



April 24, 2023

Robert M. Gibbens, D.V.M.
 Director, Animal Welfare Operations
 Animal Care
 Animal and Plant Health Inspection Service
 U.S. Department of Agriculture

Via e-mail: Robert.M.Gibbens@usda.gov; ac.complaints@usda.gov

Dear Dr. Gibbens:

I'm writing on behalf of People for the Ethical Treatment of Animals—PETA entities have more than 9 million members and supporters globally—to respectfully request that the U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) investigate possible violations of the federal Animal Welfare Act (AWA) and the Animal Welfare Regulations (AWRs) related to the breeding and maintenance of animals at facilities operated by Marshall Farms Group Ltd. (USDA Certificate Nos. 21-A-0008, 21-R-0242) in North Rose and Waverly, New York.

Concerns Related to the Breeding and Maintenance of Ferrets

PETA has received reports that in 2022, an outbreak of canine distemper swept through a Marshall Farms warehouse in North Rose in which ferrets were being bred and held. According to one insider, the outbreak affected a quarter million baby ferrets. Reportedly—although no evidence was offered—the outbreak resulted from a bad batch of canine distemper vaccine, which allegedly gave the ferrets distemper instead of preventing it. Canine distemper can be transmitted through airborne exposure as well as through shared food and water bowls, and the virus spread quickly through the facility.

It's unclear whether Marshall Farms took adequate steps to prevent the transmission of canine distemper through its facility once the company discovered that some ferrets were ill. It's also unclear whether the outbreak has now been vanquished. However, according to a December 2022 report posted by the [Association of Exotic Mammal Veterinarians](#), it seems that Marshall Farms shipped ferrets with canine distemper to many locations in the U.S. and Canada—including to large pet store chains that reported receiving “acutely sick and dying kits” from Marshall Farms. The report states that symptoms from this particular canine distemper virus include diarrhea, loss of appetite, discharge from the eyes and nose, open-mouth breathing, dehydration, fever, and death. The company also sells ferrets for use in laboratories, which may have endangered other animals and compromised research.

We believe Marshall Farms' actions are out of compliance with several AWRs. In particular, Section 2.40(b)(2) of the AWRs states, “Each dealer or exhibitor shall establish and maintain programs of adequate veterinary care that include ... [t]he use of appropriate methods to prevent, control, diagnose, and treat diseases

PEOPLE FOR
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- PETA Asia
- PETA India
- PETA France
- PETA Australia
- PETA Germany
- PETA Switzerland
- PETA Netherlands
- PETA Foundation (U.K.)

and injuries.” Additionally, Section 2.40(b)(3) of the AWRs requires that each dealer ensure “[d]aily observation of all animals to assess their health and well-being [along with] a mechanism of direct and frequent communication . . . so that timely and accurate information on problems of animal health, behavior, and well-being is conveyed to the attending veterinarian.”

However, the allegation that a quarter million baby ferrets were affected by the outbreak suggests that Marshall Farms failed to monitor the health and well-being of ferrets in its facility sufficiently to contain the outbreak when the first animals became infected with canine distemper. Indeed, health monitoring reports of Marshall Farms’ ferret colony in North Rose—prepared by the company itself and obtained by PETA—indicate that while Marshall Farms vaccinates ferrets against canine distemper, it does not appear to test ferrets for the virus.¹ Interestingly, reports from Marshall Farms’ facilities in the UK indicate that the company *does* conduct routine annual testing of ferrets in its colony for canine distemper virus.²

Additionally, reports that Marshall Farms shipped out ferrets who became sick and died span several months, which suggests that the company failed to ensure that the animals it was selling to customers were free of canine distemper—possibly even as it was aware of the outbreak. This failure jeopardized the health and well-being of animals who were transported with the sick ferrets to many destinations, animals who were exposed to sick ferrets at pet stores and potentially laboratories, and animals in the homes of individuals who unwittingly purchased sick ferrets. Indeed, numerous online reports describe such scenarios.

Concerns Related to the Breeding and Maintenance of Cats

PETA has obtained records pertaining to the health of the cat colonies held in Marshall’s Waverly facilities.³ Three colonies are maintained in three separate buildings—two of them, so-called “barrier buildings” that attempt to limit the entry of pathogens and even promise “specific pathogen free” cats; and the third, a conventional building. According to Marshall’s “Health Monitoring Reports,” cats in all three buildings have tested positive for various bacterial infections. In particular, over the four-year period from January 2019 to January 2023, in Marshall’s barrier buildings:

- 70 of 340 cats (20.6%) tested positive for *Bordetella brochiseptica*;
- 185 of 340 cats (54.4%) tested positive for *Pasteurellaccae*; and
- 85 of 340 cats (25%) tested positive for *Streptococci β-hemolytic Group G*.

Over the three-year-and-nine-month period from April 2019 to January 2023, in Marshall’s conventional building:

- 55 of 90 cats (61%) tested positive for *Bordetella brochiseptica*;
- 83 of 90 cats (92.2%) tested positive for *Pasteurellaccae*; and
- 28 of 90 cats (31%) tested positive for *Streptococci β-hemolytic Group G*.

Bordetella brochiseptia can cause upper respiratory disease in cats, resulting in sneezing, coughing, nasal and ocular discharge and fever. In some cases—in kittens or when animals are severely stressed—the infection can result in life-threatening pneumonia. Confining large groups of cats in crowded conditions—as is done in Marshall’s facilities—exacerbates the spread of *B. brochiseptia*.

¹ [Ex. 1, Health Monitoring Reports for Ferrets at Marshall Farms, North Rose, NY, 2016-2021](#)

² [Ex. 2, Health Monitoring Reports for Ferrets at Marshall UK, East Yorkshire, UK, 2017-2021](#)

³ [Ex. 3, Health Monitoring Reports for Cats at Marshall Farms, Waverly, NY, 2018-2022](#)

Pasteurallaccae can cause ear infections, eye infections, nasal and sinus infections, joint infections, infection of the membrane covering of the brain and spinal cord, and lower respiratory-tract infection (pneumonia), which is often fatal. When aerosolized, the bacteria can spread through coughing or sneezing, and is also transmitted through bite wounds via the cats' saliva. The cats may suffer abscesses or septicemia, which can be fatal. Fighting among cats—as would be common in the stressed conditions in Marshall's facilities—increases the likelihood of transmission.

Streptococci β-hemolytic Group G can cause upper respiratory tract disease, abscesses, pneumonia, osteomyelitis, polyarthritis, urogenital infections, septicemia, sinusitis and meningitis. Contamination of the umbilical vein may lead to a generalized infection resulting in neonatal septicemia. Confining large groups of cats in crowded conditions—as is done in Marshall's facilities—exacerbates the spread of *Streptococci β-hemolytic Group G*.

It seems to us that the prevalence of these bacteria in the company's cat colonies—as documented in the company's own records—suggests that Marshall Farms is out of compliance with several AWRs. In particular, Section 2.40(b)(1) of the AWRs states, "Each dealer or exhibitor shall establish and maintain programs of adequate veterinary care that include ... [t]he availability of appropriate facilities, personnel, equipment, and services to comply with the provisions of this subchapter." Additionally, Section 2.40(b)(2) requires that each dealer ensure "[t]he use of appropriate methods to prevent, control, diagnose, and treat diseases and injuries." And Section 2.40(b)(3) requires that each dealer ensure "[d]aily observation of all animals to assess their health and well-being [along with] a mechanism of direct and frequent communication ... so that timely and accurate information on problems of animal health, behavior, and well-being is conveyed to the attending veterinarian."

However, the alarming prevalence of *Bordetella brochiseptia*, *Pasteurallaccae*, and *Streptococci β-hemolytic Group G* in Marshall's cat colonies—including in the two barrier buildings—indicates that the company has failed to adequately prevent the spread of these pathogens. Marshall confines hundreds of cats in each of its buildings—resulting in conditions of close confinement that necessarily cause profound stress in the animals. This increases the likelihood that the bacteria would find a welcoming home in these quarters and that the cats would succumb to infection and exhibit symptoms of the diseases associated with infection. That substantial percentages of cats tested positive suggests that Marshall failed to adequately assess the health and well-being of the cats in its colonies through daily observation to be able to then implement measures to stem the transmission of the pathogens.

Concerns Related to the Breeding and Maintenance of Göttingen Minipigs

PETA has obtained records pertaining to the health of the minipig colonies held in Marshall's North Rose facilities.⁴ Three colonies are maintained in three separate buildings. According to Marshall's "Health Monitoring Reports," minipigs in all three buildings have tested positive for *Porcine Rotavirus*. The cumulative results across the three buildings indicate that 326 out of 540 pigs—or 60.4%—tested positive for the virus.

Porcine Rotavirus can cause diarrhea in pigs who are nursing and have just been weaned. The diarrhea associated with this virus continues for a few days and can cause moderate dehydration—which is a significant concern for piglets. Vomiting may also occur. According to veterinary

⁴ [Ex. 4. Health Monitoring Reports for Göttingen Minipigs at Marshall Farms, North Rose, NY, 2016-2021](#)

reports, “Morbidity is variable but mortality usually is low or none when good housing and husbandry is present.”

The overwhelming prevalence of *Porcine Rotavirus* in the company’s minipig colonies—as documented in the company’s own records—suggests that Marshall Farms is out of compliance with several AWRs. In particular, it appears that Marshall failed to ensure that conditions its facilities would keep viral infection in check and failed to use appropriate methods to prevent and control the spread of the virus—in violation of Sections 2.40(b)(1) and (2). The data also suggests that Marshall failed to adequately assess the health and well-being of the minipigs in its colonies through daily observation to be able to then implement measures to stem the transmission of the pathogens.

We urge you to investigate the concerns outlined in this letter and, if the claims are substantiated, take swift and decisive action against Marshall Farms. We believe the severity of the allegations merits formal administrative action against the company, including levying fines and/or suspension of its license.

I look forward to hearing from you. Thank you for your time and thoughtful consideration.

Sincerely,

A handwritten signature in black ink, appearing to read "Alka Chandna". The signature is fluid and cursive, with a long horizontal stroke at the end.

Alka Chandna, Ph.D.
Vice President
Laboratory Investigations Cases

Exhibit 1



Health Monitoring Report

Name and address of the breeder: Marshall BioResources, North Rose NY

Date of issue: July 2021

Unit: R1

Collection date: Quarter 2, 2021

Species: *Mustela putorius furo*

Breed: Ferret

Populated: November 2015

	CUMULATIVE RESULTS	CURRENT TEST RESULTS	LABF	METHOD
<u>VIRAL INFECTIONS</u>				
Aleutians	0/146	NE	Blue Cross	PCR (Blood)
Canine Distemper Virus	Vaccinated†	Vaccinated†		
Ferret Coronavirus (Enteric)	36/36	NE	NA	PCR
Rabies Virus	Vaccinated†	Vaccinated†		
Rotavirus A	0/146	NE	MSU	PCR (Fecal)
<u>Human Influenza (Current Circulating Strains)**</u>				
B/Phuket/3073/2013	0/1181	0/15	MUK	HAI (Blood)
B/Washington/02/2019	0/135	0/15	MUK	HAI (Blood)
A/Tasmania/503/2020 V1	0/45	0/15	MUK	HAI (Blood)
A/Victoria/1/2020 V7	0/45	0/15	MUK	HAI (Blood)
<u>BACTERIAL INFECTIONS</u>				
Bordetella bronchiseptica	0/225	NE	Cornell	Culture (Pharyngeal/Nasal Swab)
Campylobacter species	0/271	NE	Cornell	Culture (Rectal Swab)
Helicobacter species	0/271	NE	CRL	PCR (Fecal)
Lawsonia intracellularis	0/271	NE	CRL	PCR (Blood)
Pasteurella multocida	0/235	NE	Cornell	Culture (Pharyngeal Swab)
Salmonella species	0/271	NE	Cornell	Culture (Rectal Swab)
Staphylococcus aureus	28/235	NE	Cornell	Culture (Rectal Swab) Yersinia
enterocolitica	0/235	NE	Cornell	Culture (Rectal Swab)
<u>PARASITOLOGICAL INFECTIONS</u>				
Coccidia	0/1631	0/10	In House	Sodium Nitrate (Fecal)
Dirofilaria immitis	0/110	NE	In House	Snap 4Dx (Blood)
Otodectes cynotis	0/885	NE	In House	Microscopy
Protozoan Parasites:				
Cryptosporidium parvum	0/110	NE	Cornell	PCR (Fecal)
Giardia	0/220	0/10	In House	Zinc Sulfate (Fecal)

*Historical Results are those reported before the colony was established at our facilities in New York.

**Previous influenza strains screened with no positive results: A/Switzerland/9715293/2013 (H3N2), A/California/2009 (H1N1) pdm09, A/Hong Kong/4801/2014, A/New Caledonia/71/2014, B/Brisbane/60/2008, A/Singapore/Infimh-16-0019/2016, A/Slovenia/2903/2015, A/Kansas/14/2017, A/Switzerland/3330/2017, B/Colorado/06/2017, A/Hawaii/66/2019 and A/Hong Kong/2671/2019.

NA=Not applicable

NE=Not examined

Laboratories:

Blue Cross: Blue Cross Animal Hospital, 401 North Miller, Burley, Idaho 83318

MSU: Michigan State University, Veterinary Diagnostic Laboratory, 4125 Beaumont Road, Lansing, MI 48910

MUK: Marshall UK Laboratories, The Field Station, Grimston, Aldbrough, Hull, East Yorkshire, HU11 4QE

Cornell: Cornell University, Animal Health Diagnostic Center, 240 Farrier Road, Ithaca, NY 14853

CRL: Charles River Research Animal Diagnostic Services, 261 Ballardvale Street, Receiving Dock, Bldg 22, Wilmington, MA 01887

†Vaccinations:

The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. Product designation, lot number/expiration date, age/frequency of administration and dosage, as applicable, are noted. A description of the current immunization regimen is included in the Routine Vaccination and Treatment Procedures document.

Distemper: Monovalent modified live distemper virus vaccine.

Rabies: Killed rabies virus vaccine.

Bambi Jasmin
Bambi Jasmin, DVM, DACLAM

07/22/2021
Date



BIORESOURCES

Health Monitoring Report

Name and address of the breeder: Marshall BioResources, North Rose NY

Date of issue: April 2021

Unit: R1

Collection date: Quarter 1, 2021

Species: *Mustela putorius furo*

Breed: Ferret

Populated: November 2015

	CUMULATIVE RESULTS	CURRENT TEST RESULTS	HISTORICAL RESULTS*	LABF	METHOD
<u>VIRAL INFECTIONS</u>					
Aleutians	0/146	0/10	0/36	Blue Cross	PCR (Blood)
Canine Distemper Virus	Vaccinated†	Vaccinated†	NA		
Ferret Coronavirus (Enteric)	36/36	NE	36/36	NA	PCR
Rabies Virus	Vaccinated†	Vaccinated†	NA		
Rotavirus A	0/146	0/10	0/36	MSU	PCR (Fecal)
<u>Human Influenza (Current Circulating Strains)**</u>					
A/Hawaii/66/2019	0/90	0/15	NA	MUK	HAI (Blood)
A/Hong Kong/2671/2019	0/90	0/15	NA	MUK	HAI (Blood)
B/Phuket/3073/2013	0/1166	0/45	NA	MUK	HAI (Blood)
B/Washington/02/2019	0/120	0/45	NA	MUK	HAI (Blood)
A/Tasmania/503/2020 V1	0/30	0/30	NA	MUK	HAI (Blood)
A/Victoria/1/2020 V7	0/30	0/30	NA	MUK	HAI (Blood)
<u>BACTERIAL INFECTIONS</u>					
Bordetella bronchiseptica	0/225	0/10	0/125	Cornell	Culture (Pharyngeal/Nasal Swab)
Campylobacter species	0/271	0/10	0/161	Cornell	Culture (Rectal Swab)
Helicobacter species	0/271	0/10	0/161	CRL	PCR (Fecal)
Lawsonia intracellularis	0/271	0/10	0/161	CRL	PCR (Blood)
Pasteurella multocida	0/235	0/10	0/125	Cornell	Culture (Pharyngeal Swab)
Salmonella species	0/271	0/10	0/161	Cornell	Culture (Rectal Swab)
Staphylococcus aureus	28/235	1/10	26/125	Cornell	Culture (Rectal Swab)
Yersinia enterocolitica	0/235	0/10	0/125	Cornell	Culture (Rectal Swab)
<u>PARASITOLOGICAL INFECTIONS</u>					
Coccidia	0/1621	0/10	0/1411	In House	Sodium Nitrate (Fecal)
Dirofilaria immitis	0/110	0/10	NA	In House	Snap 4Dx (Blood)
Otodectes cynotis	0/885	0/10	0/785	In House	Microscopy
Protozoan Parasites:					
Cryptosporidium parvum	0/110	0/10	NA	Cornell	PCR (Fecal)
Giardia	0/210	0/10	NA	In House	Zinc Sulfate (Fecal)

*Historical Results are those reported before the colony was established at our facilities in New York.

**Previous influenza strains screened with no positive results: A/Switzerland/9715293/2013 (H3N2), A/California/2009 (H1N1) pdm09, A/Hong Kong/4801/2014, A/New Caledonia/71/2014, B/Brisbane/60/2008, A/Singapore/Infimh-16-0019/2016, A/Slovenia/2903/2015, A/Kansas/14/2017, A/Switzerland/3330/2017 and B/Colorado/06/2017.

NA=Not applicable
NE=Not examined

Laboratories:

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MSU: Michigan State University, Veterinary Diagnostic Laboratory, 4125 Beaumont Road, Lansing, MI 48910
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Cornell: Cornell University, Animal Health Diagnostic Center, 240 Farrier Road, Ithaca, NY 14853
CRL: Charles River Research Animal Diagnostic Services, 261 Ballardvale Street, Receiving Dock, Bldg 22, Wilmington, MA 01887

†Vaccinations:

The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. Product designation, lot number/expiration date, age/frequency of administration and dosage, as applicable, are noted. A description of the current immunization regimen is included in the Routine Vaccination and Treatment Procedures document.

Distemper: Monovalent modified live distemper virus vaccine.
Rabies: Killed rabies virus vaccine.

Bambi Jasmin
Bambi Jasmin, DVM, DACLAM

04/20/2021
Date



Health Monitoring Report

Name and address of the breeder: Marshall BioResources, North Rose NY

Date of issue: January 2021 Unit: R1 Collection date: Quarter 4, 2020

Species: *Mustela putorius furo* Breed: Ferret Populated: November 2015

	CUMULATIVE RESULTS	CURRENT TEST RESULTS	HISTORICAL RESULTS*	LABF	METHOD
<u>VIRAL INFECTIONS</u>					
Aleutians	0/136	NE	0/36	Blue Cross	PCR (Blood)
Canine Distemper Virus	Vaccinated†	Vaccinated†	NA		
Ferret Coronavirus (Enteric)	36/36	NE	36/36	NA	PCR
Rabies Virus	Vaccinated†	Vaccinated†	NA		
Rotavirus A	0/136	NE	0/36	MSU	PCR (Fecal)
<u>Human Influenza (Current Circulating Strains)**</u>					
A/Hawaii/66/2019	0/75	0/30	NA	MUK	HAI (Blood)
A/Hong Kong/2671/2019	0/75	0/30	NA	MUK	HAI (Blood)
B/Phuket/3073/2013	0/1121	0/30	NA	MUK	HAI (Blood)
B/Washington/02/2019	0/75	0/30	NA	MUK	HAI (Blood)
<u>BACTERIAL, MYCOPLASMA AND FUNGAL INFECTIONS</u>					
Bordetella bronchiseptica	0/215	NE	0/125	Cornell	Culture (Pharyngeal/Nasal Swab)
Campylobacter species	0/261	NE	0/161	Cornell	Culture (Rectal Swab)
Helicobacter species	0/261	NE	0/161	CRL	PCR (Fecal)
Lawsonia intracellularis	0/261	NE	0/161	CRL	PCR (Blood)
Pasteurella multocida	0/225	NE	0/125	Cornell	Culture (Pharyngeal Swab)
Salmonella species	0/261	NE	0/161	Cornell	Culture (Rectal Swab)
Staphylococcus aureus	27/225	NE	26/125	Cornell	Culture (Rectal Swab)
Yersinia enterocolitica	0/225	NE	0/125	Cornell	Culture (Rectal Swab)
<u>PARASITOLOGICAL INFECTIONS</u>					
Coccidia	0/1611	0/10	0/1411	In House	Sodium Nitrate (Fecal)
Dirofilaria immitis	0/100	NE	NA	In House	Snap 4Dx (Blood)
Otodectes cynotis	0/875	NE	0/785	In House	Microscopy
Protozoan Parasites:			0/1411		
Cryptosporidium parvum	0/100	NE	NA	Cornell	PCR (Fecal)
Giardia	0/200	0/10	NA	In House	Zinc Sulfate (Fecal)

*Historical Results are those reported before the colony was established at our facilities in New York.

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NA=Not applicable
NE=Not examined

Laboratories:

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Rabies: Killed rabies virus vaccine.

Bambi H. Jasmin
Bambi Jasmin, DVM, DACLAM

01/05/2021
Date



BIORESOURCES

Health Monitoring Report

Name and address of the breeder: Marshall BioResources, North Rose NY

Date of issue: October 2020

Unit: R1

Collection date: Quarter 3, 2020

Species: *Mustela putorius furo*

Breed: Ferret

Populated: November 2015

	CUMULATIVE RESULTS	CURRENT TEST RESULTS	HISTORICAL RESULTS*	LABF	METHOD
<u>VIRAL INFECTIONS</u>					
Aleutians	0/136	0/10	0/36	Blue Cross	PCR (Blood)
Canine Distemper Virus	Vaccinated†	Vaccinated†	NA		
Ferret Coronavirus (Enteric)	36/36	NE	36/36	NA	PCR
Rabies Virus	Vaccinated†	Vaccinated†	NA		
Rotavirus A	0/136	0/10	0/36	MSU	PCR (Fecal)
<u>Human Influenza (Current Circulating Strains)**</u>					
A/Hawaii/66/2019	0/45	0/15	NA	MUK	HAI (Blood)
A/Hong Kong/2671/2019	0/45	0/15	NA	MUK	HAI (Blood)
B/Phuket/3073/2013	0/1091	0/15	NA	MUK	HAI (Blood)
B/Washington/02/2019	0/45	0/15	NA	MUK	HAI (Blood)
<u>BACTERIAL, MYCOPLASMA AND FUNGAL INFECTIONS</u>					
Bordetella bronchiseptica	0/215	0/10	0/125	Cornell	Culture (Pharyngeal/Nasal Swab)
Campylobacter species	0/261	0/10	0/161	Cornell	Culture (Rectal Swab)
Helicobacter species	0/261	0/10	0/161	CRL	PCR (Fecal)
Lawsonia intracellularis	0/261	0/10	0/161	CRL	PCR (Blood)
Pasteurella multocida	0/225	0/10	0/125	Cornell	Culture (Pharyngeal Swab)
Salmonella species	0/261	0/10	0/161	Cornell	Culture (Rectal Swab)
Staphylococcus aureus	27/225	1/10	26/125	Cornell	Culture (Rectal Swab)
Yersinia enterocolitica	0/225	0/10	0/125	Cornell	Culture (Rectal Swab)
<u>PARASITOLOGICAL INFECTIONS</u>					
Coccidia	0/1601	0/10	0/1411	In House	Sodium Nitrate (Fecal)
Dirofilaria immitis	0/100	0/10	NA	In House	Snap 4Dx (Blood)
Otodectes cynotis	0/875	0/10	0/785	In House	Microscopy
Protozoan Parasites:			0/1411		
Cryptosporidium parvum	0/100	0/10	NA	Cornell	PCR (Fecal)
Giardia	0/190	0/10	NA	In House	Zinc Sulfate (Fecal)

*Historical Results are those reported before the colony was established at our facilities in New York.

**Previous influenza strains screened with no positive results: A/Switzerland/9715293/2013 (H3N2), A/California/2009 (H1N1) pdm09, A/Hong Kong/4801/2014, A/New Caledonia/71/2014, B/Brisbane/60/2008, A/Singapore/Infimh-16-0019/2016, A/Slovenia/2903/2015, A/Kansas/14/2017, A/Switzerland/3330/2017 and B/Colorado/06/2017.

NA=Not applicable
NE=Not examined

Laboratories:

Blue Cross: Blue Cross Animal Hospital, 401 North Miller, Burley, Idaho 83318
MSU: Michigan State University, Veterinary Diagnostic Laboratory, 4125 Beaumont Road, Lansing, MI 48910
MUK: Marshall UK Laboratories, The Field Station, Grimston, Aldbrough, Hull, East Yorkshire, HU11 4QE
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Distemper: Monovalent modified live distemper virus vaccine.

Rabies: Killed rabies virus vaccine.

Bambi Jasmin
Bambi Jasmin, DVM, DACLAM

10/12/2020
Date



Health Monitoring Report

Name and address of the breeder: Marshall BioResources, North Rose NY

Date of issue: July 2020

Unit: R1

Collection date: Quarter 2, 2020

Species: *Mustela putorius furo*

Breed: Ferret

Populated: November 2015

	CUMULATIVE RESULTS	CURRENT TEST RESULTS	HISTORICAL RESULTS*	LABF	METHOD
<u>VIRAL INFECTIONS</u>					
Aleutians	0/126	NE	0/36	Blue Cross	PCR (Blood)
Canine Distemper Virus	Vaccinated†	Vaccinated†	NA		
Ferret Coronavirus (Enteric)	36/36	NE	36/36	NA	PCR
Rabies Virus	Vaccinated†	Vaccinated†	NA		
Rotavirus A	0/126	NE	0/36	MSU	PCR (Fecal)
<u>Human Influenza (Current Circulating Strains)**</u>					
A/Hawaii/66/2019	0/30	0/30	NA	MUK	HAI (Blood)
A/Hong Kong/2671/2019	0/30	0/30	NA	MUK	HAI (Blood)
B/Phuket/3073/2013	0/1076	0/30	NA	MUK	HAI (Blood)
B/Washington/02/2019	0/30	0/30	NA	MUK	HAI (Blood)
<u>BACTERIAL, MYCOPLASMA AND FUNGAL INFECTIONS</u>					
Bordetella bronchiseptica	0/205	NE	0/125	Cornell	Culture (Pharyngeal/Nasal Swab)
Campylobacter species	0/251	NE	0/161	Cornell	Culture (Rectal Swab)
Helicobacter species	0/251	NE	0/161	CRL	PCR (Fecal)
Lawsonia intracellularis	0/251	NE	0/161	CRL	PCR (Blood)
Pasteurella multocida	0/215	NE	0/125	Cornell	Culture (Pharyngeal Swab)
Salmonella species	0/251	NE	0/161	Cornell	Culture (Rectal Swab)
Staphylococcus aureus	26/215	NE	26/125	Cornell	Culture (Rectal Swab)
Yersinia enterocolitica	0/215	NE	0/125	Cornell	Culture (Rectal Swab)
<u>PARASITOLOGICAL INFECTIONS</u>					
Coccidia	0/1591	0/10	0/1411	In House	Sodium Nitrate (Fecal)
Dirofilaria immitis	0/90	NE	NA	In House	Snap 4Dx (Blood)
Otodectes cynotis	0/865	NE	0/785	In House	Microscopy
Protozoan Parasites:			0/1411		
Cryptosporidium parvum	0/90	NE	NA	Cornell	PCR (Fecal)
Giardia	0/180	0/10	NA	In House	Zinc Sulfate (Fecal)

*Historical Results are those reported before the colony was established at our facilities in New York.

**Previous influenza strains screened with no positive results: A/Switzerland/9715293/2013 (H3N2), A/California/2009 (H1N1) pdm09, A/Hong Kong/4801/2014, A/New Caledonia/71/2014, B/Brisbane/60/2008, A/Singapore/Infimh-16-0019/2016, A/Slovenia/2903/2015, A/Kansas/14/2017, A/Switzerland/3330/2017 and B/Colorado/06/2017.

NA=Not applicable

NE=Not examined

Laboratories:

Blue Cross: Blue Cross Animal Hospital, 401 North Miller, Burley, Idaho 83318

MSU: Michigan State University, Veterinary Diagnostic Laboratory, 4125 Beaumont Road, Lansing, MI 48910

MUK: Marshall UK Laboratories, The Field Station, Grimston, Aldbrough, Hull, East Yorkshire, HU11 4QE

Cornell: Cornell University, Animal Health Diagnostic Center, 240 Farrier Road, Ithaca, NY 14853

CRL: Charles River Research Animal Diagnostic Services, 261 Ballardvale Street, Receiving Dock, Bldg 22, Wilmington, MA 01887

†Vaccinations:

The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. Product designation, lot number/expiration date, age/frequency of administration and dosage, as applicable, are noted. A description of the current immunization regimen is included in the Routine Vaccination and Treatment Procedures document.

Distemper: Monovalent modified live distemper virus vaccine.

Rabies: Killed rabies virus vaccine.

Bambi H. Jasmin
Bambi Jasmin, DVM, DACLAM

07/27/20
Date



BIORESOURCES

Health Monitoring Report

Name and address of the breeder: Marshall BioResources, North Rose NY

Date of issue: April 2020

Unit: R1

Collection date: Quarter 1, 2020

Species: *Mustela putorius furo*

Breed: Ferret

Populated: November 2015

	CUMULATIVE RESULTS	CURRENT TEST RESULTS	HISTORICAL RESULTS*	LABF	METHOD
<u>VIRAL INFECTIONS</u>					
Aleutians	0/126	0/10	0/36	Blue Cross	PCR (Blood)
Canine Distemper Virus	Vaccinated†	Vaccinated†	NA		
Ferret Coronavirus (Enteric)	36/36	NE	36/36	NA	PCR
Rabies Virus	Vaccinated†	Vaccinated†	NA		
Rotavirus A	0/126	0/10	0/36	MSU	PCR (Fecal)
<u>Human Influenza (Current Circulating Strains)**</u>					
A/Kansas/14/2017	0/150	0/45	NA	MUK	HAI (Blood)
A/Switzerland/3330/2017	0/135	0/45	NA	MUK	HAI (Blood)
B/Phuket/3073/2013	0/1046	0/45	NA	MUK	HAI (Blood)
B/Colorado/06/2017	0/286	0/45	NA	MUK	HAI (Blood)
<u>BACTERIAL, MYCOPLASMA AND FUNGAL INFECTIONS</u>					
Bordetella bronchiseptica	0/205	0/10	0/125	Cornell	Culture (Pharyngeal/Nasal Swab)
Campylobacter species	0/251	0/10	0/161	Cornell	Culture (Rectal Swab)
Helicobacter species	0/251	0/10	0/161	CRL	PCR (Fecal)
Lawsonia intracellularis	0/251	0/10	0/161	CRL	PCR (Blood)
Pasteurella multocida	0/215	0/10	0/125	Cornell	Culture (Pharyngeal Swab)
Salmonella species	0/251	0/10	0/161	Cornell	Culture (Rectal Swab)
Staphylococcus aureus	26/215	0/10	26/125	Cornell	Culture (Rectal Swab)
Yersinia enterocolitica	0/215	0/10	0/125	Cornell	Culture (Rectal Swab)
<u>PARASITOLOGICAL INFECTIONS</u>					
Coccidia	0/1581	0/10	0/1411	In House	Sodium Nitrate (Fecal)
Dirofilaria immitis	0/90	0/10	NA	In House	Snap 4Dx (Blood)
Otodectes cynotis	0/865	0/10	0/785	In House	Microscopy
Protozoan Parasites:			0/1411		
Cryptosporidium parvum	0/90	0/10	NA	Cornell	PCR (Fecal)
Giardia	0/170	0/10	NA	In House	Zinc Sulfate (Fecal)

*Historical Results are those reported before the colony was established at our facilities in New York.

**Previous influenza strains screened with no positive results: A/Switzerland/9715293/2013 (H3N2), A/California/2009 (H1N1) pdm09, A/Hong Kong/4801/2014, A/New Caledonia/71/2014, B/Brisbane/60/2008, A/Singapore/Infimh-16-0019/2016 and A/Slovenia/2903/2015.

NA=Not applicable
NE=Not examined

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Cornell: Cornell University, Animal Health Diagnostic Center, 240 Farrier Road, Ithaca, NY 14853

CRL: Charles River Research Animal Diagnostic Services, 261 Ballardvale Street, Receiving Dock, Bldg 22, Wilmington, MA 01887

†Vaccinations:

The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. Product designation, lot number/expiration date, age/frequency of administration and dosage, as applicable, are noted. A description of the current immunization regimen is included in the Routine Vaccination and Treatment Procedures document.

Distemper: Monovalent modified live distemper virus vaccine.

Rabies: Killed rabies virus vaccine.

Bambi Jasmin
Bambi Jasmin, DVM, DACLAM

04/20/2020
Date



Health Monitoring Report

Name and address of the breeder: Marshall BioResources, North Rose NY

Date of issue: January 2020

Unit: R1

Collection date: Quarter 4, 2019

Species: *Mustela putorius furo*

Breed: Ferret

Populated: November 2015

	CUMULATIVE RESULTS	CURRENT TEST RESULTS	HISTORICAL RESULTS*	LABF	METHOD
<u>VIRAL INFECTIONS</u>					
Aleutians	0/116	NE	0/36	Blue Cross	PCR (Blood)
Canine Distemper Virus	Vaccinated†	Vaccinated†	NA		
Ferret Coronavirus (Enteric)	36/36	NE	36/36	NA	PCR
Rabies Virus	Vaccinated†	Vaccinated†	NA		
Rotavirus A	0/116	NE	0/36	MSU	PCR (Fecal)
<u>Human Influenza (Current Circulating Strains)**</u>					
A/Kansas/14/2017	0/105	0/60	NA	MUK	HAI (Blood)
A/Switzerland/3330/2017	0/90	0/60	NA	MUK	HAI (Blood)
B/Phuket/3073/2013	0/1001	0/60	NA	MUK	HAI (Blood)
B/Colorado/06/2017	0/241	0/60	NA	MUK	HAI (Blood)
<u>BACTERIAL, MYCOPLASMA AND FUNGAL INFECTIONS</u>					
Bordetella bronchiseptica	0/195	NE	0/125	Cornell	Culture (Pharyngeal/Nasal Swab)
Campylobacter species	0/241	NE	0/161	Cornell	Culture (Rectal Swab)
Helicobacter species	0/241	NE	0/161	CRL	PCR (Fecal)
Lawsonia intracellularis	0/241	NE	0/161	CRL	PCR (Blood)
Pasteurella multocida	0/205	NE	0/125	Cornell	Culture (Pharyngeal Swab)
Salmonella species	0/241	NE	0/161	Cornell	Culture (Rectal Swab)
Staphylococcus aureus	26/205	NE	26/125	Cornell	Culture (Rectal Swab)
Yersinia enterocolitica	0/205	NE	0/125	Cornell	Culture (Rectal Swab)
<u>PARASITOLOGICAL INFECTIONS</u>					
Coccidia	0/1571	0/10	0/1411	In House	Sodium Nitrate (Fecal)
Dirofilaria immitis	0/80	NE	NA	In House	Snap 4Dx (Blood)
Otodectes cynotis	0/855	NE	0/785	In House	Microscopy
Protozoan Parasites:					
Cryptosporidium parvum	0/80	NE	NA	Cornell	PCR (Fecal)
Giardia	0/160	0/10	NA	In House	Zinc Sulfate (Fecal)

*Historical Results are those reported before the colony was established at our facilities in New York.

**Previous influenza strains screened with no positive results: A/Switzerland/9715293/2013 (H3N2), A/California/2009 (H1N1) pdm09, A/Hong Kong/4801/2014, A/New Caledonia/71/2014, B/Brisbane/60/2008, A/Singapore/Infimh-16-0019/2016 and A/Slovenia/2903/2015.

NA=Not applicable
NE=Not examined

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Cornell: Cornell University, Animal Health Diagnostic Center, 240 Farrier Road, Ithaca, NY 14853
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†Vaccinations:

The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. Product designation, lot number/expiration date, age/frequency of administration and dosage, as applicable, are noted. A description of the current immunization regimen is included in the Routine Vaccination and Treatment Procedures document.

Distemper: Monovalent modified live distemper virus vaccine.

Rabies: Killed rabies virus vaccine.

Bambi H Jasmin
Bambi Jasmin, DVM, DACLAM

01/10/2020
Date



BIORESOURCES

Health Monitoring Report

Name and address of the breeder: Marshall BioResources, North Rose NY

Date of issue: December 2019

Unit: R1

Collection date: Quarter 3, 2019

Species: *Mustela putorius furo*

Breed: Ferret

Populated: November 2015

	CUMULATIVE RESULTS	CURRENT TEST RESULTS	HISTORICAL RESULTS*	LABF	METHOD
<u>VIRAL INFECTIONS</u>					
Aleutians	0/116	0/10	0/36	Blue Cross	PCR (Blood)
Canine Distemper Virus	Vaccinated†	Vaccinated†	NA		
Ferret Coronavirus (Enteric)	36/36	NE	36/36	NA	PCR
Rabies Virus	Vaccinated†	Vaccinated†	NA		
Rotavirus A	0/116	0/10	0/36	MSU	PCR (Fecal)
<u>Human Influenza (Current Circulating Strains)**</u>					
A/Kansas/14/2017	0/45	0/15	NA	MUK	HAI (Blood)
A/Switzerland/3330/2017	0/30	0/15	NA	MUK	HAI (Blood)
B/Phuket/3073/2013	0/941	0/15	NA	MUK	HAI (Blood)
B/Colorado/06/2017	0/181	0/15	NA	MUK	HAI (Blood)
<u>BACTERIAL, MYCOPLASMA AND FUNGAL INFECTIONS</u>					
Bordetella bronchiseptica	0/195	NE	0/125	Cornell	Culture (Pharyngeal/Nasal Swab)
Campylobacter species	0/241	0/10	0/161	Cornell	Culture (Rectal Swab)
Helicobacter species	0/241	0/10	0/161	CRL	PCR (Fecal)
Lawsonia intracellularis	0/241	0/10	0/161	CRL	PCR (Blood)
Pasteurella multocida	0/205	0/10	0/125	Cornell	Culture (Pharyngeal Swab)
Salmonella species	0/241	0/10	0/161	Cornell	Culture (Rectal Swab)
Staphylococcus aureus	26/205	0/10	26/125	Cornell	Culture (Rectal Swab)
Yersinia enterocolitica	0/205	0/10	0/125	Cornell	Culture (Rectal Swab)
<u>PARASITOLOGICAL INFECTIONS</u>					
Coccidia	0/1561	0/10	0/1411	In House	Sodium Nitrate (Fecal)
Dirofilaria immitis	0/80	0/10	NA	In House	Snap 4Dx (Blood)
Otodectes cynotis	0/855	0/10	0/785	In House	Microscopy
Protozoan Parasites:			0/1411		
Cryptosporidium parvum	0/80	0/10	NA	Cornell	PCR (Fecal)
Giardia	0/150	0/10	NA	In House	Zinc Sulfate (Fecal)

*Historical Results are those reported before the colony was established at our facilities in New York.

**Previous influenza strains screened with no positive results: A/Switzerland/9715293/2013 (H3N2), A/California/2009 (H1N1) pdm09, A/Hong Kong/4801/2014, A/New Caledonia/71/2014, B/Brisbane/60/2008, A/Singapore/Infimh-16-0019/2016 and A/Slovenia/2903/2015.

NA=Not applicable
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Cornell: Cornell University, Animal Health Diagnostic Center, 240 Farrier Road, Ithaca, NY 14853

CRL: Charles River Research Animal Diagnostic Services, 261 Ballardvale Street, Receiving Dock, Bldg 22, Wilmington, MA 01887

†Vaccinations:

The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. Product designation, lot number/expiration date, age/frequency of administration and dosage, as applicable, are noted. A description of the current immunization regimen is included in the Routine Vaccination and Treatment Procedures document.

Distemper: Monovalent modified live distemper virus vaccine.

Rabies: Killed rabies virus vaccine.

Bambi H. Jasmin
Bambi Jasmin, DVM, DACLAM

12/20/2019
Date



Health Monitoring Report

BIORESOURCES

Name and address of the breeder: Marshall BioResources, North Rose NY

Date of issue: December 2019

Unit: R1

Collection date: Quarter 2, 2019

Species: *Mustela putorius furo*

Breed: Ferret

Populated: November 2015

	CUMULATIVE RESULTS	CURRENT TEST RESULTS	HISTORICAL RESULTS*	LABF	METHOD
<u>VIRAL INFECTIONS</u>					
Aleutians	0/106	NE	0/36	Blue Cross	PCR (Blood)
Canine Distemper Virus	Vaccinated†	Vaccinated†	NA		
Ferret Coronavirus (Enteric)	36/36	NE	36/36	NA	PCR
Rabies Virus	Vaccinated†	Vaccinated†	NA		
Rotavirus A	0/106	NE	0/36	MSU	PCR (Fecal)
<u>Human Influenza (Current Circulating Strains)**</u>					
A/Kansas/14/2017	0/30	0/30	NA	MUK	HAI (Blood)
A/Slovenia/2903/2015	0/241	0/15	NA	MUK	HAI (Blood)
A/Switzerland/3330/2017	0/15	0/15	NA	MUK	HAI (Blood)
B/Phuket/3073/2013	0/926	0/30	NA	MUK	HAI (Blood)
B/Colorado/06/2017	0/166	0/30	NA	MUK	HAI (Blood)
<u>BACTERIAL, MYCOPLASMA AND FUNGAL INFECTIONS</u>					
Bordetella bronchiseptica	0/195	NE	0/125	Cornell	Culture (Pharyngeal/Nasal Swab)
Campylobacter species	0/231	NE	0/161	Cornell	Culture (Rectal Swab)
Helicobacter species	0/231	NE	0/161	CRL	PCR (Fecal)
Lawsonia intracellularis	0/231	NE	0/161	CRL	PCR (Blood)
Pasteurella multocida	0/195	NE	0/125	Cornell	Culture (Pharyngeal Swab)
Salmonella species	0/231	NE	0/161	Cornell	Culture (Rectal Swab)
Staphylococcus aureus	26/195	NE	26/125	Cornell	Culture (Rectal Swab)
Yersinia enterocolitica	0/195	NE	0/125	Cornell	Culture (Rectal Swab)
<u>PARASITOLOGICAL INFECTIONS</u>					
Coccidia	0/1551	0/10	0/1411	In House	Sodium Nitrate (Fecal)
Dirofilaria immitis	0/70	NE	NA	In House	Snap 4Dx (Blood)
Otodectes cynotis	0/845	NE	0/785	In House	Microscopy
Protozoan Parasites:			0/1411		
Cryptosporidium parvum	0/70	NE	NA	Cornell	PCR (Fecal)
Giardia	0/140	0/10	NA	In House	Zinc Sulfate (Fecal)

*Historical Results are those reported before the colony was established at our facilities in New York.

**Previous influenza strains screened with no positive results: A/Switzerland/9715293/2013 (H3N2), A/California/2009 (H1N1) pdm09, A/Hong Kong/4801/2014, A/New Caledonia/71/2014, B/Brisbane/60/2008 and A/Singapore/Infimh-16-0019/2016.

NA=Not applicable
NE=Not examined

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MSU: Michigan State University, Veterinary Diagnostic Laboratory, 4125 Beaumont Road, Lansing, MI 48910

MUK: Marshall UK Laboratories, The Field Station, Grimston, Aldbrough, Hull, East Yorkshire, HU11 4QE

Cornell: Cornell University, Animal Health Diagnostic Center, 240 Farrier Road, Ithaca, NY 14853

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The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. Product designation, lot number/expiration date, age/frequency of administration and dosage, as applicable, are noted. A description of the current immunization regimen is included in the Routine Vaccination and Treatment Procedures document.

Distemper: Monovalent modified live distemper virus vaccine.

Rabies: Killed rabies virus vaccine.

Bambi H Opmin
Bambi Jasmin, DVM, DACLAM

12/20/2019
Date



BIORESOURCES

Health Monitoring Report

Name and address of the breeder: Marshall BioResources, North Rose NY

Date of issue: April 2019

Unit: R1

Collection date: Quarter 1, 2019

Species: *Mustela putorius furo*

Breed: Ferret

Populated: November 2015

	CUMULATIVE RESULTS	CURRENT TEST RESULTS	HISTORICAL RESULTS*	LABF	METHOD
<u>VIRAL INFECTIONS</u>					
Aleutians	0/106	0/10	0/36	Blue Cross	PCR (Blood)
Canine Distemper Virus	Vaccinated†	Vaccinated†	NA		
Ferret Coronavirus (Enteric)	36/36	NE	36/36	NA	PCR
Rabies Virus	Vaccinated†	Vaccinated†	NA		
Rotavirus A	0/106	0/10	0/36	MSU	PCR (Fecal)
<u>Human Influenza (Current Circulating Strains)**</u>					
A/Singapore/Infimh-16-0019/2016	0/135	0/60	NA	MUK	HAI (Blood)
A/Slovenia/2903/2015	0/226	0/61	NA	MUK	HAI (Blood)
B/Phuket/3073/2013	0/896	0/61	NA	MUK	HAI (Blood)
B/Colorado/06/2017	0/136	0/61	NA	MUK	HAI (Blood)
<u>BACTERIAL, MYCOPLASMA AND FUNGAL INFECTIONS</u>					
Bordetella bronchiseptica	0/195	0/10	0/125	Cornell	Culture (Pharyngeal/Nasal Swab)
Campylobacter species	0/231	0/10	0/161	Cornell	Culture (Rectal Swab)
Helicobacter species	0/231	0/10	0/161	CRL	PCR (Fecal)
Lawsonia intracellularis	0/231	0/10	0/161	CRL	PCR (Blood)
Pasteurella multocida	0/195	0/10	0/125	Cornell	Culture (Pharyngeal Swab)
Salmonella species	0/231	0/10	0/161	Cornell	Culture (Rectal Swab)
Staphylococcus aureus	26/195	0/10	26/125	Cornell	Culture (Rectal Swab)
Yersinia enterocolitica	0/195	0/10	0/125	Cornell	Culture (Rectal Swab)
<u>PARASITOLOGICAL INFECTIONS</u>					
Coccidia	0/1541	0/10	0/1411	In House	Sodium Nitrate (Fecal)
Dirofilaria immitis	0/70	0/10	NA	In House	Snap 4Dx (Blood)
Otodectes cynotis	0/845	0/10	0/785	In House	Microscopy
Protozoan Parasites:					
Cryptosporidium parvum	0/70	0/10	NA	Cornell	PCR (Fecal)
Giardia	0/130	0/10	NA	In House	Zinc Sulfate (Fecal)

*Historical Results are those reported before the colony was established at our facilities in New York.

**Previous influenza strains screened with no positive results: A/Switzerland/9715293/2013 (H3N2), A/California/2009 (H1N1) pdm09, A/Hong Kong/4801/2014, A/New Caledonia/71/2014 and B/Brisbane/60/2008.

NA=Not applicable
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Distemper: Monovalent modified live distemper virus vaccine.

Rabies: Killed rabies virus vaccine.

Bambi H Jasmin
Bambi Jasmin, DVM, DACLAM

04/24/2019
Date



Health Monitoring Report

Name and address of the breeder: Marshall BioResources, North Rose NY

Date of issue: September 2018

Unit: R1

Collection date: Quarter 3, 2018

Species: *Mustela putorius furo*

Breed: Ferret

Populated: November 2015

	CUMULATIVE RESULTS	CURRENT TEST RESULTS	HISTORICAL RESULTS*	LAB	METHOD
<u>VIRAL INFECTIONS</u>					
Aleutians	0/96	0/10	0/36	Blue Cross ¹	PCR (blood)
Canine Distemper Virus	Vaccinated†	Vaccinated†	NA		
Ferret Coronavirus (Enteric)	36/36	NE	36/36	N/A	PCR
Rabies Virus	Vaccinated†	Vaccinated†	NA		
Rotavirus A	0/96	0/10	0/36	MSU ²	PCR (fecal)
<u>Human Influenza (Current Circulating Strains)**</u>					
A/Singapore/Infimh-16-0019/2016	0/45	0/15	NA	MUK ⁷	HAI (blood)
A/Slovenia/2903/2015	0/135	0/15	NA	MUK	HAI (blood)
B/Phuket/3073/2013	0/805	0/15	NA	MUK	HAI (blood)
B/Colorado/06/2017	0/45	0/15	NA	MUK	HAI (blood)
<u>BACTERIAL, MYCOPLASMA AND FUNGAL INFECTIONS</u>					
Bordetella bronchiseptica	0/185	0/10	0/125	Cornell ⁴	Culture (nasal/pharyngeal swab)
Campylobacter species	0/221	0/10	0/161	Cornell	Culture (rectal swab)
Helicobacter species	0/221	0/10	0/161	CRL ⁵	PCR (fecal)
Lawsonia intracellularis	0/221	0/10	0/161	CRL	PCR (blood)
Pasteurella multocida	0/185	0/10	0/125	Cornell	Culture (pharyngeal swab)
Salmonella species	0/221	0/10	0/161	Cornell	Culture (rectal swab)
Staphylococcus aureus	26/185	0/10	26/125	Cornell	Culture (rectal swab)
Yersinia enterocolitica	0/185	0/10	0/125	Cornell	Culture (rectal swab)
<u>PARASITOLOGICAL INFECTIONS</u>					
Coccidia	0/1521	0/10	0/1411	In house ⁶	Sodium nitrate (fecal)
Dirofilaria immitis	0/60	0/10	NA	In house	Snap 4Dx (blood)
Otodectes cynotis	0/835	0/10	0/785	In house	Microscopy
Protozoan Parasites:			0/1411		
Cryptosporidium parvum	0/60	0/10	NA	Cornell	PCR (fecal)
Giardia	0/110	0/10	NA	In house	Zinc sulfate (fecal)

*Historical Results are those reported before the colony was established at our facilities in New York.

**Previous influenza strains screened with no positive results: A/Switzerland/9715293/2013 (H3N2), A/California/2009 (H1N1) pdm09, A/Hong Kong/4801/2014, A/New Caledonia/71/2014 and B/Brisbane/60/2008.

NA=Not applicable

NE=Not examined

Abbreviations for methods:

HAI: Hemagglutination Inhibition; PCR: Polymerase Chain Reaction

LABS:

¹Blue Cross Animal Hospital, Burley Idaho

²Diagnostic Center for Population and Animal Health, Michigan State University

³Southern Research Institute

⁴NYS Animal Health Diagnostic Laboratory, College of Veterinary Medicine, Cornell University

⁵Charles River Laboratories

⁶Marshall Farms

⁷Marshall UK

†Vaccinations:

The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. Product designation, lot number/expiration date, age/frequency of administration and dosage, as applicable, are noted. A description of the current immunization regimen is included in the Routine Vaccination and Treatment Procedures document.

Distemper: Monovalent modified live distemper virus vaccine.

Rabies: Killed rabies virus vaccine.

Bambi U. Jasmin
Bambi Jasmin, DVM, DACLAM

09/18/2018
Date



Health Monitoring Report

Name and address of the breeder: Marshall BioResources, North Rose NY

Date of issue: June 2018 Unit: R1 Collection date: Quarter 2, 2018

Species: *Mustela putorius furo* Breed: Ferret Populated: November 2015

	CUMULATIVE RESULTS	CURRENT TEST RESULTS	HISTORICAL RESULTS*	LAB	METHOD
<u>VIRAL INFECTIONS</u>					
Aleutians	0/86	NE	0/36	Blue Cross ¹	PCR (blood)
Canine Distemper Virus	Vaccinated†	Vaccinated†	NA		
Ferret Coronavirus (Enteric)	36/36	NE	36/36	N/A	PCR
Rabies Virus	Vaccinated†	Vaccinated†	NA		
Rotavirus A	0/86	NE	0/36	MSU ²	PCR (fecal)
<u>Human Influenza (Current Circulating Strains)**</u>					
A/Singapore/Infimh-16-0019/2016	0/30	0/30	NA	MUK ⁷	HAI (blood)
A/Slovenia/2903/2015	0/120	0/30	NA	MUK	HAI (blood)
B/Phuket/3073/2013	0/790	0/30	NA	MUK	HAI (blood)
B/Colorado/06/2017	0/30	0/30	NA	MUK	HAI (blood)
<u>BACTERIAL, MYCOPLASMA AND FUNGAL INFECTIONS</u>					
Bordetella bronchiseptica	0/175	NE	0/125	Cornell ⁴	Culture (nasal/pharyngeal swab)
Campylobacter species	0/211	NE	0/161	Cornell	Culture (rectal swab)
Helicobacter species	0/211	NE	0/161	CRL ⁵	PCR (fecal)
Lawsonia intracellularis	0/211	NE	0/161	CRL	PCR (blood)
Pasteurella multocida	0/175	NE	0/125	Cornell	Culture (pharyngeal swab)
Salmonella species	0/211	NE	0/161	Cornell	Culture (rectal swab)
Staphylococcus aureus	26/175	NE	26/125	Cornell	Culture (rectal swab)
Yersinia enterocolitica	0/175	NE	0/125	Cornell	Culture (rectal swab)
<u>PARASITOLOGICAL INFECTIONS</u>					
Coccidia	0/1511	0/10	0/1411	In house ⁶	Sodium nitrate (fecal)
Dirofilaria immitis	0/50	NE	NA	In house	Snap 4Dx (blood)
Otodectes cynotis	0/825	NE	0/785	In house	Microscopy
Protozoan Parasites:			0/1411		
Cryptosporidium parvum	0/50	NE	NA	Cornell	PCR (fecal)
Giardia	0/100	0/10	NA	In house	Zinc sulfate (fecal)

*Historical Results are those reported before the colony was established at our facilities in New York.

**Previous influenza strains screened with no positive results: A/Switzerland/9715293/2013 (H3N2), A/California/2009 (H1N1) pdm09, A/Hong Kong/4801/2014, A/New Caledonia/71/2014 and B/Brisbane/60/2008.

NA=Not applicable
NE=Not examined

Abbreviations for methods:
HAI: Hemagglutination Inhibition; PCR: Polymerase Chain Reaction

LABS:

- ¹Blue Cross Animal Hospital, Burley Idaho
- ²Diagnostic Center for Population and Animal Health, Michigan State University
- ³Southern Research Institute
- ⁴NYS Animal Health Diagnostic Laboratory, College of Veterinary Medicine, Cornell University
- ⁵Charles River Laboratories
- ⁶Marshall Farms
- ⁷Marshall UK

†Vaccinations:

The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. Product designation, lot number/expiration date, age/frequency of administration and dosage, as applicable, are noted. A description of the current immunization regimen is included in the Routine Vaccination and Treatment Procedures document.

Distemper: Monovalent modified live distemper virus vaccine.
Rabies: Killed rabies virus vaccine.

Bambi Jasmin
Bambi Jasmin, DVM, DACLAM

06/14/2018
Date



BIORESOURCES

Health Monitoring Report

Name and address of the breeder: Marshall BioResources, North Rose NY

Date of issue: April 2018

Unit: R1

Collection date: Quarter 1, 2018

Species: *Mustela putorius furo*

Breed: Ferret

Populated: November 2015

	CUMULATIVE RESULTS	CURRENT TEST RESULTS	HISTORICAL RESULTS*	LAB	METHOD
<u>VIRAL INFECTIONS</u>					
Aleutians	0/86	0/10	0/36	Blue Cross ¹	PCR (blood)
Canine Distemper Virus	Vaccinated†	Vaccinated†	NA		
Ferret Coronavirus (Enteric)	36/36	NE	36/36	N/A	PCR
Rabies Virus	Vaccinated†	Vaccinated†	NA		
Rotavirus A	0/86	0/10	0/36	MSU ²	PCR (fecal)
<u>Human Influenza (Current Circulating Strains)</u>					
A/New Caledonia/71/2014	0/90	0/60	NA	MUK ⁷	HAI (blood)
A/Slovenia/2903/2015	0/90	0/60	NA	MUK	HAI (blood)
B/Phuket/3073/2013	0/760	0/60	NA	MUK	HAI (blood)
B/Brisbane/60/2008	0/281	0/60	NA	MUK	HAI (blood)
<u>Screened Dec 2015-April 2017</u>					
A/California/2009 (H1N1) pdm09	0/670	NE	NA	SRI ³	HAI (blood)
A/Hong Kong/4801/2014	0/287	NE	NA	SRI	HAI (blood)
<u>Screened Dec 2015-July 2016</u>					
A/Switzerland/9715293/2013 (H3N2)	0/383	NE	NA	SRI	HAI (blood)
<u>BACTERIAL, MYCOPLASMA AND FUNGAL INFECTIONS</u>					
Bordetella bronchiseptica	0/175	0/10	0/125	Cornell ⁴	Culture (nasal/pharyngeal swab)
Campylobacter species	0/211	0/10	0/161	Cornell	Culture (rectal swab)
Helicobacter species	0/211	0/10	0/161	CRL ⁵	PCR (fecal)
Lawsonia intracellularis	0/211	0/10	0/161	CRL	PCR (blood)
Pasteurella multocida	0/175	0/10	0/125	Cornell	Culture (pharyngeal swab)
Salmonella species	0/211	0/10	0/161	Cornell	Culture (rectal swab)
Staphylococcus aureus	26/175	0/10	26/125	Cornell	Culture (rectal swab)
Yersinia enterocolitica	0/175	0/10	0/125	Cornell	Culture (rectal swab)
<u>PARASITOLOGICAL INFECTIONS</u>					
Coccidia	0/1501	0/10	0/1411	In house ⁶	Sodium nitrate (fecal)
Dirofilaria immitis	0/50	0/10	NA	In house	Snap 4Dx (blood)
Otodectes cynotis	0/825	0/10	0/785	In house	Microscopy
<u>Protozoan Parasites:</u>					
Cryptosporidium parvum	0/50	0/10	NA	Cornell	PCR (fecal)
Giardia	0/90	0/10	NA	In house	Zinc sulfate (fecal)

*Historical Results are those reported before the colony was established at our facilities in New York.

NA=Not applicable

NE=Not examined

Abbreviations for methods:

HAI: Hemagglutination Inhibition; PCR: Polymerase Chain Reaction

LABs:

¹Blue Cross Animal Hospital, Burley Idaho

²Diagnostic Center for Population and Animal Health, Michigan State University

³Southern Research Institute

⁴NYS Animal Health Diagnostic Laboratory, College of Veterinary Medicine, Cornell University

⁵Charles River Laboratories

⁶Marshall Farms

⁷Marshall UK

†Vaccinations:

The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. Product designation, lot number/expiration date, age/frequency of administration and dosage, as applicable, are noted. A description of the current immunization regimen is included in the Routine Vaccination and Treatment Procedures document.

Distemper: Monovalent modified live distemper virus vaccine.

Rabies: Killed rabies virus vaccine.

Bambi H Jasmin
Bambi Jasmin, DVM, DACLAM

04/09/2018
Date



BIORESOURCES

Health Monitoring Report

Name and address of the breeder: Marshall Farms Group, Ltd., North Rose NY

Date of issue: December 2017

Unit: Influenza –Free

Collection date: Oct-Dec 2017

Species: *Mustela putorius furo*

Breed: Ferret

Populated: November 2015

	CUMULATIVE RESULTS	CURRENT TEST RESULTS	HISTORICAL RESULTS*	LAB	METHOD
<u>VIRAL INFECTIONS</u>					
Aleutians	0/76	NE	0/36	Blue Cross ¹	PCR (blood)
Canine Distemper Virus	Vaccinated†	Vaccinated†	NA		
Ferret Coronavirus (Enteric)	36/36	NE	36/36	N/A	PCR
Rabies Virus	Vaccinated†	Vaccinated†	NA		
Rotavirus A	0/76	NE	0/36	MSU ²	PCR (fecal)
<u>Human Influenza (Current Circulating Strains)</u>					
A/New Caledonia/71/2014	0/30	0/30	NA	MUK ⁷	HAI (blood)
A/Slovenia/2903/2015	0/30	0/30	NA	MUK	HAI (blood)
B/Phuket/3073/2013	0/700	0/30	NA	MUK	HAI (blood)
B/Brisbane/60/2008	0/221	0/30	NA	MUK	HAI (blood)
<u>Screened Dec 2015-April 2017</u>					
A/California/2009 (H1N1) pdm09	0/670	NE	NA	SRI ³	HAI (blood)
A/Hong Kong/4801/2014	0/287	NE	NA	SRI	HAI (blood)
<u>Screened Dec 2015-July 2016</u>					
A/Switzerland/9715293/2013 (H3N2)	0/383	NE	NA	SRI	HAI (blood)
<u>BACTERIAL, MYCOPLASMA AND FUNGAL INFECTIONS</u>					
Bordetella bronchiseptica	0/165	NE	0/125	Cornell ⁴	Culture (nasal/pharyngeal swab)
Campylobacter species	0/201	NE	0/161	Cornell	Culture (rectal swab)
Helicobacter species	0/201	NE	0/161	CRL ⁵	PCR (fecal)
Lawsonia intracellularis	0/201	NE	0/161	CRL	PCR (blood)
Pasteurella multocida	0/165	NE	0/125	Cornell	Culture (pharyngeal swab)
Salmonella species	0/201	NE	0/161	Cornell	Culture (rectal swab)
Staphylococcus aureus	26/165	NE	26/125	Cornell	Culture (rectal swab)
Yersinia enterocolitica	0/165	NE	0/125	Cornell	Culture (rectal swab)
<u>PARASITOLOGICAL INFECTIONS</u>					
Coccidia	0/1491	0/10	0/1411	In house ⁶	Sodium nitrate (fecal)
Dirofilaria immitis	0/40	NE	NA	In house	Snap 4Dx (blood)
Otodectes cynotis	0/815	NE	0/785	In house	Microscopy
<u>Protozoan Parasites:</u>					
Cryptosporidium parvum	0/40	NE	NA	Cornell	PCR (fecal)
Giardia	0/80	0/10	NA	In house	Zinc sulfate (fecal)

*Historical Results are those reported before the colony was established at our facilities in New York.

NA=Not applicable

NE=Not examined

Abbreviations for methods:

HAI: Hemagglutination Inhibition; PCR: Polymerase Chain Reaction

LABs:

¹Blue Cross Animal Hospital, Burley Idaho

²Diagnostic Center for Population and Animal Health, Michigan State University

³Southern Research Institute

⁴NYS Animal Health Diagnostic Laboratory, College of Veterinary Medicine, Cornell University

⁵Charles River Laboratories

⁶Marshall Farms

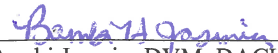
⁷Marshall UK

†Vaccinations:

The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. Product designation, lot number/expiration date, age/frequency of administration and dosage, as applicable, are noted. A description of the current immunization regimen is included in the Routine Vaccination and Treatment Procedures document.

Distemper: Monovalent modified live distemper virus vaccine.

Rabies: Killed rabies virus vaccine.


Bambi Jasmin, DVM, DACLAM

12/19/2017
Date



Health Monitoring Report

Name and address of the breeder: Marshall Farms Group, Ltd., North Rose NY

Date of issue: August 2017 Unit: Influenza -Free Collection date: June, Jul & Aug 2017

Species: *Mustela putorius furo* Breed: Ferret Populated: November 2015

	CUMULATIVE RESULTS	CURRENT TEST RESULTS	HISTORICAL RESULTS*	LAB	METHOD
<u>VIRAL INFECTIONS</u>					
Aleutians	0/76	0/10	0/36	Blue Cross ¹	PCR (blood)
Canine Distemper Virus	Vaccinated†	Vaccinated†	NA		
Ferret Coronavirus (Enteric)	36/36	NE	36/36	N/A	PCR
Rabies Virus	Vaccinated†	Vaccinated†	NA		
Rotavirus A	0/76	0/10	0/36	MSU ²	PCR (fecal)
Human Influenza (Current Circulating Strains)					
A/California/2009 (H1N1) pdm09	0/670	NE	NA	SRI ³	HAI (blood)
B/Phuket/3073/2013	0/670	NE	NA	SRI	HAI (blood)
A/Hong Kong/4801/2014	0/287	NE	NA	SRI	HAI (blood)
B/Brisbane/60/2008	0/191	NE	NA	SRI	HAI (blood)
A/Switzerland/9715293/2013 (H3N2) (Screened Dec 2015-July 2016)	0/383	NE	NA	SRI	HAI (blood)
<u>BACTERIAL, MYCOPLASMA AND FUNGAL INFECTIONS</u>					
Bordetella bronchiseptica	0/165	0/10	0/125	Cornell ⁴	Culture (nasal/pharyngeal swab)
Campylobacter species	0/201	0/10	0/161	Cornell	Culture (rectal swab)
Helicobacter species	0/201	0/10	0/161	CRL ⁵	PCR (blood)
Lawsonia intracellularis	0/201	0/10	0/161	CRL	PCR (blood)
Pasteurella multocida	0/165	0/10	0/125	Cornell	Culture (pharyngeal swab)
Salmonella species	0/201	0/10	0/161	Cornell	Culture (rectal swab)
Staphylococcus aureus	26/165	0/10	26/125	Cornell	Culture (rectal swab)
Yersinia enterocolitica	0/165	0/10	0/125	Cornell	Culture (rectal swab)
<u>PARASITOLOGICAL INFECTIONS</u>					
Coccidia	0/1481	0/10	0/1411	In house ⁶	Sodium nitrate (fecal)
Dirofilaria immitis	0/40	0/10	NA	In house	Snap 4Dx (blood)
Otodectes cynotis	0/815	0/10	0/785	In house	Microscopy
Protozoan Parasites:					
Cryptosporidium parvum	0/40	0/10	NA	Cornell	PCR (fecal)
Giardia	0/70	0/10	NA	In house	Zinc sulfate (fecal)

*Historical Results are those reported before the colony was established at our facilities in New York.

NA=Not applicable
NE=Not examined

Abbreviations for methods:

EIA: Enzyme Immunoassay; HAI: Hemagglutination Inhibition; PCR: Polymerase Chain Reaction

LABs:

¹Blue Cross Animal Hospital, Burley Idaho

²Diagnostic Center for Population and Animal Health, Michigan State University

³Southern Research Institute

⁴NYS Animal Health Diagnostic Laboratory, College of Veterinary Medicine, Cornell University

⁵Charles River Laboratories

⁶Marshall Farms

†Vaccinations:

The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. Product designation, lot number/expiration date, age/frequency of administration and dosage, as applicable, are noted. A description of the current immunization regimen is included in the Routine Vaccination and Treatment Procedures document.

Distemper: Monovalent modified live distemper virus vaccine.

Rabies: Killed rabies virus vaccine.

Bambi Jasmin
Bambi Jasmin, DVM, DACLAM

08/14/2017
Date



Health Monitoring Report

Name and address of the breeder : Marshall Farms Group, Ltd., North Rose NY

Date of issue: May 2017

Unit: Influenza –Free

Collection date: Apr 2017

Species: *Mustela putorius furo*

Breed: Ferret

Populated: November 2015

	CUMULATIVE RESULTS	CURRENT TEST RESULTS	HISTORICAL RESULTS*	LAB	METHOD
<u>VIRAL INFECTIONS</u>					
Aleutians	0/66	NE	0/36	Blue Cross ¹	PCR (blood)
Canine Distemper Virus	Vaccinated†	Vaccinated†	NA		
Ferret Coronavirus (Enteric)	36/36	NE	36/36	N/A	PCR
Rabies Virus	Vaccinated†	Vaccinated†	NA		
Rotavirus A	0/66	NE	0/36	MSU ²	PCR (fecal)
Human Influenza (Current Circulating Strains)					
A/California/2009 (H1N1) pdm09	0/670	0/95	NA	SRI ³	HAI (blood)
B/Phuket/3073/2013	0/670	0/95	NA	SRI	HAI (blood)
A/Hong Kong/4801/2014	0/287	0/95	NA	SRI	HAI (blood)
B/Brisbane/60/2008	0/191	0/95	NA	SRI	HAI (blood)
A/Switzerland/9715293/2013 (H3N2)	0/383	NE	NA	SRI	HAI (blood)
(Screened Dec 2015-July 2016)					
<u>BACTERIAL, MYCOPLASMA AND FUNGAL INFECTIONS</u>					
Bordetella bronchiseptica	0/155	NE	0/125	Cornell ⁴	Culture (nasal/pharyngeal swab)
Campylobacter species	0/191	NE	0/161	Cornell	Culture (rectal swab)
Helicobacter species	0/191	NE	0/161	CRL ⁵	PCR (blood)
Lawsonia intracellularis	0/191	NE	0/161	CRL	PCR (blood)
Pasteurella multocida	0/155	NE	0/125	Cornell	Culture (pharyngeal swab)
Salmonella species	0/191	NE	0/161	Cornell	Culture (rectal swab)
Staphylococcus aureus	26/155	NE	26/125	Cornell	Culture (rectal swab)
Yersinia enterocolitica	0/155	NE	0/125	Cornell	Culture (rectal swab)
<u>PARASITOLOGICAL INFECTIONS</u>					
Coccidia	0/1471	NE	0/1411	In house ⁶	Sodium nitrate (fecal)
Dirofilaria immitis	0/30	NE	NA	In house	Snap 4Dx (blood)
Otodectes cynotis	0/805	NE	0/785	In house	Microscopy
Protozoan Parasites:			0/1411		
Cryptosporidium parvum	0/30	NE	NA	Cornell	PCR (fecal)
Giardia	0/60	NE	NA	In house	Zinc sulfate (fecal)

*Historical Results are those reported before the colony was established at our facilities in New York.

NA=Not applicable

NE=Not examined

Abbreviations for methods:

EIA: Enzyme Immunoassay; HAI: Hemagglutination Inhibition; PCR: Polymerase Chain Reaction

LABs:

¹Blue Cross Animal Hospital, Burley Idaho

²Diagnostic Center for Population and Animal Health, Michigan State University

³Southern Research Institute

⁴NYS Animal Health Diagnostic Laboratory, College of Veterinary Medicine, Cornell University

⁵Charles River Laboratories

⁶Marshall Farms

†Vaccinations:

The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. Product designation, lot number/expiration date, age/frequency of administration and dosage, as applicable, are noted. A description of the current immunization regimen is included in the Routine Vaccination and Treatment Procedures document.

Distemper: Monovalent modified live distemper virus vaccine.

Rabies: Killed rabies virus vaccine.

Bambi H Jasmin
Bambi Jasmin, DVM, DACLAM

05/05/2017
Date



Health Monitoring Report

Name and address of the breeder : Marshall Farms Group, Ltd., North Rose NY

Date of issue: Mar 2017

Unit: Influenza -Free

Collection date: Feb 2017

Species: *Mustela putorius furo*

Breed: Ferret

Populated: November 2015

	CUMULATIVE RESULTS	CURRENT TEST RESULTS	HISTORICAL RESULTS*	LAB	METHOD
<u>VIRAL INFECTIONS</u>					
Aleutians	0/66	0/10	0/36	Blue Cross ¹	PCR (blood)
Canine Distemper Virus	Vaccinated†	Vaccinated†	NA		
Ferret Coronavirus (Enteric)	36/36	NE	36/36	N/A	PCR
Rabies Virus	Vaccinated†	Vaccinated†	NA		
Rotavirus A	0/66	0/10	0/36	MSU ²	PCR (fecal)
Human Influenza (Current Circulating Strains)					
A/California/2009 (H1N1) pdm09	0/575	0/96	NA	SRI ³	HAI (blood)
B/Phuket/3073/2013	0/575	0/96	NA	SRI	HAI (blood)
A/Hong Kong/4801/2014	0/192	0/96	NA	SRI	HAI (blood)
B/Brisbane/60/2008	0/96	0/96	NA	SRI	HAI (blood)
A/Switzerland/9715293/2013 (H3N2) 0/383 (Screened Dec 2015-July 2016)		NE	NA	SRI	HAI (blood)
<u>BACTERIAL, MYCOPLASMA AND FUNGAL INFECTIONS</u>					
<i>Bordetella bronchiseptica</i>	0/155	0/10	0/125	Cornell ⁴	Culture (nasal/pharyngeal swab)
<i>Campylobacter</i> species	0/191	0/10	0/161	Cornell	Culture (rectal swab)
<i>Helicobacter</i> species	0/191	0/10	0/161	CRL ⁵	PCR (blood)
<i>Lawsonia intracellularis</i>	0/191	0/10	0/161	CRL	PCR (blood)
<i>Pasteurella multocida</i>	0/155	0/10	0/125	Cornell	Culture (pharyngeal swab)
<i>Salmonella</i> species	0/191	0/10	0/161	Cornell	Culture (rectal swab)
<i>Staphylococcus aureus</i>	26/155	0/10	26/125	Cornell	Culture (rectal swab)
<i>Yersinia enterocolitica</i>	0/155	0/10	0/125	Cornell	Culture (rectal swab)
<u>PARASITOLOGICAL INFECTIONS</u>					
<i>Coccidia</i>	0/1471	0/10	0/1411	In house ⁶	Sodium nitrate (fecal)
<i>Dirofilaria immitis</i>	0/30	0/10	NA	In house	Snap 4Dx (blood)
<i>Otodectes cynotis</i>	0/805	0/10	0/785	In house	Microscopy
Protozoan Parasites:			0/1411		
<i>Cryptosporidium parvum</i>	0/30	0/10	NA	Cornell	PCR (fecal)
<i>Giardia</i>	0/60	0/10	NA	In house	Zinc sulfate (fecal)

*Historical Results are those reported before the colony was established at our facilities in New York.

NA=Not applicable

NE=Not examined

Abbreviations for methods:

EIA: Enzyme Immunoassay; HAI: Hemagglutination Inhibition; PCR: Polymerase Chain Reaction

LABs:

¹Blue Cross Animal Hospital, Burley Idaho

²Diagnostic Center for Population and Animal Health, Michigan State University

³Southern Research Institute

⁴NYS Animal Health Diagnostic Laboratory, College of Veterinary Medicine, Cornell University

⁵Charles River Laboratories

⁶Marshall Farms

†Vaccinations:

The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. Product designation, lot number/expiration date, age/frequency of administration and dosage, as applicable, are noted. A description of the current immunization regimen is included in the Routine Vaccination and Treatment Procedures document.

Distemper: Monovalent modified live distemper virus vaccine.

Rabies: Killed rabies virus vaccine.

Bambi Jasmin, DVM, DACLAM

03/06/2017
Date



BIO RESOURCES

Health Monitoring Report

Name and address of the breeder : Marshall Farms Group, Ltd., North Rose NY

Date of issue: Nov 2016	Unit: Influenza –Free	Collection date: Sep 2016
Species: <i>Mustela putorius furo</i>	Breed: Ferret	Populated: November 2015

	CUMULATIVE RESULTS	CURRENT TEST RESULTS	HISTORICAL RESULTS*	LAB	METHOD
<u>VIRAL INFECTIONS</u>					
Aleutians	0/56	NE	0/36	Blue Cross ¹	PCR (blood)
Canine Distemper Virus	Vaccinated†	Vaccinated†	NA		
Ferret Coronavirus (Enteric)	36/36	NE	36/36	N/A	PCR
Rabies Virus	Vaccinated†	Vaccinated†	NA		
Rotavirus A	0/56	NE	0/36	MSU ⁶	PCR (fecal)
Human Influenza (Current Circulating Strains)					
A/California/2009 (H1N1) pdm09	0/479	0/96	NA	SRI ³	HAI (blood)
B/Phuket/3073/2013	0/479	0/96	NA	SRI	HAI (blood)
A/Hong Kong/4801/2014	0/96	0/96	NA	SRI	HAI (blood)
A/Switzerland/9715293/2013 (H3N2) (Screened Dec 2015-July 2016)		NE	NA	SRI	HAI (blood)
<u>BACTERIAL, MYCOPLASMA AND FUNGAL INFECTIONS</u>					
Bordetella bronchiseptica	0/145	NE	0/125	Cornell ²	Culture (nasal/pharyngeal swab)
Campylobacter species	0/181	NE	0/161	Cornell	Culture (rectal swab)
Helicobacter species	0/181	NE	0/161	CRL ⁴	PCR (blood)
Lawsonia intracellularis	0/181	NE	0/161	CRL	PCR (blood)
Pasteurella multocida	0/145	NE	0/125	Cornell	Culture (pharyngeal swab)
Salmonella species	0/181	NE	0/161	Cornell	Culture (rectal swab)
Staphylococcus aureus	26/145	NE	26/125	Cornell	Culture (rectal swab)
Yersinia enterocolitica	0/145	NE	0/125	Cornell	Culture (rectal swab)
<u>PARASITOLOGICAL INFECTIONS</u>					
Coccidia	0/1461	NE	0/1411	In house ⁵	Sodium nitrate (fecal)
Dirofilaria immitis	0/20	NE	NA	In house	Snap 4Dx (blood)
Otodectes cynotis	0/795	NE	0/785	In house	Microscopy
Protozoan Parasites:			0/1411		
Cryptosporidium parvum	0/20	NE	NA	CRL	PCR (fecal)
Giardia	0/50	NE	NA	In house	Zinc sulfate (fecal)

*Historical Results are those reported before the colony was established at our facilities in New York.

NA=Not applicable
NE=Not examined

Abbreviations for methods:

EIA: Enzyme Immunoassay; HAI: Hemagglutination Inhibition; PCR: Polymerase Chain Reaction

LABs:

¹Blue Cross Animal Hospital, Burley Idaho

²NYS Animal Health Diagnostic Laboratory, College of Veterinary Medicine, Cornell University

³Southern Research Institute

⁴Charles River Laboratories

⁵Marshall Farms

⁶Diagnostic Center for Population and Animal Health, Michigan State University

†Vaccinations:

The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. Product designation, lot number/expiration date, age/frequency of administration and dosage, as applicable, are noted. A description of the current immunization regimen is included in the Routine Vaccination and Treatment Procedures document.

Distemper: Monovalent modified live distemper virus vaccine.

Rabies: Killed rabies virus vaccine.

Bambi H Jasmin
Bambi Jasmin, DVM, DACLAM

11/18/2016
Date



BIORESOURCES

Health Monitoring Report

Name and address of the breeder : Marshall Farms Group, Ltd., North Rose NY

Date of issue: Sep 2016

Unit: Influenza –Negative

Collection date: Aug 2016

Species: *Mustela putorius furo*

Breed: Ferret

Populated: November 2015

	CUMULATIVE RESULTS	CURRENT TEST RESULTS	HISTORICAL RESULTS*	LAB	METHOD
<u>VIRAL INFECTIONS</u>					
Aleutians	0/56	0/10	0/36	Blue Cross ¹	PCR (blood)
Canine Distemper Virus	Vaccinated†	Vaccinated†	NA		
Ferret Coronavirus (Enteric)	36/36	NE	36/36	N/A	PCR
Rabies Virus	Vaccinated†	Vaccinated†	NA		
Rotavirus A	0/56	0/10	0/36	MSU ⁶	PCR (fecal)
Human Influenza (Current Circulating Strains)					
A/California/2009 (H1N1)pdm09	0/383	NE	NA	SRI ³	HAI (blood)
A/Switzerland/9715293/2013 (H3N2)	0/383	NE	NA	SRI	HAI (blood)
B/Phuket/3073/2013	0/383	NE	NA	SRI	HAI (blood)
<u>BACTERIAL, MYCOPLASMA AND FUNGAL INFECTIONS</u>					
Bordetella bronchiseptica	0/145	0/10	0/125	Cornell ²	Culture (nasal/pharyngeal swab)
Campylobacter species	0/181	0/10	0/161	Cornell	Culture (rectal swab)
Helicobacter species	0/181	0/10	0/161	CRL ⁴	PCR (blood)
Lawsonia intracellularis	0/181	0/10	0/161	CRL	PCR (blood)
Pasteurella multocida	0/145	0/10	0/125	Cornell	Culture (pharyngeal swab)
Salmonella species	0/181	0/10	0/161	Cornell	Culture (rectal swab)
Staphylococcus aureus	26/145	0/10	26/125	Cornell	Culture (rectal swab)
Yersinia enterocolitica	0/145	0/10	0/125	Cornell	Culture (rectal swab)
<u>PARASITOLOGICAL INFECTIONS</u>					
Coccidia	0/1461	NE	0/1411	In house ⁵	Sodium nitrate (fecal)
Dirofilaria immitis *	0/20	0/10	NA	In house	Snap 4Dx (blood)
Otodectes cynotis	0/795	NE	0/785	In house	Microscopy
Protozoan Parasites:			0/1411		
Cryptosporidium parvum	0/20	0/10	NA	CRL	PCR (fecal)
Giardia	0/50	NE	NA	In house	Zinc sulfate (fecal)

*Historical Results are those reported before the colony was established at our facilities in New York.

NA=Not applicable
NE=Not examined

Abbreviations for methods:
EIA: Enzyme Immunoassay; HAI: Hemagglutination Inhibition; PCR: Polymerase Chain Reaction

LABs:
¹Blue Cross Animal Hospital, Burley Idaho
²NYS Animal Health Diagnostic Laboratory, College of Veterinary Medicine, Cornell University
³Southern Research Institute
⁴Charles River Laboratories
⁵Marshall Farms
⁶Diagnostic Center for Population and Animal Health, Michigan State University

†Vaccinations:
The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. Product designation, lot number/expiration date, age/frequency of administration and dosage, as applicable, are noted. A description of the current immunization regimen is included in the Routine Vaccination and Treatment Procedures document.

Distemper: Monovalent modified live distemper virus vaccine.
Rabies: Killed rabies virus vaccine.

Bambi U Jasmin
Bambi Jasmin, DVM, DACLAM

09/06/2016
Date



Health Monitoring Report

Name and address of the breeder : Marshall Farms Group, Ltd., North Rose NY

Date of issue: July, 2016

Unit: Influenza –Negative

Collection date: July, 2016

Species: *Mustela putorius furo*

Breed: Ferret

Populated: November 2015

	CUMULATIVE RESULTS	CURRENT TEST RESULTS	HISTORICAL RESULTS*	LAB	METHOD
<u>VIRAL INFECTIONS</u>					
Aleutians	0/46	NE	0/36	Blue Cross ¹	PCR (blood)
Canine Distemper Virus	Vaccinated [†]	Vaccinated [†]	NA		
Ferret Coronavirus (Enteric)	36/36	NE	36/36	N/A	PCR
Rabies Virus	Vaccinated [†]	Vaccinated [†]	NA		
Rotavirus A	0/46	NE	0/36	Cornell ²	PCR (fecal)
Human Influenza (Current Circulating Strains)					
A/California/2009 (H1N1)pdm09	0/383	0/96	NA	SRI ³	HAI (blood)
A/Switzerland/9715293/2013 (H3N2)	0/383	0/96	NA	SRI	HAI (blood)
B/Phuket/3073/2013	0/383	0/96	NA	SRI	HAI (blood)
<u>BACTERIAL, MYCOPLASMA AND FUNGAL INFECTIONS</u>					
Bordetella bronchiseptica	0/135	NE	0/125	Cornell	Culture (nasal/pharyngeal swab)
Campylobacter species	0/171	NE	0/161	Cornell	Culture (rectal swab)
Helicobacter species	0/171	NE	0/161	CRL ⁴	PCR (blood)
Lawsonia intracellularis	0/171	NE	0/161	CRL	PCR (blood)
Pasteurella multocida	0/135	NE	0/125	Cornell	Culture (tracheal swab)
Salmonella species	0/171	NE	0/161	Cornell	Culture (rectal swab)
Staphylococcus aureus	26/135	NE	26/125	Cornell	Culture (rectal swab)
Yersinia enterocolitica	0/135	NE	0/125	Cornell	Culture (rectal swab)
<u>PARASITOLOGICAL INFECTIONS</u>					
Coccidia	0/1461	0/20	0/1411	In house ⁵	Sodium nitrate (fecal)
Dirofilaria immitis	0/10	NE	NA	In house	Snap 4Dx (blood)
Otodectes cynotis	0/795	NE	0/785	In house	Microscopy
Protozoan Parasites:			0/1411		
Cryptosporidium parvum	0/10	NE	NA	Cornell	PCR (fecal)
Giardia	0/50	0/20	NA	In house	Zinc sulfate (fecal)

*Historical Results are those reported before the colony was established at our facilities in New York.

NA=Not applicable
NE=Not examined

Abbreviations for methods:

EIA: Enzyme Immunoassay; HAI: Hemagglutination Inhibition; PCR: Polymerase Chain Reaction

LABs:

¹Blue Cross Animal Hospital, Burley Idaho

²NYS Animal Health Diagnostic Laboratory, College of Veterinary Medicine, Cornell University

³Southern Research Institute

⁴Charles River Laboratories

⁵Marshall Farms

†Vaccinations:

The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. Product designation, lot number/expiration date, age/frequency of administration and dosage, as applicable, are noted. A description of the current immunization regimen is included in the Routine Vaccination and Treatment Procedures document.

Distemper: Monovalent modified live distemper virus vaccine.

Rabies: Killed rabies virus vaccine.

Jeff DiMayo, DVM,

Date

Jeff DiMayo DVM 7/27/2016



Health Monitoring Report

Name and address of the breeder : Marshall Farms Group, Ltd., North Rose NY

Date of issue: May, 2016

Unit: Influenza –Negative

Collection date: May, 2016

Species: *Mustela putorius furo*

Breed: Ferret

Populated: November 2015

	CUMULATIVE RESULTS	CURRENT TEST RESULTS	HISTORICAL RESULTS*	LAB	METHOD
<u>VIRAL INFECTIONS</u>					
Aleutians	0/46	NE	0/36	Blue Cross ¹	PCR (blood)
Canine Distemper Virus	Vaccinated [†]	Vaccinated [†]	NA		
Ferret Coronavirus (Enteric)	36/36	NE	36/36	N/A	PCR
Rabies Virus	Vaccinated [†]	Vaccinated [†]	NA		
Rotavirus A	0/46	NE	0/36	Cornell ²	PCR (fecal)
Human Influenza (Current Circulating Strains)					
A/California/2009 (H1N1)pdm09	0/287	0/96	NA	SRI ³	HAI (blood)
A/Switzerland/9715293/2013 (H3N2)	0/287	0/96	NA	SRI	HAI (blood)
B/Phuket/3073/2013	0/287	0/96	NA	SRI	HAI (blood)
<u>BACTERIAL, MYCOPLASMA AND FUNGAL INFECTIONS</u>					
Bordetella bronchiseptica	0/135	NE	0/125	Cornell	Culture (nasal/pharyngeal swab)
Campylobacter species	0/171	NE	0/161	Cornell	Culture (rectal swab)
Helicobacter species	0/171	NE	0/161	CRL ⁴	PCR (blood)
Lawsonia intracellularis	0/171	NE	0/161	CRL	PCR (blood)
Pasteurella multocida	0/135	NE	0/125	Cornell	Culture (tracheal swab)
Salmonella species	0/171	NE	0/161	Cornell	Culture (rectal swab)
Staphylococcus aureus	26/135	NE	26/125	Cornell	Culture (rectal swab)
Yersinia enterocolitica	0/135	NE	0/125	Cornell	Culture (rectal swab)
<u>PARASITOLOGICAL INFECTIONS</u>					
Coccidia	0/1441	0/20	0/1411	In house ⁵	Sodium nitrate (fecal)
Dirofilaria immitis	0/10	NE	NA	In house	Snap 4Dx (blood)
Otodectes cynotis	0/795	NE	0/785	In house	Microscopy
Protozoan Parasites:			0/1411		
Cryptosporidium parvum	0/10	NE	NA	Cornell	PCR (fecal)
Giardia	0/30	0/20	NA	In house	Zinc sulfate (fecal)

*Historical Results are those reported before the colony was established at our facilities in New York.

NA=Not applicable

NE=Not examined

Abbreviations for methods:

EIA: Enzyme Immunoassay; HAI: Hemagglutination Inhibition; PCR: Polymerase Chain Reaction

LABs:

¹Blue Cross Animal Hospital, Burley Idaho

²NYS Animal Health Diagnostic Laboratory, College of Veterinary Medicine, Cornell University

³Southern Research Institute

⁴Charles River Laboratories

⁵Marshall Farms

[†]Vaccinations:

The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. Product designation, lot number/expiration date, age/frequency of administration and dosage, as applicable, are noted. A description of the current immunization regimen is included in the Routine Vaccination and Treatment Procedures document.

Distemper: Monovalent modified live distemper virus vaccine.

Rabies: Killed rabies virus vaccine.

Jeff DiMayo, DVM,

Date

7/27/2016



BIO RESOURCES

Health Monitoring Report

Name and address of the breeder : Marshall Farms Group, Ltd., North Rose NY

Date of issue: February, 2016

Unit: Influenza -Negative

Collection date: January 5, 2016

Species: *Mustela putorius furo*

Breed: Ferret

Populated: November 2015

	CUMULATIVE RESULTS	CURRENT TEST RESULTS	HISTORICAL RESULTS*	LAB	METHOD
<u>VIRAL INFECTIONS</u>					
Aleutians	0/46	0/10	0/36	Blue Cross ¹	PCR (blood)
Ferret Coronavirus (Enteric)	36/36	NE	36/36	N/A	PCR
Rotavirus A	0/46	0/10	0/36	Cornell ²	PCR (fecal)
Human Influenza (Current Circulating Strains)					
A/California/2009 (H1N1)pdm09	0/191	NE	NA	SRI ³	HAI (blood)
A/Switzerland/9715293/2013 (H3N2)	0/191	NE	NA	SRI	HAI (blood)
B/Phuket/3073/2013	0/191	NE	NA	SRI	HAI (blood)
<u>BACTERIAL, MYCOPLASMA AND FUNGAL INFECTIONS</u>					
Bordetella bronchiseptica	0/135	0/10	0/125	Cornell	Culture (nasal/pharyngeal swab)
Campylobacter species	0/171	0/10	0/161	Cornell	Culture (rectal swab)
Helicobacter species	0/171	0/10	0/161	CRL ⁴	PCR (blood)
Lawsonia intracellularis	0/171	0/10	0/161	CRL	PCR (blood)
Pasteurella multocida	0/135	0/10	0/125	Cornell	Culture (tracheal swab)
Salmonella species	0/171	0/10	0/161	Cornell	Culture (rectal swab)
Staphylococcus aureus	26/135	0/10	26/125	Cornell	Culture (rectal swab)
Yersinia enterocolitica	0/135	0/10	0/125	Cornell	Culture (rectal swab)
<u>PARASITOLOGICAL INFECTIONS</u>					
Coccidia	0/1421	0/10	0/1411	In house ⁵	Sodium nitrate (fecal)
Dirofilaria immitis	0/10	0/10	NA	In house	Snap 4Dx (blood)
Otodectes cynotis	0/795	0/10	0/785	In house	Microscopy
Protozoan Parasites:			0/1411		
Cryptosporidium parvum	0/10	0/10	NA	Cornell	PCR (fecal)
Giardia	0/10	0/10	NA	In house	Zinc sulfate (fecal)

*Historical Results are those reported before the colony was established at our facilities in New York.

NA=Not applicable
NE=Not examined

Abbreviations for methods:

EIA: Enzyme Immunoassay; HAI: Hemagglutination Inhibition; PCR: Polymerase Chain Reaction

LABs:

¹Blue Cross Animal Hospital, Burley Idaho

²NYS Animal Health Diagnostic Laboratory, College of Veterinary Medicine, Cornell University

³Southern Research Institute

⁴Charles River Laboratories

⁵Marshall Farms

Vaccinations:

The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. Product designation, lot number/expiration date, age/frequency of administration and dosage, as applicable, are noted. A description of the current immunization regimen is included in the Routine Vaccination and Treatment Procedures document.

Distemper: Monovalent modified live distemper virus vaccine.

Rabies: Killed rabies virus vaccine.

Bambi Jasmin
Bambi Jasmin, DVM,

02/22/2016
Date

Exhibit 2

Customer/NVS	: Demetris Markou	Order Number:	
Requesting Site	: Marshall UK The Field Station Grimston Aldbrough, Hull East Yorkshire HU11 4QE	Testing Laboratory:	Marshall UK Laboratories, Grimston Aldbrough, Hull East Yorkshire HU11 4QE
Animal Source	: UNIT 5+6	Lab No	: M,21.0000638.F
Species	: MUSTELA PUTORIUS FURO	Collected	: 06.04.2021
Animal Ref	: FERRET	Received	: 06.04.2021
No. of Animals	: 15	Specimen	: HEALTH MONITORING

ANIMAL HEALTH MONITORING REPORT

Colony cumulative data up to 18 months.

Monthly testing indicates negative for antibodies against

A/Tasmania/503/2020 V1

A/Victoria/1/2020 V7

B/Phuket/3073/2013

B/Washington/02/2019

Summary of Recent Colony Screen:

No Significant Findings

Colony screens have identified a historical presence of

Bordetella bronchiseptica last isolated 13/02/2018.

Ferret Coronavirus present since colony establishment.

Animal Source	: UNIT 5+6	Lab No	: M,21.0000638.F
Animal Ref	: FERRET	Collected	: 06.04.2021
Species	: MUSTELA PUTORIUS FURO	Received	: 06.04.2021
No. of Animals	: 15	Specimen	: HEALTH MONITORING

Viruses	Latest Results	Historical Results	Cumulative Results	Method
Human Influenza Virus	0/15	0/255	0/270	Haemagglutination Inhibition
Rotavirus A	0/10	0/50	0/60	EIA
Aleutians	0/10	0/10	0/20	PCR
Canine Distemper Virus	0/10	0/10	0/20	ELISA

Bacteria, Parasites and Fungi

Helicobacter species	0/10	0/50	0/60	PCR
Lawsonia intracellularis	0/10	0/50	0/60	PCR
Pasteurella multocida	0/10	0/50	0/60	Culture
Bordetella bronchiseptica	0/10	0/50	0/60	Culture
Yersinia enterocolitica	0/10	0/50	0/60	Culture
Campylobacter species	0/10	0/50	0/60	Culture
Salmonella species	0/10	0/50	0/60	Culture
Coccidia	0/10	0/50	0/60	Microscopy
Otodectes cynotis	0/10	0/50	0/60	Microscopy
Cryptosporidium parvum/Giardia	0/10	0/50	0/60	EIA

Screened Monthly: *Human Influenza Virus*. **Date of Last screen:** 06.04.2021

Screened Quarterly: *Coccidia, Otodectes cynotis, Helicobacter species, Lawsonia intracellularis, Cryptosporidium parvum, Giardia lamblia, Rotavirus A, Pasteurella multocida, Bordetella bronchiseptica, Yersinia enterocolitica, Campylobacter species, Salmonella species.*

Date of last Screen 06.04.2021

Screened Annually: *Aleutians, Canine Distemper Virus, Ferret Coronavirus.*

Date of last Screen: 05.01.2021



BIORESOURCES

The Field Station, Hull HU11 4QE
Tel: 01964 526911 Fax: 01964 529039
Email: technicalservices@marshallbio.com

Customer/NVS	: Demetris Markou	Order Number:	
Requesting Site	: Marshall UK The Field Station Grimston Aldbrough, Hull East Yorkshire HU11 4QE	Testing Laboratory:	Marshall UK Laboratories, Grimston Aldbrough, Hull East Yorkshire HU11 4QE
Animal Source	: UNIT 5+6	Lab No	: M,21.0000378.J
Species	: MUSTELA PUTORIUS FURO	Collected	: 01.03.2021
Animal Ref	: FERRET	Received	: 01.03.2021
No. of Animals	: 15	Specimen	: HEALTH MONITORING

ANIMAL HEALTH MONITORING REPORT

Colony cumulative data up to 18 months.

Monthly testing indicates negative for antibodies against

A/Hawaii/66/2019

A/Hong Kong/2671/2019

B/Phuket/3073/2013

B/Washington/02/2019

Summary of Recent Colony Screen:

No Significant Findings

Colony screens have identified a historical presence of Bordetella bronchiseptica last isolated 13/02/2018.

Ferret Coronavirus present since colony establishment.

Dated 05.03.2021

Authorised by *T. Weidon* Laboratory Manager

Final Report

Page 1 of 2

Animal Source	: UNIT 5+6	Lab No	: M,21.0000378.J
Animal Ref	: FERRET	Collected	: 01.03.2021
Species	: MUSTELA PUTORIUS FURO	Received	: 01.03.2021
No. of Animals	: 15	Specimen	: HEALTH MONITORING

Viruses	Latest Results	Historical Results	Cumulative Results	Method
Human Influenza Virus	0/15	0/255	0/270	Haemagglutination Inhibition
Rotavirus A	0/10	0/50	0/60	EIA
Aleutians	0/10	0/10	0/20	PCR
Canine Distemper Virus	0/10	0/10	0/20	ELISA

Bacteria, Parasites and Fungi

Helicobacter species	0/10	0/50	0/60	PCR
Lawsonia intracellularis	0/10	0/50	0/60	PCR
Pasteurella multocida	0/10	0/50	0/60	Culture
Bordetella bronchiseptica	0/10	0/50	0/60	Culture
Yersinia enterocolitica	0/10	0/50	0/60	Culture
Campylobacter species	0/10	0/50	0/60	Culture
Salmonella species	0/10	0/50	0/60	Culture
Coccidia	0/10	0/50	0/60	Microscopy
Otodectes cynotis	0/10	0/50	0/60	Microscopy
Cryptosporidium parvum/Giardia	0/10	0/50	0/60	EIA

Screened Monthly: *Human Influenza Virus*. Date of Last screen: 01.03.2021

Screened Quarterly: *Coccidia, Otodectes cynotis, Helicobacter species, Lawsonia intracellularis, Cryptosporidium parvum, Giardia lamblia, Rotavirus A, Pasteurella multocida, Bordetella bronchiseptica, Yersinia enterocolitica, Campylobacter species, Salmonella species*.
 Date of last Screen 05.01.2021

Screened Annually: *Aleutians, Canine Distemper Virus*.
 Date of last Screen: 05.01.2021

Customer/NVS	: Demetris Markou	Order Number:	
Requesting Site	: Marshall UK The Field Station Grimston Aldbrough, Hull East Yorkshire HU11 4QE	Testing Laboratory:	Marshall UK Laboratories, Grimston Aldbrough, Hull East Yorkshire HU11 4QE
Animal Source	: UNIT 5+6	Lab No	: M,21.0000162.V
Species	: MUSTELA PUTORIUS FURO	Collected	: 01.02.2021
Animal Ref	: FERRET	Received	: 01.02.2021
No. of Animals	: 15	Specimen	: HEALTH MONITORING

ANIMAL HEALTH MONITORING REPORT

Colony cumulative data up to 18 months.

Monthly testing indicates negative for antibodies against

A/Hawaii/66/2019

A/Hong Kong/2671/2019

B/Phuket/3073/2013

B/Washington/02/2019

Summary of Recent Colony Screen:

No Significant Findings.

Colony screens have identified a historical presence of *Bordetella bronchiseptica* last isolated 13/02/2018. Ferret Coronavirus present since colony establishment.

Animal Source	: UNIT 5+6	Lab No	: M,21.0000162.V
Animal Ref	: FERRET	Collected	: 01.02.2021
Species	: MUSTELA PUTORIUS FURO	Received	: 01.02.2021
No. of Animals	: 15	Specimen	: HEALTH MONITORING

Viruses	Latest Results	Historical Results	Cumulative Results	Method
Human Influenza Virus	0/15	0/225	0/270	Haemagglutination Inhibition
Rotavirus A	0/10	0/50	0/60	EIA
Aleutians	0/10	0/10	0/20	PCR
Canine Distemper Virus	0/10	0/10	0/20	ELISA

Bacteria, Parasites and Fungi

Helicobacter species	0/10	0/50	0/60	PCR
Lawsonia intracellularis	0/10	0/50	0/60	PCR
Pasteurella multocida	0/10	0/50	0/60	Culture
Bordetella bronchiseptica	0/10	0/50	0/60	Culture
Yersinia enterocolitica	0/10	0/50	0/60	Culture
Campylobacter species	0/10	0/50	0/60	Culture
Salmonella species	0/10	0/50	0/60	Culture
Coccidia	0/10	0/50	0/60	Microscopy
Otodectes cynotis	0/10	0/50	0/60	Microscopy
Cryptosporidium parvum/Giardia	0/10	0/50	0/60	EIA

Screened Monthly: *Human Influenza Virus*. Date of Last screen: 01.02.2021

Screened Quarterly: *Coccidia, Otodectes cynotis, Helicobacter species, Lawsonia intracellularis, Cryptosporidium parvum, Giardia lamblia, Rotavirus A, Pasteurella multocida, Bordetella bronchiseptica, Yersinia enterocolitica, Campylobacter species, Salmonella species.*

Date of last Screen 05.01.2021

Screened Annually: *Aleutians, Canine Distemper Virus.*

Date of last Screen: 05.01.2021

Customer/NVS	: Demetris Markou	Order Number:	
Requesting Site	: Marshall UK The Field Station Grimston Aldbrough, Hull East Yorkshire HULL 4QE	Testing Laboratory:	Marshall UK Laboratories, Grimston Aldbrough, Hull East Yorkshire HULL 4QE
Animal Source	: UNIT 5+6	Lab No	: M,21.0000104.B
Species	: MUSTELA PUTORIUS FURO	Collected	: 05.01.2021
Animal Ref	: FERRET	Received	: 05.01.2021
No. of Animals	: 15	Specimen	: HEALTH MONITORING

ANIMAL HEALTH MONITORING REPORT

Colony cumulative data up to 18 months

Monthly testing indicates negative for antibodies against
A/Hawaii/66/2019
A/Hong Kong/2671/2019
B/Phuket/3073/2013
B/Washington/02/2019

Summary of Recent Colony Screen:
No Significant Findings.

Colony screens have identified a historical presence of
Bordetella bronchiseptica last isolated 13/02/2018.
Ferret Coronavirus present since colony establishment.

Animal Source	: UNIT 5+6	Lab No	: M,21.0000104.B
Animal Ref	: FERRET	Collected	: 05.01.2021
Species	: MUSTELA PUTORIUS FURO	Received	: 05.01.2021
No. of Animals	: 15	Specimen	: HEALTH MONITORING

Viruses	Latest Results	Historical Results	Cumulative Results	Method
Human Influenza Virus	0/15	0/225	0/270	Haemagglutination Inhibition
Rotavirus A	0/10	0/50	0/60	EIA
Aleutians	0/10	0/10	0/20	PCR
Canine Distemper Virus	0/10	0/10	0/20	ELISA

Bacteria, Parasites and Fungi

Helicobacter species	0/10	0/50	0/60	PCR
Lawsonia intracellularis	0/10	0/50	0/60	PCR
Pasteurella multocida	0/10	0/50	0/60	Culture
Bordetella bronchiseptica	0/10	0/50	0/60	Culture
Yersinia enterocolitica	0/10	0/50	0/60	Culture
Campylobacter species	0/10	0/50	0/60	Culture
Salmonella species	0/10	0/50	0/60	Culture
Coccidia	0/10	0/50	0/60	Microscopy
Otodectes cynotis	0/10	0/50	0/60	Microscopy
Cryptosporidium parvum/Giardia	0/10	0/50	0/60	EIA

Screened Monthly: *Human Influenza Virus*. Date of Last screen: 05.01.2021

Screened Quarterly: *Coccidia, Otodectes cynotis, Helicobacter species, Lawsonia intracellularis, Cryptosporidium parvum, Giardia lamblia, Rotavirus A, Pasteurella multocida, Bordetella bronchiseptica, Yersinia enterocolitica, Campylobacter species, Salmonella species.*

Date of last Screen 05.01.2021

Screened Annually: *Aleutians, Canine Distemper Virus.*

Date of last Screen: 05.01.2021



BIORESOURCES

The Field Station, Hull HU11 4QE
Tel: 01964 526911 Fax: 01964 529039
Email: technicalservices@marshallbio.com

Customer/NVS	: Demetris Markou	Order Number:	
Requesting Site	: Marshall UK The Field Station Grimston Aldbrough, Hull East Yorkshire HU11 4QE	Testing Laboratory:	Marshall UK Laboratories, Grimston Aldbrough, Hull East Yorkshire HU11 4QE
Animal Source	: UNIT 5+6	Lab No	: M,20.0001651.Q
Species	: MUSTELA PUTORIUS FURO	Collected	: 02.11.2020
Animal Ref	: FERRET	Received	: 02.11.2020
No. of Animals	: 15	Specimen	: HEALTH MONITORING

ANIMAL HEALTH MONITORING REPORT

Colony cumulative data up to 18 months.

Monthly testing indicates negative for antibodies against
A/Hawaii/66/2019
A/Hong Kong/2671/2019
B/Phuket/3073/2013
B/Washington/02/2019

Summary of Recent Colony Screen:
No Significant Findings

Colony screens have identified a historical presence of
Bordetella bronchiseptica last isolated 13/02/2018.
Ferret Coronavirus present since colony establishment.

Animal Source : UNIT 5+6	Lab No : M,20.0001651.Q
Animal Ref : FERRET	Collected : 02.11.2020
Species : MUSTELA PUTORIUS FURO	Received : 02.11.2020
No. of Animals : 15	Specimen : HEALTH MONITORING

Viruses	Latest Results	Historical Results	Cumulative Results	Method
Human Influenza Virus	0/15	0/255	0/270	Haemagglutination Inhibition
Rotavirus A	0/10	0/50	0/60	EIA
Aleutians	0/10	NT	0/10	PCR
Canine Distemper Virus	0/10	NT	0/10	ELISA

Bacteria, Parasites and Fungi

Helicobacter species	0/10	0/50	0/60	PCR
Lawsonia intracellularis	0/10	0/50	0/60	PCR
Pasteurella multocida	0/10	0/50	0/60	Culture
Bordetella bronchiseptica	0/10	0/50	0/60	Culture
Yersinia enterocolitica	0/10	0/50	0/60	Culture
Campylobacter species	0/10	0/50	0/60	Culture
Salmonella species	0/10	0/50	0/60	Culture
Coccidia	0/10	0/50	0/60	Microscopy
Otodectes cynotis	0/10	0/50	0/60	Microscopy
Cryptosporidium parvum/Giardia	0/10	0/50	0/60	EIA

Screened Monthly: *Human Influenza Virus*. Date of Last screen: 02.11.2020

Screened Quarterly: *Coccidia, Otodectes cynotis, Helicobacter species, Lawsonia intracellularis, Cryptosporidium parvum, Giardia lamblia, Rotavirus A, Pasteurella multocida, Bordetella bronchiseptica, Yersinia enterocolitica, Campylobacter species, Salmonella species*.
 Date of last Screen 06.10.2020

Screened Annually: *Aleutians, Canine Distemper Virus*.
 Date of last Screen: 07.01.2020



BIORESOURCES

The Field Station, Hull HU11 4QE
Tel: 01964 526911 Fax: 01964 529039
Email: technicalservices@marshallbio.com

Customer/NVS : Demetris Markou	Order Number:
Requesting Site : Marshall UK The Field Station Grimston Aldbrough, Hull East Yorkshire HU11 4QE	Testing Laboratory: Marshall UK Laboratories, Grimston Aldbrough, Hull East Yorkshire HU11 4QE
Animal Source : UNIT 5+6	Lab No : M,20.0001538.B
Species : MUSTELA PUTORIUS FURO	Collected : 06.10.2020
Animal Ref : FERRET	Received : 06.10.2020
No. of Animals : 15	Specimen : HEALTH MONITORING

ANIMAL HEALTH MONITORING REPORT

Colony cumulative data up to 18 months.

Monthly testing indicates negative for antibodies against
A/Hawaii/66/2019
A/Hong Kong/2671/2019
B/Phuket/3073/2013
B/Washington/02/2019

Summary of Recent Colony Screen:
No Significant Findings

Colony screens have identified a historical presence of
Bordetella bronchiseptica last isolated 13/02/2018.
Ferret Coronavirus present since colony establishment.

Animal Source	: UNIT 5+6	Lab No	: M,20.0001538.B
Animal Ref	: FERRET	Collected	: 06.10.2020
Species	: MUSTELA PUTORIUS FURO	Received	: 06.10.2020
No. of Animals	: 15	Specimen	: HEALTH MONITORING

Viruses	Latest Results	Historical Results	Cumulative Results	Method
Human Influenza Virus	0/15	0/255	0/270	Haemagglutination Inhibition
Rotavirus A	0/10	0/50	0/60	EIA
Aleutians	0/10	NT	0/10	PCR
Canine Distemper Virus	0/10	NT	0/10	ELISA

Bacteria, Parasites and Fungi

Helicobacter species	0/10	0/50	0/60	PCR
Lawsonia intracellularis	0/10	0/50	0/60	PCR
Pasteurella multocida	0/10	0/50	0/60	Culture
Bordetella bronchiseptica	0/10	0/50	0/60	Culture
Yersinia enterocolitica	0/10	0/50	0/60	Culture
Campylobacter species	0/10	0/50	0/60	Culture
Salmonella species	0/10	0/50	0/60	Culture
Coccidia	0/10	0/50	0/60	Microscopy
Otodectes cynotis	0/10	0/50	0/60	Microscopy
Cryptosporidium parvum/Giardia	0/10	0/50	0/60	EIA

Screened Monthly: *Human Influenza Virus*. Date of Last screen: 06.10.2020

Screened Quarterly: *Coccidia, Otodectes cynotis, Helicobacter species, Lawsonia intracellularis, Cryptosporidium parvum, Giardia lamblia, Rotavirus A, Pasteurella multocida, Bordetella bronchiseptica, Yersinia enterocolitica, Campylobacter species, Salmonella species*.
 Date of last Screen 06.10.2020

Screened Annually: *Aleutians, Canine Distemper Virus*.
 Date of last Screen: 07.01.2020

Customer/NVS	: Demetris Markou	Order Number:	
Requesting Site	: Marshall UK The Field Station Grimston Aldbrough, Hull East Yorkshire HU11 4QE	Testing Laboratory:	Marshall UK Laboratories, Grimston Aldbrough, Hull East Yorkshire HU11 4QE
Animal Source	: UNIT 5+6	Lab No	: M,20.0001380.B
Species	: MUSTELA PUTORIUS FURO	Collected	: 01.09.2020
Animal Ref	: FERRET	Received	: 01.09.2020
No. of Animals	: 15	Specimen	: HEALTH MONITORING

ANIMAL HEALTH MONITORING REPORT

Colony cumulative data up to 18 months.

Monthly testing indicates negative for antibodies against
A/Hawaii/66/2019
A/Hong Kong/2671/2019
B/Phuket/3073/2013
B/Washington/02/2019

Summary of Recent Colony Screen:
No Significant Findings.

Colony screens have identified a historical presence of
Bordetella bronchiseptica last isolated 13/02/2018.
Ferret Coronavirus present since colony establishment.

Animal Source	: UNIT 5+6	Lab No	: M,20.0001380.B
Animal Ref	: FERRET	Collected	: 01.09.2020
Species	: MUSTELA PUTORIUS FURO	Received	: 01.09.2020
No. of Animals	: 15	Specimen	: HEALTH MONITORING

Viruses	Latest Results	Historical Results	Cumulative Results	Method
Human Influenza Virus	0/15	0/255	0/270	Haemagglutination Inhibition
Rotavirus A	0/10	0/50	0/60	EIA
Aleutians	0/10	NT	0/10	PCR
Canine Distemper Virus	0/10	NT	0/10	ELISA

Bacteria, Parasites and Fungi

Helicobacter species	0/10	0/50	0/60	PCR
Lawsonia intracellularis	0/10	0/50	0/60	PCR
Pasteurella multocida	0/10	0/50	0/60	Culture
Bordetella bronchiseptica	0/10	0/50	0/60	Culture
Yersinia enterocolitica	0/10	0/50	0/60	Culture
Campylobacter species	0/10	0/50	0/60	Culture
Salmonella species	0/10	0/50	0/60	Culture
Coccidia	0/10	0/50	0/60	Microscopy
Otodectes cynotis	0/10	0/50	0/60	Microscopy
Cryptosporidium parvum/Giardia	0/10	0/50	0/60	EIA

Screened Monthly: *Human Influenza Virus*. Date of Last screen: 01.09.2020

Screened Quarterly: *Coccidia, Otodectes cynotis, Helicobacter species, Lawsonia intracellularis, Cryptosporidium parvum, Giardia lamblia, Rotavirus A, Pasteurella multocida, Bordetella bronchiseptica, Yersinia enterocolitica, Campylobacter species, Salmonella species*.
 Date of last Screen 30.06.2020

Screened Annually: *Aleutians, Canine Distemper Virus*.
 Date of last Screen: 07.01.2020



BIORESOURCES

The Field Station, Hull HU11 4QE
Tel: 01964 526911 Fax: 01964 529039
Email: technicalservices@marshallbio.com

Customer/NVS	: Demetris Markou	Order Number:	
Requesting Site	: Marshall UK The Field Station Grimston Aldbrough, Hull East Yorkshire HU11 4QE	Testing Laboratory:	Marshall UK Laboratories, Grimston Aldbrough, Hull East Yorkshire HU11 4QE
Animal Source	: UNIT 5+6	Lab No	: M,20.0000964.A
Species	: MUSTELA PUTORIUS FURO	Collected	: 02.06.2020
Animal Ref	: FERRET	Received	: 02.06.2020
No. of Animals	: 15	Specimen	: HEALTH MONITORING

ANIMAL HEALTH MONITORING REPORT

Colony Cumulative data upto 18 months.

Monthly testing indicates negative for antibodies against

A/Hawaii/66/2019

A/Hong Kong/2671/2019

B/Phuket/3073/2013

B/Washington/02/2019

Summary of Recent Colony Screen:

No Significant Findings.

Colony screens have identified historical presence of
Bordetella bronchiseptica last isolated 13/02/2018.

Ferret Coronavirus present since colony establishment.

Dated 10.06.2020

Authorised by

Laboratory Manager

Final Report

Page 1 of 2

Animal Source	: UNIT 5+6	Lab No	: M,20.0000964.A
Animal Ref	: FERRET	Collected	: 02.06.2020
Species	: MUSTELA PUTORIUS FURO	Received	: 02.06.2020
No. of Animals	: 15	Specimen	: HEALTH MONITORING

Viruses	Latest Results	Historical Results	Cumulative Results	Method
Human Influenza Virus	0/15	0/225	0/270	Haemagglutination Inhibition
Rotavirus A	0/10	0/50	0/60	EIA
Aleutians	0/10	0/10	0/20	PCR
Canine Distemper Virus	0/10	0/10	0/20	ELISA

Bacteria, Parasites and Fungi

Helicobacter species	0/10	0/50	0/60	PCR
Lawsonia intracellularis	0/10	0/50	0/60	PCR
Pasteurella multocida	0/10	0/50	0/60	Culture
Bordetella bronchiseptica	0/10	0/50	0/60	Culture
Yersinia enterocolitica	0/10	0/50	0/60	Culture
Campylobacter species	0/10	0/50	0/60	Culture
Salmonella species	0/10	0/50	0/60	Culture
Coccidia	0/10	0/50	0/60	Microscopy
Otodectes cynotis	0/10	0/50	0/60	Microscopy
Cryptosporidium parvum/Giardia	0/10	0/50	0/60	EIA

Screened Monthly: Human Influenza Virus. Date of Last screen: 02.06.2020

Screened Quarterly: Coccidia, Otodectes cynotis, Helicobacter species, Lawsonia intracellularis, Cryptosporidium parvum, Giardia lamblia, Rotavirus A, Pasteurella multocida, Bordetella bronchiseptica, Yersinia enterocolitica, Campylobacter species, Salmonella species.

Date of last Screen 02.04.2020

Screened Annually: Aleutians, Canine Distemper Virus.

Date of last Screen: 07.01.2020

Customer/NVS : Demetris Markou	Order Number:
Requesting Site : Marshall UK The Field Station Grimston Aldbrough, Hull East Yorkshire HU11 4QE	Testing Laboratory: Marshall UK Laboratories, Grimston Aldbrough, Hull East Yorkshire HU11 4QE
Animal Source : UNIT 5+6	Lab No : M,20.0000679.C
Species : MUSTELA PUTORIUS FURO	Collected : 02.04.2020
Animal Ref : FERRET	Received : 02.04.2020
No. of Animals : 15	Specimen : HEALTH MONITORING

ANIMAL HEALTH MONITORING REPORT

Colony cumulative data up to 18 months

Monthly testing indicates negative for antibodies against
A/Kansas/14/2017
A/Switzerland/3330/2017
B/Colorado/06/2017
B/Phuket/3073/2013

Summary of Recent Colony Screen:
No Significant Findings.

Colony screens have identified historical presence of
Bordetella bronchiseptica last isolated 13/02/2018.
Ferret Coronavirus present since colony establishment.

Animal Source	: UNIT 5+6	Lab No	: M,20.0000679.C
Animal Ref	: FERRET	Collected	: 02.04.2020
Species	: MUSTELA PUTORIUS FURO	Received	: 02.04.2020
No. of Animals	: 15	Specimen	: HEALTH MONITORING

Viruses	Latest Results	Historical Results	Cumulative Results	Method
Human Influenza Virus	0/15	0/255	0/270	Haemagglutination Inhibition
Rotavirus A	0/10	0/50	0/60	EIA
Aleutians	0/10	0/10	0/20	PCR
Canine Distemper Virus	0/10	0/10	0/20	ELISA

Bacteria, Parasites and Fungi

Helicobacter species	0/10	0/50	0/60	PCR
Lawsonia intracellularis	0/10	0/50	0/60	PCR
Pasteurella multocida	0/10	0/50	0/60	Culture
Bordetella bronchiseptica	0/10	0/50	0/60	Culture
Yersinia enterocolitica	0/10	0/50	0/60	Culture
Campylobacter species	0/10	0/50	0/60	Culture
Salmonella species	0/10	0/50	0/60	Culture
Coccidia	0/10	0/50	0/60	Microscopy
Otodectes cynotis	0/10	0/50	0/60	Microscopy
Cryptosporidium parvum/Giardia	0/10	0/50	0/60	EIA

Screened Monthly: Human Influenza Virus. Date of Last screen: 02.04.2020

Screened Quarterly: Coccidia, Otodectes cynotis, Helicobacter species, Lawsonia intracellularis, Cryptosporidium parvum, Giardia lamblia, Rotavirus A, Pasteurella multocida, Bordetella bronchiseptica, Yersinia enterocolitica, Campylobacter species, Salmonella species.
Date of last Screen 02.04.2020

Screened Annually: Aleutians, Canine Distemper Virus.
Date of last Screen: 07.01.2020



BIORESOURCES

The Field Station, Hull HU11 4QE
Tel: 01964 526911 Fax: 01964 529039
Email: technicalservices@marshallbio.com

Customer/NVS	: Demetris Markou	Order Number:	
Requesting Site	: Marshall UK The Field Station Grimston Aldbrough, Hull East Yorkshire HU11 4QE	Testing Laboratory:	Marshall UK Laboratories, Grimston Aldbrough, Hull East Yorkshire HU11 4QE
Animal Source	: UNIT 5+6	Lab No	: M,20.0000596.W
Species	: MUSTELA PUTORIUS FURO	Collected	: 03.03.2020
Animal Ref	: FERRET	Received	: 03.03.2020
No. of Animals	: 15	Specimen	: HEALTH MONITORING

ANIMAL HEALTH MONITORING REPORT

Colony cumulative data up to 18 months

Monthly testing indicates negative for antibodies against
A/Kansas/14/2017
A/Switzerland/3330/2017
E/Colorado/06/2017
E/Phuket/3073/2013

Summary of Recent Colony Screen:
No Significant Findings.

Colony screens have identified historical presence of
Bordetella bronchiseptica last isolated 13/02/2018.
Ferret Coronavirus present since colony establishment.

Animal Source	: UNIT 5+6	Lab No	: M,20.0000596.W
Animal Ref	: FERRET	Collected	: 03.03.2020
Species	: MUSTELA PUTORIUS FURO	Received	: 03.03.2020
No. of Animals	: 15	Specimen	: HEALTH MONITORING

Viruses	Latest Results	Historical Results	Cumulative Results	Method
Human Influenza Virus	0/15	0/255	0/270	Haemagglutination Inhibition
Rotavirus A	0/10	0/50	0/60	EIA
Aleutians	0/10	0/10	0/20	PCR
Canine Distemper Virus	0/10	0/10	0/20	ELISA

Bacteria, Parasites and Fungi

Helicobacter species	0/10	0/50	0/60	PCR
Lawsonia intracellularis	0/10	0/50	0/60	PCR
Pasteurella multocida	0/10	0/50	0/60	Culture
Bordetella bronchiseptica	0/10	0/50	0/60	Culture
Yersinia enterocolitica	0/10	0/50	0/60	Culture
Campylobacter species	0/10	0/50	0/60	Culture
Salmonella species	0/10	0/50	0/60	Culture
Coccidia	0/10	0/50	0/60	Microscopy
Otodectes cynotis	0/10	0/50	0/60	Microscopy
Cryptosporidium parvum/Giardia	0/10	0/50	0/60	EIA

Screened Monthly: *Human Influenza Virus*. **Date of Last screen:** 03.03.2020

Screened Quarterly: *Coccidia, Otodectes cynotis, Helicobacter species, Lawsonia intracellularis, Cryptosporidium parvum, Giardia lamblia, Rotavirus A, Pasteurella multocida, Bordetella bronchiseptica, Yersinia enterocolitica, Campylobacter species, Salmonella species.*

Date of last Screen 07.01.2020

Screened Annually: *Aleutians, Canine Distemper Virus.*

Date of last Screen: 07.01.2020

Customer/NVS	: Duncan Miller NVS	Order Number:	
Requesting Site	: Marshall UK The Field Station Grimston Aldbrough, Hull East Yorkshire HU11 4QE	Testing Laboratory:	Marshall UK Laboratories, Grimston Aldbrough, Hull East Yorkshire HU11 4QE
Animal Source	: UNIT 5+6	Lab No	: M,19.0002023.G
Species	: MUSTELA PUTORIUS FURO	Collected	: 03.12.2019
Animal Ref	: FERRET	Received	: 03.12.2019
No. of Animals	: 15	Specimen	: HEALTH MONITORING

ANIMAL HEALTH MONITORING REPORT

Colony cumulative data up to 18 months

Monthly testing indicates negative for antibodies against

A/Kansas/14/2017

A/Switzerland/3330/2017

B/Colorado/06/2017

B/Phuket/3073/2013

Summary of Recent Colony Screen:

No Significant Findings.

Colony screens have identified historical presence of
Bordetella bronchiseptica last isolated 13/02/2018.
Ferret Coronavirus present since colony establishment.

Animal Source	: UNIT 5+6	Lab No	: M,19.0002023.G
Animal Ref	: FERRET	Collected	: 03.12.2019
Species	: MUSTELA PUTORIUS FURO	Received	: 03.12.2019
No. of Animals	: 15	Specimen	: HEALTH MONITORING

Viruses	Latest Results	Historical Results	Cumulative Results	Method
Human Influenza Virus	0/15	0/255	0/270	Haemagglutination Inhibition
Rotavirus A	0/10	0/50	0/60	EIA
Aleutians	0/10	0/10	0/20	PCR
Canine Distemper Virus	0/10	0/10	0/20	ELISA

Bacteria, Parasites and Fungi

Helicobacter species	0/10	0/50	0/60	PCR
Lawsonia intracellularis	0/10	0/50	0/60	PCR
Pasteurella multocida	0/10	0/50	0/60	Culture
Bordetella bronchiseptica	0/10	0/50	0/60	Culture
Yersinia enterocolitica	0/10	0/50	0/60	Culture
Campylobacter species	0/10	0/50	0/60	Culture
Salmonella species	0/10	0/50	0/60	Culture
Coccidia	0/10	0/50	0/60	Microscopy
Otodectes cynotis	0/10	0/50	0/60	Microscopy
Cryptosporidium parvum/Giardia	0/10	0/50	0/60	EIA

Screened Monthly: *Human Influenza Virus*. **Date of Last screen:** 03.12.2019

Screened Quarterly: *Coccidia, Otodectes cynotis, Helicobacter species, Lawsonia intracellularis, Cryptosporidium parvum, Giardia lamblia, Rotavirus A, Pasteurella multocida, Bordetella bronchiseptica, Yersinia enterocolitica, Campylobacter species, Salmonella species.*

Date of last Screen 01.10.2019

Screened Annually: *Aleutians, Canine Distemper Virus.*

Date of last Screen: 03.01.2019

Customer/NVS	: Duncan Miller NVS	Order Number:	
Requesting Site	: Marshall UK The Field Station Grimston Aldbrough, Hull East Yorkshire HU11 4QE	Testing Laboratory:	Marshall UK Laboratories, Grimston Aldbrough, Hull East Yorkshire HU11 4QE
Animal Source	: UNIT 5+6	Lab No	: M,19.0001791.R
Species	: MUSTELA PUTORIUS FURO	Collected	: 05.11.2019
Animal Ref	: FERRET	Received	: 05.11.2019
No. of Animals	: 15	Specimen	: HEALTH MONITORING

ANIMAL HEALTH MONITORING REPORT

Colony cumulative data up to 18 months

Monthly testing indicates negative for antibodies against
A/Kansas/14/2017
A/Switzerland/3330/2017
B/Colorado/06/2017
B/Phuket/3073/2013

Summary of Recent Colony Screen:
No Significant Findings.

Colony screens have identified historical presence of
Bordetella bronchiseptica last isolated 13/02/2018.
Ferret Coronavirus present since colony establishment.

Animal Source	: UNIT 5+6	Lab No	: M,19.0001791.R
Animal Ref	: FERRET	Collected	: 05.11.2019
Species	: MUSTELA PUTORIUS FURO	Received	: 05.11.2019
No. of Animals	: 15	Specimen	: HEALTH MONITORING

Viruses	Latest Results	Historical Results	Cumulative Results	Method
Human Influenza Virus	0/15	0/255	0/270	Haemagglutination Inhibition
Rotavirus A	0/10	0/50	0/60	EIA
Aleutians	0/10	0/10	0/20	PCR
Canine Distemper Virus	0/10	0/10	0/20	ELISA

Bacteria, Parasites and Fungi

Helicobacter species	0/10	0/50	0/60	PCR
Lawsonia intracellularis	0/10	0/50	0/60	PCR
Pasteurella multocida	0/10	0/50	0/60	Culture
Bordetella bronchiseptica	0/10	0/50	0/60	Culture
Yersinia enterocolitica	0/10	0/50	0/60	Culture
Campylobacter species	0/10	0/50	0/60	Culture
Salmonella species	0/10	0/50	0/60	Culture
Coccidia	0/10	0/50	0/60	Microscopy
Otodectes cynotis	0/10	0/50	0/60	Microscopy
Cryptosporidium parvum/Giardia	0/10	0/50	0/60	EIA

Screened Monthly: *Human Influenza Virus*. **Date of Last screen:** 05.11.2019

Screened Quarterly: *Coccidia, Otodectes cynotis, Helicobacter species, Lawsonia intracellularis, Cryptosporidium parvum, Giardia lamblia, Rotavirus A, Pasteurella multocida, Bordetella bronchiseptica, Yersinia enterocolitica, Campylobacter species, Salmonella species.*

Date of last Screen 01.10.2019

Screened Annually: *Aleutians, Canine Distemper Virus.*

Date of last Screen: 03.01.2019



BIORESOURCES

The Field Station, Hull HU11 4QE
Tel: 01964 526911 Fax: 01964 529039
Email: Technical Services@marshallbio-uk.com

Customer/NVS	: Duncan Miller NVS	Order Number:	
Requesting Site	: Marshall UK The Field Station Grimston Aldbrough, Hull East Yorkshire HU11 4QE	Testing Laboratory:	Marshall UK Laboratories, Grimston Aldbrough, Hull East Yorkshire HU11 4QE
Animal Source	: UNIT 5+6	Lab No	: M,19.0001647.B
Species	: MUSTELA PUTORIUS FURO	Collected	: 01.10.2019
Animal Ref	: FERRET	Received	: 01.10.2019
No. of Animals	: 15	Specimen	: HEALTH MONITORING

ANIMAL HEALTH MONITORING REPORT

Colony cumulative data up to 18 months

Monthly testing indicates negative for antibodies against

- A/Kansas/14/2017
- A/Switzerland/3330/2017
- B/Colorado/06/2017
- B/Phuket/3073/2013

Summary of Recent Colony Screen:
No Significant Findings.

Colony screens have identified historical presence of Bordetella bronchiseptica last isolated 13/02/2018.
Ferret Coronavirus present since colony establishment.

Animal Source	: UNIT 5+6	Lab No	: M,19.0001647.B
Animal Ref	: FERRET	Collected	: 01.10.2019
Species	: MUSTELA PUTORIUS FURO	Received	: 01.10.2019
No. of Animals	: 15	Specimen	: HEALTH MONITORING

Viruses	Latest Results	Historical Results	Cumulative Results	Method
Human Influenza Virus	0/15	0/255	0/270	Haemagglutination Inhibition
Rotavirus A	0/10	0/50	0/60	EIA
Aleutians	0/10	0/10	0/20	PCR
Canine Distemper Virus	0/10	0/10	0/20	ELISA

Bacteria, Parasites and Fungi

Helicobacter species	0/10	0/50	0/60	PCR
Lawsonia intracellularis	0/10	0/50	0/60	PCR
Pasteurella multocida	0/10	0/50	0/60	Culture
Bordetella bronchiseptica	0/10	0/50	0/60	Culture
Yersinia enterocolitica	0/10	0/50	0/60	Culture
Campylobacter species	0/10	0/50	0/60	Culture
Salmonella species	0/10	0/50	0/60	Culture
Coccidia	0/10	0/50	0/60	Microscopy
Otodectes cynotis	0/10	0/50	0/60	Microscopy
Cryptosporidium parvum/Giardia	0/10	0/50	0/60	EIA

Screened Monthly: *Human Influenza Virus*. **Date of Last screen:** 01.10.2019

Screened Quarterly: *Coccidia, Otodectes cynotis, Helicobacter species, Lawsonia intracellularis, Cryptosporidium parvum, Giardia lamblia, Rotavirus A, Pasteurella multocida, Bordetella bronchiseptica, Yersinia enterocolitica, Campylobacter species, Salmonella species.*

Date of last Screen 01.10.2019

Screened Annually: *Aleutians, Canine Distemper Virus.*

Date of last Screen: 03.01.2019

Customer/NVS	: Duncan Miller	Order Number:	
Requesting Site	: Marshall UK The Field Station Grimston Aldbrough, Hull East Yorkshire HU11 4QE	Testing Laboratory:	Marshall UK Laboratories, Grimston Aldbrough, Hull East Yorkshire HU11 4QE
Animal Source	: UNIT 5+6	Lab No	: M,17.0000939.M
Species	: MUSTELA PUTORIUS FURO	Collected	: 04.07.2017
Animal Ref	: FERRET	Received	: 04.07.2017
No. of Animals	: 15	Specimen	: HEALTH MONITORING

ANIMAL HEALTH MONITORING REPORT

Monthly testing indicates negative for antibodies against
A/New Caledonia/71/2014
A/Slovenia/2903/2015
B/Brisbane/60/2008
B/Phuket/3073/2013

Summary Report : No Significant Findings.

Animal Source	: UNIT 5+6	Lab No	: M,17.0000939.M
Animal Ref	: FERRET	Collected	: 04.07.2017
Species	: MUSTELA PUTORIUS FURO	Received	: 04.07.2017
No. of Animals	: 15	Specimen	: HEALTH MONITORING

Viruses	Latest Results	Historical Results	Cumulative Results	Method
Human Influenza Virus	0/15	0/514	0/529	Haemagglutination Inhibition
Rotavirus A	0/6	0/70	0/76	EIA
Aleutians	0/10	0/30	0/40	PCR
Canine distemper virus	0/10	0/30	0/40	ELISA
Ferret Coronavirus	NT	9/10	9/10	PCR

Bacteria, Parasites and Fungi

Helicobacter species	0/10	0/110	0/120	PCR
Lawsonia intracellularis	0/10	0/110	0/120	PCR
Pasteurella multocida	0/10	0/125	0/135	Culture
Bordetella bronchiseptica	0/10	0/120	0/130	Culture
Yersinia enterocolitica	0/10	0/120	0/130	Culture
Campylobacter species	0/10	0/120	0/130	Culture
Salmonella species	0/10	0/120	0/130	Culture
Coccidia	0/10	0/110	0/120	Microscopy
Otodectes cynotis	0/10	0/120	0/130	Microscopy
Cryptosporidium parvum/Giardia	0/10	0/110	0/120	EIA
Dirofilaria immitis	0/10	0/30	0/40	Knott's Test

Screened Monthly: *Human Influenza Virus*. **Date of Last screen:** 04.07.2017

Screened Quarterly: *Coccidia, Otodectes cynotis, Helicobacter species, Lawsonia intracellularis, Cryptosporidium parvum, Giardia lamblia, Rotavirus A, Pasteurella multocida, Bordetella bronchiseptica, Yersinia enterocolitica, Campylobacter species, Salmonella species*.
Date of last Screen 04.07.2017

Screened Annually: *Aleutians, Canine Distemper Virus, Dirofilaria immitis*.
Date of last Screen: 11.01.2017

Customer/NVS	: Duncan Miller	Order Number:	
Requesting Site	: Marshall UK The Field Station Grimston Aldbrough, Hull East Yorkshire HU11 4QE	Testing Laboratory:	Marshall UK Laboratories, Grimston Aldbrough, Hull East Yorkshire HU11 4QE
Animal Source	: UNIT 5+6	Lab No	: M,17.0000529.Y
Species	: MUSTELA PUTORIUS FURO	Collected	: 04.04.2017
Animal Ref	: FERRET	Received	: 04.04.2017
No. of Animals	: 14	Specimen	: HEALTH MONITORING

ANIMAL HEALTH MONITORING REPORT

Monthly testing indicates negative for antibodies against
A/New Caledonia/71/2014
A/Solvenia/2903/2015
B/Brisbane/60/2008
B/Phuket/3073/2013

Summary Report : No Significant Findings.

Animal Source	: UNIT 5+6	Lab No	: M,17.0000529.Y
Animal Ref	: FERRET	Collected	: 04.04.2017
Species	: MUSTELA PUTORIUS FURO	Received	: 04.04.2017
No. of Animals	: 14	Specimen	: HEALTH MONITORING

Viruses	Latest Results	Historical Results	Cumulative Results	Method
Human Influenza Virus	0/14	0/470	0/484	Haemagglutination Inhibition
Rotavirus A	0/9	0/61	0/70	EIA
Aleutians	0/10	0/30	0/40	PCR
Canine distemper virus	0/10	0/30	0/40	ELISA
Ferret Coronavirus	NT	9/10	9/10	PCR

Bacteria, Parasites and Fungi

Helicobacter species	0/10	0/100	0/110	PCR
Lawsonia intracellularis	0/10	0/100	0/110	PCR
Pasteurella multocida	0/10	0/115	0/125	Culture
Bordetella bronchiseptica	0/10	0/110	0/120	Culture
Yersinia enterocolitica	0/10	0/110	0/120	Culture
Campylobacter species	0/10	0/110	0/120	Culture
Salmonella species	0/10	0/110	0/120	Culture
Staphylococcus aureus	0/10	25/115	25/125	Culture
Coccidia	0/10	0/100	0/110	Microscopy
Otodectes cynotis	0/10	0/110	0/120	Microscopy
Cryptosporidium parvum/Giardia	0/10	0/100	0/110	EIA
Dirofilaria immitis	0/10	0/30	0/40	Knott's Test

Screened Monthly: Human Influenza Virus. Date of Last screen: 04.04.2017

Screened Quarterly: Coccidia, Otodectes cynotis, Helicobacter species, Lawsonia intracellularis, Cryptosporidium parvum, Giardia lamblia, Rotavirus A, Pasteurella multocida, Bordetella bronchiseptica, Yersinia enterocolitica, Campylobacter species, Salmonella species, Staphylococcus aureus. Date of last Screen 04.04.2017

Screened Annually: Aleutians, Canine Distemper Virus, Dirofilaria immitis.
Date of last Screen: 11.01.2017

Customer/NVS	: Duncan Miller	Order Number:	
Requesting Site	: Marshall UK The Field Station Grimston Aldbrough, Hull East Yorkshire HU11 4QE	Testing Laboratory:	Marshall UK Laboratories, Grimston Aldbrough, Hull East Yorkshire HU11 4QE
Animal Source	: UNIT 5+6	Lab No	: M,17.0000266.H
Species	: MUSTELA PUTORIUS FURO	Collected	: 08.02.2017
Animal Ref	: FERRET	Received	: 08.02.2017
No. of Animals	: 15	Specimen	: HEALTH MONITORING

ANIMAL HEALTH MONITORING REPORT

Monthly testing indicates negative for antibodies against
A/Bolivia/559/2013
A/New Caledonia/71/2014
B/Brisbane/60/2008
B/Phuket/3073/2013

Summary Report : No Significant Findings.

Animal Source	: UNIT 5+6	Lab No	: M,17.0000266.H
Animal Ref	: FERRET	Collected	: 08.02.2017
Species	: MUSTELA PUTORIUS FURO	Received	: 08.02.2017
No. of Animals	: 15	Specimen	: HEALTH MONITORING

Viruses	Latest Results	Historical Results	Cumulative Results	Method
Human Influenza Virus	0/15	0/440	0/455	Haemagglutination Inhibition
Rotavirus A	0/3	0/58	0/61	EIA
Aleutians	0/10	0/30	0/40	PCR
Canine distemper virus	0/10	0/30	0/40	ELISA
Ferret Coronavirus	NT	9/10	9/10	PCR

Bacteria, Parasites and Fungi

Helicobacter species	0/10	0/90	0/100	PCR
Lawsonia intracellularis	0/10	0/90	0/100	PCR
Pasteurella multocida	0/10	0/105	0/115	Culture
Bordetella bronchiseptica	0/10	0/100	0/110	Culture
Yersinia enterocolitica	0/10	0/100	0/110	Culture
Campylobacter species	0/10	0/100	0/110	Culture
Salmonella species	0/10	0/100	0/110	Culture
Staphylococcus aureus	0/10	25/105	25/115	Culture
Coccidia	0/10	0/90	0/100	Microscopy
Otodectes cynotis	0/10	0/100	0/110	Microscopy
Cryptosporidium parvum/Giardia	0/10	0/90	0/100	EIA
Dirofilaria immitis	0/10	0/30	0/40	Knott's Test

Screened Monthly: Human Influenza Virus. Date of Last screen: 08.02.2017

Screened Quarterly: Coccidia, Otodectes cynotis, Helicobacter species, Lawsonia intracellularis, Cryptosporidium parvum, Giardia lamblia, Rotavirus A, Pasteurella multocida, Bordetella bronchiseptica, Yersinia enterocolitica, Campylobacter species, Salmonella species, Staphylococcus aureus. Date of last Screen 11.01.2017

Screened Annually: Aleutians, Canine Distemper Virus, Dirofilaria immitis.
Date of last Screen: 11.01.2017

Exhibit 3



Health Monitoring Report

Based on FELASA Recommendations

Name and address of the breeder: MBR Waverly, LLC (a Marshall Company), Waverly, NY

Date of issue: January 2023

Unit N°: Barriers and Conventional Buildings

Examination date: Quarter 4, 2022

Species: Feline

Breed: Domestic Shorthair Cat

Populated[†]: Colony acquired June 2018

	----BARRIER BUILDINGS*----				----CONVENTIONAL BUILDING*----		LAB	METHOD
	1 st BARRIER		2 nd BARRIER		BUTLER			
	CUM	CURR	CUM	CURR	CUM	CURR		
VIRAL INFECTIONS								
Compulsory Agents:								
Feline Calicivirus	0/170	0/10	0/170	0/10	Vaccinated	NA	MSU	PCR (Oropharyngeal swab)
Feline Coronavirus	0/170	0/10	0/170	0/10	10/90	NE	MSU	PCR (Whole blood)
Feline Coronavirus	0/170	0/10	0/170	0/10	18/90	NE	MSU	PCR (Fecal)
Feline Herpesvirus	0/170	0/10	0/170	0/10	Vaccinated	NA	MSU	PCR (Conjunctival swab)
FeLV/FTV	0/170	0/10	0/170	0/10	0/90	NE	MSU	ELISA (Whole blood)
Feline Panleukopenia	0/170	0/10	0/170	0/10	Vaccinated	NA	MSU	PCR (Feces)
Feline Parvovirus	0/170	0/10	0/170	0/10	Vaccinated	NA	MSU	HI (Serum)
BACTERIAL INFECTIONS								
Compulsory Agents:								
Bartonella spp.	0/170	0/10	0/170	0/10	0/90	NE	MSU	PCR (Whole Blood)
Bordetella bronchiseptica	43/170	4/10	27/170	0/10	55/90	NE	MSU	Culture (Oropharyngeal swab)
Campylobacter spp.	1/170	0/10	1/170	0/10	0/90	NE	MSU	Culture (Rectal swab)
Chlamydia spp.	0/170	0/10	0/170	0/10	0/90	NE	MSU	PCR (Conjunctival swab)
Mycoplasma haemofelis	0/170	0/10	0/170	0/10	0/90	NE	MSU	PCR (Whole Blood)
Mycoplasma Culture	0/170	0/10	0/170	0/10	0/90	NE	MSU	Culture (Oropharyngeal swab)
Pasteurellaceae	137/170	10/10	48/170	10/10	83/90	NE	MSU	Culture (Oropharyngeal swab)
Salmonella spp.	0/170	0/10	0/170	0/10	0/90	NE	MSU	Culture (Rectal swab)
Streptococci β-hemolytic Group G	39/170	3/10	46/170	0/10	28/90	NE	MSU	Culture (Oropharyngeal swab)
Yersinia enterocolitica	0/170	0/10	0/170	0/10	0/90	NE	MSU	Culture (Rectal swab)
FUNGAL INFECTIONS								
Compulsory Agents:								
Microsporium spp.	0/170	0/10	0/170	0/10	0/90	NE	MSU	Fungal Culture (Hair pluck)
Trichophyton spp.	0/170	0/10	0/170	0/10	0/90	NE	MSU	Fungal Culture (Hair pluck)
PARASITOLOGICAL								
Compulsory Agents:								
Helminths	0/170	0/10	0/170	0/10	0/90	NE	MSU	Sodium Nitrate (Fecal)
Isospora spp.	11/170	0/10	11/170	0/10	2/90	NE	MSU	Sodium Nitrate (Fecal)
Giardia sp.	0/170	0/10	0/170	0/10	2/90	NE	MSU	Zinc Sulfate (Fecal)
Sarcocystis spp.	0/170	0/10	0/170	0/10	0/90	NE	MSU	Zinc Sulfate (Fecal)
Toxoplasma gondii	0/170	0/10	0/170	0/10	0/90	NE	MSU	IgG IFA (Serum)

NA=not applicable CUM=cumulative
NE=not examined CURR=current

[†]Colony was established by Liberty Research in 1975 and acquired by Marshall in June 2018. Conventional animals originated from barriers.

*Barrier buildings are tested quarterly. Conventional building is tested semi-annually.

The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. A description of the current immunization regimen is available upon request.

Abbreviations for laboratories:

MSU: Michigan State University, Veterinary Diagnostic Laboratory, 4152 Beaumont Road, Lansing, MI 48910-8104

Bambi Jasmin
Bambi Jasmin, DVM, DACLAM

01/12/2023
Date



Health Monitoring Report

Based on FELASA Recommendations

Name and address of the breeder: MBR Waverly, LLC (a Marshall Company), Waverly, NY

Date of issue: October 2022 Unit N°: Barriers and Conventional Buildings Examination date: Quarter 3, 2022

Species: Feline Breed: Domestic Shorthair Cat Populated†: Colony acquired June 2018

	----BARRIER BUILDINGS*----				----CONVENTIONAL BUILDING*----		LAB	METHOD
	1 st BARRIER		2 nd BARRIER		BUTLER			
	CUM	CURR	CUM	CURR	CUM	CURR		
VIRAL INFECTIONS								
Compulsory Agents:								
Feline Calicivirus	0/160	0/10	0/160	0/10	Vaccinated	NA	MSU	PCR (Oropharyngeal swab)
Feline Coronavirus	0/160	0/10	0/160	0/10	10/90	0/10	MSU	PCR (Whole blood)
Feline Coronavirus	0/150	0/10	0/150	0/10	18/90	0/10	MSU	PCR (Fecal)
Feline Herpesvirus	0/160	0/10	0/160	0/10	Vaccinated	NA	MSU	PCR (Conjunctival swab)
FeLV/FIV	0/160	0/10	0/160	0/10	0/90	0/10	MSU	ELISA (Whole blood)
Feline Panleukopenia	0/160	0/10	0/160	0/10	Vaccinated	NA	MSU	PCR (Feces)
Feline Panleukopenia	0/160	0/10	0/160	0/10	Vaccinated	NA	MSU	HI (Serum)
BACTERIAL INFECTIONS								
Compulsory Agents:								
Bartonella spp.	0/160	0/10	0/160	0/10	0/90	0/10	MSU	PCR (Whole Blood)
Bordetella bronchiseptica	39/160	0/10	27/160	0/10	55/90	6/10	MSU	Culture (Oropharyngeal swab)
Campylobacter spp.	1/160	0/10	1/160	0/10	0/90	0/10	MSU	Culture (Rectal swab)
Chlamydia	0/160	0/10	0/160	0/10	0/90	0/10	MSU	PCR (Conjunctival swab)
Mycoplasma haemofelis	0/160	0/10	0/160	0/10	0/90	0/10	MSU	PCR (Whole Blood)
Mycoplasma Culture	0/160	0/10	0/160	0/10	0/90	0/10	MSU	Culture (Oropharyngeal swab)
Pasteurellaceae	127/160	4/10	38/160	10/10	83/90	7/10	MSU	Culture (Oropharyngeal swab)
Salmonella spp.	0/160	0/10	0/160	0/10	0/90	0/10	MSU	Culture (Rectal swab)
Streptococci β-hemolytic Group G	36/160	3/10	46/160	4/10	28/90	1/10	MSU	Culture (Oropharyngeal swab)
Yersinia enterocolitica	0/160	0/10	0/160	0/10	0/90	0/10	MSU	Culture (Rectal swab)
FUNGAL INFECTIONS								
Compulsory Agents:								
Microsporium spp.	0/160	0/10	0/160	0/10	0/90	0/10	MSU	Fungal Culture (Hair pluck)
Trichophyton spp.	0/160	0/10	0/160	0/10	0/90	0/10	MSU	Fungal Culture (Hair pluck)
PARASITOLOGICAL								
Compulsory Agents:								
Helminths	0/160	0/10	0/160	0/10	0/90	0/10	MSU	Sodium Nitrate (Fecal)
Isospora spp.	11/160	4/10	11/160	0/10	2/90	1/10	MSU	Sodium Nitrate (Fecal)
Giardia sp.	0/160	0/10	0/160	0/10	2/90	0/10	MSU	Zinc Sulfate (Fecal)
Sarcocystis spp.	0/160	0/10	0/160	0/10	0/90	0/10	MSU	Zinc Sulfate (Fecal)
Toxoplasma gondii	0/160	0/10	0/160	0/10	0/90	0/10	MSU	IgG IFA (Serum)

NA=not applicable CUM=cumulative
NE=not examined CURR=current

†Colony was established by Liberty Research in 1975 and acquired by Marshall in June 2018. Conventional animals originated from barriers.

*Barrier buildings are tested quarterly. Conventional building is tested semi-annually.

The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. A description of the current immunization regimen is available upon request.

Abbreviations for laboratories:

MSU: Michigan State University, Veterinary Diagnostic Laboratory, 4152 Beaumont Road, Lansing, MI 48910-8104

Bambi Jasmin
Bambi Jasmin, DVM, DACLAM

10/12/2022
Date



Health Monitoring Report

Based on FELASA Recommendations

Name and address of the breeder: MBR Waverly, LLC (a Marshall Company), Waverly, NY

Date of issue: August 2022 Unit N°: Barriers and Conventional Buildings Examination date: Quarter 2, 2022

Species: Feline Breed: Domestic Shorthair Cat Populated[†]: Colony acquired June 2018

	----BARRIER BUILDINGS*----				----CONVENTIONAL BUILDING*----		LAB	METHOD
	1 st BARRIER		2 nd BARRIER		BUTLER			
	CUM	CURR	CUM	CURR	CUM	CURR		
VIRAL INFECTIONS								
Compulsory Agents:								
Feline Calicivirus	0/150	0/10	0/150	0/10	Vaccinated	NE	MSU	PCR (Oropharyngeal swab)
Feline Coronavirus	0/150	0/10	0/150	0/10	10/80	NE	MSU	PCR (Whole blood)
Feline Coronavirus	0/140	0/10	0/140	0/10	18/80	NE	MSU	PCR (Fecal)
Feline Herpesvirus	0/150	0/10	0/150	0/10	Vaccinated	NE	MSU	PCR (Conjunctival swab)
FeLV/FIV	0/150	0/10	0/150	0/10	0/80	NE	MSU	ELISA (Whole blood)
Feline Panleukopenia	0/150	0/10	0/150	0/10	Vaccinated	NE	MSU	PCR (Feces)
Feline Panleukopenia	0/150	0/10	0/150	0/10	Vaccinated	NE	MSU	HI (Serum)
BACTERIAL INFECTIONS								
Compulsory Agents:								
Bartonella spp.	0/150	0/10	0/150	0/10	0/80	NE	MSU	PCR (Whole Blood)
Bordetella bronchiseptica	39/150	0/10	27/150	0/10	49/80	NE	MSU	Culture (Oropharyngeal swab)
Campylobacter spp.	1/150	0/10	1/150	0/10	0/80	NE	MSU	Culture (Rectal swab)
Chlamydia	0/150	0/10	0/150	0/10	0/80	NE	MSU	PCR (Conjunctival swab)
Mycoplasma haemofelis	0/150	0/10	0/150	0/10	0/80	NE	MSU	PCR (Whole Blood)
Mycoplasma Culture	0/150	0/10	0/150	0/10	0/80	NE	MSU	Culture (Oropharyngeal swab)
Pasteurellaceae	123/150	8/10	28/150	5/10	76/80	NE	MSU	Culture (Oropharyngeal swab)
Salmonella spp.	0/150	0/10	0/150	0/10	0/80	NE	MSU	Culture (Rectal swab)
Streptococci β-hemolytic Group G	33/150	0/10	42/150	2/10	27/80	NE	MSU	Culture (Oropharyngeal swab)
Yersinia enterocolitica	0/150	0/10	0/150	0/10	0/80	NE	MSU	Culture (Rectal swab)
FUNGAL INFECTIONS								
Compulsory Agents:								
Microsporium spp.	0/150	0/10	0/150	0/10	0/80	NE	MSU	Fungal Culture (Hair pluck)
Trichophyton spp.	0/150	0/10	0/150	0/10	0/80	NE	MSU	Fungal Culture (Hair pluck)
PARASITOLOGICAL								
Compulsory Agents:								
Helminths	0/150	0/10	0/150	0/10	0/80	NE	MSU	Sodium Nitrate (Fecal)
Iso spor a spp.	7/150	0/10	11/150	1/10	1/80	NE	MSU	Sodium Nitrate (Fecal)
Giardia sp.	0/150	0/10	0/150	0/10	2/80	NE	MSU	Zinc Sulfate (Fecal)
Sarcocystis spp.	0/150	0/10	0/150	0/10	0/80	NE	MSU	Zinc Sulfate (Fecal)
Toxoplasma gondii	0/150	0/10	0/150	0/10	0/80	NE	MSU	IgG IFA (Serum)

NA=not applicable CUM=cumulative
NE=not examined CURR=current

[†]Colony was established by Liberty Research in 1975 and acquired by Marshall in June 2018. Conventional animals originated from barriers.

*Barrier buildings are tested quarterly. Conventional building is tested semi-annually.

The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. A description of the current immunization regimen is available upon request.

Abbreviations for laboratories:

MSU: Michigan State University, Veterinary Diagnostic Laboratory, 4152 Beaumont Road, Lansing, MI 48910-8104

Bambi J. Jasmin
Bambi Jasmin, DVM, DACLAM

08/18/2022
Date



Health Monitoring Report

Based on FELASA Recommendations

Name and address of the breeder: MBR Waverly, LLC (a Marshall Company), Waverly, NY

Date of issue: April 2022

Unit N°: Barriers and Conventional Buildings

Examination date: Quarter 1, 2022

Species: Feline

Breed: Domestic Shorthair Cat

Populated†: Colony acquired June 2018

-----BARRIER BUILDINGS*-----

1st BARRIER CUM CURR 2nd BARRIER CUM CURR

-----CONVENTIONAL BUILDING*-----

BUTLER CUM CURR

LAB METHOD

VIRAL INFECTIONS

Compulsory Agents:

Feline Calicivirus	0/140	0/10	0/140	0/10	Vaccinated	NA	MSU	PCR (Oropharyngeal swab)
Feline Coronavirus	0/140	0/10	0/140	0/10	10/80	0/10	MSU	PCR (Whole blood)
Feline Coronavirus	0/130	0/10	0/130	0/10	18/80	3/10	MSU	PCR (Fecal)
Feline Herpesvirus	0/140	0/10	0/140	0/10	Vaccinated	NA	MSU	PCR (Conjunctival swab)
FeLV/FIV	0/140	0/10	0/140	0/10	0/80	0/10	MSU	ELISA (Whole blood)
Feline Panleukopenia	0/140	0/10	0/140	0/10	Vaccinated	NA	MSU	PCR (Feces)
Feline Panleukopenia	0/140	0/10	0/140	0/10	Vaccinated	NA	MSU	HI (Serum)

BACTERIAL INFECTIONS

Compulsory Agents:

Bartonella spp.	0/140	0/10	0/140	0/10	0/80	0/10	MSU	PCR (Whole Blood)
Bordetella bronchiseptica	39/140	0/10	27/140	0/10	49/80	2/10	MSU	Culture (Oropharyngeal swab)
Campylobacter spp.	1/140	1/10	1/140	1/10	0/80	0/10	MSU	Culture (Rectal swab)
Chlamydia	0/140	0/10	0/140	0/10	0/80	0/10	MSU	PCR (Conjunctival swab)
Mycoplasma haemofelis	0/140	0/10	0/140	0/10	0/80	0/10	MSU	PCR (Whole Blood)
Mycoplasma Culture	0/140	0/10	0/140	0/10	0/80	0/10	MSU	Culture (Oropharyngeal swab)
Pasteurellaceae	115/140	8/10	23/140	10/10	76/80	10/10	MSU	Culture (Oropharyngeal swab)
Salmonella spp.	0/140	0/10	0/140	0/10	0/80	0/10	MSU	Culture (Rectal swab)
Streptococci β-hemolytic Group G	33/140	2/10	40/140	3/10	27/80	2/10	MSU	Culture (Oropharyngeal swab)
Yersinia enterocolitica	0/140	0/10	0/140	0/10	0/80	0/10	MSU	Culture (Rectal swab)

FUNGAL INFECTIONS

Compulsory Agents:

Microsporum spp.	0/140	0/10	0/140	0/10	0/80	0/10	MSU	Fungal Culture (Hair pluck)
Trichophyton spp.	0/140	0/10	0/140	0/10	0/80	0/10	MSU	Fungal Culture (Hair pluck)

PARASITOLOGICAL

Compulsory Agents:

Helminths	0/140	0/10	0/140	0/10	0/80	0/10	MSU	Sodium Nitrate (Fecal)
Isospora spp.	7/140	0/10	10/140	0/10	1/80	0/10	MSU	Sodium Nitrate (Fecal)
Giardia sp.	0/140	0/10	0/140	0/10	2/80	2/10	MSU	Zinc Sulfate (Fecal)
Sarcocystis spp.	0/140	0/10	0/140	0/10	0/80	0/10	MSU	Zinc Sulfate (Fecal)
Toxoplasma gondii	0/140	0/10	0/140	0/10	0/80	0/10	MSU	IgG IFA (Serum)

NA=not applicable CUM=cumulative
NE=not examined CURR=current

†Colony was established by Liberty Research in 1975 and acquired by Marshall in June 2018. Conventional animals originated from barriers.

*Barrier buildings are tested quarterly. Conventional building is tested semi-annually.

The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. A description of the current immunization regimen is available upon request.

Abbreviations for laboratories:

MSU: Michigan State University, Veterinary Diagnostic Laboratory, 4152 Beaumont Road, Lansing, MI 48910-8104

Bambi Jasmin
Bambi Jasmin, DVM, DACLAM

05/02/2022
Date

Health Monitoring Report

Based on FELASA Recommendations

Name and address of the breeder: MBR Waverly, LLC (a Marshall Company), Waverly, NY

Date of issue: October 2021 Unit N^o: Barriers and Conventional Buildings Examination date: Quarter 3, 2021

Species: Feline Breed: Domestic Shorthair Cat Populated[†]: Colony acquired June 2018

	-----BARRIER BUILDINGS-----				-----CONVENTIONAL BUILDING-----		LAB	METHOD
	1 st BARRIER		2 nd BARRIER		BUTLER			
	CUM	CURR	CUM	CURR	CUM	CURR		
VIRAL INFECTIONS								
Compulsory Agents:								
Feline Calicivirus	0/120	0/10	0/120	0/10	Vaccinated	NA	MSU	PCR (Oropharyngeal swab)
Feline Coronavirus	0/120	0/10	0/120	0/10	10/70	0/10	MSU	PCR (Whole blood)
Feline Coronavirus	0/110	0/10	0/110	0/10	15/70	6/10	MSU	PCR (Fecal)
Feline Herpesvirus	0/120	0/10	0/120	0/10	Vaccinated	NA	MSU	PCR (Conjunctival swab)
FeLV/FIV	0/120	0/10	0/120	0/10	0/70	0/10	MSU	ELISA (Whole blood)
Feline Panleukopenia	0/120	0/10	0/120	0/10	Vaccinated	NA	MSU	PCR (Feces)
Feline Panleukopenia	0/120	0/10	0/120	0/10	Vaccinated	NA	MSU	HI (Serum)
BACTERIAL INFECTIONS								
Compulsory Agents:								
Bartonella spp.	0/120	0/10	0/120	0/10	0/70	0/10	MSU	PCR (Whole Blood)
Bordetella bronchiseptica	38/120	1/10	27/120	0/10	47/70	8/10	MSU	Culture (Oropharyngeal swab)
Campylobacter spp.	0/120	0/10	0/120	0/10	0/70	0/10	MSU	Culture (Rectal swab)
Chlamydia spp.	0/120	0/10	0/120	0/10	0/70	0/10	MSU	PCR (Conjunctival swab)
Mycoplasma haemofelis	0/120	0/10	0/120	0/10	0/70	0/10	MSU	PCR (Whole Blood)
Mycoplasma Culture	0/120	0/10	0/120	0/10	0/70	0/10	MSU	Culture (Oropharyngeal swab)
Pasteurellaceae	97/120	10/10	3/120	0/10	66/70	9/10	MSU	Culture (Oropharyngeal swab)
Salmonella spp.	0/120	0/10	0/120	0/10	0/70	0/10	MSU	Culture (Rectal swab)
Streptococci β-hemolytic Group G	29/120	0/10	34/120	1/10	25/70	3/10	MSU	Culture (Oropharyngeal swab)
Yersinia enterocolitica	0/120	0/10	0/120	0/10	0/70	0/10	MSU	Culture (Rectal swab)
FUNGAL INFECTIONS								
Compulsory Agents:								
Microsporium spp.	0/120	0/10	0/120	0/10	0/70	0/10	MSU	Fungal Culture (Hair pluck)
Trichophyton spp.	0/120	0/10	0/120	0/10	0/70	0/10	MSU	Fungal Culture (Hair pluck)
PARASITOLOGICAL								
Compulsory Agents:								
Helminths	0/120	0/10	0/120	0/10	0/70	0/10	MSU	Sodium Nitrate (Fecal)
Isospora spp.	7/120	0/10	10/120	1/10	1/70	1/10	MSU	Sodium Nitrate (Fecal)
Giardia sp.	0/120	0/10	0/120	0/10	0/70	0/10	MSU	Zinc Sulfate (Fecal)
Sarcocystis spp.	0/120	0/10	0/120	0/10	0/70	0/10	MSU	Zinc Sulfate (Fecal)
Toxoplasma gondii	0/120	0/10	0/120	0/10	0/70	0/10	MSU	IgG IFA (Serum)

NA=not applicable CUM=cumulative
NE=not examined CURR=current

[†]Colony was established by Liberty Research in 1975 and acquired by Marshall in June 2018. Conventional animals originated from barriers.

The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. A description of the current immunization regimen is available upon request.

Abbreviations for laboratories:

MSU: Michigan State University, Veterinary Diagnostic Laboratory, 4152 Beaumont Road, Lansing, MI 48910-8104

Bambi H. Jasmin
Bambi Jasmin, DVM, DACLAM

10/13/2021
Date



BIORESOURCES

Health Monitoring Report

Based on FELASA Recommendations

Name and address of the breeder: MBR Waverly, LLC (a Marshall Company), Waverly, NY

Date of issue: July 2021

Unit N°: Barriers and Conventional Buildings

Examination date: Quarter 2, 2021

Species: Feline

Breed: Domestic Shorthair Cat

Populated†: Colony acquired June 2018

	-----BARRIER BUILDINGS-----				-----CONVENTIONAL BUILDING-----		LAB	METHOD
	1 st BARRIER		2 nd BARRIER		BUTLER			
	CUM	CURR	CUM	CURR	CUM	CURR		
VIRAL INFECTIONS								
Compulsory Agents:								
Feline Calicivirus	0/110	0/10	0/110	0/10	Vaccinated	NA	MSU	PCR (Oropharyngeal swab)
Feline Coronavirus	0/110	0/10	0/110	0/10	10/60	NE	MSU	PCR (Whole blood)
Feline Coronavirus	0/100	0/10	0/100	0/10	9/60	NE	MSU	PCR (Fecal)
Feline Herpesvirus	0/110	0/10	0/110	0/10	Vaccinated	NA	MSU	PCR (Conjunctival swab)
FeLV/FIV	0/110	0/10	0/110	0/10	0/60	NE	MSU	ELISA (Whole blood)
Feline Panleukopenia	0/110	0/10	0/110	0/10	Vaccinated	NA	MSU	PCR (Feces)
Feline Panleukopenia	0/110	0/10	0/110	0/10	Vaccinated	NA	MSU	HI (Serum)
BACTERIAL INFECTIONS								
Compulsory Agents:								
Bartonella spp.	0/110	0/10	0/110	0/10	0/60	NE	MSU	PCR (Whole Blood)
Bordetella bronchiseptica	37/110	3/10	27/110	0/10	39/60	NE	MSU	Culture (Oropharyngeal swab)
Campylobacter spp.	0/110	0/10	0/110	0/10	0/60	NE	MSU	Culture (Rectal swab)
Chlamydia	0/110	0/10	0/110	0/10	0/60	NE	MSU	PCR (Conjunctival swab)
Mycoplasma haemofelis	0/110	0/10	0/110	0/10	0/60	NE	MSU	PCR (Whole Blood)
Mycoplasma Culture	0/110	0/10	0/110	0/10	0/60	NE	MSU	Culture (Oropharyngeal swab)
Pasteurellaceae	87/110	9/10	3/110	0/10	57/60	NE	MSU	Culture (Oropharyngeal swab)
Salmonella spp.	0/110	0/10	0/110	0/10	0/60	NE	MSU	Culture (Rectal swab)
Streptococci β-hemolytic Group G	29/110	4/10	33/110	2/10	22/60	NE	MSU	Culture (Oropharyngeal swab)
Yersinia enterocolitica	0/110	0/10	0/110	0/10	0/60	NE	MSU	Culture (Rectal swab)
FUNGAL INFECTIONS								
Compulsory Agents:								
Microsporium spp.	0/110	0/10	0/110	0/10	0/60	NE	MSU	Fungal Culture (Hair pluck)
Trichophyton spp.	0/110	0/10	0/110	0/10	0/60	NE	MSU	Fungal Culture (Hair pluck)
PARASITOLOGICAL								
Compulsory Agents:								
Helminths	0/110	0/10	0/110	0/10	0/60	NE	MSU	Sodium Nitrate (Fecal)
Isospora spp.	7/110	0/10	9/110	2/10	0/60	NE	MSU	Sodium Nitrate (Fecal)
Sarcocystis spp.	0/110	0/10	0/110	0/10	0/60	NE	MSU	Zinc Sulfate (Fecal)
Toxoplasma gondii	0/110	0/10	0/110	0/10	0/60	NE	MSU	IgG IFA (Serum)
Agents on Request:								
Giardia sp.	0/10	NE	0/10	NE	NE	NE	MSU	Zinc Sulfate (Fecal)

NA=not applicable CUM=cumulative
NE=not examined CURR=current

†Colony was established by Liberty Research in 1975, and acquired by Marshall in June 2018. Conventional animals originated from barriers.

The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. A description of the current immunization regimen is available upon request.

Abbreviations for laboratories:

MSU: Michigan State University, Veterinary Diagnostic Laboratory, 4152 Beaumont Road, Lansing, MI 48910-8104

Bambi H. Jasmin
Bambi Jasmin, DVM, DACLAM

07/13/2021
Date

Health Monitoring Report

Based on FELASA Recommendations

Name and address of the breeder: MBR Waverly, LLC (a Marshall Company), Waverly, NY

Date of issue: April 2021

Unit N°: Barriers and Conventional Buildings

Examination date: Quarter 1, 2021

Species: Feline

Breed: Domestic Shorthair Cat

Populated[†]: Colony acquired June 2018

	-----BARRIER BUILDINGS-----				-----CONVENTIONAL BUILDING-----		LAB	METHOD
	1 st BARRIER		2 nd BARRIER		BUTLER			
	CUM	CURR	CUM	CURR	CUM	CURR		
VIRAL INFECTIONS								
Compulsory Agents:								
Feline Calicivirus	0/100	0/10	0/100	0/10	Vaccinated	NA	MSU	PCR (Oropharyngeal swab)
Feline Coronavirus	0/100	0/10	0/100	0/10	10/60	10/10	MSU	PCR (Whole blood)
Feline Coronavirus	0/90	0/10	0/90	0/10	9/60	0/10	MSU	PCR (Fecal)
Feline Herpesvirus	0/100	0/10	0/100	0/10	Vaccinated	NA	MSU	PCR (Conjunctival swab)
FeLV/FIV	0/100	0/10	0/100	0/10	0/60	0/10	MSU	ELISA (Whole blood)
Feline Panleukopenia	0/100	0/10	0/100	0/10	Vaccinated	NA	MSU	PCR (Feces)
Feline Panleukopenia	0/100	0/10	0/100	0/10	Vaccinated	NA	MSU	HI (Serum)
BACTERIAL INFECTIONS								
Compulsory Agents:								
Bartonella spp.	0/100	0/10	0/100	0/10	0/60	0/10	MSU	PCR (Whole Blood)
Bordetella bronchiseptica	34/100	0/10	27/100	0/10	39/60	9/10	MSU	Culture (Oropharyngeal swab)
Campylobacter spp.	0/100	0/10	0/100	0/10	0/60	0/10	MSU	Culture (Rectal swab)
Chlamydia	0/100	0/10	0/100	0/10	0/60	0/10	MSU	PCR (Conjunctival swab)
Mycoplasma haemofelis	0/100	0/10	0/100	0/10	0/60	0/10	MSU	PCR (Whole Blood)
Mycoplasma Culture	0/100	0/10	0/100	0/10	0/60	0/10	MSU	Culture (Oropharyngeal swab)
Pasteurellaceae	78/100	9/10	3/100	0/10	57/60	10/10	MSU	Culture (Oropharyngeal swab)
Salmonella spp.	0/100	0/10	0/100	0/10	0/60	0/10	MSU	Culture (Rectal swab)
Streptococci β-hemolytic Group G	25/100	0/10	31/100	1/10	22/60	6/10	MSU	Culture (Oropharyngeal swab)
Yersinia enterocolitica	0/100	0/10	0/100	0/10	0/60	0/10	MSU	Culture (Rectal swab)
FUNGAL INFECTIONS								
Compulsory Agents:								
Microsporium spp.	0/100	0/10	0/100	0/10	0/60	0/10	MSU	Fungal Culture (Hair pluck)
Trichophyton spp.	0/100	0/10	0/100	0/10	0/60	0/10	MSU	Fungal Culture (Hair pluck)
PARASITOLOGICAL								
Compulsory Agents:								
Helminths	0/100	0/10	0/100	0/10	0/60	0/10	MSU	Sodium Nitrate (Fecal)
Isospora spp.	7/100	0/10	7/100	1/10	0/60	0/10	MSU	Sodium Nitrate (Fecal)
Sarcocystis spp.	0/100	0/10	0/100	0/10	0/60	0/10	MSU	Zinc Sulfate (Fecal)
Toxoplasma gondii	0/100	0/10	0/100	0/10	0/60	0/10	MSU	IgG IFA (Serum)
Agents on Request:								
Giardia sp.	0/10	NE	0/10	NE	NE	NE	MSU	Zinc Sulfate (Fecal)

NA=not applicable CUM=cumulative
NE=not examined CURR=current

[†]Colony was established by Liberty Research in 1975, and acquired by Marshall in June 2018. Conventional animals originated from barriers.

The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. A description of the current immunization regimen is available upon request.

Abbreviations for laboratories:

MSU: Michigan State University, Veterinary Diagnostic Laboratory, 4152 Beaumont Road, Lansing, MI 48910-8104

Bambi H Jasmin
Bambi Jasmin, DVM, DACLAM

04/15/2021
Date

Health Monitoring Report

Based on FELASA Recommendations

Name and address of the breeder: MBR Waverly, LLC (a Marshall Company), Waverly, NY

Date of issue: January 2021 Unit N°: Barriers and Conventional Buildings Examination date: Quarter 4, 2020

Species: Feline Breed: Domestic Shorthair Cat Populated[†]: Colony acquired June 2018

	-----BARRIER BUILDINGS-----				-----CONVENTIONAL BUILDING-----		LAB	METHOD
	1 st BARRIER		2 nd BARRIER		BUTLER			
	CUM	CURR	CUM	CURR	CUM	CURR		
VIRAL INFECTIONS								
Compulsory Agents:								
Feline Calicivirus	0/90	0/10	0/90	0/10	Vaccinated	NA	MSU	PCR (Oropharyngeal swab)
Feline Coronavirus	0/90	0/10	0/90	0/10	0/50	NE	MSU	PCR (Whole blood)
Feline Coronavirus	0/80	0/10	0/80	0/10	9/50	NE	MSU	PCR (Fecal)
Feline Herpesvirus	0/90	0/10	0/90	0/10	Vaccinated	NA	MSU	PCR (Conjunctival swab)
FeLV/FIV	0/90	0/10	0/90	0/10	0/50	NE	MSU	ELISA (Whole blood)
Feline Panleukopenia	0/90	0/10	0/90	0/10	Vaccinated	NA	MSU	PCR (Feces)
Feline Panleukopenia	0/90	0/10	0/90	0/10	Vaccinated	NA	MSU	HI (Serum)
BACTERIAL INFECTIONS								
Compulsory Agents:								
Bartonella spp.	0/90	0/10	0/90	0/10	0/50	NE	MSU	PCR (Whole Blood)
Bordetella bronchiseptica	34/90	7/10	27/90	0/10	30/50	NE	MSU	Culture (Oropharyngeal swab)
Campylobacter spp.	0/90	0/10	0/90	0/10	0/50	NE	MSU	Culture (Rectal swab)
Chlamydia	0/90	0/10	0/90	0/10	0/50	NE	MSU	PCR (Conjunctival swab)
Mycoplasma haemofelis	0/90	0/10	0/90	0/10	0/50	NE	MSU	PCR (Whole Blood)
Mycoplasma Culture	0/90	0/10	0/90	0/10	0/50	NE	MSU	Culture (Oropharyngeal swab)
Pasteurellaceae	69/90	10/10	3/90	0/10	47/50	NE	MSU	Culture (Oropharyngeal swab)
Salmonella spp.	0/90	0/10	0/90	0/10	0/50	NE	MSU	Culture (Rectal swab)
Streptococci β-hemolytic Group G	25/90	2/10	30/90	3/10	16/50	NE	MSU	Culture (Oropharyngeal swab)
Yersinia enterocolitica	0/90	0/10	0/90	0/10	0/50	NE	MSU	Culture (Rectal swab)
FUNGAL INFECTIONS								
Compulsory Agents:								
Microsporium spp.	0/90	0/10	0/90	0/10	0/50	NE	MSU	Fungal Culture (Hair pluck)
Trichophyton spp.	0/90	0/10	0/90	0/10	0/50	NE	MSU	Fungal Culture (Hair pluck)
PARASITOLOGICAL								
Compulsory Agents:								
Helminths	0/90	0/10	0/90	0/10	0/50	NE	MSU	Sodium Nitrate (Fecal)
Isospora spp.	7/90	2/10	6/90	1/10	0/50	NE	MSU	Sodium Nitrate (Fecal)
Sarcocystis spp.	0/90	0/10	0/90	0/10	0/50	NE	MSU	Zinc Sulfate (Fecal)
Toxoplasma gondii	0/90	0/10	0/90	0/10	0/50	NE	MSU	IgG IFA (Serum)
Agents on Request:								
Giardia sp.	0/10	NE	0/10	NE	NE	NE	MSU	Zinc Sulfate (Fecal)

NA=not applicable CUM=cumulative
NE=not examined CURR=current

[†]Colony was established by Liberty Research in 1975, and acquired by Marshall in June 2018. Conventional animals originated from barriers.

The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. A description of the current immunization regimen is available upon request.

Abbreviations for laboratories:

MSU: Michigan State University, Veterinary Diagnostic Laboratory, 4152 Beaumont Road, Lansing, MI 48910-8104

Bambi H. Jasmin
Bambi Jasmin, DVM, DACLAM

011 05/2021
Date

Health Monitoring Report

Based on FELASA Recommendations



Name and address of the breeder: MBR Waverly, LLC (a Marshall Company), Waverly, NY

Date of issue: March 2021 Unit N°: Barriers and Conventional Buildings Examination date: Quarter 3, 2020

Species: Feline Breed: Domestic Shorthair Cat Populated†: Colony acquired June 2018

	-----BARRIER BUILDINGS-----				-----CONVENTIONAL BUILDING-----		LAB	METHOD
	1 st BARRIER		2 nd BARRIER		BUTLER			
	CUM	CURR	CUM	CURR	CUM	CURR		
VIRAL INFECTIONS								
Compulsory Agents:								
Feline Calicivirus	0/80	0/10	0/80	0/10	Vaccinated	NA	MSU	PCR (Oropharyngeal swab)
Feline Coronavirus	0/80	0/10	0/80	0/10	0/50	0/10	MSU	PCR (Whole blood)
Feline Coronavirus	0/70	0/10	0/70	0/10	9/50	9/10	MSU	PCR (Fecal)
Feline Herpesvirus	0/80	0/10	0/80	0/10	Vaccinated	NA	MSU	PCR (Conjunctival swab)
FeLV/FIV	0/80	0/10	0/80	0/10	0/50	0/10	MSU	ELISA (Whole blood)
Feline Panleukopenia	0/80	0/10	0/80	0/10	Vaccinated	NA	MSU	PCR (Feces)
Feline Panleukopenia	0/80	0/10	0/80	0/10	Vaccinated	NA	MSU	HI (Serum)
BACTERIAL INFECTIONS								
Compulsory Agents:								
Bartonella spp.	0/80	0/10	0/80	0/10	0/50	0/10	MSU	PCR (Whole Blood)
Bordetella bronchiseptica	27/80	1/10	27/80	0/10	30/50	6/10	MSU	Culture (Oropharyngeal swab)
Campylobacter spp.	0/80	0/10	0/80	0/10	0/50	0/10	MSU	Culture (Rectal swab)
Chlamydia	0/80	0/10	0/80	0/10	0/50	0/10	MSU	PCR (Conjunctival swab)
Mycoplasma haemofelis	0/80	0/10	0/80	0/10	0/50	0/10	MSU	PCR (Whole Blood)
Mycoplasma Culture	0/80	0/10	0/80	0/10	0/50	0/10	MSU	Culture (Oropharyngeal swab)
Pasteurellaceae	59/80	6/10	3/80	0/10	47/50	9/10	MSU	Culture (Oropharyngeal swab)
Salmonella spp.	0/80	0/10	0/80	0/10	0/50	0/10	MSU	Culture (Oropharyngeal swab)
Streptococci β-hemolytic Group G	23/80	1/10	27/80	4/10	16/50	6/10	MSU	Culture (Rectal swab)
Yersinia enterocolitica	0/80	0/10	0/80	0/10	0/50	0/10	MSU	Culture (Rectal swab)
FUNGAL INFECTIONS								
Compulsory Agents:								
Microsporium spp.	0/80	0/10	0/80	0/10	0/50	0/10	MSU	Fungal Culture (Hair pluck)
Trichophyton spp.	0/80	0/10	0/80	0/10	0/50	0/10	MSU	Fungal Culture (Hair pluck)
PARASITOLOGICAL								
Compulsory Agents:								
Helminths	0/80	0/10	0/80	0/10	0/50	0/10	MSU	Sodium Nitrate (Fecal)
Isospora spp.	7/80	0/10	6/80	0/10	0/50	0/10	MSU	Sodium Nitrate (Fecal)
Sarcocystis spp.	0/80	0/10	0/80	0/10	0/50	0/10	MSU	Zinc Sulfate (Fecal)
Toxoplasma gondii	0/80	0/10	0/80	0/10	0/50	0/10	MSU	IgG IFA (Serum)
Agents on Request:								
Giardia sp.	0/10	NE	0/10	NE	NE	NE	MSU	Zinc Sulfate (Fecal)

NA=not applicable CUM=cumulative
NE=not examined CURR=current

†Colony was established by Liberty Research in 1975, and acquired by Marshall in June 2018. Conventional animals originated from barriers.

The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. A description of the current immunization regimen is available upon request.

Abbreviations for laboratories:

MSU: Michigan State University, Veterinary Diagnostic Laboratory, 4152 Beaumont Road, Lansing, MI 48910-8104

Bambi Jasmin
Bambi Jasmin, DVM, DACLAM

03/09/2021
Date



Health Monitoring Report

Based on FELASA Recommendations

BIO RESOURCES

Name and address of the breeder: MBR Waverly, LLC (a Marshall Company), Waverly, NY

Date of issue: July 2020

Unit N°: Barriers and Conventional Buildings

Examination date: Quarter 2, 2020

Species: Feline

Breed: Domestic Shorthair Cat

Populated†: Colony acquired June 2018

	-----BARRIER BUILDINGS-----				-----CONVENTIONAL BUILDING-----		LAB	METHOD
	1 st BARRIER		2 nd BARRIER		BUTLER			
	CUM	CURR	CUM	CURR	CUM	CURR		
VIRAL INFECTIONS								
Compulsory Agents:								
Feline Calicivirus	0/70	0/10	0/70	0/10	Vaccinated	NA	MSU	PCR (Oropharyngeal swab)
Feline Coronavirus	0/70	0/10	0/70	0/10	0/40	NE	MSU	PCR (Whole blood)
Feline Coronavirus	0/60	0/10	0/60	0/10	0/40	NE	MSU	PCR (Fecal)
Feline Herpesvirus	0/70	0/10	0/70	0/10	Vaccinated	NA	MSU	PCR (Conjunctival swab)
FeLV/FIV	0/70	0/10	0/70	0/10	0/40	NE	MSU	ELISA (Whole blood)
Feline Panleukopenia	0/70	0/10	0/70	0/10	Vaccinated	NA	MSU	PCR (Feces)
Feline Panleukopenia	0/70	0/10	0/70	0/10	Vaccinated	NA	MSU	HI (Serum)
BACTERIAL INFECTIONS								
Compulsory Agents:								
Bartonella spp.	0/70	0/10	0/70	0/10	0/40	NE	MSU	PCR (Whole Blood)
Bordetella bronchiseptica	26/70	3/10	27/70	0/10	24/40	NE	MSU	Culture (Oropharyngeal swab)
Campylobacter spp.	0/70	0/10	0/70	0/10	0/40	NE	MSU	Culture (Rectal swab)
Chlamydia	0/70	0/10	0/70	0/10	0/40	NE	MSU	PCR (Conjunctival swab)
Mycoplasma haemofelis	0/70	0/10	0/70	0/10	0/40	NE	MSU	PCR (Whole Blood)
Mycoplasma Culture	0/70	0/10	0/70	0/10	0/40	NE	MSU	Culture (Oropharyngeal swab)
Pasteurellaceae	53/70	9/10	3/70	0/10	38/40	NE	MSU	Culture (Oropharyngeal swab)
Salmonella spp.	0/70	0/10	0/70	0/10	0/40	NE	MSU	Culture (Rectal swab)
Streptococci β-hemolytic Group G	22/70	2/10	23/70	2/10	10/40	NE	MSU	Culture (Oropharyngeal swab)
Yersinia enterocolitica	0/70	0/10	0/70	0/10	0/40	NE	MSU	Culture (Rectal swab)
FUNGAL INFECTIONS								
Compulsory Agents:								
Microsporium spp.	0/70	0/10	0/70	0/10	0/40	NE	MSU	Fungal Culture (Hair pluck)
Trichophyton spp.	0/70	0/10	0/70	0/10	0/40	NE	MSU	Fungal Culture (Hair pluck)
PARASITOLOGICAL								
Compulsory Agents:								
Helminths	0/70	0/10	0/70	0/10	0/40	NE	MSU	Sodium Nitrate (Fecal)
Isospora spp.	7/70	2/10	6/70	1/10	0/40	NE	MSU	Sodium Nitrate (Fecal)
Sarcocystis spp.	0/70	0/10	0/70	0/10	0/40	NE	MSU	Zinc Sulfate (Fecal)
Toxoplasma gondii	0/70	0/10	0/70	0/10	0/40	NE	MSU	IgG IFA (Serum)
Agents on Request:								
Giardia sp.	0/10	NE	0/10	NE	NE	NE	MSU	Zinc Sulfate (Fecal)

NA=not applicable CUM=cumulative
NE=not examined CURR=current

†Colony was established by Liberty Research in 1975, and acquired by Marshall in June 2018. Conventional animals originated from barriers.

The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. A description of the current immunization regimen is available upon request.

Abbreviations for laboratories:

MSU: Michigan State University, Veterinary Diagnostic Laboratory, 4152 Beaumont Road, Lansing, MI 48910-8104

Bambi Jasmin, DVM, DACLAM

07/20/2020
Date



Health Monitoring Report

Based on FELASA Recommendations

BIORESOURCES

Name and address of the breeder: MBR Waverly, LLC (a Marshall Company), Waverly, NY

Date of issue: July 2020

Unit N^o: Barriers and Conventional Buildings

Examination date: Quarter 1, 2020

Species: Feline

Breed: Domestic Shorthair Cat

Populated[†]: Colony acquired June 2018

-----BARRIER BUILDINGS-----
1st BARRIER 2nd BARRIER
CUM CURR CUM CURR

-----CONVENTIONAL BUILDING-----
BUTLER
CUM CURR

LAB METHOD

VIRAL INFECTIONS

Compulsory Agents:

Feline Calicivirus	0/60	0/10	0/60	0/10	Vaccinated	NA	MSU	PCR (Oropharyngeal swab)
Feline Coronavirus	0/60	0/10	0/60	0/10	0/40	0/10	MSU	PCR (Whole blood)
Feline Coronavirus	0/50	0/10	0/50	0/10	0/40	0/10	MSU	PCR (Fecal)
Feline Herpesvirus	0/60	0/10	0/60	0/10	Vaccinated	NA	MSU	PCR (Conjunctival swab)
FeLV/FIV	0/60	0/10	0/60	0/10	0/40	0/10	MSU	ELISA (Whole blood)
Feline Panleukopenia	0/60	0/10	0/60	0/10	Vaccinated	NA	MSU	PCR (Feces)
Feline Panleukopenia	0/60	0/10	0/60	0/10	Vaccinated	NA	MSU	HI (Serum)

BACTERIAL INFECTIONS

Compulsory Agents:

Bartonella spp.	0/60	0/10	0/60	0/10	0/40	0/10	MSU	PCR (Whole Blood)
Bordetella bronchiseptica	23/60	2/10	27/60	5/10	24/40	6/10	MSU	Culture (Oropharyngeal swab)
Campylobacter spp.	0/60	0/10	0/60	0/10	0/40	0/10	MSU	Culture (Rectal swab)
Chlamydia	0/60	0/10	0/60	0/10	0/40	0/10	MSU	PCR (Conjunctival swab)
Mycoplasma haemofelis	0/60	0/10	0/60	0/10	0/40	0/10	MSU	PCR (Whole Blood)
Mycoplasma Culture	0/60	0/10	0/60	0/10	0/40	0/10	MSU	Culture (Oropharyngeal swab)
Pasteurellaceae	44/60	10/10	3/60	0/10	38/40	10/10	MSU	Culture (Oropharyngeal swab)
Salmonella spp.	0/60	0/10	0/60	0/10	0/40	0/10	MSU	Culture (Rectal swab)
Streptococci β-hemolytic Group G	20/60	1/10	21/60	5/10	10/40	2/10	MSU	Culture (Oropharyngeal swab)
Yersinia enterocolitica	0/60	0/10	0/60	0/10	0/40	0/10	MSU	Culture (Rectal swab)

FUNGAL INFECTIONS

Compulsory Agents:

Microsporium spp.	0/60	0/10	0/60	0/10	0/40	0/10	MSU	Fungal Culture (Hair pluck)
Trichophyton spp.	0/60	0/10	0/60	0/10	0/40	0/10	MSU	Fungal Culture (Hair pluck)

PARASITOLOGICAL

Compulsory Agents:

Helminths	0/60	0/10	0/60	0/10	0/40	0/10	MSU	Sodium Nitrate (Fecal)
Isospora spp.	5/60	0/10	5/60	0/10	0/40	0/10	MSU	Sodium Nitrate (Fecal)
Sarcocystis spp.	0/60	0/10	0/60	0/10	0/40	0/10	MSU	Zinc Sulfate (Fecal)
Toxoplasma gondii	0/60	0/10	0/60	0/10	0/40	0/10	MSU	IgG IFA (Serum)

Agents on Request:

Giardia sp.	0/10	NE	0/10	NE	NE	NE	MSU	Zinc Sulfate (Fecal)
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NA=not applicable CUM=cumulative
NE=not examined CURR=current

[†]Colony was established by Liberty Research in 1975, and acquired by Marshall in June 2018. Conventional animals originated from barriers.

The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. A description of the current immunization regimen is available upon request.

Abbreviations for laboratories:

MSU: Michigan State University, Veterinary Diagnostic Laboratory, 4152 Beaumont Road, Lansing, MI 48910-8104

Bambi Jasmin
Bambi Jasmin, DVM, DACLAM

07/01/2020
Date



BIO RESOURCES

Health Monitoring Report

Based on FELASA Recommendations

Name and address of the breeder: MBR Waverly, LLC (a Marshall Company), Waverly, NY

Date of issue: December 2019 Unit N^o: Barriers and Conventional Buildings Examination date: Quarter 4, 2019

Species: Feline Breed: Domestic Shorthair Cat Populated[†]: Colony acquired June 2018

	-----BARRIER BUILDINGS-----				-----CONVENTIONAL BUILDINGS-----				LAB	METHOD
	1 st BARRIER		2 nd BARRIER		WAVERLY		BUTLER			
	CUM	CURR	CUM	CURR	CUM	CURR	CUM	CURR		
VIRAL INFECTIONS										
Compulsory Agents:										
Feline Calicivirus	0/50	0/10	0/50	0/10	Vaccinated	NA	Vaccinated	NA	MSU	PCR (Oropharyngeal swab)
Feline Coronavirus	0/50	0/10	0/50	0/10	0/40	NE	0/30	0/10	MSU	PCR (Whole blood)
Feline Coronavirus	0/40	0/10	0/40	0/10	0/30	NE	0/30	0/10	MSU	PCR (Fecal)
Feline Herpesvirus	0/50	0/10	0/50	0/10	Vaccinated	NA	Vaccinated	NA	MSU	PCR (Conjunctival swab)
FeLV/FIV	0/50	0/10	0/50	0/10	0/40	NE	0/30	0/10	MSU	ELISA (Whole blood)
Feline Panleukopenia	0/50	0/10	0/50	0/10	Vaccinated	NA	Vaccinated	NA	MSU	PCR (Feces)
Feline Panleukopenia	0/50	0/10	0/50	0/10	Vaccinated	NA	Vaccinated	NA	MSU	HI (Serum)
BACTERIAL INFECTIONS										
Compulsory Agents:										
Bartonella spp.	0/50	0/10	0/50	0/10	0/40	NE	0/30	0/10	MSU	PCR (Whole Blood)
Bordetella bronchiseptica	21/50	4/10	22/50	1/10	15/40	NE	18/30	4/10	MSU	Culture (Oropharyngeal swab)
Campylobacter spp.	0/50	0/10	0/50	0/10	0/40	NE	0/30	0/10	MSU	Culture (Rectal swab)
Chlamydia	0/50	0/10	0/50	0/10	0/40	NE	0/30	0/10	MSU	PCR (Conjunctival swab)
Mycoplasma haemofelis	0/50	0/10	0/50	0/10	0/40	NE	0/30	0/10	MSU	PCR (Whole Blood)
Mycoplasma Culture	0/50	0/10	0/50	0/10	0/40	NE	0/30	0/10	MSU	Culture (Oropharyngeal swab)
Pasteurellaceae	34/50	9/10	3/50	0/10	36/40	NE	28/30	8/10	MSU	Culture (Oropharyngeal swab)
Salmonella spp.	0/50	0/10	0/50	0/10	0/40	NE	0/30	0/10	MSU	Culture (Rectal swab)
Streptococci β-hemolytic Group G	19/50	2/10	16/50	2/10	11/40	NE	8/30	5/10	MSU	Culture (Oropharyngeal swab)
Yersinia enterocolitica	0/50	0/10	0/50	0/10	0/40	NE	0/30	0/10	MSU	Culture (Rectal swab)
FUNGAL INFECTIONS										
Compulsory Agents:										
Microsporum spp.	0/50	0/10	0/50	0/10	0/40	NE	0/30	0/10	MSU	Fungal Culture (Hair pluck)
Trichophyton spp.	0/50	0/10	0/50	0/10	0/40	NE	0/30	0/10	MSU	Fungal Culture (Hair pluck)
PARASITOLOGICAL										
Compulsory Agents:										
Helminths	0/50	0/10	0/50	0/10	0/40	NE	0/30	0/10	MSU	Sodium Nitrate (Fecal)
Isospora spp.	5/50	0/10	5/50	0/10	2/40	NE	0/30	0/10	MSU	Sodium Nitrate (Fecal)
Sarcocystis spp.	0/50	0/10	0/50	0/10	0/40	NE	0/30	0/10	MSU	Zinc Sulfate (Fecal)
Toxoplasma gondii	0/50	0/10	0/50	0/10	0/40	NE	0/30	0/10	MSU	IgG IFA (Serum)
Agents on Request:										
Giardia sp.	0/10	NE	0/10	NE	0/10	NE	NE	NE	MSU	Zinc Sulfate (Fecal)

NA=not applicable CUM=cumulative
NE=not examined CURR=current

[†]Colony was established by Liberty Research in 1975, and acquired by Marshall in June 2018. Conventional animals originated from barriers.

The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. A description of the current immunization regimen is available upon request.

Abbreviations for laboratories:

MSU: Michigan State University, Veterinary Diagnostic Laboratory, 4152 Beaumont Road, Lansing, MI 48910-8104

Bambi Jasmin
Bambi Jasmin, DVM, DACLAM

12/20/2019
Date



Health Monitoring Report
Based on FELASA Recommendations

BIORESOURCES

Name and address of the breeder: MBR Waverly, LLC (a Marshall Company), Waverly, NY

Date of issue: September 2019 Unit N°: Barriers and Conventional Buildings Examination date: Quarter 3, 2019

Species: Feline Breed: Domestic Shorthair Cat Populated†: Colony acquired June 2018

Table with columns for BARRIER BUILDINGS (1st, 2nd), CONVENTIONAL BUILDINGS (WAVERLY, BUTLER), LAB, and METHOD. Rows include VIRAL INFECTIONS (Compulsory Agents), BACTERIAL INFECTIONS (Compulsory Agents), FUNGAL INFECTIONS (Compulsory Agents), and PARASITOLOGICAL (Compulsory Agents, Agents on Request).

NA=not applicable CUM=cumulative
NE=not examined CURR=current

†Colony was established by Liberty Research in 1975, and acquired by Marshall in June 2018. Conventional animals originated from barriers.

The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. A description of the current immunization regimen is available upon request.

Abbreviations for laboratories:

MSU: Michigan State University, Veterinary Diagnostic Laboratory, 4152 Beaumont Road, Lansing, MI 48910-8104

Bambi Jasmin, DVM, DACLAM

09/09/2019 Date



BIO RESOURCES

Health Monitoring Report

Based on FELASA Recommendations

Name and address of the breeder: MBR Waverly, LLC (a Marshall Company), Waverly, NY

Date of issue: May 2019

Unit N^o: Barriers and Conventional Buildings

Examination date: Quarter 1, 2019

Species: Feline

Breed: Domestic Shorthair Cat

Populated[†]: Colony acquired June 2018

	-----BARRIER BUILDINGS-----				-----CONVENTIONAL BUILDINGS-----				LAB	METHOD
	1 st BARRIER		2 nd BARRIER		WAVERLY		BUTLER			
	CUM	CURR	CUM	CURR	CUM	CURR	CUM	CURR		
VIRAL INFECTIONS										
Compulsory Agents:										
Feline Calicivirus	0/20	0/10	0/20	0/10	Vaccinated	NA	Vaccinated	NA	MSU	PCR (Oropharyngeal swab)
Feline Coronavirus	0/20	0/10	0/20	0/10	0/10	NE	0/10	0/10	MSU	PCR (Whole blood)
Feline Coronavirus	0/10	0/10	0/10	0/10	NE	NE	0/10	0/10	MSU	PCR (Fecal)
Feline Herpesvirus	0/20	0/10	0/20	0/10	Vaccinated	NA	Vaccinated	NA	MSU	PCR (Conjunctival swab)
FeLV/FIV	0/20	0/10	0/20	0/10	0/10	NE	0/10	0/10	MSU	ELISA (Whole blood)
Feline Panleukopenia	0/20	0/10	0/20	0/10	Vaccinated	NA	Vaccinated	NA	MSU	PCR (Feces)
Feline Panleukopenia	0/20	0/10	0/20	0/10	Vaccinated	NA	Vaccinated	NA	MSU	HI (Serum)
BACTERIAL INFECTIONS										
Compulsory Agents:										
Bartonella spp.	0/20	0/10	0/20	0/10	0/10	NE	0/10	0/10	MSU	PCR (Whole Blood)
Bordetella bronchiseptica	6/20	1/10	10/20	0/10	1/10	NE	7/10	7/10	MSU	Culture (Oropharyngeal swab)
Campylobacter spp.	0/20	0/10	0/20	0/10	0/10	NE	0/10	0/10	MSU	Culture (Rectal swab)
Chlamydophilia	0/20	0/10	0/20	0/10	0/10	NE	0/10	0/10	MSU	PCR (Conjunctival swab)
Mycoplasma haemofelis	0/20	0/10	0/20	0/10	0/10	NE	0/10	0/10	MSU	PCR (Whole Blood)
Mycoplasma Culture	0/20	0/10	0/20	0/10	0/10	NE	0/10	0/10	MSU	Culture (Oropharyngeal swab)
Pasteurellaceae	9/20	7/10	3/20	0/10	8/10	NE	10/10	10/10	MSU	Culture (Oropharyngeal swab)
Salmonella spp.	0/20	0/10	0/20	0/10	0/10	NE	0/10	0/10	MSU	Culture (Rectal swab)
Streptococci β-hemolytic Group G	12/20	5/10	9/20	4/10	2/10	NE	0/10	0/10	MSU	Culture (Oropharyngeal swab)
Yersinia enterocolitica	0/20	0/10	0/20	0/10	0/10	NE	0/10	0/10	MSU	Culture (Rectal swab)
FUNGAL INFECTIONS										
Compulsory Agents:										
Microsporum spp.	0/20	0/10	0/20	0/10	0/10	NE	0/10	0/10	MSU	Fungal Culture (Hair pluck)
Trichophyton spp.	0/20	0/10	0/20	0/10	0/10	NE	0/10	0/10	MSU	Fungal Culture (Hair pluck)
PARASITOLOGICAL										
Compulsory Agents:										
Helminths	0/20	0/10	0/20	0/10	0/10	NE	0/10	0/10	MSU	Sodium Nitrate (Fecal)
Iso spor a spp.	1/20	1/10	3/20	3/10	0/10	NE	0/10	0/10	MSU	Sodium Nitrate (Fecal)
Sarcocystis spp.	0/20	0/10	0/20	0/10	0/10	NE	0/10	0/10	MSU	Zinc Sulfate (Fecal)
Toxoplasma gondii	0/20	0/10	0/20	0/10	0/10	NE	0/10	0/10	MSU	IgG IFA (Serum)
Agents on Request:										
Giardia sp.	0/10	NE	0/10	NE	0/10	NE	NE	NE	MSU	Zinc Sulfate (Fecal)

NA=not applicable CUM=cumulative
NE=not examined CURR=current

[†]Colony was established by Liberty Research in 1975, and acquired by Marshall in June 2018. Conventional animals originated from barriers.

The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. A description of the current immunization regimen is available upon request.

Abbreviations for laboratories:

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***Because Streptococcus canis is recognized as a beta-hemolytic group G, we have updated this report from the original issued in Mar 2019 to retroactively include this data in the Streptococci Beta-hemolytic Group G column.

Bambi Jasmin
Bambi Jasmin, DVM, DACLAM

05/03/2019
Date



BIORESOURCES

Health Monitoring Report

Based on FELASA Recommendations

Name and address of the breeder: MBR Waverly, LLC (a Marshall Company), Waverly, NY

Date of issue: Dec 2018

Unit N°: Barriers and Conventional Building

Examination date: Quarter 4, 2018

Species: Feline

Breed: Domestic Shorthair Cat

Populated†: Colony acquired June 2018

-----BARRIER BUILDINGS-----				--CONVENTIONAL BUILDING--			
1 st BARRIER		2 nd BARRIER		CUMULATIVE	CURRENT	LAB	METHOD
CUMULATIVE	CURRENT	CUMULATIVE	CURRENT				

VIRAL INFECTIONS

Compulsory Agents:

Feline Calicivirus	0/10	0/10	0/10	0/10	Vaccinated	NA	MSU	PCR (Nasal/Oropharyngeal swab)
Feline Coronavirus	0/10	0/10	0/10	0/10	0/10	0/10	MSU	PCR (Whole blood)
Feline Herpesvirus	0/10	0/10	0/10	0/10	Vaccinated	NA	MSU	PCR (Nasal/Conjunctival swab)
FeLV/FIV	0/10	0/10	0/10	0/10	0/10	0/10	MSU	ELISA (Whole blood)
Feline Panleukopenia	0/10	0/10	0/10	0/10	Vaccinated	NA	MSU	PCR (Feces)
Feline Panleukopenia	0/10	0/10	0/10	0/10	Vaccinated	NA	MSU	HI (Serum)

BACTERIAL INFECTIONS

Compulsory Agents:

Bartonella spp.	0/10	0/10	0/10	0/10	0/10	0/10	MSU	PCR (Whole Blood)
Bordetella bronchiseptica	5/10	5/10	10/10	10/10	1/10	1/10	MSU	Culture (Nasal/Oropharyngeal swab)
Campylobacter spp.	0/10	0/10	0/10	0/10	0/10	0/10	MSU	Culture (Rectal swab)
Chlamydia	0/10	0/10	0/10	0/10	0/10	0/10	MSU	PCR (Nasal/Conjunctival swab)
Mycoplasma haemofelis	0/10	0/10	0/10	0/10	0/10	0/10	MSU	PCR (Whole Blood)
Mycoplasma Culture	0/10	0/10	0/10	0/10	0/10	0/10	MSU	Culture (Nasal/Oropharyngeal swab)
Pasteurellaceae	2/10	2/10	3/10	3/10	8/10	8/10	MSU	Culture (Nasal/Oropharyngeal swab)
Salmonella spp.	0/10	0/10	0/10	0/10	0/10	0/10	MSU	Culture (Rectal swab)
Streptococci β-hemolytic Group G	0/10	0/10	0/10	0/10	0/10	0/10	MSU	Culture (Nasal/Oropharyngeal swab)
Yersinia enterocolitica	0/10	0/10	0/10	0/10	0/10	0/10	MSU	Culture (Rectal swab)

FUNGAL INFECTIONS

Compulsory Agents:

Microsporum spp.	0/10	0/10	0/10	0/10	0/10	0/10	MSU	Fungal Culture (Hair pluck)
Trichophyton spp.	0/10	0/10	0/10	0/10	0/10	0/10	MSU	Fungal Culture (Hair pluck)

PARASITOLOGICAL

Compulsory Agents:

Helminths	0/10	0/10	0/10	0/10	0/10	0/10	MSU	Sodium Nitrate (Fecal)
Isospora spp.	0/10	0/10	0/10	0/10	0/10	0/10	MSU	Sodium Nitrate (Fecal)
Sarcocystis spp.	0/10	0/10	0/10	0/10	0/10	0/10	MSU	Zinc Sulfate (Fecal)
Toxoplasma gondii	0/10	0/10	0/10	0/10	0/10	0/10	MSU	IgG IFA (Serum)

Agents on Request:

Giardia sp.	0/10	0/10	0/10	0/10	0/10	0/10	MSU	Zinc Sulfate (Fecal)
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NA=not applicable

NE=not examined

†Colony was established by Liberty Research in 1975, and acquired by Marshall in June 2018. Conventional animals originated from barriers.

The vaccination program is administered in accordance with current veterinary practice procedures and is documented accordingly. A description of the current immunization regimen is available upon request.

Abbreviations for laboratories:

MSU: Michigan State University, Veterinary Diagnostic Laboratory, 4152 Beaumont Road, Lansing, MI 48910-8104

Bambi Jasmin
Bambi Jasmin, DVM, DACLAM

12/13/2018
Date

Exhibit 4



BIORESOURCES

Health Monitoring Report

Based on FELASA Recommendations

Name and address of the breeder: Marshall BioResources, North Rose, NY

Date of issue: May 2021

Unit N°: Barriers P1, P2 and P3

Examination date: Quarter 2, 2021

Species: Porcine

Strain: Göttingen Minipig

Populated*: P1 August 2003, P3 October 2016

	CUMULATIVE RESULTS			CURRENT TEST RESULTS			LABORATORY	METHOD
	P1	P2	P3	P1	P2	P3		
VIRAL INFECTIONS								
Aujeszky's Disease (Pseudorabies)	0/320	0/120	0/90	NE	NE	NE	PU	ELISA (Blood)
Classical Swine Fever (hog cholera)	NA	NA	NA	NE	NE	NE	NA	NA (U.S. free of Hog Cholera)
Porcine Epidemic Diarrhea ³	0/70	0/50	0/20	NE	NE	NE	Iowa	PCR (Fecal)
PEDV/PDCoV	0/86	0/102	0/86	0/2	0/4	0/2	Iowa	Multiplex PCR (Fecal)
Encephalomyocarditis Virus	0/330	0/120	0/90	NE	NE	NE	UM	SN (Blood)
Haemagglutinating Encephalomyelitis	0/330	0/120	0/90	NE	NE	NE	UM	HI (Blood)
Porcine Circovirus II	0/330	0/120	0/90	NE	NE	NE	PU	IFA (Blood)
Porcine Influenza								
A ⁴	0/120	0/120	0/90	NE	NE	NE	PU	ELISA (Blood)
H1N1	0/220	NE	NE	NE	NE	NE	PU	ELISA (Blood)
H3N2	0/220	NE	NE	NE	NE	NE	PU	ELISA (Blood)
Porcine Parvovirus	0/330	0/120	0/90	NE	NE	NE	UM	HI (Blood)
Porcine Reproduct. & Resp. Syndrome	0/346	0/152	0/106	0/2	0/4	0/2	Iowa	ELISA (Blood)
Porcine Respiratory Coronavirus	0/330	0/120	0/90	NE	NE	NE	PU	ELISA (Blood)
Porcine Rotavirus	193/330	79/120	54/90	NE	NE	NE	PU	IFF (Blood)
Transmissible Gastroenteritis	0/330	0/120	0/90	NE	NE	NE	PU	ELISA (Blood)
BACTERIAL INFECTIONS								
Actinobacillus pleuropneumoniae								
Serotypes 1, 5, 7	0/330	0/120	0/90	NE	NE	NE	UM	ELISA (Blood)
Bordetella bronchiseptica	5/360	1/120	4/179	NE	NE	NE	PU	Culture (Nasal Swab)
Brachyspira (Serpulina) hyodysenteriae	0/330	0/120	0/90	NE	NE	NE	PU	PCR (Fecal)
Bruceella abortus	0/330	0/120	0/90	NE	NE	NE	PU	Agglutination (Blood)
Campylobacter spp.	3/330	0/120	0/90	NE	NE	NE	PU	Culture (Fecal)
Clostridium perfringens Type C ²	0/330	0/120	0/90	NE	NE	NE	PU	Culture (Fecal)
Erysipelothrix rhusiopathiae	0/330	0/120	0/90	NE	NE	NE	PU	Culture (Skin Swab)
Eubacterium suis	0/330	0/120	0/90	NE	NE	NE	PU	Culture (Urine)
Haemophilus parasuis	0/330	0/120	0/90	NE	NE	NE	PU	Culture (Nasal Swab)
Lawsonia intracellularis	0/330	0/120	0/90	NE	NE	NE	PU	PCR (Fecal)
Leptospira spp.	0/330	0/120	0/90	NE	NE	NE	PU	MA (Blood)
(pomona, grippotyphosa, hardjo, canicola, icterohemorrhagiae, bratislava)								
Mycoplasma hyopneumoniae	0/260	0/120	0/90	NE	NE	NE	PU	ELISA (Blood)
P. multocida (toxin producing)	0/330	0/120	0/90	NE	NE	NE	PU	Culture (Nasal Swab)
P. haemolytica	0/330	0/120	0/90	NE	NE	NE	PU	Culture (Nasal Swab)
P. pneumotropica	0/330	0/120	0/90	NE	NE	NE	PU	Culture (Nasal Swab)
Salmonella spp.	0/330	0/120	0/90	NE	NE	NE	PU	Culture (Fecal)
Staphylococcus hyicus ¹	43/330	0/120	0/90	NE	NE	NE	PU	Culture (Skin Swab)
β-haemolytic Streptococci	0/330	0/120	0/90	NE	NE	NE	PU	Culture (Nasal Swab)
Streptococcus suis-type 2	0/330	0/120	0/90	NE	NE	NE	PU	Culture (Nasal Swab)
Streptococcus suis-other	6/330	7/120	6/90	NE	NE	NE	PU	Culture (Nasal Swab)
Yersinia enterocolitica	0/330	0/120	0/90	NE	NE	NE	PU	Culture (Fecal)
FUNGAL INFECTIONS								
Candida albicans	5/330	0/120	0/90	NE	NE	NE	PU	Culture (Skin Swab)
Microsporium spp.	0/330	0/120	0/90	NE	NE	NE	PU	Culture (Fecal)
Trichophyton spp.	0/330	0/120	0/90	NE	NE	NE	PU	Culture (Fecal)
PARASITOLOGICAL INFECTIONS								
Arthropods	0/330	0/120	0/90	NE	NE	NE	In-house	Micr. Insp. (Skin Swab)
Helminths	0/330	0/120	0/90	NE	NE	NE	In-house	Sodium Nitrate (Fecal)
Coccidia (Eimeria, Isospora)	0/330	0/120	0/90	NE	NE	NE	In-house	Sodium Nitrate (Fecal)
Giardia	0/330	0/120	0/90	NE	NE	NE	In-house	Zinc Sulfate (Fecal)
Toxoplasma gondii	0/330	0/120	0/90	NE	NE	NE	PU	IFA (Blood)

NA=not applicable
NE=not examined

*P3 was populated with animals from P1 in October 2016. Animals can flow in one direction from P3 to P2. First migration of animals into P2 occurred in November 2014.



BIORESOURCES

Health Monitoring Report

Based on FELASA Recommendations

Name and address of the breeder: Marshall BioResources, North Rose, NY

Date of issue: April 2021

Unit N°: Barriers P1, P2 and P3

Examination date: Quarter 1, 2021

Species: Porcine

Strain: Göttingen Minipig

Populated*: P1 August 2003, P3 October 2016

	CUMULATIVE RESULTS			CURRENT TEST RESULTS			LABORATORY	METHOD
	P1	P2	P3	P1	P2	P3		
VIRAL INFECTIONS								
Aujeszky's Disease (Pseudorabies)	0/320	0/120	0/90	0/10	0/10	0/10	PU	ELISA (Blood)
Classical Swine Fever (hog cholera)	NA	NA	NA	NE	NE	NE	NA	NA (U.S. free of Hog Cholera)
Porcine Epidemic Diarrhea ³	0/70	0/50	0/20	NE	NE	NE	Iowa	PCR (Fecal)
PEDV/PDCoV	0/84	0/98	0/84	0/10	0/10	0/10	Iowa	Multiplex PCR (Fecal)
Encephalomyocarditis Virus	0/330	0/120	0/90	0/10	0/10	0/10	UM	SN (Blood)
Haemagglutinating Encephalomyelitis	0/330	0/120	0/90	0/10	0/10	0/10	UM	HI (Blood)
Porcine Circovirus II	0/330	0/120	0/90	0/10	0/10	0/10	PU	IFA (Blood)
Porcine Influenza								
A ⁴	0/120	0/120	0/90	0/10	0/10	0/10	PU	ELISA (Blood)
H1N1	0/220	NE	NE	NE	NE	NE	PU	ELISA (Blood)
H3N2	0/220	NE	NE	NE	NE	NE	PU	ELISA (Blood)
Porcine Parvovirus	0/330	0/120	0/90	0/10	NE	NE	UM	HI (Blood)
Porcine Reproduct. & Resp. Syndrome	0/344	0/148	0/104	0/10	0/10	0/10	Iowa	ELISA (Blood)
Porcine Respiratory Coronavirus	0/330	0/120	0/90	0/10	0/10	0/10	PU	ELISA (Blood)
Porcine Rotavirus	193/330	79/120	54/90	9/10	1/10	3/10	PU	IFF (Blood)
Transmissible Gastroenteritis	0/330	0/120	0/90	0/10	0/10	0/10	PU	ELISA (Blood)
BACTERIAL INFECTIONS								
Actinobacillus pleuropneumoniae								
Serotypes 1, 5, 7	0/330	0/120	0/90	0/10	0/10	0/10	UM	ELISA (Blood)
Bordetella bronchiseptica	5/360	1/120	4/179	0/10	0/10	0/10	PU	Culture (Nasal Swab)
Brachyspira (Serpulina) hyodysenteriae	0/330	0/120	0/90	0/10	0/10	0/10	PU	PCR (Fecal)
Brucella abortus	0/330	0/120	0/90	0/10	0/10	0/10	PU	Agglutination (Blood)
Campylobacter spp.	3/330	0/120	0/90	0/10	0/10	0/10	PU	Culture (Fecal)
Clostridium perfringens Type C ²	0/330	0/120	0/90	0/10	0/10	0/10	PU	Culture (Fecal)
Erysipelothrix rhusiopathiae	0/330	0/120	0/90	0/10	0/10	0/10	PU	Culture (Skin Swab)
Eubacterium suis	0/330	0/120	0/90	0/10	0/10	0/10	PU	Culture (Urine)
Haemophilus parasuis	0/330	0/120	0/90	0/10	0/10	0/10	PU	Culture (Nasal Swab)
Lawsonia intracellularis	0/330	0/120	0/90	0/10	0/10	0/10	PU	PCR (Fecal)
Leptospira spp.	0/330	0/120	0/90	0/10	0/10	0/10	PU	MA (Blood)
(pomona, grippotyphosa, hardjo, canicola, icterohemorrhagiae, bratislava)								
Mycoplasma hyopneumoniae	0/260	0/120	0/90	0/10	0/10	0/10	PU	ELISA (Blood)
P. multocida (toxin producing)	0/330	0/120	0/90	0/10	0/10	0/10	PU	Culture (Nasal Swab)
P. haemolytica	0/330	0/120	0/90	0/10	0/10	0/10	PU	Culture (Nasal Swab)
P. pneumotopica	0/330	0/120	0/90	0/10	0/10	0/10	PU	Culture (Nasal Swab)
Salmonella spp.	0/330	0/120	0/90	0/10	0/10	0/10	PU	Culture (Fecal)
Staphylococcus hyicus ¹	43/330	0/120	0/90	0/10	0/10	0/10	PU	Culture (Skin Swab)
β-haemolytic Streptococci	0/330	0/120	0/90	0/10	0/10	0/10	PU	Culture (Nasal Swab)
Streptococcus suis-type 2	0/330	0/120	0/90	0/10	0/10	0/10	PU	Culture (Nasal Swab)
Streptococcus suis-other	6/330	7/120	6/90	0/10	0/10	0/10	PU	Culture (Nasal Swab)
Yersinia enterocolitica	0/330	0/120	0/90	0/10	0/10	0/10	PU	Culture (Fecal)
FUNGAL INFECTIONS								
Candida albicans	5/330	0/120	0/90	0/10	0/10	0/10	PU	Culture (Skin Swab)
Microsporium spp.	0/330	0/120	0/90	0/10	0/10	0/10	PU	Culture (Fecal)
Trichophyton spp.	0/330	0/120	0/90	0/10	0/10	0/10	PU	Culture (Fecal)
PARASITOLOGICAL INFECTIONS								
Arthropods	0/330	0/120	0/90	0/10	0/10	0/10	In-house	Micr. Insp. (Skin Swab)
Helminths	0/330	0/120	0/90	0/10	0/10	0/10	In-house	Sodium Nitrate (Fecal)
Coccidia (Eimeria, Isospora)	0/330	0/120	0/90	0/10	0/10	0/10	In-house	Sodium Nitrate (Fecal)
Giardia	0/330	0/120	0/90	0/10	0/10	0/10	In-house	Zinc Sulfate (Fecal)
Toxoplasma gondii	0/330	0/120	0/90	0/10	0/10	0/10	PU	IFA (Blood)

NA=not applicable

NE=not examined

*P3 was populated with animals from P1 in October 2016. Animals can flow in one direction from P3 to P2. First migration of animals into P2 occurred in November 2014.

Laboratories:

PU: Purdue University, Animal Disease Diagnostic Laboratory, 406 S. University Street, West Lafayette, IN 47907

Iowa: Iowa State University, Veterinary Diagnostic Laboratory, 1850 Christensen Dr, Ames, Iowa 50011

UM: University of Minnesota, Veterinary Diagnostic Laboratory, 1333 Gortner Avenue, St. Paul, MN 55108

1. Until January 2006, Staphylococcus isolates were reported as Staphylococcus hyicus. Subsequently, isolates were further characterized, and identified as Staphylococcus hyicus subspecies chromogenes. In keeping with more recent standards of nomenclature, Staphylococcus hyicus and Staphylococcus chromogenes are now considered taxonomically distinct. Therefore, Staphylococcus chromogenes will no longer be reported under Staphylococcus hyicus.

2. In February 2009, the presence of *Clostridium perfringens* Type C enteric disease was confirmed in 0-3 day old piglets. This is a disease specific to newborns and affected piglets died within 12-24 hours of onset or were culled immediately when symptoms consistent with this disease were displayed. There is no carrier state associated with this bacterium. Subsequent to this incidence, pregnant sows are now prophylactically vaccinated with *Clostridium perfringens* Types C and D toxoid twice during pregnancy.

3. The presence of Porcine Epidemic Diarrhea Virus (PEDV) was first confirmed in pork production herds in the US on May 17, 2013. PEDV is a coronavirus related to Transmissible Gastroenteritis Virus (TGEV) that causes similar enteric disease in pigs of all ages. Diagnostic tests for TGEV will not detect PEDV. Surveillance testing was implemented in our colony beginning in March 2014.

4. As of February 2015, Influenza A will replace the test for H1N1 and H3N2.

Bambi W. Jasmin
Bambi Jasmin, DVM

04/20/2021
Date



BIORESOURCES

Health Monitoring Report

Based on FELASA Recommendations

Name and address of the breeder: Marshall BioResources, North Rose, NY

Date of issue: October 2020

Unit N°: Barriers P1, P2 and P3

Examination date: Quarter 3, 2020

Species: Porcine

Strain: Göttingen Minipig

Populated*: P1 August 2003, P3 October 2016

	CUMULATIVE RESULTS			CURRENT TEST RESULTS			LABORATORY	METHOD
	P1	P2	P3	P1	P2	P3		
VIRAL INFECTIONS								
Aujeszky's Disease (Pseudorabies)	0/310	0/110	0/80	0/10	0/10	0/10	PU	ELISA (Blood)
Classical Swine Fever (hog cholera)	NA	NA	NA	NE	NE	NE	NA	NA (U.S. free of Hog Cholera)
Porcine Epidemic Diarrhea ³	0/70	0/50	0/20	NE	NE	NE	Iowa	PCR (Fecal)
PEDV/PDCoV	0/72	0/84	0/72	0/10	0/10	0/10	Iowa	Multiplex PCR (Fecal)
Encephalomyocarditis Virus	0/320	0/110	0/80	0/10	0/10	0/10	UM	SN (Blood)
Haemagglutinating Encephalomyelitis	0/320	0/110	0/80	0/10	0/10	0/10	UM	HI (Blood)
Porcine Circovirus II	0/320	0/110	0/80	0/10	0/10	0/10	PU	IFA (Blood)
Porcine Influenza								
A ⁴	0/110	0/110	0/80	0/10	0/10	0/10	PU	ELISA (Blood)
H1N1	0/220	NE	NE	NE	NE	NE	PU	ELISA (Blood)
H3N2	0/220	NE	NE	NE	NE	NE	PU	ELISA (Blood)
Porcine Parvovirus	0/320	0/110	0/80	0/10	0/10	0/10	UM	HI (Blood)
Porcine Reproduct. & Resp. Syndrome	0/332	0/134	0/92	0/10	0/10	0/10	Iowa	ELISA (Blood)
Porcine Respiratory Coronavirus	0/320	0/110	0/80	0/10	0/10	0/10	PU	ELISA (Blood)
Porcine Rotavirus	184/320	78/110	51/80	10/10	8/10	10/10	PU	IFF (Blood)
Transmissible Gastroenteritis	0/320	0/110	0/80	0/10	0/10	0/10	PU	ELISA (Blood)
BACTERIAL INFECTIONS								
Actinobacillus pleuropneumoniae								
Serotypes 1, 5, 7	0/320	0/110	0/80	0/10	0/10	0/10	UM	ELISA (Blood)
Bordetella bronchiseptica	5/350	1/110	4/169	0/10	1/10	0/10	PU	Culture (Nasal Swab)
Brachyspira (Serpulina) hyodysenteriae	0/320	0/110	0/80	0/10	0/10	0/10	PU	PCR (Fecal)
Brucella abortus	0/320	0/110	0/80	0/10	0/10	0/10	PU	Agglutination (Blood)
Campylobacter spp.	3/320	0/110	0/80	0/10	0/10	0/10	PU	Culture (Fecal)
Clostridium perfringens Type C ²	0/320	0/110	0/80	0/10	0/10	0/10	PU	Culture (Fecal)
Erysipelothrix rhusiopathiae	0/320	0/110	0/80	0/10	0/10	0/10	PU	Culture (Skin Swab)
Eubacterium suis	0/320	0/110	0/80	0/10	0/10	0/10	PU	Culture (Urine)
Haemophilus parasuis	0/320	0/110	0/80	0/10	0/10	0/10	PU	Culture (Nasal Swab)
Lawsonia intracellularis	0/320	0/110	0/80	0/10	0/10	0/10	PU	PCR (Fecal)
Leptospira spp.	0/320	0/110	0/80	0/10	0/10	0/10	PU	MA (Blood)
(pomona, grippotyphosa, hardjo, canicola, icterohemorrhagiae, bratislava)								
Mycoplasma hyopneumoniae	0/250	0/110	0/80	0/10	0/10	0/10	PU	ELISA (Blood)
P. multocida (toxin producing)	0/320	0/110	0/80	0/10	0/10	0/10	PU	Culture (Nasal Swab)
P. haemolytica	0/320	0/110	0/80	0/10	0/10	0/10	PU	Culture (Nasal Swab)
P. pneumotopica	0/320	0/110	0/80	0/10	0/10	0/10	PU	Culture (Nasal Swab)
Salmonella spp.	0/320	0/110	0/80	0/10	0/10	0/10	PU	Culture (Fecal)
Staphylococcus hyicus ¹	43/320	0/110	0/80	0/10	0/10	0/10	PU	Culture (Skin Swab)
β-haemolytic Streptococci	0/320	0/110	0/80	0/10	0/10	0/10	PU	Culture (Nasal Swab)
Streptococcus suis-type 2	0/320	0/110	0/80	0/10	0/10	0/10	PU	Culture (Nasal Swab)
Streptococcus suis-other	6/320	7/110	6/80	0/10	1/10	1/10	PU	Culture (Nasal Swab)
Yersinia enterocolitica	0/320	0/110	0/80	0/10	0/10	0/10	PU	Culture (Fecal)
FUNGAL INFECTIONS								
Candida albicans	5/320	0/110	0/80	0/10	0/10	0/10	PU	Culture (Skin Swab)
Microsporium spp.	0/320	0/110	0/80	0/10	0/10	0/10	PU	Culture (Fecal)
Trichophyton spp.	0/320	0/110	0/80	0/10	0/10	0/10	PU	Culture (Fecal)
PARASITOLOGICAL INFECTIONS								
Arthropods	0/320	0/110	0/80	0/10	0/10	0/10	In-house	Micr. Insp. (Skin Swab)
Helminths	0/320	0/110	0/80	0/10	0/10	0/10	In-house	Sodium Nitrate (Fecal)
Coccidia (Eimeria, Isospora)	0/320	0/110	0/80	0/10	0/10	0/10	In-house	Sodium Nitrate (Fecal)
Giardia	0/320	0/110	0/80	0/10	0/10	0/10	In-house	Zinc Sulfate (Fecal)
Toxoplasma gondii	0/320	0/110	0/80	0/10	0/10	0/10	PU	IFA (Blood)

NA=not applicable

NE=not examined

*P3 was populated with animals from P1 in October 2016. Animals can flow in one direction from P3 to P2. First migration of animals into P2 occurred in November 2014.

Laboratories:

PU: Purdue University, Animal Disease Diagnostic Laboratory, 406 S. University Street, West Lafayette, IN 47907

Iowa: Iowa State University, Veterinary Diagnostic Laboratory, 1850 Christensen Dr, Ames, Iowa 50011

UM: University of Minnesota, Veterinary Diagnostic Laboratory, 1333 Gortner Avenue, St. Paul, MN 55108

1. Until January 2006, Staphylococcus isolates were reported as Staphylococcus hyicus. Subsequently, isolates were further characterized, and identified as Staphylococcus hyicus subspecies chromogenes. In keeping with more recent standards of nomenclature, Staphylococcus hyicus and Staphylococcus chromogenes are now considered taxonomically distinct. Therefore, Staphylococcus chromogenes will no longer be reported under Staphylococcus hyicus.

2. In February 2009, the presence of *Clostridium perfringens* Type C enteric disease was confirmed in 0-3 day old piglets. This is a disease specific to newborns and affected piglets died within 12-24 hours of onset or were culled immediately when symptoms consistent with this disease were displayed. There is no carrier state associated with this bacterium. Subsequent to this incidence, pregnant sows are now prophylactically vaccinated with *Clostridium perfringens* Types C and D toxoid twice during pregnancy.

3. The presence of Porcine Epidemic Diarrhea Virus (PEDV) was first confirmed in pork production herds in the US on May 17, 2013. PEDV is a coronavirus related to Transmissible Gastroenteritis Virus (TGEV) that causes similar enteric disease in pigs of all ages. Diagnostic tests for TGEV will not detect PEDV. Surveillance testing was implemented in our colony beginning in March 2014.

4. As of February 2015, Influenza A will replace the test for H1N1 and H3N2.

Bambi Jasmin
Bambi Jasmin, DVM

10/2/2020
Date



BIO RESOURCES

Health Monitoring Report

Based on FELASA Recommendations

Name and address of the breeder: Marshall BioResources, North Rose, NY

Date of issue: July 2020

Unit N°: Barriers P1, P2 and P3

Examination date: Quarter 2, 2020

Species: Porcine

Strain: Göttingen Minipig

Populated*: P1 August 2003, P3 October 2016

	CUMULATIVE RESULTS			CURRENT TEST RESULTS			LABORATORY	METHOD
	P1	P2	P3	P1	P2	P3		
VIRAL INFECTIONS								
Aujeszky's Disease (Pseudorabies)	0/300	0/100	0/70	NE	NE	NE	PU	ELISA (Blood)
Classical Swine Fever (hog cholera)	NA	NA	NA	NE	NE	NE	NA	NA (U.S. free of Hog Cholera)
Porcine Epidemic Diarrhea ³	0/70	0/50	0/20	NE	NE	NE	Iowa	PCR (Fecal)
PEDV/PDCoV	0/62	0/74	0/62	0/2	0/4	0/2	Iowa	Multiplex PCR (Fecal)
Encephalomyocarditis Virus	0/310	0/100	0/70	NE	NE	NE	UM	SN (Blood)
Haemagglutinating Encephalomyelitis	0/310	0/100	0/70	NE	NE	NE	UM	HI (Blood)
Porcine Circovirus II	0/310	0/100	0/70	NE	NE	NE	PU	IFA (Blood)
Porcine Influenza								
A ⁴	0/100	0/100	0/70	NE	NE	NE	PU	ELISA (Blood)
H1N1	0/220	NE	NE	NE	NE	NE	PU	ELISA (Blood)
H3N2	0/220	NE	NE	NE	NE	NE	PU	ELISA (Blood)
Porcine Parvovirus	0/310	0/100	0/70	NE	NE	NE	UM	HI (Blood)
Porcine Reproduct. & Resp. Syndrome	0/322	0/124	0/82	0/2	0/4	0/2	Iowa	ELISA (Blood)
Porcine Respiratory Coronavirus	0/310	0/100	0/70	NE	NE	NE	PU	ELISA (Blood)
Porcine Rotavirus	174/310	70/100	41/70	NE	NE	NE	PU	IFF (Blood)
Transmissible Gastroenteritis	0/310	0/100	0/70	NE	NE	NE	PU	ELISA (Blood)
BACTERIAL INFECTIONS								
Actinobacillus pleuropneumoniae								
Serotypes 1, 5, 7	0/310	0/100	0/70	NE	NE	NE	UM	ELISA (Blood)
Bordetella bronchiseptica	5/340	0/100	4/159	NE	NE	NE	PU	Culture (Nasal Swab)
Brachyspira (Serpulina) hyodysenteriae	0/310	0/100	0/70	NE	NE	NE	PU	PCR (Fecal)
Brucella abortus	0/310	0/100	0/70	NE	NE	NE	PU	Agglutination (Blood)
Campylobacter spp.	3/310	0/100	0/70	NE	NE	NE	PU	Culture (Fecal)
Clostridium perfringens Type C ²	0/310	0/100	0/70	NE	NE	NE	PU	Culture (Fecal)
Erysipelothrix rhusiopathiae	0/310	0/100	0/70	NE	NE	NE	PU	Culture (Skin Swab)
Eubacterium suis	0/310	0/100	0/70	NE	NE	NE	PU	Culture (Urine)
Haemophilus parasuis	0/310	0/100	0/70	NE	NE	NE	PU	Culture (Nasal Swab)
Lawsonia intracellularis	0/310	0/100	0/70	NE	NE	NE	PU	PCR (Fecal)
Leptospira spp.	0/310	0/100	0/70	NE	NE	NE	PU	MA (Blood)
(pomona, grippotyphosa, hardjo, canicola, icterohemorrhagiae, bratislava)								
Mycoplasma hyopneumoniae	0/240	0/100	0/70	NE	NE	NE	PU	ELISA (Blood)
P. multocida (toxin producing)	0/310	0/100	0/70	NE	NE	NE	PU	Culture (Nasal Swab)
P. haemolytica	0/310	0/100	0/70	NE	NE	NE	PU	Culture (Nasal Swab)
P. pneumotropica	0/310	0/100	0/70	NE	NE	NE	PU	Culture (Nasal Swab)
other pasteurellae	0/310	0/100	0/70	NE	NE	NE	PU	Culture (Nasal Swab)
Salmonella spp.	0/310	0/100	0/70	NE	NE	NE	PU	Culture (Fecal)
Staphylococcus hyicus ¹	43/310	0/100	0/70	NE	NE	NE	PU	Culture (Skin Swab)
β-haemolytic Streptococci	0/310	0/100	0/70	NE	NE	NE	PU	Culture (Nasal Swab)
Streptococcus suis-type 2	0/310	0/100	0/70	NE	NE	NE	PU	Culture (Nasal Swab)
Streptococcus suis-other	6/310	6/100	5/70	NE	NE	NE	PU	Culture (Nasal Swab)
Yersinia enterocolitica	0/310	0/100	0/70	NE	NE	NE	PU	Culture (Fecal)
FUNGAL INFECTIONS								
Candida albicans	5/310	0/100	0/70	NE	NE	NE	PU	Culture (Skin Swab)
Microsporium spp.	0/310	0/100	0/70	NE	NE	NE	PU	Culture (Fecal)
Trichophyton spp.	0/310	0/100	0/70	NE	NE	NE	PU	Culture (Fecal)
PARASITOLOGICAL INFECTIONS								
Arthropods	0/310	0/100	0/70	NE	NE	NE	In-house	Micr. Insp. (Skin Swab)
Helminths	0/310	0/100	0/70	NE	NE	NE	In-house	Sodium Nitrate (Fecal)
Coccidia (Eimeria, Isospora)	0/310	0/100	0/70	NE	NE	NE	In-house	Sodium Nitrate (Fecal)
Giardia	0/310	0/100	0/70	NE	NE	NE	In-house	Zinc Sulfate (Fecal)
Toxoplasma gondii	0/310	0/100	0/70	NE	NE	NE	PU	IFA (Blood)

NA=not applicable
NE=not examined

*P3 was populated with animals from P1 in October 2016. Animals can flow in one direction from P3 to P2. First migration of animals into P2 occurred in November 2014.


Laboratories:

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1. Until January 2006, Staphylococcus isolates were reported as Staphylococcus hyicus. Subsequently, isolates were further characterized, and identified as Staphylococcus hyicus subspecies chromogenes. In keeping with more recent standards of nomenclature, Staphylococcus hyicus and Staphylococcus chromogenes are now considered taxonomically distinct. Therefore, Staphylococcus chromogenes will no longer be reported under Staphylococcus hyicus.
2. In February 2009, the presence of *Clostridium perfringens* Type C enteric disease was confirmed in 0-3 day old piglets. This is a disease specific to newborns and affected piglets died within 12-24 hours of onset or were culled immediately when symptoms consistent with this disease were displayed. There is no carrier state associated with this bacterium. Subsequent to this incidence, pregnant sows are now prophylactically vaccinated with *Clostridium perfringens* Types C and D toxoid twice during pregnancy.
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4. As of February 2015, Influenza A will replace the test for H1N1 and H3N2.


Bambi Jasmin, DVM


Date



Health Monitoring Report

Based on FELASA Recommendations

BIORESOURCES

Name and address of the breeder: Marshall BioResources, North Rose, NY

Date of issue: April 2020

Unit N°: Barriers P1, P2 and P3

Examination date: Quarter 1, 2020

Species: Porcine

Strain: Göttingen Minipig

Populated*: P1 August 2003, P3 October 2016

	CUMULATIVE RESULTS			CURRENT TEST RESULTS			LABORATORY	METHOD
	P1	P2	P3	P1	P2	P3		
VIRAL INFECTIONS								
Aujeszky's Disease (Pseudorabies)	0/300	0/100	0/70	0/10	0/10	0/10	PU	ELISA (Blood)
Classical Swine Fever (hog cholera)	NA	NA	NA	NE	NE	NE	NA	NA (U.S. free of Hog Cholera)
Porcine Epidemic Diarrhea ³	0/70	0/50	0/20	NE	NE	NE	Iowa	PCR (Fecal)
PEDV/PDCoV	0/60	0/70	0/60	0/10	0/10	0/10	Iowa	Multiplex PCR (Fecal)
Encephalomyocarditis Virus	0/310	0/100	0/70	0/10	0/10	0/10	UM	SN (Blood)
Haemagglutinating Encephalomyelitis	0/310	0/100	0/70	0/10	0/10	0/10	UM	HI (Blood)
Porcine Circovirus II	0/310	0/100	0/70	0/10	0/10	0/10	PU	IFA (Blood)
Porcine Influenza								
A ⁴	0/100	0/100	0/70	0/10	0/10	0/10	PU	ELISA (Blood)
H1N1	0/220	NE	NE	NE	NE	NE	PU	ELISA (Blood)
H3N2	0/220	NE	NE	NE	NE	NE	PU	ELISA (Blood)
Porcine Parvovirus	0/310	0/100	0/70	0/10	0/10	0/10	UM	HI (Blood)
Porcine Reproduct. & Resp. Syndrome	0/320	0/120	0/80	0/10	0/10	0/10	Iowa	ELISA (Blood)
Porcine Respiratory Coronavirus	0/310	0/100	0/70	0/10	0/10	0/10	PU	ELISA (Blood)
Porcine Rotavirus	174/310	70/100	41/70	4/10	10/10	10/10	PU	IFF (Blood)
Transmissible Gastroenteritis	0/310	0/100	0/70	0/10	0/10	0/10	PU	ELISA (Blood)
BACTERIAL INFECTIONS								
Actinobacillus pleuropneumoniae								
Serotypes 1, 5, 7	0/310	0/100	0/70	0/10	0/10	0/10	UM	ELISA (Blood)
Bordetella bronchiseptica	5/340	0/100	4/159	0/10	0/10	1/10	PU	Culture (Nasal Swab)
Brachyspira (Serpulina) hyodysenteriae	0/310	0/100	0/70	0/10	0/10	0/10	PU	PCR (Fecal)
Brucella abortus	0/310	0/100	0/70	0/10	0/10	0/10	PU	Agglutination (Blood)
Campylobacter spp.	3/310	0/100	0/70	0/10	0/10	0/10	PU	Culture (Fecal)
Clostridium perfringens Type C ²	0/310	0/100	0/70	0/10	0/10	0/10	PU	Culture (Fecal)
Erysipelothrix rhusiopathiae	0/310	0/100	0/70	0/10	0/10	0/10	PU	Culture (Skin Swab)
Eubacterium suis	0/310	0/100	0/70	0/10	0/10	0/10	PU	Culture (Urine)
Haemophilus parasuis	0/310	0/100	0/70	0/10	0/10	0/10	PU	Culture (Nasal Swab)
Lawsonia intracellularis	0/310	0/100	0/70	0/10	0/10	0/10	PU	PCR (Fecal)
Leptospira spp.	0/310	0/100	0/70	0/10	0/10	0/10	PU	MA (Blood)
(pomona, grippotyphosa, hardjo, canicola, icterohemorrhagiae, bratislava)								
Mycoplasma hyopneumoniae	0/240	0/100	0/70	0/10	0/10	0/10	PU	ELISA (Blood)
P. multocida (toxin producing)	0/310	0/100	0/70	0/10	0/10	0/10	PU	Culture (Nasal Swab)
P. haemolytica	0/310	0/100	0/70	0/10	0/10	0/10	PU	Culture (Nasal Swab)
P. pneumotropica	0/310	0/100	0/70	0/10	0/10	0/10	PU	Culture (Nasal Swab)
other pasteurellae	0/310	0/100	0/70	0/10	0/10	0/10	PU	Culture (Nasal Swab)
Salmonella spp.	0/310	0/100	0/70	0/10	0/10	0/10	PU	Culture (Fecal)
Staphylococcus hyicus ¹	43/310	0/100	0/70	0/10	0/10	0/10	PU	Culture (Skin Swab)
β-haemolytic Streptococci	0/310	0/100	0/70	0/10	0/10	0/10	PU	Culture (Nasal Swab)
Streptococcus suis-type 2	0/310	0/100	0/70	0/10	0/10	0/10	PU	Culture (Nasal Swab)
Streptococcus suis-other	6/310	6/100	5/70	2/10	2/10	0/10	PU	Culture (Nasal Swab)
Yersinia enterocolitica	0/310	0/100	0/70	0/10	0/10	0/10	PU	Culture (Fecal)
FUNGAL INFECTIONS								
Candida albicans	5/310	0/100	0/70	0/10	0/10	0/10	PU	Culture (Skin Swab)
Microsporium spp.	0/310	0/100	0/70	0/10	0/10	0/10	PU	Culture (Fecal)
Trichophyton spp.	0/310	0/100	0/70	0/10	0/10	0/10	PU	Culture (Fecal)
PARASITOLOGICAL INFECTIONS								
Arthropods	0/310	0/100	0/70	0/10	0/10	0/10	In-house	Micr. Insp. (Skin Swab)
Helminths	0/310	0/100	0/70	0/10	0/10	0/10	In-house	Sodium Nitrate (Fecal)
Coccidia (Eimeria, Isospora)	0/310	0/100	0/70	0/10	0/10	0/10	In-house	Sodium Nitrate (Fecal)
Giardia	0/310	0/100	0/70	0/10	0/10	0/10	In-house	Zinc Sulfate (Fecal)
Toxoplasma gondii	0/310	0/100	0/70	0/10	0/10	0/10	PU	IFA (Blood)

NA=not applicable

NE=not examined

*P3 was populated with animals from P1 in October 2016. Animals can flow in one direction from P3 to P2. First migration of animals into P2 occurred in November 2014.

Laboratories:

PU: Purdue University, Animal Disease Diagnostic Laboratory, 406 S. University Street, West Lafayette, IN 47907
Iowa: Iowa State University, Veterinary Diagnostic Laboratory, 1850 Christensen Dr, Ames, Iowa 50011
UM: University of Minnesota, Veterinary Diagnostic Laboratory, 1333 Gortner Avenue, St. Paul, MN 55108

1. Until January 2006, Staphylococcus isolates were reported as Staphylococcus hyicus. Subsequently, isolates were further characterized, and identified as Staphylococcus hyicus subspecies chromogenes. In keeping with more recent standards of nomenclature, Staphylococcus hyicus and Staphylococcus chromogenes are now considered taxonomically distinct. Therefore, Staphylococcus chromogenes will no longer be reported under Staphylococcus hyicus.
2. In February 2009, the presence of *Clostridium perfringens* Type C enteric disease was confirmed in 0-3 day old piglets. This is a disease specific to newborns and affected piglets died within 12-24 hours of onset or were culled immediately when symptoms consistent with this disease were displayed. There is no carrier state associated with this bacterium. Subsequent to this incidence, pregnant sows are now prophylactically vaccinated with *Clostridium perfringens* Types C and D toxoid twice during pregnancy.
3. The presence of Porcine Epidemic Diarrhea Virus (PEDV) was first confirmed in pork production herds in the US on May 17, 2013. PEDV is a coronavirus related to Transmissible Gastroenteritis Virus (TGEV) that causes similar enteric disease in pigs of all ages. Diagnostic tests for TGEV will not detect PEDV. Surveillance testing was implemented in our colony beginning in March 2014.
4. As of February 2015, Influenza A will replace the test for H1N1 and H3N2.

Bambi H. Jasmin
Bambi Jasmin, DVM

04/20/2020
Date



BIORESOURCES

Health Monitoring Report

Based on FELASA Recommendations

Name and address of the breeder: Marshall BioResources, North Rose, NY

Date of issue: October 2019

Unit N°: Barriers P1, P2 and P3

Examination date: Quarter 3, 2019

Species: Porcine

Strain: Göttingen Minipig

Populated*: P1 August 2003, P3 October 2016

	CUMULATIVE RESULTS			CURRENT TEST RESULTS			LABORATORY	METHOD
	P1	P2	P3	P1	P2	P3		
VIRAL INFECTIONS								
Aujeszky's Disease (Pseudorabies)	0/290	0/90	0/60	0/10	0/10	0/10	PU	ELISA (Blood)
Classical Swine Fever (hog cholera)	NA	NA	NA	NE	NE	NE	NA	NA (U.S. free of Hog Cholera)
Porcine Epidemic Diarrhea ³	0/70	0/50	0/20	NE	NE	NE	Iowa	PCR (Fecal)
PEDV/PDCoV	0/48	0/56	0/48	0/10	0/10	0/10	Iowa	Multiplex PCR (Fecal)
Encephalomyocarditis Virus	0/300	0/90	0/60	0/10	0/10	0/10	UM	SN (Blood)
Haemagglutinating Encephalomyelitis	0/300	0/90	0/60	0/10	0/10	0/10	UM	HI (Blood)
Porcine Circovirus II	0/300	0/90	0/60	0/10	0/10	0/10	PU	IFA (Blood)
Porcine Influenza								
A ⁴	0/90	0/90	0/60	0/10	0/10	0/10	PU	ELISA (Blood)
H1N1	0/220	NE	NE	NE	NE	NE	PU	ELISA (Blood)
H3N2	0/220	NE	NE	NE	NE	NE	PU	ELISA (Blood)
Porcine Parvovirus	0/300	0/90	0/60	0/10	0/10	0/10	UM	HI (Blood)
Porcine Reproduct. & Resp. Syndrome	0/308	0/106	0/68	0/10	0/10	0/10	Iowa	ELISA (Blood)
Porcine Respiratory Coronavirus	0/300	0/90	0/60	0/10	0/10	0/10	PU	ELISA (Blood)
Porcine Rotavirus	170/300	60/90	31/60	10/10	7/10	6/10	PU	IFF (Blood)
Transmissible Gastroenteritis	0/300	0/90	0/60	0/10	0/10	0/10	PU	ELISA (Blood)
BACTERIAL INFECTIONS								
Actinobacillus pleuropneumoniae								
Serotypes 1, 5, 7	0/300	0/90	0/60	0/10	0/10	0/10	UM	ELISA (Blood)
Bordetella bronchiseptica	5/330	0/90	3/149	0/10	0/10	0/10	PU	Culture (Nasal Swab)
Brachyspira (Serpulina) hyodysenteriae	0/300	0/90	0/60	0/10	0/10	0/10	PU	PCR (Fecal)
Brucella abortus	0/300	0/90	0/60	0/10	0/10	0/10	PU	Agglutination (Blood)
Campylobacter spp.	3/300	0/90	0/60	0/10	0/10	0/10	PU	Culture (Fecal)
Clostridium perfringens Type C ²	0/300	0/90	0/60	0/10	0/10	0/10	PU	Culture (Fecal)
Erysipelothrix rhusiopathiae	0/300	0/90	0/60	0/10	0/10	0/10	PU	Culture (Skin Swab)
Eubacterium suis	0/300	0/90	0/60	0/10	0/10	0/10	PU	Culture (Urine)
Haemophilus parasuis	0/300	0/90	0/60	0/10	0/10	0/10	PU	Culture (Nasal Swab)
Lawsonia intracellularis	0/300	0/90	0/60	0/10	0/10	0/10	PU	PCR (Fecal)
Leptospira spp.	0/300	0/90	0/60	0/10	0/10	0/10	PU	MA (Blood)
(pomona, grippotyphosa, hardjo, canicola, icterohemorrhagiae, bratislava)								
Mycoplasma hyopneumoniae	0/230	0/90	0/60	0/10	0/10	0/10	PU	ELISA (Blood)
P. multocida (toxin producing)	0/300	0/90	0/60	0/10	0/10	0/10	PU	Culture (Nasal Swab)
P. haemolytica	0/300	0/90	0/60	0/10	0/10	0/10	PU	Culture (Nasal Swab)
P. pneumotropica	0/300	0/90	0/60	0/10	0/10	0/10	PU	Culture (Nasal Swab)
other pasteurellae	0/300	0/90	0/60	0/10	0/10	0/10	PU	Culture (Nasal Swab)
Salmonella spp.	0/300	0/90	0/60	0/10	0/10	0/10	PU	Culture (Fecal)
Staphylococcus hyicus ¹	43/300	0/90	0/60	0/10	0/10	0/10	PU	Culture (Skin Swab)
β-haemolytic Streptococci	0/300	0/90	0/60	0/10	0/10	0/10	PU	Culture (Nasal Swab)
Streptococcus suis-type 2	0/300	0/90	0/60	0/10	0/10	0/10	PU	Culture (Nasal Swab)
Streptococcus suis-other	4/300	4/90	5/60	0/10	1/10	0/10	PU	Culture (Nasal Swab)
Yersinia enterocolitica	0/300	0/90	0/60	0/10	0/10	0/10	PU	Culture (Fecal)
FUNGAL INFECTIONS								
Candida albicans	5/300	0/90	0/60	0/10	0/10	0/10	PU	Culture (Skin Swab)
Microsporium spp.	0/300	0/90	0/60	0/10	0/10	0/10	PU	Culture (Fecal)
Trichophyton spp.	0/300	0/90	0/60	0/10	0/10	0/10	PU	Culture (Fecal)
PARASITOLOGICAL INFECTIONS								
Arthropods	0/300	0/90	0/60	0/10	0/10	0/10	In-house	Micr. Insp. (Skin Swab)
Helminths	0/300	0/90	0/60	0/10	0/10	0/10	In-house	Sodium Nitrate (Fecal)
Coccidia (Eimeria, Isospora)	0/300	0/90	0/60	0/10	0/10	0/10	In-house	Sodium Nitrate (Fecal)
Giardia	0/300	0/90	0/60	0/10	0/10	0/10	In-house	Zinc Sulfate (Fecal)
Toxoplasma gondii	0/300	0/90	0/60	0/10	0/10	0/10	PU	IFA (Blood)

NA=not applicable

NE=not examined

*P3 was populated with animals from P1 in October 2016. Animals can flow in one direction from P3 to P2. First migration of animals into P2 occurred in November 2014.

Laboratories:

PU: Purdue University, Animal Disease Diagnostic Laboratory, 406 S. University Street, West Lafayette, IN 47907

Iowa: Iowa State University, Veterinary Diagnostic Laboratory, 1850 Christensen Dr, Ames, Iowa 50011

UM: University of Minnesota, Veterinary Diagnostic Laboratory, 1333 Gortner Avenue, St. Paul, MN 55108

1. Until January 2006, *Staphylococcus* isolates were reported as *Staphylococcus hyicus*. Subsequently, isolates were further characterized, and identified as *Staphylococcus hyicus* subspecies *chromogenes*. In keeping with more recent standards of nomenclature, *Staphylococcus hyicus* and *Staphylococcus chromogenes* are now considered taxonomically distinct. Therefore, *Staphylococcus chromogenes* will no longer be reported under *Staphylococcus hyicus*.
2. In February 2009, the presence of *Clostridium perfringens* Type C enteric disease was confirmed in 0-3 day old piglets. This is a disease specific to newborns and affected piglets died within 12-24 hours of onset or were culled immediately when symptoms consistent with this disease were displayed. There is no carrier state associated with this bacterium. Subsequent to this incidence, pregnant sows are now prophylactically vaccinated with *Clostridium perfringens* Types C and D toxoid twice during pregnancy.
3. The presence of Porcine Epidemic Diarrhea Virus (PEDV) was first confirmed in pork production herds in the US on May 17, 2013. PEDV is a coronavirus related to Transmissible Gastroenteritis Virus (TGEV) that causes similar enteric disease in pigs of all ages. Diagnostic tests for TGEV will not detect PEDV. Surveillance testing was implemented in our colony beginning in March 2014.
4. As of February 2015, Influenza A will replace the test for H1N1 and H3N2.

Bambi H Jasmin
Bambi Jasmin, DVM

10/25/2019
Date



BIORESOURCES

Health Monitoring Report

Based on FELASA Recommendations

Name and address of the breeder: Marshall BioResources, North Rose, NY

Date of issue: May 2018 Unit N^o: Galen Rd – P1, P2 & P3 Examination date: Quarter 2, 2018

Species: Porcine Strain: Göttingen Minipig Populated[†]: P1 August 2003, P3 October 2016

	CUMULATIVE RESULTS			CURRENT TEST RESULTS			LABORATORY	METHOD
	P1	P2	P3	P1	P2	P3		
VIRAL INFECTIONS								
Aujeszky's Disease (Pseudorabies)	0/260	0/60	0/30	NE	NE	NE	PU	ELISA (Blood)
Classical Swine Fever (hog cholera)	NA	NA	NA	NE	NE	NE	NA	NA (U.S. free of Hog Cholera)
Porcine Epidemic Diarrhea****	0/70	0/50	0/20	NE	NE	NE	Iowa	PCR (Fecal)
PEDV/PDCoV	0/14	0/18	0/14	0/2	0/4	0/2	Iowa	Multiplex PCR (Fecal)
Encephalomyocarditis Virus	0/270	0/60	0/30	NE	NE	NE	UM	SN (Blood)
Haemagglutinating Encephalomyelitis	0/270	0/60	0/30	NE	NE	NE	UM	HI (Blood)
Porcine Circovirus II	0/270	0/60	0/30	NE	NE	NE	PU	IFA (Blood)
Porcine Influenza								
A ****	0/60	0/60	0/30	NE	NE	NE	PU	ELISA (Blood)
H1N1	0/220	NE	NE	NE	NE	NE	PU	ELISA (Blood)
H3N2	0/220	NE	NE	NE	NE	NE	PU	ELISA (Blood)
Porcine Parvovirus	0/270	0/60	0/30	NE	NE	NE	UM	HI (Blood)
Porcine Reproduct. & Resp. Syndrome	0/274	0/68	0/34	0/2	0/4	0/2	Iowa	ELISA (Blood)
Porcine Respiratory Coronavirus	0/270	0/60	0/30	NE	NE	NE	PU	ELISA (Blood)
Porcine Rotavirus	147/270	39/60	11/30	NE	NE	NE	PU	IFF (Blood)
Transmissible Gastroenteritis	0/270	0/60	0/30	NE	NE	NE	PU	ELISA (Blood)
BACTERIAL INFECTIONS								
Actinobacillus pleuropneumoniae								
Serotypes 1, 5, 7	0/270	0/60	0/30	NE	NE	NE	UM	ELISA (Blood)
Bordetella bronchiseptica	1/270	0/60	0/30	NE	NE	NE	PU	Culture (Nasal Swab)
Brachyspira (Serpulina) hyodysenteriae	0/270	0/60	0/30	NE	NE	NE	PU	PCR (Fecal)
Brucella abortus	0/260	0/60	0/30	NE	NE	NE	PU	Agglutination (Blood)
Campylobacter spp.	3/270	0/60	0/30	NE	NE	NE	PU	Culture (Fecal)
Clostridium perfringens Type C***	0/270	0/60	0/30	NE	NE	NE	PU	Culture (Fecal)
Erysipelothrix rhusiopathiae	0/270	0/60	0/30	NE	NE	NE	PU	Culture (Skin Swab)
Eubacterium suis	0/270	0/60	0/30	NE	NE	NE	PU	Culture (Urine)
Haemophilus parasuis	0/270	0/60	0/30	NE	NE	NE	PU	Culture (Nasal Swab)
Lawsonia intracellularis	0/270	0/60	0/30	NE	NE	NE	PU	PCR (Fecal)
Leptospira spp.	0/270	0/60	0/30	NE	NE	NE	PU	MA (Blood)
(pomona, grippityphosa, hardjo, canicola, icterohemorrhagiae, bratislava)								
Mycoplasma hyopneumoniae	0/270	0/60	0/30	NE	NE	NE	PU	ELISA (Blood)
P. multocida (toxin producing)	0/270	0/60	0/30	NE	NE	NE	PU	Culture (Nasal Swab)
P. haemolytica	0/270	0/60	0/30	NE	NE	NE	PU	Culture (Nasal Swab)
P. pneumotropica	0/270	0/60	0/30	NE	NE	NE	PU	Culture (Nasal Swab)
other pasteurellae	0/270	0/60	0/30	NE	NE	NE	PU	Culture (Nasal Swab)
Salmonella spp.	0/270	0/60	0/30	NE	NE	NE	PU	Culture (Fecal)
Staphylococcus hyicus**	43/270	0/60	0/30	NE	NE	NE	PU	Culture (Skin Swab)
β-haemolytic Streptococci	0/270	0/60	0/30	NE	NE	NE	PU	Culture (Nasal Swab)
Streptococcus suis-type 2	0/270	0/60	0/30	NE	NE	NE	PU	Culture (Nasal Swab)
Streptococcus suis-other	3/270	1/60	2/30	NE	NE	NE	PU	Culture (Nasal Swab)
Yersinia enterocolitica	0/270	0/60	0/30	NE	NE	NE	PU	Culture (Fecal)
FUNGAL INFECTIONS								
Candida albicans	5/270	0/60	0/30	NE	NE	NE	PU	Culture (Skin Swab)
Microsporium spp.	0/270	0/60	0/30	NE	NE	NE	PU	Culture (Fecal)
Trichophyton spp.	0/270	0/60	0/30	NE	NE	NE	PU	Culture (Fecal)
PARASITOLOGICAL INFECTIONS								
Arthropods	0/270	0/60	0/30	NE	NE	NE	In-house	Micr. Insp. (Skin Swab)
Helminths	0/270	0/60	0/30	NE	NE	NE	In-house	Flotation* (Fecal)
Coccidia (Eimeria, Isospora)	0/270	0/60	0/30	NE	NE	NE	In-house	Flotation* (Fecal)
Giardia	0/270	0/60	0/30	NE	NE	NE	In-house	Flotation* (Fecal)
Toxoplasma gondii	0/270	0/60	0/30	NE	NE	NE	PU	IFA (Blood)

NA=not applicable
NE=not examined

[†]Continuous flow of animals in one direction from P1 into P2. First migration of animals into P2 occurred in November 2014. P3 was populated with animals from P1 in October of 2016. Animals can also flow in one direction from P3 to P2.

Abbreviations for laboratories:

PU Purdue University Animal Disease Diagnostic Laboratory
IDEXX Production Animal Services, Idexx Laboratories
UM University of Minnesota, Minnesota Veterinary Diagnostic Laboratory
Iowa State University of Iowa, Veterinary Diagnostic Laboratory

Abbreviations for methods:

ELISA: Enzyme Linked Immuno-Sorbent Assay; IFA: Immuno Fluorescence Assay; VN: Virus Neutralization; MA: Microagglutination; SN: Serum Neutralization;
HI: Hemagglutination Inhibition; PCR: Polymerase Chain Reaction

* Sodium Nitrate

** Until January 2006, Staphylococcus isolates were reported as Staphylococcus hyicus. Subsequently, isolates were further characterized, and identified as Staphylococcus hyicus subspecies chromogenes. In keeping with more recent standards of nomenclature, Staphylococcus hyicus and Staphylococcus chromogenes are now considered taxonomically distinct. Therefore, Staphylococcus chromogenes will no longer be reported under Staphylococcus hyicus.

*** In February 2009, the presence of *Clostridium perfringens* Type C enteric disease was confirmed in 0-3 day old piglets. This is a disease specific to newborns and affected piglets died within 12-24 hours of onset or were culled immediately when symptoms consistent with this disease were displayed. There is no carrier state associated with this bacterium. Subsequent to this incidence, pregnant sows are now prophylactically vaccinated with *Clostridium perfringens* Types C and D toxoid twice during pregnancy.

**** The presence of Porcine Epidemic Diarrhea Virus (PEDV) was first confirmed in pork production herds in the US on May 17, 2013. PEDV is a coronavirus related to Transmissible Gastroenteritis Virus (TGEV) that causes similar enteric disease in pigs of all ages. Diagnostic tests for TGEV will not detect PEDV. Surveillance testing was implemented in our colony beginning in March 2014.

***** As of February 2015, Influenza A will replace the test for H1N1 and H3N2.

Bambi H. Jasmin
Bambi Jasmin, DVM

May 24, 2018
Date

Health Monitoring Report

Based on FELASA Recommendations

Name and address of the breeder: *Marshall Farms Group, North Rose, NY*

Date of issue: March 2017 Unit N^o: *Galen Rd – P1, P2 & P3* Examination date: February 2017

Species: Porcine Strain: Göttingen Minipig Populated[†]: P1 August 2003, P3 October 2016

	CUMULATIVE RESULTS			CURRENT TEST RESULTS			LABORATORY	METHOD
	P1	P2	P3	P1	P2	P3		
VIRAL INFECTIONS								
Aujeszky's Disease (Pseudorabies)	0/240	0/40	0/10	0/10	0/10	0/10	PU	ELISA (Blood)
Classical Swine Fever (hog cholera)	NA	NA	NA	NE	NE	NE	NA	NA (U.S. free of Hog Cholera)
Porcine Epidemic Diarrhea****	0/60	0/40	0/10	0/10	0/10	0/10	Iowa	IFA (Blood)
Encephalomyocarditis Virus	0/250	0/40	0/10	0/10	0/10	0/10	UM	SN (Blood)
Haemagglutinating Encephalomyelitis	0/250	0/40	0/10	0/10	0/10	0/10	UM	HI (Blood)
Porcine Circovirus II	0/250	0/40	0/10	0/10	0/10	0/10	PU	IFA (Blood)
Porcine Influenza								
A *****	0/40	0/40	0/10	0/10	0/10	0/10	PU	ELISA (Blood)
H1N1	0/220	NE	NE	NE	NE	NE	PU	ELISA (Blood)
H3N2	0/220	NE	NE	NE	NE	NE	PU	ELISA (Blood)
Porcine Parvovirus	0/250	0/40	0/10	0/10	0/10	0/10	UM	HI (Blood)
Porcine Reproduct. & Resp. Syndrome	0/250	0/40	0/10	0/10	0/10	0/10	PU	ELISA (Blood)
Porcine Respiratory Coronavirus	0/250	0/40	0/10	0/10	0/10	0/10	PU	ELISA (Blood)
Porcine Rotavirus	130/250	24/40	0/10	7/10	9/10	0/10	PU	IFF (Blood)
Transmissible Gastroenteritis	0/250	0/40	0/10	0/10	0/10	0/10	PU	ELISA (Blood)
BACTERIAL INFECTIONS								
Actinobacillus pleuropneumoniae								
Serotypes 1, 5, 7	0/250	0/40	0/10	0/10	0/10	0/10	UM	ELISA (Blood)
Bordetella bronchiseptica	1/250	0/40	0/10	0/10	0/10	0/10	PU	Culture (Nasal Swab)
Brachyspira (Serpulina) hyodysenteriae	0/250	0/40	0/10	0/10	0/10	0/10	PU	PCR (Fecal)
Brucella abortus	0/240	0/40	0/10	0/10	0/10	0/10	PU	Agglutination (Blood)
Campylobacter spp.	3/250	0/40	0/10	0/10	0/10	0/10	PU	Culture (Fecal)
Clostridium perfringens Type C***	0/250	0/40	0/10	0/10	0/10	0/10	PU	Culture (Fecal)
Erysipelothrix rhusiopathiae	0/250	0/40	0/10	0/10	0/10	0/10	PU	Culture (Skin Swab)
Eubacterium suis	0/250	0/40	0/10	0/10	0/10	0/10	PU	Culture (Urine)
Haemophilus parasuis	0/250	0/40	0/10	0/10	0/10	0/10	PU	Culture (Nasal Swab)
Lawsonia intracellularis	0/250	0/40	0/10	0/10	0/10	0/10	PU	PCR (Fecal)
Leptospira spp.	0/250	0/40	0/10	0/10	0/10	0/10	PU	MA (Blood)
(pomona, grippotyphosa, hardjo, canicola, icterohemorrhagiae, bratislava)								
Mycoplasma hyopneumoniae	0/250	0/40	0/10	0/10	0/10	0/10	PU	ELISA (Blood)
P. multocida (toxin producing)	0/250	0/40	0/10	0/10	0/10	0/10	PU	Culture (Nasal Swab)
P. haemolytica	0/250	0/40	0/10	0/10	0/10	0/10	PU	Culture (Nasal Swab)
P. pneumotropica	0/250	0/40	0/10	0/10	0/10	0/10	PU	Culture (Nasal Swab)
other pasteurellae	0/250	0/40	0/10	0/10	0/10	0/10	PU	Culture (Nasal Swab)
Salmonella spp.	0/250	0/40	0/10	0/10	0/10	0/10	PU	Culture (Fecal)
Staphylococcus hyicus**	43/250	0/40	0/10	0/10	0/10	0/10	PU	Culture (Skin Swab)
β-haemolytic Streptococci	0/250	0/40	0/10	0/10	0/10	0/10	PU	Culture (Nasal Swab)
Streptococcus suis-type 2	0/250	0/40	0/10	0/10	0/10	0/10	PU	Culture (Nasal Swab)
Streptococcus suis-other	3/250	0/40	0/10	0/10	0/10	0/10	PU	Culture (Nasal Swab)
Yersinia enterocolitica	0/250	0/40	0/10	0/10	0/10	0/10	PU	Culture (Fecal)
FUNGAL INFECTIONS								
Candida albicans	4/250	0/40	0/10	0/10	0/10	0/10	PU	Culture (Skin Swab)
Microsporium spp.	0/250	0/40	0/10	0/10	0/10	0/10	PU	Culture (Fecal)
Trichophyton spp.	0/250	0/40	0/10	0/10	0/10	0/10	PU	Culture (Fecal)
PARASITOLOGICAL INFECTIONS								
Arthropods	0/250	0/40	0/10	0/10	0/10	0/10	In-house	Micr. Insp. (Skin Swab)
Helminths	0/250	0/40	0/10	0/10	0/10	0/10	In-house	Flotation* (Fecal)
Coccidia (Eimeria, Isospora)	0/250	0/40	0/10	0/10	0/10	0/10	In-house	Flotation* (Fecal)
Toxoplasma gondii	0/250	0/40	0/10	0/10	0/10	0/10	PU	IFA (Blood)

NA=not applicable

NE=not examined

[†]Continuous flow of animals in one direction from P1 into P2. First migration of animals into P2 occurred in November 2014.

P3 was populated with animals from P1 in October of 2016, but has since remained isolated with no flow of animals to or from the building since then.

Abbreviations for laboratories:

PU Purdue University Animal Disease Diagnostic Laboratory
IDEXX Production Animal Services, Idexx Laboratories
UM University of Minnesota, Minnesota Veterinary Diagnostic Laboratory
Iowa State University of Iowa, Veterinary Diagnostic Laboratory
Abbreviations for methods:

ELISA: Enzyme Linked Immuno-Sorbent Assay; IFA:Immuno Fluorescence Assay; NE: Not examined; NA: Not Applicable; VN: Virus Neutralization; MA: Microagglutination; SN: Serum Neutralization;
HI: Heamagglutination Inhibition; PCR: Polymerase Chain Reaction

* Sodium Nitrate

** Until January 2006, Staphylococcus isolates were reported as Staphylococcus hyicus. Subsequently, isolates were further characterized, and identified as Staphylococcus hyicus subspecies chromogenes. In keeping with more recent standards of nomenclature, Staphylococcus hyicus and Staphylococcus chromogenes are now considered taxonomically distinct. Therefore, Staphylococcus chromogenes will no longer be reported under Staphylococcus hyicus.

*** In February 2009, the presence of *Clostridium perfringens* Type C enteric disease was confirmed in 0-3 day old piglets. This is a disease specific to newborns and affected piglets died within 12-24 hours of onset or were culled immediately when symptoms consistent with this disease were displayed. There is no carrier state associated with this bacterium. Subsequent to this incidence, pregnant sows are now prophylactically vaccinated with *Clostridium perfringens* Types C and D toxoid twice during pregnancy.

**** The presence of Porcine Epidemic Diarrhea Virus (PEDV) was first confirmed in pork production herds in the US on May 17, 2013. PEDV is a coronavirus related to Transmissible Gastroenteritis Virus (TGEV) that causes similar enteric disease in pigs of all ages. Diagnostic tests for TGEV will not detect PEDV. Surveillance testing was implemented in our colony beginning in March 2014.

***** As of February 2015, Influenza A will replace the test for H1N1 and H3N2

Bambi Jasmin
Bambi Jasmin, DVM

03/31/2017
Date

Health Monitoring Report

Based on FELASA Recommendations

Name and address of the breeder: *Marshall Farms Group, North Rose, NY*

Date of issue: March 2016

Unit N^o: *Galen Rd – P1 & P2*

Examination date : February 2016

Species: Porcine	Strain: Göttingen Minipig		Populated: August 2003 [†]		LABORATORY	METHOD
	HISTORICAL RESULTS		CURRENT TEST RESULTS			
	P1	P2	P1	P2		
VIRAL INFECTIONS						
Aujeszky's Disease (Pseudorabies)	0/220	0/20	0/10	0/10	PU	ELISA
Classical Swine Fever (hog cholera)	NA	NA	NE	NE	NA	NA
Porcine Epidemic Diarrhea****	0/40	0/20	0/10	0/10	Iowa	IFA
Encephalomyocarditis Virus	0/230	0/20	0/10	0/10	UM	SN
Haemagglutinating Encephalomyelitis	0/230	0/20	0/10	0/10	UM	HI
Porcine Circovirus II	0/230	0/20	0/10	0/10	PU	IFA
Porcine Influenza						
A *****	0/20	0/20	0/10	0/10	PU	ELISA
H1N1	0/220	NE	NE	NE	PU	ELISA
H3N2	0/220	NE	NE	NE	PU	ELISA
Porcine Parvovirus	0/230	0/20	0/10	0/10	UM	HI
Porcine Reproduct. & Resp. Syndrome	0/230	0/20	0/10	0/10	PU	ELISA
Porcine Respiratory Coronavirus	0/230	0/20	0/10	0/10	PU	ELISA
Porcine Rotavirus	119/230	2/20	9/10	9/10	PU	IFA
Transmissible Gastroenteritis	0/230	0/20	0/10	0/10	PU	ELISA
BACTERIAL INFECTIONS						
Actinobacillus pleuropneumoniae						
Serotypes 1, 5, 7	0/230	0/20	0/10	0/10	UM	ELISA
Bordetella bronchiseptica	1/230	0/20	0/10	0/10	PU	Culture
Brachyspira (Serpulina) hyodysenteriae	0/230	0/20	0/10	0/10	PU	PCR
Brucella abortus	0/220	0/20	0/10	0/10	PU	Agglutination
Campylobacter spp.	3/230	0/20	0/10	0/10	PU	Culture
Clostridium perfringens Type C***	0/230	0/20	0/10	0/10	PU	Culture
Erysipelothrix rhusiopathiae	0/230	0/20	0/10	0/10	PU	Culture
Eubacterium suis	0/230	0/20	0/10	0/10	PU	Culture
Haemophilus parasuis	0/230	0/20	0/10	0/10	PU	Culture
Lawsonia intracellularis	0/230	0/20	0/10	0/10	PU	PCR
Leptospira spp.	0/230	0/20	0/10	0/10	PU	MA
(pomona, grippityphosa, hardjo, canicola, icterohemorrhagiae, bratislava)						
Mycoplasma hyopneumoniae	0/230	0/20	0/10	0/10	PU	ELISA
P. multocida (toxin producing)	0/230	0/20	0/10	0/10	PU	Culture
P. haemolytica	0/230	0/20	0/10	0/10	PU	Culture
P. pneumotropica	0/230	0/20	0/10	0/10	PU	Culture
other pasteurellae	0/230	0/20	0/10	0/10		
Salmonella spp.	0/230	0/20	0/10	0/10	PU	Culture
Staphylococcus hyicus**	43/230	0/20	0/10	0/10	PU	Culture
β-haemolytic Streptococci	0/230	0/20	0/10	0/10	PU	Culture
Streptococcus suis-type 2	0/230	0/20	0/10	0/10	PU	Culture
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Yersinia enterocolitica	0/230	0/20	0/10	0/10	PU	Culture
FUNGAL INFECTIONS						
Candida albicans	4/230	0/20	0/10	0/10	PU	Culture
Microsporium spp.	0/230	0/20	0/10	0/10	PU	Culture
Trichophyton spp.	0/230	0/20	0/10	0/10	PU	Culture
PARASITOLOGICAL INFECTIONS						
Arthropods	0/230	0/20	0/10	0/10	In-house	Micr. Insp.
Helminths	0/230	0/20	0/10	0/10	In-house	Flotation*
Coccidia (Eimeria, Isospora)	0/230	0/20	0/10	0/10	In-house	Flotation*
Toxoplasma gondii	0/230	0/20	0/10	0/10	PU	IFA

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Bambi H. Jasmin
Bambi Jasmin, DVM

03/17/2016
Date