REPORT

RIPLEY WIND POWER PROJECT POST-CONSTRUCTION MONITORING REPORT

Suncor Energy Products Inc.

Acciona Wind Energy Canada

PROJECT NO. 1037529.01

PROJECT NO. 1037529.01

REPORT TO	**Suncor Energy Products Inc.** **P.O. Box 38, 112 – 4th Avenue SW** **Calgary, Alberta** **T2P 2V5** **www.suncor.com**
	Acciona Energy Products Inc. **P.O. Box 38, 112 – 4th Avenue SW** **Calgary, Alberta** **T2P 2V5** **www.suncor.com**
FOR	**Ripley Wind Power Project Post-Construction Monitoring Program**
ON	**Ripley Wind Power Project**

November 9, 2009

Jacques Whitford Stantec Limited
300-675 Cochrane Drive, West Tower
Markham, Ontario
L3R 0B8

Phone: 905-944-7777
Fax: 905-474-9889

www.jacqueswhitford.com

Jacques Whitford

EXECUTIVE SUMMARY

In 2008, Jacques Whitford Limited (Jacques Whitford) was retained by Suncor Energy Products Inc. (Suncor) and Acciona Wind Energy Canada (Acciona) to undertake a bird and bat post-construction monitoring program (the Program) for the Ripley Wind Power Project (the Project) near the Town of Ripley in Bruce County, Ontario. The Project began commercial operation on January 21, 2008. The purpose of the Program was to characterize the effect of the Project on the breeding bird community of the site and to collect data on the mortality rates of birds and bats that use or fly through the site during spring and fall migration. The Program was developed in cooperation with Environment Canada and the Ministry of Natural Resources (MNR) as part of the Environmental Assessment of the Project.

The Program consisted of avian monitoring and mortality surveys, both of which occurred in Spring and Fall 2008. Mortality surveys or carcass searches were conducted in conjunction with searcher efficiency trials and scavenger impact trials, while avian monitoring consisted of breeding bird surveys and fall diurnal migration surveys.

Two searchers conducted bird and bat mortality surveys at the Ripley Wind Farm from mid-April through May, and July through mid-October. Carcass searches followed a grid-pattern measuring 80 m by 80 m, and were centered around the base of each turbine. Each grid included between 13 and 20 parallel transects, each of which was visually ground-scanned for bat and bird carcasses. Meteorological conditions and search dates and times were recorded for each turbine searched. In addition, photos were taken and unique identification codes were assigned when carcasses were encountered.

Searcher efficiency trials and scavenger impact trials were carried out during mortality surveys searches. Searcher efficiency trials were carried out two to three times a week, the results of which were used to estimate the number of bird and bat mortalities and correct for detection bias. For these trials, one searcher placed two to three marked carcasses (i.e., control) at various turbines. An alternate searcher would continue scheduled searches, without the knowledge of where the control carcasses were located.

Scavenger impact trials were carried out in order to determine the rate at which bat and bird carcasses were removed by local scavenging wildlife. These trials ran once in the spring, and once monthly for the fall season (two weeks per trial). Two carcasses were placed at each turbine and checked for evidence of scavenging or removal over the following two week period, concurrent with carcass searches. A scavenger impact trial form was completed in order to record weather data the day of carcass placement and level of scavenging or removal during each subsequent daily survey.

Avian monitoring surveys included breeding bird surveys and fall diurnal migration surveys. Breeding bird surveys were conducted twice in June of 2008. As recommended by Environment Canada, roadside point count stations and cultural meadow stations were identical to those used during the 2004 pre-construction monitoring program, thus allowing for direct comparison of the results between the two years. The use of each area by breeding birds, and any sensitive species observed (i.e., colonial waterbirds and species of conservation concern) were determined during 10 minute station surveys.

Environment Canada deemed spring and fall dawn migration surveys unnecessary. Thus, the diurnal migration monitoring carried out for post-construction in 2008 do not reflect the methodology employed pre-construction in 2004. Fall diurnal migration monitoring was carried out from September through mid-November. Two field ornithologists were posted to the east and west sides of the Project, simultaneously carrying out the surveys once a week from 9 a.m. to 12 p.m. over the course of ten weeks. Species and abundance of migrating diurnal birds observed in the area were documented.

Bird and bat mortalities appeared to be quite low during the spring monitoring period. The corrected mortality estimates for spring were 0.25 birds per turbine and 0.17 bats per turbine, with no bat carcasses located during the 2.5-week monitoring period in April. The fall monitoring period brought higher mortality rates, with 2.76 birds per turbine and 12.83 bats per turbine. The highest mortality rates occurred in the fall for birds (October) and in late summer for bats (August). The Ripley Wind Farm yielded corrected mortality estimates of 3.01 birds per turbine per monitoring period, and 1.5 birds per MW per monitoring period; as well as 13.00 bats per turbine per monitoring period, and 6.49 bats per MW per monitoring period. Bat fatalities have been reported to range from 0.1 bats per turbine per year to 69.7 bats per turbine per year (Arnett et al, 2008), and bird fatalities ranging from 0.63 birds per turbine per year to 7.7 birds per turbine per year (NWCC, 2004). All of the bats found during the mortality surveys are species typical of Ontario, and typical of Bruce County. None of the species found are considered species of conservation concern.

Of those turbines exhibiting higher numbers of fatalities during the entirety of the monitoring program (turbines #10 having 9 fatalities, and turbines #5, # 29 and #38 each eight fatalities, and turbine #3 having seven fatalities), only turbine #29 is located relatively close (within 300 m) to a woodlot measuring 10 ha or larger. It can be concluded that though some turbines were sited close to woodlots, especially large woodlots, they were not situated close enough to critically impact the species of birds or bats using this habitat.

The species recorded during avian monitoring in 2008 are typical of southern Ontario agricultural environments. A total of 97 species were observed during both the breeding bird and fall diurnal migration surveys. During the breeding bird surveys; 62 species were observed, with the most frequently encountered being (in descending order of frequency) Red-winged Blackbird, American Robin, Savannah Sparrow, and Song Sparrow. During the fall diurnal migration surveys, 58 species were observed; a total of 965 separate observations were made resulting in approximately 27 individuals being recorded. The majority of the birds (67% of observations and 65% of all individuals) were observed flying within 40 m of the ground (i.e., below the rotor swept area). Approximately 27% of 8% of avian individuals were observed flying well above tree height and higher, respectively, which places them within the sphere of the turbine blades. Overall, a notably smaller proportion of birds were observed flying at a height that puts them below risk of collision with the turbine blades, as compared to those flying below this risk-height.

Although no large concerns were identified during the pre-construction monitoring work at the Ripley Wind Farm, some discussion should be raised regarding the larger than expected quantities of birds observed during the fall avian monitoring program. With regards to the mortality monitoring program, the number of carcasses located, and the number of estimated mortalities computed, fall within the higher end of the expected range of mortalities as compared to numerous other wind farm studies throughout North America.

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1.0 INTRODUCTION

In 2007, Suncor Energy Products Inc. (Suncor) and Acciona Wind Energy Canada Inc. (Acciona) completed construction of the Ripley Wind Power Project near the Town of Ripley in Bruce County, Ontario. This facility consists of 38 two (2) MW Enercon utility-scale wind turbine generators with a combined nameplate capacity of 76 MW, with generated electricity distributed to customers throughout the provincial electricity grid (Figure 1-1).

As with any project, there lies the potential for the construction and operation of the Ripley Wind Farm to have environmental effects. For this reason, an Environmental Assessment (EA) was undertaken for the Project, as is required under provincial and federal legislation; this EA was submitted to governing bodies in January 2006.

One of the main concerns commonly raised is the environmental effect of wind farms on bird and bat populations, which may be caused by mortality through collision with the turbines, or sensory disturbances to resident or migrating bats, breeding or staging birds. The loss of habitat due to the physical change of the environment as a result of the construction of a wind farm is also a concern. In response to these concerns, proponents seeking environmental approvals for proposed wind farms are expected to have a good understanding of bird and bat populations including their use of a project site in pre-construction conditions, and must be prepared to commit to post-construction monitoring. From a regulatory perspective, Environment Canada (2007b) and the Ministry of Natural Resources (2007) have prepared guidelines that outline their expectations for post-construction avian and bat monitoring. In their EA, Suncor and Acciona committed to at least one year of post-construction monitoring work, to be conducted the first year after commissioning of the wind farm.

Here, we present the results for the post-construction monitoring program (the Program) that was implemented during 2008. The mortality and avian monitoring surveys were developed to be appropriate for examining bird and bat mortality for the Project during spring and fall migration, for characterising the impact on the breeding bird community of the site, and for examining the influence of the wind farm on fall diurnal raptor movement. The mortality surveys provide actual statistics regarding the number of birds and bats killed as a direct result of the wind farm. The breeding bird surveys allow for a characterisation of the area's breeding bird community and to identify whether the wind farm has affected the breeding bird community.

1.1 Background

As part of the federal Environmental Assessment approval for ecoENERGY, Suncor and Acciona were required to conduct post-construction bird and bat monitoring for the Project. As was committed to in the EA submitted in January 2006, protocols for a post-construction monitoring program were developed in close cooperation with Environment Canada Environment Canada and the Ontario Ministry of Natural Resources (MNR) in 2007. These included mortality surveys and avian monitoring, discussed further in Section 2.0: Methodology.

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Turbine Locations

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Ripley

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- Turbines
- Access
- Ripley Study Area
- Hydrology
- Waterbody
- Wetland Area, Permanent
- Wooded Areas

0 0.5 1 1.5 2

Kilometres - 1:50,000

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MB QC ON USA Area of Interest

PREPARED BY

Jacques Whitford

FIGURE NO.

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Last Modified: Jan. 16, 2009 By: C. Kopjasko

A landowner information session was held on the evening of April 10, 2008 to present the concept and objectives of the Program to the local landowners on whose property the mortality surveys would be carried-out. The mortality surveys began the week of April 14, 2008 and continued through to mid-October 2008, while avian monitoring ran June and September through mid-November, 2008. The intent of the Program was to monitor and record the mortality of birds and bats resulting from collisions with the wind turbines and assess bird usage within the wind farm, respectively; the results of which would be used to ensure predictions in the EA were accurate, and to adapt project operations if necessary to reduce impacts on birds and bats.

1.2 Location

The Ripley Wind Farm is located in a predominantly agricultural area, approximately 2 km east of the Lake Huron shoreline. Few large woodlots exist on-site, and all turbines are situated in agricultural fields composed mainly of corn, soybean and wheat. Typically, each turbine has a gravel access road leading up to the turbine. All fields around the turbines were ploughed upon commencement of the Program and, in spring, seeded up to approximately 2 to 3 m from the concrete pad and the coarse gravel encircling the base of the turbine.

2.0 METHODOLOGY

The Ripley Program consisted of avian monitoring and mortality surveys, both of which occurred in Spring and Fall 2008. Mortality surveys (carcass searches) were performed and included searcher efficiency trials and scavenger impact trials, while avian monitoring consisted of breeding bird surveys and fall diurnal migration surveys. The protocol for the Program was developed in cooperation with Environment Canada and MNR, and followed the recommendations as provided in *Wind Turbines and Birds: A Guidance Document for Environmental Assessment* (Environment Canada 2007b), *Recommended Protocols for Monitoring Impacts of Wind Turbines on Birds* (Environment Canada 2007a), and *Guidelines to Assist in the Review Wind Power Proposals: Potential Impacts to Bats and Bat Habitats* (MNR 2007).

The following subsections provide detailed descriptions of the mortality surveys and avian monitoring components of the Program.

2.1 Post-construction Monitoring Program

In 2008, mortality surveys were conducted in April and May (spring monitoring), and July through mid-October (fall monitoring). Avian monitoring was undertaken in June (for breeding bird surveys) and September through mid-November (for fall diurnal migration surveys). Surveys were carried out by qualified Jacques Whitford personnel, trained in the methods and protocols of the Program.

The mortality survey component of the Program incorporated three survey types; carcass surveys, searcher efficiency trials, and scavenger impact trials. Searcher efficiency trials were carried out each day of the carcass searches, and scavenger impact trials were carried out once monthly over two-week periods: in April, and in July through October.

For comparisons with the results of the Program, where appropriate, weather data for the duration of the Program was collected and can be found in **Appendix A.**

2.2 Mortality Surveys

Prior to undertaking any field work, the appropriate permits were obtained from Environment Canada and the MNR. These permits included Environment Canada's *Canadian Wildlife Service Permit* and the MNR's *Application for Wildlife Scientific Collector's Authorization*. Copies of both permits were carried by field staff and kept in the freezer with the carcasses (**Appendix B**).

Mortality surveys were conducted from April 14 through May 30 (spring), and again from July 2 through October 17 (fall) of the same year. Mortality surveys were conducted when weather permitted. During inclement weather (i.e., heavy rainfall), surveys were delayed until later on the same day, or resumed on the next or the earliest feasible day. All mortality surveys were conducted by two biologists during each visit.

The following sections discuss the methods used for the mortality surveys component of the Program, including carcass searches, searcher efficiency trials and scavenger impact trials. A breakdown of the calculation methodologies is presented in **Appendix C.**

2.2.1 Carcass Searches

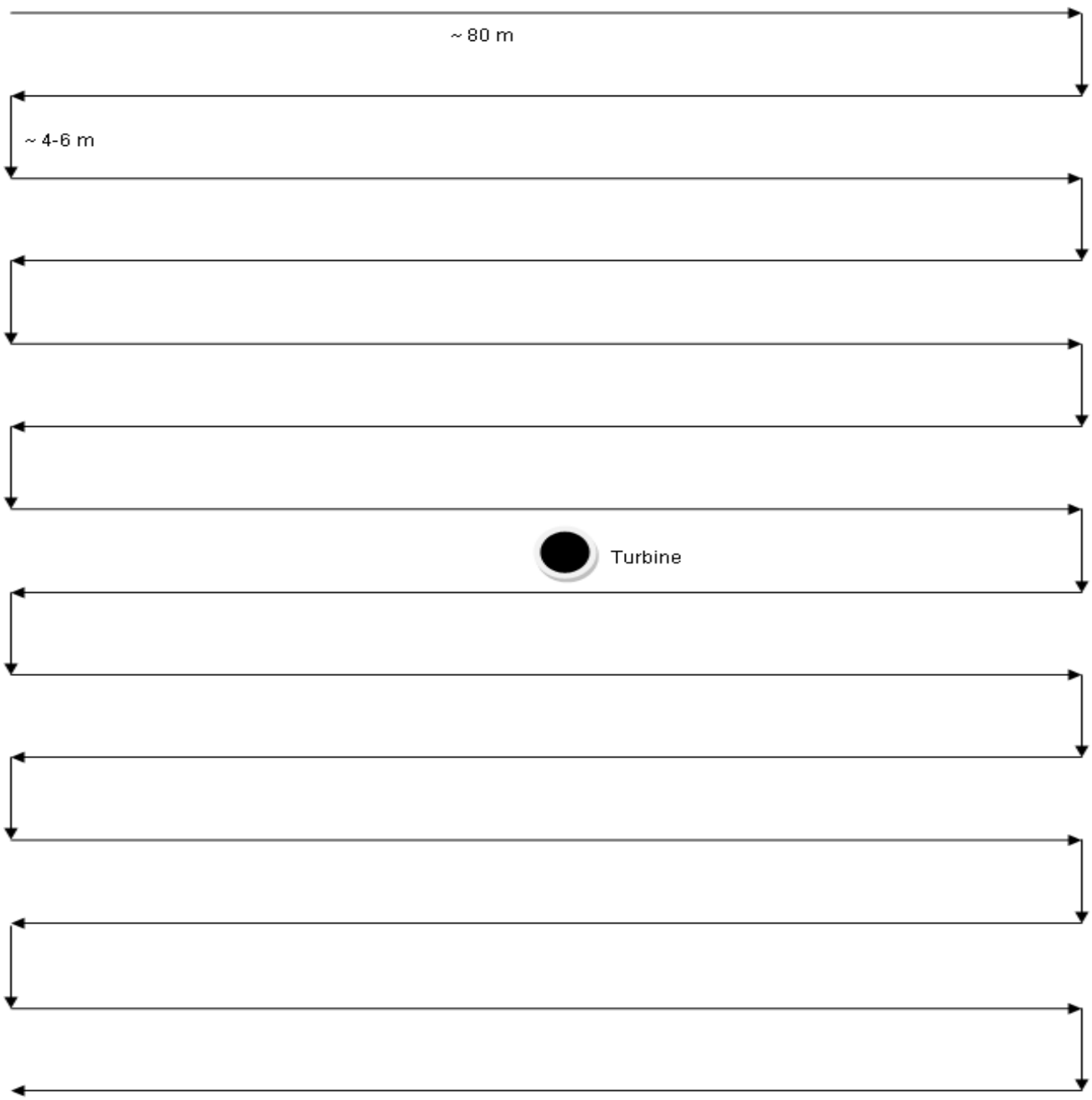
In accordance with Environment Canada's recommendation, the entire Project study area was searched three (3) times weekly on Mondays, Wednesdays and Fridays, beginning typically between 7:00 and 8:00 a.m. These surveys ran for a duration of 27 weeks for a total of 71 search days, and included all of the 38 wind turbines comprising the Ripley Wind Farm. To incorporate the MNR's request that turbine 29 be searched twice weekly (due to its proximity to a woodlot greater than 10 ha in size) the odd-numbered turbines were searched on Mondays and Fridays, thus having a search interval of three and four days. The remaining even-numbered turbines were searched on Wednesdays, thus having a search interval of seven days.

As there were a total of 19 turbines each day requiring surveys, the work was divided between the two searchers, and each was responsible for half of the turbines to be searched that day. A schedule was created which alternated each searcher's turbine sets so that a searcher would not search the same turbine set twice consecutively.

As recommended by Environment Canada, the carcass searches incorporated a search window of a minimum of 15 minutes at each turbine, however, this time frame increased on days where weather, field and walking conditions would deteriorate, and as crop growth and density hindered speed. Carcass searches followed a grid-pattern measuring 80 m by 80 m, and were centered around the base of each turbine. Each grid included between 13 and 20 parallel transects, each of which was visually ground-scanned for bat or bird carcasses approximately 3 m to each side of their path. Transects were 4-6 m away from each other (Figure 2-1).

In order to establish the size of the carcass search grid, each searcher determined their pacing rate over 40 m, and flagged each of the four corners of the search grid. With time, these were no longer required, as searchers were able to visually determine the perimeter of their search areas at each turbine site.

Figure 2-1 Carcass Search Grid



Note: This is a schematic design and is not to scale.

A daily turbine tracking form (**Appendix D**) was competed for each search visit, and information such as turbine number searched, time and duration of search, and carcasses found was recorded. In addition, weather information such as temperature, wind condition, wind direction, precipitation, cloud cover and visibility were recorded.

If a searcher encountered a bird or bat carcass within their search grid, the mortality survey form was filled out (**Appendix D**). The carcass was assigned a unique carcass identification code consisting of the searcher's initials, month, day, year and turbine number. Additional information recorded includes:

- The UTM location of the carcass;
- Turbine number the carcass was found at;
- Distance and direction to nearest turbine;
- The substrate the carcass was found in;
- Any adjacent structures (power lines, fence or substation);
- Species; and,
- Carcass condition (Table 2-1).

A carcass condition code was assigned to the specimen based on Table 2-1 (below) and helped searchers estimate approximately how much time had elapsed since the specimen was killed. All carcasses found in the field were first photographed to aid in identification efforts later, collected and placed in a clear plastic bag, upon which the carcass identification code was recorded. These were then placed in a freezer located at the Project's head office on Concession 4 and Sideroad 25 in the Town of Ripley.

Table 2-1 Categories of Carcass Condition

CODE	Common Name
M	Injured or moribund.
F	Freshly dead with little or no decay or scavenging by insects; probably died within 48 hours.
R	Recently dead but with noticeable decay or scavenging by insects; probably died within 1-7 days.
D	Decomposed carcass, barely recognizable or not recognizable to species; probably dead more than 7 days.
X	Residual remains, such as feathers, bones, blood or other scraps of tissue.

Identification of bat species was verified by Greg Quinn of Jacques Whitford in Fredericton, New Brunswick. Mr. Quinn has completed a M.Sc. in bat ecology, and has seven years of experience in bat ecology research.

The actual number of bird and bat carcasses found does not necessarily reflect the true number of mortalities occurring at a wind farm. A correction equation used to determine the estimated number of mortalities at a wind farm was provided by Environment Canada, and is as follows:

$$C = c / (Se \times Sc \times Ps),$$

where:

C	is the corrected number of bird or bat mortalities;
c	is the number of carcasses found;
Se	is the proportion of carcasses expected to be found by searchers (searcher efficiency);
Sc	is the proportion of carcasses not removed by scavengers over the search period; and,
Ps	is the percent of the area searched.

The corrected number of bird of bat mortalities was calculated seasonally, first spring (C_{spring}, April and May) and fall (C_{fall}, July through October). The total corrected number of bird or bat mortalities (C) for the duration of the monitoring program was calculated by summing final spring and fall findings.

According to Environment Canada, most bird and bat fatalities due to turbine mortality are likely to fall within 50 m of the turbine (Environment Canada, personal communication, February 25, 2009). The percent of the area searched during the mortality surveys must be calculated in order to feed into the estimated mortality correction equation. Percent area searched (Ps) is calculated as follows:

$$Ps_{(birds)} = \frac{\text{area searched}}{\pi r^2} \qquad \text{where } r = 50 \text{ m}$$

$$Ps_{(bats)} = \frac{\text{area searched}}{\pi r^2} \qquad \text{where } r = 50 \text{ m}$$

In these equations, *area searched* refers to the 80 m by 80 m carcass search grid used to conduct the field work, and *r* is the radius corresponding to the size of the area Environment Canada identified as most likely to find the carcasses. These values contribute to the correction equation used to identify the estimated number of bird and bat mortalities at the Ripley Wind Farm.

2.2.2 Searcher Efficiency Trials

Searcher efficiency trials were carried out during carcass searches. Following the *Recommended Protocols for Monitoring Impacts of Wind Turbines on Birds* (Environment Canada 2007a), searcher efficiency carcasses were distributed for each day that carcass searches were being undertaken. This ensured that searcher efficiency was high as searchers were always *"en guard".* Carcasses were

typically placed at turbines either the evening before or the morning of the next scheduled mortality search. At the end of the day, the searchers would confirm with each other whether all searcher efficiency carcasses had been found.

Searcher efficiency trials were carried out two to three times a week, the results of which were used to estimate the number of bird and bat mortalities and correct for detection bias. Trials were conducted in the spring and fall. Since the fall mortality surveys did not run for a full month in October, the number of carcasses was reduced to 12 (per searcher), to remain consistent with the previous trials.

Test carcasses (i.e., control carcasses) were typically young chickens, as well as native species of birds provided by the Toronto Wildlife Centre. The young chickens ranged in age and size, and although most still had yellow-coloured down, did not particularly stand out against substrate or vegetation found around turbines and within the area of the mortality search grid. The endemic species provided by the Toronto Wildlife Centre included such bird species as American Robin, Wilson's Snipe, European Starling, House Sparrow, Common Grackle, and Northern Cardinal. Twenty carcasses per observer (40 per month or 80 for the season) were distributed at randomly-selected turbines within a 40 m search zone, each day of the carcass surveys. No more than one carcass was placed at a selected turbine and up to three carcasses per person were used on any given day. After a carcass was placed within the turbine search zone, an alternate searcher would continue scheduled searches, without the knowledge of where the control carcasses were located. These trials were conducted to obtain a value that would quantify the number of carcasses that may be overlooked by searchers, and allow for an adjustment when quantifying carcass survey results. Carcasses not found during the searcher efficiency trials were retrieved at the end of the day to ensure that they were overlooked and not scavenged.

For each searcher efficiency trial, the following information was recorded:

- Date;
- Weather conditions;
- Carcass type (native bird or poultry chick);
- Turbine number;
- Location description; and,
- Confirmation of whether carcass was located, overlooked or scavenged.

If the carcass was not found, it was not included in searcher efficiency calculations. A copy of the forms completed in the field can be found in **Appendix D**.

Searcher efficiency (*Se*) was calculated for each searcher using the following equation:

$$Se = \frac{\text{number of test carcasses found}}{(\text{number of test carcasses placed}) - (\text{number of test carcasses scavenged})}$$

Because searchers searched varying numbers of turbines over the course of the mortality surveys, it was necessary to find a weighted average which reflected the proportion of turbines each searcher searched. This weighted average, or overall searcher efficiency, was calculated as follows:

$$Se_o = Se_1(n_1/T) + Se_2(n_2/T) + Se_3(n_3/T) + Se_{...}(n_{...}/T)...$$

where:

Se_o	is the Overall Searcher Efficiency;
$Se_{1 \text{ and } 2 \text{ and } 3...}$	are individual Searcher Efficiency Ratings;
$N_{1 \text{ and } 2 \text{ and } 3...}$	are number of turbines searched by each searcher; and
T	is the total number of turbines searched by all searchers.

The overall searcher efficiency was calculated for each month that the mortality surveys ran, as well as for the spring and fall seasons of the Program, separately. These values contribute to the correction equation used to identify the estimated number of bird and bat mortalities at the Ripley Wind Farm.

2.2.3 Scavenger Impact Trials

In addition to being overlooked by searchers, carcasses may also go unaccounted for because they may have been scavenged or removed by local wildlife before searchers have a chance to locate them. To adjust for this, scavenger impact trials were carried out. These scavenger impact trials were conducted in tandem with the carcass searches, and involved distributing two carcasses at each turbine and noting the extent of scavenging.

As recommended by Environment Canada the scavenger impact trials were conducted once early in the spring season and once per month for July, August and September. Following the *Recommended Protocols for Monitoring Impacts of Wind Turbines on Birds* (Environment Canada 2007a), two carcasses (native bird, poultry chick, or bat carcasses resulting from carcass searches) were placed at each turbine outside the carcass search area. During the spring trials, poultry chick carcasses were utilized due to a lack of available native bird carcasses. However, during fall trials, additional native bird carcasses were obtained from the Toronto Wildlife Centre, and these were used in conjunction with remaining poultry chicks and native bat carcasses resulting from the carcass searches. Test carcasses were left in place for two weeks and were monitored during subsequent carcass searches. All carcasses which were not scavenged were retrieved at the end of the two-week monitoring period.

The information recorded for each carcass placement is listed below (see **Appendix D**). This information aided searchers in locating the carcasses during the daily carcass surveys over the following two weeks. Information recorded included:

- Date scavenger impact trial carcass was placed;
- UTM coordinates and turbine number; and,
- Description of carcass location.

To monitor the scavenging rate, a scavenger impact trial daily check form was filled out during each search (**Appendix D**). The form collected information such as:

- Date of monitoring;
- An indication of whether the carcass had been scavenged or not-scavenged; and,
- Condition of the carcass.

Carcasses that differentiated between those which were untouched by scavengers and those showing evidence of varying levels of scavenging but were not removed from the search area were noted. This allowed biologists to differentiate between turbines which showed no evidence of scavenging and those turbines which had evidence of scavenging. This approach also provided a method by which to determine the time frame for a carcass to be completely removed by scavengers. Scavenger trials were calculated using the following formula;

$$Sc = \frac{n_{visit1} + n_{visit2} + n_{visit}3 + n_{visit4} + n_{visit5} + n_{visit6}}{n_{visit0} + n_{visit1} + n_{visit2} + n_{visit3} + n_{visit4} + n_{visit5}}$$

where:

Sc	is the proportion of carcasses not removed by scavengers over the search period
n_{visit0}	is the total number of carcasses placed
$n_{visit1} – n_{visit6}$	is the numbers of carcasses remaining on visits 1 through 6

These values contribute to the correction equation used to identify the estimated number of bird and bat mortalities at the Ripley Wind Farm.

Searcher efficiency in locating scavenger trial carcasses is assumed to be 100%, as carcasses were recorded using a GPS unit at time of placement, and location was carefully noted.

2.3 Avian Monitoring

The avian monitoring surveys undertaken as part of the Program were developed in cooperation with Environment Canada, and involved breeding bird surveys carried out in June, as well as fall diurnal migration surveys, carried out September to mid-November. The following sections discuss the methods used for each survey.

2.3.1 Breeding Bird Survey

Breeding bird surveys focused on identifying and counting breeding birds within the Ripley Wind Farm to enable characterisation of the breeding bird community in the area and to identify sensitive species. Based on discussions with Environment Canada, it was determined that no area searches were required and that surveys should be conducted at the same point count locations as surveyed during pre-construction (Figure 2-2), allowing results to be easily comparable.

Ten points based on habitat type were selected as survey sites within the Ripley Wind Farm. Each breeding bird point count location identified in Figure 2-2 was visited on June 6 and 23, 2008 by a competent field ornithologist skilled and experienced at bird identification, including identification by sound. Data was collected using point count surveys with unlimited distance for ten minutes. All birds seen or heard were counted and identified to species, when possible. Singing male birds were counted as single individuals rather than as representing a pair of birds. Surveys began approximately 30 minutes prior to sunrise, and were completed within two hours. Surveys were completed when weather was permitting (i.e., little or no wind/precipitation).

Incidental observations of species seen throughout the study area were noted each survey day, and all habitat types outside of the set point count survey locations were visited as well. If any Species of Conservation Concern were encountered, the specific details of the observation, including location and behaviour, were noted.

2.3.2 Fall Diurnal Migration Surveys

Based on discussions with Environment Canada and the MNR, it was determined that the only bird passage migration counts required for the Ripley Wind Farm were fall diurnal migration surveys, as the area is not known to be an important area for shorebird or waterfowl staging or used by nocturnal migrants. This differs from the methodology undertaken for pre-construction monitoring in 2004, where spring and fall dawn migratory surveys were completed in addition to the fall diurnal migration surveys.

Migration surveys in 2008 were focused on identifying bird behaviour, especially movement through the Ripley Wind Farm, and the flight height and direction in which they were flying. These surveys included 10 visits from early September until mid-November and were conducted simultaneously by two observers, one stationed at survey station 3 and the other near the shoreline in the vicinity of survey station 2, on east and west sides of the Project (Figure 2-2). Fall diurnal migrant monitoring at each survey station location occurred from 9 a.m. until 12 p.m. each visit.

All birds seen or heard were counted and identified to species, if possible, as they flew through or near each survey station location. Information recorded for each observation included number of birds in the flock (if the observation was of a flock), species or group (e.g., unidentified sparrow), behaviour (loafing, perched, in flight or flying with a specific direction, Table 2-2), relative flight height (Table 2-3), and flight direction.

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Breeding Bird and Fall Diurnal Migration Survey Stations

N

Ripley

Amberley

- Turbines
- Access

Avian Monitoring Stations

- Breeding Bird
- Fall Diurnal Migration
- Ripley Study Area
- Hydrology
- Waterbody
- Wetland Area, Permanent
- Wooded Areas

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Kilometres - 1:50,000

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MB QC ON Area of Interest USA

PREPARED BY Jacques Whitford

FIGURE NO. **2-2**

Last Modified: Jan. 16, 2009 By: C. Korpiakko

Table 2-2 Bird Behaviour Categories

Code	Description
F	Flying (migration or commuting; purposeful flight)
L	Loafing (perched or in flight)

Table 2-3 Relative Flight Height

Code	Description
BTB	Below Turbine Blades (0 – 40 m)
RSZ	Rotor-Swept Zone (40-100 m; at height of turbine blades)
H	High (>100 m; above turbine)

Additional data were recorded during the survey included (forms are in **Appendix D**):

- Date;
- Start time; and
- Weather (temperature, wind speed and direction, cloud cover, presence of precipitation, and visibility).

Incidental observations of additional species and other significant observations (i.e., flocks observed flying over) were recorded during site visits.

3.0 RESULTS AND DISCUSSION

Avian mortality studies from 14 North American facilities were reviewed by Arnett et al. (2008). Corrected avian mortality estimates ranged from 0.63 to 7.7 birds per turbine per year. Arnett et al. (2008) also reviewed studies from 22 North American wind facilities, and found that corrected estimates bat mortality rates ranged from 0.1 to 69.6 bats per turbine per year.

The following section presents the results of the Ripley Post-construction Monitoring Program and provides further analysis of these results through discussion of the mortality surveys and avian monitoring components of the Program.

3.1 Mortality Surveys

As described in the protocols developed for the Program, the carcass searches were conducted in an 80 m^2 area. According to Environment Canada, the majority of bat and bird mortalities will land within 50 m of the turbine base (Environment Canada 2007a). The percent of the area that was searched during the carcass searches was approximately 81.5% for bats and birds. Data collected from this portion of the study can be found in **Appendix E**, and is discussed below.

3.1.1 Scavenger Impact Trials

The following section discusses the results for the scavenger impact trials by season (i.e., spring and fall). The overall *Sc* value for the monitoring program was calculated to be 74.77%.

3.1.1.1 Spring

The spring scavenger impact trial ran from April 22 to May 5, 2008. Due to active ploughing in the surrounding agricultural fields during the spring scavenger impact trials, carcasses were typically placed along access roads or other areas that would be avoided by farmers. Despite this attempt to reduce the number of carcasses lost to farming practices, it was deemed that one carcass was removed by a farmer and four more were ploughed under. Thirty-four of the 76 carcasses remained at the end of the trial. Nineteen (19) of the 34 carcasses had some evidence of scavenging, but enough of the carcasses remained which made them easier to locate and identify. Table 3-1 presents the number of carcasses remaining during each of the six visits following initiation of the spring trial, as well as the predicted proportion of carcasses not removed by scavengers over the two-week spring trial period (the *Sc* value).

Table 3-1 Number of Carcasses Remaining at Each Visit – Spring Trial

Visit 1	Visit 2	Visit 3	Visit 4	Visit 5	Visit 6	$Sc_{(spring)}$
23-Apr	24-Apr	28-Apr	30-Apr	2-May	5-May	**89.1**
71	66	59	39	34	34	

The majority of the carcasses persisted for more than seven days, with 59 of the 76 carcasses still remaining. However, on day 8 the scavenging rate increased markedly, with 20 carcasses disappearing. Despite this increase in the removal rate, this trial indicates that our schedule of searches at the turbines is more than adequate and should capture at least 78% of the carcasses within the first week that occur within the search grid. The proportion of carcasses not removed by scavengers over the search period (*Sc*) for the spring was modified to account for the five poultry carcasses removed by local residents. Thus, n_{visit0} value is not 76 (the original total number of carcasses placed), but 71 (to account for the five carcasses removed by human interference, which must be separated from those carcasses removed by animal-related scavenging).

3.1.1.2 Fall

The fall scavenger impact trials ran for two weeks each during the months of July through October. The trials during the months of July through September used young poultry carcasses, typically one to two weeks old; however in the October trial, 61 (80.2%) of the carcasses were bat carcasses gathered earlier in the monitoring season, 7 (9.2%) were native bird carcasses provided by Toronto Wildlife Centre, and 8 (10.5%) were young poultry.

Table 3-2 presents each month's number of carcasses remaining at each of the six visits following scavenger trial initiation in the fall, as well as the predicted proportion of carcasses not removed by scavengers over the two-week fall trial period (the *Sc* value).

Table 3-2 Number of Carcasses Remaining at Each Visit – Fall Trial

Month	Visit 1	Visit 2	Visit 3	Visit 4	Visit 5	Visit 6	$Sc_{(fall)}$
July	21-Jul	23-Jul	25-Jul	28-Jul	31-Jul	1-Aug	**53.5**
	44	14	11	7	5	3	
August	13-Aug	15-Aug	18-Aug	20-Aug	22-Aug	25-Aug	**87.1**
	73	68	47	36	34	33	
September	17-Sep	19-Sep	22-Sep	24-Sep	26-Sep	29-Sep	**62.7**
	53	46	8	6	4	4	
October	10-Oct	14-Oct	15-Oct	17-Oct	17-Oct	17-Oct	**67.1**
	67	54	29	1	1	1	

The average *Sc* value for the fall was calculated to be 67.6%, with the final *Sc* value for the overall monitoring program calculated as 74.8%. Morrison (2002) reported that the average persistence of carcasses varied depending on the season, but was shorter in the spring and longer in the summer/fall. In the case of the Ripley post-construction monitoring, carcass persistence was notably longer in the spring than in the summer or fall. This may be due to several reasons, one of which may be that scavengers simply had an increased level of difficulty locating the scavenger impact trial carcasses once the vegetation and crops in which they were located had grown taller and thickened in density (for example, in August). It may also be that during the summer months, food sources were more available and supply more steady, thus scavengers did not take as much of an interest in the trial carcasses as they did during the spring months, when food items were more scarce.

3.1.2 Searcher Efficiency Trials

Searcher efficiency can vary between individuals and dates surveyed, as factors such as weather, searcher level of experience, and crop density affects the visibility of carcasses, and the searcher's ability to locate them. Searcher efficiency ratings at other wind farms in North America range, on average, from 30% to 85% (Morrison, 2002). The following sections present both individual's searcher efficiency ratings, as well as weighted overall searcher efficiencies for both spring and fall monitoring seasons, respectively. Searcher efficiency values for each surveyor are provided in **Appendix C**.

Searcher efficiency carcasses were placed randomly within the survey grid by individuals conducting surveys those days, as discussed previously in section 2.2.2. As crops and weedy vegetation grew in over the months, searcher efficiency was impacted not just in locating avian and bat mortality carcasses, but also in locating searcher efficiency carcasses. When placing the searcher efficiency carcasses, the surveyors completed a form which included identifying whether the carcass was placed in a "visible" location or a "not clearly visible" location. Table 3-3 presents the resulting proportions of searcher efficiency carcasses located which were visible, or not clearly visible, as well as those overlooked or scavenged by month and season.

Table 3-3 Searcher Efficiency Carcass Placement

Month	Carcass					
	Visible			Not Clearly Visible		
	Located	Overlooked	Scavenged	Located	Overlooked	Scavenged
April	20	0	1	8	1	1
May	26	5	1	3	1	0
Spring	46	5	2	11	2	1
July	6	9	0	0	8	1
August	13	13	1	3	5	0
September	13	17	1	1	7	0
October	10	7	1	2	1	0
Fall	42	46	3	6	21	1

Searcher efficiency is dependent not only on surveyor's visual acuity, but also on where carcasses are placed. During searcher efficiency trials, 185 carcasses were placed. Of these, 77.8% of carcasses were placed in locations deemed "visible" (in open areas or areas sparsely vegetated), and 22.2% were placed in locations deemed to be less highly visible (more vegetated). Of those carcasses placed which were deemed "visible," 61.1% were located by surveyors, and 35.4% were overlooked; carcasses placed in less visible areas were located approximately 40.5% of the time, and overlooked 54.8% of the time.

It should be noted, however, that categorizing the searcher efficiency carcass as "visible" or "not clearly visible" was somewhat open to interpretation by surveyors, and arbitrary in determination. In some instances, a carcass was marked as "visible" although it had been placed in a very small clearing between soybean plants or within a corn row, for example; other times, a carcass was marked as "not clearly visible" though it was placed on the access road but obstructed in view by a large rock. It would be more feasible in future to identify the carcass location as either in "vegetated" areas (i.e. within a weedy thicket or crops) or "open" areas (i.e. on the turbine's concrete access pad or gravel access road).

3.1.2.1 Spring

Searcher efficiency for the individual searchers during spring monitoring ranged between 85% and 95%; data regarding the searcher efficiency trials are presented in Table 3-4 below, for the months of April and May and for the overall spring monitoring season.

Table 3-4 Spring Searcher Efficiency

Searcher	Number of Carcasses Placed	Number Scavenged	Number Overlooked	Number of Carcasses Found	Percentage
April	31	2	-	29	96.53%
May	36	1	6	29	79.94%
Spring	67	3	7	57	87.62%

During spring monitoring, it was unclear whether and if so, when, the area within the carcass search grid (and surrounding fields) had been ploughed. Crops were not sown until mid-May. This contributed to accounting for high searcher efficiency during the spring months, as carcass visibility was not hindered by crops or weedy vegetation associated with later in the growing season.

Three searchers conducted the searcher efficiency trials in April. Searcher efficiency ranged between 90% and 100%. By weighting individual searcher efficiency ratings with regard to the proportion of the turbines surveyed, the overall searcher efficiency was calculated to be 96.53% for the month of April.

Two searchers conducted the searcher efficiency trials in May. Searcher efficiency for this month ranged between 70% and 94%. By weighting individual searcher efficiency ratings with regard to the proportion of the turbines surveyed by each searcher, the overall searcher efficiency was calculated to be 79.94% for the month of May.

By weighting individual searcher efficiency ratings with regard to the proportion of the turbines surveyed by each searcher, the overall searcher efficiency was calculated to be 87.62% for the spring monitoring season.

3.1.2.2 Fall

Searcher efficiency for individual searchers during fall monitoring ranged between 20% and 75%. By weighting individual searcher efficiency ratings with regard to the proportion of the turbines surveyed, the overall searcher efficiency was calculated to be approximately 41.7% for the fall monitoring season (Table 3-5).

Table 3-5 Fall Searcher Efficiency

Searcher	Number of Carcasses Placed	Number Scavenged	Number Overlooked	Number of Carcasses Found	Percentage
July	24	1	17	6	29.99%
August	33	-	18	16	47.73%
September	39	1	14	24	44.55%
October	21	1	8	12	60.00%
Fall	117	3	57	48	43.18%

The fall monitoring season coincided with crop growth in the area. Visibility of the carcasses was hindered as crops (such as corn) and associated weedy vegetation within the search area grew and provided dense cover. This contributed to the markedly lower searcher efficiency during this period, compared to the fairly high searcher efficiency ratings reported during the spring monitoring period.

Four searchers conducted the searcher efficiency trials in July. Searcher efficiency for this month ranged between 20% and 50%. By weighting individual searcher efficiency ratings with regard to the proportion of the turbines surveyed by each searcher, the overall searcher efficiency was calculated to be 29.99% for the month of July.

Four searchers conducted the searcher efficiency trials in August. Searcher efficiency for this month ranged between 33% and 60%. By weighting individual searcher efficiency ratings with regard to the proportion of the turbines surveyed by each searcher, the overall searcher efficiency was calculated to be 47.73% for the month of August.

Six searchers conducted the searcher efficiency trials in September. Searcher efficiency for this month ranged between 0% and 100%. By weighting individual searcher efficiency ratings with regard to the proportion of the turbines surveyed by each searcher, the overall searcher efficiency was calculated to be 44.55% for the month of September.

Three searchers conducted the searcher efficiency trials in October. Searcher efficiency for this month ranged between 55% and 67%. By weighting individual searcher efficiency ratings with regard to the proportion of the turbines surveyed by each searcher, the overall searcher efficiency was calculated to be 60.00% for the month of October.

When the post-construction monitoring program's searcher efficiency trials are taken into consideration as a whole, and an overall Searcher Efficiency is calculated by weighting all searchers against each other, the Searcher Efficiency for the six month monitoring period is 43.18%. The detailed calculation methodology is provided in **Appendix C**.

3.1.3 Carcass Surveys

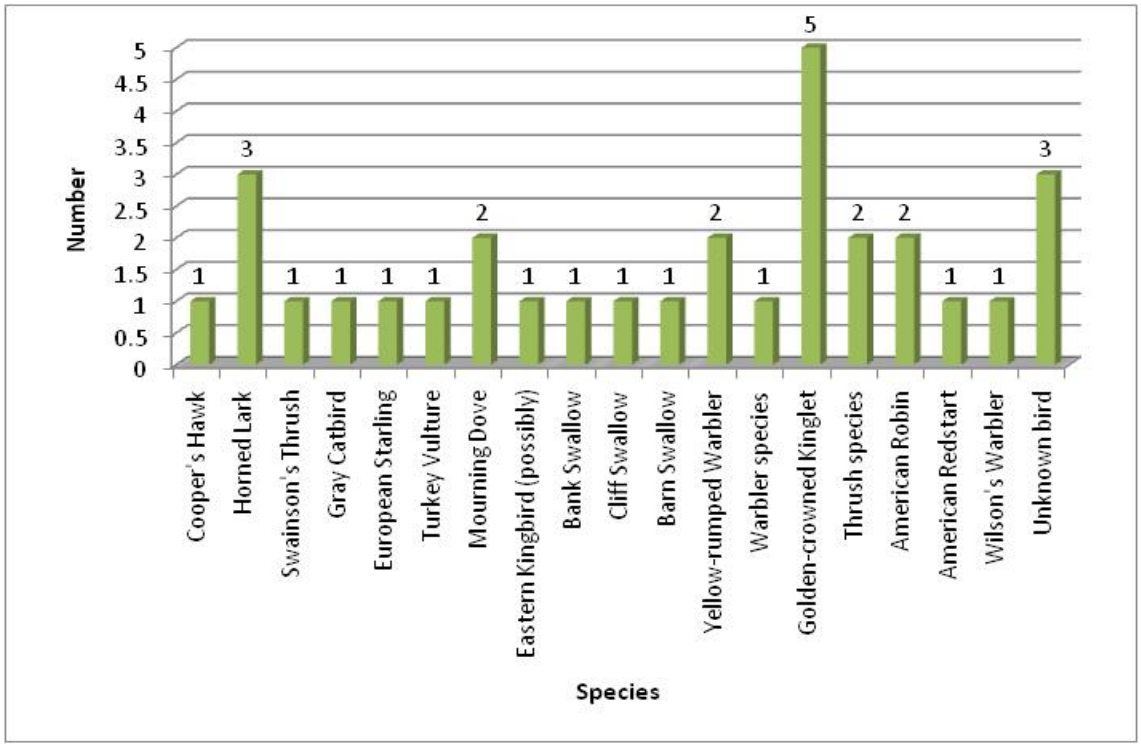
In all, 151 bird and bat carcasses were found during the six months of post-construction carcass searches at the Ripley Wind Farm. Of these, 31 (20.5%) were birds, and 120 (79.5%) were bats. These values represent the six months of monitoring work,.

The following section discusses findings by season and month, as well as by species' groups, and provides the corrected mortality estimates.

3.1.3.1 Birds

Throughout the six month post-construction monitoring period, a total of 31 bird carcasses were located. Of these, six were found in the spring, and 25 were found during the fall period (July through mid-October). Figure 3-1 presents the avian carcass numbers by species.

Figure 3-1 Avian Mortality by Species



These numbers represent carcasses located by searchers during the Program. Using the correction equation provided by Environment Canada, an estimate of avian mortalities (which takes scavenging and searcher efficiency into consideration) was determined.

Spring monitoring was undertaken April 14 to May 31, 2008, for a total of seven weeks. A total of six avian carcasses were located by searchers, with a corrected total estimate of 9.42 for the spring season; 0.25 per turbine for spring; and 0.12 per MW for spring. Table 3-6 presents the spring avian mortalities by species and number, as well as the turbine where the carcasses were located. The most common avian mortality was Horned Lark (two carcasses), a common local resident and a species with an aerial courtship display.

Table 3-6 Spring Avian Species Mortality

Number	English Name	Scientific Name	SARA	COSEWIC	NHIC Srank	Month	Turbine
1	Cooper's Hawk	*Accipiter cooperii*	NAR	NAR	S4B	April	21
2	Horned Lark	*Eremophila alpestris*	N/A	N/A	S5B	May	26, 37
1	Swainson's Thrush	*Catharus ustulatus*	N/A	N/A	S5B	May	5
1	Gray Catbird	*Dumetella carolinensis*	N/A	N/A	S5B	May	15
1	European Starling	*Sturnus vulgaris*	N/A	N/A	SNA	April	28

During April monitoring, two avian carcasses were collected: Cooper's Hawk and European Starling. The Cooper's Hawk was located approximately 9 m north of the turbine #21, on soil, and the European Starling was located 30 m west-southwest of the turbine #28, on the south side of the gravel access road.

During May monitoring, four avian carcasses were collected: one Gray Catbird, two Horned Larks, and one Swainson's Thrush, all of which were located on uncultivated soil, except for one Horned Lark which was located on recently ploughed soil. The Ripley Wind Farm falls within four of the OBBA's mapsquares (17MJ47, 17MJ48, 17MJ57, 17MJ58), within which there are no records of breeding Swainson's Thrush, although it is listed as probably breeding within the region. The remaining species are listed as known breeders in the area, and none are listed as species of conservation concern by the federal Species at Risk Act (SARA) or by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

Fall monitoring encompassed the months of July through mid-October, for a total of 16 weeks. A total of 25 avian carcasses were located by searchers, with a corrected estimated total of 105.04 for the fall season; 2.76 birds per turbine for fall; and 1.38 per MW for fall. Table 3-7 presents the avian mortalities by species and number, as well as the turbine where the carcasses were located. The highest incidence of species mortality was Golden-crowned Kinglets. The remaining species located during the fall monitoring are all species listed as breeding birds known within the Project area and surrounding region. None are listed as species of conservation concern by SARA or by COSEWIC.

During the July monitoring, a total of seven avian carcasses were recovered by searchers. These included one each of: Bank Swallow, Horned Lark, Turkey Vulture, Cliff Swallow; as well as three birds at a level of decomposition which made identification difficult or impossible. Of these, one possible Eastern Kingbird, one possible Thrush species were recovered, and one species which was unknown. These were located on a variety of substrates, including two on the gravel access road, three on soil with some grassy growth, one in a soy field, and one in a field with wheat measuring approximately 1 m in height. All of these species are listed by the OBBA (December 2008) as known to breed in the Project area and surrounding region.

Table 3-7 Fall Avian Species Mortality

Number	English Name	Scientific Name	SARA	COSEWIC	NHIC Srank	Month	Turbine
1	Turkey Vulture	*Cathartes aura*	N/A	N/A	S4B	July	6
2	Mourning Dove	*Zenaida macroura*	N/A	N/A	S5B	September	25, 37
1	Eastern Kingbird (possibly)	*Tyrannus tyrannus*	N/A	N/A	S5B	July	22
1	Horned Lark	*Eremophila alpestris*	N/A	N/A	S5B	May, July	26, 37
1	Bank Swallow	*Riparia riparia*	N/A	N/A	S5B	July	31
1	Cliff Swallow	*Petrochelidon pyrrhonota*	N/A	N/A	S5B	July	3
1	Barn Swallow	*Hirundo rustica*	N/A	N/A	S5B	July	3
2	Yellow-rumped Warbler	*Dendroica coronata*	N/A	N/A	S5B	October	3, 19
1	Warbler species	Dendroica sp.	N/A	N/A	S5B	October	37
5	Golden-crowned Kinglet	*Regulus satrapa*	N/A	N/A	S5B	October	18, 19, 21, 37, 18
1	Thrush species (Hermit)	*Catharus guttatus*	N/A	N/A	S5B	October	6
1	Thrush sp. (bird)	*Catharus* sp.	N/A	N/A	S5B	July	9
2	American Robin	*Turdus migratorius*	N/A	N/A	S5B	October	7, 15
1	American Redstart	*Setophaga ruticilla*	N/A	N/A	S5B	September	5
1	Wilson's Warbler	*Wilsonia pusilla*	N/A	N/A	S5B	September	30
3	Unknown bird	N/A	N/A	N/A	S5B	July, October	11, 30, 36

Note: NHIC Status: S3: Vulnerable in the province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation. S4: Uncommon but not rare; some cause for long-term concern due to declines or other factors. S5: Secure. Common, widespread, and abundant in the province.

During August monitoring, only one avian carcass, the Barn Swallow, was located by searchers. This carcass was located approximately 12 m northwest of the turbine, in a field which had already been hayed. It is a species known to breed locally, as listed in the OBBA.

During September monitoring, four avian carcasses were located by searchers: two Mourning Doves, one American Redstart, and one Wilson's Warbler. Two of the carcasses were found in soybean fields, one on the gravel access road leading to the turbine, and one at the base of the turbine on the concrete pad. According to the OBBA, Mourning Dove and American Redstart are known to breed in the Project area and local region.

During the October monitoring, 13 avian carcasses were located by searchers: two were unknown species, one Thrush species, five Golden-crowned Kinglets, two American Robins, one unknown Warbler species, and two Yellow-rumped Warblers. With the exception of Golden-crowned Kinglet, all of these species are listed in the OBBA as birds which are known to breed in the area. Golden-crowned Kinglet, however, displayed the highest incidence of mortality, comprising 38.5% of the avian mortalities for October, 20% for the fall season, and 16.1% of the total avian carcasses found by the searchers. According to the OBBA, this species is not known to breed in the vicinity of the Ripley Wind Farm, and is a migratory species in the region.

Table 3-8 presents the values for each season associated with the searcher efficiency trials, scavenger impact trials, the mortality surveys and resulting number of avian carcasses found, as well as the seasonal overall corrected estimates for avian mortalities. The corrected estimates were calculated using the correction equation provided by Environment Canada, which takes scavenging and searcher efficiency into consideration.

Table 3-8 Corrected Overall Estimates for Avian Mortalities

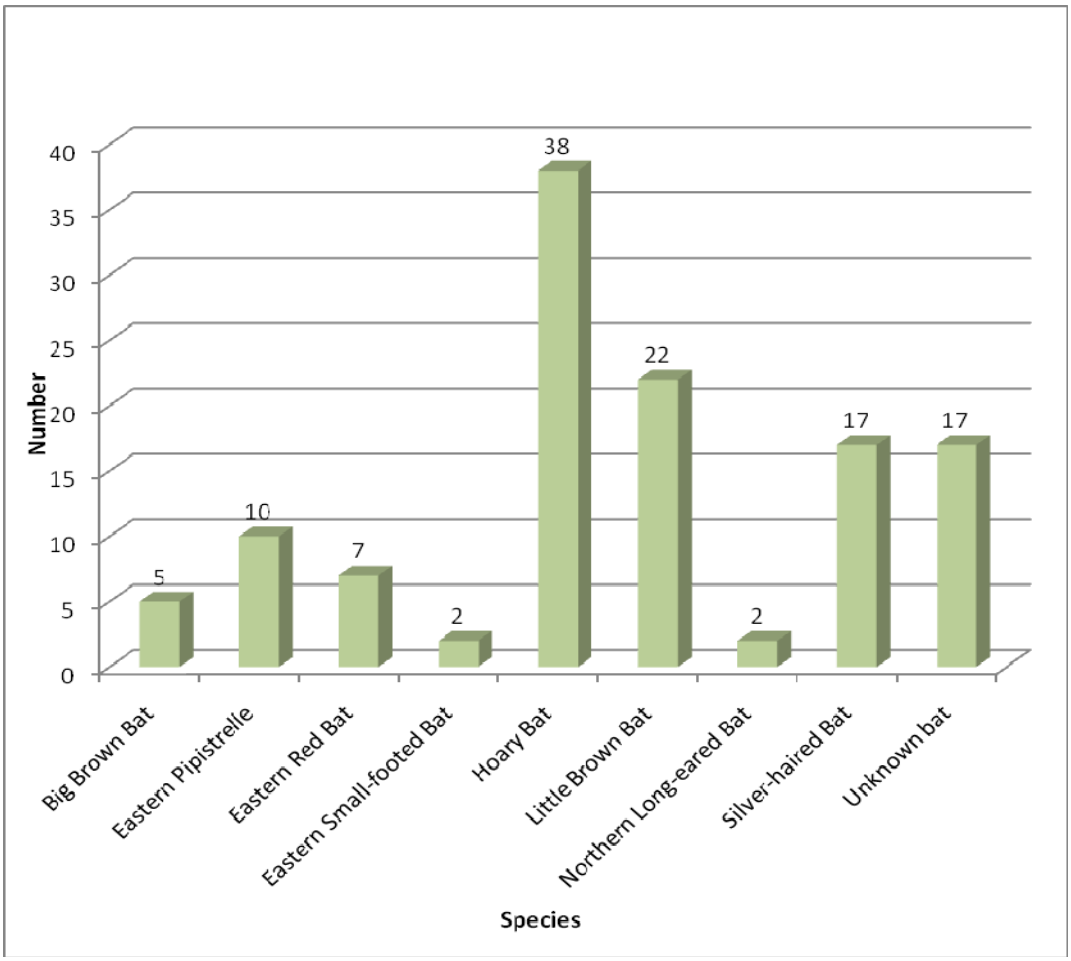
Period		c	Se	Sc	Ps	C	Per Turbine	Per MW
Season	Spring	6	0.88	0.89	0.82	9.43	0.25	0.12
	Fall	25	0.43	0.68	0.82	105.04	2.76	1.38

This corrected estimate for avian mortalities is typically calculated as mortalities per turbine per year, and mortalities per MW per year. Because monitoring work did not include six months of the year during which activity levels in birds is known to drop, findings will be presented as mortalities per turbine as found throughout the course of the six-month monitoring program. In the case of the Program, these values were calculated as 3.01 avian mortalities per turbine per monitoring season, and 1.5 avian mortalities per MW per monitoring season.

3.1.3.2 Bats

Throughout the six month post-construction monitoring period, a total of 120 bat carcasses were located. Of these, four were found in the spring, and 116 were found during the fall period (July through mid-October). Figure 3-2 presents the bat carcass numbers by species.

Figure 3-2 Bat Mortality by Species



Spring monitoring encompassed the latter half of the month of April and the month of May, for a total of seven weeks. Four bat carcasses were located by searchers during spring monitoring, with a corrected estimate of 6.28 in total for the season; 0.17 bats per turbine for spring; and 0.08 bats per MW for spring. Table 3-9 presents the bat mortalities by species and number, as well as the turbine where the carcasses were located.

Table 3-9 Spring Bat Species Mortality

Number	English Name	Scientific Name	SARA	COSEWIC	SRank	Month	Turbine
1	Eastern Pipistrelle	*Pipistrellus subflavus*	-	-	S3?	May	25
1	Little Brown Bat	*Myotis lucifugus*	-	-	S5	May	33
2	Silver-haired Bat	*Lasionycteris noctifagans*	-	-	S4	May	28,35

Note: NHIC Status: S1: Critically imperiled in the province because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province.S2: Imperiled in the province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province.S3: Vulnerable in the province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation. S4: Uncommon but not rare; some cause for long-term concern due to declines or other factors. S5: Secure. Common, widespread, and abundant in the province. SNA; conservation status rank is not applicable because the species is not a suitable target for conservation activities. B; Breeding, SNR; Not ranked, NAR; not at risk.

All four of the bat carcasses were located during the month of May. Eastern Pipistrelle was found at turbine 25, approximately 10 m west of the turbine. Eastern Pipistrelles often feed over streams and ponds, and will feed in open fields should there be large trees in proximity (Williams *et al.,* 2002). Although not ranked by SARA or COSEWIC, this bat species is ranked by the MNR as S3, meaning it is considered vulnerable to extirpation within the province of Ontario. Turbine 25 lies approximately 100 m south of a small stream with some riparian wood habitat. The Little Brown Bat was found approximately 20 m south of turbine 33. Little Brown Bats are known to forage over open areas such as lawns and pastures, at heights of 10 to 20 feet at times (Williams *et al.,* 2002). At the time, turbine 33 was recently sown, and produced a corn crop. Two Silver-haired Bats were found: one at turbine 28 (8 m east of turbine) and one at turbine 35 (20 m south-southeast of turbine). Silver-haired Bats usually feed over ponds and streams, as well as above treetop level in woods. Though turbine 35 is not located close to any woodlots, turbine 28 lies approximately 1200 m west of a woodlot measuring greater than 10 ha. Both are also within 200 m of a small drainage creek and larger stream, the latter of which has some riparian woodlot habitat.

Fall monitoring encompassed the months of July through mid-October, for a total of 16 weeks. A total of 116 bat carcasses were located by searchers, with a corrected estimated total for the season of 487.37 bat mortalities, with 12.83 bats per turbine for fall; and 6.41 bats per MW for fall. Table 3-10 presents bat mortalities by species and number, as well as the turbine where the carcasses were located. The three most frequent species of bat carcass recovered were: Hoary Bat (28 individuals, and 32.8% of the fall findings), Little Brown Bat (21 individuals, and 18.1% of the fall findings), and Silver-haired Bat (15 individuals, and 12.9% of the fall findings). According to Bat Conservation International (2007), migratory tree-bats, such as Hoary Bat, Silver-Haired Bat, and Eastern Red Bat, are not only the most widespread bat species in North America, but also the three species most likely to suffer fatalities at wind farms. Due to the advanced state of decomposition in which some carcasses were found, 17 were not identifiable to genus or species (14.2% of all bat findings for the program). None of the bat species found during the fall monitoring are listed as species of conservation concern by SARA or COSEWIC.

Table 3-10 Fall Bat Species Mortality

Number	English Name	Scientific Name	SARA	COSEWIC	Srank	Month	Turbine
5	Big Brown Bat	*Eptesicus fuscus*	-	-	S5	July, August, September	29, 31, 32, 37
9	Eastern Pipistrelle	*Pipistrellus subflavus*	-	-	S3?	July, August	3, 5, 11, 23, 27, 33, 37, 38
7	Eastern Red Bat	*Lasiurus borealis*	-	-	S4	August, September, October	5, 6, 10, 15, 18, 29,
2	Eastern Small-footed Bat	*Myotis leibii*	-	-	S2S3	September	4, 34
38	Hoary Bat	*Lasiurus cinereus*	-	-	S4	July, August, September, October	2, 3, 5, 6, 7, 8, 10, 12, 15, 16, 20, 21, 22, 25, 28, 29, 31, 34, 35, 36, 37, 38
21	Little Brown Bat	*Myotis lucifugus*	-	-	S5	July, August, September	1, 3, 5, 9, 10, 14, 15, 20, 21, 23, 24, 31, 32, 33, 34, 37
2	Northern Long-eared Bat	*Myotis septentrionalis*	-	-	S3?	August, September	23, 37
15	Silver-haired Bat	*Lasionycteris noctifagans*	-	-	S4	July, August, September	3, 5, 9, 14, 17, 21, 26, 27, 30, 32, 35, 37, 38
17	Unknown bat		-	-		July, August, September, October	2, 3, 5, 8, 10, 12, 18, 20, 22, 23, 28, 34, 35

Note: NHIC Status: S1: Critically imperiled in the province because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province.S2: Imperiled in the province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province.S3: Vulnerable in the province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation. S4: Uncommon but not rare; some cause for long-term concern due to declines or other factors. S5: Secure. Common, widespread, and abundant in the province. SNA; conservation status rank is not applicable because the species is not a suitable target for conservation activities. B; Breeding, SNR; Not ranked, NAR; not at risk.

During July monitoring, 35 bat carcasses were located by searchers. These included: two Big Brown Bats; seven Eastern Pipistrelles; 12 Hoary Bats; six Little Brown Bats; four Silver-haired Bats; and four unknown bats, one of which was likely a Little Brown Bat.

During August monitoring, 50 bat carcasses were located by searchers. These included: two Big Brown Bats; two Eastern Pipistrelles; three Eastern Red Bats; 19 Hoary Bats; 12 Little Brown Bats; one Northern Long-eared Bat; four Silver-haired Bats; and seven unknown bats. The Northern Long-eared Bat was found approximately 10 m west of turbine 23, on the gravel access road. Turbine 23 is located approximately 500 m north of a woodlot, and 700 m south-east of another woodlot which surrounds a small local landfill. Northern Long-eared Bats are known to forage under forest canopies and along roads (Williams *et al.*, 2002).

During September monitoring, 26 bat carcasses were located by searchers. These included: one Big Brown Bat; three Eastern Red Bats; two Eastern Small-footed Bats; six Hoary Bats; three Little Brown Bats; one Northern Long-eared Bat; seven Silver-haired Bats; and three unknown bats.

During October monitoring, five bat carcasses were located by searches. These included: one Eastern Red Bat, one Hoary Bat, and three unknown bats.

Table 3-11 presents the values for each season, associated with the searcher efficiency trials, scavenger impact trials, the mortality surveys and resulting number of bat carcasses found, as well as the seasonal overall corrected estimates for bat mortalities. The corrected estimates were calculated using the correction equation provided by Environment Canada, which takes scavenging and searcher efficiency into consideration.

Table 3-11 Corrected Estimate for Bat Mortality

Period		c	Se	Sc	Ps	C	Per Turbine	Per MW
Season	Spring	4	0.88	0.89	0.82	6.28	0.17	0.08
	Fall	116	0.43	0.68	0.82	487.37	12.83	6.41

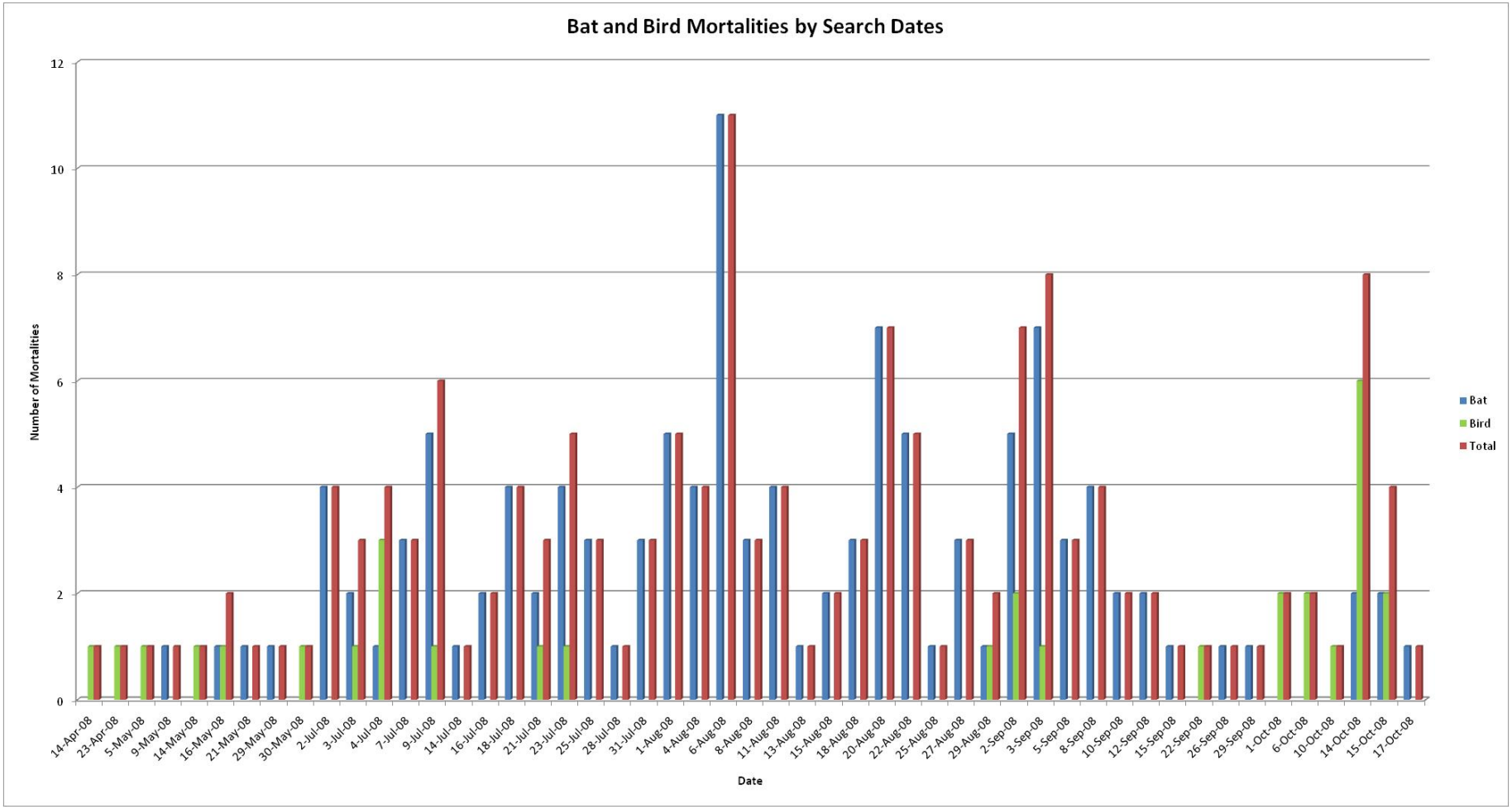
This corrected estimate for bat mortalities is typically calculated as mortalities per turbine per year, and mortalities per MW per year. Because monitoring work did not include six months of the year during which activity levels in bats is known to drop, findings will be presented as mortalities per turbine as found throughout the course of the six-month monitoring program. In the case of the Program, these values are calculated as approximately 13 bat mortalities per turbine per monitoring season, and 6.49 bat mortalities per MW per monitoring season.

3.1.4 Time Period

The incidence of bird or bat mortality will fluctuate with the season, as usage of the area will change over the course of the year. During spring, it would be expected that avian mortality findings would reflect species known to breed in the region. Conversely, as bat activity levels increase throughout the summer months and more notably during the fall migratory season, an increase in bat mortalities should be expected. Figure 3-3, below, illustrates bat, bird and total mortalities for each carcass search date during the Program.

Avian mortalities remained low albeit consistent during the spring (April and May) season of mortality surveys, during which time the most common avian species mortality was Horned Lark. This species is noted to be at higher risk of collisions with turbines, due to its aerial courtship display which are high enough to place them within the turbine blade sweep. Avian mortality increased in frequency and volume in October, coinciding with timing of bird migration activity throughout the region. The most common avian species mortality was Golden-crowned Kinglet, a species not known to breed in the area, but known to migrate through the region. No particular turbine demonstrated a particularly higher level of avian mortality, with several turbines having one or two mortalities during the month of October. Mortalities during this month (October) occurred only at the following turbines: #3 (one mortality), #6 (one mortality), #7 (one mortality), #11 (one mortality), #15 (one mortality), #18 (two mortalities), #19 (two mortalities), #21 (one mortality), #30 (one mortality) and #37 (two mortalities).

Figure 3-3 Bird and Bat Mortalities by Date



Bat mortality, as expected, was very low during the spring months. Mortalities peaked during August and September, with a definite reduction through the latter half of September and into October, correlating with the end of the migratory season for bats. During the month of August, turbines #22 and #23 displayed higher than average numbers of bat mortalities (four mortalities and five mortalities, respectively). Other turbines ranged between one and three mortalities for the month.

3.1.5 Per Turbine

The highest incidence of bat and bird fatalities combined occurred at turbines #37 (13 fatalities, eight bat and five avian), #5 (10 fatalities, eight bat and two avian), #10 (nine bat fatalities, no avian fatalities), #3 (nine fatalities, seven bat and two avian) and #29 (eight fatalities, all bat) (Figure 3-4).

The five turbines with highest quantities of bat mortalities are ranked from greatest to least as follows: #10 (nine fatalities), #5, # 29 and #38 (all having eight fatalities each), and #3 (seven fatalities). Turbine #37 demonstrated a notably higher amount of avian fatalities, with five avian mortalities in total. Avian carcasses found at this turbine were two Horned Lark, one Mourning Dove, one Golden-crowned Kinglet, and one unidentifiable Warbler species. No mortalities were recorded at turbine #13.

3.1.6 Distances

Two factors which should be considered when analysing mortality data are the distance at which carcasses are found in relation to the turbine, and the proximity of a turbine to a large woodlot.

Firstly, recording and reporting data on the distance at which a carcass was found from a turbine can aid in future design of post-construction monitoring protocols. Environment Canada has noted that birds and bats tend to be concentrated with certain distances of turbines, with birds typically landing up to 80 m from the turbine, and bats typically up to 50 m from the turbine (Denise Fell, personal communication, November 2008). In collecting and providing the distances at which searchers found carcasses, Environment Canada is better able to design monitoring protocols which reflect these variations in fall distance, thus aiding in determining such things as required size of carcass search grids.

Secondly, the proximity of turbines to certain habitats can play a role in determining if a turbine is more likely to have an increased number of bird or bat mortalities. These habitats may be areas such as riparian habitats, or, as in this case, woodlots 10 ha in size or greater. Species roosting in these woodlots may suffer turbine fatalities when leaving the habitat to forage if a turbine is located relatively close to the woodlot.

3.1.6.1 Distances from Turbines

Environment Canada has identified that bird and bat carcasses are concentrated within 50 m of a turbine. Table 3-12 presents the number of bird and bat carcasses found at ranges of 5 m increments from the turbine, up to 40 m from the turbine (the extent of the mortality search grid area employed).

Figure 3-4 Bird and Bat Mortalities by Turbine

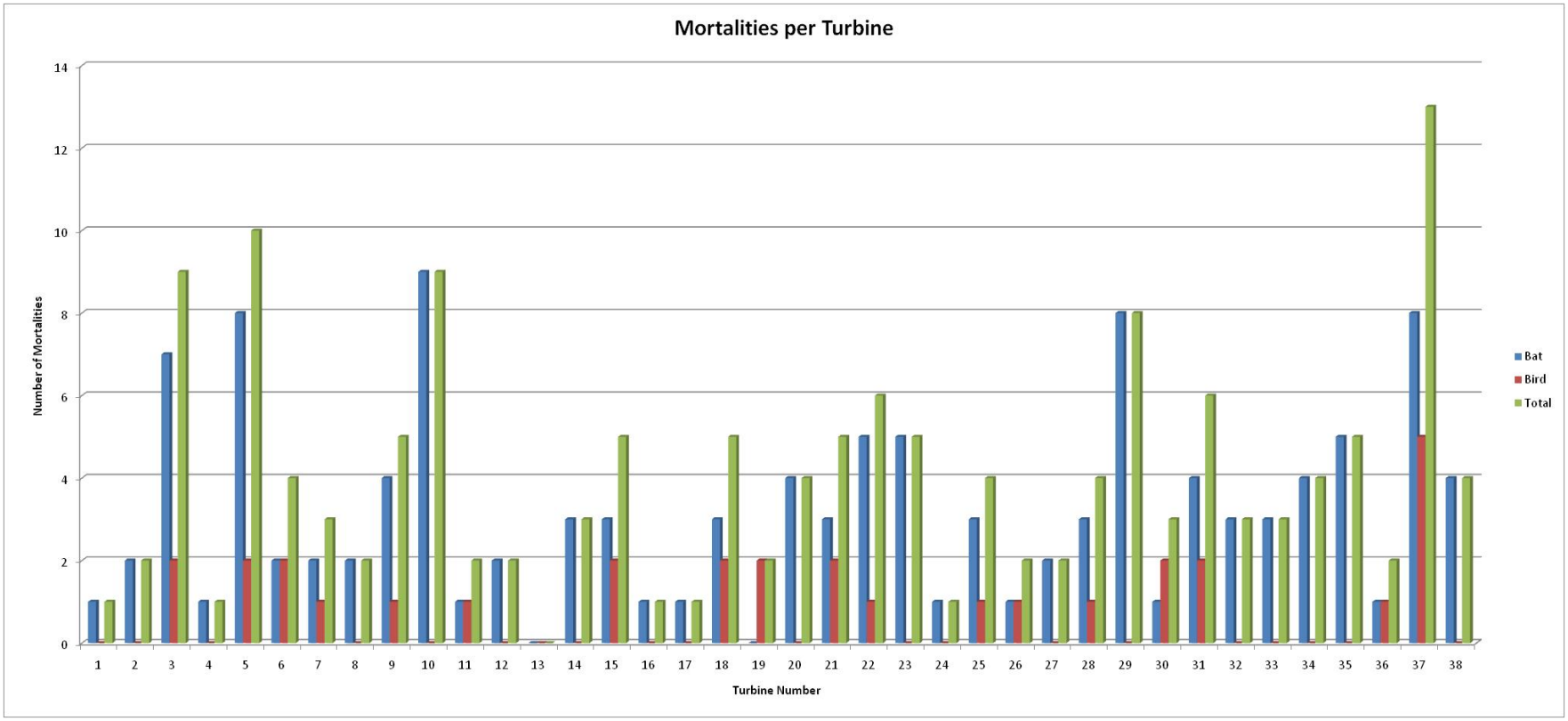


Table 3-12 Distance Range of Carcasses from Turbines (m)

	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 40	Total
Bats	19	18	27	15	13	5	7	16	120
Birds	1	5	6	3	6	2	6	2	31
Total	20	23	33	18	19	7	13	18	151

The mean distance at which bat carcasses were found was 16 m, with a median distance of 13 m. The highest concentration of carcasses was in the 10-14 m range, with 27 of the 120 carcasses (20.8%) falling within that distance from the turbine. The mean distance at which bird carcasses were found was 18.6 m, with a median distance of 20 m. Bird carcasses were not concentrated at any particular distance from the turbine, and were in fact quite distributed across the range of distances. As expected from dialogue with Environment Canada (Denise Fell, November 2008) for this report, bat carcasses were concentrated closer to the turbines.

3.1.6.2 Proximity of Turbines to Woodlots within the Ripley Wind Farm

A turbine's proximity to certain habitat types may be a factor in the number of mortalities occurring at that turbine, as well as help to determine the likelihood of certain species being impacted to a greater extent than others which may not use the surrounding habitat to the same effect. Environment Canada has identified an interest in woodlots within the Ripley Wind Farm which measure 10 ha in size or larger, of which there are five (Figure 3-5). One lies approximately 450 m to the north and northwest of turbine #6; one lies approximately 280 m to the northeast of turbine #21; the third lies approximately 230 m to the southeast of turbine #22; the fourth lies approximately 280 m to the east of turbine #29 and 200 m north-west 3of turbine #30; and the fifth lies approximately 280 m to the east of turbine #31.

Turbine #6 did not exhibit a significant amount of mortalities, with only four carcasses located at this location. These were two birds and two bats: one Turkey Vulture, one Thrush species (likely Hermit, though it was too decayed to confirm), one Hoary Bat and one Eastern Red Bat. Turbine #21 had five mortalities: three bats and two birds. These were one Cooper's Hawk, one Golden-crowned Kinglet one Little Brown Bat, one Hoary Bat, and one Silver-haired Bat. Turbine #22 had a total of six mortalities: five bats and one bird. These were one unknown bat, four Hoary Bats, and one bird, likely an Eastern Kingbird, however it was too decayed to visually confirm the species. Turbine #29 exhibited a somewhat higher proportion of mortalities, with a total of eight bats recovered from this turbine. These were four Hoary Bats, two big Brown Bats, and two Eastern Red Bats. Turbine #30 exhibited a rather low number of mortalities: one bat and two birds. These were a Silver-haired Bat, a Wilson's Warbler, as well as one bird too decayed to identify to species. Turbine #31 had six mortalities, four of which were bats and the remaining two birds. These were two Hoary Bats, one Big Brown Bat, one Little Brown Bat, one Bank Swallow and one Barn Swallow.

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MONITORING

Proximity of Turbines to Woodlots within the Ripley Study Area

N

Ripley

Amberley

Turbines
Access
Ripley Study Area

Turbine Buffer, 1 km

Distances in Metres

1000
900
800
700
600
500
400
300
200
100

Woodlots

Other Woodlots
Within Study Area <10 ha
Within Study Area >10 ha
Hydrology

0 0.5 1 1.5 2

Kilometres - 1:50,000

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MB QC ON USA Area of Interest

PREPARED BY
Jacques Whitford

FIGURE NO.
3-5

Last Modified: Jan 16, 2009 By: C. Konjiaskko

Of those turbines identified above (Section 3.1.7) exhibiting higher amounts of mortalities (turbines #10 (9 fatalities), #5, # 29 and #38 (all having eight fatalities each), and #3 (seven fatalities), only turbine #29 is located relatively close (within 300 m) to a woodlot measuring 10 ha or larger. It can be concluded that though some turbines were sited close to woodlots, especially large woodlots, they were not situated close enough to sufficiently impact the species of birds or bats using this habitat.

3.2 Avian Monitoring

Overall, the species recorded during the 2008 avian monitoring component of the Program are typical of southern Ontario agricultural environments. The local area has a good representation of species found in the broader area during the breeding season and fall avian migration. Several species of conservation concern were observed during the avian monitoring program; these are further discussed in section 3.3, below. Table 3-13 presents all bird species observed during both the breeding bird surveys and the fall diurnal migration surveys, by bird group.

Table 3-13 Bird Species Observed During Avian Monitoring Program, 2008

English Name	Latin Name	Breeding	Fall	SARA	COSEWIC	SRank
Gamebird						
Wild Turkey	*Meleagris gallopavo*	X		-	-	S4
Landbird						
Rock Pigeon	*Columba livia*		X	-	-	SNA
Mourning Dove	*Zenaida macroura*	X	X	-	-	S5B
Black-billed Cuckoo	*Coccyzus erythropthalmus*	X		-	-	S4B
Belted Kingfisher	*Ceryle alcyon*	X		-	-	S5B
Red-bellied Woodpecker	*Melanerpes carolinus*	X		-	-	S4
Northern Flicker	*Colaptes auratus*	X	X	-	-	S5B
Eastern Wood-Pewee	*Contopus virens*	X		-	-	S5B
Alder Flycatcher	*Empidonax alnorum*	X		-	-	S5B
Willow Flycatcher	*Empidonax traillii*	X		-	-	S5B
Least Flycatcher	*Empidonax minimus*	X		-	-	S5B
Eastern Phoebe	*Sayornis phoebe*	X		-	-	S5B
Great Crested Flycatcher	*Myiarchus crinitus*	X		-	-	S5B
Eastern Kingbird	*Tyrannus tyrannus*	X		-	-	S5B
Northern Shrike	*Lanius excubitor*		X	-	-	S2S3B
Warbling Vireo	*Vireo gilvus*	X		-	-	S5B
Red-eyed Vireo	*Vireo olivaceus*	X		-	-	S5B
Blue Jay	*Cyanocitta cristata*	X	X	-	-	S5
American Crow	*Corvus brachyrhynchos*	X	X	-	-	S5B
Common Raven	*Corvus corax*		X	-	-	S5
Horned Lark	*Eremophila alpestris*	X	X	-	-	S5B
Purple Martin	*Progne subis*	X		-	-	S4B
Tree Swallow	*Tachycineta bicolor*	X		-	-	S5B

Table 3-13 Bird Species Observed During Avian Monitoring Program, 2008

English Name	Latin Name	Breeding	Fall	SARA	COSEWIC	SRank
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*	X		-	-	S5B
Bank Swallow	*Riparia riparia*	X		-	-	S5B
Cliff Swallow	*Petrochelidon pyrrhonota*	X		-	-	S5B
Barn Swallow	*Hirundo rustica*	X	X	-	-	S5B
Black-capped Chickadee	*Poecile atricapillus*	X		-	-	S5
House Wren	*Troglodytes aedon*	X		-	-	S5B
Wood Thrush	*Hylocichla mustelina*	X		-	-	S5B
American Robin	*Turdus migratorius*	X	X	-	-	S5B
Gray Catbird	*Dumetella carolinensis*	X		-	-	S5B
Brown Thrasher	*Toxostoma rufum*	X		-	-	S5B
European Starling	*Sturnus vulgaris*	X	X	-	-	SNA
American Pipit	*Anthus rubescens*		X	-	-	S4B
Cedar Waxwing	*Bombycilla cedrorum*	X	X	-	-	S5B
Blue-winged Warbler	*Vermivora pinus*	X		-	-	S4B
Orange-crowned Warbler	*Vermivora celata*		X	-	-	S4B?
Yellow Warbler	*Dendroica petechia*	X		-	-	S5B
Yellow-rumped Warbler	*Dendroica coronata*		X	-	-	S5B
Palm Warbler	*Dendroica palmarum*		X	-	-	SNRB
American Redstart	*Setophaga ruticilla*	X		-	-	S5B
Mourning Warbler	*Oporornis philadelphia*	X		-	-	S5B
Common Yellowthroat	*Geothlypis trichas*	X		-	-	S5B
American Tree Sparrow	*Spizella arborea*		X	-	-	S5B
Chipping Sparrow	*Spizella passerina*	X		-	-	S5B
Field Sparrow	*Spizella pusilla*	X		-	-	S5B
Vesper Sparrow	*Pooecetes gramineus*	X		-	-	S4B
Savannah Sparrow	*Passerculus sandwichensis*	X	X	-	-	S5B
Grasshopper Sparrow	*Ammodramus savannarum*	X		-	-	S4B
Song Sparrow	*Melospiza melodia*	X	X	-	-	S5B
Lapland Longspur	*Calcarius lapponicus*		X	-	-	S4B
Snow Bunting	*Plectrophenax nivalis*		X	-	-	SNA
Northern Cardinal	*Cardinalis cardinalis*	X		-	-	S5
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	X		-	-	S5B
Indigo Bunting	*Passerina cyanea*	X		-	-	S5B
Bobolink	*Dolichonyx oryzivorus*	X		-	-	S4B
Red-winged Blackbird	*Agelaius phoeniceus*	X	X	-	-	S5B
Eastern Meadowlark	*Sturnella magna*		X	-	-	S5B
Rusty Blackbird	*Euphagus carolinus*		X	SC	SC	S4B

Table 3-13 Bird Species Observed During Avian Monitoring Program, 2008

English Name	Latin Name	Breeding	Fall	SARA	COSEWIC	SRank
Common Grackle	*Quiscalus quiscula*	X	X	-	-	S5B
Brown-headed Cowbird	*Molothrus ater*	X	X	-	-	S5B
Baltimore Oriole	*Icterus galbula*	X		-	-	S5B
Purple Finch	*Carpodacus purpureus*		X	-	-	S5B
House Finch	*Carpodacus mexicanus*		X	-	-	SNA
White-winged Crossbill	*Loxia leucoptera*		X	-	-	S5B
Pine Siskin	*Carduelis pinus*		X	-	-	S5B
American Goldfinch	*Carduelis tristis*	X	X	-	-	S5B
House Sparrow	*Passer domesticus*	X		-	-	SNA
Blackbird species	-		X	-	-	-
Songbird sp.	-		X	-	-	-
Sparrow sp.	-		X	-	-	-
Swallow sp.	-		X	-	-	-
Raptor						
Turkey Vulture	*Cathartes aura*	X	X	-	-	S4B
Osprey	*Pandion haliaetus*		X	-	-	S4B
Bald Eagle	*Haliaeetus leucocephalus*		X	-	NAR	S4B
Northern Harrier	*Circus cyaneus*	X	X	-	NAR	S4B
Sharp-shinned Hawk	*Accipiter striatus*		X	-	NAR	S5B
Cooper's Hawk	*Accipiter cooperii*		X	-	NAR	S4B
Northern Goshawk	*Accipiter gentilis*		X	-	NAR	S4
Red-tailed Hawk	*Buteo jamaicensis*		X	-	NAR	S5B
Rough-legged Hawk	*Buteo lagopus*		X	-	NAR	S1B
Merlin	*Falco columbiarus*		X	-	NAR	S4B
Shorebird						
American Golden Plover	*Pluvialis dominica*		X	-	-	S1B
Killdeer	*Charadrius vociferus*	X	X	-	-	S5B
Wilson's Snipe	*Gallinago delicata*		X	-	-	-
Waterbird						
Red-throated Loon	*Gavia stellata*		X	-	-	S1S2B
Common Loon	*Gavia immer*		X	-	NAR	S4B
Double-crested Cormorant	*Phalacrocorax auritus*		X	-	NAR	S4B
Great Blue Heron	*Ardea herodias*		X	-	-	S5B
Ring-billed Gull	*Larus delawarensis*	X	X	-	-	S5B
Herring Gull	*Larus argentatus*	X	X	-	-	S5B

Table 3-13 Bird Species Observed During Avian Monitoring Program, 2008

English Name	Latin Name	Breeding	Fall	SARA	COSEWIC	SRank
Waterfowl						
Snow Goose	*Chen caerulescens*		X	-	-	S4B
Canada Goose	*Branta canadensis*	X	X	-	-	S5B
Wood Duck	*Aix sponsa*	X		-	-	S5B
Mallard	*Anas platyrhynchos*	X	X	-	-	S5B
Canvasback	*Aythya valisneria*		X	-	-	S1B, S2N

Note: NHIC Status: S1: Critically imperiled in the province because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province.S2: Imperiled in the province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province.S3: Vulnerable in the province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation. S4: Uncommon but not rare; some cause for long-term concern due to declines or other factors. S5: Secure. Common, widespread, and abundant in the province. SNA; conservation status rank is not applicable because the species is not a suitable target for conservation activities. B; Breeding, SNR; Not ranked, NAR; not at risk.

In total, 97 species were observed during the breeding bird and the fall diurnal migration surveys, as compared to 94 species during the 2004 pre-construction avian monitoring program. The following subsections describe the findings of the breeding bird and fall diurnal migration surveys in further detail.

3.2.1 Breeding Bird Survey

The breeding bird community observed in the study area is typical of environments in southern Ontario. The relatively low species diversity reflects the low diversity and quality of breeding habitat found within the Ripley Wind Farm, and all of the species are common field or edge species in Bruce County. It is likely that certain species observed may not breed in the area but are included, to err on the conservative side.

During the breeding bird surveys of 2008, 62 avian species were observed, as compared to 50 species observed during the breeding bird surveys carried out during pre-construction surveys in June of 2004. Table 3-14 presents all birds observed during the two breeding bird surveys in descending order, from the most frequently encountered (number of point counts over both visits) to the least frequently observed.

Table 3-14 Bird Species Observed During the Breeding Bird Survey, 2008

English Name	Frequency	Max	Average
Red-winged Blackbird	19	16	6.26
American Robin	16	3	1.69
Savannah Sparrow	16	6	3.5
Song Sparrow	16	3	1.75
Common Grackle	13	3	1.92
Brown-headed Cowbird	11	5	1.82

Table 3-14 Bird Species Observed During the Breeding Bird Survey, 2008

English Name	Frequency	Max	Average
American Crow	10	6	2.3
Cedar Waxwing	10	5	2.2
European Starling	10	4	1.5
Mourning Dove	10	3	1.3
Warbling Vireo	10	3	1.3
Chipping Sparrow	9	1	1
Yellow Warbler	9	3	1.78
Horned Lark	8	3	1.88
Killdeer	8	3	1.38
Vesper Sparrow	8	2	1.25
Common Yellowthroat	7	2	1.43
Barn Swallow	6	4	1.83
Eastern Kingbird	6	3	1.5
Eastern Wood-Pewee	6	1	1
House Sparrow	6	6	3.5
House Wren	6	1	1
Indigo Bunting	6	2	1.2
Mallard	6	12	5
Red-eyed Vireo	6	3	1.8
American Goldfinch	5	3	1.6
American Redstart	5	1	1
Bobolink	5	5	2.8
Brown Thrasher	5	2	1.2
Baltimore Oriole	4	3	2.3
Ring-billed Gull	4	50	19
Turkey Vulture	4	3	1.5
Wood Thrush	4	2	1.3
Canada Goose	3	32	20
Great Crested Flycatcher	3	2	1.3
Rose-breasted Grosbeak	3	1	1
Willow Flycatcher	3	1	1
Bank Swallow	2	7	5.5

Table 3-14 Bird Species Observed During the Breeding Bird Survey, 2008

English Name	Frequency	Max	Average
Belted Kingfisher	2	1	1
Cliff Swallow	2	55	50
Grasshopper Sparrow	2	1	1
Gray Catbird	2	1	1
Herring Gull	2	3	2
Least Flycatcher	2	1	1
Northern Flicker	2	1	1
Northern Rough-winged Swallow	2	1	1
Red-bellied Woodpecker	2	1	1
Tree Swallow	2	2	1.5
Wild Turkey	2	12	6.5
Alder Flycatcher	1	1	1
Black-billed Cuckoo	1	1	1
Black-capped Chickadee	1	1	1
Blue Jay	1	1	1
Blue-winged Warbler	1	1	1
Eastern Phoebe	1	2	2
Field Sparrow	1	2	2
Mourning Warbler	1	1	1
Northern Cardinal	1	1	1
Northern Harrier	1	1	1
Purple Martin	1	1	1
Rock Pigeon	1	1	1
Wood Duck	1	3	3

The most frequently encountered species on breeding bird surveys within the Prioject Study Area were Red-winged Blackbird (19 individuals), American Robin, Savannah Sparrow, and Song Sparrow, all 16 individuals each. This reflects the findings of the breeding bird surveys in 2004, at which time American Robin, Chipping Sparrow, and Red-winged Blackbird were also the most frequently encountered species.

3.2.2 Fall Avian Migration Monitoring

A total of 965 separate observations and 26,941 individuals were recorded during fall migration surveys, as presented in Table 3-15, cumulatively between the two survey locations. Due to differences in potential sensitivity of different bird groups (Kingsley and Whittam, 2007), the data presented in **Appendix F** are summarised according to seven bird groups: waterbirds (herons, gulls and cormorants); waterfowl (ducks, geese and swans); raptors (hawks, falcons and eagles), vultures, shorebirds (plovers and sandpipers); and landbirds (songbirds and near-passerine landbirds).

Table 3-15 summarizes the overall height of activity of the bird groups observed during surveys. Birds observed 0 m to 40 m from the ground were considered Below Turbine Blades (BTB) height; those flying 40 m to 100 m were described as Well Above Tree (WAT) height; and birds observed flying at heights greater than 100 m were described as High (H).

Birds observed flying 0 to 40 m were considered to be Below Turbine Blades (BTB) height; those flying over 40 m to 100 m were considered Well Above Tree (WAT) height, and those flying over 100 m were considered to be at Height (H). The percentages presented in Table 3-15 are based on the number of observations of independent units, either lone birds or flocks of individuals. The percentages in parentheses are based on actual numbers of individual birds observed (either single birds or individuals within flocks).

The species observed during fall diurnal migration surveys for the Program were typical of those commonly observed on migration in southern Ontario, although numbers of many species were low, presumably due to the lack of suitable stopover habitat. A total of 965 separate observations and 26,941 individuals were recorded during surveys at both sites, inclusively. Of these, 138 observations were made of raptors, which totalled 350 individuals.

Table 3-15 Bird Groups Observed During Fall Migration, 2008

Fall	Height			
	BTB[1]	WAT[1]	H[1]	Grand Total[2]
Landbird	86% (87%)	13% (10%)	<1% (3%)	74 (3,906)
Raptor	38% (37%)	39% (45%)	22% (18%)	138 (350)
Shorebird	46% (31%)	31% (55%)	23% (15%)	180 (8,497)
Waterbird	32% (30%)	49% (56%)	19% (14%)	13 (110)
Waterfowl	55% (67%)	31% (23%)	14% (11%)	560 (14,078)
Grand Total	67% (65%)	25% (27%)	9% (8%)	965 (26,941)

Notes:

1. Data presented are percentage of observations (percentage of individual birds in parentheses) observed in each area.
2. The total number of observations (total number of individual birds in parentheses)

When examining the data for the fall 2008 migration monitoring, the majority of the birds (approximately 67% of observations and 65% of all birds) were observed flying within 40 m (BTB) of the ground. Approximately 27% of all individuals noted were observed flying WAT, which puts them within the rotor-swept zone. Overall, a notably smaller proportion of birds were observed flying at a height that puts them above a risk of collision with the turbine blades. Raptor occurrences were observed split almost evenly between flying at BTB (38% of observations) and at WAT (39% of observations) heights, though a heavier proportion of individuals themselves were observed flying at WAT (45% of all individuals) height – a height which puts this group at risk of colliding with turbine blades.

Table 3-16 presents the flight heights of all avian species recorded at both stations during the fall avian migration surveys.

Table 3-16 Raptor Species Observed During Fall Migration, 2008

Fall Survey	Height			
Species	**BTB[1]**	**WAT[1]**	**H[1]**	**Grand Total[2]**
Bald Eagle	0 (0)	1 (1)	0 (0)	**1 (1)**
Cooper's Hawk	3 (3)	2 (2)	0 (0)	**5 (5)**
Merlin	1 (1)	0 (0)	0 (0)	**1 (1)**
Northern Goshawk	0 (0)	0 (0)	1 (1)	**1 (1)**
Northern Harrier	10 (10)	0 (0)	0 (0)	**10 (10)**
Osprey	1 (1)	0 (0)	0 (0)	**1 (1)**
Red-tailed Hawk	2 (2)	6 (7)	2 (4)	**10 (13)**
Rough-legged Hawk	3 (3)	5 (6)	1 (1)	**9 (10)**
Sharp-shinned Hawk	3 (3)	7 (8)	0 (0)	**10 (11)**
Turkey Vulture	30 (108)	33 (133)	27 (56)	**90 (297)**

Notes:

1. Data presented are number of observations (number of individual birds in parentheses) observed in each area.
2. The total number of observations (total number of individual birds in parentheses).

Overall, a significant proportion of the observations made were of birds flying at BTB (0 – 40m) height (67% of observations), which accounts for 65% of all individual birds observed. A smaller, but still somewhat significant, proportion of observations were of birds flying at WAT (40-100 m) height (25% of observations), for a proportion of 27% of all individual birds observed flying at this height, within the higher-risk rotor-swept zone. A rather small proportion of observations made were of birds flying at H (>100 m) height (<1% of all observations made), or approximately 8% of all individual birds observed. The findings at each of the survey stations are discussed in greater detail below.

3.2.2.1 Eastern Station

The eastern station was situated in the northeast corner of the Ripley Wind Farm, with Lake Huron located approximately 12.5 km to the west. A total of 359 separate observations and 4,463 individuals were recorded during the fall migration survey at this station. These numbers, as well as the overall heights of the bird groups observed, are presented below in Table 3-17.

Table 3-17 Bird Groups Observed at the Eastern Site During Fall Migration, 2008

Fall Eastern Site	Height			
	BT[1]	WAT[1]	H[1]	Grand Total[2]
Landbird	86% (83%)	13% (17%)	<1% (<1%)	**184 (1544)**
Raptor	21% (18%)	49% (59%)	30% (23%)	**47 (109)**
Shorebird	100% (100%)	0% (0%)	0% (0%)	**1 (6)**
Waterbird	31% (78%)	48% (32%)	21% (47%)	**96 (2188)**
Waterfowl	74% (76%)	19% (17%)	6% (6%)	**31 (616)**
Grand Total	**62% (50%)**	**28% (25%)**	**10% (25%)**	**359 (4463)**

Notes:

1. Data presented are percentage of observations (percentage of individual birds in parentheses) observed in each area.
2. The total number of observations (total number of individual birds in parentheses)

A significant proportion of the birds observed (62% of all observations and 50% of all individuals) at the eastern survey station were recorded as flying BTB (0 – 40 m). Approximately 28% of observations were made of birds flying at WAT (40 – 100 m) height, accounting for 25% of all individuals; birds at this height are at risk of colliding with turbine blades as they are within the known rotor-swept area. Although another 25% of all individuals were recorded as flying at H height (>100m), this still only accounted for approximately 10% of all observations made at this site.

Of those birds observed flying at WAT height, and thus within the higher-risk rotor-swept zone, raptors accounted for 49% of observations and 59% of individuals recorded at this height, and waterbirds accounted for 48% of observations and 32% of individuals recorded at this height (one Common Loon, 42 Double-crested Cormorants, 1 Great Blue Heron, 19 Herring Gulls and 2125 Ring-billed Gulls).

Forty-seven observations were made of raptors, for a total of 109 individuals noted at this station. This included one observation of a single Northern Harrier; eight Red-tailed Hawk observations (11 individuals); two observations of individual Rough-legged Hawks made in the latter half of October; and 36 Turkey Vulture observations (82 individuals). Table 3-18 presents the heights of the species of raptors observed at the eastern station.

Table 3-18 Raptor Species Observed at the Eastern Site During Fall Migration, 2008

Eastern Site	BTB[1]	WAT[1]	H[1]	Grand Total[2]
Northern Harrier	1 (1)	0 (0)	0 (0)	**1 (1)**
Red-tailed Hawk	2 (2)	4 (5)	2 (4)	**8 (11)**
Rough-legged Hawk	1 (1)	0 (0)	1 (1)	**2 (2)**
Turkey Vulture	6 (16)	19 (59)	11 (20)	**36 (95)**
Grand Total	**10 (20)**	**23 (64)**	**14 (25)**	**47 (109)**

Notes:

1. Data presented are number of observations (number of individual birds in parentheses) observed in each area.

2. The total number of observations (total number of individual birds in parentheses).

3.2.2.2 Western Station

The western survey station was situated outside and to the southwest of the Ripley Wind Farm, and approximately 4.5 km east of Lake Huron. A total of 606 observations and 22,478 individuals were recorded during the fall migration survey at this station. These numbers, as well as the overall heights of the bird groups observed, are presented below in Table 3-19.

Table 3-19 Bird Groups Observed at the Western Site During Fall Migration, 2008

Fall Western Site	Height			
	BTB[1]	WAT[1]	H[1]	Grand Total[2]
Landbird	86% (88%)	13% (9%)	1% (3%)	**376 (12534)**
Raptor	47% (46%)	34% (39%)	19% (15%)	**91 (241)**
Shorebird	42% (27%)	33% (58%)	25% (15%)	**12 (104)**
Waterbird	33% (33%)	50% (64%)	17% (2%)	**84 (6309)**
Waterfowl	42% (65%)	40% (24%)	19% (11%)	**43 (3290)**
Grand Total	**69% (68%)**	**23% (27%)**	**8% (4%)**	**606 (22478)**

Notes:

1. Data presented are percentage of observations (percentage of individual birds in parentheses) observed in each area.

2. The total number of observations (total number of individual birds in parentheses)

Overall at this station, the greatest proportion of birds was recorded flying at BTB (0-40 m) height (69% of observations and 68% of all individuals). A notably smaller proportion of birds were recorded at WAT (40-100m) heights (23% of observations and 27% of all individuals), with a very small amount flying at H (over 100 m) heights (8% of observations and 4% of all individuals). Thus the vast majority of birds were flying below the high-risk rotor-sweep zone at this station. The heights of bird species are presented in Table 3-20.

Ninety-one observations were made of raptors, for a total of 241 individuals noted at this station. This included one Bald Eagle; five observations of individual Cooper's Hawk; one Merlin; one Northern Goshawk; nine observations of individual Northern Harrier; one Osprey; two observations of individual Red-tailed Hawk; seven observations (eight individuals) of Rough-legged Hawk; 10 observations of individual Sharp-shinned Hawk; and 54 Turkey Vulture observations (202 individuals).

At this site, raptors were observed flying most frequently at BTB heighT (47% of observations and 46% of all individuals); though a notable proportion were recorded within the rotor-swept zone height of WAT (34% of observations and 39% of all individuals), with a smaller proportion recorded flying at H height (19% of observations and only 15% of all individual raptors). Raptors represented 15% of bird species observed at this station.

Table 3-20 Raptor Species Observed at the Western Site During Fall Migration, 2008

Western Site	Height			
	BTB[1]	WAT[1]	H[1]	Grand Total[2]
Bald Eagle	0 (0)	1 (1)	0 (0)	**1 (1)**
Cooper's Hawk	3 (3)	2 (2)	0 (0)	**5 (5)**
Merlin	1 (1)	0 (0)	0 (0)	**1 (1)**
Northern Goshawk	0 (0)	0 (0)	1 (1)	**1 (1)**
Northern Harrier	9 (9)	0 (0)	0 (0)	**9 (9)**
Osprey	1 (1)	0 (0)	0 (0)	**1 (1)**
Red-tailed Hawk	0 (0)	2 (2)	0 (0)	**2 (2)**
Rough-legged Hawk	2 (2)	5 (6)	0 (0)	**7 (8)**
Sharp-shinned Hawk	3 (3)	7 (8)	0 (0)	**10 (11)**
Turkey Vulture	24 (92)	14 (74)	16 (36)	**54 (202)**
Grand Total	**43 (111)**	**76 (93)**	**17 (37)**	**91 (241)**

Notes:

1. Data presented are percentage of observations (percentage of individual birds in parentheses) observed in each area.

2. The total number of observations (total number of individual birds in parentheses)

3.3 Species of Conservation Concern

Several species of conservation concern were identified during the mortality monitoring (carcass searches) and the avian monitoring portions of the post-construction program; these are presented in Table 3-21 below. As per the MNR, species ranked as S3 are considered vulnerable in within the province or country due to factors such as restricted range, relatively few populations (such as 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation. Species ranked as S2 are considered imperiled in the province or the country because of rarity due to similar factors, such as rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation.

One Cooper's Hawk, which was recovered during carcass searches in April, has been listed by COSEWIC and SARA as Not At Risk (NAR). Although not ranked through COSEWIC or SARA, several bat species of conservation concern according to MNR rankings, were found during the mortality monitoring program. These included: Eastern Pipistrelle, which is ranked as S3; Eastern Small-footed Bat, ranked at S2S3; and the Northern Long-eared Bat, which is ranked at S3. However, all of the bat species recovered during the carcass searches are common in Bruce County and throughout Ontario.

Table 3-21 Species of Conservation Concern

English Name	Latin Name	Breeding	Fall	SRank	COSEWIC	SARA	BCR 13
Mammal							
[1]Eastern Pipistrelle	*Pipistrellus subflavus*	-	-	S3?	-	-	
[1]Eastern Small-footed Bat	*Myotis leibii*	-	-	S2S3	-	-	
[1]Northern Long-eared Bat	*Myotis septentrionalis*	-	-	S3?	-	-	
Bird							
American Golden Plover	*Pluvialis dominica*		X	S1B	-	-	
Canvasback	*Aythya valisneria*		X	S1B, S2N	-	-	
Northern Shrike	*Lanius excubitor*		X	S2S3B	-	-	
Red-throated Loon	*Gavia stellata*		X	S1S2B	-	-	
Rusty Blackbird	*Euphagus carolinus*		X	S4B	SC	SC	

Footnote 1: Species recovered in mortality monitoring.
Footnote 2: This species was recovered in mortality monitoring as well as observed during fall avian monitoring program.
Note: NHIC Status: S1: Critically imperiled in the province because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state/province.S2: Imperiled in the province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province.S3: Vulnerable in the province due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation. S4: Uncommon but not rare; some cause for long-term concern due to declines or other factors. S5: Secure. Common, widespread, and abundant in the province. SNA; conservation status rank is not applicable because the species is not a suitable target for conservation activities. B; Breeding, SNR; Not ranked, NAR; not at risk.

During the avian monitoring portion of the post-construction monitoring program, several species of conservation concern were observed, including six separate instances of Rusty Blackbird (*Euphagus carolinus*), with a total of 15 individuals. Rusty Blackbird was ranked by COSEWIC in April of 2006 as a species of *Special Concern.* Over 70% the Rusty Blackbird's breeding range is in Canada's boreal forest (COSEWIC 2008). The species has experienced a severe decline in numbers which appears to be ongoing, with no evidence to suggest that this trend will be reversed. Threats to this species occur primarily on the winter range and include habitat conversion and blackbird control programs in the United States.

Other species of conservation concern are those ranked by the MNR in the NHIC as S1, S2, or S3. These included Canvasback, American Golden Plover, Red-throated Loon, and Northern Shrike. Species listed as S1 by NHIC (NHIC, 2008) are those considered *Critically Imperiled* in the nation or province because of its extreme rarity, or due to factors such as very steep declines making it especially vulnerable to extirpation from the province. Those species ranked S2 are considered

Imperiled in the nation or province because of rarity due to very restricted range, very few populations, steep declines, or other factors making it very vulnerable to extirpation from the nation or province. Those species listed as S3 are considered *Vulnerable* in the nation or province due to a restricted range, relatively few populations, recent and widespread declines, or other factors making it vulnerable to extirpation.

A flock of 18 Canvasback was observed during the fall diurnal migration surveys, flying greater than 100 m above in a southerly direction. Canvasback are ranked by NHIC as S1B, S2N. Rough-legged Hawk was observed on nine occasions, for a total of 10 individuals. NHIC ranked Rough-legged Hawk as S1B, and it is ranked by COSEWIC as Not At Risk (NAR). American Golden Plover is ranked as S1B, and was observed on five occasions with a total of 61 individuals recorded. One Northern Shrike was observed during fall migration surveys, and is ranked by NHIC as S2S3B. Thirteen observations were made of Red-throated Loon during fall migration surveys, for a total of 24 individuals, flying north-westerly often at or *above* the rotor-swept zone (greater than 40 m). An additional species of note was Double-crested Cormorant, ranked as NAR by COSEWIC. Six observations were made of this species, for a total of 47 individuals. Additional species ranked NAR by COSEWIC include; Bald Eagle, Northern Harrier, Sharp-shinned Hawk, Cooper's Hawk, Northern Goshawk, Red-tailed Hawk, and Merlin.

4.0 CONCLUSION

The Ripley Wind Farm post-construction monitoring program was undertaken to provide data on the effect of the wind farm on birds and bats during the breeding bird season and spring and fall migration. The results of the carcass searches yielded mortality rates within expected ranges, as compared to literature reviewed for the preparation of this document. In total, 120 bat carcasses were located during the mortality monitoring, and 31 avian carcasses. When the mortality estimate correction equation is applied to these numbers, taking into account scavenger impact trial and searcher efficiency trial results, the estimated number of bird and bat fatalities for the six-month monitoring season is 3.01 birds per turbine per monitoring period, and 1.5 birds per MW per monitoring period; as well as 13 bats per turbine per monitoring period, and 6.49 bats per MW per monitoring period. Arnett et al. (2007) reported 11.7 bird fatalities per MW at the Buffalo Mountain facility in Tennessee, which is one of the highest rate of bird mortality recorded in North America. The Melancthon I Wind Plant is situated approximately 125 km east of the Ripley Wind Farm. Fatalities at this wind farm were 0.2 bats per turbine and 1.0 birds per turbine in the spring monitoring, and 4.2 bats per turbine and 0.3 birds per turbine during fall monitoring. It should be noted, however, that methodologies differed between the Ripley Wind Farm 2008 monitoring protocol and the Melancthon I 2007 monitoring protocol, as the protocol was more intensive in nature at the Ripley Wind Farm. Arnett et al. (2008) report fatalities ranging between 0.1 to 69.6 bats per turbine or 0.2 to 53.3 bats per MW.

With regards to the avian monitoring, observations made during the breeding season are comparable to those made during pre-construction surveys in 2004, and are typical of the area, showing the expected low species diversity due to the low diversity and quality of breeding habitat in the area. The observations made during the fall migration surveys cannot be directly correlated to the results of the pre-construction fall migration surveys given that methodology recommended by Environment Canada differed, although avian numbers observed during the post-construction migration surveys were notably greater than those recorded during pre-construction fall migration surveys. It should be noted that no staging areas or points of bird concentration were noted during the avian monitoring, nor were

migrating birds observed dramatically altering their flight path in an attempt to avoid the Ripley Wind Farm. As discussed in section 3.3, three bat species located during carcass searches are listed by the MNR as species of conservation concern, and 15 species of birds.

It has been found that the bird mortality rates at the Ripley Wind Farm are similar to those observed elsewhere in Ontario, although bat mortality rates appear slightly higher than those observed at similar shoreline locations. However, both the bird and bat mortality rates are found overall to be lower than the rates observed at wind facilities of higher concern throughout North America. This report has been prepared on behalf of and for the exclusive use of Suncor and Acciona and its representatives for this project. This review only represents the literature available at the time of its preparation. The conclusions presented herein represent the best judgment of Jacques Whitford based on current knowledge and standards. Jacques Whitford attests that to the best of our knowledge, the information presented in this report is accurate.

Sincerely,

JACQUES WHITFORD STANTEC LIMITED

Original Signed By:

Rooly Georgopoulos, B.Sc.
Project Manager

Original Signed By:

Derek Ebner, M.Sc., P.Biol.
Senior Reviewer

Original Signed By:

Carla Korpijaakko, H.B.E.Sc.
Author

RG/DE/mcs

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APPENDIX A

Weather Data During the Ripley Post-construction Monitoring Program

Jacques Whitford

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
4/13/2008 19:20	320.7	NW	5.43				
4/13/2008 19:30	322.5	NW	5.63				
4/13/2008 19:40	320.7	NW	5.47				
4/13/2008 19:50	319.8	NW	5.62				
4/13/2008 20:00	317.4	NW	5.55				
4/13/2008 20:10	316.6	NW	5.68				
4/13/2008 20:20	316.2	NW	5.91				
4/13/2008 20:30	316.6	NW	5.77				
4/13/2008 20:40	320.5	NW	6.05				
4/13/2008 20:50	325.4	NW	6.07				
4/13/2008 21:00	328.6	NW	6				
4/13/2008 21:10	332.4	NW	6.06				
4/13/2008 21:20	331.7	NW	6.12				
4/13/2008 21:30	333	NW	6.22				
4/13/2008 21:40	331.4	NW	6.04	4.5	-1	1.8	0
4/13/2008 21:50	329.6	NW	5.85				
4/13/2008 22:00	332.2	NW	5.53				
4/13/2008 22:10	337.9	N	5.51				
4/13/2008 22:20	344.7	N	5.23				
4/13/2008 22:30	349.4	N	5.57				
4/13/2008 22:40	354.4	N	6.37				
4/13/2008 22:50	0.48	N	6.15				
4/13/2008 23:00	1.17	N	6.45				
4/13/2008 23:10	3.37	N	6.41				
4/13/2008 23:20	4.34	N	6.6				
4/13/2008 23:30	3.2	N	6.35				
4/13/2008 23:40	1.82	N	6.29				
4/13/2008 23:50	2.16	N	6.39				
4/14/2008 0:00	1.64	N	6.05				
4/14/2008 0:10	3.07	N	5.95				
4/14/2008 0:20	5.39	N	5.76				
4/14/2008 0:30	5.24	N	5.86				
4/14/2008 0:40	7.26	N	6.3				
4/14/2008 0:50	11.16	N	6.67				
4/14/2008 1:00	12.33	N	6.47				
4/14/2008 1:10	13.32	N	6.07				
4/14/2008 1:20	11.41	N	5.78				
4/14/2008 1:30	9.65	N	5.76				
4/14/2008 1:40	9.89	N	6.23				
4/14/2008 1:50	10.27	N	6.37				
4/14/2008 2:00	12.71	N	6.29				
4/14/2008 2:10	14.64	N	6.77				
4/14/2008 2:20	15.9	N	6.63				
4/14/2008 2:30	16.71	N	6.54				
4/14/2008 2:40	18.69	N	6.6				
4/14/2008 2:50	19.17	N	6.08				
4/14/2008 3:00	20.94	N	5.82				
4/14/2008 3:10	24.61	NE	6.23				
4/14/2008 3:20	26.09	NE	6.03				
4/14/2008 3:30	26.34	NE	5.87				
4/14/2008 3:40	28.9	NE	5.69				
4/14/2008 3:50	29.06	NE	5.57				
4/14/2008 4:00	32.34	NE	5.82				
4/14/2008 4:10	34.47	NE	6.47				
4/14/2008 4:20	34.73	NE	6.58				
4/14/2008 4:30	33.28	NE	6.87				
4/14/2008 4:40	33.54	NE	6.91				
4/14/2008 4:50	31.77	NE	6.95				
4/14/2008 5:00	30.87	NE	7.19				
4/14/2008 5:10	30.25	NE	7.46				
4/14/2008 5:20	30.14	NE	7.5				
4/14/2008 5:30	31.47	NE	7.29				
4/14/2008 5:40	31.43	NE	7.2				
4/14/2008 5:50	31.7	NE	6.96				
4/14/2008 6:00	30.71	NE	6.93	5	-1	2	0
4/14/2008 6:10	30.22	NE	7.12				
4/14/2008 6:20	29.52	NE	6.9				
4/14/2008 6:30	27.91	NE	6.65				
4/14/2008 6:40	28.84	NE	5.92				
4/14/2008 6:50	29.61	NE	5.59				
4/14/2008 7:00	32.07	NE	5.15				
4/14/2008 19:00	348	N	4.13				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
4/14/2008 19:10	347.9	N	3.7				
4/14/2008 19:20	353.4	N	3.29				
4/14/2008 19:30	349.2	N	3.4				
4/14/2008 19:40	347.9	N	3.45				
4/14/2008 19:50	350.5	N	3.13				
4/14/2008 20:00	355.6	N	3.29				
4/14/2008 20:10	2.41	N	2.95				
4/14/2008 20:20	6.7	N	2.15				
4/14/2008 20:30	11.88	N	1.69				
4/14/2008 20:40	10.95	N	1.76				
4/14/2008 20:50	7.24	N	2.53				
4/14/2008 21:00	9.57	N	2.82				
4/14/2008 21:10	15.64	N	2.55				
4/14/2008 21:20	10.39	N	2.15				
4/14/2008 21:30	0.44	N	2.3				
4/14/2008 21:40	2.46	N	2.25				
4/14/2008 21:50	354.7	N	2.11				
4/14/2008 22:00	350.4	N	2.18				
4/14/2008 22:10	353.5	N	2.78				
4/14/2008 22:20	6.48	N	1.45				
4/14/2008 22:30	8.5	N	2.46				
4/14/2008 22:40	16.01	N	2.42				
4/14/2008 22:50	24.57	NE	1.71				
4/14/2008 23:00	25.42	NE	1.52				
4/14/2008 23:10	26.4	NE	1.38				
4/14/2008 23:20	9.72	N	1.57				
4/14/2008 23:30	0.48	N	1.6				
4/14/2008 23:40	353.9	N	1.77				
4/14/2008 23:50	350.7	N	2				
4/15/2008 0:00	352.8	N	1.51				
4/15/2008 0:10	339.4	N	0.95				
4/15/2008 0:20	322.5	NW	0.42				
4/15/2008 0:30	309.4	NW	0.95				
4/15/2008 0:40	294.6	NW	0.96				
4/15/2008 0:50	303.4	NW	0.57				
4/15/2008 1:00	319.7	NW	1.17				
4/15/2008 1:10	348.8	N	1.2				
4/15/2008 1:20	314.2	NW	0.39				
4/15/2008 1:30	282.7	W	0.85				
4/15/2008 1:40	225	SW	2.27				
4/15/2008 1:50	222.1	SW	2.28				
4/15/2008 2:00	232.6	SW	1.97				
4/15/2008 2:10	230.3	SW	3.41				
4/15/2008 2:20	230.5	SW	3.95				
4/15/2008 2:30	231.3	SW	4.92				
4/15/2008 2:40	236.3	SW	5.15				
4/15/2008 2:50	237	SW	5.01				
4/15/2008 3:00	237.3	SW	4.77				
4/15/2008 3:10	237.5	SW	4.45				
4/15/2008 3:20	234.2	SW	4.05				
4/15/2008 3:30	226.5	SW	3.93				
4/15/2008 3:40	220.5	SW	3.84				
4/15/2008 3:50	225.5	SW	4.32				
4/15/2008 4:00	228	SW	4.97				
4/15/2008 4:10	227.6	SW	5.01				
4/15/2008 4:20	227.4	SW	4.87				
4/15/2008 4:30	226.9	SW	4.79				
4/15/2008 4:40	223.8	SW	4.81				
4/15/2008 4:50	224.3	SW	4.94				
4/15/2008 5:00	222.7	SW	5.28				
4/15/2008 5:10	223.6	SW	5.3				
4/15/2008 5:20	221.1	SW	5.05				
4/15/2008 5:30	221.6	SW	5.02				
4/15/2008 5:40	225.4	SW	5.2				
4/15/2008 5:50	222.6	SW	5.13				
4/15/2008 6:00	219.7	SW	5.29	No Data	No Data	No Data	No Data
4/15/2008 6:10	215	SW	5.47				
4/15/2008 6:20	205.7	SW	5.27				
4/15/2008 6:30	203.6	SW	5.43				
4/15/2008 6:40	211.2	SW	5.96				
4/15/2008 6:50	213.1	SW	5.96				
4/15/2008 7:00	215	SW	5.74				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
4/15/2008 19:00	193.9	S	8.87				
4/15/2008 19:10	192.3	S	8.8				
4/15/2008 19:20	193.3	S	8.7				
4/15/2008 19:30	194	S	8.2				
4/15/2008 19:40	193	S	8.5				
4/15/2008 19:50	194.5	S	8.66				
4/15/2008 20:00	195.6	S	8.58				
4/15/2008 20:10	197.1	S	8.29				
4/15/2008 20:20	195.2	S	7.96				
4/15/2008 20:30	193.1	S	8.46				
4/15/2008 20:40	190.7	S	9.05				
4/15/2008 20:50	191	S	9.89				
4/15/2008 21:00	190.6	S	10.26				
4/15/2008 21:10	188.5	S	9.87				
4/15/2008 21:20	189.7	S	9.94				
4/15/2008 21:30	192.1	S	9.96				
4/15/2008 21:40	191.3	S	9.58				
4/15/2008 21:50	189.9	S	10.01				
4/15/2008 22:00	189.6	S	10.12				
4/15/2008 22:10	186.3	S	9.4				
4/15/2008 22:20	187.1	S	9.33				
4/15/2008 22:30	188.7	S	10.04				
4/15/2008 22:40	193.9	S	10.04				
4/15/2008 22:50	194	S	9.44				
4/15/2008 23:00	193.6	S	9.49				
4/15/2008 23:10	192.7	S	9.84				
4/15/2008 23:20	193.7	S	9.03				
4/15/2008 23:30	193.7	S	9.46				
4/15/2008 23:40	194	S	9.47				
4/15/2008 23:50	194.8	S	9.12				
4/16/2008 0:00	194.4	S	8.69				
4/16/2008 0:10	195.4	S	8.98				
4/16/2008 0:20	197.3	S	9.13				
4/16/2008 0:30	197.3	S	8.88				
4/16/2008 0:40	197.6	S	8.74				
4/16/2008 0:50	198.6	S	9.17				
4/16/2008 1:00	199	S	9.45				
4/16/2008 1:10	200.4	S	9.39				
4/16/2008 1:20	200.7	S	9.19				
4/16/2008 1:30	198.7	S	9.7				
4/16/2008 1:40	198.1	S	9.21				
4/16/2008 1:50	200.1	S	9.26				
4/16/2008 2:00	198.7	S	8.41				
4/16/2008 2:10	200.4	S	8.04				
4/16/2008 2:20	198.7	S	8.25				
4/16/2008 2:30	196.4	S	8.69				
4/16/2008 2:40	196.7	S	8.49				
4/16/2008 2:50	195.2	S	8.77				
4/16/2008 3:00	194.1	S	9				
4/16/2008 3:10	193.4	S	8.88				
4/16/2008 3:20	192.1	S	8.18				
4/16/2008 3:30	192.6	S	7.66				
4/16/2008 3:40	188.3	S	7.54				
4/16/2008 3:50	185.5	S	7.78				
4/16/2008 4:00	183	S	8.1				
4/16/2008 4:10	181.8	S	8.64				
4/16/2008 4:20	181	S	8.98				
4/16/2008 4:30	182.1	S	8.73				
4/16/2008 4:40	182.7	S	8.84				
4/16/2008 4:50	182.7	S	8.84				
4/16/2008 5:00	186	S	8.76				
4/16/2008 5:10	188.9	S	8.77				
4/16/2008 5:20	190.3	S	8.7				
4/16/2008 5:30	189.2	S	8.76				
4/16/2008 5:40	188.2	S	8.28				
4/16/2008 5:50	185.7	S	8.23				
4/16/2008 6:00	184.3	S	8.12	No Data	No Data	No Data	No Data
4/16/2008 6:10	184.5	S	8.09				
4/16/2008 6:20	188.9	S	8.56				
4/16/2008 6:30	192.4	S	9.13				
4/16/2008 6:40	191.9	S	9.25				
4/16/2008 6:50	194.1	S	8.83				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
4/16/2008 7:00	193.6	S	9.09				
4/16/2008 19:00	179.7	S	12.82				
4/16/2008 19:10	178.9	S	13.07				
4/16/2008 19:20	179.3	S	12.72				
4/16/2008 19:30	181.4	S	12.31				
4/16/2008 19:40	183.6	S	11.94				
4/16/2008 19:50	185.8	S	11.82				
4/16/2008 20:00	187.3	S	12.17				
4/16/2008 20:10	188.4	S	11.85				
4/16/2008 20:20	187.5	S	11.86				
4/16/2008 20:30	185.9	S	11.88				
4/16/2008 20:40	183.9	S	12.2				
4/16/2008 20:50	182.4	S	11.91				
4/16/2008 21:00	181.4	S	11.67				
4/16/2008 21:10	181.3	S	11.81				
4/16/2008 21:20	181.1	S	12.59				
4/16/2008 21:30	185.7	S	12.4				
4/16/2008 21:40	190.6	S	12.54				
4/16/2008 21:50	190	S	12.55				
4/16/2008 22:00	189.1	S	12.31				
4/16/2008 22:10	190.5	S	12.34				
4/16/2008 22:20	191.8	S	12.5				
4/16/2008 22:30	193.2	S	11.93				
4/16/2008 22:40	191.3	S	13.07				
4/16/2008 22:50	192.2	S	12.8				
4/16/2008 23:00	194.5	S	12.08				
4/16/2008 23:10	196.4	S	11.26				
4/16/2008 23:20	197.1	S	11.08				
4/16/2008 23:30	200	S	10.71				
4/16/2008 23:40	201.9	S	11.59				
4/16/2008 23:50	201.8	S	11.96				
4/17/2008 0:00	200.4	S	12.26				
4/17/2008 0:10	200.7	S	12.24				
4/17/2008 0:20	201.1	S	11.71				
4/17/2008 0:30	201.8	S	11.33				
4/17/2008 0:40	202	S	11.27				
4/17/2008 0:50	200.1	S	10.9				
4/17/2008 1:00	201.2	S	11.35				
4/17/2008 1:10	200	S	10.94				
4/17/2008 1:20	200.7	S	10.84				
4/17/2008 1:30	201.4	S	11.12				
4/17/2008 1:40	201	S	10.89				
4/17/2008 1:50	200.3	S	11.07				
4/17/2008 2:00	200.5	S	10.58				
4/17/2008 2:10	200.6	S	10.73				
4/17/2008 2:20	201.2	S	10.29				
4/17/2008 2:30	200.3	S	10.55				
4/17/2008 2:40	200.3	S	9.68				
4/17/2008 2:50	200.4	S	9.18				
4/17/2008 3:00	198.7	S	9.36				
4/17/2008 3:10	200.9	S	9.67				
4/17/2008 3:20	202.8	SW	10.27				
4/17/2008 3:30	202.1	S	10.7				
4/17/2008 3:40	202.7	SW	10.42				
4/17/2008 3:50	202.6	SW	10.27				
4/17/2008 4:00	204.1	SW	9.89				
4/17/2008 4:10	201.1	S	9.92				
4/17/2008 4:20	201.9	S	9.66				
4/17/2008 4:30	202.6	SW	9.95				
4/17/2008 4:40	201.7	S	9.15				
4/17/2008 4:50	201.7	S	8.21				
4/17/2008 5:00	199.5	S	8.3				
4/17/2008 5:10	197.7	S	8.46				
4/17/2008 5:20	196.6	S	9.38				
4/17/2008 5:30	195	S	9.28				
4/17/2008 5:40	196.7	S	8.42				
4/17/2008 5:50	196.1	S	7.81				
4/17/2008 6:00	193	S	7.78	20.5	10	15.3	0
4/17/2008 6:10	194.7	S	8.66				
4/17/2008 6:20	195.3	S	8.12				
4/17/2008 6:30	191.4	S	8.44				
4/17/2008 6:40	186.2	S	8.58				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
4/17/2008 6:50	186	S	8.48				
4/17/2008 7:00	183.8	S	7.42				
4/17/2008 19:00	197.4	S	5.76				
4/17/2008 19:10	197.8	S	6.18				
4/17/2008 19:20	198.9	S	6.31				
4/17/2008 19:30	199.6	S	6.25				
4/17/2008 19:40	197.9	S	5.91				
4/17/2008 19:50	195.5	S	5.86				
4/17/2008 20:00	195.4	S	6.19				
4/17/2008 20:10	196.5	S	6.24				
4/17/2008 20:20	195.7	S	6.24				
4/17/2008 20:30	191.9	S	5.57				
4/17/2008 20:40	189.4	S	5.94				
4/17/2008 20:50	188.3	S	5.39				
4/17/2008 21:00	184.1	S	5.34				
4/17/2008 21:10	171.9	S	4.43				
4/17/2008 21:20	162.3	S	4.77				
4/17/2008 21:30	155.5	SE	4.81				
4/17/2008 21:40	144.6	SE	5.01				
4/17/2008 21:50	147.2	SE	4.93				
4/17/2008 22:00	167.7	S	5.67				
4/17/2008 22:10	175.4	S	5.94				
4/17/2008 22:20	167.3	S	6.09				
4/17/2008 22:30	164.2	S	6.01				
4/17/2008 22:40	168.6	S	6.44				
4/17/2008 22:50	168.7	S	6.67				
4/17/2008 23:00	167.9	S	6.97				
4/17/2008 23:10	171.1	S	7.13				
4/17/2008 23:20	172.3	S	7.03				
4/17/2008 23:30	176.6	S	7.05				
4/17/2008 23:40	176.3	S	7.34				
4/17/2008 23:50	180.4	S	7.96				
4/18/2008 0:00	179.8	S	7.77				
4/18/2008 0:10	178.6	S	7.28				
4/18/2008 0:20	178.3	S	6.81				
4/18/2008 0:30	176.3	S	6.94				
4/18/2008 0:40	175.5	S	7.23				
4/18/2008 0:50	178.7	S	7.02				
4/18/2008 1:00	178.3	S	6.68				
4/18/2008 1:10	181.1	S	6.72				
4/18/2008 1:20	185.3	S	6.6				
4/18/2008 1:30	186.3	S	6.43				
4/18/2008 1:40	188.6	S	6.41				
4/18/2008 1:50	190.4	S	6.52				
4/18/2008 2:00	190.9	S	6.59				
4/18/2008 2:10	189.8	S	6.82				
4/18/2008 2:20	188.6	S	6.8				
4/18/2008 2:30	187.9	S	6.63				
4/18/2008 2:40	188.4	S	6.81				
4/18/2008 2:50	193	S	7.15				
4/18/2008 3:00	194.5	S	7.33				
4/18/2008 3:10	191.4	S	7.62				
4/18/2008 3:20	191.5	S	7.54				
4/18/2008 3:30	192	S	7.44				
4/18/2008 3:40	192.7	S	7.24				
4/18/2008 3:50	189.1	S	6.7				
4/18/2008 4:00	183.3	S	6.33				
4/18/2008 4:10	181.3	S	6.3				
4/18/2008 4:20	181.3	S	6.56				
4/18/2008 4:30	177.1	S	6.91				
4/18/2008 4:40	176.5	S	6.95				
4/18/2008 4:50	177.6	S	7.1				
4/18/2008 5:00	175.3	S	7.26				
4/18/2008 5:10	171.5	S	6.86				
4/18/2008 5:20	171.4	S	7.29				
4/18/2008 5:30	172.5	S	7.47				
4/18/2008 5:40	169.4	S	7.55				
4/18/2008 5:50	169.5	S	7.33				
4/18/2008 6:00	173.2	S	7.57	24.5	10.5	17.5	0
4/18/2008 6:10	175.1	S	7.58				
4/18/2008 6:20	177	S	7.6				
4/18/2008 6:30	176.8	S	7.55				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
4/18/2008 6:40	176.8	S	7.87				
4/18/2008 6:50	176.6	S	8.04				
4/18/2008 7:00	180.4	S	7.91				
4/18/2008 19:00	184.4	S	6.14				
4/18/2008 19:10	181.6	S	5.34				
4/18/2008 19:20	182.1	S	5.83				
4/18/2008 19:30	185	S	5.99				
4/18/2008 19:40	185	S	6.01				
4/18/2008 19:50	184.7	S	6.43				
4/18/2008 20:00	184.4	S	7.04				
4/18/2008 20:10	179.8	S	6.28				
4/18/2008 20:20	177.8	S	5.9				
4/18/2008 20:30	177.9	S	6.56				
4/18/2008 20:40	172.1	S	6.79				
4/18/2008 20:50	167.4	S	7.18				
4/18/2008 21:00	170.1	S	7.01				
4/18/2008 21:10	167.3	S	7.29				
4/18/2008 21:20	161.7	S	7.3				
4/18/2008 21:30	154.7	SE	7.25				
4/18/2008 21:40	160.5	S	7.35				
4/18/2008 21:50	165.3	S	7.1				
4/18/2008 22:00	169.3	S	7.35				
4/18/2008 22:10	165.8	S	7.3				
4/18/2008 22:20	164.1	S	7.28				
4/18/2008 22:30	163.3	S	7.25				
4/18/2008 22:40	161.3	S	7.42				
4/18/2008 22:50	164.8	S	7.1				
4/18/2008 23:00	166.4	S	7.04				
4/18/2008 23:10	168.3	S	6.95				
4/18/2008 23:20	167.8	S	6.67				
4/18/2008 23:30	168.3	S	6.73				
4/18/2008 23:40	169.2	S	6.96				
4/18/2008 23:50	167	S	6.8				
4/19/2008 0:00	164.9	S	6.69				
4/19/2008 0:10	162.1	S	6.82				
4/19/2008 0:20	163.4	S	7.17				
4/19/2008 0:30	165.3	S	7.5				
4/19/2008 0:40	163.5	S	7.58				
4/19/2008 0:50	160.8	S	7.48				
4/19/2008 1:00	158.4	S	8.19				
4/19/2008 1:10	156.7	SE	8.59				
4/19/2008 1:20	154.5	SE	9.02				
4/19/2008 1:30	156.4	SE	9.39				
4/19/2008 1:40	154.9	SE	9.47				
4/19/2008 1:50	156.6	SE	9.66				
4/19/2008 2:00	155.6	SE	9.55				
4/19/2008 2:10	156.1	SE	9.59				
4/19/2008 2:20	156.2	SE	9.5				
4/19/2008 2:30	156.8	SE	9.38				
4/19/2008 2:40	159.2	S	9.57				
4/19/2008 2:50	159.9	S	9.51				
4/19/2008 3:00	161.1	S	9.15				
4/19/2008 3:10	165.1	S	8.22				
4/19/2008 3:20	154.7	SE	9.73				
4/19/2008 3:30	150.1	SE	10.12				
4/19/2008 3:40	148.7	SE	10.65				
4/19/2008 3:50	148.5	SE	10.44				
4/19/2008 4:00	148.3	SE	10.73				
4/19/2008 4:10	147.9	SE	11.04				
4/19/2008 4:20	146.1	SE	10.98				
4/19/2008 4:30	143.9	SE	10.73				
4/19/2008 4:40	142.4	SE	10.85				
4/19/2008 4:50	141	SE	10.89				
4/19/2008 5:00	140.7	SE	10.75				
4/19/2008 5:10	140.5	SE	10.63				
4/19/2008 5:20	141.5	SE	10.84				
4/19/2008 5:30	140	SE	10.77				
4/19/2008 5:40	138.5	SE	10.58				
4/19/2008 5:50	136.9	SE	10.43				
4/19/2008 6:00	134.1	SE	10.37	28	12	20	0
4/19/2008 6:10	132.6	SE	10.42				
4/19/2008 6:20	134	SE	10.5				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
4/19/2008 6:30	134.1	SE	10.26				
4/19/2008 6:40	132.9	SE	10.02				
4/19/2008 6:50	130.3	SE	9.66				
4/19/2008 7:00	127.9	SE	9.19				
4/19/2008 19:00	60.15	NE	3.42				
4/19/2008 19:10	57.46	NE	3.34				
4/19/2008 19:20	64.88	NE	3.71				
4/19/2008 19:30	70.5	E	3.06				
4/19/2008 19:40	108	E	2.05				
4/19/2008 19:50	206.6	SW	2.73				
4/19/2008 20:00	228.3	SW	4.65				
4/19/2008 20:10	235.8	SW	3.96				
4/19/2008 20:20	250	W	3.98				
4/19/2008 20:30	257.7	W	4				
4/19/2008 20:40	266	W	3.8				
4/19/2008 20:50	263.8	W	4.45				
4/19/2008 21:00	268.4	W	4.09				
4/19/2008 21:10	278.3	W	3.06				
4/19/2008 21:20	300.3	NW	2.64				
4/19/2008 21:30	319.4	NW	2.24				
4/19/2008 21:40	340.6	N	2.38				
4/19/2008 21:50	7.5	N	2.64				
4/19/2008 22:00	36.1	NE	3.02				
4/19/2008 22:10	45.35	NE	3.62				
4/19/2008 22:20	50.72	NE	4.45				
4/19/2008 22:30	44.66	NE	5.9				
4/19/2008 22:40	43.11	NE	6.83				
4/19/2008 22:50	50.22	NE	7.74				
4/19/2008 23:00	55.4	NE	6.84				
4/19/2008 23:10	60.32	NE	7.34				
4/19/2008 23:20	60.22	NE	7.82				
4/19/2008 23:30	63.47	NE	7.24				
4/19/2008 23:40	63.61	NE	6.57				
4/19/2008 23:50	62.44	NE	6.15				
4/20/2008 0:00	63.65	NE	6.11				
4/20/2008 0:10	60.38	NE	6.69				
4/20/2008 0:20	59.04	NE	6.79				
4/20/2008 0:30	58.79	NE	7.59				
4/20/2008 0:40	60.7	NE	7.74				
4/20/2008 0:50	60.67	NE	8.11				
4/20/2008 1:00	60.16	NE	7.67				
4/20/2008 1:10	59.12	NE	8.19				
4/20/2008 1:20	60.02	NE	8.68				
4/20/2008 1:30	62.48	NE	8.72				
4/20/2008 1:40	63.99	NE	8.48				
4/20/2008 1:50	70.2	E	8.6				
4/20/2008 2:00	79.8	E	9.18				
4/20/2008 2:10	82	E	9.06				
4/20/2008 2:20	83.6	E	8.95				
4/20/2008 2:30	89.8	E	8.74				
4/20/2008 2:40	90.2	E	7.74				
4/20/2008 2:50	90.8	E	7.47				
4/20/2008 3:00	93.3	E	7.66				
4/20/2008 3:10	92.7	E	7.56				
4/20/2008 3:20	99	E	7.99				
4/20/2008 3:30	105	E	8.76				
4/20/2008 3:40	107.5	E	9.08				
4/20/2008 3:50	107.1	E	9.09				
4/20/2008 4:00	111.9	E	8.94				
4/20/2008 4:10	113.9	SE	9.15				
4/20/2008 4:20	114.4	SE	8.66				
4/20/2008 4:30	113.4	SE	7.87				
4/20/2008 4:40	112.6	SE	6.76				
4/20/2008 4:50	116	SE	6.7				
4/20/2008 5:00	119.1	SE	6.16				
4/20/2008 5:10	112.7	SE	6.32				
4/20/2008 5:20	109	E	6.32				
4/20/2008 5:30	105.5	E	7				
4/20/2008 5:40	109.1	E	7.74				
4/20/2008 5:50	118.6	SE	8.14				
4/20/2008 6:00	118.3	SE	8.23	26.5	9	17.8	0
4/20/2008 6:10	115.8	SE	8.63				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
4/20/2008 6:20	115.6	SE	8.86				
4/20/2008 6:30	115.3	SE	8.65				
4/20/2008 6:40	114.9	SE	8.77				
4/20/2008 6:50	116.9	SE	9.29				
4/20/2008 7:00	118.4	SE	9.09				
4/20/2008 19:00	234.9	SW	4.62				
4/20/2008 19:10	223	SW	3.73				
4/20/2008 19:20	228.6	SW	4.12				
4/20/2008 19:30	237.4	SW	3.79				
4/20/2008 19:40	242.1	SW	2.79				
4/20/2008 19:50	257.8	W	2.52				
4/20/2008 20:00	254	W	2.44				
4/20/2008 20:10	250.5	W	2.17				
4/20/2008 20:20	256.7	W	2.04				
4/20/2008 20:30	260.6	W	1.71				
4/20/2008 20:40	258.2	W	0.87				
4/20/2008 20:50	225	SW	0.77				
4/20/2008 21:00	204.9	SW	1.02				
4/20/2008 21:10	202.2	S	0.86				
4/20/2008 21:20	204.1	SW	0.24				
4/20/2008 21:30	0	N	0				
4/20/2008 21:40	204	SW	0.2				
4/20/2008 21:50	203.8	SW	0.14				
4/20/2008 22:00	0	N	0				
4/20/2008 22:10	177	S	0				
4/20/2008 22:20	149.8	SE	0.54				
4/20/2008 22:30	125.6	SE	1.34				
4/20/2008 22:40	112.7	SE	1.8				
4/20/2008 22:50	118.8	SE	2.12				
4/20/2008 23:00	121.1	SE	2.44				
4/20/2008 23:10	125.1	SE	2.87				
4/20/2008 23:20	126.8	SE	3.36				
4/20/2008 23:30	131.8	SE	3.77				
4/20/2008 23:40	128.2	SE	4.19				
4/20/2008 23:50	124.4	SE	4.41				
4/21/2008 0:00	118.1	SE	4.6				
4/21/2008 0:10	113.8	SE	5.1				
4/21/2008 0:20	114.8	SE	4.99				
4/21/2008 0:30	115.2	SE	5.4				
4/21/2008 0:40	111.9	E	5.66				
4/21/2008 0:50	107	E	6.04				
4/21/2008 1:00	105.6	E	6.45				
4/21/2008 1:10	105.1	E	6.79				
4/21/2008 1:20	103.3	E	7.49				
4/21/2008 1:30	102.8	E	7.13				
4/21/2008 1:40	107.8	E	6.69				
4/21/2008 1:50	111.8	E	7.15				
4/21/2008 2:00	117	SE	7.24				
4/21/2008 2:10	116.4	SE	7.43				
4/21/2008 2:20	129.2	SE	7.97				
4/21/2008 2:30	132.3	SE	6.82				
4/21/2008 2:40	129.1	SE	6.36				
4/21/2008 2:50	132.5	SE	6.52				
4/21/2008 3:00	127.3	SE	6.47				
4/21/2008 3:10	122.4	SE	7.35				
4/21/2008 3:20	121	SE	7.8				
4/21/2008 3:30	125.4	SE	7.88				
4/21/2008 3:40	126.8	SE	8.53				
4/21/2008 3:50	126.9	SE	8.31				
4/21/2008 4:00	127.9	SE	8.36				
4/21/2008 4:10	121.6	SE	7.77				
4/21/2008 4:20	121.4	SE	7.7				
4/21/2008 4:30	123.7	SE	7.74				
4/21/2008 4:40	121.9	SE	7.74				
4/21/2008 4:50	119.2	SE	7.53				
4/21/2008 5:00	119.5	SE	7.9				
4/21/2008 5:10	120	SE	8.34				
4/21/2008 5:20	123.9	SE	8.09				
4/21/2008 5:30	126	SE	7.64				
4/21/2008 5:40	129.2	SE	7.7				
4/21/2008 5:50	131.8	SE	7.85				
4/21/2008 6:00	138.3	SE	7.93	21	11	16	0

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
4/21/2008 6:10	137.3	SE	8				
4/21/2008 6:20	135.9	SE	8.25				
4/21/2008 6:30	134.8	SE	7.82				
4/21/2008 6:40	134.3	SE	7.14				
4/21/2008 6:50	132.6	SE	6.76				
4/21/2008 7:00	134.9	SE	6.85				
4/21/2008 19:00	17.43	N	3.18				
4/21/2008 19:10	27.24	NE	2.95				
4/21/2008 19:20	39.36	NE	2.87				
4/21/2008 19:30	49.71	NE	2.47				
4/21/2008 19:40	43.67	NE	2.3				
4/21/2008 19:50	62.24	NE	1.77				
4/21/2008 20:00	82.5	E	1.91				
4/21/2008 20:10	97.4	E	1.77				
4/21/2008 20:20	105.2	E	1.78				
4/21/2008 20:30	112.3	E	1.8				
4/21/2008 20:40	115.7	SE	2.28				
4/21/2008 20:50	117.7	SE	2.67				
4/21/2008 21:00	118	SE	3.21				
4/21/2008 21:10	116.9	SE	4.14				
4/21/2008 21:20	125.5	SE	4.56				
4/21/2008 21:30	143.2	SE	5.21				
4/21/2008 21:40	141.3	SE	5.3				
4/21/2008 21:50	138.8	SE	5.77				
4/21/2008 22:00	142.8	SE	6.8				
4/21/2008 22:10	142.9	SE	7.04				
4/21/2008 22:20	140.7	SE	7.46				
4/21/2008 22:30	142.9	SE	8.63				
4/21/2008 22:40	141.5	SE	8.27				
4/21/2008 22:50	140.5	SE	7.88				
4/21/2008 23:00	139.4	SE	7.47				
4/21/2008 23:10	137.6	SE	6.98				
4/21/2008 23:20	137.7	SE	7.61				
4/21/2008 23:30	136.8	SE	7.68				
4/21/2008 23:40	137	SE	7.76				
4/21/2008 23:50	136.1	SE	7.6				
4/22/2008 0:00	134.5	SE	7.35				
4/22/2008 0:10	133.2	SE	7.79				
4/22/2008 0:20	133.4	SE	8.17				
4/22/2008 0:30	134.7	SE	8.28				
4/22/2008 0:40	135.6	SE	8.79				
4/22/2008 0:50	136.3	SE	9.01				
4/22/2008 1:00	136.7	SE	9.36				
4/22/2008 1:10	137.4	SE	9.39				
4/22/2008 1:20	137.9	SE	9.48				
4/22/2008 1:30	138.7	SE	9.5				
4/22/2008 1:40	138.5	SE	9.27				
4/22/2008 1:50	137.5	SE	8.91				
4/22/2008 2:00	138.1	SE	8.73				
4/22/2008 2:10	138.9	SE	8.85				
4/22/2008 2:20	139.4	SE	8.74				
4/22/2008 2:30	140.9	SE	8.64				
4/22/2008 2:40	140.5	SE	7.94				
4/22/2008 2:50	141.7	SE	8.12				
4/22/2008 3:00	142	SE	8.26				
4/22/2008 3:10	143.2	SE	8.46				
4/22/2008 3:20	145.4	SE	8.46				
4/22/2008 3:30	149	SE	8.63				
4/22/2008 3:40	149.6	SE	8.46				
4/22/2008 3:50	152.2	SE	8.24				
4/22/2008 4:00	158.1	S	7.71				
4/22/2008 4:10	160	S	7.57				
4/22/2008 4:20	159.1	S	7.01				
4/22/2008 4:30	163.7	S	7.08				
4/22/2008 4:40	165.2	S	7				
4/22/2008 4:50	168.8	S	7.09				
4/22/2008 5:00	173.7	S	7.26				
4/22/2008 5:10	176.1	S	6.99				
4/22/2008 5:20	172.5	S	6.93				
4/22/2008 5:30	172.1	S	7.07				
4/22/2008 5:40	168.2	S	6.95				
4/22/2008 5:50	171.4	S	6.94				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
4/22/2008 6:00	176	S	6.92	23	11.5	17.3	0
4/22/2008 6:10	177.1	S	6.91				
4/22/2008 6:20	174.8	S	6.7				
4/22/2008 6:30	174.6	S	6.44				
4/22/2008 6:40	179.3	S	6.62				
4/22/2008 6:50	177.3	S	6.27				
4/22/2008 7:00	176.1	S	5.91				
4/22/2008 19:00	198.1	S	4.15				
4/22/2008 19:10	196.3	S	4.54				
4/22/2008 19:20	200.8	S	5.05				
4/22/2008 19:30	195.8	S	5.17				
4/22/2008 19:40	188.8	S	5.12				
4/22/2008 19:50	186.5	S	5.43				
4/22/2008 20:00	181.3	S	5.34				
4/22/2008 20:10	178.6	S	5.8				
4/22/2008 20:20	179	S	6.39				
4/22/2008 20:30	176	S	6.97				
4/22/2008 20:40	176.5	S	7.36				
4/22/2008 20:50	182.1	S	6.99				
4/22/2008 21:00	187.8	S	6.84				
4/22/2008 21:10	185.7	S	6.67				
4/22/2008 21:20	182.2	S	6.55				
4/22/2008 21:30	178.5	S	7.01				
4/22/2008 21:40	178.2	S	7.46				
4/22/2008 21:50	178.4	S	7.6				
4/22/2008 22:00	179.8	S	7.72				
4/22/2008 22:10	180.8	S	7.97				
4/22/2008 22:20	182.8	S	7.71				
4/22/2008 22:30	181	S	7.86				
4/22/2008 22:40	181.2	S	7.99				
4/22/2008 22:50	181.1	S	8.13				
4/22/2008 23:00	182.5	S	7.8				
4/22/2008 23:10	182.5	S	7.63				
4/22/2008 23:20	181.8	S	7.6				
4/22/2008 23:30	181.7	S	7.82				
4/22/2008 23:40	182.7	S	7.73				
4/22/2008 23:50	183.6	S	7.28				
4/23/2008 0:00	184.1	S	7.43				
4/23/2008 0:10	183.5	S	7.64				
4/23/2008 0:20	185	S	7.68				
4/23/2008 0:30	187.2	S	7.48				
4/23/2008 0:40	187.1	S	7.36				
4/23/2008 0:50	187.8	S	7.39				
4/23/2008 1:00	188	S	7.3				
4/23/2008 1:10	186.5	S	7.57				
4/23/2008 1:20	185.2	S	7.79				
4/23/2008 1:30	186.7	S	7.74				
4/23/2008 1:40	186.9	S	7.2				
4/23/2008 1:50	185.4	S	7.05				
4/23/2008 2:00	183.7	S	7.06				
4/23/2008 2:10	182.2	S	7.13				
4/23/2008 2:20	182.1	S	7.01				
4/23/2008 2:30	183.1	S	7.32				
4/23/2008 2:40	183.1	S	7.43				
4/23/2008 2:50	184.5	S	7.71				
4/23/2008 3:00	185.5	S	7.23				
4/23/2008 3:10	188.5	S	7.28				
4/23/2008 3:20	192.9	S	7.03				
4/23/2008 3:30	201.4	S	6.2				
4/23/2008 3:40	224.6	SW	3.6				
4/23/2008 3:50	208.1	SW	4.71				
4/23/2008 4:00	203.7	SW	6.68				
4/23/2008 4:10	221.9	SW	6.92				
4/23/2008 4:20	261.7	W	4.83				
4/23/2008 4:30	235.8	SW	4.99				
4/23/2008 4:40	233.2	SW	4.87				
4/23/2008 4:50	214.5	SW	6.87				
4/23/2008 5:00	214.2	SW	6.47				
4/23/2008 5:10	217.4	SW	6.72				
4/23/2008 5:20	217.5	SW	7.16				
4/23/2008 5:30	219	SW	6.52				
4/23/2008 5:40	219.6	SW	6.66				

1 Measured at 57 m
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Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
4/23/2008 5:50	229.2	SW	6.71				
4/23/2008 6:00	244.3	SW	6.73	15	8.5	11.8	0
4/23/2008 6:10	257.4	W	5.69				
4/23/2008 6:20	265.7	W	4.89				
4/23/2008 6:30	281.6	W	4.7				
4/23/2008 6:40	289.8	W	5.39				
4/23/2008 6:50	308.2	NW	5.18				
4/23/2008 7:00	300.6	NW	5.64				
4/23/2008 19:00	356.6	N	6.5				
4/23/2008 19:10	5.33	N	6.23				
4/23/2008 19:20	4.94	N	6.56				
4/23/2008 19:30	5.25	N	6.7				
4/23/2008 19:40	359.5	N	6.09				
4/23/2008 19:50	354.7	N	5.82				
4/23/2008 20:00	352.4	N	4.43				
4/23/2008 20:10	358.2	N	4.35				
4/23/2008 20:20	352.2	N	3.66				
4/23/2008 20:30	346.9	N	4.47				
4/23/2008 20:40	336	NW	4.25				
4/23/2008 20:50	334.9	NW	3.67				
4/23/2008 21:00	337.4	NW	3.95				
4/23/2008 21:10	337.5	N	3.56				
4/23/2008 21:20	335.3	NW	3.54				
4/23/2008 21:30	332.7	NW	3.41				
4/23/2008 21:40	331.7	NW	2.72				
4/23/2008 21:50	332	NW	3.27				
4/23/2008 22:00	326.4	NW	3.64				
4/23/2008 22:10	333.9	NW	3.34				
4/23/2008 22:20	328.5	NW	2.37				
4/23/2008 22:30	315.2	NW	1.29				
4/23/2008 22:40	313.5	NW	1.74				
4/23/2008 22:50	310.1	NW	1.7				
4/23/2008 23:00	273.5	W	1.47				
4/23/2008 23:10	259.3	W	1.33				
4/23/2008 23:20	236.8	SW	1.48				
4/23/2008 23:30	241.5	SW	0.86				
4/23/2008 23:40	278.3	W	0.65				
4/23/2008 23:50	358.6	N	1.73				
4/24/2008 0:00	7.46	N	2.23				
4/24/2008 0:10	3.39	N	1.32				
4/24/2008 0:20	337.1	NW	0.96				
4/24/2008 0:30	30.21	NE	0.1				
4/24/2008 0:40	50.66	NE	0.72				
4/24/2008 0:50	130.7	SE	0.82				
4/24/2008 1:00	195.5	S	1.57				
4/24/2008 1:10	193.7	S	1.8				
4/24/2008 1:20	206.3	SW	2.13				
4/24/2008 1:30	185.5	S	1.3				
4/24/2008 1:40	106.9	E	1.28				
4/24/2008 1:50	89.6	E	1.21				
4/24/2008 2:00	112	E	0.99				
4/24/2008 2:10	69.6	E	2.27				
4/24/2008 2:20	58.23	NE	3.1				
4/24/2008 2:30	57.04	NE	3.03				
4/24/2008 2:40	57.75	NE	2.36				
4/24/2008 2:50	83.4	E	2.72				
4/24/2008 3:00	89.7	E	3.23				
4/24/2008 3:10	95.4	E	3.51				
4/24/2008 3:20	103.1	E	3.57				
4/24/2008 3:30	109.5	E	3.5				
4/24/2008 3:40	108	E	4.26				
4/24/2008 3:50	102.5	E	4.6				
4/24/2008 4:00	109.6	E	4.88				
4/24/2008 4:10	110	E	4.84				
4/24/2008 4:20	110.9	E	4.88				
4/24/2008 4:30	110.6	E	4.52				
4/24/2008 4:40	111.2	E	4.84				
4/24/2008 4:50	113.7	SE	4.88				
4/24/2008 5:00	118.4	SE	4.87				
4/24/2008 5:10	118	SE	5.03				
4/24/2008 5:20	117.2	SE	4.65				
4/24/2008 5:30	114.8	SE	4.76				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
4/24/2008 5:40	113.4	SE	4.76				
4/24/2008 5:50	113.2	SE	4.68				
4/24/2008 6:00	112.4	E	4.85	22	2	12	0
4/24/2008 6:10	110.6	E	4.55				
4/24/2008 6:20	110.8	E	4.69				
4/24/2008 6:30	115.1	SE	4.64				
4/24/2008 6:40	116	SE	4.72				
4/24/2008 6:50	117.6	SE	4.87				
4/24/2008 7:00	122.1	SE	5.04				
4/24/2008 19:00	54.13	NE	3.77				
4/24/2008 19:10	57.32	NE	3.62				
4/24/2008 19:20	66.94	NE	3.87				
4/24/2008 19:30	77.8	E	4.48				
4/24/2008 19:40	82.7	E	5.15				
4/24/2008 19:50	87.4	E	5.52				
4/24/2008 20:00	95.3	E	5.6				
4/24/2008 20:10	103.1	E	5.44				
4/24/2008 20:20	110.5	E	5.72				
4/24/2008 20:30	122.3	SE	6.15				
4/24/2008 20:40	133.3	SE	6.75				
4/24/2008 20:50	143.3	SE	8.05				
4/24/2008 21:00	146.8	SE	8.55				
4/24/2008 21:10	143.5	SE	8.67				
4/24/2008 21:20	141.8	SE	8.85				
4/24/2008 21:30	142.5	SE	8.78				
4/24/2008 21:40	142.2	SE	8.75				
4/24/2008 21:50	142.9	SE	8.51				
4/24/2008 22:00	143.2	SE	8.47				
4/24/2008 22:10	141.5	SE	8.84				
4/24/2008 22:20	139	SE	8.91				
4/24/2008 22:30	140.3	SE	9.52				
4/24/2008 22:40	141.2	SE	9.6				
4/24/2008 22:50	137.7	SE	9.13				
4/24/2008 23:00	138.7	SE	8.81				
4/24/2008 23:10	138.1	SE	9.51				
4/24/2008 23:20	135.4	SE	10.1				
4/24/2008 23:30	131.7	SE	10.33				
4/24/2008 23:40	132.3	SE	10.54				
4/24/2008 23:50	133.3	SE	10.03				
4/25/2008 0:00	135	SE	9.89				
4/25/2008 0:10	134	SE	9.98				
4/25/2008 0:20	132.6	SE	9.58				
4/25/2008 0:30	133.6	SE	9.18				
4/25/2008 0:40	133.1	SE	10.11				
4/25/2008 0:50	133.3	SE	10.18				
4/25/2008 1:00	132.4	SE	10.42				
4/25/2008 1:10	133.8	SE	10.44				
4/25/2008 1:20	135.6	SE	10.13				
4/25/2008 1:30	136.8	SE	9.75				
4/25/2008 1:40	139.8	SE	9.5				
4/25/2008 1:50	140.1	SE	9.61				
4/25/2008 2:00	140.3	SE	10.09				
4/25/2008 2:10	140.5	SE	10.02				
4/25/2008 2:20	141.1	SE	9.69				
4/25/2008 2:30	140.4	SE	10.28				
4/25/2008 2:40	139.5	SE	10.65				
4/25/2008 2:50	137.6	SE	10.12				
4/25/2008 3:00	137.7	SE	10.07				
4/25/2008 3:10	139.7	SE	10.28				
4/25/2008 3:20	139.5	SE	10.36				
4/25/2008 3:30	138.7	SE	10.32				
4/25/2008 3:40	137.5	SE	10.19				
4/25/2008 3:50	134.6	SE	10.78				
4/25/2008 4:00	135.1	SE	10.07				
4/25/2008 4:10	139	SE	10.33				
4/25/2008 4:20	138.9	SE	10.81				
4/25/2008 4:30	141.2	SE	10.31				
4/25/2008 4:40	146.4	SE	9.63				
4/25/2008 4:50	149.5	SE	9.56				
4/25/2008 5:00	156	SE	8.7				
4/25/2008 5:10	156	SE	8.04				
4/25/2008 5:20	156	SE	8.46				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
4/25/2008 5:30	155.4	SE	8.56				
4/25/2008 5:40	151.1	SE	8.82				
4/25/2008 5:50	148.8	SE	8.97				
4/25/2008 6:00	148.2	SE	9.18	24.5	13	18.8	1.4
4/25/2008 6:10	147.1	SE	9.67				
4/25/2008 6:20	148.2	SE	9.57				
4/25/2008 6:30	151	SE	9.73				
4/25/2008 6:40	154.8	SE	9.44				
4/25/2008 6:50	156.1	SE	9.56				
4/25/2008 7:00	159.3	S	8.84				
4/25/2008 19:00	168.6	S	8.98				
4/25/2008 19:10	165.1	S	8.54				
4/25/2008 19:20	163.7	S	8.54				
4/25/2008 19:30	162.7	S	9.1				
4/25/2008 19:40	161.3	S	8.87				
4/25/2008 19:50	162.7	S	8.89				
4/25/2008 20:00	159.7	S	9.1				
4/25/2008 20:10	162.8	S	9.01				
4/25/2008 20:20	162.4	S	9.02				
4/25/2008 20:30	162.4	S	9.11				
4/25/2008 20:40	158.5	S	9.27				
4/25/2008 20:50	153.4	SE	8.81				
4/25/2008 21:00	153.5	SE	8.93				
4/25/2008 21:10	155.9	SE	9.67				
4/25/2008 21:20	158.3	S	9.08				
4/25/2008 21:30	154.5	SE	8.98				
4/25/2008 21:40	154.9	SE	9.08				
4/25/2008 21:50	156.5	SE	8.57				
4/25/2008 22:00	149.3	SE	8				
4/25/2008 22:10	146.1	SE	8.87				
4/25/2008 22:20	146.8	SE	9.73				
4/25/2008 22:30	151.1	SE	8.94				
4/25/2008 22:40	152.1	SE	8.71				
4/25/2008 22:50	153.8	SE	9.27				
4/25/2008 23:00	154.9	SE	9.65				
4/25/2008 23:10	154.6	SE	9.96				
4/25/2008 23:20	154.5	SE	9.97				
4/25/2008 23:30	155.5	SE	9.7				
4/25/2008 23:40	152.8	SE	9.3				
4/25/2008 23:50	153.3	SE	9.64				
4/26/2008 0:00	155.2	SE	9.45				
4/26/2008 0:10	157.8	S	10.31				
4/26/2008 0:20	159.5	S	10.13				
4/26/2008 0:30	158	S	9.86				
4/26/2008 0:40	158.4	S	9.96				
4/26/2008 0:50	161	S	9.37				
4/26/2008 1:00	160.6	S	9.54				
4/26/2008 1:10	162.1	S	10.08				
4/26/2008 1:20	164.8	S	9.53				
4/26/2008 1:30	163.9	S	9.07				
4/26/2008 1:40	167.4	S	8.9				
4/26/2008 1:50	169.3	S	9.62				
4/26/2008 2:00	167.3	S	9.89				
4/26/2008 2:10	165.1	S	9.53				
4/26/2008 2:20	164.8	S	9.27				
4/26/2008 2:30	163.8	S	9.49				
4/26/2008 2:40	168	S	9.36				
4/26/2008 2:50	171.4	S	9.39				
4/26/2008 3:00	172.5	S	9.27				
4/26/2008 3:10	172.8	S	9.16				
4/26/2008 3:20	170.3	S	9.48				
4/26/2008 3:30	174.8	S	8.94				
4/26/2008 3:40	176.2	S	9.73				
4/26/2008 3:50	172.6	S	9.53				
4/26/2008 4:00	174.7	S	9.2				
4/26/2008 4:10	176.4	S	9.63				
4/26/2008 4:20	177.8	S	9.82				
4/26/2008 4:30	175.2	S	9.2				
4/26/2008 4:40	175.1	S	9.61				
4/26/2008 4:50	177	S	9.81				
4/26/2008 5:00	176.7	S	9.53				
4/26/2008 5:10	178.1	S	9.43				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
4/26/2008 5:20	179.6	S	8.94				
4/26/2008 5:30	182.6	S	8.71				
4/26/2008 5:40	182.5	S	8.75				
4/26/2008 5:50	183.8	S	8.44				
4/26/2008 6:00	186	S	9.06	15	9	12	0.8
4/26/2008 6:10	193.9	S	9.73				
4/26/2008 6:20	202.3	S	10.78				
4/26/2008 6:30	207.6	SW	11.76				
4/26/2008 6:40	207.3	SW	11.16				
4/26/2008 6:50	198.2	S	10.33				
4/26/2008 7:00	195.6	S	9.91				
4/26/2008 19:00	258.9	W	6.47				
4/26/2008 19:10	262.4	W	5.91				
4/26/2008 19:20	259.7	W	5.78				
4/26/2008 19:30	263.1	W	6.81				
4/26/2008 19:40	264.1	W	7.33				
4/26/2008 19:50	265.4	W	6.9				
4/26/2008 20:00	265.7	W	6.58				
4/26/2008 20:10	263.6	W	6.01				
4/26/2008 20:20	256.2	W	5.47				
4/26/2008 20:30	247.3	SW	5.22				
4/26/2008 20:40	227.7	SW	4.1				
4/26/2008 20:50	206.8	SW	4.1				
4/26/2008 21:00	187.7	S	4.29				
4/26/2008 21:10	190.4	S	4.67				
4/26/2008 21:20	192.4	S	4.69				
4/26/2008 21:30	202.8	SW	5.13				
4/26/2008 21:40	220.8	SW	6.51				
4/26/2008 21:50	226.5	SW	6.28				
4/26/2008 22:00	221.9	SW	5.73				
4/26/2008 22:10	217.2	SW	5.18				
4/26/2008 22:20	204	SW	4.96				
4/26/2008 22:30	204.1	SW	5.26				
4/26/2008 22:40	189.3	S	5.39				
4/26/2008 22:50	186.6	S	5.49				
4/26/2008 23:00	189.4	S	5.69				
4/26/2008 23:10	192.5	S	6.55				
4/26/2008 23:20	198.9	S	6.72				
4/26/2008 23:30	204.9	SW	6.93				
4/26/2008 23:40	206.7	SW	7.08				
4/26/2008 23:50	204	SW	7.47				
4/27/2008 0:00	202.4	S	8				
4/27/2008 0:10	204.3	SW	8.38				
4/27/2008 0:20	208.4	SW	8.44				
4/27/2008 0:30	203.1	SW	7.27				
4/27/2008 0:40	206.5	SW	7.9				
4/27/2008 0:50	209	SW	7.92				
4/27/2008 1:00	205.2	SW	7.47				
4/27/2008 1:10	206.1	SW	8				
4/27/2008 1:20	205.7	SW	8.35				
4/27/2008 1:30	207.1	SW	8.1				
4/27/2008 1:40	210.3	SW	7.9				
4/27/2008 1:50	212.2	SW	8.24				
4/27/2008 2:00	211.7	SW	8.02				
4/27/2008 2:10	212.5	SW	8.51				
4/27/2008 2:20	212.3	SW	8.68				
4/27/2008 2:30	212.4	SW	9.26				
4/27/2008 2:40	216.5	SW	9.67				
4/27/2008 2:50	220.4	SW	9.69				
4/27/2008 3:00	222	SW	9.32				
4/27/2008 3:10	223.1	SW	9.48				
4/27/2008 3:20	227.7	SW	9.43				
4/27/2008 3:30	228.1	SW	9.32				
4/27/2008 3:40	229.4	SW	9.31				
4/27/2008 3:50	231.8	SW	9.21				
4/27/2008 4:00	235.5	SW	8.89				
4/27/2008 4:10	236.8	SW	8.62				
4/27/2008 4:20	232.2	SW	7.7				
4/27/2008 4:30	226.7	SW	7.27				
4/27/2008 4:40	227.5	SW	7.33				
4/27/2008 4:50	229.7	SW	7.27				
4/27/2008 5:00	231.6	SW	7.08				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
4/27/2008 5:10	228.1	SW	6.79				
4/27/2008 5:20	218.4	SW	6.77				
4/27/2008 5:30	216.9	SW	7.31				
4/27/2008 5:40	221.7	SW	7.19				
4/27/2008 5:50	219.9	SW	6.94				
4/27/2008 6:00	208.5	SW	6.29	14.5	5	9.8	1
4/27/2008 6:10	203.9	SW	6.53				
4/27/2008 6:20	204	SW	6.68				
4/27/2008 6:30	204.9	SW	7.1				
4/27/2008 6:40	207.9	SW	7.2				
4/27/2008 6:50	207.4	SW	7.39				
4/27/2008 7:00	208.5	SW	6.7				
4/27/2008 19:00	355	N	5.44				
4/27/2008 19:10	1.81	N	5.42				
4/27/2008 19:20	12.95	N	5.4				
4/27/2008 19:30	11.24	N	5.97				
4/27/2008 19:40	11.01	N	6.13				
4/27/2008 19:50	20.2	N	4.69				
4/27/2008 20:00	25.73	NE	5.03				
4/27/2008 20:10	22.99	NE	5.26				
4/27/2008 20:20	22.05	N	4.49				
4/27/2008 20:30	30.42	NE	4.83				
4/27/2008 20:40	25.27	NE	4.21				
4/27/2008 20:50	22.16	N	4.43				
4/27/2008 21:00	26.9	NE	5.12				
4/27/2008 21:10	29.28	NE	5.63				
4/27/2008 21:20	38.2	NE	5.21				
4/27/2008 21:30	47.46	NE	5.14				
4/27/2008 21:40	44.5	NE	3.6				
4/27/2008 21:50	13.52	N	3.38				
4/27/2008 22:00	6.1	N	4.45				
4/27/2008 22:10	16.88	N	4.37				
4/27/2008 22:20	14.02	N	3.9				
4/27/2008 22:30	6.75	N	3.5				
4/27/2008 22:40	14.46	N	4.04				
4/27/2008 22:50	25.19	NE	3.36				
4/27/2008 23:00	17.8	N	3.38				
4/27/2008 23:10	10.93	N	3.04				
4/27/2008 23:20	7.49	N	3.13				
4/27/2008 23:30	16.92	N	3.09				
4/27/2008 23:40	19.97	N	3.49				
4/27/2008 23:50	13.99	N	3.81				
4/28/2008 0:00	7.04	N	4.37				
4/28/2008 0:10	359.1	N	4.15				
4/28/2008 0:20	2.08	N	4.62				
4/28/2008 0:30	350.7	N	5.79				
4/28/2008 0:40	18.76	N	5.47				
4/28/2008 0:50	28.79	NE	5.55				
4/28/2008 1:00	15.25	N	5.37				
4/28/2008 1:10	20.15	N	5.31				
4/28/2008 1:20	44.83	NE	4.72				
4/28/2008 1:30	64.62	NE	4.88				
4/28/2008 1:40	80.1	E	5.8				
4/28/2008 1:50	76.3	E	6.31				
4/28/2008 2:00	77.9	E	5.98				
4/28/2008 2:10	78.1	E	6.35				
4/28/2008 2:20	74.5	E	6.81				
4/28/2008 2:30	70	E	6.59				
4/28/2008 2:40	65.13	NE	6.78				
4/28/2008 2:50	62.17	NE	6.26				
4/28/2008 3:00	57.64	NE	5.31				
4/28/2008 3:10	53.58	NE	5.36				
4/28/2008 3:20	46.6	NE	5.56				
4/28/2008 3:30	42.9	NE	5.48				
4/28/2008 3:40	45.38	NE	5.63				
4/28/2008 3:50	48.41	NE	5.94				
4/28/2008 4:00	46.62	NE	6.14				
4/28/2008 4:10	47.79	NE	6.55				
4/28/2008 4:20	49.84	NE	6.43				
4/28/2008 4:30	54.56	NE	5.66				
4/28/2008 4:40	65.96	NE	5.73				
4/28/2008 4:50	67.59	E	5.77				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
4/28/2008 5:00	65.5	NE	5.72				
4/28/2008 5:10	65.84	NE	5.65				
4/28/2008 5:20	63.97	NE	5.76				
4/28/2008 5:30	61.9	NE	5.39				
4/28/2008 5:40	58.74	NE	5.44				
4/28/2008 5:50	57.33	NE	5.33				
4/28/2008 6:00	55.52	NE	5.45	7.5	3.5	5.5	T
4/28/2008 6:10	55.36	NE	5.16				
4/28/2008 6:20	53.42	NE	5.2				
4/28/2008 6:30	49.42	NE	5.64				
4/28/2008 6:40	45.4	NE	5.39				
4/28/2008 6:50	43.32	NE	5.39				
4/28/2008 7:00	40.92	NE	5.65				
4/28/2008 19:00	332.5	NW	4.83				
4/28/2008 19:10	335.4	NW	5.13				
4/28/2008 19:20	333	NW	4.75				
4/28/2008 19:30	328.8	NW	4.79				
4/28/2008 19:40	323.9	NW	4.37				
4/28/2008 19:50	322.4	NW	5.03				
4/28/2008 20:00	332.1	NW	5.06				
4/28/2008 20:10	326.4	NW	5.11				
4/28/2008 20:20	328.4	NW	5.16				
4/28/2008 20:30	331.1	NW	4.92				
4/28/2008 20:40	332.6	NW	5.23				
4/28/2008 20:50	333.2	NW	5.44				
4/28/2008 21:00	334.9	NW	5.82				
4/28/2008 21:10	334.6	NW	6.22				
4/28/2008 21:20	330.1	NW	5.79				
4/28/2008 21:30	328.6	NW	5.41				
4/28/2008 21:40	334.4	NW	5.98				
4/28/2008 21:50	338	N	6.67				
4/28/2008 22:00	337.8	N	6.61				
4/28/2008 22:10	339	N	6.93				
4/28/2008 22:20	338.7	N	6.86				
4/28/2008 22:30	335.9	NW	6.32				
4/28/2008 22:40	338.1	N	6.66				
4/28/2008 22:50	338.5	N	6.65				
4/28/2008 23:00	337.5	N	6.6				
4/28/2008 23:10	339.2	N	6				
4/28/2008 23:20	337.1	NW	6.11				
4/28/2008 23:30	336.7	NW	6.72				
4/28/2008 23:40	337.5	N	7.06				
4/28/2008 23:50	336.3	NW	7.65				
4/29/2008 0:00	333.6	NW	7.01				
4/29/2008 0:10	335.9	NW	7.32				
4/29/2008 0:20	339.1	N	6.63				
4/29/2008 0:30	342	N	6.39				
4/29/2008 0:40	334.8	NW	6.9				
4/29/2008 0:50	333.5	NW	7.54				
4/29/2008 1:00	335.2	NW	6.78				
4/29/2008 1:10	339.5	N	6.28				
4/29/2008 1:20	337.6	N	6.43				
4/29/2008 1:30	338.3	N	6.35				
4/29/2008 1:40	337.4	NW	6.44				
4/29/2008 1:50	334.8	NW	6.18				
4/29/2008 2:00	334.5	NW	6.39				
4/29/2008 2:10	338	N	6.55				
4/29/2008 2:20	340	N	6.29				
4/29/2008 2:30	345.3	N	6.32				
4/29/2008 2:40	348.5	N	5.69				
4/29/2008 2:50	347.7	N	5.75				
4/29/2008 3:00	356.5	N	5.54				
4/29/2008 3:10	4.19	N	5.23				
4/29/2008 3:20	6.85	N	5.09				
4/29/2008 3:30	13.62	N	5.81				
4/29/2008 3:40	19.53	N	5.6				
4/29/2008 3:50	20.35	N	6.22				
4/29/2008 4:00	19.16	N	6.57				
4/29/2008 4:10	16.54	N	6.3				
4/29/2008 4:20	16.56	N	6.49				
4/29/2008 4:30	16.42	N	7.16				
4/29/2008 4:40	14.58	N	7.16				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
4/29/2008 4:50	15.84	N	6.37				
4/29/2008 5:00	13.41	N	5.14				
4/29/2008 5:10	10.98	N	5.04				
4/29/2008 5:20	8.79	N	5.23				
4/29/2008 5:30	2.04	N	5.55				
4/29/2008 5:40	3.12	N	6.03				
4/29/2008 5:50	4.7	N	6.32				
4/29/2008 6:00	2.52	N	5.66	4.5	0.5	2.5	0
4/29/2008 6:10	3.98	N	6.28				
4/29/2008 6:20	4.79	N	6.68				
4/29/2008 6:30	5.24	N	6.56				
4/29/2008 6:40	7.41	N	7.12				
4/29/2008 6:50	6.66	N	7.3				
4/29/2008 7:00	7.63	N	7.19				
4/29/2008 19:00	308.8	NW	3.36				
4/29/2008 19:10	300.1	NW	3.53				
4/29/2008 19:20	302.1	NW	4.09				
4/29/2008 19:30	300.9	NW	3.97				
4/29/2008 19:40	298.1	NW	3.76				
4/29/2008 19:50	288.2	W	3.76				
4/29/2008 20:00	281.5	W	3.7				
4/29/2008 20:10	278.5	W	3.16				
4/29/2008 20:20	273.4	W	2.89				
4/29/2008 20:30	276.1	W	2.99				
4/29/2008 20:40	268.8	W	2.73				
4/29/2008 20:50	265.7	W	2.72				
4/29/2008 21:00	255.7	W	2.3				
4/29/2008 21:10	243.5	SW	2.14				
4/29/2008 21:20	225.6	SW	2.21				
4/29/2008 21:30	219.6	SW	2.74				
4/29/2008 21:40	224.7	SW	3.21				
4/29/2008 21:50	227.5	SW	3.47				
4/29/2008 22:00	230.2	SW	3.42				
4/29/2008 22:10	242.3	SW	3.54				
4/29/2008 22:20	243.3	SW	4.11				
4/29/2008 22:30	244.5	SW	3.7				
4/29/2008 22:40	236.6	SW	3.71				
4/29/2008 22:50	232.2	SW	4.05				
4/29/2008 23:00	233.5	SW	4.03				
4/29/2008 23:10	230.8	SW	3.85				
4/29/2008 23:20	239.7	SW	3.98				
4/29/2008 23:30	245.5	SW	4.72				
4/29/2008 23:40	249	W	4.89				
4/29/2008 23:50	255.7	W	5.01				
4/30/2008 0:00	252.8	W	5.3				
4/30/2008 0:10	252.3	W	5.28				
4/30/2008 0:20	251.5	W	5.11				
4/30/2008 0:30	244.3	SW	4.73				
4/30/2008 0:40	247.5	W	4.61				
4/30/2008 0:50	248.5	W	4.92				
4/30/2008 1:00	253.1	W	5.26				
4/30/2008 1:10	250.3	W	5.04				
4/30/2008 1:20	248.8	W	4.84				
4/30/2008 1:30	244.7	SW	4.78				
4/30/2008 1:40	238.4	SW	4.7				
4/30/2008 1:50	236.5	SW	5.1				
4/30/2008 2:00	242	SW	5.18				
4/30/2008 2:10	241.7	SW	4.86				
4/30/2008 2:20	237	SW	4.48				
4/30/2008 2:30	236.9	SW	4.75				
4/30/2008 2:40	237	SW	4.52				
4/30/2008 2:50	236.8	SW	4.39				
4/30/2008 3:00	236.6	SW	4.22				
4/30/2008 3:10	238.4	SW	4.23				
4/30/2008 3:20	245.7	SW	4.55				
4/30/2008 3:30	246.5	SW	4.39				
4/30/2008 3:40	243.2	SW	4.41				
4/30/2008 3:50	248.1	W	4.85				
4/30/2008 4:00	253	W	5.4				
4/30/2008 4:10	256.6	W	5.25				
4/30/2008 4:20	257	W	5.04				
4/30/2008 4:30	255.1	W	4.93				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
4/30/2008 4:40	243.5	SW	4.79				
4/30/2008 4:50	240.6	SW	4.93				
4/30/2008 5:00	245	SW	5.13				
4/30/2008 5:10	246	SW	5.06				
4/30/2008 5:20	242.8	SW	4.93				
4/30/2008 5:30	240	SW	5.06				
4/30/2008 5:40	238.8	SW	5.14				
4/30/2008 5:50	241.7	SW	4.99				
4/30/2008 6:00	244.8	SW	4.92	10.5	-3	3.8	0
4/30/2008 6:10	241.5	SW	4.92				
4/30/2008 6:20	241.4	SW	5.43				
4/30/2008 6:30	244	SW	5.41				
4/30/2008 6:40	246.4	SW	5.47				
4/30/2008 6:50	245.2	SW	5.27				
4/30/2008 7:00	244.1	SW	5.21				
4/30/2008 19:00	218.6	SW	3.71				
4/30/2008 19:10	220.1	SW	4.26				
4/30/2008 19:20	215.2	SW	3.81				
4/30/2008 19:30	205.4	SW	4.05				
4/30/2008 19:40	204.2	SW	3.77				
4/30/2008 19:50	202.6	SW	3.82				
4/30/2008 20:00	198.5	S	4.35				
4/30/2008 20:10	195.2	S	4.76				
4/30/2008 20:20	194.9	S	4.95				
4/30/2008 20:30	191.7	S	5.01				
4/30/2008 20:40	189.3	S	5.18				
4/30/2008 20:50	183	S	4.9				
4/30/2008 21:00	179.4	S	4.99				
4/30/2008 21:10	178.5	S	4.92				
4/30/2008 21:20	178.8	S	4.76				
4/30/2008 21:30	177.8	S	4.58				
4/30/2008 21:40	175.7	S	4.64				
4/30/2008 21:50	176.6	S	4.85				
4/30/2008 22:00	177	S	5.13				
4/30/2008 22:10	178.6	S	5.07				
4/30/2008 22:20	178.1	S	5.19				
4/30/2008 22:30	173.8	S	5.01				
4/30/2008 22:40	161.8	S	6.25				
4/30/2008 22:50	164.8	S	6.96				
4/30/2008 23:00	166.7	S	6.8				
4/30/2008 23:10	168.5	S	6.37				
4/30/2008 23:20	169	S	6.6				
4/30/2008 23:30	165.5	S	6.53				
4/30/2008 23:40	169.6	S	6.49				
4/30/2008 23:50	165.7	S	6.49				
5/1/2008 0:00	164.5	S	6.45				
5/1/2008 0:10	165.9	S	7.07				
5/1/2008 0:20	168.3	S	7.14				
5/1/2008 0:30	169.1	S	7.47				
5/1/2008 0:40	170.9	S	7.42				
5/1/2008 0:50	167.9	S	7.28				
5/1/2008 1:00	173.2	S	7.23				
5/1/2008 1:10	171	S	7.41				
5/1/2008 1:20	171.2	S	7.58				
5/1/2008 1:30	171.5	S	7.6				
5/1/2008 1:40	169.6	S	7.46				
5/1/2008 1:50	169.1	S	7.55				
5/1/2008 2:00	168.9	S	7.62				
5/1/2008 2:10	169.3	S	7.9				
5/1/2008 2:20	170.4	S	7.83				
5/1/2008 2:30	167.9	S	7.88				
5/1/2008 2:40	168.9	S	8				
5/1/2008 2:50	170	S	8.02				
5/1/2008 3:00	168.9	S	7.77				
5/1/2008 3:10	167.2	S	7.58				
5/1/2008 3:20	166.4	S	7.8				
5/1/2008 3:30	167.3	S	8.07				
5/1/2008 3:40	168.7	S	7.7				
5/1/2008 3:50	169.3	S	7.78				
5/1/2008 4:00	168.1	S	7.79				
5/1/2008 4:10	167.6	S	8.03				
5/1/2008 4:20	167.3	S	8.33				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
5/1/2008 4:30	166.9	S	8.43				
5/1/2008 4:40	165.5	S	8.48				
5/1/2008 4:50	163.7	S	8.59				
5/1/2008 5:00	164.6	S	9.18				
5/1/2008 5:10	164.1	S	9.39				
5/1/2008 5:20	163.2	S	9.17				
5/1/2008 5:30	161.2	S	9.31				
5/1/2008 5:40	160.6	S	9.65				
5/1/2008 5:50	160.6	S	9.21				
5/1/2008 6:00	158.7	S	8.79	16	0	8	15.4
5/1/2008 6:10	156.5	SE	8.37				
5/1/2008 6:20	153.6	SE	8.5				
5/1/2008 6:30	153.2	SE	8.65				
5/1/2008 6:40	150.4	SE	8.81				
5/1/2008 6:50	148	SE	8.51				
5/1/2008 7:00	145.9	SE	7.81				
5/1/2008 19:00	113.3	SE	9.99				
5/1/2008 19:10	108.8	E	8.51				
5/1/2008 19:20	106.8	E	8.42				
5/1/2008 19:30	108.6	E	9.03				
5/1/2008 19:40	104.4	E	10.56				
5/1/2008 19:50	100	E	11.65				
5/1/2008 20:00	101.4	E	10.47				
5/1/2008 20:10	99.1	E	10.62				
5/1/2008 20:20	94	E	9.62				
5/1/2008 20:30	102.1	E	11.04				
5/1/2008 20:40	104.6	E	10.87				
5/1/2008 20:50	103.8	E	10.9				
5/1/2008 21:00	105.2	E	10.52				
5/1/2008 21:10	107.8	E	10.8				
5/1/2008 21:20	106.2	E	10.22				
5/1/2008 21:30	104.5	E	9.42				
5/1/2008 21:40	107.5	E	10.25				
5/1/2008 21:50	112	E	10.54				
5/1/2008 22:00	107.8	E	10.97				
5/1/2008 22:10	110	E	10.35				
5/1/2008 22:20	107.2	E	10.22				
5/1/2008 22:30	103.8	E	11.82				
5/1/2008 22:40	106	E	9.9				
5/1/2008 22:50	99.9	E	9.8				
5/1/2008 23:00	99.2	E	11.3				
5/1/2008 23:10	103.5	E	10.88				
5/1/2008 23:20	107	E	10.61				
5/1/2008 23:30	108.7	E	10.91				
5/1/2008 23:40	106.8	E	11.75				
5/1/2008 23:50	107.8	E	11.41				
5/2/2008 0:00	106.2	E	10.57				
5/2/2008 0:10	105.7	E	11.25				
5/2/2008 0:20	106.2	E	11.05				
5/2/2008 0:30	106.6	E	11.02				
5/2/2008 0:40	105.5	E	11.45				
5/2/2008 0:50	105.1	E	11.48				
5/2/2008 1:00	106.9	E	11.36				
5/2/2008 1:10	110.2	E	10.16				
5/2/2008 1:20	108.7	E	10.86				
5/2/2008 1:30	107.8	E	12.01				
5/2/2008 1:40	106.5	E	10.07				
5/2/2008 1:50	105.6	E	9.52				
5/2/2008 2:00	105.7	E	9.32				
5/2/2008 2:10	104	E	10.69				
5/2/2008 2:20	106.3	E	11.79				
5/2/2008 2:30	109.4	E	11.79				
5/2/2008 2:40	110.9	E	11.8				
5/2/2008 2:50	109.6	E	10.55				
5/2/2008 3:00	110.3	E	10.76				
5/2/2008 3:10	111	E	10.49				
5/2/2008 3:20	110.6	E	10.91				
5/2/2008 3:30	110.1	E	11.17				
5/2/2008 3:40	110.8	E	11.57				
5/2/2008 3:50	111	E	12.01				
5/2/2008 4:00	109.2	E	12.26				
5/2/2008 4:10	110.4	E	12.34				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
5/2/2008 4:20	113	SE	11.45				
5/2/2008 4:30	112.1	E	11.91				
5/2/2008 4:40	112.5	SE	10.76				
5/2/2008 4:50	106.6	E	10.19				
5/2/2008 5:00	105	E	9.66				
5/2/2008 5:10	101.4	E	9.21				
5/2/2008 5:20	99.1	E	9.94				
5/2/2008 5:30	99.8	E	9.35				
5/2/2008 5:40	99.4	E	9.28				
5/2/2008 5:50	99.7	E	8.76				
5/2/2008 6:00	102.7	E	9.24	19	6	12.5	9
5/2/2008 6:10	104.4	E	9.75				
5/2/2008 6:20	107.4	E	10.33				
5/2/2008 6:30	112.9	SE	10.25				
5/2/2008 6:40	114.2	SE	10.26				
5/2/2008 6:50	115.4	SE	10.22				
5/2/2008 7:00	117.3	SE	10.27				
5/2/2008 19:00	135.5	SE	11.19				
5/2/2008 19:10	135.6	SE	9.95				
5/2/2008 19:20	133.7	SE	10.27				
5/2/2008 19:30	130.4	SE	10.22				
5/2/2008 19:40	131.9	SE	10.18				
5/2/2008 19:50	131.6	SE	10.61				
5/2/2008 20:00	131.8	SE	11.59				
5/2/2008 20:10	131.6	SE	11.18				
5/2/2008 20:20	132	SE	11.13				
5/2/2008 20:30	136.1	SE	12.64				
5/2/2008 20:40	138.8	SE	13.92				
5/2/2008 20:50	140.1	SE	13.24				
5/2/2008 21:00	143.6	SE	13.16				
5/2/2008 21:10	143.6	SE	12.28				
5/2/2008 21:20	145.9	SE	12.81				
5/2/2008 21:30	145.9	SE	13.71				
5/2/2008 21:40	151.7	SE	13.17				
5/2/2008 21:50	150.7	SE	12.78				
5/2/2008 22:00	149.9	SE	12.49				
5/2/2008 22:10	151.8	SE	12.2				
5/2/2008 22:20	152.4	SE	11.4				
5/2/2008 22:30	152.5	SE	11.69				
5/2/2008 22:40	151.3	SE	12.91				
5/2/2008 22:50	153.5	SE	12.35				
5/2/2008 23:00	156.3	SE	12.54				
5/2/2008 23:10	155.9	SE	12.26				
5/2/2008 23:20	157.3	SE	13.36				
5/2/2008 23:30	156.1	SE	12.34				
5/2/2008 23:40	156.5	SE	12.13				
5/2/2008 23:50	158.3	S	12.58				
5/3/2008 0:00	157	SE	11.87				
5/3/2008 0:10	157.2	SE	11.79				
5/3/2008 0:20	158.5	S	11.32				
5/3/2008 0:30	162.5	S	11.06				
5/3/2008 0:40	162.7	S	11.66				
5/3/2008 0:50	161.7	S	11.27				
5/3/2008 1:00	162.4	S	11.41				
5/3/2008 1:10	163.6	S	10.81				
5/3/2008 1:20	166.7	S	11.33				
5/3/2008 1:30	169.5	S	11.7				
5/3/2008 1:40	169.7	S	10.69				
5/3/2008 1:50	183.5	S	8.54				
5/3/2008 2:00	170.5	S	10.64				
5/3/2008 2:10	168.1	S	12.03				
5/3/2008 2:20	168.1	S	12.68				
5/3/2008 2:30	167.1	S	11.76				
5/3/2008 2:40	164.7	S	10.89				
5/3/2008 2:50	165.5	S	11.74				
5/3/2008 3:00	168.7	S	10.85				
5/3/2008 3:10	169.1	S	10.85				
5/3/2008 3:20	171.3	S	9.82				
5/3/2008 3:30	171.5	S	10.22				
5/3/2008 3:40	172.1	S	9.62				
5/3/2008 3:50	171.3	S	8.9				
5/3/2008 4:00	170.5	S	8.11				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
5/3/2008 4:10	173.9	S	8.83				
5/3/2008 4:20	175.1	S	8.6				
5/3/2008 4:30	173.4	S	8.37				
5/3/2008 4:40	175.7	S	8.45				
5/3/2008 4:50	175.9	S	8.35				
5/3/2008 5:00	177.8	S	8.65				
5/3/2008 5:10	180.8	S	8.83				
5/3/2008 5:20	184.6	S	9.02				
5/3/2008 5:30	182.9	S	9.13				
5/3/2008 5:40	183.1	S	8.5				
5/3/2008 5:50	178.7	S	8.16				
5/3/2008 6:00	174.8	S	8.1	16.5	11.5	14	13.4
5/3/2008 6:10	174.8	S	8.01				
5/3/2008 6:20	175	S	7.56				
5/3/2008 6:30	173.8	S	7.21				
5/3/2008 6:40	174.6	S	6.43				
5/3/2008 6:50	174.9	S	6.84				
5/3/2008 7:00	174.4	S	6.51				
5/3/2008 19:00	177.9	S	5.74				
5/3/2008 19:10	180	S	5.01				
5/3/2008 19:20	181.3	S	5.74				
5/3/2008 19:30	176.3	S	6.58				
5/3/2008 19:40	173.8	S	6.72				
5/3/2008 19:50	164.5	S	6.03				
5/3/2008 20:00	153.2	SE	5.99				
5/3/2008 20:10	148.3	SE	6.52				
5/3/2008 20:20	153.6	SE	6.75				
5/3/2008 20:30	158.1	S	6.83				
5/3/2008 20:40	162.2	S	6.91				
5/3/2008 20:50	166.6	S	6.8				
5/3/2008 21:00	174.2	S	7.29				
5/3/2008 21:10	187.3	S	7.04				
5/3/2008 21:20	237.3	SW	10.43				
5/3/2008 21:30	242.7	SW	8.37				
5/3/2008 21:40	233.5	SW	7.32				
5/3/2008 21:50	236.6	SW	8.06				
5/3/2008 22:00	228.6	SW	6.44				
5/3/2008 22:10	237.3	SW	7.01				
5/3/2008 22:20	236.1	SW	6.93				
5/3/2008 22:30	240.6	SW	7.92				
5/3/2008 22:40	249.5	W	8.53				
5/3/2008 22:50	260.5	W	9.3				
5/3/2008 23:00	273.4	W	8.8				
5/3/2008 23:10	268.2	W	8.34				
5/3/2008 23:20	267.5	W	7.77				
5/3/2008 23:30	274	W	7.2				
5/3/2008 23:40	286.9	W	6.55				
5/3/2008 23:50	288.8	W	7.1				
5/4/2008 0:00	300.9	NW	7.79				
5/4/2008 0:10	307.7	NW	8.58				
5/4/2008 0:20	316.7	NW	8.71				
5/4/2008 0:30	318.7	NW	8.74				
5/4/2008 0:40	317.8	NW	7.49				
5/4/2008 0:50	318.6	NW	8.28				
5/4/2008 1:00	319.5	NW	7.96				
5/4/2008 1:10	318.2	NW	8.69				
5/4/2008 1:20	317.3	NW	8.54				
5/4/2008 1:30	315.8	NW	10.28				
5/4/2008 1:40	317.4	NW	10.84				
5/4/2008 1:50	319.5	NW	10.26				
5/4/2008 2:00	321.5	NW	9.17				
5/4/2008 2:10	321.8	NW	7.57				
5/4/2008 2:20	320.7	NW	7.32				
5/4/2008 2:30	317.2	NW	8.01				
5/4/2008 2:40	312.7	NW	7.9				
5/4/2008 2:50	309.9	NW	7.27				
5/4/2008 3:00	306.7	NW	7.39				
5/4/2008 3:10	300.1	NW	7.26				
5/4/2008 3:20	296.9	NW	6.6				
5/4/2008 3:30	294.9	NW	7.3				
5/4/2008 3:40	293.5	NW	7.37				
5/4/2008 3:50	289.2	W	7.21				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
5/4/2008 4:00	287.3	W	7.08				
5/4/2008 4:10	285.1	W	6.62				
5/4/2008 4:20	281.2	W	6.2				
5/4/2008 4:30	278.4	W	6.97				
5/4/2008 4:40	275.7	W	7.42				
5/4/2008 4:50	276.8	W	8.51				
5/4/2008 5:00	278.4	W	8.46				
5/4/2008 5:10	278.5	W	8.27				
5/4/2008 5:20	278.6	W	8.46				
5/4/2008 5:30	279.4	W	8.29				
5/4/2008 5:40	277.8	W	9.31				
5/4/2008 5:50	280.4	W	8.47				
5/4/2008 6:00	282.8	W	8.49	14	3	8.5	0
5/4/2008 6:10	281.4	W	8.55				
5/4/2008 6:20	281.2	W	9.01				
5/4/2008 6:30	283.1	W	9.58				
5/4/2008 6:40	281.8	W	9.22				
5/4/2008 6:50	281	W	9.49				
5/4/2008 7:00	283.2	W	9.1				
5/4/2008 19:00	167.9	S	6.3				
5/4/2008 19:10	165.4	S	6.26				
5/4/2008 19:20	162	S	6.47				
5/4/2008 19:30	159.5	S	6.85				
5/4/2008 19:40	157.8	S	7.43				
5/4/2008 19:50	157.6	S	7.55				
5/4/2008 20:00	156.8	SE	7.55				
5/4/2008 20:10	159.3	S	7.92				
5/4/2008 20:20	159	S	8.09				
5/4/2008 20:30	160.9	S	8.01				
5/4/2008 20:40	160.2	S	8.24				
5/4/2008 20:50	160.3	S	8.34				
5/4/2008 21:00	162.1	S	8.15				
5/4/2008 21:10	160.6	S	8.82				
5/4/2008 21:20	160.3	S	8.93				
5/4/2008 21:30	162.5	S	8.56				
5/4/2008 21:40	165.9	S	8.85				
5/4/2008 21:50	168.9	S	9.65				
5/4/2008 22:00	170.5	S	9.24				
5/4/2008 22:10	173.9	S	9.32				
5/4/2008 22:20	176.9	S	8.91				
5/4/2008 22:30	179.1	S	8.87				
5/4/2008 22:40	179.3	S	8.38				
5/4/2008 22:50	178.9	S	8.65				
5/4/2008 23:00	178.2	S	8.88				
5/4/2008 23:10	177.2	S	8.63				
5/4/2008 23:20	175.5	S	8.37				
5/4/2008 23:30	173.7	S	8.31				
5/4/2008 23:40	173.4	S	8.46				
5/4/2008 23:50	170.4	S	8.44				
5/5/2008 0:00	172.6	S	8.7				
5/5/2008 0:10	173.4	S	9.16				
5/5/2008 0:20	176.6	S	9.23				
5/5/2008 0:30	176.1	S	9.38				
5/5/2008 0:40	171.3	S	9.08				
5/5/2008 0:50	168.9	S	8.97				
5/5/2008 1:00	168.1	S	9.11				
5/5/2008 1:10	166.2	S	9.77				
5/5/2008 1:20	167.7	S	9.42				
5/5/2008 1:30	171.6	S	9.01				
5/5/2008 1:40	173.4	S	8.71				
5/5/2008 1:50	176.5	S	8.49				
5/5/2008 2:00	177.8	S	8.61				
5/5/2008 2:10	179.7	S	8.67				
5/5/2008 2:20	181.7	S	8.16				
5/5/2008 2:30	184	S	7.93				
5/5/2008 2:40	186.6	S	7.93				
5/5/2008 2:50	187.5	S	7.85				
5/5/2008 3:00	186.1	S	8.55				
5/5/2008 3:10	184.8	S	8.6				
5/5/2008 3:20	182.8	S	8.9				
5/5/2008 3:30	183.6	S	8.65				
5/5/2008 3:40	183.5	S	8.69				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
5/5/2008 3:50	182.7	S	8.93				
5/5/2008 4:00	180.3	S	9.57				
5/5/2008 4:10	180.9	S	9.66				
5/5/2008 4:20	181.8	S	8.88				
5/5/2008 4:30	180.7	S	7.99				
5/5/2008 4:40	181.1	S	8.47				
5/5/2008 4:50	181	S	8.23				
5/5/2008 5:00	181.9	S	8.06				
5/5/2008 5:10	182.8	S	8.17				
5/5/2008 5:20	181.6	S	8.49				
5/5/2008 5:30	181.6	S	9.02				
5/5/2008 5:40	183	S	8.98				
5/5/2008 5:50	182.8	S	9.21				
5/5/2008 6:00	182.6	S	9.63	21	6	13.5	0
5/5/2008 6:10	183.1	S	9.66				
5/5/2008 6:20	182	S	9.87				
5/5/2008 6:30	183.1	S	9.72				
5/5/2008 6:40	183.5	S	9.67				
5/5/2008 6:50	181.8	S	9.54				
5/5/2008 7:00	182.6	S	9.83				
5/5/2008 19:00	5.99	N	4.36				
5/5/2008 19:10	5.64	N	5.23				
5/5/2008 19:20	9.65	N	5.15				
5/5/2008 19:30	7.59	N	4.92				
5/5/2008 19:40	10.94	N	5.61				
5/5/2008 19:50	5.96	N	6.43				
5/5/2008 20:00	2.88	N	6.18				
5/5/2008 20:10	2.46	N	6.59				
5/5/2008 20:20	1.02	N	6.26				
5/5/2008 20:30	353.7	N	6.21				
5/5/2008 20:40	356.7	N	7.05				
5/5/2008 20:50	359.8	N	6.34				
5/5/2008 21:00	359.4	N	5.66				
5/5/2008 21:10	359.8	N	4.86				
5/5/2008 21:20	0	N	5.09				
5/5/2008 21:30	358.6	N	6.15				
5/5/2008 21:40	1.61	N	6.16				
5/5/2008 21:50	6.78	N	5.24				
5/5/2008 22:00	11.3	N	5.01				
5/5/2008 22:10	13.31	N	5.64				
5/5/2008 22:20	14.51	N	6.11				
5/5/2008 22:30	20.36	N	5.99				
5/5/2008 22:40	22.97	NE	6.6				
5/5/2008 22:50	24.29	NE	6.62				
5/5/2008 23:00	26.42	NE	6.17				
5/5/2008 23:10	29.01	NE	6.5				
5/5/2008 23:20	32.2	NE	6.77				
5/5/2008 23:30	36.08	NE	6.96				
5/5/2008 23:40	40.17	NE	7.18				
5/5/2008 23:50	42.76	NE	6.28				
5/6/2008 0:00	48.06	NE	6.43				
5/6/2008 0:10	51.73	NE	6.27				
5/6/2008 0:20	58.71	NE	5.1				
5/6/2008 0:30	62.25	NE	4.35				
5/6/2008 0:40	65.08	NE	4.15				
5/6/2008 0:50	62.58	NE	3.76				
5/6/2008 1:00	58.57	NE	3.54				
5/6/2008 1:10	61.35	NE	3.13				
5/6/2008 1:20	50.45	NE	3.4				
5/6/2008 1:30	49.45	NE	3.47				
5/6/2008 1:40	52.25	NE	3.51				
5/6/2008 1:50	57.67	NE	2.95				
5/6/2008 2:00	67.29	NE	2.68				
5/6/2008 2:10	60.42	NE	3.19				
5/6/2008 2:20	77.6	E	2.95				
5/6/2008 2:30	79.7	E	2.45				
5/6/2008 2:40	89	E	2.77				
5/6/2008 2:50	77.3	E	3.25				
5/6/2008 3:00	87.5	E	2.58				
5/6/2008 3:10	95.6	E	2.57				
5/6/2008 3:20	108	E	2.24				
5/6/2008 3:30	120.1	SE	2.12				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
5/6/2008 3:40	98.4	E	2.16				
5/6/2008 3:50	100.2	E	2.19				
5/6/2008 4:00	81.8	E	2.03				
5/6/2008 4:10	76.6	E	1.67				
5/6/2008 4:20	62.82	NE	1.19				
5/6/2008 4:30	71.6	E	1.04				
5/6/2008 4:40	67.57	E	0.74				
5/6/2008 4:50	72.7	E	0.44				
5/6/2008 5:00	37.32	NE	0.05				
5/6/2008 5:10	321.6	NW	0.72				
5/6/2008 5:20	354.8	N	0.99				
5/6/2008 5:30	355.6	N	1.08				
5/6/2008 5:40	315.1	NW	1.3				
5/6/2008 5:50	340.7	N	1.49				
5/6/2008 6:00	358.6	N	0.98	17	0.5	8.8	T
5/6/2008 6:10	307.4	NW	0.75				
5/6/2008 6:20	311.3	NW	0.97				
5/6/2008 6:30	323.4	NW	1.13				
5/6/2008 6:40	317	NW	1.3				
5/6/2008 6:50	321.3	NW	1.89				
5/6/2008 7:00	319.1	NW	2.94				
5/6/2008 19:00	73	E	4.53				
5/6/2008 19:10	79.2	E	5.08				
5/6/2008 19:20	71.3	E	4.72				
5/6/2008 19:30	76.9	E	6.2				
5/6/2008 19:40	79.5	E	5.99				
5/6/2008 19:50	75	E	5.38				
5/6/2008 20:00	83.6	E	6.7				
5/6/2008 20:10	84.7	E	6.39				
5/6/2008 20:20	81.1	E	5.67				
5/6/2008 20:30	82.7	E	5.6				
5/6/2008 20:40	86.6	E	6.78				
5/6/2008 20:50	89.2	E	7.63				
5/6/2008 21:00	92.5	E	8.42				
5/6/2008 21:10	96.9	E	8.73				
5/6/2008 21:20	100.6	E	9.29				
5/6/2008 21:30	100.1	E	9.03				
5/6/2008 21:40	99.9	E	8.57				
5/6/2008 21:50	102	E	8.76				
5/6/2008 22:00	107.8	E	9.26				
5/6/2008 22:10	107.3	E	9.29				
5/6/2008 22:20	108.4	E	9.42				
5/6/2008 22:30	112.8	SE	9.43				
5/6/2008 22:40	113.4	SE	9.77				
5/6/2008 22:50	114.8	SE	9.55				
5/6/2008 23:00	116.1	SE	9.3				
5/6/2008 23:10	122.9	SE	9.42				
5/6/2008 23:20	128.9	SE	8.97				
5/6/2008 23:30	130.1	SE	9.26				
5/6/2008 23:40	130.2	SE	8.92				
5/6/2008 23:50	133.1	SE	8.91				
5/7/2008 0:00	131.8	SE	8.33				
5/7/2008 0:10	131.4	SE	8.37				
5/7/2008 0:20	132.9	SE	8.78				
5/7/2008 0:30	136.2	SE	8.97				
5/7/2008 0:40	137.1	SE	9.27				
5/7/2008 0:50	139	SE	9.67				
5/7/2008 1:00	138.8	SE	9.73				
5/7/2008 1:10	138.4	SE	9.72				
5/7/2008 1:20	138.9	SE	10.08				
5/7/2008 1:30	139	SE	9.73				
5/7/2008 1:40	139.7	SE	9.62				
5/7/2008 1:50	139	SE	9.93				
5/7/2008 2:00	136.9	SE	10.39				
5/7/2008 2:10	134.7	SE	10.47				
5/7/2008 2:20	136.9	SE	10.37				
5/7/2008 2:30	138.3	SE	10.86				
5/7/2008 2:40	138.3	SE	11.21				
5/7/2008 2:50	139.3	SE	11.19				
5/7/2008 3:00	142	SE	11.05				
5/7/2008 3:10	144.9	SE	10.37				
5/7/2008 3:20	146.1	SE	9.96				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
5/7/2008 3:30	145.7	SE	10.3				
5/7/2008 3:40	148	SE	9.97				
5/7/2008 3:50	146.6	SE	10.36				
5/7/2008 4:00	145.9	SE	10.14				
5/7/2008 4:10	146.2	SE	10.38				
5/7/2008 4:20	146.5	SE	10.47				
5/7/2008 4:30	145.9	SE	10.61				
5/7/2008 4:40	143.6	SE	11.36				
5/7/2008 4:50	142.9	SE	10.91				
5/7/2008 5:00	146.5	SE	10.3				
5/7/2008 5:10	151.5	SE	10.72				
5/7/2008 5:20	150.9	SE	10.35				
5/7/2008 5:30	149.6	SE	10.74				
5/7/2008 5:40	152.3	SE	10.17				
5/7/2008 5:50	145.7	SE	10.95				
5/7/2008 6:00	146.1	SE	10.08	18.5	10	14.3	7.6
5/7/2008 6:10	145.9	SE	9.82				
5/7/2008 6:20	148.7	SE	9.7				
5/7/2008 6:30	151.8	SE	9.85				
5/7/2008 6:40	152.3	SE	9.95				
5/7/2008 6:50	156.5	SE	10.27				
5/7/2008 7:00	157	SE	10.36				
5/7/2008 19:00	220.5	SW	7.84				
5/7/2008 19:10	221	SW	8.47				
5/7/2008 19:20	221.2	SW	7.84				
5/7/2008 19:30	225	SW	7.74				
5/7/2008 19:40	225.2	SW	7.55				
5/7/2008 19:50	228.7	SW	7.35				
5/7/2008 20:00	235.1	SW	7.6				
5/7/2008 20:10	238.5	SW	8.05				
5/7/2008 20:20	246.7	SW	7.97				
5/7/2008 20:30	291.2	W	10.01				
5/7/2008 20:40	303.8	NW	6.69				
5/7/2008 20:50	313.8	NW	6.49				
5/7/2008 21:00	323.7	NW	6.78				
5/7/2008 21:10	325.5	NW	8.38				
5/7/2008 21:20	329.9	NW	9.21				
5/7/2008 21:30	330	NW	10.4				
5/7/2008 21:40	327.3	NW	9.41				
5/7/2008 21:50	326.5	NW	9.63				
5/7/2008 22:00	323.4	NW	8.44				
5/7/2008 22:10	321.1	NW	7.99				
5/7/2008 22:20	323.6	NW	7.23				
5/7/2008 22:30	321.4	NW	6.8				
5/7/2008 22:40	321.6	NW	6.39				
5/7/2008 22:50	322.2	NW	6.41				
5/7/2008 23:00	313.8	NW	6.29				
5/7/2008 23:10	317.7	NW	8.52				
5/7/2008 23:20	320.8	NW	7.88				
5/7/2008 23:30	321.9	NW	6.97				
5/7/2008 23:40	325.6	NW	6.81				
5/7/2008 23:50	326.9	NW	6.43				
5/8/2008 0:00	324.6	NW	5.77				
5/8/2008 0:10	323.8	NW	5.11				
5/8/2008 0:20	316.3	NW	4.68				
5/8/2008 0:30	305.9	NW	4.11				
5/8/2008 0:40	303.3	NW	5.2				
5/8/2008 0:50	301.6	NW	5				
5/8/2008 1:00	305	NW	5.06				
5/8/2008 1:10	306.6	NW	5.24				
5/8/2008 1:20	304	NW	5.46				
5/8/2008 1:30	307.8	NW	5.79				
5/8/2008 1:40	308.5	NW	6.29				
5/8/2008 1:50	309.4	NW	5.49				
5/8/2008 2:00	306.7	NW	5.45				
5/8/2008 2:10	303.4	NW	5.02				
5/8/2008 2:20	301.8	NW	5.01				
5/8/2008 2:30	306.6	NW	6.12				
5/8/2008 2:40	307.9	NW	5.97				
5/8/2008 2:50	309.5	NW	5.86				
5/8/2008 3:00	311.7	NW	6.74				
5/8/2008 3:10	310.9	NW	6.28				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
5/8/2008 3:20	314.5	NW	6.42				
5/8/2008 3:30	317.8	NW	6.58				
5/8/2008 3:40	318.9	NW	7.62				
5/8/2008 3:50	321.9	NW	6.76				
5/8/2008 4:00	322.3	NW	7.32				
5/8/2008 4:10	322.8	NW	6.89				
5/8/2008 4:20	325.2	NW	7.34				
5/8/2008 4:30	325	NW	8.12				
5/8/2008 4:40	324.3	NW	7.46				
5/8/2008 4:50	327	NW	8.27				
5/8/2008 5:00	326.2	NW	8.36				
5/8/2008 5:10	325.5	NW	9.01				
5/8/2008 5:20	325.1	NW	8.24				
5/8/2008 5:30	327.5	NW	8.43				
5/8/2008 5:40	329.1	NW	7.51				
5/8/2008 5:50	330.3	NW	7.22				
5/8/2008 6:00	330.7	NW	6.74	9.5	4.5	7	0
5/8/2008 6:10	335.4	NW	7.1				
5/8/2008 6:20	335.5	NW	6.88				
5/8/2008 6:30	336	NW	6.75				
5/8/2008 6:40	332.3	NW	6.46				
5/8/2008 6:50	334.8	NW	6.03				
5/8/2008 7:00	329.9	NW	5.73				
5/8/2008 19:00	3.51	N	3.28				
5/8/2008 19:10	8.08	N	3.85				
5/8/2008 19:20	11.76	N	4.86				
5/8/2008 19:30	16.76	N	5.19				
5/8/2008 19:40	21.68	N	5.45				
5/8/2008 19:50	27.58	NE	5.1				
5/8/2008 20:00	30.1	NE	4.52				
5/8/2008 20:10	27.65	NE	5.18				
5/8/2008 20:20	27.63	NE	5.19				
5/8/2008 20:30	23.37	NE	5.67				
5/8/2008 20:40	23.17	NE	6.41				
5/8/2008 20:50	25.21	NE	6.78				
5/8/2008 21:00	25.73	NE	7.18				
5/8/2008 21:10	27.86	NE	6.93				
5/8/2008 21:20	27.93	NE	6.55				
5/8/2008 21:30	32.42	NE	6.65				
5/8/2008 21:40	31.39	NE	6.59				
5/8/2008 21:50	32.98	NE	6.46				
5/8/2008 22:00	32.51	NE	6.84				
5/8/2008 22:10	26.62	NE	8.13				
5/8/2008 22:20	28.26	NE	8.15				
5/8/2008 22:30	29.38	NE	7.38				
5/8/2008 22:40	29.86	NE	7.05				
5/8/2008 22:50	29.12	NE	6.98				
5/8/2008 23:00	36.91	NE	6.06				
5/8/2008 23:10	39.93	NE	6.05				
5/8/2008 23:20	41.19	NE	6.39				
5/8/2008 23:30	40.62	NE	7.1				
5/8/2008 23:40	40.9	NE	7.31				
5/8/2008 23:50	39.63	NE	7.6				
5/9/2008 0:00	44.45	NE	7.31				
5/9/2008 0:10	43.59	NE	7.76				
5/9/2008 0:20	42.83	NE	7.35				
5/9/2008 0:30	45.29	NE	7.38				
5/9/2008 0:40	47.1	NE	7.29				
5/9/2008 0:50	53.12	NE	6.88				
5/9/2008 1:00	56.45	NE	6.58				
5/9/2008 1:10	56.08	NE	6.87				
5/9/2008 1:20	56.74	NE	7.12				
5/9/2008 1:30	60.37	NE	7.07				
5/9/2008 1:40	60.29	NE	7.39				
5/9/2008 1:50	61.69	NE	7.29				
5/9/2008 2:00	63.38	NE	7.09				
5/9/2008 2:10	62.73	NE	6.7				
5/9/2008 2:20	60.95	NE	6.35				
5/9/2008 2:30	61.86	NE	6.72				
5/9/2008 2:40	61.58	NE	6.72				
5/9/2008 2:50	61.85	NE	6.81				
5/9/2008 3:00	61.41	NE	6.39				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
5/9/2008 3:10	62.76	NE	6.86				
5/9/2008 3:20	64.55	NE	7.48				
5/9/2008 3:30	64.32	NE	7.71				
5/9/2008 3:40	64.15	NE	7.83				
5/9/2008 3:50	65.29	NE	7.73				
5/9/2008 4:00	64.6	NE	7.41				
5/9/2008 4:10	63.51	NE	7.12				
5/9/2008 4:20	62.84	NE	7.12				
5/9/2008 4:30	64.11	NE	7.59				
5/9/2008 4:40	62.48	NE	7.32				
5/9/2008 4:50	61.96	NE	7.19				
5/9/2008 5:00	61.88	NE	6.53				
5/9/2008 5:10	61.85	NE	6.15				
5/9/2008 5:20	61.42	NE	6.39				
5/9/2008 5:30	64.82	NE	6.82				
5/9/2008 5:40	71.5	E	7.22				
5/9/2008 5:50	72.9	E	7.14				
5/9/2008 6:00	72.8	E	6.89	16	3.5	9.8	0
5/9/2008 6:10	69.52	E	6.23				
5/9/2008 6:20	71.9	E	6.41				
5/9/2008 6:30	75.8	E	6.26				
5/9/2008 6:40	77.4	E	6.6				
5/9/2008 6:50	81.7	E	6.65				
5/9/2008 7:00	82.3	E	6.76				
5/9/2008 19:00	5.21	N	5.98				
5/9/2008 19:10	7.16	N	6.05				
5/9/2008 19:20	6.49	N	6				
5/9/2008 19:30	8.56	N	6.12				
5/9/2008 19:40	11.78	N	6.23				
5/9/2008 19:50	12.91	N	6.37				
5/9/2008 20:00	15.6	N	6.4				
5/9/2008 20:10	15.97	N	5.95				
5/9/2008 20:20	21.73	N	6.19				
5/9/2008 20:30	23.21	NE	6.11				
5/9/2008 20:40	20.87	N	5.86				
5/9/2008 20:50	25.96	NE	6.29				
5/9/2008 21:00	25.59	NE	6.03				
5/9/2008 21:10	26.82	NE	5.63				
5/9/2008 21:20	28.55	NE	5.15				
5/9/2008 21:30	25.34	NE	5.31				
5/9/2008 21:40	11.02	N	4.35				
5/9/2008 21:50	12.16	N	4.23				
5/9/2008 22:00	13.44	N	4.8				
5/9/2008 22:10	11.69	N	4.87				
5/9/2008 22:20	16.75	N	4.59				
5/9/2008 22:30	22.95	NE	5.09				
5/9/2008 22:40	25.88	NE	5.88				
5/9/2008 22:50	26.88	NE	5.71				
5/9/2008 23:00	25	NE	5.95				
5/9/2008 23:10	21.84	N	5.62				
5/9/2008 23:20	18.6	N	5.34				
5/9/2008 23:30	13.81	N	4.92				
5/9/2008 23:40	13.03	N	4.84				
5/9/2008 23:50	11.54	N	4.99				
5/10/2008 0:00	13.36	N	4.68				
5/10/2008 0:10	14.62	N	4.76				
5/10/2008 0:20	14.42	N	5.18				
5/10/2008 0:30	17.71	N	5.84				
5/10/2008 0:40	15.22	N	6.09				
5/10/2008 0:50	13.35	N	5.48				
5/10/2008 1:00	16.12	N	6.08				
5/10/2008 1:10	16.57	N	6.72				
5/10/2008 1:20	17.44	N	6.33				
5/10/2008 1:30	20.64	N	6.29				
5/10/2008 1:40	17.97	N	6.87				
5/10/2008 1:50	16.66	N	6.62				
5/10/2008 2:00	14.76	N	6.52				
5/10/2008 2:10	14.81	N	6.42				
5/10/2008 2:20	10.51	N	6.08				
5/10/2008 2:30	12.45	N	6.25				
5/10/2008 2:40	12.51	N	6.11				
5/10/2008 2:50	10.94	N	6.13				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
5/10/2008 3:00	8.34	N	6.17				
5/10/2008 3:10	11.99	N	6.08				
5/10/2008 3:20	14.48	N	6.24				
5/10/2008 3:30	15.44	N	6.14				
5/10/2008 3:40	16.06	N	6.31				
5/10/2008 3:50	14.17	N	6.16				
5/10/2008 4:00	11.09	N	6.23				
5/10/2008 4:10	9.83	N	6.49				
5/10/2008 4:20	11.83	N	6.52				
5/10/2008 4:30	13.03	N	6.78				
5/10/2008 4:40	6.12	N	6.37				
5/10/2008 4:50	2.38	N	6.69				
5/10/2008 5:00	8.74	N	6.52				
5/10/2008 5:10	14.31	N	6.17				
5/10/2008 5:20	16.09	N	6.19				
5/10/2008 5:30	16.28	N	6.02				
5/10/2008 5:40	15.38	N	5.64				
5/10/2008 5:50	16.72	N	5.19				
5/10/2008 6:00	20.56	N	5.14	15.5	5.5	10.5	0
5/10/2008 6:10	20.06	N	5.53				
5/10/2008 6:20	19.76	N	5.47				
5/10/2008 6:30	24.2	NE	5.3				
5/10/2008 6:40	19.98	N	5.01				
5/10/2008 6:50	14.56	N	4.01				
5/10/2008 7:00	8.98	N	3.78				
5/10/2008 19:00	325.3	NW	1.04				
5/10/2008 19:10	330.7	NW	1.17				
5/10/2008 19:20	342.3	N	1.58				
5/10/2008 19:30	4.55	N	1.13				
5/10/2008 19:40	24.69	NE	1.16				
5/10/2008 19:50	39.07	NE	1.37				
5/10/2008 20:00	48.81	NE	2.26				
5/10/2008 20:10	50.4	NE	2.6				
5/10/2008 20:20	57.33	NE	2.7				
5/10/2008 20:30	65.27	NE	2.8				
5/10/2008 20:40	75.4	E	2.7				
5/10/2008 20:50	84.6	E	2.34				
5/10/2008 21:00	74.8	E	2.56				
5/10/2008 21:10	83.8	E	3.13				
5/10/2008 21:20	86	E	3.2				
5/10/2008 21:30	89.9	E	4.13				
5/10/2008 21:40	93.5	E	4.37				
5/10/2008 21:50	98.6	E	5.04				
5/10/2008 22:00	102.3	E	5.32				
5/10/2008 22:10	105.8	E	5.59				
5/10/2008 22:20	109.6	E	6.1				
5/10/2008 22:30	111.6	E	5.94				
5/10/2008 22:40	114.7	SE	5.96				
5/10/2008 22:50	115.2	SE	6.19				
5/10/2008 23:00	118.1	SE	6.35				
5/10/2008 23:10	116.4	SE	6.71				
5/10/2008 23:20	116.3	SE	6.84				
5/10/2008 23:30	115.9	SE	7.44				
5/10/2008 23:40	118.3	SE	7.93				
5/10/2008 23:50	117.1	SE	8.47				
5/11/2008 0:00	115.8	SE	8.35				
5/11/2008 0:10	117.4	SE	8.72				
5/11/2008 0:20	122.7	SE	8.45				
5/11/2008 0:30	124.4	SE	8.55				
5/11/2008 0:40	127.2	SE	8.7				
5/11/2008 0:50	127	SE	8.88				
5/11/2008 1:00	126.6	SE	8.64				
5/11/2008 1:10	123.9	SE	8.58				
5/11/2008 1:20	124	SE	8.75				
5/11/2008 1:30	118.5	SE	8.85				
5/11/2008 1:40	116.1	SE	8.96				
5/11/2008 1:50	115.1	SE	8.84				
5/11/2008 2:00	114	SE	8.99				
5/11/2008 2:10	116.2	SE	8.92				
5/11/2008 2:20	116.2	SE	9.16				
5/11/2008 2:30	113.9	SE	8.94				
5/11/2008 2:40	113.9	SE	8.25				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
5/11/2008 2:50	115	SE	8.26				
5/11/2008 3:00	118.1	SE	8.55				
5/11/2008 3:10	120.7	SE	8.62				
5/11/2008 3:20	119.1	SE	8.47				
5/11/2008 3:30	120.6	SE	8.28				
5/11/2008 3:40	124.6	SE	8.1				
5/11/2008 3:50	126.9	SE	8.2				
5/11/2008 4:00	130.2	SE	7.92				
5/11/2008 4:10	129.7	SE	8.01				
5/11/2008 4:20	131.6	SE	7.65				
5/11/2008 4:30	131.5	SE	7.87				
5/11/2008 4:40	131.2	SE	7.68				
5/11/2008 4:50	140.3	SE	6.9				
5/11/2008 5:00	136.5	SE	6.68				
5/11/2008 5:10	131.8	SE	6.95				
5/11/2008 5:20	128.6	SE	7.36				
5/11/2008 5:30	128.1	SE	7.85				
5/11/2008 5:40	123.5	SE	8.17				
5/11/2008 5:50	116.3	SE	8.43				
5/11/2008 6:00	115.2	SE	8.42	16.5	8	12.3	6.4
5/11/2008 6:10	113.5	SE	8.55				
5/11/2008 6:20	110.4	E	8.64				
5/11/2008 6:30	106.3	E	8.46				
5/11/2008 6:40	105.7	E	8.6				
5/11/2008 6:50	105.6	E	8.73				
5/11/2008 7:00	102.8	E	7.87				
5/11/2008 19:00	116	SE	4.92				
5/11/2008 19:10	115.6	SE	5				
5/11/2008 19:20	113.2	SE	4.81				
5/11/2008 19:30	109.7	E	4.92				
5/11/2008 19:40	119.3	SE	5.3				
5/11/2008 19:50	119.1	SE	4.84				
5/11/2008 20:00	112.9	SE	4.92				
5/11/2008 20:10	105.4	E	4.92				
5/11/2008 20:20	100.2	E	5.22				
5/11/2008 20:30	87.8	E	4.55				
5/11/2008 20:40	77.7	E	4.44				
5/11/2008 20:50	69.76	E	4.34				
5/11/2008 21:00	59.21	NE	4.15				
5/11/2008 21:10	58.17	NE	4.07				
5/11/2008 21:20	70.3	E	4.69				
5/11/2008 21:30	72.5	E	4.44				
5/11/2008 21:40	70.4	E	4.36				
5/11/2008 21:50	69.21	E	4.55				
5/11/2008 22:00	64.08	NE	4.15				
5/11/2008 22:10	51.66	NE	4.56				
5/11/2008 22:20	47.06	NE	4.88				
5/11/2008 22:30	43.09	NE	4.9				
5/11/2008 22:40	42.08	NE	4.82				
5/11/2008 22:50	43.43	NE	4.87				
5/11/2008 23:00	41.5	NE	4.95				
5/11/2008 23:10	41.66	NE	4.88				
5/11/2008 23:20	38.16	NE	4.96				
5/11/2008 23:30	33.24	NE	5.01				
5/11/2008 23:40	29.29	NE	5.24				
5/11/2008 23:50	29.2	NE	4.98				
5/12/2008 0:00	28.92	NE	4.59				
5/12/2008 0:10	29.97	NE	4.18				
5/12/2008 0:20	29.64	NE	4.65				
5/12/2008 0:30	34.89	NE	4.73				
5/12/2008 0:40	41	NE	4.65				
5/12/2008 0:50	38.13	NE	4.47				
5/12/2008 1:00	38.35	NE	4.27				
5/12/2008 1:10	39.18	NE	5.31				
5/12/2008 1:20	39.96	NE	5				
5/12/2008 1:30	44.27	NE	5.28				
5/12/2008 1:40	47.9	NE	4.57				
5/12/2008 1:50	49.62	NE	5.46				
5/12/2008 2:00	51.72	NE	5.35				
5/12/2008 2:10	50.08	NE	4.91				
5/12/2008 2:20	54.11	NE	4.49				
5/12/2008 2:30	57.42	NE	4.09				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
5/12/2008 2:40	59.95	NE	4.36				
5/12/2008 2:50	61.83	NE	4.52				
5/12/2008 3:00	64.88	NE	4.43				
5/12/2008 3:10	68.12	E	4.56				
5/12/2008 3:20	72	E	4.8				
5/12/2008 3:30	78.9	E	4.73				
5/12/2008 3:40	89.9	E	4.61				
5/12/2008 3:50	97.5	E	4.91				
5/12/2008 4:00	97.8	E	5.07				
5/12/2008 4:10	100	E	5.16				
5/12/2008 4:20	102.8	E	5.29				
5/12/2008 4:30	106.3	E	5.38				
5/12/2008 4:40	109.2	E	5.37				
5/12/2008 4:50	111.7	E	5.49				
5/12/2008 5:00	113.7	SE	5.58				
5/12/2008 5:10	116.8	SE	5.32				
5/12/2008 5:20	119.6	SE	5.08				
5/12/2008 5:30	122.3	SE	5.02				
5/12/2008 5:40	126.9	SE	5.22				
5/12/2008 5:50	128.1	SE	5.46				
5/12/2008 6:00	130.9	SE	5.33	13.5	9	11.3	1.8
5/12/2008 6:10	134.4	SE	5.64				
5/12/2008 6:20	133	SE	5.09				
5/12/2008 6:30	133.9	SE	5.48				
5/12/2008 6:40	133.9	SE	5.32				
5/12/2008 6:50	136.4	SE	5.22				
5/12/2008 7:00	142.6	SE	5.32				
5/12/2008 19:00	318.9	NW	2.04				
5/12/2008 19:10	321.7	NW	2.17				
5/12/2008 19:20	320.4	NW	3.16				
5/12/2008 19:30	316.4	NW	3.68				
5/12/2008 19:40	302.9	NW	3.23				
5/12/2008 19:50	322.8	NW	3.95				
5/12/2008 20:00	328	NW	2.88				
5/12/2008 20:10	327	NW	2.64				
5/12/2008 20:20	339.5	N	2.57				
5/12/2008 20:30	356.3	N	1.94				
5/12/2008 20:40	352.9	N	1.85				
5/12/2008 20:50	359	N	1.97				
5/12/2008 21:00	30.43	NE	1.71				
5/12/2008 21:10	6.16	N	1.52				
5/12/2008 21:20	19.91	N	1.19				
5/12/2008 21:30	341.9	N	1.1				
5/12/2008 21:40	310.4	NW	2.11				
5/12/2008 21:50	312.2	NW	2				
5/12/2008 22:00	299.9	NW	2.2				
5/12/2008 22:10	296.2	NW	1.68				
5/12/2008 22:20	288.1	W	2.28				
5/12/2008 22:30	284.8	W	2.16				
5/12/2008 22:40	288.4	W	2.12				
5/12/2008 22:50	302.8	NW	2.25				
5/12/2008 23:00	289.3	W	3.17				
5/12/2008 23:10	281.4	W	3.25				
5/12/2008 23:20	277.9	W	3.06				
5/12/2008 23:30	278.3	W	2.89				
5/12/2008 23:40	276.2	W	2.4				
5/12/2008 23:50	266.7	W	2.26				
5/13/2008 0:00	259.5	W	1.48				
5/13/2008 0:10	214.1	SW	0.5				
5/13/2008 0:20	186.3	S	0.34				
5/13/2008 0:30	213.9	SW	0.46				
5/13/2008 0:40	172.1	S	0.64				
5/13/2008 0:50	110.9	E	1.47				
5/13/2008 1:00	90.5	E	1.77				
5/13/2008 1:10	91.7	E	2.26				
5/13/2008 1:20	86.8	E	2.15				
5/13/2008 1:30	93.4	E	2.07				
5/13/2008 1:40	91.8	E	2.77				
5/13/2008 1:50	96.1	E	3.62				
5/13/2008 2:00	98	E	3.82				
5/13/2008 2:10	96.9	E	3.75				
5/13/2008 2:20	101	E	4.34				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
5/13/2008 2:30	105.7	E	4.68				
5/13/2008 2:40	107.4	E	4.63				
5/13/2008 2:50	110	E	5				
5/13/2008 3:00	109.5	E	5.12				
5/13/2008 3:10	111.5	E	5.22				
5/13/2008 3:20	116.1	SE	5.38				
5/13/2008 3:30	113.8	SE	4.96				
5/13/2008 3:40	117.2	SE	4.89				
5/13/2008 3:50	119.3	SE	4.67				
5/13/2008 4:00	119	SE	4.72				
5/13/2008 4:10	124.6	SE	4.49				
5/13/2008 4:20	127.6	SE	4.45				
5/13/2008 4:30	128.3	SE	4.39				
5/13/2008 4:40	130.8	SE	4.35				
5/13/2008 4:50	131.5	SE	4.21				
5/13/2008 5:00	134.8	SE	3.98				
5/13/2008 5:10	136.5	SE	3.85				
5/13/2008 5:20	138.6	SE	3.98				
5/13/2008 5:30	137.3	SE	4.23				
5/13/2008 5:40	134.3	SE	4.25				
5/13/2008 5:50	133	SE	4.2				
5/13/2008 6:00	134.3	SE	4.06	18.5	4	11.3	0
5/13/2008 6:10	136.2	SE	3.69				
5/13/2008 6:20	144.9	SE	3.84				
5/13/2008 6:30	148	SE	3.63				
5/13/2008 6:40	151.3	SE	3.68				
5/13/2008 6:50	151.6	SE	3.74				
5/13/2008 7:00	157.8	S	3.63				
5/13/2008 19:00	178.3	S	5.21				
5/13/2008 19:10	183.3	S	4.72				
5/13/2008 19:20	178.5	S	7.4				
5/13/2008 19:30	180.4	S	7.49				
5/13/2008 19:40	178.4	S	7.71				
5/13/2008 19:50	173.3	S	7.56				
5/13/2008 20:00	166.3	S	7.05				
5/13/2008 20:10	163.6	S	6.89				
5/13/2008 20:20	163.2	S	7.49				
5/13/2008 20:30	170.7	S	7.52				
5/13/2008 20:40	171.3	S	7.43				
5/13/2008 20:50	171.5	S	7.8				
5/13/2008 21:00	173.5	S	7.77				
5/13/2008 21:10	176	S	7.64				
5/13/2008 21:20	177.8	S	8.51				
5/13/2008 21:30	177.3	S	8.83				
5/13/2008 21:40	172.7	S	8.97				
5/13/2008 21:50	164.8	S	8.41				
5/13/2008 22:00	162.2	S	8.39				
5/13/2008 22:10	168.7	S	8.04				
5/13/2008 22:20	172	S	8.44				
5/13/2008 22:30	167	S	8.46				
5/13/2008 22:40	168.1	S	9.22				
5/13/2008 22:50	165.9	S	8.97				
5/13/2008 23:00	164.8	S	8.57				
5/13/2008 23:10	167.6	S	8.34				
5/13/2008 23:20	166.7	S	8.33				
5/13/2008 23:30	170.9	S	8.12				
5/13/2008 23:40	172.3	S	8.47				
5/13/2008 23:50	170.5	S	9.3				
5/14/2008 0:00	168.7	S	9.48				
5/14/2008 0:10	165.7	S	9.66				
5/14/2008 0:20	165.2	S	10.24				
5/14/2008 0:30	165.1	S	10.24				
5/14/2008 0:40	163.1	S	10.47				
5/14/2008 0:50	166.3	S	10.32				
5/14/2008 1:00	164.4	S	10.82				
5/14/2008 1:10	159.7	S	11.16				
5/14/2008 1:20	158.8	S	11.93				
5/14/2008 1:30	161.8	S	11.05				
5/14/2008 1:40	167.3	S	10.36				
5/14/2008 1:50	174	S	9.76				
5/14/2008 2:00	174	S	10.17				
5/14/2008 2:10	174.4	S	10.4				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
5/14/2008 2:20	174.3	S	9.86				
5/14/2008 2:30	173.5	S	9.18				
5/14/2008 2:40	174.8	S	8.64				
5/14/2008 2:50	175.2	S	9				
5/14/2008 3:00	172.6	S	9.29				
5/14/2008 3:10	174	S	9.29				
5/14/2008 3:20	176	S	9.42				
5/14/2008 3:30	174.3	S	9.64				
5/14/2008 3:40	172.2	S	9.59				
5/14/2008 3:50	177.8	S	9.12				
5/14/2008 4:00	178.7	S	9.12				
5/14/2008 4:10	178.8	S	9.21				
5/14/2008 4:20	177.9	S	9.36				
5/14/2008 4:30	177.1	S	9.49				
5/14/2008 4:40	179.7	S	9.91				
5/14/2008 4:50	181.5	S	10.3				
5/14/2008 5:00	181.9	S	11.34				
5/14/2008 5:10	183.9	S	11.1				
5/14/2008 5:20	185	S	11.09				
5/14/2008 5:30	183.8	S	10.63				
5/14/2008 5:40	182.2	S	10.95				
5/14/2008 5:50	181.7	S	10.18				
5/14/2008 6:00	180.7	S	10.22	15	11.5	13.3	11.8
5/14/2008 6:10	182	S	9.35				
5/14/2008 6:20	182	S	9.38				
5/14/2008 6:30	183.3	S	9.08				
5/14/2008 6:40	179.5	S	9.39				
5/14/2008 6:50	178.1	S	10.32				
5/14/2008 7:00	181.6	S	9.62				
5/14/2008 19:00	342.3	N	6.94				
5/14/2008 19:10	342.8	N	8.51				
5/14/2008 19:20	339	N	7.43				
5/14/2008 19:30	336	NW	7.19				
5/14/2008 19:40	334.8	NW	6.55				
5/14/2008 19:50	337.6	N	5.56				
5/14/2008 20:00	339.5	N	6.52				
5/14/2008 20:10	338.3	N	7.8				
5/14/2008 20:20	337.9	N	8.03				
5/14/2008 20:30	337	NW	7.16				
5/14/2008 20:40	334.9	NW	6.52				
5/14/2008 20:50	333.6	NW	6.94				
5/14/2008 21:00	334.7	NW	6.21				
5/14/2008 21:10	334.1	NW	6.7				
5/14/2008 21:20	334.9	NW	6.53				
5/14/2008 21:30	336.2	NW	5.97				
5/14/2008 21:40	340.2	N	5.69				
5/14/2008 21:50	338	N	6.09				
5/14/2008 22:00	337.4	NW	5.51				
5/14/2008 22:10	336.7	NW	5.34				
5/14/2008 22:20	339.5	N	5.87				
5/14/2008 22:30	346	N	6.3				
5/14/2008 22:40	344.6	N	5.83				
5/14/2008 22:50	346.3	N	6.03				
5/14/2008 23:00	345.4	N	5.79				
5/14/2008 23:10	346.9	N	5.26				
5/14/2008 23:20	339.4	N	5.09				
5/14/2008 23:30	337.8	N	5.25				
5/14/2008 23:40	338.5	N	4.98				
5/14/2008 23:50	330	NW	6.37				
5/15/2008 0:00	326	NW	6.63				
5/15/2008 0:10	325.8	NW	6.51				
5/15/2008 0:20	327.8	NW	6.23				
5/15/2008 0:30	322.3	NW	6.3				
5/15/2008 0:40	325.3	NW	6.14				
5/15/2008 0:50	324.3	NW	5.77				
5/15/2008 1:00	325.2	NW	6.06				
5/15/2008 1:10	329.3	NW	6.05				
5/15/2008 1:20	331.6	NW	5.95				
5/15/2008 1:30	330.7	NW	4.91				
5/15/2008 1:40	336.1	NW	5.34				
5/15/2008 1:50	339.3	N	4.91				
5/15/2008 2:00	337.6	N	4.78				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
5/15/2008 2:10	334.9	NW	4.75				
5/15/2008 2:20	335	NW	4.23				
5/15/2008 2:30	336.8	NW	4.51				
5/15/2008 2:40	336.4	NW	4.01				
5/15/2008 2:50	338.4	N	3.53				
5/15/2008 3:00	334.7	NW	3.5				
5/15/2008 3:10	333.7	NW	4.3				
5/15/2008 3:20	335.8	NW	4.9				
5/15/2008 3:30	335.1	NW	5.34				
5/15/2008 3:40	334.7	NW	5.83				
5/15/2008 3:50	332.3	NW	5.57				
5/15/2008 4:00	332.3	NW	5.21				
5/15/2008 4:10	338	N	4.34				
5/15/2008 4:20	340.3	N	4.32				
5/15/2008 4:30	339.8	N	4.66				
5/15/2008 4:40	345	N	3.9				
5/15/2008 4:50	344.3	N	3.89				
5/15/2008 5:00	346.1	N	4.81				
5/15/2008 5:10	349.2	N	4.9				
5/15/2008 5:20	353.7	N	5.06				
5/15/2008 5:30	356.5	N	4.99				
5/15/2008 5:40	357.7	N	4.89				
5/15/2008 5:50	357.4	N	5.07				
5/15/2008 6:00	358.6	N	5.13	12	3	7.5	0
5/15/2008 6:10	359.5	N	5.04				
5/15/2008 6:20	0.17	N	4.58				
5/15/2008 6:30	1.35	N	4.49				
5/15/2008 6:40	3.73	N	4.56				
5/15/2008 6:50	9.89	N	4.66				
5/15/2008 7:00	9.26	N	4.75				
5/15/2008 19:00	12.37	N	4.32				
5/15/2008 19:10	18.92	N	4.68				
5/15/2008 19:20	24.92	NE	4.43				
5/15/2008 19:30	22.17	N	4.79				
5/15/2008 19:40	26.4	NE	4.99				
5/15/2008 19:50	29.85	NE	4.94				
5/15/2008 20:00	28.59	NE	4.92				
5/15/2008 20:10	32.01	NE	4.42				
5/15/2008 20:20	29.6	NE	4.91				
5/15/2008 20:30	30.87	NE	5.09				
5/15/2008 20:40	33.09	NE	4.97				
5/15/2008 20:50	32.77	NE	4.67				
5/15/2008 21:00	32.57	NE	6.03				
5/15/2008 21:10	31.75	NE	6.56				
5/15/2008 21:20	32.82	NE	6.41				
5/15/2008 21:30	28.76	NE	6.77				
5/15/2008 21:40	30.36	NE	6.13				
5/15/2008 21:50	30.8	NE	5.94				
5/15/2008 22:00	31.13	NE	5.96				
5/15/2008 22:10	35.13	NE	5.45				
5/15/2008 22:20	35.74	NE	5.56				
5/15/2008 22:30	34.1	NE	5.95				
5/15/2008 22:40	37.09	NE	5.46				
5/15/2008 22:50	37.19	NE	5.74				
5/15/2008 23:00	38.41	NE	5.68				
5/15/2008 23:10	42.3	NE	4.96				
5/15/2008 23:20	43.96	NE	5.41				
5/15/2008 23:30	46.74	NE	5.39				
5/15/2008 23:40	50.82	NE	5.74				
5/15/2008 23:50	56.29	NE	5.32				
5/16/2008 0:00	61.11	NE	5.09				
5/16/2008 0:10	66.19	NE	5.24				
5/16/2008 0:20	69.61	E	5.08				
5/16/2008 0:30	74.7	E	4.92				
5/16/2008 0:40	74.7	E	5.35				
5/16/2008 0:50	73.1	E	5.6				
5/16/2008 1:00	66.49	NE	5.89				
5/16/2008 1:10	64.23	NE	5.4				
5/16/2008 1:20	66.69	NE	5.18				
5/16/2008 1:30	70.9	E	5.12				
5/16/2008 1:40	69.19	E	5.22				
5/16/2008 1:50	69.9	E	5.63				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
5/16/2008 2:00	72	E	5.6				
5/16/2008 2:10	74.9	E	5.43				
5/16/2008 2:20	81	E	5.14				
5/16/2008 2:30	89.1	E	5.9				
5/16/2008 2:40	91.1	E	6.31				
5/16/2008 2:50	93.4	E	6.81				
5/16/2008 3:00	87.7	E	6.91				
5/16/2008 3:10	89.9	E	7.08				
5/16/2008 3:20	94.6	E	7.07				
5/16/2008 3:30	96.4	E	7.21				
5/16/2008 3:40	93	E	7.52				
5/16/2008 3:50	89.6	E	7.96				
5/16/2008 4:00	91.3	E	7.95				
5/16/2008 4:10	97.8	E	8.03				
5/16/2008 4:20	96.8	E	7.78				
5/16/2008 4:30	92.1	E	7.85				
5/16/2008 4:40	88.5	E	7.71				
5/16/2008 4:50	96.2	E	7.56				
5/16/2008 5:00	109.3	E	6.69				
5/16/2008 5:10	110	E	5.56				
5/16/2008 5:20	112.2	E	4.98				
5/16/2008 5:30	108.7	E	4.72				
5/16/2008 5:40	102.1	E	3.89				
5/16/2008 5:50	96.5	E	3.33				
5/16/2008 6:00	98.6	E	3.7	18.5	4	11.3	5.8
5/16/2008 6:10	94.7	E	3.06				
5/16/2008 6:20	84.2	E	2.58				
5/16/2008 6:30	97.1	E	3.07				
5/16/2008 6:40	101.6	E	3.48				
5/16/2008 6:50	95	E	3.24				
5/16/2008 7:00	93.5	E	2.85				
5/16/2008 19:00	254.7	W	4.26				
5/16/2008 19:10	268	W	4.26				
5/16/2008 19:20	265.5	W	3.94				
5/16/2008 19:30	255.9	W	3.17				
5/16/2008 19:40	239.4	SW	3.38				
5/16/2008 19:50	234.2	SW	1.36				
5/16/2008 20:00	230.6	SW	1.96				
5/16/2008 20:10	208.7	SW	3.09				
5/16/2008 20:20	198.4	S	3.57				
5/16/2008 20:30	193.4	S	4.83				
5/16/2008 20:40	196.1	S	5.09				
5/16/2008 20:50	211.7	SW	5.8				
5/16/2008 21:00	203.7	SW	5.97				
5/16/2008 21:10	193.6	S	6.05				
5/16/2008 21:20	189	S	5.84				
5/16/2008 21:30	182.8	S	6.78				
5/16/2008 21:40	181.6	S	7.36				
5/16/2008 21:50	179.7	S	7.02				
5/16/2008 22:00	177	S	7.49				
5/16/2008 22:10	175.6	S	7.78				
5/16/2008 22:20	174.8	S	7.43				
5/16/2008 22:30	173.6	S	7.49				
5/16/2008 22:40	176.7	S	7.74				
5/16/2008 22:50	179.9	S	8.71				
5/16/2008 23:00	181	S	8.41				
5/16/2008 23:10	184.3	S	7.47				
5/16/2008 23:20	184.6	S	7.68				
5/16/2008 23:30	187.1	S	7.67				
5/16/2008 23:40	189.8	S	8.29				
5/16/2008 23:50	193	S	9.26				
5/17/2008 0:00	196.4	S	8.56				
5/17/2008 0:10	198.9	S	8.02				
5/17/2008 0:20	199.4	S	7.69				
5/17/2008 0:30	201.6	S	7.96				
5/17/2008 0:40	202.5	SW	8.13				
5/17/2008 0:50	203.4	SW	8.99				
5/17/2008 1:00	202.1	S	8.35				
5/17/2008 1:10	200.3	S	8.37				
5/17/2008 1:20	200.3	S	8.19				
5/17/2008 1:30	199.1	S	8.62				
5/17/2008 1:40	198.5	S	7.8				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
5/17/2008 1:50	196.9	S	7.34				
5/17/2008 2:00	196.2	S	7.34				
5/17/2008 2:10	196.4	S	7.3				
5/17/2008 2:20	199	S	7.17				
5/17/2008 2:30	205.8	SW	8.26				
5/17/2008 2:40	205.2	SW	8.04				
5/17/2008 2:50	204.2	SW	8.6				
5/17/2008 3:00	197.1	S	8.41				
5/17/2008 3:10	191.8	S	9.2				
5/17/2008 3:20	196.4	S	9.67				
5/17/2008 3:30	194.8	S	9.56				
5/17/2008 3:40	202.5	SW	8.06				
5/17/2008 3:50	185.7	S	10.59				
5/17/2008 4:00	182.5	S	9.9				
5/17/2008 4:10	179.3	S	8.87				
5/17/2008 4:20	185.7	S	7.65				
5/17/2008 4:30	200.1	S	7.5				
5/17/2008 4:40	204.8	SW	8.53				
5/17/2008 4:50	200.2	S	8.2				
5/17/2008 5:00	197.9	S	8.51				
5/17/2008 5:10	195.3	S	8.05				
5/17/2008 5:20	194.2	S	8.71				
5/17/2008 5:30	196.5	S	8.94				
5/17/2008 5:40	200.8	S	8.25				
5/17/2008 5:50	198.6	S	8.07				
5/17/2008 6:00	200	S	8.27	13	10	11.5	1.6
5/17/2008 6:10	201.2	S	7.71				
5/17/2008 6:20	198.1	S	7.71				
5/17/2008 6:30	213.2	SW	7.29				
5/17/2008 6:40	217.6	SW	6.77				
5/17/2008 6:50	213.4	SW	7.36				
5/17/2008 7:00	216	SW	7.14				
5/17/2008 19:00	319	NW	8.27				
5/17/2008 19:10	309.2	NW	7				
5/17/2008 19:20	296.7	NW	6.35				
5/17/2008 19:30	296.1	NW	5.75				
5/17/2008 19:40	286.3	W	4.93				
5/17/2008 19:50	286.9	W	5.35				
5/17/2008 20:00	278.7	W	5.45				
5/17/2008 20:10	279.1	W	5.15				
5/17/2008 20:20	279.3	W	4.95				
5/17/2008 20:30	281.5	W	5.03				
5/17/2008 20:40	280	W	4.87				
5/17/2008 20:50	280	W	4.72				
5/17/2008 21:00	279.8	W	4.88				
5/17/2008 21:10	280.4	W	5.21				
5/17/2008 21:20	281	W	4.81				
5/17/2008 21:30	275.3	W	4.89				
5/17/2008 21:40	264.9	W	4.3				
5/17/2008 21:50	264.4	W	4.6				
5/17/2008 22:00	260.6	W	4.97				
5/17/2008 22:10	251.2	W	4.72				
5/17/2008 22:20	257.1	W	4.66				
5/17/2008 22:30	247.5	W	4.9				
5/17/2008 22:40	242	SW	4.7				
5/17/2008 22:50	237.3	SW	4.41				
5/17/2008 23:00	220.6	SW	4.41				
5/17/2008 23:10	216.8	SW	5.4				
5/17/2008 23:20	211.2	SW	6.11				
5/17/2008 23:30	210.7	SW	5.9				
5/17/2008 23:40	210	SW	5.52				
5/17/2008 23:50	201.2	S	5.9				
5/18/2008 0:00	201.2	S	6.39				
5/18/2008 0:10	203.7	SW	6.33				
5/18/2008 0:20	217.6	SW	5.45				
5/18/2008 0:30	211.6	SW	5.89				
5/18/2008 0:40	202.5	SW	7.38				
5/18/2008 0:50	198.9	S	7.39				
5/18/2008 1:00	194.8	S	7.83				
5/18/2008 1:10	195.7	S	8.3				
5/18/2008 1:20	195.7	S	8.35				
5/18/2008 1:30	198.5	S	8.71				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
5/18/2008 1:40	195.2	S	7.92				
5/18/2008 1:50	193.7	S	7.35				
5/18/2008 2:00	185.1	S	7.29				
5/18/2008 2:10	187.6	S	7.18				
5/18/2008 2:20	184.3	S	7.2				
5/18/2008 2:30	186.3	S	6.23				
5/18/2008 2:40	188.1	S	5.88				
5/18/2008 2:50	184.5	S	6.24				
5/18/2008 3:00	181	S	7.21				
5/18/2008 3:10	180	S	7.33				
5/18/2008 3:20	177.2	S	7.53				
5/18/2008 3:30	174	S	7.28				
5/18/2008 3:40	169	S	7.51				
5/18/2008 3:50	168.9	S	7.47				
5/18/2008 4:00	167.8	S	8.19				
5/18/2008 4:10	170.5	S	8.04				
5/18/2008 4:20	163.8	S	7.48				
5/18/2008 4:30	169.4	S	8				
5/18/2008 4:40	183.2	S	8.72				
5/18/2008 4:50	185.8	S	7.98				
5/18/2008 5:00	188.7	S	8.64				
5/18/2008 5:10	195.6	S	8.47				
5/18/2008 5:20	188.9	S	7.98				
5/18/2008 5:30	182.7	S	7.14				
5/18/2008 5:40	177.8	S	7.75				
5/18/2008 5:50	182	S	8.22				
5/18/2008 6:00	179.1	S	8.62	8.5	4	6.3	2.6
5/18/2008 6:10	181.7	S	8.08				
5/18/2008 6:20	181.8	S	7.12				
5/18/2008 6:30	187.1	S	6.3				
5/18/2008 6:40	188	S	5.89				
5/18/2008 6:50	195.2	S	5.46				
5/18/2008 7:00	233.7	SW	3.05				
5/18/2008 19:00	315.1	NW	8.09				
5/18/2008 19:10	316.6	NW	8.74				
5/18/2008 19:20	316.2	NW	9.27				
5/18/2008 19:30	315	NW	10.57				
5/18/2008 19:40	317.1	NW	10.39				
5/18/2008 19:50	318.6	NW	11.9				
5/18/2008 20:00	322	NW	12.2				
5/18/2008 20:10	321.6	NW	13.31				
5/18/2008 20:20	318.6	NW	11.4				
5/18/2008 20:30	322.9	NW	12.35				
5/18/2008 20:40	327.5	NW	11.83				
5/18/2008 20:50	326.3	NW	11.89				
5/18/2008 21:00	324	NW	12.5				
5/18/2008 21:10	322.9	NW	13.17				
5/18/2008 21:20	322.7	NW	14.53				
5/18/2008 21:30	322.9	NW	15.06				
5/18/2008 21:40	319.7	NW	14.84				
5/18/2008 21:50	319.1	NW	15.63				
5/18/2008 22:00	320.2	NW	14.42				
5/18/2008 22:10	319.2	NW	15.29				
5/18/2008 22:20	318.6	NW	13.75				
5/18/2008 22:30	316.2	NW	13.13				
5/18/2008 22:40	315.3	NW	13.18				
5/18/2008 22:50	313.4	NW	11.4				
5/18/2008 23:00	309.4	NW	9.77				
5/18/2008 23:10	307.1	NW	8.91				
5/18/2008 23:20	303.9	NW	9.31				
5/18/2008 23:30	309.1	NW	10.52				
5/18/2008 23:40	309.8	NW	11.42				
5/18/2008 23:50	305.8	NW	10.13				
5/19/2008 0:00	304.1	NW	8.21				
5/19/2008 0:10	302.5	NW	8.88				
5/19/2008 0:20	299.7	NW	8.8				
5/19/2008 0:30	302.9	NW	8.45				
5/19/2008 0:40	299.3	NW	8.4				
5/19/2008 0:50	303.8	NW	8.88				
5/19/2008 1:00	300.9	NW	8.22				
5/19/2008 1:10	303.2	NW	8.84				
5/19/2008 1:20	311.3	NW	8.94				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
5/19/2008 1:30	304.3	NW	8.88				
5/19/2008 1:40	301.4	NW	8.45				
5/19/2008 1:50	301.1	NW	8.67				
5/19/2008 2:00	301.7	NW	8.01				
5/19/2008 2:10	294.4	NW	7.71				
5/19/2008 2:20	295.6	NW	8.28				
5/19/2008 2:30	296	NW	8.64				
5/19/2008 2:40	294	NW	8.12				
5/19/2008 2:50	295.2	NW	8.03				
5/19/2008 3:00	286.9	W	9.74				
5/19/2008 3:10	293.4	NW	8.53				
5/19/2008 3:20	287.7	W	8.11				
5/19/2008 3:30	287.9	W	8.93				
5/19/2008 3:40	283.7	W	10.06				
5/19/2008 3:50	282.3	W	9.88				
5/19/2008 4:00	283.8	W	10.25				
5/19/2008 4:10	280.8	W	10.37				
5/19/2008 4:20	277.1	W	10.64				
5/19/2008 4:30	280.5	W	11.99				
5/19/2008 4:40	282	W	11.23				
5/19/2008 4:50	283.5	W	10.31				
5/19/2008 5:00	279.1	W	11.03				
5/19/2008 5:10	287.4	W	11.32				
5/19/2008 5:20	296.2	NW	10.58				
5/19/2008 5:30	296.1	NW	9.24				
5/19/2008 5:40	293.5	NW	9.06				
5/19/2008 5:50	290.4	W	8.39				
5/19/2008 6:00	293.4	NW	9.21	11.5	3.5	7.5	0
5/19/2008 6:10	292.3	W	9.83				
5/19/2008 6:20	286.7	W	10.15				
5/19/2008 6:30	285.7	W	9.78				
5/19/2008 6:40	284.6	W	10.96				
5/19/2008 6:50	288.4	W	9.75				
5/19/2008 7:00	286.6	W	9.19				
5/19/2008 19:00	211.1	SW	3.77				
5/19/2008 19:10	210.5	SW	4				
5/19/2008 19:20	205.6	SW	3.49				
5/19/2008 19:30	200.1	S	3.79				
5/19/2008 19:40	194.2	S	3.74				
5/19/2008 19:50	195.2	S	3.56				
5/19/2008 20:00	196	S	3.63				
5/19/2008 20:10	196.6	S	3.46				
5/19/2008 20:20	199	S	3.39				
5/19/2008 20:30	199.3	S	3.23				
5/19/2008 20:40	196.7	S	3.45				
5/19/2008 20:50	198.1	S	3.2				
5/19/2008 21:00	199.2	S	3.54				
5/19/2008 21:10	198.3	S	3.56				
5/19/2008 21:20	198.8	S	3.7				
5/19/2008 21:30	194.7	S	3.28				
5/19/2008 21:40	196.7	S	3.26				
5/19/2008 21:50	198.1	S	2.84				
5/19/2008 22:00	202.4	S	2.46				
5/19/2008 22:10	201	S	2.46				
5/19/2008 22:20	202.5	SW	2.29				
5/19/2008 22:30	204.8	SW	2.13				
5/19/2008 22:40	212.4	SW	2				
5/19/2008 22:50	226.5	SW	1.92				
5/19/2008 23:00	238.4	SW	1.68				
5/19/2008 23:10	246.3	SW	2.29				
5/19/2008 23:20	253.4	W	2.3				
5/19/2008 23:30	256.5	W	2.88				
5/19/2008 23:40	250.3	W	3.11				
5/19/2008 23:50	261.5	W	3.05				
5/20/2008 0:00	259.3	W	3.4				
5/20/2008 0:10	253.1	W	3.52				
5/20/2008 0:20	251.8	W	3.97				
5/20/2008 0:30	264.2	W	3.86				
5/20/2008 0:40	268.6	W	3.84				
5/20/2008 0:50	277	W	3.85				
5/20/2008 1:00	280.7	W	3.67				
5/20/2008 1:10	280.9	W	3.95				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
5/20/2008 1:20	294.4	NW	4.27				
5/20/2008 1:30	297.4	NW	4.43				
5/20/2008 1:40	303.4	NW	5.43				
5/20/2008 1:50	316.1	NW	5.57				
5/20/2008 2:00	320.1	NW	5.47				
5/20/2008 2:10	329	NW	4.94				
5/20/2008 2:20	335.5	NW	4.52				
5/20/2008 2:30	341.3	N	3.92				
5/20/2008 2:40	344.9	N	3.3				
5/20/2008 2:50	345.3	N	3.11				
5/20/2008 3:00	339.7	N	3.75				
5/20/2008 3:10	331.1	NW	3.44				
5/20/2008 3:20	318	NW	2.84				
5/20/2008 3:30	316.8	NW	3.54				
5/20/2008 3:40	318.7	NW	4.34				
5/20/2008 3:50	313.9	NW	4.98				
5/20/2008 4:00	308.6	NW	4.55				
5/20/2008 4:10	300.4	NW	4.11				
5/20/2008 4:20	298.5	NW	4.2				
5/20/2008 4:30	293.9	NW	3.89				
5/20/2008 4:40	299.5	NW	4.07				
5/20/2008 4:50	295.8	NW	3.81				
5/20/2008 5:00	282.1	W	3.48				
5/20/2008 5:10	285.9	W	4.14				
5/20/2008 5:20	289.2	W	4.51				
5/20/2008 5:30	290.4	W	4.6				
5/20/2008 5:40	288.8	W	4.63				
5/20/2008 5:50	286.7	W	4.47				
5/20/2008 6:00	282.9	W	4.18	15.5	1	8.3	0
5/20/2008 6:10	277.7	W	4.06				
5/20/2008 6:20	274.1	W	3.75				
5/20/2008 6:30	269.2	W	3.94				
5/20/2008 6:40	264.4	W	3.66				
5/20/2008 6:50	260.9	W	4.01				
5/20/2008 7:00	263.6	W	4.6				
5/20/2008 19:00	342.3	N	8.1				
5/20/2008 19:10	343.4	N	7.88				
5/20/2008 19:20	344.6	N	7.56				
5/20/2008 19:30	342.4	N	7.92				
5/20/2008 19:40	344.9	N	6.9				
5/20/2008 19:50	346.9	N	7.98				
5/20/2008 20:00	344.1	N	8.2				
5/20/2008 20:10	337.1	NW	6.21				
5/20/2008 20:20	333.7	NW	7.44				
5/20/2008 20:30	333.9	NW	7.09				
5/20/2008 20:40	335.5	NW	6.55				
5/20/2008 20:50	330.7	NW	6.9				
5/20/2008 21:00	332.6	NW	8.44				
5/20/2008 21:10	328.3	NW	7.38				
5/20/2008 21:20	328.9	NW	8.38				
5/20/2008 21:30	331.5	NW	8.63				
5/20/2008 21:40	332.1	NW	9.68				
5/20/2008 21:50	331.6	NW	10.03				
5/20/2008 22:00	329.7	NW	10.98				
5/20/2008 22:10	328.4	NW	11.9				
5/20/2008 22:20	325	NW	10.9				
5/20/2008 22:30	326.7	NW	11.34				
5/20/2008 22:40	325.5	NW	10.42				
5/20/2008 22:50	327.4	NW	10.36				
5/20/2008 23:00	323.3	NW	10.06				
5/20/2008 23:10	317.1	NW	8.96				
5/20/2008 23:20	319	NW	8.7				
5/20/2008 23:30	315.8	NW	10.38				
5/20/2008 23:40	315.7	NW	10.78				
5/20/2008 23:50	314.6	NW	9.53				
5/21/2008 0:00	311	NW	8.52				
5/21/2008 0:10	309.5	NW	8.8				
5/21/2008 0:20	309.1	NW	8.4				
5/21/2008 0:30	302	NW	7.93				
5/21/2008 0:40	301.2	NW	8.62				
5/21/2008 0:50	299.5	NW	7.81				
5/21/2008 1:00	296.7	NW	8.8				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
5/21/2008 1:10	293.2	NW	8.66				
5/21/2008 1:20	295.8	NW	8.08				
5/21/2008 1:30	295.7	NW	7.7				
5/21/2008 1:40	295.9	NW	7.89				
5/21/2008 1:50	296.3	NW	8.37				
5/21/2008 2:00	297.8	NW	8.17				
5/21/2008 2:10	298.2	NW	8.75				
5/21/2008 2:20	297.7	NW	8.03				
5/21/2008 2:30	298.9	NW	7.84				
5/21/2008 2:40	294.6	NW	6.91				
5/21/2008 2:50	294.9	NW	6.81				
5/21/2008 3:00	296.9	NW	7.28				
5/21/2008 3:10	296.3	NW	7.5				
5/21/2008 3:20	295.9	NW	7.25				
5/21/2008 3:30	294.4	NW	7.12				
5/21/2008 3:40	291.9	W	7.07				
5/21/2008 3:50	294.3	NW	6.75				
5/21/2008 4:00	296.5	NW	6.92				
5/21/2008 4:10	294.9	NW	6.86				
5/21/2008 4:20	296.9	NW	8.24				
5/21/2008 4:30	303.8	NW	7.86				
5/21/2008 4:40	305.1	NW	7.66				
5/21/2008 4:50	302.2	NW	7.9				
5/21/2008 5:00	304.8	NW	8.56				
5/21/2008 5:10	306	NW	7.02				
5/21/2008 5:20	305.1	NW	7.64				
5/21/2008 5:30	298	NW	6.24				
5/21/2008 5:40	292.6	NW	7.02				
5/21/2008 5:50	292.9	NW	7.11				
5/21/2008 6:00	291.7	W	7.25	7	3.5	5.3	4.8
5/21/2008 6:10	290.2	W	7.35				
5/21/2008 6:20	288.6	W	7.35				
5/21/2008 6:30	288.8	W	7.63				
5/21/2008 6:40	289.3	W	8.16				
5/21/2008 6:50	290	W	7.82				
5/21/2008 7:00	288	W	8.7				
5/21/2008 19:00	281.3	W	7.42				
5/21/2008 19:10	279.7	W	8.28				
5/21/2008 19:20	277.6	W	8.43				
5/21/2008 19:30	280.3	W	8.43				
5/21/2008 19:40	280.2	W	8.69				
5/21/2008 19:50	280.1	W	8.6				
5/21/2008 20:00	279.3	W	9.02				
5/21/2008 20:10	281.7	W	8.81				
5/21/2008 20:20	285.3	W	9.2				
5/21/2008 20:30	288.2	W	9.33				
5/21/2008 20:40	288.7	W	8.85				
5/21/2008 20:50	287.8	W	9.21				
5/21/2008 21:00	289	W	9.85				
5/21/2008 21:10	289.9	W	10.04				
5/21/2008 21:20	291.7	W	9.65				
5/21/2008 21:30	292.6	NW	9.52				
5/21/2008 21:40	293	NW	8.8				
5/21/2008 21:50	291.6	W	9.07				
5/21/2008 22:00	291.3	W	9.61				
5/21/2008 22:10	293.6	NW	8.66				
5/21/2008 22:20	292.9	NW	8.44				
5/21/2008 22:30	294.2	NW	8.91				
5/21/2008 22:40	296.7	NW	8.66				
5/21/2008 22:50	299.7	NW	8.5				
5/21/2008 23:00	301.2	NW	8.19				
5/21/2008 23:10	299	NW	8.22				
5/21/2008 23:20	300.9	NW	8.19				
5/21/2008 23:30	302.6	NW	7.75				
5/21/2008 23:40	304	NW	7.84				
5/21/2008 23:50	299.3	NW	7.82				
5/22/2008 0:00	300.5	NW	7.36				
5/22/2008 0:10	305.4	NW	7.98				
5/22/2008 0:20	307	NW	8.06				
5/22/2008 0:30	307	NW	7.17				
5/22/2008 0:40	305.2	NW	6.86				
5/22/2008 0:50	305.3	NW	7.3				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
5/22/2008 1:00	306.8	NW	7.87				
5/22/2008 1:10	310.4	NW	7.79				
5/22/2008 1:20	311.1	NW	8.17				
5/22/2008 1:30	313.3	NW	7.94				
5/22/2008 1:40	314.6	NW	7.44				
5/22/2008 1:50	315.4	NW	7.57				
5/22/2008 2:00	317.7	NW	8.22				
5/22/2008 2:10	317.7	NW	8.26				
5/22/2008 2:20	320.2	NW	8.87				
5/22/2008 2:30	321	NW	8.26				
5/22/2008 2:40	320.9	NW	7.54				
5/22/2008 2:50	323.9	NW	8.16				
5/22/2008 3:00	326.5	NW	8.48				
5/22/2008 3:10	325.3	NW	9.39				
5/22/2008 3:20	328.3	NW	9.35				
5/22/2008 3:30	326.2	NW	9.06				
5/22/2008 3:40	327.9	NW	9.25				
5/22/2008 3:50	328.7	NW	8.64				
5/22/2008 4:00	328.3	NW	9.09				
5/22/2008 4:10	329.4	NW	8.69				
5/22/2008 4:20	329.6	NW	9.5				
5/22/2008 4:30	328.4	NW	9.43				
5/22/2008 4:40	331.5	NW	9.16				
5/22/2008 4:50	332.2	NW	8.42				
5/22/2008 5:00	330.4	NW	8.35				
5/22/2008 5:10	333.6	NW	8.24				
5/22/2008 5:20	331.8	NW	8.96				
5/22/2008 5:30	329.7	NW	8.26				
5/22/2008 5:40	328.6	NW	8.39				
5/22/2008 5:50	328.1	NW	9.09				
5/22/2008 6:00	328.6	NW	8.04	11	4.5	7.8	0
5/22/2008 6:10	328.1	NW	8.21				
5/22/2008 6:20	331.8	NW	8.64				
5/22/2008 6:30	329.4	NW	8.78				
5/22/2008 6:40	328.9	NW	7.92				
5/22/2008 6:50	329.7	NW	8.81				
5/22/2008 7:00	331.8	NW	8.52				
5/22/2008 19:00	281	W	3.64				
5/22/2008 19:10	308.2	NW	3.63				
5/22/2008 19:20	314.4	NW	4.22				
5/22/2008 19:30	319.7	NW	4.05				
5/22/2008 19:40	311	NW	4.53				
5/22/2008 19:50	297.2	NW	4.73				
5/22/2008 20:00	306.8	NW	5.34				
5/22/2008 20:10	315.5	NW	5.45				
5/22/2008 20:20	327.4	NW	5.97				
5/22/2008 20:30	318.6	NW	6.24				
5/22/2008 20:40	321	NW	6.83				
5/22/2008 20:50	331	NW	7.37				
5/22/2008 21:00	326.2	NW	6.63				
5/22/2008 21:10	319.5	NW	5.86				
5/22/2008 21:20	321.5	NW	6.78				
5/22/2008 21:30	316.2	NW	5.74				
5/22/2008 21:40	317.5	NW	5.83				
5/22/2008 21:50	321.1	NW	6.1				
5/22/2008 22:00	319.9	NW	6.64				
5/22/2008 22:10	323.1	NW	7.7				
5/22/2008 22:20	327.9	NW	8.02				
5/22/2008 22:30	326.7	NW	7.34				
5/22/2008 22:40	327.1	NW	6.49				
5/22/2008 22:50	324.8	NW	5.9				
5/22/2008 23:00	325.4	NW	6.16				
5/22/2008 23:10	325.8	NW	5.37				
5/22/2008 23:20	322.8	NW	5.36				
5/22/2008 23:30	327	NW	5.17				
5/22/2008 23:40	334.6	NW	4.85				
5/22/2008 23:50	340.5	N	4.11				
5/23/2008 0:00	346.1	N	4.07				
5/23/2008 0:10	349.9	N	4.35				
5/23/2008 0:20	351	N	4.53				
5/23/2008 0:30	3.12	N	4.39				
5/23/2008 0:40	355.2	N	5.07				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
5/23/2008 0:50	352.7	N	4.87				
5/23/2008 1:00	355.2	N	4.55				
5/23/2008 1:10	358.5	N	4.04				
5/23/2008 1:20	8.62	N	4.08				
5/23/2008 1:30	12.21	N	3.72				
5/23/2008 1:40	13.18	N	3.74				
5/23/2008 1:50	16.92	N	3.93				
5/23/2008 2:00	15.85	N	2.99				
5/23/2008 2:10	7.54	N	2.58				
5/23/2008 2:20	3.63	N	2.68				
5/23/2008 2:30	12.56	N	2.77				
5/23/2008 2:40	14.71	N	3.3				
5/23/2008 2:50	12.37	N	3.3				
5/23/2008 3:00	10.86	N	3.39				
5/23/2008 3:10	11.82	N	3.57				
5/23/2008 3:20	5.95	N	3.49				
5/23/2008 3:30	3.89	N	4.28				
5/23/2008 3:40	358.4	N	4.92				
5/23/2008 3:50	359.1	N	4.17				
5/23/2008 4:00	0.84	N	4.08				
5/23/2008 4:10	2.81	N	4.63				
5/23/2008 4:20	359.3	N	4.42				
5/23/2008 4:30	351.4	N	3.88				
5/23/2008 4:40	0.43	N	4.93				
5/23/2008 4:50	0.39	N	4.84				
5/23/2008 5:00	356.3	N	4.2				
5/23/2008 5:10	5.18	N	4.73				
5/23/2008 5:20	8	N	5.62				
5/23/2008 5:30	7.84	N	5.36				
5/23/2008 5:40	8.33	N	4.88				
5/23/2008 5:50	7.78	N	4.67				
5/23/2008 6:00	3.4	N	3.84	No Data	No Data	No Data	No Data
5/23/2008 6:10	0.22	N	3.66				
5/23/2008 6:20	4.82	N	3.73				
5/23/2008 6:30	9.28	N	3.38				
5/23/2008 6:40	12.71	N	3.85				
5/23/2008 6:50	16.61	N	4.03				
5/23/2008 7:00	16.03	N	4.32				
5/23/2008 19:00	329.5	NW	4.02				
5/23/2008 19:10	329.3	NW	3.82				
5/23/2008 19:20	338.8	N	3.62				
5/23/2008 19:30	334.9	NW	4.66				
5/23/2008 19:40	330.5	NW	5.14				
5/23/2008 19:50	329	NW	5.62				
5/23/2008 20:00	328.8	NW	5.84				
5/23/2008 20:10	330.5	NW	5.59				
5/23/2008 20:20	334.2	NW	4.27				
5/23/2008 20:30	339.5	N	3.95				
5/23/2008 20:40	345.7	N	3.74				
5/23/2008 20:50	338.4	N	4.53				
5/23/2008 21:00	336.7	NW	4.6				
5/23/2008 21:10	337.3	NW	4.87				
5/23/2008 21:20	338.5	N	5.12				
5/23/2008 21:30	336.7	NW	4.39				
5/23/2008 21:40	340.1	N	4.24				
5/23/2008 21:50	340.8	N	4.48				
5/23/2008 22:00	342.4	N	4.64				
5/23/2008 22:10	340.6	N	4.01				
5/23/2008 22:20	341.3	N	3.87				
5/23/2008 22:30	354.7	N	3.93				
5/23/2008 22:40	5.58	N	3.6				
5/23/2008 22:50	6.42	N	4.24				
5/23/2008 23:00	9.81	N	4.06				
5/23/2008 23:10	9.48	N	4.15				
5/23/2008 23:20	4.77	N	4.51				
5/23/2008 23:30	8.81	N	4.89				
5/23/2008 23:40	7.63	N	5.81				
5/23/2008 23:50	3.07	N	5.06				
5/24/2008 0:00	7.86	N	5.43				
5/24/2008 0:10	19.76	N	6.7				
5/24/2008 0:20	16.35	N	7.12				
5/24/2008 0:30	17.75	N	6.68				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
5/24/2008 0:40	21.47	N	6.46				
5/24/2008 0:50	20.44	N	6.31				
5/24/2008 1:00	22.29	N	6.47				
5/24/2008 1:10	25.88	NE	6.51				
5/24/2008 1:20	26.03	NE	6.02				
5/24/2008 1:30	27.45	NE	6.06				
5/24/2008 1:40	27.1	NE	5.51				
5/24/2008 1:50	26.89	NE	5.64				
5/24/2008 2:00	27.73	NE	5.47				
5/24/2008 2:10	27.88	NE	5.69				
5/24/2008 2:20	28.29	NE	5.74				
5/24/2008 2:30	29.71	NE	5.28				
5/24/2008 2:40	31.81	NE	4.94				
5/24/2008 2:50	32.36	NE	5.32				
5/24/2008 3:00	35.32	NE	5.03				
5/24/2008 3:10	33.59	NE	5.43				
5/24/2008 3:20	30.44	NE	6.57				
5/24/2008 3:30	30.13	NE	7.25				
5/24/2008 3:40	30.37	NE	7.46				
5/24/2008 3:50	29.39	NE	7.6				
5/24/2008 4:00	28.63	NE	7.67				
5/24/2008 4:10	30.33	NE	7.2				
5/24/2008 4:20	30.58	NE	6.82				
5/24/2008 4:30	31.09	NE	6.97				
5/24/2008 4:40	29.8	NE	6.92				
5/24/2008 4:50	28.05	NE	6.78				
5/24/2008 5:00	27.98	NE	6.18				
5/24/2008 5:10	30.66	NE	5.77				
5/24/2008 5:20	29.55	NE	5.63				
5/24/2008 5:30	27.02	NE	5.64				
5/24/2008 5:40	27.05	NE	5.36				
5/24/2008 5:50	23.37	NE	5.04				
5/24/2008 6:00	17.23	N	5.33	No Data	No Data	No Data	No Data
5/24/2008 6:10	20.84	N	5.41				
5/24/2008 6:20	19.69	N	5.62				
5/24/2008 6:30	21.43	N	6.24				
5/24/2008 6:40	22.58	NE	6.25				
5/24/2008 6:50	22.84	NE	6.62				
5/24/2008 7:00	26.72	NE	6.94				
5/24/2008 19:00	333.8	NW	4.45				
5/24/2008 19:10	340.6	N	4.13				
5/24/2008 19:20	345.1	N	2.99				
5/24/2008 19:30	358.2	N	1.96				
5/24/2008 19:40	343.1	N	2.58				
5/24/2008 19:50	343.8	N	3.09				
5/24/2008 20:00	343	N	2.85				
5/24/2008 20:10	330.7	NW	2.45				
5/24/2008 20:20	341.8	N	1.85				
5/24/2008 20:30	347.7	N	2.19				
5/24/2008 20:40	352.7	N	3.1				
5/24/2008 20:50	350.9	N	2.88				
5/24/2008 21:00	346.7	N	1.35				
5/24/2008 21:10	353.4	N	2.52				
5/24/2008 21:20	0.57	N	2.78				
5/24/2008 21:30	349.4	N	3.26				
5/24/2008 21:40	337.5	N	3.88				
5/24/2008 21:50	338.6	N	4.23				
5/24/2008 22:00	345.4	N	3.87				
5/24/2008 22:10	359.6	N	2.77				
5/24/2008 22:20	25.71	NE	2.45				
5/24/2008 22:30	27.69	NE	2.84				
5/24/2008 22:40	35.04	NE	2.68				
5/24/2008 22:50	33.69	NE	3.11				
5/24/2008 23:00	32.15	NE	3.06				
5/24/2008 23:10	24.66	NE	2.94				
5/24/2008 23:20	11.45	N	2.62				
5/24/2008 23:30	8.15	N	2.42				
5/24/2008 23:40	3.43	N	2.6				
5/24/2008 23:50	26.62	NE	2.13				
5/25/2008 0:00	25.37	NE	2.38				
5/25/2008 0:10	23.78	NE	2.14				
5/25/2008 0:20	17.52	N	1.96				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
5/25/2008 0:30	22.81	NE	1.54				
5/25/2008 0:40	15.64	N	1.93				
5/25/2008 0:50	20.73	N	2.02				
5/25/2008 1:00	27.16	NE	1.97				
5/25/2008 1:10	43.8	NE	1.85				
5/25/2008 1:20	45.28	NE	1.43				
5/25/2008 1:30	52.43	NE	1.01				
5/25/2008 1:40	54.79	NE	1.08				
5/25/2008 1:50	40.38	NE	1.16				
5/25/2008 2:00	44.41	NE	0.86				
5/25/2008 2:10	356.5	N	0.42				
5/25/2008 2:20	319.4	NW	0.67				
5/25/2008 2:30	291.3	W	0.4				
5/25/2008 2:40	229.6	SW	0.34				
5/25/2008 2:50	179.1	S	0.2				
5/25/2008 3:00	174.4	S	0.05				
5/25/2008 3:10	200.2	S	0.26				
5/25/2008 3:20	253.2	W	0.53				
5/25/2008 3:30	276.7	W	0.38				
5/25/2008 3:40	285.4	W	0.88				
5/25/2008 3:50	291.8	W	1.4				
5/25/2008 4:00	287.3	W	1.87				
5/25/2008 4:10	257.9	W	1.79				
5/25/2008 4:20	242.4	SW	2.08				
5/25/2008 4:30	224.4	SW	2.06				
5/25/2008 4:40	216.1	SW	1.99				
5/25/2008 4:50	207.3	SW	2.55				
5/25/2008 5:00	216.2	SW	2.82				
5/25/2008 5:10	212	SW	3.34				
5/25/2008 5:20	214.8	SW	3.45				
5/25/2008 5:30	223	SW	3.78				
5/25/2008 5:40	224.6	SW	3.51				
5/25/2008 5:50	220.5	SW	3.7				
5/25/2008 6:00	223.5	SW	3.72	21.5	2	11.8	0.4
5/25/2008 6:10	222.5	SW	3.84				
5/25/2008 6:20	218.6	SW	4.02				
5/25/2008 6:30	209.7	SW	4.3				
5/25/2008 6:40	200.7	S	4.51				
5/25/2008 6:50	191.5	S	4.36				
5/25/2008 7:00	178.5	S	4.46				
5/25/2008 19:00	193.6	S	6.99				
5/25/2008 19:10	191.5	S	7.11				
5/25/2008 19:20	188	S	8.06				
5/25/2008 19:30	188.8	S	7.58				
5/25/2008 19:40	187.5	S	8.04				
5/25/2008 19:50	181.2	S	9.28				
5/25/2008 20:00	183.2	S	10.72				
5/25/2008 20:10	183.4	S	10.42				
5/25/2008 20:20	182.5	S	9.15				
5/25/2008 20:30	184	S	9.56				
5/25/2008 20:40	188.3	S	9.06				
5/25/2008 20:50	194.9	S	8.53				
5/25/2008 21:00	196.6	S	6.83				
5/25/2008 21:10	184.2	S	7.93				
5/25/2008 21:20	187.5	S	8.3				
5/25/2008 21:30	187.2	S	8.79				
5/25/2008 21:40	184	S	8.3				
5/25/2008 21:50	181.8	S	8.3				
5/25/2008 22:00	182.9	S	8.46				
5/25/2008 22:10	184.7	S	9.1				
5/25/2008 22:20	186.1	S	8.79				
5/25/2008 22:30	186.5	S	8.7				
5/25/2008 22:40	189.7	S	9.25				
5/25/2008 22:50	199.9	S	7.57				
5/25/2008 23:00	203.7	SW	6.59				
5/25/2008 23:10	202	S	6.37				
5/25/2008 23:20	192.8	S	6.76				
5/25/2008 23:30	184	S	7.39				
5/25/2008 23:40	182	S	7.56				
5/25/2008 23:50	189.7	S	7.74				
5/26/2008 0:00	192.4	S	6.61				
5/26/2008 0:10	185.4	S	6.43				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
5/26/2008 0:20	195.2	S	8.61				
5/26/2008 0:30	201.4	S	9.59				
5/26/2008 0:40	191.1	S	7.44				
5/26/2008 0:50	191.8	S	6.46				
5/26/2008 1:00	196.9	S	6.83				
5/26/2008 1:10	188.6	S	6.69				
5/26/2008 1:20	180.2	S	7.23				
5/26/2008 1:30	177.4	S	8.27				
5/26/2008 1:40	175.2	S	8.21				
5/26/2008 1:50	173	S	8.36				
5/26/2008 2:00	173.2	S	7.9				
5/26/2008 2:10	173.9	S	8.33				
5/26/2008 2:20	176.8	S	8.5				
5/26/2008 2:30	177.4	S	8.99				
5/26/2008 2:40	176.3	S	8.75				
5/26/2008 2:50	176	S	8.76				
5/26/2008 3:00	174	S	8.53				
5/26/2008 3:10	183.3	S	8.06				
5/26/2008 3:20	182.5	S	9.34				
5/26/2008 3:30	182.4	S	9.11				
5/26/2008 3:40	180.6	S	9				
5/26/2008 3:50	182.1	S	8.92				
5/26/2008 4:00	182.3	S	8.65				
5/26/2008 4:10	183	S	8.46				
5/26/2008 4:20	189.4	S	10.37				
5/26/2008 4:30	193.9	S	10.04				
5/26/2008 4:40	197.7	S	9.11				
5/26/2008 4:50	193.4	S	10.45				
5/26/2008 5:00	200.8	S	9				
5/26/2008 5:10	203	SW	10.32				
5/26/2008 5:20	199.5	S	9.41				
5/26/2008 5:30	195.4	S	9.13				
5/26/2008 5:40	195.7	S	9.95				
5/26/2008 5:50	197.3	S	10.04				
5/26/2008 6:00	201.2	S	10.12	No Data	No Data	No Data	No Data
5/26/2008 6:10	200.7	S	9.49				
5/26/2008 6:20	198.3	S	8.3				
5/26/2008 6:30	193.6	S	7.86				
5/26/2008 6:40	186.8	S	9.03				
5/26/2008 6:50	182.6	S	9.23				
5/26/2008 7:00	181.3	S	8.3				
5/26/2008 19:00	315.1	NW	7.87				
5/26/2008 19:10	335.1	NW	6.43				
5/26/2008 19:20	337.6	N	5.99				
5/26/2008 19:30	338.9	N	5.82				
5/26/2008 19:40	346.8	N	7.53				
5/26/2008 19:50	351.5	N	6.58				
5/26/2008 20:00	357.6	N	6.74				
5/26/2008 20:10	3.88	N	6.25				
5/26/2008 20:20	3.75	N	5.74				
5/26/2008 20:30	3.68	N	4.5				
5/26/2008 20:40	359.5	N	4.02				
5/26/2008 20:50	359	N	4.78				
5/26/2008 21:00	354.3	N	5.12				
5/26/2008 21:10	351.4	N	6.09				
5/26/2008 21:20	342.7	N	5.52				
5/26/2008 21:30	337.9	N	5.8				
5/26/2008 21:40	332.6	NW	6.94				
5/26/2008 21:50	328.1	NW	7.12				
5/26/2008 22:00	326.7	NW	8.48				
5/26/2008 22:10	341.2	N	6.5				
5/26/2008 22:20	339.9	N	6.23				
5/26/2008 22:30	333.7	NW	7.08				
5/26/2008 22:40	332	NW	8.21				
5/26/2008 22:50	327.9	NW	7.69				
5/26/2008 23:00	324.3	NW	7.12				
5/26/2008 23:10	321.8	NW	6.7				
5/26/2008 23:20	325.8	NW	6				
5/26/2008 23:30	327.9	NW	6.17				
5/26/2008 23:40	333.6	NW	6.7				
5/26/2008 23:50	335.6	NW	6.51				
5/27/2008 0:00	344.7	N	4.57				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
5/27/2008 0:10	351.3	N	5.66				
5/27/2008 0:20	355.2	N	6.45				
5/27/2008 0:30	0.31	N	7.78				
5/27/2008 0:40	8.88	N	8.14				
5/27/2008 0:50	11.61	N	8.8				
5/27/2008 1:00	7.81	N	9.77				
5/27/2008 1:10	8.58	N	10.31				
5/27/2008 1:20	9.69	N	8.96				
5/27/2008 1:30	10.05	N	11.01				
5/27/2008 1:40	10.51	N	9.26				
5/27/2008 1:50	12.09	N	9.62				
5/27/2008 2:00	16.45	N	8.34				
5/27/2008 2:10	11.96	N	10.36				
5/27/2008 2:20	13.26	N	7.71				
5/27/2008 2:30	14.24	N	9.9				
5/27/2008 2:40	14.25	N	10.14				
5/27/2008 2:50	15.52	N	9.17				
5/27/2008 3:00	15.72	N	9.92				
5/27/2008 3:10	9.06	N	9.25				
5/27/2008 3:20	10.47	N	8.65				
5/27/2008 3:30	11.65	N	9.58				
5/27/2008 3:40	14.97	N	8.85				
5/27/2008 3:50	17.75	N	11.05				
5/27/2008 4:00	16.87	N	10.39				
5/27/2008 4:10	14.85	N	7.92				
5/27/2008 4:20	12.76	N	9.64				
5/27/2008 4:30	13.15	N	9.64				
5/27/2008 4:40	9.04	N	9.78				
5/27/2008 4:50	13.29	N	9.21				
5/27/2008 5:00	13.16	N	8.35				
5/27/2008 5:10	17.53	N	8.29				
5/27/2008 5:20	18.35	N	8.52				
5/27/2008 5:30	16.61	N	9.44				
5/27/2008 5:40	22.98	NE	8.98				
5/27/2008 5:50	12.65	N	8.35				
5/27/2008 6:00	10.62	N	8.9	9	4.5	6.8	0
5/27/2008 6:10	12.25	N	8.7				
5/27/2008 6:20	13.69	N	8.91				
5/27/2008 6:30	13.54	N	8.92				
5/27/2008 6:40	17.08	N	9.06				
5/27/2008 6:50	12.4	N	10.66				
5/27/2008 7:00	10.1	N	9.54				
5/27/2008 19:00	341	N	6.59				
5/27/2008 19:10	332.5	NW	5.68				
5/27/2008 19:20	341.5	N	5.37				
5/27/2008 19:30	345	N	5.64				
5/27/2008 19:40	347.3	N	5.34				
5/27/2008 19:50	345.8	N	5.68				
5/27/2008 20:00	341	N	5.64				
5/27/2008 20:10	342.1	N	5.92				
5/27/2008 20:20	343.4	N	6.31				
5/27/2008 20:30	342.7	N	6.42				
5/27/2008 20:40	343.4	N	6.18				
5/27/2008 20:50	343.9	N	5.94				
5/27/2008 21:00	344.2	N	6.03				
5/27/2008 21:10	344.9	N	6.01				
5/27/2008 21:20	345.9	N	6.01				
5/27/2008 21:30	350	N	5.85				
5/27/2008 21:40	355	N	5.19				
5/27/2008 21:50	355.7	N	4.57				
5/27/2008 22:00	358	N	4.86				
5/27/2008 22:10	357.4	N	4.59				
5/27/2008 22:20	359	N	4.36				
5/27/2008 22:30	357.5	N	4.6				
5/27/2008 22:40	350.9	N	4.9				
5/27/2008 22:50	344.1	N	4.87				
5/27/2008 23:00	347.8	N	5.18				
5/27/2008 23:10	347.5	N	5.18				
5/27/2008 23:20	350.1	N	4.98				
5/27/2008 23:30	351.7	N	5.53				
5/27/2008 23:40	351.7	N	5.38				
5/27/2008 23:50	356.5	N	5.27				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
5/28/2008 0:00	354	N	5.6				
5/28/2008 0:10	351.2	N	5.2				
5/28/2008 0:20	345.1	N	4.5				
5/28/2008 0:30	346.5	N	4.28				
5/28/2008 0:40	344.5	N	3.81				
5/28/2008 0:50	348.2	N	3.91				
5/28/2008 1:00	353.4	N	4.17				
5/28/2008 1:10	354.2	N	4.59				
5/28/2008 1:20	356.4	N	4.72				
5/28/2008 1:30	356.3	N	4.44				
5/28/2008 1:40	359.1	N	4.83				
5/28/2008 1:50	359.1	N	4.68				
5/28/2008 2:00	0.24	N	4.48				
5/28/2008 2:10	354.9	N	4.34				
5/28/2008 2:20	352.7	N	4.77				
5/28/2008 2:30	347.6	N	4.62				
5/28/2008 2:40	343.6	N	4.67				
5/28/2008 2:50	341.4	N	4.11				
5/28/2008 3:00	348.5	N	3.97				
5/28/2008 3:10	352.5	N	4.44				
5/28/2008 3:20	354.9	N	5.08				
5/28/2008 3:30	359.8	N	5				
5/28/2008 3:40	353.4	N	4.82				
5/28/2008 3:50	352	N	4.74				
5/28/2008 4:00	353.4	N	4.56				
5/28/2008 4:10	359.3	N	4.68				
5/28/2008 4:20	4.66	N	4.14				
5/28/2008 4:30	4.13	N	3.67				
5/28/2008 4:40	5.11	N	3.82				
5/28/2008 4:50	7.03	N	4.14				
5/28/2008 5:00	6.34	N	4.23				
5/28/2008 5:10	16.01	N	3.77				
5/28/2008 5:20	21.95	N	3.75				
5/28/2008 5:30	18.81	N	3.92				
5/28/2008 5:40	21.38	N	3.83				
5/28/2008 5:50	20.09	N	3.66				
5/28/2008 6:00	20.12	N	3.75	13	-0.5	6.3	0
5/28/2008 6:10	30.94	NE	3.6				
5/28/2008 6:20	35.87	NE	3.3				
5/28/2008 6:30	36.85	NE	2.81				
5/28/2008 6:40	39.08	NE	2.2				
5/28/2008 6:50	43.49	NE	0.72				
5/28/2008 7:00	102.8	E	0.68				
5/28/2008 19:00	271.4	W	2.61				
5/28/2008 19:10	251.8	W	2.94				
5/28/2008 19:20	243.5	SW	2.7				
5/28/2008 19:30	252.9	W	3.11				
5/28/2008 19:40	254.7	W	3.16				
5/28/2008 19:50	248.9	W	3.32				
5/28/2008 20:00	234.4	SW	4.07				
5/28/2008 20:10	222.5	SW	3.71				
5/28/2008 20:20	214.5	SW	4.09				
5/28/2008 20:30	216.8	SW	4.44				
5/28/2008 20:40	208.1	SW	4.85				
5/28/2008 20:50	205.3	SW	5.4				
5/28/2008 21:00	203.4	SW	5.71				
5/28/2008 21:10	199.4	S	5.98				
5/28/2008 21:20	199.1	S	5.74				
5/28/2008 21:30	203.7	SW	5.63				
5/28/2008 21:40	204.5	SW	5.99				
5/28/2008 21:50	206.2	SW	6.48				
5/28/2008 22:00	208.8	SW	6.63				
5/28/2008 22:10	207	SW	6.67				
5/28/2008 22:20	204.9	SW	6.7				
5/28/2008 22:30	204.8	SW	7.28				
5/28/2008 22:40	203.7	SW	7.73				
5/28/2008 22:50	204.7	SW	8.04				
5/28/2008 23:00	206.4	SW	7.78				
5/28/2008 23:10	207.2	SW	7.65				
5/28/2008 23:20	205.4	SW	7.48				
5/28/2008 23:30	203.4	SW	7.73				
5/28/2008 23:40	204.6	SW	8.3				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
5/28/2008 23:50	205	SW	8.22				
5/29/2008 0:00	205.9	SW	8.31				
5/29/2008 0:10	205	SW	8.59				
5/29/2008 0:20	204.3	SW	8.61				
5/29/2008 0:30	205	SW	8.7				
5/29/2008 0:40	206.8	SW	8.57				
5/29/2008 0:50	207.6	SW	8.53				
5/29/2008 1:00	208.5	SW	8.77				
5/29/2008 1:10	209.2	SW	8.97				
5/29/2008 1:20	209.6	SW	8.86				
5/29/2008 1:30	209.8	SW	9.15				
5/29/2008 1:40	210.8	SW	8.75				
5/29/2008 1:50	212.6	SW	8.41				
5/29/2008 2:00	214	SW	9.27				
5/29/2008 2:10	212	SW	9.83				
5/29/2008 2:20	211.3	SW	9.55				
5/29/2008 2:30	211.3	SW	8.94				
5/29/2008 2:40	215.4	SW	8.31				
5/29/2008 2:50	218.1	SW	8.3				
5/29/2008 3:00	221.4	SW	8.19				
5/29/2008 3:10	223.5	SW	8.2				
5/29/2008 3:20	225.2	SW	8.06				
5/29/2008 3:30	227.6	SW	8.57				
5/29/2008 3:40	227.5	SW	8.73				
5/29/2008 3:50	228.3	SW	7.55				
5/29/2008 4:00	227.6	SW	7.11				
5/29/2008 4:10	237.2	SW	7.26				
5/29/2008 4:20	242.6	SW	6.17				
5/29/2008 4:30	241.7	SW	5.87				
5/29/2008 4:40	240.4	SW	6.01				
5/29/2008 4:50	238.6	SW	6.05				
5/29/2008 5:00	235.4	SW	6.09				
5/29/2008 5:10	238.2	SW	6.34				
5/29/2008 5:20	233.9	SW	6.12				
5/29/2008 5:30	229	SW	5.89				
5/29/2008 5:40	229.1	SW	5.68				
5/29/2008 5:50	231.1	SW	5.76				
5/29/2008 6:00	233.5	SW	5.49	22	5	13.5	0
5/29/2008 6:10	233.5	SW	5.24				
5/29/2008 6:20	231.3	SW	5.5				
5/29/2008 6:30	233.7	SW	5.27				
5/29/2008 6:40	228.3	SW	5.43				
5/29/2008 6:50	225.3	SW	5.03				
5/29/2008 7:00	226.4	SW	4.72				
5/29/2008 19:00	212.7	SW	4.74				
5/29/2008 19:10	213.3	SW	5.14				
5/29/2008 19:20	212.6	SW	5.11				
5/29/2008 19:30	214.9	SW	5.26				
5/29/2008 19:40	209.2	SW	5.14				
5/29/2008 19:50	203.9	SW	4.92				
5/29/2008 20:00	198.6	S	5				
5/29/2008 20:10	198.7	S	4.83				
5/29/2008 20:20	198.8	S	4.92				
5/29/2008 20:30	201.4	S	5.08				
5/29/2008 20:40	200	S	5.41				
5/29/2008 20:50	199.7	S	5.41				
5/29/2008 21:00	199.5	S	5.91				
5/29/2008 21:10	199.9	S	5.74				
5/29/2008 21:20	198.7	S	5.73				
5/29/2008 21:30	196.8	S	5.79				
5/29/2008 21:40	197.7	S	5.93				
5/29/2008 21:50	200	S	6.36				
5/29/2008 22:00	201.2	S	6.45				
5/29/2008 22:10	199.7	S	6.36				
5/29/2008 22:20	200	S	6.44				
5/29/2008 22:30	202.6	SW	6.24				
5/29/2008 22:40	201.4	S	6.4				
5/29/2008 22:50	199.8	S	6.64				
5/29/2008 23:00	197.2	S	6.59				
5/29/2008 23:10	197.8	S	6.92				
5/29/2008 23:20	198.7	S	7.08				
5/29/2008 23:30	200.7	S	7.46				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
5/29/2008 23:40	199.7	S	7.63				
5/29/2008 23:50	197.3	S	8.06				
5/30/2008 0:00	195.2	S	8.46				
5/30/2008 0:10	198	S	8.53				
5/30/2008 0:20	199	S	8.17				
5/30/2008 0:30	199.1	S	8.32				
5/30/2008 0:40	195.2	S	8.45				
5/30/2008 0:50	195.8	S	8.47				
5/30/2008 1:00	198.3	S	8.31				
5/30/2008 1:10	198.5	S	7.99				
5/30/2008 1:20	199.7	S	7.92				
5/30/2008 1:30	200.5	S	7.97				
5/30/2008 1:40	199.2	S	7.99				
5/30/2008 1:50	202.1	S	7.83				
5/30/2008 2:00	204.8	SW	7.99				
5/30/2008 2:10	200.1	S	8.04				
5/30/2008 2:20	201	S	8.03				
5/30/2008 2:30	198.4	S	7.56				
5/30/2008 2:40	194.7	S	7.57				
5/30/2008 2:50	192.6	S	7.74				
5/30/2008 3:00	189.2	S	7.67				
5/30/2008 3:10	186.5	S	7.46				
5/30/2008 3:20	188.3	S	7.65				
5/30/2008 3:30	188	S	7.38				
5/30/2008 3:40	186.5	S	7.16				
5/30/2008 3:50	187.9	S	7.45				
5/30/2008 4:00	186.4	S	7.72				
5/30/2008 4:10	186.4	S	7.65				
5/30/2008 4:20	188.6	S	7.43				
5/30/2008 4:30	184.7	S	7.22				
5/30/2008 4:40	184.9	S	7.37				
5/30/2008 4:50	185.4	S	7.2				
5/30/2008 5:00	183.6	S	7.13				
5/30/2008 5:10	183.4	S	7.93				
5/30/2008 5:20	183.3	S	7.72				
5/30/2008 5:30	182.6	S	7.75				
5/30/2008 5:40	181.6	S	7.48				
5/30/2008 5:50	180.6	S	7.43				
5/30/2008 6:00	179.2	S	7.3	18.5	10	14.3	20.2
5/30/2008 6:10	178.5	S	6.89				
5/30/2008 6:20	180.1	S	6.53				
5/30/2008 6:30	178.7	S	6.73				
5/30/2008 6:40	173.8	S	6.43				
5/30/2008 6:50	169.3	S	6.43				
5/30/2008 7:00	170	S	6.48				
5/30/2008 19:00	143.7	SE	7.76				
5/30/2008 19:10	149.6	SE	8.83				
5/30/2008 19:20	155.8	SE	9.23				
5/30/2008 19:30	161.5	S	8.62				
5/30/2008 19:40	168.3	S	8.47				
5/30/2008 19:50	172.5	S	10.38				
5/30/2008 20:00	175.6	S	9.83				
5/30/2008 20:10	176.8	S	10.01				
5/30/2008 20:20	178.3	S	9.23				
5/30/2008 20:30	180	S	9.48				
5/30/2008 20:40	182.8	S	8.59				
5/30/2008 20:50	183.1	S	8.73				
5/30/2008 21:00	182.6	S	9.21				
5/30/2008 21:10	183.2	S	9.08				
5/30/2008 21:20	182	S	9.46				
5/30/2008 21:30	180	S	9.57				
5/30/2008 21:40	179.5	S	9.32				
5/30/2008 21:50	180.1	S	9.41				
5/30/2008 22:00	181.5	S	8.73				
5/30/2008 22:10	184.6	S	8.08				
5/30/2008 22:20	188	S	7.86				
5/30/2008 22:30	189	S	7.32				
5/30/2008 22:40	190.8	S	7.23				
5/30/2008 22:50	190.4	S	6.67				
5/30/2008 23:00	187.5	S	6.24				
5/30/2008 23:10	193.9	S	6.57				
5/30/2008 23:20	200.1	S	7.19				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
5/30/2008 23:30	203.5	SW	7.43				
5/30/2008 23:40	209.1	SW	7.77				
5/30/2008 23:50	209.4	SW	8.4				
5/31/2008 0:00	209.6	SW	9.8				
5/31/2008 0:10	209.4	SW	9.15				
5/31/2008 0:20	205.9	SW	8.19				
5/31/2008 0:30	205.8	SW	7.89				
5/31/2008 0:40	211.6	SW	7.82				
5/31/2008 0:50	213.2	SW	8				
5/31/2008 1:00	214.6	SW	8.5				
5/31/2008 1:10	216.6	SW	7.85				
5/31/2008 1:20	210	SW	8.14				
5/31/2008 1:30	205.6	SW	7.34				
5/31/2008 1:40	205.1	SW	6.98				
5/31/2008 1:50	206.1	SW	7.02				
5/31/2008 2:00	206.7	SW	6.73				
5/31/2008 2:10	205.2	SW	7.62				
5/31/2008 2:20	205.6	SW	8.65				
5/31/2008 2:30	211.6	SW	8.47				
5/31/2008 2:40	218.8	SW	8.05				
5/31/2008 2:50	225.3	SW	8.33				
5/31/2008 3:00	219.9	SW	8.03				
5/31/2008 3:10	219.2	SW	8.43				
5/31/2008 3:20	226.5	SW	9.07				
5/31/2008 3:30	221.8	SW	9.46				
5/31/2008 3:40	230.1	SW	10.79				
5/31/2008 3:50	232.3	SW	11.59				
5/31/2008 4:00	221.2	SW	10.5				
5/31/2008 4:10	247.6	W	10.57				
5/31/2008 4:20	256.7	W	10.84				
5/31/2008 4:30	262.1	W	10.18				
5/31/2008 4:40	258.8	W	7.42				
5/31/2008 4:50	288	W	3.24				
5/31/2008 5:00	284.6	W	3.63				
5/31/2008 5:10	225.9	SW	5.76				
5/31/2008 5:20	226.6	SW	6.92				
5/31/2008 5:30	233.6	SW	3.83				
5/31/2008 5:40	216.1	SW	4.49				
5/31/2008 5:50	223.3	SW	5.03				
5/31/2008 6:00	224.7	SW	4.49	No Data	No Data	No Data	No Data
5/31/2008 6:10	232.3	SW	5.05				
5/31/2008 6:20	234.7	SW	3.72				
5/31/2008 6:30	251.5	W	5.15				
5/31/2008 6:40	238.6	SW	4.9				
5/31/2008 6:50	235.4	SW	4.72				
5/31/2008 7:00	250.8	W	5.84				
5/31/2008 19:00	336.5	NW	7.03				
5/31/2008 19:10	336.8	NW	4.91				
5/31/2008 19:20	343.3	N	4.78				
5/31/2008 19:30	346.8	N	4.8				
5/31/2008 19:40	351.2	N	4.48				
5/31/2008 19:50	347.8	N	3.73				
5/31/2008 20:00	341.9	N	3.5				
5/31/2008 20:10	336.8	NW	3.09				
5/31/2008 20:20	332.5	NW	3.12				
5/31/2008 20:30	328.4	NW	3.59				
5/31/2008 20:40	330.1	NW	3.21				
5/31/2008 20:50	345.1	N	3.14				
5/31/2008 21:00	353.9	N	2.95				
5/31/2008 21:10	346	N	2.21				
5/31/2008 21:20	335	NW	0.54				
5/31/2008 21:30	289.6	W	0.45				
5/31/2008 21:40	322.5	NW	1.44				
5/31/2008 21:50	306.9	NW	2.03				
5/31/2008 22:00	296	NW	2.61				
5/31/2008 22:10	287.8	W	3.58				
5/31/2008 22:20	273.6	W	3.02				
5/31/2008 22:30	270.6	W	3.26				
5/31/2008 22:40	278.2	W	4.95				
5/31/2008 22:50	288.5	W	5.12				
5/31/2008 23:00	282.5	W	5.04				
5/31/2008 23:10	279	W	5.2				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
5/31/2008 23:20	271	W	5.23				
5/31/2008 23:30	277.4	W	5.69				
5/31/2008 23:40	276.2	W	5.69				
5/31/2008 23:50	273.3	W	5.8				
7/1/2008 0:00	331.9	NW	6.41				
7/1/2008 0:10	329.5	NW	6.03				
7/1/2008 0:20	324.6	NW	6.47				
7/1/2008 0:30	323	NW	5.11				
7/1/2008 0:40	325.3	NW	5.06				
7/1/2008 0:50	320.7	NW	4.63				
7/1/2008 1:00	321.9	NW	5.68				
7/1/2008 1:10	320.2	NW	6.1				
7/1/2008 1:20	319.7	NW	5.91				
7/1/2008 1:30	318.6	NW	5.14				
7/1/2008 1:40	311.3	NW	5.13				
7/1/2008 1:50	308.4	NW	5.35				
7/1/2008 2:00	300.7	NW	5.04				
7/1/2008 2:10	299.9	NW	4.76				
7/1/2008 2:20	292.3	W	5.08				
7/1/2008 2:30	291.7	W	5.41				
7/1/2008 2:40	284.8	W	4.4				
7/1/2008 2:50	280.6	W	4.84				
7/1/2008 3:00	282.5	W	4.93				
7/1/2008 3:10	276	W	4.54				
7/1/2008 3:20	282.4	W	4.96				
7/1/2008 3:30	279.6	W	4.74				
7/1/2008 3:40	282	W	4.62				
7/1/2008 3:50	271.6	W	4.39				
7/1/2008 4:00	270.7	W	4.57				
7/1/2008 4:10	267.3	W	5				
7/1/2008 4:20	270.5	W	5.18				
7/1/2008 4:30	281.2	W	5.6				
7/1/2008 4:40	280.3	W	5.53				
7/1/2008 4:50	270.2	W	5.18				
7/1/2008 5:00	274.1	W	5.41				
7/1/2008 5:10	263.5	W	5.14				
7/1/2008 5:20	259.4	W	5.29				
7/1/2008 5:30	268.3	W	5.4				
7/1/2008 5:40	265.7	W	5.18				
7/1/2008 5:50	261.5	W	5.15				
7/1/2008 6:00	263.1	W	5.41	25	11	18	0
7/1/2008 6:10	266.1	W	5.08				
7/1/2008 6:20	265.7	W	4.95				
7/1/2008 6:30	263	W	4.84				
7/1/2008 6:40	266.2	W	4.71				
7/1/2008 6:50	267	W	4.42				
7/1/2008 7:00	263.9	W	4.78				
7/1/2008 19:00	192.1	S	5.23				
7/1/2008 19:10	189	S	6.15				
7/1/2008 19:20	188.4	S	6.39				
7/1/2008 19:30	188.7	S	6.3				
7/1/2008 19:40	191.5	S	6.45				
7/1/2008 19:50	189.8	S	6.61				
7/1/2008 20:00	191.2	S	6.63				
7/1/2008 20:10	191.1	S	6.98				
7/1/2008 20:20	188.7	S	7.36				
7/1/2008 20:30	188.6	S	7.48				
7/1/2008 20:40	186.2	S	7.75				
7/1/2008 20:50	185.3	S	7.78				
7/1/2008 21:00	185	S	7.8				
7/1/2008 21:10	184.7	S	7.85				
7/1/2008 21:20	185.6	S	8				
7/1/2008 21:30	186.1	S	8.26				
7/1/2008 21:40	188.3	S	8.29				
7/1/2008 21:50	189.8	S	8.12				
7/1/2008 22:00	190.4	S	8.03				
7/1/2008 22:10	192.1	S	8.09				
7/1/2008 22:20	193.3	S	8.37				
7/1/2008 22:30	193.3	S	8.74				
7/1/2008 22:40	193.8	S	8.96				
7/1/2008 22:50	192.6	S	8.28				
7/1/2008 23:00	190	S	8.19				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
7/1/2008 23:10	191	S	8.2				
7/1/2008 23:20	192.7	S	8.2				
7/1/2008 23:30	193.6	S	8.18				
7/1/2008 23:40	197.5	S	7.89				
7/1/2008 23:50	199.3	S	7.77				
7/2/2008 0:00	199.3	S	7.58				
7/2/2008 0:10	202.6	SW	7.7				
7/2/2008 0:20	203.1	SW	7.37				
7/2/2008 0:30	202.9	SW	7.21				
7/2/2008 0:40	205.1	SW	7.21				
7/2/2008 0:50	202.6	SW	7.06				
7/2/2008 1:00	198.6	S	7.05				
7/2/2008 1:10	200.4	S	7.11				
7/2/2008 1:20	201.4	S	7.18				
7/2/2008 1:30	196.7	S	6.97				
7/2/2008 1:40	194.7	S	7.42				
7/2/2008 1:50	189.5	S	7.7				
7/2/2008 2:00	187.8	S	7.64				
7/2/2008 2:10	188.2	S	7.79				
7/2/2008 2:20	186.2	S	7.54				
7/2/2008 2:30	188.9	S	7.77				
7/2/2008 2:40	193.4	S	8.15				
7/2/2008 2:50	193.2	S	7.93				
7/2/2008 3:00	190.6	S	7.82				
7/2/2008 3:10	190.8	S	8.09				
7/2/2008 3:20	192.2	S	7.89				
7/2/2008 3:30	188.3	S	7.11				
7/2/2008 3:40	187.1	S	7.56				
7/2/2008 3:50	188.7	S	7.93				
7/2/2008 4:00	186.8	S	7.94				
7/2/2008 4:10	188.5	S	8.31				
7/2/2008 4:20	191.5	S	8.75				
7/2/2008 4:30	190.6	S	8.99				
7/2/2008 4:40	189.6	S	8.8				
7/2/2008 4:50	193.5	S	8.41				
7/2/2008 5:00	196.3	S	8.06				
7/2/2008 5:10	200.6	S	8.05				
7/2/2008 5:20	203.1	SW	8.08				
7/2/2008 5:30	203.6	SW	7.89				
7/2/2008 5:40	206	SW	8.73				
7/2/2008 5:50	210	SW	8.81				
7/2/2008 6:00	211.9	SW	9.94	25.5	15.5	20.5	1.8
7/2/2008 6:10	212.9	SW	9.32				
7/2/2008 6:20	216.4	SW	9.21				
7/2/2008 6:30	215.3	SW	9.25				
7/2/2008 6:40	215	SW	9.47				
7/2/2008 6:50	212.3	SW	9.49				
7/2/2008 7:00	215.3	SW	10.11				
7/2/2008 19:00	209.7	SW	9.26				
7/2/2008 19:10	209.8	SW	10.12				
7/2/2008 19:20	210.8	SW	11.47				
7/2/2008 19:30	213.4	SW	11.15				
7/2/2008 19:40	218.6	SW	11.54				
7/2/2008 19:50	231.5	SW	12.21				
7/2/2008 20:00	224.3	SW	11.94				
7/2/2008 20:10	225.5	SW	10.35				
7/2/2008 20:20	229.3	SW	8.94				
7/2/2008 20:30	231.9	SW	7.98				
7/2/2008 20:40	233	SW	8.55				
7/2/2008 20:50	233.2	SW	8.62				
7/2/2008 21:00	234.9	SW	7.7				
7/2/2008 21:10	231	SW	6.75				
7/2/2008 21:20	240.8	SW	6.38				
7/2/2008 21:30	241.4	SW	5.96				
7/2/2008 21:40	241.1	SW	5.17				
7/2/2008 21:50	232.2	SW	5.39				
7/2/2008 22:00	224.5	SW	5.18				
7/2/2008 22:10	223.5	SW	4.47				
7/2/2008 22:20	223.7	SW	3.81				
7/2/2008 22:30	238.8	SW	4.55				
7/2/2008 22:40	253	W	4.95				
7/2/2008 22:50	258.2	W	5.97				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
7/2/2008 23:00	257.1	W	5.55				
7/2/2008 23:10	263.4	W	4.8				
7/2/2008 23:20	265.8	W	4.03				
7/2/2008 23:30	261.6	W	4.25				
7/2/2008 23:40	242.9	SW	3.41				
7/2/2008 23:50	214.4	SW	3.72				
7/3/2008 0:00	245.6	SW	3.49				
7/3/2008 0:10	266.9	W	4.17				
7/3/2008 0:20	285.8	W	5.45				
7/3/2008 0:30	298.7	NW	6.56				
7/3/2008 0:40	323	NW	6.99				
7/3/2008 0:50	337.8	N	5.68				
7/3/2008 1:00	339.3	N	5.71				
7/3/2008 1:10	330.4	NW	4.67				
7/3/2008 1:20	325.3	NW	4.32				
7/3/2008 1:30	325.4	NW	4.78				
7/3/2008 1:40	320.5	NW	5.54				
7/3/2008 1:50	323.4	NW	5.75				
7/3/2008 2:00	321	NW	5.7				
7/3/2008 2:10	325	NW	5.26				
7/3/2008 2:20	320.3	NW	5.6				
7/3/2008 2:30	318.6	NW	4.98				
7/3/2008 2:40	315.1	NW	5.4				
7/3/2008 2:50	314.5	NW	4.97				
7/3/2008 3:00	320.6	NW	5.16				
7/3/2008 3:10	319.8	NW	4.87				
7/3/2008 3:20	318.4	NW	4.58				
7/3/2008 3:30	319.8	NW	4.85				
7/3/2008 3:40	322.1	NW	4.16				
7/3/2008 3:50	330.3	NW	4.48				
7/3/2008 4:00	318.6	NW	3.41				
7/3/2008 4:10	328.1	NW	3.54				
7/3/2008 4:20	336.3	NW	4.27				
7/3/2008 4:30	347.7	N	5.23				
7/3/2008 4:40	354	N	5.31				
7/3/2008 4:50	355.6	N	5.81				
7/3/2008 5:00	356.9	N	6.57				
7/3/2008 5:10	2.2	N	7.86				
7/3/2008 5:20	9.21	N	9.12				
7/3/2008 5:30	15.21	N	9.44				
7/3/2008 5:40	16.02	N	9.32				
7/3/2008 5:50	21.03	N	8.23				
7/3/2008 6:00	28.27	NE	7.4	19	13.5	16.3	Trace
7/3/2008 6:10	27.25	NE	6.71				
7/3/2008 6:20	34.99	NE	6.29				
7/3/2008 6:30	32.43	NE	6.2				
7/3/2008 6:40	32.75	NE	5.43				
7/3/2008 6:50	40.36	NE	5.18				
7/3/2008 7:00	41.5	NE	4.87				
7/3/2008 19:00	323.4	NW	3.19				
7/3/2008 19:10	324.4	NW	3.04				
7/3/2008 19:20	331.5	NW	3.03				
7/3/2008 19:30	333.5	NW	2.34				
7/3/2008 19:40	333.1	NW	2.41				
7/3/2008 19:50	330.5	NW	3.13				
7/3/2008 20:00	333.6	NW	3.61				
7/3/2008 20:10	338.2	N	3.46				
7/3/2008 20:20	337.5	N	3.45				
7/3/2008 20:30	341.7	N	3.55				
7/3/2008 20:40	347	N	3.48				
7/3/2008 20:50	348.8	N	3.1				
7/3/2008 21:00	347.8	N	3.11				
7/3/2008 21:10	355.4	N	3.14				
7/3/2008 21:20	357.7	N	3.42				
7/3/2008 21:30	359.6	N	3.41				
7/3/2008 21:40	353.3	N	3.61				
7/3/2008 21:50	352.1	N	3.54				
7/3/2008 22:00	352.8	N	3.81				
7/3/2008 22:10	351.1	N	3.87				
7/3/2008 22:20	347.3	N	3.53				
7/3/2008 22:30	347.4	N	2.78				
7/3/2008 22:40	348	N	3.01				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
7/3/2008 22:50	349.8	N	2.94				
7/3/2008 23:00	343.8	N	3.4				
7/3/2008 23:10	348.7	N	3.47				
7/3/2008 23:20	352.7	N	3.17				
7/3/2008 23:30	354.4	N	2.58				
7/3/2008 23:40	353.7	N	2.43				
7/3/2008 23:50	350	N	2.15				
7/4/2008 0:00	344.1	N	2.7				
7/4/2008 0:10	339.3	N	2.48				
7/4/2008 0:20	328.6	NW	1.62				
7/4/2008 0:30	306.2	NW	1.22				
7/4/2008 0:40	314.4	NW	1.21				
7/4/2008 0:50	306.7	NW	1.55				
7/4/2008 1:00	305.4	NW	1.66				
7/4/2008 1:10	306.7	NW	1.97				
7/4/2008 1:20	311.7	NW	2.22				
7/4/2008 1:30	313.6	NW	2				
7/4/2008 1:40	316.6	NW	1.89				
7/4/2008 1:50	325.2	NW	2.14				
7/4/2008 2:00	332.4	NW	2.67				
7/4/2008 2:10	343.7	N	2.93				
7/4/2008 2:20	339	N	2.55				
7/4/2008 2:30	348	N	2.78				
7/4/2008 2:40	355.3	N	2.76				
7/4/2008 2:50	1.46	N	3.17				
7/4/2008 3:00	1	N	2.95				
7/4/2008 3:10	12.67	N	2.89				
7/4/2008 3:20	16.8	N	2.9				
7/4/2008 3:30	358.3	N	2.71				
7/4/2008 3:40	348.1	N	2.9				
7/4/2008 3:50	338.7	N	2.92				
7/4/2008 4:00	327	NW	2.8				
7/4/2008 4:10	304.8	NW	3.35				
7/4/2008 4:20	296.4	NW	3.57				
7/4/2008 4:30	289.2	W	3.44				
7/4/2008 4:40	296.1	NW	2.76				
7/4/2008 4:50	296	NW	3.33				
7/4/2008 5:00	296.5	NW	4.45				
7/4/2008 5:10	297.9	NW	4.78				
7/4/2008 5:20	308.1	NW	4.78				
7/4/2008 5:30	314.7	NW	4.7				
7/4/2008 5:40	321.2	NW	5.53				
7/4/2008 5:50	323	NW	5.61				
7/4/2008 6:00	321.6	NW	5.46	21.5	8.5	15	0
7/4/2008 6:10	318.3	NW	4.93				
7/4/2008 6:20	321.8	NW	4.48				
7/4/2008 6:30	325.1	NW	4.78				
7/4/2008 6:40	324.1	NW	4.58				
7/4/2008 6:50	322.4	NW	4.36				
7/4/2008 7:00	324.2	NW	4.28				
7/4/2008 19:00	320.5	NW	2.16				
7/4/2008 19:10	320.2	NW	2.18				
7/4/2008 19:20	321.1	NW	1.91				
7/4/2008 19:30	322.2	NW	1.32				
7/4/2008 19:40	327.6	NW	0.97				
7/4/2008 19:50	334.3	NW	1.35				
7/4/2008 20:00	328.2	NW	1.31				
7/4/2008 20:10	337.2	NW	1.68				
7/4/2008 20:20	331.4	NW	1.94				
7/4/2008 20:30	330.9	NW	2				
7/4/2008 20:40	337.3	NW	2.02				
7/4/2008 20:50	343.1	N	1.74				
7/4/2008 21:00	351.7	N	1.82				
7/4/2008 21:10	354.2	N	1.34				
7/4/2008 21:20	18.43	N	0.76				
7/4/2008 21:30	97.6	E	1.01				
7/4/2008 21:40	113.5	SE	2.25				
7/4/2008 21:50	117	SE	1.85				
7/4/2008 22:00	117.9	SE	1.55				
7/4/2008 22:10	125	SE	0.82				
7/4/2008 22:20	137.9	SE	0.67				
7/4/2008 22:30	143.4	SE	0.81				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
7/4/2008 22:40	145	SE	0.63				
7/4/2008 22:50	167	S	0.61				
7/4/2008 23:00	169.8	S	0.73				
7/4/2008 23:10	202.2	S	0.41				
7/4/2008 23:20	238.7	SW	0.47				
7/4/2008 23:30	257.9	W	0.69				
7/4/2008 23:40	263.3	W	0.98				
7/4/2008 23:50	267.7	W	0.91				
7/5/2008 0:00	247.4	SW	0.84				
7/5/2008 0:10	240.1	SW	0.79				
7/5/2008 0:20	202.5	SW	0.81				
7/5/2008 0:30	207.7	SW	0.57				
7/5/2008 0:40	221.9	SW	0.19				
7/5/2008 0:50	225.5	SW	0.35				
7/5/2008 1:00	189.8	S	0.74				
7/5/2008 1:10	158.6	S	2.02				
7/5/2008 1:20	162.6	S	1.93				
7/5/2008 1:30	176.7	S	1.81				
7/5/2008 1:40	195.9	S	1.15				
7/5/2008 1:50	219.1	SW	0.93				
7/5/2008 2:00	171.2	S	0.81				
7/5/2008 2:10	153.3	SE	0.75				
7/5/2008 2:20	134.4	SE	1				
7/5/2008 2:30	137.6	SE	0.95				
7/5/2008 2:40	146.4	SE	0.7				
7/5/2008 2:50	148.1	SE	0.33				
7/5/2008 3:00	142.1	SE	0.39				
7/5/2008 3:10	129	SE	0.9				
7/5/2008 3:20	113.8	SE	0.88				
7/5/2008 3:30	114.6	SE	1.18				
7/5/2008 3:40	100.2	E	0.99				
7/5/2008 3:50	91.5	E	0.95				
7/5/2008 4:00	94.9	E	0.93				
7/5/2008 4:10	117.1	SE	1.34				
7/5/2008 4:20	122.6	SE	1.67				
7/5/2008 4:30	122.8	SE	1.53				
7/5/2008 4:40	126.1	SE	1.53				
7/5/2008 4:50	126.3	SE	1.44				
7/5/2008 5:00	126.8	SE	1.71				
7/5/2008 5:10	138.2	SE	1.91				
7/5/2008 5:20	141	SE	1.41				
7/5/2008 5:30	134.5	SE	1.15				
7/5/2008 5:40	144.3	SE	1.11				
7/5/2008 5:50	146.5	SE	0.96				
7/5/2008 6:00	145.8	SE	1.08	24	8	16	0
7/5/2008 6:10	150	SE	1.55				
7/5/2008 6:20	160.5	S	1.87				
7/5/2008 6:30	149.5	SE	2.35				
7/5/2008 6:40	145.7	SE	2.25				
7/5/2008 6:50	143.2	SE	2.39				
7/5/2008 7:00	151	SE	2.69				
7/5/2008 19:00	260.1	W	1.29				
7/5/2008 19:10	278.4	W	1.26				
7/5/2008 19:20	287.1	W	1.25				
7/5/2008 19:30	299.8	NW	0.85				
7/5/2008 19:40	289.1	W	0.79				
7/5/2008 19:50	271	W	0.54				
7/5/2008 20:00	269.5	W	0.32				
7/5/2008 20:10	169.7	S	0.03				
7/5/2008 20:20	160.6	S	0.26				
7/5/2008 20:30	145.7	SE	0.86				
7/5/2008 20:40	148.1	SE	1.18				
7/5/2008 20:50	160.4	S	0.86				
7/5/2008 21:00	170	S	0.86				
7/5/2008 21:10	162.1	S	1.61				
7/5/2008 21:20	172	S	1.29				
7/5/2008 21:30	176.3	S	1.73				
7/5/2008 21:40	171.4	S	2.2				
7/5/2008 21:50	174.3	S	2.34				
7/5/2008 22:00	169.7	S	3.06				
7/5/2008 22:10	169.6	S	3.41				
7/5/2008 22:20	171.9	S	3.34				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
7/5/2008 22:30	172.4	S	3.6				
7/5/2008 22:40	172.1	S	3.66				
7/5/2008 22:50	176.8	S	3.67				
7/5/2008 23:00	176.3	S	3.99				
7/5/2008 23:10	174.7	S	4.31				
7/5/2008 23:20	174	S	4.25				
7/5/2008 23:30	178.5	S	4.21				
7/5/2008 23:40	179.8	S	4.45				
7/5/2008 23:50	179.7	S	4.69				
7/6/2008 0:00	178.8	S	4.93				
7/6/2008 0:10	181.1	S	5.13				
7/6/2008 0:20	178.3	S	5.27				
7/6/2008 0:30	183.4	S	5.01				
7/6/2008 0:40	179.2	S	5.18				
7/6/2008 0:50	183.7	S	4.88				
7/6/2008 1:00	185	S	4.47				
7/6/2008 1:10	186.2	S	4.16				
7/6/2008 1:20	174.9	S	4.49				
7/6/2008 1:30	173.5	S	4.8				
7/6/2008 1:40	172.7	S	5.07				
7/6/2008 1:50	179.1	S	4.93				
7/6/2008 2:00	177.6	S	5.65				
7/6/2008 2:10	177.7	S	5.91				
7/6/2008 2:20	180.1	S	5.79				
7/6/2008 2:30	181.5	S	6.21				
7/6/2008 2:40	182	S	6.28				
7/6/2008 2:50	182.4	S	6.42				
7/6/2008 3:00	182.3	S	6.88				
7/6/2008 3:10	179.9	S	7.22				
7/6/2008 3:20	180.6	S	6.99				
7/6/2008 3:30	182.9	S	6.92				
7/6/2008 3:40	182.7	S	6.76				
7/6/2008 3:50	179.2	S	6.38				
7/6/2008 4:00	175.9	S	6.47				
7/6/2008 4:10	177.6	S	6.81				
7/6/2008 4:20	182.9	S	6.65				
7/6/2008 4:30	184.8	S	6.44				
7/6/2008 4:40	187.9	S	6.99				
7/6/2008 4:50	189.2	S	7.01				
7/6/2008 5:00	192.4	S	7				
7/6/2008 5:10	196	S	6.86				
7/6/2008 5:20	197.7	S	6.71				
7/6/2008 5:30	203.4	SW	6.48				
7/6/2008 5:40	208.8	SW	6.59				
7/6/2008 5:50	210.2	SW	6.43				
7/6/2008 6:00	213.8	SW	6.09	26.5	12	19.3	0
7/6/2008 6:10	216	SW	5.74				
7/6/2008 6:20	215.9	SW	5.2				
7/6/2008 6:30	215.2	SW	4.85				
7/6/2008 6:40	227.1	SW	4.67				
7/6/2008 6:50	222	SW	4.48				
7/6/2008 7:00	210.7	SW	4.84				
7/6/2008 19:00	214.4	SW	5.12				
7/6/2008 19:10	220.7	SW	4.8				
7/6/2008 19:20	218.4	SW	4.98				
7/6/2008 19:30	203.9	SW	5.17				
7/6/2008 19:40	201.8	S	4.98				
7/6/2008 19:50	201.5	S	5.32				
7/6/2008 20:00	193.8	S	5.57				
7/6/2008 20:10	196	S	5.49				
7/6/2008 20:20	191.4	S	5.83				
7/6/2008 20:30	181.6	S	6.09				
7/6/2008 20:40	180.2	S	6.31				
7/6/2008 20:50	179.8	S	6.89				
7/6/2008 21:00	180.6	S	6.94				
7/6/2008 21:10	182.9	S	6.64				
7/6/2008 21:20	183.5	S	7.02				
7/6/2008 21:30	183.9	S	7.05				
7/6/2008 21:40	179.8	S	7.62				
7/6/2008 21:50	179.6	S	8.13				
7/6/2008 22:00	183.5	S	8.15				
7/6/2008 22:10	185.9	S	7.98				

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3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
7/6/2008 22:20	190.5	S	7.91				
7/6/2008 22:30	191	S	8.16				
7/6/2008 22:40	194.7	S	7.91				
7/6/2008 22:50	195.4	S	7.72				
7/6/2008 23:00	197.6	S	8.05				
7/6/2008 23:10	198.4	S	8.28				
7/6/2008 23:20	197.2	S	7.54				
7/6/2008 23:30	192.4	S	7.54				
7/6/2008 23:40	196.2	S	7.39				
7/6/2008 23:50	196.9	S	7.26				
7/7/2008 0:00	194.9	S	8.14				
7/7/2008 0:10	195.7	S	7.99				
7/7/2008 0:20	195.2	S	7.76				
7/7/2008 0:30	195.8	S	7.92				
7/7/2008 0:40	192.6	S	8.24				
7/7/2008 0:50	191.4	S	8.54				
7/7/2008 1:00	189.5	S	8.01				
7/7/2008 1:10	189.7	S	7.77				
7/7/2008 1:20	189.3	S	7.93				
7/7/2008 1:30	187.8	S	7.98				
7/7/2008 1:40	184.1	S	8.09				
7/7/2008 1:50	184.4	S	8.58				
7/7/2008 2:00	185.8	S	8.75				
7/7/2008 2:10	187.1	S	8.83				
7/7/2008 2:20	190.6	S	8.84				
7/7/2008 2:30	192.8	S	8.81				
7/7/2008 2:40	191.5	S	8.85				
7/7/2008 2:50	187.1	S	8.82				
7/7/2008 3:00	187.4	S	8.02				
7/7/2008 3:10	190.1	S	7.85				
7/7/2008 3:20	191.4	S	8.59				
7/7/2008 3:30	190.4	S	8.67				
7/7/2008 3:40	186.1	S	8.34				
7/7/2008 3:50	185.2	S	7.95				
7/7/2008 4:00	183.4	S	8.5				
7/7/2008 4:10	185.6	S	8.29				
7/7/2008 4:20	185.8	S	8.04				
7/7/2008 4:30	185.3	S	8.38				
7/7/2008 4:40	183.7	S	8.64				
7/7/2008 4:50	186.6	S	8.69				
7/7/2008 5:00	189.6	S	8.56				
7/7/2008 5:10	189.5	S	8.69				
7/7/2008 5:20	191.2	S	8.9				
7/7/2008 5:30	192.9	S	8.7				
7/7/2008 5:40	193.3	S	8.89				
7/7/2008 5:50	188.9	S	8.7				
7/7/2008 6:00	188.6	S	8.77	29	17	23	1.6
7/7/2008 6:10	191.2	S	8.73				
7/7/2008 6:20	196.7	S	8.43				
7/7/2008 6:30	200.1	S	8.17				
7/7/2008 6:40	198.1	S	8.52				
7/7/2008 6:50	199.9	S	7.97				
7/7/2008 7:00	198.9	S	7.77				
7/7/2008 19:00	174.9	S	6.82				
7/7/2008 19:10	169.7	S	6.46				
7/7/2008 19:20	176.3	S	6.51				
7/7/2008 19:30	181.6	S	7.55				
7/7/2008 19:40	185.7	S	7.55				
7/7/2008 19:50	190	S	7.2				
7/7/2008 20:00	189.4	S	7.37				
7/7/2008 20:10	192.3	S	7.53				
7/7/2008 20:20	200.3	S	7.72				
7/7/2008 20:30	206.3	SW	7.3				
7/7/2008 20:40	209.6	SW	6.49				
7/7/2008 20:50	211	SW	6.9				
7/7/2008 21:00	207.6	SW	6.19				
7/7/2008 21:10	205.3	SW	5.92				
7/7/2008 21:20	203	SW	6.21				
7/7/2008 21:30	201.5	S	5.78				
7/7/2008 21:40	195.8	S	6.16				
7/7/2008 21:50	194.4	S	6.78				
7/7/2008 22:00	189.7	S	7.3				

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3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
7/7/2008 22:10	191.9	S	8.04				
7/7/2008 22:20	190.7	S	8.25				
7/7/2008 22:30	193.1	S	8.2				
7/7/2008 22:40	195.7	S	7.64				
7/7/2008 22:50	199.6	S	6.43				
7/7/2008 23:00	203.1	SW	6.72				
7/7/2008 23:10	203.6	SW	7.87				
7/7/2008 23:20	199.5	S	8.43				
7/7/2008 23:30	202.1	S	8.79				
7/7/2008 23:40	194.3	S	7.79				
7/7/2008 23:50	195.3	S	7.15				
7/8/2008 0:00	189.5	S	6.98				
7/8/2008 0:10	214.4	SW	7.27				
7/8/2008 0:20	196.1	S	5.98				
7/8/2008 0:30	184.4	S	7.08				
7/8/2008 0:40	181.7	S	6.75				
7/8/2008 0:50	184.6	S	7.06				
7/8/2008 1:00	181.8	S	7.63				
7/8/2008 1:10	178.7	S	8.24				
7/8/2008 1:20	180.3	S	8.52				
7/8/2008 1:30	180.2	S	8.59				
7/8/2008 1:40	183.2	S	8.44				
7/8/2008 1:50	185.3	S	8.32				
7/8/2008 2:00	189.3	S	8.14				
7/8/2008 2:10	188.4	S	6.96				
7/8/2008 2:20	190.5	S	7.86				
7/8/2008 2:30	190.6	S	8.35				
7/8/2008 2:40	189.9	S	7.68				
7/8/2008 2:50	192	S	8.11				
7/8/2008 3:00	193.4	S	8.06				
7/8/2008 3:10	196.3	S	7.9				
7/8/2008 3:20	195.5	S	7.94				
7/8/2008 3:30	199.4	S	7.94				
7/8/2008 3:40	200.7	S	8.46				
7/8/2008 3:50	199.6	S	7.92				
7/8/2008 4:00	197.2	S	7.98				
7/8/2008 4:10	195.9	S	7.99				
7/8/2008 4:20	197	S	7.84				
7/8/2008 4:30	201.6	S	7.42				
7/8/2008 4:40	196.6	S	8.59				
7/8/2008 4:50	200.8	S	8.8				
7/8/2008 5:00	202.2	S	8.24				
7/8/2008 5:10	203.7	SW	8.63				
7/8/2008 5:20	206.9	SW	8.36				
7/8/2008 5:30	203.4	SW	8.81				
7/8/2008 5:40	206.1	SW	8.96				
7/8/2008 5:50	209.5	SW	9.18				
7/8/2008 6:00	207.3	SW	9.24	No Data	No Data	No Data	No Data
7/8/2008 6:10	206.3	SW	8.44				
7/8/2008 6:20	204.5	SW	8.08				
7/8/2008 6:30	204.8	SW	7.84				
7/8/2008 6:40	201.7	S	8.25				
7/8/2008 6:50	199.4	S	8.01				
7/8/2008 7:00	202.7	SW	7.71				
7/8/2008 19:00	198.9	S	4.08				
7/8/2008 19:10	203.6	SW	3.83				
7/8/2008 19:20	223.1	SW	4.01				
7/8/2008 19:30	221.4	SW	3.89				
7/8/2008 19:40	217.8	SW	3.39				
7/8/2008 19:50	213.7	SW	3.18				
7/8/2008 20:00	223.6	SW	3.46				
7/8/2008 20:10	214.3	SW	3.24				
7/8/2008 20:20	219.3	SW	3.44				
7/8/2008 20:30	220.7	SW	4.26				
7/8/2008 20:40	215.5	SW	4.55				
7/8/2008 20:50	207.8	SW	4.56				
7/8/2008 21:00	217.6	SW	4.24				
7/8/2008 21:10	212.4	SW	4.66				
7/8/2008 21:20	205.4	SW	4.91				
7/8/2008 21:30	206.4	SW	5.42				
7/8/2008 21:40	213.5	SW	5.76				
7/8/2008 21:50	211.2	SW	5.75				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
7/8/2008 22:00	205.2	SW	6.26				
7/8/2008 22:10	202.8	SW	6.14				
7/8/2008 22:20	200.7	S	6.04				
7/8/2008 22:30	200.8	S	6.39				
7/8/2008 22:40	204.1	SW	6.78				
7/8/2008 22:50	205.6	SW	6.44				
7/8/2008 23:00	205.5	SW	6.16				
7/8/2008 23:10	201.7	S	6.16				
7/8/2008 23:20	201	S	6.26				
7/8/2008 23:30	203.5	SW	6.02				
7/8/2008 23:40	212.5	SW	5.86				
7/8/2008 23:50	216.4	SW	6.2				
7/9/2008 0:00	216.8	SW	6.55				
7/9/2008 0:10	223.7	SW	7.01				
7/9/2008 0:20	227.2	SW	6.8				
7/9/2008 0:30	228.5	SW	6.8				
7/9/2008 0:40	235.7	SW	6.85				
7/9/2008 0:50	230.1	SW	6.84				
7/9/2008 1:00	227.1	SW	6.33				
7/9/2008 1:10	233.8	SW	5.5				
7/9/2008 1:20	236.1	SW	5.5				
7/9/2008 1:30	233.4	SW	5.59				
7/9/2008 1:40	233	SW	5.46				
7/9/2008 1:50	235.2	SW	5.24				
7/9/2008 2:00	236.9	SW	4.95				
7/9/2008 2:10	247.5	W	5.51				
7/9/2008 2:20	251.9	W	6.88				
7/9/2008 2:30	253.8	W	7.31				
7/9/2008 2:40	251.8	W	6.86				
7/9/2008 2:50	248.4	W	6.78				
7/9/2008 3:00	244.9	SW	6.68				
7/9/2008 3:10	238	SW	6.26				
7/9/2008 3:20	233.3	SW	5.85				
7/9/2008 3:30	237	SW	5.35				
7/9/2008 3:40	223	SW	4.83				
7/9/2008 3:50	219.3	SW	5.02				
7/9/2008 4:00	219.7	SW	5.56				
7/9/2008 4:10	222	SW	5.3				
7/9/2008 4:20	234.9	SW	5.46				
7/9/2008 4:30	237.3	SW	5.55				
7/9/2008 4:40	238.2	SW	5.67				
7/9/2008 4:50	240.1	SW	5.56				
7/9/2008 5:00	244.2	SW	6.69				
7/9/2008 5:10	253.1	W	5.95				
7/9/2008 5:20	253.8	W	6.6				
7/9/2008 5:30	263.9	W	6.49				
7/9/2008 5:40	262.9	W	6.54				
7/9/2008 5:50	264.9	W	6.13				
7/9/2008 6:00	267.7	W	5.4	No Data	No Data	No Data	No Data
7/9/2008 6:10	269.9	W	4.88				
7/9/2008 6:20	273.2	W	4.64				
7/9/2008 6:30	285.7	W	5.53				
7/9/2008 6:40	301.5	NW	5.47				
7/9/2008 6:50	314.7	NW	6.11				
7/9/2008 7:00	327.6	NW	6.04				
7/9/2008 19:00	341.5	N	5.89				
7/9/2008 19:10	345.2	N	6.66				
7/9/2008 19:20	342.5	N	5.7				
7/9/2008 19:30	342.5	N	4.68				
7/9/2008 19:40	342.8	N	4.69				
7/9/2008 19:50	343.1	N	4.36				
7/9/2008 20:00	339.7	N	4.63				
7/9/2008 20:10	341.8	N	5.04				
7/9/2008 20:20	340.4	N	4.86				
7/9/2008 20:30	335	NW	3.97				
7/9/2008 20:40	326	NW	3.25				
7/9/2008 20:50	326.8	NW	3.94				
7/9/2008 21:00	328.3	NW	3.93				
7/9/2008 21:10	323.3	NW	3.82				
7/9/2008 21:20	322.2	NW	4.06				
7/9/2008 21:30	322	NW	4.2				
7/9/2008 21:40	324.7	NW	4.41				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
7/9/2008 21:50	325	NW	4.67				
7/9/2008 22:00	330.9	NW	5.64				
7/9/2008 22:10	334.8	NW	4.96				
7/9/2008 22:20	337.5	N	4.41				
7/9/2008 22:30	335.6	NW	4.17				
7/9/2008 22:40	331.8	NW	3.79				
7/9/2008 22:50	326.8	NW	4.41				
7/9/2008 23:00	326.9	NW	4.65				
7/9/2008 23:10	329.9	NW	5.31				
7/9/2008 23:20	331.3	NW	5.79				
7/9/2008 23:30	328.1	NW	5.21				
7/9/2008 23:40	323.1	NW	4.58				
7/9/2008 23:50	311.9	NW	4.2				
7/10/2008 0:00	307.6	NW	4.43				
7/10/2008 0:10	302.8	NW	4.46				
7/10/2008 0:20	305.7	NW	4.84				
7/10/2008 0:30	308.4	NW	5.43				
7/10/2008 0:40	313	NW	5.01				
7/10/2008 0:50	312.8	NW	5.52				
7/10/2008 1:00	307.6	NW	5.48				
7/10/2008 1:10	300.9	NW	5.49				
7/10/2008 1:20	298.2	NW	5.75				
7/10/2008 1:30	300.3	NW	5.69				
7/10/2008 1:40	296.5	NW	5.52				
7/10/2008 1:50	293.1	NW	5.62				
7/10/2008 2:00	293.9	NW	5.69				
7/10/2008 2:10	293.7	NW	5.03				
7/10/2008 2:20	290	W	5.06				
7/10/2008 2:30	282.1	W	5.05				
7/10/2008 2:40	267.2	W	4.76				
7/10/2008 2:50	265.1	W	5.03				
7/10/2008 3:00	262.8	W	4.67				
7/10/2008 3:10	260.1	W	4.78				
7/10/2008 3:20	257.4	W	5.07				
7/10/2008 3:30	263.3	W	4.84				
7/10/2008 3:40	259.1	W	5.05				
7/10/2008 3:50	260.4	W	5.1				
7/10/2008 4:00	265.9	W	4.86				
7/10/2008 4:10	268.7	W	6.28				
7/10/2008 4:20	274.6	W	6.84				
7/10/2008 4:30	277.3	W	6.43				
7/10/2008 4:40	285.1	W	6.61				
7/10/2008 4:50	298.2	NW	6.46				
7/10/2008 5:00	305.4	NW	6.83				
7/10/2008 5:10	313.3	NW	5.79				
7/10/2008 5:20	323.7	NW	4.19				
7/10/2008 5:30	336.4	NW	3.65				
7/10/2008 5:40	332.8	NW	4.09				
7/10/2008 5:50	334.9	NW	2.38				
7/10/2008 6:00	339.6	N	1.3	No Data	No Data	No Data	No Data
7/10/2008 6:10	280.8	W	1.34				
7/10/2008 6:20	303.9	NW	1.82				
7/10/2008 6:30	321.5	NW	2.2				
7/10/2008 6:40	333.3	NW	2.53				
7/10/2008 6:50	327	NW	3.04				
7/10/2008 7:00	329.5	NW	3.5				
7/10/2008 19:00	188.5	S	5.84				
7/10/2008 19:10	186.5	S	5.79				
7/10/2008 19:20	188.6	S	5.92				
7/10/2008 19:30	191	S	5.98				
7/10/2008 19:40	188	S	5.72				
7/10/2008 19:50	187.3	S	5.52				
7/10/2008 20:00	188.9	S	5.64				
7/10/2008 20:10	188.4	S	5.94				
7/10/2008 20:20	188.5	S	6.44				
7/10/2008 20:30	191.8	S	6.77				
7/10/2008 20:40	190.6	S	6.81				
7/10/2008 20:50	193.5	S	7.19				
7/10/2008 21:00	197.1	S	7.62				
7/10/2008 21:10	196.1	S	8				
7/10/2008 21:20	200.1	S	7.13				
7/10/2008 21:30	194.9	S	7.8				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
7/10/2008 21:40	190	S	8.7				
7/10/2008 21:50	187.8	S	8.95				
7/10/2008 22:00	307.8	NW	13.38				
7/10/2008 22:10	356.7	N	16.92				
7/10/2008 22:20	22.85	NE	13.37				
7/10/2008 22:30	31.97	NE	12.13				
7/10/2008 22:40	36.2	NE	10.8				
7/10/2008 22:50	49.06	NE	9.33				
7/10/2008 23:00	51.86	NE	9.12				
7/10/2008 23:10	63.46	NE	8.79				
7/10/2008 23:20	64.45	NE	8.99				
7/10/2008 23:30	69.68	E	8.03				
7/10/2008 23:40	74.7	E	8.18				
7/10/2008 23:50	82.7	E	8.3				
7/11/2008 0:00	89.4	E	7.61				
7/11/2008 0:10	101.6	E	8.47				
7/11/2008 0:20	103.8	E	8.75				
7/11/2008 0:30	101	E	8.31				
7/11/2008 0:40	107.5	E	8.52				
7/11/2008 0:50	109.7	E	8.5				
7/11/2008 1:00	106.7	E	8.37				
7/11/2008 1:10	107.9	E	8.05				
7/11/2008 1:20	111.4	E	7.79				
7/11/2008 1:30	107.7	E	7.7				
7/11/2008 1:40	107.3	E	7.19				
7/11/2008 1:50	109.2	E	6.94				
7/11/2008 2:00	108.9	E	7.24				
7/11/2008 2:10	115.5	SE	6.84				
7/11/2008 2:20	119.6	SE	5.98				
7/11/2008 2:30	127.8	SE	4.93				
7/11/2008 2:40	130.7	SE	5.36				
7/11/2008 2:50	130.5	SE	4.92				
7/11/2008 3:00	133.1	SE	5.55				
7/11/2008 3:10	142.3	SE	5.02				
7/11/2008 3:20	150.2	SE	5.96				
7/11/2008 3:30	142.1	SE	5.41				
7/11/2008 3:40	139.7	SE	4.51				
7/11/2008 3:50	146.2	SE	4.54				
7/11/2008 4:00	153.6	SE	4.82				
7/11/2008 4:10	146.9	SE	4.87				
7/11/2008 4:20	143.5	SE	4.7				
7/11/2008 4:30	139.3	SE	3.96				
7/11/2008 4:40	146.1	SE	3.44				
7/11/2008 4:50	166	S	3.26				
7/11/2008 5:00	162.8	S	3.14				
7/11/2008 5:10	157.7	S	2.7				
7/11/2008 5:20	148.9	SE	3.01				
7/11/2008 5:30	143.5	SE	2.83				
7/11/2008 5:40	154.2	SE	1.72				
7/11/2008 5:50	142.4	SE	2.1				
7/11/2008 6:00	145.7	SE	2.6	No Data	No Data	No Data	No Data
7/11/2008 6:10	139	SE	3.31				
7/11/2008 6:20	124	SE	3.09				
7/11/2008 6:30	137.8	SE	2.86				
7/11/2008 6:40	142.5	SE	3.22				
7/11/2008 6:50	140.6	SE	3.15				
7/11/2008 7:00	152.2	SE	2.57				
7/11/2008 19:00	334.6	NW	1.45				
7/11/2008 19:10	346.8	N	0.93				
7/11/2008 19:20	73	E	0.73				
7/11/2008 19:30	93.8	E	0.47				
7/11/2008 19:40	93.8	E	0.67				
7/11/2008 19:50	192.4	S	0.39				
7/11/2008 20:00	271	W	1.81				
7/11/2008 20:10	275.7	W	3.7				
7/11/2008 20:20	285.3	W	3.94				
7/11/2008 20:30	310	NW	2.52				
7/11/2008 20:40	345.1	N	1.27				
7/11/2008 20:50	14.46	N	1.12				
7/11/2008 21:00	63.04	NE	1				
7/11/2008 21:10	94.2	E	1.59				
7/11/2008 21:20	108.9	E	1.83				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
7/11/2008 21:30	127.9	SE	2.52				
7/11/2008 21:40	132.5	SE	2.54				
7/11/2008 21:50	130	SE	2.54				
7/11/2008 22:00	127.3	SE	2.71				
7/11/2008 22:10	126.7	SE	3.34				
7/11/2008 22:20	126.9	SE	4.33				
7/11/2008 22:30	129.7	SE	5.39				
7/11/2008 22:40	136.6	SE	6.19				
7/11/2008 22:50	141.3	SE	6.57				
7/11/2008 23:00	140.6	SE	6.76				
7/11/2008 23:10	142.3	SE	7.7				
7/11/2008 23:20	149.3	SE	7.23				
7/11/2008 23:30	146.8	SE	6.37				
7/11/2008 23:40	148.9	SE	6.68				
7/11/2008 23:50	153.1	SE	6.29				
7/12/2008 0:00	147.1	SE	6.04				
7/12/2008 0:10	148.9	SE	6.12				
7/12/2008 0:20	156	SE	7.19				
7/12/2008 0:30	151.4	SE	6.81				
7/12/2008 0:40	150.8	SE	6.16				
7/12/2008 0:50	151.8	SE	6.08				
7/12/2008 1:00	150.2	SE	6.68				
7/12/2008 1:10	152.7	SE	6.95				
7/12/2008 1:20	153.8	SE	7.18				
7/12/2008 1:30	151.7	SE	6.91				
7/12/2008 1:40	148.8	SE	6.99				
7/12/2008 1:50	148.3	SE	7.76				
7/12/2008 2:00	147.6	SE	7.41				
7/12/2008 2:10	148	SE	7.53				
7/12/2008 2:20	147.5	SE	7.53				
7/12/2008 2:30	146.4	SE	7.65				
7/12/2008 2:40	146.7	SE	8.01				
7/12/2008 2:50	146.2	SE	8.12				
7/12/2008 3:00	147.7	SE	7.82				
7/12/2008 3:10	147.5	SE	8.18				
7/12/2008 3:20	148.5	SE	7.76				
7/12/2008 3:30	146.1	SE	8.02				
7/12/2008 3:40	146.8	SE	8.2				
7/12/2008 3:50	144.6	SE	8.39				
7/12/2008 4:00	146.9	SE	8.79				
7/12/2008 4:10	148.4	SE	8.52				
7/12/2008 4:20	154.4	SE	9.04				
7/12/2008 4:30	152.5	SE	8.64				
7/12/2008 4:40	151.6	SE	8.64				
7/12/2008 4:50	150.6	SE	8.24				
7/12/2008 5:00	153.3	SE	8.63				
7/12/2008 5:10	151.4	SE	8.27				
7/12/2008 5:20	154.5	SE	8.72				
7/12/2008 5:30	156	SE	9.11				
7/12/2008 5:40	156	SE	8.82				
7/12/2008 5:50	155.4	SE	8.81				
7/12/2008 6:00	158.2	S	8.89	28.5	18.5	23.5	Trace
7/12/2008 6:10	161.1	S	8.94				
7/12/2008 6:20	162.9	S	8.31				
7/12/2008 6:30	160.6	S	8.34				
7/12/2008 6:40	163.9	S	8.11				
7/12/2008 6:50	165.3	S	9.19				
7/12/2008 7:00	169	S	9.05				
7/12/2008 19:00	216.9	SW	8.93				
7/12/2008 19:10	219.4	SW	8.65				
7/12/2008 19:20	218.3	SW	9.61				
7/12/2008 19:30	221.9	SW	9.26				
7/12/2008 19:40	214.3	SW	8.63				
7/12/2008 19:50	211	SW	8.53				
7/12/2008 20:00	211.7	SW	7.46				
7/12/2008 20:10	210.2	SW	7.61				
7/12/2008 20:20	212.5	SW	7.82				
7/12/2008 20:30	209.3	SW	7.85				
7/12/2008 20:40	207.4	SW	7.32				
7/12/2008 20:50	206.8	SW	7.52				
7/12/2008 21:00	207.8	SW	7.19				
7/12/2008 21:10	205.6	SW	7.66				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
7/12/2008 21:20	204.1	SW	7.27				
7/12/2008 21:30	202.5	SW	7.2				
7/12/2008 21:40	205.3	SW	7.09				
7/12/2008 21:50	203.9	SW	7.26				
7/12/2008 22:00	202.1	S	7.16				
7/12/2008 22:10	205.1	SW	6.68				
7/12/2008 22:20	208.7	SW	6.84				
7/12/2008 22:30	214.5	SW	6.56				
7/12/2008 22:40	212.2	SW	6.37				
7/12/2008 22:50	224.8	SW	6.72				
7/12/2008 23:00	237.7	SW	7.74				
7/12/2008 23:10	245.3	SW	8.83				
7/12/2008 23:20	248.6	W	9.06				
7/12/2008 23:30	250.2	W	9.08				
7/12/2008 23:40	250.2	W	8.64				
7/12/2008 23:50	245	SW	8.39				
7/13/2008 0:00	240.9	SW	8.43				
7/13/2008 0:10	240.1	SW	8.37				
7/13/2008 0:20	240.2	SW	7.93				
7/13/2008 0:30	242.9	SW	8.43				
7/13/2008 0:40	245.3	SW	8.89				
7/13/2008 0:50	248	W	9.41				
7/13/2008 1:00	250.3	W	9.56				
7/13/2008 1:10	251.7	W	9.33				
7/13/2008 1:20	252.9	W	8.25				
7/13/2008 1:30	250.5	W	7.99				
7/13/2008 1:40	250.9	W	7.82				
7/13/2008 1:50	253.9	W	7.93				
7/13/2008 2:00	253.3	W	8.24				
7/13/2008 2:10	251.1	W	7.39				
7/13/2008 2:20	249.8	W	7.46				
7/13/2008 2:30	249.6	W	7.48				
7/13/2008 2:40	248.3	W	6.65				
7/13/2008 2:50	245.6	SW	6.57				
7/13/2008 3:00	243.1	SW	7.33				
7/13/2008 3:10	243.6	SW	7.39				
7/13/2008 3:20	236.3	SW	7.3				
7/13/2008 3:30	229.9	SW	6.64				
7/13/2008 3:40	229.1	SW	6.78				
7/13/2008 3:50	229.7	SW	6.78				
7/13/2008 4:00	229.8	SW	6.54				
7/13/2008 4:10	228	SW	6.12				
7/13/2008 4:20	225.9	SW	6.06				
7/13/2008 4:30	229.4	SW	6.14				
7/13/2008 4:40	234	SW	6.64				
7/13/2008 4:50	239.1	SW	7.6				
7/13/2008 5:00	241	SW	7.48				
7/13/2008 5:10	239.4	SW	7.92				
7/13/2008 5:20	238.8	SW	8.22				
7/13/2008 5:30	237.9	SW	7.86				
7/13/2008 5:40	238.6	SW	7.47				
7/13/2008 5:50	239.8	SW	7.4				
7/13/2008 6:00	239.2	SW	7.9	No Data	No Data	No Data	No Data
7/13/2008 6:10	242.2	SW	7.77				
7/13/2008 6:20	238.6	SW	7.55				
7/13/2008 6:30	240.9	SW	7.16				
7/13/2008 6:40	240.5	SW	7.83				
7/13/2008 6:50	238.3	SW	8.09				
7/13/2008 7:00	236.7	SW	8.24				
7/13/2008 19:00	258.4	W	8.84				
7/13/2008 19:10	259.3	W	9.03				
7/13/2008 19:20	257.6	W	8.81				
7/13/2008 19:30	258.5	W	8.75				
7/13/2008 19:40	259.2	W	9.52				
7/13/2008 19:50	260.1	W	9.3				
7/13/2008 20:00	258.5	W	8.98				
7/13/2008 20:10	260	W	8.11				
7/13/2008 20:20	259.5	W	8.01				
7/13/2008 20:30	259.1	W	7.91				
7/13/2008 20:40	259.9	W	7.5				
7/13/2008 20:50	254.3	W	8.04				
7/13/2008 21:00	255.6	W	7.88				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
7/13/2008 21:10	242.8	SW	7.27				
7/13/2008 21:20	247.2	SW	7.65				
7/13/2008 21:30	251.8	W	7.43				
7/13/2008 21:40	256.9	W	7.66				
7/13/2008 21:50	257.1	W	7.6				
7/13/2008 22:00	253.6	W	7.72				
7/13/2008 22:10	252	W	7.87				
7/13/2008 22:20	254	W	7.78				
7/13/2008 22:30	258.3	W	8.07				
7/13/2008 22:40	258.6	W	7.93				
7/13/2008 22:50	260.5	W	8.09				
7/13/2008 23:00	259.3	W	8.37				
7/13/2008 23:10	260.1	W	8.5				
7/13/2008 23:20	260.2	W	8.71				
7/13/2008 23:30	257.6	W	8.78				
7/13/2008 23:40	254.9	W	8.41				
7/13/2008 23:50	255	W	8.17				
7/14/2008 0:00	255.1	W	8.21				
7/14/2008 0:10	258.6	W	8.35				
7/14/2008 0:20	255.2	W	8.68				
7/14/2008 0:30	253.5	W	9.09				
7/14/2008 0:40	256.9	W	8.9				
7/14/2008 0:50	262.5	W	9.64				
7/14/2008 1:00	264.2	W	9.28				
7/14/2008 1:10	266.5	W	9.43				
7/14/2008 1:20	268.2	W	8.05				
7/14/2008 1:30	269.2	W	8.23				
7/14/2008 1:40	268.6	W	7.91				
7/14/2008 1:50	269.3	W	7.51				
7/14/2008 2:00	259.6	W	7.34				
7/14/2008 2:10	250.1	W	6.21				
7/14/2008 2:20	253.3	W	6.45				
7/14/2008 2:30	251.9	W	7.87				
7/14/2008 2:40	252.3	W	7.72				
7/14/2008 2:50	258.6	W	7.64				
7/14/2008 3:00	263.6	W	8.25				
7/14/2008 3:10	273.8	W	8.89				
7/14/2008 3:20	276.7	W	9.19				
7/14/2008 3:30	275	W	8.36				
7/14/2008 3:40	266.9	W	6.85				
7/14/2008 3:50	263.5	W	6.79				
7/14/2008 4:00	264.2	W	7.63				
7/14/2008 4:10	262	W	8.32				
7/14/2008 4:20	263.3	W	8.6				
7/14/2008 4:30	261.8	W	8.26				
7/14/2008 4:40	263.6	W	8.94				
7/14/2008 4:50	265.6	W	8.34				
7/14/2008 5:00	271.6	W	9.2				
7/14/2008 5:10	274.6	W	8.72				
7/14/2008 5:20	274.6	W	8.05				
7/14/2008 5:30	273.4	W	6.87				
7/14/2008 5:40	274.3	W	7.94				
7/14/2008 5:50	278.6	W	7.93				
7/14/2008 6:00	280.5	W	7.56	No Data	No Data	No Data	No Data
7/14/2008 6:10	283.3	W	7				
7/14/2008 6:20	279.6	W	6.65				
7/14/2008 6:30	280.7	W	6.91				
7/14/2008 6:40	282.6	W	6.87				
7/14/2008 6:50	284.2	W	6.48				
7/14/2008 7:00	281.9	W	6.75				
7/14/2008 19:00	327.9	NW	3.22				
7/14/2008 19:10	339.5	N	2.36				
7/14/2008 19:20	311.6	NW	2.5				
7/14/2008 19:30	313.4	NW	2.38				
7/14/2008 19:40	334.6	NW	2.58				
7/14/2008 19:50	327.9	NW	2.3				
7/14/2008 20:00	312.5	NW	2.42				
7/14/2008 20:10	302.8	NW	2.38				
7/14/2008 20:20	309.7	NW	2.16				
7/14/2008 20:30	320.3	NW	1.78				
7/14/2008 20:40	313.2	NW	1.52				
7/14/2008 20:50	322.4	NW	1.21				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
7/14/2008 21:00	330	NW	0.79				
7/14/2008 21:10	315.7	NW	1.33				
7/14/2008 21:20	328.7	NW	1.69				
7/14/2008 21:30	339	N	1.59				
7/14/2008 21:40	355	N	1.31				
7/14/2008 21:50	0.49	N	1.71				
7/14/2008 22:00	355.4	N	1.5				
7/14/2008 22:10	17.49	N	1.45				
7/14/2008 22:20	25.77	NE	1.08				
7/14/2008 22:30	26.54	NE	0.85				
7/14/2008 22:40	30.03	NE	0.56				
7/14/2008 22:50	29.99	NE	0.09				
7/14/2008 23:00	29.98	NE	0.09				
7/14/2008 23:10	0	N	0				
7/14/2008 23:20	0	N	0				
7/14/2008 23:30	0	N	0				
7/14/2008 23:40	0	N	0				
7/14/2008 23:50	153.1	SE	0.53				
7/15/2008 0:00	148.7	SE	0.75				
7/15/2008 0:10	160.8	S	1.05				
7/15/2008 0:20	180.4	S	1.53				
7/15/2008 0:30	197.6	S	1.92				
7/15/2008 0:40	196.2	S	1.83				
7/15/2008 0:50	175.1	S	2				
7/15/2008 1:00	175.6	S	2.67				
7/15/2008 1:10	189.8	S	2.87				
7/15/2008 1:20	193.3	S	3.25				
7/15/2008 1:30	191.2	S	4.04				
7/15/2008 1:40	195.7	S	4.71				
7/15/2008 1:50	201	S	5.06				
7/15/2008 2:00	199.5	S	5.65				
7/15/2008 2:10	205.5	SW	5.58				
7/15/2008 2:20	206.4	SW	5.43				
7/15/2008 2:30	204.5	SW	5.47				
7/15/2008 2:40	208.9	SW	5.73				
7/15/2008 2:50	209.2	SW	5.89				
7/15/2008 3:00	210.4	SW	6.16				
7/15/2008 3:10	210.9	SW	6.32				
7/15/2008 3:20	212	SW	6.27				
7/15/2008 3:30	209.9	SW	5.99				
7/15/2008 3:40	212.9	SW	5.64				
7/15/2008 3:50	215.8	SW	5.68				
7/15/2008 4:00	219	SW	5.84				
7/15/2008 4:10	216.8	SW	6.05				
7/15/2008 4:20	212.5	SW	5.85				
7/15/2008 4:30	207.5	SW	5.51				
7/15/2008 4:40	206.2	SW	5.62				
7/15/2008 4:50	200.5	S	5.77				
7/15/2008 5:00	208	SW	5.74				
7/15/2008 5:10	208.2	SW	5.51				
7/15/2008 5:20	208.1	SW	5.34				
7/15/2008 5:30	206.4	SW	5.36				
7/15/2008 5:40	207.4	SW	5.16				
7/15/2008 5:50	205	SW	5.39				
7/15/2008 6:00	205	SW	5.73	27	11	19	0.2
7/15/2008 6:10	204.8	SW	5.95				
7/15/2008 6:20	208.2	SW	5.72				
7/15/2008 6:30	200.9	S	6.01				
7/15/2008 6:40	194.7	S	5.94				
7/15/2008 6:50	195.9	S	5.74				
7/15/2008 7:00	196.7	S	4.95				
7/15/2008 19:00	204.7	SW	7.49				
7/15/2008 19:10	196.8	S	7.75				
7/15/2008 19:20	197.7	S	9.01				
7/15/2008 19:30	188.6	S	10.52				
7/15/2008 19:40	188.9	S	7.69				
7/15/2008 19:50	186.5	S	8				
7/15/2008 20:00	201.1	S	7.87				
7/15/2008 20:10	196.3	S	8.43				
7/15/2008 20:20	197.7	S	7.47				
7/15/2008 20:30	192.3	S	6.64				
7/15/2008 20:40	201.7	S	5.36				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
7/15/2008 20:50	212.3	SW	6.07				
7/15/2008 21:00	211.7	SW	6.66				
7/15/2008 21:10	212.4	SW	7.42				
7/15/2008 21:20	211.2	SW	7.94				
7/15/2008 21:30	210.2	SW	7.23				
7/15/2008 21:40	203.3	SW	6.91				
7/15/2008 21:50	201.3	S	6.14				
7/15/2008 22:00	193.4	S	6.11				
7/15/2008 22:10	187.5	S	6.17				
7/15/2008 22:20	181.1	S	6.63				
7/15/2008 22:30	185.6	S	6.15				
7/15/2008 22:40	293	NW	5.26				
7/15/2008 22:50	334.9	NW	6.85				
7/15/2008 23:00	1.73	N	7.77				
7/15/2008 23:10	21.58	N	7.35				
7/15/2008 23:20	58.98	NE	6.33				
7/15/2008 23:30	106.8	E	6				
7/15/2008 23:40	144.8	SE	6.24				
7/15/2008 23:50	169.1	S	7.22				
7/16/2008 0:00	176	S	8.06				
7/16/2008 0:10	177.6	S	8.1				
7/16/2008 0:20	180.1	S	8.23				
7/16/2008 0:30	172.7	S	7.12				
7/16/2008 0:40	173.1	S	6.93				
7/16/2008 0:50	178.4	S	7.77				
7/16/2008 1:00	182	S	8.15				
7/16/2008 1:10	185.2	S	8.24				
7/16/2008 1:20	186.8	S	8.77				
7/16/2008 1:30	191.6	S	8.26				
7/16/2008 1:40	192.6	S	9.25				
7/16/2008 1:50	201.7	S	8.91				
7/16/2008 2:00	204.7	SW	9.78				
7/16/2008 2:10	208.1	SW	10.54				
7/16/2008 2:20	212.5	SW	10.19				
7/16/2008 2:30	222.7	SW	9.16				
7/16/2008 2:40	221.9	SW	9.49				
7/16/2008 2:50	223.5	SW	9.16				
7/16/2008 3:00	225.7	SW	9.37				
7/16/2008 3:10	227.6	SW	9.44				
7/16/2008 3:20	227.7	SW	8.26				
7/16/2008 3:30	230.4	SW	7.47				
7/16/2008 3:40	240	SW	7.63				
7/16/2008 3:50	243.7	SW	8.02				
7/16/2008 4:00	245.1	SW	7.43				
7/16/2008 4:10	246	SW	7.32				
7/16/2008 4:20	247.9	W	6.78				
7/16/2008 4:30	258.4	W	5.74				
7/16/2008 4:40	254.2	W	5.14				
7/16/2008 4:50	253.4	W	4.45				
7/16/2008 5:00	253.9	W	3.6				
7/16/2008 5:10	250.2	W	3.1				
7/16/2008 5:20	247.4	SW	2.82				
7/16/2008 5:30	242.3	SW	2.98				
7/16/2008 5:40	242	SW	2.96				
7/16/2008 5:50	247.7	W	3.12				
7/16/2008 6:00	254.9	W	3.39	28.5	19	23.8	0
7/16/2008 6:10	260	W	3.2				
7/16/2008 6:20	259.4	W	3.06				
7/16/2008 6:30	266.3	W	2.99				
7/16/2008 6:40	269.4	W	2.64				
7/16/2008 6:50	290.6	W	2.39				
7/16/2008 7:00	307.4	NW	2.3				
7/16/2008 19:00	47.83	NE	5.03				
7/16/2008 19:10	52.21	NE	5.45				
7/16/2008 19:20	56.07	NE	4.89				
7/16/2008 19:30	58.03	NE	5.07				
7/16/2008 19:40	60.23	NE	5.43				
7/16/2008 19:50	64.15	NE	5.41				
7/16/2008 20:00	65.73	NE	5.24				
7/16/2008 20:10	66.44	NE	5.45				
7/16/2008 20:20	67.78	E	5.91				
7/16/2008 20:30	77.2	E	5.14				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
7/16/2008 20:40	87.5	E	4.94				
7/16/2008 20:50	92.5	E	5.39				
7/16/2008 21:00	88.2	E	5.88				
7/16/2008 21:10	87.9	E	6.47				
7/16/2008 21:20	88.3	E	6.82				
7/16/2008 21:30	87.6	E	7.11				
7/16/2008 21:40	97.3	E	7.35				
7/16/2008 21:50	115.2	SE	7.61				
7/16/2008 22:00	109.3	E	8.28				
7/16/2008 22:10	115.5	SE	8.25				
7/16/2008 22:20	125.6	SE	7.4				
7/16/2008 22:30	202.2	S	8.71				
7/16/2008 22:40	216.4	SW	7.96				
7/16/2008 22:50	208.1	SW	8.88				
7/16/2008 23:00	204.5	SW	7.24				
7/16/2008 23:10	202.4	S	5.35				
7/16/2008 23:20	194.5	S	5.1				
7/16/2008 23:30	195.6	S	5.35				
7/16/2008 23:40	197.8	S	5.39				
7/16/2008 23:50	201.9	S	5.65				
7/17/2008 0:00	193.9	S	5.52				
7/17/2008 0:10	189.9	S	6.1				
7/17/2008 0:20	175.7	S	5.43				
7/17/2008 0:30	168.6	S	5.51				
7/17/2008 0:40	172.6	S	6.17				
7/17/2008 0:50	186.7	S	6.28				
7/17/2008 1:00	191	S	5.97				
7/17/2008 1:10	190.4	S	5.75				
7/17/2008 1:20	183.6	S	5.73				
7/17/2008 1:30	178.4	S	5.85				
7/17/2008 1:40	173.3	S	5.25				
7/17/2008 1:50	162.7	S	5.54				
7/17/2008 2:00	146.2	SE	5.95				
7/17/2008 2:10	145.9	SE	5.69				
7/17/2008 2:20	142.9	SE	6.04				
7/17/2008 2:30	144.4	SE	6.44				
7/17/2008 2:40	136.2	SE	6.46				
7/17/2008 2:50	134.4	SE	5.6				
7/17/2008 3:00	136.2	SE	5.06				
7/17/2008 3:10	133.6	SE	4.67				
7/17/2008 3:20	137.1	SE	4.64				
7/17/2008 3:30	138.4	SE	4.49				
7/17/2008 3:40	139.7	SE	4.4				
7/17/2008 3:50	143.9	SE	4.95				
7/17/2008 4:00	152.5	SE	3.52				
7/17/2008 4:10	160.5	S	2.97				
7/17/2008 4:20	177.2	S	1.93				
7/17/2008 4:30	182.2	S	1.93				
7/17/2008 4:40	199.7	S	2.26				
7/17/2008 4:50	233.5	SW	2.34				
7/17/2008 5:00	246	SW	2.54				
7/17/2008 5:10	236	SW	3.03				
7/17/2008 5:20	233	SW	2.88				
7/17/2008 5:30	222.7	SW	2.61				
7/17/2008 5:40	215.3	SW	2.16				
7/17/2008 5:50	203.6	SW	2.16				
7/17/2008 6:00	191.3	S	1.93	30.5	18	24.3	0
7/17/2008 6:10	192.5	S	1.47				
7/17/2008 6:20	227.5	SW	1.33				
7/17/2008 6:30	248.4	W	1.16				
7/17/2008 6:40	231.6	SW	1.91				
7/17/2008 6:50	227.2	SW	1.28				
7/17/2008 7:00	203.8	SW	1.02				
7/17/2008 19:00	200.8	S	5.16				
7/17/2008 19:10	203.6	SW	5.37				
7/17/2008 19:20	197	S	5.47				
7/17/2008 19:30	190.8	S	5.78				
7/17/2008 19:40	192	S	5.27				
7/17/2008 19:50	188.9	S	5.29				
7/17/2008 20:00	185.2	S	5.21				
7/17/2008 20:10	246.2	SW	6.03				
7/17/2008 20:20	308.1	NW	8.9				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
7/17/2008 20:30	309.4	NW	5.5				
7/17/2008 20:40	262.2	W	4.16				
7/17/2008 20:50	244.3	SW	3.46				
7/17/2008 21:00	262.7	W	3.96				
7/17/2008 21:10	273.1	W	3.21				
7/17/2008 21:20	259.5	W	1.83				
7/17/2008 21:30	244.8	SW	1.86				
7/17/2008 21:40	202.9	SW	1.18				
7/17/2008 21:50	59.96	NE	1.26				
7/17/2008 22:00	77.8	E	1.4				
7/17/2008 22:10	88	E	0.26				
7/17/2008 22:20	139.5	SE	0.14				
7/17/2008 22:30	201.6	S	0.86				
7/17/2008 22:40	216.5	SW	1.41				
7/17/2008 22:50	238.7	SW	1.9				
7/17/2008 23:00	228.4	SW	2.53				
7/17/2008 23:10	216.4	SW	3.29				
7/17/2008 23:20	223	SW	3.81				
7/17/2008 23:30	230.7	SW	3.69				
7/17/2008 23:40	240.5	SW	4.01				
7/17/2008 23:50	243.6	SW	3.93				
7/18/2008 0:00	270.1	W	4.75				
7/18/2008 0:10	309.8	NW	5.82				
7/18/2008 0:20	315.6	NW	5.02				
7/18/2008 0:30	312.6	NW	3.47				
7/18/2008 0:40	317.8	NW	2.98				
7/18/2008 0:50	317.4	NW	2.05				
7/18/2008 1:00	319	NW	1.37				
7/18/2008 1:10	303.7	NW	0.73				
7/18/2008 1:20	180.8	S	1.28				
7/18/2008 1:30	170.8	S	1.77				
7/18/2008 1:40	169	S	2.08				
7/18/2008 1:50	169.7	S	2.55				
7/18/2008 2:00	164.5	S	2.46				
7/18/2008 2:10	163.2	S	3.57				
7/18/2008 2:20	164.3	S	4.25				
7/18/2008 2:30	163.3	S	4.43				
7/18/2008 2:40	165.3	S	4.6				
7/18/2008 2:50	168	S	4.18				
7/18/2008 3:00	177.8	S	4.15				
7/18/2008 3:10	180.3	S	4.53				
7/18/2008 3:20	180.5	S	4.63				
7/18/2008 3:30	182.3	S	4.67				
7/18/2008 3:40	181.9	S	5.2				
7/18/2008 3:50	180	S	5.99				
7/18/2008 4:00	179.8	S	6.53				
7/18/2008 4:10	179.5	S	7.04				
7/18/2008 4:20	180.4	S	7.49				
7/18/2008 4:30	183	S	7.71				
7/18/2008 4:40	183.2	S	7.57				
7/18/2008 4:50	185.5	S	7.06				
7/18/2008 5:00	187.8	S	7.22				
7/18/2008 5:10	190.6	S	7.41				
7/18/2008 5:20	192.2	S	7.57				
7/18/2008 5:30	195	S	7.93				
7/18/2008 5:40	197.4	S	7.51				
7/18/2008 5:50	205.9	SW	7.09				
7/18/2008 6:00	211.1	SW	6.83	No Data	No Data	No Data	No Data
7/18/2008 6:10	221	SW	7.85				
7/18/2008 6:20	221.4	SW	7.42				
7/18/2008 6:30	218.7	SW	7.84				
7/18/2008 6:40	220.9	SW	8.43				
7/18/2008 6:50	225.6	SW	8.77				
7/18/2008 7:00	226.3	SW	8.97				
7/18/2008 19:00	206.7	SW	2.74				
7/18/2008 19:10	210.5	SW	3.39				
7/18/2008 19:20	221.5	SW	3.01				
7/18/2008 19:30	226	SW	2.7				
7/18/2008 19:40	231.4	SW	2.52				
7/18/2008 19:50	218.9	SW	2.65				
7/18/2008 20:00	210.7	SW	2.94				
7/18/2008 20:10	211.2	SW	3.08				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
7/18/2008 20:20	221.6	SW	3.37				
7/18/2008 20:30	226.8	SW	3.81				
7/18/2008 20:40	230.1	SW	3.76				
7/18/2008 20:50	231.7	SW	3.4				
7/18/2008 21:00	241.6	SW	2.76				
7/18/2008 21:10	234	SW	2.59				
7/18/2008 21:20	240.4	SW	2.58				
7/18/2008 21:30	226	SW	2.37				
7/18/2008 21:40	237.7	SW	3.03				
7/18/2008 21:50	240.3	SW	2.96				
7/18/2008 22:00	238.4	SW	3.26				
7/18/2008 22:10	233.2	SW	3.65				
7/18/2008 22:20	222.9	SW	3.57				
7/18/2008 22:30	221.7	SW	3.31				
7/18/2008 22:40	225	SW	3.79				
7/18/2008 22:50	224.1	SW	4.39				
7/18/2008 23:00	213.9	SW	4.76				
7/18/2008 23:10	210.6	SW	4.79				
7/18/2008 23:20	215.8	SW	4.42				
7/18/2008 23:30	221.8	SW	4.6				
7/18/2008 23:40	231	SW	4.85				
7/18/2008 23:50	243.3	SW	4.68				
7/19/2008 0:00	254.1	W	4.05				
7/19/2008 0:10	267.4	W	3.62				
7/19/2008 0:20	268.6	W	3.4				
7/19/2008 0:30	260.6	W	2.77				
7/19/2008 0:40	253.1	W	2.62				
7/19/2008 0:50	254.9	W	2.88				
7/19/2008 1:00	257	W	3.38				
7/19/2008 1:10	253.5	W	3.41				
7/19/2008 1:20	242.2	SW	3.66				
7/19/2008 1:30	242.7	SW	3.83				
7/19/2008 1:40	241.6	SW	3.21				
7/19/2008 1:50	229.5	SW	1.6				
7/19/2008 2:00	235	SW	2.75				
7/19/2008 2:10	246.6	SW	2.62				
7/19/2008 2:20	251.2	W	2.21				
7/19/2008 2:30	259.2	W	2.26				
7/19/2008 2:40	260.8	W	2.47				
7/19/2008 2:50	255.3	W	2.25				
7/19/2008 3:00	274.9	W	2.58				
7/19/2008 3:10	274.4	W	2.7				
7/19/2008 3:20	266.4	W	2.66				
7/19/2008 3:30	256.5	W	2.62				
7/19/2008 3:40	242.6	SW	2.37				
7/19/2008 3:50	258.1	W	1.63				
7/19/2008 4:00	271.7	W	1.71				
7/19/2008 4:10	262.5	W	2.03				
7/19/2008 4:20	283.2	W	1.66				
7/19/2008 4:30	264.5	W	1.05				
7/19/2008 4:40	318	NW	0.64				
7/19/2008 4:50	337.4	NW	1.23				
7/19/2008 5:00	353.8	N	1.45				
7/19/2008 5:10	3.91	N	1.57				
7/19/2008 5:20	355.4	N	1.47				
7/19/2008 5:30	0.07	N	2.02				
7/19/2008 5:40	5.24	N	2.08				
7/19/2008 5:50	13.51	N	2.39				
7/19/2008 6:00	353.8	N	3.17	No Data	No Data	No Data	No Data
7/19/2008 6:10	356.7	N	3.18				
7/19/2008 6:20	7.16	N	2.46				
7/19/2008 6:30	14.17	N	2.43				
7/19/2008 6:40	4.29	N	2.69				
7/19/2008 6:50	346.6	N	2.76				
7/19/2008 7:00	346.9	N	2.16				
7/19/2008 19:00	39.24	NE	3.29				
7/19/2008 19:10	40.03	NE	3.73				
7/19/2008 19:20	47.4	NE	3.7				
7/19/2008 19:30	48	NE	3.27				
7/19/2008 19:40	53.16	NE	3.16				
7/19/2008 19:50	57.6	NE	3.76				
7/19/2008 20:00	55.03	NE	3.96				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
7/19/2008 20:10	53.65	NE	4.4				
7/19/2008 20:20	59.24	NE	4.59				
7/19/2008 20:30	64.17	NE	4.93				
7/19/2008 20:40	71.1	E	5.07				
7/19/2008 20:50	75.9	E	4.94				
7/19/2008 21:00	74.6	E	4.51				
7/19/2008 21:10	78.1	E	4.34				
7/19/2008 21:20	80.5	E	4.49				
7/19/2008 21:30	86.4	E	4.88				
7/19/2008 21:40	87.3	E	4.84				
7/19/2008 21:50	87.2	E	5.2				
7/19/2008 22:00	94.5	E	5.14				
7/19/2008 22:10	97.7	E	5.95				
7/19/2008 22:20	100.7	E	5.71				
7/19/2008 22:30	103.2	E	5.83				
7/19/2008 22:40	100.2	E	5.9				
7/19/2008 22:50	105.8	E	5.93				
7/19/2008 23:00	112.2	E	5.72				
7/19/2008 23:10	183.6	S	4.76				
7/19/2008 23:20	172.1	S	4.3				
7/19/2008 23:30	155.3	SE	2.75				
7/19/2008 23:40	170.4	S	1.98				
7/19/2008 23:50	194.9	S	2.18				
7/20/2008 0:00	174.5	S	2.03				
7/20/2008 0:10	168.7	S	3.04				
7/20/2008 0:20	182.4	S	3.16				
7/20/2008 0:30	177.3	S	4.41				
7/20/2008 0:40	147.4	SE	4.85				
7/20/2008 0:50	246.2	SW	0.93				
7/20/2008 1:00	266.9	W	1.24				
7/20/2008 1:10	196.2	S	1.39				
7/20/2008 1:20	160.9	S	2.61				
7/20/2008 1:30	126.8	SE	4.74				
7/20/2008 1:40	129	SE	5.6				
7/20/2008 1:50	127.2	SE	6.03				
7/20/2008 2:00	133.3	SE	7.61				
7/20/2008 2:10	131.8	SE	6.66				
7/20/2008 2:20	132.1	SE	6.41				
7/20/2008 2:30	126.2	SE	5.57				
7/20/2008 2:40	120.8	SE	4.67				
7/20/2008 2:50	104.8	E	3.24				
7/20/2008 3:00	114	SE	3.82				
7/20/2008 3:10	126.6	SE	4.83				
7/20/2008 3:20	134.8	SE	4.96				
7/20/2008 3:30	138.5	SE	4.53				
7/20/2008 3:40	136.1	SE	3.47				
7/20/2008 3:50	123.8	SE	2.92				
7/20/2008 4:00	104.9	E	1.86				
7/20/2008 4:10	71.4	E	2.06				
7/20/2008 4:20	70.9	E	2.25				
7/20/2008 4:30	72.8	E	2.46				
7/20/2008 4:40	53.38	NE	1.97				
7/20/2008 4:50	52.39	NE	2.56				
7/20/2008 5:00	53.08	NE	2.79				
7/20/2008 5:10	57.63	NE	2.68				
7/20/2008 5:20	68.34	E	3.13				
7/20/2008 5:30	73.9	E	2.87				
7/20/2008 5:40	76.2	E	2.57				
7/20/2008 5:50	67.33	NE	2.13				
7/20/2008 6:00	68.52	E	2.65	25	17.5	21.3	2.6
7/20/2008 6:10	65.09	NE	2.47				
7/20/2008 6:20	66.29	NE	2.57				
7/20/2008 6:30	67.78	E	2.58				
7/20/2008 6:40	73.7	E	2.56				
7/20/2008 6:50	77.9	E	2.6				
7/20/2008 7:00	76.5	E	2.31				
7/20/2008 19:00	61.04	NE	4.09				
7/20/2008 19:10	58.89	NE	3.91				
7/20/2008 19:20	62.8	NE	3.91				
7/20/2008 19:30	69.02	E	3.58				
7/20/2008 19:40	83.1	E	3.41				
7/20/2008 19:50	85.4	E	4.11				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
7/20/2008 20:00	84.3	E	4.61				
7/20/2008 20:10	85.3	E	4.95				
7/20/2008 20:20	95	E	4.31				
7/20/2008 20:30	90.6	E	4.43				
7/20/2008 20:40	95.9	E	4.44				
7/20/2008 20:50	96.8	E	4.44				
7/20/2008 21:00	95.7	E	4.38				
7/20/2008 21:10	92.7	E	4.18				
7/20/2008 21:20	103.8	E	3.31				
7/20/2008 21:30	94	E	4.19				
7/20/2008 21:40	101.1	E	4.7				
7/20/2008 21:50	106.6	E	4.75				
7/20/2008 22:00	108.6	E	4.43				
7/20/2008 22:10	105.4	E	4.38				
7/20/2008 22:20	115	SE	2.49				
7/20/2008 22:30	150.3	SE	1.41				
7/20/2008 22:40	170.3	S	1.56				
7/20/2008 22:50	122.5	SE	2.85				
7/20/2008 23:00	118.8	SE	3.35				
7/20/2008 23:10	124.8	SE	3.55				
7/20/2008 23:20	124.5	SE	4.68				
7/20/2008 23:30	125.4	SE	4.55				
7/20/2008 23:40	124.2	SE	3.83				
7/20/2008 23:50	122.6	SE	3.17				
7/21/2008 0:00	121.8	SE	4.04				
7/21/2008 0:10	128.3	SE	5.09				
7/21/2008 0:20	134.2	SE	5.61				
7/21/2008 0:30	135.4	SE	6.05				
7/21/2008 0:40	136.8	SE	6.47				
7/21/2008 0:50	142.3	SE	5.86				
7/21/2008 1:00	149.6	SE	5.57				
7/21/2008 1:10	154.2	SE	6.05				
7/21/2008 1:20	151.9	SE	5.69				
7/21/2008 1:30	145.4	SE	5.46				
7/21/2008 1:40	140.5	SE	5.74				
7/21/2008 1:50	139.3	SE	4.78				
7/21/2008 2:00	153.7	SE	2.99				
7/21/2008 2:10	168.1	S	2.84				
7/21/2008 2:20	149.9	SE	4.99				
7/21/2008 2:30	144.7	SE	5.96				
7/21/2008 2:40	142.9	SE	7.09				
7/21/2008 2:50	151.5	SE	6.33				
7/21/2008 3:00	144.8	SE	5.62				
7/21/2008 3:10	140.2	SE	5.23				
7/21/2008 3:20	152.6	SE	5.74				
7/21/2008 3:30	150.4	SE	5.41				
7/21/2008 3:40	160.4	S	5.13				
7/21/2008 3:50	162.6	S	4.87				
7/21/2008 4:00	166.5	S	4				
7/21/2008 4:10	173.5	S	4.31				
7/21/2008 4:20	185.9	S	3.9				
7/21/2008 4:30	193.9	S	3.99				
7/21/2008 4:40	189.1	S	4.59				
7/21/2008 4:50	193.5	S	2.71				
7/21/2008 5:00	195.8	S	2.3				
7/21/2008 5:10	217.1	SW	2.84				
7/21/2008 5:20	223.8	SW	2.8				
7/21/2008 5:30	210.8	SW	2.62				
7/21/2008 5:40	202.6	SW	2.59				
7/21/2008 5:50	207.1	SW	3.07				
7/21/2008 6:00	212.9	SW	3.7	24.5	16.5	20.5	0
7/21/2008 6:10	210.7	SW	2.8				
7/21/2008 6:20	194.5	S	2.08				
7/21/2008 6:30	193	S	1.64				
7/21/2008 6:40	211.8	SW	2.27				
7/21/2008 6:50	222.1	SW	2.1				
7/21/2008 7:00	196.1	S	1.53				
7/21/2008 19:00	330.4	NW	2.67				
7/21/2008 19:10	340	N	2.7				
7/21/2008 19:20	313.1	NW	1.8				
7/21/2008 19:30	313.2	NW	1.65				
7/21/2008 19:40	325.5	NW	1.7				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
7/21/2008 19:50	357.4	N	2.39				
7/21/2008 20:00	358.5	N	2.04				
7/21/2008 20:10	8.19	N	2.46				
7/21/2008 20:20	10.96	N	2.22				
7/21/2008 20:30	11.06	N	2.35				
7/21/2008 20:40	7.2	N	1.91				
7/21/2008 20:50	358	N	1.62				
7/21/2008 21:00	331.5	NW	1.65				
7/21/2008 21:10	321.3	NW	1.78				
7/21/2008 21:20	320.6	NW	1.72				
7/21/2008 21:30	327.5	NW	1.87				
7/21/2008 21:40	329.7	NW	2.17				
7/21/2008 21:50	332.5	NW	2.24				
7/21/2008 22:00	336.9	NW	2.13				
7/21/2008 22:10	351.7	N	1.94				
7/21/2008 22:20	7.65	N	1.99				
7/21/2008 22:30	359.5	N	2.18				
7/21/2008 22:40	349.5	N	2.38				
7/21/2008 22:50	2.03	N	2.03				
7/21/2008 23:00	12.87	N	2.27				
7/21/2008 23:10	24.47	NE	2.8				
7/21/2008 23:20	27.33	NE	2.57				
7/21/2008 23:30	34.89	NE	3.23				
7/21/2008 23:40	46.81	NE	3.72				
7/21/2008 23:50	52.58	NE	4.14				
7/22/2008 0:00	60.17	NE	4.34				
7/22/2008 0:10	62.05	NE	3.89				
7/22/2008 0:20	64.75	NE	3.29				
7/22/2008 0:30	76.1	E	3.08				
7/22/2008 0:40	92.9	E	2.3				
7/22/2008 0:50	116.6	SE	2.09				
7/22/2008 1:00	118.6	SE	1.97				
7/22/2008 1:10	60.73	NE	1.21				
7/22/2008 1:20	36.63	NE	1.66				
7/22/2008 1:30	54.52	NE	1.9				
7/22/2008 1:40	28.36	NE	1.25				
7/22/2008 1:50	2.97	N	2.08				
7/22/2008 2:00	18.4	N	1.91				
7/22/2008 2:10	20.42	N	2.65				
7/22/2008 2:20	42.9	NE	2.51				
7/22/2008 2:30	66.15	NE	2.67				
7/22/2008 2:40	72.2	E	3.91				
7/22/2008 2:50	67.48	NE	3.74				
7/22/2008 3:00	64.61	NE	3.66				
7/22/2008 3:10	80.6	E	4.81				
7/22/2008 3:20	100.6	E	5.11				
7/22/2008 3:30	99.3	E	4.95				
7/22/2008 3:40	112.5	SE	5.68				
7/22/2008 3:50	128.7	SE	5.08				
7/22/2008 4:00	136.8	SE	4.52				
7/22/2008 4:10	156.3	SE	5.01				
7/22/2008 4:20	168.2	S	4.65				
7/22/2008 4:30	171	S	4.59				
7/22/2008 4:40	171.5	S	5.21				
7/22/2008 4:50	168.2	S	5.09				
7/22/2008 5:00	168.7	S	3.76				
7/22/2008 5:10	13.29	N	1.8				
7/22/2008 5:20	24.07	NE	1.64				
7/22/2008 5:30	28.45	NE	2.9				
7/22/2008 5:40	46.96	NE	2.89				
7/22/2008 5:50	78	E	2.51				
7/22/2008 6:00	130.4	SE	1.64	26.5	16.5	21.5	23.2
7/22/2008 6:10	148.1	SE	1.44				
7/22/2008 6:20	184.3	S	1.26				
7/22/2008 6:30	352.3	N	1.02				
7/22/2008 6:40	340.3	N	0.86				
7/22/2008 6:50	17.02	N	1.46				
7/22/2008 7:00	15.24	N	1.79				
7/22/2008 19:00	60.21	NE	4.82				
7/22/2008 19:10	63.5	NE	4.06				
7/22/2008 19:20	59.94	NE	3.79				
7/22/2008 19:30	62.93	NE	4.28				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
7/22/2008 19:40	63.47	NE	4.07				
7/22/2008 19:50	69.94	E	4.3				
7/22/2008 20:00	72.6	E	4.74				
7/22/2008 20:10	96.8	E	4.39				
7/22/2008 20:20	105.4	E	4.73				
7/22/2008 20:30	100.4	E	4.9				
7/22/2008 20:40	71.6	E	5.39				
7/22/2008 20:50	63.49	NE	5.77				
7/22/2008 21:00	65.01	NE	6.51				
7/22/2008 21:10	66.65	NE	9.59				
7/22/2008 21:20	65.96	NE	8.83				
7/22/2008 21:30	64.51	NE	8.97				
7/22/2008 21:40	59.72	NE	9.6				
7/22/2008 21:50	55.31	NE	8.1				
7/22/2008 22:00	60.73	NE	7.4				
7/22/2008 22:10	63.84	NE	6.87				
7/22/2008 22:20	57.58	NE	7.32				
7/22/2008 22:30	50	NE	7.23				
7/22/2008 22:40	52.22	NE	6.99				
7/22/2008 22:50	58.67	NE	7.13				
7/22/2008 23:00	59.77	NE	7.68				
7/22/2008 23:10	62.96	NE	7.45				
7/22/2008 23:20	73.6	E	8.27				
7/22/2008 23:30	79.4	E	9.72				
7/22/2008 23:40	89	E	8.58				
7/22/2008 23:50	85.5	E	9.44				
7/23/2008 0:00	75.8	E	7.76				
7/23/2008 0:10	64.52	NE	6.22				
7/23/2008 0:20	45.53	NE	6.48				
7/23/2008 0:30	32.84	NE	6.53				
7/23/2008 0:40	40.88	NE	5.48				
7/23/2008 0:50	44.26	NE	5.5				
7/23/2008 1:00	29.67	NE	6.13				
7/23/2008 1:10	28.84	NE	6.61				
7/23/2008 1:20	38.23	NE	7.55				
7/23/2008 1:30	30.97	NE	7.37				
7/23/2008 1:40	31.52	NE	7.42				
7/23/2008 1:50	32.48	NE	6.29				
7/23/2008 2:00	30.79	NE	5.57				
7/23/2008 2:10	31.64	NE	6.91				
7/23/2008 2:20	37.27	NE	6.72				
7/23/2008 2:30	48.28	NE	5.46				
7/23/2008 2:40	61.63	NE	4.91				
7/23/2008 2:50	80.3	E	6.53				
7/23/2008 3:00	73.9	E	6.7				
7/23/2008 3:10	83.6	E	6.27				
7/23/2008 3:20	89.7	E	6.07				
7/23/2008 3:30	94.6	E	5.76				
7/23/2008 3:40	96.5	E	5.63				
7/23/2008 3:50	88.9	E	5.17				
7/23/2008 4:00	69.54	E	5.11				
7/23/2008 4:10	53.12	NE	5.44				
7/23/2008 4:20	46.75	NE	5.42				
7/23/2008 4:30	36.65	NE	5.22				
7/23/2008 4:40	30.93	NE	5.23				
7/23/2008 4:50	19.13	N	5.62				
7/23/2008 5:00	20.31	N	5.85				
7/23/2008 5:10	31.88	NE	5.82				
7/23/2008 5:20	36.56	NE	5.3				
7/23/2008 5:30	34.32	NE	5.15				
7/23/2008 5:40	32.85	NE	5.15				
7/23/2008 5:50	31.83	NE	4.66				
7/23/2008 6:00	32.22	NE	4.4	24	15.5	19.8	0.2
7/23/2008 6:10	26.26	NE	4.91				
7/23/2008 6:20	20.05	N	4.98				
7/23/2008 6:30	20.1	N	4.73				
7/23/2008 6:40	15.34	N	4.86				
7/23/2008 6:50	12.17	N	5.19				
7/23/2008 7:00	9.58	N	5.79				
7/23/2008 19:00	342.6	N	4.71				
7/23/2008 19:10	338.5	N	5.14				
7/23/2008 19:20	330.7	NW	5.01				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
7/23/2008 19:30	331.5	NW	4.88				
7/23/2008 19:40	328.5	NW	5.81				
7/23/2008 19:50	338.2	N	5.7				
7/23/2008 20:00	351.1	N	5.31				
7/23/2008 20:10	357.3	N	5.3				
7/23/2008 20:20	1.55	N	4.59				
7/23/2008 20:30	357.8	N	3.71				
7/23/2008 20:40	350	N	4.06				
7/23/2008 20:50	346.1	N	4.28				
7/23/2008 21:00	346.6	N	4.48				
7/23/2008 21:10	352.7	N	4.46				
7/23/2008 21:20	352.5	N	4.28				
7/23/2008 21:30	346.8	N	4.45				
7/23/2008 21:40	345.8	N	3.92				
7/23/2008 21:50	349.2	N	4.21				
7/23/2008 22:00	345.7	N	4.37				
7/23/2008 22:10	336.9	NW	4.6				
7/23/2008 22:20	338.7	N	4.86				
7/23/2008 22:30	345.1	N	5.11				
7/23/2008 22:40	349.8	N	5.06				
7/23/2008 22:50	349.6	N	4.41				
7/23/2008 23:00	343.5	N	3.8				
7/23/2008 23:10	342.4	N	3.86				
7/23/2008 23:20	347.7	N	3.81				
7/23/2008 23:30	348.1	N	4.15				
7/23/2008 23:40	359.9	N	4.32				
7/23/2008 23:50	357.9	N	3.65				
7/24/2008 0:00	350.9	N	3.59				
7/24/2008 0:10	347.2	N	3.3				
7/24/2008 0:20	354.8	N	3.64				
7/24/2008 0:30	349	N	4.01				
7/24/2008 0:40	357	N	4.68				
7/24/2008 0:50	0.69	N	3.63				
7/24/2008 1:00	358.1	N	3.61				
7/24/2008 1:10	359.9	N	4.41				
7/24/2008 1:20	0.89	N	5.42				
7/24/2008 1:30	1.49	N	4.18				
7/24/2008 1:40	359.6	N	4.26				
7/24/2008 1:50	7.97	N	3.6				
7/24/2008 2:00	8.45	N	3.67				
7/24/2008 2:10	10.66	N	4.56				
7/24/2008 2:20	9.51	N	3.94				
7/24/2008 2:30	18.67	N	3.42				
7/24/2008 2:40	10.31	N	2.47				
7/24/2008 2:50	355.9	N	2.96				
7/24/2008 3:00	353.3	N	3.16				
7/24/2008 3:10	341.2	N	2.39				
7/24/2008 3:20	328.2	NW	1.34				
7/24/2008 3:30	319.3	NW	0.81				
7/24/2008 3:40	301.9	NW	1.57				
7/24/2008 3:50	298.8	NW	1.92				
7/24/2008 4:00	330.8	NW	1.45				
7/24/2008 4:10	1.45	N	1.01				
7/24/2008 4:20	33.79	NE	1.14				
7/24/2008 4:30	77	E	2.17				
7/24/2008 4:40	76.7	E	2.3				
7/24/2008 4:50	82.8	E	2.48				
7/24/2008 5:00	92.4	E	3.31				
7/24/2008 5:10	112.8	SE	3.49				
7/24/2008 5:20	126.9	SE	2.68				
7/24/2008 5:30	163.6	S	1.93				
7/24/2008 5:40	222.5	SW	2.11				
7/24/2008 5:50	240.3	SW	1.48				
7/24/2008 6:00	251.5	W	1.48	23	13	18	0
7/24/2008 6:10	281.5	W	1.44				
7/24/2008 6:20	286.8	W	1.95				
7/24/2008 6:30	279.9	W	2.97				
7/24/2008 6:40	276.7	W	3.92				
7/24/2008 6:50	273.1	W	3.88				
7/24/2008 7:00	277.3	W	3.25				
7/24/2008 19:00	246.5	SW	4.94				
7/24/2008 19:10	245.5	SW	5.14				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
7/24/2008 19:20	244.6	SW	5.44				
7/24/2008 19:30	240.5	SW	5.76				
7/24/2008 19:40	239.8	SW	6.05				
7/24/2008 19:50	238.1	SW	6.16				
7/24/2008 20:00	234.8	SW	6.07				
7/24/2008 20:10	233.1	SW	5.81				
7/24/2008 20:20	234.5	SW	5.72				
7/24/2008 20:30	236.1	SW	6.04				
7/24/2008 20:40	232.2	SW	5.91				
7/24/2008 20:50	225	SW	7.11				
7/24/2008 21:00	224	SW	7.23				
7/24/2008 21:10	218.3	SW	6.89				
7/24/2008 21:20	220.2	SW	6.96				
7/24/2008 21:30	216.9	SW	7.29				
7/24/2008 21:40	216.8	SW	7.2				
7/24/2008 21:50	216.2	SW	7.11				
7/24/2008 22:00	214.7	SW	7.09				
7/24/2008 22:10	214.9	SW	7.12				
7/24/2008 22:20	214.9	SW	7.08				
7/24/2008 22:30	213.3	SW	6.9				
7/24/2008 22:40	213	SW	6.91				
7/24/2008 22:50	212.5	SW	7.54				
7/24/2008 23:00	210.6	SW	7.49				
7/24/2008 23:10	211.8	SW	7.4				
7/24/2008 23:20	212.3	SW	7.52				
7/24/2008 23:30	212.5	SW	7.55				
7/24/2008 23:40	211.6	SW	7.66				
7/24/2008 23:50	210.2	SW	7.7				
7/25/2008 0:00	212.4	SW	7.94				
7/25/2008 0:10	213	SW	7.73				
7/25/2008 0:20	212.6	SW	7.47				
7/25/2008 0:30	212.1	SW	7.47				
7/25/2008 0:40	211.1	SW	7.08				
7/25/2008 0:50	211.8	SW	7.18				
7/25/2008 1:00	211.9	SW	7.33				
7/25/2008 1:10	211.7	SW	7.07				
7/25/2008 1:20	210.7	SW	6.53				
7/25/2008 1:30	208.4	SW	6.6				
7/25/2008 1:40	206.5	SW	7.06				
7/25/2008 1:50	205.2	SW	7.17				
7/25/2008 2:00	204.3	SW	7.38				
7/25/2008 2:10	202.7	SW	7.4				
7/25/2008 2:20	205.7	SW	7.48				
7/25/2008 2:30	214.6	SW	7.32				
7/25/2008 2:40	219.6	SW	6.89				
7/25/2008 2:50	220.4	SW	6.82				
7/25/2008 3:00	218.7	SW	6.48				
7/25/2008 3:10	220.8	SW	6.06				
7/25/2008 3:20	221.3	SW	5.81				
7/25/2008 3:30	221.8	SW	5.87				
7/25/2008 3:40	220.2	SW	6.16				
7/25/2008 3:50	221.6	SW	6.25				
7/25/2008 4:00	220.9	SW	6.21				
7/25/2008 4:10	216.5	SW	6.43				
7/25/2008 4:20	210.3	SW	6.74				
7/25/2008 4:30	210.2	SW	6.86				
7/25/2008 4:40	208.7	SW	6.71				
7/25/2008 4:50	209.3	SW	6.72				
7/25/2008 5:00	214.7	SW	6.53				
7/25/2008 5:10	220.5	SW	6.29				
7/25/2008 5:20	223	SW	6.15				
7/25/2008 5:30	228	SW	5.93				
7/25/2008 5:40	228.3	SW	5.55				
7/25/2008 5:50	232.4	SW	5.68				
7/25/2008 6:00	243	SW	5.33	27.5	14.5	21	0
7/25/2008 6:10	252.9	W	4.69				
7/25/2008 6:20	245.3	SW	4.43				
7/25/2008 6:30	239.4	SW	4.59				
7/25/2008 6:40	227.9	SW	4.25				
7/25/2008 6:50	222.5	SW	4.39				
7/25/2008 7:00	220.9	SW	3.91				
7/25/2008 19:00	196.7	S	6.62				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
7/25/2008 19:10	197.6	S	6.76				
7/25/2008 19:20	198.2	S	7.32				
7/25/2008 19:30	198.9	S	7.22				
7/25/2008 19:40	199.7	S	7.24				
7/25/2008 19:50	201.4	S	7.28				
7/25/2008 20:00	202.5	SW	7.4				
7/25/2008 20:10	201.3	S	7.62				
7/25/2008 20:20	200	S	7.53				
7/25/2008 20:30	198.5	S	7.34				
7/25/2008 20:40	202	S	7.44				
7/25/2008 20:50	203.4	SW	7.53				
7/25/2008 21:00	205.7	SW	7.43				
7/25/2008 21:10	206.8	SW	7.17				
7/25/2008 21:20	207.5	SW	7.08				
7/25/2008 21:30	203.8	SW	7.45				
7/25/2008 21:40	203.3	SW	7.63				
7/25/2008 21:50	202.6	SW	7.23				
7/25/2008 22:00	200	S	7.05				
7/25/2008 22:10	201.4	S	7.25				
7/25/2008 22:20	205.1	SW	7.34				
7/25/2008 22:30	207.3	SW	6.91				
7/25/2008 22:40	209.3	SW	6.38				
7/25/2008 22:50	208.6	SW	6.35				
7/25/2008 23:00	206.9	SW	6.45				
7/25/2008 23:10	207.7	SW	6.46				
7/25/2008 23:20	204.8	SW	6.47				
7/25/2008 23:30	208.9	SW	7.15				
7/25/2008 23:40	210.7	SW	6.7				
7/25/2008 23:50	210.7	SW	6.8				
7/26/2008 0:00	208.6	SW	6.71				
7/26/2008 0:10	212.6	SW	7.2				
7/26/2008 0:20	214.4	SW	6.59				
7/26/2008 0:30	214.3	SW	6.6				
7/26/2008 0:40	217.9	SW	7				
7/26/2008 0:50	217.9	SW	7.31				
7/26/2008 1:00	214.5	SW	7.1				
7/26/2008 1:10	210.1	SW	6.74				
7/26/2008 1:20	215.5	SW	6.83				
7/26/2008 1:30	218.3	SW	7.38				
7/26/2008 1:40	222.4	SW	7.45				
7/26/2008 1:50	222	SW	7.68				
7/26/2008 2:00	222.2	SW	7.74				
7/26/2008 2:10	225.2	SW	7.81				
7/26/2008 2:20	224.7	SW	7.51				
7/26/2008 2:30	221.9	SW	7.57				
7/26/2008 2:40	223.7	SW	7.15				
7/26/2008 2:50	221	SW	6.85				
7/26/2008 3:00	220.1	SW	6.97				
7/26/2008 3:10	222.1	SW	7.12				
7/26/2008 3:20	220.9	SW	7.36				
7/26/2008 3:30	218.9	SW	6.95				
7/26/2008 3:40	220.3	SW	6.84				
7/26/2008 3:50	220.1	SW	6.53				
7/26/2008 4:00	215.2	SW	6.77				
7/26/2008 4:10	210.8	SW	7.5				
7/26/2008 4:20	210	SW	7.72				
7/26/2008 4:30	212.5	SW	7.62				
7/26/2008 4:40	212.9	SW	6.91				
7/26/2008 4:50	215	SW	7.04				
7/26/2008 5:00	218.1	SW	6.98				
7/26/2008 5:10	220.1	SW	6.3				
7/26/2008 5:20	223	SW	6.22				
7/26/2008 5:30	226.4	SW	6.3				
7/26/2008 5:40	223.1	SW	5.35				
7/26/2008 5:50	217.4	SW	6.02				
7/26/2008 6:00	214.6	SW	6.89	26.5	21	23.8	0
7/26/2008 6:10	212.8	SW	6.71				
7/26/2008 6:20	216.4	SW	6.98				
7/26/2008 6:30	218.6	SW	6.92				
7/26/2008 6:40	216.3	SW	6.83				
7/26/2008 6:50	218	SW	6.19				
7/26/2008 7:00	214.5	SW	6.47				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
7/26/2008 19:00	346.6	N	4.33				
7/26/2008 19:10	347	N	3.92				
7/26/2008 19:20	344.6	N	4.12				
7/26/2008 19:30	349.1	N	2.71				
7/26/2008 19:40	347.9	N	2.86				
7/26/2008 19:50	340.6	N	2.74				
7/26/2008 20:00	336.4	NW	2.59				
7/26/2008 20:10	329.6	NW	2.59				
7/26/2008 20:20	324.7	NW	2.31				
7/26/2008 20:30	319.6	NW	2.36				
7/26/2008 20:40	317	NW	2.79				
7/26/2008 20:50	311.4	NW	3.18				
7/26/2008 21:00	302	NW	3.3				
7/26/2008 21:10	294.1	NW	3.41				
7/26/2008 21:20	284.8	W	3.03				
7/26/2008 21:30	287.3	W	3.17				
7/26/2008 21:40	293.4	NW	3.42				
7/26/2008 21:50	292.7	NW	3.97				
7/26/2008 22:00	292.4	W	3.69				
7/26/2008 22:10	295.8	NW	3.82				
7/26/2008 22:20	292.9	NW	4.13				
7/26/2008 22:30	292.6	NW	4.25				
7/26/2008 22:40	294.8	NW	4.3				
7/26/2008 22:50	286.7	W	4.03				
7/26/2008 23:00	274.2	W	3.73				
7/26/2008 23:10	275.7	W	3.74				
7/26/2008 23:20	274.2	W	3.93				
7/26/2008 23:30	269.2	W	3.76				
7/26/2008 23:40	263.8	W	3.58				
7/26/2008 23:50	267.8	W	3.85				
7/27/2008 0:00	269.8	W	3.4				
7/27/2008 0:10	272.3	W	3.34				
7/27/2008 0:20	286.7	W	3.5				
7/27/2008 0:30	296.1	NW	4.01				
7/27/2008 0:40	295	NW	3.78				
7/27/2008 0:50	289.9	W	3.58				
7/27/2008 1:00	273.6	W	3.17				
7/27/2008 1:10	238.1	SW	3.2				
7/27/2008 1:20	235.9	SW	3.71				
7/27/2008 1:30	229	SW	4.41				
7/27/2008 1:40	226.6	SW	4.74				
7/27/2008 1:50	216.9	SW	5.17				
7/27/2008 2:00	216.2	SW	6.36				
7/27/2008 2:10	210.5	SW	7.32				
7/27/2008 2:20	210.6	SW	7.57				
7/27/2008 2:30	205.8	SW	7.85				
7/27/2008 2:40	200.7	S	7.8				
7/27/2008 2:50	195.4	S	7.41				
7/27/2008 3:00	201	S	8.14				
7/27/2008 3:10	198.2	S	7.66				
7/27/2008 3:20	196	S	7.38				
7/27/2008 3:30	198.7	S	7.59				
7/27/2008 3:40	196.1	S	7.29				
7/27/2008 3:50	194.4	S	7.74				
7/27/2008 4:00	192.9	S	7.4				
7/27/2008 4:10	188.8	S	7.47				
7/27/2008 4:20	190.3	S	7.55				
7/27/2008 4:30	194.5	S	7.86				
7/27/2008 4:40	198.4	S	8.2				
7/27/2008 4:50	204.1	SW	8.55				
7/27/2008 5:00	201.1	S	8.48				
7/27/2008 5:10	203.7	SW	8.06				
7/27/2008 5:20	208.4	SW	8.07				
7/27/2008 5:30	207.5	SW	7.77				
7/27/2008 5:40	199.7	S	7.42				
7/27/2008 5:50	192.4	S	7.53				
7/27/2008 6:00	200.1	S	7.16	25.5	14	19.8	Trace
7/27/2008 6:10	201.8	S	6.89				
7/27/2008 6:20	207.9	SW	6.61				
7/27/2008 6:30	213.8	SW	7.43				
7/27/2008 6:40	213	SW	7.82				
7/27/2008 6:50	211	SW	7.16				

1 Measured at 57 m
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3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
7/27/2008 7:00	209	SW	6.8				
7/27/2008 19:00	282.4	W	3.98				
7/27/2008 19:10	323.9	NW	4.53				
7/27/2008 19:20	348.3	N	4.72				
7/27/2008 19:30	0.29	N	3.94				
7/27/2008 19:40	9.89	N	3.64				
7/27/2008 19:50	12.08	N	3.49				
7/27/2008 20:00	11.71	N	3.73				
7/27/2008 20:10	8.33	N	3.39				
7/27/2008 20:20	5.69	N	3.04				
7/27/2008 20:30	359.3	N	2.93				
7/27/2008 20:40	350.7	N	2.64				
7/27/2008 20:50	351.6	N	2.38				
7/27/2008 21:00	350.9	N	2.16				
7/27/2008 21:10	349	N	2.17				
7/27/2008 21:20	349.8	N	1.99				
7/27/2008 21:30	0.17	N	1.57				
7/27/2008 21:40	3.05	N	1.46				
7/27/2008 21:50	6.2	N	0.6				
7/27/2008 22:00	39.21	NE	0.57				
7/27/2008 22:10	141.2	SE	0.78				
7/27/2008 22:20	152.3	SE	1.3				
7/27/2008 22:30	130.1	SE	0.95				
7/27/2008 22:40	105.6	E	0.25				
7/27/2008 22:50	142.1	SE	0.26				
7/27/2008 23:00	130.3	SE	0.09				
7/27/2008 23:10	85.7	E	0.37				
7/27/2008 23:20	92	E	0.78				
7/27/2008 23:30	157.3	SE	1.04				
7/27/2008 23:40	189.9	S	1.32				
7/27/2008 23:50	227.3	SW	1.24				
7/28/2008 0:00	246.9	SW	1.13				
7/28/2008 0:10	254.9	W	1.01				
7/28/2008 0:20	262.3	W	1.95				
7/28/2008 0:30	270.8	W	2.54				
7/28/2008 0:40	284	W	2.98				
7/28/2008 0:50	297	NW	4.59				
7/28/2008 1:00	290	W	4.13				
7/28/2008 1:10	271.2	W	3.97				
7/28/2008 1:20	259.4	W	3.58				
7/28/2008 1:30	260.6	W	3.99				
7/28/2008 1:40	278.4	W	3.15				
7/28/2008 1:50	291.2	W	2.3				
7/28/2008 2:00	292	W	1.71				
7/28/2008 2:10	308.9	NW	1.95				
7/28/2008 2:20	315.2	NW	2.19				
7/28/2008 2:30	331.2	NW	2.39				
7/28/2008 2:40	348.1	N	2.63				
7/28/2008 2:50	13.86	N	2.36				
7/28/2008 3:00	38.34	NE	1.96				
7/28/2008 3:10	36.71	NE	1.83				
7/28/2008 3:20	17.49	N	1.63				
7/28/2008 3:30	2.09	N	1.2				
7/28/2008 3:40	4.08	N	0.8				
7/28/2008 3:50	356.6	N	1.27				
7/28/2008 4:00	343.4	N	1.27				
7/28/2008 4:10	339.3	N	1.03				
7/28/2008 4:20	344.5	N	1.8				
7/28/2008 4:30	349.6	N	2.27				
7/28/2008 4:40	355.6	N	1.82				
7/28/2008 4:50	358.8	N	2.11				
7/28/2008 5:00	351.6	N	2.35				
7/28/2008 5:10	342.2	N	1.76				
7/28/2008 5:20	316.2	NW	1.14				
7/28/2008 5:30	312.5	NW	1.85				
7/28/2008 5:40	316.3	NW	2.21				
7/28/2008 5:50	308.6	NW	2.08				
7/28/2008 6:00	304.6	NW	2.52	23.5	14	18.8	0
7/28/2008 6:10	302.2	NW	2.9				
7/28/2008 6:20	302.5	NW	2.94				
7/28/2008 6:30	302.1	NW	3.16				
7/28/2008 6:40	303.5	NW	3.52				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
7/28/2008 6:50	301.2	NW	3.59				
7/28/2008 7:00	300.5	NW	3.62				
7/28/2008 19:00	306.2	NW	1.99				
7/28/2008 19:10	312.5	NW	2.14				
7/28/2008 19:20	325.6	NW	1.99				
7/28/2008 19:30	341.5	N	0.84				
7/28/2008 19:40	313.9	NW	0.96				
7/28/2008 19:50	300.9	NW	1.37				
7/28/2008 20:00	287.9	W	1.59				
7/28/2008 20:10	279	W	1.55				
7/28/2008 20:20	285	W	1.99				
7/28/2008 20:30	305	NW	1.95				
7/28/2008 20:40	301.5	NW	2.81				
7/28/2008 20:50	309.4	NW	2.83				
7/28/2008 21:00	314.6	NW	2.5				
7/28/2008 21:10	317.5	NW	2.56				
7/28/2008 21:20	329.3	NW	2.86				
7/28/2008 21:30	334.8	NW	3.1				
7/28/2008 21:40	339.2	N	2.87				
7/28/2008 21:50	339.1	N	2.96				
7/28/2008 22:00	350.3	N	2.92				
7/28/2008 22:10	345.3	N	2.19				
7/28/2008 22:20	351.2	N	2.16				
7/28/2008 22:30	346.8	N	1.27				
7/28/2008 22:40	0.28	N	0.91				
7/28/2008 22:50	345.4	N	1.57				
7/28/2008 23:00	330.1	NW	1.78				
7/28/2008 23:10	324.9	NW	2.3				
7/28/2008 23:20	325.2	NW	2.54				
7/28/2008 23:30	322.5	NW	2.75				
7/28/2008 23:40	316.7	NW	2.74				
7/28/2008 23:50	327.5	NW	3.03				
7/29/2008 0:00	347.3	N	3.23				
7/29/2008 0:10	358.9	N	3.65				
7/29/2008 0:20	5.63	N	3.75				
7/29/2008 0:30	9.31	N	3.55				
7/29/2008 0:40	12.09	N	3.72				
7/29/2008 0:50	14.65	N	3.99				
7/29/2008 1:00	13.04	N	4.07				
7/29/2008 1:10	8.39	N	3.8				
7/29/2008 1:20	12.85	N	3.99				
7/29/2008 1:30	13.2	N	4.41				
7/29/2008 1:40	15.59	N	4.48				
7/29/2008 1:50	17.04	N	4.49				
7/29/2008 2:00	24.41	NE	4.57				
7/29/2008 2:10	30.7	NE	3.87				
7/29/2008 2:20	47.9	NE	2.79				
7/29/2008 2:30	60.5	NE	2.52				
7/29/2008 2:40	63.03	NE	2.92				
7/29/2008 2:50	71.5	E	2.96				
7/29/2008 3:00	93	E	2.79				
7/29/2008 3:10	73.2	E	2.16				
7/29/2008 3:20	78	E	2.36				
7/29/2008 3:30	82.9	E	2.26				
7/29/2008 3:40	145.3	SE	3.59				
7/29/2008 3:50	128.6	SE	2.87				
7/29/2008 4:00	112.7	SE	2.51				
7/29/2008 4:10	107.6	E	2.95				
7/29/2008 4:20	139.9	SE	3.33				
7/29/2008 4:30	141.3	SE	3.3				
7/29/2008 4:40	142.3	SE	3.34				
7/29/2008 4:50	126.8	SE	3.29				
7/29/2008 5:00	113.1	SE	3.39				
7/29/2008 5:10	117.2	SE	4.01				
7/29/2008 5:20	124.1	SE	3.62				
7/29/2008 5:30	125.7	SE	3.57				
7/29/2008 5:40	138.8	SE	3.83				
7/29/2008 5:50	152.2	SE	4.27				
7/29/2008 6:00	148.7	SE	4.03	28	12	20	0
7/29/2008 6:10	154.3	SE	3.65				
7/29/2008 6:20	155	SE	3.36				
7/29/2008 6:30	145.6	SE	3.21				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
7/29/2008 6:40	142.1	SE	3.26				
7/29/2008 6:50	138.5	SE	3.1				
7/29/2008 7:00	119.7	SE	2.91				
7/29/2008 19:00	159.2	S	3.51				
7/29/2008 19:10	162.2	S	3.65				
7/29/2008 19:20	160.5	S	3.52				
7/29/2008 19:30	158.4	S	3.57				
7/29/2008 19:40	157.4	SE	3.55				
7/29/2008 19:50	156.7	SE	4.05				
7/29/2008 20:00	147.6	SE	3.87				
7/29/2008 20:10	149.6	SE	3.81				
7/29/2008 20:20	154.6	SE	3.68				
7/29/2008 20:30	157.2	SE	4.68				
7/29/2008 20:40	159.7	S	5.59				
7/29/2008 20:50	159.5	S	5.64				
7/29/2008 21:00	168.8	S	4.77				
7/29/2008 21:10	170.8	S	4.86				
7/29/2008 21:20	174.2	S	6.39				
7/29/2008 21:30	175.9	S	5.84				
7/29/2008 21:40	172.9	S	5.58				
7/29/2008 21:50	170.5	S	5.75				
7/29/2008 22:00	170.7	S	5.89				
7/29/2008 22:10	173.8	S	6.78				
7/29/2008 22:20	174.7	S	7.07				
7/29/2008 22:30	177.4	S	7.38				
7/29/2008 22:40	177.6	S	7.64				
7/29/2008 22:50	178.6	S	7.76				
7/29/2008 23:00	180.1	S	7.71				
7/29/2008 23:10	180.6	S	7.56				
7/29/2008 23:20	179.2	S	7.92				
7/29/2008 23:30	180.4	S	8.2				
7/29/2008 23:40	181.2	S	7.87				
7/29/2008 23:50	181.7	S	7.54				
7/30/2008 0:00	180.4	S	7.81				
7/30/2008 0:10	179.3	S	8.37				
7/30/2008 0:20	176.6	S	8.25				
7/30/2008 0:30	175.9	S	7.61				
7/30/2008 0:40	177.1	S	7.64				
7/30/2008 0:50	179.5	S	8.1				
7/30/2008 1:00	178.4	S	8.45				
7/30/2008 1:10	175.9	S	8.75				
7/30/2008 1:20	174.7	S	8.97				
7/30/2008 1:30	175.5	S	8.38				
7/30/2008 1:40	178.9	S	8.46				
7/30/2008 1:50	181.6	S	7.99				
7/30/2008 2:00	181.5	S	7.69				
7/30/2008 2:10	177.4	S	7.92				
7/30/2008 2:20	181.4	S	7.45				
7/30/2008 2:30	179.9	S	7.53				
7/30/2008 2:40	177.7	S	8.33				
7/30/2008 2:50	175.2	S	8.21				
7/30/2008 3:00	173.5	S	7.84				
7/30/2008 3:10	169.3	S	7.77				
7/30/2008 3:20	166.5	S	7.65				
7/30/2008 3:30	166.5	S	7.6				
7/30/2008 3:40	168.1	S	7.63				
7/30/2008 3:50	168.9	S	8.26				
7/30/2008 4:00	169.7	S	8.14				
7/30/2008 4:10	169.3	S	8.58				
7/30/2008 4:20	171.1	S	8.83				
7/30/2008 4:30	175	S	9.24				
7/30/2008 4:40	177.6	S	9.69				
7/30/2008 4:50	180.2	S	9.48				
7/30/2008 5:00	181.2	S	9.58				
7/30/2008 5:10	182	S	9.43				
7/30/2008 5:20	191.9	S	8.49				
7/30/2008 5:30	197	S	7.66				
7/30/2008 5:40	204.7	SW	7.25				
7/30/2008 5:50	210.1	SW	7.48				
7/30/2008 6:00	214.6	SW	7.87	No Data	No Data	No Data	No Data
7/30/2008 6:10	211.9	SW	7.33				
7/30/2008 6:20	207.1	SW	6.2				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
7/30/2008 6:30	210	SW	6.62				
7/30/2008 6:40	195.9	S	7.46				
7/30/2008 6:50	188	S	7.59				
7/30/2008 7:00	184.7	S	7.4				
7/30/2008 19:00	254.3	W	7.23				
7/30/2008 19:10	255.4	W	7.15				
7/30/2008 19:20	263.9	W	6.59				
7/30/2008 19:30	268.4	W	7.18				
7/30/2008 19:40	275.2	W	6.57				
7/30/2008 19:50	288	W	6.05				
7/30/2008 20:00	300.9	NW	5.06				
7/30/2008 20:10	311	NW	4.24				
7/30/2008 20:20	324	NW	3.59				
7/30/2008 20:30	336.3	NW	3.93				
7/30/2008 20:40	351.4	N	4.43				
7/30/2008 20:50	357.6	N	4.81				
7/30/2008 21:00	359.8	N	5.31				
7/30/2008 21:10	355.9	N	4.93				
7/30/2008 21:20	353.1	N	4.67				
7/30/2008 21:30	351	N	4.45				
7/30/2008 21:40	348.4	N	4.28				
7/30/2008 21:50	348.3	N	3.75				
7/30/2008 22:00	352.6	N	4.02				
7/30/2008 22:10	351.2	N	4.38				
7/30/2008 22:20	350.6	N	4.44				
7/30/2008 22:30	350	N	4.51				
7/30/2008 22:40	348.8	N	4.12				
7/30/2008 22:50	349.2	N	3.55				
7/30/2008 23:00	345.6	N	3.11				
7/30/2008 23:10	344.1	N	2.73				
7/30/2008 23:20	338.7	N	2.85				
7/30/2008 23:30	335.9	NW	3.08				
7/30/2008 23:40	325.8	NW	2.92				
7/30/2008 23:50	318.7	NW	3.41				
7/31/2008 0:00	317.5	NW	3.46				
7/31/2008 0:10	313.9	NW	3.21				
7/31/2008 0:20	307.1	NW	3.13				
7/31/2008 0:30	286.9	W	2.67				
7/31/2008 0:40	276.7	W	2.65				
7/31/2008 0:50	268.2	W	2.89				
7/31/2008 1:00	268.6	W	2.89				
7/31/2008 1:10	268	W	2.46				
7/31/2008 1:20	252	W	2.79				
7/31/2008 1:30	250.3	W	2.64				
7/31/2008 1:40	251.3	W	3.17				
7/31/2008 1:50	250	W	3.59				
7/31/2008 2:00	245.6	SW	4.14				
7/31/2008 2:10	249.4	W	4.21				
7/31/2008 2:20	255.4	W	4.77				
7/31/2008 2:30	251.4	W	5.8				
7/31/2008 2:40	251	W	5.95				
7/31/2008 2:50	250.9	W	5.34				
7/31/2008 3:00	251	W	5.35				
7/31/2008 3:10	260	W	4.58				
7/31/2008 3:20	283.7	W	3.37				
7/31/2008 3:30	293.3	NW	3.32				
7/31/2008 3:40	296.6	NW	3.02				
7/31/2008 3:50	294.4	NW	3.65				
7/31/2008 4:00	296.2	NW	3.66				
7/31/2008 4:10	293.2	NW	4.03				
7/31/2008 4:20	294.1	NW	3.75				
7/31/2008 4:30	292	W	3.46				
7/31/2008 4:40	298.7	NW	3.44				
7/31/2008 4:50	303.2	NW	3.27				
7/31/2008 5:00	302.5	NW	3.16				
7/31/2008 5:10	300.8	NW	3				
7/31/2008 5:20	290.6	W	3.28				
7/31/2008 5:30	299.3	NW	3.56				
7/31/2008 5:40	312.2	NW	3.35				
7/31/2008 5:50	304.3	NW	3.25				
7/31/2008 6:00	306.4	NW	3.59	24.5	18.5	21.5	0
7/31/2008 6:10	312.1	NW	3.44				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
7/31/2008 6:20	307.6	NW	3.38				
7/31/2008 6:30	301	NW	3.26				
7/31/2008 6:40	300.1	NW	3.12				
7/31/2008 6:50	293.2	NW	2.9				
7/31/2008 7:00	293.5	NW	3.16				
7/31/2008 19:00	251.4	W	3.46				
7/31/2008 19:10	254.7	W	2.96				
7/31/2008 19:20	262.4	W	2.74				
7/31/2008 19:30	275.6	W	2.67				
7/31/2008 19:40	289	W	2.66				
7/31/2008 19:50	303.4	NW	3.28				
7/31/2008 20:00	316.9	NW	3.35				
7/31/2008 20:10	327.4	NW	2.73				
7/31/2008 20:20	322.3	NW	2.9				
7/31/2008 20:30	334.5	NW	3.64				
7/31/2008 20:40	336.5	NW	3.34				
7/31/2008 20:50	336	NW	2.63				
7/31/2008 21:00	341.1	N	2.61				
7/31/2008 21:10	346.9	N	2.78				
7/31/2008 21:20	350.4	N	2.78				
7/31/2008 21:30	1.13	N	2.29				
7/31/2008 21:40	359	N	2.08				
7/31/2008 21:50	5.04	N	1.68				
7/31/2008 22:00	352.4	N	1.52				
7/31/2008 22:10	0.18	N	1.89				
7/31/2008 22:20	348.6	N	2.1				
7/31/2008 22:30	327.1	NW	2.81				
7/31/2008 22:40	319.9	NW	3.64				
7/31/2008 22:50	320.7	NW	3.19				
7/31/2008 23:00	314	NW	3.49				
7/31/2008 23:10	299.5	NW	3.18				
7/31/2008 23:20	298.1	NW	2.97				
7/31/2008 23:30	300.4	NW	3.23				
7/31/2008 23:40	293.7	NW	3.22				
7/31/2008 23:50	290.1	W	3.1				
8/1/2008 0:00	285.3	W	3.16				
8/1/2008 0:10	277.6	W	3.09				
8/1/2008 0:20	277.6	W	3.09				
8/1/2008 0:30	279.8	W	3.13				
8/1/2008 0:40	277.3	W	3.25				
8/1/2008 0:50	272.3	W	3.43				
8/1/2008 1:00	274.3	W	3.83				
8/1/2008 1:10	275.2	W	4.4				
8/1/2008 1:20	274.8	W	4.46				
8/1/2008 1:30	271.4	W	4.49				
8/1/2008 1:40	266.1	W	4.53				
8/1/2008 1:50	265.9	W	4.28				
8/1/2008 2:00	262.8	W	4.61				
8/1/2008 2:10	266.6	W	4.98				
8/1/2008 2:20	269.9	W	5.15				
8/1/2008 2:30	270.6	W	4.72				
8/1/2008 2:40	273.8	W	4.91				
8/1/2008 2:50	277.8	W	5.24				
8/1/2008 3:00	277.8	W	5.14				
8/1/2008 3:10	280.3	W	5.29				
8/1/2008 3:20	282.7	W	5.46				
8/1/2008 3:30	283.3	W	5.29				
8/1/2008 3:40	283.3	W	5.06				
8/1/2008 3:50	287.9	W	4.96				
8/1/2008 4:00	291.7	W	4.95				
8/1/2008 4:10	290.1	W	4.83				
8/1/2008 4:20	291.9	W	4.84				
8/1/2008 4:30	297.9	NW	4.91				
8/1/2008 4:40	290	W	4.07				
8/1/2008 4:50	284.7	W	3.79				
8/1/2008 5:00	284	W	3.44				
8/1/2008 5:10	279.1	W	3.22				
8/1/2008 5:20	277.5	W	3.1				
8/1/2008 5:30	273.9	W	3.25				
8/1/2008 5:40	269.3	W	3.55				
8/1/2008 5:50	266.1	W	4.3				
8/1/2008 6:00	270.3	W	4.39	25	15	20	0

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
8/1/2008 6:10	272.4	W	4.79				
8/1/2008 6:20	274.6	W	4.17				
8/1/2008 6:30	273.4	W	4.16				
8/1/2008 6:40	272.5	W	4.72				
8/1/2008 6:50	270.3	W	4.77				
8/1/2008 7:00	275.8	W	4.05				
8/1/2008 19:00	324.3	NW	2				
8/1/2008 19:10	317.4	NW	2.4				
8/1/2008 19:20	312.4	NW	2.41				
8/1/2008 19:30	325.6	NW	2.09				
8/1/2008 19:40	335.2	NW	1.79				
8/1/2008 19:50	318.8	NW	1.39				
8/1/2008 20:00	302.2	NW	1.28				
8/1/2008 20:10	285.1	W	1.27				
8/1/2008 20:20	311.8	NW	0.7				
8/1/2008 20:30	293.9	NW	1.22				
8/1/2008 20:40	267.6	W	1.61				
8/1/2008 20:50	259.7	W	1.42				
8/1/2008 21:00	261.3	W	1.64				
8/1/2008 21:10	252.1	W	2.26				
8/1/2008 21:20	259.1	W	2.55				
8/1/2008 21:30	260.1	W	3.04				
8/1/2008 21:40	275.6	W	2.91				
8/1/2008 21:50	289.2	W	2.87				
8/1/2008 22:00	279.5	W	3.04				
8/1/2008 22:10	292.8	NW	3.11				
8/1/2008 22:20	307.2	NW	3.42				
8/1/2008 22:30	307.8	NW	3.38				
8/1/2008 22:40	308.9	NW	3.71				
8/1/2008 22:50	310.9	NW	3.92				
8/1/2008 23:00	311	NW	4.05				
8/1/2008 23:10	312.8	NW	4.32				
8/1/2008 23:20	324.6	NW	4.79				
8/1/2008 23:30	323.6	NW	4.52				
8/1/2008 23:40	321.2	NW	4.27				
8/1/2008 23:50	324.7	NW	4.86				
8/2/2008 0:00	325.6	NW	4.14				
8/2/2008 0:10	319	NW	3.99				
8/2/2008 0:20	317.6	NW	4.19				
8/2/2008 0:30	307.6	NW	3.94				
8/2/2008 0:40	316.7	NW	4.04				
8/2/2008 0:50	310.2	NW	4.24				
8/2/2008 1:00	293.1	NW	4.68				
8/2/2008 1:10	270.8	W	3.93				
8/2/2008 1:20	272.1	W	4.18				
8/2/2008 1:30	278.6	W	4.24				
8/2/2008 1:40	281.8	W	4.45				
8/2/2008 1:50	289.2	W	3.77				
8/2/2008 2:00	281.3	W	3.38				
8/2/2008 2:10	279.1	W	3.72				
8/2/2008 2:20	279.9	W	3.76				
8/2/2008 2:30	300.6	NW	4.63				
8/2/2008 2:40	309.9	NW	4.96				
8/2/2008 2:50	318.8	NW	4.59				
8/2/2008 3:00	317.9	NW	4.72				
8/2/2008 3:10	315.6	NW	4.94				
8/2/2008 3:20	316	NW	4.55				
8/2/2008 3:30	311.6	NW	4.36				
8/2/2008 3:40	312.7	NW	4.25				
8/2/2008 3:50	311.3	NW	4.35				
8/2/2008 4:00	306.9	NW	3.84				
8/2/2008 4:10	300.7	NW	3.25				
8/2/2008 4:20	303	NW	4.07				
8/2/2008 4:30	313.4	NW	4.16				
8/2/2008 4:40	320.1	NW	3.64				
8/2/2008 4:50	319.2	NW	3.62				
8/2/2008 5:00	314.1	NW	3.61				
8/2/2008 5:10	322.9	NW	4.2				
8/2/2008 5:20	326.6	NW	4.98				
8/2/2008 5:30	328.1	NW	4.9				
8/2/2008 5:40	328.8	NW	4.37				
8/2/2008 5:50	328.6	NW	3.94				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
8/2/2008 6:00	325.2	NW	4.04	25	16.5	20.8	0
8/2/2008 6:10	332.2	NW	3.85				
8/2/2008 6:20	341.5	N	2.99				
8/2/2008 6:30	354.8	N	2.93				
8/2/2008 6:40	352.4	N	3.06				
8/2/2008 6:50	356.7	N	2.76				
8/2/2008 7:00	12.75	N	2.63				
8/2/2008 19:00	325.3	NW	6.7				
8/2/2008 19:10	327	NW	7.77				
8/2/2008 19:20	330.1	NW	6.43				
8/2/2008 19:30	329.2	NW	6.51				
8/2/2008 19:40	330.1	NW	5.91				
8/2/2008 19:50	334	NW	5.11				
8/2/2008 20:00	335.2	NW	4.4				
8/2/2008 20:10	342.2	N	4.61				
8/2/2008 20:20	342.5	N	4.92				
8/2/2008 20:30	338	N	4.35				
8/2/2008 20:40	334.9	NW	4.34				
8/2/2008 20:50	336.5	NW	4.65				
8/2/2008 21:00	344	N	4.26				
8/2/2008 21:10	348.2	N	3.99				
8/2/2008 21:20	348.3	N	4.07				
8/2/2008 21:30	349.4	N	3.56				
8/2/2008 21:40	350.1	N	3.28				
8/2/2008 21:50	345.3	N	3.54				
8/2/2008 22:00	339.8	N	4.22				
8/2/2008 22:10	343.8	N	4.59				
8/2/2008 22:20	348.1	N	4.91				
8/2/2008 22:30	352.9	N	5.19				
8/2/2008 22:40	350.2	N	5.03				
8/2/2008 22:50	351.2	N	4.4				
8/2/2008 23:00	348	N	4.44				
8/2/2008 23:10	344.9	N	4.78				
8/2/2008 23:20	345.8	N	4.63				
8/2/2008 23:30	346.2	N	4.27				
8/2/2008 23:40	353.5	N	4.44				
8/2/2008 23:50	355.4	N	3.84				
8/3/2008 0:00	354	N	3.75				
8/3/2008 0:10	356.5	N	4.41				
8/3/2008 0:20	0.6	N	4.32				
8/3/2008 0:30	0.62	N	4.31				
8/3/2008 0:40	0.41	N	4.42				
8/3/2008 0:50	358.9	N	4.39				
8/3/2008 1:00	351.3	N	4				
8/3/2008 1:10	346	N	4.14				
8/3/2008 1:20	346.9	N	4.01				
8/3/2008 1:30	355.3	N	3.64				
8/3/2008 1:40	0.4	N	3.65				
8/3/2008 1:50	0	N	3.79				
8/3/2008 2:00	7.43	N	3.8				
8/3/2008 2:10	12.73	N	3.95				
8/3/2008 2:20	12.19	N	4.39				
8/3/2008 2:30	6.38	N	4.41				
8/3/2008 2:40	2.46	N	4.32				
8/3/2008 2:50	0.31	N	4.4				
8/3/2008 3:00	358.2	N	4.19				
8/3/2008 3:10	2.8	N	4.22				
8/3/2008 3:20	8.15	N	4.12				
8/3/2008 3:30	8.24	N	4.07				
8/3/2008 3:40	1.16	N	4.04				
8/3/2008 3:50	353.6	N	4.09				
8/3/2008 4:00	352.5	N	4.15				
8/3/2008 4:10	350	N	4.24				
8/3/2008 4:20	345.3	N	4.45				
8/3/2008 4:30	344.2	N	4.37				
8/3/2008 4:40	347	N	4.29				
8/3/2008 4:50	345.2	N	4.43				
8/3/2008 5:00	349.4	N	4.46				
8/3/2008 5:10	351.6	N	4.26				
8/3/2008 5:20	353.1	N	4.04				
8/3/2008 5:30	354.2	N	4.03				
8/3/2008 5:40	358.6	N	4.09				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
8/3/2008 5:50	1.59	N	4.16				
8/3/2008 6:00	5.29	N	4.03	No Data	No Data	No Data	No Data
8/3/2008 6:10	6.45	N	4.22				
8/3/2008 6:20	5.34	N	4.18				
8/3/2008 6:30	2.83	N	4.24				
8/3/2008 6:40	1.18	N	4.36				
8/3/2008 6:50	3.3	N	4.31				
8/3/2008 7:00	0.28	N	3.73				
8/3/2008 19:00	304.9	NW	1.7				
8/3/2008 19:10	299.7	NW	1.47				
8/3/2008 19:20	302.2	NW	1.53				
8/3/2008 19:30	318.4	NW	1.61				
8/3/2008 19:40	315.5	NW	1.8				
8/3/2008 19:50	310.2	NW	1.6				
8/3/2008 20:00	311.1	NW	1.56				
8/3/2008 20:10	308.1	NW	1.38				
8/3/2008 20:20	322.1	NW	1.26				
8/3/2008 20:30	309.8	NW	1.52				
8/3/2008 20:40	306.2	NW	1.95				
8/3/2008 20:50	312.7	NW	1.85				
8/3/2008 21:00	323.7	NW	1.55				
8/3/2008 21:10	329.5	NW	1.62				
8/3/2008 21:20	330.2	NW	1.6				
8/3/2008 21:30	316.1	NW	1.32				
8/3/2008 21:40	328.9	NW	1.35				
8/3/2008 21:50	339.6	N	1.27				
8/3/2008 22:00	344.1	N	1.25				
8/3/2008 22:10	3.59	N	1.27				
8/3/2008 22:20	340	N	0.94				
8/3/2008 22:30	328.9	NW	0.82				
8/3/2008 22:40	339.7	N	0.9				
8/3/2008 22:50	352.4	N	0.53				
8/3/2008 23:00	169	S	0.48				
8/3/2008 23:10	62.18	NE	0.34				
8/3/2008 23:20	181.1	S	1.18				
8/3/2008 23:30	185.2	S	2.16				
8/3/2008 23:40	190.5	S	2.42				
8/3/2008 23:50	201.6	S	1.68				
8/4/2008 0:00	186.4	S	2.97				
8/4/2008 0:10	175.7	S	2.56				
8/4/2008 0:20	176	S	2.88				
8/4/2008 0:30	171.7	S	2.8				
8/4/2008 0:40	170.9	S	2.81				
8/4/2008 0:50	168.3	S	2.9				
8/4/2008 1:00	165.4	S	3.2				
8/4/2008 1:10	157.1	SE	3.24				
8/4/2008 1:20	152.9	SE	3.38				
8/4/2008 1:30	150.7	SE	3.32				
8/4/2008 1:40	150.7	SE	3.11				
8/4/2008 1:50	156.6	SE	3.04				
8/4/2008 2:00	150.4	SE	2.8				
8/4/2008 2:10	156.3	SE	2.79				
8/4/2008 2:20	135.7	SE	2.94				
8/4/2008 2:30	137.4	SE	2.77				
8/4/2008 2:40	149	SE	2				
8/4/2008 2:50	150.4	SE	2.07				
8/4/2008 3:00	145.9	SE	2.37				
8/4/2008 3:10	164.2	S	2.91				
8/4/2008 3:20	167.7	S	2.69				
8/4/2008 3:30	184.9	S	2.57				
8/4/2008 3:40	200.1	S	2.54				
8/4/2008 3:50	202	S	2.45				
8/4/2008 4:00	199.1	S	2.67				
8/4/2008 4:10	197.7	S	2.59				
8/4/2008 4:20	189.3	S	3.26				
8/4/2008 4:30	184.3	S	4.39				
8/4/2008 4:40	186.7	S	5.25				
8/4/2008 4:50	184.9	S	4.82				
8/4/2008 5:00	180.9	S	4.3				
8/4/2008 5:10	191.2	S	4.25				
8/4/2008 5:20	194.1	S	4.28				
8/4/2008 5:30	189.9	S	4.31				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
8/4/2008 5:40	179.6	S	4.62				
8/4/2008 5:50	176.8	S	4.35				
8/4/2008 6:00	175.6	S	4.61	29	13	21	Trace
8/4/2008 6:10	169.7	S	4.29				
8/4/2008 6:20	169.1	S	4.63				
8/4/2008 6:30	177.9	S	4.51				
8/4/2008 6:40	179.2	S	4.07				
8/4/2008 6:50	180.8	S	3.9				
8/4/2008 7:00	182.8	S	4.32				
8/4/2008 19:00	175.1	S	2.85				
8/4/2008 19:10	168.1	S	2.86				
8/4/2008 19:20	171.2	S	3.06				
8/4/2008 19:30	176.7	S	3.35				
8/4/2008 19:40	178.7	S	3.39				
8/4/2008 19:50	176.9	S	3.6				
8/4/2008 20:00	176.8	S	3.73				
8/4/2008 20:10	171.9	S	4.18				
8/4/2008 20:20	163.7	S	4.15				
8/4/2008 20:30	160.7	S	4.64				
8/4/2008 20:40	159.2	S	5.14				
8/4/2008 20:50	154.6	SE	5.55				
8/4/2008 21:00	151.7	SE	5.68				
8/4/2008 21:10	151	SE	5.75				
8/4/2008 21:20	147.2	SE	6.21				
8/4/2008 21:30	137.9	SE	6.63				
8/4/2008 21:40	142.2	SE	6.58				
8/4/2008 21:50	146.4	SE	7.05				
8/4/2008 22:00	145.9	SE	7.39				
8/4/2008 22:10	148	SE	7.43				
8/4/2008 22:20	148.1	SE	7.49				
8/4/2008 22:30	153.1	SE	7.29				
8/4/2008 22:40	149.3	SE	7.27				
8/4/2008 22:50	147.4	SE	7.84				
8/4/2008 23:00	151.2	SE	7.55				
8/4/2008 23:10	153.3	SE	6.84				
8/4/2008 23:20	156.3	SE	6.53				
8/4/2008 23:30	156.3	SE	6.43				
8/4/2008 23:40	155.3	SE	6.46				
8/4/2008 23:50	159.4	S	6.76				
8/5/2008 0:00	162.1	S	6.73				
8/5/2008 0:10	166.3	S	6.52				
8/5/2008 0:20	166.4	S	6.53				
8/5/2008 0:30	171.4	S	6.98				
8/5/2008 0:40	170.6	S	7.3				
8/5/2008 0:50	168.3	S	6.66				
8/5/2008 1:00	166.8	S	6.47				
8/5/2008 1:10	164.2	S	6.58				
8/5/2008 1:20	164.3	S	6.66				
8/5/2008 1:30	160.2	S	6.65				
8/5/2008 1:40	157.6	S	6.61				
8/5/2008 1:50	157	SE	6.47				
8/5/2008 2:00	159.2	S	6.59				
8/5/2008 2:10	160.1	S	6.65				
8/5/2008 2:20	160	S	6.59				
8/5/2008 2:30	161.2	S	6.79				
8/5/2008 2:40	156.7	SE	6.88				
8/5/2008 2:50	157.1	SE	6.85				
8/5/2008 3:00	154.7	SE	6.5				
8/5/2008 3:10	152.6	SE	6.75				
8/5/2008 3:20	152	SE	7.21				
8/5/2008 3:30	151.3	SE	7.47				
8/5/2008 3:40	153.8	SE	7.1				
8/5/2008 3:50	151.5	SE	7.8				
8/5/2008 4:00	145.9	SE	8.07				
8/5/2008 4:10	143.6	SE	7.62				
8/5/2008 4:20	140.4	SE	7.77				
8/5/2008 4:30	136.6	SE	7.57				
8/5/2008 4:40	135.7	SE	7.62				
8/5/2008 4:50	144.8	SE	6.85				
8/5/2008 5:00	157.8	S	6.27				
8/5/2008 5:10	157.8	S	6.45				
8/5/2008 5:20	154.8	SE	6.43				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
8/5/2008 5:30	155	SE	6.39				
8/5/2008 5:40	160	S	6.38				
8/5/2008 5:50	162.2	S	6.51				
8/5/2008 6:00	161.1	S	6.89	28	19	23.5	Trace
8/5/2008 6:10	162.2	S	6.91				
8/5/2008 6:20	163.1	S	6.49				
8/5/2008 6:30	164.4	S	6.7				
8/5/2008 6:40	164.4	S	6.52				
8/5/2008 6:50	164.7	S	6.09				
8/5/2008 7:00	160.8	S	5.71				
8/5/2008 19:00	312.7	NW	3.38				
8/5/2008 19:10	315.6	NW	3.68				
8/5/2008 19:20	307.5	NW	3.72				
8/5/2008 19:30	304.9	NW	4.07				
8/5/2008 19:40	299.6	NW	4.12				
8/5/2008 19:50	302.4	NW	4.16				
8/5/2008 20:00	301.5	NW	3.83				
8/5/2008 20:10	300.9	NW	3.49				
8/5/2008 20:20	310	NW	3.39				
8/5/2008 20:30	308	NW	3.49				
8/5/2008 20:40	298	NW	4.13				
8/5/2008 20:50	297.9	NW	4.28				
8/5/2008 21:00	298.3	NW	4.14				
8/5/2008 21:10	301.2	NW	3.58				
8/5/2008 21:20	312.9	NW	3.56				
8/5/2008 21:30	308	NW	3.64				
8/5/2008 21:40	308.1	NW	3.69				
8/5/2008 21:50	313.3	NW	3.54				
8/5/2008 22:00	315	NW	3.28				
8/5/2008 22:10	305.9	NW	3.61				
8/5/2008 22:20	302.9	NW	4.31				
8/5/2008 22:30	311.2	NW	4.78				
8/5/2008 22:40	311.2	NW	4.39				
8/5/2008 22:50	312.9	NW	4.01				
8/5/2008 23:00	312.9	NW	4.36				
8/5/2008 23:10	302.2	NW	4.74				
8/5/2008 23:20	298.7	NW	5.03				
8/5/2008 23:30	303.7	NW	4.72				
8/5/2008 23:40	305.5	NW	4.52				
8/5/2008 23:50	306.8	NW	4.8				
8/6/2008 0:00	305	NW	5.23				
8/6/2008 0:10	305.6	NW	5.48				
8/6/2008 0:20	311.4	NW	5.1				
8/6/2008 0:30	315.8	NW	5.7				
8/6/2008 0:40	313.1	NW	5.36				
8/6/2008 0:50	313.1	NW	4.63				
8/6/2008 1:00	315	NW	5.07				
8/6/2008 1:10	313.7	NW	5.61				
8/6/2008 1:20	313.9	NW	6.59				
8/6/2008 1:30	312.2	NW	5.99				
8/6/2008 1:40	314.3	NW	6.24				
8/6/2008 1:50	316.9	NW	6.96				
8/6/2008 2:00	320	NW	6.54				
8/6/2008 2:10	320.8	NW	5.9				
8/6/2008 2:20	317.1	NW	5.93				
8/6/2008 2:30	317.1	NW	6.73				
8/6/2008 2:40	319.5	NW	6.08				
8/6/2008 2:50	323.3	NW	6.43				
8/6/2008 3:00	323.9	NW	6.89				
8/6/2008 3:10	325.9	NW	6.41				
8/6/2008 3:20	328.7	NW	5.42				
8/6/2008 3:30	330.2	NW	5.89				
8/6/2008 3:40	327.7	NW	6.04				
8/6/2008 3:50	325.2	NW	6.17				
8/6/2008 4:00	325.9	NW	6.22				
8/6/2008 4:10	324.1	NW	6.21				
8/6/2008 4:20	319.9	NW	6.57				
8/6/2008 4:30	321.2	NW	6.78				
8/6/2008 4:40	323	NW	6.06				
8/6/2008 4:50	325.8	NW	6.17				
8/6/2008 5:00	324.3	NW	7.3				
8/6/2008 5:10	320.6	NW	8.23				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
8/6/2008 5:20	316.2	NW	6.79				
8/6/2008 5:30	318.9	NW	6.61				
8/6/2008 5:40	317.7	NW	6.52				
8/6/2008 5:50	321.1	NW	6.72				
8/6/2008 6:00	319.1	NW	6.14	24.5	19	21.8	3
8/6/2008 6:10	320.7	NW	6.96				
8/6/2008 6:20	321.7	NW	6.29				
8/6/2008 6:30	328.1	NW	6.44				
8/6/2008 6:40	321.7	NW	7.28				
8/6/2008 6:50	321.1	NW	7.17				
8/6/2008 7:00	322.6	NW	6.57				
8/6/2008 19:00	242.1	SW	3.07				
8/6/2008 19:10	241.7	SW	3				
8/6/2008 19:20	242.2	SW	2.47				
8/6/2008 19:30	237.7	SW	2.59				
8/6/2008 19:40	237.3	SW	2.98				
8/6/2008 19:50	242.8	SW	2.56				
8/6/2008 20:00	235.6	SW	1.83				
8/6/2008 20:10	242.3	SW	1.51				
8/6/2008 20:20	223.3	SW	1.82				
8/6/2008 20:30	229.9	SW	1.93				
8/6/2008 20:40	225.2	SW	3.12				
8/6/2008 20:50	225.1	SW	2.97				
8/6/2008 21:00	220.1	SW	2.9				
8/6/2008 21:10	218.6	SW	4.08				
8/6/2008 21:20	217.5	SW	5.47				
8/6/2008 21:30	216.2	SW	5.92				
8/6/2008 21:40	213.8	SW	6.5				
8/6/2008 21:50	209.5	SW	5.86				
8/6/2008 22:00	208.7	SW	5.27				
8/6/2008 22:10	208.2	SW	4.95				
8/6/2008 22:20	209.9	SW	5.36				
8/6/2008 22:30	213.2	SW	5.05				
8/6/2008 22:40	212	SW	4.42				
8/6/2008 22:50	213.6	SW	4.89				
8/6/2008 23:00	222.5	SW	4.99				
8/6/2008 23:10	227.6	SW	5.24				
8/6/2008 23:20	227.9	SW	5.52				
8/6/2008 23:30	227.2	SW	6.35				
8/6/2008 23:40	230.2	SW	6.66				
8/6/2008 23:50	230.2	SW	5.87				
8/7/2008 0:00	229.5	SW	4.9				
8/7/2008 0:10	219.4	SW	2.85				
8/7/2008 0:20	208.2	SW	2.11				
8/7/2008 0:30	184.4	S	1.88				
8/7/2008 0:40	222.3	SW	3.5				
8/7/2008 0:50	304	NW	7.79				
8/7/2008 1:00	312.6	NW	11.85				
8/7/2008 1:10	331.6	NW	5.29				
8/7/2008 1:20	291.2	W	2.57				
8/7/2008 1:30	257	W	2.89				
8/7/2008 1:40	221.7	SW	2.88				
8/7/2008 1:50	206.8	SW	2.92				
8/7/2008 2:00	243.2	SW	3.16				
8/7/2008 2:10	266.6	W	5.25				
8/7/2008 2:20	256.3	W	6.3				
8/7/2008 2:30	263.1	W	6.87				
8/7/2008 2:40	262.3	W	6.16				
8/7/2008 2:50	269.3	W	6.37				
8/7/2008 3:00	280.6	W	6.68				
8/7/2008 3:10	268.9	W	3.4				
8/7/2008 3:20	247.4	SW	2.17				
8/7/2008 3:30	232.9	SW	1.67				
8/7/2008 3:40	272.1	W	1.29				
8/7/2008 3:50	307.7	NW	2.58				
8/7/2008 4:00	311.7	NW	2.88				
8/7/2008 4:10	312.1	NW	3.19				
8/7/2008 4:20	314.9	NW	3.81				
8/7/2008 4:30	317.4	NW	4.2				
8/7/2008 4:40	322.1	NW	4.53				
8/7/2008 4:50	325.9	NW	5.24				
8/7/2008 5:00	325	NW	5.64				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
8/7/2008 5:10	326.9	NW	5.87				
8/7/2008 5:20	326.1	NW	5.61				
8/7/2008 5:30	328.9	NW	5.31				
8/7/2008 5:40	325.6	NW	4.97				
8/7/2008 5:50	320.7	NW	5.24				
8/7/2008 6:00	322.8	NW	5.16	24	18	21	0.2
8/7/2008 6:10	327.9	NW	5.59				
8/7/2008 6:20	329.6	NW	5.38				
8/7/2008 6:30	329.8	NW	5.12				
8/7/2008 6:40	329	NW	4.36				
8/7/2008 6:50	328.1	NW	4.28				
8/7/2008 7:00	325.5	NW	4.88				
8/7/2008 19:00	355.3	N	5.53				
8/7/2008 19:10	351.8	N	6.28				
8/7/2008 19:20	353.2	N	5.36				
8/7/2008 19:30	0.38	N	4.87				
8/7/2008 19:40	353.3	N	4.49				
8/7/2008 19:50	355.4	N	4.62				
8/7/2008 20:00	354.6	N	4.59				
8/7/2008 20:10	355.9	N	4.78				
8/7/2008 20:20	356	N	4.79				
8/7/2008 20:30	357.4	N	4.87				
8/7/2008 20:40	354.9	N	5.03				
8/7/2008 20:50	347.7	N	5.04				
8/7/2008 21:00	349.8	N	4.61				
8/7/2008 21:10	339.6	N	4.53				
8/7/2008 21:20	342.9	N	5.25				
8/7/2008 21:30	349.9	N	5.27				
8/7/2008 21:40	1.2	N	6.54				
8/7/2008 21:50	15.37	N	6.06				
8/7/2008 22:00	3.76	N	5.13				
8/7/2008 22:10	356.6	N	5.32				
8/7/2008 22:20	346.2	N	5.38				
8/7/2008 22:30	345.3	N	5.8				
8/7/2008 22:40	345.3	N	5.64				
8/7/2008 22:50	331.9	NW	5.8				
8/7/2008 23:00	331.8	NW	6.26				
8/7/2008 23:10	328.4	NW	6.02				
8/7/2008 23:20	333.1	NW	6.62				
8/7/2008 23:30	342.1	N	6.72				
8/7/2008 23:40	341.2	N	6.01				
8/7/2008 23:50	340.4	N	6.5				
8/8/2008 0:00	340.9	N	7.13				
8/8/2008 0:10	339.8	N	6.81				
8/8/2008 0:20	338.1	N	7.18				
8/8/2008 0:30	339.4	N	7.55				
8/8/2008 0:40	341.5	N	7.33				
8/8/2008 0:50	338	N	6.99				
8/8/2008 1:00	334.5	NW	7.01				
8/8/2008 1:10	336.6	NW	6.68				
8/8/2008 1:20	339.9	N	6.85				
8/8/2008 1:30	339.9	N	7.38				
8/8/2008 1:40	344.4	N	7.16				
8/8/2008 1:50	340.2	N	6.74				
8/8/2008 2:00	335.6	NW	7.1				
8/8/2008 2:10	337.6	N	7.41				
8/8/2008 2:20	340	N	7.47				
8/8/2008 2:30	341.4	N	7.02				
8/8/2008 2:40	341.6	N	6.81				
8/8/2008 2:50	341.4	N	6.83				
8/8/2008 3:00	340.1	N	7.02				
8/8/2008 3:10	339.4	N	7.23				
8/8/2008 3:20	339.3	N	7.1				
8/8/2008 3:30	338.5	N	7.19				
8/8/2008 3:40	340	N	7.13				
8/8/2008 3:50	344.1	N	7.3				
8/8/2008 4:00	342.9	N	7.41				
8/8/2008 4:10	348.4	N	6.95				
8/8/2008 4:20	352.6	N	6.53				
8/8/2008 4:30	347.1	N	6.23				
8/8/2008 4:40	346.4	N	5.74				
8/8/2008 4:50	346.7	N	6.01				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
8/8/2008 5:00	344.3	N	5.75				
8/8/2008 5:10	341.8	N	5.84				
8/8/2008 5:20	343.2	N	6.08				
8/8/2008 5:30	341.7	N	6.67				
8/8/2008 5:40	344.1	N	6.82				
8/8/2008 5:50	343.9	N	6.7				
8/8/2008 6:00	344.3	N	6.65	21.5	16	18.8	Trace
8/8/2008 6:10	345.7	N	6.61				
8/8/2008 6:20	345.6	N	6.13				
8/8/2008 6:30	342.8	N	6.4				
8/8/2008 6:40	343.8	N	6.77				
8/8/2008 6:50	341.4	N	7.46				
8/8/2008 7:00	344.1	N	7.09				
8/8/2008 19:00	320.2	NW	5.31				
8/8/2008 19:10	320.4	NW	5.16				
8/8/2008 19:20	319.5	NW	4.89				
8/8/2008 19:30	319	NW	5.03				
8/8/2008 19:40	318.9	NW	5.29				
8/8/2008 19:50	320.4	NW	5.1				
8/8/2008 20:00	318.3	NW	4.72				
8/8/2008 20:10	314.1	NW	4.63				
8/8/2008 20:20	311.8	NW	5.36				
8/8/2008 20:30	311.6	NW	6.1				
8/8/2008 20:40	315.3	NW	5.63				
8/8/2008 20:50	318.1	NW	5.97				
8/8/2008 21:00	316.6	NW	5.03				
8/8/2008 21:10	314.9	NW	4.63				
8/8/2008 21:20	314.5	NW	4.56				
8/8/2008 21:30	310.7	NW	4.38				
8/8/2008 21:40	302.9	NW	4.24				
8/8/2008 21:50	299.3	NW	4.48				
8/8/2008 22:00	301	NW	4.86				
8/8/2008 22:10	297.7	NW	5.14				
8/8/2008 22:20	294.1	NW	4.7				
8/8/2008 22:30	293.1	NW	4.14				
8/8/2008 22:40	294.1	NW	3.92				
8/8/2008 22:50	295.6	NW	3.85				
8/8/2008 23:00	293.4	NW	4.09				
8/8/2008 23:10	289	W	3.81				
8/8/2008 23:20	279.9	W	3.42				
8/8/2008 23:30	277.1	W	3.41				
8/8/2008 23:40	277.3	W	3.21				
8/8/2008 23:50	259.1	W	3.08				
8/9/2008 0:00	256.7	W	3.53				
8/9/2008 0:10	257	W	3.71				
8/9/2008 0:20	260.3	W	4.13				
8/9/2008 0:30	270.9	W	4.62				
8/9/2008 0:40	270.5	W	4.23				
8/9/2008 0:50	267.4	W	3.51				
8/9/2008 1:00	267.9	W	3.16				
8/9/2008 1:10	265.9	W	3.21				
8/9/2008 1:20	258.5	W	3.24				
8/9/2008 1:30	242	SW	3.55				
8/9/2008 1:40	233.9	SW	3.78				
8/9/2008 1:50	218.3	SW	4.77				
8/9/2008 2:00	216.4	SW	5.32				
8/9/2008 2:10	219.5	SW	7.6				
8/9/2008 2:20	216.8	SW	7.31				
8/9/2008 2:30	215.6	SW	6.93				
8/9/2008 2:40	217.7	SW	7.18				
8/9/2008 2:50	217.9	SW	6.96				
8/9/2008 3:00	223.9	SW	6.16				
8/9/2008 3:10	225.2	SW	6.37				
8/9/2008 3:20	225	SW	6.61				
8/9/2008 3:30	224.3	SW	6.5				
8/9/2008 3:40	222.7	SW	6.57				
8/9/2008 3:50	213.2	SW	6.78				
8/9/2008 4:00	208	SW	6.97				
8/9/2008 4:10	209	SW	7.35				
8/9/2008 4:20	211.9	SW	7.57				
8/9/2008 4:30	209.2	SW	7.44				
8/9/2008 4:40	205.4	SW	7.36				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
8/9/2008 4:50	206.3	SW	7.48				
8/9/2008 5:00	207.1	SW	7.9				
8/9/2008 5:10	206.9	SW	8.04				
8/9/2008 5:20	203.2	SW	7.67				
8/9/2008 5:30	202.2	S	7.73				
8/9/2008 5:40	201.1	S	7.74				
8/9/2008 5:50	199.1	S	7.54				
8/9/2008 6:00	201.4	S	7.33	19	11.5	15.3	30.8
8/9/2008 6:10	200.8	S	7.47				
8/9/2008 6:20	197.2	S	7.78				
8/9/2008 6:30	195.9	S	8.33				
8/9/2008 6:40	198.9	S	8.21				
8/9/2008 6:50	195.7	S	8.47				
8/9/2008 7:00	186.7	S	7.8				
8/9/2008 19:00	240.5	SW	4.13				
8/9/2008 19:10	291.3	W	4.29				
8/9/2008 19:20	331.5	NW	5.05				
8/9/2008 19:30	335.4	NW	3.96				
8/9/2008 19:40	340.5	N	3.25				
8/9/2008 19:50	338	N	3.25				
8/9/2008 20:00	327	NW	2.71				
8/9/2008 20:10	321.3	NW	4.15				
8/9/2008 20:20	319.8	NW	5.9				
8/9/2008 20:30	313.7	NW	6.27				
8/9/2008 20:40	306.1	NW	7.42				
8/9/2008 20:50	302	NW	7.77				
8/9/2008 21:00	299.7	NW	7.25				
8/9/2008 21:10	297.8	NW	6.65				
8/9/2008 21:20	296	NW	6.45				
8/9/2008 21:30	296.8	NW	6.35				
8/9/2008 21:40	296.3	NW	6.79				
8/9/2008 21:50	299.1	NW	7.04				
8/9/2008 22:00	297	NW	6.63				
8/9/2008 22:10	317.5	NW	8.05				
8/9/2008 22:20	311.1	NW	7.07				
8/9/2008 22:30	293.5	NW	8.89				
8/9/2008 22:40	302.5	NW	6.05				
8/9/2008 22:50	339	N	4.44				
8/9/2008 23:00	324.9	NW	3.55				
8/9/2008 23:10	330.8	NW	5.75				
8/9/2008 23:20	326.3	NW	6.99				
8/9/2008 23:30	324.5	NW	6.36				
8/9/2008 23:40	318.7	NW	4.91				
8/9/2008 23:50	313.4	NW	4.09				
8/10/2008 0:00	293.1	NW	4.06				
8/10/2008 0:10	273.1	W	3.92				
8/10/2008 0:20	273.5	W	4.7				
8/10/2008 0:30	275.2	W	4.59				
8/10/2008 0:40	277.9	W	4.44				
8/10/2008 0:50	280.2	W	4.57				
8/10/2008 1:00	280.8	W	4.93				
8/10/2008 1:10	292.8	NW	6.49				
8/10/2008 1:20	306.1	NW	6.41				
8/10/2008 1:30	323	NW	4.44				
8/10/2008 1:40	298.9	NW	4.07				
8/10/2008 1:50	272.1	W	4.05				
8/10/2008 2:00	265.5	W	4.68				
8/10/2008 2:10	263.7	W	4.72				
8/10/2008 2:20	264.3	W	4.38				
8/10/2008 2:30	269.2	W	3.63				
8/10/2008 2:40	263.7	W	3.93				
8/10/2008 2:50	259.3	W	5.01				
8/10/2008 3:00	247.5	W	4.92				
8/10/2008 3:10	242.8	SW	4.47				
8/10/2008 3:20	245	SW	3.97				
8/10/2008 3:30	236.6	SW	4.01				
8/10/2008 3:40	229.9	SW	4.04				
8/10/2008 3:50	234.4	SW	4.3				
8/10/2008 4:00	228.3	SW	4.37				
8/10/2008 4:10	225.3	SW	3.98				
8/10/2008 4:20	212.9	SW	3.68				
8/10/2008 4:30	216.4	SW	3.79				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
8/10/2008 4:40	200.4	S	3.49				
8/10/2008 4:50	194.8	S	3.92				
8/10/2008 5:00	190.4	S	4.38				
8/10/2008 5:10	187.1	S	4.31				
8/10/2008 5:20	190.9	S	4.15				
8/10/2008 5:30	190.7	S	3.88				
8/10/2008 5:40	188	S	4.04				
8/10/2008 5:50	187.3	S	3.83				
8/10/2008 6:00	182.1	S	3.48	21	11	16	Trace
8/10/2008 6:10	172.2	S	3.47				
8/10/2008 6:20	165.8	S	2.84				
8/10/2008 6:30	156	SE	2.23				
8/10/2008 6:40	170.3	S	1.22				
8/10/2008 6:50	187.7	S	1.65				
8/10/2008 7:00	240.6	SW	0.65				
8/10/2008 19:00	23.63	NE	6.72				
8/10/2008 19:10	16.48	N	5.75				
8/10/2008 19:20	16.38	N	5.91				
8/10/2008 19:30	15.65	N	5.65				
8/10/2008 19:40	17.07	N	5.55				
8/10/2008 19:50	19.15	N	6.03				
8/10/2008 20:00	19.12	N	5.65				
8/10/2008 20:10	20.74	N	5.2				
8/10/2008 20:20	21.56	N	5.08				
8/10/2008 20:30	24.45	NE	5.16				
8/10/2008 20:40	22.29	N	4.6				
8/10/2008 20:50	20.13	N	5				
8/10/2008 21:00	20.14	N	5.58				
8/10/2008 21:10	23.02	NE	4.95				
8/10/2008 21:20	28.42	NE	4.95				
8/10/2008 21:30	33.01	NE	5.03				
8/10/2008 21:40	32.34	NE	5.18				
8/10/2008 21:50	29.12	NE	4.89				
8/10/2008 22:00	29.65	NE	5.27				
8/10/2008 22:10	23.91	NE	5.52				
8/10/2008 22:20	25.92	NE	5.83				
8/10/2008 22:30	27.28	NE	5.72				
8/10/2008 22:40	27.68	NE	5.41				
8/10/2008 22:50	28.92	NE	5.5				
8/10/2008 23:00	24.48	NE	4.88				
8/10/2008 23:10	27.47	NE	4.94				
8/10/2008 23:20	30.73	NE	4.94				
8/10/2008 23:30	33.06	NE	5.38				
8/10/2008 23:40	28.13	NE	4.91				
8/10/2008 23:50	22.04	N	4.76				
8/11/2008 0:00	28.4	NE	5.78				
8/11/2008 0:10	32.86	NE	6.25				
8/11/2008 0:20	35.07	NE	5.98				
8/11/2008 0:30	30.35	NE	6.39				
8/11/2008 0:40	26.41	NE	5.69				
8/11/2008 0:50	25.1	NE	4.97				
8/11/2008 1:00	24.9	NE	5.93				
8/11/2008 1:10	26.24	NE	6.23				
8/11/2008 1:20	25.48	NE	5.94				
8/11/2008 1:30	19.9	N	5.88				
8/11/2008 1:40	22.23	N	6.29				
8/11/2008 1:50	21.82	N	6.22				
8/11/2008 2:00	20.45	N	5.77				
8/11/2008 2:10	20.32	N	5.87				
8/11/2008 2:20	23.03	NE	5.8				
8/11/2008 2:30	17.56	N	5.64				
8/11/2008 2:40	16.22	N	5.62				
8/11/2008 2:50	20.89	N	6.23				
8/11/2008 3:00	18.21	N	6.36				
8/11/2008 3:10	19.06	N	6.61				
8/11/2008 3:20	24.07	NE	6.49				
8/11/2008 3:30	20.94	N	6.22				
8/11/2008 3:40	23.1	NE	6.1				
8/11/2008 3:50	22.32	N	4.98				
8/11/2008 4:00	25.98	NE	4.59				
8/11/2008 4:10	27.62	NE	4.58				
8/11/2008 4:20	22.82	NE	4.46				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
8/11/2008 4:30	17.87	N	4.56				
8/11/2008 4:40	22.2	N	4.47				
8/11/2008 4:50	18.98	N	4.04				
8/11/2008 5:00	20.36	N	4.14				
8/11/2008 5:10	23.87	NE	4.23				
8/11/2008 5:20	17.83	N	3.85				
8/11/2008 5:30	10.92	N	4				
8/11/2008 5:40	5.4	N	4.64				
8/11/2008 5:50	354.2	N	5.03				
8/11/2008 6:00	359.3	N	5.63	22.5	13	17.8	0
8/11/2008 6:10	2.13	N	4.71				
8/11/2008 6:20	354.1	N	5.57				
8/11/2008 6:30	353.6	N	5.71				
8/11/2008 6:40	1.16	N	5.4				
8/11/2008 6:50	3.86	N	4.92				
8/11/2008 7:00	12.41	N	5.08				
8/11/2008 19:00	330.4	NW	5.18				
8/11/2008 19:10	327.7	NW	4.86				
8/11/2008 19:20	328.2	NW	5.32				
8/11/2008 19:30	335.2	NW	5.01				
8/11/2008 19:40	340.7	N	4.1				
8/11/2008 19:50	341.3	N	3.87				
8/11/2008 20:00	338.8	N	3.53				
8/11/2008 20:10	342.8	N	3.52				
8/11/2008 20:20	347.7	N	3.54				
8/11/2008 20:30	350.1	N	3.58				
8/11/2008 20:40	354.2	N	3.26				
8/11/2008 20:50	351.2	N	2.89				
8/11/2008 21:00	348.3	N	2.82				
8/11/2008 21:10	341.6	N	1.96				
8/11/2008 21:20	344.6	N	2.03				
8/11/2008 21:30	351.5	N	2.4				
8/11/2008 21:40	353	N	2.08				
8/11/2008 21:50	343	N	2.06				
8/11/2008 22:00	335	NW	2.37				
8/11/2008 22:10	342	N	3.17				
8/11/2008 22:20	348.2	N	3.34				
8/11/2008 22:30	351.8	N	3.28				
8/11/2008 22:40	353.2	N	3.13				
8/11/2008 22:50	350.3	N	2.95				
8/11/2008 23:00	352.2	N	2.91				
8/11/2008 23:10	345.6	N	2.56				
8/11/2008 23:20	333.8	NW	2.34				
8/11/2008 23:30	326.3	NW	2.56				
8/11/2008 23:40	327.9	NW	2.97				
8/11/2008 23:50	325.4	NW	2.96				
8/12/2008 0:00	325.6	NW	2.92				
8/12/2008 0:10	323.1	NW	3.14				
8/12/2008 0:20	323.9	NW	3.16				
8/12/2008 0:30	319.9	NW	3.14				
8/12/2008 0:40	317.1	NW	3.27				
8/12/2008 0:50	319.7	NW	3.39				
8/12/2008 1:00	318.6	NW	3.5				
8/12/2008 1:10	312.7	NW	3.6				
8/12/2008 1:20	304.3	NW	3.68				
8/12/2008 1:30	304	NW	3.8				
8/12/2008 1:40	304.7	NW	3.87				
8/12/2008 1:50	295.6	NW	3.59				
8/12/2008 2:00	305.9	NW	3.82				
8/12/2008 2:10	309.8	NW	3.55				
8/12/2008 2:20	302.2	NW	2.95				
8/12/2008 2:30	300.6	NW	3.32				
8/12/2008 2:40	299.2	NW	3.55				
8/12/2008 2:50	298.2	NW	3.82				
8/12/2008 3:00	299.7	NW	3.78				
8/12/2008 3:10	294.3	NW	3.64				
8/12/2008 3:20	291.5	W	3.6				
8/12/2008 3:30	293.9	NW	3.69				
8/12/2008 3:40	288.9	W	3.89				
8/12/2008 3:50	282.6	W	4.27				
8/12/2008 4:00	277.8	W	4.45				
8/12/2008 4:10	280.8	W	4.72				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
8/12/2008 4:20	298.6	NW	4.6				
8/12/2008 4:30	298	NW	3.73				
8/12/2008 4:40	286.6	W	3.63				
8/12/2008 4:50	296.5	NW	3.39				
8/12/2008 5:00	287.2	W	3.73				
8/12/2008 5:10	294.6	NW	4.97				
8/12/2008 5:20	294.4	NW	5.09				
8/12/2008 5:30	290.4	W	5.14				
8/12/2008 5:40	287.9	W	4.9				
8/12/2008 5:50	284.9	W	4.43				
8/12/2008 6:00	284.8	W	4.26	23	11.5	17.3	0
8/12/2008 6:10	286.9	W	4.21				
8/12/2008 6:20	299.3	NW	4.13				
8/12/2008 6:30	303.9	NW	4.36				
8/12/2008 6:40	312.2	NW	4.45				
8/12/2008 6:50	313.4	NW	4.04				
8/12/2008 7:00	311.6	NW	3.51				
8/12/2008 19:00	251.7	W	1.86				
8/12/2008 19:10	248.1	W	2.34				
8/12/2008 19:20	246.8	SW	2.07				
8/12/2008 19:30	240.6	SW	2.3				
8/12/2008 19:40	235.1	SW	2.56				
8/12/2008 19:50	241.1	SW	2.23				
8/12/2008 20:00	239.8	SW	2.17				
8/12/2008 20:10	231.4	SW	1.49				
8/12/2008 20:20	223.9	SW	1.07				
8/12/2008 20:30	224.3	SW	0.57				
8/12/2008 20:40	198.5	S	1.03				
8/12/2008 20:50	195.4	S	2.15				
8/12/2008 21:00	199.6	S	2.57				
8/12/2008 21:10	196.1	S	2.82				
8/12/2008 21:20	199.7	S	3.05				
8/12/2008 21:30	201.4	S	2.81				
8/12/2008 21:40	203.3	SW	2.58				
8/12/2008 21:50	201.4	S	3.66				
8/12/2008 22:00	201.6	S	3.44				
8/12/2008 22:10	197.2	S	3.34				
8/12/2008 22:20	203.5	SW	4.07				
8/12/2008 22:30	211.9	SW	3.83				
8/12/2008 22:40	205.6	SW	3.95				
8/12/2008 22:50	219.3	SW	3.07				
8/12/2008 23:00	215.4	SW	3.94				
8/12/2008 23:10	216.7	SW	3.8				
8/12/2008 23:20	214.6	SW	4.21				
8/12/2008 23:30	216.5	SW	4.57				
8/12/2008 23:40	217.3	SW	4.42				
8/12/2008 23:50	219.1	SW	4.5				
8/13/2008 0:00	222.9	SW	4.48				
8/13/2008 0:10	218.4	SW	4.96				
8/13/2008 0:20	217	SW	4.96				
8/13/2008 0:30	215.1	SW	5.28				
8/13/2008 0:40	217.9	SW	5.1				
8/13/2008 0:50	217.6	SW	5.43				
8/13/2008 1:00	218.3	SW	6.2				
8/13/2008 1:10	218.3	SW	7.02				
8/13/2008 1:20	216	SW	7.35				
8/13/2008 1:30	214.1	SW	7.25				
8/13/2008 1:40	213.6	SW	7.52				
8/13/2008 1:50	216	SW	7.2				
8/13/2008 2:00	214.6	SW	6.67				
8/13/2008 2:10	213.3	SW	6.2				
8/13/2008 2:20	209.8	SW	6.62				
8/13/2008 2:30	214.4	SW	6.83				
8/13/2008 2:40	213.9	SW	6.55				
8/13/2008 2:50	208.9	SW	6.48				
8/13/2008 3:00	211.5	SW	6.55				
8/13/2008 3:10	212.5	SW	6.85				
8/13/2008 3:20	215.3	SW	7.03				
8/13/2008 3:30	213.8	SW	5.5				
8/13/2008 3:40	338.3	N	2.78				
8/13/2008 3:50	256.4	W	1.78				
8/13/2008 4:00	310.7	NW	0.63				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
8/13/2008 4:10	26.58	NE	1.04				
8/13/2008 4:20	50.93	NE	2.53				
8/13/2008 4:30	21.89	N	4.07				
8/13/2008 4:40	342.2	N	2.75				
8/13/2008 4:50	71.5	E	1.61				
8/13/2008 5:00	164.4	S	0.93				
8/13/2008 5:10	173	S	1.23				
8/13/2008 5:20	187.3	S	1.72				
8/13/2008 5:30	210.6	SW	2.93				
8/13/2008 5:40	212.1	SW	3.88				
8/13/2008 5:50	195	S	4.11				
8/13/2008 6:00	203.5	SW	3.66	24.5	13	18.8	0.6
8/13/2008 6:10	200.8	S	4.5				
8/13/2008 6:20	189.9	S	4.31				
8/13/2008 6:30	186	S	4.27				
8/13/2008 6:40	186.3	S	4.64				
8/13/2008 6:50	183	S	4.69				
8/13/2008 7:00	189	S	4.69				
8/13/2008 19:00	15.69	N	4.17				
8/13/2008 19:10	20.21	N	4.26				
8/13/2008 19:20	18.13	N	3.99				
8/13/2008 19:30	7.02	N	4.01				
8/13/2008 19:40	8.96	N	3.5				
8/13/2008 19:50	11.31	N	3.19				
8/13/2008 20:00	15.06	N	2.55				
8/13/2008 20:10	16.31	N	2.73				
8/13/2008 20:20	23.65	NE	2.77				
8/13/2008 20:30	35.5	NE	2.55				
8/13/2008 20:40	35.36	NE	2.74				
8/13/2008 20:50	32.39	NE	2.67				
8/13/2008 21:00	30.68	NE	3.08				
8/13/2008 21:10	26.62	NE	3.23				
8/13/2008 21:20	32.5	NE	3.31				
8/13/2008 21:30	32.29	NE	3.86				
8/13/2008 21:40	49.67	NE	4.39				
8/13/2008 21:50	52.57	NE	5.11				
8/13/2008 22:00	60.34	NE	4.92				
8/13/2008 22:10	64.5	NE	5.5				
8/13/2008 22:20	73.1	E	6.25				
8/13/2008 22:30	78.2	E	6.13				
8/13/2008 22:40	75.8	E	6.57				
8/13/2008 22:50	74	E	7.25				
8/13/2008 23:00	73.8	E	7.2				
8/13/2008 23:10	72.7	E	6.65				
8/13/2008 23:20	71.1	E	6.58				
8/13/2008 23:30	71.1	E	6				
8/13/2008 23:40	77.6	E	5.74				
8/13/2008 23:50	80.5	E	5.51				
8/14/2008 0:00	83.7	E	5.42				
8/14/2008 0:10	85.5	E	5.05				
8/14/2008 0:20	87.6	E	4.92				
8/14/2008 0:30	89.9	E	4.82				
8/14/2008 0:40	84.9	E	4.45				
8/14/2008 0:50	86.8	E	4.33				
8/14/2008 1:00	86.9	E	4.32				
8/14/2008 1:10	80.4	E	4.29				
8/14/2008 1:20	68.78	E	4.23				
8/14/2008 1:30	61.39	NE	3.83				
8/14/2008 1:40	61.25	NE	3.92				
8/14/2008 1:50	57.97	NE	4.01				
8/14/2008 2:00	50.71	NE	4.65				
8/14/2008 2:10	49.35	NE	4.44				
8/14/2008 2:20	47.28	NE	4.65				
8/14/2008 2:30	40.91	NE	5.01				
8/14/2008 2:40	38.55	NE	5.09				
8/14/2008 2:50	50.92	NE	3.59				
8/14/2008 3:00	52.68	NE	3.46				
8/14/2008 3:10	48.04	NE	3.81				
8/14/2008 3:20	43.47	NE	3.7				
8/14/2008 3:30	46.57	NE	3.78				
8/14/2008 3:40	50.75	NE	3.94				
8/14/2008 3:50	53.11	NE	4.32				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
8/14/2008 4:00	47.37	NE	4.59				
8/14/2008 4:10	43.99	NE	4.55				
8/14/2008 4:20	39.07	NE	4.6				
8/14/2008 4:30	33.79	NE	4.51				
8/14/2008 4:40	30.71	NE	4.6				
8/14/2008 4:50	32.08	NE	4.55				
8/14/2008 5:00	26.35	NE	4.59				
8/14/2008 5:10	25.19	NE	5.01				
8/14/2008 5:20	21.97	N	4.87				
8/14/2008 5:30	22.64	NE	4.98				
8/14/2008 5:40	22.81	NE	4.41				
8/14/2008 5:50	25.62	NE	4.27				
8/14/2008 6:00	28.39	NE	4.11	23.5	11	17.3	0
8/14/2008 6:10	30.09	NE	4.33				
8/14/2008 6:20	28.92	NE	4.28				
8/14/2008 6:30	27.07	NE	4.42				
8/14/2008 6:40	21.77	N	4.35				
8/14/2008 6:50	19.41	N	4.76				
8/14/2008 7:00	18.73	N	4.96				
8/14/2008 19:00	4.25	N	6.49				
8/14/2008 19:10	3.58	N	7.17				
8/14/2008 19:20	4.58	N	6.61				
8/14/2008 19:30	6.75	N	5.6				
8/14/2008 19:40	10.06	N	5.37				
8/14/2008 19:50	11.32	N	5.57				
8/14/2008 20:00	12.44	N	5.07				
8/14/2008 20:10	14.52	N	5.17				
8/14/2008 20:20	19.47	N	5.26				
8/14/2008 20:30	21.53	N	4.87				
8/14/2008 20:40	20.26	N	5.31				
8/14/2008 20:50	15.2	N	5.63				
8/14/2008 21:00	10.14	N	5.37				
8/14/2008 21:10	5.38	N	5.51				
8/14/2008 21:20	9.18	N	5.6				
8/14/2008 21:30	8.12	N	5.4				
8/14/2008 21:40	7.92	N	5.36				
8/14/2008 21:50	9.23	N	5.25				
8/14/2008 22:00	8.98	N	5.09				
8/14/2008 22:10	15.91	N	5.31				
8/14/2008 22:20	15.59	N	6.27				
8/14/2008 22:30	19.54	N	6.66				
8/14/2008 22:40	25.25	NE	5.96				
8/14/2008 22:50	22.35	N	5.45				
8/14/2008 23:00	12.52	N	4.86				
8/14/2008 23:10	18.81	N	4.69				
8/14/2008 23:20	16.92	N	4.21				
8/14/2008 23:30	12.35	N	4.12				
8/14/2008 23:40	6.13	N	4.3				
8/14/2008 23:50	11.05	N	4.6				
8/15/2008 0:00	12.66	N	4.47				
8/15/2008 0:10	13.81	N	4.55				
8/15/2008 0:20	9.1	N	5.07				
8/15/2008 0:30	9.65	N	5.12				
8/15/2008 0:40	10.86	N	4.87				
8/15/2008 0:50	11.62	N	5.17				
8/15/2008 1:00	13.24	N	5.27				
8/15/2008 1:10	12.94	N	5.44				
8/15/2008 1:20	11.66	N	5.66				
8/15/2008 1:30	13.06	N	5.84				
8/15/2008 1:40	13.05	N	5.67				
8/15/2008 1:50	11.26	N	5.4				
8/15/2008 2:00	11.16	N	5.84				
8/15/2008 2:10	13.32	N	5.86				
8/15/2008 2:20	13.58	N	6.02				
8/15/2008 2:30	14.77	N	6.07				
8/15/2008 2:40	11.45	N	6.35				
8/15/2008 2:50	12.19	N	6.17				
8/15/2008 3:00	13.24	N	6.14				
8/15/2008 3:10	16.24	N	5.91				
8/15/2008 3:20	18.1	N	5.6				
8/15/2008 3:30	22.8	NE	5.27				
8/15/2008 3:40	26.06	NE	5.16				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
8/15/2008 3:50	27.36	NE	5.2				
8/15/2008 4:00	28.76	NE	5.24				
8/15/2008 4:10	28.49	NE	4.62				
8/15/2008 4:20	26.92	NE	4.52				
8/15/2008 4:30	31.17	NE	5.05				
8/15/2008 4:40	34.48	NE	5.26				
8/15/2008 4:50	32.8	NE	5				
8/15/2008 5:00	30.52	NE	4.98				
8/15/2008 5:10	27.52	NE	5.1				
8/15/2008 5:20	23.73	NE	4.93				
8/15/2008 5:30	19.7	N	4.74				
8/15/2008 5:40	18.36	N	5.01				
8/15/2008 5:50	17.35	N	5.12				
8/15/2008 6:00	16.71	N	5.12	23.5	11.5	17.5	0
8/15/2008 6:10	15.77	N	4.38				
8/15/2008 6:20	17.47	N	3.95				
8/15/2008 6:30	20.13	N	3.57				
8/15/2008 6:40	22.73	NE	3.2				
8/15/2008 6:50	17.25	N	2.77				
8/15/2008 7:00	1.47	N	2.96				
8/15/2008 19:00	354.3	N	4.03				
8/15/2008 19:10	344.2	N	3.87				
8/15/2008 19:20	342.5	N	3.46				
8/15/2008 19:30	344.7	N	3.25				
8/15/2008 19:40	333.7	NW	3.09				
8/15/2008 19:50	325.6	NW	3.21				
8/15/2008 20:00	324.4	NW	3.88				
8/15/2008 20:10	328.3	NW	4.01				
8/15/2008 20:20	336.6	NW	3.98				
8/15/2008 20:30	336.6	NW	3.45				
8/15/2008 20:40	335.5	NW	3.53				
8/15/2008 20:50	337.2	NW	3.41				
8/15/2008 21:00	334.1	NW	3.44				
8/15/2008 21:10	331.5	NW	3.35				
8/15/2008 21:20	329.5	NW	3.67				
8/15/2008 21:30	325.7	NW	3.55				
8/15/2008 21:40	320	NW	3.4				
8/15/2008 21:50	317.3	NW	3.53				
8/15/2008 22:00	314.1	NW	3.63				
8/15/2008 22:10	306.2	NW	3.23				
8/15/2008 22:20	295.4	NW	3.18				
8/15/2008 22:30	286.9	W	3.12				
8/15/2008 22:40	284.3	W	3.27				
8/15/2008 22:50	277.8	W	2.91				
8/15/2008 23:00	277.1	W	3.2				
8/15/2008 23:10	280.5	W	4.1				
8/15/2008 23:20	284.6	W	4.42				
8/15/2008 23:30	292.1	W	4.93				
8/15/2008 23:40	290.6	W	5.02				
8/15/2008 23:50	291.6	W	5.17				
8/16/2008 0:00	292.5	NW	4.92				
8/16/2008 0:10	291.3	W	4.87				
8/16/2008 0:20	291.2	W	4.77				
8/16/2008 0:30	290.1	W	5.02				
8/16/2008 0:40	296.8	NW	5				
8/16/2008 0:50	291.3	W	4.87				
8/16/2008 1:00	293.5	NW	4.69				
8/16/2008 1:10	297.8	NW	4.42				
8/16/2008 1:20	296.7	NW	4.67				
8/16/2008 1:30	297.3	NW	4.29				
8/16/2008 1:40	301	NW	4.55				
8/16/2008 1:50	304.3	NW	4.48				
8/16/2008 2:00	297.5	NW	4.07				
8/16/2008 2:10	291.7	W	4.49				
8/16/2008 2:20	288.7	W	5.24				
8/16/2008 2:30	285.2	W	5.09				
8/16/2008 2:40	283.8	W	5.47				
8/16/2008 2:50	284.2	W	5.65				
8/16/2008 3:00	283.7	W	5.94				
8/16/2008 3:10	282.3	W	6.18				
8/16/2008 3:20	285.7	W	5.92				
8/16/2008 3:30	285.9	W	6.24				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
8/16/2008 3:40	287.6	W	6.42				
8/16/2008 3:50	288.7	W	5.86				
8/16/2008 4:00	292.1	W	5.67				
8/16/2008 4:10	289.1	W	5.59				
8/16/2008 4:20	289.1	W	5.99				
8/16/2008 4:30	291	W	5.84				
8/16/2008 4:40	295.1	NW	6.13				
8/16/2008 4:50	295.2	NW	5.8				
8/16/2008 5:00	296.8	NW	5.7				
8/16/2008 5:10	301.2	NW	5.8				
8/16/2008 5:20	302.8	NW	5.84				
8/16/2008 5:30	301.3	NW	6.18				
8/16/2008 5:40	300	NW	6.41				
8/16/2008 5:50	301.8	NW	6.06				
8/16/2008 6:00	301.3	NW	5.83	24.5	14.5	19.5	0
8/16/2008 6:10	298.6	NW	5.7				
8/16/2008 6:20	299.6	NW	6.05				
8/16/2008 6:30	297.9	NW	6.06				
8/16/2008 6:40	298.1	NW	5.71				
8/16/2008 6:50	301.1	NW	5.46				
8/16/2008 7:00	296.8	NW	5.62				
8/16/2008 19:00	217.2	SW	5.12				
8/16/2008 19:10	218	SW	5.01				
8/16/2008 19:20	216.3	SW	5.18				
8/16/2008 19:30	212.6	SW	5.32				
8/16/2008 19:40	210	SW	5.43				
8/16/2008 19:50	208.8	SW	6.08				
8/16/2008 20:00	208.6	SW	6.1				
8/16/2008 20:10	207.5	SW	6.3				
8/16/2008 20:20	205.6	SW	6.78				
8/16/2008 20:30	203.7	SW	6.54				
8/16/2008 20:40	203.4	SW	6.77				
8/16/2008 20:50	204.3	SW	6.74				
8/16/2008 21:00	206.8	SW	6.8				
8/16/2008 21:10	207.7	SW	7.3				
8/16/2008 21:20	209.6	SW	7.27				
8/16/2008 21:30	210.2	SW	7.01				
8/16/2008 21:40	211.5	SW	6.78				
8/16/2008 21:50	213.7	SW	6.81				
8/16/2008 22:00	212.8	SW	6.99				
8/16/2008 22:10	216.5	SW	6.94				
8/16/2008 22:20	218.4	SW	6.76				
8/16/2008 22:30	222.9	SW	7.18				
8/16/2008 22:40	233.6	SW	7.52				
8/16/2008 22:50	242.6	SW	7.47				
8/16/2008 23:00	252.4	W	6.93				
8/16/2008 23:10	268.1	W	6.43				
8/16/2008 23:20	279.6	W	5.97				
8/16/2008 23:30	286	W	5.47				
8/16/2008 23:40	286.4	W	5.2				
8/16/2008 23:50	284.5	W	4.85				
8/17/2008 0:00	281.2	W	4.59				
8/17/2008 0:10	273.3	W	4.76				
8/17/2008 0:20	265.7	W	4.62				
8/17/2008 0:30	263.2	W	4.46				
8/17/2008 0:40	260.9	W	4.97				
8/17/2008 0:50	263.6	W	5.26				
8/17/2008 1:00	260.7	W	5.45				
8/17/2008 1:10	261.2	W	5.33				
8/17/2008 1:20	262.3	W	5.31				
8/17/2008 1:30	266.1	W	5.34				
8/17/2008 1:40	271.1	W	5.58				
8/17/2008 1:50	271.6	W	5.77				
8/17/2008 2:00	265.5	W	5.36				
8/17/2008 2:10	265.2	W	5.78				
8/17/2008 2:20	267.3	W	5.42				
8/17/2008 2:30	265.1	W	4.88				
8/17/2008 2:40	266	W	4.74				
8/17/2008 2:50	267.6	W	4.73				
8/17/2008 3:00	268.4	W	4.51				
8/17/2008 3:10	270	W	4.82				
8/17/2008 3:20	262.3	W	5.07				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
8/17/2008 3:30	263.5	W	5.64				
8/17/2008 3:40	265.3	W	5.56				
8/17/2008 3:50	265.5	W	5.68				
8/17/2008 4:00	268.8	W	5.78				
8/17/2008 4:10	269.1	W	5.89				
8/17/2008 4:20	272.2	W	5.44				
8/17/2008 4:30	275.5	W	5.31				
8/17/2008 4:40	273.7	W	5.62				
8/17/2008 4:50	276.8	W	5.75				
8/17/2008 5:00	280.1	W	5.91				
8/17/2008 5:10	277.6	W	5.48				
8/17/2008 5:20	277.2	W	5.55				
8/17/2008 5:30	276.4	W	4.9				
8/17/2008 5:40	267.4	W	4.13				
8/17/2008 5:50	260.5	W	3.55				
8/17/2008 6:00	264.5	W	3.32	27	19	23	Trace
8/17/2008 6:10	266	W	3.5				
8/17/2008 6:20	267	W	3.58				
8/17/2008 6:30	269.4	W	3.37				
8/17/2008 6:40	274.6	W	2.75				
8/17/2008 6:50	277.2	W	3.03				
8/17/2008 7:00	264.4	W	2.96				
8/17/2008 19:00	193.7	S	4.65				
8/17/2008 19:10	194.6	S	5.15				
8/17/2008 19:20	196.1	S	5.35				
8/17/2008 19:30	191.8	S	5.41				
8/17/2008 19:40	191.2	S	5.97				
8/17/2008 19:50	191.6	S	6.49				
8/17/2008 20:00	192.3	S	6.72				
8/17/2008 20:10	190.1	S	7.04				
8/17/2008 20:20	188.7	S	7.17				
8/17/2008 20:30	187.5	S	7				
8/17/2008 20:40	187.4	S	7.36				
8/17/2008 20:50	186.1	S	7.71				
8/17/2008 21:00	184.3	S	7.65				
8/17/2008 21:10	184.9	S	8.02				
8/17/2008 21:20	186.9	S	8.03				
8/17/2008 21:30	187.7	S	7.92				
8/17/2008 21:40	193.1	S	7.93				
8/17/2008 21:50	196.3	S	7.96				
8/17/2008 22:00	199.4	S	7.66				
8/17/2008 22:10	200.5	S	7.91				
8/17/2008 22:20	203.4	SW	7.85				
8/17/2008 22:30	203.5	SW	7.64				
8/17/2008 22:40	202	S	7.45				
8/17/2008 22:50	204.6	SW	6.87				
8/17/2008 23:00	203.6	SW	6.54				
8/17/2008 23:10	200.4	S	6.6				
8/17/2008 23:20	201.1	S	7.2				
8/17/2008 23:30	203.7	SW	7.16				
8/17/2008 23:40	202.8	SW	7.39				
8/17/2008 23:50	205.7	SW	7.22				
8/18/2008 0:00	209.6	SW	7.2				
8/18/2008 0:10	210.7	SW	6.89				
8/18/2008 0:20	212.8	SW	6.8				
8/18/2008 0:30	217.6	SW	6.96				
8/18/2008 0:40	217.5	SW	6.76				
8/18/2008 0:50	217.7	SW	6.96				
8/18/2008 1:00	222.7	SW	6.9				
8/18/2008 1:10	225.8	SW	6.28				
8/18/2008 1:20	222.8	SW	6.52				
8/18/2008 1:30	222.3	SW	6.52				
8/18/2008 1:40	221.8	SW	6.94				
8/18/2008 1:50	226.2	SW	6.92				
8/18/2008 2:00	225.3	SW	6.84				
8/18/2008 2:10	224.1	SW	6.75				
8/18/2008 2:20	219.3	SW	6.83				
8/18/2008 2:30	222.7	SW	6.75				
8/18/2008 2:40	221.3	SW	6.27				
8/18/2008 2:50	220.2	SW	6.88				
8/18/2008 3:00	215.8	SW	6.61				
8/18/2008 3:10	219.1	SW	7.05				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
8/18/2008 3:20	220.2	SW	7.55				
8/18/2008 3:30	216.6	SW	7.1				
8/18/2008 3:40	214	SW	6.89				
8/18/2008 3:50	206.8	SW	6.49				
8/18/2008 4:00	207.4	SW	6.64				
8/18/2008 4:10	210.1	SW	7.38				
8/18/2008 4:20	208.8	SW	7.16				
8/18/2008 4:30	207.1	SW	7.31				
8/18/2008 4:40	207.3	SW	7.05				
8/18/2008 4:50	209	SW	7.28				
8/18/2008 5:00	209	SW	7.06				
8/18/2008 5:10	208.7	SW	7.03				
8/18/2008 5:20	212.4	SW	7.11				
8/18/2008 5:30	206.5	SW	6.43				
8/18/2008 5:40	203.8	SW	7.11				
8/18/2008 5:50	206.3	SW	7.11				
8/18/2008 6:00	212.3	SW	7.67	29.5	19.5	24.5	0.6
8/18/2008 6:10	214	SW	7.47				
8/18/2008 6:20	211	SW	7.46				
8/18/2008 6:30	210.9	SW	6.58				
8/18/2008 6:40	211.7	SW	6.52				
8/18/2008 6:50	215.6	SW	6.71				
8/18/2008 7:00	216	SW	6.43				
8/18/2008 19:00	340.5	N	3.64				
8/18/2008 19:10	343	N	3.78				
8/18/2008 19:20	327.4	NW	2.7				
8/18/2008 19:30	329.5	NW	2.94				
8/18/2008 19:40	335.4	NW	3.27				
8/18/2008 19:50	330.9	NW	4.02				
8/18/2008 20:00	338.8	N	4.48				
8/18/2008 20:10	358.2	N	4.65				
8/18/2008 20:20	11.5	N	5.95				
8/18/2008 20:30	19.43	N	5.16				
8/18/2008 20:40	23.41	NE	4.81				
8/18/2008 20:50	26.78	NE	5.89				
8/18/2008 21:00	32.34	NE	8.77				
8/18/2008 21:10	34.09	NE	9.39				
8/18/2008 21:20	32.48	NE	8.39				
8/18/2008 21:30	21.19	N	9.46				
8/18/2008 21:40	31.33	NE	8.31				
8/18/2008 21:50	21.85	N	8.29				
8/18/2008 22:00	25.75	NE	8.81				
8/18/2008 22:10	28.69	NE	8.44				
8/18/2008 22:20	30.81	NE	8.56				
8/18/2008 22:30	31.9	NE	8.04				
8/18/2008 22:40	35.02	NE	8.5				
8/18/2008 22:50	38.92	NE	8.34				
8/18/2008 23:00	36.27	NE	7.1				
8/18/2008 23:10	39.2	NE	6.27				
8/18/2008 23:20	39.2	NE	5.99				
8/18/2008 23:30	38.23	NE	5.93				
8/18/2008 23:40	42.01	NE	5.67				
8/18/2008 23:50	41.36	NE	6				
8/19/2008 0:00	34.77	NE	5.61				
8/19/2008 0:10	28.92	NE	6.25				
8/19/2008 0:20	29.59	NE	7.26				
8/19/2008 0:30	28.46	NE	7.25				
8/19/2008 0:40	35.87	NE	7.55				
8/19/2008 0:50	31.3	NE	6.84				
8/19/2008 1:00	27.91	NE	7.31				
8/19/2008 1:10	29.41	NE	8.08				
8/19/2008 1:20	30.29	NE	8.08				
8/19/2008 1:30	28.99	NE	8.23				
8/19/2008 1:40	28.72	NE	8.3				
8/19/2008 1:50	29.64	NE	8.44				
8/19/2008 2:00	30.57	NE	8.15				
8/19/2008 2:10	30.18	NE	7.94				
8/19/2008 2:20	31.87	NE	8.05				
8/19/2008 2:30	35.09	NE	7.45				
8/19/2008 2:40	35.77	NE	6.82				
8/19/2008 2:50	34.92	NE	7.36				
8/19/2008 3:00	36.66	NE	7.13				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
8/19/2008 3:10	36.12	NE	6.48				
8/19/2008 3:20	34.74	NE	7.01				
8/19/2008 3:30	36.44	NE	7.9				
8/19/2008 3:40	36.55	NE	8.19				
8/19/2008 3:50	35.48	NE	7.69				
8/19/2008 4:00	37.22	NE	8.06				
8/19/2008 4:10	36.52	NE	8.33				
8/19/2008 4:20	37.64	NE	8.07				
8/19/2008 4:30	39.12	NE	7.18				
8/19/2008 4:40	37.69	NE	7.72				
8/19/2008 4:50	40.02	NE	7.9				
8/19/2008 5:00	41.08	NE	7.23				
8/19/2008 5:10	38.87	NE	6.47				
8/19/2008 5:20	41.19	NE	7.26				
8/19/2008 5:30	36.87	NE	6.71				
8/19/2008 5:40	35.03	NE	7.16				
8/19/2008 5:50	35.58	NE	6.6				
8/19/2008 6:00	31.8	NE	6.21	20.5	11.5	16	0
8/19/2008 6:10	28.13	NE	5.48				
8/19/2008 6:20	29.53	NE	4.94				
8/19/2008 6:30	34.15	NE	5.68				
8/19/2008 6:40	40.03	NE	5.68				
8/19/2008 6:50	45.79	NE	6.52				
8/19/2008 7:00	50.64	NE	5.81				
8/19/2008 19:00	58.3	NE	3.67				
8/19/2008 19:10	54.23	NE	3.69				
8/19/2008 19:20	51.59	NE	4.3				
8/19/2008 19:30	51.67	NE	4.5				
8/19/2008 19:40	49.35	NE	5.01				
8/19/2008 19:50	51.96	NE	5				
8/19/2008 20:00	53.59	NE	4.51				
8/19/2008 20:10	55.01	NE	4.74				
8/19/2008 20:20	57.49	NE	4.66				
8/19/2008 20:30	57.23	NE	4.96				
8/19/2008 20:40	54.74	NE	5.17				
8/19/2008 20:50	52.15	NE	5.43				
8/19/2008 21:00	49.14	NE	6.07				
8/19/2008 21:10	51.21	NE	6.22				
8/19/2008 21:20	50.42	NE	6.48				
8/19/2008 21:30	50.08	NE	6.36				
8/19/2008 21:40	49.9	NE	6.41				
8/19/2008 21:50	50.89	NE	6.4				
8/19/2008 22:00	51.87	NE	6.48				
8/19/2008 22:10	54.97	NE	6.22				
8/19/2008 22:20	59.76	NE	5.79				
8/19/2008 22:30	58.87	NE	6.41				
8/19/2008 22:40	62.34	NE	6.25				
8/19/2008 22:50	65.47	NE	6.16				
8/19/2008 23:00	68.35	E	5.97				
8/19/2008 23:10	71.7	E	5.8				
8/19/2008 23:20	72.1	E	6.26				
8/19/2008 23:30	76.9	E	5.76				
8/19/2008 23:40	76.9	E	6.07				
8/19/2008 23:50	79.6	E	6.5				
8/20/2008 0:00	81	E	6.64				
8/20/2008 0:10	78.8	E	6.28				
8/20/2008 0:20	80.6	E	6.59				
8/20/2008 0:30	81.6	E	6.87				
8/20/2008 0:40	80.9	E	6.63				
8/20/2008 0:50	81.4	E	6.73				
8/20/2008 1:00	81.4	E	6.63				
8/20/2008 1:10	81.5	E	6.64				
8/20/2008 1:20	82.3	E	6.86				
8/20/2008 1:30	83.7	E	6.96				
8/20/2008 1:40	84.9	E	6.95				
8/20/2008 1:50	85.7	E	6.91				
8/20/2008 2:00	86.1	E	6.9				
8/20/2008 2:10	87.9	E	6.74				
8/20/2008 2:20	91.3	E	6.68				
8/20/2008 2:30	96.9	E	6.54				
8/20/2008 2:40	100.2	E	6.24				
8/20/2008 2:50	101.3	E	6.04				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
8/20/2008 3:00	102.5	E	5.92				
8/20/2008 3:10	101.5	E	5.86				
8/20/2008 3:20	100.7	E	5.8				
8/20/2008 3:30	101.2	E	5.81				
8/20/2008 3:40	98.2	E	5.86				
8/20/2008 3:50	97.9	E	5.94				
8/20/2008 4:00	97.8	E	5.88				
8/20/2008 4:10	98.7	E	5.82				
8/20/2008 4:20	99.7	E	5.58				
8/20/2008 4:30	100.8	E	5.54				
8/20/2008 4:40	97.6	E	5.45				
8/20/2008 4:50	93.7	E	5.35				
8/20/2008 5:00	95.1	E	5.35				
8/20/2008 5:10	96.8	E	5.34				
8/20/2008 5:20	96.9	E	5.52				
8/20/2008 5:30	104.6	E	5.37				
8/20/2008 5:40	107.9	E	5.5				
8/20/2008 5:50	117.8	SE	5.66				
8/20/2008 6:00	125.3	SE	6.18	23	8	15.5	0
8/20/2008 6:10	131.5	SE	6.05				
8/20/2008 6:20	135.5	SE	5.8				
8/20/2008 6:30	135.3	SE	5.74				
8/20/2008 6:40	138.6	SE	6.05				
8/20/2008 6:50	140	SE	5.96				
8/20/2008 7:00	145.3	SE	6.28				
8/20/2008 19:00	333.3	NW	3.04				
8/20/2008 19:10	330.7	NW	3.02				
8/20/2008 19:20	316.7	NW	2.85				
8/20/2008 19:30	325.6	NW	2.88				
8/20/2008 19:40	332.3	NW	2.69				
8/20/2008 19:50	338.2	N	2.59				
8/20/2008 20:00	340.7	N	2.63				
8/20/2008 20:10	333.5	NW	2.46				
8/20/2008 20:20	338.3	N	2.2				
8/20/2008 20:30	0.99	N	2.17				
8/20/2008 20:40	15.77	N	2.43				
8/20/2008 20:50	28.73	NE	2.51				
8/20/2008 21:00	42.21	NE	2.43				
8/20/2008 21:10	52.37	NE	2.66				
8/20/2008 21:20	50.88	NE	3.3				
8/20/2008 21:30	56.55	NE	3.63				
8/20/2008 21:40	55.98	NE	4.14				
8/20/2008 21:50	57.98	NE	4.11				
8/20/2008 22:00	60.84	NE	3.88				
8/20/2008 22:10	59.87	NE	4.08				
8/20/2008 22:20	59.85	NE	4.38				
8/20/2008 22:30	60.4	NE	4.5				
8/20/2008 22:40	63.59	NE	4.73				
8/20/2008 22:50	64.86	NE	4.71				
8/20/2008 23:00	66.7	NE	4.86				
8/20/2008 23:10	71.4	E	5				
8/20/2008 23:20	75.2	E	4.97				
8/20/2008 23:30	80.3	E	5.04				
8/20/2008 23:40	97.5	E	5.21				
8/20/2008 23:50	103	E	5.6				
8/21/2008 0:00	103	E	5.74				
8/21/2008 0:10	108.1	E	6.29				
8/21/2008 0:20	116	SE	6.41				
8/21/2008 0:30	132.8	SE	6.58				
8/21/2008 0:40	144.6	SE	6.59				
8/21/2008 0:50	152.5	SE	6.84				
8/21/2008 1:00	161.4	S	7.22				
8/21/2008 1:10	171.5	S	7.68				
8/21/2008 1:20	177.2	S	7.59				
8/21/2008 1:30	178.9	S	8				
8/21/2008 1:40	177.3	S	7.63				
8/21/2008 1:50	174.5	S	7.41				
8/21/2008 2:00	171.3	S	7.6				
8/21/2008 2:10	172.4	S	7.67				
8/21/2008 2:20	174.5	S	7.38				
8/21/2008 2:30	171.1	S	7.2				
8/21/2008 2:40	165.6	S	7.27				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
8/21/2008 2:50	165	S	7.21				
8/21/2008 3:00	165	S	6.91				
8/21/2008 3:10	163.4	S	6.41				
8/21/2008 3:20	161.3	S	6.45				
8/21/2008 3:30	163.7	S	6.33				
8/21/2008 3:40	162.3	S	6.15				
8/21/2008 3:50	163.4	S	5.96				
8/21/2008 4:00	156.8	SE	6.5				
8/21/2008 4:10	160.6	S	7				
8/21/2008 4:20	153.4	SE	7.15				
8/21/2008 4:30	152.9	SE	7.46				
8/21/2008 4:40	148.5	SE	7.07				
8/21/2008 4:50	150.6	SE	7.5				
8/21/2008 5:00	149.9	SE	7.68				
8/21/2008 5:10	144.9	SE	7.44				
8/21/2008 5:20	142.1	SE	7.33				
8/21/2008 5:30	139.4	SE	7.45				
8/21/2008 5:40	137	SE	6.68				
8/21/2008 5:50	140.6	SE	5.85				
8/21/2008 6:00	148.2	SE	6.88	27	11.5	19.3	0
8/21/2008 6:10	147.7	SE	6.93				
8/21/2008 6:20	146.9	SE	7.27				
8/21/2008 6:30	139.5	SE	7.34				
8/21/2008 6:40	137.8	SE	7.97				
8/21/2008 6:50	133.4	SE	7.27				
8/21/2008 7:00	132.5	SE	6.02				
8/21/2008 19:00	138.7	SE	6.25				
8/21/2008 19:10	138.5	SE	6.75				
8/21/2008 19:20	136.3	SE	6.79				
8/21/2008 19:30	137.5	SE	7.07				
8/21/2008 19:40	137	SE	7.25				
8/21/2008 19:50	137	SE	7.35				
8/21/2008 20:00	138.9	SE	7.7				
8/21/2008 20:10	141	SE	7.91				
8/21/2008 20:20	143	SE	8.07				
8/21/2008 20:30	141.8	SE	7.96				
8/21/2008 20:40	142.2	SE	8.1				
8/21/2008 20:50	143.6	SE	8.6				
8/21/2008 21:00	145.2	SE	8.63				
8/21/2008 21:10	144	SE	8.39				
8/21/2008 21:20	143.3	SE	8.29				
8/21/2008 21:30	143.8	SE	8.54				
8/21/2008 21:40	144.3	SE	8.54				
8/21/2008 21:50	144.3	SE	8.43				
8/21/2008 22:00	143.7	SE	8.29				
8/21/2008 22:10	141.8	SE	7.83				
8/21/2008 22:20	142	SE	7.83				
8/21/2008 22:30	142	SE	8.57				
8/21/2008 22:40	141.6	SE	8.55				
8/21/2008 22:50	141.2	SE	8.43				
8/21/2008 23:00	141	SE	8.67				
8/21/2008 23:10	140.9	SE	8.93				
8/21/2008 23:20	141.4	SE	9				
8/21/2008 23:30	142.3	SE	9.21				
8/21/2008 23:40	142.8	SE	9.11				
8/21/2008 23:50	142.9	SE	9.15				
8/22/2008 0:00	141.8	SE	9.38				
8/22/2008 0:10	141.8	SE	9.57				
8/22/2008 0:20	140.8	SE	9.48				
8/22/2008 0:30	139.7	SE	9.87				
8/22/2008 0:40	139	SE	9.82				
8/22/2008 0:50	139.7	SE	9.54				
8/22/2008 1:00	139.2	SE	9.62				
8/22/2008 1:10	139.8	SE	9.55				
8/22/2008 1:20	139.1	SE	9.42				
8/22/2008 1:30	139.4	SE	9.03				
8/22/2008 1:40	139.6	SE	8.72				
8/22/2008 1:50	140.3	SE	8.93				
8/22/2008 2:00	139.2	SE	9.06				
8/22/2008 2:10	138.3	SE	8.92				
8/22/2008 2:20	139.5	SE	8.26				
8/22/2008 2:30	140.1	SE	8.51				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
8/22/2008 2:40	142.2	SE	8.71				
8/22/2008 2:50	144.5	SE	8.51				
8/22/2008 3:00	148.8	SE	8.76				
8/22/2008 3:10	148.3	SE	8.42				
8/22/2008 3:20	147.1	SE	8.78				
8/22/2008 3:30	149.2	SE	8.83				
8/22/2008 3:40	150.2	SE	8.78				
8/22/2008 3:50	151.9	SE	8.83				
8/22/2008 4:00	152.8	SE	8.45				
8/22/2008 4:10	154.1	SE	8.3				
8/22/2008 4:20	154.9	SE	8.4				
8/22/2008 4:30	155.8	SE	8.43				
8/22/2008 4:40	157.1	SE	8.4				
8/22/2008 4:50	157.3	SE	8.43				
8/22/2008 5:00	156.7	SE	8.27				
8/22/2008 5:10	157.6	S	8.2				
8/22/2008 5:20	158.6	S	8.27				
8/22/2008 5:30	158.5	S	8.62				
8/22/2008 5:40	158	S	8.56				
8/22/2008 5:50	158.4	S	8.42				
8/22/2008 6:00	160.3	S	8.4	32	19	25.5	0
8/22/2008 6:10	162.9	S	8.16				
8/22/2008 6:20	163.5	S	7.97				
8/22/2008 6:30	165	S	8.33				
8/22/2008 6:40	165.5	S	8.1				
8/22/2008 6:50	166.9	S	7.28				
8/22/2008 7:00	167.3	S	7.28				
8/22/2008 19:00	167.5	S	6.49				
8/22/2008 19:10	162.9	S	6.66				
8/22/2008 19:20	162.3	S	7.54				
8/22/2008 19:30	161.3	S	7.63				
8/22/2008 19:40	160.6	S	7.79				
8/22/2008 19:50	159.4	S	7.42				
8/22/2008 20:00	161.2	S	7.8				
8/22/2008 20:10	160	S	8.05				
8/22/2008 20:20	160.2	S	8.1				
8/22/2008 20:30	159	S	8.29				
8/22/2008 20:40	158.6	S	8.57				
8/22/2008 20:50	157	SE	8.93				
8/22/2008 21:00	155.5	SE	9.32				
8/22/2008 21:10	155.3	SE	9.82				
8/22/2008 21:20	156.5	SE	8.94				
8/22/2008 21:30	155.3	SE	8.89				
8/22/2008 21:40	156	SE	9				
8/22/2008 21:50	156.2	SE	8.73				
8/22/2008 22:00	157	SE	8.47				
8/22/2008 22:10	156.5	SE	8.64				
8/22/2008 22:20	154.8	SE	8.5				
8/22/2008 22:30	155.1	SE	8.11				
8/22/2008 22:40	156.4	SE	8.74				
8/22/2008 22:50	156.7	SE	8.66				
8/22/2008 23:00	160.2	S	8.59				
8/22/2008 23:10	159.5	S	8.74				
8/22/2008 23:20	158.8	S	8.89				
8/22/2008 23:30	159.3	S	8.95				
8/22/2008 23:40	157.5	S	8.77				
8/22/2008 23:50	158.1	S	8.26				
8/23/2008 0:00	157.5	S	8.58				
8/23/2008 0:10	158.1	S	8.66				
8/23/2008 0:20	158.1	S	8.82				
8/23/2008 0:30	160.5	S	8.56				
8/23/2008 0:40	161.8	S	8.44				
8/23/2008 0:50	161.4	S	8.15				
8/23/2008 1:00	161.3	S	8.07				
8/23/2008 1:10	161.3	S	7.76				
8/23/2008 1:20	163.3	S	7.79				
8/23/2008 1:30	165	S	8				
8/23/2008 1:40	167.2	S	8.07				
8/23/2008 1:50	166.2	S	7.9				
8/23/2008 2:00	166.5	S	8.09				
8/23/2008 2:10	167.2	S	7.95				
8/23/2008 2:20	169.5	S	7.99				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
8/23/2008 2:30	169.2	S	7.94				
8/23/2008 2:40	170.4	S	7.75				
8/23/2008 2:50	170.6	S	7.79				
8/23/2008 3:00	171.1	S	7.45				
8/23/2008 3:10	172.1	S	7.81				
8/23/2008 3:20	175.8	S	7.5				
8/23/2008 3:30	177.8	S	7.36				
8/23/2008 3:40	179.1	S	7.62				
8/23/2008 3:50	178.7	S	7.62				
8/23/2008 4:00	179	S	7.24				
8/23/2008 4:10	181.2	S	6.93				
8/23/2008 4:20	181.6	S	7.4				
8/23/2008 4:30	182.6	S	7.67				
8/23/2008 4:40	184.4	S	7.33				
8/23/2008 4:50	182.6	S	7.55				
8/23/2008 5:00	183.1	S	7.54				
8/23/2008 5:10	180.5	S	7.64				
8/23/2008 5:20	180.2	S	7.53				
8/23/2008 5:30	179	S	7.53				
8/23/2008 5:40	180.2	S	7.2				
8/23/2008 5:50	179.7	S	6.65				
8/23/2008 6:00	179.8	S	6.49	31.5	22	26.8	22.6
8/23/2008 6:10	177.6	S	6.72				
8/23/2008 6:20	176.4	S	6.91				
8/23/2008 6:30	175.6	S	6.94				
8/23/2008 6:40	174.3	S	6.65				
8/23/2008 6:50	172.3	S	6.55				
8/23/2008 7:00	169.2	S	6.48				
8/23/2008 19:00	196.3	S	9.85				
8/23/2008 19:10	193.4	S	7.27				
8/23/2008 19:20	178.7	S	7.64				
8/23/2008 19:30	169.1	S	7.81				
8/23/2008 19:40	165.6	S	8.13				
8/23/2008 19:50	152	SE	8.13				
8/23/2008 20:00	146.9	SE	8.78				
8/23/2008 20:10	151.6	SE	7.84				
8/23/2008 20:20	145.1	SE	7.09				
8/23/2008 20:30	163	S	5.15				
8/23/2008 20:40	163.3	S	6				
8/23/2008 20:50	167.2	S	5.96				
8/23/2008 21:00	162.5	S	5.67				
8/23/2008 21:10	164	S	4.54				
8/23/2008 21:20	172.9	S	3.94				
8/23/2008 21:30	170.3	S	3.28				
8/23/2008 21:40	185.9	S	4.54				
8/23/2008 21:50	169.5	S	7.59				
8/23/2008 22:00	179.1	S	7.84				
8/23/2008 22:10	186.3	S	7.5				
8/23/2008 22:20	192	S	8.66				
8/23/2008 22:30	195.7	S	8.15				
8/23/2008 22:40	200.1	S	9.09				
8/23/2008 22:50	199	S	8.88				
8/23/2008 23:00	197.5	S	7.47				
8/23/2008 23:10	199.9	S	6.1				
8/23/2008 23:20	202.8	SW	6.44				
8/23/2008 23:30	205.4	SW	6.89				
8/23/2008 23:40	207.9	SW	6.7				
8/23/2008 23:50	207.7	SW	6.31				
8/24/2008 0:00	208	SW	6.32				
8/24/2008 0:10	205.8	SW	6.5				
8/24/2008 0:20	206.2	SW	6.79				
8/24/2008 0:30	206.6	SW	7.42				
8/24/2008 0:40	206.4	SW	7.78				
8/24/2008 0:50	208.8	SW	8.3				
8/24/2008 1:00	218	SW	8.21				
8/24/2008 1:10	223.1	SW	7.78				
8/24/2008 1:20	223.7	SW	7.76				
8/24/2008 1:30	223.1	SW	8.15				
8/24/2008 1:40	228.5	SW	7.93				
8/24/2008 1:50	237.2	SW	7.89				
8/24/2008 2:00	244.7	SW	8.56				
8/24/2008 2:10	246.4	SW	8.15				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
8/24/2008 2:20	245.3	SW	7.72				
8/24/2008 2:30	249.4	W	7.82				
8/24/2008 2:40	252.5	W	7.6				
8/24/2008 2:50	254.3	W	7.13				
8/24/2008 3:00	254	W	6.83				
8/24/2008 3:10	257.8	W	6.75				
8/24/2008 3:20	262	W	6.64				
8/24/2008 3:30	264.6	W	6.22				
8/24/2008 3:40	263	W	6.06				
8/24/2008 3:50	257.2	W	4.91				
8/24/2008 4:00	252.2	W	4.97				
8/24/2008 4:10	254.5	W	5.04				
8/24/2008 4:20	257.7	W	4.9				
8/24/2008 4:30	260.1	W	4.77				
8/24/2008 4:40	258.8	W	4.32				
8/24/2008 4:50	259.4	W	4.01				
8/24/2008 5:00	270.5	W	3.97				
8/24/2008 5:10	278.9	W	4.06				
8/24/2008 5:20	298	NW	5.12				
8/24/2008 5:30	312	NW	5.81				
8/24/2008 5:40	312.5	NW	5.56				
8/24/2008 5:50	314.7	NW	3.68				
8/24/2008 6:00	312.3	NW	2.84	24.5	20	22.3	0
8/24/2008 6:10	303.3	NW	3.67				
8/24/2008 6:20	306.9	NW	3.62				
8/24/2008 6:30	320.9	NW	4.2				
8/24/2008 6:40	321.8	NW	3.07				
8/24/2008 6:50	312.1	NW	3.06				
8/24/2008 7:00	325.8	NW	2.91				
8/24/2008 19:00	335.7	NW	6.55				
8/24/2008 19:10	341	N	6.22				
8/24/2008 19:20	333.6	NW	6.57				
8/24/2008 19:30	337.3	NW	6.6				
8/24/2008 19:40	337.4	NW	7.27				
8/24/2008 19:50	332	NW	7.27				
8/24/2008 20:00	331.5	NW	7.65				
8/24/2008 20:10	338	N	7.15				
8/24/2008 20:20	334.2	NW	7.16				
8/24/2008 20:30	334.7	NW	7.05				
8/24/2008 20:40	336	NW	7.19				
8/24/2008 20:50	335.3	NW	7.86				
8/24/2008 21:00	336.9	NW	7.73				
8/24/2008 21:10	337.9	N	8.66				
8/24/2008 21:20	336.4	NW	9.41				
8/24/2008 21:30	333.2	NW	10.11				
8/24/2008 21:40	335.4	NW	9.79				
8/24/2008 21:50	333	NW	9.23				
8/24/2008 22:00	334.9	NW	9.06				
8/24/2008 22:10	329.3	NW	8.62				
8/24/2008 22:20	329.6	NW	8.62				
8/24/2008 22:30	336.3	NW	7.51				
8/24/2008 22:40	336.1	NW	6.96				
8/24/2008 22:50	336.7	NW	6.88				
8/24/2008 23:00	340.3	N	6.78				
8/24/2008 23:10	340.9	N	6.04				
8/24/2008 23:20	344	N	6.58				
8/24/2008 23:30	341	N	6.79				
8/24/2008 23:40	341.1	N	6.96				
8/24/2008 23:50	343.7	N	7.35				
8/25/2008 0:00	347.4	N	7.7				
8/25/2008 0:10	348.7	N	7.5				
8/25/2008 0:20	352	N	7.89				
8/25/2008 0:30	353.1	N	7.63				
8/25/2008 0:40	1	N	7.41				
8/25/2008 0:50	9.22	N	7.53				
8/25/2008 1:00	10.12	N	8.01				
8/25/2008 1:10	12.14	N	8.59				
8/25/2008 1:20	14.18	N	9.48				
8/25/2008 1:30	14.06	N	9.19				
8/25/2008 1:40	15.19	N	7.74				
8/25/2008 1:50	15.46	N	7.11				
8/25/2008 2:00	13.82	N	7.44				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
8/25/2008 2:10	14.98	N	7.5				
8/25/2008 2:20	20.42	N	7.44				
8/25/2008 2:30	27.47	NE	6.58				
8/25/2008 2:40	29.16	NE	6.57				
8/25/2008 2:50	30.9	NE	6.27				
8/25/2008 3:00	36.58	NE	5.04				
8/25/2008 3:10	31.87	NE	4.91				
8/25/2008 3:20	30.43	NE	5.43				
8/25/2008 3:30	31.59	NE	6.14				
8/25/2008 3:40	34.9	NE	5.9				
8/25/2008 3:50	34.9	NE	5.21				
8/25/2008 4:00	35.27	NE	5.63				
8/25/2008 4:10	32.67	NE	5.44				
8/25/2008 4:20	32.26	NE	4.9				
8/25/2008 4:30	35.67	NE	4.49				
8/25/2008 4:40	32.53	NE	4.37				
8/25/2008 4:50	28.74	NE	4.4				
8/25/2008 5:00	26.7	NE	4.38				
8/25/2008 5:10	20.95	N	4.85				
8/25/2008 5:20	20.88	N	4.43				
8/25/2008 5:30	16.45	N	5.04				
8/25/2008 5:40	13.45	N	6.1				
8/25/2008 5:50	13.94	N	6.66				
8/25/2008 6:00	12.02	N	6.55	19.5	13	16.3	0
8/25/2008 6:10	9.93	N	6.61				
8/25/2008 6:20	8.17	N	6.57				
8/25/2008 6:30	3.19	N	6.44				
8/25/2008 6:40	6.26	N	8.36				
8/25/2008 6:50	5.88	N	9.12				
8/25/2008 7:00	4.69	N	8.22				
8/25/2008 19:00	6.44	N	4.15				
8/25/2008 19:10	6.8	N	4.16				
8/25/2008 19:20	8.35	N	4.64				
8/25/2008 19:30	8.64	N	4.26				
8/25/2008 19:40	5.8	N	3.59				
8/25/2008 19:50	10.39	N	4.37				
8/25/2008 20:00	14.01	N	4.62				
8/25/2008 20:10	15.84	N	4.7				
8/25/2008 20:20	17.46	N	3.91				
8/25/2008 20:30	20.93	N	3.11				
8/25/2008 20:40	15.91	N	4.67				
8/25/2008 20:50	16.14	N	5.14				
8/25/2008 21:00	18.03	N	4.34				
8/25/2008 21:10	21.19	N	4.3				
8/25/2008 21:20	16.74	N	4.7				
8/25/2008 21:30	17.97	N	4.27				
8/25/2008 21:40	23.4	NE	4.71				
8/25/2008 21:50	25.92	NE	4.28				
8/25/2008 22:00	31.85	NE	3.62				
8/25/2008 22:10	38.04	NE	3.19				
8/25/2008 22:20	43.57	NE	3.45				
8/25/2008 22:30	39.7	NE	3.75				
8/25/2008 22:40	41.8	NE	3.71				
8/25/2008 22:50	33.97	NE	3.78				
8/25/2008 23:00	35.07	NE	3.84				
8/25/2008 23:10	33.85	NE	3.69				
8/25/2008 23:20	32.49	NE	4.11				
8/25/2008 23:30	33.85	NE	4.04				
8/25/2008 23:40	37.64	NE	3.94				
8/25/2008 23:50	35.99	NE	4.19				
8/26/2008 0:00	35.87	NE	4.26				
8/26/2008 0:10	37.67	NE	4.32				
8/26/2008 0:20	37.39	NE	4.65				
8/26/2008 0:30	42.69	NE	4.78				
8/26/2008 0:40	43.38	NE	5.27				
8/26/2008 0:50	42.18	NE	5.61				
8/26/2008 1:00	39.59	NE	6.2				
8/26/2008 1:10	36.8	NE	6.83				
8/26/2008 1:20	41.12	NE	6.7				
8/26/2008 1:30	41.31	NE	6.33				
8/26/2008 1:40	40.43	NE	6.33				
8/26/2008 1:50	39.31	NE	6.7				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
8/26/2008 2:00	38.99	NE	7.43				
8/26/2008 2:10	40.81	NE	6.78				
8/26/2008 2:20	41.67	NE	6.2				
8/26/2008 2:30	40.24	NE	6.67				
8/26/2008 2:40	39.79	NE	6.82				
8/26/2008 2:50	40.22	NE	6.46				
8/26/2008 3:00	40.09	NE	6.22				
8/26/2008 3:10	41.36	NE	6.12				
8/26/2008 3:20	45.93	NE	5.81				
8/26/2008 3:30	62.27	NE	3.73				
8/26/2008 3:40	55.2	NE	4.51				
8/26/2008 3:50	54.22	NE	4.59				
8/26/2008 4:00	54.41	NE	4.39				
8/26/2008 4:10	52.72	NE	4.58				
8/26/2008 4:20	51.08	NE	4.83				
8/26/2008 4:30	51.29	NE	4.77				
8/26/2008 4:40	48.17	NE	5.37				
8/26/2008 4:50	48.65	NE	5.82				
8/26/2008 5:00	53.7	NE	5.2				
8/26/2008 5:10	61.52	NE	4.34				
8/26/2008 5:20	68.2	E	4.28				
8/26/2008 5:30	74.2	E	4.61				
8/26/2008 5:40	81.3	E	4.63				
8/26/2008 5:50	76.3	E	4.7				
8/26/2008 6:00	66.09	NE	4.78	23.5	8.5	16	0
8/26/2008 6:10	64.2	NE	4.59				
8/26/2008 6:20	65.42	NE	4.57				
8/26/2008 6:30	67.64	E	4.77				
8/26/2008 6:40	65.76	NE	4.85				
8/26/2008 6:50	76.4	E	4.78				
8/26/2008 7:00	92.3	E	4.87				
8/26/2008 19:00	33.14	NE	3.98				
8/26/2008 19:10	46.19	NE	4.17				
8/26/2008 19:20	52.52	NE	4.44				
8/26/2008 19:30	53.5	NE	4.92				
8/26/2008 19:40	52.33	NE	5.97				
8/26/2008 19:50	55.49	NE	6.05				
8/26/2008 20:00	56.82	NE	5.48				
8/26/2008 20:10	55.73	NE	6.61				
8/26/2008 20:20	55.73	NE	6.68				
8/26/2008 20:30	57.55	NE	6.58				
8/26/2008 20:40	64.88	NE	6.77				
8/26/2008 20:50	69.79	E	7.04				
8/26/2008 21:00	76	E	7.34				
8/26/2008 21:10	83.3	E	7.14				
8/26/2008 21:20	87.9	E	7.57				
8/26/2008 21:30	93.6	E	8.23				
8/26/2008 21:40	101.8	E	8.19				
8/26/2008 21:50	104.1	E	8.07				
8/26/2008 22:00	108	E	7.89				
8/26/2008 22:10	111	E	8.26				
8/26/2008 22:20	110.8	E	8.33				
8/26/2008 22:30	114.5	SE	8.59				
8/26/2008 22:40	116.9	SE	8.26				
8/26/2008 22:50	116.4	SE	8.32				
8/26/2008 23:00	119.9	SE	8.12				
8/26/2008 23:10	117.8	SE	7.59				
8/26/2008 23:20	115.5	SE	7.71				
8/26/2008 23:30	116.3	SE	7.62				
8/26/2008 23:40	117.3	SE	7.64				
8/26/2008 23:50	120	SE	7.63				
8/27/2008 0:00	121.6	SE	7.15				
8/27/2008 0:10	122.1	SE	7.13				
8/27/2008 0:20	118.5	SE	7.61				
8/27/2008 0:30	116.2	SE	8.62				
8/27/2008 0:40	118.3	SE	9.42				
8/27/2008 0:50	120.6	SE	9.56				
8/27/2008 1:00	120	SE	9.82				
8/27/2008 1:10	117.6	SE	10.28				
8/27/2008 1:20	115.7	SE	10.49				
8/27/2008 1:30	112.6	SE	10.32				
8/27/2008 1:40	109.4	E	10.22				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
8/27/2008 1:50	109.5	E	10.36				
8/27/2008 2:00	110.9	E	10.66				
8/27/2008 2:10	112.1	E	10.89				
8/27/2008 2:20	113.2	SE	11.28				
8/27/2008 2:30	111.7	E	10.94				
8/27/2008 2:40	112	E	10.86				
8/27/2008 2:50	115.1	SE	11.01				
8/27/2008 3:00	116.8	SE	11.33				
8/27/2008 3:10	119.4	SE	11.41				
8/27/2008 3:20	121.6	SE	10.69				
8/27/2008 3:30	120.9	SE	9.95				
8/27/2008 3:40	119	SE	10.02				
8/27/2008 3:50	117.9	SE	10.85				
8/27/2008 4:00	117.9	SE	10.97				
8/27/2008 4:10	118.4	SE	10.91				
8/27/2008 4:20	119.2	SE	10.81				
8/27/2008 4:30	121.1	SE	10.12				
8/27/2008 4:40	119.8	SE	10.39				
8/27/2008 4:50	118.9	SE	10.75				
8/27/2008 5:00	117.8	SE	11.43				
8/27/2008 5:10	118.9	SE	11.04				
8/27/2008 5:20	119.8	SE	10.84				
8/27/2008 5:30	121.4	SE	10.94				
8/27/2008 5:40	122	SE	10.31				
8/27/2008 5:50	120.7	SE	10.05				
8/27/2008 6:00	118.7	SE	10.69	26.5	11	18.8	0
8/27/2008 6:10	118.7	SE	11.1				
8/27/2008 6:20	118.9	SE	11.02				
8/27/2008 6:30	118.4	SE	10.66				
8/27/2008 6:40	116.3	SE	10.43				
8/27/2008 6:50	116.7	SE	10.2				
8/27/2008 7:00	117.1	SE	10.03				
8/27/2008 19:00	131.5	SE	5.95				
8/27/2008 19:10	125.3	SE	6.24				
8/27/2008 19:20	122.6	SE	6.6				
8/27/2008 19:30	123.3	SE	6.4				
8/27/2008 19:40	125.4	SE	6.39				
8/27/2008 19:50	124.6	SE	6.74				
8/27/2008 20:00	127	SE	7.4				
8/27/2008 20:10	124.5	SE	7.17				
8/27/2008 20:20	123.9	SE	8.63				
8/27/2008 20:30	126.1	SE	8.41				
8/27/2008 20:40	124.1	SE	7.59				
8/27/2008 20:50	128.4	SE	7.33				
8/27/2008 21:00	131.8	SE	7.39				
8/27/2008 21:10	133.5	SE	7.94				
8/27/2008 21:20	133.3	SE	7.82				
8/27/2008 21:30	134.4	SE	7.91				
8/27/2008 21:40	134.6	SE	7.19				
8/27/2008 21:50	136	SE	6.85				
8/27/2008 22:00	136.1	SE	6.93				
8/27/2008 22:10	135.4	SE	7.21				
8/27/2008 22:20	132.4	SE	7.21				
8/27/2008 22:30	132.1	SE	7.54				
8/27/2008 22:40	132.5	SE	7.75				
8/27/2008 22:50	129.4	SE	7.7				
8/27/2008 23:00	131.2	SE	7.95				
8/27/2008 23:10	130.3	SE	7.37				
8/27/2008 23:20	131.8	SE	6.78				
8/27/2008 23:30	134.4	SE	6.41				
8/27/2008 23:40	133.4	SE	6.74				
8/27/2008 23:50	134.5	SE	6.71				
8/28/2008 0:00	133.3	SE	7.16				
8/28/2008 0:10	133.3	SE	7.83				
8/28/2008 0:20	135.4	SE	7.83				
8/28/2008 0:30	134.8	SE	7.74				
8/28/2008 0:40	135.2	SE	7.92				
8/28/2008 0:50	135.3	SE	8.11				
8/28/2008 1:00	135	SE	8.3				
8/28/2008 1:10	134.6	SE	8.36				
8/28/2008 1:20	134.7	SE	7.81				
8/28/2008 1:30	136.3	SE	7.72				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
8/28/2008 1:40	137.8	SE	7.44				
8/28/2008 1:50	137.8	SE	7.86				
8/28/2008 2:00	136.6	SE	7.59				
8/28/2008 2:10	138.8	SE	8.12				
8/28/2008 2:20	138.7	SE	8.04				
8/28/2008 2:30	138.3	SE	7.75				
8/28/2008 2:40	140	SE	7.71				
8/28/2008 2:50	138.4	SE	7.54				
8/28/2008 3:00	137.1	SE	7.23				
8/28/2008 3:10	138.8	SE	7.15				
8/28/2008 3:20	135.5	SE	6.76				
8/28/2008 3:30	132.3	SE	6.75				
8/28/2008 3:40	133.5	SE	5.81				
8/28/2008 3:50	136.3	SE	5.01				
8/28/2008 4:00	138.3	SE	5.43				
8/28/2008 4:10	137.9	SE	5.7				
8/28/2008 4:20	137	SE	5.2				
8/28/2008 4:30	129	SE	5.36				
8/28/2008 4:40	130	SE	5.86				
8/28/2008 4:50	127.5	SE	6.19				
8/28/2008 5:00	126.9	SE	7.12				
8/28/2008 5:10	121.2	SE	6.97				
8/28/2008 5:20	120.4	SE	6.49				
8/28/2008 5:30	119.9	SE	6.07				
8/28/2008 5:40	119.9	SE	5.55				
8/28/2008 5:50	116.1	SE	4.99				
8/28/2008 6:00	117.3	SE	5.55	23.5	14	18.8	Trace
8/28/2008 6:10	121.2	SE	6.41				
8/28/2008 6:20	126	SE	5.88				
8/28/2008 6:30	118.3	SE	6.22				
8/28/2008 6:40	115.3	SE	6.06				
8/28/2008 6:50	119.3	SE	6.43				
8/28/2008 7:00	123.4	SE	6.85				
8/28/2008 19:00	128.4	SE	4.87				
8/28/2008 19:10	136.5	SE	6.07				
8/28/2008 19:20	135.3	SE	5.79				
8/28/2008 19:30	137	SE	6.06				
8/28/2008 19:40	137	SE	5.73				
8/28/2008 19:50	137.3	SE	5.27				
8/28/2008 20:00	140.9	SE	5.92				
8/28/2008 20:10	142.4	SE	6.03				
8/28/2008 20:20	144.9	SE	5.18				
8/28/2008 20:30	142.5	SE	4.99				
8/28/2008 20:40	141.3	SE	5.72				
8/28/2008 20:50	141.9	SE	6.44				
8/28/2008 21:00	142.6	SE	6.23				
8/28/2008 21:10	142.7	SE	6.45				
8/28/2008 21:20	143.6	SE	6.4				
8/28/2008 21:30	143.4	SE	5.59				
8/28/2008 21:40	145	SE	5.08				
8/28/2008 21:50	141.1	SE	5.84				
8/28/2008 22:00	139.7	SE	6.3				
8/28/2008 22:10	143.6	SE	6.3				
8/28/2008 22:20	148	SE	6.24				
8/28/2008 22:30	149.5	SE	6.01				
8/28/2008 22:40	150.1	SE	6.24				
8/28/2008 22:50	152.7	SE	5.87				
8/28/2008 23:00	156.1	SE	5.47				
8/28/2008 23:10	154.8	SE	5.32				
8/28/2008 23:20	151.8	SE	5.96				
8/28/2008 23:30	149.3	SE	6.18				
8/28/2008 23:40	153.7	SE	5.38				
8/28/2008 23:50	158	S	4.89				
8/29/2008 0:00	158.7	S	5.07				
8/29/2008 0:10	163.4	S	4.97				
8/29/2008 0:20	167.5	S	4.79				
8/29/2008 0:30	163.8	S	4.84				
8/29/2008 0:40	153	SE	5.21				
8/29/2008 0:50	163.2	S	4.67				
8/29/2008 1:00	162.1	S	4.95				
8/29/2008 1:10	164.8	S	5.09				
8/29/2008 1:20	174	S	5.08				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
8/29/2008 1:30	179.4	S	4.8				
8/29/2008 1:40	173	S	4.75				
8/29/2008 1:50	168.8	S	4.81				
8/29/2008 2:00	166.5	S	4.65				
8/29/2008 2:10	167.7	S	4.45				
8/29/2008 2:20	158.4	S	4.8				
8/29/2008 2:30	159.1	S	5.01				
8/29/2008 2:40	163	S	4.78				
8/29/2008 2:50	167.1	S	4.58				
8/29/2008 3:00	176.9	S	4.88				
8/29/2008 3:10	181.9	S	4.4				
8/29/2008 3:20	184.8	S	4.22				
8/29/2008 3:30	183.5	S	4.52				
8/29/2008 3:40	179.6	S	4.77				
8/29/2008 3:50	168	S	4.74				
8/29/2008 4:00	172.5	S	4.96				
8/29/2008 4:10	172.7	S	5.3				
8/29/2008 4:20	177.9	S	5.61				
8/29/2008 4:30	181.4	S	5.84				
8/29/2008 4:40	188.3	S	5.4				
8/29/2008 4:50	188.3	S	4.93				
8/29/2008 5:00	190.3	S	5.64				
8/29/2008 5:10	199.8	S	5.59				
8/29/2008 5:20	204	SW	5.66				
8/29/2008 5:30	201.4	S	5.62				
8/29/2008 5:40	195.3	S	6.04				
8/29/2008 5:50	193.6	S	6.57				
8/29/2008 6:00	187.8	S	6.27	24.5	17	20.8	0
8/29/2008 6:10	193.3	S	6.37				
8/29/2008 6:20	191.8	S	6.57				
8/29/2008 6:30	193.5	S	5.97				
8/29/2008 6:40	187.3	S	5.52				
8/29/2008 6:50	185	S	5.34				
8/29/2008 7:00	182.6	S	5.61				
8/29/2008 19:00	326.8	NW	3.56				
8/29/2008 19:10	328.7	NW	3.5				
8/29/2008 19:20	333.8	NW	2.72				
8/29/2008 19:30	341.5	N	2.68				
8/29/2008 19:40	346.6	N	2.83				
8/29/2008 19:50	350.9	N	2.95				
8/29/2008 20:00	358.9	N	2.84				
8/29/2008 20:10	1.12	N	2.64				
8/29/2008 20:20	9.82	N	2.01				
8/29/2008 20:30	21.02	N	1.76				
8/29/2008 20:40	31.56	NE	1.83				
8/29/2008 20:50	46.53	NE	1.68				
8/29/2008 21:00	60.05	NE	1.54				
8/29/2008 21:10	46.52	NE	1.46				
8/29/2008 21:20	24.09	NE	1.46				
8/29/2008 21:30	20.13	N	1.38				
8/29/2008 21:40	9.26	N	1.31				
8/29/2008 21:50	7.62	N	1.4				
8/29/2008 22:00	10.62	N	1.55				
8/29/2008 22:10	4.62	N	1.4				
8/29/2008 22:20	345.4	N	1.68				
8/29/2008 22:30	331.9	NW	2.14				
8/29/2008 22:40	331	NW	2.31				
8/29/2008 22:50	323.3	NW	2.52				
8/29/2008 23:00	314.7	NW	2.2				
8/29/2008 23:10	301.1	NW	1.94				
8/29/2008 23:20	304.5	NW	2.19				
8/29/2008 23:30	297.4	NW	2.81				
8/29/2008 23:40	298.1	NW	2.67				
8/29/2008 23:50	298.3	NW	2.8				
8/30/2008 0:00	300.6	NW	2.85				
8/30/2008 0:10	301.4	NW	2.48				
8/30/2008 0:20	300.9	NW	1.8				
8/30/2008 0:30	301.4	NW	1.63				
8/30/2008 0:40	297.7	NW	1.7				
8/30/2008 0:50	301.5	NW	1.53				
8/30/2008 1:00	306.1	NW	1.73				
8/30/2008 1:10	287.5	W	1.93				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
8/30/2008 1:20	280.9	W	1.98				
8/30/2008 1:30	284.9	W	2.37				
8/30/2008 1:40	289.1	W	2.57				
8/30/2008 1:50	281.9	W	2.65				
8/30/2008 2:00	285.5	W	2.74				
8/30/2008 2:10	284.5	W	2.83				
8/30/2008 2:20	290.5	W	3.63				
8/30/2008 2:30	298.5	NW	4.07				
8/30/2008 2:40	304.3	NW	4.26				
8/30/2008 2:50	298.4	NW	4.47				
8/30/2008 3:00	304.1	NW	3.85				
8/30/2008 3:10	308.6	NW	3.72				
8/30/2008 3:20	306.5	NW	3.46				
8/30/2008 3:30	312.9	NW	3.63				
8/30/2008 3:40	322.3	NW	3.7				
8/30/2008 3:50	328.3	NW	3.84				
8/30/2008 4:00	329.4	NW	3.64				
8/30/2008 4:10	329.9	NW	3.74				
8/30/2008 4:20	328	NW	3.29				
8/30/2008 4:30	325.3	NW	3.28				
8/30/2008 4:40	322.9	NW	3.24				
8/30/2008 4:50	324.9	NW	3.17				
8/30/2008 5:00	326	NW	3.53				
8/30/2008 5:10	328.5	NW	3.82				
8/30/2008 5:20	333.3	NW	3.58				
8/30/2008 5:30	335.8	NW	3.14				
8/30/2008 5:40	336.7	NW	2.63				
8/30/2008 5:50	331.4	NW	2.32				
8/30/2008 6:00	323.1	NW	2.19	25.5	11	18.3	0
8/30/2008 6:10	325.9	NW	2.6				
8/30/2008 6:20	324.7	NW	2.24				
8/30/2008 6:30	322.3	NW	2.29				
8/30/2008 6:40	324.2	NW	2.83				
8/30/2008 6:50	320.5	NW	2.92				
8/30/2008 7:00	318.7	NW	2.66				
8/30/2008 19:00	245.9	SW	2.44				
8/30/2008 19:10	238	SW	2.32				
8/30/2008 19:20	230.9	SW	2.24				
8/30/2008 19:30	229.4	SW	2.58				
8/30/2008 19:40	230.9	SW	2.82				
8/30/2008 19:50	234.8	SW	3.18				
8/30/2008 20:00	228.2	SW	3.2				
8/30/2008 20:10	221.5	SW	3.08				
8/30/2008 20:20	213.5	SW	3.26				
8/30/2008 20:30	209.2	SW	3.29				
8/30/2008 20:40	204.6	SW	3.72				
8/30/2008 20:50	210.3	SW	3.83				
8/30/2008 21:00	206.5	SW	4				
8/30/2008 21:10	201.9	S	4.04				
8/30/2008 21:20	197.8	S	3.65				
8/30/2008 21:30	197.9	S	3.73				
8/30/2008 21:40	200.7	S	3.86				
8/30/2008 21:50	204.9	SW	4.31				
8/30/2008 22:00	205.9	SW	4.36				
8/30/2008 22:10	199.5	S	4.34				
8/30/2008 22:20	197.4	S	4.18				
8/30/2008 22:30	197.8	S	4.14				
8/30/2008 22:40	202.2	S	4.01				
8/30/2008 22:50	201	S	4.28				
8/30/2008 23:00	204.5	SW	4.25				
8/30/2008 23:10	208.2	SW	4.24				
8/30/2008 23:20	210.7	SW	4.17				
8/30/2008 23:30	214.4	SW	3.53				
8/30/2008 23:40	219.5	SW	3.43				
8/30/2008 23:50	225	SW	3.28				
8/31/2008 0:00	220.9	SW	2.42				
8/31/2008 0:10	164.7	S	0.81				
8/31/2008 0:20	329	NW	0.68				
8/31/2008 0:30	345.7	N	1.32				
8/31/2008 0:40	312.8	NW	1.49				
8/31/2008 0:50	304	NW	1.76				
8/31/2008 1:00	304	NW	1.69				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
8/31/2008 1:10	283.5	W	1.8				
8/31/2008 1:20	268.3	W	2.04				
8/31/2008 1:30	262	W	2.15				
8/31/2008 1:40	255.3	W	1.88				
8/31/2008 1:50	254.2	W	1.99				
8/31/2008 2:00	256.8	W	2.56				
8/31/2008 2:10	244.5	SW	2.33				
8/31/2008 2:20	229	SW	2.72				
8/31/2008 2:30	221.4	SW	3.11				
8/31/2008 2:40	225.3	SW	2.96				
8/31/2008 2:50	220.3	SW	3.2				
8/31/2008 3:00	219.3	SW	3.46				
8/31/2008 3:10	215.1	SW	3.75				
8/31/2008 3:20	214.5	SW	3.47				
8/31/2008 3:30	211.2	SW	3.18				
8/31/2008 3:40	211	SW	3.39				
8/31/2008 3:50	196.8	S	3.17				
8/31/2008 4:00	198.5	S	2.87				
8/31/2008 4:10	206.3	SW	2.68				
8/31/2008 4:20	214.5	SW	2.76				
8/31/2008 4:30	209.5	SW	2.92				
8/31/2008 4:40	220.7	SW	2.41				
8/31/2008 4:50	225.1	SW	1.84				
8/31/2008 5:00	212.6	SW	1.38				
8/31/2008 5:10	235.6	SW	0.92				
8/31/2008 5:20	195.1	S	1.83				
8/31/2008 5:30	189.7	S	2.44				
8/31/2008 5:40	189.3	S	2.15				
8/31/2008 5:50	195.8	S	1.45				
8/31/2008 6:00	189.5	S	1.71	26	14	20	0
8/31/2008 6:10	189.4	S	1.53				
8/31/2008 6:20	186.6	S	1.54				
8/31/2008 6:30	187	S	0.99				
8/31/2008 6:40	191.1	S	1.39				
8/31/2008 6:50	186	S	1.93				
8/31/2008 7:00	186.9	S	2.66				
8/31/2008 19:00	45.55	NE	3.37				
8/31/2008 19:10	51.28	NE	3.33				
8/31/2008 19:20	52.38	NE	3.45				
8/31/2008 19:30	53.9	NE	3.16				
8/31/2008 19:40	50.99	NE	2.88				
8/31/2008 19:50	56.47	NE	2.9				
8/31/2008 20:00	60.5	NE	2.88				
8/31/2008 20:10	68.72	E	3.4				
8/31/2008 20:20	70.2	E	3.14				
8/31/2008 20:30	75	E	3.1				
8/31/2008 20:40	78	E	3.27				
8/31/2008 20:50	81.3	E	3.28				
8/31/2008 21:00	85.2	E	3.15				
8/31/2008 21:10	89	E	3.14				
8/31/2008 21:20	92.1	E	3.44				
8/31/2008 21:30	83	E	4.05				
8/31/2008 21:40	85.7	E	4.12				
8/31/2008 21:50	93.3	E	4.02				
8/31/2008 22:00	100.3	E	4.3				
8/31/2008 22:10	102.9	E	4.36				
8/31/2008 22:20	101.5	E	4.46				
8/31/2008 22:30	103.6	E	4.49				
8/31/2008 22:40	106.9	E	4.58				
8/31/2008 22:50	109.5	E	5.06				
8/31/2008 23:00	111.4	E	5.28				
8/31/2008 23:10	113.5	SE	5.26				
8/31/2008 23:20	116.1	SE	5.15				
8/31/2008 23:30	116.3	SE	5.05				
8/31/2008 23:40	115.2	SE	4.68				
8/31/2008 23:50	121.7	SE	4.84				
9/1/2008 0:00	127.5	SE	4.78				
9/1/2008 0:10	130.2	SE	4.78				
9/1/2008 0:20	132.6	SE	5.08				
9/1/2008 0:30	133.7	SE	5.86				
9/1/2008 0:40	138.9	SE	6.78				
9/1/2008 0:50	142.3	SE	7.12				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
9/1/2008 1:00	145	SE	7.39				
9/1/2008 1:10	145.3	SE	7.32				
9/1/2008 1:20	144.1	SE	7.13				
9/1/2008 1:30	145.7	SE	7.58				
9/1/2008 1:40	147.7	SE	7.78				
9/1/2008 1:50	148	SE	8.46				
9/1/2008 2:00	148.6	SE	8.8				
9/1/2008 2:10	148.5	SE	8.91				
9/1/2008 2:20	147.4	SE	9.16				
9/1/2008 2:30	145.3	SE	9.06				
9/1/2008 2:40	142.9	SE	8.53				
9/1/2008 2:50	145.5	SE	8.6				
9/1/2008 3:00	148.4	SE	7.9				
9/1/2008 3:10	154.1	SE	7.3				
9/1/2008 3:20	158.9	S	7.35				
9/1/2008 3:30	160.7	S	6.58				
9/1/2008 3:40	158.2	S	7.01				
9/1/2008 3:50	160.4	S	7.46				
9/1/2008 4:00	162.7	S	7.84				
9/1/2008 4:10	161.7	S	8.3				
9/1/2008 4:20	163.3	S	8.28				
9/1/2008 4:30	167	S	7.83				
9/1/2008 4:40	158.7	S	7.27				
9/1/2008 4:50	157.5	S	6.5				
9/1/2008 5:00	158.5	S	6.25				
9/1/2008 5:10	156.1	SE	5.78				
9/1/2008 5:20	155.5	SE	6.14				
9/1/2008 5:30	154.9	SE	6.45				
9/1/2008 5:40	159.7	S	6.02				
9/1/2008 5:50	160.5	S	5.53				
9/1/2008 6:00	162.9	S	5.53	27.5	14	20.8	0
9/1/2008 6:10	167.6	S	5.79				
9/1/2008 6:20	169.8	S	5.57				
9/1/2008 6:30	172	S	5.67				
9/1/2008 6:40	174.7	S	5.51				
9/1/2008 6:50	175.7	S	5.12				
9/1/2008 7:00	173.8	S	5.26				
9/1/2008 19:00	23	NE	2.22				
9/1/2008 19:10	36.75	NE	2.59				
9/1/2008 19:20	41.43	NE	2.58				
9/1/2008 19:30	38.31	NE	2.63				
9/1/2008 19:40	32.96	NE	2.78				
9/1/2008 19:50	38.79	NE	3.12				
9/1/2008 20:00	33.43	NE	3.03				
9/1/2008 20:10	34.95	NE	2.76				
9/1/2008 20:20	34.05	NE	2.94				
9/1/2008 20:30	37.03	NE	2.55				
9/1/2008 20:40	44.07	NE	2.42				
9/1/2008 20:50	53.58	NE	2.33				
9/1/2008 21:00	52.37	NE	2.46				
9/1/2008 21:10	55.84	NE	2.62				
9/1/2008 21:20	57.96	NE	3.38				
9/1/2008 21:30	61.83	NE	3.41				
9/1/2008 21:40	62.68	NE	3.25				
9/1/2008 21:50	61.15	NE	3.12				
9/1/2008 22:00	68.18	E	3.66				
9/1/2008 22:10	78.2	E	4.62				
9/1/2008 22:20	92	E	6.12				
9/1/2008 22:30	100.4	E	6.83				
9/1/2008 22:40	104.5	E	7.68				
9/1/2008 22:50	104.3	E	8.13				
9/1/2008 23:00	103.7	E	8.41				
9/1/2008 23:10	105.7	E	8.85				
9/1/2008 23:20	112.7	SE	8.49				
9/1/2008 23:30	113.8	SE	9.01				
9/1/2008 23:40	119	SE	7.9				
9/1/2008 23:50	131.7	SE	8.2				
9/2/2008 0:00	139.2	SE	8.96				
9/2/2008 0:10	145.1	SE	9.18				
9/2/2008 0:20	146.1	SE	9.19				
9/2/2008 0:30	155.3	SE	8.84				
9/2/2008 0:40	162.4	S	8.71				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
9/2/2008 0:50	163.6	S	8.04				
9/2/2008 1:00	166.7	S	8.52				
9/2/2008 1:10	168.8	S	9.02				
9/2/2008 1:20	169.1	S	8.88				
9/2/2008 1:30	168.9	S	8.13				
9/2/2008 1:40	175.9	S	7.93				
9/2/2008 1:50	175.4	S	7.85				
9/2/2008 2:00	175.8	S	8.21				
9/2/2008 2:10	176.2	S	7.84				
9/2/2008 2:20	176.8	S	7.41				
9/2/2008 2:30	177	S	7.59				
9/2/2008 2:40	176.8	S	7.45				
9/2/2008 2:50	176.6	S	7.64				
9/2/2008 3:00	174.7	S	7.42				
9/2/2008 3:10	173.8	S	6.97				
9/2/2008 3:20	172.3	S	7.03				
9/2/2008 3:30	171.1	S	7.26				
9/2/2008 3:40	174.3	S	7.69				
9/2/2008 3:50	174.5	S	7.86				
9/2/2008 4:00	175.1	S	7.68				
9/2/2008 4:10	176.1	S	7.77				
9/2/2008 4:20	169.3	S	7.63				
9/2/2008 4:30	164.4	S	7.54				
9/2/2008 4:40	162.4	S	7.65				
9/2/2008 4:50	163.9	S	7.87				
9/2/2008 5:00	162.4	S	7.9				
9/2/2008 5:10	164	S	7.67				
9/2/2008 5:20	163.7	S	7.34				
9/2/2008 5:30	164.9	S	7.62				
9/2/2008 5:40	165.7	S	7.65				
9/2/2008 5:50	169.4	S	7.45				
9/2/2008 6:00	173.3	S	7.43	28.5	14.5	21.5	0
9/2/2008 6:10	177.4	S	7.27				
9/2/2008 6:20	179	S	6.94				
9/2/2008 6:30	182.4	S	6.83				
9/2/2008 6:40	182.6	S	6.9				
9/2/2008 6:50	183.1	S	6.8				
9/2/2008 7:00	179.1	S	6.28				
9/2/2008 19:00	61.02	NE	2.17				
9/2/2008 19:10	70.2	E	2.98				
9/2/2008 19:20	70.6	E	3.27				
9/2/2008 19:30	75.6	E	3.79				
9/2/2008 19:40	80.8	E	3.67				
9/2/2008 19:50	85.6	E	3.94				
9/2/2008 20:00	89.5	E	3.62				
9/2/2008 20:10	97.5	E	3.31				
9/2/2008 20:20	107.2	E	3.28				
9/2/2008 20:30	129.6	SE	2.68				
9/2/2008 20:40	136.6	SE	2.64				
9/2/2008 20:50	148.3	SE	2.99				
9/2/2008 21:00	155.3	SE	2.9				
9/2/2008 21:10	148.4	SE	2.89				
9/2/2008 21:20	152.6	SE	3.25				
9/2/2008 21:30	164.8	S	3.41				
9/2/2008 21:40	164.6	S	3.07				
9/2/2008 21:50	167.1	S	2.97				
9/2/2008 22:00	169.3	S	3.06				
9/2/2008 22:10	164.5	S	3.1				
9/2/2008 22:20	170.6	S	3.19				
9/2/2008 22:30	177.1	S	3.24				
9/2/2008 22:40	179.3	S	3.21				
9/2/2008 22:50	178.8	S	3.19				
9/2/2008 23:00	170.3	S	3.19				
9/2/2008 23:10	166.8	S	3.12				
9/2/2008 23:20	157.9	S	3.47				
9/2/2008 23:30	149.9	SE	3.88				
9/2/2008 23:40	139.2	SE	4.52				
9/2/2008 23:50	131.3	SE	4.91				
9/3/2008 0:00	126.7	SE	5.08				
9/3/2008 0:10	124.9	SE	5.28				
9/3/2008 0:20	128.9	SE	6.01				
9/3/2008 0:30	136.4	SE	6.98				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
9/3/2008 0:40	148.6	SE	7.33				
9/3/2008 0:50	169.4	S	7.66				
9/3/2008 1:00	171.5	S	6.6				
9/3/2008 1:10	180.5	S	6.45				
9/3/2008 1:20	188.4	S	6.54				
9/3/2008 1:30	202.4	S	6.44				
9/3/2008 1:40	208.2	SW	6.33				
9/3/2008 1:50	212.1	SW	6.06				
9/3/2008 2:00	218	SW	6.16				
9/3/2008 2:10	218.7	SW	6.14				
9/3/2008 2:20	219.9	SW	6.04				
9/3/2008 2:30	219.2	SW	6.18				
9/3/2008 2:40	215.4	SW	6.03				
9/3/2008 2:50	210.6	SW	6.36				
9/3/2008 3:00	208.4	SW	6.36				
9/3/2008 3:10	200.6	S	6.09				
9/3/2008 3:20	197.4	S	6.18				
9/3/2008 3:30	194.7	S	6.03				
9/3/2008 3:40	194.2	S	6.11				
9/3/2008 3:50	192.9	S	6.21				
9/3/2008 4:00	193.5	S	6.41				
9/3/2008 4:10	193.2	S	6.53				
9/3/2008 4:20	192.7	S	6.71				
9/3/2008 4:30	195.2	S	6.69				
9/3/2008 4:40	194.7	S	6.54				
9/3/2008 4:50	202.2	S	6.63				
9/3/2008 5:00	210.3	SW	6.38				
9/3/2008 5:10	210.3	SW	6.48				
9/3/2008 5:20	214	SW	6.49				
9/3/2008 5:30	214.8	SW	6.83				
9/3/2008 5:40	210.2	SW	6.73				
9/3/2008 5:50	208.5	SW	6.73				
9/3/2008 6:00	207.5	SW	6.92	28.5	10	19.3	2.2
9/3/2008 6:10	208.4	SW	6.83				
9/3/2008 6:20	209	SW	6.87				
9/3/2008 6:30	205.5	SW	6.88				
9/3/2008 6:40	207.5	SW	6.97				
9/3/2008 6:50	208.1	SW	6.99				
9/3/2008 7:00	204.8	SW	6.73				
9/3/2008 19:00	332	NW	5.47				
9/3/2008 19:10	335	NW	5.59				
9/3/2008 19:20	336.8	NW	5.84				
9/3/2008 19:30	339.2	N	6.19				
9/3/2008 19:40	333.3	NW	6.01				
9/3/2008 19:50	332.6	NW	5.96				
9/3/2008 20:00	333.4	NW	6.39				
9/3/2008 20:10	329	NW	8.32				
9/3/2008 20:20	330	NW	7.86				
9/3/2008 20:30	333.7	NW	7.02				
9/3/2008 20:40	330.2	NW	6.79				
9/3/2008 20:50	331.3	NW	6.2				
9/3/2008 21:00	328.8	NW	6.98				
9/3/2008 21:10	329.3	NW	6.49				
9/3/2008 21:20	327.5	NW	6.99				
9/3/2008 21:30	327	NW	7.76				
9/3/2008 21:40	330.7	NW	7.87				
9/3/2008 21:50	331.1	NW	7.03				
9/3/2008 22:00	325.9	NW	8.09				
9/3/2008 22:10	322.1	NW	7.45				
9/3/2008 22:20	323.2	NW	7.31				
9/3/2008 22:30	319.5	NW	7.49				
9/3/2008 22:40	313.7	NW	6.78				
9/3/2008 22:50	321.4	NW	6.61				
9/3/2008 23:00	329.2	NW	6.71				
9/3/2008 23:10	331.1	NW	6.8				
9/3/2008 23:20	328.5	NW	5.84				
9/3/2008 23:30	331.1	NW	4.94				
9/3/2008 23:40	333.9	NW	5.61				
9/3/2008 23:50	338.3	N	6.21				
9/4/2008 0:00	338	N	5.6				
9/4/2008 0:10	341.8	N	5.94				
9/4/2008 0:20	339.1	N	5.99				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
9/4/2008 0:30	338	N	6.35				
9/4/2008 0:40	341.3	N	6.2				
9/4/2008 0:50	344.9	N	6.59				
9/4/2008 1:00	342.7	N	7.01				
9/4/2008 1:10	350.4	N	6.79				
9/4/2008 1:20	353.6	N	6.82				
9/4/2008 1:30	355.1	N	7.33				
9/4/2008 1:40	353.3	N	7.12				
9/4/2008 1:50	355.2	N	6.56				
9/4/2008 2:00	358.1	N	6.75				
9/4/2008 2:10	358.1	N	6.29				
9/4/2008 2:20	0.64	N	6.08				
9/4/2008 2:30	2.65	N	5.74				
9/4/2008 2:40	358.5	N	5.35				
9/4/2008 2:50	358.4	N	5.48				
9/4/2008 3:00	0	N	5.52				
9/4/2008 3:10	0.19	N	5.34				
9/4/2008 3:20	5.27	N	5.2				
9/4/2008 3:30	5.94	N	5.09				
9/4/2008 3:40	3.18	N	4.8				
9/4/2008 3:50	7.19	N	5.32				
9/4/2008 4:00	8.18	N	5.32				
9/4/2008 4:10	12.13	N	5.65				
9/4/2008 4:20	18.43	N	5.33				
9/4/2008 4:30	24.37	NE	5.54				
9/4/2008 4:40	27.98	NE	5.3				
9/4/2008 4:50	29.93	NE	5.29				
9/4/2008 5:00	31.85	NE	5.57				
9/4/2008 5:10	35.77	NE	5.47				
9/4/2008 5:20	36.77	NE	5.05				
9/4/2008 5:30	42.53	NE	5.34				
9/4/2008 5:40	46.64	NE	5.32				
9/4/2008 5:50	48.12	NE	5.27				
9/4/2008 6:00	52.74	NE	4.78	No Data	No Data	No Data	No Data
9/4/2008 6:10	54.25	NE	4.6				
9/4/2008 6:20	57.09	NE	4.55				
9/4/2008 6:30	58.75	NE	4.84				
9/4/2008 6:40	58.07	NE	5.22				
9/4/2008 6:50	54.61	NE	5.3				
9/4/2008 7:00	55.62	NE	5.26				
9/4/2008 19:00	72.8	E	8.34				
9/4/2008 19:10	76.2	E	8.06				
9/4/2008 19:20	75.3	E	7.97				
9/4/2008 19:30	74.3	E	7.81				
9/4/2008 19:40	74.5	E	7.24				
9/4/2008 19:50	76	E	6.14				
9/4/2008 20:00	74.8	E	6.09				
9/4/2008 20:10	68.01	E	6.79				
9/4/2008 20:20	71.8	E	7.37				
9/4/2008 20:30	79.3	E	7.47				
9/4/2008 20:40	77.3	E	8.14				
9/4/2008 20:50	81.4	E	8.87				
9/4/2008 21:00	85.9	E	8.52				
9/4/2008 21:10	90.6	E	8.02				
9/4/2008 21:20	92	E	7.94				
9/4/2008 21:30	95.4	E	8.71				
9/4/2008 21:40	96.3	E	9.25				
9/4/2008 21:50	94.8	E	9.32				
9/4/2008 22:00	95.9	E	8.68				
9/4/2008 22:10	103.3	E	8.1				
9/4/2008 22:20	106.3	E	8.62				
9/4/2008 22:30	110.1	E	8.8				
9/4/2008 22:40	112.3	E	8.59				
9/4/2008 22:50	114.7	SE	8.7				
9/4/2008 23:00	118.8	SE	8.33				
9/4/2008 23:10	122	SE	7.68				
9/4/2008 23:20	124.6	SE	6.71				
9/4/2008 23:30	128.9	SE	7.77				
9/4/2008 23:40	132.5	SE	9.11				
9/4/2008 23:50	131.5	SE	9.49				
9/5/2008 0:00	132.4	SE	10.2				
9/5/2008 0:10	130.1	SE	9.56				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
9/5/2008 0:20	129.6	SE	10.63				
9/5/2008 0:30	129.3	SE	9.86				
9/5/2008 0:40	131.1	SE	10.46				
9/5/2008 0:50	131.9	SE	10.56				
9/5/2008 1:00	134	SE	10.47				
9/5/2008 1:10	133.3	SE	9.81				
9/5/2008 1:20	136.9	SE	9.51				
9/5/2008 1:30	138.2	SE	9.47				
9/5/2008 1:40	139.9	SE	9.65				
9/5/2008 1:50	139.6	SE	9.45				
9/5/2008 2:00	141.5	SE	9.16				
9/5/2008 2:10	143.5	SE	9.89				
9/5/2008 2:20	146.1	SE	9.74				
9/5/2008 2:30	150.2	SE	9.48				
9/5/2008 2:40	157.7	S	8.13				
9/5/2008 2:50	166.7	S	8.33				
9/5/2008 3:00	161.5	S	7.95				
9/5/2008 3:10	158	S	7.98				
9/5/2008 3:20	164.5	S	7.61				
9/5/2008 3:30	169.4	S	7.99				
9/5/2008 3:40	169.6	S	7.41				
9/5/2008 3:50	167.3	S	6.85				
9/5/2008 4:00	167.1	S	7.86				
9/5/2008 4:10	166.6	S	9.45				
9/5/2008 4:20	158.2	S	9.4				
9/5/2008 4:30	160.1	S	9.63				
9/5/2008 4:40	166.6	S	9.25				
9/5/2008 4:50	171.4	S	9.42				
9/5/2008 5:00	177.6	S	8.91				
9/5/2008 5:10	186.8	S	10.86				
9/5/2008 5:20	187.1	S	9.82				
9/5/2008 5:30	180.7	S	8.16				
9/5/2008 5:40	178.4	S	9.15				
9/5/2008 5:50	182.4	S	10.73				
9/5/2008 6:00	184.8	S	11.56	No Data	No Data	No Data	No Data
9/5/2008 6:10	185.4	S	13.52				
9/5/2008 6:20	188.2	S	12.21				
9/5/2008 6:30	188.8	S	11.89				
9/5/2008 6:40	191.4	S	11.08				
9/5/2008 6:50	187.3	S	11.72				
9/5/2008 7:00	188.3	S	11.84				
9/5/2008 19:00	333.6	NW	4.56				
9/5/2008 19:10	333.5	NW	4.13				
9/5/2008 19:20	329.5	NW	3.86				
9/5/2008 19:30	329.3	NW	3.77				
9/5/2008 19:40	326.6	NW	4.5				
9/5/2008 19:50	325.6	NW	4.64				
9/5/2008 20:00	327.5	NW	5.04				
9/5/2008 20:10	326.7	NW	4.94				
9/5/2008 20:20	321.8	NW	5.74				
9/5/2008 20:30	320.8	NW	6.1				
9/5/2008 20:40	320.2	NW	5.93				
9/5/2008 20:50	321.3	NW	5.17				
9/5/2008 21:00	322.4	NW	5.82				
9/5/2008 21:10	321.8	NW	5.77				
9/5/2008 21:20	319.4	NW	6.54				
9/5/2008 21:30	323	NW	6.03				
9/5/2008 21:40	324.1	NW	5.25				
9/5/2008 21:50	323.9	NW	4.76				
9/5/2008 22:00	323.1	NW	4.95				
9/5/2008 22:10	324.9	NW	4.98				
9/5/2008 22:20	326	NW	5.54				
9/5/2008 22:30	328.1	NW	6.06				
9/5/2008 22:40	328.7	NW	6.11				
9/5/2008 22:50	333	NW	5.56				
9/5/2008 23:00	330.6	NW	5.18				
9/5/2008 23:10	331.3	NW	5.19				
9/5/2008 23:20	330.8	NW	4.73				
9/5/2008 23:30	331.5	NW	5.08				
9/5/2008 23:40	330.9	NW	5.37				
9/5/2008 23:50	330.4	NW	5.05				
9/6/2008 0:00	334.6	NW	4.84				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
9/6/2008 0:10	335.9	NW	4.82				
9/6/2008 0:20	333.4	NW	5.03				
9/6/2008 0:30	331.5	NW	5.55				
9/6/2008 0:40	333.6	NW	5.61				
9/6/2008 0:50	336.2	NW	6.24				
9/6/2008 1:00	340.2	N	6.26				
9/6/2008 1:10	338.7	N	6.41				
9/6/2008 1:20	334.2	NW	6.14				
9/6/2008 1:30	337.4	NW	5.21				
9/6/2008 1:40	337.1	NW	5.69				
9/6/2008 1:50	337.6	N	5.3				
9/6/2008 2:00	342.3	N	4.99				
9/6/2008 2:10	346.4	N	5.08				
9/6/2008 2:20	346.7	N	4.75				
9/6/2008 2:30	348.4	N	3.81				
9/6/2008 2:40	342.7	N	4.39				
9/6/2008 2:50	343.2	N	4.1				
9/6/2008 3:00	345.3	N	4.3				
9/6/2008 3:10	349.1	N	3.71				
9/6/2008 3:20	350.7	N	4.54				
9/6/2008 3:30	352.7	N	4.8				
9/6/2008 3:40	359	N	4.36				
9/6/2008 3:50	0.79	N	3.95				
9/6/2008 4:00	1.96	N	4.07				
9/6/2008 4:10	5.91	N	3.81				
9/6/2008 4:20	2.37	N	3.54				
9/6/2008 4:30	3.92	N	3.29				
9/6/2008 4:40	0.57	N	3.74				
9/6/2008 4:50	352.6	N	4.18				
9/6/2008 5:00	357.1	N	4.38				
9/6/2008 5:10	359.4	N	3.55				
9/6/2008 5:20	2.02	N	2.72				
9/6/2008 5:30	0.65	N	2.18				
9/6/2008 5:40	357.6	N	2.3				
9/6/2008 5:50	6.47	N	1.84				
9/6/2008 6:00	4.25	N	1.78	No Data	No Data	No Data	No Data
9/6/2008 6:10	5.32	N	1.59				
9/6/2008 6:20	356.5	N	1.56				
9/6/2008 6:30	0	N	0.99				
9/6/2008 6:40	49.86	NE	1.04				
9/6/2008 6:50	75.1	E	1.48				
9/6/2008 7:00	107.9	E	1.8				
9/6/2008 19:00	1.65	N	2.16				
9/6/2008 19:10	357.8	N	2.26				
9/6/2008 19:20	3.82	N	2.23				
9/6/2008 19:30	2.54	N	2.21				
9/6/2008 19:40	4.38	N	2.08				
9/6/2008 19:50	4.47	N	1.64				
9/6/2008 20:00	4.71	N	1.4				
9/6/2008 20:10	5.24	N	1.45				
9/6/2008 20:20	25.74	NE	1.41				
9/6/2008 20:30	35.66	NE	1.48				
9/6/2008 20:40	42.22	NE	1.68				
9/6/2008 20:50	56.44	NE	1.42				
9/6/2008 21:00	63.31	NE	1.5				
9/6/2008 21:10	68.6	E	1.43				
9/6/2008 21:20	72	E	1.34				
9/6/2008 21:30	87.5	E	1.18				
9/6/2008 21:40	88.6	E	1.53				
9/6/2008 21:50	93.6	E	2.15				
9/6/2008 22:00	83.9	E	2.7				
9/6/2008 22:10	81.9	E	4				
9/6/2008 22:20	87.7	E	3.66				
9/6/2008 22:30	96.7	E	4.09				
9/6/2008 22:40	104.5	E	5.06				
9/6/2008 22:50	108.2	E	5.49				
9/6/2008 23:00	110.6	E	5.49				
9/6/2008 23:10	121.4	SE	5.43				
9/6/2008 23:20	120.5	SE	5.49				
9/6/2008 23:30	124	SE	5.67				
9/6/2008 23:40	123.3	SE	5.43				
9/6/2008 23:50	136.3	SE	6.23				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
9/7/2008 0:00	136.8	SE	6.12				
9/7/2008 0:10	135.3	SE	6.01				
9/7/2008 0:20	132.8	SE	5.39				
9/7/2008 0:30	137.7	SE	6.12				
9/7/2008 0:40	135.6	SE	6.03				
9/7/2008 0:50	137.1	SE	6.41				
9/7/2008 1:00	144.5	SE	7.1				
9/7/2008 1:10	147	SE	7.32				
9/7/2008 1:20	151.5	SE	6.95				
9/7/2008 1:30	160.7	S	6.08				
9/7/2008 1:40	168.8	S	6.23				
9/7/2008 1:50	175.1	S	6.66				
9/7/2008 2:00	181.4	S	5.45				
9/7/2008 2:10	179.9	S	5.24				
9/7/2008 2:20	184.4	S	5.83				
9/7/2008 2:30	183.6	S	6.59				
9/7/2008 2:40	185	S	6.95				
9/7/2008 2:50	187.4	S	7.16				
9/7/2008 3:00	184.4	S	7.2				
9/7/2008 3:10	185.3	S	6.71				
9/7/2008 3:20	186.9	S	6.97				
9/7/2008 3:30	189.9	S	6.36				
9/7/2008 3:40	187.5	S	6.43				
9/7/2008 3:50	191.6	S	6.43				
9/7/2008 4:00	185.2	S	6.45				
9/7/2008 4:10	177	S	6.97				
9/7/2008 4:20	178.8	S	7.19				
9/7/2008 4:30	176.4	S	7.34				
9/7/2008 4:40	183.6	S	7.24				
9/7/2008 4:50	188.9	S	7.64				
9/7/2008 5:00	194.9	S	6.95				
9/7/2008 5:10	194.8	S	6.87				
9/7/2008 5:20	190.5	S	6.68				
9/7/2008 5:30	188.4	S	7.56				
9/7/2008 5:40	185.2	S	7.53				
9/7/2008 5:50	193.4	S	6.57				
9/7/2008 6:00	197.3	S	6.45	21	12	16.5	0.6
9/7/2008 6:10	194.8	S	5.74				
9/7/2008 6:20	199.7	S	5.22				
9/7/2008 6:30	215.6	SW	5.34				
9/7/2008 6:40	231.1	SW	4.98				
9/7/2008 6:50	238.8	SW	4.14				
9/7/2008 7:00	240.6	SW	4.93				
9/7/2008 19:00	294.2	NW	2.38				
9/7/2008 19:10	282.2	W	2.72				
9/7/2008 19:20	275.7	W	2.98				
9/7/2008 19:30	248.4	W	2.43				
9/7/2008 19:40	253.2	W	4.22				
9/7/2008 19:50	248.7	W	4.73				
9/7/2008 20:00	250.6	W	4.67				
9/7/2008 20:10	238	SW	4.95				
9/7/2008 20:20	249.1	W	5.23				
9/7/2008 20:30	243.5	SW	4.41				
9/7/2008 20:40	246.9	SW	4.42				
9/7/2008 20:50	243.2	SW	4.78				
9/7/2008 21:00	236.5	SW	4.54				
9/7/2008 21:10	235.2	SW	4.27				
9/7/2008 21:20	236.7	SW	4.33				
9/7/2008 21:30	235.4	SW	4.66				
9/7/2008 21:40	226.3	SW	4.62				
9/7/2008 21:50	227.9	SW	4.94				
9/7/2008 22:00	229.7	SW	5.14				
9/7/2008 22:10	232.5	SW	5.34				
9/7/2008 22:20	241.5	SW	5.44				
9/7/2008 22:30	246.5	SW	5.85				
9/7/2008 22:40	241.2	SW	6.12				
9/7/2008 22:50	241.8	SW	5.54				
9/7/2008 23:00	237.4	SW	5.41				
9/7/2008 23:10	236.7	SW	5.31				
9/7/2008 23:20	240.7	SW	6.2				
9/7/2008 23:30	246.2	SW	6.4				
9/7/2008 23:40	243.5	SW	6.49				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
9/7/2008 23:50	235.1	SW	6.12				
9/8/2008 0:00	229.8	SW	6.58				
9/8/2008 0:10	235.6	SW	6.81				
9/8/2008 0:20	233.2	SW	7.53				
9/8/2008 0:30	233.1	SW	8.21				
9/8/2008 0:40	239.2	SW	7.31				
9/8/2008 0:50	244.7	SW	7.29				
9/8/2008 1:00	246.7	SW	6.84				
9/8/2008 1:10	251.8	W	7.1				
9/8/2008 1:20	250.3	W	7.17				
9/8/2008 1:30	247.2	SW	7.27				
9/8/2008 1:40	251	W	7.11				
9/8/2008 1:50	261.3	W	7.59				
9/8/2008 2:00	264	W	7.69				
9/8/2008 2:10	256.5	W	7.42				
9/8/2008 2:20	256.1	W	8.64				
9/8/2008 2:30	258	W	8.31				
9/8/2008 2:40	257.3	W	8.41				
9/8/2008 2:50	256.3	W	8.02				
9/8/2008 3:00	254.8	W	8.38				
9/8/2008 3:10	255.6	W	8.2				
9/8/2008 3:20	250	W	7.89				
9/8/2008 3:30	246.8	SW	7.52				
9/8/2008 3:40	245.1	SW	7.88				
9/8/2008 3:50	244.9	SW	7.42				
9/8/2008 4:00	242.9	SW	7.42				
9/8/2008 4:10	238.6	SW	7.52				
9/8/2008 4:20	237.6	SW	7.16				
9/8/2008 4:30	237	SW	7.26				
9/8/2008 4:40	237.4	SW	7.58				
9/8/2008 4:50	234.2	SW	7.78				
9/8/2008 5:00	237.2	SW	8.07				
9/8/2008 5:10	234.1	SW	6.42				
9/8/2008 5:20	232.3	SW	6.55				
9/8/2008 5:30	237.8	SW	7.58				
9/8/2008 5:40	233.7	SW	5.22				
9/8/2008 5:50	239.3	SW	5.75				
9/8/2008 6:00	237.8	SW	5.7	21	14	17.5	11.6
9/8/2008 6:10	243.5	SW	6.4				
9/8/2008 6:20	242.7	SW	7.07				
9/8/2008 6:30	249.4	W	7.05				
9/8/2008 6:40	250.4	W	7.82				
9/8/2008 6:50	250.9	W	7.22				
9/8/2008 7:00	251.6	W	7.19				
9/8/2008 19:00	192.1	S	2.93				
9/8/2008 19:10	209.8	SW	2.18				
9/8/2008 19:20	194.9	S	2.59				
9/8/2008 19:30	217.7	SW	2.51				
9/8/2008 19:40	229.7	SW	2.04				
9/8/2008 19:50	222	SW	1.77				
9/8/2008 20:00	220.4	SW	2.23				
9/8/2008 20:10	218.9	SW	2.13				
9/8/2008 20:20	213.9	SW	2.94				
9/8/2008 20:30	148.1	SE	1.87				
9/8/2008 20:40	139.5	SE	2.4				
9/8/2008 20:50	144	SE	2.87				
9/8/2008 21:00	137.7	SE	3.34				
9/8/2008 21:10	142.7	SE	3.79				
9/8/2008 21:20	142.2	SE	4.05				
9/8/2008 21:30	145.9	SE	4.06				
9/8/2008 21:40	154.9	SE	3.47				
9/8/2008 21:50	162.2	S	2.79				
9/8/2008 22:00	176	S	1.94				
9/8/2008 22:10	169.6	S	1.42				
9/8/2008 22:20	156.5	SE	1.9				
9/8/2008 22:30	150.2	SE	2.39				
9/8/2008 22:40	154.5	SE	2.51				
9/8/2008 22:50	161	S	3.02				
9/8/2008 23:00	159.3	S	3.28				
9/8/2008 23:10	151	SE	2.87				
9/8/2008 23:20	146.2	SE	2.51				
9/8/2008 23:30	156.6	SE	2.45				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
9/8/2008 23:40	143.6	SE	2.44				
9/8/2008 23:50	146.6	SE	2.51				
9/9/2008 0:00	142.6	SE	2.85				
9/9/2008 0:10	153.9	SE	2.59				
9/9/2008 0:20	167	S	2.82				
9/9/2008 0:30	171.5	S	2.03				
9/9/2008 0:40	153.8	SE	1.66				
9/9/2008 0:50	147.7	SE	1.97				
9/9/2008 1:00	140.9	SE	2.43				
9/9/2008 1:10	140.1	SE	2.36				
9/9/2008 1:20	144.7	SE	2.24				
9/9/2008 1:30	156.1	SE	2.06				
9/9/2008 1:40	167.3	S	2.09				
9/9/2008 1:50	174.5	S	2.28				
9/9/2008 2:00	176	S	1.22				
9/9/2008 2:10	206	SW	0.94				
9/9/2008 2:20	262	W	1.49				
9/9/2008 2:30	292.2	W	1.68				
9/9/2008 2:40	310	NW	1.42				
9/9/2008 2:50	315.6	NW	1.4				
9/9/2008 3:00	315.5	NW	1.14				
9/9/2008 3:10	332.1	NW	1.78				
9/9/2008 3:20	335.3	NW	2.51				
9/9/2008 3:30	340.2	N	3.67				
9/9/2008 3:40	344	N	4.73				
9/9/2008 3:50	351.3	N	4.94				
9/9/2008 4:00	358.7	N	4.92				
9/9/2008 4:10	11.48	N	3.92				
9/9/2008 4:20	31	NE	3.86				
9/9/2008 4:30	35.87	NE	3.62				
9/9/2008 4:40	42.76	NE	2.68				
9/9/2008 4:50	75.5	E	2.2				
9/9/2008 5:00	57.37	NE	2.65				
9/9/2008 5:10	55.25	NE	2.42				
9/9/2008 5:20	59.94	NE	2.69				
9/9/2008 5:30	62.65	NE	2.05				
9/9/2008 5:40	63.89	NE	1.73				
9/9/2008 5:50	82.7	E	1.79				
9/9/2008 6:00	91.6	E	2.32	18.5	12	15.3	1.2
9/9/2008 6:10	92.2	E	2.76				
9/9/2008 6:20	80.6	E	2.43				
9/9/2008 6:30	76.7	E	1.46				
9/9/2008 6:40	62.47	NE	1.29				
9/9/2008 6:50	17.86	N	1.32				
9/9/2008 7:00	339.6	N	1.28				
9/9/2008 19:00	321	NW	4.05				
9/9/2008 19:10	319.2	NW	4.23				
9/9/2008 19:20	315.6	NW	5.32				
9/9/2008 19:30	320.2	NW	4.85				
9/9/2008 19:40	321.1	NW	4.63				
9/9/2008 19:50	324.6	NW	4.59				
9/9/2008 20:00	325.3	NW	4.09				
9/9/2008 20:10	328.3	NW	5.07				
9/9/2008 20:20	327.9	NW	4.29				
9/9/2008 20:30	331.6	NW	3.91				
9/9/2008 20:40	336.1	NW	3.98				
9/9/2008 20:50	342.1	N	4.34				
9/9/2008 21:00	342.1	N	4.18				
9/9/2008 21:10	339.5	N	3.65				
9/9/2008 21:20	340.9	N	3.06				
9/9/2008 21:30	342	N	3.44				
9/9/2008 21:40	347	N	3.55				
9/9/2008 21:50	348.4	N	3.16				
9/9/2008 22:00	350.9	N	3.28				
9/9/2008 22:10	349.5	N	3.21				
9/9/2008 22:20	340.7	N	2.82				
9/9/2008 22:30	345.4	N	2.04				
9/9/2008 22:40	344.2	N	1.99				
9/9/2008 22:50	336.1	NW	2.46				
9/9/2008 23:00	341.8	N	2.66				
9/9/2008 23:10	342.5	N	2.79				
9/9/2008 23:20	338.9	N	2.54				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
9/9/2008 23:30	347.9	N	1.9				
9/9/2008 23:40	353.4	N	1.49				
9/9/2008 23:50	9.93	N	1.36				
9/10/2008 0:00	46.76	NE	0.61				
9/10/2008 0:10	49.3	NE	0.29				
9/10/2008 0:20	55.87	NE	0.33				
9/10/2008 0:30	49.73	NE	0.48				
9/10/2008 0:40	43.91	NE	0.89				
9/10/2008 0:50	63.15	NE	0.88				
9/10/2008 1:00	65.56	NE	0.9				
9/10/2008 1:10	71.3	E	0.97				
9/10/2008 1:20	51.6	NE	0.94				
9/10/2008 1:30	54.11	NE	0.82				
9/10/2008 1:40	60.35	NE	0.94				
9/10/2008 1:50	90.2	E	0.94				
9/10/2008 2:00	126.3	SE	1.01				
9/10/2008 2:10	123.2	SE	1.44				
9/10/2008 2:20	129	SE	1.55				
9/10/2008 2:30	139	SE	1.54				
9/10/2008 2:40	164	S	1.62				
9/10/2008 2:50	184.7	S	2.43				
9/10/2008 3:00	182.7	S	3.03				
9/10/2008 3:10	178.9	S	3.28				
9/10/2008 3:20	178.7	S	3.1				
9/10/2008 3:30	179.4	S	2.54				
9/10/2008 3:40	176	S	2.54				
9/10/2008 3:50	176.7	S	2.67				
9/10/2008 4:00	176.6	S	2.8				
9/10/2008 4:10	173.5	S	2.68				
9/10/2008 4:20	171.8	S	3.09				
9/10/2008 4:30	174.9	S	3.02				
9/10/2008 4:40	176.2	S	2.7				
9/10/2008 4:50	154.1	SE	2.54				
9/10/2008 5:00	154.3	SE	3.19				
9/10/2008 5:10	150.6	SE	3.24				
9/10/2008 5:20	157.8	S	3.15				
9/10/2008 5:30	159.4	S	3.04				
9/10/2008 5:40	166.7	S	3.71				
9/10/2008 5:50	162.4	S	3.96				
9/10/2008 6:00	164	S	3.88	No Data	No Data	No Data	No Data
9/10/2008 6:10	173.4	S	3.58				
9/10/2008 6:20	176	S	3.06				
9/10/2008 6:30	159.6	S	3.64				
9/10/2008 6:40	159.8	S	4.35				
9/10/2008 6:50	163	S	4.19				
9/10/2008 7:00	159.4	S	4.08				
9/10/2008 19:00	21.9	N	2.91				
9/10/2008 19:10	31.94	NE	3.26				
9/10/2008 19:20	43.38	NE	3.49				
9/10/2008 19:30	46.74	NE	3.51				
9/10/2008 19:40	49.54	NE	3.62				
9/10/2008 19:50	55.87	NE	3.46				
9/10/2008 20:00	57.07	NE	3.34				
9/10/2008 20:10	60.48	NE	3.33				
9/10/2008 20:20	69.94	E	3.94				
9/10/2008 20:30	73.8	E	4.04				
9/10/2008 20:40	78.7	E	4.44				
9/10/2008 20:50	86.9	E	4.44				
9/10/2008 21:00	89.4	E	5.24				
9/10/2008 21:10	88.3	E	5.76				
9/10/2008 21:20	89.8	E	6.86				
9/10/2008 21:30	94.1	E	7.04				
9/10/2008 21:40	99.1	E	6.35				
9/10/2008 21:50	101.3	E	6.6				
9/10/2008 22:00	103.6	E	6.32				
9/10/2008 22:10	105.4	E	6.66				
9/10/2008 22:20	106.8	E	6.31				
9/10/2008 22:30	109.7	E	6.16				
9/10/2008 22:40	117	SE	6.62				
9/10/2008 22:50	126.1	SE	7.01				
9/10/2008 23:00	125	SE	7				
9/10/2008 23:10	121.2	SE	6.46				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
9/10/2008 23:20	124.9	SE	6.43				
9/10/2008 23:30	126.6	SE	6.08				
9/10/2008 23:40	135.6	SE	6.05				
9/10/2008 23:50	155.6	SE	6.57				
9/11/2008 0:00	157.3	SE	7.8				
9/11/2008 0:10	153.4	SE	7.95				
9/11/2008 0:20	152.5	SE	7.92				
9/11/2008 0:30	150.8	SE	7.42				
9/11/2008 0:40	151.1	SE	7.54				
9/11/2008 0:50	144.9	SE	7.52				
9/11/2008 1:00	145	SE	7.9				
9/11/2008 1:10	146.2	SE	7.94				
9/11/2008 1:20	147.9	SE	7.9				
9/11/2008 1:30	148.3	SE	8.14				
9/11/2008 1:40	150	SE	8.32				
9/11/2008 1:50	150.9	SE	8.25				
9/11/2008 2:00	152	SE	8.37				
9/11/2008 2:10	153	SE	8.25				
9/11/2008 2:20	151.3	SE	8.09				
9/11/2008 2:30	150.2	SE	8.33				
9/11/2008 2:40	150.6	SE	8.48				
9/11/2008 2:50	149.6	SE	8.5				
9/11/2008 3:00	149.1	SE	9				
9/11/2008 3:10	149.4	SE	9.04				
9/11/2008 3:20	149.5	SE	9.11				
9/11/2008 3:30	148.6	SE	8.94				
9/11/2008 3:40	147.2	SE	8.29				
9/11/2008 3:50	148.3	SE	8.19				
9/11/2008 4:00	150	SE	8.44				
9/11/2008 4:10	150	SE	8.42				
9/11/2008 4:20	149.6	SE	8.41				
9/11/2008 4:30	149.1	SE	9.35				
9/11/2008 4:40	147.9	SE	9.64				
9/11/2008 4:50	147.1	SE	9.54				
9/11/2008 5:00	145.8	SE	9.53				
9/11/2008 5:10	145.6	SE	9.53				
9/11/2008 5:20	145.9	SE	9.27				
9/11/2008 5:30	145.8	SE	8.99				
9/11/2008 5:40	145.1	SE	9.03				
9/11/2008 5:50	145.4	SE	9.31				
9/11/2008 6:00	144.7	SE	9.79	No Data	No Data	No Data	No Data
9/11/2008 6:10	144.7	SE	10				
9/11/2008 6:20	143.3	SE	9.98				
9/11/2008 6:30	141.4	SE	10.09				
9/11/2008 6:40	140.7	SE	9.56				
9/11/2008 6:50	142.3	SE	9.39				
9/11/2008 7:00	142.4	SE	9.31				
9/11/2008 19:00	173.1	S	2.81				
9/11/2008 19:10	170.3	S	3.41				
9/11/2008 19:20	164.9	S	3.8				
9/11/2008 19:30	155.8	SE	4.54				
9/11/2008 19:40	152.8	SE	4.88				
9/11/2008 19:50	158.2	S	5.29				
9/11/2008 20:00	158.3	S	5.55				
9/11/2008 20:10	155.6	SE	6.14				
9/11/2008 20:20	149.7	SE	6.69				
9/11/2008 20:30	142.7	SE	7.2				
9/11/2008 20:40	149.4	SE	7.91				
9/11/2008 20:50	155.1	SE	8.4				
9/11/2008 21:00	155.3	SE	7.22				
9/11/2008 21:10	154.1	SE	7.51				
9/11/2008 21:20	154.6	SE	7.39				
9/11/2008 21:30	159.4	S	7.2				
9/11/2008 21:40	163	S	7.02				
9/11/2008 21:50	162.2	S	7.23				
9/11/2008 22:00	163.7	S	7.53				
9/11/2008 22:10	164.8	S	8.06				
9/11/2008 22:20	164.7	S	8.21				
9/11/2008 22:30	166	S	7.99				
9/11/2008 22:40	166.9	S	8.16				
9/11/2008 22:50	168.1	S	8.43				
9/11/2008 23:00	171.2	S	7.84				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
9/11/2008 23:10	175.9	S	8.04				
9/11/2008 23:20	174.7	S	8.09				
9/11/2008 23:30	175.3	S	8.63				
9/11/2008 23:40	176.7	S	8.96				
9/11/2008 23:50	175.4	S	8.71				
9/12/2008 0:00	175.5	S	8.7				
9/12/2008 0:10	175.2	S	9.23				
9/12/2008 0:20	174.6	S	9.04				
9/12/2008 0:30	173.8	S	8.74				
9/12/2008 0:40	173.5	S	8.8				
9/12/2008 0:50	174.7	S	8.39				
9/12/2008 1:00	177.5	S	9.23				
9/12/2008 1:10	177.8	S	9.28				
9/12/2008 1:20	176.5	S	8.72				
9/12/2008 1:30	178.1	S	8.78				
9/12/2008 1:40	180.2	S	8.25				
9/12/2008 1:50	182	S	9.1				
9/12/2008 2:00	179.6	S	9.38				
9/12/2008 2:10	178.3	S	9.39				
9/12/2008 2:20	179.8	S	9.03				
9/12/2008 2:30	181.6	S	8.75				
9/12/2008 2:40	183.1	S	8.4				
9/12/2008 2:50	183.8	S	8.16				
9/12/2008 3:00	187.3	S	7.95				
9/12/2008 3:10	190.3	S	8.45				
9/12/2008 3:20	202.9	SW	7.44				
9/12/2008 3:30	201	S	8.05				
9/12/2008 3:40	199.3	S	7.75				
9/12/2008 3:50	201	S	8.4				
9/12/2008 4:00	204.3	SW	8.22				
9/12/2008 4:10	206.3	SW	8.72				
9/12/2008 4:20	208.6	SW	8.58				
9/12/2008 4:30	207.8	SW	8.23				
9/12/2008 4:40	211.8	SW	7.86				
9/12/2008 4:50	216.7	SW	7.6				
9/12/2008 5:00	219.4	SW	7.73				
9/12/2008 5:10	220.1	SW	7.94				
9/12/2008 5:20	220.3	SW	8.09				
9/12/2008 5:30	223.7	SW	8.32				
9/12/2008 5:40	224.5	SW	7.72				
9/12/2008 5:50	220.5	SW	7.68				
9/12/2008 6:00	223	SW	7.12	22.5	15	18.8	0.2
9/12/2008 6:10	218.1	SW	7.08				
9/12/2008 6:20	217.5	SW	7.62				
9/12/2008 6:30	215.9	SW	7.45				
9/12/2008 6:40	214.5	SW	6.83				
9/12/2008 6:50	216.5	SW	6.6				
9/12/2008 7:00	217.5	SW	6.34				
9/12/2008 19:00	356.5	N	2.55				
9/12/2008 19:10	355.6	N	2.97				
9/12/2008 19:20	1.66	N	2.59				
9/12/2008 19:30	7.49	N	3.26				
9/12/2008 19:40	9.76	N	2.86				
9/12/2008 19:50	9.26	N	3.12				
9/12/2008 20:00	9.68	N	3.52				
9/12/2008 20:10	12.93	N	2.63				
9/12/2008 20:20	27.85	NE	2.49				
9/12/2008 20:30	26.34	NE	1.96				
9/12/2008 20:40	19.48	N	1.72				
9/12/2008 20:50	10.49	N	1.52				
9/12/2008 21:00	11.96	N	1.68				
9/12/2008 21:10	13.27	N	2.21				
9/12/2008 21:20	15.61	N	2.01				
9/12/2008 21:30	11.16	N	2.23				
9/12/2008 21:40	12.84	N	1.99				
9/12/2008 21:50	355.5	N	1.89				
9/12/2008 22:00	354.4	N	1.98				
9/12/2008 22:10	358.6	N	2.03				
9/12/2008 22:20	357.8	N	1.78				
9/12/2008 22:30	0.89	N	1.79				
9/12/2008 22:40	359.6	N	1.8				
9/12/2008 22:50	337.7	N	1.61				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
9/12/2008 23:00	326.8	NW	1.96				
9/12/2008 23:10	312.9	NW	2.04				
9/12/2008 23:20	310.3	NW	3				
9/12/2008 23:30	312.8	NW	2.54				
9/12/2008 23:40	317.6	NW	2.97				
9/12/2008 23:50	314.1	NW	2.96				
9/13/2008 0:00	315.2	NW	3.17				
9/13/2008 0:10	316.2	NW	3.62				
9/13/2008 0:20	313.1	NW	3.8				
9/13/2008 0:30	310.6	NW	3.21				
9/13/2008 0:40	314.7	NW	2.75				
9/13/2008 0:50	297.2	NW	3.12				
9/13/2008 1:00	305.2	NW	2.84				
9/13/2008 1:10	304.1	NW	2.58				
9/13/2008 1:20	305.7	NW	2.78				
9/13/2008 1:30	304.3	NW	2.79				
9/13/2008 1:40	308.8	NW	3.24				
9/13/2008 1:50	313	NW	3.38				
9/13/2008 2:00	306.7	NW	3.23				
9/13/2008 2:10	306.2	NW	3.28				
9/13/2008 2:20	310	NW	3.14				
9/13/2008 2:30	315.8	NW	2.84				
9/13/2008 2:40	315.3	NW	2.87				
9/13/2008 2:50	314.6	NW	3.07				
9/13/2008 3:00	320.7	NW	3.24				
9/13/2008 3:10	322.8	NW	2.96				
9/13/2008 3:20	329.2	NW	3.29				
9/13/2008 3:30	326.5	NW	2.92				
9/13/2008 3:40	324.1	NW	3.04				
9/13/2008 3:50	333.5	NW	2.53				
9/13/2008 4:00	352.5	N	1.93				
9/13/2008 4:10	354	N	1.98				
9/13/2008 4:20	351.7	N	1.67				
9/13/2008 4:30	340.7	N	1.11				
9/13/2008 4:40	347.2	N	0.99				
9/13/2008 4:50	26.06	NE	0.71				
9/13/2008 5:00	36.89	NE	1.05				
9/13/2008 5:10	40.6	NE	1.39				
9/13/2008 5:20	48.55	NE	2.04				
9/13/2008 5:30	36.52	NE	1.47				
9/13/2008 5:40	6.39	N	1.29				
9/13/2008 5:50	314.8	NW	1.31				
9/13/2008 6:00	292.6	NW	1.26	22.5	16	19.3	4.6
9/13/2008 6:10	278.6	W	0.47				
9/13/2008 6:20	11.29	N	0.38				
9/13/2008 6:30	69.85	E	0.8				
9/13/2008 6:40	145.4	SE	0.97				
9/13/2008 6:50	189.4	S	1.38				
9/13/2008 7:00	192	S	1.43				
9/13/2008 19:00	149.1	SE	5.79				
9/13/2008 19:10	145.8	SE	5.51				
9/13/2008 19:20	146.7	SE	6.56				
9/13/2008 19:30	150.6	SE	7.78				
9/13/2008 19:40	151.5	SE	8.08				
9/13/2008 19:50	160.2	S	6.54				
9/13/2008 20:00	159.8	S	6.58				
9/13/2008 20:10	156.5	SE	4.89				
9/13/2008 20:20	147.3	SE	3.93				
9/13/2008 20:30	136.3	SE	3.12				
9/13/2008 20:40	138.5	SE	3.85				
9/13/2008 20:50	146.4	SE	3.87				
9/13/2008 21:00	163.8	S	3.13				
9/13/2008 21:10	191.8	S	5.12				
9/13/2008 21:20	207.1	SW	6.4				
9/13/2008 21:30	216.6	SW	6.17				
9/13/2008 21:40	217	SW	6.43				
9/13/2008 21:50	218.1	SW	7.32				
9/13/2008 22:00	215.1	SW	7.65				
9/13/2008 22:10	215.7	SW	8.15				
9/13/2008 22:20	214.1	SW	9.23				
9/13/2008 22:30	217.2	SW	9.29				
9/13/2008 22:40	221	SW	9.18				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
9/13/2008 22:50	223.4	SW	10.01				
9/13/2008 23:00	225.3	SW	10.13				
9/13/2008 23:10	231.2	SW	9.62				
9/13/2008 23:20	229.3	SW	9.67				
9/13/2008 23:30	222.9	SW	10.04				
9/13/2008 23:40	222.4	SW	10.77				
9/13/2008 23:50	223.9	SW	10.27				
9/14/2008 0:00	222.8	SW	9.71				
9/14/2008 0:10	223.5	SW	10.36				
9/14/2008 0:20	222.9	SW	9.16				
9/14/2008 0:30	220	SW	8.26				
9/14/2008 0:40	214.7	SW	8.14				
9/14/2008 0:50	212.9	SW	8.16				
9/14/2008 1:00	213.9	SW	8.31				
9/14/2008 1:10	210.3	SW	8.22				
9/14/2008 1:20	213	SW	8.85				
9/14/2008 1:30	217.7	SW	10.06				
9/14/2008 1:40	222.5	SW	10.15				
9/14/2008 1:50	222.5	SW	9.79				
9/14/2008 2:00	217	SW	9.89				
9/14/2008 2:10	211.6	SW	9.53				
9/14/2008 2:20	212.3	SW	9.29				
9/14/2008 2:30	213.8	SW	9.91				
9/14/2008 2:40	213.8	SW	10.89				
9/14/2008 2:50	214.2	SW	11.23				
9/14/2008 3:00	209.3	SW	10.68				
9/14/2008 3:10	205.9	SW	10.53				
9/14/2008 3:20	208	SW	10.62				
9/14/2008 3:30	207.6	SW	11.05				
9/14/2008 3:40	210.9	SW	11.2				
9/14/2008 3:50	208.9	SW	10.65				
9/14/2008 4:00	211.9	SW	11.89				
9/14/2008 4:10	210	SW	11.39				
9/14/2008 4:20	207.8	SW	10.45				
9/14/2008 4:30	211.4	SW	10.19				
9/14/2008 4:40	219.9	SW	12.39				
9/14/2008 4:50	218.9	SW	11.95				
9/14/2008 5:00	217.2	SW	11.68				
9/14/2008 5:10	213.6	SW	11.17				
9/14/2008 5:20	212.6	SW	10.46				
9/14/2008 5:30	214.9	SW	11.95				
9/14/2008 5:40	219.2	SW	12.22				
9/14/2008 5:50	219.9	SW	10.99				
9/14/2008 6:00	221.6	SW	10.54	22	16	19	52.8
9/14/2008 6:10	219.6	SW	9.85				
9/14/2008 6:20	217.9	SW	9.61				
9/14/2008 6:30	217.6	SW	9.35				
9/14/2008 6:40	215.4	SW	9.92				
9/14/2008 6:50	214.7	SW	8.88				
9/14/2008 7:00	213.6	SW	9.97				
9/14/2008 19:00	12.03	N	12.66				
9/14/2008 19:10	10.66	N	14.22				
9/14/2008 19:20	6.84	N	13.32				
9/14/2008 19:30	6.8	N	14.72				
9/14/2008 19:40	7.42	N	13.7				
9/14/2008 19:50	2.1	N	12.56				
9/14/2008 20:00	4.2	N	12.98				
9/14/2008 20:10	4.54	N	12.08				
9/14/2008 20:20	6.72	N	11.68				
9/14/2008 20:30	3.45	N	9.88				
9/14/2008 20:40	4.49	N	9.08				
9/14/2008 20:50	8.42	N	11.22				
9/14/2008 21:00	7.25	N	10.95				
9/14/2008 21:10	13.81	N	12.04				
9/14/2008 21:20	12.43	N	10.48				
9/14/2008 21:30	356.7	N	9.12				
9/14/2008 21:40	345.9	N	9.21				
9/14/2008 21:50	349.2	N	9.86				
9/14/2008 22:00	347.6	N	10.65				
9/14/2008 22:10	351.4	N	10.27				
9/14/2008 22:20	350.8	N	9.78				
9/14/2008 22:30	347.5	N	9.17				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
9/14/2008 22:40	346.6	N	9.54				
9/14/2008 22:50	350	N	9.5				
9/14/2008 23:00	347.3	N	10.85				
9/14/2008 23:10	351.1	N	10.39				
9/14/2008 23:20	351.9	N	10.78				
9/14/2008 23:30	353.7	N	9.62				
9/14/2008 23:40	350.4	N	8.16				
9/14/2008 23:50	351.8	N	8.22				
9/15/2008 0:00	350.5	N	7.91				
9/15/2008 0:10	337.8	N	7.66				
9/15/2008 0:20	341.6	N	8.29				
9/15/2008 0:30	334.3	NW	9				
9/15/2008 0:40	339.4	N	8.71				
9/15/2008 0:50	333.3	NW	7.98				
9/15/2008 1:00	333.1	NW	10.11				
9/15/2008 1:10	339.4	N	9.42				
9/15/2008 1:20	342.6	N	8.09				
9/15/2008 1:30	346.2	N	6.63				
9/15/2008 1:40	337.1	NW	8.12				
9/15/2008 1:50	339.9	N	8.06				
9/15/2008 2:00	343.1	N	7.32				
9/15/2008 2:10	355.2	N	7.6				
9/15/2008 2:20	348.2	N	7.8				
9/15/2008 2:30	344.2	N	7.08				
9/15/2008 2:40	348.4	N	6.88				
9/15/2008 2:50	351.3	N	7				
9/15/2008 3:00	351.9	N	6.76				
9/15/2008 3:10	355.3	N	6.29				
9/15/2008 3:20	357.5	N	5.56				
9/15/2008 3:30	356.8	N	4.41				
9/15/2008 3:40	346.7	N	4.8				
9/15/2008 3:50	354.1	N	5.94				
9/15/2008 4:00	347.3	N	5.37				
9/15/2008 4:10	344.6	N	5.7				
9/15/2008 4:20	344.1	N	5.58				
9/15/2008 4:30	340.6	N	6.09				
9/15/2008 4:40	344.3	N	6.31				
9/15/2008 4:50	346.8	N	5.75				
9/15/2008 5:00	346.1	N	5.37				
9/15/2008 5:10	338.8	N	5.27				
9/15/2008 5:20	336.7	NW	6.06				
9/15/2008 5:30	334.8	NW	6.7				
9/15/2008 5:40	333.6	NW	6.02				
9/15/2008 5:50	329.7	NW	5.48				
9/15/2008 6:00	340.1	N	5.3	15.5	11.5	13.5	2.4
9/15/2008 6:10	341.4	N	6.22				
9/15/2008 6:20	343.3	N	6.14				
9/15/2008 6:30	347.7	N	6				
9/15/2008 6:40	346.4	N	6.01				
9/15/2008 6:50	347.3	N	6.1				
9/15/2008 7:00	351.9	N	6.06				
9/15/2008 19:00	331.6	NW	3.79				
9/15/2008 19:10	332.6	NW	3.71				
9/15/2008 19:20	329.7	NW	3.34				
9/15/2008 19:30	339.2	N	3.5				
9/15/2008 19:40	352.7	N	3.95				
9/15/2008 19:50	351.1	N	3.53				
9/15/2008 20:00	348.3	N	3.38				
9/15/2008 20:10	345.4	N	3.62				
9/15/2008 20:20	343.5	N	3.73				
9/15/2008 20:30	342.6	N	3.42				
9/15/2008 20:40	337.7	N	3.05				
9/15/2008 20:50	342.6	N	3.01				
9/15/2008 21:00	343.1	N	1.95				
9/15/2008 21:10	334.1	NW	2				
9/15/2008 21:20	350.8	N	1.63				
9/15/2008 21:30	350.9	N	0.98				
9/15/2008 21:40	3.22	N	1.6				
9/15/2008 21:50	13.56	N	0.39				
9/15/2008 22:00	164.6	S	0.34				
9/15/2008 22:10	170.3	S	0.29				
9/15/2008 22:20	160	S	1.29				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
9/15/2008 22:30	157.3	SE	0.91				
9/15/2008 22:40	155.4	SE	1.35				
9/15/2008 22:50	155.3	SE	1.8				
9/15/2008 23:00	160.3	S	1.62				
9/15/2008 23:10	158	S	1.21				
9/15/2008 23:20	152.2	SE	1.12				
9/15/2008 23:30	166.1	S	1.55				
9/15/2008 23:40	175.6	S	1.72				
9/15/2008 23:50	177.8	S	1.6				
9/16/2008 0:00	191.2	S	2.34				
9/16/2008 0:10	201.8	S	1.72				
9/16/2008 0:20	192.2	S	2.24				
9/16/2008 0:30	188.3	S	2.05				
9/16/2008 0:40	186.8	S	2.22				
9/16/2008 0:50	184.7	S	2.64				
9/16/2008 1:00	180.2	S	2.74				
9/16/2008 1:10	179.7	S	2.72				
9/16/2008 1:20	174.2	S	2.69				
9/16/2008 1:30	162.2	S	2.29				
9/16/2008 1:40	153.7	SE	2.35				
9/16/2008 1:50	169.3	S	3.09				
9/16/2008 2:00	175.8	S	4.07				
9/16/2008 2:10	176.4	S	4.77				
9/16/2008 2:20	177.8	S	5.34				
9/16/2008 2:30	178.9	S	4.95				
9/16/2008 2:40	181.3	S	4.71				
9/16/2008 2:50	184.8	S	4.8				
9/16/2008 3:00	189.8	S	4.71				
9/16/2008 3:10	187.7	S	4.93				
9/16/2008 3:20	188.5	S	5.16				
9/16/2008 3:30	185.2	S	4.52				
9/16/2008 3:40	186.1	S	4.42				
9/16/2008 3:50	187.8	S	4.72				
9/16/2008 4:00	183.1	S	4.44				
9/16/2008 4:10	180.7	S	4.21				
9/16/2008 4:20	181.9	S	3.74				
9/16/2008 4:30	184.3	S	3.29				
9/16/2008 4:40	187.7	S	3.03				
9/16/2008 4:50	195	S	2.89				
9/16/2008 5:00	200.2	S	3.25				
9/16/2008 5:10	193	S	4.02				
9/16/2008 5:20	182.5	S	3.48				
9/16/2008 5:30	186.8	S	3.75				
9/16/2008 5:40	194.7	S	4.31				
9/16/2008 5:50	196.4	S	4.14				
9/16/2008 6:00	202.1	S	3.5	18	6	12	0
9/16/2008 6:10	200.4	S	3.63				
9/16/2008 6:20	199.5	S	3.56				
9/16/2008 6:30	194.6	S	3.28				
9/16/2008 6:40	195.9	S	3.64				
9/16/2008 6:50	204.2	SW	3.86				
9/16/2008 7:00	207.2	SW	3.95				
9/16/2008 19:00	192.4	S	6.78				
9/16/2008 19:10	190	S	7.24				
9/16/2008 19:20	190.4	S	7.45				
9/16/2008 19:30	189	S	7.52				
9/16/2008 19:40	186.8	S	7.74				
9/16/2008 19:50	186.2	S	7.7				
9/16/2008 20:00	188.6	S	7.55				
9/16/2008 20:10	188.4	S	7.93				
9/16/2008 20:20	187.5	S	8.27				
9/16/2008 20:30	188.7	S	8.67				
9/16/2008 20:40	188.9	S	8.38				
9/16/2008 20:50	190	S	8.2				
9/16/2008 21:00	191.1	S	8.18				
9/16/2008 21:10	190.7	S	8.26				
9/16/2008 21:20	187.9	S	8.18				
9/16/2008 21:30	186.6	S	8.1				
9/16/2008 21:40	189.8	S	8.25				
9/16/2008 21:50	189.8	S	7.81				
9/16/2008 22:00	191.4	S	7.52				
9/16/2008 22:10	194.2	S	7.59				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
9/16/2008 22:20	196.8	S	7.83				
9/16/2008 22:30	199.6	S	8.08				
9/16/2008 22:40	200.9	S	7.89				
9/16/2008 22:50	204.1	SW	7.68				
9/16/2008 23:00	204.5	SW	7.91				
9/16/2008 23:10	203.8	SW	8.01				
9/16/2008 23:20	203.3	SW	8.14				
9/16/2008 23:30	200.8	S	8.28				
9/16/2008 23:40	199.3	S	8.07				
9/16/2008 23:50	197.4	S	8.03				
9/17/2008 0:00	199.5	S	8.34				
9/17/2008 0:10	200.9	S	8.41				
9/17/2008 0:20	198	S	8.17				
9/17/2008 0:30	198.8	S	7.56				
9/17/2008 0:40	204.4	SW	7.44				
9/17/2008 0:50	206.4	SW	7.8				
9/17/2008 1:00	209.5	SW	8.02				
9/17/2008 1:10	213.6	SW	8.14				
9/17/2008 1:20	216.1	SW	8.2				
9/17/2008 1:30	216	SW	7.99				
9/17/2008 1:40	217.7	SW	8.12				
9/17/2008 1:50	214.6	SW	7.92				
9/17/2008 2:00	212.2	SW	8.02				
9/17/2008 2:10	207.2	SW	7.89				
9/17/2008 2:20	207.9	SW	8.53				
9/17/2008 2:30	207.5	SW	8.09				
9/17/2008 2:40	209	SW	8.02				
9/17/2008 2:50	208.7	SW	8.04				
9/17/2008 3:00	208.8	SW	8.35				
9/17/2008 3:10	207.7	SW	8.02				
9/17/2008 3:20	208.6	SW	8.21				
9/17/2008 3:30	208.1	SW	7.77				
9/17/2008 3:40	211.1	SW	8.22				
9/17/2008 3:50	213.3	SW	8.7				
9/17/2008 4:00	210.9	SW	8.54				
9/17/2008 4:10	209.4	SW	8.39				
9/17/2008 4:20	208.5	SW	7.85				
9/17/2008 4:30	208.2	SW	7.4				
9/17/2008 4:40	208.5	SW	7.79				
9/17/2008 4:50	208.2	SW	7.71				
9/17/2008 5:00	209.1	SW	7.3				
9/17/2008 5:10	208.3	SW	7.01				
9/17/2008 5:20	209.8	SW	6.84				
9/17/2008 5:30	210.1	SW	7.31				
9/17/2008 5:40	209.8	SW	7.04				
9/17/2008 5:50	209.1	SW	7.01				
9/17/2008 6:00	211.8	SW	6.57	20.5	10.5	15.5	0
9/17/2008 6:10	214.7	SW	6.78				
9/17/2008 6:20	216.8	SW	6.88				
9/17/2008 6:30	220.4	SW	7.13				
9/17/2008 6:40	222.5	SW	6.76				
9/17/2008 6:50	223.4	SW	6.46				
9/17/2008 7:00	225.6	SW	5.93				
9/17/2008 19:00	328.4	NW	6.07				
9/17/2008 19:10	330.9	NW	5.96				
9/17/2008 19:20	332.2	NW	6.55				
9/17/2008 19:30	334.7	NW	6.39				
9/17/2008 19:40	335.5	NW	6.85				
9/17/2008 19:50	334.9	NW	6.66				
9/17/2008 20:00	334.9	NW	6.44				
9/17/2008 20:10	332.8	NW	7.04				
9/17/2008 20:20	332.9	NW	7.38				
9/17/2008 20:30	334.2	NW	6.71				
9/17/2008 20:40	336.8	NW	6.54				
9/17/2008 20:50	338.3	N	6.65				
9/17/2008 21:00	336.3	NW	7.23				
9/17/2008 21:10	336.4	NW	7.44				
9/17/2008 21:20	337.5	N	6.64				
9/17/2008 21:30	337.3	NW	6.58				
9/17/2008 21:40	339.7	N	6.2				
9/17/2008 21:50	339	N	5.84				
9/17/2008 22:00	339.3	N	6.28				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
9/17/2008 22:10	339.9	N	6.03				
9/17/2008 22:20	341.9	N	6.14				
9/17/2008 22:30	341.4	N	6.21				
9/17/2008 22:40	343.1	N	6.26				
9/17/2008 22:50	343	N	6.04				
9/17/2008 23:00	344.7	N	6.27				
9/17/2008 23:10	343.9	N	5.89				
9/17/2008 23:20	344.5	N	6.19				
9/17/2008 23:30	349.5	N	5.63				
9/17/2008 23:40	348.7	N	6.1				
9/17/2008 23:50	348.9	N	5.8				
9/18/2008 0:00	348.9	N	6.39				
9/18/2008 0:10	350.2	N	6.43				
9/18/2008 0:20	349.2	N	6.09				
9/18/2008 0:30	351.7	N	5.36				
9/18/2008 0:40	349.8	N	5.02				
9/18/2008 0:50	350	N	5.57				
9/18/2008 1:00	349.4	N	5.82				
9/18/2008 1:10	345.4	N	6.26				
9/18/2008 1:20	344.2	N	6.63				
9/18/2008 1:30	340.6	N	6.61				
9/18/2008 1:40	338.4	N	6.76				
9/18/2008 1:50	337.5	N	6.82				
9/18/2008 2:00	335.8	NW	6.43				
9/18/2008 2:10	334.7	NW	5.9				
9/18/2008 2:20	333.4	NW	6.28				
9/18/2008 2:30	331.9	NW	5.95				
9/18/2008 2:40	334.2	NW	6.43				
9/18/2008 2:50	332.1	NW	6.86				
9/18/2008 3:00	335.1	NW	6.42				
9/18/2008 3:10	334.7	NW	6.94				
9/18/2008 3:20	333.5	NW	6.67				
9/18/2008 3:30	336.4	NW	6.78				
9/18/2008 3:40	334.4	NW	6.75				
9/18/2008 3:50	335	NW	6.3				
9/18/2008 4:00	335.9	NW	7.22				
9/18/2008 4:10	336.4	NW	6.69				
9/18/2008 4:20	339.5	N	6.64				
9/18/2008 4:30	349.2	N	7.21				
9/18/2008 4:40	351.6	N	7.17				
9/18/2008 4:50	355	N	6.84				
9/18/2008 5:00	356.1	N	6.8				
9/18/2008 5:10	358.4	N	6.04				
9/18/2008 5:20	359.6	N	5.94				
9/18/2008 5:30	1.73	N	5.95				
9/18/2008 5:40	359.8	N	5.08				
9/18/2008 5:50	3.4	N	5.42				
9/18/2008 6:00	5.53	N	5.87	18	12	15	0
9/18/2008 6:10	6.72	N	6.23				
9/18/2008 6:20	11.34	N	6.43				
9/18/2008 6:30	17.86	N	7.03				
9/18/2008 6:40	23.98	NE	7.07				
9/18/2008 6:50	24.47	NE	6.82				
9/18/2008 7:00	22.51	NE	6.53				
9/18/2008 19:00	26.86	NE	5.21				
9/18/2008 19:10	28	NE	5.24				
9/18/2008 19:20	30.23	NE	5.36				
9/18/2008 19:30	42.75	NE	5.37				
9/18/2008 19:40	51.66	NE	5.64				
9/18/2008 19:50	60.56	NE	5.3				
9/18/2008 20:00	57.06	NE	5.39				
9/18/2008 20:10	60.81	NE	5.61				
9/18/2008 20:20	66.29	NE	6.23				
9/18/2008 20:30	69.49	E	6.51				
9/18/2008 20:40	69.82	E	6.64				
9/18/2008 20:50	76.2	E	6.37				
9/18/2008 21:00	83.7	E	6.94				
9/18/2008 21:10	86.4	E	7.12				
9/18/2008 21:20	88.3	E	7.45				
9/18/2008 21:30	90.1	E	7.47				
9/18/2008 21:40	90.9	E	7.56				
9/18/2008 21:50	94.5	E	8.02				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
9/18/2008 22:00	97	E	9.11				
9/18/2008 22:10	97.3	E	9.3				
9/18/2008 22:20	99.7	E	9.22				
9/18/2008 22:30	102.8	E	9.3				
9/18/2008 22:40	105.2	E	9.42				
9/18/2008 22:50	107.6	E	9.4				
9/18/2008 23:00	110.2	E	9.5				
9/18/2008 23:10	111.6	E	9.52				
9/18/2008 23:20	115.3	SE	9.49				
9/18/2008 23:30	116.1	SE	8.83				
9/18/2008 23:40	118.1	SE	8.91				
9/18/2008 23:50	122.3	SE	8.47				
9/19/2008 0:00	126.5	SE	8.1				
9/19/2008 0:10	131.3	SE	8.01				
9/19/2008 0:20	131.5	SE	7.78				
9/19/2008 0:30	133.7	SE	8.21				
9/19/2008 0:40	136.8	SE	8.56				
9/19/2008 0:50	136.7	SE	9.04				
9/19/2008 1:00	138.3	SE	8.98				
9/19/2008 1:10	139.3	SE	8.96				
9/19/2008 1:20	139.6	SE	8.58				
9/19/2008 1:30	140.4	SE	8.52				
9/19/2008 1:40	139.9	SE	9.04				
9/19/2008 1:50	140.9	SE	8.74				
9/19/2008 2:00	142.4	SE	9.03				
9/19/2008 2:10	143.5	SE	9.01				
9/19/2008 2:20	146.7	SE	8.74				
9/19/2008 2:30	147.1	SE	8.27				
9/19/2008 2:40	148.2	SE	8.05				
9/19/2008 2:50	148.8	SE	7.66				
9/19/2008 3:00	149.8	SE	7.82				
9/19/2008 3:10	150.7	SE	8.07				
9/19/2008 3:20	151.4	SE	8.47				
9/19/2008 3:30	151.1	SE	8.43				
9/19/2008 3:40	152	SE	8.32				
9/19/2008 3:50	152	SE	8.2				
9/19/2008 4:00	151.9	SE	8.11				
9/19/2008 4:10	152.4	SE	8.16				
9/19/2008 4:20	152	SE	8.41				
9/19/2008 4:30	153.7	SE	8.31				
9/19/2008 4:40	154	SE	8.33				
9/19/2008 4:50	153.5	SE	8.61				
9/19/2008 5:00	154.4	SE	8.41				
9/19/2008 5:10	154.9	SE	8.52				
9/19/2008 5:20	154.6	SE	8.31				
9/19/2008 5:30	155	SE	8.24				
9/19/2008 5:40	155.2	SE	8.55				
9/19/2008 5:50	155.6	SE	8.93				
9/19/2008 6:00	155.5	SE	8.57	22	8	15	0
9/19/2008 6:10	155.3	SE	8.24				
9/19/2008 6:20	154.6	SE	8.15				
9/19/2008 6:30	155.2	SE	8.46				
9/19/2008 6:40	155.3	SE	8.53				
9/19/2008 6:50	156	SE	8.72				
9/19/2008 7:00	155.3	SE	8.67				
9/19/2008 19:00	178.4	S	6.02				
9/19/2008 19:10	174.9	S	6.71				
9/19/2008 19:20	175.3	S	6.99				
9/19/2008 19:30	176.6	S	7.55				
9/19/2008 19:40	177.7	S	7.72				
9/19/2008 19:50	179.2	S	7.71				
9/19/2008 20:00	180.7	S	7.82				
9/19/2008 20:10	180	S	7.89				
9/19/2008 20:20	180.3	S	7.72				
9/19/2008 20:30	180.9	S	8.1				
9/19/2008 20:40	179.9	S	8.48				
9/19/2008 20:50	178.3	S	8.69				
9/19/2008 21:00	176.3	S	8.35				
9/19/2008 21:10	176.1	S	8.12				
9/19/2008 21:20	175.5	S	7.86				
9/19/2008 21:30	176.6	S	8.25				
9/19/2008 21:40	177.3	S	8.16				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
9/19/2008 21:50	178	S	8.52				
9/19/2008 22:00	180.1	S	8.75				
9/19/2008 22:10	180.2	S	8.68				
9/19/2008 22:20	180.4	S	8.51				
9/19/2008 22:30	179.5	S	8.67				
9/19/2008 22:40	178.4	S	8.99				
9/19/2008 22:50	179.5	S	9.12				
9/19/2008 23:00	179.5	S	8.77				
9/19/2008 23:10	180.3	S	8.65				
9/19/2008 23:20	181	S	8.95				
9/19/2008 23:30	182	S	8.31				
9/19/2008 23:40	183.8	S	7.96				
9/19/2008 23:50	185.2	S	7.98				
9/20/2008 0:00	184.4	S	8.42				
9/20/2008 0:10	185.6	S	8.11				
9/20/2008 0:20	187.4	S	8.18				
9/20/2008 0:30	187.5	S	8.4				
9/20/2008 0:40	187.6	S	8.61				
9/20/2008 0:50	188.3	S	8.49				
9/20/2008 1:00	186.4	S	8.6				
9/20/2008 1:10	187.9	S	8.65				
9/20/2008 1:20	189	S	8.72				
9/20/2008 1:30	190.8	S	8.63				
9/20/2008 1:40	191.7	S	8.75				
9/20/2008 1:50	191.8	S	8.31				
9/20/2008 2:00	193	S	8.31				
9/20/2008 2:10	194.8	S	8.26				
9/20/2008 2:20	195.1	S	7.87				
9/20/2008 2:30	197.4	S	7.62				
9/20/2008 2:40	197.6	S	7.58				
9/20/2008 2:50	196.9	S	7.87				
9/20/2008 3:00	197.2	S	8.23				
9/20/2008 3:10	197.3	S	8.03				
9/20/2008 3:20	197.1	S	7.77				
9/20/2008 3:30	197	S	7.95				
9/20/2008 3:40	197.1	S	8.05				
9/20/2008 3:50	196.3	S	8.43				
9/20/2008 4:00	196.2	S	8.17				
9/20/2008 4:10	196.7	S	7.54				
9/20/2008 4:20	196.3	S	7.36				
9/20/2008 4:30	196.1	S	7.49				
9/20/2008 4:40	197	S	7.83				
9/20/2008 4:50	197.2	S	8.36				
9/20/2008 5:00	197.4	S	8.29				
9/20/2008 5:10	195.3	S	8.17				
9/20/2008 5:20	194.2	S	8.45				
9/20/2008 5:30	193.7	S	8.55				
9/20/2008 5:40	194.5	S	8.26				
9/20/2008 5:50	194.5	S	7.97				
9/20/2008 6:00	195.2	S	7.82	25	13.5	19.3	1.6
9/20/2008 6:10	194.1	S	8.03				
9/20/2008 6:20	195.2	S	8.33				
9/20/2008 6:30	197.9	S	7.79				
9/20/2008 6:40	196.1	S	7.75				
9/20/2008 6:50	196.3	S	7.75				
9/20/2008 7:00	198.2	S	7.59				
9/20/2008 19:00	26.19	NE	1.78				
9/20/2008 19:10	5.41	N	2.05				
9/20/2008 19:20	340.6	N	4.12				
9/20/2008 19:30	337.4	NW	4.23				
9/20/2008 19:40	346.7	N	3.68				
9/20/2008 19:50	322.6	NW	3.27				
9/20/2008 20:00	310	NW	3.6				
9/20/2008 20:10	322.8	NW	3.85				
9/20/2008 20:20	321.7	NW	3.82				
9/20/2008 20:30	339	N	4.84				
9/20/2008 20:40	356.7	N	5.57				
9/20/2008 20:50	2.4	N	5.2				
9/20/2008 21:00	352.1	N	3.42				
9/20/2008 21:10	17.96	N	2.19				
9/20/2008 21:20	22.45	N	4.32				
9/20/2008 21:30	26.17	NE	5.37				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
9/20/2008 21:40	38.51	NE	4.8				
9/20/2008 21:50	54.6	NE	3.42				
9/20/2008 22:00	52.97	NE	2.93				
9/20/2008 22:10	33.66	NE	3.06				
9/20/2008 22:20	14.7	N	5.36				
9/20/2008 22:30	11.75	N	5.8				
9/20/2008 22:40	19.66	N	4.52				
9/20/2008 22:50	16.45	N	4.26				
9/20/2008 23:00	11.61	N	4.26				
9/20/2008 23:10	13.49	N	4.65				
9/20/2008 23:20	19.93	N	4.41				
9/20/2008 23:30	15.02	N	4.95				
9/20/2008 23:40	13.89	N	5.05				
9/20/2008 23:50	15.74	N	4.47				
9/21/2008 0:00	11.3	N	5.36				
9/21/2008 0:10	12.34	N	5.73				
9/21/2008 0:20	16.9	N	5.75				
9/21/2008 0:30	23.34	NE	6.78				
9/21/2008 0:40	27.91	NE	6.08				
9/21/2008 0:50	23.55	NE	5.76				
9/21/2008 1:00	28.02	NE	5.69				
9/21/2008 1:10	37	NE	5.28				
9/21/2008 1:20	33.96	NE	5.83				
9/21/2008 1:30	34.44	NE	4.65				
9/21/2008 1:40	35.01	NE	4.93				
9/21/2008 1:50	35.11	NE	5.01				
9/21/2008 2:00	33.18	NE	4.66				
9/21/2008 2:10	43	NE	4.1				
9/21/2008 2:20	38.35	NE	4.59				
9/21/2008 2:30	37.76	NE	5.15				
9/21/2008 2:40	35.19	NE	4.74				
9/21/2008 2:50	57.63	NE	4.74				
9/21/2008 3:00	55.01	NE	4.91				
9/21/2008 3:10	43.27	NE	5.02				
9/21/2008 3:20	45.53	NE	5.58				
9/21/2008 3:30	40.65	NE	5.01				
9/21/2008 3:40	35.36	NE	5.6				
9/21/2008 3:50	29.91	NE	5.46				
9/21/2008 4:00	32.75	NE	5.31				
9/21/2008 4:10	31.16	NE	5.3				
9/21/2008 4:20	30.42	NE	5.78				
9/21/2008 4:30	30.01	NE	6.48				
9/21/2008 4:40	36.94	NE	5.7				
9/21/2008 4:50	43.28	NE	4.87				
9/21/2008 5:00	44.46	NE	4.58				
9/21/2008 5:10	46.24	NE	4.09				
9/21/2008 5:20	36.89	NE	4				
9/21/2008 5:30	43.45	NE	3.96				
9/21/2008 5:40	42.26	NE	4.53				
9/21/2008 5:50	36.72	NE	5.5				
9/21/2008 6:00	35.39	NE	5.05	18	10.5	14.3	0
9/21/2008 6:10	35.63	NE	5.03				
9/21/2008 6:20	34.54	NE	5.24				
9/21/2008 6:30	39.61	NE	5.55				
9/21/2008 6:40	38.04	NE	5.76				
9/21/2008 6:50	39.75	NE	5.38				
9/21/2008 7:00	41.37	NE	5.07				
9/21/2008 19:00	59.98	NE	4.86				
9/21/2008 19:10	58.65	NE	4.87				
9/21/2008 19:20	50.52	NE	5.56				
9/21/2008 19:30	47.86	NE	5.85				
9/21/2008 19:40	47.87	NE	6.44				
9/21/2008 19:50	47.24	NE	6.43				
9/21/2008 20:00	47.91	NE	6.51				
9/21/2008 20:10	48.77	NE	6.54				
9/21/2008 20:20	52.88	NE	6.64				
9/21/2008 20:30	59.12	NE	6.26				
9/21/2008 20:40	62.91	NE	6.25				
9/21/2008 20:50	65.98	NE	6.32				
9/21/2008 21:00	71.9	E	6.73				
9/21/2008 21:10	71.4	E	6.72				
9/21/2008 21:20	75.8	E	6.55				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
9/21/2008 21:30	76.1	E	6.28				
9/21/2008 21:40	76.5	E	6.21				
9/21/2008 21:50	76.6	E	6.14				
9/21/2008 22:00	78.3	E	6.31				
9/21/2008 22:10	79.6	E	7.11				
9/21/2008 22:20	81.7	E	7.05				
9/21/2008 22:30	84	E	7.47				
9/21/2008 22:40	85.3	E	7.41				
9/21/2008 22:50	87.7	E	7.98				
9/21/2008 23:00	91.8	E	8.21				
9/21/2008 23:10	93.7	E	8.48				
9/21/2008 23:20	94.3	E	8.22				
9/21/2008 23:30	93.9	E	8.1				
9/21/2008 23:40	96.3	E	8.08				
9/21/2008 23:50	96.6	E	8.13				
9/22/2008 0:00	96.7	E	7.79				
9/22/2008 0:10	94.9	E	7.7				
9/22/2008 0:20	91.9	E	7.72				
9/22/2008 0:30	91.3	E	7.66				
9/22/2008 0:40	93.6	E	7.38				
9/22/2008 0:50	96.2	E	7.18				
9/22/2008 1:00	100.1	E	6.78				
9/22/2008 1:10	105.1	E	6.43				
9/22/2008 1:20	110.2	E	6.4				
9/22/2008 1:30	109.1	E	6.24				
9/22/2008 1:40	113.3	SE	6.32				
9/22/2008 1:50	114.6	SE	6.36				
9/22/2008 2:00	113.4	SE	6.55				
9/22/2008 2:10	119	SE	6.84				
9/22/2008 2:20	119	SE	6.72				
9/22/2008 2:30	120.2	SE	7.01				
9/22/2008 2:40	120.5	SE	6.88				
9/22/2008 2:50	122.9	SE	6.83				
9/22/2008 3:00	127.4	SE	6.92				
9/22/2008 3:10	129.5	SE	6.85				
9/22/2008 3:20	129.4	SE	6.63				
9/22/2008 3:30	132.6	SE	6.59				
9/22/2008 3:40	133.9	SE	6.32				
9/22/2008 3:50	135.5	SE	6.16				
9/22/2008 4:00	136.2	SE	6.49				
9/22/2008 4:10	137.1	SE	6.2				
9/22/2008 4:20	138.9	SE	6.11				
9/22/2008 4:30	138.5	SE	5.97				
9/22/2008 4:40	139.7	SE	5.77				
9/22/2008 4:50	140.6	SE	5.96				
9/22/2008 5:00	140.7	SE	5.84				
9/22/2008 5:10	147.5	SE	5.63				
9/22/2008 5:20	150.5	SE	5.64				
9/22/2008 5:30	150.1	SE	5.79				
9/22/2008 5:40	148.3	SE	5.58				
9/22/2008 5:50	147.9	SE	5.54				
9/22/2008 6:00	149.5	SE	5.58	21	6	13.5	0
9/22/2008 6:10	142.3	SE	5.31				
9/22/2008 6:20	142.4	SE	5.58				
9/22/2008 6:30	147.7	SE	6.1				
9/22/2008 6:40	146	SE	6.26				
9/22/2008 6:50	142.2	SE	5.89				
9/22/2008 7:00	148.3	SE	6.97				
9/22/2008 19:00	56.29	NE	4.91				
9/22/2008 19:10	55.72	NE	4.82				
9/22/2008 19:20	55.25	NE	4.97				
9/22/2008 19:30	55.4	NE	5.07				
9/22/2008 19:40	54.67	NE	5.03				
9/22/2008 19:50	57.01	NE	4.86				
9/22/2008 20:00	57.5	NE	5.24				
9/22/2008 20:10	61.15	NE	5.02				
9/22/2008 20:20	67.48	NE	5.81				
9/22/2008 20:30	74.3	E	5.9				
9/22/2008 20:40	81	E	6				
9/22/2008 20:50	85.1	E	6.48				
9/22/2008 21:00	87.9	E	6.72				
9/22/2008 21:10	90.9	E	6.68				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
9/22/2008 21:20	96.8	E	5.96				
9/22/2008 21:30	102	E	5.72				
9/22/2008 21:40	106.5	E	5.61				
9/22/2008 21:50	114.8	SE	6.12				
9/22/2008 22:00	121.4	SE	6.46				
9/22/2008 22:10	125	SE	5.91				
9/22/2008 22:20	133.2	SE	5.7				
9/22/2008 22:30	138.4	SE	6.09				
9/22/2008 22:40	139	SE	6.72				
9/22/2008 22:50	147.2	SE	7.24				
9/22/2008 23:00	149.1	SE	7.07				
9/22/2008 23:10	147.9	SE	6.68				
9/22/2008 23:20	147.7	SE	7.03				
9/22/2008 23:30	148.8	SE	7.75				
9/22/2008 23:40	145.4	SE	7.84				
9/22/2008 23:50	145.8	SE	7.79				
9/23/2008 0:00	146.7	SE	7.52				
9/23/2008 0:10	146.3	SE	7.59				
9/23/2008 0:20	145.4	SE	7.62				
9/23/2008 0:30	143.7	SE	7.58				
9/23/2008 0:40	145.5	SE	7.75				
9/23/2008 0:50	149.1	SE	7.1				
9/23/2008 1:00	148.2	SE	6.91				
9/23/2008 1:10	146.5	SE	7.59				
9/23/2008 1:20	145	SE	7.99				
9/23/2008 1:30	146.7	SE	7.43				
9/23/2008 1:40	146.3	SE	7.12				
9/23/2008 1:50	145.3	SE	7.52				
9/23/2008 2:00	144.5	SE	7.62				
9/23/2008 2:10	145	SE	7.98				
9/23/2008 2:20	146.3	SE	8.16				
9/23/2008 2:30	146.9	SE	8				
9/23/2008 2:40	147.3	SE	7.39				
9/23/2008 2:50	147.9	SE	6.77				
9/23/2008 3:00	148.5	SE	7.02				
9/23/2008 3:10	147.7	SE	7.2				
9/23/2008 3:20	146.5	SE	7.28				
9/23/2008 3:30	148.7	SE	6.96				
9/23/2008 3:40	147.8	SE	7.54				
9/23/2008 3:50	147.3	SE	8.01				
9/23/2008 4:00	147.8	SE	8.14				
9/23/2008 4:10	146.2	SE	8.23				
9/23/2008 4:20	145.3	SE	8.39				
9/23/2008 4:30	145.4	SE	8.73				
9/23/2008 4:40	144.8	SE	8.8				
9/23/2008 4:50	143.9	SE	8.54				
9/23/2008 5:00	142.8	SE	8.57				
9/23/2008 5:10	142.7	SE	9.08				
9/23/2008 5:20	142.4	SE	9.3				
9/23/2008 5:30	142.3	SE	8.94				
9/23/2008 5:40	143.5	SE	8.79				
9/23/2008 5:50	145.4	SE	8.8				
9/23/2008 6:00	147.2	SE	9.15	22.5	9.5	16	0
9/23/2008 6:10	147.1	SE	8.43				
9/23/2008 6:20	144.4	SE	7.59				
9/23/2008 6:30	142	SE	7.35				
9/23/2008 6:40	141.5	SE	7.05				
9/23/2008 6:50	142.9	SE	7.92				
9/23/2008 7:00	143	SE	8.26				
9/23/2008 19:00	158.4	S	3.48				
9/23/2008 19:10	154.8	SE	4.32				
9/23/2008 19:20	151.6	SE	5.03				
9/23/2008 19:30	150.9	SE	6.33				
9/23/2008 19:40	150.8	SE	7.18				
9/23/2008 19:50	151.6	SE	8.03				
9/23/2008 20:00	152.9	SE	8.22				
9/23/2008 20:10	154	SE	8.22				
9/23/2008 20:20	154.1	SE	8.22				
9/23/2008 20:30	154.4	SE	8.19				
9/23/2008 20:40	153.6	SE	7.87				
9/23/2008 20:50	150.2	SE	7.71				
9/23/2008 21:00	149.5	SE	7.85				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
9/23/2008 21:10	151.2	SE	8.03				
9/23/2008 21:20	150.9	SE	7.91				
9/23/2008 21:30	150.7	SE	7.84				
9/23/2008 21:40	150.6	SE	8.14				
9/23/2008 21:50	148.3	SE	8.76				
9/23/2008 22:00	147.7	SE	8.63				
9/23/2008 22:10	146.6	SE	8.71				
9/23/2008 22:20	147.1	SE	8.84				
9/23/2008 22:30	147.9	SE	9.04				
9/23/2008 22:40	149.1	SE	9.2				
9/23/2008 22:50	149.2	SE	9.23				
9/23/2008 23:00	149.9	SE	8.69				
9/23/2008 23:10	149.5	SE	8.34				
9/23/2008 23:20	151.3	SE	8.06				
9/23/2008 23:30	152.6	SE	7.8				
9/23/2008 23:40	152.9	SE	7.42				
9/23/2008 23:50	154.4	SE	7.65				
9/24/2008 0:00	152.9	SE	8.28				
9/24/2008 0:10	151.1	SE	8.43				
9/24/2008 0:20	150.9	SE	8.46				
9/24/2008 0:30	151.6	SE	8.67				
9/24/2008 0:40	151.8	SE	9.18				
9/24/2008 0:50	152.3	SE	9.09				
9/24/2008 1:00	152.6	SE	8.89				
9/24/2008 1:10	153.1	SE	8.83				
9/24/2008 1:20	153.9	SE	8.95				
9/24/2008 1:30	154.6	SE	9.12				
9/24/2008 1:40	154.5	SE	9.25				
9/24/2008 1:50	155.4	SE	9.51				
9/24/2008 2:00	156.4	SE	9.14				
9/24/2008 2:10	156.5	SE	8.84				
9/24/2008 2:20	157.5	S	8.39				
9/24/2008 2:30	159.1	S	8.36				
9/24/2008 2:40	159.8	S	8.42				
9/24/2008 2:50	160.2	S	8.65				
9/24/2008 3:00	159.9	S	8.89				
9/24/2008 3:10	161	S	8.7				
9/24/2008 3:20	161.4	S	8.42				
9/24/2008 3:30	164	S	8.32				
9/24/2008 3:40	163.8	S	8				
9/24/2008 3:50	163.7	S	8.24				
9/24/2008 4:00	165.5	S	8.32				
9/24/2008 4:10	165.2	S	8.75				
9/24/2008 4:20	164.9	S	8.52				
9/24/2008 4:30	162.8	S	8.36				
9/24/2008 4:40	163.1	S	8.09				
9/24/2008 4:50	164.9	S	7.81				
9/24/2008 5:00	164.8	S	7.42				
9/24/2008 5:10	164.6	S	7.39				
9/24/2008 5:20	166.6	S	7.4				
9/24/2008 5:30	169.2	S	7.44				
9/24/2008 5:40	167.8	S	7.91				
9/24/2008 5:50	167.5	S	8.54				
9/24/2008 6:00	166.6	S	8.83	26	12	19	0
9/24/2008 6:10	166.7	S	9.01				
9/24/2008 6:20	167	S	8.75				
9/24/2008 6:30	167.9	S	8.49				
9/24/2008 6:40	169.1	S	8.91				
9/24/2008 6:50	168.1	S	8.95				
9/24/2008 7:00	172	S	9.04				
9/24/2008 19:00	191.8	S	7.14				
9/24/2008 19:10	186.2	S	7.4				
9/24/2008 19:20	183.7	S	6.86				
9/24/2008 19:30	182.8	S	7.21				
9/24/2008 19:40	185.1	S	7.45				
9/24/2008 19:50	184.9	S	7.2				
9/24/2008 20:00	188.8	S	7.2				
9/24/2008 20:10	187.4	S	7				
9/24/2008 20:20	182	S	6.94				
9/24/2008 20:30	179.5	S	7.15				
9/24/2008 20:40	180	S	7.15				
9/24/2008 20:50	178.8	S	7.8				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
9/24/2008 21:00	178.1	S	8.6				
9/24/2008 21:10	175.2	S	8.92				
9/24/2008 21:20	174.1	S	8.93				
9/24/2008 21:30	173.2	S	9.27				
9/24/2008 21:40	171.9	S	10.05				
9/24/2008 21:50	173.9	S	10.08				
9/24/2008 22:00	174.8	S	9.57				
9/24/2008 22:10	176.4	S	9.59				
9/24/2008 22:20	177.7	S	9.5				
9/24/2008 22:30	177.4	S	9.2				
9/24/2008 22:40	176.8	S	8.86				
9/24/2008 22:50	174.3	S	8.89				
9/24/2008 23:00	176.3	S	8.28				
9/24/2008 23:10	175	S	8.19				
9/24/2008 23:20	175.5	S	7.86				
9/24/2008 23:30	176.3	S	7.85				
9/24/2008 23:40	177	S	8.37				
9/24/2008 23:50	178.5	S	8.9				
9/25/2008 0:00	179.2	S	8.96				
9/25/2008 0:10	180.8	S	9.07				
9/25/2008 0:20	182.2	S	8.95				
9/25/2008 0:30	181.7	S	8.99				
9/25/2008 0:40	182.4	S	9				
9/25/2008 0:50	183.8	S	9.06				
9/25/2008 1:00	185.4	S	8.65				
9/25/2008 1:10	185	S	8.41				
9/25/2008 1:20	183.9	S	8.86				
9/25/2008 1:30	180.7	S	8.55				
9/25/2008 1:40	178.5	S	8.53				
9/25/2008 1:50	175.8	S	8.68				
9/25/2008 2:00	175.9	S	8.72				
9/25/2008 2:10	175.8	S	8.83				
9/25/2008 2:20	176.5	S	8.75				
9/25/2008 2:30	176.9	S	8.6				
9/25/2008 2:40	177.3	S	8.5				
9/25/2008 2:50	176.7	S	8.29				
9/25/2008 3:00	175.3	S	7.92				
9/25/2008 3:10	172.3	S	7.8				
9/25/2008 3:20	173.6	S	7.78				
9/25/2008 3:30	175.9	S	7.96				
9/25/2008 3:40	176.7	S	7.46				
9/25/2008 3:50	175.9	S	6.94				
9/25/2008 4:00	178.2	S	7.16				
9/25/2008 4:10	177.6	S	7.54				
9/25/2008 4:20	178.5	S	7.52				
9/25/2008 4:30	179.9	S	7.41				
9/25/2008 4:40	181.8	S	7.03				
9/25/2008 4:50	185.7	S	5.08				
9/25/2008 5:00	251.9	W	2.55				
9/25/2008 5:10	206.6	SW	3.28				
9/25/2008 5:20	188.4	S	5.06				
9/25/2008 5:30	188.6	S	6.1				
9/25/2008 5:40	189.4	S	6.6				
9/25/2008 5:50	191.5	S	6.89				
9/25/2008 6:00	186.8	S	7.1	26.5	11.5	19	0
9/25/2008 6:10	185	S	7.13				
9/25/2008 6:20	182.7	S	7.25				
9/25/2008 6:30	182.3	S	6.7				
9/25/2008 6:40	179.7	S	6.34				
9/25/2008 6:50	176.7	S	6.16				
9/25/2008 7:00	180.4	S	6.37				
9/25/2008 19:00	320.4	NW	0.62				
9/25/2008 19:10	4.45	N	0.98				
9/25/2008 19:20	30.78	NE	0.68				
9/25/2008 19:30	30.76	NE	1.22				
9/25/2008 19:40	19.29	N	3.07				
9/25/2008 19:50	19.49	N	1.51				
9/25/2008 20:00	18.63	N	2.12				
9/25/2008 20:10	30.63	NE	1.64				
9/25/2008 20:20	45.8	NE	1.73				
9/25/2008 20:30	45.67	NE	1.46				
9/25/2008 20:40	61.7	NE	1.29				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
9/25/2008 20:50	46.22	NE	1.03				
9/25/2008 21:00	71	E	2.92				
9/25/2008 21:10	90.7	E	5.63				
9/25/2008 21:20	86.1	E	5.31				
9/25/2008 21:30	95.9	E	5.71				
9/25/2008 21:40	118.2	SE	5.7				
9/25/2008 21:50	131.3	SE	6.2				
9/25/2008 22:00	155.9	SE	6.4				
9/25/2008 22:10	152.4	SE	6.03				
9/25/2008 22:20	158.8	S	6.44				
9/25/2008 22:30	149.1	SE	5.99				
9/25/2008 22:40	146.2	SE	6.47				
9/25/2008 22:50	144.3	SE	6.98				
9/25/2008 23:00	145.7	SE	7.78				
9/25/2008 23:10	146.6	SE	8.05				
9/25/2008 23:20	146.4	SE	7.94				
9/25/2008 23:30	146.3	SE	7.76				
9/25/2008 23:40	145.2	SE	7.71				
9/25/2008 23:50	143.9	SE	7.92				
9/26/2008 0:00	144	SE	7.91				
9/26/2008 0:10	145	SE	7.81				
9/26/2008 0:20	146.4	SE	7.63				
9/26/2008 0:30	147.4	SE	7.24				
9/26/2008 0:40	147	SE	7.25				
9/26/2008 0:50	146.6	SE	7.32				
9/26/2008 1:00	147.4	SE	7.89				
9/26/2008 1:10	148.8	SE	8.46				
9/26/2008 1:20	149.7	SE	9.07				
9/26/2008 1:30	149	SE	9.59				
9/26/2008 1:40	150	SE	9.83				
9/26/2008 1:50	152.8	SE	9.52				
9/26/2008 2:00	150.8	SE	9.47				
9/26/2008 2:10	152.6	SE	9.47				
9/26/2008 2:20	152.5	SE	8.96				
9/26/2008 2:30	156.2	SE	8.69				
9/26/2008 2:40	157.4	SE	8.12				
9/26/2008 2:50	159.5	S	8.08				
9/26/2008 3:00	158	S	7.93				
9/26/2008 3:10	158.3	S	8.08				
9/26/2008 3:20	155.7	SE	8.38				
9/26/2008 3:30	155.1	SE	8.77				
9/26/2008 3:40	153.6	SE	8.56				
9/26/2008 3:50	154.1	SE	8.67				
9/26/2008 4:00	157.4	SE	8.35				
9/26/2008 4:10	155	SE	7.82				
9/26/2008 4:20	156.2	SE	8.32				
9/26/2008 4:30	156.4	SE	8				
9/26/2008 4:40	156	SE	7.2				
9/26/2008 4:50	155.8	SE	6.96				
9/26/2008 5:00	158.4	S	6.74				
9/26/2008 5:10	160.5	S	6.54				
9/26/2008 5:20	160.8	S	5.84				
9/26/2008 5:30	159.7	S	5.07				
9/26/2008 5:40	157.4	SE	4.68				
9/26/2008 5:50	157.1	SE	4.82				
9/26/2008 6:00	150.4	SE	6.06	No Data	No Data	No Data	No Data
9/26/2008 6:10	148.2	SE	5.76				
9/26/2008 6:20	146.4	SE	4.99				
9/26/2008 6:30	143.7	SE	5.92				
9/26/2008 6:40	142.4	SE	5.47				
9/26/2008 6:50	139.5	SE	5.51				
9/26/2008 7:00	138.2	SE	5.46				
9/26/2008 19:00	115.2	SE	6.9				
9/26/2008 19:10	114.3	SE	7.2				
9/26/2008 19:20	113.9	SE	7.88				
9/26/2008 19:30	113.6	SE	8.33				
9/26/2008 19:40	117.8	SE	7.43				
9/26/2008 19:50	117.8	SE	7.27				
9/26/2008 20:00	119.5	SE	7.38				
9/26/2008 20:10	122.6	SE	6.82				
9/26/2008 20:20	120.1	SE	7.24				
9/26/2008 20:30	121.6	SE	7.96				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
9/26/2008 20:40	125.2	SE	8.06				
9/26/2008 20:50	123.1	SE	8.17				
9/26/2008 21:00	123.9	SE	7.8				
9/26/2008 21:10	126	SE	7.67				
9/26/2008 21:20	126.4	SE	7.69				
9/26/2008 21:30	125.3	SE	7.57				
9/26/2008 21:40	122.9	SE	7.73				
9/26/2008 21:50	120.6	SE	7.13				
9/26/2008 22:00	121	SE	6.87				
9/26/2008 22:10	118.9	SE	6.98				
9/26/2008 22:20	120.3	SE	7.62				
9/26/2008 22:30	120.6	SE	7.96				
9/26/2008 22:40	120.2	SE	8.24				
9/26/2008 22:50	121.2	SE	7.7				
9/26/2008 23:00	118.9	SE	7.57				
9/26/2008 23:10	118.2	SE	7.8				
9/26/2008 23:20	114.2	SE	8.05				
9/26/2008 23:30	112.9	SE	8.65				
9/26/2008 23:40	110.6	E	8.29				
9/26/2008 23:50	108.7	E	8.18				
9/27/2008 0:00	107	E	8.12				
9/27/2008 0:10	107.2	E	7.92				
9/27/2008 0:20	107	E	8.11				
9/27/2008 0:30	108.9	E	8.05				
9/27/2008 0:40	107.4	E	7.44				
9/27/2008 0:50	103.9	E	6.92				
9/27/2008 1:00	101.3	E	7.01				
9/27/2008 1:10	100.4	E	7.15				
9/27/2008 1:20	98.5	E	7.42				
9/27/2008 1:30	93.9	E	6.83				
9/27/2008 1:40	92.6	E	6.46				
9/27/2008 1:50	91.9	E	6.32				
9/27/2008 2:00	90.7	E	6.17				
9/27/2008 2:10	82.6	E	5.36				
9/27/2008 2:20	74.8	E	4.99				
9/27/2008 2:30	70.9	E	5.27				
9/27/2008 2:40	60.54	NE	3.81				
9/27/2008 2:50	56.46	NE	3.38				
9/27/2008 3:00	64.48	NE	3.49				
9/27/2008 3:10	62.26	NE	2.71				
9/27/2008 3:20	76.4	E	3.46				
9/27/2008 3:30	95.1	E	3.03				
9/27/2008 3:40	96.8	E	2.28				
9/27/2008 3:50	87.1	E	2.41				
9/27/2008 4:00	89.8	E	3.07				
9/27/2008 4:10	98.4	E	4.09				
9/27/2008 4:20	97.3	E	3.94				
9/27/2008 4:30	94.7	E	4.02				
9/27/2008 4:40	87.7	E	3.37				
9/27/2008 4:50	78.3	E	2.98				
9/27/2008 5:00	79.7	E	3.12				
9/27/2008 5:10	80.9	E	3.28				
9/27/2008 5:20	81.8	E	3.61				
9/27/2008 5:30	79.1	E	3.59				
9/27/2008 5:40	68.92	E	3.38				
9/27/2008 5:50	70.8	E	3.39				
9/27/2008 6:00	74.8	E	3.74	No Data	No Data	No Data	No Data
9/27/2008 6:10	77.8	E	3.75				
9/27/2008 6:20	67.32	NE	3.45				
9/27/2008 6:30	58.12	NE	3.3				
9/27/2008 6:40	54.27	NE	3.84				
9/27/2008 6:50	37.54	NE	4.27				
9/27/2008 7:00	33.62	NE	4.47				
9/27/2008 19:00	2.01	N	3.27				
9/27/2008 19:10	7.46	N	3.47				
9/27/2008 19:20	26	NE	3.12				
9/27/2008 19:30	35.23	NE	2.91				
9/27/2008 19:40	30.93	NE	3.44				
9/27/2008 19:50	33.71	NE	3.97				
9/27/2008 20:00	34.16	NE	3.89				
9/27/2008 20:10	29.08	NE	3.44				
9/27/2008 20:20	25.52	NE	3.42				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
9/27/2008 20:30	19.87	N	3.18				
9/27/2008 20:40	3.78	N	3.66				
9/27/2008 20:50	356.5	N	4.29				
9/27/2008 21:00	348.6	N	4.84				
9/27/2008 21:10	357.2	N	4.5				
9/27/2008 21:20	0.87	N	5.02				
9/27/2008 21:30	4.82	N	4.75				
9/27/2008 21:40	359.7	N	4.54				
9/27/2008 21:50	12.66	N	4.17				
9/27/2008 22:00	12.58	N	4.42				
9/27/2008 22:10	17.61	N	4.03				
9/27/2008 22:20	20.51	N	3.95				
9/27/2008 22:30	26.68	NE	4.1				
9/27/2008 22:40	32.98	NE	3.64				
9/27/2008 22:50	33.49	NE	3.81				
9/27/2008 23:00	46.15	NE	4.14				
9/27/2008 23:10	61.39	NE	4.23				
9/27/2008 23:20	70.1	E	4.78				
9/27/2008 23:30	67.19	NE	4.47				
9/27/2008 23:40	56.3	NE	3.62				
9/27/2008 23:50	52.73	NE	3.48				
9/28/2008 0:00	58.96	NE	3.79				
9/28/2008 0:10	54.5	NE	4.1				
9/28/2008 0:20	41.77	NE	4.37				
9/28/2008 0:30	49.87	NE	4.84				
9/28/2008 0:40	52.36	NE	4.59				
9/28/2008 0:50	54.92	NE	4.56				
9/28/2008 1:00	73.7	E	5.29				
9/28/2008 1:10	74.8	E	5.21				
9/28/2008 1:20	70.3	E	3.99				
9/28/2008 1:30	70.6	E	4.19				
9/28/2008 1:40	69.75	E	4.34				
9/28/2008 1:50	55.65	NE	4.05				
9/28/2008 2:00	40.08	NE	4.24				
9/28/2008 2:10	28.32	NE	4.36				
9/28/2008 2:20	17.69	N	4.97				
9/28/2008 2:30	17.34	N	5.22				
9/28/2008 2:40	11.81	N	5.34				
9/28/2008 2:50	9.42	N	5.44				
9/28/2008 3:00	5.03	N	5.36				
9/28/2008 3:10	5.48	N	5.31				
9/28/2008 3:20	10.37	N	5.13				
9/28/2008 3:30	4.2	N	4.96				
9/28/2008 3:40	0.22	N	5.2				
9/28/2008 3:50	354.4	N	5.39				
9/28/2008 4:00	352.2	N	5.8				
9/28/2008 4:10	352	N	5.66				
9/28/2008 4:20	354.1	N	5.41				
9/28/2008 4:30	351.8	N	5.28				
9/28/2008 4:40	340.4	N	5.64				
9/28/2008 4:50	350.9	N	6.07				
9/28/2008 5:00	0.22	N	6.05				
9/28/2008 5:10	2.33	N	5.77				
9/28/2008 5:20	6.78	N	5.39				
9/28/2008 5:30	6.51	N	5.22				
9/28/2008 5:40	1.17	N	5.41				
9/28/2008 5:50	353.4	N	5.45				
9/28/2008 6:00	354	N	4.93	No Data	No Data	No Data	No Data
9/28/2008 6:10	355.5	N	4.84				
9/28/2008 6:20	359.2	N	5.57				
9/28/2008 6:30	1.27	N	5.34				
9/28/2008 6:40	3.42	N	4.88				
9/28/2008 6:50	2.27	N	4.66				
9/28/2008 7:00	12.92	N	5.18				
9/28/2008 19:00	10.22	N	4.63				
9/28/2008 19:10	12.19	N	4.68				
9/28/2008 19:20	16.14	N	3.85				
9/28/2008 19:30	19.65	N	3.79				
9/28/2008 19:40	22.13	N	5.09				
9/28/2008 19:50	22.46	N	4.57				
9/28/2008 20:00	26.8	NE	5.08				
9/28/2008 20:10	24.49	NE	5.29				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
9/28/2008 20:20	29.21	NE	4.74				
9/28/2008 20:30	32.5	NE	4.97				
9/28/2008 20:40	33.69	NE	5.34				
9/28/2008 20:50	39.24	NE	4.66				
9/28/2008 21:00	44.21	NE	4.8				
9/28/2008 21:10	47.09	NE	4.28				
9/28/2008 21:20	46.01	NE	4.16				
9/28/2008 21:30	43.39	NE	4.1				
9/28/2008 21:40	42.11	NE	5.01				
9/28/2008 21:50	37.74	NE	4.72				
9/28/2008 22:00	35.91	NE	5.45				
9/28/2008 22:10	28.72	NE	5.59				
9/28/2008 22:20	29.82	NE	5.39				
9/28/2008 22:30	31.32	NE	4.95				
9/28/2008 22:40	32.84	NE	4.85				
9/28/2008 22:50	32.85	NE	5.45				
9/28/2008 23:00	28.65	NE	5.3				
9/28/2008 23:10	36.59	NE	5.72				
9/28/2008 23:20	38.14	NE	5.41				
9/28/2008 23:30	37.74	NE	6.29				
9/28/2008 23:40	33.7	NE	5.59				
9/28/2008 23:50	35.51	NE	5.85				
9/29/2008 0:00	34.92	NE	6.05				
9/29/2008 0:10	37.24	NE	5.81				
9/29/2008 0:20	40.67	NE	5.11				
9/29/2008 0:30	38.15	NE	5.85				
9/29/2008 0:40	38.59	NE	6.08				
9/29/2008 0:50	39.6	NE	5.31				
9/29/2008 1:00	46.1	NE	5.7				
9/29/2008 1:10	50.38	NE	5.05				
9/29/2008 1:20	55.52	NE	4.05				
9/29/2008 1:30	54.76	NE	5.55				
9/29/2008 1:40	57.87	NE	5.07				
9/29/2008 1:50	65.35	NE	5.2				
9/29/2008 2:00	66.51	NE	4.62				
9/29/2008 2:10	61.05	NE	3.54				
9/29/2008 2:20	54.29	NE	3.56				
9/29/2008 2:30	50.04	NE	3.59				
9/29/2008 2:40	47.73	NE	3.79				
9/29/2008 2:50	46.43	NE	3.61				
9/29/2008 3:00	42.44	NE	3.3				
9/29/2008 3:10	41.67	NE	3.22				
9/29/2008 3:20	33.94	NE	3.23				
9/29/2008 3:30	30.64	NE	3.29				
9/29/2008 3:40	31.46	NE	3.47				
9/29/2008 3:50	33.78	NE	3.51				
9/29/2008 4:00	32.83	NE	3.46				
9/29/2008 4:10	36.88	NE	3.42				
9/29/2008 4:20	38	NE	3.46				
9/29/2008 4:30	43.33	NE	3.32				
9/29/2008 4:40	47.2	NE	3.47				
9/29/2008 4:50	45.38	NE	3.78				
9/29/2008 5:00	44.42	NE	4.02				
9/29/2008 5:10	50.44	NE	4.1				
9/29/2008 5:20	50.07	NE	4.17				
9/29/2008 5:30	51.05	NE	3.95				
9/29/2008 5:40	51.69	NE	3.77				
9/29/2008 5:50	56.98	NE	3.64				
9/29/2008 6:00	53.56	NE	3.45	16.5	6	11.3	1.8
9/29/2008 6:10	49.86	NE	3.04				
9/29/2008 6:20	55.83	NE	2.9				
9/29/2008 6:30	56.68	NE	2.57				
9/29/2008 6:40	61.19	NE	2.38				
9/29/2008 6:50	61.51	NE	2.43				
9/29/2008 7:00	68.88	E	2.98				
9/29/2008 19:00	59.11	NE	1.83				
9/29/2008 19:10	101.7	E	1.41				
9/29/2008 19:20	114.6	SE	2.31				
9/29/2008 19:30	105	E	3.09				
9/29/2008 19:40	95	E	3.23				
9/29/2008 19:50	102.1	E	3.06				
9/29/2008 20:00	107.7	E	2.58				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
9/29/2008 20:10	103.2	E	2.3				
9/29/2008 20:20	73.2	E	1.49				
9/29/2008 20:30	49.91	NE	1.72				
9/29/2008 20:40	64.79	NE	1.54				
9/29/2008 20:50	74.2	E	1.89				
9/29/2008 21:00	79.1	E	2.02				
9/29/2008 21:10	78.7	E	1.92				
9/29/2008 21:20	83.1	E	2.11				
9/29/2008 21:30	75	E	2.37				
9/29/2008 21:40	70	E	2.36				
9/29/2008 21:50	81.4	E	3.35				
9/29/2008 22:00	87.3	E	4.19				
9/29/2008 22:10	84.9	E	4.03				
9/29/2008 22:20	91	E	3.96				
9/29/2008 22:30	84.2	E	3.92				
9/29/2008 22:40	87.8	E	3.94				
9/29/2008 22:50	85.4	E	3.44				
9/29/2008 23:00	93.9	E	2.8				
9/29/2008 23:10	100.2	E	3.1				
9/29/2008 23:20	101.9	E	3.55				
9/29/2008 23:30	103.6	E	4.2				
9/29/2008 23:40	106.5	E	5.03				
9/29/2008 23:50	111.9	E	6.34				
9/30/2008 0:00	118	SE	6.83				
9/30/2008 0:10	123.5	SE	6.98				
9/30/2008 0:20	123.6	SE	6.6				
9/30/2008 0:30	127.3	SE	5.14				
9/30/2008 0:40	134.9	SE	5.19				
9/30/2008 0:50	139	SE	5.42				
9/30/2008 1:00	139.5	SE	3.95				
9/30/2008 1:10	146.2	SE	2.89				
9/30/2008 1:20	153	SE	2.58				
9/30/2008 1:30	150.3	SE	2.38				
9/30/2008 1:40	142	SE	1.61				
9/30/2008 1:50	162.5	S	2.25				
9/30/2008 2:00	155.4	SE	3.02				
9/30/2008 2:10	146	SE	3.58				
9/30/2008 2:20	154.8	SE	2.72				
9/30/2008 2:30	162.4	S	2.25				
9/30/2008 2:40	178.1	S	1.98				
9/30/2008 2:50	188.4	S	1.5				
9/30/2008 3:00	159.5	S	0.9				
9/30/2008 3:10	183.1	S	0.56				
9/30/2008 3:20	274.4	W	0.37				
9/30/2008 3:30	325.3	NW	0.3				
9/30/2008 3:40	342.2	N	0.43				
9/30/2008 3:50	10.3	N	0.83				
9/30/2008 4:00	26.95	NE	1.06				
9/30/2008 4:10	50.66	NE	1.14				
9/30/2008 4:20	55.96	NE	1.46				
9/30/2008 4:30	42.52	NE	1.52				
9/30/2008 4:40	0.83	N	0.8				
9/30/2008 4:50	39.49	NE	1.12				
9/30/2008 5:00	23.7	NE	1.25				
9/30/2008 5:10	0.23	N	1.3				
9/30/2008 5:20	354.3	N	2.17				
9/30/2008 5:30	341.1	N	2.47				
9/30/2008 5:40	347.6	N	3.39				
9/30/2008 5:50	352.3	N	3.42				
9/30/2008 6:00	347.8	N	3.35	19.5	10	14.8	3.2
9/30/2008 6:10	349.4	N	3.48				
9/30/2008 6:20	352.5	N	3.35				
9/30/2008 6:30	350.4	N	3.03				
9/30/2008 6:40	341.7	N	2.94				
9/30/2008 6:50	345.8	N	2.8				
9/30/2008 7:00	350.2	N	2.66				
9/30/2008 19:00	330.5	NW	4.01				
9/30/2008 19:10	330.6	NW	3.61				
9/30/2008 19:20	327.3	NW	3.46				
9/30/2008 19:30	322.9	NW	3.52				
9/30/2008 19:40	319.7	NW	4.01				
9/30/2008 19:50	313.2	NW	4.57				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
9/30/2008 20:00	321.7	NW	4.7				
9/30/2008 20:10	322.6	NW	4.69				
9/30/2008 20:20	321.9	NW	4.24				
9/30/2008 20:30	324.8	NW	4.41				
9/30/2008 20:40	322.1	NW	4.95				
9/30/2008 20:50	313.7	NW	5.12				
9/30/2008 21:00	311.6	NW	4.49				
9/30/2008 21:10	316	NW	3.99				
9/30/2008 21:20	322.3	NW	3.93				
9/30/2008 21:30	322.6	NW	3.56				
9/30/2008 21:40	321.8	NW	3.71				
9/30/2008 21:50	315.5	NW	3.71				
9/30/2008 22:00	320.6	NW	4.28				
9/30/2008 22:10	319.5	NW	4.88				
9/30/2008 22:20	334.9	NW	4.7				
9/30/2008 22:30	336.7	NW	4.11				
9/30/2008 22:40	341.1	N	4.45				
9/30/2008 22:50	342.1	N	4.24				
9/30/2008 23:00	334.2	NW	4.02				
9/30/2008 23:10	318	NW	3.94				
9/30/2008 23:20	313.8	NW	3.56				
9/30/2008 23:30	307.2	NW	3.06				
9/30/2008 23:40	296.6	NW	2.48				
9/30/2008 23:50	303.2	NW	2.75				
10/1/2008 0:00	297.5	NW	3.49				
10/1/2008 0:10	296.6	NW	4.56				
10/1/2008 0:20	296.8	NW	4.51				
10/1/2008 0:30	294.5	NW	3.5				
10/1/2008 0:40	277	W	3.3				
10/1/2008 0:50	286.9	W	6.99				
10/1/2008 1:00	283.7	W	4.57				
10/1/2008 1:10	296.7	NW	3.98				
10/1/2008 1:20	300	NW	4.14				
10/1/2008 1:30	293	NW	3.08				
10/1/2008 1:40	304.2	NW	3.88				
10/1/2008 1:50	295.3	NW	3.67				
10/1/2008 2:00	276.5	W	3.35				
10/1/2008 2:10	269.5	W	4.02				
10/1/2008 2:20	273.4	W	4.97				
10/1/2008 2:30	275.9	W	5.05				
10/1/2008 2:40	282.6	W	5.02				
10/1/2008 2:50	289	W	3.75				
10/1/2008 3:00	300.9	NW	3.09				
10/1/2008 3:10	273.1	W	3.05				
10/1/2008 3:20	256.1	W	3.46				
10/1/2008 3:30	253.4	W	4.41				
10/1/2008 3:40	259.6	W	4.05				
10/1/2008 3:50	272.1	W	4.81				
10/1/2008 4:00	282.8	W	6.67				
10/1/2008 4:10	276	W	5.53				
10/1/2008 4:20	264.8	W	3.43				
10/1/2008 4:30	263.8	W	2.86				
10/1/2008 4:40	257.7	W	2.63				
10/1/2008 4:50	273.1	W	4.17				
10/1/2008 5:00	334	NW	1.97				
10/1/2008 5:10	334.7	NW	2.11				
10/1/2008 5:20	20.38	N	4.24				
10/1/2008 5:30	32.07	NE	6.46				
10/1/2008 5:40	31.41	NE	7.05				
10/1/2008 5:50	35.71	NE	7.42				
10/1/2008 6:00	32.89	NE	8.43	12	9.5	10.8	23.2
10/1/2008 6:10	26.65	NE	8.27				
10/1/2008 6:20	26.6	NE	6.85				
10/1/2008 6:30	28.85	NE	6.41				
10/1/2008 6:40	29.79	NE	5.88				
10/1/2008 6:50	32.69	NE	6.76				
10/1/2008 7:00	30.56	NE	6.96				
10/1/2008 19:00	6.94	N	4.68				
10/1/2008 19:10	354.7	N	4.79				
10/1/2008 19:20	345.9	N	6.64				
10/1/2008 19:30	345.6	N	6.94				
10/1/2008 19:40	314.7	NW	5.4				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
10/1/2008 19:50	320	NW	6.76				
10/1/2008 20:00	332.6	NW	9.81				
10/1/2008 20:10	323.7	NW	5.67				
10/1/2008 20:20	318.3	NW	6.85				
10/1/2008 20:30	351.9	N	6.98				
10/1/2008 20:40	1.85	N	5.83				
10/1/2008 20:50	3.59	N	5.25				
10/1/2008 21:00	352.8	N	5.05				
10/1/2008 21:10	351.6	N	6.25				
10/1/2008 21:20	346.7	N	6.3				
10/1/2008 21:30	326.5	NW	5.79				
10/1/2008 21:40	321	NW	7.59				
10/1/2008 21:50	326.1	NW	7.38				
10/1/2008 22:00	348.9	N	7.31				
10/1/2008 22:10	355.6	N	7.8				
10/1/2008 22:20	355.2	N	6.88				
10/1/2008 22:30	350.7	N	6.39				
10/1/2008 22:40	350.3	N	6.37				
10/1/2008 22:50	354.6	N	5.86				
10/1/2008 23:00	349.6	N	4.82				
10/1/2008 23:10	340.8	N	3.96				
10/1/2008 23:20	355.9	N	4.34				
10/1/2008 23:30	358.4	N	4.83				
10/1/2008 23:40	338	N	7.92				
10/1/2008 23:50	342.9	N	7.25				
10/2/2008 0:00	323.8	NW	7.52				
10/2/2008 0:10	333	NW	6.16				
10/2/2008 0:20	336	NW	6.14				
10/2/2008 0:30	340.3	N	6.18				
10/2/2008 0:40	344.8	N	4.75				
10/2/2008 0:50	342.6	N	4.4				
10/2/2008 1:00	346.5	N	4.69				
10/2/2008 1:10	348.3	N	5.77				
10/2/2008 1:20	346.5	N	6.95				
10/2/2008 1:30	344.7	N	6.78				
10/2/2008 1:40	342.6	N	6.74				
10/2/2008 1:50	345.6	N	7.3				
10/2/2008 2:00	339.6	N	8.26				
10/2/2008 2:10	335.7	NW	7.26				
10/2/2008 2:20	336.3	NW	7.18				
10/2/2008 2:30	346.7	N	7.97				
10/2/2008 2:40	349.1	N	8.57				
10/2/2008 2:50	338.4	N	7.81				
10/2/2008 3:00	331.3	NW	8.12				
10/2/2008 3:10	332.3	NW	8.47				
10/2/2008 3:20	327.8	NW	8.01				
10/2/2008 3:30	327.3	NW	7.62				
10/2/2008 3:40	328.2	NW	7.75				
10/2/2008 3:50	329.2	NW	7.24				
10/2/2008 4:00	332.5	NW	7.28				
10/2/2008 4:10	325.2	NW	7.94				
10/2/2008 4:20	326.5	NW	7.06				
10/2/2008 4:30	329.6	NW	7				
10/2/2008 4:40	327.4	NW	7.54				
10/2/2008 4:50	327	NW	6.19				
10/2/2008 5:00	321.9	NW	6.29				
10/2/2008 5:10	327	NW	6.63				
10/2/2008 5:20	330.8	NW	5.76				
10/2/2008 5:30	319.3	NW	7.22				
10/2/2008 5:40	320.9	NW	8.75				
10/2/2008 5:50	323.7	NW	7.42				
10/2/2008 6:00	325	NW	6.95	14	7.5	10.8	11.2
10/2/2008 6:10	330.7	NW	6.79				
10/2/2008 6:20	343.2	N	5.49				
10/2/2008 6:30	337.2	NW	4.82				
10/2/2008 6:40	328.3	NW	5.59				
10/2/2008 6:50	323.4	NW	6.51				
10/2/2008 7:00	317	NW	7.15				
10/2/2008 19:00	329.7	NW	4.92				
10/2/2008 19:10	318.2	NW	5.54				
10/2/2008 19:20	321.7	NW	9.3				
10/2/2008 19:30	325.9	NW	7.27				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
10/2/2008 19:40	337	NW	7.62				
10/2/2008 19:50	335	NW	6.07				
10/2/2008 20:00	327.4	NW	6.23				
10/2/2008 20:10	330.1	NW	9.88				
10/2/2008 20:20	329.6	NW	8.2				
10/2/2008 20:30	317.2	NW	5.95				
10/2/2008 20:40	336.5	NW	8.63				
10/2/2008 20:50	331.7	NW	10.57				
10/2/2008 21:00	330.4	NW	9.03				
10/2/2008 21:10	327.9	NW	11.23				
10/2/2008 21:20	325.3	NW	9.62				
10/2/2008 21:30	320.1	NW	9.92				
10/2/2008 21:40	319.3	NW	9.53				
10/2/2008 21:50	320	NW	9.74				
10/2/2008 22:00	319.7	NW	7.77				
10/2/2008 22:10	326.7	NW	9.46				
10/2/2008 22:20	325.8	NW	8.9				
10/2/2008 22:30	320.3	NW	7.73				
10/2/2008 22:40	317.8	NW	7.26				
10/2/2008 22:50	317.3	NW	7.33				
10/2/2008 23:00	317.7	NW	8.06				
10/2/2008 23:10	321.3	NW	7.22				
10/2/2008 23:20	343.1	N	7.44				
10/2/2008 23:30	347.1	N	6.46				
10/2/2008 23:40	326.3	NW	5.39				
10/2/2008 23:50	296.1	NW	6.37				
10/3/2008 0:00	293.4	NW	6.36				
10/3/2008 0:10	314.4	NW	5.94				
10/3/2008 0:20	350.1	N	5.31				
10/3/2008 0:30	27.36	NE	5.67				
10/3/2008 0:40	59.19	NE	3.89				
10/3/2008 0:50	75.7	E	4.05				
10/3/2008 1:00	78.8	E	3.74				
10/3/2008 1:10	83.2	E	3.17				
10/3/2008 1:20	66.66	NE	3.05				
10/3/2008 1:30	305.1	NW	2				
10/3/2008 1:40	13.32	N	6.48				
10/3/2008 1:50	35.47	NE	6.57				
10/3/2008 2:00	29.14	NE	7.01				
10/3/2008 2:10	27.4	NE	7.36				
10/3/2008 2:20	33.29	NE	6.93				
10/3/2008 2:30	44.13	NE	4.88				
10/3/2008 2:40	63.92	NE	4.09				
10/3/2008 2:50	68.52	E	4.54				
10/3/2008 3:00	72.4	E	4.36				
10/3/2008 3:10	39.26	NE	3.41				
10/3/2008 3:20	48.25	NE	3.01				
10/3/2008 3:30	82.4	E	3.74				
10/3/2008 3:40	80.9	E	4.47				
10/3/2008 3:50	71	E	4.89				
10/3/2008 4:00	81.1	E	5.16				
10/3/2008 4:10	88.4	E	4.32				
10/3/2008 4:20	101	E	4.32				
10/3/2008 4:30	102.8	E	4.16				
10/3/2008 4:40	114.5	SE	2.9				
10/3/2008 4:50	126.8	SE	2.51				
10/3/2008 5:00	157.1	SE	1.97				
10/3/2008 5:10	116.4	SE	0.57				
10/3/2008 5:20	108	E	0.7				
10/3/2008 5:30	116.5	SE	1.03				
10/3/2008 5:40	140.7	SE	1				
10/3/2008 5:50	160.6	S	1.82				
10/3/2008 6:00	167.1	S	1.53	13	2.5	7.8	6.6
10/3/2008 6:10	171	S	2.36				
10/3/2008 6:20	175.4	S	1.77				
10/3/2008 6:30	195.4	S	2.54				
10/3/2008 6:40	191.5	S	4.31				
10/3/2008 6:50	194.9	S	4.16				
10/3/2008 7:00	216.5	SW	2.74				
10/3/2008 19:00	289.5	W	6.08				
10/3/2008 19:10	289.4	W	5.18				
10/3/2008 19:20	272.4	W	5.86				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
10/3/2008 19:30	276.3	W	5.43				
10/3/2008 19:40	292.4	W	5.48				
10/3/2008 19:50	302.7	NW	8.57				
10/3/2008 20:00	307.5	NW	6.42				
10/3/2008 20:10	303.5	NW	5.03				
10/3/2008 20:20	282.2	W	5.22				
10/3/2008 20:30	293.8	NW	4.86				
10/3/2008 20:40	315.5	NW	3.45				
10/3/2008 20:50	278.4	W	5.01				
10/3/2008 21:00	272.7	W	5.08				
10/3/2008 21:10	269.7	W	5.51				
10/3/2008 21:20	301.5	NW	6.93				
10/3/2008 21:30	302.3	NW	6.13				
10/3/2008 21:40	293.6	NW	5.89				
10/3/2008 21:50	294.3	NW	6.43				
10/3/2008 22:00	293.3	NW	6.51				
10/3/2008 22:10	287.6	W	6.34				
10/3/2008 22:20	289.1	W	6.98				
10/3/2008 22:30	289.1	W	6.04				
10/3/2008 22:40	284.6	W	4.93				
10/3/2008 22:50	275.8	W	4.53				
10/3/2008 23:00	282.6	W	4.73				
10/3/2008 23:10	279.4	W	5.61				
10/3/2008 23:20	277.3	W	5.51				
10/3/2008 23:30	273.2	W	5.07				
10/3/2008 23:40	275.9	W	5.27				
10/3/2008 23:50	278.5	W	5.49				
10/4/2008 0:00	294.4	NW	5.53				
10/4/2008 0:10	314.7	NW	4.87				
10/4/2008 0:20	311.9	NW	5.32				
10/4/2008 0:30	326.5	NW	5.33				
10/4/2008 0:40	335.3	NW	6.04				
10/4/2008 0:50	343.4	N	6.09				
10/4/2008 1:00	354.5	N	6.39				
10/4/2008 1:10	2.95	N	4.76				
10/4/2008 1:20	350.7	N	2.56				
10/4/2008 1:30	0.29	N	3.83				
10/4/2008 1:40	359	N	3.53				
10/4/2008 1:50	339	N	2.56				
10/4/2008 2:00	342.5	N	3.16				
10/4/2008 2:10	356.5	N	5.12				
10/4/2008 2:20	7.18	N	5.73				
10/4/2008 2:30	12.75	N	5.03				
10/4/2008 2:40	47.45	NE	3.51				
10/4/2008 2:50	42.5	NE	2.92				
10/4/2008 3:00	47.47	NE	4.9				
10/4/2008 3:10	50.42	NE	4.06				
10/4/2008 3:20	62.19	NE	2.61				
10/4/2008 3:30	185.8	S	2.78				
10/4/2008 3:40	117.9	SE	2.21				
10/4/2008 3:50	102.2	E	2.37				
10/4/2008 4:00	105.5	E	2.97				
10/4/2008 4:10	88.3	E	2.94				
10/4/2008 4:20	86.5	E	2.95				
10/4/2008 4:30	97.6	E	2.12				
10/4/2008 4:40	116.7	SE	2.45				
10/4/2008 4:50	128.8	SE	2.53				
10/4/2008 5:00	117.3	SE	2.67				
10/4/2008 5:10	116.9	SE	3.41				
10/4/2008 5:20	121.1	SE	3.41				
10/4/2008 5:30	125.2	SE	3.31				
10/4/2008 5:40	133.4	SE	2.47				
10/4/2008 5:50	131.1	SE	2.19				
10/4/2008 6:00	125.6	SE	2.31	15	7	11	2
10/4/2008 6:10	129	SE	2.36				
10/4/2008 6:20	134.9	SE	1.73				
10/4/2008 6:30	134.9	SE	1.9				
10/4/2008 6:40	118.5	SE	2.26				
10/4/2008 6:50	125.2	SE	2.14				
10/4/2008 7:00	138.8	SE	2.12				
10/4/2008 19:00	44.23	NE	2.49				
10/4/2008 19:10	63.89	NE	3.21				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
10/4/2008 19:20	71.8	E	3.62				
10/4/2008 19:30	66.86	NE	3.52				
10/4/2008 19:40	70.2	E	3.84				
10/4/2008 19:50	78.1	E	3.97				
10/4/2008 20:00	73.7	E	4.6				
10/4/2008 20:10	72.5	E	4.73				
10/4/2008 20:20	71.5	E	4.01				
10/4/2008 20:30	88.1	E	2.89				
10/4/2008 20:40	94.8	E	2.74				
10/4/2008 20:50	110.4	E	2.91				
10/4/2008 21:00	115.4	SE	2.83				
10/4/2008 21:10	96.2	E	1.92				
10/4/2008 21:20	120.5	SE	2.6				
10/4/2008 21:30	136	SE	3.04				
10/4/2008 21:40	144.5	SE	3.59				
10/4/2008 21:50	141.5	SE	2.45				
10/4/2008 22:00	141.9	SE	2.01				
10/4/2008 22:10	137	SE	1.83				
10/4/2008 22:20	123.1	SE	1.7				
10/4/2008 22:30	113.4	SE	1.56				
10/4/2008 22:40	133.6	SE	0.94				
10/4/2008 22:50	149.9	SE	2.05				
10/4/2008 23:00	155.9	SE	2.23				
10/4/2008 23:10	165.6	S	1.84				
10/4/2008 23:20	170.4	S	2.32				
10/4/2008 23:30	162.8	S	2.49				
10/4/2008 23:40	159.8	S	2.37				
10/4/2008 23:50	167.5	S	2.44				
10/5/2008 0:00	194.3	S	3.16				
10/5/2008 0:10	163.6	S	2.95				
10/5/2008 0:20	164	S	2.82				
10/5/2008 0:30	177.7	S	1.93				
10/5/2008 0:40	190.1	S	1.89				
10/5/2008 0:50	204.4	SW	1.73				
10/5/2008 1:00	207.3	SW	2.01				
10/5/2008 1:10	179.6	S	2.75				
10/5/2008 1:20	179.1	S	3.78				
10/5/2008 1:30	184.7	S	4.19				
10/5/2008 1:40	188.3	S	4.07				
10/5/2008 1:50	188.9	S	3.89				
10/5/2008 2:00	191.7	S	3.62				
10/5/2008 2:10	190.1	S	3.85				
10/5/2008 2:20	195.7	S	3.65				
10/5/2008 2:30	182.9	S	4.06				
10/5/2008 2:40	185.3	S	4.04				
10/5/2008 2:50	181.7	S	4.66				
10/5/2008 3:00	181.4	S	5.74				
10/5/2008 3:10	183.1	S	5.66				
10/5/2008 3:20	181.4	S	5.67				
10/5/2008 3:30	180.4	S	5.95				
10/5/2008 3:40	178.5	S	6.4				
10/5/2008 3:50	178.5	S	6.61				
10/5/2008 4:00	178.2	S	6.05				
10/5/2008 4:10	180.8	S	6.04				
10/5/2008 4:20	183.3	S	6.01				
10/5/2008 4:30	187	S	5.54				
10/5/2008 4:40	190.6	S	6.57				
10/5/2008 4:50	192	S	6.7				
10/5/2008 5:00	188.4	S	6.5				
10/5/2008 5:10	189.8	S	6.37				
10/5/2008 5:20	191.7	S	6.16				
10/5/2008 5:30	193.3	S	5.79				
10/5/2008 5:40	192.5	S	6.14				
10/5/2008 5:50	194.2	S	6.54				
10/5/2008 6:00	198.7	S	6.83	15	5.5	10.3	0
10/5/2008 6:10	197.3	S	6.95				
10/5/2008 6:20	198.6	S	7.07				
10/5/2008 6:30	199.6	S	6.44				
10/5/2008 6:40	197	S	5.84				
10/5/2008 6:50	196.2	S	5.48				
10/5/2008 7:00	193.7	S	5.76				
10/5/2008 19:00	20.7	N	1.85				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
10/5/2008 19:10	27.88	NE	1.87				
10/5/2008 19:20	25.06	NE	2.12				
10/5/2008 19:30	26.31	NE	2.19				
10/5/2008 19:40	32.83	NE	1.59				
10/5/2008 19:50	60.91	NE	2.17				
10/5/2008 20:00	76.4	E	2.06				
10/5/2008 20:10	68.64	E	1.49				
10/5/2008 20:20	51.96	NE	1.1				
10/5/2008 20:30	47.16	NE	1.42				
10/5/2008 20:40	48.71	NE	1.58				
10/5/2008 20:50	58.13	NE	1.75				
10/5/2008 21:00	64.98	NE	1.26				
10/5/2008 21:10	75.9	E	1.34				
10/5/2008 21:20	71.6	E	1.07				
10/5/2008 21:30	74.6	E	1				
10/5/2008 21:40	80	E	0.65				
10/5/2008 21:50	80.4	E	0.83				
10/5/2008 22:00	86.8	E	1.2				
10/5/2008 22:10	90	E	1.69				
10/5/2008 22:20	91.7	E	1.82				
10/5/2008 22:30	85	E	1.89				
10/5/2008 22:40	74.7	E	1.51				
10/5/2008 22:50	68.01	E	1.59				
10/5/2008 23:00	42.34	NE	1.53				
10/5/2008 23:10	35.56	NE	1.55				
10/5/2008 23:20	28.51	NE	1.4				
10/5/2008 23:30	39.04	NE	1.15				
10/5/2008 23:40	63.13	NE	0.88				
10/5/2008 23:50	73.7	E	0.77				
10/6/2008 0:00	40.73	NE	0.99				
10/6/2008 0:10	40.23	NE	1.93				
10/6/2008 0:20	49.98	NE	2.53				
10/6/2008 0:30	53.28	NE	4.06				
10/6/2008 0:40	55.36	NE	3.6				
10/6/2008 0:50	53.37	NE	4.37				
10/6/2008 1:00	56.83	NE	4.81				
10/6/2008 1:10	54.1	NE	5.78				
10/6/2008 1:20	49.96	NE	7				
10/6/2008 1:30	54.12	NE	6.37				
10/6/2008 1:40	53.98	NE	5.69				
10/6/2008 1:50	55.95	NE	5.29				
10/6/2008 2:00	60.26	NE	5.47				
10/6/2008 2:10	64.83	NE	6.04				
10/6/2008 2:20	67.44	NE	6.25				
10/6/2008 2:30	67.05	NE	5.83				
10/6/2008 2:40	66.41	NE	5.36				
10/6/2008 2:50	59.94	NE	4.28				
10/6/2008 3:00	60.18	NE	4.34				
10/6/2008 3:10	60.73	NE	4.43				
10/6/2008 3:20	61.05	NE	5.35				
10/6/2008 3:30	59.97	NE	6.09				
10/6/2008 3:40	59.24	NE	5.42				
10/6/2008 3:50	57.68	NE	5.59				
10/6/2008 4:00	57.8	NE	5.86				
10/6/2008 4:10	58.61	NE	6.26				
10/6/2008 4:20	61.91	NE	5.21				
10/6/2008 4:30	60.74	NE	4.88				
10/6/2008 4:40	60.52	NE	4.56				
10/6/2008 4:50	62.62	NE	3.89				
10/6/2008 5:00	63.32	NE	4.33				
10/6/2008 5:10	60.43	NE	3.96				
10/6/2008 5:20	59.82	NE	4.67				
10/6/2008 5:30	58.37	NE	5.7				
10/6/2008 5:40	58.21	NE	6.25				
10/6/2008 5:50	59.51	NE	6.16				
10/6/2008 6:00	62.25	NE	6.2	14	3.5	8.8	0
10/6/2008 6:10	62.88	NE	6.19				
10/6/2008 6:20	64.51	NE	6.66				
10/6/2008 6:30	66.75	NE	6.91				
10/6/2008 6:40	72.9	E	6.12				
10/6/2008 6:50	68.25	E	6.18				
10/6/2008 7:00	64.85	NE	7.97				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
10/6/2008 19:00	59.71	NE	5.04				
10/6/2008 19:10	61.89	NE	5.19				
10/6/2008 19:20	64.62	NE	5.44				
10/6/2008 19:30	66.76	NE	5.89				
10/6/2008 19:40	66.52	NE	6.18				
10/6/2008 19:50	67.17	NE	6.48				
10/6/2008 20:00	68.9	E	7.02				
10/6/2008 20:10	75.1	E	7.54				
10/6/2008 20:20	80	E	7.67				
10/6/2008 20:30	83.9	E	7.5				
10/6/2008 20:40	86.3	E	7.11				
10/6/2008 20:50	90.4	E	7.67				
10/6/2008 21:00	93.1	E	8.09				
10/6/2008 21:10	95.4	E	8.55				
10/6/2008 21:20	98.3	E	9.1				
10/6/2008 21:30	103	E	9.09				
10/6/2008 21:40	106.3	E	9.21				
10/6/2008 21:50	106.9	E	8.88				
10/6/2008 22:00	108.9	E	8.6				
10/6/2008 22:10	111.6	E	8.9				
10/6/2008 22:20	112.4	E	9.13				
10/6/2008 22:30	114.1	SE	8.92				
10/6/2008 22:40	119	SE	9.08				
10/6/2008 22:50	124.4	SE	8.64				
10/6/2008 23:00	126.9	SE	8.51				
10/6/2008 23:10	126.4	SE	8.95				
10/6/2008 23:20	126.3	SE	8.52				
10/6/2008 23:30	128.7	SE	8.35				
10/6/2008 23:40	131.4	SE	8.26				
10/6/2008 23:50	133.1	SE	8.83				
10/7/2008 0:00	135	SE	8.6				
10/7/2008 0:10	135.4	SE	8.74				
10/7/2008 0:20	138.4	SE	8.95				
10/7/2008 0:30	140.3	SE	8.65				
10/7/2008 0:40	142	SE	8.99				
10/7/2008 0:50	141.3	SE	8.72				
10/7/2008 1:00	142.6	SE	8.5				
10/7/2008 1:10	143.5	SE	8.69				
10/7/2008 1:20	144.7	SE	8.44				
10/7/2008 1:30	145.8	SE	8.51				
10/7/2008 1:40	145.7	SE	8.46				
10/7/2008 1:50	146.8	SE	8.99				
10/7/2008 2:00	148.8	SE	9.5				
10/7/2008 2:10	150.3	SE	9.38				
10/7/2008 2:20	150.2	SE	7.65				
10/7/2008 2:30	149.7	SE	6.88				
10/7/2008 2:40	151.4	SE	8.18				
10/7/2008 2:50	155.4	SE	8.39				
10/7/2008 3:00	156.2	SE	8.34				
10/7/2008 3:10	157.1	SE	8.06				
10/7/2008 3:20	157.8	S	7.9				
10/7/2008 3:30	158.5	S	7.89				
10/7/2008 3:40	160	S	7.71				
10/7/2008 3:50	159.7	S	7.13				
10/7/2008 4:00	159.3	S	7.45				
10/7/2008 4:10	161.2	S	8.4				
10/7/2008 4:20	162.1	S	8.9				
10/7/2008 4:30	158.8	S	8.74				
10/7/2008 4:40	157.3	SE	7.87				
10/7/2008 4:50	152	SE	7.49				
10/7/2008 5:00	150.6	SE	7.66				
10/7/2008 5:10	148.8	SE	7.77				
10/7/2008 5:20	148.5	SE	7.98				
10/7/2008 5:30	147.3	SE	7.88				
10/7/2008 5:40	144.4	SE	8.17				
10/7/2008 5:50	141.9	SE	8.22				
10/7/2008 6:00	137.5	SE	8.61	17	2	9.5	0
10/7/2008 6:10	137	SE	9.03				
10/7/2008 6:20	135	SE	9.39				
10/7/2008 6:30	131.6	SE	8.83				
10/7/2008 6:40	130.4	SE	8.28				
10/7/2008 6:50	130.8	SE	8.54				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
10/7/2008 7:00	130	SE	7.72				
10/7/2008 19:00	130.4	SE	6.85				
10/7/2008 19:10	131.6	SE	7.15				
10/7/2008 19:20	133.5	SE	6.89				
10/7/2008 19:30	132.7	SE	6.42				
10/7/2008 19:40	126.7	SE	5.87				
10/7/2008 19:50	125.5	SE	5.88				
10/7/2008 20:00	130.5	SE	6.99				
10/7/2008 20:10	127.5	SE	6.6				
10/7/2008 20:20	120.3	SE	6.08				
10/7/2008 20:30	120.5	SE	6.73				
10/7/2008 20:40	121.5	SE	6.13				
10/7/2008 20:50	120.1	SE	6.66				
10/7/2008 21:00	121.7	SE	7.4				
10/7/2008 21:10	121.1	SE	7.5				
10/7/2008 21:20	121.2	SE	7.4				
10/7/2008 21:30	121.1	SE	7.6				
10/7/2008 21:40	124.4	SE	7.19				
10/7/2008 21:50	123.1	SE	7.17				
10/7/2008 22:00	125.6	SE	7.07				
10/7/2008 22:10	125.6	SE	7.53				
10/7/2008 22:20	127	SE	8.05				
10/7/2008 22:30	129.3	SE	8.13				
10/7/2008 22:40	132.9	SE	8.19				
10/7/2008 22:50	132	SE	8.8				
10/7/2008 23:00	131	SE	8.77				
10/7/2008 23:10	131	SE	8.53				
10/7/2008 23:20	130.1	SE	8.55				
10/7/2008 23:30	129.7	SE	8.2				
10/7/2008 23:40	129.1	SE	8.16				
10/7/2008 23:50	128.6	SE	8.38				
10/8/2008 0:00	125.7	SE	9.05				
10/8/2008 0:10	123.1	SE	9.31				
10/8/2008 0:20	125.6	SE	8.58				
10/8/2008 0:30	126.9	SE	8.78				
10/8/2008 0:40	125.1	SE	9.1				
10/8/2008 0:50	123.7	SE	9.14				
10/8/2008 1:00	124	SE	9.11				
10/8/2008 1:10	125.3	SE	9.03				
10/8/2008 1:20	129.2	SE	8.86				
10/8/2008 1:30	131.6	SE	8.96				
10/8/2008 1:40	132.2	SE	9.18				
10/8/2008 1:50	132.7	SE	9.46				
10/8/2008 2:00	132.9	SE	9.44				
10/8/2008 2:10	133.2	SE	9.28				
10/8/2008 2:20	133.1	SE	9.29				
10/8/2008 2:30	133.2	SE	9.4				
10/8/2008 2:40	132.5	SE	9.57				
10/8/2008 2:50	132.8	SE	9.56				
10/8/2008 3:00	133.4	SE	9.07				
10/8/2008 3:10	135.6	SE	9.1				
10/8/2008 3:20	133.9	SE	8.83				
10/8/2008 3:30	135	SE	9.52				
10/8/2008 3:40	132.9	SE	9.28				
10/8/2008 3:50	134.7	SE	9.67				
10/8/2008 4:00	136.8	SE	9.7				
10/8/2008 4:10	135	SE	9.69				
10/8/2008 4:20	134.4	SE	9.48				
10/8/2008 4:30	135.3	SE	9.32				
10/8/2008 4:40	136.8	SE	9.18				
10/8/2008 4:50	136.9	SE	9.31				
10/8/2008 5:00	133.1	SE	9.01				
10/8/2008 5:10	134.6	SE	9.08				
10/8/2008 5:20	133.3	SE	9.75				
10/8/2008 5:30	137.7	SE	10.06				
10/8/2008 5:40	135	SE	9.78				
10/8/2008 5:50	138.4	SE	10.23				
10/8/2008 6:00	136.8	SE	10.23	16	8.5	12.3	12.8
10/8/2008 6:10	146	SE	9.57				
10/8/2008 6:20	147.4	SE	9.07				
10/8/2008 6:30	147.8	SE	9.34				
10/8/2008 6:40	141.9	SE	9.67				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
10/8/2008 6:50	139.6	SE	9.07				
10/8/2008 7:00	142.3	SE	8.77				
10/8/2008 19:00	260.2	W	7.66				
10/8/2008 19:10	257.1	W	7.6				
10/8/2008 19:20	251.8	W	7.14				
10/8/2008 19:30	248.8	W	7.49				
10/8/2008 19:40	251.2	W	8.91				
10/8/2008 19:50	253.3	W	10.24				
10/8/2008 20:00	265.2	W	10.61				
10/8/2008 20:10	279.9	W	9.01				
10/8/2008 20:20	284.2	W	9.73				
10/8/2008 20:30	282	W	10.52				
10/8/2008 20:40	286.6	W	9.26				
10/8/2008 20:50	284.2	W	9.6				
10/8/2008 21:00	287.7	W	11				
10/8/2008 21:10	284.2	W	10.81				
10/8/2008 21:20	286.4	W	11.81				
10/8/2008 21:30	287.5	W	11.38				
10/8/2008 21:40	287.4	W	11.62				
10/8/2008 21:50	288.8	W	11.46				
10/8/2008 22:00	287.7	W	9.51				
10/8/2008 22:10	285.3	W	10.71				
10/8/2008 22:20	284.8	W	10.16				
10/8/2008 22:30	288.3	W	10.1				
10/8/2008 22:40	283.1	W	9.38				
10/8/2008 22:50	280	W	10.52				
10/8/2008 23:00	278.8	W	11.34				
10/8/2008 23:10	276.5	W	10.16				
10/8/2008 23:20	270.3	W	10.52				
10/8/2008 23:30	273.5	W	10.25				
10/8/2008 23:40	272.6	W	10.57				
10/8/2008 23:50	267.2	W	10.32				
10/9/2008 0:00	270.6	W	11.23				
10/9/2008 0:10	273.9	W	12.03				
10/9/2008 0:20	271.8	W	10.77				
10/9/2008 0:30	270.3	W	11.6				
10/9/2008 0:40	271.7	W	10.8				
10/9/2008 0:50	274.9	W	12.32				
10/9/2008 1:00	275.6	W	10.77				
10/9/2008 1:10	271.3	W	11.02				
10/9/2008 1:20	269.8	W	10.21				
10/9/2008 1:30	268.2	W	10.98				
10/9/2008 1:40	268.4	W	10.29				
10/9/2008 1:50	268.1	W	9.39				
10/9/2008 2:00	260.7	W	9.85				
10/9/2008 2:10	258.2	W	9.64				
10/9/2008 2:20	254.6	W	9.64				
10/9/2008 2:30	254.3	W	9.32				
10/9/2008 2:40	254.8	W	9.37				
10/9/2008 2:50	254.4	W	9.27				
10/9/2008 3:00	250.8	W	9.27				
10/9/2008 3:10	248.4	W	9				
10/9/2008 3:20	245	SW	8.16				
10/9/2008 3:30	242.3	SW	7.81				
10/9/2008 3:40	240.3	SW	7.73				
10/9/2008 3:50	241.7	SW	7.71				
10/9/2008 4:00	238.3	SW	7.09				
10/9/2008 4:10	229.1	SW	7.29				
10/9/2008 4:20	221.2	SW	6.71				
10/9/2008 4:30	223.1	SW	7.04				
10/9/2008 4:40	218.1	SW	7.18				
10/9/2008 4:50	216.3	SW	7.51				
10/9/2008 5:00	215.8	SW	7.52				
10/9/2008 5:10	214.8	SW	7.47				
10/9/2008 5:20	211.7	SW	6.84				
10/9/2008 5:30	208.8	SW	6.71				
10/9/2008 5:40	210.4	SW	6.95				
10/9/2008 5:50	210.3	SW	7.46				
10/9/2008 6:00	206.3	SW	7.24	18.5	11.5	15	0
10/9/2008 6:10	203.2	SW	7.46				
10/9/2008 6:20	200.6	S	8.12				
10/9/2008 6:30	196.9	S	8.44				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
10/9/2008 6:40	200.7	S	8.93				
10/9/2008 6:50	202	S	8.43				
10/9/2008 7:00	204.9	SW	7.68				
10/9/2008 19:00	249.4	W	11				
10/9/2008 19:10	250	W	10.81				
10/9/2008 19:20	249.5	W	9.47				
10/9/2008 19:30	254.4	W	9.73				
10/9/2008 19:40	253.1	W	9.98				
10/9/2008 19:50	257.7	W	9.75				
10/9/2008 20:00	262.5	W	9.48				
10/9/2008 20:10	266.6	W	9.47				
10/9/2008 20:20	272.1	W	9.74				
10/9/2008 20:30	269.7	W	9.6				
10/9/2008 20:40	268.3	W	9.49				
10/9/2008 20:50	267.9	W	10.33				
10/9/2008 21:00	270.4	W	9.61				
10/9/2008 21:10	271.2	W	9.09				
10/9/2008 21:20	270.2	W	7.96				
10/9/2008 21:30	270.7	W	8.48				
10/9/2008 21:40	272.7	W	8.78				
10/9/2008 21:50	270.5	W	8.3				
10/9/2008 22:00	269.3	W	8.3				
10/9/2008 22:10	262.1	W	8.38				
10/9/2008 22:20	253.9	W	8.56				
10/9/2008 22:30	254.4	W	8.8				
10/9/2008 22:40	258.2	W	9.25				
10/9/2008 22:50	260.1	W	8.98				
10/9/2008 23:00	262.4	W	9.3				
10/9/2008 23:10	265.3	W	9.43				
10/9/2008 23:20	266.8	W	9.3				
10/9/2008 23:30	265	W	9.52				
10/9/2008 23:40	258.6	W	9.42				
10/9/2008 23:50	258.7	W	9.74				
10/10/2008 0:00	259.8	W	9.6				
10/10/2008 0:10	261.3	W	9.66				
10/10/2008 0:20	263.9	W	9.55				
10/10/2008 0:30	266.7	W	9.63				
10/10/2008 0:40	267.6	W	9.14				
10/10/2008 0:50	267.3	W	9.34				
10/10/2008 1:00	268.4	W	9.24				
10/10/2008 1:10	271.7	W	8.84				
10/10/2008 1:20	279.5	W	9.16				
10/10/2008 1:30	282.6	W	8.99				
10/10/2008 1:40	282.8	W	8.5				
10/10/2008 1:50	283.2	W	7.77				
10/10/2008 2:00	286.5	W	6.46				
10/10/2008 2:10	290.8	W	6.79				
10/10/2008 2:20	288.5	W	6.71				
10/10/2008 2:30	299.5	NW	6.17				
10/10/2008 2:40	302.7	NW	6.39				
10/10/2008 2:50	299.9	NW	5.84				
10/10/2008 3:00	296	NW	5.15				
10/10/2008 3:10	299.8	NW	5.71				
10/10/2008 3:20	299.2	NW	5.47				
10/10/2008 3:30	295.3	NW	4.66				
10/10/2008 3:40	295.3	NW	4.56				
10/10/2008 3:50	291.1	W	3.85				
10/10/2008 4:00	291.3	W	4.7				
10/10/2008 4:10	298.1	NW	4.62				
10/10/2008 4:20	297.1	NW	3.87				
10/10/2008 4:30	298.5	NW	3.8				
10/10/2008 4:40	307.3	NW	3.78				
10/10/2008 4:50	310.6	NW	2.86				
10/10/2008 5:00	313.6	NW	2.7				
10/10/2008 5:10	319.5	NW	2.8				
10/10/2008 5:20	325.8	NW	2.9				
10/10/2008 5:30	345.2	N	2.83				
10/10/2008 5:40	21.67	N	2.54				
10/10/2008 5:50	33.15	NE	2.95				
10/10/2008 6:00	34.12	NE	3.23	18	5	11.5	0
10/10/2008 6:10	38.95	NE	2.9				
10/10/2008 6:20	42.81	NE	2.64				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
10/10/2008 6:30	45.59	NE	2.44				
10/10/2008 6:40	46.52	NE	2.02				
10/10/2008 6:50	45.22	NE	1.68				
10/10/2008 7:00	37.62	NE	1.84				
10/10/2008 19:00	47.65	NE	3.38				
10/10/2008 19:10	61.51	NE	3.27				
10/10/2008 19:20	64.33	NE	3.08				
10/10/2008 19:30	70.3	E	3.13				
10/10/2008 19:40	74.9	E	2.86				
10/10/2008 19:50	80.5	E	2.61				
10/10/2008 20:00	86.5	E	2.19				
10/10/2008 20:10	92.2	E	2.29				
10/10/2008 20:20	93.5	E	2.34				
10/10/2008 20:30	106.6	E	2.39				
10/10/2008 20:40	114.6	SE	2.05				
10/10/2008 20:50	114.7	SE	1.98				
10/10/2008 21:00	111.5	E	1.92				
10/10/2008 21:10	107.1	E	1.86				
10/10/2008 21:20	112.3	E	1.92				
10/10/2008 21:30	113.2	SE	2.01				
10/10/2008 21:40	111.7	E	2.31				
10/10/2008 21:50	117.7	SE	2.44				
10/10/2008 22:00	121	SE	2.59				
10/10/2008 22:10	119.7	SE	2.65				
10/10/2008 22:20	120.8	SE	2.7				
10/10/2008 22:30	117.5	SE	2.86				
10/10/2008 22:40	114.2	SE	3.2				
10/10/2008 22:50	115.7	SE	3.34				
10/10/2008 23:00	121.5	SE	3.64				
10/10/2008 23:10	124.4	SE	3.88				
10/10/2008 23:20	125.8	SE	3.78				
10/10/2008 23:30	120.4	SE	3.56				
10/10/2008 23:40	116.5	SE	3.62				
10/10/2008 23:50	117.4	SE	3.69				
10/11/2008 0:00	114	SE	3.87				
10/11/2008 0:10	109	E	3.95				
10/11/2008 0:20	106.5	E	4.36				
10/11/2008 0:30	101.8	E	4.86				
10/11/2008 0:40	103.3	E	4.92				
10/11/2008 0:50	107.2	E	4.87				
10/11/2008 1:00	110.3	E	5.08				
10/11/2008 1:10	112.5	SE	4.9				
10/11/2008 1:20	113.8	SE	4.78				
10/11/2008 1:30	113.2	SE	4.82				
10/11/2008 1:40	114.2	SE	4.94				
10/11/2008 1:50	112.5	SE	5.3				
10/11/2008 2:00	105.8	E	5.4				
10/11/2008 2:10	104.2	E	5.45				
10/11/2008 2:20	104.2	E	5.57				
10/11/2008 2:30	105.2	E	5.61				
10/11/2008 2:40	101.7	E	6.28				
10/11/2008 2:50	107	E	5.85				
10/11/2008 3:00	110.4	E	5.95				
10/11/2008 3:10	111	E	6.22				
10/11/2008 3:20	119.2	SE	6.57				
10/11/2008 3:30	120.8	SE	6.72				
10/11/2008 3:40	120.4	SE	7.01				
10/11/2008 3:50	115.7	SE	7.13				
10/11/2008 4:00	110.6	E	7.45				
10/11/2008 4:10	110	E	8.17				
10/11/2008 4:20	110.1	E	8.56				
10/11/2008 4:30	108.1	E	8.74				
10/11/2008 4:40	103.7	E	8.77				
10/11/2008 4:50	104.5	E	9.08				
10/11/2008 5:00	100.7	E	9.42				
10/11/2008 5:10	98	E	9.74				
10/11/2008 5:20	98.1	E	9.88				
10/11/2008 5:30	98.9	E	9.95				
10/11/2008 5:40	101.9	E	10.19				
10/11/2008 5:50	104.3	E	10.51				
10/11/2008 6:00	106.6	E	10.68	23	6	14.5	0
10/11/2008 6:10	107.5	E	10.73				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
10/11/2008 6:20	110.6	E	10.77				
10/11/2008 6:30	112.8	SE	11.34				
10/11/2008 6:40	114.4	SE	11.3				
10/11/2008 6:50	113.9	SE	11.42				
10/11/2008 7:00	115.3	SE	11.6				
10/11/2008 19:00	145.7	SE	6.3				
10/11/2008 19:10	144	SE	6.75				
10/11/2008 19:20	141.8	SE	7.28				
10/11/2008 19:30	137.6	SE	7.29				
10/11/2008 19:40	134.9	SE	7.34				
10/11/2008 19:50	136.7	SE	7.49				
10/11/2008 20:00	135.2	SE	6.91				
10/11/2008 20:10	133.9	SE	6.9				
10/11/2008 20:20	136.1	SE	7.87				
10/11/2008 20:30	136.3	SE	8.38				
10/11/2008 20:40	135.7	SE	8.96				
10/11/2008 20:50	136.7	SE	9.26				
10/11/2008 21:00	138.4	SE	10.03				
10/11/2008 21:10	139.5	SE	10.16				
10/11/2008 21:20	138.4	SE	9.64				
10/11/2008 21:30	137.9	SE	9.69				
10/11/2008 21:40	137.8	SE	9.87				
10/11/2008 21:50	137.7	SE	9.87				
10/11/2008 22:00	139.1	SE	10.07				
10/11/2008 22:10	139	SE	9.68				
10/11/2008 22:20	140.3	SE	9.78				
10/11/2008 22:30	141.5	SE	10				
10/11/2008 22:40	138.7	SE	10.09				
10/11/2008 22:50	139	SE	10.13				
10/11/2008 23:00	139.4	SE	10.55				
10/11/2008 23:10	139	SE	10.14				
10/11/2008 23:20	139.9	SE	10.5				
10/11/2008 23:30	140.2	SE	10.79				
10/11/2008 23:40	137.7	SE	10.76				
10/11/2008 23:50	138.3	SE	10.46				
10/12/2008 0:00	138.7	SE	10.56				
10/12/2008 0:10	139.9	SE	10.65				
10/12/2008 0:20	142	SE	10.75				
10/12/2008 0:30	142.2	SE	11.08				
10/12/2008 0:40	144.8	SE	10.89				
10/12/2008 0:50	147.3	SE	11.49				
10/12/2008 1:00	148	SE	11.72				
10/12/2008 1:10	148.1	SE	11.33				
10/12/2008 1:20	148.1	SE	11.19				
10/12/2008 1:30	150	SE	10.68				
10/12/2008 1:40	151	SE	10.46				
10/12/2008 1:50	150.7	SE	9.92				
10/12/2008 2:00	151.3	SE	9.99				
10/12/2008 2:10	151.6	SE	10.08				
10/12/2008 2:20	150.4	SE	10.21				
10/12/2008 2:30	150.5	SE	10.18				
10/12/2008 2:40	150	SE	10.08				
10/12/2008 2:50	150.2	SE	10.17				
10/12/2008 3:00	149.6	SE	10.22				
10/12/2008 3:10	149.2	SE	9.97				
10/12/2008 3:20	149.3	SE	9.97				
10/12/2008 3:30	148.5	SE	9.75				
10/12/2008 3:40	149.4	SE	9.32				
10/12/2008 3:50	151.2	SE	9.1				
10/12/2008 4:00	151.4	SE	8.95				
10/12/2008 4:10	152	SE	9.34				
10/12/2008 4:20	152.4	SE	9.27				
10/12/2008 4:30	152.5	SE	8.9				
10/12/2008 4:40	155.5	SE	8.81				
10/12/2008 4:50	157.2	SE	8.78				
10/12/2008 5:00	157.4	SE	8.57				
10/12/2008 5:10	159.2	S	8.6				
10/12/2008 5:20	159.4	S	8.81				
10/12/2008 5:30	159.8	S	8.68				
10/12/2008 5:40	160.9	S	8.92				
10/12/2008 5:50	162.1	S	8.97				
10/12/2008 6:00	165.7	S	9.02	26	11	18.5	0

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
10/12/2008 6:10	168.4	S	9.07				
10/12/2008 6:20	169.1	S	8.88				
10/12/2008 6:30	169.3	S	8.58				
10/12/2008 6:40	170.6	S	8.51				
10/12/2008 6:50	169.9	S	8.3				
10/12/2008 7:00	168.8	S	7.74				
10/12/2008 19:00	191.1	S	4.89				
10/12/2008 19:10	190.1	S	4.86				
10/12/2008 19:20	191.9	S	5.6				
10/12/2008 19:30	192	S	5.73				
10/12/2008 19:40	190.7	S	5.4				
10/12/2008 19:50	186.6	S	4.95				
10/12/2008 20:00	184.3	S	5.14				
10/12/2008 20:10	183.4	S	5.33				
10/12/2008 20:20	189.7	S	6.12				
10/12/2008 20:30	185.4	S	6.38				
10/12/2008 20:40	186.1	S	6.48				
10/12/2008 20:50	186.7	S	6.47				
10/12/2008 21:00	185.4	S	7.33				
10/12/2008 21:10	186.9	S	7.81				
10/12/2008 21:20	185.3	S	7.95				
10/12/2008 21:30	186	S	8.04				
10/12/2008 21:40	185.6	S	7.89				
10/12/2008 21:50	188.9	S	7.69				
10/12/2008 22:00	187.6	S	7.44				
10/12/2008 22:10	188.3	S	7.41				
10/12/2008 22:20	190.2	S	7.95				
10/12/2008 22:30	194.1	S	8.07				
10/12/2008 22:40	194.3	S	8				
10/12/2008 22:50	195.7	S	7.86				
10/12/2008 23:00	196.1	S	7.38				
10/12/2008 23:10	195.4	S	7.07				
10/12/2008 23:20	192.6	S	7.26				
10/12/2008 23:30	194.2	S	7.29				
10/12/2008 23:40	195.4	S	7.23				
10/12/2008 23:50	196.5	S	6.99				
10/13/2008 0:00	197.3	S	6.89				
10/13/2008 0:10	198.3	S	6.75				
10/13/2008 0:20	200.9	S	7.43				
10/13/2008 0:30	197.8	S	7.65				
10/13/2008 0:40	196.2	S	7.36				
10/13/2008 0:50	197	S	7.71				
10/13/2008 1:00	201	S	7.39				
10/13/2008 1:10	202.2	S	6.88				
10/13/2008 1:20	196.8	S	7.06				
10/13/2008 1:30	196.7	S	7.57				
10/13/2008 1:40	194.9	S	7.63				
10/13/2008 1:50	195.8	S	7.88				
10/13/2008 2:00	197.1	S	7.93				
10/13/2008 2:10	200.2	S	8.13				
10/13/2008 2:20	203.1	SW	8.29				
10/13/2008 2:30	203.6	SW	8.18				
10/13/2008 2:40	203.6	SW	7.94				
10/13/2008 2:50	203.9	SW	7.9				
10/13/2008 3:00	204.6	SW	8.06				
10/13/2008 3:10	204.5	SW	7.97				
10/13/2008 3:20	200.7	S	8.17				
10/13/2008 3:30	197.8	S	8.05				
10/13/2008 3:40	197.1	S	7.7				
10/13/2008 3:50	197.4	S	7.45				
10/13/2008 4:00	201.3	S	7.28				
10/13/2008 4:10	198.3	S	7.67				
10/13/2008 4:20	202.1	S	7.44				
10/13/2008 4:30	205.6	SW	6.36				
10/13/2008 4:40	205	SW	5.28				
10/13/2008 4:50	206.3	SW	4.71				
10/13/2008 5:00	209.8	SW	5.81				
10/13/2008 5:10	211.9	SW	6.08				
10/13/2008 5:20	206.8	SW	5.7				
10/13/2008 5:30	208.1	SW	5.77				
10/13/2008 5:40	212.7	SW	6.22				
10/13/2008 5:50	217.7	SW	6.38				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
10/13/2008 6:00	217.5	SW	6.48	24	11	17.5	0
10/13/2008 6:10	214.1	SW	6.22				
10/13/2008 6:20	208.2	SW	5.95				
10/13/2008 6:30	211.4	SW	5.63				
10/13/2008 6:40	205.7	SW	5.95				
10/13/2008 6:50	201.8	S	5.97				
10/13/2008 7:00	200.6	S	6.33				
10/13/2008 19:00	186.5	S	7.9				
10/13/2008 19:10	187.2	S	7.81				
10/13/2008 19:20	187.4	S	7.55				
10/13/2008 19:30	188.7	S	7.61				
10/13/2008 19:40	191.1	S	7.51				
10/13/2008 19:50	192.2	S	7.7				
10/13/2008 20:00	192.1	S	8.2				
10/13/2008 20:10	192.9	S	8.24				
10/13/2008 20:20	190.9	S	8.02				
10/13/2008 20:30	192.6	S	8.15				
10/13/2008 20:40	191.9	S	8.17				
10/13/2008 20:50	192.9	S	7.85				
10/13/2008 21:00	194.9	S	7.88				
10/13/2008 21:10	193.6	S	8.3				
10/13/2008 21:20	193	S	8.22				
10/13/2008 21:30	192.7	S	8.49				
10/13/2008 21:40	190.3	S	8.17				
10/13/2008 21:50	191.1	S	8.08				
10/13/2008 22:00	194.9	S	8.49				
10/13/2008 22:10	195.7	S	8.21				
10/13/2008 22:20	192.7	S	8.41				
10/13/2008 22:30	194	S	8.33				
10/13/2008 22:40	194.9	S	8.1				
10/13/2008 22:50	195.1	S	7.96				
10/13/2008 23:00	195.5	S	8.21				
10/13/2008 23:10	193.7	S	8.61				
10/13/2008 23:20	192.8	S	8.58				
10/13/2008 23:30	195.3	S	8.11				
10/13/2008 23:40	195.5	S	7.84				
10/13/2008 23:50	197.1	S	7.98				
10/14/2008 0:00	197.4	S	8.19				
10/14/2008 0:10	195.9	S	8.45				
10/14/2008 0:20	190.6	S	9.39				
10/14/2008 0:30	183.1	S	10.72				
10/14/2008 0:40	184.2	S	9.57				
10/14/2008 0:50	184.9	S	9.16				
10/14/2008 1:00	185.6	S	8.81				
10/14/2008 1:10	187.4	S	8.62				
10/14/2008 1:20	189.2	S	8.96				
10/14/2008 1:30	189.4	S	9.39				
10/14/2008 1:40	189	S	9.26				
10/14/2008 1:50	189.7	S	9.22				
10/14/2008 2:00	190.4	S	9.07				
10/14/2008 2:10	196.2	S	8.84				
10/14/2008 2:20	196.2	S	8.51				
10/14/2008 2:30	197.3	S	8.24				
10/14/2008 2:40	200.3	S	8.4				
10/14/2008 2:50	199.3	S	8.93				
10/14/2008 3:00	206.3	SW	9.5				
10/14/2008 3:10	210.5	SW	10.66				
10/14/2008 3:20	211.3	SW	10.27				
10/14/2008 3:30	214.4	SW	10.9				
10/14/2008 3:40	213.8	SW	10.49				
10/14/2008 3:50	214.6	SW	10.48				
10/14/2008 4:00	214.8	SW	10.21				
10/14/2008 4:10	215.8	SW	10.42				
10/14/2008 4:20	218.1	SW	10.44				
10/14/2008 4:30	217.5	SW	10.11				
10/14/2008 4:40	219.1	SW	10.69				
10/14/2008 4:50	215.1	SW	10.83				
10/14/2008 5:00	214.6	SW	10.49				
10/14/2008 5:10	215.4	SW	11.33				
10/14/2008 5:20	219	SW	11.34				
10/14/2008 5:30	219.8	SW	11.54				
10/14/2008 5:40	219.7	SW	11.85				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
10/14/2008 5:50	218.9	SW	11.84				
10/14/2008 6:00	219	SW	11.43	19.5	14	16.8	0.2
10/14/2008 6:10	218.8	SW	11.75				
10/14/2008 6:20	218.9	SW	11.18				
10/14/2008 6:30	216.9	SW	11.16				
10/14/2008 6:40	219.9	SW	11.03				
10/14/2008 6:50	221.8	SW	11.35				
10/14/2008 7:00	219.6	SW	11.74				
10/14/2008 19:00	326.8	NW	0.78				
10/14/2008 19:10	274	W	0.46				
10/14/2008 19:20	67.79	E	0.14				
10/14/2008 19:30	124.6	SE	0.96				
10/14/2008 19:40	142.6	SE	1.98				
10/14/2008 19:50	147.9	SE	2.5				
10/14/2008 20:00	151.3	SE	2.42				
10/14/2008 20:10	160.3	S	1.9				
10/14/2008 20:20	148.6	SE	2.72				
10/14/2008 20:30	158.1	S	3.32				
10/14/2008 20:40	165.9	S	3.5				
10/14/2008 20:50	175.1	S	3.59				
10/14/2008 21:00	175.9	S	3.59				
10/14/2008 21:10	176.6	S	3.15				
10/14/2008 21:20	174.8	S	3.12				
10/14/2008 21:30	170	S	3.14				
10/14/2008 21:40	165.9	S	2.93				
10/14/2008 21:50	160.4	S	3.26				
10/14/2008 22:00	165.4	S	3.02				
10/14/2008 22:10	168.7	S	2.75				
10/14/2008 22:20	182.7	S	2.33				
10/14/2008 22:30	185.9	S	2.64				
10/14/2008 22:40	182.4	S	2.94				
10/14/2008 22:50	180.2	S	2.73				
10/14/2008 23:00	180.4	S	2.5				
10/14/2008 23:10	173.7	S	2.64				
10/14/2008 23:20	172.8	S	2.9				
10/14/2008 23:30	170.6	S	2.63				
10/14/2008 23:40	166.9	S	2.76				
10/14/2008 23:50	165.7	S	2.97				
10/15/2008 0:00	157.3	SE	3.66				
10/15/2008 0:10	154.7	SE	4.55				
10/15/2008 0:20	155.3	SE	4.65				
10/15/2008 0:30	154.2	SE	4.12				
10/15/2008 0:40	152.1	SE	4.46				
10/15/2008 0:50	151.9	SE	4.76				
10/15/2008 1:00	159	S	4.69				
10/15/2008 1:10	160.6	S	4.45				
10/15/2008 1:20	165	S	4.55				
10/15/2008 1:30	166.8	S	4.89				
10/15/2008 1:40	173.2	S	5.62				
10/15/2008 1:50	175.9	S	6.08				
10/15/2008 2:00	176.2	S	6.61				
10/15/2008 2:10	177.1	S	7				
10/15/2008 2:20	181.4	S	7.36				
10/15/2008 2:30	182.1	S	7.3				
10/15/2008 2:40	180.2	S	7.48				
10/15/2008 2:50	179.9	S	7.18				
10/15/2008 3:00	178.6	S	6.93				
10/15/2008 3:10	178.3	S	7.05				
10/15/2008 3:20	179.3	S	6.84				
10/15/2008 3:30	180.4	S	7.04				
10/15/2008 3:40	181.3	S	7.1				
10/15/2008 3:50	179.4	S	6.71				
10/15/2008 4:00	175.4	S	7.34				
10/15/2008 4:10	174.3	S	7.89				
10/15/2008 4:20	176.5	S	8.43				
10/15/2008 4:30	177.4	S	8.16				
10/15/2008 4:40	176.2	S	7.91				
10/15/2008 4:50	178.8	S	7.95				
10/15/2008 5:00	179.1	S	8.04				
10/15/2008 5:10	179.8	S	8.33				
10/15/2008 5:20	180.5	S	8.14				
10/15/2008 5:30	180.3	S	7.64				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
10/15/2008 5:40	181.1	S	7.89				
10/15/2008 5:50	180.9	S	8.27				
10/15/2008 6:00	181.5	S	8.22	17.5	5.5	11.5	6.6
10/15/2008 6:10	185.6	S	7.99				
10/15/2008 6:20	185.4	S	7.73				
10/15/2008 6:30	183.2	S	7.73				
10/15/2008 6:40	182.9	S	7.42				
10/15/2008 6:50	185	S	7.7				
10/15/2008 7:00	183.9	S	7.34				
10/15/2008 19:00	19.79	N	2.22				
10/15/2008 19:10	24.79	NE	2.21				
10/15/2008 19:20	37.07	NE	2.25				
10/15/2008 19:30	24.49	NE	2.41				
10/15/2008 19:40	22.44	N	2.8				
10/15/2008 19:50	25.68	NE	3.12				
10/15/2008 20:00	20.98	N	3.28				
10/15/2008 20:10	11.3	N	3.3				
10/15/2008 20:20	16.13	N	3.81				
10/15/2008 20:30	10.86	N	3.67				
10/15/2008 20:40	33.1	NE	3.26				
10/15/2008 20:50	57.62	NE	2.75				
10/15/2008 21:00	72.4	E	3.48				
10/15/2008 21:10	85.8	E	3.67				
10/15/2008 21:20	79.8	E	2.37				
10/15/2008 21:30	37.89	NE	2.14				
10/15/2008 21:40	28.72	NE	3.12				
10/15/2008 21:50	26.16	NE	2.32				
10/15/2008 22:00	8.1	N	2.08				
10/15/2008 22:10	358.7	N	1.9				
10/15/2008 22:20	351.8	N	2.08				
10/15/2008 22:30	342	N	2.26				
10/15/2008 22:40	342.7	N	1.93				
10/15/2008 22:50	343.9	N	2.17				
10/15/2008 23:00	344.8	N	2.19				
10/15/2008 23:10	339.5	N	2.5				
10/15/2008 23:20	327.5	NW	2.26				
10/15/2008 23:30	309.8	NW	2.48				
10/15/2008 23:40	312.3	NW	3.8				
10/15/2008 23:50	320.3	NW	4.25				
10/16/2008 0:00	321.2	NW	3.2				
10/16/2008 0:10	317.9	NW	2.9				
10/16/2008 0:20	316.3	NW	3.65				
10/16/2008 0:30	320	NW	4.7				
10/16/2008 0:40	329.7	NW	6				
10/16/2008 0:50	336.1	NW	6.51				
10/16/2008 1:00	328.5	NW	6.1				
10/16/2008 1:10	322.8	NW	6.03				
10/16/2008 1:20	327.9	NW	6.11				
10/16/2008 1:30	326.8	NW	5.31				
10/16/2008 1:40	338.9	N	6.83				
10/16/2008 1:50	340.6	N	6.92				
10/16/2008 2:00	338.7	N	7.05				
10/16/2008 2:10	337.7	N	6.8				
10/16/2008 2:20	334.3	NW	6.51				
10/16/2008 2:30	328.6	NW	5.4				
10/16/2008 2:40	332.9	NW	5.73				
10/16/2008 2:50	337.2	NW	6.85				
10/16/2008 3:00	341.6	N	6.99				
10/16/2008 3:10	338.9	N	6.75				
10/16/2008 3:20	341.5	N	7.54				
10/16/2008 3:30	340.1	N	8.53				
10/16/2008 3:40	340	N	8.77				
10/16/2008 3:50	340.6	N	8.11				
10/16/2008 4:00	339.4	N	8.42				
10/16/2008 4:10	337.6	N	8.18				
10/16/2008 4:20	339.5	N	8.3				
10/16/2008 4:30	336.5	NW	8.18				
10/16/2008 4:40	329.3	NW	7.25				
10/16/2008 4:50	326.8	NW	6.69				
10/16/2008 5:00	325.7	NW	7.14				
10/16/2008 5:10	323.8	NW	7.12				
10/16/2008 5:20	327.4	NW	6.39				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
10/16/2008 5:30	325.2	NW	6.82				
10/16/2008 5:40	325.6	NW	7.37				
10/16/2008 5:50	321.9	NW	7.48				
10/16/2008 6:00	322.4	NW	7.86	12	10.5	11.3	0
10/16/2008 6:10	324.3	NW	7.23				
10/16/2008 6:20	323.8	NW	8.51				
10/16/2008 6:30	322.3	NW	9.19				
10/16/2008 6:40	323.4	NW	9.96				
10/16/2008 6:50	324.3	NW	7.64				
10/16/2008 7:00	321.2	NW	9				
10/16/2008 19:00	358	N	5.36				
10/16/2008 19:10	353.8	N	5.58				
10/16/2008 19:20	355.7	N	4.68				
10/16/2008 19:30	354.6	N	4.79				
10/16/2008 19:40	351.4	N	4.82				
10/16/2008 19:50	355.5	N	5.23				
10/16/2008 20:00	352.8	N	5.92				
10/16/2008 20:10	351.8	N	5.44				
10/16/2008 20:20	349.2	N	5.65				
10/16/2008 20:30	347.9	N	5.46				
10/16/2008 20:40	346.8	N	4.82				
10/16/2008 20:50	344.2	N	4.82				
10/16/2008 21:00	341.6	N	4.81				
10/16/2008 21:10	348	N	3.93				
10/16/2008 21:20	355.6	N	3.92				
10/16/2008 21:30	0.38	N	3.21				
10/16/2008 21:40	3.96	N	2.88				
10/16/2008 21:50	13	N	3.33				
10/16/2008 22:00	31.39	NE	3.46				
10/16/2008 22:10	42.2	NE	2.91				
10/16/2008 22:20	45.71	NE	3.79				
10/16/2008 22:30	42.33	NE	4.03				
10/16/2008 22:40	41.93	NE	3.66				
10/16/2008 22:50	34	NE	3.49				
10/16/2008 23:00	21.96	N	3.76				
10/16/2008 23:10	23.15	NE	3.83				
10/16/2008 23:20	27.2	NE	3.17				
10/16/2008 23:30	27.29	NE	2.99				
10/16/2008 23:40	24.45	NE	2.61				
10/16/2008 23:50	41.94	NE	3.79				
10/17/2008 0:00	45.26	NE	4.31				
10/17/2008 0:10	46.75	NE	4.18				
10/17/2008 0:20	44.59	NE	3.97				
10/17/2008 0:30	45.22	NE	3.61				
10/17/2008 0:40	48.15	NE	3.41				
10/17/2008 0:50	52.97	NE	4.09				
10/17/2008 1:00	55.3	NE	3.81				
10/17/2008 1:10	55.81	NE	4.32				
10/17/2008 1:20	62.27	NE	4.34				
10/17/2008 1:30	59.24	NE	4.94				
10/17/2008 1:40	60.55	NE	4.61				
10/17/2008 1:50	64.34	NE	4.18				
10/17/2008 2:00	59.88	NE	4.73				
10/17/2008 2:10	57.22	NE	5.09				
10/17/2008 2:20	59.86	NE	5.26				
10/17/2008 2:30	58.79	NE	4.88				
10/17/2008 2:40	56.94	NE	4.41				
10/17/2008 2:50	49.53	NE	4.1				
10/17/2008 3:00	51.07	NE	4.34				
10/17/2008 3:10	56.46	NE	4.49				
10/17/2008 3:20	55.84	NE	5.04				
10/17/2008 3:30	48.72	NE	5.33				
10/17/2008 3:40	49.44	NE	4.95				
10/17/2008 3:50	48.43	NE	4.8				
10/17/2008 4:00	55.23	NE	4.58				
10/17/2008 4:10	53.16	NE	4.8				
10/17/2008 4:20	55.65	NE	4.96				
10/17/2008 4:30	55.22	NE	5.93				
10/17/2008 4:40	58.42	NE	5.55				
10/17/2008 4:50	56.61	NE	6.03				
10/17/2008 5:00	53.74	NE	6.26				
10/17/2008 5:10	54.04	NE	6.14				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

Appendix A Weather Data During the Ripley Post-construction Monitoring Program

Date	Wind Direction[1,3](°)	Wind Direction	Wind Speed[1,3](m/s)	Maximum Temperature[2](°C)	Minimum Temperature[2](°C)	Mean Temperature[2](°C)	Total Rain[2](mm)
10/17/2008 5:20	55.03	NE	5.84				
10/17/2008 5:30	53.58	NE	6.1				
10/17/2008 5:40	57.36	NE	5.73				
10/17/2008 5:50	58.28	NE	5.67				
10/17/2008 6:00	60.75	NE	5.98	12.5	4	8.3	0
10/17/2008 6:10	60.59	NE	5.93				
10/17/2008 6:20	60.27	NE	5.77				
10/17/2008 6:30	61.1	NE	5.6				
10/17/2008 6:40	59.99	NE	5.43				
10/17/2008 6:50	59.45	NE	4.75				
10/17/2008 7:00	62.91	NE	4.43				
10/17/2008 19:00	66.21	NE	5.13				
10/17/2008 19:10	67.79	E	5.35				
10/17/2008 19:20	67.32	NE	5.29				
10/17/2008 19:30	69	E	5.35				
10/17/2008 19:40	68.36	E	5.39				
10/17/2008 19:50	73.1	E	5.37				
10/17/2008 20:00	77.5	E	5.39				
10/17/2008 20:10	71	E	5.77				
10/17/2008 20:20	69.3	E	5.28				
10/17/2008 20:30	70.4	E	5.36				
10/17/2008 20:40	68.02	E	5.35				
10/17/2008 20:50	68.13	E	5.38				
10/17/2008 21:00	71.5	E	5.34				
10/17/2008 21:10	68.66	E	5.17				
10/17/2008 21:20	64.49	NE	4.98				
10/17/2008 21:30	66.06	NE	4.97				
10/17/2008 21:40	69.98	E	5.37				
10/17/2008 21:50	71.6	E	5.07				
10/17/2008 22:00	75.7	E	4.9				
10/17/2008 22:10	76.1	E	5.07				
10/17/2008 22:20	80.2	E	4.85				
10/17/2008 22:30	76.7	E	5.38				
10/17/2008 22:40	74.5	E	5.51				
10/17/2008 22:50	76.3	E	5.38				
10/17/2008 23:00	75.9	E	5.3				
10/17/2008 23:10	73.4	E	5.31				
10/17/2008 23:20	69.63	E	4.93				
10/17/2008 23:30	68.43	E	4.88				
10/17/2008 23:40	68.49	E	4.73				
10/17/2008 23:50	68.25	E	4.5				

1 Measured at 57 m
2 Data source: Environment Canada
3 Data source: Suncor/Acciona Wind Tower

APPENDIX B

Wildlife Collector Permits

Environment Canada Environnement Canada

CANADIAN WILDLIFE SERVICE - PERMIT
PERMIS - SERVICE CANADIEN DE LA FAUNE

Permit to/for Permis de/pour	Permit no. No de permis
SCIENTIFIC-CAPTURE	CA 0216

Organization Organization	Issued under section Délivré en vertu de l'article	of de
Jacques Whitford Ltd.	19	MIGRATORY BIRD REGULATIONS

Surname Nom de famille	Name Prénom	Department Département
Easterling	Katie	Project Biologist

7271 Warden Ave.
Markham On
L3R 5X5

Date of issue Date d'émission	Date of expiry Date d'éxpiration
March 31, 2008	December 31, 2008

Signature of holder Signature du détenteur	For the minister Pour le ministre

Special Conditions - Conditions spéciales

1. Prior to any use of this permit the OMNR is to be notified relative to procedures, times and localities of field research.
2. A copy of this permit is to be carried in the field by all researchers.
3. Landowner's permission is required prior to venturing onto private property.
4. The permittee is authorized to collect, to possess, and to utilize, for scientific research purposes, deceased specimens of migratory birds as obtained from the Ripley Wind Power Project site (located near Ripley, Bruce County).
5. This permit further authorizes – for the purposes of this study – the collection, possession, and utilization of accidentally killed specimens of migratory birds – to wit: """found dead""" specimens.
6. The use of this permit extends to the collection and possession of all species of migratory birds including species as identified to be those listed on the Species at Risk Act control list.
7. No birds may be intentionally killed or injured.
8. Migratory bird specimens found may be taken to the Toronto Wildlife Centre and/or Jacques Whitford Limited for study purposes.
9. All specimens not retained for study purposes are to be disposed of by burial or approved laboratory waste disposal methods.
10. Permit holder shall by January 31, 2009, submit in writing a report indicating the results of the study to the Canadian Wildlife Service; 867 Lakeshore Road, Burlington, ON., L7R 4A6.
11. Nominees authorized to act under the direction of the permittee are: employees of, or contractors to, Jacques Whitford Ltd.

THIS PERMIT TO BE RETURNED TO THE CANADIAN WILDLIFE SERVICE AT THE CONCLUSION OF THE PROJECT.

Canada

Ontario

Ministry of Natural Resources

Ministère des Richesses naturelles

Application for a Wildlife Scientific Collector's Authorization

Demande d'autorisation pour faire la collecte scientifique d'animaux sauvages

☒ **New Application / Nouvelle demande d'autorisation**

☐ **Authorization Renewal / Renouvellement de l'autorisation** ▷

Current Authorization No. / N° d'autorisation actuel

Personal information contained on this form is collected under the authority of the *Fish and Wildlife Conservation Act, 1997* and will be used for the purpose of licencing, identification, enforcement, resource management and customer service surveys. Please direct further enquiries to the District Manager of the MNR issuing district.

Les renseignements personnels dans ce formulaire sont recueillis conformément à la *Loi sur la protection du poisson et de la faune*, 1997, et ils seront utilisés aux fins de délivrance de permis, d'identification, d'application des règlements, de gestion des ressources et de sondage sur les services à la clientèle. Veuillez communiquer avec le chef du district du MRN qui délivre le permis si vous avez des questions.

Please print
Veuillez écrire en caractères d'imprimerie

Name of Applicant
Nom du demandeur

Last Name / Nom de famille: EASTERLING

First Name / Prénom: KATHLEEN

Middle Name / Second prénom:

☐ Mr./M. ☐ Mrs./Mme ☒ Ms./Mlle

Name of Business/Organization/Affiliation (if applicable) / Nom de l'entreprise/de l'organisme/de l'affiliation (le cas échéant): JACQUES WHITFORD LTD.

Mailing address of Applicant
Adresse postale du demandeur

Street Name & No./PO Box/RR#/Gen. Del. / N°, rue/C.P./R.R./poste restante: 7271 WARDEN AVE

City/Town/Municipality / Ville/village/municipalité: MARKHAM

Province/State / Province/Etat: ON

Postal Code/Zip Code / Code postal/Zip: L3R 5X5

Physical address of applicant (if different from mailing address)
Adresse physique du demandeur (si elle diffère de l'adresse postale)

Street Name and No., Lot, Conc. / N°, rue, lot, conc.:

City/Town/Municipality / Ville/village/municipalité:

Province/State / Province/Etat:

Postal Code/Zip Code / Code postal/Zip:

Phone numbers
N°s de téléphone

Home telephone / Résidence			Business telephone / Bureau			Fax / Télécopieur	
Area Code / Code rég.	Tel. # / N°	Ext. / Poste	Area Code / Code rég.	Tel. # / N°	Ext. / Poste	Area Code / Code rég.	Tel. # / N°
			905	474-7700	x 4746290	905	479-9326

Names of Assistants
Nom des adjoints

(Attach list, if insufficient space)
(Joignez une liste si vous manquez d'espace)

Last Name / Nom	First Name / Prénom	Middle Name / Second prénom
KLYMCO	JOHN	
BURRELL	KENNETH.	

Activities
Activités

☒ **Capture wildlife of the species and in the numbers, set out below.**
Capturer les espèces et le nombre d'animaux sauvages indiqués au verso

and/or / et/ou

☐ Keep game wildlife or specially protected wildlife in captivity for the purposes of education or science.
Garder des animaux sauvages spécialement protégés et du gibier sauvage en captivité à des fins éducatives et scientifiques

☐ Release the captured wildlife in the area of capture, if the captured wildlife is not to be removed from that area.
Remettre en liberté les animaux sauvages capturés dans la zone de capture si les animaux capturés ne doivent pas être enlevés de cette zone

OR / OU

☐ **Capture and kill wildlife of the species set out below.**
Capturer et tuer les animaux sauvages indiqués au verso

Yes/Oui	No/Non	
☐	☒	Wildlife will be kept in a research facility registered under the Animals for Research Act. Les animaux sauvages seront gardés dans une installation de recherche approuvée par la *Loi sur les animaux destinés à la recherche.*

continued on Page 2 / suite à la page 2

Gear to be used
Matériel qui sera utilisé

NONE – As part of a post-construction monitoring program at the Ripley Wind Farm, bird (including any raptors) & bat carcasses found during mortality searches will be tagged hand collected & stored in a freezer for future identification.

Collection information
Données sur la collecte

Date/Collection Period *From-To* / Date/période de collecte *De - à*

Y/A	Y/A	Y/A	Y/A	M	M	D/J	D/J	Y/A	Y/A	Y/A	Y/A	M	M	D/J	D/J
2	0	0	8	0	4	1	4	2	0	0	8	1	1	1	4

(Attach list, if insufficient space)
(Joignez une liste si vous manquez d'espace)

Species / Espèce	Numbers Nombre	MNR District District du MRN	Location / Endroit
unlimited collection of all bird & bat species			Ripley Wind Farm near Ripley, ON.

Attachments
Pièces jointes

Yes/Oui	No/Non	
☒	☐	An outline of the proposed project/collection and the objectives of the study. Or if an educational institution, a statement from an authorized officer (department head) of the institution indicating the educational institution's endorsement of the project and an outline of the objectives of the study. Aperçu du projet/de la collecte proposé(e) et des objectifs de l'étude. S'il s'agit d'un établissement d'enseignement, déclaration d'une personne autorisée (chef de service) de l'établissement attestant son appui pour le projet et aperçu des objectifs de l'étude
☐	☒	Approved animal care protocol Protocole approuvé de soins aux animaux
☐	☒	A copy of your current banding permit (Master's or Sub-permit), if you are banding birds. Exemplaire de votre permis actuel pour baguer (permis principal ou sous-permis) si vous baguez des oiseaux

I certify that the information provided in this application is true.
Je certifie que les renseignements fournis dans cette demande sont véridiques.

Signature of Applicant / Signature du demandeur: K Eastling

Date of application / Date de la demande: Y/A Y/A Y/A Y/A M M D/J D/J — 2008 03 28

Jacques Whitford
7271 Warden Avenue
Markham, Ontario
Canada L3R 5X5

www.jacqueswhitford.com
Tel: 905-474-7700
Fax : 905-479-9326
Email markham@jacqueswhitford.com

MEMORANDUM

TO: Kathy Dodge **DATE:** March 28, 2008

FROM: Katie Easterling **FILE:** 1033698

RE: **Application for a Wildlife Scientific Collector's Permit – Ripley Wind Farm**

Summary Description of Project:
As part of the post-construction monitoring effort at the Ripley Wind Farm, mortality searches, scavenger impact trials and searcher efficiency trials will be conducted near the base of each wind turbine. The mortality searches involve tagging, collecting and storing all deceased bird and bat carcasses found within approximately 40 m of the turbine in a freezer (located on-site) for future identification. Scavenger impact trials involve placing native bird carcasses (or poultry chick carcasses if there are not enough bird carcasses) just outside the 40 m mortality search zone. Carcasses will be monitored for up to a 2 week period to determine scavenger rates within the area. These trials will be conducted multiple times throughout the year. Searcher efficiency trials involve placing native bird carcasses (previously collected through mortality searches or from the Toronto Wildlife Centre) or poultry chick carcasses near the base of randomly selected turbines to determine the percentage of carcasses the searchers are able to recover. Bird and bat carcasses collected during mortality searches may be re-used for scavenger impact or searcher efficiency trials. At the end of the monitoring program, all carcasses will be disposed of through burial on-site or through a proper disposal company.

Area of Activities:
The mortality searches, scavenger impact trials and searcher efficiency trials will be limited to a 12 km radius around the town of Ripley, Ontario. Carcasses will be stored in a freezer on-site; however, there may be a need to transport the carcasses to Jacques Whitford's office in Markham, Ontario for identification. Additional carcasses for the scavenger impact and searcher efficiency trials may be procured from the Toronto Wildlife Centre and transported back to the Ripley Site for use in subsequent trials.

APPENDIX C

Detailed Calculations

APPENDIX C CALCULATION SUMMARIES

The methodologies for calculating Scavenger Impact Trial value, the overall weighted Searcher Efficiency values, the Percent Area Searched and the final Corrected Mortality Estimate value are illustrated below.

1.0 SCAVENGER IMPACT TRIAL CALCULATION

Scavenger Impact Trial methodology is discussed in section 2.2.3 of the Report; the results are discussed in section 3.1.1.

Scavenger Impact Trial Equation:

$$Sc = \frac{n_{visit1} + n_{visit2} + n_{visit}3 + n_{visit4} + n_{visit5} + n_{visit6}}{n_{visit0} + n_{visit1} + n_{visit2} + n_{visit3} + n_{visit4} + n_{visit5}}$$

where:

Sc	is the proportion of carcasses not removed by scavengers over the search period
n_{visit0}	is the total number of carcasses placed
$n_{visit1} – n_{visit6}$	is the numbers of carcasses remaining on visits 1 through 6

Table C1: Scavenger Impact Trial Results

Number of Carcasses Remaining at Each Visit								
Spring[1] (April and May)								
Visit 1	**Visit 2**	**Visit 3**	**Visit 4**	**Visit 5**	**Visit 6**	**Summation**	**Proportion (Sc value)**	**Sc**
71	66	59	39	34	34	303	0.89117647	89.1176
23-Apr	24-Apr	28-Apr	30-Apr	2-May	5-May	340		
July								
44	14	11	7	5	3	84	0.53503185	53.5032
21-Jul	23-Jul	25-Jul	28-Jul	31-Jul	1-Aug	157		
August								
73	68	47	36	34	33	291	0.87125749	87.1257
13-Aug	15-Aug	18-Aug	20-Aug	22-Aug	25-Aug	334		
September								
53	46	8	6	4	4	121	0.62694301	62.6943
17-Sep	19-Sep	22-Sep	24-Sep	26-Sep	29-Sep	193		
October								
67	54	29	1	1	1	153	0.67105263	67.1053
10-Oct	14-Oct	15-Oct	17-Oct	17-Oct	17-Oct	228		
TOTAL								
$Sc_{(total)}$								**74.7667**

NOTES Subtract 5 carcasses removed by landowner

2.0 SEARCHER EFFICIENCY TRIAL CALCULATION

Searcher Efficiency Trial methodology is discussed in section 2.2.2 of the Report; the results are discussed in section 3.1.2.

Searcher Efficiency Trial Equation:

$$Se = \frac{\text{number of test carcasses found}}{\text{(number of test carcasses placed)} - \text{(number of test carcasses scavenged)}}$$

Because searchers searched varying numbers of turbines over the course of the mortality surveys, it was necessary to find a weighted average which reflected the proportion of turbines each searcher searched. This weighted average, or overall searcher efficiency, was calculated as follows:

$$Se_o = Se_1(n_1/T) + Se_2(n_2/T) + Se_3(n_3/T) + Se_{...}(n_{...}/T)...$$

where;

Se_o	is the Overall Searcher Efficiency;
$Se_{1 \text{ and } 2 \text{ and } 3...}$	are individual Searcher Efficiency Ratings;
$N_{1 \text{ and } 2 \text{ and } 3...}$	are number of turbines searched by each searcher; and
T	is the total number of turbines searched by all searchers.

Table C2: Searcher Efficiency Trial Results –Monthly

Month	Surveyor	Number Carcasses Placed	Number Scavenged	Number Overlooked	Number of Carcasses Found	SE(individual)	T1	Avg(1)	Avg(2)	SE(month)
APRIL	CKK	17	1		16	1.0000	96.00	0.505263158	0.505263158	50.52631579
	BB	3			3	1.0000	28.00	0.147368421	0.147368421	14.73684211
	KE	11	1	1	9	0.9000	66.00	0.347368421	0.312631579	31.26315789
	TOTAL						**190.00**			**96.52631579**
MAY	CKK	17		5	12	0.7059	151.0	0.611336032	0.431531317	43.1531317
	BB	19	1	1	17	0.9444	96.0	0.388663968	0.367071525	36.7071525
	TOTAL						**247.0**			**79.94028419**
JULY	RC	2		1	1	0.5000	57.50	0.216165414	0.108082707	10.80827068
	AL	5		4	1	0.2000	28.00	0.105263158	0.021052632	2.105263158
	KE	5		4	1	0.2000	47.00	0.176691729	0.035338346	3.533834586
	CKK	12	1	8	3	0.2727	133.50	0.501879699	0.136876282	13.68762816
	TOTAL						**266.00**			**30.13499658**
AUGUST	KE	11		5	6	0.5455	67.0	0.271255061	0.147957306	14.79573059
	CKK	16		9	7	0.4375	126.0	0.510121457	0.223178138	22.31781377
	DW	4		2	2	0.5000	26.0	0.105263158	0.052631579	5.263157895
	SAS	3		2	1	0.3333	28.0	0.113360324	0.037786775	3.778677463
	TOTAL						**247.0**			**47.72537971**
SEPTEMBER	CKK	19	1	13	5	0.2778	125.0	0.506072874	0.140575798	14.05757985
	KLE	4		3	1	0.2500	28.0	0.113360324	0.028340081	2.834008097
	JF	1		1	0	0.0000	9.0	0.036437247	0	0
	KE	6		3	3	0.5000	29.0	0.117408907	0.058704453	5.870445344
	AC	5		3	2	0.4000	27.0	0.109311741	0.043724696	4.372469636
	RS	4		1	3	0.7500	29.0	0.117408907	0.08805668	8.805668016
	TOTAL						**247**			**44.55017094**
OCTOBER	CKK	10	1	4	5	0.5556	76.0	0.5	0.277777778	27.77777778
	JF	3		1	2	0.6667	19.0	0.125	0.083333333	8.333333333
	SEW	8		3	5	0.6250	57.0	0.375	0.234375	23.4375
	TOTAL						**152.0**			**59.54861111**

T1 Total Turbines per Person

Avg(1) Total Turbines per Person/Total Turbines for that Month

Avg(2) $[Avg^{(1)}][SE_{(individual)}]$

SE Proportion = $[Avg^{(2)}][100]$

Table C3: Weighted Searcher Efficiency Trial Results – Seasonal

Season	Surveyor	Number Carcasses Placed	Number Scavenged	Number Overlooked	Number of Carcasses Found	SE(individual)	T1	Avg(1)	Avg(2)	SE(season)
SPRING	CKK	34	1	5	28	0.8485	247	0.562642369	0.477393525	47.73935252
	KE	11	1	1	9	0.9000	68	0.154897494	0.139407745	13.94077449
	BB	22	1	1	20	0.9524	124	0.282460137	0.269009654	26.9009654
	TOTAL						**439**			**87.62109241**
FALL	CKK	57	3	34	20	0.3704	460.5	0.509966777	0.188876584	18.88765842
	KE	22	0	12	10	0.4545	143.0	0.158361019	0.071982281	7.198228128
	RC	2	0	1	1	0.5000	57.5	0.063676633	0.031838317	3.183831672
	AL	5	0	4	1	0.2000	28.0	0.031007752	0.00620155	0.620155039
	DW	4	0	2	2	0.5000	26.0	0.028792913	0.014396456	1.439645626
	SAS	3	0	2	1	0.3333	28.0	0.031007752	0.010335917	1.033591731
	KLE	4	0	3	1	0.2500	28.0	0.031007752	0.007751938	0.775193798
	AC	5	0	3	2	0.4000	27.0	0.029900332	0.011960133	1.196013289
	RS	4	0	1	3	0.7500	29.0	0.032115172	0.024086379	2.408637874
	JF	4	0	2	2	0.5000	19.0	0.021040975	0.010520487	1.052048726
	SEW	8	0	3	5	0.6250	57.0	0.063122924	0.039451827	3.945182724
	TOTAL						**903.0**			**43.18018703**

T1 Total Turbines per Person

Avg$^{(1)}$ Total Turbines per Person/Total Turbines for that Month

Avg$^{(2)}$ [Avg(1)][SE(individual)]

SE Proportion = [Avg(2)][100]

Table C4: Weighted Searcher Efficiency Trial Results – Duration of Monitoring Program

Surveyor	Number Carcasses Placed	Number Scavenged	Number Overlooked	Number Found	SE(individual)	T1	Avg(1)	Avg(2)	SE(total)
CKK	91	4	39	48	0.5517	707.5	0.5244626	0.2893587	28.93586565
BB	22	1	1	20	0.9524	124.0	0.0919199	0.0875428	8.754280066
KE	33	1	13	19	0.5938	209.0	0.1549296	0.0919894	9.198943662
RC	2	0	1	1	0.5000	57.5	0.0426242	0.0213121	2.131208302
AL	5	0	4	1	0.2000	28.0	0.0207561	0.0041512	0.415122313
DW	4	0	2	2	0.5000	26.0	0.0192735	0.0096368	0.963676798
SAS	3	0	2	1	0.3333	28.0	0.0207561	0.0069187	0.691870521
KLE	4	0	3	1	0.2500	28.0	0.0207561	0.005189	0.518902891
JF	4	0	2	2	0.5000	28.0	0.0207561	0.0103781	1.037805782
AC	5	0	3	2	0.4000	27.0	0.0200148	0.0080059	0.800593032
RS	4	0	1	3	0.7500	29.0	0.0214974	0.0161231	1.612305411
SEW	8	0	3	5	0.6250	57.0	0.0422535	0.0264085	2.64084507
TOTAL						**1349.0**			**58.7714195**

T1 Total Turbines per Person

Avg$^{(1)}$ Total Turbines per Person/Total Turbines for that Month

Avg$^{(2)}$ [Avg$^{(1)}$][SE$_{(individual)}$]

SE Proportion = [Avg$^{(2)}$][100]

3.0 PERCENT AREA SEARCHED CALCULATION

Percent Area Searched methodology is discussed in section 2.2.1 of the Report. The area searched at each turbine was an 80 m by 80 m grid, which equates to 6,400 m^2.

Percent Area Searched:

$$Ps_{(birds)} = \frac{\text{area searched}}{(Pi)r^2} \quad \text{where } r = 50 \text{ m}$$

$$Ps_{(bats)} = \frac{\text{area searched}}{(Pi)r^2} \quad \text{where } r = 50 \text{ m}$$

$$\mathbf{Ps_{(avian)}} = \frac{\text{area searched}}{(Pi)r^2} = \frac{(80)\,(80)}{3.14(50)(50)} = \frac{6400}{7{,}850} = \mathbf{0.8153}$$

$$\mathbf{Ps_{(bat)}} = \frac{\text{area searched}}{(Pi)r^2} = \frac{(80)\,(80)}{3.14(50)(50)} = \frac{6400}{7{,}850} = \mathbf{0.8153}$$

4.0 ESTIMATED MORTALITY CORRECTION EQUATION CALCULATION

Estimated Mortality Correction Equation methodology is discussed in section 2.2.1 of the Report; the results are discussed in section 3.1.3.

Mortality Correction Equation:

C = c / (Se x Sc x Ps), where

C	is the corrected number of bird or bat mortalities;
c	is the number of carcasses found;
Se	is the proportion of carcasses expected to be found by searchers (searcher efficiency);
Sc	is the proportion of carcasses not removed by scavengers over the search period; and,
Ps	is the percent of the area searched.

4.1 Corrected Estimate for Avian Mortalities

Corrected avian mortality estimates are calculated separately per month as well as per season, and provided below. Because different searchers worked for differing lengths of time, their efficiencies are weighted first by month, then by season, then weighted for the overall six month monitoring period. Final corrected mortality estimate is found by summing the findings of spring and fall.

Table C5: Estimated Avian Mortality Correction Results

Corrected Mortality Estimate for Avian Mortalities Per Month and Season								
Period		**c**	**Se**	**Sc**	**Ps**	**C**	**Per Turbine**	**Per MW**
Season	Spring	6	0.8762	0.891	0.8154	9.4254	0.24803	0.1240
	Fall	25	0.4318	0.676	0.8154	105.0364	2.7641	1.38206

Corrected Mortality Estimate for Avian Mortalities Per Monitoring Period		
Period	**Per Turbine**	**Per MW**
TOTAL for Year	0.24803 + 2.7641 = 3.1213	0.1240 + 1.38206 = 1.50606

Sc	Scavenger Impact Trial Results
Ps	Percent Area Searched
C	Corrected Mortality Estimate
Per Turbine	C Divided by Total Number of Turbines
Per MW	C Divided by Total Number of MegaWatts

4.2 Corrected Estimate for Bat Mortalities

Corrected bat mortality estimates are calculated separately per month as well as per season, and provided below. Because different searchers worked for differing lengths of time, their efficiencies are weighted first by month, then by season, then weighted for the overall six month monitoring period. Final corrected mortality estimate is found by summing the findings of spring and fall.

Table C7: Estimated Bat Mortality Correction Results

Corrected Estimate for Bat Mortality Per Month and Season								
Period		**c**	**Se**	**Sc**	**Ps**	**C**	**Per Turbine**	**Per MW**
Season	Spring	4	0.8762	0.891	0.8154	6.2836	0.1654	0.0827
	Fall	116	0.4318	0.676	0.8154	487.3691	12.8255	6.4128

Corrected Mortality Estimate for Bat Mortalities Per Monitoring Period		
Period	**Per Turbine**	**Per MW**
TOTAL for Year	0.1654 + 12.8255 = 12.99	0.0827 + 6.4128 = 6.4955

c	Actual number of mortalities
Se	Searcher Efficiency
Sc	Scavenger Impact Trial Results
Ps	Percent Area Searched
C	Corrected Mortality Estimate
Per Turbine	C Divided by Total Number of Turbines
Per MW	C Divided by Total Number of MegaWatts

APPENDIX D

Field Data Collection Forms

Jacques Whitford

Turbine Search Form

Date _____ Project Number _____ Study Area & Site _____

Observer _____ Start Time _____ End Time_____

Weather **Temperature _____ Wind Condition_____**

Wind Direction :

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW

Precipitation **Cloud Cover (%) _____** **Visibility _____**

None	Fog	Drizzle	Lt Rain	Hvy Rain

Turbine Number	Start Time	Finish Time	Carcasses Found (ID #)

Searcher Efficiency Carcass Form

Date Placed____

Project Number, Study Area & Site ____

Observer ____________________________**Searcher**_____________________________________

Weather Conditions When Placed **Temperature** _____________**Wind Condition**____________________

Wind Direction :

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW

Precipitation **Cloud Cover (%)** ________ **Visibility** ______________________

None	Fog	Drizzle	Lt Rain	Hvy Rain

Carcass Type	Turbine Number	Location Description (cleared area, grassy area, on gravel access road, within crops, etc)	Carcass Located During Mortality Search? Yes or No. If No, Confirm Whether Carcass was Scavenged or Overlooked
☐Native Bird ☐Poultry		☐Carcass clearly visible? ☐Carcass not clearly visible? Description of carcasses location:	☐Yes, carcass located ☐No, carcass was not located If no, carcass was: ☐Scavenged ☐Overlooked
☐Native Bird ☐Poultry		☐Carcass clearly visible? ☐Carcass not clearly visible? Description of carcasses location:	☐Yes, carcass located ☐No, carcass was not located If no, carcass was: ☐Scavenged ☐Overlooked
☐Native Bird ☐Poultry		☐Carcass clearly visible? ☐Carcass not clearly visible? Description of carcasses location:	☐Yes, carcass located ☐No, carcass was not located If no, carcass was: ☐Scavenged ☐Overlooked

Bird/Bat Mortality Monitoring Form

Date and Time_____ **Project Number**_____

Study Area and Site _____

Observer _____

Weather **Temperature** _____ **Wind Condition**_____

Wind Direction :

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW

Precipitation **Cloud Cover (%)** _____ **Visibility** _____

None	Fog	Drizzle	Lt Rain	Hvy Rain

Carcass Information:

Carcass ID #	
UTM of Specimen Location	
Distance and Direction to Nearest Turbine	
Substrate Specimen Found In	
Photo # and Description	
Turbine Tower #	
Specimen Location within Survey Grid	
Adjacent Structures (i.e. fence, power line, substation) and Approximate Distance from Specimen	
Species	
Sex	
Age Class	
Carcass Condition	

Categories of carcass condition

CODE	Description
M	Injured or moribund
F	Freshly dead with little or no decay or scavenging by insects; probably died within 48 hours
R	Recently dead but with noticeable decay or scavenging by insects; probably died within 1-7 days
D	Decomposed carcass, barely recognizable or not recognizable to species; probably dead more than 7 days
X	Residual remains, such as feathers, bones, blood or other scraps of tissue

Comments:_____

_____

_____

_____

_____

_____

Scavenger Impact Trial Carcass Setup Form – Ripley Wind Farm

Date Carcasses Placed in Field_____

Weather Conditions When Placed **Temperature** _____**Wind Condition**_____

Wind Direction :

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW

Precipitation **Cloud Cover (%)** _____ **Visibility** _____

None	Fog	Drizzle	Lt Rain	Hvy Rain

Carcass #	Turbine Number	GPS Coordinate	Description of Carcass Location
1	1		
2	1		
3	2		
4	2		
5	3		
6	3		
7	4		
8	4		
9	5		
10	5		
11	6		
12	6		
13	7		
14	7		
15	8		
16	8		

Carcass #	Turbine Number	GPS Coordinate	Description of Carcass Location
17	9		
18	9		
19	10		
20	10		
21	11		
22	11		
23	12		
24	12		
25	13		
26	13		
27	14		
28	14		
29	15		
30	15		
31	16		
32	16		
33	17		
34	17		
35	18		
36	18		
37	19		
38	19		
39	20		

Carcass #	Turbine Number	GPS Coordinate	Description of Carcass Location
40	20		
41	21		
42	21		
43	22		
44	22		
45	23		
46	23		
47	24		
48	24		
49	25		
50	25		
51	26		
52	26		
53	27		
54	27		
55	28		
56	28		
57	29		
58	29		
59	30		
60	30		
61	31		
62	31		

Carcass #	Turbine Number	GPS Coordinate	Description of Carcass Location
63	32		
64	32		
65	33		
66	33		
67	34		
68	34		
69	35		
70	35		
71	36		
72	36		
73	37		
74	37		
75	38		
76	38		

Scavenger Impact Trial Carcass Daily Monitoring Form – Ripley Wind Farm

Observer _____ **Project Number** _____

Date Carcasses Originally Placed_____

Date Carcasses Checked_____

Not-Scavenged Codes
C – completely intact carcass
P – partial carcass remaining (evidence of some scavenging)
R –remnants of the carcass only (legs, entrails or feathers)

Carcass #	Turbine Number	Scavenged/Not Scavenged
1	1	☐ Scavenged ☐ Not Scavenged
2	1	☐ Scavenged ☐ Not Scavenged
3	2	☐ Scavenged ☐ Not Scavenged
4	2	☐ Scavenged ☐ Not Scavenged
5	3	☐ Scavenged ☐ Not Scavenged
6	3	☐ Scavenged ☐ Not Scavenged
7	4	☐ Scavenged ☐ Not Scavenged
8	4	☐ Scavenged ☐ Not Scavenged
9	5	☐ Scavenged ☐ Not Scavenged
10	5	☐ Scavenged ☐ Not Scavenged
11	6	☐ Scavenged ☐ Not Scavenged
12	6	☐ Scavenged ☐ Not Scavenged
13	7	☐ Scavenged ☐ Not Scavenged
14	7	☐ Scavenged ☐ Not Scavenged
15	8	☐ Scavenged ☐ Not Scavenged

Carcass #	Turbine Number	Scavenged/Not Scavenged
16	8	☐ Scavenged ☐ Not Scavenged
17	9	☐ Scavenged ☐ Not Scavenged
18	9	☐ Scavenged ☐ Not Scavenged
19	10	☐ Scavenged ☐ Not Scavenged
20	10	☐ Scavenged ☐ Not Scavenged
21	11	☐ Scavenged ☐ Not Scavenged
22	11	☐ Scavenged ☐ Not Scavenged
23	12	☐ Scavenged ☐ Not Scavenged
24	12	☐ Scavenged ☐ Not Scavenged
25	13	☐ Scavenged ☐ Not Scavenged
26	13	☐ Scavenged ☐ Not Scavenged
27	14	☐ Scavenged ☐ Not Scavenged
28	14	☐ Scavenged ☐ Not Scavenged
29	15	☐ Scavenged ☐ Not Scavenged
30	15	☐ Scavenged ☐ Not Scavenged

Carcass #	Turbine Number	Scavenged/Not Scavenged
31	16	☐ Scavenged ☐ Not Scavenged
32	16	☐ Scavenged ☐ Not Scavenged
33	17	☐ Scavenged ☐ Not Scavenged
34	17	☐ Scavenged ☐ Not Scavenged
35	18	☐ Scavenged ☐ Not Scavenged
36	18	☐ Scavenged ☐ Not Scavenged
37	19	☐ Scavenged ☐ Not Scavenged
38	19	☐ Scavenged ☐ Not Scavenged
39	20	☐ Scavenged ☐ Not Scavenged
40	20	☐ Scavenged ☐ Not Scavenged
41	21	☐ Scavenged ☐ Not Scavenged
42	21	☐ Scavenged ☐ Not Scavenged
43	22	☐ Scavenged ☐ Not Scavenged
44	22	☐ Scavenged ☐ Not Scavenged
45	23	☐ Scavenged ☐ Not Scavenged
46	23	☐ Scavenged ☐ Not Scavenged
47	24	☐ Scavenged ☐ Not Scavenged
48	24	☐ Scavenged ☐ Not Scavenged
49	25	☐ Scavenged ☐ Not Scavenged
50	25	☐ Scavenged ☐ Not Scavenged
51	26	☐ Scavenged ☐ Not Scavenged
52	26	☐ Scavenged ☐ Not Scavenged
53	27	☐ Scavenged ☐ Not Scavenged

Carcass #	Turbine Number	Scavenged/Not Scavenged
54	27	☐ Scavenged ☐ Not Scavenged
55	28	☐ Scavenged ☐ Not Scavenged
56	28	☐ Scavenged ☐ Not Scavenged
57	29	☐ Scavenged ☐ Not Scavenged
58	29	☐ Scavenged ☐ Not Scavenged
59	30	☐ Scavenged ☐ Not Scavenged
60	30	☐ Scavenged ☐ Not Scavenged
61	31	☐ Scavenged ☐ Not Scavenged
62	31	☐ Scavenged ☐ Not Scavenged
63	32	☐ Scavenged ☐ Not Scavenged
64	32	☐ Scavenged ☐ Not Scavenged
65	33	☐ Scavenged ☐ Not Scavenged
66	33	☐ Scavenged ☐ Not Scavenged
67	34	☐ Scavenged ☐ Not Scavenged
68	34	☐ Scavenged ☐ Not Scavenged
69	35	☐ Scavenged ☐ Not Scavenged
70	35	☐ Scavenged ☐ Not Scavenged
71	36	☐ Scavenged ☐ Not Scavenged
72	36	☐ Scavenged ☐ Not Scavenged
73	37	☐ Scavenged ☐ Not Scavenged
74	37	☐ Scavenged ☐ Not Scavenged
75	38	☐ Scavenged ☐ Not Scavenged
76	38	☐ Scavenged ☐ Not Scavenged

Scavenger Impact Trial Carcass Setup and Daily Check Form – Ripley Wind Farm

Date Carcasses Placed in Field_____

Weather Conditions When Placed **Temperature** _____**Wind Condition**_____

Wind Direction :

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW

Precipitation **Cloud Cover (%)** _____ **Visibility** _____

None	Fog	Drizzle	Lt Rain	Hvy Rain

Scavenged Codes
P – Partial carcass remaining (evidence of some scavenging)
R –Remnants of the carcass only (legs, entrails or feathers)
G – Gone completely

Turbine Number	Carcass #	GPS Coordinate	Description of Carcass Location	Date	Date	Date	Date	Date	Date
1	1			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
1	2			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
2	3			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
2	4			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
3	5			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
3	6			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
4	7			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
4	8			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
5	9			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
5	10			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
6	11			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged

Turbine Number	Carcass #	GPS Coordinate	Description of Carcass Location	Date	Date	Date	Date	Date	Date
6	12			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
7	13			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
7	14			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
8	15			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
8	16			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
9	17			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
9	18			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
10	19			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
10	20			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
11	21			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
11	22			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
12	23			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
12	24			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
13	25			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
13	26			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged

Turbine Number	Carcass #	GPS Coordinate	Description of Carcass Location	Date	Date	Date	Date	Date	Date
14	27			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
14	28			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
15	29			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
15	30			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
16	31			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
16	32			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
17	33			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
17	34			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
18	35			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
18	36			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
19	37			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
19	38			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
20	39			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
20	40			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
21	41			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged

Turbine Number	Carcass #	GPS Coordinate	Description of Carcass Location	Date	Date	Date	Date	Date	Date
21	42			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
22	43			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
22	44			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
23	45			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
23	46			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
24	47			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
24	48			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
25	49			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
25	50			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
26	51			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
26	52			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
27	53			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
27	54			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
28	55			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
28	56			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged

Turbine Number	Carcass #	GPS Coordinate	Description of Carcass Location	Date	Date	Date	Date	Date	Date
29	57			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
29	58			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
30	59			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
30	60			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
31	61			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
31	62			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
32	63			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
32	64			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
33	65			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
33	66			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
34	67			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
34	68			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
35	69			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
35	70			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
36	71			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged

Turbine Number	Carcass #	GPS Coordinate	Description of Carcass Location	Date	Date	Date	Date	Date	Date
36	72			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
37	73			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
37	74			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
38	75			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged
38	76			☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged	☐Not Scavenged ☐Scavenged

APPENDIX E

Mortality Surveys Results

Jacques Whitford

APPENDIX E: RESULTS OF MORTALITY MONITORING

Date	Turbine #	Carcass ID#	UTM Coordinates	Bat/Bird	Species	Carcass Condition	Distance from Turbine (m)	Direction from Turbine	Substrate Type	Notes	Crop
14-Apr-08	21	CKK041408-21-A	17 450734 4878589	Bird	Cooper's Hawk	F	9	N	Uncultivated soil		Peas
23-Apr-08	28	CKK04232008-28A	17 448085 4877426	Bird	European Starling	R	30	WSW	Access Road		Soy
5-May-08	15	CKK05052008-15A	17 447449 4879817	Bird	Gray Catbird	F	25	NNE	Uncultivated soil		Soy
9-May-08	25	BB09052008-25A	n/a	Bat	Eastern Pipistrelle	F	10	W	Uncultivated soil		Soy
14-May-08	26	BB051408-26A	n/a	Bird	Horned Lark	F	20	NE	Plowed Field		Wheat
16-May-08	37	CKK05162008-37A	17 446899 4875091	Bird	Horned Lark	R	30	N	Uncultivated soil		Corn
16-May-08	33	CKK05162008-33A	17 446097 4876534	Bat	Little Brown Bat	D	20	S	Uncultivated soil		Corn
21-May-08	28	CKK05212008-28A	17 448120 4877417	Bat	Silver-haired Bat	F	8	E	Uncultivated soil		Soy
29-May-08	35	CKK05292008-35A	17 445258 4875908	Bat	Silver-haired Bat	F	20	SSE	Uncultivated soil		Corn
30-May-08	5	CKK05302008-5A	17 447892 4882357	Bird	Swainson's Thrush	M	8	S	Uncultivated soil		Soy
2-Jul-08	5	RC7022008-5A	17 447891 4882358	Bat	Unknown Bat (LB?)	D	15	S	Soil		Soy
2-Jul-08	33	RC07022008-33A	17 446120 4876535	Bat	Eastern Pipistrelle	M	8	SSE	Gravel access road		Corn
2-Jul-08	37	RC07022008-37A	17 446878 4875082	Bat	Eastern Pipistrelle	F	12	N	Soil		Corn
2-Jul-08	9	CKK07022008-9A	17 541632 4880079	Bat	Little Brown Bat	D	25	SSW	Gravel access road		Soy
3-Jul-08	36	RC07032008-36A	17 445999 4875730	Bird	Unknown bird	X	15	SSW	Soil with 1 m tall wheat		Corn
3-Jul-08	10	RC07032008-10A	17 445365 4881412	Bat	Unknown bat	D	20	E	Soil		Corn
3-Jul-08	10	RC07032008-10B	17 445369 4881428	Bat	Unknown Bat	R	18	NE	Soil		Corn
4-Jul-08	3	CKK07042008-3A	17 447480 4882751	Bat	Little Brown Bat	M	0.3	NNE	Concrete Access Pad		Soy
4-Jul-08	31	CKK07042008-31A	17 449890 4876032	Bird	Bank Swallow	F	20	SW	Soil/grasses		Wheat
4-Jul-08	9	RC07042008-9A	17 451643 4880072	Bird	Thrush sp. (bird)	X	8	S	Soy field	Only the wings were left - obviously scavenged	
4-Jul-08	37	CKK07042008-37A	17 446860 4875082	Bird	Horned Lark	F	12	NW	Gravel access road	Male	
7-Jul-08	37	CKK07072008-37A	17 446881 4875059	Bat	Silver-haired Bat	R/D	3	SE	Soil/corn	Insect scavenging	
7-Jul-08	5	RC07072008-5A	17 447919 4882382	Bat	Eastern Pipistrelle	R	4	SE	Gravel		
7-Jul-08	11	RC07072008-11A	17 445660 4881426	Bat	Eastern Pipistrelle	R	20	NE	Gravel access road		Soy
9-Jul-08	34	CKK07092008-34A	17 445665 4876221	Bat	Unknown bat	X	6	NNE	Soil		Corn
9-Jul-08	6	RC07092008-6A	17 449698 4880853	Bird	Turkey Vulture	R	15	E	Soil		Soy
9-Jul-08	8	RC07092008-8A	17 450951 4880202	Bat	Hoary Bat	R/D	35	NE	Gravel access road		Corn
9-Jul-08	10	RC07092008-10A	17 445372 4881451	Bat	Hoary Bat	R/D	40	N	Soil with corn		Corn
9-Jul-08	10	RC07092008-10B	17 445352 4881442	Bat	Hoary Bat	R/D	15	N	Soil with corn		Corn
9-Jul-08	10	RC07092008-10C	17 445346 4881432	Bat	Little Brown Bat	R/D	4	N	Gravel		
14-Jul-08	27	CKK07142008-27A	17 447338 4877237	Bat	Silver-haired Bat	F	2	N	Gravel	at base of turbine	Soy
16-Jul-08	10	CKK07162008-10A	17 445348 4881441	Bat	Hoary Bat	R	10	NNE	Soil	Next to gravel access road	
16-Jul-08	38	AL07162008-38A	17 447270 4875397	Bat	Silver-haired Bat	F	19	SW	Stony clay soil		Soy
18-Jul-08	7	AL07182008-7A	17 450393 4880490	Bat	Hoary Bat	R/F	14	WNW	Sandy clay soil		Soy
18-Jul-08	29	CKK07182008-29A	17 448787 4876895	Bat	Big Brown Bat	F	20	NE	Cultivated soil		Soy
18-Jul-08	29	CKK07182008-29B	17 448779 4876879	Bat	Hoary Bat	F/M	3.5	NE	Cultivated soil		Soy
18-Jul-08	29	CKK07182008-29C	17 448789 4876882	Bat	Big Brown Bat	R	12	NE	Cultivated soil		Soy
21-Jul-08	3	CKK07212008-3A	17 447484 4882746	Bat	Eastern Pipistrelle	M/F	17	NW	Gravel access road		Soy
21-Jul-08	3	CKK07212008-3B	17 447483 4882737	Bird	Cliff Swallow	F/M	7	S	Cultivated soil		Soy
21-Jul-08	25	KE21072008-25A	17 447459 4877908	Bat	Hoary Bat	F	1.5	E	Gravel		
23-Jul-08	20	KE23072008-20A	17 449992 4878824	Bat	Hoary Bat	R	6	S	Gravel access road		Wheat
23-Jul-08	22	CKK07232008-22A	17 451207 4877976	Bat	Hoary Bat	M/F	2	S	Gravel	base of turbine	Corn
23-Jul-08	22	CKK07232008-22B	17 451200 4877975	Bird	Eastern Kingbird (possibly)	X	10	SW	Gravel access road	very decomposed	Corn

APPENDIX E: RESULTS OF MORTALITY MONITORING

Date	Turbine #	Carcass ID#	UTM Coordinates	Bat/Bird	Species	Carcass Condition	Distance from Turbine (m)	Direction from Turbine	Substrate Type	Notes	Crop
23-Jul-08	30	CKK07232008-30A	17 449449 4876329	Bat	Silver-haired Bat	R/D	12	N	Gravel access road		
23-Jul-08	36	CKK07232008-36A	17 446013 4875746	Bat	Hoary Bat	M/F	8	W	Gravel access road		
25-Jul-08	27	KE25072008-27A	17 447334 4877244	Bat	Eastern Pipistrelle	M	0		Concrete Access Pad	directly next to turbine	
25-Jul-08	3	CKK07252008-3A	17 447444 4882767	Bat	Little Brown Bat	R/D	38	W	Gravel access road		
25-Jul-08	3	CKK07232008-3B	17 447444 4882767	Bat	Little Brown Bat	R/D	38	W	Gravel access road		
28-Jul-08	5	KE28072008-5A	17 447908 4882384	Bat	Hoary Bat	D	6	N	Soybean field		
31-Jul-08	10	CKK07312008-10A	17 445359 4881435	Bat	Hoary Bat	M	10	NE	Soil		
31-Jul-08	34	KE31072008-34A	17 445651 4876206	Bat	Little Brown Bat	M	10	S	Soil in corn row		corn
31-Jul-08	38	KE31072008-38A	17 447292 4875397	Bat	Eastern Pipistrelle	F	1	N	Gravel		
1-Aug-08	23	CKK08012008-23A	17 451832 4877891	Bat	Little Brown Bat	D	35	S	Soybean field		
1-Aug-08	23	CKK08012008-23B	17 451847 4877932	Bat	Unknown Bat	R	10	NW	Gravel access road		
1-Aug-08	31	CKK08012008-31A	17 449931 4876084	Bat	Big Brown Bat	F/R	40	NNW	Gravel access road		
1-Aug-08	31	CKK08012008-31B	17 449915 4876048	Bat	Little Brown Bat	R	1	S	Gravel, base of turbine		
1-Aug-08	5	KE01082008-5A	17 4478/99 4882384	Bat	Little Brown Bat	M	4	E	Gravel access road		
5-Aug-08	31	KE04082008-31A	17 449927 4876061	Bat	Hoary Bat	R	8	N	Gravel access road		
5-Aug-08	23	KE04082008-23A	17 451855 4877929	Bat	Northern Long-eared Bat	R	10	W	Gravel access road		
5-Aug-08	29	KE04082008-29A	17 448773 4876868	Bat	Eastern Red Bat	R	6	SW	Gravel access road		Soy
5-Aug-08	29	KE04082008-29B	17 448766 4876861	Bat	Hoary Bat	F	15	SSW	Gravel access road		
6-Aug-08	38	CKK06082008-38A	17 447261 4875373	Bat	Hoary Bat	D	6	SW	Soybean field		Soy
6-Aug-08	22	CKK06082008-22A	17 451216 4877987	Bat	Hoary Bat	R	10	NNE	Soil with corn		Corn
6-Aug-08	22	CKK06082008-22B	17 451202 4877974	Bat	Hoary Bat	R	8	ESE	Gravel access road		
6-Aug-08	22	CKK06082008-22C	17 451234 4877977	Bat	Hoary Bat	D	25	NNE	Soil with corn		Corn
6-Aug-08	6	KE06082008-6A	17 449700 4880876	Bat	Hoary bat	R	4	NE	Soil, soybean field		
6-Aug-08	18	KE06082008-18A	17 448766 4879219	Bat	Unknown Bat	D	5	S	Gravel, base of turbine		
6-Aug-08	10	KE06082008-10A	17 445379 4881417	Bat	Eastern Red Bat	M	30	E	Gravel, base of turbine		
6-Aug-08	2	KE06082008-2A	17 447324 4882344	Bat	Hoary Bat	R	35	N	Gravel access road		
6-Aug-08	2	KE06082008-2B	17 447308 4882334	Bat	Unknown Bat	X	15	N	Gravel access road		
6-Aug-08	12	KE06082008-12A	17 446351 4880488	Bat	Hoary Bat	X	5	E	Corn field		
6-Aug-08	14	KE06082008-14A	17 447536 4880232	Bat	Silver-haired Bat	D	15	SE	Soil		
8-Aug-08	15	CKK08082008-15A	17 447469 4879813	Bat	Little Brown Bat	X	30	NE	Gravel access road		
8-Aug-08	35	KE08082008-35A	17 445222 4875975	Bat	Hoary Bat	R	20	W	Corn field		
8-Aug-08	37	KE08082008-37A	17 446847 4875086	Bat	Hoary Bat	M	25	W	Gravel access road		
11-Aug-08	23	CKK08112008-23A	17 451833 4877897	Bat	Eastern Pipistrelle	M/F	18	W	Gravel access road		
11-Aug-08	32	CKK08112008-32A	17 445341 4876580	Bat	Little Brown Bat	D	15	SSE	Gravel access road		
11-Aug-08	32	CKK08112008-32B	17 445352 4876601	Bat	Big Brown Bat	F	7	SE	Gravel access road		
11-Aug-08	9	KW11082008-9B	17 451681 4880071	Bat	Little Brown Bat	R	15	SE	Soil between soybean rows		Soy
13-Aug-08	16	CKK08132008-16A	n/a	Bat	Hoary Bat	R	4	E	Gravel access road		
15-Aug-08	3	DW08152008-3A	17 447456 4882745	Bat	Hoary Bat	F	30	W	Soil between soybean rows		Soy
15-Aug-08	5	DW08152008-5A	17 447914 4882387	Bat	Hoary Bat	D	8	E	Soil between soybean rows		Soy
18-Aug-08	1	CKK08182008-1A	17 446874 4882529	Bat	Little Brown Bat	F	35	NNE	Gravel access road		
18-Aug-08	25	SAS08182008-25A	17 447463 4877921	Bat	Hoary Bat	F	10	S	Gravel access road		
18-Aug-08	35	SAS08182008-35B	17 445265 4875936	Bat	Unknown bat	D	10	N	In cornfield		Corn
20-Aug-08	22	CKK08202008-22A	17 451199 4877964	Bat	Unknown bat (INDIANA?)	F	13	SW	Soil between corn rows and access road		Corn
20-Aug-08	26	CKK08202008-26A	17 446274 4877255	Bat	Silver-haired Bat	M/F	20	S	Gravel access road		

APPENDIX E: RESULTS OF MORTALITY MONITORING

Date	Turbine #	Carcass ID#	UTM Coordinates	Bat/Bird	Species	Carcass Condition	Distance from Turbine (m)	Direction from Turbine	Substrate Type	Notes	Crop
20-Aug-08	28	CKK08202008-28A	17 448111 4877398	Bat	Hoary Bat	R/D	15	SE	On soil between corn rows		Corn
20-Aug-08	10	SAS08202008-10A	17 445340 4881430	Bat	Hoary Bat	F	1	W	Gravel	at base of turbine	
20-Aug-08	14	SAS08202008-14A	17 447521 4880220	Bat	Little Brown Bat	R	40	S	Gravel access road		
20-Aug-08	20	SAS08202008-20A	17 450010 4878833	Bat	Little Brown Bat	R/D	40	NE	Grass/sand		
20-Aug-08	20	SAS08202008-20B	17 449977 4878827	Bat	Unknown bat	R	1	n/a	Gravel	At base of turbine	
22-Aug-08	9	CKK08222008-9A	17 451641 4880080	Bat	Little Brown Bat	F/R	12	W	Gravel access road		
22-Aug-08	9	CKK08222008-9B	17 451644 4880085	Bat	Silver-haired Bat	F/M	13	W	Gravel access road		
22-Aug-08	21	SAS08222008-21A	17 45071 4878597	Bat	Little Brown Bat	F	2	S	Gravel	At base of turbine	
22-Aug-08	23	SAS08222008-23A	17 450712 4878596	Bat	Eastern Pipistrelle	F	40	S	Gravel access road		
22-Aug-08	33	SAS08222008-33A	17 446097 4876559	Bat	Little Brown Bat	R	20	NW	Grass		
25-Aug-08	7	KE25082008-7A	17 450403 4880490	Bat	Hoary Bat	F	10	N	Gravel access road		
27-Aug-08	14	CKK08272008-14A	17 447526 4880215	Bat	Silver-haired Bat	M/F	30	SSW	Gravel access road		
27-Aug-08	28	KE27082008-28A	17 448083 4877440	Bat	Unknown bat	R	25	W	Gravel access road		
27-Aug-08	34	KE27082008-34A	17 445658 4876218	Bat	Hoary Bat	R	10	N	Gravel access road		
29-Aug-08	5	KE29082008-5A	17 447871 4882394	Bat	Eastern Red Bat	R	20	W	Soybean field		
29-Aug-08	31	CKK08292008-31A	17 449917 4876059	Bird	Barn Swallow	R	12	NW	In hayed field		
2-Sep-08	5	CKK09022008-5A	17 447942 4882390	Bird	American Redstart	D	25	E	Soybean field	Either 1st fall male, or female	
2-Sep-08	21	KLE07092008-21A	17 450745 4878594	Bat	Hoary Bat	F	12	NE	Hay Field		
2-Sep-08	29	KLE02092008-29A	17 448772 4876866	Bat	Hoary Bat	M	9	NW	Gravel access road		
2-Sep-08	29	KLE02092008-29B	17 448741 4876872	Bat	Eastern Red Bat	M	20	SW	Gravel access road		
2-Sep-08	37	KLE02092008-37A	17 446866 4875064	Bird	Mourning Dove	R	6	SW	Gravel access road		
2-Sep-08	37	KLE02092008-37B	17 446882 4875055	Bat	Hoary Bat	D	11	NE	Soy field		
2-Sep-08	37	KLE0209200837C	17 446827 4875083	Bat	Little Brown Bat	R	40	SW	Gravel access road		
3-Sep-08	6	KLE030920086A	17 449704 4880895	Bat	Eastern Red Bat	F	40	NE	Gravel access road		
3-Sep-08	4	KLE03092008-4A	17 447623 4882181	Bat	Eastern Small-footed Bat	R	12	NW	Gravel access road		
3-Sep-08	20	KLE03092008-20A	17 449975 4878836	Bat	Little Brown Bat	X	9	NE	Hay Field		
3-Sep-08	18	KLE03092008-18A	17 448736 4879229	Bat	Eastern Red Bat	D	30	NE	Gravel access road		
3-Sep-08	30	CKK09032008-30A	17 449462 4876355	Bird	Wilson's Warbler	F	35	NE	Gravel access road		
3-Sep-08	32	CKK09032008-32A	17 445346 4876600	Bat	Silver-haired Bat	F	10	S	Gravel access road		
3-Sep-08	34	CKK09032008-34A	17 445652 4876207	Bat	Eastern Small-footed Bat	R	8	S	Corn field		
3-Sep-08	38	CKK09032008-38A	17 447265 4875404	Bat	Silver-haired Bat	F	12	SW	Gravel access road		
5-Sep-08	21	KLE05092008-21A	17 450694 4876835	Bat	Silver-haired Bat	R	35	W	Gravel access road		
5-Sep-08	29	KLE05092008-29A	17 448759 4876892	Bat	Hoary Bat	F	30	N	Soy field		
5-Sep-08	37	KLE05092008-37A	17 446840 4875091	Bat	Northern Long-eared Bat	R	29	W	Gravel access road		
8-Sep-08	15	KE08092008-15A	17 447429 4879797	Bat	Hoary Bat	R	20	W	Soybean field		
8-Sep-08	5	KE08092008-5A	17 447919 4882336	Bat	Unknown Bat	R	10	S	Soybean field		
8-Sep-08	37	CKK-09082008-37A	17 446866 4875061	Bat	Big Brown Bat	F	12	W	Soybean field		
8-Sep-08	31	CKK09082008-31A	17 449926 4876062	Bat	Hoary Bat	F	13	NE	Gravel access road		
10-Sep-08	8	CKK09102008-8A	17 450937 4880185	Bat	Unknown Bat	D	4	W	Edge of gravel access road and corn field		
10-Sep-08	24	KE10092008-24A	17 446674 4877967	Bat	Little Brown Bat	R	20	N	Gravel access road		
12-Sep-08	5	KE12092008-5A	17 447816 4882349	Bat	Silver-haired Bat	M/F	35	S	Soybean field		
12-Sep-08	3	KE12092008-3A	17 447469 4882755	Bat	Unknown Bat	D	15	NNW	Soybean field		
15-Sep-08	17	CKK09152008-17A	n/a	Bat	Silver-haired Bat	F/M	13	S	Gravel access road		
22-Sep-08	25	CKK09222008-25A	n/a	Bird	Mourning Dove	R	0.5	S	Concrete Access Pad		

APPENDIX E: RESULTS OF MORTALITY MONITORING

Date	Turbine #	Carcass ID#	UTM Coordinates	Bat/Bird	Species	Carcass Condition	Distance from Turbine (m)	Direction from Turbine	Substrate Type	Notes	Crop
26-Sep-08	35	CKK08262008-35A	17 445218 4875949	Bat	Silver-haired Bat	R	15	W	Gravel access road		
29-Sep-08	3	CKK09292008-3A	17 447471 4882756	Bat	Silver-haired Bat	R	13	W	Gravel access road		
1-Oct-08	30	CKK10012008-30A	17 449449 4876326	Bird	Unknown Bird	D/X	10	NNE	Gravel access road		
1-Oct-08	18	JSF10012008-18A	17 448735 4879243	Bird	Golden-crowned Kinglet	R	30	E	Soil		
6-Oct-08	11	SEW10062008-11A	17 445690 4881393	Bird	Unknown Bird	D	10	SE	Soil		
6-Oct-08	19	SEW10062008-19A	17 4878990 449397	Bird	Golden-crowned Kinglet	R	20	SE	Soil		
10-Oct-08	7	SEW10102008-7A	17 450378 4880470	Bird	American Robin	X	20	W	Soil, next to weeds		
14-Oct-08	19	CKK10142008-19A	17 448758 4879225	Bird	Yellow-rumped Warbler	F	8	WSW	Gravel access road		
14-Oct-08	15	CKK10142008-15A	17 447448 4879795	Bat	Eastern Red Bat	F	4	W	Gravel at base of turbine		
14-Oct-08	15	CKK10142008-15B	17 447441 4879797	Bird	American Robin	R	15	W	Soil (soybean field)		
14-Oct-08	3	CKK10142008-3A	17 447479 4882774	Bird	Yellow-rumped Warbler	D/X	30	NNW	Soil (soybean field)		
14-Oct-08	21	SEW10142008-21A	17 450736 4878631	Bird	Golden-crowned Kinglet	F	40	N	Grass in field		
14-Oct-08	37	SEW10142008-37A	17 446844 4875088	Bird	Warbler species	F	40	NW	Gravel access road		
14-Oct-08	37	SEW10142008-37B	17 444682 4875097	Bird	Golden-crowned Kinglet	R	30	N	Field, in low grass		
14-Oct-08	37	SEW10142008-37C	17 446884 4875100	Bat	Hoary Bat	R	30	NW	Field, in low grass		
15-Oct-08	18	SEW10152008-18A	17 448746 4879221	Bat	Unknown Bat	D	20	NW	Gravel access road	Decayed	
15-Oct-08	18	SEW10152008-18B	17 448742 4879223	Bird	Golden-crowned Kinglet	D	20	NW	Gravel access road		
15-Oct-08	12	SEW10152008-12A	17 446323 4880512	Bat	Unknown Bat	D/X	30	NE	Soil, corn field	Decayed	
15-Oct-08	6	SEW10152008-6A	17 449684 4880893	Bird	Thrush species (Hermit)	D/X	20	N	Field, in low grass	Decayed	
17-Oct-08	35	SEW10172008-35A	17 445228 4875939	Bat	Unknown Bat	X	15	W	Soil, corn field	Decayed; BBB or HB (large)	

APPENDIX F

Avian Monitoring Results

Jacques Whitford

Table F1 Bird Species Recorded During Fall Migration, 2008

Fall Survey	Height			
Species	BTB[1]	WAT[1]	H[1]	Grand Total[2]
American Crow	60(946)	3 (35)	0 (0)	**63 (981)**
American Golden Plover	1 (11)	2 (36)	2 (14)	**5 (61)**
American Goldfinch	18 (68)	1 (1)	0 (0)	**19 (69)**
American Pipit	80 (1090)	10 (115)	0 (0)	**90 (1205)**
American Robin	6 (50)	1 (1)	0 (0)	**7 (51)**
American Tree Sparrow	1 (16)	0 (0)	0 (0)	**1 (16)**
Bald Eagle	0 (0)	1 (1)	0 (0)	**1 (1)**
Barn Swallow	1 (3)	0 (0)	0 (0)	**1 (3)**
Blackbird species	4 (32)	2 (8)	0 (0)	**6 (40)**
Blue Jay	1 (5)	0 (0)	0 (0)	**1 (5)**
Brown-headed Cowbird	1 (50)	0 (0)	0 (0)	**1 (50)**
Canada Goose	39 (2605)	21 (858)	9 (394)	**69 (3857)**
Canvasback	0 (0)	0 (0)	1 (18)	**1 (18)**
Cedar Waxwing	2 (55)	0 (0)	0 (0)	**2 (55)**
Common Grackle	0 (0)	1 (2)	0 (0)	**1 (2)**
Common Loon	0 (0)	8 (22)	6 (6)	**14 (28)**
Common Raven	2 (3)	0 (0)	2 (4)	**4 (7)**
Cooper's Hawk	3 (3)	2 (2)	0 (0)	**5 (5)**
Double-crested Cormorant	1 (1)	3 (5)	2 (41)	**6 (47)**
Eastern Meadowlark	1 (2)	0 (0)	0 (0)	**1 (2)**
European Starling	28 (455)	4 (210)	0 (0)	**32 (665)**
Great Blue Heron	3 (3)	0 (0)	0 (0)	**3 (3)**
Herring Gull	17 (88)	8 (33)	0 (0)	**25 (121)**
Horned Lark	137 (6812)	20 (879)	3 (367)	**160 (8058)**
House Finch	2 (2)	1 (1)	0 (0)	**3 (3)**
Killdeer	3 (21)	2 (24)	1 (2)	**6 (47)**
Lapland Longspur	50 (422)	15 (73)	0 (0)	**65 (495)**
Mallard	1 (2)	0 (0)	0 (0)	**1 (2)**
Merlin	1 (1)	0 (0)	0 (0)	**1 (1)**
Mourning Dove	13 (27)	0 (0)	0 (0)	**13 (27)**
Northern Flicker	1 (1)	0 (0)	0 (0)	**1 (1)**
Northern Goshawk	0 (0)	0 (0)	1 (1)	**1 (1)**
Northern Harrier	10 (10)	0 (0)	0 (0)	**10 (10)**
Northern Shrike	1 (1)	0 (0)	0 (0)	**1 (1)**
Orange-crowned Warbler	1 (1)	0 (0)	0 (0)	**1 (1)**
Osprey	1 (1)	0 (0)	0 (0)	**1 (1)**
Palm Warbler	2 (5)	0 (0)	0 (0)	**2 (5)**
Pine Siskin	2 (10)	1 (1)	0 (0)	**3 (11)**

Table F1 Bird Species Recorded During Fall Migration, 2008

Fall Survey	Height			
Species	BTB[1]	WAT[1]	H[1]	Grand Total[2]
Purple Finch	2 (2)	0 (0)	0 (0)	**2 (2)**
Red-tailed Hawk	2 (2)	6 (7)	2 (4)	**10 (13)**
Red-throated Loon	0 (0)	8 (14)	5 (10)	**13 (24)**
Red-winged Blackbird	13 (329)	5 (31)	0 (0)	**18 (360)**
Ring-billed Gull	37 (2478)	61 (4675)	21 (1121)	**119 (8274)**
Rock Pigeon	1 (2)	0 (0)	0 (0)	**1 (2)**
Rough-legged Hawk	3 (3)	5 (6)	1 (1)	**9 (10)**
Rusty Blackbird	4 (12)	2 (3)	0 (0)	**6 (15)**
Savannah Sparrow	5 (39)	0 (0)	0 (0)	**5 (39)**
Sharp-shinned Hawk	3 (3)	7 (8)	0 (0)	**10 (11)**
Snow Bunting	31 (1721)	4 (88)	0 (0)	**35 (1809)**
Snow Goose	1 (2)	2 (27)	0 (0)	**3 (29)**
Song Sparrow	1 (1)	0 (0)	0 (0)	**1 (1)**
Songbird sp.	5 (15)	0 (0)	0 (0)	**5 (15)**
Sparrow sp.	2 (15)	1 (1)	0 (0)	**3 (16)**
Swallow sp.	1 (1)	0 (0)	0 (0)	**1 (1)**
Turkey Vulture	30 (108)	33 (133)	27 (56)	**90 (297)**
White-winged Crossbill	2 (59)	0 (0)	0 (0)	**2 (59)**
Wilson's Snipe	2 (2)	0 (0)	0 (0)	**2 (2)**
Yellow-rumped Warbler	3 (6)	0 (0)	0 (0)	**3 (6)**
Grand Total	**642 (17602)**	**240 (7300)**	**83 (2039)**	**965 (26,941)**

Notes:

1. Data presented are number of observations (number of individual birds in parentheses) observed in each area.
2. The total number of observations (total number of individual birds in parentheses).

Table F2 Heights of Bird Species at Eastern Site Recorded During Fall Migration, 2008

Fall Survey	Height				
Eastern Site	**T[1]**	**AT[1]**	**WAT[1]**	**H[1]**	**Grand Total[2]**
American Crow	3 (4)	9 (31)	1 (2)	0 (0)	**13 (37)**
American Goldfinch	4 (9)	3 (15)	1 (1)	0 (0)	**8 (25)**
American Pipit	22 (72)	7 (43)	3 (66)	0 (0)	**32 (181)**
American Robin	4 (14)	2 (36)	1 (1)	0 (0)	**7 (51)**
American Tree Sparrow	1 (16)	0 (0)	0 (0)	0 (0)	**1 (1)**
Barn Swallow	0 (0)	1 (3)	0 (0)	0 (0)	**1 (3)**
Blackbird species	0 (0)	3 (23)	0 (0)	0 (0)	**3 (23)**
Brown-headed Cowbird	1 (50)	0 (0)	0 (0)	0 (0)	**1 (50)**
Canada Goose	0 (0)	23 (478)	6 (103)	2 (35)	**31 (616)**
Common Loon	0 (0)	0 (0)	0 (0)	1 (1)	**1 (1)**
Double-crested Cormorant	0 (0)	0 (0)	1 (1)	2 (41)	**3 (42)**
Eastern Meadowlark	0 (0)	1 (2)	0 (0)	0 (0)	**1 (2)**
European Starling	6 (49)	11 (202)	1 (50)	0 (0)	**18 (301)**
Great Blue Heron	0 (0)	1 (1)	0 (0)	0 (0)	**1 (1)**
Herring Gull	1 (1)	9 (13)	3 (5)	0 (0)	**13 (19)**
Horned Lark	16 (208)	24 (266)	4 (27)	1 (2)	**45 (503)**
House Finch	0 (0)	0 (0)	1 (1)	0 (0)	**1 (1)**
Killdeer	0 (0)	1 (6)	0 (0)	0 (0)	**1 (1)**
Lapland Longspur	8 (36)	7 (32)	6 (25)	0 (0)	**21 (93)**
Mourning Dove	2 (5)	1 (1)	0 (0)	0 (0)	**3 (6)**
Northern Harrier	0 (0)	1 (1)	0 (0)	0 (0)	**1 (1)**
Northern Shrike	1 (1)	0 (0)	0 (0)	0 (0)	**1 (1)**
Purple Finch	0 (0)	1 (1)	0 (0)	0 (0)	**1 (1)**
Red-tailed Hawk	0 (0)	2 (2)	4 (5)	2 (4)	**8 (11)**
Red-winged Blackbird	0 (0)	1 (2)	1 (1)	0 (0)	**2 (3)**
Ring-billed Gull	1 (1)	18 (445)	42 (687)	17 (992)	**78 (2125)**
Rough-legged Hawk	0 (0)	1 (1)	0 (0)	1 (1)	**2 (2)**
Rusty Blackbird	1 (2)	1 (4)	1 (1)	0 (0)	**3 (7)**
Savannah Sparrow	1 (1)	1 (30)	0 (0)	0 (0)	**2 (31)**
Snow Bunting	5 (75)	5 (34)	3 (83)	0 (0)	**13 (192)**
Song Sparrow	1 (1)	0 (0)	0 (0)	0 (0)	**1 (1)**
Songbird sp.	2 (3)	3 (12)	0 (0)	0 (0)	**5 (15)**
Sparrow sp.	0 (0)	0 (0)	1 (1)	0 (0)	**1 (1)**
Turkey Vulture	0 (0)	6 (16)	19 (59)	11 (20)	**36 (95)**
Grand Total	**80 (548)**	**143 (1700)**	**99 (1119)**	**37 (1096)**	**359 (4463)**

Notes: 1. Data presented are number of observations (number of individual birds in parentheses) observed in each area.

2. The total number of observations (total number of individual birds in parentheses).

Table F3 Avian Species at Western Site Recorded During Fall Migration, 2008

Fall Survey	Height				
Western Site	T[1]	AT[1]	WAT[1]	H[1]	Grand Total[2]
American Crow	14 (159)	34 (752)	2 (33)	0 (0)	**50 (944)**
American Golden Plover	0 (0)	1 (11)	2 (36)	2 (14)	**5 (61)**
American Goldfinch	7 (29)	4 (15)	0 (0)	0 (0)	**11 (44)**
American Pipit	29 (573)	22 (402)	7 (49)	0 (0)	**58 (1024)**
Bald Eagle	0 (0)	0 (0)	1 (1)	0 (0)	**1 (1)**
Blackbird species	0 (0)	1 (9)	2 (8)	0 (0)	**3 (17)**
Blue Jay	1 (5)	0 (0)	0 (0)	0 (0)	**1 (5)**
Canada Goose	0 (0)	16 (2127)	15 (755)	7 (359)	**38 (3241)**
Canvasback	0 (0)	0 (0)	0 (0)	1 (18)	**1 (18)**
Cedar Waxwing	0 (0)	2 (55)	0 (0)	0 (0)	**2 (55)**
Common Grackle	0 (0)	0 (0)	1 (2)	0 (0)	**1 (2)**
Common Loon	0 (0)	0 (0)	8 (22)	5 (5)	**13 (27)**
Common Raven	1 (1)	1 (2)	0 (0)	2 (4)	**4 (7)**
Cooper's Hawk	2 (2)	1 (1)	2 (2)	0 (0)	**5 (5)**
Double-crested Cormorant	0 (0)	1 (1)	2 (4)	0 (0)	**3 (5)**
European Starling	6 (95)	5 (109)	3 (160)	0 (0)	**14 (364)**
Great Blue Heron	1 (1)	1 (1)	0 (0)	0 (0)	**2 (2)**
Herring Gull	0 (0)	7 (74)	5 (28)	0 (0)	**12 (102)**
Horned Lark	56 (3942)	41 (2396)	16 (852)	2 (365)	**115 (7555)**
House Finch	0 (0)	2 (2)	0 (0)	0 (0)	**2 (2)**
Killdeer	1 (1)	1 (14)	2 (24)	1 (2)	**5 (41)**
Lapland Longspur	9 (109)	26 (245)	9 (48)	0 (0)	**44 (402)**
Mallard	0 (0)	1 (2)	0 (0)	0 (0)	**1 (2)**
Merlin	1 (1)	0 (0)	0 (0)	0 (0)	**1 (1)**
Mourning Dove	6 (10)	4 (11)	0 (0)	0 (0)	**10 (21)**
Northern Flicker	1 (1)	0 (0)	0 (0)	0 (0)	**1 (1)**
Northern Goshawk	0 (0)	0 (0)	0 (0)	1 (1)	**1 (1)**
Northern Harrier	9 (9)	0 (0)	0 (0)	0 (0)	**9 (9)**
Orange-crowned Warbler	1 (1)	0 (0)	0 (0)	0 (0)	**1 (1)**
Osprey	0 (0)	1 (1)	0 (0)	0 (0)	**1 (1)**
Palm Warbler	2 (5)	0 (0)	0 (0)	0 (0)	**2 (5)**
Pine Siskin	0 (0)	2 (2)	1 (1)	0 (0)	**3 (11)**
Purple Finch	0 (0)	1 (1)	0 (0)	0 (0)	**1 (1)**
Red-tailed Hawk	0 (0)	0 (0)	2 (2)	0 (0)	**2 (2)**
Red-throated Loon	0 (0)	0 (0)	8 (14)	5 (10)	**13 (24)**
Red-winged Blackbird	5 (104)	7 (223)	4 (30)	0 (0)	**16 (357)**
Ring-billed Gull	2 (170)	16 (1862)	19 (3988)	4 (129)	**41 (6149)**

Table F3 Avian Species at Western Site Recorded During Fall Migration, 2008

Fall Survey	Height				
Western Site	**T[1]**	**AT[1]**	**WAT[1]**	**H[1]**	**Grand Total[2]**
Rock Pigeon	0 (0)	1 (2)	0 (0)	0 (0)	**1 (2)**
Rough-legged Hawk	0 (0)	2 (2)	5 (6)	0 (0)	**7 (8)**
Rusty Blackbird	1 (3)	1 (3)	1 (2)	0 (0)	**3 (8)**
Savannah Sparrow	2 (5)	1 (3)	0 (0)	0 (0)	**3 (8)**
Sharp-shinned Hawk	0 (0)	3 (3)	7 (8)	0 (0)	**10 (11)**
Snow Bunting	13 (925)	8 (687)	1 (5)	0 (0)	**22 (1617)**
Snow Goose	0 (0)	1 (2)	2 (27)	0 (0)	**3 (29)**
Sparrow sp.	0 (0)	2 (15)	0 (0)	0 (0)	**2 (15)**
Swallow sp.	0 (0)	1 (1)	0 (0)	0 (0)	**1 (1)**
Turkey Vulture	8 (39)	16 (53)	14 (74)	16 (36)	**54 (202)**
White-winged Crossbill	0 (0)	2 (59)	0 (0)	0 (0)	**2 (59)**
Wilson's Snipe	0 (0)	2 (2)	0 (0)	0 (0)	**2 (2)**
Yellow-rumped Warbler	3 (6)	0 (0)	0 (0)	0 (0)	**3 (6)**
Grand Total	**181 (6196)**	**238 (9158)**	**141 (6181)**	**46 (943)**	**606 (22478)**
Notes:	1. Data presented are number of observations (number of individual birds in parentheses) observed in each area.				
	2. The total number of observations (total number of individual birds in parentheses).				

APPENDIX F4: RESULTS OF BREEDING BIRD SURVEYS

Date	Location	Observer	Time Start	Time Finish	Point No.	CC (%)	Temp	Wind Speed	Wind Direction	Precipitation		Bird Group	English Name	Latin Name	Species	Number	Behaviour	Height	Direction
6/9/2008	Ripley	KB	5:23	5:33	7	100	20	3	SE	NONE	GOOD	Landbird	Savannah Sparrow	*Passerculus sandwichensis*	SAVS	6	L	T	
6/9/2008	Ripley	KB	5:23	5:33	7	100	20	3	SE	NONE	GOOD	Landbird	Vesper Sparrow	*Pooecetes gramineus*	VESP	1	L	T	
6/9/2008	Ripley	KB	5:23	5:33	7	100	20	3	SE	NONE	GOOD	Landbird	American Robin	*Turdus migratorius*	AMRO	3	L	T	
6/9/2008	Ripley	KB	5:23	5:33	7	100	20	3	SE	NONE	GOOD	Landbird	Cedar Waxwing	*Bombycilla cedrorum*	CEDW	3	F	WAT	W
6/9/2008	Ripley	KB	5:23	5:33	7	100	20	3	SE	NONE	GOOD	Landbird	House Wren	*Troglodytes aedon*	HOWR	1	L	T	
6/9/2008	Ripley	KB	5:23	5:33	7	100	20	3	SE	NONE	GOOD	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	1	L	T	
6/9/2008	Ripley	KB	5:23	5:33	7	100	20	3	SE	NONE	GOOD	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	1	F	AT	S
6/9/2008	Ripley	KB	5:23	5:33	7	100	20	3	SE	NONE	GOOD	Landbird	Mourning Dove	*Zenaida macroura*	MODO	1	L	T	
6/9/2008	Ripley	KB	5:23	5:33	7	100	20	3	SE	NONE	GOOD	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	1	L	T	
6/9/2008	Ripley	KB	5:23	5:33	7	100	20	3	SE	NONE	GOOD	Landbird	Song Sparrow	*Melospiza melodia*	SOSP	1	L	T	
6/9/2008	Ripley	KB	5:23	5:33	7	100	20	3	SE	NONE	GOOD	Landbird	American Redstart	*Setophaga ruticilla*	AMRE	1	L	T	
6/9/2008	Ripley	KB	5:23	5:33	7	100	20	3	SE	NONE	GOOD	Landbird	Barn Swallow	*Hirundo rustica*	BARS	2	L	AT	
6/9/2008	Ripley	KB	5:23	5:33	7	100	20	3	SE	NONE	GOOD	Landbird	Eastern Wood-Pewee	*Contopus virens*	EAWP	1	L	T	
6/9/2008	Ripley	KB	5:23	5:33	7	100	20	3	SE	NONE	GOOD	Shorebird	Killdeer	*Charadrius vociferus*	KILL	1	L	T	
6/9/2008	Ripley	KB	5:23	5:33	7	100	20	3	SE	NONE	GOOD	Landbird	Indigo Bunting	*Passerina cyanea*	INBU	1	L	T	
6/9/2008	Ripley	KB	5:23	5:33	7	100	20	3	SE	NONE	GOOD	Landbird	European Starling	*Sturnus vulgaris*	EUST	1	F	AT	N
6/9/2008	Ripley	KB	5:23	5:33	7	100	20	3	SE	NONE	GOOD	Landbird	Eastern Kingbird	*Tyrannus tyrannus*	EAKI	1	L	T	
6/9/2008	Ripley	KB	5:23	5:33	7	100	20	3	SE	NONE	GOOD	Landbird	Chipping Sparrow	*Spizella passerina*	CHSP	1	L	T	
6/9/2008	Ripley	KB	5:23	5:33	7	100	20	3	SE	NONE	GOOD	Landbird	Rose-breasted Grosbeak	*Pheucticus ludovicianus*	RBGR	1	L	T	
6/9/2008	Ripley	KB	5:23	5:33	7	100	20	3	SE	NONE	GOOD	Landbird	Cedar Waxwing	*Bombycilla cedrorum*	CEDW	1	F	H	NE
6/9/2008	Ripley	KB	5:23	5:33	7	100	20	3	SE	NONE	GOOD	Landbird	Warbling Vireo	*Vireo gilvus*	WAVI	1	L	T	
6/9/2008	Ripley	KB	5:23	5:33	7	100	20	3	SE	NONE	GOOD	Landbird	Common Grackle	*Quiscalus quiscula*	COGR	2	F	AT	S
6/9/2008	Ripley	KB	5:37	5:47	4	100	20	3	SE	NONE	GOOD	Shorebird	Killdeer	*Charadrius vociferus*	KILL	1	L	AT	
6/9/2008	Ripley	KB	5:37	5:47	4	100	20	3	SE	NONE	GOOD	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	3	L	WAT	
6/9/2008	Ripley	KB	5:37	5:47	4	100	20	3	SE	NONE	GOOD	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	6	F	T	S
6/9/2008	Ripley	KB	5:37	5:47	4	100	20	3	SE	NONE	GOOD	Landbird	Savannah Sparrow	*Passerculus sandwichensis*	SAVS	4	L	T	
6/9/2008	Ripley	KB	5:37	5:47	4	100	20	3	SE	NONE	GOOD	Landbird	Warbling Vireo	*Vireo gilvus*	WAVI	1	L	T	
6/9/2008	Ripley	KB	5:37	5:47	4	100	20	3	SE	NONE	GOOD	Landbird	American Robin	*Turdus migratorius*	AMRO	2	L	T	
6/9/2008	Ripley	KB	5:37	5:47	4	100	20	3	SE	NONE	GOOD	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	3	L	T	
6/9/2008	Ripley	KB	5:37	5:47	4	100	20	3	SE	NONE	GOOD	Landbird	Common Grackle	*Quiscalus quiscula*	COGR	1	L	T	
6/9/2008	Ripley	KB	5:37	5:47	4	100	20	3	SE	NONE	GOOD	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	3	L	T	
6/9/2008	Ripley	KB	5:37	5:47	4	100	20	3	SE	NONE	GOOD	Landbird	Common Grackle	*Quiscalus quiscula*	COGR	1	L	T	
6/9/2008	Ripley	KB	5:37	5:47	4	100	20	3	SE	NONE	GOOD	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	2	F	WAT	N
6/9/2008	Ripley	KB	5:37	5:47	4	100	20	3	SE	NONE	GOOD	Landbird	Chipping Sparrow	*Spizella passerina*	CHSP	1	L	T	
6/9/2008	Ripley	KB	5:37	5:47	4	100	20	3	SE	NONE	GOOD	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	5	L	T	
6/9/2008	Ripley	KB	5:37	5:47	4	100	20	3	SE	NONE	GOOD	Landbird	Mourning Dove	*Zenaida macroura*	MODO	1	F	AT	NW
6/9/2008	Ripley	KB	5:37	5:47	4	100	20	3	SE	NONE	GOOD	Landbird	Mourning Dove	*Zenaida macroura*	MODO	1	L	T	
6/9/2008	Ripley	KB	5:37	5:47	4	100	20	3	SE	NONE	GOOD	Landbird	Bobolink	*Dolichonyx oryzivorus*	BOBO	2	L	T	
6/9/2008	Ripley	KB	5:37	5:47	4	100	20	3	SE	NONE	GOOD	Landbird	Common Grackle	*Quiscalus quiscula*	COGR	1	F	T	S
6/9/2008	Ripley	KB	5:37	5:47	4	100	20	3	SE	NONE	GOOD	Landbird	European Starling	*Sturnus vulgaris*	EUST	1	F	AT	N
6/9/2008	Ripley	KB	5:37	5:47	4	100	20	3	SE	NONE	GOOD	Waterfowl	Mallard	*Anas platyrhynchos*	MALL	9	L	T	
6/9/2008	Ripley	KB	5:52	6:02	2	100	20	3	SE	NONE	GOOD	Landbird	Common Yellowthroat	*Geothlypis trichas*	COYE	2	L	T	
6/9/2008	Ripley	KB	5:52	6:02	2	100	20	3	SE	NONE	GOOD	Landbird	Eastern Wood-Pewee	*Contopus virens*	EAWP	1	L	T	
6/9/2008	Ripley	KB	5:52	6:02	2	100	20	3	SE	NONE	GOOD	Landbird	Warbling Vireo	*Vireo gilvus*	WAVI	3	L	T	
6/9/2008	Ripley	KB	5:52	6:02	2	100	20	3	SE	NONE	GOOD	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	6	L	T	
6/9/2008	Ripley	KB	5:52	6:02	2	100	20	3	SE	NONE	GOOD	Landbird	Song Sparrow	*Melospiza melodia*	SOSP	2	L	T	
6/9/2008	Ripley	KB	5:52	6:02	2	100	20	3	SE	NONE	GOOD	Landbird	Red-bellied Woodpecker	*Melanerpes carolinus*	RBWO	1	L	T	
6/9/2008	Ripley	KB	5:52	6:02	2	100	20	3	SE	NONE	GOOD	Landbird	Great Crested Flycatcher	*Myiarchus crinitus*	GCFL	1	L	T	
6/9/2008	Ripley	KB	5:52	6:02	2	100	20	3	SE	NONE	GOOD	Landbird	Tree Swallow	*Tachycineta bicolor*	TRES	2	L	AT	
6/9/2008	Ripley	KB	5:52	6:02	2	100	20	3	SE	NONE	GOOD	Landbird	Yellow Warbler	*Dendroica petechia*	YWAR	2	L	T	
6/9/2008	Ripley	KB	5:52	6:02	2	100	20	3	SE	NONE	GOOD	Landbird	American Redstart	*Setophaga ruticilla*	AMRE	1	L	T	
6/9/2008	Ripley	KB	5:52	6:02	2	100	20	3	SE	NONE	GOOD	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	3	F	AT	SW
6/9/2008	Ripley	KB	5:52	6:02	2	100	20	3	SE	NONE	GOOD	Landbird	Mourning Dove	*Zenaida macroura*	MODO	1	L	T	
6/9/2008	Ripley	KB	5:52	6:02	2	100	20	3	SE	NONE	GOOD	Landbird	Cedar Waxwing	*Bombycilla cedrorum*	CEDW	1	L	T	
6/9/2008	Ripley	KB	5:52	6:02	2	100	20	3	SE	NONE	GOOD	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	1	F	AT	S
6/9/2008	Ripley	KB	5:52	6:02	2	100	20	3	SE	NONE	GOOD	Landbird	Brown-headed Cowbird	*Molothrus ater*	BHCO	1	F	AT	NE
6/9/2008	Ripley	KB	6:06	6:16	1	100	20	3	SE	NONE	GOOD	Landbird	Common Yellowthroat	*Geothlypis trichas*	COYE	1	L	T	
6/9/2008	Ripley	KB	6:06	6:16	1	100	20	3	SE	NONE	GOOD	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	9	L	T	
6/9/2008	Ripley	KB	6:06	6:16	1	100	20	3	SE	NONE	GOOD	Landbird	Barn Swallow	*Hirundo rustica*	BARS	4	L	AT	
6/9/2008	Ripley	KB	6:06	6:16	1	100	20	3	SE	NONE	GOOD	Landbird	American Robin	*Turdus migratorius*	AMRO	3	L	T	
6/9/2008	Ripley	KB	6:06	6:16	1	100	20	3	SE	NONE	GOOD	Landbird	Eastern Wood-Pewee	*Contopus virens*	EAWP	1	L	T	
6/9/2008	Ripley	KB	6:06	6:16	1	100	20	3	SE	NONE	GOOD	Landbird	Common Grackle	*Quiscalus quiscula*	COGR	3	F	AT	N

APPENDIX F4: RESULTS OF BREEDING BIRD SURVEYS

Date	Location	Observer	Time Start	Time Finish	Point No.	CC (%)	Temp	Wind Speed	Wind Direction	Precipitation		Bird Group	English Name	Latin Name	Species	Number	Behaviour	Height	Direction
6/9/2008	Ripley	KB	6:06	6:16	1	100	20	3	SE	NONE	GOOD	Landbird	Vesper Sparrow	*Pooecetes gramineus*	VESP	1	L	T	
6/9/2008	Ripley	KB	6:06	6:16	1	100	20	3	SE	NONE	GOOD	Landbird	Baltimore Oriole	*Icterus galbula*	BAOR	2	F	T	W
6/9/2008	Ripley	KB	6:06	6:16	1	100	20	3	SE	NONE	GOOD	Landbird	Savannah Sparrow	*Passerculus sandwichensis*	SAVS	1	L	T	
6/9/2008	Ripley	KB	6:06	6:16	1	100	20	3	SE	NONE	GOOD	Landbird	Brown-headed Cowbird	*Molothrus ater*	BHCO	2	L	T	
6/9/2008	Ripley	KB	6:06	6:16	1	100	20	3	SE	NONE	GOOD	Landbird	Belted Kingfisher	*Ceryle alcyon*	BEKI	1	F	AT	W
6/9/2008	Ripley	KB	6:06	6:16	1	100	20	3	SE	NONE	GOOD	Landbird	Purple Martin	*Progne subis*	PUMA	1	L	T	
6/9/2008	Ripley	KB	6:06	6:16	1	100	20	3	SE	NONE	GOOD	Landbird	European Starling	*Sturnus vulgaris*	EUST	1	L	T	
6/9/2008	Ripley	KB	6:06	6:16	1	100	20	3	SE	NONE	GOOD	Landbird	Yellow Warbler	*Dendroica petechia*	YWAR	1	L	T	
6/9/2008	Ripley	KB	6:06	6:16	1	100	20	3	SE	NONE	GOOD	Landbird	Cedar Waxwing	*Bombycilla cedrorum*	CEDW	1	F	AT	E
6/9/2008	Ripley	KB	6:06	6:16	1	100	20	3	SE	NONE	GOOD	Waterfowl	Canada Goose	*Branta canadensis*	CANG	32	F	WAT	N
6/9/2008	Ripley	KB	6:21	6:31	3	100	20	3	SE	NONE	GOOD	Landbird	Warbling Vireo	*Vireo gilvus*	WAVI	1	L	T	
6/9/2008	Ripley	KB	6:21	6:31	3	100	20	3	SE	NONE	GOOD	Landbird	Chipping Sparrow	*Spizella passerina*	CHSP	1	L	T	
6/9/2008	Ripley	KB	6:21	6:31	3	100	20	3	SE	NONE	GOOD	Landbird	Common Grackle	*Quiscalus quiscula*	COGR	2	L	T	
6/9/2008	Ripley	KB	6:21	6:31	3	100	20	3	SE	NONE	GOOD	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	1	L	AT	
6/9/2008	Ripley	KB	6:21	6:31	3	100	20	3	SE	NONE	GOOD	Landbird	Savannah Sparrow	*Passerculus sandwichensis*	SAVS	3	L	T	
6/9/2008	Ripley	KB	6:21	6:31	3	100	20	3	SE	NONE	GOOD	Landbird	Eastern Kingbird	*Tyrannus tyrannus*	EAKI	1	L	T	
6/9/2008	Ripley	KB	6:21	6:31	3	100	20	3	SE	NONE	GOOD	Shorebird	Killdeer	*Charadrius vociferus*	KILL	2	L	T	
6/9/2008	Ripley	KB	6:21	6:31	3	100	20	3	SE	NONE	GOOD	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	5	L	T	
6/9/2008	Ripley	KB	6:21	6:31	3	100	20	3	SE	NONE	GOOD	Landbird	Cedar Waxwing	*Bombycilla cedrorum*	CEDW	1	L	T	
6/9/2008	Ripley	KB	6:21	6:31	3	100	20	3	SE	NONE	GOOD	Landbird	Cedar Waxwing	*Bombycilla cedrorum*	CEDW	2	F	WAT	E
6/9/2008	Ripley	KB	6:21	6:31	3	100	20	3	SE	NONE	GOOD	Landbird	Common Grackle	*Quiscalus quiscula*	COGR	3	F	T	E
6/9/2008	Ripley	KB	6:21	6:31	3	100	20	3	SE	NONE	GOOD	Landbird	Tree Swallow	*Tachycineta bicolor*	TRES	1	L	AT	
6/9/2008	Ripley	KB	6:21	6:31	3	100	20	3	SE	NONE	GOOD	Waterfowl	Mallard	*Anas platyrhynchos*	MALL	12	F	WAT	E
6/9/2008	Ripley	KB	6:21	6:31	3	100	20	3	SE	NONE	GOOD	Landbird	Eastern Wood-Pewee	*Contopus virens*	EAWP	1	L	AT	
6/9/2008	Ripley	KB	6:21	6:31	3	100	20	3	SE	NONE	GOOD	Landbird	Brown-headed Cowbird	*Molothrus ater*	BHCO	1	L	T	
6/9/2008	Ripley	KB	6:35	6:45	5	100	20	3	SE	NONE	GOOD	Landbird	Bank Swallow	*Riparia riparia*	BANS	7	F	T	E
6/9/2008	Ripley	KB	6:35	6:45	5	100	20	3	SE	NONE	GOOD	Landbird	Savannah Sparrow	*Passerculus sandwichensis*	SAVS	4	L	T	
6/9/2008	Ripley	KB	6:35	6:45	5	100	20	3	SE	NONE	GOOD	Landbird	Brown-headed Cowbird	*Molothrus ater*	BHCO	1	L	T	
6/9/2008	Ripley	KB	6:35	6:45	5	100	20	3	SE	NONE	GOOD	Landbird	American Robin	*Turdus migratorius*	AMRO	1	L	T	
6/9/2008	Ripley	KB	6:35	6:45	5	100	20	3	SE	NONE	GOOD	Landbird	American Goldfinch	*Carduelis tristis*	AMGO	3	L	T	
6/9/2008	Ripley	KB	6:35	6:45	5	100	20	3	SE	NONE	GOOD	Landbird	American Robin	*Turdus migratorius*	AMRO	1	L	T	
6/9/2008	Ripley	KB	6:35	6:45	5	100	20	3	SE	NONE	GOOD	Landbird	American Goldfinch	*Carduelis tristis*	AMGO	3	L	T	
6/9/2008	Ripley	KB	6:35	6:45	5	100	20	3	SE	NONE	GOOD	Landbird	Song Sparrow	*Melospiza melodia*	SOSP	2	L	T	
6/9/2008	Ripley	KB	6:35	6:45	5	100	20	3	SE	NONE	GOOD	Landbird	Chipping Sparrow	*Spizella passerina*	CHSP	1	L	T	
6/9/2008	Ripley	KB	6:35	6:45	5	100	20	3	SE	NONE	GOOD	Landbird	Indigo Bunting	*Passerina cyanea*	INBU	1	L	T	
6/9/2008	Ripley	KB	6:35	6:45	5	100	20	3	SE	NONE	GOOD	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	2	L	T	
6/9/2008	Ripley	KB	6:35	6:45	5	100	20	3	SE	NONE	GOOD	Landbird	Wood Thrush	*Hylocichla mustelina*	WOTH	1	L	T	
6/9/2008	Ripley	KB	6:35	6:45	5	100	20	3	SE	NONE	GOOD	Shorebird	Killdeer	*Charadrius vociferus*	KILL	1	L	T	
6/9/2008	Ripley	KB	6:35	6:45	5	100	20	3	SE	NONE	GOOD	Landbird	European Starling	*Sturnus vulgaris*	EUST	1	L	T	
6/9/2008	Ripley	KB	6:35	6:45	5	100	20	3	SE	NONE	GOOD	Landbird	House Sparrow	*Passer domesticus*	HOSP	3	L	T	
6/9/2008	Ripley	KB	6:35	6:45	5	100	20	3	SE	NONE	GOOD	Landbird	Brown-headed Cowbird	*Molothrus ater*	BHCO	1	L	T	
6/9/2008	Ripley	KB	6:35	6:45	5	100	20	3	SE	NONE	GOOD	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	AT	E
6/9/2008	Ripley	KB	6:35	6:45	5	100	20	3	SE	NONE	GOOD	Landbird	European Starling	*Sturnus vulgaris*	EUST	1	F	AT	S
6/9/2008	Ripley	KB	6:35	6:45	5	100	20	3	SE	NONE	GOOD	Landbird	Vesper Sparrow	*Pooecetes gramineus*	VESP	2	L	T	
6/9/2008	Ripley	KB	6:35	6:45	5	100	20	3	SE	NONE	GOOD	Landbird	Red-eyed Vireo	*Vireo olivaceus*	REVI	3	L	T	
6/9/2008	Ripley	KB	6:49	6:59	10	100	20	3	SE	NONE	GOOD	Landbird	Bobolink	*Dolichonyx oryzivorus*	BOBO	5	L	T	
6/9/2008	Ripley	KB	6:49	6:59	10	100	20	3	SE	NONE	GOOD	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	1	L	T	
6/9/2008	Ripley	KB	6:49	6:59	10	100	20	3	SE	NONE	GOOD	Landbird	Savannah Sparrow	*Passerculus sandwichensis*	SAVS	3	L	T	
6/9/2008	Ripley	KB	6:49	6:59	10	100	20	3	SE	NONE	GOOD	Landbird	Song Sparrow	*Melospiza melodia*	SOSP	2	L	T	
6/9/2008	Ripley	KB	6:49	6:59	10	100	20	3	SE	NONE	GOOD	Landbird	Warbling Vireo	*Vireo gilvus*	WAVI	1	L	T	
6/9/2008	Ripley	KB	6:49	6:59	10	100	20	3	SE	NONE	GOOD	Waterfowl	Mallard	*Anas platyrhynchos*	MALL	2	F	AT	SE
6/9/2008	Ripley	KB	6:49	6:59	10	100	20	3	SE	NONE	GOOD	Waterfowl	Canada Goose	*Branta canadensis*	CANG	1	F	WAT	W
6/9/2008	Ripley	KB	6:49	6:59	10	100	20	3	SE	NONE	GOOD	Landbird	Eastern Kingbird	*Tyrannus tyrannus*	EAKI	1	L	T	
6/9/2008	Ripley	KB	6:49	6:59	10	100	20	3	SE	NONE	GOOD	Landbird	Common Grackle	*Quiscalus quiscula*	COGR	1	L	T	
6/9/2008	Ripley	KB	6:49	6:59	10	100	20	3	SE	NONE	GOOD	Landbird	Barn Swallow	*Hirundo rustica*	BARS	1	L	AT	
6/9/2008	Ripley	KB	7:02	7:12	8	100	20	3	SE	NONE	GOOD	Landbird	Cliff Swallow	*Petrochelidon pyrrhonota*	CLSW	45	L	AT	
6/9/2008	Ripley	KB	7:02	7:12	8	100	20	3	SE	NONE	GOOD	Landbird	Barn Swallow	*Hirundo rustica*	BARS	1	L	AT	
6/9/2008	Ripley	KB	7:02	7:12	8	100	20	3	SE	NONE	GOOD	Landbird	Eastern Wood-Pewee	*Contopus virens*	EAWP	1	L	T	
6/9/2008	Ripley	KB	7:02	7:12	8	100	20	3	SE	NONE	GOOD	Landbird	Yellow Warbler	*Dendroica petechia*	YWAR	1	L	T	
6/9/2008	Ripley	KB	7:02	7:12	8	100	20	3	SE	NONE	GOOD	Landbird	Least Flycatcher	*Empidonax minimus*	LEFL	1	L	T	
6/9/2008	Ripley	KB	7:02	7:12	8	100	20	3	SE	NONE	GOOD	Landbird	Savannah Sparrow	*Passerculus sandwichensis*	SAVS	2	L	T	
6/9/2008	Ripley	KB	7:02	7:12	8	100	20	3	SE	NONE	GOOD	Landbird	Song Sparrow	*Melospiza melodia*	SOSP	1	L	T	

APPENDIX F4: RESULTS OF BREEDING BIRD SURVEYS

Date	Location	Observer	Time Start	Time Finish	Point No.	CC (%)	Temp	Wind Speed	Wind Direction	Precipitation		Bird Group	English Name	Latin Name	Species	Number	Behaviour	Height	Direction
6/9/2008	Ripley	KB	7:02	7:12	8	100	20	3	SE	NONE	GOOD	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	3	L	T	
6/9/2008	Ripley	KB	7:02	7:12	8	100	20	3	SE	NONE	GOOD	Landbird	Eastern Kingbird	*Tyrannus tyrannus*	EAKI	3	L	T	
6/9/2008	Ripley	KB	7:02	7:12	8	100	20	3	SE	NONE	GOOD	Landbird	Brown Thrasher	*Toxostoma rufum*	BRTH	1	L	T	
6/9/2008	Ripley	KB	7:02	7:12	8	100	20	3	SE	NONE	GOOD	Landbird	American Robin	*Turdus migratorius*	AMRO	1	L	T	
6/9/2008	Ripley	KB	7:02	7:12	8	100	20	3	SE	NONE	GOOD	Landbird	Mourning Dove	*Zenaida macroura*	MODO	1	L	T	
6/9/2008	Ripley	KB	7:02	7:12	8	100	20	3	SE	NONE	GOOD	Landbird	Northern Rough-winged Swallow	*Stelgidopteryx serripennis*	NRWS	1	L	T	
6/9/2008	Ripley	KB	7:02	7:12	8	100	20	3	SE	NONE	GOOD	Landbird	Northern Flicker	*Colaptes auratus*	NOFL	1	L	T	
6/9/2008	Ripley	KB	7:02	7:12	8	100	20	3	SE	NONE	GOOD	Landbird	Chipping Sparrow	*Spizella passerina*	CHSP	1	L	T	
6/9/2008	Ripley	KB	7:02	7:12	8	100	20	3	SE	NONE	GOOD	Landbird	House Sparrow	*Passer domesticus*	HOSP	3	L	T	
6/9/2008	Ripley	KB	7:16	7:26	9	100	20	3	SE	NONE	GOOD	Landbird	Common Yellowthroat	*Geothlypis trichas*	COYE	2	L	T	
6/9/2008	Ripley	KB	7:16	7:26	9	100	20	3	SE	NONE	GOOD	Landbird	Yellow Warbler	*Dendroica petechia*	YWAR	3	L	T	
6/9/2008	Ripley	KB	7:16	7:26	9	100	20	3	SE	NONE	GOOD	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	10	L	T	
6/9/2008	Ripley	KB	7:16	7:26	9	100	20	3	SE	NONE	GOOD	Landbird	American Robin	*Turdus migratorius*	AMRO	1	L	T	
6/9/2008	Ripley	KB	7:16	7:26	9	100	20	3	SE	NONE	GOOD	Landbird	Blue-winged Warbler	*Vermivora pinus*	BWWA	1	L	T	
6/9/2008	Ripley	KB	7:16	7:26	9	100	20	3	SE	NONE	GOOD	Waterfowl	Canada Goose	*Branta canadensis*	CANG	27	F	H	N
6/9/2008	Ripley	KB	7:16	7:26	9	100	20	3	SE	NONE	GOOD	Landbird	Song Sparrow	*Melospiza melodia*	SOSP	1	L	T	
6/9/2008	Ripley	KB	7:16	7:26	9	100	20	3	SE	NONE	GOOD	Landbird	American Redstart	*Setophaga ruticilla*	AMRE	1	L	T	
6/9/2008	Ripley	KB	7:16	7:26	9	100	20	3	SE	NONE	GOOD	Landbird	Baltimore Oriole	*Icterus galbula*	BAOR	2	L	T	
6/9/2008	Ripley	KB	7:16	7:26	9	100	20	3	SE	NONE	GOOD	Landbird	American Goldfinch	*Carduelis tristis*	AMGO	2	L	T	
6/9/2008	Ripley	KB	7:16	7:26	9	100	20	3	SE	NONE	GOOD	Landbird	Eastern Phoebe	*Sayornis phoebe*	EAPH	2	L	T	
6/9/2008	Ripley	KB	7:16	7:26	9	100	20	3	SE	NONE	GOOD	Landbird	Northern Rough-winged Swallow	*Stelgidopteryx serripennis*	NRWS	1	L	AT	
6/9/2008	Ripley	KB	7:16	7:26	9	100	20	3	SE	NONE	GOOD	Landbird	Brown-headed Cowbird	*Molothrus ater*	BHCO	1	L	T	
6/9/2008	Ripley	KB	7:16	7:26	9	100	20	3	SE	NONE	GOOD	Landbird	Mourning Dove	*Zenaida macroura*	MODO	1	L	T	
6/9/2008	Ripley	KB	7:16	7:26	9	100	20	3	SE	NONE	GOOD	Landbird	Common Grackle	*Quiscalus quiscula*	COGR	3	L	T	
6/9/2008	Ripley	KB	7:16	7:26	9	100	20	3	SE	NONE	GOOD	Landbird	Northern Flicker	*Colaptes auratus*	NOFL	1	L	T	
6/9/2008	Ripley	KB	7:16	7:26	9	100	20	3	SE	NONE	GOOD	Landbird	Indigo Bunting	*Passerina cyanea*	INBU	1	L	T	
6/9/2008	Ripley	KB	7:16	7:26	9	100	20	3	SE	NONE	GOOD	Landbird	Gray Catbird	*Dumetella carolinensis*	GRCA	1	L	T	
6/9/2008	Ripley	KB	7:30	7:40	6	100	20	3	SE	NONE	GOOD	Landbird	Common Yellowthroat	*Geothlypis trichas*	COYE	1	L	T	
6/9/2008	Ripley	KB	7:30	7:40	6	100	20	3	SE	NONE	GOOD	Landbird	Baltimore Oriole	*Icterus galbula*	BAOR	2	L	T	
6/9/2008	Ripley	KB	7:30	7:40	6	100	20	3	SE	NONE	GOOD	Raptor	Northern Harrier	*Circus cyaneus*	NOHA	1	F	T	S
6/9/2008	Ripley	KB	7:30	7:40	6	100	20	3	SE	NONE	GOOD	Landbird	Vesper Sparrow	*Pooecetes gramineus*	VESP	1	L	T	
6/9/2008	Ripley	KB	7:30	7:40	6	100	20	3	SE	NONE	GOOD	Landbird	Song Sparrow	*Melospiza melodia*	SOSP	2	L	T	
6/9/2008	Ripley	KB	7:30	7:40	6	100	20	3	SE	NONE	GOOD	Landbird	American Robin	*Turdus migratorius*	AMRO	3	L	T	
6/9/2008	Ripley	KB	7:30	7:40	6	100	20	3	SE	NONE	GOOD	Landbird	Cedar Waxwing	*Bombycilla cedrorum*	CEDW	3	L	T	
6/9/2008	Ripley	KB	7:30	7:40	6	100	20	3	SE	NONE	GOOD	Gamebird	Wild Turkey	*Meleagris gallopavo*	WITU	1	L	T	
6/9/2008	Ripley	KB	7:30	7:40	6	100	20	3	SE	NONE	GOOD	Landbird	Savannah Sparrow	*Passerculus sandwichensis*	SAVS	1	L	T	
6/9/2008	Ripley	KB	7:30	7:40	6	100	20	3	SE	NONE	GOOD	Landbird	Willow Flycatcher	*Empidonax traillii*	WIFL	1	L	T	
6/9/2008	Ripley	KB	7:30	7:40	6	100	20	3	SE	NONE	GOOD	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	T	E
6/9/2008	Ripley	KB	7:30	7:40	6	100	20	3	SE	NONE	GOOD	Landbird	American Redstart	*Setophaga ruticilla*	AMRE	1	L	T	
6/9/2008	Ripley	KB	7:30	7:40	6	100	20	3	SE	NONE	GOOD	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	6	L	T	
6/9/2008	Ripley	KB	7:30	7:40	6	100	20	3	SE	NONE	GOOD	Landbird	Warbling Vireo	*Vireo gilvus*	WAVI	1	L	T	
6/9/2008	Ripley	KB	7:30	7:40	6	100	20	3	SE	NONE	GOOD	Landbird	Common Grackle	*Quiscalus quiscula*	COGR	3	L	T	
6/9/2008	Ripley	KB	7:30	7:40	6	100	20	3	SE	NONE	GOOD	Waterfowl	Mallard	*Anas platyrhynchos*	MALL	2	F	AT	N
6/9/2008	Ripley	KB	7:30	7:40	6	100	20	3	SE	NONE	GOOD	Landbird	Rose-breasted Grosbeak	*Pheucticus ludovicianus*	RBGR	1	L	T	
6/9/2008	Ripley	KB	7:30	7:40	6	100	20	3	SE	NONE	GOOD	Landbird	Black-billed Cuckoo	*Coccyzus erythropthalmus*	BBCU	1	L	T	
6/9/2008	Ripley	KB	7:30	7:40	6	100	20	3	SE	NONE	GOOD	Landbird	Eastern Kingbird	*Tyrannus tyrannus*	EAKI	1	L	T	
6/9/2008	Ripley	KB	7:30	7:40	6	100	20	3	SE	NONE	GOOD	Landbird	Brown Thrasher	*Toxostoma rufum*	BRTH	1	L	T	
6/23/2008	Ripley	KB	5:07	5:17	6	50	12	1	S	NONE	GOOD	Landbird	Field Sparrow	*Spizella pusilla*	FISP	2	L	T	
6/23/2008	Ripley	KB	5:07	5:17	6	50	12	1	S	NONE	GOOD	Landbird	Mourning Warbler	*Oporornis philadelphia*	MOWA	1	L	T	
6/23/2008	Ripley	KB	5:07	5:17	6	50	12	1	S	NONE	GOOD	Landbird	Vesper Sparrow	*Pooecetes gramineus*	VESP	1	L	T	
6/23/2008	Ripley	KB	5:07	5:17	6	50	12	1	S	NONE	GOOD	Landbird	Song Sparrow	*Melospiza melodia*	SOSP	3	L	T	
6/23/2008	Ripley	KB	5:07	5:17	6	50	12	1	S	NONE	GOOD	Landbird	Brown-headed Cowbird	*Molothrus ater*	BHCO	5	L	T	
6/23/2008	Ripley	KB	5:07	5:17	6	50	12	1	S	NONE	GOOD	Landbird	Common Yellowthroat	*Geothlypis trichas*	COYE	1	L	T	
6/23/2008	Ripley	KB	5:07	5:17	6	50	12	1	S	NONE	GOOD	Landbird	Savannah Sparrow	*Passerculus sandwichensis*	SAVS	3	L	T	
6/23/2008	Ripley	KB	5:07	5:17	6	50	12	1	S	NONE	GOOD	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	2	L	T	
6/23/2008	Ripley	KB	5:07	5:17	6	50	12	1	S	NONE	GOOD	Landbird	American Robin	*Turdus migratorius*	AMRO	2	L	T	
6/23/2008	Ripley	KB	5:07	5:17	6	50	12	1	S	NONE	GOOD	Landbird	Brown Thrasher	*Toxostoma rufum*	BRTH	2	L	T	
6/23/2008	Ripley	KB	5:07	5:17	6	50	12	1	S	NONE	GOOD	Landbird	Willow Flycatcher	*Empidonax traillii*	WIFL	1	L	T	
6/23/2008	Ripley	KB	5:07	5:17	6	50	12	1	S	NONE	GOOD	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	6	L	T	
6/23/2008	Ripley	KB	5:07	5:17	6	50	12	1	S	NONE	GOOD	Landbird	Indigo Bunting	*Passerina cyanea*	INBU	1	L	T	

APPENDIX F4: RESULTS OF BREEDING BIRD SURVEYS

Date	Location	Observer	Time Start	Time Finish	Point No.	CC (%)	Temp	Wind Speed	Wind Direction	Precipitation		Bird Group	English Name	Latin Name	Species	Number	Behaviour	Height	Direction
6/23/2008	Ripley	KB	5:07	5:17	6	50	12	1	S	NONE	GOOD	Waterbird	Herring Gull	*Larus argentatus*	HERG	3	F	AT	E
6/23/2008	Ripley	KB	5:07	5:17	6	50	12	1	S	NONE	GOOD	Landbird	Cedar Waxwing	*Bombycilla cedrorum*	CEDW	2	L	T	
6/23/2008	Ripley	KB	5:07	5:17	6	50	12	1	S	NONE	GOOD	Landbird	Grasshopper Sparrow	*Ammodramus savannarum*	GRSP	1	L	T	
6/23/2008	Ripley	KB	5:07	5:17	6	50	12	1	S	NONE	GOOD	Landbird	European Starling	*Sturnus vulgaris*	EUST	2	L	T	
6/23/2008	Ripley	KB	5:07	5:17	6	50	12	1	S	NONE	GOOD	Landbird	Yellow Warbler	*Dendroica petechia*	YWAR	1	L	T	
6/23/2008	Ripley	KB	5:07	5:17	6	50	12	1	S	NONE	GOOD	Landbird	House Wren	*Troglodytes aedon*	HOWR	1	L	T	
6/23/2008	Ripley	KB	5:07	5:17	6	50	12	1	S	NONE	GOOD	Landbird	Mourning Dove	*Zenaida macroura*	MODO	3	F	WAT	W
6/23/2008	Ripley	KB	5:07	5:17	6	50	12	1	S	NONE	GOOD	Landbird	Common Grackle	*Quiscalus quiscula*	COGR	1	F	WAT	W
6/23/2008	Ripley	KB	5:21	5:31	8	50	12	1	S	NONE	GOOD	Landbird	House Sparrow	*Passer domesticus*	HOSP	6	L	T	
6/23/2008	Ripley	KB	5:21	5:31	8	50	12	1	S	NONE	GOOD	Landbird	Yellow Warbler	*Dendroica petechia*	YWAR	2	L	T	
6/23/2008	Ripley	KB	5:21	5:31	8	50	12	1	S	NONE	GOOD	Landbird	Eastern Kingbird	*Tyrannus tyrannus*	EAKI	2	L	T	
6/23/2008	Ripley	KB	5:21	5:31	8	50	12	1	S	NONE	GOOD	Landbird	Grasshopper Sparrow	*Ammodramus savannarum*	GRSP	1	L	T	
6/23/2008	Ripley	KB	5:21	5:31	8	50	12	1	S	NONE	GOOD	Landbird	Warbling Vireo	*Vireo gilvus*	WAVI	2	L	T	
6/23/2008	Ripley	KB	5:21	5:31	8	50	12	1	S	NONE	GOOD	Landbird	Song Sparrow	*Melospiza melodia*	SOSP	2	L	T	
6/23/2008	Ripley	KB	5:21	5:31	8	50	12	1	S	NONE	GOOD	Landbird	Cliff Swallow	*Petrochelidon pyrrhonota*	CLSW	55	L	AT	
6/23/2008	Ripley	KB	5:21	5:31	8	50	12	1	S	NONE	GOOD	Landbird	Willow Flycatcher	*Empidonax traillii*	WIFL	1	L	T	
6/23/2008	Ripley	KB	5:21	5:31	8	50	12	1	S	NONE	GOOD	Landbird	Savannah Sparrow	*Passerculus sandwichensis*	SAVS	4	L	T	
6/23/2008	Ripley	KB	5:21	5:31	8	50	12	1	S	NONE	GOOD	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	4	L	T	
6/23/2008	Ripley	KB	5:21	5:31	8	50	12	1	S	NONE	GOOD	Landbird	Mourning Dove	*Zenaida macroura*	MODO	1	L	T	
6/23/2008	Ripley	KB	5:21	5:31	8	50	12	1	S	NONE	GOOD	Waterfowl	Wood Duck	*Aix sponsa*	WODU	3	F	WAT	W
6/23/2008	Ripley	KB	5:21	5:31	8	50	12	1	S	NONE	GOOD	Landbird	House Wren	*Troglodytes aedon*	HOWR	1	L	T	
6/23/2008	Ripley	KB	5:21	5:31	8	50	12	1	S	NONE	GOOD	Landbird	American Robin	*Turdus migratorius*	AMRO	2	L	T	
6/23/2008	Ripley	KB	5:21	5:31	8	50	12	1	S	NONE	GOOD	Landbird	Brown Thrasher	*Toxostoma rufum*	BRTH	1	L	T	
6/23/2008	Ripley	KB	5:21	5:31	8	50	12	1	S	NONE	GOOD	Landbird	Belted Kingfisher	*Ceryle alcyon*	BEKI	1	L	T	
6/23/2008	Ripley	KB	5:35	5:45	10	50	12	1	S	NONE	GOOD	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	8	L	T	
6/23/2008	Ripley	KB	5:35	5:45	10	50	12	1	S	NONE	GOOD	Landbird	Bobolink	*Dolichonyx oryzivorus*	BOBO	5	L	T	
6/23/2008	Ripley	KB	5:35	5:45	10	50	12	1	S	NONE	GOOD	Landbird	Savannah Sparrow	*Passerculus sandwichensis*	SAVS	5	L	T	
6/23/2008	Ripley	KB	5:35	5:45	10	50	12	1	S	NONE	GOOD	Landbird	Song Sparrow	*Melospiza melodia*	SOSP	1	L	T	
6/23/2008	Ripley	KB	5:35	5:45	10	50	12	1	S	NONE	GOOD	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	1	L	T	
6/23/2008	Ripley	KB	5:35	5:45	10	50	12	1	S	NONE	GOOD	Landbird	European Starling	*Sturnus vulgaris*	EUST	1	L	T	
6/23/2008	Ripley	KB	5:35	5:45	10	50	12	1	S	NONE	GOOD	Waterfowl	Mallard	*Anas platyrhynchos*	MALL	1	F	T	W
6/23/2008	Ripley	KB	5:35	5:45	10	50	12	1	S	NONE	GOOD	Waterbird	Herring Gull	*Larus argentatus*	HERG	1	F	WAT	E
6/23/2008	Ripley	KB	5:35	5:45	10	50	12	1	S	NONE	GOOD	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	4	F	WAT	E
6/23/2008	Ripley	KB	5:35	5:45	10	50	12	1	S	NONE	GOOD	Landbird	Vesper Sparrow	*Pooecetes gramineus*	VESP	1	L	T	
6/23/2008	Ripley	KB	5:35	5:45	10	50	12	1	S	NONE	GOOD	Landbird	American Robin	*Turdus migratorius*	AMRO	1	L	T	
6/23/2008	Ripley	KB	5:49	5:59	9	50	12	1	S	NONE	GOOD	Landbird	Alder Flycatcher	*Empidonax alnorum*	ALFL	1	L	T	
6/23/2008	Ripley	KB	5:49	5:59	9	50	12	1	S	NONE	GOOD	Landbird	Baltimore Oriole	*Icterus galbula*	BAOR	3	L	T	
6/23/2008	Ripley	KB	5:49	5:59	9	50	12	1	S	NONE	GOOD	Landbird	Blue Jay	*Cyanocitta cristata*	BLJA	1	L	T	
6/23/2008	Ripley	KB	5:49	5:59	9	50	12	1	S	NONE	GOOD	Landbird	Red-eyed Vireo	*Vireo olivaceus*	REVI	2	L	T	
6/23/2008	Ripley	KB	5:49	5:59	9	50	12	1	S	NONE	GOOD	Landbird	American Redstart	*Setophaga ruticilla*	AMRE	1	L	T	
6/23/2008	Ripley	KB	5:49	5:59	9	50	12	1	S	NONE	GOOD	Landbird	Yellow Warbler	*Dendroica petechia*	YWAR	2	L	T	
6/23/2008	Ripley	KB	5:49	5:59	9	50	12	1	S	NONE	GOOD	Landbird	American Robin	*Turdus migratorius*	AMRO	1	L	T	
6/23/2008	Ripley	KB	5:49	5:59	9	50	12	1	S	NONE	GOOD	Landbird	Song Sparrow	*Melospiza melodia*	SOSP	1	L	T	
6/23/2008	Ripley	KB	5:49	5:59	9	50	12	1	S	NONE	GOOD	Gamebird	Wild Turkey	*Meleagris gallopavo*	WITU	12	L	T	
6/23/2008	Ripley	KB	5:49	5:59	9	50	12	1	S	NONE	GOOD	Landbird	House Wren	*Troglodytes aedon*	HOWR	1	L	T	
6/23/2008	Ripley	KB	5:49	5:59	9	50	12	1	S	NONE	GOOD	Landbird	Cedar Waxwing	*Bombycilla cedrorum*	CEDW	3	L	T	
6/23/2008	Ripley	KB	5:49	5:59	9	50	12	1	S	NONE	GOOD	Landbird	Indigo Bunting	*Passerina cyanea*	INBU	2	L	T	
6/23/2008	Ripley	KB	5:49	5:59	9	50	12	1	S	NONE	GOOD	Landbird	Great Crested Flycatcher	*Myiarchus crinitus*	GCFL	2	L	T	
6/23/2008	Ripley	KB	5:49	5:59	9	50	12	1	S	NONE	GOOD	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	6	L	T	
6/23/2008	Ripley	KB	5:49	5:59	9	50	12	1	S	NONE	GOOD	Landbird	Wood Thrush	*Hylocichla mustelina*	WOTH	2	L	T	
6/23/2008	Ripley	KB	5:49	5:59	9	50	12	1	S	NONE	GOOD	Landbird	European Starling	*Sturnus vulgaris*	EUST	2	L	T	
6/23/2008	Ripley	KB	5:49	5:59	9	50	12	1	S	NONE	GOOD	Landbird	Black-capped Chickadee	*Poecile atricapillus*	BCCH	1	L	T	
6/23/2008	Ripley	KB	5:49	5:59	9	50	12	1	S	NONE	GOOD	Landbird	Common Yellowthroat	*Geothlypis trichas*	COYE	1	L	T	
6/23/2008	Ripley	KB	5:49	5:59	9	50	12	1	S	NONE	GOOD	Landbird	Eastern Wood-Pewee	*Contopus virens*	EAWP	1	L	T	
6/23/2008	Ripley	KB	5:49	5:59	9	50	12	1	S	NONE	GOOD	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	3	F	WAT	N
6/23/2008	Ripley	KB	6:05	6:15	1	50	12	1	S	NONE	GOOD	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	7	L	T	
6/23/2008	Ripley	KB	6:05	6:15	1	50	12	1	S	NONE	GOOD	Landbird	Savannah Sparrow	*Passerculus sandwichensis*	SAVS	3	L	T	
6/23/2008	Ripley	KB	6:05	6:15	1	50	12	1	S	NONE	GOOD	Landbird	Chipping Sparrow	*Spizella passerina*	CHSP	1	L	T	
6/23/2008	Ripley	KB	6:05	6:15	1	50	12	1	S	NONE	GOOD	Landbird	Song Sparrow	*Melospiza melodia*	SOSP	2	L	T	
6/23/2008	Ripley	KB	6:05	6:15	1	50	12	1	S	NONE	GOOD	Landbird	Yellow Warbler	*Dendroica petechia*	YWAR	1	L	T	

APPENDIX F4: RESULTS OF BREEDING BIRD SURVEYS

Date	Location	Observer	Time Start	Time Finish	Point No.	CC (%)	Temp	Wind Speed	Wind Direction	Precipitation		Bird Group	English Name	Latin Name	Species	Number	Behaviour	Height	Direction
6/23/2008	Ripley	KB	6:05	6:15	1	50	12	1	S	NONE	GOOD	Landbird	Mourning Dove	*Zenaida macroura*	MODO	1	L	T	
6/23/2008	Ripley	KB	6:05	6:15	1	50	12	1	S	NONE	GOOD	Landbird	Red-eyed Vireo	*Vireo olivaceus*	REVI	1	L	T	
6/23/2008	Ripley	KB	6:05	6:15	1	50	12	1	S	NONE	GOOD	Shorebird	Killdeer	*Charadrius vociferus*	KILL	1	L	T	
6/23/2008	Ripley	KB	6:05	6:15	1	50	12	1	S	NONE	GOOD	Landbird	Warbling Vireo	*Vireo gilvus*	WAVI	1	L	T	
6/23/2008	Ripley	KB	6:05	6:15	1	50	12	1	S	NONE	GOOD	Landbird	Brown-headed Cowbird	*Molothrus ater*	BHCO	1	F	AT	W
6/23/2008	Ripley	KB	6:05	6:15	1	50	12	1	S	NONE	GOOD	Landbird	House Sparrow	*Passer domesticus*	HOSP	3	L	T	
6/23/2008	Ripley	KB	6:05	6:15	1	50	12	1	S	NONE	GOOD	Landbird	Rock Pigeon	*Columba livia*	ROPI	1	F	H	S
6/23/2008	Ripley	KB	6:05	6:15	1	50	12	1	S	NONE	GOOD	Landbird	American Robin	*Turdus migratorius*	AMRO	1	L	T	
6/23/2008	Ripley	KB	6:05	6:15	1	50	12	1	S	NONE	GOOD	Landbird	Barn Swallow	*Hirundo rustica*	BARS	2	L	AT	
6/23/2008	Ripley	KB	6:18	6:28	2	50	12	1	S	NONE	GOOD	Landbird	Warbling Vireo	*Vireo gilvus*	WAVI	1	L	T	
6/23/2008	Ripley	KB	6:18	6:28	2	50	12	1	S	NONE	GOOD	Landbird	European Starling	*Sturnus vulgaris*	EUST	4	L	T	
6/23/2008	Ripley	KB	6:18	6:28	2	50	12	1	S	NONE	GOOD	Landbird	Yellow Warbler	*Dendroica petechia*	YWAR	3	L	T	
6/23/2008	Ripley	KB	6:18	6:28	2	50	12	1	S	NONE	GOOD	Landbird	Cedar Waxwing	*Bombycilla cedrorum*	CEDW	5	L	T	
6/23/2008	Ripley	KB	6:18	6:28	2	50	12	1	S	NONE	GOOD	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	11	L	T	
6/23/2008	Ripley	KB	6:18	6:28	2	50	12	1	S	NONE	GOOD	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	L	T	
6/23/2008	Ripley	KB	6:18	6:28	2	50	12	1	S	NONE	GOOD	Landbird	Wood Thrush	*Hylocichla mustelina*	WOTH	1	L	T	
6/23/2008	Ripley	KB	6:18	6:28	2	50	12	1	S	NONE	GOOD	Landbird	Common Yellowthroat	*Geothlypis trichas*	COYE	2	L	T	
6/23/2008	Ripley	KB	6:18	6:28	2	50	12	1	S	NONE	GOOD	Landbird	Song Sparrow	*Melospiza melodia*	SOSP	2	L	T	
6/23/2008	Ripley	KB	6:18	6:28	2	50	12	1	S	NONE	GOOD	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	1	F	WAT	E
6/23/2008	Ripley	KB	6:18	6:28	2	50	12	1	S	NONE	GOOD	Landbird	American Robin	*Turdus migratorius*	AMRO	3	L	T	
6/23/2008	Ripley	KB	6:18	6:28	2	50	12	1	S	NONE	GOOD	Landbird	Common Grackle	*Quiscalus quiscula*	COGR	1	F	WAT	W
6/23/2008	Ripley	KB	6:18	6:28	2	50	12	1	S	NONE	GOOD	Landbird	Chipping Sparrow	*Spizella passerina*	CHSP	1	L	T	
6/23/2008	Ripley	KB	6:18	6:28	2	50	12	1	S	NONE	GOOD	Landbird	Gray Catbird	*Dumetella carolinensis*	GRCA	1	L	T	
6/23/2008	Ripley	KB	6:18	6:28	2	50	12	1	S	NONE	GOOD	Landbird	Red-bellied Woodpecker	*Melanerpes carolinus*	RBWO	1	L	T	
6/23/2008	Ripley	KB	6:18	6:28	2	50	12	1	S	NONE	GOOD	Landbird	Mourning Dove	*Zenaida macroura*	MODO	2	F	AT	E
6/23/2008	Ripley	KB	6:33	6:43	3	50	12	1	S	NONE	GOOD	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	16	L	T	
6/23/2008	Ripley	KB	6:33	6:43	3	50	12	1	S	NONE	GOOD	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	3	L	T	
6/23/2008	Ripley	KB	6:33	6:43	3	50	12	1	S	NONE	GOOD	Landbird	Savannah Sparrow	*Passerculus sandwichensis*	SAVS	4	L	T	
6/23/2008	Ripley	KB	6:33	6:43	3	50	12	1	S	NONE	GOOD	Shorebird	Killdeer	*Charadrius vociferus*	KILL	3	L	T	
6/23/2008	Ripley	KB	6:33	6:43	3	50	12	1	S	NONE	GOOD	Landbird	American Goldfinch	*Carduelis tristis*	AMGO	1	L	T	
6/23/2008	Ripley	KB	6:33	6:43	3	50	12	1	S	NONE	GOOD	Landbird	Warbling Vireo	*Vireo gilvus*	WAVI	1	L	T	
6/23/2008	Ripley	KB	6:33	6:43	3	50	12	1	S	NONE	GOOD	Landbird	American Robin	*Turdus migratorius*	AMRO	1	L	T	
6/23/2008	Ripley	KB	6:33	6:43	3	50	12	1	S	NONE	GOOD	Landbird	Common Grackle	*Quiscalus quiscula*	COGR	2	L	T	
6/23/2008	Ripley	KB	6:33	6:43	3	50	12	1	S	NONE	GOOD	Landbird	Vesper Sparrow	*Pooecetes gramineus*	VESP	1	L	T	
6/23/2008	Ripley	KB	6:33	6:43	3	50	12	1	S	NONE	GOOD	Landbird	Bobolink	*Dolichonyx oryzivorus*	BOBO	1	L	WAT	
6/23/2008	Ripley	KB	6:33	6:43	3	50	12	1	S	NONE	GOOD	Landbird	European Starling	*Sturnus vulgaris*	EUST	1	F	WAT	N
6/23/2008	Ripley	KB	6:46	6:56	5	50	12	1	S	NONE	GOOD	Landbird	House Wren	*Troglodytes aedon*	HOWR	1	L	T	
6/23/2008	Ripley	KB	6:46	6:56	5	50	12	1	S	NONE	GOOD	Landbird	Red-eyed Vireo	*Vireo olivaceus*	REVI	3	L	T	
6/23/2008	Ripley	KB	6:46	6:56	5	50	12	1	S	NONE	GOOD	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	1	L	T	
6/23/2008	Ripley	KB	6:46	6:56	5	50	12	1	S	NONE	GOOD	Landbird	American Goldfinch	*Carduelis tristis*	AMGO	1	L	T	
6/23/2008	Ripley	KB	6:46	6:56	5	50	12	1	S	NONE	GOOD	Landbird	Great Crested Flycatcher	*Myiarchus crinitus*	GCFL	1	L	T	
6/23/2008	Ripley	KB	6:46	6:56	5	50	12	1	S	NONE	GOOD	Landbird	Vesper Sparrow	*Pooecetes gramineus*	VESP	2	L	T	
6/23/2008	Ripley	KB	6:46	6:56	5	50	12	1	S	NONE	GOOD	Landbird	Bank Swallow	*Riparia riparia*	BANS	4	L	AT	
6/23/2008	Ripley	KB	6:46	6:56	5	50	12	1	S	NONE	GOOD	Landbird	Savannah Sparrow	*Passerculus sandwichensis*	SAVS	4	L	T	
6/23/2008	Ripley	KB	6:46	6:56	5	50	12	1	S	NONE	GOOD	Landbird	House Sparrow	*Passer domesticus*	HOSP	2	L	T	
6/23/2008	Ripley	KB	6:46	6:56	5	50	12	1	S	NONE	GOOD	Landbird	Bobolink	*Dolichonyx oryzivorus*	BOBO	1	L	T	
6/23/2008	Ripley	KB	6:46	6:56	5	50	12	1	S	NONE	GOOD	Landbird	Chipping Sparrow	*Spizella passerina*	CHSP	1	L	T	
6/23/2008	Ripley	KB	6:46	6:56	5	50	12	1	S	NONE	GOOD	Landbird	Song Sparrow	*Melospiza melodia*	SOSP	2	L	T	
6/23/2008	Ripley	KB	6:46	6:56	5	50	12	1	S	NONE	GOOD	Landbird	Least Flycatcher	*Empidonax minimus*	LEFL	1	L	T	
6/23/2008	Ripley	KB	6:46	6:56	5	50	12	1	S	NONE	GOOD	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	5	L	T	
6/23/2008	Ripley	KB	6:46	6:56	5	50	12	1	S	NONE	GOOD	Landbird	Wood Thrush	*Hylocichla mustelina*	WOTH	1	L	T	
6/23/2008	Ripley	KB	6:46	6:56	5	50	12	1	S	NONE	GOOD	Landbird	Brown-headed Cowbird	*Molothrus ater*	BHCO	3	L	T	
6/23/2008	Ripley	KB	6:46	6:56	5	50	12	1	S	NONE	GOOD	Shorebird	Killdeer	*Charadrius vociferus*	KILL	1	L	T	
6/23/2008	Ripley	KB	6:46	6:56	5	50	12	1	S	NONE	GOOD	Landbird	Brown Thrasher	*Toxostoma rufum*	BRTH	1	L	T	
6/23/2008	Ripley	KB	7:01	7:11	4	50	12	1	S	NONE	GOOD	Landbird	Savannah Sparrow	*Passerculus sandwichensis*	SAVS	4	L	T	
6/23/2008	Ripley	KB	7:01	7:11	4	50	12	1	S	NONE	GOOD	Landbird	House Sparrow	*Passer domesticus*	HOSP	4	L	T	
6/23/2008	Ripley	KB	7:01	7:11	4	50	12	1	S	NONE	GOOD	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	50	L	T	
6/23/2008	Ripley	KB	7:01	7:11	4	50	12	1	S	NONE	GOOD	Landbird	American Robin	*Turdus migratorius*	AMRO	1	L	T	
6/23/2008	Ripley	KB	7:01	7:11	4	50	12	1	S	NONE	GOOD	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	3	L	T	
6/23/2008	Ripley	KB	7:01	7:11	4	50	12	1	S	NONE	GOOD	Landbird	Song Sparrow	*Melospiza melodia*	SOSP	2	L	T	

APPENDIX F4: RESULTS OF BREEDING BIRD SURVEYS

Date	Location	Observer	Time Start	Time Finish	Point No.	CC (%)	Temp	Wind Speed	Wind Direction	Precipitation		Bird Group	English Name	Latin Name	Species	Number	Behaviour	Height	Direction
6/23/2008	Ripley	KB	7:01	7:11	4	50	12	1	S	NONE	GOOD	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	10	L	T	
6/23/2008	Ripley	KB	7:01	7:11	4	50	12	1	S	NONE	GOOD	Landbird	Brown-headed Cowbird	*Molothrus ater*	BHCO	1	L	T	
6/23/2008	Ripley	KB	7:01	7:11	4	50	12	1	S	NONE	GOOD	Landbird	Red-eyed Vireo	*Vireo olivaceus*	REVI	1	L	T	
6/23/2008	Ripley	KB	7:01	7:11	4	50	12	1	S	NONE	GOOD	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	1	L	T	
6/23/2008	Ripley	KB	7:01	7:11	4	50	12	1	S	NONE	GOOD	Landbird	Common Grackle	*Quiscalus quiscula*	COGR	2	L	T	
6/23/2008	Ripley	KB	7:24	7:34	7	50	12	1	S	NONE	GOOD	Landbird	Song Sparrow	*Melospiza melodia*	SOSP	2	L	T	
6/23/2008	Ripley	KB	7:24	7:34	7	50	12	1	S	NONE	GOOD	Landbird	American Robin	*Turdus migratorius*	AMRO	1	L	T	
6/23/2008	Ripley	KB	7:24	7:34	7	50	12	1	S	NONE	GOOD	Landbird	Savannah Sparrow	*Passerculus sandwichensis*	SAVS	5	L	T	
6/23/2008	Ripley	KB	7:24	7:34	7	50	12	1	S	NONE	GOOD	Landbird	House Wren	*Troglodytes aedon*	HOWR	1	L	T	
6/23/2008	Ripley	KB	7:24	7:34	7	50	12	1	S	NONE	GOOD	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	20	L	T	
6/23/2008	Ripley	KB	7:24	7:34	7	50	12	1	S	NONE	GOOD	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	1	L	T	
6/23/2008	Ripley	KB	7:24	7:34	7	50	12	1	S	NONE	GOOD	Landbird	Brown-headed Cowbird	*Molothrus ater*	BHCO	3	L	T	
6/23/2008	Ripley	KB	7:24	7:34	7	50	12	1	S	NONE	GOOD	Landbird	Red-eyed Vireo	*Vireo olivaceus*	REVI	1	L	T	
6/23/2008	Ripley	KB	7:24	7:34	7	50	12	1	S	NONE	GOOD	Landbird	Chipping Sparrow	*Spizella passerina*	CHSP	1	L	T	
6/23/2008	Ripley	KB	7:24	7:34	7	50	12	1	S	NONE	GOOD	Landbird	Indigo Bunting	*Passerina cyanea*	INBU	1	L	T	
6/23/2008	Ripley	KB	7:24	7:34	7	50	12	1	S	NONE	GOOD	Shorebird	Killdeer	*Charadrius vociferus*	KILL	1	L	T	
6/23/2008	Ripley	KB	7:24	7:34	7	50	12	1	S	NONE	GOOD	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	2	F	AT	W
6/23/2008	Ripley	KB	7:24	7:34	7	50	12	1	S	NONE	GOOD	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	2	L	T	
6/23/2008	Ripley	KB	7:24	7:34	7	50	12	1	S	NONE	GOOD	Landbird	Barn Swallow	*Hirundo rustica*	BARS	1	L	AT	
6/23/2008	Ripley	KB	7:24	7:34	7	50	12	1	S	NONE	GOOD	Landbird	Northern Cardinal	*Cardinalis cardinalis*	NOCA	1	L	T	
6/23/2008	Ripley	KB	7:24	7:34	7	50	12	1	S	NONE	GOOD	Landbird	Rose-breasted Grosbeak	*Pheucticus ludovicianus*	RBGR	1	L	T	
6/23/2008	Ripley	KB	7:24	7:34	7	50	12	1	S	NONE	GOOD	Landbird	American Goldfinch	*Carduelis tristis*	AMGO	1	L	T	
6/23/2008	Ripley	KB	7:24	7:34	7	50	12	1	S	NONE	GOOD	Watefowl	Mallard	*Anas platyrhynchos*	MALL	4	F	WAT	W

APPENDIX F5: RESULTS OF FALL DIURNAL AVIAN SURVEYS

Date	Observer	Waypoint	Time Start	Time Finish	CC (%)	Temp	Wind Speed	Wind Direction	Precipitation	Visibility	Bird Group	Common Name	Scientific Name	Species	Number	Behaviour	Height	Direction of Observation	Notes (Flight direction if possible)
9/4/2008	CK	West Hawk Site	10:00	1:00	70	18	B2	E	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	27	F	WAT		E
9/4/2008	CK	West Hawk Site	10:00	1:00	70	18	B2	E	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	2	F	H		E
9/4/2008	CK	West Hawk Site	10:00	1:00	70	18	B2	E	None	Good	Landbird	Mourning Dove	*Zenaida macroura*	MODO	1	F	AT		E
9/4/2008	CK	West Hawk Site	10:00	1:00	70	18	B2	E	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	5	F	H		S
9/4/2008	CK	West Hawk Site	10:00	1:00	70	18	B2	E	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	H		E
9/4/2008	CK	West Hawk Site	10:00	1:00	70	18	B2	E	None	Good	Landbird	Mourning Dove	*Zenaida macroura*	MODO	2	F	AT		N
9/4/2008	CK	West Hawk Site	10:00	1:00	70	18	B2	E	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	3	F	WAT		N
9/4/2008	CK	West Hawk Site	10:00	1:00	70	18	B2	E	None	Good	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	1	F	AT		NW
9/4/2008	CK	West Hawk Site	10:00	1:00	70	18	B2	E	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	1	F	T		W
9/4/2008	CK	West Hawk Site	10:00	1:00	70	18	B2	E	None	Good	Landbird	American Goldfinch	*Carduelis tristis*	AMGO	1	F	T		N
9/4/2008	CK	West Hawk Site	10:00	1:00	70	18	B2	E	None	Good	Landbird	Mourning Dove	*Zenaida macroura*	MODO	1	F	T		NE
9/4/2008	CK	West Hawk Site	10:00	1:00	70	18	B2	E	None	Good	Landbird	Mourning Dove	*Zenaida macroura*	MODO	1	F	T		NE
9/4/2008	CK	West Hawk Site	10:00	1:00	70	18	B2	E	None	Good	Landbird	American Goldfinch	*Carduelis tristis*	AMGO	1	F	T		S
9/4/2008	CK	West Hawk Site	10:00	1:00	70	18	B2	E	None	Good	Shorebird	Killdeer	*Charadrius vociferus*	KILL	14	F	AT		N
9/4/2008	JK	East Hawk Watch	10:10	1:10	40	20	B3	E	None	Good	Landbird	American Goldfinch	*Carduelis tristis*	AMGO	2	F	T		N
9/4/2008	JK	East Hawk Watch	10:10	1:10	40	20	B3	E	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	13	F	WAT		SW
9/4/2008	JK	East Hawk Watch	10:10	1:10	40	20	B3	E	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	7	F	AT		W
9/4/2008	JK	East Hawk Watch	10:10	1:10	40	20	B3	E	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	2	F	H		W
9/4/2008	JK	East Hawk Watch	10:10	1:10	40	20	B3	E	None	Good	Landbird	Mourning Dove	*Zenaida macroura*	MODO	1	F	AT		N
9/4/2008	JK	East Hawk Watch	10:10	1:10	40	20	B3	E	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	2	F	WAT		W
9/4/2008	JK	East Hawk Watch	10:10	1:10	40	20	B3	E	None	Good	Waterbird	Herring Gull	*Larus argentatus*	HERG	1	F	AT		E
9/4/2008	JK	East Hawk Watch	10:10	1:10	40	20	B3	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	AT		E
9/4/2008	JK	East Hawk Watch	10:10	1:10	40	20	B3	E	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	4	F	AT		E
9/4/2008	JK	East Hawk Watch	10:10	1:10	40	20	B3	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	16	F	AT		NE
9/4/2008	JK	East Hawk Watch	10:10	1:10	40	20	B3	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	WAT		NE
9/4/2008	JK	East Hawk Watch	10:10	1:10	40	20	B3	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	WAT		NE
9/4/2008	JK	East Hawk Watch	10:10	1:10	40	20	B3	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	WAT		NE
9/4/2008	JK	East Hawk Watch	10:10	1:10	40	20	B3	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	WAT		NE
9/4/2008	JK	East Hawk Watch	10:10	1:10	40	20	B3	E	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	2	F	WAT		NE
9/4/2008	JK	East Hawk Watch	10:10	1:10	40	20	B3	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	H		E
9/4/2008	JK	East Hawk Watch	10:10	1:10	40	20	B3	E	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	H		E
9/4/2008	JK	East Hawk Watch	10:10	1:10	40	20	B3	E	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	H		E
9/4/2008	JK	East Hawk Watch	10:10	1:10	40	20	B3	E	None	Good	Landbird	House Finch	*Carpodacus mexicanus*	HOFI	1	F	WAT		S
9/4/2008	JK	East Hawk Watch	10:10	1:10	40	20	B3	E	None	Good	Landbird	European Starling	*Sturnus vulgaris*	EUST	15	F	AT		N
9/11/2008	CK	West Hawk Site	8:55	11:55	30	17	B2	E	None	Good	Landbird	Mourning Dove	*Zenaida macroura*	MODO	1	F	T		E
9/11/2008	CK	West Hawk Site	8:55	11:55	30	17	B2	E	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	H		W
9/11/2008	CK	West Hawk Site	8:55	11:55	30	17	B2	E	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	H		W
9/11/2008	CK	West Hawk Site	8:55	11:55	30	17	B2	E	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	5	F	H		W
9/11/2008	CK	West Hawk Site	8:55	11:55	30	17	B2	E	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	4	F	H		W
9/11/2008	CK	West Hawk Site	8:55	11:55	30	17	B2	E	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	3	F	WAT		W
9/11/2008	CK	West Hawk Site	8:55	11:55	30	17	B2	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	3	F	WAT		E
9/11/2008	CK	West Hawk Site	8:55	11:55	30	17	B2	E	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	8	F	T		E
9/11/2008	CK	West Hawk Site	8:55	11:55	30	17	B2	E	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	T		E
9/11/2008	CK	West Hawk Site	8:55	11:55	30	17	B2	E	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	T		E
9/11/2008	CK	West Hawk Site	8:55	11:55	30	17	B2	E	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	T		E
9/11/2008	CK	West Hawk Site	8:55	11:55	30	17	B2	E	None	Good	Landbird	Blackbird species	-	-	9	F	AT		E
9/11/2008	CK	West Hawk Site	8:55	11:55	30	17	B2	E	None	Good	Raptor	Northern Harrier	*Circus cyaneus*	NOHA	1	F	T		N
9/11/2008	CK	West Hawk Site	8:55	11:55	30	17	B2	E	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	WAT		NE
9/11/2008	CK	West Hawk Site	8:55	11:55	30	17	B2	E	None	Good	Landbird	Savannah Sparrow	*Passerculus sandwichensis*	SAVS	3	F	AT		NW
9/11/2008	CK	West Hawk Site	8:55	11:55	30	17	B2	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	4	F	H		NNE
9/11/2008	CK	West Hawk Site	8:55	11:55	30	17	B2	E	None	Good	Landbird	Sparrow sp.	-	-	2	F	AT		NW
9/11/2008	CK	West Hawk Site	8:55	11:55	30	17	B2	E	None	Good	Landbird	Swallow sp.	-	-	1	F	AT		SE
9/11/2008	CK	West Hawk Site	8:55	11:55	30	17	B2	E	None	Good	Landbird	Mourning Dove	*Zenaida macroura*	MODO	2	F	T		NNW
9/11/2008	CK	West Hawk Site	8:55	11:55	30	17	B2	E	None	Good	Shorebird	Killdeer	*Charadrius vociferus*	KILL	23	F	WAT		W
9/11/2008	CK	West Hawk Site	8:55	11:55	30	17	B2	E	None	Good	Landbird	Common Grackle	*Quiscalus quiscula*	COGR	2	F	WAT		W
9/11/2008	JK	East Hawk Watch	9:06	9:16	20	17	B2	E	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	60	F	WAT		E
9/11/2008	JK	East Hawk Watch	9:06	9:16	20	17	B2	E	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	3	F	WAT		S
9/11/2008	JK	East Hawk Watch	9:06	9:16	20	17	B2	E	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	4	F	AT		N
9/11/2008	JK	East Hawk Watch	9:06	9:16	20	17	B2	E	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	11	F	T		N
9/11/2008	JK	East Hawk Watch	9:06	9:16	20	17	B2	E	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	1	F	T		N
9/11/2008	JK	East Hawk Watch	9:06	9:16	20	17	B2	E	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	45	F	AT		N
9/11/2008	JK	East Hawk Watch	9:06	9:16	20	17	B2	E	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	28	F	AT		SW
9/11/2008	JK	East Hawk Watch	9:06	9:16	20	17	B2	E	None	Good	Waterbird	Double-crested Cormorant	*Phalacrocorax auritus*	DCCO	1	F	WAT		S
9/11/2008	JK	East Hawk Watch	9:06	9:16	20	17	B2	E	None	Good	Landbird	Barn Swallow	*Hirundo rustica*	BARS	3	F	AT		N
9/11/2008	JK	East Hawk Watch	9:06	9:16	20	17	B2	E	None	Good	Landbird	American Goldfinch	*Carduelis tristis*	AMGO	5	F	T		SW

APPENDIX F5: RESULTS OF FALL DIURNAL AVIAN SURVEYS

Date	Observer	Waypoint	Time Start	Time Finish	CC (%)	Temp	Wind Speed	Wind Direction	Precipitation	Visibility	Bird Group	Common Name	Scientific Name	Species	Number	Behaviour	Height	Direction of Observation	Notes (Flight direction if possible)
9/11/2008	JK	East Hawk Watch	9:06	9:16	20	17	B2	E	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	1	F	AT		S
9/11/2008	JK	East Hawk Watch	9:06	9:16	20	17	B2	E	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	H		S
9/11/2008	JK	East Hawk Watch	9:06	9:16	20	17	B2	E	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	2	F	WAT		S
9/11/2008	JK	East Hawk Watch	9:06	9:16	20	17	B2	E	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	WAT		S
9/11/2008	JK	East Hawk Watch	9:06	9:16	20	17	B2	E	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	2	F	WAT		S
9/11/2008	JK	East Hawk Watch	9:06	9:16	20	17	B2	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	WAT		S
9/11/2008	JK	East Hawk Watch	9:06	9:16	20	17	B2	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	2	F	WAT		S
9/11/2008	JK	East Hawk Watch	9:06	9:16	20	17	B2	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	WAT		S
9/11/2008	JK	East Hawk Watch	9:06	9:16	20	17	B2	E	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	2	F	WAT		W
9/11/2008	JK	East Hawk Watch	9:06	9:16	20	17	B2	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	2	F	WAT		E
9/11/2008	JK	East Hawk Watch	9:06	9:16	20	17	B2	E	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	7	F	H		W
9/11/2008	JK	East Hawk Watch	9:06	9:16	20	17	B2	E	None	Good	Raptor	Red-tailed Hawk	*Buteo jamaicensis*	RTHA	1	F	AT		N
9/11/2008	JK	East Hawk Watch	9:06	9:16	20	17	B2	E	None	Good	Waterbird	Herring Gull	*Larus argentatus*	HERG	1	F	WAT		S
9/11/2008	JK	East Hawk Watch	9:06	9:16	20	17	B2	E	None	Good	Landbird	American Goldfinch	*Carduelis tristis*	AMGO	1	F	T		S
9/11/2008	JK	East Hawk Watch	9:06	9:16	20	17	B2	E	None	Good	Landbird	European Starling	*Sturnus vulgaris*	EUST	20	F	T		SE
9/11/2008	JK	East Hawk Watch	9:06	9:16	20	17	B2	E	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	2	F	WAT		W
9/11/2008	JK	East Hawk Watch	9:06	9:16	20	17	B2	E	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	H		S
9/11/2008	JK	East Hawk Watch	9:06	9:16	20	17	B2	E	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	4	F	WAT		N
9/18/2008	CK	West Hawk Site	9:00	12:00	10	13	B4	NE	None	Good	Landbird	Mourning Dove	*Zenaida macroura*	MODO	1	F	T		N
9/18/2008	CK	West Hawk Site	9:00	12:00	10	13	B4	NE	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	10	F	WAT		W
9/18/2008	CK	West Hawk Site	9:00	12:00	10	13	B4	NE	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	1	F	WAT		W
9/18/2008	CK	West Hawk Site	9:00	12:00	10	13	B4	NE	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	WAT		N
9/18/2008	CK	West Hawk Site	9:00	12:00	10	13	B4	NE	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	WAT		N
9/18/2008	CK	West Hawk Site	9:00	12:00	10	13	B4	NE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	35	F	WAT		NW
9/18/2008	CK	West Hawk Site	9:00	12:00	10	13	B4	NE	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	H		ENE
9/18/2008	CK	West Hawk Site	9:00	12:00	10	13	B4	NE	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	3	F	H		N
9/18/2008	CK	West Hawk Site	9:00	12:00	10	13	B4	NE	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	H		NW
9/18/2008	CK	West Hawk Site	9:00	12:00	10	13	B4	NE	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	H		NW
9/18/2008	CK	West Hawk Site	9:00	12:00	10	13	B4	NE	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	H		NW
9/18/2008	CK	West Hawk Site	9:00	12:00	10	13	B4	NE	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	H		NW
9/18/2008	CK	West Hawk Site	9:00	12:00	10	13	B4	NE	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	1	F	WAT		S
9/18/2008	CK	West Hawk Site	9:00	12:00	10	13	B4	NE	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	60	F	WAT		SW
9/18/2008	JK	East Hawk Watch	9:05	12:05	10	11	B4	NE	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	15	F	H	Overhead	N
9/18/2008	JK	East Hawk Watch	9:05	12:05	10	11	B4	NE	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	WAT	E	NE
9/18/2008	JK	East Hawk Watch	9:05	12:05	10	11	B4	NE	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	H	N	E
9/18/2008	JK	East Hawk Watch	9:05	12:05	10	11	B4	NE	None	Good	Landbird	Mourning Dove	*Zenaida macroura*	MODO	2	F	T	E	NE
9/18/2008	JK	East Hawk Watch	9:05	12:05	10	11	B4	NE	None	Good	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	2	F	AT	Overhead	NE
9/18/2008	JK	East Hawk Watch	9:05	12:05	10	11	B4	NE	None	Good	Raptor	Red-tailed Hawk	*Buteo jamaicensis*	RTHA	1	F	H	S	S
9/18/2008	JK	East Hawk Watch	9:05	12:05	10	11	B4	NE	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	2	F	AT	W	S
9/18/2008	JK	East Hawk Watch	9:05	12:05	10	11	B4	NE	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	2	F	H	Overhead	NE
9/18/2008	JK	East Hawk Watch	9:05	12:05	10	11	B4	NE	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	20	F	WAT	S	E
9/18/2008	JK	East Hawk Watch	9:05	12:05	10	11	B4	NE	None	Good	Waterbird	Double-crested Cormorant	*Phalacrocorax auritus*	DCCO	40	F	H	Overhead	S
9/18/2008	JK	East Hawk Watch	9:05	12:05	10	11	B4	NE	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	14	F	WAT	S	E
9/18/2008	JK	East Hawk Watch	9:05	12:05	10	11	B4	NE	None	Good	Landbird	Songbird sp.	-	-	1	F	AT	Overhead	NE
9/18/2008	JK	East Hawk Watch	9:05	12:05	10	11	B4	NE	None	Good	Landbird	Songbird sp.	-	-	1	F	AT	Overhead	NE
9/18/2008	JK	East Hawk Watch	9:05	12:05	10	11	B4	NE	None	Good	Landbird	American Goldfinch	*Carduelis tristis*	AMGO	1	F	T	Overhead	NE
9/18/2008	JK	East Hawk Watch	9:05	12:05	10	11	B4	NE	None	Good	Waterbird	Double-crested Cormorant	*Phalacrocorax auritus*	DCCO	1	F	H	S	SE
9/18/2008	JK	East Hawk Watch	9:05	12:05	10	11	B4	NE	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	40	F	H	Overhead	S
9/18/2008	JK	East Hawk Watch	9:05	12:05	10	11	B4	NE	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	280	F	H	Overhead	S
9/18/2008	JK	East Hawk Watch	9:05	12:05	10	11	B4	NE	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	H	Overhead	S
9/18/2008	JK	East Hawk Watch	9:05	12:05	10	11	B4	NE	None	Good	Waterbird	Common Loon	*Gavia immer*	COLO	1	F	H	S	SE
9/18/2008	JK	East Hawk Watch	9:05	12:05	10	11	B4	NE	None	Good	Landbird	Songbird sp.	-	-	2	F	T	Overhead	S
9/18/2008	JK	East Hawk Watch	9:05	12:05	10	11	B4	NE	None	Good	Landbird	American Goldfinch	*Carduelis tristis*	AMGO	1	F	WAT	Overhead	SW
9/25/2008	CK	West Hawk Site	9:01	12:01	0	17	B1	S	None	Good	Landbird	Mourning Dove	*Zenaida macroura*	MODO	3	F	AT	N	W
9/25/2008	CK	West Hawk Site	9:01	12:01	0	17	B1	S	None	Good	Landbird	Blackbird species	-	-	3	F	WAT	S	E
9/25/2008	CK	West Hawk Site	9:01	12:01	0	17	B1	S	None	Good	Landbird	American Goldfinch	*Carduelis tristis*	AMGO	3	F	AT	Overhead	N
9/25/2008	CK	West Hawk Site	9:01	12:01	0	17	B1	S	None	Good	Landbird	Blackbird species	-	-	5	F	WAT	S	E
9/25/2008	CK	West Hawk Site	9:01	12:01	0	17	B1	S	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	1	F	T	Overhead	NNE
9/25/2008	CK	West Hawk Site	9:01	12:01	0	17	B1	S	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	7	F	T	Overhead	SSE
9/25/2008	CK	West Hawk Site	9:01	12:01	0	17	B1	S	None	Good	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	9	F	T	Overhead	NE
9/25/2008	CK	West Hawk Site	9:01	12:01	0	17	B1	S	None	Good	Landbird	Sparrow sp.	-	-	13	F	AT	W	S
9/25/2008	CK	West Hawk Site	9:01	12:01	0	17	B1	S	None	Good	Raptor	Northern Harrier	*Circus cyaneus*	NOHA	1	F	T	W	NNW
9/25/2008	CK	West Hawk Site	9:01	12:01	0	17	B1	S	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	75	F	WAT	W	NNE
9/25/2008	CK	West Hawk Site	9:01	12:01	0	17	B1	S	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	AT	S	E
9/25/2008	CK	West Hawk Site	9:01	12:01	0	17	B1	S	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	AT	S	E

APPENDIX F5: RESULTS OF FALL DIURNAL AVIAN SURVEYS

Date	Observer	Waypoint	Time Start	Time Finish	CC (%)	Temp	Wind Speed	Wind Direction	Precipitation	Visibility	Bird Group	Common Name	Scientific Name	Species	Number	Behaviour	Height	Direction of Observation	Notes (Flight direction if possible)
9/25/2008	CK	West Hawk Site	9:01	12:01	0	17	B1	S	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	2	F	WAT	SW	NE
9/25/2008	CK	West Hawk Site	9:01	12:01	0	17	B1	S	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	3	F	WAT	SW	NE
9/25/2008	CK	West Hawk Site	9:01	12:01	0	17	B1	S	None	Good	Landbird	American Goldfinch	*Carduelis tristis*	AMGO	3	F	AT	Overhead	SW
9/25/2008	CK	West Hawk Site	9:01	12:01	0	17	B1	S	None	Good	Landbird	American Goldfinch	*Carduelis tristis*	AMGO	7	F	AT	Overhead	SW
9/25/2008	CK	West Hawk Site	9:01	12:01	0	17	B1	S	None	Good	Landbird	American Goldfinch	*Carduelis tristis*	AMGO	2	F	AT	Overhead	SW
9/25/2008	CK	West Hawk Site	9:01	12:01	0	17	B1	S	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	WAT	Overhead	E
9/25/2008	CK	West Hawk Site	9:01	12:01	0	17	B1	S	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	5	F	H	W	E
9/25/2008	CK	West Hawk Site	9:01	12:01	0	17	B1	S	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	2	F	WAT	NW	E
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Landbird	American Goldfinch	*Carduelis tristis*	AMGO	8	F	AT	Overhead	N
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	12	F	WAT	SW	SE
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Landbird	Eastern Meadowlark	*Sturnella magna*	EAME	2	F	AT	E	S
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	2	F	AT	Overhead	NW
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	WAT	W	SW
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Landbird	European Starling	*Sturnus vulgaris*	EUST	40	F	AT	E	N
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	AT	N	S
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Shorebird	Killdeer	*Charadrius vociferus*	KILL	6	F	AT	Overhead	NE
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	9	F	AT	Overhead	SE
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	70	F	AT	Overhead	SE
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	6	F	AT	Overhead	SE
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	16	F	AT	Overhead	SE
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	1	F	AT	Overhead	SE
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	55	F	AT	Overhead	SE
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	60	F	AT	Overhead	SE
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	2	F	AT	Overhead	SE
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	11	F	AT	Overhead	SE
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	6	F	AT	Overhead	SE
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	29	F	AT	Overhead	SE
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	3	F	AT	Overhead	SE
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	40	F	AT	Overhead	SE
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	6	F	AT	Overhead	SE
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	40	F	AT	Overhead	SE
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	10	F	AT	Overhead	SE
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	20	F	AT	Overhead	SE
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	6	F	AT	Overhead	SE
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	9	F	AT	Overhead	SE
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	5	F	AT	Overhead	SE
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	1	F	AT	Overhead	SE
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	WAT	SW	N
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	WAT	SW	N
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	WAT	Overhead	N
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	WAT	Overhead	N
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	WAT	Overhead	N
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Landbird	European Starling	*Sturnus vulgaris*	EUST	3	F	T	Overhead	S
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	15	F	AT	Overhead	E
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	2	F	WAT	N	E
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	1	F	AT	W	S
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Landbird	American Goldfinch	*Carduelis tristis*	AMGO	6	F	AT	Overhead	S
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	AT	W	N
9/25/2008	JK	East Hawk Watch	9:05	9:15	0	12	B2	S	None	Good	Landbird	Songbird sp.	-	-	1	F	T	Overhead	N
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	European Starling	*Sturnus vulgaris*	EUST	2	F	T	S	W
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	3	F	AT	W	N
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	1	F	T	E	N
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	1	F	T	E	N
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	2	F	AT	Overhead	W
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	3	F	AT	Overhead	SW
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	Songbird sp.	-	-	10	F	AT	W	NW
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	500	F	WAT	W	S
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	100	F	AT	W	S
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	200	F	H	W	S
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	Rusty Blackbird	*Euphagus carolinus*	RUBL	1	F	WAT	E	N
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	European Starling	*Sturnus vulgaris*	EUST	15	F	AT	W	S
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	3	F	WAT	SW	SE
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	2	F	T	Overhead	NW
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	1	F	T	Overhead	NW
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	2	F	T	Overhead	NW

APPENDIX F5: RESULTS OF FALL DIURNAL AVIAN SURVEYS

Date	Observer	Waypoint	Time Start	Time Finish	CC (%)	Temp	Wind Speed	Wind Direction	Precipitation	Visibility	Bird Group	Common Name	Scientific Name	Species	Number	Behaviour	Height	Direction of Observation	Notes (Flight direction if possible)
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	6	F	T	Overhead	NW
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	5	F	T	Overhead	NW
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	8	F	T	Overhead	NW
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	3	F	T	Overhead	NW
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	5	F	T	Overhead	NW
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	4	F	T	Overhead	NW
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	H	Overhead	S
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	5	F	AT	NW	S
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	5	F	AT	NW	SW
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	AT	Overhead	SE
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	WAT	SW	S
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	1	F	T	Overhead	NW
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	5	F	T	Overhead	NW
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	1	F	T	Overhead	NW
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	6	F	T	Overhead	NW
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	1	F	T	Overhead	NW
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	4	F	T	Overhead	NW
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	1	F	T	Overhead	NW
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	American Robin	*Turdus migratorius*	AMRO	1	F	WAT	N	NW
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	1	F	WAT	Overhead	NW
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	European Starling	*Sturnus vulgaris*	EUST	5	F	AT	E	NE
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	1	F	WAT	Overhead	NW
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	12	F	AT	Overhead	W
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	12	F	AT	Overhead	W
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	1	F	AT	Overhead	W
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	H	E	S
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	AT	E	S
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	2	F	WAT	Overhead	W
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	Brown-headed Cowbird	*Molothrus ater*	BHCO	50	F	T	W	NW
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	European Starling	*Sturnus vulgaris*	EUST	17	F	T	Overhead	NE
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	1	F	WAT	W	N
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	1	F	AT	Overhead	NE
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	1	F	WAT	Overhead	S
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Raptor	Red-tailed Hawk	*Buteo jamaicensis*	RTHA	1	F	WAT	W	S
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Raptor	Red-tailed Hawk	*Buteo jamaicensis*	RTHA	3	F	H	W	S
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	European Starling	*Sturnus vulgaris*	EUST	5	F	T	N	W
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	Rusty Blackbird	*Euphagus carolinus*	RUBL	2	F	T	S	W
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	WAT	NE	N
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	2	F	WAT	NE	SE
10/3/2008	JK	East Hawk Watch	10:30	1:30	80	6	B4	NNW	None	Good	Landbird	American Goldfinch	*Carduelis tristis*	AMGO	1	F	AT	Overhead	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	15	F	AT	E	W
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	60	F	AT	E	W
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	45	F	AT	E	W
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Savannah Sparrow	*Passerculus sandwichensis*	SAVS	2	F	T	W	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Savannah Sparrow	*Passerculus sandwichensis*	SAVS	3	F	T	W	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	3	F	T	W	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	4	F	T	W	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	5	F	T	W	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	4	F	AT	W	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	7	F	AT	W	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	7	F	AT	W	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	H	W	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	3	F	H	W	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	2	F	WAT	E	N
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	2	F	WAT	E	N
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	WAT	W	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	2	F	AT	W	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	1	F	AT	W	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	4	F	AT	W	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	90	F	AT	W	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	5	F	AT	E	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	5	F	AT	E	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	3	F	AT	E	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	10	F	AT	E	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	52	F	AT	E	S

APPENDIX F5: RESULTS OF FALL DIURNAL AVIAN SURVEYS

Date	Observer	Waypoint	Time Start	Time Finish	CC (%)	Temp	Wind Speed	Wind Direction	Precipitation	Visibility	Bird Group	Common Name	Scientific Name	Species	Number	Behaviour	Height	Direction of Observation	Notes (Flight direction if possible)
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	5	F	WAT	E	SE
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	125	F	AT	E	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	90	F	AT	E	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	30	F	AT	E	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	European Starling	*Sturnus vulgaris*	EUST	11	F	T	E	N
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	1150	F	AT	E	SW
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Waterfowl	Snow Goose	*Chen caerulescens*	SNGO	2	F	AT	E	SW
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Yellow-rumped Warbler	*Dendroica coronata*	YRWA	1	F	T	E	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Yellow-rumped Warbler	*Dendroica coronata*	YRWA	3	F	T	E	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Shorebird	Killdeer	*Charadrius vociferus*	KILL	1	F	T	E	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	4	F	AT	NW	SE
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	3	F	AT	NW	SE
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	15	F	AT	NW	SE
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	20	F	AT	NW	SE
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	30	F	AT	NW	SE
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	30	F	AT	NW	SE
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	5	F	AT	NW	SE
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	6	F	AT	NW	SE
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	24	F	AT	NW	SE
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Raptor	Northern Harrier	*Circus cyaneus*	NOHA	1	F	T	NW	SE
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Raptor	Northern Harrier	*Circus cyaneus*	NOHA	1	F	T	NW	SE
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Raptor	Northern Harrier	*Circus cyaneus*	NOHA	1	F	T	NW	SE
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	AT	W	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	AT	W	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	10	F	WAT	E	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Waterfowl	Mallard	*Anas platyrhynchos*	MALL	2	F	AT	W	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Raptor	Osprey	*Pandion haliaetus*	OSPR	1	F	AT	W	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	16	F	T	W	SE
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	10	F	T	W	SE
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	15	F	AT	W	SW
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	115	F	AT	W	SW
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	140	F	AT	W	SW
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	240	F	AT	W	SW
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Shorebird	American Golden Plover	*Pluvialis dominica*	AGPL	11	F	AT	W	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Waterbird	Great Blue Heron	*Ardea herodias*	GBHE	1	F	T	W	N
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Palm Warbler	*Dendroica palmarum*	PAWA	2	F	T	E	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Northern Flicker	*Colaptes auratus*	NOFL	1	F	T	W	N
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	140	F	AT	W	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	100	F	AT	W	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	80	F	AT	W	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Rusty Blackbird	*Euphagus carolinus*	RUBL	3	F	T	E	SE
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	AT	E	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	AT	E	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	45	F	T	E	W
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	30	F	T	E	W
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	15	F	T	E	W
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	60	F	T	E	W
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	100	F	T	E	W
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	60	F	T	E	W
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Waterbird	Double-crested Cormorant	*Phalacrocorax auritus*	DCCO	1	F	AT	W	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	11	F	AT	NW	NW
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	6	F	AT	NW	NW
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Waterbird	Herring Gull	*Larus argentatus*	HERG	3	F	WAT	W	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Raptor	Sharp-shinned Hawk	*Accipiter striatus*	SSHA	1	F	WAT	NW	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Raptor	Sharp-shinned Hawk	*Accipiter striatus*	SSHA	1	F	WAT	NW	S
10/3/2008	JH	West Hawk Site	9:39	12:39	80	6	B4	WNW	Light Rain	Good	Landbird	Blue Jay	*Cyanocitta cristata*	BLJA	5	F	T	W	S
10/7/2008	CK	East Hawk Watch	9:00	12:00	0	4	B2	E	None	Good	Landbird	European Starling	*Sturnus vulgaris*	EUST	17	F	AT	W	W
10/7/2008	CK	East Hawk Watch	9:00	12:00	0	4	B2	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	2	F	WAT	NW	E
10/7/2008	CK	East Hawk Watch	9:00	12:00	0	4	B2	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	5	F	WAT	NW	E
10/7/2008	CK	East Hawk Watch	9:00	12:00	0	4	B2	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	3	F	WAT	NW	E
10/7/2008	CK	East Hawk Watch	9:00	12:00	0	4	B2	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	WAT	NW	E
10/7/2008	CK	East Hawk Watch	9:00	12:00	0	4	B2	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	WAT	NW	E
10/7/2008	CK	East Hawk Watch	9:00	12:00	0	4	B2	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	2	F	WAT	NW	E
10/7/2008	CK	East Hawk Watch	9:00	12:00	0	4	B2	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	WAT	NW	E
10/7/2008	CK	East Hawk Watch	9:00	12:00	0	4	B2	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	WAT	NW	E

APPENDIX F5: RESULTS OF FALL DIURNAL AVIAN SURVEYS

Date	Observer	Waypoint	Time Start	Time Finish	CC (%)	Temp	Wind Speed	Wind Direction	Precipitation	Visibility	Bird Group	Common Name	Scientific Name	Species	Number	Behaviour	Height	Direction of Observation	Notes (Flight direction if possible)
10/7/2008	CK	East Hawk Watch	9:00	12:00	0	4	B2	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	WAT	NW	E
10/7/2008	CK	East Hawk Watch	9:00	12:00	0	4	B2	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	5	F	WAT	NW	E
10/7/2008	CK	East Hawk Watch	9:00	12:00	0	4	B2	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	2	F	WAT	NW	E
10/7/2008	CK	East Hawk Watch	9:00	12:00	0	4	B2	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	2	F	WAT	NW	E
10/7/2008	CK	East Hawk Watch	9:00	12:00	0	4	B2	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	WAT	NW	E
10/7/2008	CK	East Hawk Watch	9:00	12:00	0	4	B2	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	4	F	WAT	NW	E
10/7/2008	CK	East Hawk Watch	9:00	12:00	0	4	B2	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	3	F	WAT	NW	E
10/7/2008	CK	East Hawk Watch	9:00	12:00	0	4	B2	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	WAT	NW	E
10/7/2008	CK	East Hawk Watch	9:00	12:00	0	4	B2	E	None	Good	Landbird	Blackbird species	-	-	9	F	AT	N	N
10/7/2008	CK	East Hawk Watch	9:00	12:00	0	4	B2	E	None	Good	Landbird	European Starling	*Sturnus vulgaris*	EUST	65	F	AT	W	N
10/7/2008	CK	East Hawk Watch	9:00	12:00	0	4	B2	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	AT	S	E
10/7/2008	CK	East Hawk Watch	9:00	12:00	0	4	B2	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	AT	S	E
10/7/2008	CK	East Hawk Watch	9:00	12:00	0	4	B2	E	None	Good	Landbird	European Starling	*Sturnus vulgaris*	EUST	30	F	AT	E	S
10/7/2008	CK	East Hawk Watch	9:00	12:00	0	4	B2	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	2	F	WAT	S	E
10/7/2008	CK	East Hawk Watch	9:00	12:00	0	4	B2	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	WAT	S	E
10/7/2008	CK	East Hawk Watch	9:00	12:00	0	4	B2	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	7	F	WAT	S	E
10/7/2008	CK	East Hawk Watch	9:00	12:00	0	4	B2	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	3	F	WAT	S	E
10/7/2008	CK	East Hawk Watch	9:00	12:00	0	4	B2	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	WAT	S	E
10/7/2008	CK	East Hawk Watch	9:00	12:00	0	4	B2	E	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	4	F	WAT	S	E
10/7/2008	CK	East Hawk Watch	9:00	12:00	0	4	B2	E	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	7	F	AT	W	N
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Palm Warbler	*Dendroica palmarum*	PAWA	3	F	T	N	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	5	F	AT	N	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	25	F	AT	N	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	10	F	AT	N	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	5	F	AT	N	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	20	F	AT	N	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	30	F	AT	N	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	2	F	AT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	10	F	AT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	5	F	AT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	18	F	AT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Shorebird	American Golden Plover	*Pluvialis dominica*	AGPL	22	F	WAT	S	N
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Waterfowl	Snow Goose	*Chen caerulescens*	SNGO	11	F	WAT	SE	NW
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	180	F	WAT	SE	NW
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	12	F	WAT	SE	NW
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	25	F	WAT	SE	NW
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	5	F	WAT	N	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	5	F	WAT	N	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	19	F	AT	SW	NW
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	45	F	AT	SW	NW
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	15	F	AT	SW	NW
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	500	F	WAT	NE	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	150	F	WAT	NE	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	110	F	WAT	NE	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	15	F	WAT	SW	NW
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	7	F	WAT	SW	NW
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	10	F	WAT	SW	NW
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	11	F	WAT	SW	NW
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	15	F	WAT	SW	NW
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	290	F	H	S	W
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	30	F	AT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	70	F	AT	E	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Mourning Dove	*Zenaida macroura*	MODO	5	F	AT	W	N
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Goldfinch	*Carduelis tristis*	AMGO	10	F	T	W	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Goldfinch	*Carduelis tristis*	AMGO	5	F	T	W	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	European Starling	*Sturnus vulgaris*	EUST	4	F	AT	SW	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	European Starling	*Sturnus vulgaris*	EUST	30	F	AT	SW	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	European Starling	*Sturnus vulgaris*	EUST	20	F	AT	SW	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	35	F	WAT	E	W
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	30	F	WAT	E	W
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	15	F	WAT	E	W
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	9	F	WAT	E	W
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	9	F	AT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	10	F	AT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	10	F	AT	NW	SE

APPENDIX F5: RESULTS OF FALL DIURNAL AVIAN SURVEYS

Date	Observer	Waypoint	Time Start	Time Finish	CC (%)	Temp	Wind Speed	Wind Direction	Precipitation	Visibility	Bird Group	Common Name	Scientific Name	Species	Number	Behaviour	Height	Direction of Observation	Notes (Flight direction if possible)
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	5	F	AT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	15	F	AT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	110	F	AT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	20	F	AT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	25	F	AT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	5	F	AT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	10	F	AT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	5	F	AT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	10	F	AT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	5	F	AT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Cedar Waxwing	*Bombycilla cedrorum*	CEDW	25	F	AT	NW	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Cedar Waxwing	*Bombycilla cedrorum*	CEDW	30	F	AT	NW	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	310	F	WAT	SE	NE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Common Raven	*Corvus corax*	CORA	2	F	AT	S	E
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Shorebird	American Golden Plover	*Pluvialis dominica*	AGPL	10	F	H	E	W
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Shorebird	American Golden Plover	*Pluvialis dominica*	AGPL	4	F	H	E	W
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	370	F	WAT	SE	NE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Shorebird	Killdeer	*Charadrius vociferus*	KILL	2	F	H	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	5	F	WAT	NW	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	4	F	H	W	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Raptor	Northern Harrier	*Circus cyaneus*	NOHA	1	F	T	W	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	WAT	SE	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	5	F	AT	W	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	15	F	AT	W	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	5	F	AT	W	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	15	F	WAT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	30	F	WAT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	30	F	WAT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	15	F	WAT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	50	F	WAT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	3	F	WAT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	5	F	WAT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	3	F	WAT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	5	F	WAT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	5	F	WAT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	3	F	WAT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	3	F	WAT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	3	F	WAT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Rock Pigeon	*Columba livia*	ROPI	2	F	AT	W	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	European Starling	*Sturnus vulgaris*	EUST	9	F	T	NE	SW
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	27	F	WAT	W	E
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	22	F	AT	W	E
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	35	F	AT	W	E
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	6	F	AT	W	E
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	4	F	AT	W	E
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	4	F	AT	W	E
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	5	F	AT	W	E
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Orange-crowned Warbler	*Vermivora celata*	OCWA	1	F	T	S	N
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	2	F	AT	S	N
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	170	F	H	N	W
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Shorebird	American Golden Plover	*Pluvialis dominica*	AGPL	14	F	WAT	N	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	10	F	AT	S	N
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	20	F	AT	S	N
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	20	F	AT	S	N
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	10	F	AT	S	N
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	23	F	WAT	W	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Raptor	Cooper's Hawk	*Accipiter cooperii*	COHA	1	F	AT	W	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Rusty Blackbird	*Euphagus carolinus*	RUBL	3	F	AT	SW	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	15	F	AT	W	E
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	12	F	AT	W	E
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	70	F	AT	W	E
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	220	F	AT	W	E
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	9	F	AT	W	E
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	5	F	AT	W	E
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	15	F	AT	W	E
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	3	F	AT	W	E
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	5	F	AT	W	E

APPENDIX F5: RESULTS OF FALL DIURNAL AVIAN SURVEYS

Date	Observer	Waypoint	Time Start	Time Finish	CC (%)	Temp	Wind Speed	Wind Direction	Precipitation	Visibility	Bird Group	Common Name	Scientific Name	Species	Number	Behaviour	Height	Direction of Observation	Notes (Flight direction if possible)
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	5	F	AT	W	E
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	5	F	AT	W	E
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	10	F	AT	W	E
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	10	F	AT	W	E
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	4	F	WAT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	4	F	WAT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	3	F	WAT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	24	F	WAT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Yellow-rumped Warbler	*Dendroica coronata*	YRWA	2	F	T	NE	SW
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Raptor	Sharp-shinned Hawk	*Accipiter striatus*	SSHA	1	F	AT	NW	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Waterbird	Double-crested Cormorant	*Phalacrocorax auritus*	DCCO	2	F	WAT	W	N
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	90	F	AT	NW	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	20	F	AT	NW	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	30	F	AT	NW	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	110	F	AT	NW	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	15	F	AT	NW	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	5	F	AT	NW	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	5	F	AT	NW	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	5	F	AT	W	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	10	F	AT	W	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	45	F	AT	W	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	75	F	AT	W	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Common Raven	*Corvus corax*	CORA	1	F	H	NW	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Common Raven	*Corvus corax*	CORA	3	F	H	NW	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	6	F	WAT	SE	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	25	F	H	E	W
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	20	F	H	E	W
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	80	F	H	E	W
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	130	F	AT	NW	SE
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Rusty Blackbird	*Euphagus carolinus*	RUBL	2	F	WAT	W	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	15	F	WAT	W	S
10/7/2008	JH	West Hawk Site	9:00	12:00	5	5	B2	ESE	None	Good	Raptor	Cooper's Hawk	*Accipiter cooperii*	COHA	1	F	WAT	W	S
10/16/2008	CK	East Hawk Watch	9:00	12:00	90	10	B4	W	None	Good	Landbird	Blackbird species	-	-	1	F	AT	E	ENE
10/16/2008	CK	East Hawk Watch	9:00	12:00	90	10	B4	W	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	2	F	WAT	W	SE
10/16/2008	CK	East Hawk Watch	9:00	12:00	90	10	B4	W	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	WAT	W	SE
10/16/2008	CK	East Hawk Watch	9:00	12:00	90	10	B4	W	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	2	F	WAT	W	SE
10/16/2008	CK	East Hawk Watch	9:00	12:00	90	10	B4	W	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	180	F	H	Overhead	ESE
10/16/2008	CK	East Hawk Watch	9:00	12:00	90	10	B4	W	None	Good	Landbird	Savannah Sparrow	*Passerculus sandwichensis*	SAVS	30	F	AT	Overhead	SE
10/16/2008	CK	East Hawk Watch	9:00	12:00	90	10	B4	W	None	Good	Landbird	Sparrow sp.	-	-	1	F	WAT	Overhead	W
10/16/2008	CK	East Hawk Watch	9:00	12:00	90	10	B4	W	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	WAT	E	ESE
10/16/2008	CK	East Hawk Watch	9:00	12:00	90	10	B4	W	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	12	F	H	Overhead	SE
10/16/2008	CK	East Hawk Watch	9:00	12:00	90	10	B4	W	None	Good	Landbird	Blackbird species	-	-	13	F	AT	E	NE
10/16/2008	CK	East Hawk Watch	9:00	12:00	90	10	B4	W	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	2	F	WAT	W	SE
10/16/2008	CK	East Hawk Watch	9:00	12:00	90	10	B4	W	None	Good	Raptor	Red-tailed Hawk	*Buteo jamaicensis*	RTHA	1	F	AT	W	N
10/16/2008	CK	East Hawk Watch	9:00	12:00	90	10	B4	W	None	Good	Landbird	European Starling	*Sturnus vulgaris*	EUST	50	F	WAT	N	NE
10/16/2008	CK	East Hawk Watch	9:00	12:00	90	10	B4	W	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	75	F	H	S	W
10/16/2008	CK	East Hawk Watch	9:00	12:00	90	10	B4	W	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	30	F	H	S	W
10/16/2008	CK	East Hawk Watch	9:00	12:00	90	10	B4	W	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	2	F	H	E	SW
10/16/2008	CK	East Hawk Watch	9:00	12:00	90	10	B4	W	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	43	F	H	E	SW
10/16/2008	CK	East Hawk Watch	9:00	12:00	90	10	B4	W	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	H	E	SW
10/16/2008	CK	East Hawk Watch	9:00	12:00	90	10	B4	W	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	120	F	H	WSW	SW
10/16/2008	CK	East Hawk Watch	9:00	12:00	90	10	B4	W	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	H	SE	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	27	F	WAT	E	W
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	15	F	WAT	E	W
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	35	F	WAT	E	W
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	10	F	T	N	SW
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	75	F	T	N	SW
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	15	F	T	N	SW
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	200	F	T	N	SW
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	7	F	T	N	W
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	4	F	T	N	W
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	90	F	AT	NW	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	50	F	AT	NW	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	25	F	AT	NW	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	6	F	AT	NW	S

APPENDIX F5: RESULTS OF FALL DIURNAL AVIAN SURVEYS

Date	Observer	Waypoint	Time Start	Time Finish	CC (%)	Temp	Wind Speed	Wind Direction	Precipitation	Visibility	Bird Group	Common Name	Scientific Name	Species	Number	Behaviour	Height	Direction of Observation	Notes (Flight direction if possible)
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	5	F	AT	NW	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	5	F	AT	NW	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Raptor	Red-tailed Hawk	*Buteo jamaicensis*	RTHA	1	F	WAT	W	E
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Raptor	Sharp-shinned Hawk	*Accipiter striatus*	SSHA	1	F	WAT	W	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Raptor	Sharp-shinned Hawk	*Accipiter striatus*	SSHA	2	F	WAT	W	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Raptor	Sharp-shinned Hawk	*Accipiter striatus*	SSHA	1	F	WAT	W	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Raptor	Sharp-shinned Hawk	*Accipiter striatus*	SSHA	1	F	WAT	W	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	60	F	T	NW	SW
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	50	F	T	E	W
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	5	F	T	E	W
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Raptor	Red-tailed Hawk	*Buteo jamaicensis*	RTHA	1	F	WAT	W	E
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Waterbird	Common Loon	*Gavia immer*	COLO	1	F	WAT	W	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Waterbird	Common Loon	*Gavia immer*	COLO	3	F	WAT	W	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Waterbird	Common Loon	*Gavia immer*	COLO	2	F	WAT	W	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	15	F	AT	W	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	15	F	AT	W	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	12	F	T	E	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	50	F	T	E	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Raptor	Northern Harrier	*Circus cyaneus*	NOHA	1	F	T	E	SW
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	450	F	T	S	W
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Shorebird	Wilson's Snipe	*Gallinago delicata*	WISN	1	F	AT	N	SE
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	30	F	AT	E	W
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	75	F	T	N	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	30	F	T	N	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	35	F	T	N	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	10	F	T	N	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	5	F	T	N	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	5	F	T	N	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	15	F	AT	N	SW
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	7	F	T	W	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	4	F	T	W	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	10	F	T	W	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	7	F	T	W	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Waterbird	Common Loon	*Gavia immer*	COLO	1	F	H	W	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	25	F	AT	N	SW
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	30	F	AT	N	SW
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	45	F	AT	N	SW
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	30	F	AT	N	SW
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	70	F	H	NW	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	24	F	H	NW	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	13	F	H	NW	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	15	F	WAT	W	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	10	F	WAT	W	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	45	F	T	E	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	30	F	T	E	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	5	F	AT	NW	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	6	F	AT	NW	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	9	F	AT	NW	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	5	F	AT	NW	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Waterbird	Herring Gull	*Larus argentatus*	HERG	11	F	WAT	W	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	40	F	T	E	W
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	Mourning Dove	*Zenaida macroura*	MODO	4	F	T	NE	SW
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	European Starling	*Sturnus vulgaris*	EUST	15	F	T	NE	SW
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	80	F	T	S	W
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	9	F	T	E	W
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Waterbird	Double-crested Cormorant	*Phalacrocorax auritus*	DCCO	2	F	WAT	W	S
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Shorebird	Wilson's Snipe	*Gallinago delicata*	WISN	1	F	AT	NW	SE
10/16/2008	JH	West Hawk Site	9:00	12:00	80	9	B4	NW	None	Good	Raptor	Bald Eagle	*Haliaeetus leucocephalus*	BAEA	1	F	WAT	NW	S
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	15	F	WAT	W	S
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	50	F	WAT	W	S
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	10	F	WAT	W	S
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	3	F	WAT	W	S
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	2	F	AT	SW	SW
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Landbird	Savannah Sparrow	*Passerculus sandwichensis*	SAVS	1	F	T	Overhead	NW
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	5	F	T	OH	N

APPENDIX F5: RESULTS OF FALL DIURNAL AVIAN SURVEYS

Date	Observer	Waypoint	Time Start	Time Finish	CC (%)	Temp	Wind Speed	Wind Direction	Precipitation	Visibility	Bird Group	Common Name	Scientific Name	Species	Number	Behaviour	Height	Direction of Observation	Notes (Flight direction if possible)
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	1	F	T	OH	N
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	6	F	T	OH	N
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	1	F	T	OH	N
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	3	F	T	OH	N
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	4	F	T	OH	N
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	3	F	T	OH	N
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	1	F	T	W	N
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	1	F	WAT	OH	S
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Waterbird	Great Blue Heron	*Ardea herodias*	GBHE	1	F	AT	SW	SE
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	16	F	WAT	OH	S
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	2	F	WAT	SW	S
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	8	F	AT	W	N
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Raptor	Red-tailed Hawk	*Buteo jamaicensis*	RTHA	1	F	WAT	W	S
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Raptor	Rough-legged Hawk	*Buteo lagopus*	RLHA	1	F	AT	SE	E
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Raptor	Red-tailed Hawk	*Buteo jamaicensis*	RTHA	1	F	WAT	SE	S
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	5	F	AT	OH	S
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	1	F	AT	OH	S
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Raptor	Red-tailed Hawk	*Buteo jamaicensis*	RTHA	2	F	WAT	OH	S
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Landbird	Mourning Dove	*Zenaida macroura*	MODO	3	F	T	NW	NE
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	2	F	AT	W	N
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	5	F	WAT	W	N
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	1	F	WAT	W	N
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	2	F	H	E	S
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Landbird	European Starling	*Sturnus vulgaris*	EUST	3	F	AT	W	SW
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Landbird	European Starling	*Sturnus vulgaris*	EUST	2	F	AT	OH	SE
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Raptor	Rough-legged Hawk	*Buteo lagopus*	RLHA	1	F	H	W	S
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Landbird	European Starling	*Sturnus vulgaris*	EUST	1	F	AT	W	N
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	8	F	WAT	OH	N
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	70	F	WAT	N	W
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	80	F	AT	W	N
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	50	F	AT	W	N
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Waterbird	Herring Gull	*Larus argentatus*	HERG	4	F	AT	W	N
10/22/2008	JK	East Hawk Watch	9:00	12:00	0	3	B3	NNE	None	Good	Landbird	Purple Finch	*Carpodacus purpureus*	PUFI	1	F	AT	OH	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	190	F	WAT	S	SW
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	150	F	WAT	S	SW
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	200	F	AT	W	NW
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	175	F	AT	W	NW
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	300	F	AT	W	NW
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	300	F	AT	W	NW
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Pine Siskin	*Carduelis pinus*	PISI	8	F	AT	E	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Pine Siskin	*Carduelis pinus*	PISI	2	F	AT	E	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	65	F	AT	E	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	5	F	AT	E	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	5	F	AT	E	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	200	F	T	NW	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	150	F	T	NW	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	100	F	T	NW	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Waterbird	Herring Gull	*Larus argentatus*	HERG	20	F	AT	W	NW
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Waterbird	Herring Gull	*Larus argentatus*	HERG	25	F	AT	W	NW
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	15	F	T	E	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	10	F	T	E	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	20	F	T	E	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Waterfowl	Snow Goose	*Chen caerulescens*	SNGO	16	F	WAT	NE	SW
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	7	F	AT	N	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	30	F	AT	NE	SW
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	90	F	AT	NE	SW
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Purple Finch	*Carpodacus purpureus*	PUFI	1	F	AT	N	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Raptor	Northern Harrier	*Circus cyaneus*	NOHA	1	F	T	W	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	25	F	T	E	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	75	F	T	E	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	50	F	T	E	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	50	F	T	E	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	4	F	AT	NW	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	7	F	AT	NW	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	10	F	AT	NW	S

APPENDIX F5: RESULTS OF FALL DIURNAL AVIAN SURVEYS

Date	Observer	Waypoint	Time Start	Time Finish	CC (%)	Temp	Wind Speed	Wind Direction	Precipitation	Visibility	Bird Group	Common Name	Scientific Name	Species	Number	Behaviour	Height	Direction of Observation	Notes (Flight direction if possible)
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	5	F	AT	NW	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	American Goldfinch	*Carduelis tristis*	AMGO	5	F	T	N	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	American Goldfinch	*Carduelis tristis*	AMGO	5	F	T	N	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	5	F	AT	W	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	15	F	AT	W	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	50	F	AT	E	N
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	175	F	AT	E	N
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	125	F	AT	E	N
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	300	F	T	NE	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	50	F	T	NE	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	200	F	T	NE	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	150	F	AT	E	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	100	F	AT	E	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	75	F	AT	W	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	50	F	AT	W	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	25	F	AT	W	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	15	F	T	W	E
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	25	F	T	W	E
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	20	F	T	W	E
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	15	F	T	W	E
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	10	F	T	E	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	5	F	T	E	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	30	F	T	E	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	20	F	T	E	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	25	F	T	E	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	60	F	H	SE	NW
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	18	F	H	SE	NW
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	500	F	WAT	SW	NW
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	200	F	WAT	SW	NW
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	300	F	WAT	SW	NW
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1000	F	WAT	SW	NW
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Raptor	Northern Harrier	*Circus cyaneus*	NOHA	1	F	T	NE	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Raptor	Cooper's Hawk	*Accipiter cooperii*	COHA	1	F	T	W	E
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	1	F	AT	W	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Raptor	Turkey Vulture	*Cathartes aura*	TUVU	3	F	AT	W	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	55	F	T	E	SE
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Raptor	Rough-legged Hawk	*Buteo lagopus*	RLHA	1	F	WAT	NW	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Raptor	Rough-legged Hawk	*Buteo lagopus*	RLHA	1	F	WAT	NW	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Raptor	Rough-legged Hawk	*Buteo lagopus*	RLHA	1	F	WAT	NW	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	20	F	AT	SW	NE
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	15	F	AT	SW	NE
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	115	F	T	E	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	40	F	T	E	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	350	F	T	E	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	65	F	T	E	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Waterbird	Common Loon	*Gavia immer*	COLO	1	F	H	W	N
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	5	F	AT	W	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	3	F	AT	W	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	40	F	T	E	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	65	F	T	E	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	70	F	T	E	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	100	F	T	E	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	22	F	T	E	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	10	F	T	E	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	80	F	T	E	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	4	F	T	E	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	10	F	T	E	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Raptor	Sharp-shinned Hawk	*Accipiter striatus*	SSHA	1	F	AT	NW	SE
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Raptor	Sharp-shinned Hawk	*Accipiter striatus*	SSHA	1	F	AT	NW	SE
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	House Finch	*Carpodacus mexicanus*	HOFI	1	F	AT	N	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	House Finch	*Carpodacus mexicanus*	HOFI	1	F	AT	N	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Raptor	Rough-legged Hawk	*Buteo lagopus*	RLHA	1	F	WAT	NW	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Raptor	Rough-legged Hawk	*Buteo lagopus*	RLHA	2	F	WAT	NW	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	250	F	T	E	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	120	F	T	E	W

APPENDIX F5: RESULTS OF FALL DIURNAL AVIAN SURVEYS

Date	Observer	Waypoint	Time Start	Time Finish	CC (%)	Temp	Wind Speed	Wind Direction	Precipitation	Visibility	Bird Group	Common Name	Scientific Name	Species	Number	Behaviour	Height	Direction of Observation	Notes (Flight direction if possible)
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	40	F	T	E	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	80	F	T	E	W
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	18	F	AT	NE	SW
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	20	F	AT	NE	SW
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	30	F	WAT	SW	NE
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	60	F	T	N	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	110	F	T	N	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	40	F	T	N	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	250	F	AT	SW	NE
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	150	F	AT	SW	NE
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Waterbird	Herring Gull	*Larus argentatus*	HERG	10	F	AT	SW	NE
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Waterbird	Herring Gull	*Larus argentatus*	HERG	5	F	AT	SW	NE
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	250	F	WAT	W	N
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Raptor	Cooper's Hawk	*Accipiter cooperii*	COHA	1	F	WAT	W	S
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Landbird	European Starling	*Sturnus vulgaris*	EUST	90	F	WAT	NW	SW
10/22/2008	JH	West Hawk Site	9:00	12:00	10	2	B4	NE	None	Good	Raptor	Northern Goshawk	*Accipiter gentilis*	NOGO	1	F	H	N	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	120	F	AT	NW	SW
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	100	F	AT	NW	SW
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	150	F	AT	NW	SW
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	100	F	AT	NW	SW
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	1	F	T	N	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	2	F	T	N	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	5	F	T	N	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	1	F	T	N	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	1	F	T	NE	SW
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	5	F	T	NE	SW
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	5	F	T	NE	SW
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	10	F	T	NE	SW
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	10	F	T	NE	SW
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	50	F	T	N	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	120	F	T	N	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	70	F	T	N	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	40	F	T	N	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	120	F	T	N	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	70	F	T	N	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	40	F	T	N	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	175	F	AT	E	W
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	25	F	AT	NE	SW
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	30	F	AT	NE	SW
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	20	F	AT	NE	SW
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	75	F	WAT	E	W
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	White-winged Crossbill	*Loxia leucoptera*	WWCR	27	F	AT	N	SE
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	Pine Siskin	*Carduelis pinus*	PISI	1	F	WAT	N	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	15	F	T	NW	SE
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	25	F	T	NW	SE
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	20	F	T	NW	SE
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	5	F	T	NW	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	9	F	T	NW	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Shorebird	Killdeer	*Charadrius vociferus*	KILL	1	F	WAT	N	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Waterbird	Herring Gull	*Larus argentatus*	HERG	2	F	AT	NW	SW
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Waterbird	Herring Gull	*Larus argentatus*	HERG	5	F	AT	NW	SW
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Raptor	Cooper's Hawk	*Accipiter cooperii*	COHA	1	F	T	E	W
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Waterbird	Great Blue Heron	*Ardea herodias*	GBHE	1	F	AT	NW	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	9	F	T	W	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	18	F	T	NW	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	4	F	T	NW	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	4	F	T	NW	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	European Starling	*Sturnus vulgaris*	EUST	30	F	T	NW	SE
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	European Starling	*Sturnus vulgaris*	EUST	15	F	T	NW	SE
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	European Starling	*Sturnus vulgaris*	EUST	15	F	T	NW	SE
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	5	F	T	W	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	45	F	T	W	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	70	F	T	W	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	25	F	T	W	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	400	F	AT	W	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	10	F	AT	W	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	7	F	AT	W	S

APPENDIX F5: RESULTS OF FALL DIURNAL AVIAN SURVEYS

Date	Observer	Waypoint	Time Start	Time Finish	CC (%)	Temp	Wind Speed	Wind Direction	Precipitation	Visibility	Bird Group	Common Name	Scientific Name	Species	Number	Behaviour	Height	Direction of Observation	Notes (Flight direction if possible)
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	15	F	T	E	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	10	F	T	E	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	11	F	T	E	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	125	F	WAT	NE	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	30	F	WAT	NE	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	200	F	WAT	NE	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Raptor	Merlin	*Falco columbiarus*	MERL	1	F	T	E	SE
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	110	F	T	W	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	35	F	T	W	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	40	F	T	W	S
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	4	F	AT	E	W
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	4	F	AT	E	W
10/31/2008	JH	West Hawk Site	9:00	12:00	0	8	B5	SW	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	2	F	AT	W	N
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Rusty Blackbird	*Euphagus carolinus*	RUBL	4	F	AT	OH	W
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	20	F	H	S	W
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	American Robin	*Turdus migratorius*	AMRO	1	F	AT	S	W
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Waterfowl	Canada Goose	*Branta canadensis*	CANG	20	F	WAT	N	W
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	1	F	AT	OH	W
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	6	F	AT	W	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	30	F	AT	OH	W
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	4	F	AT	OH	W
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	American Robin	*Turdus migratorius*	AMRO	1	F	T	OH	SW
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Waterbird	Herring Gull	*Larus argentatus*	HERG	1	F	AT	W	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Waterbird	Herring Gull	*Larus argentatus*	HERG	2	F	AT	W	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	110	F	T	OH	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	1	F	AT	OH	SW
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	5	F	T	OH	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	17	F	AT	OH	N
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	10	F	T	W	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Waterbird	Herring Gull	*Larus argentatus*	HERG	1	F	T	E	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	American Robin	*Turdus migratorius*	AMRO	4	F	T	S	W
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	American Robin	*Turdus migratorius*	AMRO	8	F	T	S	W
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	American Robin	*Turdus migratorius*	AMRO	4	F	T	S	W
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	4	F	T	W	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	5	F	AT	OH	N
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	1	F	AT	N	E
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	10	F	AT	W	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	15	F	AT	OH	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	10	F	T	W	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	6	F	T	W	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	30	F	T	OH	SW
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	10	F	AT	N	SE
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	5	F	AT	N	SE
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	1	F	T	OH	SW
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	7	F	T	SW	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	35	F	AT	OH	E
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	2	F	AT	OH	E
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	3	F	AT	OH	E
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	2	F	T	OH	E
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	American Robin	*Turdus migratorius*	AMRO	1	F	T	E	SW
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	175	F	AT	OH	E
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	100	F	WAT	OH	E
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Waterbird	Herring Gull	*Larus argentatus*	HERG	1	F	AT	OH	E
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	AT	W	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	5	F	AT	W	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Waterbird	Herring Gull	*Larus argentatus*	HERG	1	F	AT	W	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	WAT	W	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	European Starling	*Sturnus vulgaris*	EUST	2	F	T	S	NW
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	AT	W	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	AT	W	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	American Robin	*Turdus migratorius*	AMRO	35	F	AT	N	NE
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	2	F	AT	OH	N
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	10	F	T	E	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	European Starling	*Sturnus vulgaris*	EUST	9	F	AT	N	E
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	7	F	T	E	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	1	F	T	SW	S

APPENDIX F5: RESULTS OF FALL DIURNAL AVIAN SURVEYS

Date	Observer	Waypoint	Time Start	Time Finish	CC (%)	Temp	Wind Speed	Wind Direction	Precipitation	Visibility	Bird Group	Common Name	Scientific Name	Species	Number	Behaviour	Height	Direction of Observation	Notes (Flight direction if possible)
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	20	F	T	W	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	2	F	T	W	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	40	F	AT	W	SW
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	2	F	AT	W	SW
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Waterbird	Herring Gull	*Larus argentatus*	HERG	1	F	AT	E	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Waterbird	Herring Gull	*Larus argentatus*	HERG	1	F	AT	E	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	AT	E	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	2	F	AT	E	N
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	2	F	AT	W	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	2	F	T	OH	NW
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	5	F	AT	W	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	3	F	T	E	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	1	F	AT	OH	E
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	1	F	AT	SW	NE
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	5	F	T	OH	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	AT	E	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	T	W	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	2	F	T	SE	NE
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	2	F	AT	OH	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	1	F	AT	E	SW
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	8	F	AT	OH	NE
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	10	F	T	OH	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	6	F	T	W	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Waterbird	Herring Gull	*Larus argentatus*	HERG	1	F	AT	W	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	AT	W	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	1	F	AT	NE	NW
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	15	F	T	W	SW
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Raptor	Northern Harrier	*Circus cyaneus*	NOHA	1	F	AT	E	N
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	70	F	AT	OH	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	5	F	AT	OH	S
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Landbird	Northern Shrike	*Lanius excubitor*	NSHR	1	F	T	N	W
10/31/2008	JK	East Hawk Watch	9:00	12:00	0	8	B4	SSW	None	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	WAT	W	NW
11/11/2008	JK	East Hawk Watch	9:00	12:00	100	3	B2	NW	Drizzle on and off	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	2	F	T	OH	NW
11/11/2008	JK	East Hawk Watch	9:00	12:00	100	3	B2	NW	Drizzle on and off	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	H	OH	NE
11/11/2008	JK	East Hawk Watch	9:00	12:00	100	3	B2	NW	Drizzle on and off	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	4	F	H	OH	NE
11/11/2008	JK	East Hawk Watch	9:00	12:00	100	3	B2	NW	Drizzle on and off	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	H	OH	NE
11/11/2008	JK	East Hawk Watch	9:00	12:00	100	3	B2	NW	Drizzle on and off	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	1	F	T	OH	NW
11/11/2008	JK	East Hawk Watch	9:00	12:00	100	3	B2	NW	Drizzle on and off	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	10	F	AT	NE	SE
11/11/2008	JK	East Hawk Watch	9:00	12:00	100	3	B2	NW	Drizzle on and off	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	6	F	AT	NE	S
11/11/2008	JK	East Hawk Watch	9:00	12:00	100	3	B2	NW	Drizzle on and off	Good	Waterbird	Herring Gull	*Larus argentatus*	HERG	1	F	WAT	W	N
11/11/2008	JK	East Hawk Watch	9:00	12:00	100	3	B2	NW	Drizzle on and off	Good	Waterbird	Herring Gull	*Larus argentatus*	HERG	3	F	WAT	W	N
11/11/2008	JK	East Hawk Watch	9:00	12:00	100	3	B2	NW	Drizzle on and off	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	15	F	WAT	W	S
11/11/2008	JK	East Hawk Watch	9:00	12:00	100	3	B2	NW	Drizzle on and off	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	5	F	AT	W	S
11/11/2008	JK	East Hawk Watch	9:00	12:00	100	3	B2	NW	Drizzle on and off	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	3	F	AT	W	S
11/11/2008	JK	East Hawk Watch	9:00	12:00	100	3	B2	NW	Drizzle on and off	Good	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	1	F	WAT	W	S
11/11/2008	JK	East Hawk Watch	9:00	12:00	100	3	B2	NW	Drizzle on and off	Good	Landbird	American Pipit	*Anthus rubescens*	AMPI	1	F	T	OH	S
11/11/2008	JK	East Hawk Watch	9:00	12:00	100	3	B2	NW	Drizzle on and off	Good	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	30	F	T	N	W
11/11/2008	JK	East Hawk Watch	9:00	12:00	100	3	B2	NW	Drizzle on and off	Good	Landbird	Song Sparrow	*Melospiza melodia*	SOSP	1	F	T	OH	S
11/11/2008	JK	East Hawk Watch	9:00	12:00	100	3	B2	NW	Drizzle on and off	Good	Landbird	American Tree Sparrow	*Spizella arborea*	ATSP	16	F	T	OH	SW
11/11/2008	JK	East Hawk Watch	9:00	12:00	100	3	B2	NW	Drizzle on and off	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	2	F	H	OH	E
11/11/2008	JK	East Hawk Watch	9:00	12:00	100	3	B2	NW	Drizzle on and off	Good	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	12	F	AT	NE	SE
11/11/2008	JK	East Hawk Watch	9:00	12:00	100	3	B2	NW	Drizzle on and off	Good	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	2	F	WAT	OH	N
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterfowl	Canada Goose	*Branta canadensis*	CANG	80	F	AT	SE	W
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterfowl	Canada Goose	*Branta canadensis*	CANG	40	F	AT	SE	W
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	5	F	WAT	W	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	220	F	WAT	W	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	30	F	AT	NW	SE
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	100	F	AT	NW	SE
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Landbird	Red-winged Blackbird	*Agelaius phoeniceus*	RWBL	50	F	AT	NW	SE
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterfowl	Canada Goose	*Branta canadensis*	CANG	4	F	WAT	E	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	64	F	T	S	W
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	10	F	T	S	W
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	15	F	T	S	W
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	70	F	WAT	E	W
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	35	F	WAT	E	W

APPENDIX F5: RESULTS OF FALL DIURNAL AVIAN SURVEYS

Date	Observer	Waypoint	Time Start	Time Finish	CC (%)	Temp	Wind Speed	Wind Direction	Precipitation	Visibility	Bird Group	Common Name	Scientific Name	Species	Number	Behaviour	Height	Direction of Observation	Notes (Flight direction if possible)
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterbird	Herring Gull	*Larus argentatus*	HERG	7	F	AT	W	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	20	F	AT	W	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	30	F	AT	W	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterbird	Red-throated Loon	*Gavia stellata*	RTLO	1	F	WAT	NW	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterbird	Red-throated Loon	*Gavia stellata*	RTLO	3	F	WAT	NW	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterbird	Red-throated Loon	*Gavia stellata*	RTLO	2	F	WAT	NW	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterbird	Red-throated Loon	*Gavia stellata*	RTLO	1	F	WAT	NW	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterbird	Red-throated Loon	*Gavia stellata*	RTLO	1	F	WAT	NW	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterbird	Red-throated Loon	*Gavia stellata*	RTLO	2	F	WAT	NW	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterbird	Red-throated Loon	*Gavia stellata*	RTLO	2	F	WAT	NW	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterbird	Red-throated Loon	*Gavia stellata*	RTLO	2	F	WAT	NW	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterbird	Common Loon	*Gavia immer*	COLO	4	F	WAT	NW	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterbird	Common Loon	*Gavia immer*	COLO	4	F	WAT	NW	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterbird	Common Loon	*Gavia immer*	COLO	3	F	WAT	NW	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterbird	Common Loon	*Gavia immer*	COLO	4	F	WAT	NW	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterbird	Common Loon	*Gavia immer*	COLO	1	F	WAT	NW	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	20	F	AT	W	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	30	F	AT	W	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Landbird	American Goldfinch	*Carduelis tristis*	AMGO	2	F	T	N	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	75	F	H	N	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Landbird	European Starling	*Sturnus vulgaris*	EUST	25	F	AT	NW	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Landbird	European Starling	*Sturnus vulgaris*	EUST	30	F	AT	NW	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Landbird	Snow Bunting	*Plectrophenax nivalis*	SNBU	5	F	WAT	N	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Landbird	American Pipit	*Anthus rubescens*	AMPI	4	F	WAT	N	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Raptor	Rough-legged Hawk	*Buteo lagopus*	RLHA	1	F	AT	NW	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	5	F	T	W	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	10	F	T	W	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	7	F	T	W	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Landbird	Lapland Longspur	*Calcarius lapponicus*	LALO	2	F	WAT	W	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Landbird	American Pipit	*Anthus rubescens*	AMPI	15	F	T	NE	SW
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterfowl	Canvasback	*Aythya valisneria*	CANV	18	F	H	NW	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterbird	Red-throated Loon	*Gavia stellata*	RTLO	2	F	H	NW	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterbird	Red-throated Loon	*Gavia stellata*	RTLO	3	F	H	NW	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterbird	Red-throated Loon	*Gavia stellata*	RTLO	1	F	H	NW	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterbird	Red-throated Loon	*Gavia stellata*	RTLO	2	F	H	NW	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterbird	Red-throated Loon	*Gavia stellata*	RTLO	2	F	H	NW	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	15	F	T	W	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	5	F	T	W	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Landbird	Horned Lark	*Eremophila alpestris*	HOLA	20	F	T	W	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Landbird	Common Raven	*Corvus corax*	CORA	1	F	T	NW	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterbird	Common Loon	*Gavia immer*	COLO	1	F	H	W	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterbird	Common Loon	*Gavia immer*	COLO	1	F	H	W	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterbird	Common Loon	*Gavia immer*	COLO	1	F	H	W	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Raptor	Sharp-shinned Hawk	*Accipiter striatus*	SSHA	1	F	WAT	W	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	4	F	T	W	SE
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Landbird	American Crow	*Corvus brachyrhynchos*	AMCR	3	F	T	W	SE
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Landbird	White-winged Crossbill	*Loxia leucoptera*	WWCR	32	F	AT	W	SW
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Landbird	European Starling	*Sturnus vulgaris*	EUST	40	F	WAT	NE	SW
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Landbird	European Starling	*Sturnus vulgaris*	EUST	30	F	WAT	NE	SW
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterbird	Herring Gull	*Larus argentatus*	HERG	5	F	WAT	NW	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterbird	Herring Gull	*Larus argentatus*	HERG	5	F	WAT	NW	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterbird	Herring Gull	*Larus argentatus*	HERG	4	F	WAT	NW	S
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Raptor	Rough-legged Hawk	*Buteo lagopus*	RLHA	1	F	AT	NW	SW
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	100	F	T	E	W
11/11/2008	JH	West Hawk Site	9:00	12:00	100	3	B4	W	Drizzle on and off	Moderate	Waterbird	Ring-billed Gull	*Larus delawarensis*	RBGU	70	F	T	E	W