UNITED STATES DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

ANNUAL REPORT OF RESEARCH FACILITY
(TYPE OR PRINT)

1. CERTIFICATE NUMBER: 84-R-0001
2. CUSTOMER NUMBER: 1080

National Jewish Medicine & Research Center
National Medical & Res. Ctr.
1400 Jackson St. 
Denver, CO 80206
Telephone: (303) 392 - 1432

FORM APPROVED
OMB NO: 0579-0036

1. CERTIFICATE NUMBER: 84-R-0001
2. CUSTOMER NUMBER: 1080

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 Attached Listing

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

<table>
<thead>
<tr>
<th>A. Animals Covered by The Animal Welfare Regulations</th>
<th>B. Number of animals bred, conditioned, or held for use in teaching, testing, experiments, research, or surgery but not y</th>
<th>C. Number of animals upon which teaching, research, experiments, or tests were conducted involving no pain, distress, or use of pain-relieving drugs.</th>
<th>D. Number of animals upon which teaching, 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 would have adversely affected the procedures, results, or interpretation of the teaching, research, experiments, surgery, or tests.</th>
<th>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.</th>
<th>F. TOTAL NUMBER OF ANIMALS (COLUMNS C+D+E)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Dogs</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>5. Cats</td>
<td>0</td>
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<tr>
<td>6. Guinea Pigs</td>
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<td>111</td>
</tr>
<tr>
<td>7. Hamsters</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
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</tr>
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<td>8. Rabbits</td>
<td>21</td>
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<td>16</td>
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<tr>
<td>9. Non-human Primate</td>
<td>8</td>
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<td></td>
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<tr>
<td>0. Sheep</td>
<td>0</td>
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<tr>
<td>1. Pigs</td>
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<td>3. Other Animals</td>
<td>0</td>
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</tr>
</tbody>
</table>

ASSURANCE STATEMENTS

1) Professionally acceptable standards governing the care, treatment, and use of animals, including appropriate use of anesthetic, analgesic, and tranquilizing drugs, prior to, during, 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 be specified and explained by the principal investigator and approved by the Institutional Animal Care and Use Committee (IACUC). A summary of all such exceptions is attached to this annual report. In 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 affected.

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 other aspects of animal care. 

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

DATE SIGNED: 11-15-00
Annual Report Site Listing:
Customer ID and Site Address:

Cust ID: 1080
1400 Jackson St.
Denver, CO 80206
County: Denver

Telephone
(303)388-4461
This report is required by law (7 USC 2143). Failure to report according to the regulations can lead to penalties.

See attached form for additional information.

Interagency Report Control No.

UNITED STATES DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

ANNUAL REPORT OF RESEARCH FACILITY
(TYPE OR PRINT)

Colorado State University
203 Administration
Fort Collins, CO 80523

Telephone:
(303)491-7364

1. CERTIFICATE NUMBER: 84-R-0003
CUSTOMER NUMBER: 1195

FORM APPROVED
OMB NO. 0579-0036

Interagency Report Control No.

FACILITY LOCATIONS (Sites) - See Attached Listing

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

<table>
<thead>
<tr>
<th>Animals Covered By The Animal Welfare Regulations</th>
<th>B. Number of animals being bred, conditioned, or held for use in teaching, testing, experiments, research, or surgery but not by</th>
<th>C. Number of animals upon which teaching, research, experiments, or tests were conducted involving no pain, distress, or use of pain-relieving drugs.</th>
<th>D. Number of animals upon which teaching, research, experiments, surgery, or tests were conducted involving accompanying pain or distress to the animals and for which 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)</th>
<th>E. Number of animals upon which teaching, research, experiments, 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)</th>
<th>F. TOTAL NUMBER OF ANIMALS (COLUMNS C + D + E)</th>
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<tbody>
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<td>4. Dogs</td>
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<tr>
<td>Horses</td>
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<td>31</td>
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<td>46</td>
</tr>
</tbody>
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ASSURANCE STATEMENTS

1) Professionally acceptable standards governing the care, treatment, and use of animals, including appropriate use of anesthetic, analgesic, and tranquilizing drugs, prior to, during, 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 explained by the principal investigator and approved by the Institutional Animal Care and Use Committee (IACUC). A summary of all such exceptions is attached to this annual report. In 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 affected.

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 other aspects of animal care.

CERTIFICATION BY HEADQUARTERS RESEARCH FACILITY OFFICIAL
(Chief Executive Officer or Legally Responsible Institutional Official)
Annual Report Site Listing:

Customer ID and Site Address:

Cust ID: 1195
Veterinary Teaching Hospital
Fort Collins, CO 80523 2001
County: Larimer

Telephone
(970)491-7364
### UNITED STATES DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

**ANNUAL REPORT OF RESEARCH FACILITY**

( TYPE OR PRINT )

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<table>
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<th>1. CERTIFICATE NUMBER:</th>
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<td>2. CUSTOMER NUMBER:</td>
<td>1087</td>
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<table>
<thead>
<tr>
<th>Univ. Of Northern Colorado Pres.'s Office, Carter 4000 Dept. Of Biological Sciences 'Greeley, CO 80639</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telephone: (970)351-2921</td>
</tr>
</tbody>
</table>

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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 )

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**FACILITY LOCATIONS ( Sites )** - See Attached Listing

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**REPORT OF ANIMALS USED BY OR UNDER CONTROL OF RESEARCH FACILITY**

( Attach additional sheets if necessary or use APHIS Form 7023A )

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<table>
<thead>
<tr>
<th>A. Animals Covered By The Animal Welfare Regulations</th>
<th>B. Number of animals being bred, conditioned, or held for use in teaching, testing, experiments, research, or surgery but not y</th>
<th>C. Number of animals upon which experiments, teaching, research, surgery, or tests were conducted involving no pain, distress, or use of pain-relieving drugs.</th>
<th>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 must be used</th>
<th>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 annual report )</th>
<th>F. TOTAL NUMBER OF ANIMALS ( COLUMNS C + D + E )</th>
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</thead>
<tbody>
<tr>
<td>4. Dogs</td>
<td></td>
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<tr>
<td>5. Cats</td>
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<td>8. Rabbits</td>
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<td>9. Non-human Primate</td>
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<td>0. Sheep</td>
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<td>1. Pigs</td>
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<tr>
<td>2. Other Farm Animals</td>
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<tr>
<td>3. Other Animals</td>
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</tbody>
</table>

**ASSURANCE STATEMENTS**

1) Professionally acceptable standards governing the care, treatment, and use of animals, including appropriate use of anesthetic, analgesic, and tranquilizing drugs, prior to, during, 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 been required that exceptions to the standards and regulations be specified and explained by the principal investigator and approved by the Institutional Animal Care and Use Committee (IACUC). A summary of all such exceptions is attached to this annual report. In 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 affected.

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 other aspects of animal care.

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**CERTIFICATION BY HEADQUARTERS RESEARCH FACILITY OFFICIAL**

( Chief Executive Officer or Legally Responsible Institutional Official )

---

**ASSURANCE STATEMENTS**

---

**CERTIFICATION**

---

**DATE SIGNED**

---

*APHIS Form 7023 (Replaces USDA Form 16-23 (Oct 83), which is obsolete.

(AUG 91)
Annual Report Site Listing:
Customer ID and Site Address:

Cust ID: 1087
Animal Facility
Ross Hall Of Sciences
Greeley, CO 80639
County: Weld

Telephone
(970)351-2921
# ANNUAL REPORT OF RESEARCH FACILITY

**CERTIFICATE NUMBER:** 85-R-0010

**CUSTOMER NUMBER:** 1074

Canyon Colorado Equid Sanct.
P.O. Box 60639
Colorado Spgs, CO 80960

**Telephone:** (719)579-0707

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**FORM APPROVED OMB NO. 0579-0036**

1. **CERTIFICATE NUMBER:** 85-R-0010

2. **CUSTOMER NUMBER:** 1074

## FACILITY LOCATIONS (Sites)

- See Attached Listing

## REPORT OF ANIMALS USED BY OR UNDER CONTROL OF RESEARCH FACILITY

<table>
<thead>
<tr>
<th>Animals Covered By The Animal Welfare Regulations</th>
<th>Number of Animals Being Bred, Conditioned, or Held for Use in Teaching, Testing, Experiments, Research, or Surgery but Not Used</th>
<th>Number of Animals upon Which Teaching, Research, Experiments, or Tests Were Conducted Involving No Pain, Distress, or Use of Pain-Relieving Drugs</th>
<th>Number of Animals upon Which Teaching, Research, Experiments, or Tests Were Conducted Involving Accompanying Pain or Distress to the Animals and for Which Appropriate Anesthetic, Analgesic, or Tranquilizing Drugs Would Have Adversely Affected the Procedures, Results, or Interpretation of the Teaching, Research, Experiments, Surgery, or Tests</th>
<th>Number of Animals Upon Which Teaching, Research, Experiments, 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 the Annual Report, in Addition to Identifying the Adequacy of Other Aspects of Animal Care Specified and Explained by the Principal Investigator)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>4. Dogs</strong></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>5. Cats</strong></td>
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<td></td>
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<tr>
<td><strong>6. Guinea Pigs</strong></td>
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<tr>
<td><strong>7. Hamsters</strong></td>
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<tr>
<td><strong>8. Rabbits</strong></td>
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<td><strong>9. Non-human Primate</strong></td>
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<tr>
<td><strong>10. Sheep</strong></td>
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<tr>
<td><strong>11. Pigs</strong></td>
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<tr>
<td><strong>12. Other Farm Animals</strong></td>
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<tr>
<td><strong>13. Other Animals</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Assurance Statements**

1. Professionally acceptable standards governing the care, treatment, and use of animals, including appropriate use of anesthetic, analgesic, and tranquilizing drugs, prior to, during, 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 explained by the principal investigator, in addition to identifying the adequacy of other aspects of animal care specified and explained by the principal investigator.

**Date Signed:** 11/30/00
CONTINUATION SHEET FOR ANNUAL REPORT
OF RESEARCH FACILITY
(TYPE OR PRINT)

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 | 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 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, 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 those animals and the reasons such drugs were not used must be attached to this report.) | F. | TOTAL NO. OF ANIMALS (Cols. C + D + E) |
|---|---|---|---|---|---|---|---|---|---|
| Onager | 0 | 15 | 1 | | 16 |
| Somali Wild Ass | 0 | 8 | 0 | | 8 |
| Przewalski Horse | 0 | 44 | 0 | | 44 |
| Kiang | 0 | 2 | 1 | | 3 |
| Hartmann/Kulan Hybrid | 0 | 6 | 1 | | 7 |
| Hartmann/Onager Hybrid | 0 | 1 | 0 | | 1 |
| Przewalski/Kulan Hybrid | 0 | 1 | 0 | | 1 |
| Cape Hunting Dog | 0 | 1 | 0 | | 1 |

ASSURANCE STATEMENTS

1. Professionally acceptable standards governing the care, treatment, and use of animals, including appropriate use of anesthetic, analgesic, and tranquilizing drugs, prior to, during, 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 explained by the principal investigator and approved by the Institutional Animal Care and Use Committee (IACUC). A summary of all such exceptions is attached to this annual report. In 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 affected.

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 other aspects of animal care and use.

Date Signed: 11/30/00

Interagency Report Control No. 0166-DAA-AN
Annual Report Site Listing:

Customer ID and Site Address:

Cust ID: 1074
Hc 66, Box 5 Wagon Mound, NM 87752 9701
County: Mora

Telephone
(505)666-2271
**ANNUAL REPORT OF RESEARCH FACILITY**

**REPORT OF ANIMALS USED BY OR UNDER CONTROL OF RESEARCH FACILITY**

<table>
<thead>
<tr>
<th>Animals Covered By The Animal Welfare Regulations</th>
<th>B. Number of animals upon which teaching, research, experiments, or tests were conducted involving pain, distress to the animals and for which appropriate anesthetic, analgesic, or tranquilizing drugs would have adversely affected the procedures, results, or interpretation of the teaching, research, experiments, surgery, or tests.</th>
<th>C. Number of animals upon which teaching, research, experiments, or tests were conducted involving no pain, distress, or use of pain-relieving drugs.</th>
<th>D. Number of animals upon which teaching, research, experiments, or tests were conducted involving accompanying pain or distress to the animals and for which appropriate anesthetic, analgesic, or tranquilizing drugs would have adversely affected the procedures, results, or interpretation of the teaching, research, experiments, surgery, or tests.</th>
<th>E. Number of animals upon which teaching, research, experiments, or tests were conducted involving no pain, distress, or use of pain-relieving drugs.</th>
<th>F. TOTAL NUMBER OF ANIMALS (COLUMNS C + D + E)</th>
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</thead>
<tbody>
<tr>
<td>Animals Covered By The Animal Welfare Regulations</td>
<td>Number of animals upon which teaching, research, experiments, or tests were conducted involving pain, distress to the animals and for which appropriate anesthetic, analgesic, or tranquilizing drugs would have adversely affected the procedures, results, or interpretation of the teaching, research, experiments, surgery, or tests.</td>
<td>Number of animals upon which teaching, research, experiments, or tests were conducted involving no pain, distress, or use of pain-relieving drugs.</td>
<td>Number of animals upon which teaching, research, experiments, or tests were conducted involving accompanying pain or distress to the animals and for which appropriate anesthetic, analgesic, or tranquilizing drugs would have adversely affected the procedures, results, or interpretation of the teaching, research, experiments, surgery, or tests.</td>
<td>Number of animals upon which teaching, research, experiments, or tests were conducted involving no pain, distress, or use of pain-relieving drugs.</td>
<td>TOTAL NUMBER OF ANIMALS (COLUMNS C + D + E)</td>
</tr>
</tbody>
</table>

**ASSURANCE STATEMENTS**

1. Professionally acceptable standards governing the care, treatment, and use of animals, including appropriate use of anesthetics, analgesics, and tranquilizing drugs, prior to, during, 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 explained by the principal investigator and approved by the Institutional Animal Care and Use Committee (IACUC). A summary of all such exceptions is attached to this annual report. In 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 affected.

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 other aspects of animal care.
Annual Report Site Listing:
Customer ID and Site Address:

Cust ID: 1089

Western State College
Gunnison, CO 81231
County: Gunnison

Telephone
(970)943-2114
## ANNUAL REPORT OF RESEARCH FACILITY

### FACILITY LOCATIONS (Sites) - See Attached Listing

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

<table>
<thead>
<tr>
<th>A. Animals Covered By The Animal Welfare Regulations</th>
<th>B. Number of animals being bred, conditioned, or held for use in teaching, testing, experiments, research, or surgery but not yet</th>
<th>C. Number of animals upon which teaching, research, experiments, or tests were conducted involving no pain, distress, or use of pain-relieving drugs</th>
<th>D. Number of animals upon which experimenting, teaching, research, surgery, or tests were conducted involving accompanying pain or distress to the animals and for which appropriate anesthetic, analgesic, or tranquilizing drugs would have adversely affected the procedures, results, or interpretation of the teaching, research, experiments, surgery, or tests.</th>
<th>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 tranquiliizing drugs would have adversely affected the procedures, results, or interpretation of the teaching, research, experiments, surgery, or tests.</th>
<th>F. TOTAL NUMBER OF ANIMALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dogs</td>
<td>0</td>
<td>13</td>
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</table>

### ASSURANCE STATEMENTS

1. Professionally acceptable standards governing the care, treatment, and use of animals, including appropriate use of anesthetic, analgesic, and tranquilizing drugs, prior to, during, and after actual research, teaching, testing, surgery, or experimentation were followed by this research facility.

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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 other aspects of animal care.

### CERTIFICATION BY HEADQUARTERS RESEARCH FACILITY OFFICIAL

(Chief Executive Officer or Legally Responsible Institutional Official)

DATE SIGNED: OCT 99
The report is required by law (7 USC 2143). Failure to report according to the regulations can result in penalties.

United States Department of Agriculture
Animal and Plant Health Inspection Service

Annual Report of Research Facility

1681 South Dayton Street
Denver, CO 80231

Customer Number: 1092

1. Certificate Number: 84-R-0013

Interagency Report Control No.

See attached form for additional information

FACILITY LOCATIONS (Sites) - See Attached Listing

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

<table>
<thead>
<tr>
<th>Animals Covered By The Animal Welfare Regulations</th>
<th>B. Number of animals being bred, conditioned, or held for use in teaching, testing, experiments, research, or surgery but not y</th>
<th>C. Number of animals upon which teaching, research, experiments, or tests were conducted involving no pain, distress, or use of pain-relieving drugs</th>
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<th>F. TOTAL NUMBER OF ANIMALS (COLUMNS C+D+E)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Dogs</td>
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</tr>
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<td>8. Rabbits</td>
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<td></td>
</tr>
<tr>
<td>9. Non-human Primate</td>
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</tr>
<tr>
<td>0. Sheep</td>
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<tr>
<td>1. Pigs</td>
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<td>2. Other Farm Animals</td>
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ASSURANCE STATEMENTS

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

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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 other aspects of animal care.

Certification by Headquarters Research Facility Official

(date)

(Chief Executive Officer or Legally Responsible Institutional Official)

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

APHIS FORM 7023 (Replaces VS FORM 18-23 (OCT 88), which is obsolete.

(AUG 91)
ANNUAL REPORT OF RESEARCH FACILITY
(TYPE OR PRINT)

1. REGISTRATION NO.
   84 - R - 0014

2. HEADQUARTERS RESEARCH FACILITY
   (Name and Address, as registered with USDA, include Zip Code)
   Colorado College
   14 E. Cache la Poudre
   Colorado Springs, CO 80903-3298

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

   Barnes/Olin Rooms 111 thru 137

   Palmer Hall Rooms 233 and 324

FACILITY LOCATIONS (Site)

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

<table>
<thead>
<tr>
<th>A. Animals Covered By The Animal Welfare Regulations</th>
<th>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</th>
<th>C. Number of animals upon which teaching, research, experiments, or tests were conducted involving no pain, distress, or use of pain-relieving drugs.</th>
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<th>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 were used</th>
<th>F. TOTAL NO. OF ANIMALS (Cols. C + D + E)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Dogs</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>5. Cats</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>6. Guinea Pigs</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>7. Hamsters</td>
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<td>--------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>8. Rabbits</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>9. Non-human Primates</td>
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<td>----------------------------------------------------------------------------------------</td>
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<td>--------------------------------------------------</td>
</tr>
<tr>
<td>10. Sheep</td>
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<td>--------------------------------------------------------------------------------------------------</td>
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<td>--------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>11. Pigs</td>
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<td>--------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td>12. Other Farm Animals</td>
<td>--------------------------------------------------------------------------------------------------</td>
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<td>----------------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>13. Other Animals</td>
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<td>----------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------</td>
</tr>
</tbody>
</table>

ASSURANCE STATEMENTS

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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 other aspects of animal care and use.

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 USC Section 2143)

DATE SIGNED: 8-22-00

APR 11 84 11:27 A.M.

PART 1 - HEADQUARTERS
**ANNUAL REPORT OF RESEARCH FACILITY**

**TYPE OR PRINT**

---

**1. CERTIFICATE NUMBER:** 84-R-0016

**CUSTOMER NUMBER:** 1094

Denver Health Medical Center
777 Bannock St.
Denver, CO 80204

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**FACILITY LOCATIONS (Sites) - See Attached Listing**

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**REPORT OF ANIMALS USED BY OR UNDER CONTROL OF RESEARCH FACILITY**

(Attach additional sheets if necessary or use APHIS Form 7023A)

**Animals Covered By The Animal Welfare Regulations**

<table>
<thead>
<tr>
<th>A.</th>
<th>B. Number of animals being bred, conditioned, or held for use in teaching, testing, experiments, research, or surgery but not y</th>
<th>C. Number of animals upon which teaching, research, experiments, or tests were conducted involving no pain, distress, or use of pain-relieving drugs.</th>
<th>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, 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)</th>
<th>E. Number of animals upon which teaching, 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)</th>
<th>F. TOTAL NUMBER OF ANIMALS (COLUMNS C + D + E)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td>B.</td>
<td>C.</td>
<td>D.</td>
<td>E.</td>
<td>F.</td>
</tr>
<tr>
<td>4. Dogs</td>
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<td></td>
<td></td>
</tr>
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<td></td>
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</tr>
<tr>
<td>6. Guinea Pigs</td>
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<tr>
<td>7. Hamsters</td>
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<td></td>
</tr>
<tr>
<td>8. Rabbits</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>9. Non-human Primate</td>
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</tr>
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<tr>
<td>3. Other Animals</td>
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</tbody>
</table>

---

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---

**CERTIFICATION BY HEADQUARTERS RESEARCH FACILITY OFFICIAL**

(Chief Executive Officer or Legally Responsible Institutional Official)

---

**DATE SIGNED**

(AUG 91)
This report is required by law (7 USC 2143). Failure to report according to the regulations can result in penalties. See attached form for additional information.

UNITED STATES DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

ANNUAL REPORT OF RESEARCH FACILITY
(TYPE OR PRINT)

1. CERTIFICATE NUMBER: 84-R-0021
CUSTOMER NUMBER: 8224

Fort Lewis College
1000 Rim Dr.
Durango, CO 81301

Telephone: (970)247-7010

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 Attached Listing

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

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</thead>
<tbody>
<tr>
<td>4. Dogs</td>
<td>0</td>
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<tr>
<td>5. Cats</td>
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<td>0</td>
</tr>
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<td>6. Guinea Pigs</td>
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<td>0</td>
<td>0</td>
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<td>7. Hamsters</td>
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<td>8. Rabbits</td>
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<tr>
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<td>0</td>
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<tr>
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</table>

ASSURANCE STATEMENTS

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

DATE SIGNED: OCT 23 2000

(AUG 91)
Annual Report Site Listing:
Customer ID and Site Address:

Cust ID: 8224
758 Berndt Hall
Durango, CO 81301
County: La Plata

Telephone
(970)247-7010

OCT 23 2000
USDA, APHIS, REAC, AC
SACRAMENTO, CA
1. CERTIFICATE NUMBER: 84-R-0024
   CUSTOMER NUMBER: 1095

2. FACILITY LOCATIONS (Sites) - See Attached Listing

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)

<table>
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</thead>
<tbody>
<tr>
<td>4. Dogs</td>
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<tr>
<td>9. Non-human Primate</td>
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<td></td>
</tr>
<tr>
<td>0. Sheep</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>1. Pigs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Other Farm Animals</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>3. Other Animals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ASSURANCE STATEMENTS

1) Professionally acceptable standards governing the care, treatment, and use of animals, including appropriate use of anesthetic, analgesic, and tranquilizing drugs, prior to, during, and follo 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 explained by the principal investigator and approved by the Institutional Animal Care and Use Committee (IACUC). A summary of all such exceptions is attached to this annual report. In 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 affected.

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 other aspects of animal care.

CERTIFICATION BY HEADQUARTERS RESEARCH FACILITY OFFICIAL

SIGNATURE

DATE SIGNED: 9/26/00
Annual Report Site Listing:
Customer ID and Site Address:

Cust ID: 1095
10810 W. Collins Avenue
Lakewood, CO 80215 4440
County: Jefferson

Telephone
(800)644-2623
This report is required by law (7 USC 2143). Failure to report according to the regulations can
be penalized.

UNITED STATES DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

ANNUAL REPORT OF RESEARCH FACILITY
(TYPE OR PRINT)

UNITED STATES DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

ANNUAL REPORT OF RESEARCH FACILITY
(TYPE OR PRINT)

1. CERTIFICATE NUMBER: 84-R-0040
CUSTOMER NUMBER: 1097

Inhausen Research Institute, Inc.
2601 S. Lemay Ave., Suite 7-505
Fort Collins, CO 80525
Telephone: (970)221-1090

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)

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

<table>
<thead>
<tr>
<th>A. Animals Covered By The Animal Welfare Regulations</th>
<th>B. Number of animals being bred, conditioned, or held for use in teaching, testing, experiments, research, or surgery but not yet used</th>
<th>C. Number of animals upon which teaching, research, experiments, or tests were conducted involving no pain, distress, or use of pain-relieving drugs</th>
<th>D. Number of animals upon which teaching, research, experiments, or tests were conducted involving accompanying pain or distress to the animals and for which 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 annual report in Part F)</th>
<th>E. Number of animals upon which teaching, research, experiments, 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 annual report in Part F)</th>
<th>F. TOTAL NUMBER OF ANIMALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Dogs</td>
<td>14</td>
<td>200</td>
<td>184</td>
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<td>384</td>
</tr>
<tr>
<td>5. Cats</td>
<td>38</td>
<td>204</td>
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<td>204</td>
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<tr>
<td>6. Guinea Pigs</td>
<td>23</td>
<td>227</td>
<td></td>
<td></td>
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<td>7. Hamsters</td>
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<td>8. Rabbits</td>
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<tr>
<td>9. Non-human Primate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Sheep</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Pigs</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>12. Other Farm Animals</td>
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<tr>
<td>13. Other Animals</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ASSURANCE STATEMENTS

1) Professionally acceptable standards governing the care, treatment, and use of animals, including appropriate use of anesthetic, analgesic, and tranquilizing drugs, prior to, during, 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 explained by the principal investigator and approved by the Institutional Animal Care and Use Committee (IACUC). A summary of all such exceptions is attached to this annual report. In 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 affected.

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 other aspects of animal care.

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

Date Signed: 11/21/00

Interagency Report Control No.: 0579-0036

See attached form for additional information.
**ANNUAL REPORT OF RESEARCH FACILITY**

**TYPE OR PRINT**

---

**1. REGISTRATION NO.**
- 84-R-0052

**2. HEADQUARTERS RESEARCH FACILITY**
- Gilead Sciences
  - 2860 Wilderness Place
  - Boulder, CO 80301

---

**A. ANIMALS COVERED BY THE ANIMAL WELFARE REGULATIONS**

<table>
<thead>
<tr>
<th>Animals Covered By The Animal Welfare Regulations</th>
<th>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</th>
<th>C. Number of Animals Upon Which Teaching, Research, Experiments, or Tests Were Conducted Involving No Pain, Distress, or Use of Pain-Relieving Drugs</th>
<th>D. Number of Animals Upon Which Experiments, Research, Surgery, or Tests Were Conducted Involving Anatomical, Analogic, or Tranquilizing Drugs Were Used</th>
<th>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 Anesthetics, Analgesics, 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</th>
<th>F. TOTAL NO. OF ANIMALS (Cols. C + D + E)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Dogs</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
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<td>5. Cats</td>
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</tr>
<tr>
<td>7. Hamsters</td>
<td>10</td>
<td>17</td>
<td>0</td>
<td>27</td>
<td>0</td>
</tr>
<tr>
<td>8. Rabbits</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>9. Non-human Primates</td>
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<tr>
<td>10. Sheep</td>
<td>0</td>
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<td>0</td>
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<td>0</td>
</tr>
<tr>
<td>11. Pigs</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>12. Other Farm Animals</td>
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<td>0</td>
<td>0</td>
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<tr>
<td>13. Other Animals</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
</tbody>
</table>

---

**ASSURANCE STATEMENTS**

1. Professionally acceptable standards governing the care, treatment, and use of animals, including appropriate use of anesthetic, analgesic, and tranquilizing drugs, prior to, during, 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 explained by the principal investigator and approved by the Institutional Animal Care and Use Committee (IACUC). A summary of all such exceptions is attached to this annual report. In 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 affected.

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 other aspects of animal care and use.

---

**CERTIFICATION BY HEADQUARTERS RESEARCH FACILITY OFFICIAL**

(Chief Executive Officer or Legally Responsible Institutional Official)

I certify that the above is true, correct, and complete.

**DATE SIGNED**

12/4/00
This report is required by law (7 USC 2143). Failure to report according to the regulations can result in penalties. See attached form for additional information.

**ANNUAL REPORT OF RESEARCH FACILITY**

**1. CERTIFICATE NUMBER:** 84-R-0054
**CUSTOMER NUMBER:** 1310

**Ribozyme Pharmaceuticals, Inc.**
2950 Wilderness Place
Boulder, CO 80301

**Telephone:** (303) 449-8500

**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 Attached Listing

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

<table>
<thead>
<tr>
<th>A. Animals Covered By The Animal Welfare Regulations</th>
<th>B. Number of animals being bred, conditioned, or held for use in teaching, testing, experiments, research, or surgery but not y</th>
<th>C. Number of animals upon which teaching, research, experiments, or tests were conducted involving no pain, distress, or use of pain-relieving drugs.</th>
<th>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 use of anesthetic, analgesic, or tranquilizing drugs would have adversely affected the procedures, results, or interpretation of the teaching, research, experiments, surgery, or tests.</th>
<th>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 use of appropriate anesthetic, analgesic, or tranquilizing drugs would have adversely affected the procedures, results, or interpretation of the teaching, research, surgery, or tests.</th>
<th>F. TOTAL NUMBER OF ANIMALS (COLUMNS C + D + E)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Dogs</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5. Cats</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6. Guinea Pigs</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>7. Hamsters</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>8. Rabbits</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>9. Non-human Primate</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>10. Sheep</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>2. Other Farm Animals</td>
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<td>0</td>
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<tr>
<td>3. Other Animals</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**ASSURANCE STATEMENTS**

1) Professionally acceptable standards governing the care, treatment, and use of animals, including appropriate use of anesthetic, analgesic, and tranquilizing drugs, prior to, during, 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.

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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 other aspects of animal care.

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

[Signature]
Print: [Name]
Date Signed: 10/18/00
Annual Report Site Listing:
Customer ID and Site Address:

Cust ID: 1310
2950 Wilderness Place
Boulder, CO 80301
County: Boulder

Telephone
(303)270-7417
This report is required by law (7 USC 2143). Failure to report according to the regulations can
be punished by law. See attached form for additional information.

| UNITED STATES DEPARTMENT OF AGRICULTURE |
| ANIMAL AND PLANT HEALTH INSPECTION SERVICE |

ANNUAL REPORT OF RESEARCH FACILITY
(TYPE OR PRINT)

1. CERTIFICATE NUMBER: 84-R-0055
2. CUSTOMER NUMBER: 1312

Healthone
1850 High Street
Denver, CO 80218

Telephone: (303)839-6821

FACILITY LOCATIONS (Sites) - See Attached Listing

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

<table>
<thead>
<tr>
<th>Animals Covered By The Animal Welfare Regulations</th>
<th>Number of animals being bred, conditioned, or held for use in teaching, testing, experiments, research, or surgery but not y</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Dogs</td>
<td></td>
</tr>
<tr>
<td>5. Cats</td>
<td></td>
</tr>
<tr>
<td>6. Guinea Pigs</td>
<td></td>
</tr>
<tr>
<td>7. Hamsters</td>
<td></td>
</tr>
<tr>
<td>8. Rabbits</td>
<td></td>
</tr>
<tr>
<td>9. Non-human Primate</td>
<td></td>
</tr>
<tr>
<td>0. Sheep</td>
<td></td>
</tr>
<tr>
<td>1. Pigs</td>
<td></td>
</tr>
<tr>
<td>2. Other Farm Animals</td>
<td></td>
</tr>
<tr>
<td>3. Other Animals</td>
<td>No regulated animals are present.</td>
</tr>
</tbody>
</table>

ASSURANCE STATEMENTS

1) Professionally acceptable standards governing the care, treatment, and use of animals, including appropriate use of anesthetic, analgesic, and tranquilizing drugs, prior to, during, and follow 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 explained by the principal investigator and approved by the Institutional Animal Care and Use Committee (IACUC). A summary of all such exceptions is attached to this annual report. In 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 affected.

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 other aspects of animal care.

DATE SIGNED
9/25/00
Annual Report Site Listing:
*Customer ID and Site Address:

Cust ID: 1312
5125 North Stapleton Drive
Denver, CO 80216
County: Denver

Telephone
(303)320-4061
### Annual Report of Research Facility

**Boulder Path, Inc.**
**Univ. Of Colorado At Boulder**
**Modb Campus Box 347**
**Boulder, CO 80309**

#### Facility Locations (Sites)

<table>
<thead>
<tr>
<th>Animals Covered By The Animal Welfare Regulations</th>
<th>A. Number of animals being bred, conditioned, or held for use in teaching, testing, experiments, research, or surgery but not later</th>
<th>B. Number of animals upon which teaching, research, experiments, or tests were conducted involving no pain, distress, or use of pain-relieving drugs</th>
<th>C. Number of animals upon which teaching, research, experiments, or tests were conducted involving accompanying pain or distress to the animals and for which appropriate anesthetic, analgesic, or tranquilizing drugs were used</th>
<th>D. Number of animals upon which teaching, research, experiments, or tests were conducted involving accompanying pain or distress to the animals and for which appropriate anesthetic, analgesic, or tranquilizing drugs were used</th>
<th>E. Number of animals upon which teaching, research, experiments, or tests were conducted involving accompanying pain or distress to the animals and for which appropriate anesthetic, analgesic, or tranquilizing drugs were used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dogs</td>
<td>4</td>
<td>6</td>
<td>24</td>
<td>48</td>
<td>72</td>
</tr>
<tr>
<td>Cats</td>
<td>5</td>
<td>5</td>
<td>0</td>
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<tr>
<td>Sheep</td>
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<td>13</td>
</tr>
</tbody>
</table>

#### Assurance Statements

1. Professionally acceptable standards governing the care, treatment, and use of animals, including appropriate use of anesthetic, analgesic, and tranquilizing drugs; prior to, during, 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 explained by the principal investigator and approved by the Institutional Animal Care and Use Committee (IACUC). A summary of all such exceptions is attached to this annual report. In 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 affected.

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 other aspects of animal care.

#### Certification by Headquarters Research Facility Official

(Chief Executive Officer or Legally Responsible Institutional Official)

| Date Signed | 9/29/00 |

**APHIS Form 7023** (Replaces VS Form 18-23 (Oct 88), which is obsolete. (AUG 91))
**ANNUAL REPORT OF RESEARCH FACILITY**

**FACILITY LOCATIONS** (Sites) - See Attached Listing

### Animals Covered By The Animal Welfare Regulations

<table>
<thead>
<tr>
<th>A. Animals</th>
<th>B. Number of animals being bred, conditioned, or held for use in teaching, testing, experiments, research, or surgery but not y</th>
<th>C. Number of animals upon which teaching, research, experiments, or tests were conducted involving no pain, distress, or use of pain-relieving drugs</th>
<th>D. Number of animals upon which teaching, research, experiments, or tests were conducted involving accompanying pain or distress to the animals and for which 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 the Facilities Report.)</th>
<th>E. Number of animals upon which teaching, 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 the Facilities Report.)</th>
<th>F. TOTAL NUMBER OF ANIMALS (COLUMNS C+D+E)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dogs</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cats</td>
<td>6</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Rabbits</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-human Primate</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>Sheep</td>
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<td>Pigs</td>
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<td></td>
</tr>
<tr>
<td>Other Farm Animals</td>
<td>12</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Other Animals</td>
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<td>Mice</td>
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<td>1011</td>
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<td>1038</td>
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<tr>
<td>Rats</td>
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<td>206</td>
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<td></td>
<td>206</td>
</tr>
</tbody>
</table>

### ASSURANCE STATEMENTS

1) Professionally acceptable standards governing the care, treatment, and use of animals, including appropriate use of anesthetic, analgesic, and tranquilizing drugs, prior to, during, 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 explained by the principal investigator and approved by the Institutional Animal Care and Use Committee (IACUC). A summary of all such exceptions is attached to this annual report. In 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 affected.

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 other aspects of animal care.

**CERTIFICATION BY HEADQUARTERS RESEARCH FACILITY OFFICIAL**

(Chief Executive Officer or Legally Responsible Institutional Official)
Annual Report Site Listing:
Customer ID and Site Address:

Cust ID: 1784
1600 Pierce Street
Lakewood, CO 80214
County: Jefferson

Telephone
XXX-XXXX
(303) 239-3561
This report is required by law (7 USC 2143). Failure to report according to the regulations can carry a fine of not more than $1,000 and/or imprisonment not to exceed 5 years.

See attached form for additional information

UNITED STATES DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE

ANNUAL REPORT OF RESEARCH FACILITY
(TYPE OR PRINT)

1. CERTIFICATE NUMBER: 84-R-0060
CUSTOMER NUMBER: 1835

University Of Colorado-Boulder
Department Of Animal Resource
Cb 26
Boulder, CO 80309
Telephone: (303)492-2890

1. 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 Attached 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 animals being bred, conditioned, or held for use in teaching, testing, experiments, research, or surgery but not y

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 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

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

F. TOTAL NUMBER OF ANIMALS (COLUMNS C + D + E)

4. Dogs
5. Cats
6. Guinea Pigs
7. Hamsters
8. Rabbits
9. Non-human Primate
0. Sheep
2. Other Farm Animals

GROUND SQUIRREL
DEER
PRAIRIE VOLE
POCKETMICE
MEXICAN WOOD RAT

ASSURANCE STATEMENTS

1) Professionally acceptable standards governing the care, treatment, and use of animals, including appropriate use of anesthetic, analgesic, and tranquilizing drugs, prior to, during, 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 explained by the principal investigator and approved by the Institutional Animal Care and Use Committee (IACUC). A summary of all such exceptions is attached to this annual report. In addition to identifying the exceptions, this summary includes a 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 adequacy of other aspects of animal care.

CERTIFICATION BY HEADQUARTERS RESEARCH FACILITY OFFICIAL

(Chief Executive Officer or Legally Responsible Institutional Official)

NOV 6 2000

SIGNATURE

DATE SIGNED

APPROVED

(AUG 31)
### Annual Report Site Listing:

**Customer ID and Site Address:**

<table>
<thead>
<tr>
<th>Customer ID</th>
<th>Cust ID:</th>
<th>1835</th>
</tr>
</thead>
</table>

**Department Of Animal Resources**

**Boulder, CO 80309**

**County: Boulder**

**Telephone**

(303)492-2890
Annual Report Site Listing:
Customer ID and Site Address:

Cust ID: 1835

Department Of Animal Resources
505 Weld County Rd. 1 1/2
Longmont, CO 80504
County: Boulder
**ANNUAL REPORT OF RESEARCH FACILITY**

- **1. CERTIFICATE NUMBER:** 84-R-0061
- **CUSTOMER NUMBER:** 10643
- **FORM APPROVED OMB NO. 0579-0036**

**UNITED STATES DEPARTMENT OF AGRICULTURE**
**ANIMAL AND PLANT HEALTH INSPECTION SERVICE**

The Veterinary Referral Center Of Colorado
3550 S. Jason St.
Telephone: (303)398-1313
Englewood, CO 80110

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**
(See Attached Listing)

### REPORT OF ANIMALS USED BY OR UNDER CONTROL OF RESEARCH FACILITY

**A. Animals Covered By The Animal Welfare Regulations**

<table>
<thead>
<tr>
<th>Animals Covered By The Animal Welfare Regulations</th>
<th>B. Number of animals being bred, conditioned, or held for use in teaching, testing, experiments, research, or surgery but not yet</th>
<th>C. Number of animals upon which teaching, research, experiments, or tests were conducted involving no pain, distress, or use of pain-relieving drugs</th>
<th>D. Number of animals upon which teaching, research, experiments, or tests were conducted involving no pain, distress, or use of pain-relieving drugs</th>
<th>E. Number of animals upon which teaching, research, experiments, or tests were conducted involving no pain, distress, or use of pain-relieving drugs</th>
<th>F. TOTAL NUMBER OF ANIMALS (COLUMNS C + D + E)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Dogs</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>5. Cats</td>
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<td></td>
<td></td>
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<tr>
<td>6. Guinea Pigs</td>
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<tr>
<td>7. Hamsters</td>
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<tr>
<td>8. Rabbits</td>
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<td></td>
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<tr>
<td>9. Non-human Primate</td>
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<tr>
<td>10. Sheep</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>11. Pigs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Other Farm Animals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>13. Other Animals</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

### ASSURANCE STATEMENTS

1. Professionally acceptable standards governing the care, treatment, and use of animals, including appropriate use of anesthetic, analgesic, and tranquilizing drugs, prior to, during, 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 explained by the principal investigator and approved by the Institutional Animal Care and Use Committee (IACUC). A summary of all such exceptions is attached to this annual report. In 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 affected.

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 other aspects of animal care.

**CERTIFICATION BY HEADQUARTERS RESEARCH FACILITY OFFICIAL**

**DATE SIGNED:** 11-2-00

**AP**
**United States Department of Agriculture**

**Animal and Plant Health Inspection Service**

**Annual Report of Research Facility**

**Certificate Number:** 84-R-0007

**Customer Number:** 1086

**Colorado Serum Company**

**4950 York Street**

**Denver, CO 80216**

**Telephone:** (303)295-7527

**Facility Locations (Sites):**

OK Dr. Flynn 11-14-00

---

**Report of Animals Used by and Under Control of Research Facility**

<table>
<thead>
<tr>
<th>A. Animals Covered by the Animal Welfare Regulations</th>
<th>B. Number of animals being bred, conditioned, or held for use in teaching, testing, experiments, research, or surgery but not killed</th>
<th>C. Number of animals upon which teaching, research, or experiments were conducted involving the use of pain-relieving drugs</th>
<th>D. Number of animals upon which teaching, research, or experiments were conducted involving the use of anesthetic, analgesic, or tranquilizing drugs</th>
<th>E. Number of animals upon which teaching, research, or experiments were conducted involving the use of other drugs</th>
<th>F. Total Number of Animals</th>
</tr>
</thead>
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<tr>
<td>Dogs</td>
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<td>0</td>
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<tr>
<td>Cats</td>
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<td>0</td>
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<td>0</td>
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<tr>
<td>Guinea Pigs</td>
<td>26</td>
<td>236</td>
<td>186</td>
<td>1203</td>
<td>1625</td>
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<tr>
<td>Hamsters</td>
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<td>0</td>
<td>166</td>
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<tr>
<td>Rabbits</td>
<td>4</td>
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<td>170</td>
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<tr>
<td>Non-human Primate</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
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<td>Sheep</td>
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<td>0</td>
</tr>
</tbody>
</table>

---

**Assurance Statements**

1. Professionally acceptable standards governing the care, treatment, and use of animals, including appropriate use of anesthetic, analgesic, or tranquilizing drugs, prior to, during, and following actual research, testing, experiments, surgery, or experimentation were followed by this research facility.

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

---

**Certification by Headquarters Research Facility Official**

**Sign/Initial:**

**Name & Title of C.E.O. or Institutional Official:**

**Date Signed:** 11-07-00

---

APHIS (ADF 901)
Each animal in each referenced test was employed in testing a Licensed Veterinary Biological product as required by Federal Regulations as codified in Title 9 CFR. Humane euthanasia of animals on 9 CFR required tests are provided for in Federal Register publication dated August 21, 1995 citing part 117.4(d) – Animals at Licensed Establishments – test animals (filed August 18, 1995) has been initiated and included as standard testing protocol. Attending veterinarians and related employees have been informed and Colorado Serum Company is complying with this regulation.

Explanation of usage of animals listed in Column E.

Line Item 6. Guinea Pigs

1203 Guinea Pigs were tested causing pain, for which no anesthetic, analgesics, or tranquilizers could be used. A detailed breakdown of guinea pigs by test reference is provided.

9 CFR 113.451(d) Tetanus Antitoxin potency testing – 917 guinea pigs.

9 CFR 113.106(c) Clostridium chauvoei Bacterin potency testing – 198 guinea pigs

9 CFR 113.107(c) Clostridium haemolyticum potency testing – 88 guinea pigs
Hamsters

166 Hamsters were tested causing pain, for which no anesthetics, analgesics, or tranquilizers could be used. A detailed breakdown of hamsters by test reference is provided.


9 CFR 113.102 Leptospira Icterohaemorrhagiae Bacterin potency testing – 46 hamsters.

9 CFR 113.103 Leptospira Canicola Bacterin potency testing – 40 hamsters.

9 CFR 113.104 Leptospira Grippotyphosa Bacterin potency testing – 40 hamsters.
### ANNUAL REPORT OF RESEARCH FACILITY

**TYPE OR PRINT**

**UNITED STATES DEPARTMENT OF AGRICULTURE**

**ANIMAL AND PLANT HEALTH INSPECTION SERVICE**

**ANNUAL REPORT OF RESEARCH FACILITY**

1. **CERTIFICATE NUMBER:** 84-R-0045
2. **CUSTOMER NUMBER:** 1096
3. **COLORADO DIVISION OF WILDLIFE**
4. **6060 BROADWAY**
5. **DENVER, CO 80216**
6. **Telephone:** (303)297-1192

**FACILITY LOCATIONS** *(Sites)*

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

<table>
<thead>
<tr>
<th>A. Animals Covered By The Animal Welfare Regulations</th>
<th>B. Number of animals being bred, conditioned, or held for use in teaching, testing, experiments, research, or surgery but not y</th>
<th>C. Number of animals upon which teaching, research, experiments, or tests were conducted involving no pain, distress, or use of pain-relieving drugs</th>
<th>D. Number of animals upon which teaching, research, experiments, or tests were conducted involving pain, distress, or use of pain-relieving drugs</th>
<th>E. Number of animals upon which teaching, research, experiments, 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. <em>(An explanation of the procedures producing pain or distress in these animals and the reasons such drugs were not used must be attached to)</em></th>
<th>F. TOTAL NUMBER OF ANIMALS <em>(COLUMNS C + D + E)</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Dogs</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>5. Cats</td>
<td></td>
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<tr>
<td>6. Guinea Pigs</td>
<td></td>
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<tr>
<td>7. Hamsters</td>
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<tr>
<td>8. Rabbits</td>
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<td></td>
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<tr>
<td>9. Non-human Primate</td>
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<tr>
<td>10. Sheep</td>
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<tr>
<td>11. Pigs</td>
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<tr>
<td>2. Other Farm Animals</td>
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</tr>
<tr>
<td><strong>Cattle</strong></td>
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<td><strong>11</strong></td>
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<td>3. Other Animals</td>
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<tr>
<td><strong>bighorn sheep</strong></td>
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<td><strong>19</strong></td>
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<td><strong>mule deer</strong></td>
<td><strong>29</strong></td>
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<td><strong>60</strong></td>
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</table>

**ASSURANCE STATEMENTS**

1. Professionally acceptable standards governing the care, treatment, and use of animals, including appropriate use of anesthetic, analgesic, and tranquilizing drugs, prior to, during, and follow 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 explained by the principal investigator and approved by the Institutional Animal Care and Use Committee (IACUC). A summary of all such exceptions is attached to this annual report. In 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 affected.
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 other aspects of animal care.

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

**NAME & TITLE OF C.E.O. OR INSTITUTIONAL OFFICIAL: OK**

**DATE SIGNED:** 11/28/04

**(AUG 91)**

3-23 (OCT 88), which is obsolete.
### CONTINUATION SHEET FOR ANNUAL REPORT OF RESEARCH FACILITY

(\textsc{type or print})

<table>
<thead>
<tr>
<th>A. Animals Covered By The Animal Welfare Regulations</th>
<th>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.</th>
<th>C. Number of animals upon which teaching, research, experiments, or tests were conducted involving no pain, distress, or use of pain-relieving drugs.</th>
<th>D. Number of animals upon which experiments, teaching, research, or tests were conducted involving no pain, distress, or use of pain-relieving drugs.</th>
<th>E. Number of animals upon which teaching, research, experiments, 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 protecting pain or distress in those animals and the reasons such drugs were not used must be attached to this report.</th>
<th>F. Total number of animals. (Col., C, + D, + E)</th>
</tr>
</thead>
<tbody>
<tr>
<td>pronghorn antelope</td>
<td>10</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>white-tailed deer</td>
<td>-</td>
<td>3</td>
<td>-</td>
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<td>7</td>
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<tr>
<td>white-tailed prairie dog</td>
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<td>30</td>
<td>-</td>
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<td>30</td>
</tr>
<tr>
<td>domestic feline</td>
<td>21</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0</td>
</tr>
</tbody>
</table>

### ASSURANCE STATEMENTS

1. Professionally acceptable standards governing the care, treatment, and use of animals, including appropriate use of anesthetics, analgesics, and tranquilizing drugs, prior to, during, 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 explained by the principal investigator and approved by the Institutional Animal Care and Use Committee (IACUC). A summary of all such exceptions is attached to this annual report. In addition to identifying the IACUC-approved exceptions, a summary includes a 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 adequacy of other aspects of animal care and use.

### 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)

{\textsc{adhriy name}}

\textsc{name & title of c.e.o. or institutional official (type or print)}

\textsc{date signed}

11/26/86

APHIS FORM 7023A (AUG 81)

PART I - HEADQUARTERS
Annual Report Site Listing:

Customer ID and Site Address:

Cust ID: 1096

4330 West Laporte Avenue
Fort Collins, CO 80521
County: Larimer

Telephone
(970)472-4300
Column E Addendum
Explanation of animal uses involving unmitigated pain or distress

1. **Chronic wasting disease (CWD) pathogenesis**: Studies involved 5 mule deer and 7 white-tailed deer orally inoculated with infectious brain material. Handling and experimental procedures themselves were neither painful nor distressing. However, some ill-defined pain sensations and other adverse psychological manifestations may have arisen during the course of the disease [based on extrapolations from human transmissible spongiform encephalopathies (TSEs)]. No veterinary pharmaceuticals or other therapeutic regimens are recommended for treatment of animal TSEs, and it is unclear whether conventional analgesics would even be effective. Moreover, attempting to control elements of disease progression would have interfered with detection of clinical signs, and could alter the pathobiological processes under study. Instead, animals showing signs of severe clinical CWD were euthanized, as specified in study protocols on file.

2. **Susceptibility of cattle to CWD**: Study involved 26 mule deer and 11 domestic cattle naturally exposed to the CWD agent via confinement in outdoor paddocks where the disease is endemic. Handling and experimental procedures themselves were neither painful nor distressing. However, some ill-defined pain sensations and other adverse psychological manifestations may have arisen in mule deer during the natural course of the disease [based on extrapolations from human transmissible spongiform encephalopathies (TSEs)]. No veterinary pharmaceuticals or other therapeutic regimens are recommended for treatment of animal TSEs, and it is unclear whether conventional analgesics would even be effective. Moreover, attempting to control elements of disease progression would have interfered with detection of clinical signs, and could alter the pathobiological processes under study. Instead, animals showing signs of clinical CWD were euthanized, as specified in study protocols on file. (Note: Based on preliminary data available to date, it is unlikely that the cattle in this study will ever become infected with CWD; however, they are counted in column E of the report as a matter of completeness.)

3. **Evaluation of a modified-live *Pasteurella haemolytica* vaccine in bighorn sheep**: Study involved 6 bighorn sheep exposed to vaccine and/or pathogenic strains of *Pasteurella haemolytica*. Handling and experimental procedures themselves were neither painful nor distressing. However, some pain or distress may have arisen in bighorns that developed respiratory disease after exposure to vaccine and/or pathogenic strains of *Pasteurella haemolytica*. Attempting to control elements of disease progression with conventional therapeutic regimens prescribed for pneumonia pasteurellosis would have interfered with evaluation of vaccine efficacy, and could have altered the pathobiological processes under study. Instead, animals showing signs of severe respiratory disease were euthanized, as specified in study protocols on file.
## ANNUAL REPORT OF RESEARCH FACILITY

**TYPE OR PRINT**

### FACILITY LOCATIONS

**REPORT OF ANIMALS USED BY OR UNDER CONTROL OF RESEARCH FACILITY**

### A. Animals Covered

**B. Number of animals being bred, conditioned, or held for use in teaching, testing, experiments, research, or surgery but not y**

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
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<th></th>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of animals upon which teaching, research, experiments, or tests were conducted involving no pain, distress, or use of pain-relieving drugs</td>
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<td>102</td>
<td>16</td>
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### F. TOTAL NUMBER OF ANIMALS

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<thead>
<tr>
<th>COLUMNS</th>
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### ASSURANCE STATEMENTS

1. Professionally acceptable standards governing the care, treatment, and use of animals, including appropriate use of anesthetic, analgesic, and tranquilizing drugs, prior to, during, 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 explained by the principal investigator and approved by the Institutional Animal Care and Use Committee (IACUC). A summary of all such exceptions is attached to this annual report. In 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 affected.

4. The attending veterinarians for this research facility have appropriate authority to ensure the provision of adequate veterinary care and to oversee the adequacy of other aspects of animal care and welfare.
Annual Report Site Listing:
Customer ID and Site Address:

Cust ID: 1834
4200 E. 9th Ave.
Denver, CO 80220
County: Denver

Telephone
(303)315-2595
CATEGORY E STUDIES

1. Sheep exposed to heat stress - 16 sheep

Description of Procedures:

Pregnant sheep are placed in an environmental chamber that cycles room temperature between 40-40.5 °C for 12-14 hours/day and 35 °C for the remainder of the day from day 33-35 of gestation until day 90-115. Humidity in the chamber is 45-50%. Animals are housed in standard cages with ad lib water and food. For safety, the heating system is equipped with an alarm and automatic cut-off system.

Explanation of Reasons Why Pain- or Distress- Relieving Drugs Were Not Used:

The procedure is designed to mimic a naturally occurring phenomenon, namely, pregnancy in hot climates where fetal intrauterine growth retardation is a common problem. The animals in the chamber under these conditions give no visual or clinical indication of stress. They eat and drink normally; their stool pattern is also normal; and their wool continues to grow. The procedure does alter placental development, but since altered placental development is not known to be associated with pain or distress in any species, use of any drug or other treatments would be speculative and possibly problematic for fetal development.

2. Rabbits exposed to E. coli - 56 rabbits

Description of Procedures:

This is a study of the effects of exposure to bacteria during the birth process. The goal of the protocol is to determine, after intra-cervical inoculation of pregnant rabbits with E. coli and treatment with antibiotics, the extent of tissue damage over time and whether therapeutic intervention with IL-1a reduces fetal injury. Timed pregnant rabbits at 70% gestational age are anesthetized and inoculated intra-cervically with $10^3$ to $10^4$ CFU E. coli and treated with ampicillin sulbactam. At 1, 3 and 5 days after inoculation, the animals are euthanized and the tissues evaluated. In another group, rabbits are given IL-1ra or saline each day (iv; ear vein) for 5 hours each day. This study requires an iv drip for 5 hours/day, therefore restraint is needed for the constant infusion. After consultation with the University Veterinarian, a wire rabbit box without neck restraint was chosen. The rabbits are gradually acclimated to this restraint over a 5 day time period. At 1, 3 and 5 days, animal are euthanized and the tissues evaluated.
Explanation of Reasons Why Pain- or Distress- Relieving Drugs Were Not Used:

It is important to understand the risk of maternal and newborn infection. It is therefore necessary to allow the experiment to continue until it can be determined whether or not the does and neonatal rabbits become infected by exposure to bacteria during the birth process. Antibiotics and IL-1ra treatment given to mothers before delivery may be an effective treatment. The difference in outcome of animals given IL-1ra and those not treated is the focus of these studies. Drugs given to relieve any possible distress would mask the degree of infection and interfere with the immunoassays to be done, therefore none are given.

3. Decapitation without prior anesthesia in guinea pigs – 53 guinea pigs

Description of Procedures:

Bradykinin affects many different tissues in the body. For effective drug development, new antagonists must be tested in a standard “classic” assay system. In this protocol, guinea pigs are euthanized by decapitation without prior anesthesia. Segments of the terminal ileum are then removed and hung in a tissue bath. Tissue responses are standardized with bradykinin, and then new potential antagonists are applied to the tissue to see if they block the action of the next standard ED$_{50}$ dose of bradykinin applied to the tissue.

Explanation of Reasons Why Pain- or Distress- Relieving Drugs Were Not Used:

Bradykinin is a peptide hormone involved in causing many serious kinds of inflammation, such as septic shock. The Investigators are developing new, more potent bradykinin antagonists as potential new drugs for these conditions. Isolated guinea pig ileum is the classical standard assay system for bradykinin. In order to compare results with new compounds, they must first be tested in this system. No one has described a more humane procedure that doesn’t require anesthesia. Anesthesia adversely affects the response of the tissue. This has been demonstrated in the Investigators’ laboratory, as well as in other laboratories. Additionally, the Investigator has tried using carbon dioxide anesthesia and found that the stress caused by this process causes bradykinin to be released in the tissues, such that an adequate baseline cannot be obtained.

4. Maternal-Infant separation in non-human primates - 2 mothers and 2 infants (M. nemestrina; for a total of 4 primates)

Description of Procedures:

When infants are 6 months old, mothers are removed from the social group for one separation period that lasts two weeks. During this time the infant is immunized with
tetanus toxoid and blood is sampled biweekly. The infant remains with its social group during separation.

**Explanation of Reasons Why Pain- or Distress- Relieving Drugs Were Not Used:**

It is the effect of maternal-infant separation, which is being studied, so any psychoactive intervention to relieve the behavioral impact would negate the results of the study.

5. Parkinsonian Syndrome in non-human primates - 4 monkeys (M. radiata)

**Description of Procedures:**

The Parkinsonian syndrome is induced when MPTP-HCL is infused into the carotid artery to produce a stable unilateral lesion in the monkey. A dose of 0.8 mg/kg MPTP-HCL dissolved in 50 cc of sterile normal saline infused into the carotid artery over 20 minutes leads to unilateral dilation of the pupil and a weak arm and leg contralateral to the side of the lesion and sensory neglect on that side. The animals are infused at a rate of 2 ml/minute using a 30 gauge needle with the infusion in the direction opposite the normal arterial blood flow. Analgesics are given to all animals for any post-operative pain. The result of the surgical procedure is a weak arm and leg and sensory neglect on the side opposite the lesion. (Water bottles are adjusted for this disability.) Thus, once monkeys have been lesioned, abilities such as locomotion, visual fields, grasping, climbing, etc. are impaired. In addition, the lesioned animals are sensitive to sound and have an enhanced startle response. After the lesioning procedure has produced the hemi-parkinsonian effect, each animal is assessed daily for any pain. L-dopa is given as needed to assist the animal in daily routine procedures. In addition, monkey’s food intake is carefully assessed and animals are hand fed if necessary until they have learned to adapt to their limitations. Daily fruit, sunflower seed, pomegranate seeds, peanuts, etc., are provided to occupy their foraging behavior. The post transplant state lasts about six to eight months. As the animals become more adept with their routine movements, more foraging materials and additional toys are introduced.

**Explanation of Reasons Why Pain- or Distress- Relieving Drugs Were Not Used:**

To study the effective treatment of Parkinson's disease, an animal model of the disease is essential. There are currently no effective long-term treatments for this disease and therefore no way to completely eliminate the distress that may be associated with the physical limitations imposed by this disease. It is the goal of this study to test a treatment that may effectively cure the monkeys and, ultimately, human beings.
EXCEPTIONS TO REGULATIONS

The IACUC has approved an exception to the policy regarding multiple surgeries, specifically the placement of maternal and fetal catheters in sheep. The goal of the protocol is to determine how fetal glucose and plasma insulin availability regulate fetal energy and amino acid metabolism and thereby lead to changes in fetal growth. For the 2-3 week chronic studies, an initial surgery is done to catheterize the mother's femoral artery and vein. The catheters allows the Investigators to produce, by IV infusion, the necessary metabolic conditions (e.g. insulin-induced hypoglycemia; glucose induced hyperglycemia). The fetus is too small to catheterize at this time, and maintaining patency of fetal catheters for more than 2 weeks is very difficult. Thus, a second surgery to place uterine and fetal catheters is done when the fetus is big enough and close enough to final study. The fetal catheters are then used for infusions in both hyperglycemic and hypoglycemic studies. Within the last reporting period, twenty-three- sheep have had multiple surgeries for placement of maternal and fetal catheters.

The USDA Sector Supervisor has approved an exception to the policy regarding multiple survival surgeries, specifically multiple Cesarean sections in Bonnet monkeys (letter dated 6/29/94). There is currently a moratorium on the importation of Bonnet monkeys. Therefore, multiple surgeries will use the fewest possible number of a rare species. No multiple Cesarean sections were performed during this reporting period under this exception. Furthermore, no non-human primates received a Cesarean section in the past year.