SURVEILLANCE OF FERAL CATS FOR INFLUENZA A VIRUS

by

JAMES TRISTAN GORDY

(Under the Direction of Stephen Mark Tompkins)

ABSTRACT

Avian influenza A virus subtype H5N1 transmission to domestic cats and other felids has created concern because highly pathogenic avian H5N1 virus can cause fatal infections in humans. Experimental infections have demonstrated transmission of influenza viruses in cats. In this study, an epidemiologic survey of feral cats was conducted to determine their exposure to influenza A virus. Feral cat serum samples and oropharyngeal and rectal swabs were collected from November 2008 through July 2010 in Alachua County, Florida and were tested for evidence of influenza A virus infection. No virus was isolated from any of 927 cats examined using MDCK cell or embryonated chicken egg culture methods, nor was viral RNA detected by RT-PCR in 200 samples tested. However, 0.43% of cats tested antibody positive for influenza A by commercial ELISA. These results suggest that feral cats in this region of Florida are at minimal risk for influenza A virus infection.

INDEX WORDS: cats, felis catus, influenza A virus, influenza, flu, surveillance, felidae, feline

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CHAPTER 1

INFLUENZA INTRODUCTION

History

Influenza viruses in humans cause a highly contagious respiratory disease that can lead to fatality, especially in children, the elderly, and the immunocompromised. Symptoms of the disease include lethargy, body aches, fever, cough, congestion, and sore throat. While such a common pathogen may be easy to overlook, the damage caused by influenza on a yearly basis is significant even in years without epidemics or a global pandemic. In non-pandemic years, an average of 21,000 Americans die of influenza or influenza-associated illnesses. Economically, "the costs associated with epidemics of 1962-63, 1965-66, and 1968-69 in the United States amounted to US$ 3.1, 1.7, and 3.9 billion, respectively" (1).

Pandemics, however, can cause higher rates of morbidity and mortality. The Spanish Influenza (H1N1) of 1918-19 is the classic example of increased disease severity, as it killed more people worldwide than World War I and single-handedly reduced the life expectancy in the US by 10 years (2). The Spanish Influenza pandemic is responsible for the deaths of 20-40 million people worldwide (1). The Asian Influenza (H2N2) pandemic in 1957 resulted in more than one million deaths worldwide, and had an infection rate in excess of 50% in 5-19 year olds (2). The Hong Kong Influenza (H3N2) pandemic in 1968 was less virulent, but attack rates reached 40% and an estimated 33,800 people died in the United States. The virus completely replaced the prior H2N2 to become the seasonal strain. In 1977, H1N1 influenza reemerged as the Russian Influenza, and morbidity was almost exclusively in persons under 25 years old,

suggesting that older individuals carried immunity. It is now thought that this virus was accidentally released and so should not be classified as a naturally occurring pandemic (2). The H3N2 and H1N1 viruses co-circulated and were both responsible for seasonal influenza outbreaks.

In 2009, the world saw the first influenza pandemic in 40 years and the first of the new century. Officially called 2009 Pandemic H1N1, but colloquially referred to as the "Swine Flu," the new pandemic proved to be more contagious than the seasonal strains, but no more dangerous. The CDC estimates that 61 million people were infected, 274,000 people were hospitalized, and 12,470 people died in the United States because of the pandemic (3). Another strain that has been causing controversy is the highly pathogenic avian influenza (HPAIV) H5N1 "Bird Flu" that originated in Asia, which is responsible for the first recorded human fatality due to infection with a strain of avian influenza (2). Even though H5N1 is not responsible for any outbreaks in humans, it has caused major setbacks for poultry industries and has proven to have a high mortality rate in those people it does infect. Since November 2003, 549 human cases have been reported by 15 countries, with 320 of those resulting in death (4). The economic impact of HPAIV H5N1 has been extreme. In Vietnam in 2003-04, death and culling of domestic birds resulted in the loss of 44 million birds (17.5% of the national poultry population), which equates to 1.8% of Vietnam's GDP, not including losses in tourism due to the bird flu scare (5). The fact that HPAIV H5N1 has been able to lethally infect humans has the world wondering if a few mutations or reassortment events could allow this virus to spread easily among humans, wreaking havoc similar to the 1918 Spanish Influenza.

Currently there are only two classes of antivirals available: M2 blockers (amantadine and rimantadine) and NA inhibitors (zanamivir and oseltamivir). In 2006, 91% of the circulating

influenza strains were resistant to the M2 blockers, and so the CDC recommended against their use (6). In addition, HPAIV H5N1 is resistant to the M2 blockers (7). Resistance to NA inhibitors has also been observed clinically (8). There are currently two types of vaccines available: an inactivated, parenterally administered version and a live-attenuated, intranasally administered version. Yearly vaccine efficacy ranges from 60% to 80% (2). However, neither vaccine induces long-term immunity, and the CDC recommends yearly vaccinations. Another issue with vaccine development is the reliance on time-consuming egg culture methods for production. As the 2009 H1N1 Pandemic vaccine shortages made clear, a faster approach to vaccine production is needed. Because of seasonal influenza, new pandemics, and threatening emerging subtypes, influenza virus is a pathogen with important public health implications. Influenza still poses many problems and raises many questions that need to be addressed by the scientific, public health, healthcare, and political communities.

Virology

Influenza viruses are in the family *Orthomyxoviridae*, whose members are characterized by having a negative sense, single stranded, segmented RNA genome. Influenza viruses are pleiomorphic, 80-120 nm viral particles, and they comprise three genera: influenza virus A, B, and C (1). Influenza A viruses have a complex structure, and the genome is divided into eight segments that encode 10-11 proteins (figure 1.1). The virion is enveloped by a lipid membrane derived from the host cell that harbors the hemagglutinin (HA), neuraminidase (NA), and tetramers of ion channel (M2) proteins, with the matrix (M1) protein forming a protein coat underneath the membrane. The core of the particle is comprised of the ribonucleoprotein complex (RNP) (9).

Each protein possesses at least one function vital to influenza virus propagation. The HA glycoprotein's main function is binding to sialic acid receptors on host cellular surface glycoproteins. Once bound, the virion is taken up by the cell by one of a variety of mechanisms, with clathrin-mediated endocytosis being the traditional model (9). Once inside the cell, the complete HA (HA0) molecule must be cleaved by a host protease into two separate subunits. The low pH of the ensuing endosome causes conformational changes in the cleaved HA subunits, exposing a fusion peptide. Aggregations of fusion peptides create a pore, allowing the diffusion of the internal virion contents into the host cell cytoplasm (10). This process is helped by the M2 proteins, which facilitate influx of protons into the virion, disrupting protein-protein interactions, resulting in release of RNP into the cytoplasm (11). Once released, the components can be detected by host signaling cascades, but the NS1 protein functions to inhibit the type I interferon immune response (12).

The RNP complex consists of the eight viral RNA segments (vRNA), polymerase proteins (PB1, PB2, PA), and nucleoprotein (NP), which coats and protects the vRNA. All RNP proteins have nuclear localization signals (NLS), but the NP NLS has shown to be the most essential (13). The NLS of the viral proteins bind host factors that facilitate active transport into the nucleus. Once in the nucleus, the PB1-PB2-PA complex transcribes vRNA into mRNA segments that are translated into proteins by the host. The complex then replicates by engendering a complete positive-sense copy (cRNA) that is utilized to mass-produce progeny vRNA (14). M1 and NEP/NS2 proteins play a role in nuclear export of newly created RNP complexes. Inside the nucleus, M1 associates with new RNP complexes, and evidence points to M1 promoting RNP complex formation and dissociation with the nuclear matrix. M1 also forms the structure of the virus-like particles prior to budding. NEP/NS2 interacts with cellular

machinery to actively transport these molecules out of the nucleus (15). Viral components assemble and bud asymmetrically from the apical plasma membrane. Upon budding, the viral HA glycoproteins remain attached to host sialic acids, and the NA functions to cleave the HA from the sialic acids, releasing the newly formed virus into the bloodstream (9).

The host ranges of the genera are vastly different. Influenza B viruses primarily infect humans. Influenza C viruses infect humans, swine, and dogs (2). Influenza A viruses are classified into subtypes (i.e. HxNy) according to the serotype of HA and NA proteins they contain. Currently, sixteen HA subtypes (H1-H16) and nine NA subtypes (N1-N9) are known, and all of them are maintained in aquatic birds (2, 16). Certain subtypes have been able to infect mammals, such as cats, dogs, seals, mink, whales, humans, horses, and swine, with the latter three maintaining the virus in their respective populations (16). The species specificity of influenza strains is in part due to the type of sialic acid linkage with which the HA binds. The specific sialic acid, N-acetylneuraminic acid, is attached to a penultimate galactose molecule on a polysaccharide chain attached to various proteins on the cellular surface. In humans, the α2-6 linkage predominates in the major cell type of infection, tracheal epithelial cells. In susceptible avian species, the α2-3 linkage predominates in the primary cell type of infection, the gut epithelium. Avian and human influenza viruses are specific to cells showing the predominating linkage (17, 18). However, viral specificity is not absolute. Human and avian species do have cells containing both linkage types, and human cells with an α2-3 sialic acid linkage can be infected with avian influenza virus (19).

Upon infection in humans, the innate immune response is activated by the triggering of complicated intracellular cascades that are initiated by toll-like receptors (TLR). TLR 3, located on the respiratory epithelium, and TLR 7, located on dendritic cells, recognize foreign double-

stranded and single-stranded RNA respectively, and both stimulate the interferon response (2). The primary response for immune clearance and memory, however, is the serum antibody response. Antibodies are produced against the HA, NA, NP, M1, and M2 proteins. Antibodies against HA and NA correlate with protection, with antibodies against HA being neutralizing. Antibodies against NA are not neutralizing, but serve to inhibit viral release from infected cells. Cellular immunity effectors also play a significant role. $CD4^+$ T-cells function primarily to help the maturation of B-cells leading to proficient antibody production. $CD8^+$ cytotoxic T-cells are also able to clear influenza in the absence of $CD4^+$ T-cells, elucidating the functional redundancy of the immune system (2).

Influenza viruses primarily exhibit two types of genetic evolution: antigenic shift and antigenic drift. Antigenic drift refers to the random point mutations that occur on immunogenic influenza proteins. The viral RNA polymerase complex makes errors at a rate of 1 in 10^4 base pairs per replication cycle as compared to 1 in 10^9 base pairs for DNA polymerase (16). These minor differences in antigenic sites are selected for, since the host immune system will preferentially recognize and eliminate viruses containing the unchanged epitopes. If enough mutations build up, herd immunity can be rendered useless and an epidemic begins. The rate of genetic change for immunogenic HA and NA genes in human viruses is 1% per year (2). Antigenic shift occurs by genome reassortment. Because the viral genome is segmented, if different viral types are infecting the same cell, the gene segments may mix together. When the progeny virions are formed, the genetic material may contain segments from both original strains, thus creating a genetically unique virus that, if stable and fit, could propagate in the population. Reassortment between viruses of differing genera has not been reported (2). Homologous recombination is uncommon, but evidence has been shown for genetic insertions

from a differing strain causing an increase in fitness, in two cases transforming a low pathogenic avian influenza virus (LPAIV) into a high pathogenic avian influenza virus (HPAIV) (20, 21).

Ecology

Antigenic drift can lead to a failure of herd immunity and influenza epidemics without introduction of a new strain. Most human influenza pandemics, however, are a result of a new strain created by antigenic shift. Outbreaks of influenza A occur every winter, and epidemics occur on average every 2-3 years. Pandemics are more rare and occur approximately three times per century (1). In order to understand the natural dynamics of influenza viruses, it is invaluable to know how previous pandemics and current emerging strains evolved. The exact origins of the 1918 Spanish Influenza are still somewhat debated (22). It is most widely believed that the virus was primarily avian in origin (23), and it has been shown that altering a single amino acid in the HA gene changes the host specificity back to primarily recognizing avian α2-3 sialic acid receptors (24). Phylogenetic analyses reveal that the viral genes were avian-like while some of the proteins contain human-like signature amino acids (2). The 1957 Asian Influenza (H2N2) arose as a human-avian reassortment, containing HA, NA, and PB1 genes from an avian virus (25). The Hong Kong Influenza (H3N2) of 1968, also a human-avian reassortant, contained avian HA and PB1 genes (25). The Pandemic 2009 H1N1 influenza virus (pH1N1) was a reassortment of a triple-reassortment swine H1N2 virus with a traditional swine H1N1 virus. This ultimately resulted in a virus containing PB2 and PA from an avian strain; PB1 from a human strain; H1, NP, and NS from a North American swine strain; and N1 and M from an European “avian-like” swine strain (26). In order to understand and one day predict events of antigenic shift and drift, especially for their pandemic potential, one must fully understand the

ecology of influenza viruses.

The origins of all circulating influenza viruses can be traced back to aquatic birds (16). All 16 HA and 9 NA subtypes are currently circulating in avian species (1). The LPAIV strains are benign and in relative evolutionary stasis with their natural hosts but evolve rapidly once introduced into a domestic poultry or mammalian species (27). The orders *Anseriformes* and *Charadriiformes*, which include waterfowl and shorebirds, respectively, are considered the natural reservoir for influenza A viruses. The predominating subtypes present in duck populations are H3, H6, N2, N6, and N8, while shorebirds primarily harbor influenza of H4, H9, H11, H13, N6, and N9 subtypes (2). Other bird orders, such as the songbirds of *Passeriformes*, have been shown to be susceptible to influenza viruses, but natural infection has proven to be quite rare (28, 29). In ducks, LPAIVs replicate primarily in intestinal epithelial cells, with limited infection possible in the respiratory tract (30). Because of this, avian species shed high concentrations of virus in feces. Influenza viruses have been isolated from water samples in areas important for migration, and it is believed that water sources can be an environmental influenza reservoir responsible for transmission between avian species via the fecal-oral route (31-33).

The interplay between avian influenza viruses, reservoir avian species, the environment, and non-native host species is critical for understanding the overall dynamics of the influenza system. As mentioned earlier, all subtypes of influenza are maintained in avian species, but a few subtypes have crossed over into non-native species. Some species have had documented cases or outbreaks of influenza without the virus becoming established in the species. As will be discussed later, felids have proven susceptible to certain subtypes. Seals have had substantial outbreaks occur, such as in 1979-80 when 20% of the northeast United States harbor seal population died due to a viral pneumonia (34) from an H7N7 influenza subtype that was

determined to be of avian origin (35). Evidence of infection with other strains such as H4N5 (36), H3N2 (37), H4N6 (37), and Influenza B (38) have also been found in this seal population. H13N2 and H13N9 subtypes have been isolated from a stranded pilot whale (39). Mink have shown to be susceptible to human and avian influenza viruses (40, 41). H3N8 influenza virus closely related to circulating equine viruses caused an outbreak in racing greyhounds in Florida in 2004, and studies have shown that this virus has spread to the general dog population (42). This virus has potentially found a niche in the canine population (43).

Within the populations of some originally non-native hosts, influenza has adapted enough to be solely maintained in the new host species. Only subtypes H1, H2, H3, N1, and N2 have become established in the human population, with other subtypes such as H5 and H9 providing isolated cases without further transmission (44). In horses, two subtypes have become established: H7N7 and H3N8. Outbreaks of H7N7 have occurred between 1956 and 1979, but anecdotal evidence tells that the virus may still be circulating without causing epidemics (2). H3N8 has caused major epidemics across the world, with a few different strains causing the outbreaks (2). Swine are an important host for influenza viruses. Swine epithelial cells contain both α2-3 (human-like) and α2-6 (avian-like) sialic acid receptors allowing them to be infected with avian, swine, and human influenza strains, potentially simultaneously (45). This can easily result in reassortment, hence the nickname: “mixing vessel” (35). Epidemics of influenza in swine have occurred, but the most important facet of swine is the role they play in emerging human strains (Figure 1.2). In addition, evidence shows that avian virus replication in pigs can create variants that adapt to the human-like receptors without reassortment (45). Interspecies transmission and reassortment has led to the pH1N1 virus (2), isolated cases of swine influenza in humans (46, 47), and the establishment of new swine virus lineages (2).

Another important aspect of influenza ecology is avian influenza virus transmission between wild and domestic avian species and how the dynamics involved influence the virus's level of pathogenicity. Gallinaceous birds (poultry) are not natural hosts, but they can be infected with H5 and H7 subtypes, and these can be categorized as high or low pathogenic. Clinically, a virus is classified as highly pathogenic if it kills at least 75% of susceptible 4-6 week old chickens within 10 days post-inoculation (48). HPAIVs cause rapid, high mortality rates that can approach 100% in chickens and turkeys, but most do not induce pathology in ducks. The current HPAIV H5N1 is an exception, as waterfowl and shorebirds develop a severe and disseminated disease upon virus contraction (48). The molecular basis for enhanced virulence mainly resides in the HA cleavage site. The HA0 molecule must be cleaved by a host protease in order for a cell to become infected, and in LPAIV strains, the cleavage site has a single arginine residue, allowing for cleavage by trypsin-like proteases that are present only in certain tissues. The HPAIV strains are mutated so that the HA0 contains a polybasic cleavage site, where instead of a single arginine, a string of arginines or other basic amino acids make for a site that can be cleaved by a wide number of host proteases that are not limited to any particular tissue (49, 50). The cleavability of the HA may be the primary factor, but other protein alterations have also been shown to contribute (51, 52). The only subtypes so far to become highly pathogenic are H5 and H7, but the majority of H5 and H7 influenza viruses are still of low pathogenicity (2). Domestic avian species, especially the chicken, are not a natural reservoir for influenza virus, and it is this interplay between domestic and wild avian species, as outlined in figure 1.2, that is responsible for the emergence of highly pathogenic strains.

In Asia, where HPAIV H5N1 originated, the populations of wild avian species, mammalian species, domestic birds and fowl, and humans are dense and the interactions are left

unregulated, especially in the live bird markets. This environment facilitates interspecies transmission that could lead to the evolution of a new or highly pathogenic strain of influenza (53). However, with appropriate contact with poultry, any H5 or H7 LPAIV is thought to have the potential to become highly pathogenic (48), and H5 and H7 subtypes do exist in the Americas (54, 55). There is also the risk of migratory species carrying HPAIV H5N1 into the Americas. As figure 1.3 illustrates, there are several migratory pathways that converge on Alaska and northern Canada. Of special interest is the crossing of East Asia/Australasia, Pacific Americas, and Mississippi Americas Flyways in Alaska. Even though HPAIV H5N1 generally causes severe disease, the virus has been shown to spread via migration (56). Whether or not the intersection of the migratory routes poses a palpable risk is still up for debate. Arguments have been made that the intersection includes too many birds, and it is only a matter of time before the virus crosses the Pacific (57, 58). Others argue that phylogenetic evidence shows the Eurasian and American viral lineages have historically remained separate (59), that poultry smuggling is the main cause of the viral spread instead of migration (60), that AIV prevalences are too low in Alaska to facilitate spread (29), or that the Arctic does not provide an appropriate environment for virus transmission (61).

The dynamics of the global influenza system are extremely complex, involving several taxonomic orders of birds and mammals in many different environments. Antigenic shift and antigenic drift make influenza a constantly moving target, and the emergence of HPAIV H5N1 and pH1N1 virus have reinforced the idea that the scientific community still does not fully understand the interplay between influenza A virus's virology and ecology. This is the goal of the One Flu initiative, which is the influenza-specific subset of the One Health ideology, defined as a "multidisciplinary collaborative approach to improving the health of humans, animals, and

the environment" (62). It is only from this collaborative and multidisciplinary approach that major strides can be made in the annual struggle against influenza. One specific facet of influenza A virus's ecology that needs more attention is the interaction of influenza A viruses and felid populations.

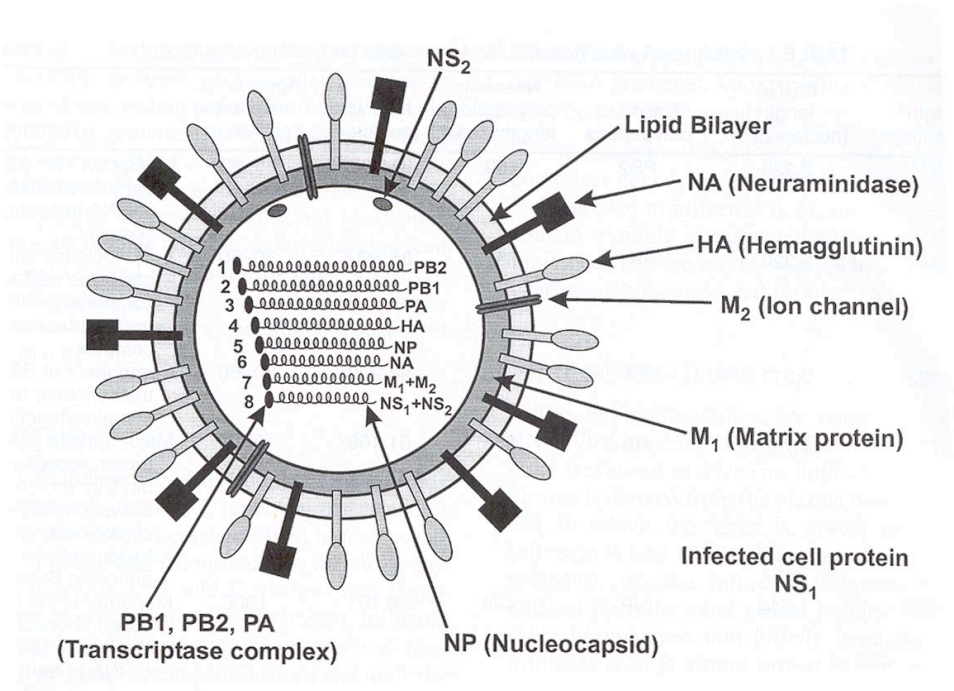

Figure 1.1: Influenza A structure (63). Arrows point to natural positions of proteins. Gene segments are labeled according to the proteins encoded. PB1-F2 polypeptide alternate reading frame in the PB1 gene segment present in some strains but not in figure. Non-structural protein 2 (NS2) also called nuclear export protein (NEP).

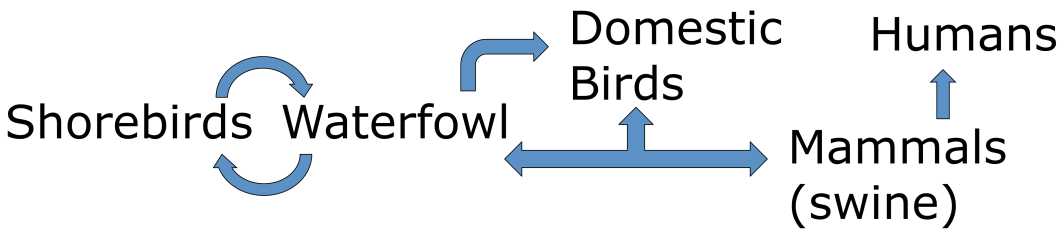

Figure 1.2: Avian influenza cycle. Natural cycle is between shorebirds and waterfowl. When interspecies transmission occurs, newly adapted strains pose the threat of causing epidemics.

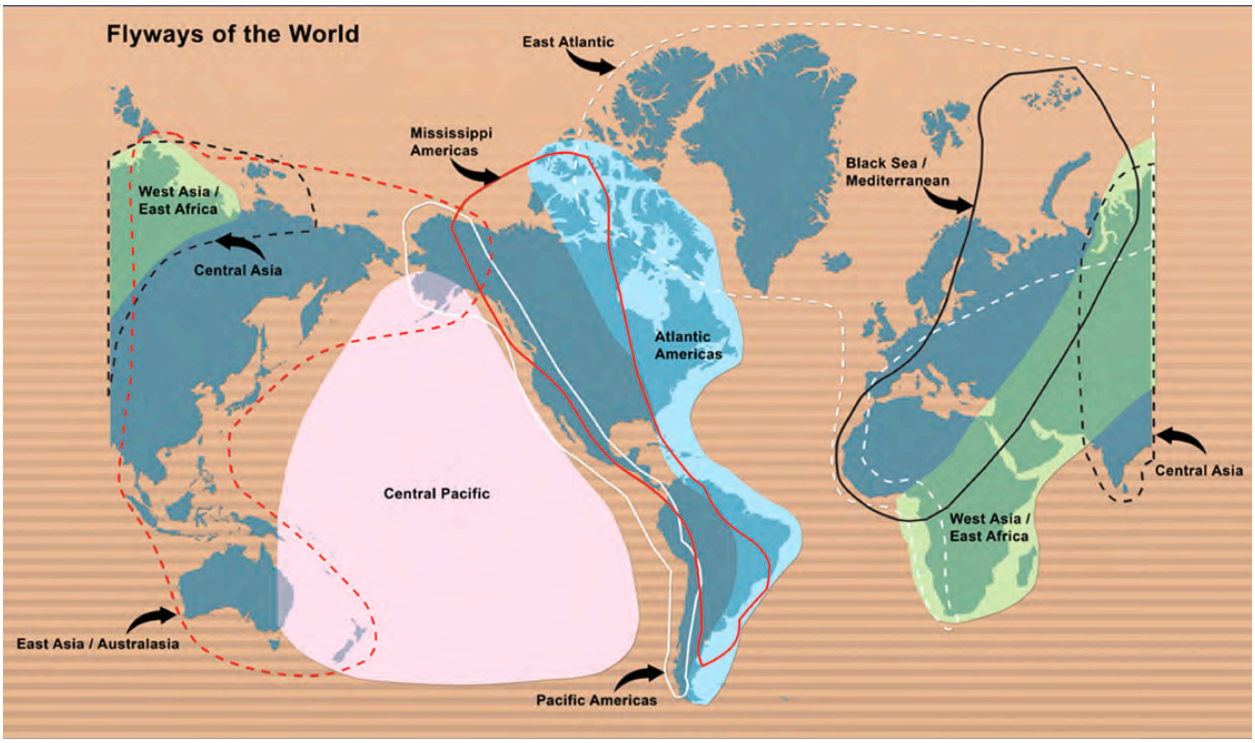

Figure 1.3: World migratory pathways (64).

CHAPTER 2

STUDY RATIONALE

Migratory aquatic birds are the primary reservoir for influenza A viruses, but due to interspecies transmission, some of these viruses have adapted to and are maintained in mammalian species, such as humans, pigs, and horses (16). Interspecies transmission is of public health and agricultural concern because of the potential for viral adaptation or reassortment between viruses affecting these varied hosts. There currently are no influenza A viruses adapted to felids, but replication of avian (H7N3), human (H3N2, influenza B), and seal (H7N7) influenza strains in cats has been reported, albeit without pathology (65-67). Horizontal and human to cat transmission also has been documented with a human H3N2 strain (65). More recently, natural infections of domestic cats with pH1N1 virus (68, 69) and infection of domestic cats, feral cats, and large felids with highly pathogenic avian influenza virus (HPAIV H5N1) have been reported (70-77). In one case report, circumstantial evidence showed horizontal transmission of HPAIV H5N1 between tigers in a Thailand zoo (75), and another reported subclinical infections (73). In support, several studies have shown that cats experimentally infected with pH1N1 or HPAIV H5N1 influenza develop pathology (78-81), with horizontal transmission being confirmed for both strains (78-80). Finally, a computational study examining transmission dynamics in cat contact networks theoretically demonstrated that cats could influence the spread, maintenance, and human transmission rates of HPAIV H5N1 during an epidemic (82). These studies show that felids can contract and potentially spread influenza A viruses. Given the high potential for contact with humans, domesticated animals, poultry, and

waterfowl, cats may represent an important bridge that facilitates interspecies transmission.

Operation Catnip is a TNR (trap-neuter-release) feral cat control program run by the University of Florida, College of Veterinary Medicine, servicing Alachua County, Florida. To determine whether these cats were infected or previously exposed to influenza A viruses, samples from 927 individual cats were tested by virus isolation, RT-PCR, and serum ELISA.

CHAPTER 3

MATERIALS AND METHODS

Sample Processing

All samples were received from Operation Catnip. Swabs were collected from the oropharynx and rectum of each cat and placed into tubes containing viral transport media (Hank's Balanced Salt Solution supplemented with bovine serum albumin, sucrose, glutamic acid, and gelatin). A buffer is used to maintain a pH 7.3 +/- 0.2. Phenol red is used as a pH indicator. Amphotericin B (4ug/ml), colistin (7.5ug/ml), and vancomycin (100ug/ml) are added to inhibit contaminants. The media contains cryoprotectorants to ensure viability of organisms through freezing and thawing. Serum samples were also processed on site. All samples were shipped overnight on wet ice. Samples were collected from various sites in Alachua County, Florida from November 2008 through July 2010. Samples from 50-60 cats per month were received from November 2008 through July 2009, and samples from 40 cats per month were received from September 2009 through July 2010. No samples were received August 2009 or April 2010. Characteristics of sampled cats such as age, location, and health status were catalogued (Figure 3.1). Upon receiving, samples were labeled, aliquoted, and stored at -20°C (serum) and -80°C (swabs).

Virus Isolation Methods

All procedures were performed aseptically and conducted under guidelines approved by the Animal Care and Use Committee of the University of Georgia.

Madin-Darby Canine Kidney Cells (MDCK)

MDCK cells with less than 30 passages were propagated in 12-well tissue culture plates (Corning Inc.; Corning, NY) to approximately 80% confluency in growth media [Dulbecco's Modified Eagle Medium (DMEM; Thermo Scientific) supplemented with 1% L-glucose and 5% fetal bovine]. The growth media was removed and the cells washed with 1x phosphate buffered saline (PBS; Thermo Scientific). The PBS was decanted and each well was inoculated with 100µl of swab media along with 300µl of infection media [MEM (Thermo Scientific), L-(tosylamido-2-phenyl) ethyl chloromethyl ketone (TPCK) treated trypsin (1 µg/ml; Worthington), antibiotic cocktail (10µg/ml penicillin, 10µg/ml streptomycin, 25µg/ml amphotericin B; Mediatech, Inc.), and gentamycin (10 µg/ml; MP Biomedicals)]. These plates were incubated at 37°C for 1-3 hours, and then 1ml of infection media was added to each well. The plates were incubated for 5 days at 37°C in a humidified incubator.

Embryonated Chicken Eggs (ECE)

Specific pathogen-free eggs were received from the Poultry Diagnostic Research Center in Athens, GA, between 9-10 days incubation. Eggs were inoculated with swab media as previously described (83). Briefly, the eggshell was permeated in the airspace just above allantoic membrane, and approximately 250 µl of swab media was injected. Two eggs were inoculated per sample. Holes were sealed with glue, and the eggs incubated for 5 days in a humidified incubator at 37°C. Embryos were evaluated for viability at days 1, 3, and 5 post inoculation (pi). Allantoic fluid was extracted from the eggs.

Hemagglutination Assay (HA)

A hemagglutination assay was performed as previously described (84). Briefly, MDCK cell culture supernatant at day 5 pi or egg allantoic fluid at day 5 pi were 2-fold serially diluted with PBS across a 96-well round-bottom plate. All samples were assayed in duplicate. Each assay included a PBS-only negative control. Chicken red blood cells (cRBC) at a concentration of 0.5% in PBS were added to each well, and then the plates incubated at room temperature for 30 – 45 minutes. The threshold set for a positive specimen was a HA dilution of 1:2. If potentially positive, the cell supernatant or egg allantoic fluid was used to reinfect MDCK cells or embryonated chicken eggs in quadruplicate where another HA was repeated, and the potential positive samples were also tested by RT-PCR.

RNA Detection Methods

RNA Isolation

RNA was isolated from cell culture supernatants and egg allantoic fluid by RNeasy kit (Qiagen) and from swab media by Purelink Viral RNA/DNA Mini and 96 Kits (Invitrogen). All extractions were performed as specified by the manufacturers' protocols. Extracted samples were stored at -20°C for short-term and -80°C for long-term storage.

RT-PCR

All RT-PCR reactions were performed using the Stratagene MX3000P and MX3005P systems. All reactions utilized Universal Influenza A primers and a FAM fluorescent probe formulated by the CDC (Biosearch Technologies, Inc.; sequences available upon request). One-Step RT-PCR kit (Qiagen) was utilized, and the RNA samples from cell or egg cultures were prepared using

the manufacturer's protocol. The RNA samples from swab media were prepared utilizing an optimized procedure. Each reaction contained 5.0µl 5X PCR buffer, 0.5µl enzyme mix, 0.5µl dNTP mix, 0.5µl each of forward and reverse primer (final concentrations 2 µmol/L), 0.5µl FAM probe (0.2 µmol/L), 14.5µl nuclease free water, and 3µl sample. The thermal cycle was programmed as such: reverse transcription at 50°C for 30 minutes, taq activation at 95°C for 15 minutes, and 45 cycles of PCR amplification at 95°C for 15 seconds and 55°C for 30 seconds per cycle. Fluorescence data is collected during 55°C amplification step. A total of 200 swab samples were chosen for RT-PCR. 10-11 samples were chosen at random per sampling month. Positive Ct cut-off value set at 35.

Antibody Detection Methods

ELISA

ELISAs were performed on all serum samples utilizing an IDEXX Avian Influenza Virus Antibody Test Kit according to manufacturer's protocols, and analyzed on a BIO-TEK PowerWave XS reader. Data was processed as specified in the protocol creating S/N values (average sample value divided by average of kit negative control). Accordingly, the S/N positivity range for a non-avian species such as cats was less than 0.6. Samples were run in duplicate, and the assay was validated using serum from a cat naturally infected by HPAIV H5N1 (72). The assay was also validated using acute serum from domestic cats experimentally infected with an H1N9 or H6N4 LPAI.

Hemagglutination Inhibition Assay (HI)

Only sera designated as positive by ELISA were tested. Samples were treated with a receptor-

destroying enzyme (RDE; Accurate Chemical) and were incubated with RDE overnight at 37°C. Utilized an influenza A hemagglutination inhibition assay supplied by the WHO, supplying specific influenza A viral hemagglutinin antigen subtypes along with corresponding control antisera. Assay was performed according to manufacturer protocol. A control HI was performed with the serum from HPAIV H5N1 experimentally infected cat (72), and the kit proved sensitive and specific for cat serum (data not shown). For each experiment, positive control antisera and PBS-only negative controls ensured viable data. Hemagglutinin subtypes tested include: 1a-c, 2a, 3a-c, 4, 5, 6a, 7a-b, 8, 9, 10, 11a-b, 12, 14, and 15.

Statistical Methods

Antibody population prevalence was estimated utilizing a Bayesian estimator as outlined by Lew and Levy (85). Pearson χ^2 test for independence was performed to determine whether observation of temporal relationship of positive samples was statistically significant. The 95% confidence intervals (CI) for screening test results were constructed using exact binomial test.

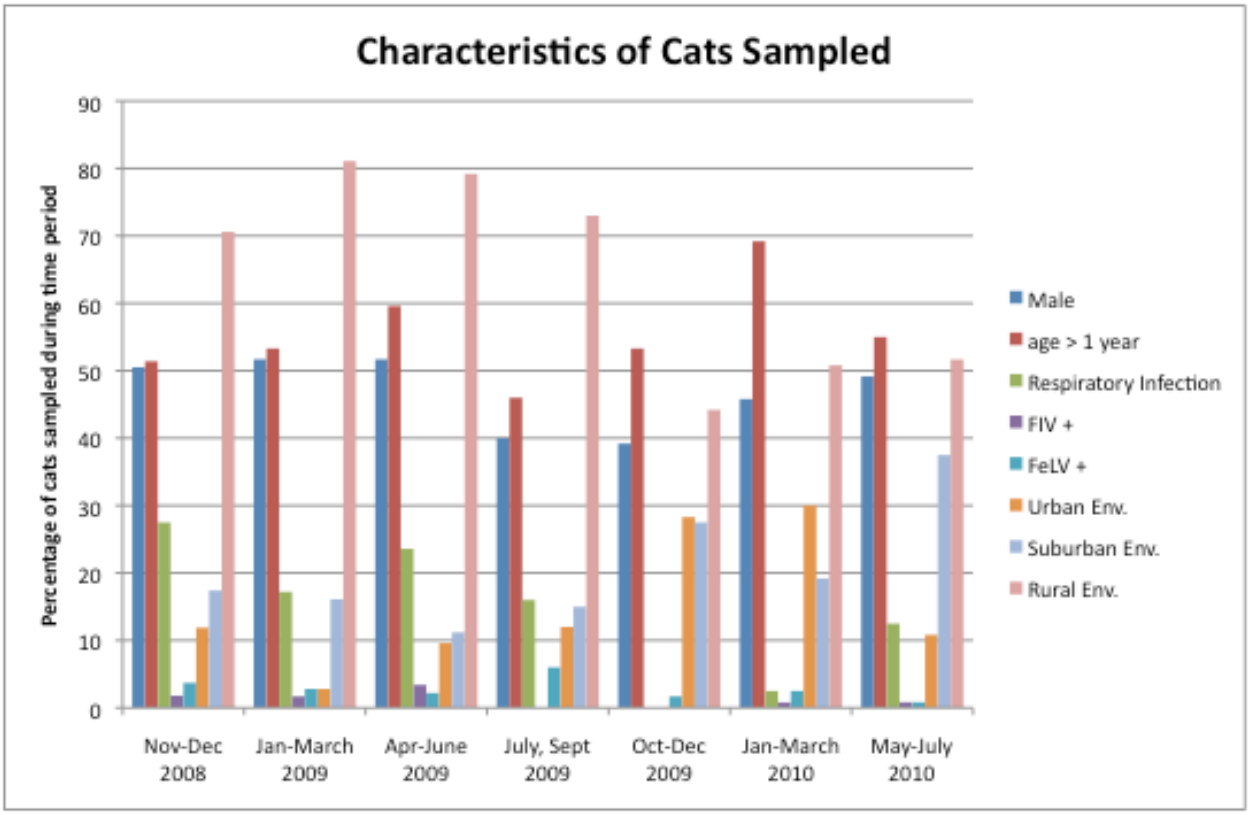

Figure 3.1: Characteristics of feral cats sampled. Data were stratified by the quarter of year in which samples were collected. Between 40-60 samples were collected every month between November 2008 and July 2010, except for August 2009 and April 2010. Urban, suburban, and rural environments reflect the general location where the cats were captured.

CHAPTER 4

RESULTS

No virus was isolated from any of the 927 pharyngeal samples by MDCK cell culture or embryonated chicken egg culture methods, or from any of the 927 rectal samples by MDCK cell culture methods, or from the subset of 237 rectal swabs tested by egg culture methods (Table 4.1). To test for presence of viral RNA by RT-PCR, 200 pharyngeal swabs were randomly selected from 10-11 random samples per collection month, and no influenza A viral RNA was detected utilizing a Ct cutoff value of 35 (Table 4.1). Finally, all 927 serum samples were evaluated for the presence of antibodies to influenza A virus, and only 4 positive sera specimens were confirmed or 0.43% (95% CI: 0.12-1.1%) of our samples collected (Table 4.1). The characteristics of the positives are detailed in Table 4.2. Hemagglutinin inhibition assays were performed on the ELISA positive samples, but the hemagglutinin antibodies were unable to be subtyped (data not shown).

Table 4.1: Results from virus isolation and antibody detection techniques.

Sample Type	Total No.	No. MDCK tested	% MDCK Positives (95% CI)	No. ECE Tested	% ECE Positives (95% CI)	No. RT-PCR Tested	% RT-PCR Positives (95% CI)	No. ELISA Tested	% ELISA Positives (95% CI)
Pharyngeal	927	927	0 (0, 0.4%)	927	0 (0, 0.4%)	200	0 (0, 1.8%)	NA	NA
Rectal	927	927	0 (0, 0.4%)	237	0 (0, 1.5%)	NA	NA	NA	NA
Serum	927	NA	NA	NA	NA	NA	NA	927	0.43 (0.12, 1.1%)

Table 4.2: Characteristics of cats positive for influenza A antibodies by ELISA.

Cat ID#	Collection Date	Sex	Age Range	Health Status	FeLV	FIV	Area Description
F8-3152	11/2/08	F	6mos – 1 year	Healthy	N	N	Rural, residential, lakes within 0.5 mile
F9-750	1/11/09	F	>1 year	Healthy	N	N	Rural, near a feed store business
F10-415	3/28/10	M	6mos – 1 year	Healthy	N	N	Rural, farm, lakes and ponds within 0.5 mile
F10-427	3/28/10	M	> 1 year	Healthy	N	N	Suburban, residential, wooded

CHAPTER 5

DISCUSSION

Alachua County in Florida consists of more than 93,000 acres of swamp, marsh, and open water habitats and is a resting place and wintering habitat for many migratory birds and waterfowl including teal, mallards, and wood ducks (86). In addition, the county has a significant poultry industry generating approximately $76,000 per year according to the 2007 Census of Agriculture for Alachua County. These features and the high prevalence of feral cats linked to the predation of avian species is a major concern given that a documented route of infection for cats with avian influenza is through infected bird predation (79, 80). The Florida Fish and Wildlife Conservation Coalition estimates that feral cats in Florida kill up to 68 million birds per year, and just one feral cat may kill up to 100 birds and small mammals per year (87), therefore, feral cats in this county have a high potential for exposure to myriad avian species potentially infected with influenza virus.

Despite extensive contact with avian species, the results from this study show that only a small percentage of the feral cats do contact influenza A viruses and seroconvert. Four of the 927 cats surveyed were positive for influenza A antibodies, and all four were captured from November through March, when migratory avian species are present. This temporal relationship, however, was not statistically significant (p value = 0.059). Also, the prevalence of immunosuppressive diseases such as feline immunodeficiency virus (FIV) and feline leukemia virus (FeLV) were noted, but there was no association with immunodeficiency and influenza A seropositivity. Utilizing a Bayesian estimation of the Maximum Likelihood Estimator that takes

into account the screening test's sensitivity and specificity, the estimate of the prevalence of influenza A antibodies in the overall feral cat population of Alachua County, Florida is 0.138% (95% CI: 0–0.389%). The inability to subtype the positives by HI assay does not disprove them, because the two tests measure different antibody responses.

Few feline influenza surveillance studies have been performed to date; however an early study found that 6 of 28 (21.4%) domesticated cats were seropositive to a circulating 1968 H3N2 strain (65), and a later study found that 5.8% of 52 cats were seropositive to H3 influenza (88). A recent study of 99 domestic cats with respiratory distress collected at the height of the 2009 H1N1 pandemic in France found no antibodies to pH1N1 (89). In contrast, a similar American study of 78 domestic cats found 21.8% seroprevelance to pH1N1 (90), and an unpublished study of 500 feral cats from Indonesia in 2007 reported 20% seropositivity to H5N1 (91). These studies support the notion that cats are susceptible to influenza A virus, and are consistent with anecdotal evidence from countries where HPAIV H5N1 is common, where increases in felid morbidity and mortality have occurred during HPAIV outbreaks to the point that local Javanese farmers have a colloquial name for it (92, 93). These studies show that felids can be infected with influenza, but only in particular epidemic situations when the prevalence of influenza is abnormally high or where the outbreak is caused by a recently emerged or emerging virus. The study reported here is unique because it provides a detailed longitudinal evaluation of any influenza A infection as determined by virus isolation, RT-PCR, and ELISA techniques in a large feral cat population in an area not sustaining an epidemic during the collection interval. With this detailed study design, no virus was able to be isolated, and very few cats were found to be seropositive.

This data must be taken into context, however. The primary reservoirs of avian influenza are wild aquatic birds of the orders *Charadriiformes* (shorebirds, gulls) and *Anseriformes*

(waterfowl) (94), but the avian influenza prevalence for such birds in this area is unknown. For comparison, a surveillance of avian influenza viruses in hunter-killed waterfowl during the 1986-87 hunting season in the Louisiana southwest coastal zone found prevalence estimates of AIV in ducks sampled during September, November, and December through January to be 3.1%, 2.0%, and 0.4%, respectively (95). One may speculate a similar level of AIV prevalence in ducks of Alachua County because both areas have similar waterfowl wintering habitats. Other studies of AIV in waterfowl in wintering habitats in North Carolina (96), Arkansas (97), Texas (98), and Georgia, Alabama, and Florida (99) also show low prevalence of AIV. A study of *Charadriiformes* was able to isolate virus from 290 birds, but only 8 were isolated away from the Delaware Bay area, and ruddy turnstones accounted for 87% of the isolates (100). This shows that the prevalence of AIV in shorebirds and gulls can be highly species and location dependent, with low AIV prevalence in areas that aren't "hot spots" like Delaware Bay (101). Therefore, the prevalence of AIV in *Charadriiformes* and *Anseriformes* in wintering areas, such as Alachua County, is expected to be low.

There are many reasons for seroprevalence to be low in the cats studied. One would expect the influenza A prevalence in feral cats to be lower than the already low AIV prevalence in the wild aquatic bird species, the primary carriers. Further, during HPAIV outbreaks, incidence of influenza infection is increased giving cats more opportunities for exposure. Correspondingly, during periods without human influenza epidemics, the prevalence of domestic cat influenza infection is low, but spikes when epidemics occur (90). Importantly, the birds that cats are most likely to hunt and come into contact with are members of the order *Passeriformes*. The prevalence of influenza infection in passerines is generally very low (28). In addition, as LPAIVs rarely cause morbidity in birds, there is no physical advantage for cats to catch infected

birds. In contrast, in epidemics of HPAIV, large numbers of birds may die, and cats may be more likely to be exposed. Thus, the low antibody prevalence observed in this study may be due to these factors creating an environment that provides a decreased chance of exposure compared to habitats with higher baseline influenza prevalence, current outbreaks, or emerging subtypes.

CHAPTER 6

CONCLUSION

Felids have been shown to be susceptible to influenza A viruses, but feral cats from Alachua County, Florida, do not seem to have a significant role in the natural history or epidemiology of influenza A viruses. A small percentage (0.43%) of cats had antibodies to influenza A with an estimated population seroprevalence being 0.138%. However, no virus was able to be isolated and viral RNA was not detected in any of the 927 cats sampled. Therefore, feral cats do not appear to pose a substantial public health threat as a potential bridging species in this region of Florida. However, populations of felids from different environments should be studied to further understand the role cats may have in the natural history of influenza A viruses, particularly in areas with current epidemics, emerging subtypes, or high prevalences of influenza A viruses.

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APPENDIX A

INDIVIDUAL CAT CHARACTERISTICS

Table A.1: Detailed descriptive characteristics of all sampled feral cats. Tables arranged by sampling month.

Sample Date	Cat ID	Sex	Age	Health status	FeLV	FIV	GPS coordinates (lat-long)	Environment
11/3/08	F8-3132	M	>1yr	normal	Neg	Neg	29.661374, -82.416591	suburban, commercial
11/3/08	F8-3143	M	<6mo	normal	Neg	Neg	29.528218, -82.526648	rural, farmland
11/3/08	F8-3145	M	>1yr	respiratory infection	Neg	Neg	29.600665, -82.374921	suburban, wooded, commercial
11/3/08	F8-3147	F	>1yr	normal	Neg	Neg	29.845762, -82.607613	rural, wooded, on river
11/3/08	F8-3148	M	>1yr	normal	Neg	Neg	29.845762, -82.607613	rural, wooded, on river
11/3/08	F8-3150	M	6mo-1yr	normal	Neg	Neg	29.707833, -82.050850	rural, residential, lakes within 0.5 miles
11/3/08	F8-3152	F	6mo-1yr	normal	Neg	Neg	29.707833, -82.050850	rural, residential, lakes within 0.5 miles
11/3/08	F8-3156	F	6mo-1yr	normal	Neg	Neg	29.682535, -82.336866	suburban, residential, creek within 0.5 miles
11/3/08	F8-3160	M	<6mo	normal	Neg	Neg	29.643869, -82.42493	suburban, residential
11/3/08	F8-3162	M	>1yr	normal	Neg	Neg	29.643415, -82.292541	urban, residential
11/3/08	F8-3165	M	>1yr	normal	Neg	Neg	29.681518, -82.310319	suburban, residential, pond within 0.5 miles
11/3/08	F8-3167	F	<6mo	normal	Neg	Neg	29.619047, -82.372328	suburban, residential
11/3/08	F8-3177	F	>1yr	normal	Neg	Neg	29.656937, -82.607034	rural, wooded, farmland
11/3/08	F8-3180	F	>1yr	normal	Neg	Neg	29.815453, -82.625277	rural, farmland
11/3/08	F8-3181	F	6mo-1yr	normal	Neg	Neg	29.815453, -82.625277	rural, farmland
11/3/08	F8-3183	M	6mo-1yr	normal	Neg	Neg	29.829114, -82.595820	rural, commercial
11/3/08	F8-3185	F	>1yr	normal	Neg	Neg	29.829114, -82.595820	rural, commercial
11/3/08	F8-3186	F	6mo-1yr	normal	Neg	Neg	29.753361, -82.531398	rural, wooded, farmland
11/3/08	F8-3188	M	>1yr	respiratory infection	Neg	**Pos**	29.753361, -82.531398	rural, wooded, farmland
11/3/08	F8-3190	F	>1yr	normal	Neg	Neg	29.634728, -82.415155	suburban, residential, lake within 0.5 miles
11/3/08	F8-3191	F	6mo-1yr	normal	Neg	Neg	29.634728, -82.415155	suburban, residential, lake within 0.5 miles
11/3/08	F8-3193	M	>1yr	normal	Neg	Neg	29.634728, -82.415155	suburban, residential, lake within 0.5 miles
11/3/08	F8-3195	M	>1yr	normal	Neg	Neg	29.632740, -82.326147	suburban, commercial
11/3/08	F8-3197	M	<6mo	normal	Neg	Neg	29.683489, -82.335075	suburban, residential, creek within 0.5 miles
11/3/08	F8-3207	F	6mo-1yr	normal	Neg	Neg	29.65196, -82.325029	urban, commercial
11/3/08	F8-3208	F	6mo-1yr	normal	Neg	Neg	29.65196, -82.325029	urban, commercial
11/3/08	F8-3209	F	<6mo	normal	Neg	Neg	29.847662, -82.569512	rural, wooded, farmland
11/3/08	F8-3217	F	<6mo	normal	Neg	Neg	29.82765, -82.598429	rural, commercial
11/3/08	F8-3218	F	>1yr	normal	Neg	Neg	29.82765, -82.598429	rural, commercial
11/3/08	F8-3220	F	>1yr	normal	Neg	Neg	29.82765, -82.598429	rural, commercial
11/3/08	F8-3222	F	>1yr	normal	Neg	Neg	29.82765, -82.598429	rural, commercial
11/3/08	F8-3228	F	>1yr	normal	Neg	Neg	29.602159, -82.414649	residential section in a suburban area
11/3/08	F8-3230	M	<6mo	normal	Neg	Neg	30.100223, -81.965735	rural, wooded, farmland, state forest preserve within 0.5 miles
11/3/08	F8-3236	F	>1yr	respiratory infection	Neg	Neg	29.785330, -82.495629	rural, commercial
11/3/08	F8-3237	M	6mo-1yr	respiratory infection	**Pos**	Neg	29.785330, -82.495629	rural, commercial
11/3/08	F8-3238	F	>1yr	respiratory infection	Neg	Neg	29.785330, -82.495629	rural, commercial
11/3/08	F8-3239	F	>1yr	normal	**Pos**	Neg	29.785590, -82.550573	rural, farmland
11/3/08	F8-3241	F	6mo-1yr	respiratory infection	Neg	Neg	29.785590, -82.550573	rural, farmland
11/3/08	F8-3242	M	>1yr	respiratory infection	Neg	Neg	29.785590, -82.550573	rural, farmland
11/3/08	F8-3243	M	6mo-1yr	respiratory infection	Neg	Neg	29.785590, -82.550573	rural, farmland
11/3/08	F8-3244	M	>1yr	respiratory infection	Neg	Neg	29.788013, -82.495836	rural, commercial, residential
11/3/08	F8-3245	F	>1yr	respiratory infection	Neg	Neg	29.788013, -82.495836	rural, commercial, residential
11/3/08	F8-3246	F	6mo-1yr	respiratory infection	Neg	Neg	29.788013, -82.495836	rural, commercial, residential
11/3/08	F8-3247	M	6mo-1yr	respiratory infection	Neg	Neg	29.788013, -82.495836	rural, commercial, residential
11/3/08	F8-3248	M	> 1 yr	normal	Neg	Neg	29.788013, -82.495836	rural, commercial, residential
11/3/08	F8-3249	M	<6mo	respiratory infection	Neg	Neg	29.795176, -82.382566	rural, farmland, lake within 0.5 miles
11/3/08	F8-3251	M	>1yr	normal	Neg	Neg	29.829496, -82.604410	rural, residential, wooded
11/3/08	F8-3280	F	<6mo	normal	Neg	Neg	29.795176, -82.382566	rural, farmland, lake within 0.5 miles
11/3/08	F8-3281	F	>1yr	respiratory infection	Neg	Neg	29.795176, -82.382566	rural, farmland, lake within 0.5 miles
11/3/08	F8-3282	M	<6mo	respiratory infection	Neg	Neg	29.795176, -82.382566	rural, farmland, lake within 0.5 miles

Sample Date	Cat ID	Sex	Age	Health status	FeLV	FIV	GPS coordinates (lat-long)	Environment
12/15/08	F8-3317	F	6mo-1 yr	normal	Neg	Neg	29.709668, -82.045289	rural, wooded, farmland
12/15/08	F8-3318	M	>1 yr	respiratory infection	Neg	Neg	29.709668, -82.045289	rural, wooded, farmland
12/15/08	F8-3320	F	6mo-1 yr	normal	Neg	Neg	29.709668, -82.045289	rural, wooded, farmland
12/15/08	F8-3348	M	6mo-1yr	normal	Neg	Neg	29.887707, -82.527470	rural, farmland, river within 0.5 miles
12/15/08	F8-3349	M	>1 yr	normal	Neg	Neg	29.887707, -82.527470	rural, farmland, river within 0.5 miles
12/15/08	F8-3357	M	6mo-1 yr	normal	Neg	Neg	29.686099, -82.353322	suburban, residential
12/15/08	F8-3361	F	6mo-1yr	normal	Neg	Neg	29.656937, -82.607034	rural, wooded, farmland
12/15/08	F8-3367	M	>1 yr	normal	Neg	Neg	29.585980, -82.446243	suburban, residential
12/15/08	F8-3371	M	>1 yr	normal	Neg	Neg	29.675015, -82.260628	rural, wooded, trailer park, lake within 0.5 miles
12/15/08	F8-3384	F	6mo-1yr	normal	Neg	Neg	29.634728, -82.415155	suburban, residential, lake within 0.5 miles
12/15/08	F8-3411	F	6mo-1yr	normal	Neg	Neg	29.784023, -82.680158	rural, wooded, farmland
12/15/08	F8-3412	F	>1 yr	normal	Neg	Neg	29.784023, -82.680158	rural, wooded, farmland
12/15/08	F8-3416	M	>1 yr	normal	Neg	Neg	29.645142, -82.455566	rural, wooded, farmland
12/15/08	F8-3417	F	>1 yr	normal	Neg	Neg	29.645142, -82.455566	rural, wooded, farmland
12/15/08	F8-3435	M	>1 yr	normal	Neg	Neg	29.725136, -82.279808	rural, residential, wooded, creek within 0.5 miles
12/15/08	F8-3441	F	6mo-1yr	normal	Neg	Neg	29.640231, -82.321382	suburban, commercial, creek within 0.5 miles
12/15/08	F8-3456	F	6mo-1yr	normal	Neg	**Pos**	29.799706, -82.49655	rural, residential, wooded, farmland
12/15/08	F8-3458	M	>1 yr	normal	Neg	Neg	29.58724, -82.075859	rural, wooded, lakes within 0.5 miles
12/15/08	F8-3461	F	>1 yr	normal	Neg	Neg	29.653595, -82.523489	rural, farmland
12/15/08	F8-3466	F	6mo-1yr	normal	Neg	Neg	29.653595, -82.523489	rural, farmland
12/15/08	F8-3468	M	>1 yr	normal	Neg	Neg	29.63268, -82.336659	suburban, residential
12/15/08	F8-3469	F	>1 yr	normal	Neg	Neg	29.63268, -82.336659	suburban, residential
12/15/08	F8-3472	F	>1 yr	normal	Neg	Neg	29.649285, -82.263984	rural, residential, wooded, lake within 0.5 miles
12/15/08	F8-3478	F	>1 yr	normal	Neg	Neg	29.54141, -82.506475	rural, wooded, farmland
12/15/08	F8-3482	M	<6 mo	normal	Neg	Neg	29.792485, -82.476937	rural, wooded, farmland, lake within 0.5 miles
12/15/08	F8-3499	M	>1 yr	normal	Neg	Neg	29.701594, -82.376151	suburban, residential
12/15/08	F8-3513	M	<6 mo	normal	Neg	Neg	29.613868, -82.306812	suburban, residential, lake and wildlife preserve within 0.5.miles
12/15/08	F8-3522	F	>1 yr	normal	Neg	Neg	29.79908401, -82.91864048	rural, wooded, state park preserve
12/15/08	F8-3524	F	>1 yr	normal	Neg	Neg	29.64613, -82.108967	barnyard and farmland, wooded, lake and wildlife sanctuary within 0.5 miles
12/15/08	F8-3534	M	6mo-1yr	respiratory infection	Neg	Neg	29.573185, -82.636963	rural, wooded, farmland, lakes within 0.5 miles
12/15/08	F8-3536	M	>1 yr	normal	Neg	Neg	29.573185, -82.636963	rural, wooded, farmland, lakes within 0.5 miles
12/15/08	F8-3539	M	>1 yr	normal	Neg	Neg	29.573185, -82.636963	rural, wooded, farmland, lakes within 0.5 miles
12/15/08	F8-3550	F	>1 yr	normal	Neg	Neg	29.695695, -82.337656	suburban, commercial, trailer park
12/15/08	F8-3559	M	<6 mo	normal	Neg	Neg	29.53787, -82.49206	rural, wooded, farmland, poultry
12/15/08	F8-3560	M	<6 mo	normal	Neg	Neg	29.53787, -82.49206	rural, wooded, farmland, poultry
12/15/08	F8-3567	M	<6 mo	normal	Neg	Neg	29.800798, -82.507988	rural, farmland
12/15/08	F8-3568	F	>1 yr	normal	Neg	Neg	29.800798, -82.507988	rural, farmland
12/15/08	F8-3571	M	<6 mo	normal	**Pos**	Neg	29.800798, -82.507988	rural, farmland
12/15/08	F8-3584	M	6mo-1yr	normal	Neg	Neg	29.619047, -82.372328	suburban, residential
12/15/08	F8-3589	F	6mo-1yr	respiratory infection	Neg	Neg	29.65346, -82.339027	urban, commercial
12/15/08	F8-3592	M	6mo-1yr	vere respiratory infecti	Neg	Neg	29.65346, -82.339027	urban, commercial
12/15/08	F8-3595	F	>1 yr	normal	Neg	Neg	29.65346, -82.339027	urban, commercial
12/15/08	F8-3596	M	<6 mo	normal	Neg	Neg	29.65346, -82.339027	urban, commercial
12/15/08	F8-3602	M	6mo-1yr	respiratory infection	Neg	Neg	29.65346, -82.339027	urban, commercial
12/15/08	F8-3603	M	>1 yr	normal	Neg	Neg	29.65346, -82.339027	urban, commercial
12/15/08	F8-3604	F	>1 yr	normal	Neg	Neg	29.65346, -82.339027	urban, commercial
12/15/08	F8-3610	F	>1 yr	normal	Neg	Neg	29.82765, -82.598429	rural, commercial
12/15/08	F8-3626	F	6mo-1yr	respiratory infection	Neg	Neg	29.822443, -82.586908	rural, wooded, commercial
12/15/08	F8-3635	M	<6 mo	normal	Neg	Neg	29.811209, -82.561139	rural, wooded, farmland, river within 0.5 miles
12/15/08	F8-3640	M	6mo-1yr	vere respiratory infecti	Neg	Neg	29.802031, -82.516281	rural, woods, farmland
12/15/08	F8-3641	M	< 6mo	respiratory infection	Neg	Neg	29.802031, -82.516281	rural, woods, farmland
12/15/08	F8-3642	F	>1 yr	vere respiratory infecti	Neg	Neg	29.802031, -82.516281	rural, woods, farmland
12/15/08	F8-3643	M	>1 yr	respiratory infection	Neg	Neg	29.802031, -82.516281	rural, woods, farmland
12/15/08	F8-3650	F	< 6mo	respiratory infection	**Pos**	Neg	29.802031, -82.516281	rural, woods, farmland
12/15/08	F8-3651	M	6mo-1yr	vere respiratory infecti	Neg	Neg	29.802031, -82.516281	rural, woods, farmland
12/15/08	F8-3652	M	>1 yr	respiratory infection	Neg	Neg	29.802031, -82.516281	rural, woods, farmland
12/15/08	F8-3654	F	>1 yr	normal	Neg	Neg	29.788013, -82.495836	rural, commercial, residential
12/15/08	F8-3658	F	>1 yr	respiratory infection	Neg	Neg	29.802031, -82.516281	rural, woods, farmland
12/15/08	F8-3660	M	6mo-1yr	respiratory infection	Neg	Neg	29.788013, -82.495836	rural, commercial, residential

Sample Date	Cat ID	Sex	Age	Health status	FeLV	FIV	GPS coordinates (lat-long)	Environment
1/8/09	F9-517	M	>1 yr	normal	Neg	Neg	29.676101, -82.329295	suburban, residential, pond within 0.5 miles
1/8/09	F9-529	M	>1 yr	normal	Neg	Neg	29.571441, -82.45493	rural, residential, farmland
1/8/09	F9-531	F	>1 yr	normal	Neg	Neg	29.633926, -82.376899	suburban, residential, lakes within 0.5 miles
1/8/09	F9-538	M	>1 yr	normal	Neg	Neg	29.784007, -82.167085	rural, residential, wooded, lake within 0.5 miles
1/8/09	F9-539	F	>1 yr	normal	Neg	Neg	29.784007, -82.167085	rural, residential, wooded, lake within 0.5 miles
1/8/09	F9-556	F	>1 yr	normal	Neg	Neg	29.589851, -82.132629	rural, wooded, farmland, river within 0.5 miles
1/8/09	F9-559	M	>1 yr	normal	Neg	Neg	29.722045, -82.353142	rural, wooded, farmland
1/8/09	F9-562	F	6mo - 1yr	normal	Neg	Neg	29.646953, -82.611824	rural, wooded, farmland, residential, commercial
1/8/09	F9-563	M	<6 mo	normal	Neg	Neg	29.646953, -82.611824	rural, wooded, farmland
1/8/09	F9-566	M	<6 mo	normal	Neg	Neg	29.646953, -82.611824	rural, wooded, farmland
1/8/09	F9-568	M	>1 yr	normal	Neg	Neg	29.525625, -82.535605	rural, wooded, lakes within 0.5 miles
1/8/09	F9-570	F	6mo - 1yr	normal	**Pos**	Neg	29.91661, -82.707853	rural, farmland, resident poultry and lake or pond within 0.5 miles
1/8/09	F9-571	M	>1 yr	normal	Neg	Neg	29.659848, -82.372559	suburban, residential
1/8/09	F9-572	F	>1 yr	normal	Neg	Neg	29.659848, -82.372559	suburban, residential
1/8/09	F9-573	M	>1 yr	normal	Neg	Neg	29.659848, -82.372559	suburban, residential
1/8/09	F9-576	F	6mo - 1yr	normal	Neg	Neg	29.659848, -82.372559	suburban, residential
1/8/09	F9-589	F	6mo - 1yr	respiratory infection	Neg	Neg	29.725615, -82.732786	rural, wooded, farmland
1/8/09	F9-594	M	>1 yr	respiratory infection	Neg	Neg	29.793665, -82.382133	rural, farmland, creek within 0.5 miles
1/8/09	F9-600	M	6mo - 1yr	normal	**Pos**	Neg	29.545739, -81.953704	rural, wooded, lake within 0.5 miles
1/8/09	F9-612	M	>1 yr	normal	Neg	Neg	29.60684, -82.520692	rural, wooded, farmland
1/8/09	F9-618	F	>1 yr	normal	Neg	Neg	29.60684, -82.520692	rural, wooded, farmland
1/8/09	F9-620	F	>1 yr	normal	Neg	Neg	29.60684, -82.520692	rural, wooded, farmland
1/8/09	F9-622	M	6mo - 1yr	respiratory infection	Neg	Neg	29.483200, -82.541184	rural, residential
1/8/09	F9-623	F	>1 yr	respiratory infection	Neg	Neg	29.483200, -82.541184	rural, residential
1/8/09	F9-630	F	>1 yr	normal	Neg	Neg	29.483200, -82.541184	rural, residential
1/8/09	F9-633	M	>1 yr	normal	Neg	Neg	29.573185, -82.636963	rural, wooded, farmland, lakes within 0.5 miles
1/8/09	F9-639	M	6mo - 1yr	normal	Neg	Neg	29.595485, -82.656136	rural, wooded, farmland
1/8/09	F9-642	F	<6 mo	normal	Neg	Neg	29.653036, -82.090686	rural, wooded, farmland, lakes within 0.5 miles
1/8/09	F9-644	F	>1 yr	normal	Neg	Neg	29.653036, -82.090686	rural, wooded, farmland, lakes within 0.5 miles
1/8/09	F9-646	F	<6 mo	normal	Neg	Neg	29.653036, -82.090686	rural, wooded, farmland, lakes within 0.5 miles
1/8/09	F9-648	M	>1 yr	normal	Neg	Neg	29.615691, -82.371093	suburban, residential, wooded
1/8/09	F9-661	F	6mo - 1yr	normal	Neg	Neg	29.796191, -82.169366	rural, residential, wooded
1/8/09	F9-662	M	<6 mo	normal	Neg	Neg	29.796191, -82.169366	rural, residential, wooded
1/8/09	F9-667	F	6mo - 1yr	respiratory infection	Neg	Neg	29.613868, -82.306812	suburban, residential, lake and wildlife preserve within 0.5.miles
1/8/09	F9-669	M	>1 yr	normal	Neg	Neg	29.805239, -82.476230	rural, residential, wooded, farmland, near state park preserve
1/8/09	F9-676	F	6mo - 1yr	respiratory infection	Neg	Neg	29.759115, -82.068292	rural, wooded, farmland, lake within 0.5 miles
1/8/09	F9-679	M	>1 yr	respiratory infection	Neg	Neg	29.759115, -82.068292	rural, wooded, farmland, lake within 0.5 miles
1/8/09	F9-680	F	<6 mo	respiratory infection	**Pos**	Neg	29.759115, -82.068292	rural, wooded, farmland, lake within 0.5 miles
1/8/09	F9-684	M	6mo - 1yr	normal	Neg	Neg	29.491498, -82.280371	rural, wooded, farmland
1/8/09	F9-685	F	<6 mo	normal	Neg	Neg	29.491498, -82.280371	rural, wooded, farmland
1/8/09	F9-688	M	>1 yr	normal	Neg	**Pos**	29.58724, -82.075859	rural, wooded, lakes within 0.5 miles
1/8/09	F9-693	M	>1 yr	normal	Neg	Neg	29.781662, -82.474014	rural, wooded, farmland, state park preserve
1/8/09	F9-695	F	<6 mo	respiratory infection	Neg	Neg	29.819100, -82.579327	rural, commercial
1/8/09	F9-696	F	6mo - 1yr	normal	Neg	Neg	29.781662, -82.474014	rural, wooded, farmland, state park preserve
1/8/09	F9-701	F	>1 yr	normal	Neg	Neg	29.651537, -82.506799	residential in rural area
1/8/09	F9-702	M	<6 mo	normal	Neg	Neg	29.651537, -82.506799	residential in rural area
1/8/09	F9-705	F	<6 mo	normal	Neg	Neg	29.651537, -82.506799	rural, wooded, residential, commercial
1/8/09	F9-712	M	>1 yr	normal	Neg	Neg	29.830134, -82.593588	rural, residential
1/8/09	F9-713	F	6mo - 1yr	normal	Neg	Neg	29.828651, -82.59287	rural, residential, commercial
1/8/09	F9-725	M	6mo - 1yr	normal	Neg	Neg	29.707983, -82.607214	rural, wooded, farmland
1/8/09	F9-728	M	>1 yr	normal	Neg	Neg	29.606565, -82.117625	rural, farmland
1/8/09	F9-732	M	<6 mo	respiratory infection	Neg	Neg	29.606565, -82.117625	rural, farmland
1/8/09	F9-734	M	>1 yr	normal	Neg	Neg	29.606565, -82.117625	rural, farmland
1/8/09	F9-742	M	6mo - 1yr	normal	Neg	Neg	29.807910, -82.543959	rural, farmland
1/8/09	F9-745	M	>1 yr	respiratory infection	Neg	Neg	29.807910, -82.543959	rural, farmland
1/8/09	F9-746	F	<6 mo	normal	Neg	Neg	29.819100, -82.579327	rural, commercial
1/8/09	F9-747	F	<6 mo	normal	Neg	Neg	29.819100, -82.579327	rural, commercial
1/8/09	F9-748	F	>1 yr	normal	Neg	Neg	29.819100, -82.579327	rural, commercial
1/8/09	F9-749	M	>1 yr	respiratory infection	**Pos**	Neg	29.819100, -82.579327	rural, commercial
1/8/09	F9-750	F	>1 yr	normal	Neg	Neg	29.819100, -82.579327	rural, commercial

Sample Date	Cat ID	Sex	Age	Health status	FeLV	FIV	GPS coordinates (lat-long)	Environment
2/9/09	F9-827	M	>1 yr	healthy	Neg	Neg	29.601105, -82.416646	suburban, residential
2/9/09	F9-843	M	>1 yr	healthy	Neg	Neg	29.630341, -82.104479	rural, wooded, farmland, barnyard, lake or pond within 0.5 miles
2/9/09	F9-857	M	6 mo - 1 yr	healthy	Neg	Neg	29.63213, -82.361619	suburban, residential, lake within 0.5 miles
2/9/09	F9-859	F	<6 mo	healthy	Neg	Neg	29.615598, -82.42105	suburban, residential, lake within 0.5 miles
2/9/09	F9-860	M	6 mo- 1 yr	healthy	Neg	Neg	29.615598, -82.42105	suburban, residential, lake within 0.5 miles
2/9/09	F9-864	F	6 mo - 1 yr	healthy	Neg	Neg	29.658319, -82.311877	urban, residential
2/9/09	F9-867	M	>1 yr	healthy	Neg	Neg	29.753941, -82.242339	rural, wooded, farmland, creek within 0.5 miles
2/9/09	F9-870	F	>1 yr	healthy	Neg	Neg	29.60684, -82.520692	rural, wooded, farmland
2/9/09	F9-871	F	>1 yr	healthy	Neg	Neg	28.597227, -81.203795	urban, university campus
2/9/09	F9-872	F	>1 yr	healthy	Neg	Neg	28.597227, -81.203795	urban, university campus
2/9/09	F9-873	F	6 mo- 1 yr	healthy	Neg	Neg	29.825221, -82.59257	rural, commercial, residential
2/9/09	F9-877	M	6 mo - 1 yr	healthy	Neg	Neg	29.755316, -82.225428	rural, residential
2/9/09	F9-881	M	>1 yr	healthy	Neg	Neg	29.674107, -82.240474	rural, wooded, lakes within 0.5 miles
2/9/09	F9-885	M	>1 yr	healthy	Neg	Neg	29.646953, -82.611824	rural, wooded, farmland
2/9/09	F9-886	M	>1 yr	respiratory infection	Neg	Neg	29.646953, -82.611824	rural, wooded, farmland
2/9/09	F9-887	M	>1 yr	respiratory infection	Neg	Neg	29.646953, -82.611824	rural, wooded, farmland
2/9/09	F9-894	M	<6 mo	healthy	Neg	Neg	29.601105, -82.416646	suburban, residential
2/9/09	F9-895	F	>1 yr	respiratory infection	Neg	Neg	29.65586, -82.385341	suburban, residential, pond within 0.5 miles
2/9/09	F9-897	F	<6 mo	healthy	Neg	Neg	29.593257, -82.133782	rural, wooded, farmland
2/9/09	F9-901	M	<6 mo	healthy	Neg	Neg	29.795515, -82.54046	rural, wooded, farmland
2/9/09	F9-908	M	>1 yr	healthy	Neg	Neg	29.543555, -82.486369	rural, wooded, farmland
2/9/09	F9-913	M	<6 mo	healthy	**Pos**	Neg	29.709668, -82.045289	rural, wooded, farmland
2/9/09	F9-915	F	>1 yr	healthy	Neg	Neg	29.709668, -82.045289	rural, wooded, farmland
2/9/09	F9-918	M	<6 mo	healthy	Neg	Neg	29.628833, -82.623138	rural, wooded, farmland
2/9/09	F9-920	M	>1 yr	healthy	Neg	Neg	29.628833, -82.623138	rural, wooded, river within 0.5 miles
2/9/09	F9-922	F	<6 mo	healthy	Neg	Neg	29.700029, -82.36201	suburban, residential
2/9/09	F9-925	M	<6 mo	healthy	Neg	Neg	29.700029, -82.36201	suburban, residential
2/9/09	F9-927	F	<6 mo	healthy	Neg	Neg	29.791930, -82.495714	rural, commercial
2/9/09	F9-931	M	<6 mo	healthy	Neg	Neg	29.791930, -82.495714	rural, commercial
2/9/09	F9-939	M	<6 mo	healthy	Neg	Neg	29.91661, -82.707853	rural, farmland, resident poultry and lake or pond within 0.5 miles
2/9/09	F9-942	M	<6 mo	healthy	Neg	Neg	29.627206, -82.341179	suburban, residential, lakes and wildlife sanctuary within 0.5 miles
2/9/09	F9-945	M	>1 yr	healthy	Neg	Neg	29.627206, -82.341179	suburban, residential, lakes and wildlife sanctuary within 0.5 miles
2/9/09	F9-947	M	>1 yr	healthy	Neg	Neg	29.625159, -82.547071	rural, wooded, farmland
2/9/09	F9-949	F	>1 yr	healthy	Neg	Neg	29.795515, -82.54046	rural, wooded, farmland
2/9/09	F9-957	F	>1 yr	healthy	Neg	Neg	29.613868, -82.306812	suburban, residential, lake and wildlife preserve within 0.5.miles
2/9/09	F9-958	M	>1 yr	healthy	Neg	Neg	29.877792, -82.402581	rural, wooded, farmland
2/9/09	F9-967	F	>1 yr	healthy	Neg	Neg	29.592845, -82.086569	rural, commercial
2/9/09	F9-969	F	>1 yr	healthy	Neg	Neg	29.600746, -82.340171	rural, wooded, poultry, lake and wildlife sanctuary within 0.5 miles
2/9/09	F9-975	F	>1 yr	healthy	Neg	Neg	29.606565, -82.117625	rural, farmland
2/9/09	F9-976	M	<6 mo	healthy	Neg	Neg	29.700029, -82.36201	suburban, residential
2/9/09	F9-978	M	>1 yr	healthy	Neg	Neg	29.806689, -82.472859	rural, wooded, farmland
2/9/09	F9-979	M	6 mo - 1 yr	healthy	Neg	Neg	29.806689, -82.472859	rural, wooded, farmland
2/9/09	F9-981	M	>1 yr	healthy	Neg	Neg	29.806689, -82.472859	rural, wooded, farmland
2/9/09	F9-983	F	>1 yr	healthy	Neg	Neg	29.832649, -82.609446	rural, commercial
2/9/09	F9-984	F	>1 yr	healthy	Neg	Neg	29.832649, -82.609446	rural, commercial
2/9/09	F9-990	M	>1 yr	healthy	Neg	Neg	29.827201, -82.594011	rural, wooded, residential, commercial
2/9/09	F9-991	M	>1 yr	healthy	Neg	Neg	29.827201, -82.594011	rural, wooded, residential, commercial
2/9/09	F9-994	M	>1 yr	healthy	Neg	Neg	29.827201, -82.594011	rural, wooded, residential, commercial
2/9/09	F9-998	M	>1 yr	respiratory infection	Neg	Neg	29.827201, -82.594011	rural, wooded, residential, commercial
2/9/09	F9-1000	M	>1 yr	healthy	Neg	Neg	29.803612, -82.522163	rural, wooded, residential, farmland
2/9/09	F9-1004	F	>1 yr	healthy	Neg	Neg	29.606565, -82.117625	rural, farmland
2/9/09	F9-1005	F	6 mo - 1 yr	healthy	Neg	Neg	29.606565, -82.117625	rural, farmland
2/9/09	F9-1006	F	>1 yr	healthy	Neg	Neg	29.606565, -82.117625	rural, farmland
2/9/09	F9-1013	M	>1 yr	healthy	Neg	Neg	29.606565, -82.117625	rural, farmland
2/9/09	F9-1016	M	>1 yr	respiratory infection	Neg	Neg	29.606565, -82.117625	rural, farmland
2/9/09	F9-1032	F	>1 yr	healthy	Neg	Neg	29.828651, -82.59287	rural, residential, commercial
2/9/09	F9-1033	F	>1 yr	healthy	Neg	**Pos**	29.828651, -82.59287	rural, residential, commercial
2/9/09	F9-1036	F	>1 yr	healthy	Neg	Neg	29.830134, -82.593588	rural, residential
2/9/09	F9-1042	F	6 mo - 1 yr	healthy	Neg	Neg	29.82584, -82.594665	rural, residential, commercial
2/9/09	F9-1049	F	>1 yr	healthy	Neg	Neg	29.803612, -82.522163	rural, wooded, residential, farmland

Sample Date	Cat ID	Sex	Age	Health status	FeLV	FIV	GPS coordinates (lat-long)	Environment
3/16/09	F9-1097	M	>1 yr	healthy	Neg	Neg	29.612961, -82.415861	suburban, residential, lake or pond and wildlife sanctuary within 0.5 miles
3/16/09	F9-1100	M	6 mo - 1 yr	healthy	Neg	Neg	29.630341, -82.104479	rural area, wooded, farmland, barnyard, lake or pond within 0.5 miles
3/16/09	F9-1104	F	6 mo - 1 yr	healthy	Neg	Neg	29.630341, -82.104479	rural area, wooded, farmland, barnyard, lake or pond within 0.5 miles
3/16/09	F9-1106	M	>1 yr	healthy	Neg	Neg	29.671608, -82.383455	residential section in a suburban area
3/16/09	F9-1109	M	6 mo - 1 yr	healthy	Neg	Neg	29.786301, -82.601152	rural area, wooded, farmland, barnyard, lake or pond within 0.5 miles
3/16/09	F9-1112	F	>1 yr	healthy	Neg	Neg	29.600665, -82.374921	suburban, wooded, commercial
3/16/09	F9-1116	M	<6 mo	healthy	Neg	Neg	29.600665, -82.374921	suburban, wooded, commercial
3/16/09	F9-1117	F	6 mo - 1 yr	healthy	Neg	Neg	29.600665, -82.374921	suburban, wooded, commercial
3/16/09	F9-1119	M	6 mo - 1 yr	healthy	Neg	Neg	29.694109, -82.333971	urban, commercial
3/16/09	F9-1120	M	6 mo - 1 yr	healthy	Neg	Neg	29.91661, -82.707853	rural, farmland, resident poultry and lake or pond within 0.5 miles
3/16/09	F9-1128	M	>1 yr	healthy	Neg	Neg	29.809374, -82.606557	rural, barnyard and farmland, lake or pond within 0.5 miles
3/16/09	F9-1130	F	>1 yr	healthy	Neg	Neg	29.809374, -82.606557	rural, barnyard and farmland, lake or pond within 0.5 miles
3/16/09	F9-1131	M	>1 yr	healthy	Neg	Neg	29.659350, -82.442599	rural, farmland
3/16/09	F9-1133	F	6 mo - 1 yr	healthy	Neg	Neg	29.640144, -82.305483	suburban, residential
3/16/09	F9-1134	M	6 mo - 1 yr	healthy	Neg	Neg	29.640144, -82.305483	suburban, residential
3/16/09	F9-1137	M	>1 yr	healthy	Neg	Neg	29.640810, -82.335564	residential, lake or pond within 0.5 miles
3/16/09	F9-1139	F	>1 yr	respiratory infection	Neg	Neg	29.646468, -82.617496	rural, residential
3/16/09	F9-1140	F	>1 yr	healthy	Neg	Neg	29.646468, -82.617496	rural, residential
3/16/09	F9-1141	F	>1 yr	respiratory infection	Neg	Neg	29.646468, -82.617496	rural, residential
3/16/09	F9-1142	F	6 mo - 1 yr	respiratory infection	Neg	Neg	29.646468, -82.617496	rural, residential
3/16/09	F9-1143	F	>1 yr	healthy	Neg	Neg	29.646468, -82.617496	rural, residential
3/16/09	F9-1144	M	>1 yr	healthy	Neg	Neg	29.693008, -82.354017	suburban, residential
3/16/09	F9-1152	F	6 mo - 1 yr	healthy	Neg	Neg	29.496367, -82.598200	rural, farmland
3/16/09	F9-1156	F	>1 yr	respiratory infection	Neg	**Pos**	29.601105, -82.416646	suburban, residential
3/16/09	F9-1158	M	>1 yr	respiratory infection	Neg	Neg	29.601105, -82.416646	suburban, residential
3/16/09	F9-1159	M	6 mo - 1 yr	healthy	Neg	Neg	29.646130, -82.108967	barnyard and farmland, wooded, lake or pond and wildlife sanctuary within 0.5 miles
3/16/09	F9-1161	F	6 mo - 1 yr	healthy	Neg	Neg	29.646130, -82.108967	barnyard and farmland, wooded, lake or pond and wildlife sanctuary within 0.5 miles
3/16/09	F9-1162	M	>1 yr	healthy	Neg	Neg	29.821880, -82.612169	rural, wooded, farmland
3/16/09	F9-1167	M	6 mo - 1 yr	healthy	Neg	Neg	29.676884, -82.260848	rural, trailer park, lake or pond within 0.5 mi, free-ranging ducks
3/16/09	F9-1168	M	<6 mo	respiratory infection	Neg	Neg	29.801792, -82.445766	rural, wooded, lake or pond and a wildlife sanctuary within 0.5 miles
3/16/09	F9-1174	F	6 mo - 1 yr	healthy	Neg	Neg	29.646953, -82.611824	rural, wooded, farmland
3/16/09	F9-1181	M	6 mo - 1 yr	respiratory infection	Neg	Neg	29.785330, -82.495629	rural, commercial
3/16/09	F9-1182	F	6 mo - 1 yr	healthy	Neg	Neg	29.785330, -82.495629	rural, commercial
3/16/09	F9-1184	M	>1 yr	healthy	Neg	Neg	29.839720, -82.405169	rural, wooded, river within 0.5 miles
3/16/09	F9-1187	F	<6 mo	healthy	Neg	Neg	29.839720, -82.405169	rural, wooded, river within 0.5 miles
3/16/09	F9-1197	F	>1 yr	healthy	Neg	Neg	29.799706, -82.496550	rural, residential, wooded, farmland
3/16/09	F9-1202	F	6 mo - 1 yr	healthy	Neg	Neg	29.646953, -82.611824	rural, wooded, farmland
3/16/09	F9-1204	M	6 mo - 1 yr	healthy	Neg	Neg	29.646953, -82.611824	rural, wooded, farmland
3/16/09	F9-1206	F	6 mo - 1 yr	respiratory infection	Neg	Neg	29.796605, -82.496023	rural, residential, farmland, wooded, lake or pond within 0.5 miles
3/16/09	F9-1209	F	6 mo - 1 yr	healthy	Neg	Neg	29.796605, -82.496023	rural, residential, farmland, wooded, lake or pond within 0.5 miles
3/16/09	F9-1211	M	>1 yr	healthy	Neg	Neg	29.796605, -82.496023	rural, residential, farmland, wooded, lake or pond within 0.5 miles
3/16/09	F9-1216	F	<6 mo	respiratory infection	Neg	Neg	29.795255, -82.495608	rural, residential
3/16/09	F9-1217	F	>1 yr	respiratory infection	Neg	Neg	29.795255, -82.495608	rural, residential
3/16/09	F9-1218	M	>1 yr	respiratory infection	Neg	Neg	29.78692, -82.49707	farmland, wooded, lake or pond within 0.5 miles
3/16/09	F9-1219	F	6 mo - 1 yr	healthy	Neg	Neg	29.78692, -82.49707	farmland, wooded, lake or pond within 0.5 miles
3/16/09	F9-1220	F	>1 yr	healthy	Neg	Neg	29.78692, -82.49707	farmland, wooded, lake or pond within 0.5 miles
3/16/09	F9-1221	M	<6 mo	healthy	Neg	Neg	29.78692, -82.49707	farmland, wooded, lake or pond within 0.5 miles
3/16/09	F9-1224	M	>1 yr	healthy	Neg	Neg	29.667564, -82.607082	farmland in a rural area, trailer park
3/16/09	F9-1226	F	6 mo - 1 yr	respiratory infection	Neg	Neg	29.667564, -82.607082	farmland in a rural area, trailer park
3/16/09	F9-1227	M	>1 yr	healthy	Neg	Neg	29.667564, -82.607082	farmland in a rural area, trailer park
3/16/09	F9-1228	F	6 mo - 1 yr	healthy	Neg	Neg	29.667564, -82.607082	farmland in a rural area, trailer park
3/16/09	F9-1230	M	<6 mo	healthy	Neg	Neg	29.667564, -82.607082	farmland in a rural area, trailer park
3/16/09	F9-1236	F	>1 yr	healthy	Neg	Neg	29.826957, -82.599369	rural, commercial, wooded, lake or pond within 0.5 miles
3/16/09	F9-1239	F	>1 yr	healthy	Neg	Neg	29.826957, -82.599369	rural, commercial, wooded, lake or pond within 0.5 miles
3/16/09	F9-1241	F	<6 mo	healthy	Neg	Neg	29.826957, -82.599369	rural, commercial, wooded, lake or pond within 0.5 miles
3/16/09	F9-1242	F	6 mo - 1 yr	healthy	Neg	Neg	29.826957, -82.599369	rural, commercial, wooded, lake or pond within 0.5 miles
3/16/09	F9-1244	M	6 mo - 1 yr	healthy	Neg	Neg	29.826957, -82.599369	rural, commercial, wooded, lake or pond within 0.5 miles
3/16/09	F9-1279	F	6 mo - 1 yr	healthy	Neg	Neg	29.830407, -82.604024	rural, wooded, residential, commercial
3/16/09	F9-1282	F	6 mo - 1 yr	respiratory infection	Neg	Neg	29.825511, -82.598015	rural, commercial
3/16/09	F9-1288	M	6 mo - 1 yr	respiratory infection	Neg	Neg	29.825511, -82.598015	rural, commercial

Sample Date	Cat ID	Sex	Age	Health status	FeLV	FIV	GPS coordinates (lat-long)	Environment
4/20/09	F9-0796	M	>1 yr	healthy	Neg	Neg	29.605463, -82.368893	rural, commercial
4/20/09	F9-0799	M	>1 yr	healthy	Neg	Neg	29.751124, -82.860797	rural, commercial
4/20/09	F9-1320	F	6 mo- 1 yr	healthy	Neg	Neg	29.646270, -82.606820	rural, residential
4/20/09	F9-1323	M	<6 mo	healthy	Neg	Neg	29.621956, -82.360860	residential, suburban
4/20/09	F9-1326	M	6 mo- 1 yr	healthy	Neg	Neg	29.633926, -82.376899	suburban, residential, lakes within 0.5 miles
4/20/09	F9-1332	M	6 mo - 1 yr	healthy	Neg	Neg	29.633396, -82.326359	rural, industrial
4/20/09	F9-1337	F	6 mo - 1 yr	respiratory infection	Neg	Neg	29.646468, -82.617496	rural, residential
4/20/09	F9-1338	F	<6 mo	vere respiratory infecti	Neg	Neg	29.646468, -82.617496	rural, residential
4/20/09	F9-1339	M	6 mo- 1 yr	healthy	Neg	Neg	29.646468, -82.617496	rural, residential
4/20/09	F9-1347	M	>1 yr	healthy	Neg	Neg	29.630402, -82.114838	rural, wooded, farmland
4/20/09	F9-1348	M	>1 yr	healthy	Neg	Neg	29.630402, -82.114838	rural, wooded, farmland
4/20/09	F9-1350	M	>1 yr	healthy	Neg	Neg	29.630402, -82.114838	rural, wooded, farmland
4/20/09	F9-1354	M	<6 mo	healthy	Neg	Neg	28.597227, -81.203795	urban, university campus
4/20/09	F9-1356	M	>1 yr	healthy	Neg	Neg	29.91661, -82.707853	rural, farmland, resident poultry and lake or pond within 0.5 miles
4/20/09	F9-1357	M	>1 yr	healthy	**Pos**	Neg	29.561784, -82.480383	rural, farmland
4/20/09	F9-1358	F	<6 mo	healthy	Neg	Neg	29.561784, -82.480383	rural, farmland
4/20/09	F9-1364	F	6 mo - 1 yr	healthy	Neg	Neg	29.653029, -82.313307	urban, residential, commercial
4/20/09	F9-1365	F	6 mo - 1 yr	healthy	Neg	Neg	29.823735, -82.601936	rural, residential, farmland
4/20/09	F9-1366	F	>1 yr	healthy	Neg	Neg	29.666482, -82.400892	suburban, residential, lake or pond within 0.5 miles
4/20/09	F9-1368	M	>1 yr	healthy	Neg	Neg	29.649119, -82.482285	rural, residential
4/20/09	F9-1370	M	6 mo - 1 yr	healthy	Neg	Neg	29.619087, -82.372819	urban, commercial
4/20/09	F9-1372	M	>1 yr	healthy	Neg	Neg	29.529587, -82.435685	rural, wooded, farmland
4/20/09	F9-1374	M	>1 yr	healthy	Neg	Neg	29.529587, -82.435685	rural, wooded, farmland
4/20/09	F9-1377	M	<6 mo	healthy	Neg	Neg	29.648274, -82.323823	urban, commercial, residential
4/20/09	F9-1378	M	>1 yr	healthy	Neg	Neg	29.609408, -82.636080	rural, farmland
4/20/09	F9-1384	F	6 mo- 1 yr	healthy	Neg	Neg	29.761715, -82.540577	rural, farmland
4/20/09	F9-1385	F	<6 mo	healthy	Neg	Neg	29.761715, -82.540577	rural, farmland
4/20/09	F9-1389	M	>1 yr	healthy	Neg	Neg	29.761715, -82.540577	rural, farmland
4/20/09	F9-1392	M	>1 yr	healthy	Neg	Neg	29.524284, -82.506707	rural, farmland
4/20/09	F9-1394	F	>1 yr	healthy	Neg	Neg	29.764042, -82.512600	rural, residential, farmland
4/20/09	F9-1395	M	6 mo - 1 yr	healthy	Neg	Neg	29.764042, -82.512600	rural, residential, farmland
4/20/09	F9-1397	M	6 mo - 1 yr	healthy	Neg	Neg	29.764042, -82.512600	rural, residential, farmland
4/20/09	F9-1402	F	6 mo - 1 yr	healthy	Neg	Neg	29.827201, -82.594011	rural, wooded, residential, commercial
4/20/09	F9-1404	M	6 mo - 1 yr	respiratory infection	Neg	Neg	29.830938, -82.593125	rural, wooded, residential, commercial
4/20/09	F9-1405	F	6 mo - 1 yr	healthy	Neg	Neg	29.830938, -82.593125	rural, wooded, residential, commercial
4/20/09	F9-1406	M	6 mo - 1 yr	respiratory infection	Neg	Neg	29.830938, -82.593125	rural, wooded, residential, commercial
4/20/09	F9-1408	M	>1 yr	respiratory infection	Neg	Neg	29.830938, -82.593125	rural, wooded, residential, commercial
4/20/09	F9-1413	M	>1 yr	healthy	Neg	Neg	29.830938, -82.593125	rural, wooded, residential, commercial
4/20/09	F9-1417	M	>1 yr	respiratory infection	Neg	Neg	29.523497, -82.314382	rural, lake or pond within 0.5 miles
4/20/09	F9-1418	M	>1 yr	respiratory infection	Neg	Neg	29.523497, -82.314382	rural, lake or pond within 0.5 miles
4/20/09	F9-1420	M	<6 mo	respiratory infection	Neg	Neg	29.523497, -82.314382	rural, lake or pond within 0.5 miles
4/20/09	F9-1421	M	<6 mo	respiratory infection	Neg	Neg	29.523497, -82.314382	rural, lake or pond within 0.5 miles
4/20/09	F9-1427	F	>1 yr	healthy	Neg	Neg	29.698457, -82.389004	suburban, residential, wooded, pond within 0.5 miles
4/20/09	F9-1428	M	6 mo - 1 yr	healthy	Neg	Neg	29.543555, -82.486369	rural, wooded, farmland
4/20/09	F9-1431	M	6 mo - 1 yr	healthy	Neg	Neg	29.613228, -82.656103	rural, farmland
4/20/09	F9-1433	M	6 mo - 1 yr	healthy	Neg	Neg	29.613228, -82.656103	rural, farmland
4/20/09	F9-1434	M	6 mo - 1 yr	healthy	Neg	Neg	29.613228, -82.656103	rural, farmland
4/20/09	F9-1436	M	>1 yr	healthy	Neg	Neg	29.839720, -82.405169	rural, wooded, river within 0.5 miles
4/20/09	F9-1438	M	>1 yr	healthy	Neg	Neg	29.839720, -82.405169	rural, wooded, river within 0.5 miles
4/20/09	F9-1439	M	>1 yr	healthy	Neg	Neg	29.839720, -82.405169	rural, wooded, river within 0.5 miles
4/20/09	F9-1443	F	>1 yr	healthy	Neg	Neg	29.716748, -82.356321	urban, commercial, wooded, lake or pond within 0.5 miles
4/20/09	F9-1444	F	6 mo - 1 yr	healthy	Neg	Neg	29.716748, -82.356321	urban, commercial, wooded, lake or pond within 0.5 miles
4/20/09	F9-1455	F	6 mo - 1 yr	vere respiratory infecti	Neg	Neg	29.822443, -82.586908	rural, wooded, commercial
4/20/09	F9-1467	M	6 mo - 1 yr	respiratory infection	Neg	Neg	29.830122, -82.604387	rural, commercial
4/20/09	F9-1471	F	6 mo - 1 yr	vere respiratory infecti	Neg	Neg	29.834140, -82.598474	rural, wooded, farmland, commercial, river within 0.5 miles
4/20/09	F9-1473	F	<6 mo	vere respiratory infecti	Neg	Neg	29.834140, -82.598474	rural, wooded, farmland, commercial, river within 0.5 miles
4/20/09	F9-1476	F	6 mo - 1 yr	respiratory infection	Neg	Neg	30.173404, -82.730522	rural, residential, farmland
4/20/09	F9-1479	F	6 mo - 1 yr	healthy	Neg	Neg	29.802031, -82.516281	rural, woods, farmland
4/20/09	F9-1483	F	6 mo - 1 yr	healthy	Neg	Neg	29.644785, -82.328961	urban, residential, commercial
4/20/09	F9-1484	F	6 mo - 1 yr	healthy	Neg	Neg	29.644785, -82.328961	urban, residential, commercial

Sample Date	Cat ID	Sex	Age	Health status	FeLV	FIV	GPS coordinates (lat-long)	Environment
5/18/09	F9-1495	M	>1 yr	healthy	Neg	Neg	29.590625, -82.981729	rural, commercial
5/18/09	F9-1498	M	>1 yr	healthy	Neg	Neg	29.633926, -82.376899	suburban, residential, lakes within 0.5 miles
5/18/09	F9-1499	F	>1 yr	healthy	Neg	Neg	29.633926, -82.376899	suburban, residential, lakes within 0.5 miles
5/18/09	F9-1507	M	>1 yr	healthy	Neg	Neg	29.844566, -82.405038	rural, wooded, farmland
5/18/09	F9-1511	F	6 mo- 1 yr	healthy	Neg	Neg	29.707942, -82.273376	rural, wooded
5/18/09	F9-1512	M	>1 yr	healthy	Neg	Neg	29.613265, -82.424387	rural, residential, pasture
5/18/09	F9-1518	F	>1 yr	respiratory infection	Neg	Neg	29.622864, -82.359918	suburban, residential
5/18/09	F9-1520	F	<6 mo	healthy	Neg	Neg	29.715948, -82.437775	rural, wooded
5/18/09	F9-1526	F	6 mo - 1 yr	healthy	Neg	Neg	29.675407, -82.302933	urban, commercial
5/18/09	F9-1528	F	>1 yr	healthy	Neg	Neg	29.646270, -82.606820	rural, residential
5/18/09	F9-1539	M	<6 mo	healthy	Neg	Neg	29.636210, -82.418277	rural, wooded, residential
5/18/09	F9-1542	F	>1 yr	healthy	Neg	Neg	29.833946, -82.599405	rural, residential
5/18/09	F9-1543	M	>1 yr	respiratory infection	Neg	Neg	29.815453, -82.625277	rural, farmland
5/18/09	F9-1544	M	>1 yr	respiratory infection	Neg	Neg	29.815453, -82.625277	rural, farmland
5/18/09	F9-1545	F	>1 yr	respiratory infection	**Pos**	Neg	29.815453, -82.625277	rural, farmland
5/18/09	F9-1549	F	>1 yr	healthy	Neg	Neg	29.815453, -82.625277	rural, farmland
5/18/09	F9-1554	M	>1 yr	healthy	Neg	Neg	29.770175, -82.421752	rural, farmland
5/18/09	F9-1565	F	>1 yr	healthy	Neg	Neg	29.624961, -82.537893	rural, farmland, poultry, horses
5/18/09	F9-1568	M	6 mo - 1 yr	healthy	Neg	Neg	29.716748, -82.356321	urban, commercial, wooded, lake or pond within 0.5 miles
5/18/09	F9-1574	M	>1 yr	healthy	Neg	Neg	29.796255, -82.286158	rural, wooded, farmland
5/18/09	F9-1575	M	>1 yr	healthy	Neg	Neg	29.796255, -82.286158	rural, wooded, farmland
5/18/09	F9-1580	M	>1 yr	healthy	Neg	Neg	29.811461, -82.130025	rural, farmland, wooded, poultry, horses, water management district
5/18/09	F9-1581	F	>1 yr	healthy	Neg	Neg	29.811461, -82.130025	rural, farmland, wooded, poultry, horses, water management district
5/18/09	F9-1583	M	6 mo - 1 yr	healthy	Neg	Neg	29.811461, -82.130025	rural, farmland, wooded, poultry, horses, water management district
5/18/09	F9-1584	F	>1 yr	healthy	Neg	Neg	29.811461, -82.130025	rural, farmland, wooded, poultry, horses, water management district
5/18/09	F9-1585	M	>1 yr	respiratory infection	Neg	Neg	29.811461, -82.130025	rural, farmland, wooded, poultry, horses, water management district
5/18/09	F9-1586	F	>1 yr	healthy	Neg	Neg	29.549080, -82.334779	rural, wooded, residential
5/18/09	F9-1588	F	>1 yr	healthy	Neg	Neg	29.549080, -82.334779	rural, wooded, residential
5/18/09	F9-1590	M	>1 yr	vere respiratory infecti	Neg	Neg	29.549080, -82.334779	rural, wooded, residential
5/18/09	F9-1596	F	>1 yr	healthy	Neg	Neg	29.726418, -82.548182	rural, farmland
5/18/09	F9-1600	F	>1 yr	healthy	Neg	Neg	29.726418, -82.548182	rural, farmland
5/18/09	F9-1602	M	>1 yr	respiratory infection	Neg	**Pos**	29.602841, -82.523764	rural, farmland, wooded
5/18/09	F9-1614	F	<6 mo	healthy	Neg	Neg	29.750869, -82.402442	rural, farmland, wooded
5/18/09	F9-1615	M	>1 yr	healthy	Neg	Neg	29.531045, -82.522289	rural, farmland
5/18/09	F9-1617	M	>1 yr	healthy	Neg	Neg	29.531045, -82.522289	rural, farmland
5/18/09	F9-1624	F	>1 yr	healthy	Neg	Neg	29.746224, -82.354704	rural, wooded
5/18/09	F9-1628	F	>1 yr	healthy	Neg	Neg	29.816169, -82.300765	rural, farmland
5/18/09	F9-1633	F	>1 yr	respiratory infection	Neg	Neg	29.645800, -82.414582	suburban, residential
5/18/09	F9-1634	F	<6 mo	vere respiratory infecti	Neg	Neg	29.645800, -82.414582	suburban, residential
5/18/09	F9-1635	M	<6 mo	respiratory infection	Neg	Neg	29.645800, -82.414582	suburban, residential
5/18/09	F9-1636	F	6 mo- 1 yr	healthy	Neg	Neg	29.778074, -82.180180	rural, farmland
5/18/09	F9-1638	F	>1 yr	healthy	Neg	Neg	29.827201, -82.594011	rural, wooded, residential, commercial
5/18/09	F9-1640	F	>1 yr	respiratory infection	Neg	Neg	29.827201, -82.594011	rural, wooded, residential, commercial
5/18/09	F9-1641	F	>1 yr	healthy	Neg	Neg	29.827201, -82.594011	rural, wooded, residential, commercial
5/18/09	F9-1643	M	>1 yr	healthy	Neg	Neg	29.827201, -82.594011	rural, wooded, residential, commercial
5/18/09	F9-1647	M	6 mo - 1 yr	healthy	Neg	Neg	29.823880, -82.596129	rural, commercial
5/18/09	F9-1655	F	>1 yr	healthy	Neg	Neg	29.826957, -82.599369	rural, commercial, wooded, lake or pond within 0.5 miles
5/18/09	F9-1656	M	>1 yr	healthy	Neg	Neg	29.826957, -82.599369	rural, commercial, wooded, lake or pond within 0.5 miles
5/18/09	F9-1661	M	>1 yr	healthy	Neg	Neg	29.156353, -82.178753	urban, commercial
5/18/09	F9-1664	F	>1 yr	healthy	Neg	Neg	29.666934, -82.437481	suburban, wooded, residential
5/18/09	F9-1668	M	6 mo - 1 yr	healthy	Neg	Neg	29.666934, -82.437481	suburban, wooded, residential
5/18/09	F9-1669	M	>1 yr	vere respiratory infecti	**Pos**	Neg	29.641397, -82.440255	rural, wooded, residential
5/18/09	F9-1673	F	6 mo - 1 yr	healthy	Neg	Neg	29.613228, -82.656103	rural, farmland
5/18/09	F9-1677	M	>1 yr	healthy	Neg	Neg	29.931235, -82.423278	rural, residential, farmland
5/18/09	F9-1679	F	<6 mo	healthy	Neg	Neg	29.640051, -82.404733	suburban, residential, wooded
5/18/09	F9-1680	F	>1 yr	healthy	Neg	Neg	29.826957, -82.599369	rural, commercial, wooded, lake or pond within 0.5 miles
5/18/09	F9-1682	M	6 mo - 1 yr	healthy	Neg	Neg	29.825511, -82.598015	rural, commercial
5/18/09	F9-1688	F	>1 yr	healthy	Neg	Neg	29.825511, -82.598015	rural, commercial

Sample Date	Cat ID	Sex	Age	Health status	FeLV	FIV	GPS coordinates (lat-long)	Environment
6/15/09	F9-251	F	6 mo- 1 yr	healthy	Neg	Neg	29.590625, -82.981729	rural, commercial
6/15/09	F9-252	F	>1 yr	respiratory infection	Neg	Neg	29.590625, -82.981729	rural, commercial
6/15/09	F9-253	M	>1 yr	healthy	Neg	**Pos**	29.590625, -82.981729	rural, commercial
6/15/09	F9-257	M	>1 yr	respiratory infection	Neg	Neg	29.659676, -82.386694	suburban, residential
6/15/09	F9-271	M	<6 mo	healthy	Neg	Neg	29.592845, -82.086569	rural, commercial, lake within 0.5 miles
6/15/09	F9-290	M	>1 yr	respiratory infection	Neg	**Pos**	29.640878, -82.321782	urban, commercial, lake or pond within 0.5 miles
6/15/09	F9-292	M	<6 mo	healthy	Neg	Neg	29.640878, -82.321782	urban, commercial, lake or pond within 0.5 miles
6/15/09	F9-329	M	>1 yr	healthy	Neg	Neg	29.804567, -82.167427	rural, wooded, farmland
6/15/09	F9-330	F	6 mo- 1 yr	healthy	Neg	Neg	29.804567, -82.167427	rural, wooded, farmland
6/15/09	F9-331	F	>1 yr	healthy	Neg	Neg	29.804567, -82.167427	rural, wooded, farmland
6/15/09	F9-335	M	>1 yr	healthy	Neg	Neg	29.804567, -82.167427	rural, wooded, farmland
6/15/09	F9-342	M	>1 yr	respiratory infection	Neg	**Pos**	29.546214, -82.503765	rural, wooded
6/15/09	F9-348	M	>1 yr	healthy	Neg	Neg	29.649934, -82.311183	urban, residential, commercial, wooded
6/15/09	F9-354	F	>1 yr	healthy	Neg	Neg	29.695123, -82.363365	suburban, residential, wooded
6/15/09	F9-357	M	>1 yr	healthy	Neg	**Pos**	29.698457, -82.389004	suburban, residential, wooded, pond within 0.5 miles
6/15/09	F9-368	M	>1 yr	healthy	Neg	Neg	29.546214, -82.503765	rural, wooded
6/15/09	F9-370	F	>1 yr	healthy	Neg	Neg	29.546214, -82.503765	rural, wooded
6/15/09	F9-372	F	<6 mo	healthy	Neg	Neg	29.634894, -82.415593	suburban, residential, wooded
6/15/09	F9-377	M	<6 mo	healthy	Neg	Neg	29.812070, -82.598246	rural, residential, pastureland
6/15/09	F9-379	F	<6 mo	healthy	Neg	Neg	29.897729, -82.611636	rural, residential, wooded
6/15/09	F9-380	F	>1 yr	healthy	Neg	Neg	29.677393, -82.427201	suburban, residential, lake, pond within 0.5 miles
6/15/09	F9-382	M	>1 yr	healthy	Neg	Neg	29.653029, -82.313307	urban, residential, commercial
6/15/09	F9-387	M	>1 yr	healthy	Neg	Neg	29.720993, -82.476159	rural, farmland, horses, lakes, ponds within 0.5 miles, wildlife sanctuary
6/15/09	F9-391	M	>1 yr	healthy	Neg	Neg	29.679491, -82.301939	suburban, residential
6/15/09	F9-393	M	>1 yr	healthy	Neg	Neg	29.600746, -82.340171	rural, wooded, poultry, lake and wildlife sanctuary within 0.5 miles
6/15/09	F9-406	F	>1 yr	healthy	Neg	Neg	29.531045, -82.522289	rural, wooded, pastureland, horses
6/15/09	F9-407	M	>1 yr	healthy	Neg	Neg	29.654833, -82.318714	urban, residential, commercial
6/15/09	F9-412	F	>1 yr	healthy	Neg	Neg	29.490609, -82.170720	rural, wooded, river and lake within 0.5 miles, poultry, horses, wildlife sanctuary
6/15/09	F9-414	M	>1 yr	healthy	Neg	Neg	29.759115, -82.068292	rural, wooded, farmland, lake within 0.5 miles
6/15/09	F9-416	F	>1 yr	healthy	Neg	Neg	29.759115, -82.068292	rural, wooded, farmland, lake within 0.5 miles
6/15/09	F9-419	F	>1 yr	healthy	**Pos**	Neg	29.592845, -82.086569	rural, commercial, lake within 0.5 miles
6/15/09	F9-420	F	>1 yr	healthy	Neg	Neg	29.592845, -82.086569	rural, commercial, lake within 0.5 miles
6/15/09	F9-431	M	>1 yr	healthy	Neg	Neg	29.797375, -82.496494	rural, residential, wooded, pasture
6/15/09	F9-434	F	<6 mo	respiratory infection	Neg	Neg	29.797375, -82.496494	rural, residential, wooded, pasture
6/15/09	F9-435	F	<6 mo	respiratory infection	Neg	Neg	29.797375, -82.496494	rural, residential, wooded, pasture
6/15/09	F9-437	F	6 mo- 1 yr	healthy	Neg	Neg	29.613364, -82.390443	suburban, residential, wooded
6/15/09	F9-438	F	6 mo- 1 yr	healthy	Neg	Neg	29.664434, -82.306556	urban, residential, commercial
6/15/09	F9-446	F	>1 yr	healthy	Neg	Neg	29.646835, -82.623286	rural, commercial, wooded
6/15/09	F9-447	M	>1 yr	respiratory infection	Neg	Neg	29.646835, -82.623286	rural, commercial, wooded
6/15/09	F9-451	M	>1 yr	respiratory infection	Neg	Neg	29.646835, -82.623286	rural, commercial, wooded
6/15/09	F9-452	F	>1 yr	healthy	Neg	Neg	29.650568, -82.598802	rural, commercial, wooded
6/15/09	F9-455	F	>1 yr	healthy	Neg	Neg	29.646953, -82.611824	rural, residential, commercial
6/15/09	F9-456	M	6 mo - 1 yr	respiratory infection	Neg	Neg	29.675925, -82.258432	rural, wooded, mobile home park, lake within 0.5 miles, poultry, wildlife sanctuary
6/15/09	F9-463	F	>1 yr	healthy	Neg	Neg	29.811461, -82.130025	rural, farmland, wooded, poultry, horses, water management district
6/15/09	F9-470	M	6 mo- 1 yr	healthy	Neg	Neg	29.759115, -82.068292	rural, wooded, farmland, lake within 0.5 miles
6/15/09	F9-474	F	>1 yr	healthy	Neg	Neg	29.759115, -82.068292	rural, wooded, farmland, lake within 0.5 miles
6/15/09	F9-477	M	>1 yr	healthy	Neg	Neg	29.821623, -82.585025	rural, wooded, farmland, commercial, river within 0.5 miles
6/15/09	F9-482	F	>1 yr	healthy	Neg	Neg	29.821623, -82.585025	rural, wooded, farmland, commercial, river within 0.5 miles
6/15/09	F9-485	M	<6 mo	respiratory infection	Neg	Neg	29.821623, -82.585025	rural, wooded, farmland, commercial, river within 0.5 miles
6/15/09	F9-488	M	>1 yr	respiratory infection	Neg	**Pos**	29.821623, -82.585025	rural, wooded, farmland, commercial, river within 0.5 miles
6/15/09	F9-489	F	<6 mo	respiratory infection	Neg	Neg	29.821623, -82.585025	rural, wooded, farmland, commercial, river within 0.5 miles
6/15/09	F9-491	F	>1 yr	healthy	Neg	Neg	29.811209, -82.561139	rural, wooded, farmland, river within 0.5 miles
6/15/09	F9-1709	F	<6 mo	healthy	Neg	Neg	29.830407, -82.604024	rural, wooded, residential, commercial
6/15/09	F9-1712	F	>1 yr	healthy	Neg	Neg	29.830407, -82.604024	rural, wooded, residential, commercial
6/15/09	F9-1713	F	<6 mo	respiratory infection	Neg	Neg	29.830407, -82.604024	rural, wooded, residential, commercial
6/15/09	F9-1716	F	>1 yr	healthy	Neg	Neg	29.830407, -82.604024	rural, wooded, residential, commercial
6/15/09	F9-1719	F	<6 mo	respiratory infection	Neg	Neg	29.830407, -82.604024	rural, wooded, residential, commercial
6/15/09	F9-1720	F	<6 mo	respiratory infection	Neg	Neg	29.803612, -82.522163	rural, wooded, residential, farmland
6/15/09	F9-1721	F	6 mo- 1 yr	healthy	Neg	Neg	29.803612, -82.522163	rural, wooded, residential, farmland
6/15/09	F9-1729	M	<6 mo	respiratory infection	Neg	Neg	29.803612, -82.522163	rural, wooded, residential, farmland

Sample Date	Cat ID	Sex	Age	Health status	FeLV	FIV	GPS coordinates (lat-long)	Environment
7/9/09	F9-1783	F	>1 yr	respiratory infection	neg	neg	29.546214, -82.503765	rural, wooded
7/9/09	F9-1785	F	>1 yr	respiratory infection	neg	neg	29.546214, -82.503765	rural, wooded
7/9/09	F9-1786	M	>1 yr	respiratory infection	neg	neg	29.546214, -82.503765	rural, wooded
7/9/09	F9-1799	F	6 mo- 1 yr	respiratory infection	neg	neg	29.501706, -82.594537	rural, wooded, farmland, horses, lake or pond within 0.5 miles
7/9/09	F9-1806	M	>1 yr	healthy	neg	neg	29.695587, -82.376998	suburban, residential
7/9/09	F9-1812	M	6 mo -1 yr	healthy	neg	neg	29.666680, -82.301402	suburban, residential, commercial
7/9/09	F9-1814	F	<6 mo	healthy	neg	neg	29.844566, -82.405038	rural, wooded, farmland
7/9/09	F9-1825	M	>1 yr	healthy	neg	neg	29.655301, -82.349354	suburban, residential, wildlife sanctuary, lake within 0.5 miles
7/9/09	F9-1828	M	<6 mo	healthy	neg	neg	29.501706, -82.594537	rural, wooded, farmland, horses, lake or pond within 0.5 miles
7/9/09	F9-1830	F	>1 yr	healthy	neg	neg	29.689961, -82.039470	rural, wooded, poultry, lake within 0.5 miles
7/9/09	F9-1834	F	>1 yr	healthy	neg	neg	29.688660, -82.327172	urban, commercial, wooded
7/9/09	F9-1840	M	6 mo -1 yr	healthy	**pos**	neg	29.834431, -82.592642	rural, wooded, residential
7/9/09	F9-1843	F	<6 mo	healthy	**pos**	neg	29.834431, -82.592642	rural, wooded, residential
7/9/09	F9-1845	M	<6 mo	healthy	neg	neg	29.646262, -82.638370	rural, farmland, poultry, horses
7/9/09	F9-1848	F	6 mo-1 yr	healthy	neg	neg	29.646262, -82.638370	rural, farmland, poultry, horses
7/9/09	F9-1849	F	<6 mo	healthy	neg	neg	29.646262, -82.638370	rural, farmland, poultry, horses
7/9/09	F9-1850	F	6 mo- 1 yr	respiratory infection	neg	neg	29.759115, -82.068292	rural, wooded, farmland, lake within 0.5 miles
7/9/09	F9-1852	F	>1 yr	healthy	neg	neg	29.91661, -82.707853	rural, farmland, resident poultry and lake or pond within 0.5 miles
7/9/09	F9-1856	F	>1 yr	healthy	neg	neg	29.879341, -82.385547	rural, wooded, farmland, horses, poultry, pond within 0.5 miles
7/9/09	F9-1858	F	<6 mo	healthy	neg	neg	29.650642, -82.265754	suburban, residential
7/9/09	F9-1868	M	>1 yr	healthy	neg	neg	29.625869, -82.356627	rural, residential, pastureland, poultry, dairy cows, lake within 0.5 miles
7/9/09	F9-1869	M	>1 yr	healthy	neg	neg	29.639258, -82.512438	rural, farmland, poultry, horses
7/9/09	F9-1871	M	6 mo -1 yr	healthy	neg	neg	29.674045, -82.411871	suburban, residential, wooded, pond within 0.5 miles
7/9/09	F9-1876	F	6 mo- 1 yr	respiratory infection	neg	neg	29.759115, -82.068292	rural, wooded, farmland, lake within 0.5 miles
7/9/09	F9-1878	M	6 mo- 1 yr	respiratory infection	neg	neg	29.759115, -82.068292	rural, wooded, farmland, lake within 0.5 miles
7/9/09	F9-1882	M	<6 mo	healthy	neg	neg	29.759115, -82.068292	rural, wooded, farmland, lake within 0.5 miles
7/9/09	F9-1883	F	<6 mo	respiratory infection	neg	neg	29.759115, -82.068292	rural, wooded, farmland, lake within 0.5 miles
7/9/09	F9-1889	F	>1 yr	healthy	neg	neg	29.785433, -82.495729	rural, farmland, poultry
7/9/09	F9-1890	M	>1 yr	healthy	neg	neg	29.666756, -82.301838	suburban, residential, commercial, lake within 0.5 miles, ducks, geese
7/9/09	F9-1894	F	6 mo- 1 yr	healthy	neg	neg	29.609656, -82.349035	suburban, residential, wooded, lake within 0.5 miles
7/9/09	F9-1895	M	6 mo- 1 yr	healthy	neg	neg	29.609656, -82.349035	suburban, residential, wooded, lake within 0.5 miles
7/9/09	F9-1898	F	6 mo- 1 yr	healthy	neg	neg	29.745745, -82.536386	rural, farmland, horses
7/9/09	F9-1901	M	>1 yr	healthy	neg	neg	29.537870, -82.492060	rural, wooded, farmland, poultry
7/9/09	F9-1903	F	6 mo- 1 yr	healthy	neg	neg	29.551824, -82.512138	rural, farmland, wooded
7/9/09	F9-1906	M	>1 yr	healthy	neg	neg	29.646953, -82.611824	rural, residential, commercial
7/9/09	F9-1909	F	>1 yr	healthy	neg	neg	29.646953, -82.611824	rural, residential, commercial
7/9/09	F9-1910	M	>1 yr	healthy	neg	neg	29.529587, -82.435685	rural, wooded, farmland
7/9/09	F9-1911	M	>1 yr	healthy	neg	neg	29.746381, -82.618479	rural, farmland, wooded, poultry
7/9/09	F9-1917	F	>1 yr	healthy	neg	neg	29.702291, -82.099782	rural, farmland, wooded, poultry, ponds within 0.5 miles
7/9/09	F9-1922	M	>1 yr	healthy	neg	neg	29.799706, -82.496550	rural, residential, wooded, farmland
7/9/09	F9-1924	F	>1 yr	healthy	neg	neg	29.784508, -82.490580	rural, commercial, farmland
7/9/09	F9-1931	F	>1 yr	healthy	neg	neg	29.794339, -82.167731	rural, commercial, farmland, stream within 0.5 miles
7/9/09	F9-1932	F	>1 yr	healthy	neg	neg	29.794339, -82.167731	rural, commercial, farmland, stream within 0.5 miles
7/9/09	F9-1936	F	6 mo- 1 yr	healthy	neg	neg	29.527901, -82.496068	rural, wooded, farmland, poultry
7/9/09	F9-1937	F	>1 yr	healthy	neg	neg	29.603880, -82.416552	suburban, residential
7/9/09	F9-1942	M	>1 yr	healthy	neg	neg	29.624961, -82.537893	rural, farmland, poultry, horses
7/9/09	F9-1943	F	6 mo- 1 yr	healthy	neg	neg	29.624961, -82.537893	rural, farmland, poultry, horses
7/9/09	F9-1952	F	>1 yr	healthy	neg	neg	29.790250, -82.480103	rural, commercial, wooded
7/9/09	F9-1955	F	>1 yr	healthy	neg	neg	29.763825, -82.510159	rural, wooded, farmland
7/9/09	F9-1963	F	>1 yr	healthy	neg	neg	29.790250, -82.480103	rural, commercial, wooded
7/9/09	F9-1965	M	>1 yr	healthy	neg	neg	29.790250, -82.480103	rural, commercial, wooded
7/9/09	F9-1966	M	6 mo- 1 yr	respiratory infection	neg	neg	29.793673, -82.493786	rural, commercial, wooded
7/9/09	F9-1976	F	>1 yr	healthy	neg	neg	29.662028, -82.299533	suburban, commercial
7/9/09	F9-1990	M	6 mo- 1 yr	respiratory infection	neg	neg	29.655767, -82.328974	urban, residential, commercial
7/9/09	F9-1993	M	6 mo- 1 yr	respiratory infection	neg	neg	29.655767, -82.328974	urban, residential, commercial
7/9/09	F9-2012	F	>1 yr	respiratory infection	neg	neg	29.790250, -82.480103	rural, commercial, wooded
7/9/09	F9-2013	M	>1 yr	respiratory infection	neg	neg	29.793673, -82.493786	rural, commercial, wooded
7/9/09	F9-2029	F	6 mo- 1 yr	respiratory infection	neg	neg	29.556085, -82.336860	rural, residential, farmland, poultry, pond within 0.5 miles
7/9/09	F9-2033	M	>1 yr	respiratory infection	neg	neg	29.556085, -82.336860	rural, residential, farmland, poultry, pond within 0.5 miles
7/9/09	F9-2045	F	>1 yr	respiratory infection	neg	neg	29.790250, -82.480103	rural, commercial, wooded

Sample Date	Cat ID	Sex	Age	Health status	FeLV	FIV	GPS coordinates (lat-long)	Environment
9/10/09	F9-2143	F	< 6 mo	healthy	**pos**	neg	29.597700, -82.108566	rural, commercial, wooded, farmland
9/10/09	F9-2146	F	< 6 mo	healthy	**pos**	neg	29.597700, -82.108566	rural, commercial, wooded, farmland
9/10/09	F9-2148	F	6 mo- 1 yr	healthy	neg	neg	29.501706, -82.594537	rural, wooded, farmland, horses, lake or pond within 0.5 miles
9/10/09	F9-2151	M	> 1 yr	healthy	neg	neg	29.501706, -82.594537	rural, wooded, farmland, horses, lake or pond within 0.5 miles
9/10/09	F9-2154	F	> 1 yr	healthy	neg	neg	29.640983, -82.096248	rural, farmland
9/10/09	F9-2155	M	6 mo -1 yr	healthy	neg	neg	29.640983, -82.096248	rural, farmland
9/10/09	F9-2156	F	> 1 yr	healthy	neg	neg	29.903812, -82.432878	rural, wooded, farmland, pond within 0.5 miles
9/10/09	F9-2158	F	6 mo- 1 yr	healthy	neg	neg	29.903812, -82.432878	rural, wooded, farmland, pond within 0.5 miles
9/10/09	F9-2162	M	> 1 yr	healthy	neg	neg	29.501706, -82.594537	rural, wooded, farmland, horses, lake or pond within 0.5 miles
9/10/09	F9-2168	M	> 1 yr	healthy	neg	neg	29.641275, -82.339824	urban, residential, commercial
9/10/09	F9-2173	F	> 1 yr	healthy	neg	neg	29.683240, -82.078136	rural, wooded, farmland
9/10/09	F9-2174	F	6 mo- 1 yr	healthy	**pos**	neg	29.765947, -82.409693	rural, residential, wooded, farmland
9/10/09	F9-2181	M	> 1 yr	healthy	neg	neg	29.601105, -82.416646	residential section in a suburban area
9/10/09	F9-2189	M	6 mo -1 yr	healthy	neg	neg	29.790600, -82.481545	rural, commercial, wooded, farmland, pond within 0.5 miles
9/10/09	F9-2192	M	6 mo -1 yr	healthy	neg	neg	29.790600, -82.481545	rural, commercial, wooded, farmland, pond within 0.5 miles
9/10/09	F9-2201	F	6 mo-1 yr	healthy	neg	neg	29.649934, -82.311183	urban, residential, commercial, wooded
9/10/09	F9-2204	F	6 mo- 1 yr	healthy	neg	neg	29.650113, -82.337694	urban, residential
9/10/09	F9-2211	F	6 mo- 1 yr	healthy	neg	neg	29.634850, -82.340557	urban, commercial
9/10/09	F9-2215	F	6 mo- 1 yr	healthy	neg	neg	29.679624, -82.352672	suburban, residential, wooded
9/10/09	F9-2217	M	> 1 yr	healthy	neg	neg	29.497608, -82.605619	rural, wooded, farmland
9/10/09	F9-2222	F	6 mo- 1 yr	healthy	neg	neg	29.595485, -82.656136	rural, wooded, farmland
9/10/09	F9-2235	F	> 1 yr	healthy	neg	neg	29.841977, -82.368041	rural, farmland, pond within 0.5 miles
9/10/09	F9-2236	M	6 mo -1 yr	healthy	neg	neg	29.763470, -82.501985	rural, farmland
9/10/09	F9-2240	M	> 1 yr	healthy	**pos**	neg	29.634850, -82.340557	urban, commercial
9/10/09	F9-2244	M	6 mo- 1 yr	healthy	neg	neg	29.679574, -82.299554	urban, commercial, wooded
9/10/09	F9-2246	M	6 mo -1 yr	healthy	neg	neg	29.679574, -82.299554	urban, commercial, wooded
9/10/09	F9-2251	F	< 6 mo	healthy	neg	neg	29.679574, -82.299554	urban, commercial, wooded
9/10/09	F9-2259	F	< 6 mo	healthy	neg	neg	29.879341, -82.385547	rural, wooded, farmland, horses, poultry, pond within 0.5 miles
9/10/09	F9-2261	F	6 mo- 1 yr	healthy	neg	neg	29.879341, -82.385547	rural, wooded, farmland, horses, poultry, pond within 0.5 miles
9/10/09	F9-2263	F	6 mo- 1 yr	healthy	neg	neg	29.708446, -82.500610	rural, farmland
9/10/09	F9-2264	M	6 mo- 1 yr	healthy	neg	neg	29.708446, -82.500610	rural, farmland
9/10/09	F9-2274	F	< 6 mo	healthy	neg	neg	29.601105, -82.416646	residential section in a suburban area
9/10/09	F9-2282	F	< 6 mo	healthy	neg	neg	29.600665, -82.374921	suburban, wooded, commercial
9/10/09	F9-2284	M	< 6 mo	healthy	neg	neg	29.600665, -82.374921	suburban, wooded, commercial
9/10/09	F9-2315	F	6 mo- 1 yr	healthy	neg	neg	29.581230, -82.437734	suburban, residential
9/10/09	F9-2325	F	< 6 mo	healthy	neg	neg	29.791516, -82.487910	rural, commercial, wooded
9/10/09	F9-2326	F	> 1 yr	healthy	neg	neg	29.791516, -82.487910	rural, commercial, wooded
9/10/09	F9-2327	F	6 mo- 1 yr	healthy	neg	neg	29.801610, -82.513829	rural, commercial, wooded, farmland
9/10/09	F9-2334	F	> 1 yr	healthy	neg	neg	29.801610, -82.513829	rural, commercial, wooded, farmland
9/10/09	F9-2366	F	6 mo- 1 yr	healthy	neg	neg	29.801610, -82.513829	rural, commercial, wooded, farmland

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10/8/09	F9-2351	M	>1 yr	healthy	neg	neg	29.679624, -82.352672	suburban, residential, wooded
10/8/09	F9-2352	M	>1 yr	healthy	neg	neg	29.603094, -82.423236	suburban, residential
10/8/09	F9-2353	F	>1 yr	healthy	neg	neg	29.666712, -82.334821	suburban, residential
10/8/09	F9-2398	F	6 mo- 1 yr	healthy	neg	neg	29.658071, -82.328070	urban, residential
10/8/09	F9-2400	M	>1 yr	healthy	neg	neg	29.770443, -82.421703	rural, residential, farmland
10/8/09	F9-2401	M	>1 yr	healthy	neg	neg	29.770443, -82.421703	rural, residential, farmland
10/8/09	F9-2404	F	>1 yr	healthy	neg	neg	29.678431, -82.297051	urban, commercial, wooded
10/8/09	F9-2405	F	>1 yr	healthy	neg	neg	29.678431, -82.297051	urban, commercial, wooded
10/8/09	F9-2406	F	>1 yr	healthy	neg	neg	29.678431, -82.297051	urban, commercial, wooded
10/8/09	F9-2407	M	6 mo- 1 yr	healthy	neg	neg	29.678431, -82.297051	urban, commercial, wooded
10/8/09	F9-2410	F	6 mo- 1 yr	healthy	neg	neg	29.678431, -82.297051	urban, commercial, wooded
10/8/09	F9-2412	F	>1 yr	healthy	neg	neg	29.676079, -82.410496	suburban, residential, wooded, pond within 0.5 miles
10/8/09	F9-2414	F	6 mo- 1 yr	healthy	neg	neg	29.652749, -82.334442	urban, commercial, wooded
10/8/09	F9-2419	F	>1 yr	healthy	neg	neg	29.647664, -81.959451	rural, wooded, lake within 0.5 miles
10/8/09	F9-2420	F	6 mo- 1 yr	healthy	neg	neg	29.647664, -81.959451	rural, wooded, lake within 0.5 miles
10/8/09	F9-2421	M	6 mo- 1 yr	healthy	neg	neg	29.647664, -81.959451	rural, wooded, lake within 0.5 miles
10/8/09	F9-2432	M	6 mo- 1 yr	healthy	neg	neg	29.688660, -82.327172	urban, commercial, wooded
10/8/09	F9-2434	F	6 mo- 1 yr	healthy	neg	neg	29.661592, -82.415136	urban, commercial, wooded
10/8/09	F9-2435	M	<6 mo	healthy	neg	neg	29.661592, -82.415136	urban, commercial, wooded
10/8/09	F9-2440	M	>1 yr	healthy	neg	neg	29.562281, -82.478988	rural, wooded, farmland
10/8/09	F9-2441	M	>1 yr	healthy	neg	neg	29.562281, -82.478988	rural, wooded, farmland
10/8/09	F9-2443	M	>1 yr	healthy	neg	neg	29.562281, -82.478988	rural, wooded, farmland
10/8/09	F9-2444	M	>1 yr	healthy	neg	neg	29.562281, -82.478988	rural, wooded, farmland
10/8/09	F9-2446	M	6 mo- 1 yr	healthy	neg	neg	29.338035, -82.151619	rural, farmland
10/8/09	F9-2474	M	6 mo- 1 yr	healthy	neg	neg	29.619657, -82.368363	suburban, residential, wooded
10/8/09	F9-2475	M	6 mo- 1 yr	healthy	neg	neg	29.652749, -82.334442	urban, commercial, wooded
10/8/09	F9-2476	F	<6 mo	healthy	neg	neg	29.652749, -82.334442	urban, commercial, wooded
10/8/09	F9-2477	M	>1 yr	healthy	neg	neg	29.617572, -82.349406	suburban, residential, wooded, pond within 0.5 miles
10/8/09	F9-2478	M	>1 yr	healthy	neg	neg	29.617572, -82.349406	suburban, residential, wooded, pond within 0.5 miles
10/8/09	F9-2479	F	6 mo- 1 yr	healthy	neg	neg	29.617572, -82.349406	suburban, residential, wooded, pond within 0.5 miles
10/8/09	F9-2480	F	6 mo- 1 yr	healthy	neg	neg	29.645644, -82.240674	rural, residential, wooded, lake within 0.5 miles
10/8/09	F9-2481	M	6 mo- 1 yr	healthy	neg	neg	29.645644, -82.240674	rural, residential, wooded, lake within 0.5 miles
10/8/09	F9-2484	F	6 mo- 1 yr	healthy	neg	neg	29.705936, -82.354772	suburban, residential, wooded
10/8/09	F9-2485	F	6 mo- 1 yr	healthy	neg	neg	29.705936, -82.354772	suburban, residential, wooded
10/8/09	F9-2486	M	6 mo- 1 yr	healthy	neg	neg	29.705936, -82.354772	suburban, residential, wooded
10/8/09	F9-2487	M	>1 yr	healthy	neg	neg	29.659291, -82.346992	suburban, residential, wooded, pond within 0.5 miles
10/8/09	F9-2488	M	>1 yr	healthy	neg	neg	29.659291, -82.346992	suburban, residential, wooded, pond within 0.5 miles
10/8/09	F9-2494	F	>1 yr	healthy	neg	neg	29.683941, -82.327657	suburban, residential, commercial, wooded, pond within 0.5 miles
10/8/09	F9-2495	F	>1 yr	healthy	neg	neg	29.683941, -82.327657	suburban, residential, commercial, wooded, pond within 0.5 miles
10/8/09	F9-2524	F	6 mo- 1 yr	healthy	neg	neg	29.490172, -82.170941	rural, wooded, lakes and river within 0.5 miles

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11/9/09	F9-2589	M	>1 yr	healthy	neg	neg	29.746061, -82.240635	rural, farmland
11/9/09	F9-2605	M	6 mo- 1 yr	healthy	neg	neg	29.6199702, -82.3595028	suburban, residential
11/9/09	F9-2606	F	>1 yr	healthy	neg	neg	29.6199702, -82.3595028	suburban, residential
11/9/09	F9-2611	F	6 mo- 1 yr	healthy	neg	neg	29.5394803, -82.5065625	rural, residential, wooded, farmland, pond within 0.5 miles
11/9/09	F9-2618	F	<6 mo	healthy	neg	neg	29.680425, -82.392487	suburban, residential, wooded, pond within 0.5 miles
11/9/09	F9-2620	F	6 mo- 1 yr	healthy	neg	neg	29.711382, -82.6265389	rural, wooded, farmland
11/9/09	F9-2624	M	<6 mo	healthy	neg	neg	29.7113266, -82.450775	rural, wooded, ponds within 0.5 miles, preserve
11/9/09	F9-2625	F	6 mo- 1 yr	healthy	neg	neg	29.6250487, -82.5358398	rural, farmland, poultry, horses
11/9/09	F9-2628	F	>1 yr	healthy	neg	neg	29.6250487, -82.5358398	rural, farmland, poultry, horses
11/9/09	F9-2633	F	6 mo- 1 yr	healthy	neg	neg	29.6250487, -82.5358398	rural, farmland, poultry, horses
11/9/09	F9-2642	F	<6 mo	healthy	neg	neg	29.6516344, -82.3248262	rural, residential, pastureland, poultry, dairy cows, lake within 0.5 miles
11/9/09	F9-2644	M	>1 yr	healthy	**pos**	neg	29.678444, -82.308335	urban, residential, wooded
11/9/09	F9-2645	F	>1 yr	healthy	neg	neg	29.717805, -82.5721329	rural, farmland
11/9/09	F9-2648	F	<6 mo	healthy	neg	neg	29.656498, -82.07713	rural, wooded, farmland, lakes within 0.5 miles
11/9/09	F9-2653	F	>1 yr	healthy	neg	neg	29.640001, -82.327611	urban, commercial
11/9/09	F9-2654	M	>1 yr	healthy	neg	neg	29.640001, -82.327611	urban, commercial
11/9/09	F9-2655	F	6 mo- 1 yr	healthy	neg	neg	29.640001, -82.327611	urban, commercial
11/9/09	F9-2660	F	>1 yr	healthy	neg	neg	29.770701, -82.06301	rural, wooded, lakes or ponds within 0.5 miles
11/9/09	F9-2669	F	>1 yr	healthy	neg	neg	29.728782, -81.927713	rural, wooded, ponds within 0.5 miles
11/9/09	F9-2671	F	>1 yr	healthy	neg	neg	29.504692, -82.2798227	rural, wooded
11/9/09	F9-2672	F	>1 yr	healthy	neg	neg	29.504692, -82.2798227	rural, wooded
11/9/09	F9-2675	F	>1 yr	healthy	neg	neg	29.656498, -82.07713	rural, wooded, farmland, lakes within 0.5 miles
11/9/09	F9-2676	M	>1 yr	healthy	neg	neg	29.656498, -82.07713	rural, wooded, farmland, lakes within 0.5 miles
11/9/09	F9-2679	M	>1 yr	healthy	neg	neg	29.6958278, -82.339099	urban, commercial, wooded
11/9/09	F9-2680	F	>1 yr	healthy	neg	neg	29.6958278, -82.339099	urban, commercial, wooded
11/9/09	F9-2681	F	>1 yr	healthy	neg	neg	29.6958278, -82.339099	urban, commercial, wooded
11/9/09	F9-2688	M	>1 yr	healthy	neg	neg	29.6423803, -82.3175045	urban, commercial, wooded, ponds within 0.5 miles
11/9/09	F9-2696	F	>1 yr	healthy	neg	neg	29.557383, -82.336155	rural, residential, farmland, poultry, pond within 0.5 miles
11/9/09	F9-2697	M	>1 yr	healthy	neg	neg	29.557383, -82.336155	rural, residential, farmland, poultry, pond within 0.5 miles
11/9/09	F9-2699	F	6 mo- 1 yr	healthy	neg	neg	29.557383, -82.336155	rural, residential, farmland, poultry, pond within 0.5 miles
11/9/09	F9-2700	M	>1 yr	healthy	neg	neg	29.928001, -82.52619	rural, wooded, farmland, river and ponds within 0.5 miles
11/9/09	F9-2701	M	>1 yr	healthy	neg	neg	29.928001, -82.52619	rural, wooded, farmland, river and ponds within 0.5 miles
11/9/09	F9-2706	M	>1 yr	healthy	neg	neg	29.790274, -82.479515	rural, commercial, wooded, farmland, pond within 0.5 miles
11/9/09	F9-2707	M	6 mo- 1 yr	healthy	neg	neg	29.791774, -82.48853	rural, commercial, wooded, pond within 0.5 miles
11/9/09	F9-2708	F	6 mo- 1 yr	healthy	neg	neg	29.8256962, -82.1678011	rural, wooded, farmland
11/9/09	F9-2710	F	6 mo- 1 yr	healthy	neg	neg	29.8256962, -82.1678011	rural, wooded, farmland
11/9/09	F9-2715	F	6 mo- 1 yr	healthy	neg	neg	29.6783671, -82.3136943	suburban, residential, wooded, lake or pond within 0.5 miles
11/9/09	F9-2727	M	>1 yr	healthy	neg	neg	29.676624, -82.298491	urban, commercial
11/9/09	F9-2730	F	<6 mo	healthy	neg	neg	29.678114, -82.297049	urban, commercial, wooded
11/9/09	F9-2732	M	>1 yr	healthy	neg	neg	29.678114, -82.297049	urban, commercial, wooded

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12/10/09	F9-2793	M	>1 yr	healthy	neg	neg	29.6340566, -82.3809428	urban, residential, wooded, pond within 0.5 miles
12/10/09	F9-2798	F	<6 mo	healthy	neg	neg	29.534616, -82.323829	rural, wooded, farmland, lake and ponds within 0.5 miles
12/10/09	F9-2801	M	<6 mo	healthy	neg	neg	29.601105, -82.416646	suburban, residential
12/10/09	F9-2805	F	>1 yr	healthy	neg	neg	29.636497, -82.335298	urban, residential, commercial, wooded
12/10/09	F9-2808	M	>1 yr	healthy	neg	neg	29.691461, -82.327573	urban, commercial, wooded
12/10/09	F9-2818	M	>1 yr	healthy	neg	neg	29.6646, -82.5149541	rural, wooded, farmland
12/10/09	F9-2822	F	>1 yr	healthy	neg	neg	29.64974, -82.243971	suburban, residential, wooded
12/10/09	F9-2823	F	6 mo- 1 yr	healthy	neg	neg	29.64974, -82.243971	suburban, residential, wooded
12/10/09	F9-2824	F	6 mo- 1 yr	healthy	neg	neg	29.64974, -82.243971	suburban, residential, wooded
12/10/09	F9-2827	F	6 mo- 1 yr	healthy	neg	neg	29.640001, -82.327611	urban, commercial
12/10/09	F9-2828	M	>1 yr	healthy	neg	neg	29.640001, -82.327611	urban, commercial
12/10/09	F9-2836	F	6 mo- 1 yr	healthy	neg	neg	29.605026, -82.410546	suburban, commercial, wooded, lake or pond within 0.5 miles, dog park
12/10/09	F9-2837	F	>1 yr	healthy	neg	neg	29.7905336, -82.4984616	rural, farmland
12/10/09	F9-2844	M	>1 yr	healthy	neg	neg	29.681712, -82.340266	urban, residential, commercial, wooded
12/10/09	F9-2848	M	6 mo- 1 yr	healthy	neg	neg	29.7046876, -82.3722012	suburban, residential, wooded
12/10/09	F9-2851	F	>1 yr	healthy	neg	neg	29.692554, -82.322217	suburban, residential, wooded
12/10/09	F9-2852	F	>1 yr	healthy	neg	neg	29.692554, -82.322217	suburban, residential, wooded
12/10/09	F9-2854	F	>1 yr	healthy	neg	neg	29.692554, -82.322217	suburban, residential, wooded
12/10/09	F9-2855	M	>1 yr	healthy	neg	neg	29.851749, -82.583903	rural, wooded, farmland, river and ponds within 0.5 miles, preserve
12/10/09	F9-2856	M	>1 yr	healthy	neg	neg	29.6541849, -82.5289302	rural, wooded, farmland
12/10/09	F9-2860	F	>1 yr	healthy	neg	neg	29.511367, -82.27945	rural, wooded, lake and ponds within 0.5 miles
12/10/09	F9-2865	F	6 mo- 1 yr	healthy	neg	neg	29.744181, -81.9903433	rural, wooded, farmland, ponds within 0.5 miles
12/10/09	F9-2868	M	6 mo- 1 yr	healthy	neg	neg	29.744181, -81.9903433	rural, wooded, farmland, ponds within 0.5 miles
12/10/09	F9-2870	F	<6 mo	healthy	neg	neg	29.613784, -82.306149	suburban, residential, lake and wildlife preserve within 0.5.miles
12/10/09	F9-2871	F	6 mo- 1 yr	healthy	neg	neg	29.613784, -82.306149	suburban, residential, lake and wildlife preserve within 0.5.miles
12/10/09	F9-2872	F	6 mo- 1 yr	healthy	neg	neg	29.613784, -82.306149	suburban, residential, lake and wildlife preserve within 0.5.miles
12/10/09	F9-2877	F	<6 mo	healthy	neg	neg	29.644691, -82.333276	urban, residential, wooded, pond within 0.5 miles
12/10/09	F9-2878	F	>1 yr	healthy	neg	neg	29.644691, -82.333276	urban, residential, wooded, pond within 0.5 miles
12/10/09	F9-2879	M	>1 yr	healthy	neg	neg	29.686992, -82.0476599	rural, wooded, lake or pond within 0.5 miles
12/10/09	F9-2881	F	6 mo- 1 yr	healthy	neg	neg	29.826395, -82.59618	rural, commercial, wooded
12/10/09	F9-2901	F	6 mo- 1 yr	healthy	neg	neg	29.648596, -82.415965	suburban, residential, wooded, farmland
12/10/09	F9-2912	F	>1 yr	healthy	neg	neg	29.6706283, -82.2990514	urban, commercial, wooded
12/10/09	F9-2913	F	<6 mo	healthy	neg	neg	29.6706283, -82.2990514	urban, commercial, wooded
12/10/09	F9-2916	F	6 mo- 1 yr	healthy	neg	neg	29.67191, -82.32330	urban, commercial, wooded, lake or pond within 0.5 miles
12/10/09	F9-2923	F	6 mo- 1 yr	healthy	**pos**	neg	29.860286, -82.567728	rural, wooded, farmland, river and ponds within 0.5 miles, preserve
12/10/09	F9-2933	F	<6 mo	healthy	neg	neg	29.7945449, -82.4957519	rural, commercial, wooded,
12/10/09	F9-2934	F	>1 yr	healthy	neg	neg	29.790274, -82.479515	rural, commercial, wooded, farmland, pond within 0.5 miles
12/10/09	F9-2936	F	>1 yr	healthy	neg	neg	29.7901057, -82.4957008	rural, wooded, farmland
12/10/09	F9-2937	F	6 mo- 1 yr	healthy	neg	neg	29.7901057, -82.4957008	rural, wooded, farmland
12/10/09	F9-2946	F	>1 yr	healthy	neg	neg	29.601105, -82.416646	suburban, residential

Sample Date	Cat ID	Sex	Age	Health status	FeLV	FIV	GPS coordinates (lat-long)	Environment
1/11/10	F10-001	F	<6 mo	healthy	neg	neg	29.6856106, -82.3329885	suburban, residential
1/11/10	F10-007	F	>1 yr	healthy	neg	neg	29.612529, -82.36922	urban, residential, wooded, ponds within 0.5 miles
1/11/10	F10-010	F	<6 mo	healthy	neg	neg	29.64974, -82.243971	suburban, residential, wooded
1/11/10	F10-011	M	6 mo- 1 yr	healthy	neg	neg	29.64974, -82.243971	suburban, residential, wooded
1/11/10	F10-012	F	6 mo- 1 yr	healthy	neg	neg	29.648426, -82.326543	urban, commercial, wooded
1/11/10	F10-014	M	6 mo- 1 yr	healthy	neg	neg	29.656969, -82.333059	urban, residential, wooded
1/11/10	F10-015	M	6 mo- 1 yr	healthy	neg	neg	29.656969, -82.333059	urban, residential, wooded
1/11/10	F10-017	F	<6 mo	healthy	neg	neg	29.656969, -82.333059	urban, residential, wooded
1/11/10	F10-019	M	>1 yr	healthy	neg	neg	29.782523, -82.17166	rural, residential, wooded
1/11/10	F10-020	M	>1 yr	healthy	neg	neg	29.618446, -82.306825	suburban, wooded, ponds within 0.5 miles, preserve
1/11/10	F10-021	M	<6 mo	healthy	neg	neg	29.9131678, -82.4242082	rural, wooded, farmland
1/11/10	F10-022	F	>1 yr	healthy	neg	neg	29.9131678, -82.4242082	rural, wooded, farmland
1/11/10	F10-034	M	6 mo- 1 yr	healthy	neg	neg	29.716329, -82.356619	urban, commercial, wooded, lake or pond within 0.5 miles
1/11/10	F10-036	F	<6 mo	healthy	neg	neg	29.716329, -82.356619	urban, commercial, wooded, lake or pond within 0.5 miles
1/11/10	F10-039	F	<6 mo	healthy	neg	neg	29.716329, -82.356619	urban, commercial, wooded, lake or pond within 0.5 miles
1/11/10	F10-040	F	>1 yr	healthy	neg	neg	29.664594, -82.333248	urban, residential, wooded
1/11/10	F10-045	F	>1 yr	respiratory infection	neg	neg	29.691927, -82.452056	suburban, commercial, farmland
1/11/10	F10-051	F	>1 yr	healthy	neg	neg	29.9131678, -82.4242082	rural, wooded, farmland
1/11/10	F10-056	F	>1 yr	healthy	neg	neg	29.694351, -82.369389	urban, residential, wooded, ponds within 0.5 miles
1/11/10	F10-057	M	>1 yr	healthy	neg	neg	29.694351, -82.369389	urban, residential, wooded, ponds within 0.5 miles
1/11/10	F10-059	F	>1 yr	healthy	neg	neg	29.72843, -82.525156	urban, wooded, farmland
1/11/10	F10-060	M	>1 yr	healthy	neg	neg	29.72843, -82.525156	urban, wooded, farmland
1/11/10	F10-061	F	>1 yr	healthy	neg	neg	29.72843, -82.525156	urban, wooded, farmland
1/11/10	F10-063	F	>1 yr	healthy	neg	neg	29.777501, -82.729151	rural, wooded, lakes and ponds within 0.5 miles
1/11/10	F10-066	F	>1 yr	healthy	neg	neg	29.714978, -82.153846	rural, wooded, All Paws Pet Kennel less than 0.5 miles
1/11/10	F10-067	M	6 mo- 1 yr	healthy	neg	neg	29.714978, -82.153846	rural, wooded, All Paws Pet Kennel less than 0.5 miles
1/11/10	F10-068	F	>1 yr	respiratory infection	neg	neg	29.592873, -82.08687	rural, commercial, wooded, lake or pond within 0.5 miles
1/11/10	F10-071	F	>1 yr	healthy	neg	neg	29.34792, -82.21919	rural, wooded, farmland, ponds within 0.5 miles
1/11/10	F10-079	F	6 mo- 1 yr	healthy	neg	neg	29.861661, -82.523904	rural, wooded, farmland, ponds within 0.5 miles
1/11/10	F10-083	M	>1 yr	healthy	neg	neg	29.65666, -82.40896	urban, commercial, ponds within 0.5 miles
1/11/10	F10-084	F	>1 yr	healthy	neg	neg	29.65666, -82.40896	urban, commercial, ponds within 0.5 miles
1/11/10	F10-090	M	6 mo- 1 yr	healthy	neg	neg	29.679334, -82.077382	rural, wooded, farmland, ponds within 0.5 miles
1/11/10	F10-091	M	>1 yr	respiratory infection	neg	neg	29.695211, -82.36295	suburban, residential, wooded, ponds within 0.5 miles
1/11/10	F10-093	M	>1 yr	healthy	neg	neg	29.695211, -82.36295	suburban, residential, wooded, ponds within 0.5 miles
1/11/10	F10-096	F	>1 yr	healthy	neg	neg	29.6547717, -82.3065828	urban, residential, wooded
1/11/10	F10-097	M	>1 yr	healthy	neg	neg	29.6547717, -82.3065828	urban, residential, wooded
1/11/10	F10-100	M	>1 yr	healthy	neg	neg	29.4871549, -82.1696352	rural, wooded, lakes within 0.5 miles, wildlife sanctuary
1/11/10	F10-102	F	>1 yr	healthy	neg	neg	29.496623, -82.605508	rural, residential, wooded
1/11/10	F10-103	M	6 mo- 1 yr	healthy	neg	neg	29.496623, -82.605508	rural, residential, wooded
1/11/10	F10-106	M	>1 yr	healthy	neg	neg	29.691837, -82.36418	suburban, residential, wooded, ponds within 0.5 miles

Sample Date	Cat ID	Sex	Age	Health status	FeLV	FIV	GPS coordinates (lat-long)	Environment
2/22/10	F10-136	F	6 mo- 1 yr	healthy	neg	neg	29.757295, -82.516252	rural, wooded, farmland
2/22/10	F10-140	M	>1 yr	healthy	neg	neg	29.656316, -82.394506	urban, commercial, wooded
2/22/10	F10-148	M	>1 yr	healthy	neg	neg	29.7917975, -82.4871843	rural, residential, commercial, wooded
2/22/10	F10-156	F	>1 yr	healthy	neg	neg	29.7900842, -82.5020609	rural, residential, wooded, farmland
2/22/10	F10-164	M	>1 yr	healthy	neg	neg	29.635154, -82.342057	urban, residential, wooded, pond within 0.5 miles
2/22/10	F10-169	M	>1 yr	healthy	neg	neg	29.6973085, -82.3522452	suburban, wooded, lake or pond within 0.5 miles
2/22/10	F10-176	F	>1 yr	healthy	neg	neg	29.793602, -82.366422	rural, wooded, farmland
2/22/10	F10-178	F	>1 yr	healthy	neg	neg	29.6195597, -82.3692895	urban, residential, wooded, ponds within 0.5 miles
2/22/10	F10-184	M	6 mo- 1 yr	healthy	neg	neg	29.6793015, -82.5147014	rural, wooded, farmland
2/22/10	F10-185	F	6 mo- 1 yr	healthy	neg	neg	29.6793015, -82.5147014	rural, wooded, farmland
2/22/10	F10-190	M	>1 yr	healthy	pos	neg	29.625138, -82.358236	rural, residential, pastureland, poultry, dairy cows, lake within 0.5 miles
2/22/10	F10-193	F	>1 yr	healthy	neg	neg	29.6167304, -82.62837	rural, farmland
2/22/10	F10-203	F	>1 yr	healthy	neg	neg	29.673258, -82.240301	rural, wooded, lake or pond within 0.5 miles
2/22/10	F10-211	M	>1 yr	healthy	neg	neg	29.723715, -82.474107	rural, farmland, horses, lakes, ponds within 0.5 miles, wildlife sanctuary
2/22/10	F10-212	M	6 mo- 1 yr	healthy	neg	neg	29.723715, -82.474107	rural, farmland, horses, lakes, ponds within 0.5 miles, wildlife sanctuary
2/22/10	F10-220	M	>1 yr	healthy	neg	neg	29.494665, -82.603841	rural, farmland
2/22/10	F10-224	F	>1 yr	healthy	neg	neg	29.618446, -82.306825	suburban, wooded, ponds within 0.5 miles, preserve
2/22/10	F10-225	F	6 mo- 1 yr	healthy	neg	neg	29.660818, -82.411691	urban, commercial, wooded, lake or pond within 0.5 miles
2/22/10	F10-227	M	6 mo- 1 yr	healthy	neg	neg	29.486656, -82.1688899	rural, wooded, lakes and river within 0.5 miles
2/22/10	F10-236	M	>1 yr	healthy	neg	neg	29.791774, -82.48853	rural, commercial, wooded, pond within 0.5 miles
2/22/10	F10-237	M	6 mo- 1 yr	healthy	neg	neg	29.790237, -82.47958	rural, commercial, wooded, farmland
2/22/10	F10-240	F	>1 yr	healthy	neg	neg	29.791774, -82.48853	rural, commercial, wooded, pond within 0.5 miles
2/22/10	F10-249	F	>1 yr	healthy	neg	neg	29.7889097, -82.5007145	rural, residential, wooded
2/22/10	F10-253	F	>1 yr	healthy	neg	neg	29.660818, -82.411691	urban, commercial, wooded, lake or pond within 0.5 miles
2/22/10	F10-254	M	>1 yr	healthy	neg	neg	29.7357263, -82.3810486	suburban, residential, wooded, ponds within 0.5 miles
2/22/10	F10-268	F	6 mo- 1 yr	healthy	neg	neg	29.895845, -82.533869	rural, farmland
2/22/10	F10-269	M	>1 yr	healthy	neg	neg	29.895845, -82.533869	rural, farmland
2/22/10	F10-272	M	6 mo- 1 yr	healthy	neg	neg	29.895845, -82.533869	rural, farmland
2/22/10	F10-273	F	6 mo- 1 yr	healthy	neg	neg	29.761298, -82.410473	rural, residential, wooded, ponds within 0.5 miles
2/22/10	F10-304	M	>1 yr	healthy	neg	neg	29.64509, -82.314023	urban, commercial, wooded, ponds within 0.5 miles
2/22/10	F10-307	M	6 mo- 1 yr	healthy	neg	neg	29.617699, -82.349153	suburban, residential, wooded, pond within 0.5 miles
2/22/10	F10-310	F	>1 yr	healthy	neg	neg	29.602042, -82.525093	rural, farmland, wooded
2/22/10	F10-312	F	>1 yr	healthy	neg	neg	29.653899, -82.4311309	suburban, residential, wooded
2/22/10	F10-314	F	>1 yr	healthy	neg	neg	29.541328, -82.505559	rural, wooded, farmland
2/22/10	F10-315	F	>1 yr	healthy	neg	neg	29.541328, -82.505559	rural, wooded, farmland
2/22/10	F10-319	M	>1 yr	healthy	neg	neg	29.541328, -82.505559	rural, wooded, farmland
2/22/10	F10-321	M	>1 yr	healthy	neg	neg	29.656969, -82.333059	urban, residential, wooded
2/22/10	F10-323	M	6 mo- 1 yr	healthy	neg	neg	29.6169127, -82.3494269	urban, residential, wooded, pond within 0.5 miles
2/22/10	F10-325	F	>1 yr	healthy	neg	neg	29.6169127, -82.3494269	urban, residential, wooded, pond within 0.5 miles
2/22/10	F10-353	M	>1 yr	healthy	neg	pos	29.8400707, -82.431292	rural, wooded, farmland

Sample Date	Cat ID	Sex	Age	Health status	FeLV	FIV	GPS coordinates (lat-long)	Environment
3/29/10	F10-278	M	>1 yr	healthy	neg	neg	29.616597, -82.337714	suburban, commercial, wooded, lake within 0.5 miles
3/29/10	F10-295	F	>1 yr	healthy	neg	neg	29.683196, -82.306759	suburban, residential, wooded, pond within 0.5 miles
3/29/10	F10-298	M	>1 yr	healthy	neg	neg	29.64212, -82.398491	suburban, residential, wooded
3/29/10	F10-326	M	>1 yr	healthy	neg	neg	29.800985, -82.627472	rural, wooded, farmland
3/29/10	F10-330	M	>1 yr	healthy	neg	neg	29.649453, -82.30396	urban, commercial, wooded
3/29/10	F10-337	F	>1 yr	healthy	neg	neg	29.692447, -82.30379	suburban, residential, wooded
3/29/10	F10-344	M	>1 yr	healthy	neg	neg	29.678694, -82.304127	urban, residential, wooded
3/29/10	F10-347	M	>1 yr	healthy	neg	neg	29.65819, -82.33073	urban, commercial, residential
3/29/10	F10-349	F	>1 yr	healthy	neg	neg	29.65819, -82.33073	urban, commercial, residential
3/29/10	F10-357	M	>1 yr	healthy	neg	neg	29.628889, -82.433538	suburban, residential, commercial, wooded,
3/29/10	F10-360	F	>1 yr	healthy	neg	neg	29.827518, -82.595035	urban, residential,commercial, wooded
3/29/10	F10-368	F	6 mo- 1 yr	healthy	neg	neg	29.646156, -82.606225	rural, commercial, wooded
3/29/10	F10-376	F	>1 yr	healthy	neg	neg	29.7101, -82.1602	rural, wooded, farmland
3/29/10	F10-382	F	>1 yr	healthy	neg	neg	29.536893, -82.329418	rural, wooded, ponds within 0.5 miles
3/29/10	F10-383	F	>1 yr	healthy	neg	neg	29.536893, -82.329418	rural, wooded, ponds within 0.5 miles
3/29/10	F10-386	F	>1 yr	healthy	neg	neg	29.6732577, -82.3196792	urban, commercial, wooded
3/29/10	F10-388	F	6 mo- 1 yr	healthy	neg	neg	29.6732577, -82.3196792	urban, commercial, wooded
3/29/10	F10-394	F	>1 yr	healthy	neg	neg	29.677091, -82.348409	urban, residential, wooded, pond within 0.5 miles
3/29/10	F10-398	F	6 mo- 1 yr	healthy	pos	neg	29.393318, -82.09950	rural, wooded, farmland, pond within 0.5 miles
3/29/10	F10-403	F	>1 yr	healthy	neg	neg	29.6903709, -82.3347033	urban, residential, wooded
3/29/10	F10-408	F	>1 yr	healthy	neg	neg	29.535661, -82.326412	rural, wooded, ponds within 0.5 miles
3/29/10	F10-409	F	>1 yr	healthy	neg	neg	29.535661, -82.326412	rural, wooded, ponds within 0.5 miles
3/29/10	F10-412	F	>1 yr	healthy	neg	neg	29.536893, -82.329418	rural, wooded, ponds within 0.5 miles
3/29/10	F10-413	F	>1 yr	healthy	neg	neg	29.536893, -82.329418	rural, wooded, ponds within 0.5 miles
3/29/10	F10-415	M	6 mo- 1 yr	healthy	neg	neg	29.723715, -82.474107	rural, farmland, horses, lakes,ponds within 0.5 miles, wildlife sanctuary
3/29/10	F10-421	F	6 mo- 1 yr	healthy	neg	neg	29.744181, -81.9903433	rural, wooded, farmland, ponds within 0.5 miles
3/29/10	F10-422	F	6 mo- 1 yr	healthy	neg	neg	29.744181, -81.9903433	rural, wooded, farmland, ponds within 0.5 miles
3/29/10	F10-424	F	6 mo- 1 yr	healthy	neg	neg	29.744181, -81.9903433	rural, wooded, farmland, ponds within 0.5 miles
3/29/10	F10-427	M	>1 yr	healthy	neg	neg	29.6048818, -82.4154672	suburban, residential, wooded
3/29/10	F10-430	F	6 mo- 1 yr	healthy	neg	neg	29.649463, -82.625752	rural, residential, wooded
3/29/10	F10-431	F	>1 yr	healthy	neg	neg	29.649463, -82.625752	rural, residential, wooded
3/29/10	F10-435	M	>1 yr	healthy	neg	neg	29.861661, -82.523904	rural, wooded, farmland, ponds within 0.5 miles
3/29/10	F10-463	F	>1 yr	healthy	neg	neg	29.842328, -82.405683	rural, wooded, farmland
3/29/10	F10-465	M	>1 yr	healthy	neg	neg	29.842328, -82.405683	rural, wooded, farmland
3/29/10	F10-467	M	>1 yr	healthy	pos	neg	29.560089, -82.333074	suburban, residential, wooded
3/29/10	F10-470	M	>1 yr	healthy	neg	neg	29.608123, -82.4174309	suburban, residential, wooded
3/29/10	F10-472	M	6 mo- 1 yr	healthy	neg	neg	29.6327328, -82.4174303	suburban, residential, wooded
3/29/10	F10-476	M	6 mo- 1 yr	healthy	neg	neg	29.6327328, -82.4174303	suburban, residential, wooded
3/29/10	F10-478	M	>1 yr	healthy	neg	neg	29.569423, -82.041974	rural, wooded, lakes within 0.5 miles
3/29/10	F10-517	F	>1 yr	healthy	neg	neg	29.463109, -82.35269	rural, wooded, farmland

Sample Date	Cat ID	Sex	Age	Health status	FeLV	FIV	GPS coordinates (lat-long)	Environment
5/3/10	F10-441	M	>1 yr	healthy	neg	neg	29.626764, -82.363495	urban, residential, wooded, pond within 0.5 miles
5/3/10	F10-455	F	>1 yr	healthy	neg	neg	29.635907, -82.417461	suburban, residential, wooded
5/3/10	F10-456	F	6 mo- 1 yr	healthy	neg	neg	29.635907, -82.417461	suburban, residential, wooded
5/3/10	F10-461	F	< 6 mo	healthy	neg	neg	29.584045, -82.48867	rural, wooded, farmland
5/3/10	F10-493	M	< 6 mo	respiratory infection	neg	neg	29.681848, -82.4280239	suburban, residential, wooded, pond within 0.5 miles, zoo nearby
5/3/10	F10-494	M	>1 yr	healthy	neg	neg	29.681848, -82.4280239	suburban, residential, wooded, pond within 0.5 miles, zoo nearby
5/3/10	F10-497	F	>1 yr	healthy	neg	neg	29.681848, -82.4280239	suburban, residential, wooded, pond within 0.5 miles, zoo nearby
5/3/10	F10-501	M	>1 yr	healthy	neg	neg	29.6014378, -82.4162678	suburban, residential
5/3/10	F10-506	M	>1 yr	healthy	neg	neg	29.6818146, -82.4002906	suburban, residential, wooded, ponds within 0.5 miles
5/3/10	F10-508	F	>1 yr	healthy	neg	neg	29.630788, -82.306765	suburban, residential, lake and wildlife preserve within 0.5.miles
5/3/10	F10-511	M	>1 yr	healthy	neg	neg	29.75993, -82.409257	suburban, residential, wooded
5/3/10	F10-512	F	>1 yr	healthy	pos	neg	29.75993, -82.409257	suburban, residential, wooded
5/3/10	F10-520	M	>1 yr	healthy	neg	neg	29.6462792, -82.6078623	rural, commercial, wooded
5/3/10	F10-521	F	>1 yr	healthy	neg	neg	29.6462792, -82.6078623	rural, commercial, wooded
5/3/10	F10-532	M	< 6 mo	healthy	neg	neg	29.6739622, -82.3307754	urban, commercial, wooded
5/3/10	F10-534	M	>1 yr	respiratory infection	neg	neg	29.653899, -82.4311309	suburban, residential, wooded
5/3/10	F10-536	M	>1 yr	healthy	neg	neg	29.695906, -82.373959	urban, residential, wooded, ponds within 0.5 miles
5/3/10	F10-537	M	>1 yr	healthy	neg	neg	29.8146022, -82.6254066	rural, wooded, farmland
5/3/10	F10-538	F	>1 yr	healthy	neg	neg	29.5605258, -82.6379291	rural, farmland
5/3/10	F10-544	M	>1 yr	healthy	neg	neg	29.5605258, -82.6379291	rural, wooded
5/3/10	F10-545	F	>1 yr	healthy	neg	neg	29.64212, -82.398491	suburban, residential, wooded
5/3/10	F10-546	F	6 mo- 1 yr	healthy	neg	neg	29.64212, -82.398491	suburban, residential, wooded
5/3/10	F10-547	M	>1 yr	healthy	neg	neg	29.645309, -82.45336	rural, wooded, farmland
5/3/10	F10-549	F	>1 yr	healthy	neg	neg	29.6585573, -82.3117572	urban, residential
5/3/10	F10-550	F	6 mo- 1 yr	healthy	neg	neg	29.6829096, -82.3263652	suburban, residential, wooded
5/3/10	F10-551	F	6 mo- 1 yr	healthy	neg	neg	29.6829096, -82.3263652	suburban, residential, wooded
5/3/10	F10-556	M	>1 yr	healthy	neg	neg	29.626885, -82.6562574	rural, wooded, farmland
5/3/10	F10-564	M	>1 yr	respiratory infection	neg	neg	29.503357, -82.2798059	rural, residential, commercial, wooded
5/3/10	F10-566	M	>1 yr	healthy	neg	neg	29.503357, -82.2798059	rural, residential, commercial, wooded
5/3/10	F10-567	M	>1 yr	respiratory infection	neg	neg	29.503357, -82.2798059	rural, residential, commercial, wooded
5/3/10	F10-570	M	>1 yr	healthy	neg	neg	29.676624, -82.298491	urban, commercial
5/3/10	F10-572	F	6 mo- 1 yr	healthy	neg	neg	29.7853566, -82.4969787	rural, residential, wooded, farmland
5/3/10	F10-576	M	>1 yr	healthy	neg	neg	29.7853566, -82.4969787	rural, residential, wooded, farmland
5/3/10	F10-579	M	>1 yr	healthy	neg	neg	29.7853566, -82.4969787	rural, residential, wooded, farmland
5/3/10	F10-597	M	>1 yr	healthy	neg	neg	29.788896, -82.284215	rural, wooded, farmland
5/3/10	F10-601	F	6 mo- 1 yr	healthy	neg	neg	29.788896, -82.284215	rural, wooded, farmland
5/3/10	F10-603	F	6 mo- 1 yr	respiratory infection	neg	neg	29.6594439, -82.330914	urban, commercial, wooded
5/3/10	F10-604	F	6 mo- 1 yr	respiratory infection	neg	neg	29.6594439, -82.330914	urban, commercial, wooded
5/3/10	F10-605	F	6 mo- 1 yr	healthy	neg	neg	29.650489, -82.241893	suburban, residential, wooded, lake within 0.5 miles
5/3/10	F10-609	M	>1 yr	respiratory infection	neg	neg	29.709753, -82.359366	suburban, residential, wooded, ponds within 0.5 miles

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6/7/10	F10-465	M	>1 yr	respiratory infection	Neg	Neg	29.819353, -82.592892	rural, residential, wooded
6/7/10	F10-471	M	< 6 mo	healthy	Neg	Neg	29.681848, -82.4280239	suburban, residential, wooded, pond within 0.5 miles, zoo nearby
6/7/10	F10-475	F	6 mo- 1 yr	respiratory infection	Neg	Neg	29.623091, -82.688681	rural, wooded, farmland, lakes or ponds within 0.5 miles
6/7/10	F10-477	F	6 mo- 1 yr	healthy	Neg	Neg	29.623091, -82.688681	rural, wooded, farmland, lakes or ponds within 0.5 miles
6/7/10	F10-479	F	< 6 mo	healthy	Neg	Neg	29.649719, -82.331564	urban, commercial, ponds within 0.5 miles
6/7/10	F10-481	M	>1 yr	healthy	Neg	Neg	29.6353869, -82.387758	suburban, residential, wooded, ponds within 0.5 miles
6/7/10	F10-484	F	>1 yr	healthy	Neg	Neg	29.65339, -82.624957	rural, wooded, farmland
6/7/10	F10-584	M	>1 yr	healthy	Neg	Neg	29.89937, -82.60131	rural, wooded, farmland, lakes and rivers within 0.5 miles
6/7/10	F10-588	F	>1 yr	respiratory infection	Neg	Neg	29.640878, -82.321782	urban, commercial, lake or pond within 0.5 miles
6/7/10	F10-593	F	>1 yr	healthy	Neg	Neg	29.640878, -82.321782	urban, commercial, lake or pond within 0.5 miles
6/7/10	F10-594	M	>1 yr	healthy	Neg	Neg	29.640878, -82.321782	urban, commercial, lake or pond within 0.5 miles
6/7/10	F10-611	F	>1 yr	healthy	Neg	Neg	29.7049444, -82.4448569	suburban, wooded, lakes or ponds within 0.5 miles, zoo nearby
6/7/10	F10-614	F	< 6 mo	healthy	Neg	Neg	29.626885, -82.6562574	rural, wooded, farmland
6/7/10	F10-620	F	6 mo- 1 yr	healthy	Neg	Neg	29.680236, -82.299193	suburban, commercial, wooded, nature center nearby
6/7/10	F10-622	F	>1 yr	healthy	Neg	Neg	29.680236, -82.299193	suburban, commercial, wooded, nature center nearby
6/7/10	F10-625	M	>1 yr	healthy	Neg	Neg	29.5481235, -82.5363184	rural, wooded, farmland, ponds within 0.5 miles
6/7/10	F10-635	M	>1 yr	healthy	Neg	Neg	29.6044878, -82.4552296	suburban, residential, wooded
6/7/10	F10-637	M	6 mo- 1 yr	healthy	Neg	Neg	29.652454, -82.378008	urban, residential, commercial, wooded, ponds within 0.5 miles
6/7/10	F10-644	F	6 mo- 1 yr	healthy	Neg	Neg	29.4951802, -82.6131253	rural, wooded, farmland
6/7/10	F10-650	M	>1 yr	healthy	Neg	Neg	29.728782, -81.927713	rural, wooded, ponds within 0.5 miles
6/7/10	F10-656	M	>1 yr	healthy	Neg	Neg	29.6058386, -82.4116976	suburban, commercial, wooded, lake within 0.5 miles
6/7/10	F10-659	F	6 mo- 1 yr	healthy	Neg	Neg	29.60025, -82.41785	suburban, commercial, wooded
6/7/10	F10-661	F	6 mo- 1 yr	healthy	Neg	Neg	29.84339, -82.62961	rural, wooded, river within 0.5 miles
6/7/10	F10-664	F	6 mo- 1 yr	healthy	Neg	Neg	29.84339, -82.62961	rural, wooded, river within 0.5 miles
6/7/10	F10-665	F	6 mo- 1 yr	healthy	Neg	Neg	29.84339, -82.62961	rural, wooded, river within 0.5 miles
6/7/10	F10-670	M	>1 yr	respiratory infection	Neg	Neg	29.5599261, -82.6455326	rural, wooded, farmland, ponds within 0.5 miles
6/7/10	F10-671	F	6 mo- 1 yr	respiratory infection	Neg	Neg	29.5599261, -82.6455326	rural, wooded, farmland, ponds within 0.5 miles
6/7/10	F10-673	M	< 6 mo	respiratory infection	Neg	Neg	29.5599261, -82.6455326	rural, wooded, farmland, ponds within 0.5 miles
6/7/10	F10-685	M	>1 yr	healthy	Neg	Neg	29.691373, -82.383966	suburban, residential, wooded, ponds within 0.5 miles
6/7/10	F10-687	F	6 mo- 1 yr	healthy	Neg	Neg	29.691373, -82.383966	suburban, residential, wooded, ponds within 0.5 miles
6/7/10	F10-688	F	< 6 mo	healthy	Neg	Neg	29.771076, -82.546436	rural, wooded, farmland
6/7/10	F10-695	M	>1 yr	healthy	Neg	Neg	29.51296, -82.594785	rural, wooded
6/7/10	F10-696	F	6 mo- 1 yr	healthy	Neg	Neg	29.51296, -82.594785	rural, wooded
6/7/10	F10-710	M	< 6 mo	healthy	Neg	Neg	29.6130483, -82.3822299	urban, commercial, wooded, lake or pond within 0.5 miles
6/7/10	F10-712	M	< 6 mo	healthy	Neg	Neg	29.495297, -82.61245	rural, wooded, farmland
6/7/10	F10-717	M	>1 yr	healthy	Neg	Neg	29.77764, -82.36991	rural, wooded, farmland, primate sanctuary nearby
6/7/10	F10-720	F	>1 yr	respiratory infection	Neg	Neg	29.861661, -82.523904	rural, wooded, farmland, ponds within 0.5 miles
6/7/10	F10-722	M	>1 yr	respiratory infection	Neg	Neg	29.861661, -82.523904	rural, wooded, farmland, ponds within 0.5 miles
6/7/10	F10-768	F	6 mo- 1 yr	healthy	Neg	Neg	29.650493, -82.241893	suburban, residential, wooded, lake within 0.5 miles
6/7/10	F10-771	M	>1 yr	healthy	Neg	Neg	29.785396, -82.49572	rural, residential, wooded, farmland

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7/8/10	F10-783	F	>1 yr	healthy	neg	neg	29.84262, -82.40519	rural, wooded, river within 0.5 miles
7/8/10	F10-799	F	6 mo- 1 yr	healthy	neg	neg	29.668590, -82.42963	suburban, commercial, wooded
7/8/10	F10-806	F	6 mo- 1 yr	healthy	neg	neg	29.731850, -82.27163	rural, wooded, farmland, ponds within 0.5 miles
7/8/10	F10-807	F	< 6 mo	healthy	neg	neg	29.731850, -82.27163	rural, wooded, farmland, ponds within 0.5 miles
7/8/10	F10-808	M	< 6 mo	healthy	neg	neg	29.731850, -82.27163	rural, wooded, farmland, ponds within 0.5 miles
7/8/10	F10-809	M	6 mo- 1 yr	healthy	neg	neg	29.731850, -82.27163	rural, wooded, farmland, ponds within 0.5 miles
7/8/10	F10-819	F	< 6 mo	healthy	neg	neg	29.598471, -82.36186	suburban, wooded, farmland, lakes and ponds within 0.5 miles
7/8/10	F10-822	M	< 6 mo	healthy	neg	neg	29.848787, -82.60949	rural, wooded, farmland, river within 0.5 miles
7/8/10	F10-827	F	>1 yr	healthy	neg	neg	29.634100, -82.37800	suburban, residential, lakes within 0.5 miles
7/8/10	F10-845	F	>1 yr	healthy	neg	neg	29.598858, -82.078536	rural, residential, wooded, lakes and ponds within 0.5 miles
7/8/10	F10-846	F	6 mo- 1 yr	healthy	neg	neg	29.69145, -82.38399	suburban, residential, wooded
7/8/10	F10-847	M	6 mo- 1 yr	healthy	neg	neg	29.69145, -82.38399	suburban, residential, wooded
7/8/10	F10-849	F	6 mo- 1 yr	healthy	neg	neg	29.69145, -82.38399	suburban, residential, wooded
7/8/10	F10-853	F	>1 yr	healthy	neg	neg	29.848787, -82.60949	rural, wooded, farmland, river within 0.5 miles
7/8/10	F10-856	M	>1 yr	healthy	neg	Pos	29.848787, -82.60949	rural, wooded, farmland, river within 0.5 miles
7/8/10	F10-864	M	< 6 mo	healthy	neg	neg	29.635415, -82.38775	suburban, residential, wooded
7/8/10	F10-867	M	6 mo- 1 yr	healthy	neg	neg	29.635415, -82.38775	suburban, residential, wooded
7/8/10	F10-868	M	< 6 mo	healthy	neg	neg	29.635415, -82.38775	suburban, residential, wooded
7/8/10	F10-870	F	6 mo- 1 yr	healthy	neg	neg	29.838317, -82.59164	rural, residential, wooded, farmland
7/8/10	F10-872	M	6 mo- 1 yr	healthy	neg	neg	29.676620, -82.331285	suburban, residential, wooded
7/8/10	F10-880	M	>1 yr	healthy	neg	neg	29.734514, -82.37537	suburban, residential, wooded, farmland, lakes and ponds within 0.5 miles
7/8/10	F10-881	M	6 mo- 1 yr	healthy	neg	neg	29.734514, -82.37537	suburban, residential, wooded, farmland, lakes and ponds within 0.5 miles
7/8/10	F10-883	F	>1 yr	healthy	neg	neg	29.734514, -82.37537	suburban, residential, wooded, farmland, lakes and ponds within 0.5 miles
7/8/10	F10-884	F	>1 yr	healthy	neg	neg	29.734514, -82.37537	suburban, residential, wooded, farmland, lakes and ponds within 0.5 miles
7/8/10	F10-893	F	6 mo- 1 yr	healthy	neg	neg	29.55153, -82.61485	rural, ponds within 0.5 miles
7/8/10	F10-901	F	>1 yr	healthy	neg	neg	29.742256, -82.24632	rural, wooded, farmland
7/8/10	F10-907	M	>1 yr	healthy	neg	neg	29.655118, -82.59709	rural, wooded, farmland
7/8/10	F10-908	F	>1 yr	healthy	neg	neg	29.655118, -82.59709	rural, wooded, farmland
7/8/10	F10-920	M	>1 yr	healthy	neg	neg	29.642400, -82.31749	suburban, commercial, wooded
7/8/10	F10-927	F	6 mo- 1 yr	healthy	neg	neg	29.68108, -82.39557	suburban, residential, wooded, ponds within 0.5 miles
7/8/10	F10-935	F	6 mo- 1 yr	healthy	neg	neg	29.901396, -82.46219	rural, farmland, ponds within 0.5 miles
7/8/10	F10-938	M	>1 yr	healthy	neg	neg	29.62458, -82.62324	rural, farmland
7/8/10	F10-943	M	6 mo- 1 yr	healthy	neg	neg	29.64886, -82.24009	suburban, residential, wooded, lake within 0.5 miles
7/8/10	F10-952	M	< 6 mo	healthy	neg	neg	29.646624, -82.58393	rural, wooded, farmland
7/8/10	F10-960	M	>1 yr	healthy	neg	neg	29.81903, -82.58378	rural, commercial, wooded, farmland
7/8/10	F10-961	F	>1 yr	healthy	neg	neg	29.81903, -82.58378	rural, commercial, wooded, farmland
7/8/10	F10-963	F	>1 yr	healthy	neg	neg	29.81903, -82.58378	rural, commercial, wooded, farmland
7/8/10	F10-978	F	>1 yr	healthy	neg	neg	29.75406, -82.41280	rural, residential, wooded, ponds within 0.5 miles
7/8/10	F10-980	F	>1 yr	healthy	neg	neg	29.722272, -82.35307	rural, residential, wooded, farmland, pond within 0.5 miles
7/8/10	F10-981	M	< 6 mo	healthy	neg	neg	29.722272, -82.35307	rural, residential, wooded, farmland, pond within 0.5 miles