45 DEGREES AND SMELLS BAND
1249879	57, SEC 11, PMMR, WALK-INS: ARS ISO HSG
1251876	TOO HOT - ANIMAL RM DE1, A/C UNIT NOT COOLING - CONTACTED 4R7
1252725	WALK IN FREEZER IS TOO WARM J-1 BODY BOX
1253560	57, SEC 11, PMMR, WALK-INS: ARS ISO HSG
1255003	A/C IN RM 24 IS NOT WORKING (LAB)
1255595	START-UP SCHREIBER CHILLER FOR ANIMAL ROOMS LOCATED IN THE
1257289	TOO HOT - AIR FROM VENTS IS WARM - CONTAC(b)(6), (b)(7)c@ 2-3004
1260547	TOO HOT - ANIMAL RM DE10, OVER 85 DEGREES. SEE(b)(6), (b)(7)cON SITE
1263708	57, SEC 11, PMMR, WALK-INS: ARS ISO HSG
1265261	REPLACE SPRAY PUMP NORTH TOWER
1266416	TOOHOT - ANIMAL AREA IS-6 CHECK ASAP ON WED MORNING
1268832	TOO HOT ENTER THROUGH DE 12 ONLY (ANIMALS)
1305464	REPAIR ANTE-ROOM WEATHER STRIPPING. CONTACT JULIE 2-0438
1305466	DOOR BETWEEN RM AND ANTE-ROOM HARD TO OPEN AND CLOSE
1310106MR1	4O20 REQUEST REF. SHOP TO ASSIST WITH IS5 TOO HOT
1310123	TOO HOT - RM IS5 - 98 DEGREES - SHOULD BE 68 -72 DEGREES, MICE
1310283	TOO HOT -ANIMAL ROOM DE-8 CURRENT 78 SHOULD BE 68-72
1310396	TOO HOT - ANIMAL RM DE8 (MICE) - REQUEST REPAIR BE HANDLED AS AN
1311850MR1	ASSIST WITH DE ROOMS TOO HOT - CONTACTED (b)(6), (b)(7)c
1311892	REPLACE BELTS ON NORTH TOWER
1313893	CHECK A/C UNIT TO IS-7 CONTROLS CALLING FOR FULL COOL
1328165	REPLACE BELTS ON COOLING TOWERS
1329179	68, SEC 1, PMMR, CHILLER MAINTENANCE, ARS J1, CHILLER (SHRIVER)
1329192	68, SEC 1, PMMR, CHILLER MAINTENANCE, ARS-J1 A/C CHILLER
1329219	68, SEC 1, PMMR, CHILLER MAINTENANCE, ARS-J1 A/C CHILLER (ANNUAL)
1335034	67, SEC 1, ANNUAL, WATER COOLING TOWERS, ARS J-1 NORTH
1335035	67, SEC 1, ANNUAL, WATER COOLING TOWERS, ARS J-1 (A/C)
1335036	67, SEC 1, ANNUAL, WATER COOLING TOWERS, ARS J-1 SOUTH
1335828	REPAIR LEAK - DE 5 AT ARS J-1
1335829	REPAIR WIRING - AT IS-5 AT ARS J-1
1339360	REFER COMPRESSOR IS NOT RUNNING - IT IS AN ANIMAL RM DE6
1339694	78, SEC 5, SEMI-ANNUAL PACKAGE UNITS, H001

8/21/04

GOVERNMENT EXHIBIT 45
Page 1 of 2
APHIS FORM 7070 (MAR 95)

Work Order	Description
1358330	TOO HOT - ANIMAL AREA DE 2 AT ARS JI DE 2
1358808	ANIMAL ROOM TOO WARM,COMPRESSOR LOW ON FREON
1413964	78, SEC 5, SEMI-ANNUAL PACKAGE UNITS, H001
1414558	57, SEC 11, PMMR, WALK-INS: ARS ISO HSG
1416253	LK. CK. CHILLER REPLACE TERMINAL COVER
1418734	AN. RM. TOO HOT.
1419111	57, SEC 11, PMMR, WALK-INS: ARS ISO HSG
1425339	TOO HOT - ANIMAL ROOM IS 2
1430176	CHECK A/C UNIT IN RM IS8 - UNPLEASANT ODOR FROM IT
1442010	WALK BOX TOO WARM -BODY BOX AT ARS J-1
1443386	TOO COLD
1445220	WALK BOX TOO WARM -BODY BOX AT ARS J-1
1451572	67, SEC 1, ANNUAL, WATER COOLING TOWERS, ARS J-1 (A/C)
1451573	68, SEC 1, PMMR, CHILLER MAINTENANCE, ARS-J1 A/C CHILLER (ANNUAL)
1452672	ANIMAL ROOM WARMING UP
1452675	ROOM DE-2 TOO HOT SHOULD BE 68-72 DEGREES
1453815	CHILLER R8 IS NOT RUNNING (SERVES LABS)
1459422	ELECTRICIAN- CHILLER NOT WORKING
1459750	TOO HOT -BODY BOX WALK IN AT ARS J-1
1460416	A/C UNIT HAS STOPPED WORKING COME IN BACK WAY RM 32 ONLY W/ BOOT
1462408	HIGH LIMIT WARNING LIGHT FLASHING
1463379	TOO HOT ON THE SOUTH EAST SIDE OF THE BUILDING
1466760	TOO HOT - ANIMAL ROOM IS-5 ARS J-1
1467190	TOO HOT - LAB RM IS8
1468362	ANIMAL ROOM TOO HOT
1510937	TOO HOT -20 FREEZER AT ARS J1 ROOM 24 - NEEDED TODAY IF POSSIBLE
1511696	DECOMISSION UPRIGHT FREEZER - ARS J-1
1518095	ISOLATION ANIMAL ROOM 115 DEG. 6 MONKEYS LOST. CONTROL PROBLEM?
1518188	CLEAN ALL AIR COOLED CONDENSERS
1518337	ANIMAL ROOM WARMING UP
1518343	CHECK ALL REFRIGERATION AND A/C UNITS AT ARS
1519980	RECONFIGURE CONTROLS AND SAFETY'S
1523668	CONDENSING WATER RETURN PIPE LEAKING AT COOLING TOWER
1523986	COOLING TOWER BEARING REPLACEMENT
1526848	TOO HOT HIGH OF 78 S/B 68 TO 72. ANIMAL RM
1535624	RECONFIGURE CONTROLS AND SAFETY'S

Work Orders Selected: 93

GOVERNMENT EXHIBIT 45
Page 2 of 2
APHIS FORM 7070 (MAR 95)

Every research facility, exhibitor, carrier, and intermediate handler [illegible] required to be licensed under Section 3 of the Animal Welfare Act, shall be registered with the USDA (7 USC 2136). This application [illegible]s information for such registration. Public reporting burden for this collection of information is estimated to average .25 hours [illegible]ponse, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, [illegible] completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Agriculture, Clearance Officer, OIRM, Room 404-W, Washington, D.C. 20250, and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503.

FORM APPROVED
OMB NO. 0579-0036

U.S DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

APPLICATION FOR REGISTRATION

(TYPE OR PRINT)

REGISTRATION UPDATE

DO NOT USE THIS SPACE - OFFICIAL USE ONLY

SEND THE COMPLETED FORM TO: USDA-APHIS-Animal Care
2150 Centre Ave, Building B
Mail Stop # 3W11
Fort Collins, CO 80526-8117

CERTIFICATE / CUSTOMER NO.	REGISTRATION UPDATE
CERTIFICATE: 93-R-0433 CUSTOMER: 9192	15-SEP-2002

1. NAME(S) OF REGISTRANT(S) AND MAILING ADDRESS

University Of California, Davis
One Shields Ave
Davis, CA 95616

Telephone: (530) 752-2364

2. ALL BUSINESS LOCATIONS HOUSING ANIMALS; INCLUDE DIRECTIONS TO EACH LOCATION *(P.O. Box not acceptable)*

One Shields Ave
Davis, CA 95616
County: Yolo

Telephone:

3. (A) PREVIOUS USDA REGISTRATION NUMBER (if any)

--

4. (B) ACTIVE USDA CERTIFICATE NUMBER(S) IN WHICH YOU HAVE AN INTEREST:

5. ARE YOU USING FEDERAL FUNDS TO CARRY OUT RESEARCH, TESTS, OR EXPERIMENTS (If yes, go to Item 6)

☑ Yes ☐ No

6. TYPE OF REGISTRATION:

☐ Class E - Exhibitor ☐ Class H - Intermediate Handler
☒ Class R - Research Facility ☐ Class T - Carrier

7. FEDERAL FUND TYPE(S):

☑ Award ☑ Contract ☑ Grant ☐ Loan

8.TYPE OF ORGANIZATION:

☐ Individual ☒ Corporation ☐ Partnership
☐ Other (Specify) _____

9. IF INDIVIDUAL, IDENTIFY EACH OWNER, IF PARTNERSHIP IDENTIFY EACH PARTNER OR OFFICER, IF CORPORATION, IDENTIFY PRINCIPAL OFFICERS FOR RESEARCH FACILITIES INCLUDE THE INSTITUTIONAL OFFICIAL (*Use separate sheet if needed*)

A. NAME	B. TITLE	C. ADDRESS (*Full Address, including Zip Code*)
(b)(6), (b)(7)c		Campus Veterinian, University of California vistration, University of California University of California All: One Shields Ave Davis CA 95616

CERTIFICATION

I hereby register as a Research Facility, Exhibitor, Carrier, or Intermediate Handler under the Animal Welfare Act 7 U.S.C. 2131 et seq. I certify that the information provided herein is true and correct to the best of my knowledge. I hereby acknowledge receipt of and agree to comply with all the regulations and standards in 9 CFR, Subpart A, Parts 1, 2 and 3. I certify that all listed persons are 18 years of age or older.

(b)(6), (b)(7)c

12. SOCIAL SECURITY OR TAX IDENTIFICATION NUMBER	13. DATE
94-6036-494	10-16-02

GOVERNMENT EXHIBIT 41
Page 1 of 1
APHIS FORM 7070 (MAR 95)

USDA

United States Department of Agriculture

Marketing and Regulatory Programs

Animal and Plant Health Inspection Service

Animal Care

EXPIRATION DATE: SEPTEMBER 15, 2005

This is to certify that UNIVERSITY OF CALIFORNIA, DAVIS

is a registered CLASS R RESEARCH FACILITY

under the

Animal Welfare Act

(7 U.S.C. 2131 et seq.)

Certificate No. 93-R-0433

Customer No. 9192

Charles A. Gipson

Deputy Administrator

This report is required by law (7 USC 2143). Failure to report according to the regulations can result in an order to cease and desist and to be subject to pena[illegible] provided for in Section 21[illegible]

See att[illegible]d form for additi[illegible]ormation.

Interagency Report Control No.: 49

UNITED STATES DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

ANNUAL REPORT OF RESEARCH FACILITY
(TYPE OR PRINT)

1. CERTIFICATE NUMBER: 93-R-0433
CUSTOMER NUMBER: 9192

FORM APPROVED
OMB NO. 0579-0036
S. DELCA

University Of California, Davis
One Shields Ave
Davis, CA 95616

COPY FOR YOUR INFORMATION

Telephone: (530) -752-2364

"A" by K. Garland 12/11/05

3. REPORTING FACILITY (List all locations where animals were housed or used in actual research, testing, or experimentation, or held for these purposes. Attach additional sheets if necessary)

FACILITY LOCATIONS (Sites) - See Atached Listing

REPORT OF ANIMALS USED BY OR UNDER CONTROL OF RESEARCH FACILITY (Attach additional sheets if necessary or use APHIS Form 7023A)

A. Animals Covered By The Animal Welfare Regulations	B. Number of animal being bred, conditioned, or held for use in teaching, testing, experiments, research, or surgery but not ye used for such purposes.	C. Number of animals upon which teaching, research, experiments, or tests were conducted involving no pain, distress, or use o pain-relieving drugs.	D. Number of animals upon which experiments, teaching, research, surgery, or tests were conducted involving accompanying pain or distress to the animals an for which appropriate anesthetic, analgesic, or tranquilizing drugs were used.	E. Number of animals upon which teaching, experiments, research, surgery or tests were conducted involving accompanying pain or distress to the animals and for wh the use of appropriate anesthetic, analgesic, or tranquiliz drugs would have adversely affected the procedures, res or interpretation of the teaching, research, experiments, surgery, or tests. (An explanation of the procedures producing pain or distress in these animals and the reasc such drugs were not used must be attached to this report	F. TOTAL NUMBER OF ANIMALS (COLUMNS C + D + E)
4. Dogs	0	38	505	0	543
5. Cats	49	303	439	0	742
6. Guinea Pigs	0	20	178	0	198
7. Hamsters	0	57	264	0	321
8. Rabbits	0	18	457	0	475
9. Non-human Primates	2675	252	2071	0	2323
10. Sheep	0	185	6	0	191
11. Pigs	684	409	41	0	450
12. Other Farm Animals Horse	14	41	261	0	302
Cattle	394	492	87	0	579
13. Other Animals					
Alpaca/Llama	5	0	0	0	0
Bighorn sheep	0	0	66	0	66
Chipmunk	0	34	0	0	1

ASSURANCE STATEMENTS

1) Professionally acceptable standards governing the care, treatment, and use of animals, including appropriate use of anestetic, analgesic, [illegible] teaching, testing, surgery, or experimentation were followed by this research facility.

2) Each principal investigator has considered alternatives to painful procedures.

3) This facility is adhering to the standards and regulations under the Act, and it has required that exceptions to the standards and regulations be sp[illegible]igator and app Institutional Animal Care and Use Committee (IACUC). **A summary of all such exceptions is attached to this annual report.** In addition to iden[illegible]ns, this summary in brief explanation of the exceptions, as well as the species and number of animals affected.

4) The attending veterinarian for this research facility has appropriate authority to ensure the provision of adequate veterinary care and to oversee the ad[illegible]spects of animal care and use.

49

CERTIFICATION BY HEADQUARTERS RESEARCH FACILITY OFFICIAL
(Chief Executive Officer or Legally Responsible Institutional Official)

SIGNATURE OF C.E.O. OR INSTITUTIONAL OFFICIAL	NAME & TITLE OF C.E.O. OR INSTITUTIONAL OFFICIAL (Type or Print)	DATE SIGNED
(b)(6), (b)(7)c		12/1/04

API
(AUG 91)

EXHIBIT 49
Page 1 of 2
APHIS FORM 7070 (MAR 95)

DEC - 3 2004

This report is required by law (7 USC 2143). Failure to report according to the regulations can result in an order to cease and desist and to be subject to penalties as provided for in Section 2150.

See reverse side for additional information.

Interagency Report Control No. 0180-DOA-AN

UNITED STATES DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

1. REGISTRATION NO. 93-R-0433 Customer No. 9192

FORM APPROVED OMB NO. 0579-0036

CONTINUATION SHEET FOR ANNUAL REPORT OF RESEARCH FACILITY

(TYPE OR PRINT)

2. HEADQUARTERS RESEARCH FACILITY *(Name and Address, as registered with USDA, include Zip Code)*

University of California, Davis
One Shields Ave.
Davis, CA 95616
Telephone: (530) 752-2364

COPY FOR YOUR INFORMATION

REPORT OF ANIMALS USED BY OR UNDER CONTROL OF RESEARCH FACILITY *(Attach additional sheets if necessary or use this form.)*

A. Animals Covered By The Animal Welfare Regulations — 12. &/OR 13. Other *(List by species)*	B. Number of animals being bred, conditioned, or held for use in teaching, testing, experiments, research, or surgery but not yet used for such purposes.	C. Number of animals upon which teaching, research, experiments, or tests were conducted involving no pain, distress, or use of pain-relieving drugs.	D. Number of animals upon which experiments, teaching, research, surgery, or tests were conducted involving accompanying pain or distress to the animals and for which appropriate anesthetic, analgesic, or tranquilizing drugs were used.	E. Number of animals upon which teaching, experiments, research, surgery or tests were conducted involving accompanying pain or distress to the animals and for which the use of appropriate anesthetic, analgesic, or tranquilizing drugs would have adversely affected the procedures, results, or interpretation of the teaching, research, experiments, surgery, or tests. *(An explanation of the procedures producing pain or distress in these animals and the reasons such drugs were not used must be attached to this report).*	F. TOTAL NO. OF ANIMALS (Cols. C + D + E)
Deer	0	0	20	0	20
Deer mouse	0	136	4	0	140
Elephant	0	50	0	0	50
Elephant seal	0	101	0	0	101
Ferret	0	11	75	0	86
Fox	0	15	0	0	15
Gerbil	0	0	140	0	140
Goat	0	126	220	0	346
Gopher	0	26	0	115	141
Oppossum	59	19	0	0	19
Puma	0	0	4	0	4
Squirrel	0	387	310	175	872
Vole	627	10	5	360	375
Walrus	0	5	0	0	5
Water buffalo	45	0	0	0	0
Wild mouse	0	721	0	0	721
Wild rabbit	0	38	0	0	38
Wild rat	0	12	47	0	59

ASSURANCE STATEMENTS

1). Professionally acceptable standards governing the care, treatment, and use of animals, including approriate use of anesthetic, analgesic, and tranquilizing drugs, p... and following actual research, teaching, testing, surgery, or experimentation were followed by this research facility.

2). Each principal investigator has considered alternatives to painful procedures.

3). This facility is adhering to the standards and regulations under the Act, and it has required that exceptions to the standards and regulations be specified and expla... principal investigator and approved by the Institutional Animal Care and Use Committee (IACUC). A summary of all such exceptions is attached to this annu... addition to identifying the IACUC-approved exceptions, this summary includes a brief explanation of the exceptions, as well as the species and number of animals

4). The attending veterinarian for this research facility has appropriate authority to ensure the provision of adequate veterinary care and to oversee the adequacy of o... animal care and use.

GOVERNMENT EXHIBIT 49
Page 2 of 2
APHIS FORM 7070 (MAR 95)

CERTIFICATION BY HEADQUARTERS RESEARCH FACILITY OFFICIAL
(Chief Executive Officer or Legally Responsible Institutional Official)
I certify that the above is true, correct, and complete (7 U.S.C. Section 2143).

DEC - 3 2004

SIGNATURE OF C.E.O. OR INSTITUTIONAL OFFICIAL	NAME & TITLE OF C.E.O. OR INSTITUTIONAL OFFICIAL *(Type or Print)*	DATE SIGNED
(b)(6), (b)(7)c		12/1/04

(AUG 91)

PART 1 - HEADQUARTERS

PROTOCOL:10162
EXPIRES:7/29/2005

PROTOCOL FOR ANIMAL USE AND CARE

(HERD/FLOCK/BREEDING COLONY)

1. Investigator: (b)(6), (b)(7)c Dept. Primate Center Phone: 752-6490 e-mail:(b)(6), (b)(7)c@ucdavis.edu
2. Species: a. (Common names): Rhesus & Cynomolgus b. Estimated number per year: 500
   c. Source of animals: CRPRC d. Location of animal housing: CRPRC
3. a. Title: CRPRC INDOOR TIME-MATE BREEDING
   b. Does this protocol replace a previously approved protocol? Yes [x] No [ ] If yes, what number? 8705
4. **Summary of Procedures**: Include in your description a statement about the procedures performed on the animals. (Please provide a list of standard SOP numbers in your description)

Animals will be provided with routine health care by the CRPRC Vet staff. Animals are observed daily by the animal care staff to check for problems.

Females are time-mated according to menstrual cycles. Females are placed in cages with male animals for approximately 2 hours each day as scheduled (up to three days per month).

Pregnancy detection's are done by the following methods:

1. **Blood test – 2cc blood is drawn, maximum of twice per month (from cephalic vein using arm-pull technique).**
2. **2. Ultrasound – animals are immobilized with Ketamine (10 mg/kg IM) for ultrasound exams, maximum of twice per month.**

Once pregnancy is confirmed, animals may be assigned to projects covered by other research protocols.

5. Are the animals subjected to any procedures that are likely to cause more than slight, momentary pain or distress: (e.g. special agricultural practices like castration, dehorning, docking, beak or toe-trimming, dubbing, force molting, electroejaculation; identification by branding, toe-clipping, or ear-notching; etc.)? yes [ ] no [X]

   If yes, please attach copies of the relevant portions of the SOPs for review by the animal care committee.
6. Describe the overall intent for maintaining the breeding animals.

The purpose of this colony is to provide pregnant animals of known gestation age and infants for research. Any research performed on these animals will be covered by separate research protocols.

Methods of euthanasia: Even if you do not intend to euthanize the animals, you should show a method that you would use in event of unanticipated injury or illness.

Species	Method
Primates	Overdose of Sodium Pentobarbitol (60 mg/kg IV)

8. Assurances for the Humane Care and Use of Vertebrate Animals:

Principal Investigator's Statement:

I have read and agree to abide by the UC Davis Policy and Procedure Manual section 290-30 (Animal Use and Care). This project will be conducted in accordance with the ILAR *Guide for the Care and Use of Laboratory Animals*, the *Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching*, and the UC Davis Animal Welfare Assurance filed with the UC Public Health Service. (Copies of these documents are available from the Campus Veterinarian). I will abide by all Federal, state and local laws and regulations dealing with the use of animals in research.

UNIVERSITY OF CALIFORNIA APPROVED DAVIS

I will advise the Animal Use and Care Administrative Advisory Committee in writing of any significant changes in the procedures of personnel involved in this project.

Received by e-mail. 7/3/02

Principal Investigator Title/Rank Date

(b)(6), (b)(7)c

GOVERNMENT EXHIBIT 50 Page 1 of 1 APHIS FORM 7070 (MAR 95)

LABORATORY ANIMAL MONTHLY CARE

August 2004

MONTH YEAR

— (b)(2)High, (b)(7)f —

GOVERNMENT EXHIBIT 51 Page 1 of 1 APHIS FORM 7070 (MAR 95)

	1	2	3	4	5	6	7	8	9	10	11	12			
LIGHTS ON															
ANIMAL COUNT	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
MORNING HEALTH CHECK															
ROOM TEMP / HUMIDITY															
MORNING FEEDING															SP
PRODUCE / VITAMINS															
PAIRING															
ROOM / CAGE CLEANING															
BEDDING CHANGE															
WATER BOTTLE CHANGE															
CAGE CHANGE / SANITATION															
ENRICHMENT															SP
LIXIT CHECK															SP
UNPAIRING															
AFTERNOON FEEDING															
LIGHTS OFF															

① - ④ Employee signed b
incident report

⑤ Animals moved o

All redactions on this page are pursuant to (b)(6) & (b)(7)(c).

Building (b)(2)High, (b)(7)f | Zone | Month 8 | Yr 04

	Day Shift			Swing Shift			Grave Shift			
	Time	Initials	Min.	Time	Initials	Min.	Time	Initials	Min.	
X 1	310	SB	25	10:00	MC	25	425		25	1
2				9:45	MC	25	430		25	2
3				9:15	MC	25	540		25	3
4				9:30	MC	25	550		25	4
5				9:20	MC	25	520		25	5
6				955	JM	25	545		25	6
X 7	230		25				550		25	7
X 8				930	MC	25				8
9				920	MC	25	610		25	9
10				940	MC	25				10
11				910	MC	25				11
12				935	MC	25	615		25	12
13				930		25	520		25	13
X 14										14
X 15				905		25				15
16				900		25	540		25	16
17				950		25	545		25	17
18				930	SB	25	605		25	18
19				930	SB	25	500		25	19
20							530		25	20
X 21	105		25				555		25	21
X 22	1140		25	9:00	MC	25	3:30		25	22
23				9:40	MC	25	5:30		25	23
24				930	MC	25	450		25	24
25							500		25	25
26										26
27										27
X 28										28
X 29										29
30										30
31										31

GOVERNMENT EXHIBIT 52

Page 1 of 1

APHIS FORM 7070 (MAR 95)

with a small but pronounced rise (perhaps as much as a degree) during ovulation when an ovary releases an egg. A hot bath, reasonably enough, send the bather's temperature up to 100 degrees F (38 degrees C) or so. Exercise does even better. After three miles a runner can read 105 degrees F (40.5 degrees C) rectally, but less than normal on his skin due to all the sweating there". (Smith 1985: 368)

So the idea a "normal" human body temperature is an exact number like "98.6" is oversimplified quite a bit; in fact, *Black's Medical Encyclopedia* even lists humans' "normal" body temperature as being between 36.7 and 37.2 degrees C (98-99 degrees F).

Human body temperature compared to primates

So we can see that the body temperatures of normal, healthy humans do vary, contrary to AAT claims. We can also see that, contrary to AAT claims, our temperatures are like those of our relatives, including open country baboons (*Papio*, listed below):

Macaca mulatta (Rhesus macaque) 36-40 degrees C
Macaca fascicularis (Crab-eating macaque) 37-40 degrees C
Papio hamadryas (Hamadryas baboon) 36-39 degrees C
(From 1987 *The Care and Management of Laboratory Animals* Trevor Poole, ed. Longman Scientific and Technical: Harlow, Essex)

Also note that these temperature ranges are likely slightly higher than those of wild, resting individuals, since in order to take their temperature, these primates must be forcibly restrained:
"In most cases, they are likely to represent normal ranges, but normals are difficult to establish for animals which readily become excited when restrained". (Poole 1987: 602)

Human body temperature compared to whales

As for the supposed similarity in body temperatures between humans and whales, let's just look at what an expert on cetaceans has to say about it:

From 1979 *Whales* (first pub 1958; revised 1962), by Dr. Everhard J. Slijper (Professor, Zoological Laboratory, University of Amsterdam). Hutchinson of London: London.

pg. 301 (after giving the body temperatures from many studies of whales

Hyperthermia

From Wikipedia, the free encyclopedia.

Hyperthermia, also known as **heat stroke** or **sunstroke**, is an acute condition resulting from the body producing or absorbing more heat than it can dissipate, usually due to excessive exposure to heat. The homeothermal regulatory mechanisms eventually become overwhelmed and unable to effectively deal with the heat, and body temperature climbs uncontrollably. This is a serious medical emergency that requires immediate hospitalization. Body temperatures above 40 °C (104 °F) are life-threatening. At 41 °C (106 °F), brain death begins, and at 45 °C (113 °F) death is nearly certain. Internal temperatures above 50 °C (122 °F) will cause rigidity in the muscles and certain, immediate death.

Signs include increasing body temperature (hyperpyrexia), dehydration (often with lack of sweating), seizures, collapse, and decreased consciousness which proceeds rapidly to multi-organ failure and death as the brain "cooks".

Chris Legh collapsing at the 1997 Ironman Triathlon 50 meters before the finishline due to hyperthermia

Heat stroke follows a less life-threatening condition commonly referred to as **heat exhaustion** or **heat prostration**, and may come on suddenly. Vigilance is required in order to prevent and treat this rapidly dangerous condition. The first symptom of a serious heat stroke may be that the victim has stopped sweating. Because the evaporation of water is endothermic, body heat is normally taken away by the evaporation of sweat. When the body is no longer capable of sweating, core temperature begins to rise, immediately and swiftly. The victim will become confused, often hostile, and may seem drunk. The body temperature must be lowered immediately, and the victim must be hydrated by drinking water or by intravenous fluids. Other substances may be used in place of water if absolutely necessary; however, alcohol and caffeine should be avoided, because of their diuretic properties.

Hyperthermia can be intentionally produced for medical purposes. "Induced hyperthermia" may be used as a cancer treatment to kill or weaken tumor cells, with negligible effects on healthy cells. Tumor cells, with a disorganized and compact vascular structure, have difficulty dissipating heat. These cells may undergo apoptosis in direct response to applied heat while healthy cells can more easily maintain a normal temperature. Carefully controlled hyperthermia is then a very selective treatment. Yet even if the cancerous cells do not die outright, they are more susceptible to ionizing radiation treatments or to certain chemotherapies which allows the latter treatments to be given in smaller doses. A far infrared sauna is an excellent modality to promote hyperthermia.

Contents

Signs and symptoms

- Markly raised temperature of about 40°C (104°F) or more. Lower temperatures above 37°C (98.6°F) are a serious problem and mean that there is an impending heat-stroke that can only be reversed by first aid and preventative measures.

THIS IS A MEDICAL EMERGENCY AND NEEDS IMMEDIATE TREATMENT!

These are the other symptoms

- Confusion
- Fainting, faintness, dizziness and weakness. Posteral hypotension (fainting and dizziness on standing up)
- Fast heart rate (tachycardia)
- Profuse sweating which will eventually lead to an absence of sweating
- Red skin or even bluish skin
- Nausea and vomiting
- Coma/Unconsciousness
- Convulsions (especially in children in which temperature are often lower than heat-stroke temperatures)
- Feeling very hot (during the on-set)
- Chills and shivering is possible
- Fast breathing
- Shaking body is possible
- Loss of appetite
- Headache
- Skin may feel hot to touch

First aid

- Remove person from hot area into cooler area
- Remove excess clothing.
- Call your local emergency telephone number (999 (United Kingdom), 911 (USA and Canada) or 112 (European Union countries including the United Kingdom and GSM mobiles). Numbers will be different in other countries.
- Bathe person in cool water, or use a cool shower and then wrap them in a wet towel and use a fan over them. *(Remember do **not** get electric fans wet).* (Avoid using a bath for an unconscious person because they may drown, but cool with water spray or showers etc. If a bath is the only thing available, use shallow

water if they are unconscious and make sure that the head is above water and they are constantly watched) (Do **NOT** use freezing water or water too cold)

- Do **NOT** give anything by mouth to persons who are unconscious because they could choke.
- Do **NOT** give the victim anything by mouth (even water) until the condition has been stabilized
- Because it can be fatal even after first aid treatment; they shall need to obtain medical treament regardless of whether they appear to be recovering and they must not be left unattended.
- Monitor their breathing and heart rate.
- Use cold compresses - especially to the head and neck area, also to armpits and groin.
- Continue first aid to lower temperature until medical help takes over.
- Do **NOT** give any medication to lower fever because it will not be effective and may cause further harm.
- Do **NOT** use an alcohol rub.
- Place victim into the recovery position.
- Prepare to follow the instructions of the emergency operator as they may have to instruct you on how to do CPR if there is cardiac arrest. So check pulse and breathing to ensure that they still have a heart beat and are breathing as if they are not - you will need to tell the operator advising you.
- It is best to keep the person cool until help arrives with cold towels as well as take their temperature to know not to over-cool a person in cool water conditions because of the risk of hypothermia.

Prevention

- Do **NOT** leave people in a car in hot weather. Temperatures in the vehicle can reach up to 50°C (122°F) and will quickly kill a person. This applies to animals as well.
- Do **NOT** sun-bathe or otherwise stay in the sun for extended periods of time.
- Do **NOT** exercise strenuously in the middle of the day in hot weather. Dawn and dusk are safer.
- Wear light, loose-fitting clothing, such as cotton, so sweat can evaporate. Wear a wide-brimmed hat with vents.
- Drink plenty of liquids, especially if urine is a dark yellow, to replace fluids lost from sweating. Thirst is not a reliable sign that a person needs fluids. When exercising, it is better to sip rather than gulp liquids. Recall that a person needs 8 glasses of water per day (when not in a hot environment) and thirst means the body is already dehydrated. Avoid drinking enormous amounts of water. Water intoxication is also dangerous.

It is best to drink water or water with salt added if sweating profusely. (Use 1/2 **tea**spoon salt in 1 quart of water.) Sport drinks such as Gatorade, All Sport and PowerAde are also effective at replacing water and sodium lost through sweating. Do not use this as a first aid for heat stroke.

- Use air conditioning and fans to cool down.

- Do **NOT** use saunas, steam rooms, etc. unattended and for long periods of time and be careful in hot baths.
- Do **NOT** drink alcohol or excessive tea/coffee in hot weather as this will affect body temperature.
- Stay out of the sun if taking water pills, mood altering or antispasmodic medications. Check which ones are safe with a doctor.
- Be aware of the signs of heat stroke/heat exhaustion and do not ignore them. If you feel ill you may need help promptly.
- Do **NOT** over-clothe babies (this is thought to be one of the causes of cot-death).
- Children, babies, the elderly and the ill are more susceptible to the effects of heat — people who are ill with fevers especially.

Heat index

The temperature outside is one thing to consider. But there is also the humidity factor and also the effects of the sun.

The sun can make it feel about 8°C hotter (15°F). The humidity increases how the weather feels. For instance at 30°C, a humidity factor of 50% can feel like 36°C in the shade (that is 44°C in the sun) — a condition which is typical in the United Kingdom on a hot summer's day, if not even hotter!

External Links

- International Red Cross Information on Heat Stroke (http://www.redcross.org/services/hss/tips/heat.html)
- Hiking and Camping Note Book Heat Stroke Advice (http://www.frankstehno.com/sagemesa/guide/tips/emergencies/heatexhaustion.htm)
- BBC Heat Illness News and Information (http://news.bbc.co.uk/1/hi/health/143205.stm)
- Environment Canada's Heat Index (humidex) Chart (http://www.msc-smc.ec.gc.ca/cd/brochures/humidex_table_e.cfm)

Retrieved from "http://en.wikipedia.org/wiki/Hyperthermia"

Categories: Medical emergencies | Physiology

Heat Exhaustion and Heatstroke

Last Updated: September 17, 2004

Synonyms and related keywords: heat stroke, heat apoplexy, heat hyperpyrexia, malignant hyperpyrexia, thermic dehydration, thermoregulatory failure

Author: **Amy Kunihiro, MD**, Staff Physician, Department of Emergency Medicine, Stanford U

Coauthor(s): **James Foster, MD, MS**, Consulting Staff, Department of Emergency Medicine, I Health

Amy Kunihiro, MD, is a member of the following medical societies: American Academy of Eme

Editor(s): **Dan Danzl, MD**, Chair, Professor, Department of Emergency Medicine, University o **Francisco Talavera, PharmD, PhD**, Senior Pharmacy Editor, eMedicine; **James S Walker, D** Coordinator, Associate Professor, Department of Emergency Medicine, University of Oklahom Center; **John Halamka, MD**, Chief Information Officer, CareGroup Healthcare System, Assist Medicine, Department of Emergency Medicine, Beth Israel Deaconess Medical Center; Assist Medicine, Harvard Medical School; and **Scott H Plantz, MD, FAAEM**, Research Director, Ass Department of Emergency Medicine, Mount Sinai School of Medicine

Disclosure

Background: Heat illness is a major cause of preventable morbidity worldwide, especially in r by high ambient temperatures. The major heat-related illnesses, heat exhaustion and heatstro continuum of severity caused by dehydration, electrolyte losses, and failure of the body's therr mechanisms.

Heat exhaustion is an acute heat injury with hyperthermia caused by dehydration. It occurs wh can dissipate heat adequately because of extreme environmental conditions or increased end production. It may progress to heatstroke when the body's thermoregulatory mechanisms bec and fail.

Heatstroke is extreme hyperthermia with thermoregulatory failure. The condition is characteriz organ damage with universal involvement of the CNS.

Heatstroke traditionally is divided into exertional and classic varieties, which are defined by the but are clinically indistinguishable. Exertional heatstroke typically occurs in younger athletic pa vigorously in the heat until the body's normal thermoregulatory mechanisms are overwhelmed. more commonly occurs in older patients or in patients with underlying illnesses who are expos environmental conditions.

Pathophysiology: When heat is generated or gained by the body faster than it can be dissipa occurs. Although the body initially attempts to compensate for the increased heat stress, the th mechanisms fail if the stress becomes too great. If this happens, development of hyperthermia organ damage occurs, and the patient experiences heatstroke.

Heat production and regulation

The body's basal metabolic rate (BMR) is 50-60 kcal/h/m^2 (approximately 100 kcal/h for a pers In the absence of adequate thermoregulatory mechanisms, the BMR may lead to an increase of approximately 1.1°C/h. The rate of increase may be significantly higher during periods of he setting of high environmental heat loads.

Heat transfer to and from the body occurs via the following 4 mechanisms:

- Conduction is the transfer of heat via direct physical contact; it accounts for 2% of the bo
- Convection is the transfer of heat from the body to the air and water vapor surrounding th for 10% of the body's heat loss. When air temperature exceeds body temperature, the bo energy.
- Radiation is the transfer of heat via electromagnetic waves; it accounts for most heat dis air temperature is less than body temperature, 65% of the body's heat is lost by radiation
- Evaporation is the transfer of heat by transformation of a liquid into a vapor; it accounts f heat loss.

The body's dominant forms of heat loss in a hot environment are radiation and evaporation. H temperature exceeds 95°F, radiation of heat from the body ceases and evaporation becomes heat loss. Evaporation of 1 mL of sweat results in the loss of 0.58 kcal of heat; thus, 1 L of swe the body accounts for the loss of 580 kcal of heat. An individual exercising in the heat easily ca humidity reaches 100%, evaporation of sweat is no longer possible and the body loses its abili

Initially, the body attempts to lower the core temperature via renal and splanchnic vasoconstric peripheral vasodilatation, thereby shunting blood to the periphery. Eventually, the vasoconstric the blood in the periphery fails; cutaneous (ie, peripheral) blood less heat is ca

core, and hyperthermia results. This hyperthermia causes cerebral edema and cerebrovascula culminate in increased intracranial pressure (ICP). This increased ICP combined with a decrea pressure (from the failure of renal and splanchnic vasoconstriction and decreased peripheral r cerebral blood flow to decrease. This is manifested clinically as CNS dysfunction.

Tissue damage during heatstroke is believed to result from uncoupling during oxidative phospl occurs when the temperature exceeds 42°C. As energy stores are depleted because of the un membranes become more permeable and sodium influx into cells is increased. Accelerated sc adenosine triphosphatase (ATPase) activity is required to pump sodium out of the cells, resulti increased adenosine triphosphate (ATP) use, more energy depletion, increased heat productic elevation of temperature.

The declining energy reserves impair thermoregulatory mechanisms, the body loses its ability clinical signs of heatstroke appear. Proteins begin to denature at higher temperatures, with res tissue necrosis, organ dysfunction, and organ failure.

Frequency:

- **In the US:** According to the National Oceanic and Atmospheric Administration (NOAA), a 200 persons die from heat-related disorders during an average year in the United States more than 1500 persons during heat waves. The exact number of persons seeking treatr disorders is not recorded but reaches the thousands.

- **Internationally:** Incidence of heat-related disorders is increased in areas with higher am

Mortality/Morbidity:

- Risk of death is related directly to peak temperature and duration of exposure.

- Estimates of fatalities caused by heat-related illness in the United States range from 300 per year. The mortality rate in patients with heatstroke has been reported to be 10-70%, number of deaths occurring when treatment is delayed for more than 2 hours.

- Heat waves increase the mortality rate. The heat wave in July 1995 caused 91 deaths in deaths in Chicago.

Sex: The male-to-female ratio is 1:1.

Age:

- Elderly persons are at increased risk for heat-related illness because of underlying illnes declining adaptive thermoregulatory mechanisms, and limited social support networks.

- Neonates have an increased risk of heat-related illness because of poorly developed the mechanisms.

Congestive Heart Failure and Pulmonary Edema

Last Updated: April 15, 2005

Synonyms and related keywords: CHF, pulmonary edema, ventricular failure, forward ventricular failure, backwar systolic dysfunction, **diastolic dysfunction, dyspnea, beta natriuretic peptide, BNP, orthopnea, paroxysmal nocturnal** cardiomyopathy, valvular heart disease, hypertension, **peripheral edema,** jugular venous distention, tachycardia, cor **congenital heart disease,** myocarditis, infectious endocarditis, pulmonary embolus, hyperthyroidism

Author: **Shamai Grossman, MD, MS,** Instructor, Department of Emergency Medicine, Harvar Director, The Cardiac Emergency Center, Beth Israel Deaconess Hospital

Coauthor(s): **David FM Brown, MD,** Instructor, Department of Medicine, Division of Emergen Medical School; Associate Chief, Department of Emergency Medicine, Massachusetts Genera

Shamai Grossman, MD, MS, is a member of the following medical societies: American Colleg Physicians

Editor(s): **William Chiang, MD,** Assistant Director, Assistant Professor of Clinical Surgery/Em Department of Emergency Medicine, Bellevue Hospital Center; **Francisco Talavera, PharmD** Pharmacy Editor, eMedicine; **Gary Setnik, MD,** Chair, Department of Emergency Medicine, M Hospital; Assistant Professor, Division of Emergency Medicine, Harvard Medical School; **John** Chief Information Officer, CareGroup Healthcare System, Assistant Professor of Medicine, De Emergency Medicine, Beth Israel Deaconess Medical Center; Assistant Professor of Medicine School; and **Barry Brenner, MD, PhD,** Professor of Emergency Medicine, Professor of Intern Professor of Anatomy and Neurobiology, Chairman, Department of Emergency Medicine, Uni for Medical Sciences

Disclosure

Background: Congestive heart failure (CHF) is an imbalance in pump function in which the he the circulation of blood adequately. The most severe manifestation of CHF, pulmonary edema imbalance causes an increase in lung fluid secondary to leakage from pulmonary capillaries in alveoli of the lung.

CHF can be categorized as forward or backward ventricular failure. Backward failure is secon systemic venous pressure, while left ventricular failure is secondary to reduced forward flow in systemic circulation. Furthermore, heart failure can be subdivided into systolic and diastolic dy dysfunction is characterized by a dilated left ventricle with impaired contractility, while diastolic a normal or intact left ventricle with impaired ability to relax and receive as well as eject blood.

The New York Heart Association's functional classification of CHF is one of the most useful. C patient who is not limited with normal physical activity by symptoms. Class II occurs when ordi results in fatigue, dyspnea, or other symptoms. Class III is characterized by a marked limitatio activity. Class IV is defined by symptoms at rest or with any physical activity.

Pathophysiology: CHF is summarized best as an imbalance in Starling forces or an imbalan end-diastolic fiber stretch proportional to the systolic mechanical work expended in an ensuing imbalance may be characterized as a malfunction between the mechanisms that keep the inte dry and the opposing forces that are responsible for fluid transfer to the interstitium.

Maintenance of plasma oncotic pressure (generally about 25 mm Hg) higher than pulmonary c (about 7-12 mm Hg), maintenance of connective tissue and cellular barriers relatively imperme proteins, and maintenance of an extensive lymphatic system are the mechanisms that keep th alveoli dry.

Opposing forces responsible for fluid transfer to the interstitium include pulmonary capillary pr oncotic pressure. Under normal circumstances, when fluid is transferred into the lung interstiti lymphatic flow, no increase in interstitial volume occurs. When the capacity of lymphatic draina however, liquid accumulates in the interstitial spaces surrounding the bronchioles and lung va creating CHF. When increased fluid and pressure cause tracking into the interstitial space aro disruption of alveolar membrane junctions, fluid floods the alveoli and leads to pulmonary eder

Etiologies of pulmonary edema may be placed in the following 6 categories:

1. Pulmonary edema secondary to altered capillary permeability–includes acute respiratory (ARDS), infectious causes, inhaled toxins, circulating exogenous toxins, vasoactive subs intravascular coagulopathy (DIC), immunologic processes reactions, uremia, near drown aspirations.

2. Pulmonary edema secondary to increased pulmonary capillary pressure–comprises card noncardiac causes, including pulmonary venous thrombosis, stenosis or veno-occlusive overload.

3. Pulmonary edema secondary to decreased oncotic pressure found with hypoalbuminemi

4. Pulmonary edema secondary to lymphatic insufficiency

5. Pulmonary edema secondary to large negative pleural pressure with increased end expi

6. Pulmonary edema secondary to mixed or unknown mechanisms including high altitude p (HAPE), neurogenic pulmonary edema, heroin or other overdoses, pulmonary embolism postcardioversion, postanesthetic, postextubation, and post–cardiopulmonary bypass

This chapter is limited to cardiac causes of pulmonary edema and CHF and its relevant emerg

Frequency:

- **In the US:** More than 3 million people have CHF, and more than 400,000 new patients p Prevalence of CHF is 1-2% of the general population.

Mortality/Morbidity:

- Approximately 30-40% of patients with CHF are hospitalized every year. CHF is the lead group (DRG) among hospitalized patients older than 65 years. The 5-year mortality rate reported in 1971 as 60% in men and 45% in women. In 1991, data from the Framingham the 5-year mortality rate for CHF essentially remaining unchanged, with a median surviv males and 5.4 years for females. This may be secondary to an aging US population with due to other diseases.

- The most common cause of death is progressive heart failure, but sudden death may ac all deaths. After auditing data on 4606 patients hospitalized with CHF between 1992-19 mortality rate was 19%, with 30% of deaths occurring from noncardiac causes.

- Patients with coexisting insulin-dependent diabetes mellitus have a significantly increase

Race:

- African Americans are 1.5 times more likely to die of CHF than whites are. Nevertheless, patients appear to have similar or lower in-hospital mortality rates than white patients.

Sex:

- Prevalence is greater in males than in females for patients aged 40-75 years.

- No sex predilection exists for patients older than 75 years.

Age:

- Prevalence of CHF increases with increasing age and affects about 10% of the populatic years.

Pulmonary Edema is swelling and/or fluid accumulation in the lungs.

Contents

Signs and symptoms

Symptoms of pulmonary edema include difficulty breathing, coughing up blood, excessive sweating, anxiety ar skin. If left untreated, it can lead to death, generally due to its main complication of acute respiratory shock sy

Diagnosis

Pulmonary edema is generally suspected due to findings in the medical history and physical examination; end-inspiratory crackles during auscultation (listening to the breathing through a stethoscope) can be due to pulmc edema. The diagnosis is confirmed on X-ray of the lungs, which shows increased vascular filling and fluid in th walls.

Causes

Pulmonary edema is either due to direct damage to the tissue or as a result of inadequate functioning of the h circulatory system.

Circulatory causes:

- Heart failure
- Severe heart attack
- Excess body fluids from kidney failure

Tissue damage:

- inhalation of toxic gases
- severe infection
- lack of proper altitude acclimatization,

GOVERNMENT EXHIBIT 55 Page 4 of 5 APHIS FORM 7070 (MAR 05)

Therapy

When circulatory causes have led to pulmonary edema, treatment with loop diuretics, such as furosemide or bumetanide, is the mainstay of therapy. Other useful treaments include glyceryl trinitrate, CPAP and oxygen.

There are no causal therapies for direct tissue damage; removal of the causes (e.g. treating an infection) is th important measure.

Reference

- Medical Encyclopedia entry (*http://www.nlm.nih.gov/medlineplus/ency/article/000140.htm*)

Browse

pulmonary congestion	pull through	Pulmonary edema	Pulmonata
pulmonary circulation	pull the wool over someone's eyes	pulmonary embolism	pulmonic
pulmonary artery	pull the plug	pulmonary emphysema	pulp
pulmonary anthrax	pull the leg of	pulmonary plexis	pulpit
pulmonary	pull strings	pulmonary reserve	pulpwood
pull wires	pull someone's leg	pulmonary stenosis	pulpy
pull up stakes	pull round	pulmonary trunk	pulp cavity
pull up short	pull over	pulmonary tuberculosis	pulp magazine
pull up	pull out all the stops	pulmonary valve	pulque
pull together	pull out	pulmonary vein	pulsar

GOVERNMENT EXHIBIT 55 Page 5 of 5 APHIS FORM 7070 (MAR 96)