Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection
Southeast Regional Office • 20 Riverside Drive, Lakeville MA 02347 • 508-946-2700

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November 29, 2012

Falmouth Board of Selectman
ATTN: Kevin Murphy, Chair
59 Town Hall Square
Falmouth, MA 02540

RE: MassDEP Sound Sampling Study- Falmouth Wind #1 and Wind #2
Daytime Sampling

Dear Chairperson Murphy;

With this cover letter I am sending you the results of MassDEP's attended sound sampling of Falmouth's Wind Turbine #1 and Wind Turbine #2 located at the Waste Water Treatment Facility on Service Road in Falmouth. The enclosed report was prepared in response to a request by the Town of Falmouth that MassDEP assist the Town in conducting attended sound sampling to augment the unattended sound study conducted by HMMH in the summer of 2010. This report is a follow up to the study we provided you on May 15, 2012 that detailed attended sound sampling results for the night time period.

This study presents the results from the daytime sampling of the combined sound from Wind #1 and Wind #2. Over the course of four days, MassDEP collected sound data representative of both operating wind turbines at six residential locations close to the wind turbines. Data was also collected for background sound with the wind turbines shut down. Because the sampling was attended, the study was able to focus directly on sound from the wind turbines and the analysis is not significantly influenced by sound from other sources.

MassDEP's sampling results conclude that during the day time period, the combined sound levels from the two wind turbines do not exceed the 10 dBA threshold established in MassDEP's Noise Policy. The off-peak traffic day time period sampled (9 am through 4:30 pm) is considered "worst case" in establishing the background noise level, so the sounds from the wind turbines during times when background sound is elevated due to commuter and truck traffic on Rt 28 traffic would exhibit even less impact than what was found.

Should you have any questions requiring the enclosed report, please feel free to contact Laurel Carlson at 617-348-4095

Sincerely,

Philip Weinberg
Regional Director

Cc: Julian Suso, Town Manager
Heather Harper, Assistant Town Manager
Frank Duffy, Town Counsel
Jerry Potamis, Director, Wastewater Treatment Department
Martin Suuberg, Deputy Commissioner, MassDEP
Nancy Seidman, Assistant Commissioner, BWP, MassDEP
Maria Pinaud, Deputy Regional Director

ATTENDED SAMPLING OF SOUND FROM WIND TURBINE #1 AND WIND TURBINE #2

DAYTIME OPERATION

FALMOUTH, MA (Part 2)

Prepared by:
MassDEP- Southeast Regional Office
20 Riverside Drive
Lakeville, MA 02347

November 2012

Executive Summary

This report presents the results of attended sound sampling of the Town of Falmouth's Wind Turbines #1 and #2 located at the Waste Water Treatment Facility on Service Road in East Falmouth during daytime operation.

In September, 2011 the Town requested that the Department of Environmental Protection (MassDEP) conduct sound sampling of Wind Turbine #1 in response to numerous noise complaints from neighbors. The purpose of that sampling was to augment the unattended sound study conducted by the Town's consultants in the summer of 2010. The results from that sampling were released in May 2012 and showed that during the quietest period of the night, sound from Wind Turbine #1 exceeded the MassDEP noise threshold of 10 decibels ("A" weighted) (dB(A)) at one location under a number of meteorological conditions. In response to that report, the Town voluntarily curtailed operation of Wind Turbine #1 and Wind Turbine #2 so that the turbines were only operated between the daytime hours from 7:00 AM until 7:00 PM.

For the daytime sampling, MassDEP staff measured sound levels at six separate residential locations during the off-peak daytime period from approximately 9:00 AM until 4:30 PM. The sound sampling protocol was designed to capture sound levels for the "worst case" conditions in the area of the wind turbines. As such, MassDEP sampled the "low" wind scenario roughly upwind and downwind from the turbines to determine the impact when the turbines were operating with the lowest background sound. MassDEP also sampled a "high" wind scenario upwind and downwind from the turbines where the turbine sound power levels were maximized.

The sampling was conducted during four days in June. Data was collected when both turbines were operating and with both turbines shut down (background or ambient). Because the sampling was attended, the study was able to focus directly on sound from the wind turbines and discard any readings that could be attributed to other sources.

The results of the field sampling indicate that during the daytime period, the combined operation of Wind Turbine #1 and Wind Turbine #2 does not exceed 10 dB(A) above

background sound levels, the limit which, when exceeded, MassDEP considers a violation of MassDEP's noise regulation (310 CMR 7.10) and MassDEP's noise policy. The off-peak day time period sampled (9 am through 4:30 pm) is considered "worst case" so other times both before and after that period when background sound is elevated due to commuter and truck traffic on Rt. 28 traffic would exhibit even less impact than what was found.

Based upon octave band analysis of the sampled sound, operation of the two wind turbines does not contribute to a pure tone condition during the daytime period.

1.0 Introduction

Since 2009, the Town of Falmouth (the Town) has received numerous noise complaints from neighbors of the Town's Wind Turbines located at the Waste Water Treatment Plant on Service Road in Falmouth, MA. In June of 2010, the Town and their consultants Weston & Sampson, engaged Harris Miller Miller & Hanson, Inc. (HMMH) to perform a sound survey and quantify the noise impacts from the then-operating Wind Turbine #1. HMMH released their initial report in September 2010 and subsequent to a meeting with MassDEP on the results of the report, released an addendum on April 1, 2011.

On June 30, 2011 MassDEP sent a letter to the Falmouth Board of Selectmen and the Falmouth Board of Health with comments on the HMMH report and its addendum. The HMMH study used short- and long-term unattended sound sampling with the wind turbine operating and not operating and then compared the results to conclude that the Wind Turbine sound complied with MassDEP's noise regulation at 310 CMR 7.10 and MassDEP's noise policy. Under the policy, MassDEP considers sound emissions that result in a 10 dB(A) increase over ambient or background sound levels to violate the noise regulation. As the study done by HMMH was unattended, the report's conclusion was based on a comparison of the sound levels exceeded by 90 percent of the particular sound levels measured (L90) with wind turbine "off" versus "on". In the June 30, 2011 letter, MassDEP recommended that the unattended study results be augmented with some attended sampling. Attended sampling is consistent with the procedures MassDEP customarily uses to determine compliance with the noise regulation and policy. The resulting L90 ambient sound level could then be compared to the maximum sound level (L_{max}) attributed to Wind Turbine #1 to determine if its operation is in compliance with the MassDEP noise policy.

In September 2011, the Town requested MassDEP assistance to conduct attended sound sampling to augment the HMMH Study results. MassDEP conducted attended sound sampling in March 2012 and issued an initial report containing the findings in May 2012. The May report documented that the sound from Wind Turbine #1 exceeded 10 dB(A) above background sound levels during nighttime hours, the limit which, when exceeded, MassDEP considers a

violation of MassDEP's noise regulation (310 CMR 7.10) and MassDEP's noise policy. The exceedence was found at one location under both high and low wind conditions.

Upon receipt of that report, the Town chose to curtail operations of Wind Turbine #1 as well as Wind Turbine #2, such that the Turbines only operate in the daytime from 7 am through 7 pm. To confirm that daytime operation of the two turbines together would not create sound in excess of 10 dBA, MassDEP conducted an additional round of daytime attended sound sampling.

This report presents the results of the MassDEP daytime attended sound sampling.

The results of the sound study as documented by this report are specific to the operation of Falmouth's Wind turbines #1 and #2 operating under the specific conditions cited herein. These results should not be interpreted, extrapolated or represented as being representative of the sound impacts from any other wind turbine either planned or operating.

2.0 Sampling Procedure

Prior to conducting the attended sampling, MassDEP prepared a sampling protocol and shared this with the Town. The protocol is included here as Appendix A.

2.1 Equipment

Sampling was performed with a Quest Technologies Sound Pro SE/DL Sound Meter (Type I) with accuracy to +/- 1 dB as set forth in American National Standards Institute (ANSI) S1.4-1983 for acoustical measuring devices as specified in ANSI S12.18-1994. The sampler was tripod-mounted approximately 5 feet (1.5m) above ground level. The microphone was equipped with a wind screen. The tripod was located at least 25 feet (7.5m) from any large vertical reflective surface and 5 feet (1.5m) from any small-diameter object in compliance with ANSI standards S12.9-1993/Part 3.

The sampler was calibrated and certified as accurate to standards set by National Institute of Standards & Technology (NIST) by an independent laboratory within the past 6 months and was calibrated in the field before and after each sampling study with a manufacturer-supplied acoustical calibrator which meets the standards of ANSI S1.4-1984.

For broadband impact analysis, the sampler was set to collect data in decibels for the "A" weighted scale (dB(A)) in "slow" response mode.

For analysis of pure tone, the sampler was set to collect linear sound ("Z" scale) in "slow" response mode (dB(Z)) and an octave band filter was be employed to speciate sound to each of 10 octave bands. For the pure tone analysis, Leq[1] is used.

2.2 Operating Conditions

This round of sampling was designed to evaluate the combined sound impacts of Wind Turbine #1 and Wind Turbine #2 during daytime hours. The wind conditions sampled were the same or similar to those where MassDEP found an exceedence of the 10 dB(A) limit during nighttime sampling.

The six sampling sites chosen included four that had been previously sampled during the nighttime sampling. Three of those four sites were also sampled by HMMH in their initial study. Two additional sites, 124 Ambleside Drive and 321 West Falmouth Highway, were added to better define sound impacts from the combined operation of Wind Turbine #1 and Wind Turbine #2. Selected sampling conditions (wind direction and wind speeds) were based on input from the residents to reflect conditions during which they report the greatest sound impacts.

Consistent with the night time sampling, MassDEP tried to capture sound from two different wind speed scenarios: Wind speeds just above cut-in when the ambient sound is the lowest (3-4 m/s) and wind speeds above 10 m/s or above the wind speed determined to generate the maximum sound power level per the manufacturer. The reason for these two wind speeds is to obtain sound samples with a quiet background, and samples with Maximum Turbine Sound (and loud background) . These conditions were difficult to achieve when limiting the selection to certain wind directions. What transpired in practice was four "studies" that combine various wind speeds and wind directions. These studies are representative of the range of conditions that MassDEP initially defined in the protocol and which achieve the same goals. The specific conditions sampled are defined in the table below:

Table 1. Summary of Study Operating Conditions

Study #	**Location**	**Avg Wind Speed at site (m/s)**	**Avg Wind Direction (Wind Speed (m/s)/ degrees) CGAS**	**Avg Wind Direction (Wind Speed (m/s)/ Degrees) at Hub**
STUDY #1	260 Fire Tower Rd	Calm	3.6 / 040	2.9 / 048
31 May 2012	211 Blacksmith Shop Rd	Calm	6.2 / 070	3.9 / 060

[1] Leq is the level of hypothetical steady sound that has the same energy as the fluctuating sound observed.

Study #	Location	Avg Wind Speed at site (m/s)	Avg Wind Direction (Wind Speed (m/s)/ degrees) CGAS	Avg Wind Direction (Wind Speed (m/s)/ Degrees) at Hub
	161 Blacksmith Shop Rd	Calm	4.1 / 050	3.3 / 060
	27 Ridgeview Rd	Calm	3.6 / 040	2.7 / 055
	27 Ridgeview Rd (Amb)	Calm	4.6 / 040	2.7 / 055
	211 Blacksmith Shop Rd (Amb)	Calm	2.6 / 030	< 1 / 020
STUDY #2 5 Jun 2012	211 Blacksmith Shop Rd	< 1	4.6 / 030	8.2 / 012
	161 Blacksmith Shop Rd	< 1	3.6 / 030	7.7 / 010
	27 Ridgeview Rd	< 1	4.6 / 020	8.6 / 018
	124 Ambleside Drive	< 1	4.6 / 010	9.7 / 021
	821 West Falmouth Hwy	< 1	6.2 / 020	8.2 / 006
	260 Fire Tower Rd (Amb)	< 1	5.1 / 040	5.0 / 003
	27 Ridgeview Rd (Amb)	< 1	5.6 / 000	6.7 / 014
	124 Ambleside Dr (Amb)	< 1	5.1 / 020	7.9 / 021
STUDY #3 12 June 2012	211 Blacksmith Shop Rd	2.3	7.1 / 190	7.2 / 173
	260 Fire Tower Rd	2.1	7.7 / 170	7.4 / 173
	161 Blacksmith Shop Rd	2.5	7.7 / 170	6.5 / 180
	821 West Falmouth Highway	2.0	8.2 / 170	7.3 / 185
	211 Blacksmith Shop Rd (Amb)	2.6	6.1 / 180	6.1 / 170
	821 West Falmouth Hwy (Amb)	2.0	7.3 / 180	7.7 / 173
STUDY #4 20 June 2012	260 Fire Tower Rd	< 1	6.7 / 250	9.7 / 248
	211 Blacksmith Shop Rd	2.5	6.7 / 240	8.6 / 247

Study #	Location	Avg Wind Speed at site (m/s)	Avg Wind Direction (Wind Speed (m/s)/ degrees) CGAS	Avg Wind Direction (Wind Speed (m/s)/ Degrees) at Hub
	161 Blacksmith Shop Rd	2.5	8.7 / 250	9.6 / 247
	124 Ambleside Drive	2.0	4.1 / 230	10.6 / 241
	211 Blacksmith Shop RD (Amb)	2.4	5.7 / 240	10 / 249
	124 Ambleside Dr (Amb)	2.0	7.2 / 240	12.9 / 251

Meteorological or METARS data was obtained from the Coast Guard Air Station (CGAS) at the Massachusetts Military Reservation in North Falmouth. The Town provided hub-height wind speed and wind direction data (10 minute averages) obtained from meteorological equipment on Wind Turbine #1. Ground level winds were measured using a hand held anemometer.

2.3 Sampling Sites

Sampling sites included four of the five sampling sites from the May 2012 study including 270 Fire Tower Road, 161 Blacksmith Shop Road, 211 Blacksmith Shop Road and 27 Ridgeview Road. Additional sites added to evaluate sound impacts of Wind #2 included 124 Ambleside Drive and 821 West Falmouth Highway. The sampler was positioned in the front yard of each site on Blacksmith Shop Road, in the cul-de-sac in front of 124 Ambleside Drive and in the backyard at 27 Ridgeview Road and 821 West Falmouth Highway.

2.4 Procedure

From May 15 through June 15, 2012 Wind Turbine #2 was operating and Wind Turbine #1 was shut down. On each day when conditions appeared to be optimal for sampling, MassDEP asked the Town to restart Wind Turbine #1. After June 16, 2012, Wind Turbines #1 and #2 were operated together from 7:00 AM until 7:00 PM each day. The MassDEP technician and a local resident (Todd Drummey of Blacksmith Shop Road) met at a previously agreed to location (usually the West Falmouth Library) approximately 30 minutes before the start of sampling to organize the order of sampling for the day.

Sampling would begin when wind conditions reached or exceeded the minimum for the purpose. Sampling days were selected based on the predicted wind conditions (wind direction

and wind speed) for the day. The start of sampling was dictated by the wind conditions on any particular day. Local activity such as construction and lawn care was also taken into account (sampling was not conducted where lawnmowers were in use or audible in the neighborhood). Sampling for each study would take from 3-4 hours to complete. Once sampling of wind turbine sound was complete, the MassDEP technician communicated with Town personnel who then shut down both Wind Turbines to allow for ambient sampling to be performed. It took approximately 15 minutes to shut down the wind turbines from the time of the call. Ambient sampling took another 1-2 hours to complete.

As this was an attended study, the technician manually recorded the readings from the sampler. The technician wrote down the dB(A) reading (1 second average) shown by the sampler every 5 seconds during each sample run (5 minutes). There was a minimum of 3 five-minute sample runs for each site in each study. In the course of writing down the readings, the technician flagged sound readings that were influenced by a transient sound such as a passing motor vehicle or airplane. This information would not have been available had the survey been unattended. As expected, the incidence of interference in the daytime sampling was significantly greater than during nighttime sampling.

Sampling done under higher wind conditions was more challenging when the sound of wind in the trees in large gusts overwhelmed the sound from the wind turbine. Any such occurrences were documented so that the impacts of the wind turbine sound could be verified as not masked or influenced by other sound sources.

Similar to the nighttime study, a major challenge with the daytime study was the assessment of wind turbine sound west of Route 28. The sound profile in that area was found to be dominated by highway noise and it was more difficult to segregate wind turbine sound from traffic sound.

The sampler logged data at 1 second intervals. This logged data was used for quality assurance and quality control.

2.5 Limitations

There has been much public debate in Falmouth over how noise sampling for wind turbines should be conducted. It is therefore important to disclose what MassDEP did not sample in the course of doing this study. The following was not sampled in this study:

- MassDEP did not sample at a frequency or on a scale that would allow any evaluation of amplitude modulation.
- MassDEP does not have the type of equipment to adequately and accurately measure and evaluate infrasound levels.
- MassDEP set the sampler to “slow” response consistent with the MassDEP procedures for sampling sound for compliance assessment. The results will

therefore differ from a sampler set to collect data in “fast” response mode. The sampler used Todd Drummey was set to “fast” response.

In the pure tone analysis, MassDEP collected low frequency sound data but has drawn no conclusions about this information. A low frequency sound assessment would need to be refined utilizing equipment specifically signed for that purpose and with more information about the frequency distribution of the sound from the wind (absent a wind turbine).

Finally, there are two other conditions specific to this study that should be identified.

1. During the May 31 sampling study, winds were so close to the cut-in point (minimum wind speed for turbine operation) that wind turbine operation was fluctuating in response to wind speed fluctuation, making it difficult to identify a maximum sound impact. We also noted that there was little or no power generated during the study, or that there is was a problem transmitting the data to the powerdash site. This may indicate that the turbines were not producing a “normal” sound level for this period.

2. During the of June 12 and June 20 studies, MassDEP tried to capture the higher wind speeds where sound power output from the turbines would be maximized. Upon evaluation of the meteorological data in the days following the sampling dates, we found that average wind speeds were close to but not consistently above the levels necessary to generate maximum sound from the turbines.

While it is important to acknowledge these two limitations, they must also be taken in context of the results of the sampling. The sampling results showed that turbine sound impact was less than MassDEP 10 dB(A)-over-background threshold with a considerable margin of safety, such that, in the absence of the two limitations described above, it is unlikely that there would have been a significant difference in the results.

3.0 Results

MassDEP’s Noise policy states: *“A source of sound emissions is considered to be violating MassDEP’s noise regulation (310 CMR 7.10) if the source:*

1. Increases the broadband sound level by more than ten dB(A) above ambient, or

2. Produces a “pure tone” condition – when any octave band center frequency sound pressure level exceeds the two adjacent center frequency sound pressure levels by three decibels or more.”

This section summarizes the results from the attending sampling described in this report. For the sampling summary sheets showing all the collected data, the meteorological data as well as the statistical metrics from the sound sampler are included here as Appendix B.

3.1 Broadband Sound Impact

To determine broadband sound level impact, the collected data is evaluated to compare L_{90}[2] sound levels to L_{max} attributable to the turbines. As stated in the protocol, the L_{max}[3] for each of the three five-minute runs collected at each site under each operating condition was averaged to calculate an L_{max} value that was then compared to the L_{90} background for each operating condition. The L_{max} is intended to takes into account only sound impacts that can be attributed to Wind Turbines #1 and #2. With an attended study, the attending technician "throws out" any sound that came from an interfering source such as a motor vehicle or an airplane. The following table summarizes the results of the broadband sound impact study.

Table 2. Summary of Broadband Analysis

Study #	Location	Ambient (L90) dB(A)	Impact Sound (Lmax) dB(A)	Difference dB(A)
STUDY #1	260 Fire Tower Rd	32.4	37.6	5.2
31 May 2012	211 Blacksmith Shop Rd	32.4	40.0	7.6
	161 Blacksmith Shop Rd	32.4 (note 1)	39.9	7.5
	27 Ridgeview Rd	50.1	54.3	4.2
STUDY #2	211 Blacksmith Shop Rd	40.7	45.4	4.7
5 Jun 2012	161 Blacksmith Shop Rd	40.7(note 1)	46.7	6.0
	27 Ridgeview Rd	52.5	56.5	4.0
	124 Ambleside Drive	48.9	54	5.1
	821 West Falmouth Hwy	48.9	54.6	5.7
STUDY #3	211 Blacksmith Shop Rd	42.5	46.9	4.4
12 June 2012	260 Fire Tower Rd	42.5	47.3	4.8
	161 Blacksmith Shop Rd	42.5 (note 1)	44.5	2.0
	821 West Falmouth	48.9	55.5	6.6

[2] L90 is the decibel level that is exceeded 90% of the time and therefore reflects a quiet background or ambient condition.

[3] Lmax is the maximum decibel level attributable to the sound source being studied.

Study #	Location	Ambient (L90) dB(A)	Impact Sound (Lmax) dB(A)	Difference dB(A)
	Highway			
STUDY #4	260 Fire Tower Rd	44.5	46	1.5
20 June 2012	211 Blacksmith Shop Rd	44.5	49.5	5
	161 Blacksmith Shop Rd	44.5 (note 1)	48.2	3.7
	124 Ambleside Drive	50.2	52.2	2

NOTES:

(1) Background from 211 Blacksmith Shop Rd. or 260 Fire Tower Rd was used at 161 Blacksmith Shop Rd which is extremely conservative as actual background at161 Blacksmith Shop Rd was much more influenced by highway noise than either of the sites where background was taken.

As Table 2 indicates, we did not observe any exceedence of the MassDEP 10 dB(A)- above-ambient limit for what constitutes “noise” pursuant to 310 CMR 7.10.

3.2 Pure tone

As previously indicated in the May 2012 report, assessment of pure tone when sampling wind turbine sound is complicated by the sound of the wind as the wind itself contributes to the tonal quality of sound particularly at higher wind speeds. In order to attempt to separate the contribution of the wind from the contribution of the wind turbine, center octave band readings were taken with Wind Turbines #1 and #2 off as well as when they were operating. It was then possible to determine the incremental sound level increase associated with operation of the turbines at each of the center octave bands.

The following tables show the results of the octave band analysis for pure tone at low wind speed on May 31 and June 5 and at high wind speeds on June 20. To negate the contribution of the wind to the pure tone assessment, we only compared the differential to the pure tone standard (a condition of pure tone would have been found if the differential had been 3 dBZ in any single octave band that both of the adjacent octave bands). Our conclusion is that operation of the wind turbines does not contribute to a pure tone above and beyond that which may be caused by the wind alone. It should be noted that the pure tone analysis at 124 Ambleside Drive was significantly influenced by highway noise in both the 4000 Hz and 8000 Hz octave bands specifically from tire whine from passing cars and trucks.

Table 3. Octave Band Analysis for Pure Tone (May 31, 2012)

dBZ (Leq)			
Frequency (Hz)	211 Blacksmith Shop Rd		
	Turbines On	Turbines Off	Differential
31.5	45.5	41.1	-4.4
63.0	37.6	33.9	-3.7
125	38.5	37.4	-1.1
250	30.6	25.4	-5.2
500	27.4	26.3	-1.1
1000	25.4	24.6	-1.0
2000	18.1	17.2	-0.9
4000	16	14.8	-1.2
8000	13	15	2.0
16000	11.1	11.4	0.3

Table 4. Octave Band Analysis for Pure Tone (June 5, 2012)

Frequency (Hz)	dBZ (Leq)					
	211 Blacksmith Shop Rd			124 Ambleside Dr		
	Turbines On	Turbines Off	Differential	Turbines On	Turbines Off	Differential
31.5	46.2	42.8	-3.4	53.2	50.3	-2.9
63.0	44.7	38.8	-5.9	48.8	50.5	1.7
125	46	38.6	-7.4	45.5	45	-0.5
250	35.9	34.6	-1.3	40.6	41.6	1
500	36.3	34.3	-2	40.3	41.1	0.8
1000	34	33	-1	45.6	44.8	-0.8
2000	26.7	26.3	-0.4	38.1	37.5	-0.6
4000	25.1	35.2	10.1	30	34.3	4.3
8000	22.7	23.2	0.5	23.6	21.7	1.9
16000	12.2	13.2	1.0	13.1	12.6	-0.5

Table 5. Octave Band Analysis for Pure Tone (June 20, 2012)

Frequency (Hz)	dBZ (Leq)					
	211 Blacksmith Shop Rd			124 Ambleside Dr		
	Turbine On	Turbine Off	Differential	Turbine On	Turbine Off	Differential
31.5	56.5	56.1	-0.4	53.1	56.1	3.0
63.0	50.6	50.8	0.2	51.4	50.8	-0.6
125	46.5	44.9	-1.6	48.6	44.9	-3.7
250	39.9	38.3	-1.6	39.9	38.3	-1.6
500	39.7	39.3	-0.4	39	39.3	0.3
1000	39.3	39.8	0.5	43.1	39.8	-3.3
2000	36.8	34.3	-2.5	40.7	34.3	-6.4
4000	37.6	35.3	-2.3	41.5	35.3	-6.2
8000	34.9	32.4	-2.5	30.2	32.4	2.2
16000	25.6	24.2	-1.4	17.2	24.2	7

APPENDIX A

SAMPLING PROTOCOL

Wind Turbine Noise Study Protocol: Falmouth 23 May 2012

Equipment:

- Sampling will be performed with a Type I digital Meter (Quest Sound Pro SEL) with accuracy to +/- 1 dB. The sampler will be set to collect data on the "A" weighted scale in "slow" response mode with a one second recording interval (log period). The sampler will be calibrated before and after each sampling period.
- Ground level wind speed will be extrapolated from nearby airport data, including data from Otis Air Station augmented with a handheld wind instrument for each sampling site. The Town of Falmouth will provide hub-height wind speeds (10 minute averages) obtained from equipment on Wind #1 and Wind #2.

Sampling Sites and Operating Conditions:

- Six sites will be monitored at the point of perceived maximum impact for the Wind #1 and Wind #2. The sites include 161 Blacksmith Shop Road, 211 Blacksmith Shop Road, 260 Fire Towner Road, 27 Ridgeview Road, 124 Ambleside Drive and 821 West Falmouth Highway.
- MassDEP will coordinate with the residents at the selected sites to determine point of greatest impact and will conduct the sampling at or near that location or at the property line, whichever is practicable.
- Four different operating conditions (wind speeds/ wind direction) will be evaluated including:
    1. At or near the cut-in wind speed where background sound will be the lowest (4-5 m/s wind speed at hub height) with winds from the Southwest
    2. At or near the cut-in wind speed where background sound will be the lowest (4-5 m/s wind speed at hub height) with winds from the Northeast;
    3. At the wind speed where manufacturer data indicates there will be the greatest sound power level from the turbine (8-11 m/s) with winds from the Southwest and,
    4. At a wind speed at or near where the manufacturer data indicates the turbines will produce the greatest sound power level (8-11 m/s) with winds from the Northwest.
    5. Additional scenarios may be added if time and conditions permit.

Procedure:

- Sampling will be conducted during day time off-peak hours (9 am – 4pm) on week days.
- Sampling days will be selected based on predicted wind conditions. The Town as well as residents will be notified of sampling events at least 24 hours in advance.
- To evaluate the effect of wind speed on turbine sound emission levels (impact sound), three sampling runs will be conducted at each site under each operating condition to establish an L_{max} for each respective wind turbine operating condition. L_{max} is the highest sampled sound level during the sampling run on a one second average. The L_{max} from each run at a single site and operating condition will be averaged to create the L_{max} for that sampling event.
- Each sampling run will be 5 minutes in duration. Samples will be collected manually every 5 seconds (60 sound measurements). To ensure data capture of the highest sound level emitted by the turbine as the blade rotates past the tower, each 5-minute study for turbine operation will be initiated as near as possible to the wind turbine sound cycle emission peak. Consistent with

current guidance, any peak sound levels that can be attributed to another sound source (e.g. local traffic, resident generated sounds, etc.) will be identified by the study attendant and discarded from the data set before determining L_{max}.

- At four sites, (211 Blacksmith Shop Road, 161 Blacksmith Shop Rd, 821 West Falmouth Highway and 27 Ridgeview Road), a pure tone analysis will be conducted. For pure tone analysis, the meter will be set to collect linear sound on a "slow" response and an octave band filter will be employed to speciate sound pressure levels for 9 octave bands. Pure tone analysis will include collection of one minute L_{eq} sound pressure levels with the wind turbines operating and without the wind turbines operating to evaluate the impact of the wind turbines to pure tone.
- At four sites (211 Blacksmith Shop Road, 124 Ambleside Drive. 821 West Falmouth Highway and 27 Ridgeview Road), background sampling shall be performed to determine the L_{90} background against which the L_{max} will be compared. Sampling for background will require coordination with the Town of Falmouth to shut down Wind #1 and Wind #2 .

Assessment of Results

Once the data is collected, the L_{90} background as defined by sampling will be compared to the average L_{max} for each of the sampling sites and under each of the operating scenarios. The result will be compared to the MassDEP Noise Policy Threshold for impact sound of 10 dB(A). The pure tone data will be analyzed to determine if the sound from the wind turbines causes any octave band center frequency sound pressure level to exceed the two adjacent center frequency sound pressure levels by three decibels or more.

APPENDIX B

SAMPLING DATA

BACKGROUND SOUND LEVELS

OBSERVED DATA									
Service Rd/ Blacksmith Shop Rd			Service Rd/ Blacksmith Shop Rd			Service Rd/ Blacksmith Shop Rd			
Date: 8 Mar 12			Date: 8 Mar 12			Date: 8 Mar 12			
Time: 2:58 am			Time: 3:04 am			Time: 3:10 am			
Run #	mm:ss	dB(A)	Run #	mm:ss	dB(A)	Run #	mm:ss	dB(A)	
1	5	45.9	2	5	42.7	3	5	41.4	
1	10	41.2	2	10	40.5	3	10	40	
1	15	40.2	2	15	42.9	3	15	40	
1	20	41.3	2	20	42	3	20	40.4	
1	25	41.7	2	25	41.7	3	25	41.2	
1	30	40.9	2	30	39.8	3	30	41.2	
1	35	41.6	2	35	40.1	3	35	39.2	
1	40	40.6	2	40	41.3	3	40	40.2	L90
1	45	43.6	2	45	39.5	3	45	41.2	
1	50	41.5	2	50	42.9	3	50	39.9	
1	55	41.2	2	55	42.5	3	55	41.5	
1	60	41.5	2	60	44.7	3	60	41.6	
1	1:05	42	2	1:05	44	3	1:05	39.7	
1	1:10	41.5	2	1:10	43.6	3	1:10	41.3	
1	1:15	41.8	2	1:15	43.1	3	1:15	42.1	
1	1:20	41.4	2	1:20	40.8	3	1:20	42.6	
1	1:25	46.3	2	1:25	41.4	3	1:25	43.7	
1	1:30	44.5	2	1:30	41.7	3	1:30	49.1	
1	1:35	41.3	2	1:35	42.3	3	1:35	45.6	
1	1:40	40	2	1:40	41.9	3	1:40	46	
1	1:45	40.5	2	1:45	42.9	3	1:45	43.9	
1	1:50	41	2	1:50	44.5	3	1:50	40.6	
1	1:55	41	2	1:55	43.7	3	1:55	41.4	
1	2:00	40.5	2	2:00	43.4	3	2:00	46.5	
1	2:05	42	2	2:05	41.6	3	2:05	44.7	
1	2:10	42.7	2	2:10	42.1	3	2:10	41.2	
1	2:15	46	2	2:15	41	3	2:15	39.7	
1	2:20	50.5	2	2:20	42	3	2:20	41.4	
1	2:25	48.4	2	2:25	43.5	3	2:25	40.4	
1	2:30	45.1	2	2:30	42.2	3	2:30	41	
1	2:35	44.3	2	2:35	42.6	3	2:35	41.2	
1	2:40	43.9	2	2:40	41.4	3	2:40	41.5	
1	2:45	42.3	2	2:45	46.1	3	2:45	40.9	
1	2:50	45	2	2:50	45.1	3	2:50	41.5	
1	2:55	42.7	2	2:55	40.8	3	2:55	41.9	
1	3:00	44.8	2	3:00	40.4	3	3:00	40	
1	3:05	42.9	2	3:05	41.2	3	3:05	40.1	
1	3:10	42	2	3:10	42	3	3:10	39.9	
1	3:15	43.2	2	3:15	43	3	3:15	39.5	
1	3:20	45.4	2	3:20	42	3	3:20	41	
1	3:25	45.3	2	3:25	44.4	3	3:25	41.6	
1	3:30	45.8	2	3:30	41.2	3	3:30	40.6	
1	3:35	42.6	2	3:35	42.2	3	3:35	40.7	
1	3:40	41.4	2	3:40	41.9	3	3:40	41.3	
1	3:45	41.9	2	3:45	41.9	3	3:45	41.2	
1	3:50	43.7	2	3:50	41	3	3:50	41.6	
1	3:55	44.7	2	3:55	41	3	3:55	41.2	
1	4:00	45.9	2	4:00	41.8	3	4:00	41.1	
1	4:05	44.2	2	4:05	42.2	3	4:05	41.2	
1	4:10	43.5	2	4:10	42.8	3	4:10	41.6	
1	4:15	43.7	2	4:15	41.7	3	4:15	40.6	
1	4:20	42.8	2	4:20	39.6	3	4:20	40.7	
1	4:25	43.3	2	4:25	43.3	3	4:25	41.9	
1	4:30	41	2	4:30	43.8	3	4:30	40.9	
1	4:35	42.2	2	4:35	41.9	3	4:35	41.4	
1	4:40	40	2	4:40	41.6	3	4:40	41.3	
1	4:45	40.8	2	4:45	41.9	3	4:45	41.2	
1	4:50	43.3	2	4:50	41.4	3	4:50	41.8	
1	4:55	43.1	2	4:55	42	3	4:55	40.3	
1	5:00	41.7	2	5:00	41.9	3	5:00	40.5	

BACKGROUND SOUND LEVELS

OBSERVED DATA		
Service Rd/ Blacksmith Shop Rd		
Date: 8 Mar 12		
Time: 2:58 am		
Run #	mm:ss	dB(A)

Service Rd/ Blacksmith Shop Rd		
Date: 8 Mar 12		
Time: 3:04 am		
Run #	mm:ss	dB(A)

Service Rd/ Blacksmith Shop Rd		
Date: 8 Mar 12		
Time: 3:10 am		
Run #	mm:ss	dB(A)

L90	40.2	dBA

Sampler Summary Data		
Lmax	57.8	dBA
Leq	43.9	dBA
L01	50.7	dBA
L10	45.6	dBA
L50	42.5	dBA
L90	40.7	dBA
LC-A	18.4	dBA

Lmax	51.6	dBA
Leq	42.5	dBA
L01	46.3	dBA
L10	44	dBA
L50	41.9	dBA
L90	40.7	dBA
LC-A	17.6	dBA

Lmax	49.9	dBA
Leq	42	dBA
L01	48.1	dBA
L10	43.4	dBA
L50	41.1	dBA
L90	39.8	dBA
LC-A	17.2	dBA

Met Data		
WS at Hub	7	m/s
WS at CGAS	9.7	m/s
WS at Ground	3.5	m/s
WD at Hub	232	degrees
WD at CGAS	240	degrees
BP	30.29	in
Humidity	93	%
Temp	46.4	degr F

BACKGROUND SOUND LEVELS

OBSERVED DATA									
211 Black Smith Shop Rd				**211 Black Smith Shop Rd**				**211 Black Smith Shop Rd**		
Date: 8 Mar 12				Date: 8 Mar 12				Date: 8 Mar 12		
Time: 2:27 am				Time: 2:33 am				Time: 2:39 am		
Run #	mm:ss	dB(A)		Run #	mm:ss	dB(A)		Run #	mm:ss	dB(A)
1	5	40		2	5	40.6		3	5	39.6
1	10	39.4		2	10	42.6		3	10	42
1	15	39.3		2	15	41.6		3	15	44.5
1	20	40		2	20	41		3	20	44.9
1	25	40.5		2	25	40.5		3	25	43.3
1	30	41.7		2	30	42.1		3	30	40.1
1	35	42.9		2	35	41.1		3	35	40.2
1	40	42.2		2	40	44.4		3	40	37.8
1	45	41.9		2	45	43.8		3	45	38
1	50	44.2		2	50	45.2		3	50	40.2
1	55	44.2		2	55	42		3	55	39.5
1	60	43.6		2	60	42.1		3	60	39.8
1	1:05	42.9		2	1:05	40.9		3	1:05	39.7
1	1:10	43.8		2	1:10	40.8		3	1:10	40
1	1:15	45.7		2	1:15	40.8		3	1:15	41.5
1	1:20	46.7		2	1:20	41.8		3	1:20	40.6
1	1:25	44		2	1:25	41.5		3	1:25	40.7
1	1:30	42.1		2	1:30	41.2		3	1:30	40.8
1	1:35	43		2	1:35	41.6		3	1:35	42.3
1	1:40	43.5		2	1:40	40		3	1:40	42.2
1	1:45	43.8		2	1:45	40.9		3	1:45	41.1
1	1:50	44.4		2	1:50	39.7		3	1:50	39.8
1	1:55	45.9		2	1:55	39.4		3	1:55	42.6
1	2:00	45.6		2	2:00	40.6		3	2:00	41.8
1	2:05	44.1		2	2:05	41.3		3	2:05	41.2
1	2:10	42.9		2	2:10	41.4		3	2:10	41.1
1	2:15	41.6		2	2:15	41.4		3	2:15	40.4
1	2:20	42.5		2	2:20	40.1		3	2:20	41.4
1	2:25	44.4		2	2:25	40.9		3	2:25	39.9
1	2:30	44.2		2	2:30	44.1		3	2:30	40.1
1	2:35	42.7		2	2:35	46		3	2:35	40.8
1	2:40	41.8		2	2:40	46.1		3	2:40	42.1
1	2:45	41.1		2	2:45	43.3		3	2:45	42.9
1	2:50	43.3		2	2:50	42.1		3	2:50	42.3
1	2:55	44.6		2	2:55	42.2		3	2:55	41.3
1	3:00	45.1		2	3:00	39.6		3	3:00	41.3
1	3:05	44.3		2	3:05	41		3	3:05	41.9
1	3:10	42.1		2	3:10	41.2		3	3:10	40.7
1	3:15	41.7		2	3:15	38.8		3	3:15	40.5
1	3:20	40.8		2	3:20	39.4		3	3:20	41.4
1	3:25	40.5		2	3:25	41		3	3:25	41.3
1	3:30	40.5		2	3:30	40.4		3	3:30	41.1
1	3:35	39.8	L90	2	3:35	41.4		3	3:35	37.3
1	3:40	40.9		2	3:40	41.9		3	3:40	42.6
1	3:45	41		2	3:45	41.4		3	3:45	43.9
1	3:50	40.9		2	3:50	41.9		3	3:50	43.6
1	3:55	39.3		2	3:55	41.7		3	3:55	41.6
1	4:00	40.7		2	4:00	41.1		3	4:00	42.1
1	4:05	40.5		2	4:05	40.4		3	4:05	40.7
1	4:10	41		2	4:10	43.3		3	4:10	41.5
1	4:15	41.3		2	4:15	42.9		3	4:15	41.4
1	4:20	42.5		2	4:20	41.5		3	4:20	40.2
1	4:25	41.7		2	4:25	43.2		3	4:25	39.8
1	4:30	41.7		2	4:30	42.1		3	4:30	41.1
1	4:35	41		2	4:35	40.8		3	4:35	40.7
1	4:40	41.3		2	4:40	41.7		3	4:40	39.7
1	4:45	44.1		2	4:45	43.4		3	4:45	40.1

BACKGROUND SOUND LEVELS

OBSERVED DATA

211 Black Smith Shop Rd		
Date: 8 Mar 12		
Time: 2:27 am		
Run #	mm:ss	dB(A)
1	4:50	47.6
1	4:55	41.8
1	5:00	41.1

211 Black Smith Shop Rd		
Date: 8 Mar 12		
Time: 2:33 am		
Run #	mm:ss	dB(A)
2	4:50	44.7
2	4:55	41.9
2	5:00	39.7

211 Black Smith Shop Rd		
Date: 8 Mar 12		
Time: 2:39 am		
Run #	mm:ss	dB(A)
3	4:50	39.1
3	4:55	42
3	5:00	44

L90	39.8	dBA

Sampler Summary Data		
Lmax	47.6	dBA
Leq	42.9	dBA
L01	46.6	dBA
L10	45.1	dBA
L50	42.1	dBA
L90	40	dBA
LC-A	12.9	dBA

Lmax	51	dBA
Leq	42.1	dBA
L01	46.3	dBA
L10	44.1	dBA
L50	41.4	dBA
L90	40	dBA
LC-A	14.4	dBA

Lmax	46.8	dBA
Leq	41.4	dBA
L01	45.4	dBA
L10	42.9	dBA
L50	41	dBA
L90	39.5	dBA
LC-A	14.1	dBA

Met Data		
WS at Hub	10.3	m/s
WS at CGAS	10.3	m/s
WS at Ground	3.3	m/s
WD at Hub	234	degrees
WD at CGAS	240	degrees
BP	30.3	in
Humidity	87	%
Temp	48.2	degr F

BACKGROUND SOUND LEVELS

OBSERVED DATA									
211 Black Smith Shop Rd			211 Black Smith Shop Rd			211 Black Smith Shop Rd			
Date: 7 Mar 2012			Date: 7 Mar 2012			Date: 7 Mar 2012			
Time 2:34 am			Time 2:42 am			Time 2:50 am			
Run #	MM:ss	DbA	Run #	MM:ss	DbA	Run #	MM:ss	DbA	
1	5	34.5	2	5	35.1	3	5	30.6	
1	10	29.4	2	10	29.9	3	10	29.5	
1	15	29.5	2	15	29.8	3	15	30.3	
1	20	29.3	2	20	30.3	3	20	30.5	
1	25	29.6	2	25	30	3	25	29.8	
1	30	29.3	2	30	29.9	3	30	29.2	
1	35	30.1	2	35	29.7	3	35	29.5	
1	40	29.9	2	40	31.7	3	40	30	
1	45	29.9	2	45	30.3	3	45	29.2	
1	50	29.9	2	50	30.8	3	50	29.2	
1	55	29.7	2	55	30.1	3	55	32.6	
1	60	29.8	2	60	30.3	3	60	28.9	
1	1:05	29.9	2	1:05	30.3	3	1:05	28.8	
1	1:10	29.9	2	1:10	30.3	3	1:10	28.5	
1	1:15	29.7	2	1:15	29.8	3	1:15	28.6	
1	1:20	29.5	2	1:20	29.8	**3**	**1:20**	**29**	**L90**
1	1:25	29.4	2	1:25	30.5	3	1:25	29.1	
1	1:30	29.6	2	1:30	30.2	3	1:30	29.9	
1	1:35	29.7	2	1:35	29.4	3	1:35	29.2	
1	1:40	29.9	2	1:40	29.6	3	1:40	29.7	
1	1:45	31.7	2	1:45	32	3	1:45	30.6	
1	1:50	30	2	1:50	30.4	3	1:50	28.9	
1	1:55	30.1	2	1:55	30.1	3	1:55	29	
1	2:00	29.7	2	2:00	29.7	3	2:00	29.8	
1	2:05	30.2	2	2:05	30.6	3	2:05	29	
1	2:10	29.5	2	2:10	30.3	3	2:10	28.6	
1	2:15	29.2	2	2:15	29.8	3	2:15	28.6	
1	2:20	29.3	2	2:20	30.5	3	2:20	29.6	
1	2:25	29.3	2	2:25	30.5	3	2:25	31.1	
1	2:30	29.4	2	2:30	30.5	3	2:30	30.7	
1	2:35	29.9	2	2:35	30.1	3	2:35	32.1	
1	2:40	30.2	2	2:40	28.4	3	2:40	30.3	
1	2:45	31.5	2	2:45	30.1	3	2:45	30	
1	2:50	30.2	2	2:50	29.5	3	2:50	29.9	
1	2:55	29.7	2	2:55	29.2	3	2:55	32.1	
1	3:00	29.4	2	3:00	30	3	3:00	30.1	
1	3:05	29.6	2	3:05	28.8	3	3:05	31.4	
1	3:10	29.1	2	3:10	28.6	3	3:10	28.9	
1	3:15	29.5	2	3:15	28.2	3	3:15	28.9	
1	3:20	29.6	2	3:20	28.2	3	3:20	29.1	
1	3:25	29.8	2	3:25	28.9	3	3:25	32.7	
1	3:30	29.4	2	3:30	31	3	3:30	33	
1	3:35	30.4	2	3:35	30.7	3	3:35	29.4	
1	3:40	29.9	2	3:40	29.7	3	3:40	29.1	
1	3:45	30.2	2	3:45	29.4	3	3:45	29.8	
1	3:50	30	2	3:50	29.6	3	3:50	30	
1	3:55	30.4	2	3:55	29.7	3	3:55	30.2	
1	4:00	30.5	2	4:00	30.2	3	4:00	30.7	
1	4:05	30.9	2	4:05	30.1	3	4:05	32.8	
1	4:10	30.7	2	4:10	30.4	3	4:10	34.1	
1	4:15	30.7	2	4:15	30.5	3	4:15	34.4	
1	4:20	32.8	2	4:20	30.1	3	4:20	33.7	
1	4:25	32.8	2	4:25	29.7	3	4:25	31.5	
1	4:30	33.6	2	4:30	29.8	3	4:30	31.2	
1	4:35	32.8	2	4:35	29.4	3	4:35	32.7	

BACKGROUND SOUND LEVELS

OBSERVED DATA

211 Black Smith Shop Rd		
Date: 7 Mar 2012		
Time 2:34 am		
Run #	MM:ss	DbA
1	4:40	32
1	4:45	31.1
1	4:50	30.6
1	4:55	30.5
1	5:00	30.9

211 Black Smith Shop Rd		
Date: 7 Mar 2012		
Time 2:42 am		
Run #	MM:ss	DbA
2	4:40	29
2	4:45	29.5
2	4:50	32.5
2	4:55	32.6
2	5:00	32

211 Black Smith Shop Rd		
Date: 7 Mar 2012		
Time 2:50 am		
Run #	MM:ss	DbA
3	4:40	31.3
3	4:45	31.8
3	4:50	31.7
3	4:55	31.3
3	5:00	33

L90	29	dBA

Sampler Summary Data		
Lmax	36.3	dBA
Leq	30.5	dBA
L01	34.1	dBA
L10	31.7	dBA
L50	29.9	dBA
L90	29.3	dBA
LC-A	13.3	dBA

Lmax	40.6	dBA
Leq	30.5	dBA
L01	35.9	dBA
L10	31.5	dBA
L50	29.9	dBA
L90	29	dBA
LC-A	16.5	dBA

Lmax	36.6	dBA
Leq	30.7	dBA
L01	35.3	dBA
L10	32.7	dBA
L50	29.8	dBA
L90	28.8	dBA
LC-A	14	dBA

Met Data		
WS at Hub	5.9	m/s
WS at CGAS	2	m/s
WS at Ground	no wind	m/s
WD at Hub	232	degrees
WD at CGAS	140	degrees
BP	30.58	in
Humidity	80	%
Temp	26.6	degr F

BACKGROUND SOUND LEVELS

OBSERVED DATA

Service Rd/ Blacksmith Shop Rd		
DATE: 7 Mar 2012		
Time 3:20 am		
Run #	MM:ss	DbA
1	5	36.1
1	10	33.2
1	15	33.2
1	20	33
1	25	33.2
1	30	36.3
1	35	40.6
1	40	40.7
1	45	37.6
1	50	37
1	55	37.9
1	60	34.5
1	1:05	33.2
1	1:10	32.9
1	1:15	34.8
1	1:20	35.3
1	1:25	33.8
1	1:30	33.1
1	1:35	31.6
1	1:40	32.2
1	1:45	33.4
1	1:50	32.4
1	1:55	31.4
1	2:00	31.9
1	2:05	31.7
1	2:10	32.5
1	2:15	36.1
1	2:20	31.5
1	2:25	30.7
1	2:30	30.7
1	2:35	30.7
1	2:40	30.5
1	2:45	31.7
1	**2:50**	30.6
1	2:55	31.8
1	3:00	31.4
1	3:05	32.3
1	3:10	33.6
1	3:15	31.5
1	3:20	33.2
1	3:25	33.2
1	3:30	35.9
1	3:35	32.8
1	3:40	32.1
1	3:45	39
1	3:50	34.4
1	3:55	33.9
1	4:00	38.9
1	4:05	39.1
1	4:10	40.5
1	4:15	48.5
1	4:20	41.8
1	4:25	36.9
1	4:30	31.1
1	4:35	30
1	4:40	29.6

Service Rd/ Blacksmith Shop Rd			
DATE: 7 Mar 2012			
Time 3:26 am			
Run #	MM:ss	DbA	
2	5	34.2	
2	10	32.8	
2	15	30.8	
2	20	31	
2	25	31.1	
2	30	32.3	
2	35	30.6	
2	**40**	**30.7**	**L90**
2	45	31.1	
2	50	32	
2	55	31.4	
2	60	32	
2	1:05	33.5	
2	1:10	31.2	
2	1:15	32.1	
2	1:20	36.3	
2	1:25	37	
2	1:30	40.9	
2	1:35	39.6	
2	1:40	36.8	
2	1:45	35.5	
2	1:50	32.8	
2	1:55	32.6	
2	2:00	32.1	
2	2:05	31.4	
2	2:10	32.8	
2	2:15	32.4	
2	2:20	31.5	
2	2:25	31.2	
2	2:30	31.1	
2	2:35	31.2	
2	2:40	31.1	
2	2:45	31.4	
2	**2:50**	31.2	
2	2:55	30.2	
2	3:00	30.6	
2	3:05	30.6	
2	3:10	30.4	
2	3:15	30.9	
2	3:20	30.7	
2	3:25	36	
2	3:30	40.1	
2	3:35	47.2	
2	3:40	49.4	
2	3:45	46.4	
2	3:50	42.3	
2	3:55	41.1	
2	4:00	40.9	
2	4:05	38.5	
2	4:10	37.4	
2	4:15	34.2	
2	4:20	34.3	
2	4:25	36.3	
2	4:30	34.7	
2	4:35	34	
2	4:40	35	

Service Rd/ Blacksmith Shop Rd		
DATE: 7 Mar 2012		
Time 3:32 am		
Run #	MM:ss	DbA
3	5	33.9
3	10	32
3	15	31.5
3	20	32
3	25	31.7
3	30	31.7
3	35	31.7
3	40	31.5
3	45	31.9
3	50	32.8
3	55	35.3
3	60	30.8
3	1:05	30.8
3	1:10	30.8
3	1:15	31.8
3	1:20	31.7
3	1:25	32.5
3	1:30	31.4
3	1:35	31
3	1:40	31.3
3	1:45	33.2
3	1:50	31.8
3	1:55	31.6
3	2:00	30.7
3	2:05	30.7
3	2:10	31
3	2:15	30.3
3	2:20	30.8
3	2:25	30.8
3	2:30	31.7
3	2:35	32.8
3	2:40	31.3
3	2:45	31.2
3	**2:50**	32.1
3	2:55	31.7
3	3:00	34
3	3:05	34.3
3	3:10	32.6
3	3:15	35.5
3	3:20	36.4
3	3:25	40.3
3	3:30	40
3	3:35	45.2
3	3:40	40.7
3	3:45	49.5
3	3:50	46.8
3	3:55	39.8
3	4:00	35.5
3	4:05	34.9
3	4:10	33.2
3	4:15	33.9
3	4:20	32.4
3	4:25	32.3
3	4:30	32.7
3	4:35	31.8
3	4:40	31.5

BACKGROUND SOUND LEVELS

OBSERVED DATA		
Service Rd/ Blacksmith Shop Rd		
DATE: 7 Mar 2012		
Time 3:20 am		
Run #	MM:ss	DbA
1	4:45	29.7
1	4:50	29.4
1	4:55	29.9
1	5:00	30.2

Service Rd/ Blacksmith Shop Rd		
DATE: 7 Mar 2012		
Time 3:26 am		
Run #	MM:ss	DbA
2	4:45	33.8
2	4:50	33.3
2	4:55	32.9
2	5:00	34

Service Rd/ Blacksmith Shop Rd		
DATE: 7 Mar 2012		
Time 3:32 am		
Run #	MM:ss	DbA
3	4:45	32.6
3	4:50	32.7
3	4:55	34.4
3	5:00	34.9

L90	30.7	dBA

Sampler Summary Data		
Lmax	49.2	dBA
Leq	36.3	dBA
L01	47.7	dBA
L10	38.5	dBA
L50	33	dBA
L90	30.3	dBA
LC-A	10.4	dBA

Lmax	49.6	dBA
Leq	37.7	dBA
L01	48.9	dBA
L10	40.7	dBA
L50	32.7	dBA
L90	30.7	dBA
LC-A	10.3	dBA

Lmax	50.8	dBA
Leq	37.1	dBA
L01	49.1	dBA
L10	39.2	dBA
L50	32.1	dBA
L90	30.8	dBA
LC-A	8.2	dBA

Met Data		
WS at Hub	6.7	m/s
WS at CGAS	2	m/s
WS at Ground	None	m/s
WD at Hub	221	degrees
WD at CGAS	180	degrees
BP	30.57	in
Humidity	86	%
Temp	26.6	degr F

BACKGROUND SOUND LEVELS

OBSERVED DATA		
211 Blacksmith Shop Rd		
Date: 15 Mar 12		
Time: 3:17 am		
Run #	**mm:ss**	**dB(A)**
1	5	28.2
1	10	28.9
1	15	27.8
1	20	28.5
1	25	28
1	30	27.9
1	35	28.9
1	40	30
1	45	31.1
1	50	29.9
1	55	28.3
1	60	28.9
1	1:05	28.9
1	1:10	29.3
1	1:15	28.3
1	1:20	27.9
1	1:25	28.2
1	1:30	28.3
1	1:35	28.5
1	1:40	27.9
1	1:45	29.9
1	1:50	27.4
1	1:55	27.5
1	2:00	27.9
1	2:05	27.2
1	2:10	27.1
1	2:15	27.5
1	2:20	30.4
1	2:25	31
1	2:30	27.2
1	2:35	27.1
1	2:40	30.8
1	2:45	27.2
1	2:50	30.2
1	2:55	27.9
1	3:00	30.2
1	3:05	29.6
1	3:10	28.9
1	3:15	35.2
1	3:20	29.2
1	3:25	30.1
1	3:30	26.9
1	3:35	28.5
1	3:40	28.5
1	3:45	27.1

BACKGROUND SOUND LEVELS

OBSERVED DATA			
211 Blacksmith Shop Rd			
Date: 15 Mar 12			
Time: 3:17 am			
Run #	mm:ss	dB(A)	
1	3:50	26	
1	3:55	26.3	
1	4:00	26.4	
1	4:05	26.3	
1	4:10	26.8	
1	4:15	26.6	L90
1	4:20	26.7	
1	4:25	26.6	
1	4:30	28.2	
1	4:35	26.5	
1	4:40	28.4	
1	4:45	28.1	
1	4:50	27.7	
1	4:55	31.6	
1	5:00	28.8	

L90	26.6	dBA

Sampler Summary Data		
Lmax	46.6	dBA
Leq	29.7	dBA
L01	34.6	dBA
L10	30.5	dBA
L50	28.7	dBA
L90	27	dBA
LC-A	12.3	dBA

Met Data		
WS at Hub	3.8	m/s
WS at CGAS	3	m/s
WS at Ground	no wind	m/s
WD at Hub	33	degrees
WD at CGAS	20	degrees
BP	30.28	in
Humidity	93	%
Temp	39.2	degr F

BACKGROUND SOUND LEVELS

OBSERVED DATA												
27 Ridgeview Rd				27 Ridgeview Rd				27 Ridgeview Rd				
Date: 15 Mar 2012				Date: 15 Mar 2012				Date: 15 Mar 2012				
Time: 2:22 am				Time: 02:30 am				Time: 2: 47 am				
1	5	34		2	5	32.5		3	5	43.7		
1	10	34		2	10	29.7		3	10	39.2		
1	15	33.3		2	15	29.8		3	15	39.2		
1	20	33.7		2	20	30		3	20	39.2		
1	25	34.2		2	25	30.3		3	25	39.2		
1	30	32.8		2	30	29.8		3	30	39.8		
1	35	30.4		2	35	29.2		3	35	40.6		
1	40	30.9		2	40	29.2	L90	3	40	43.6		
1	45	31.7		2	45	29.4		3	45	45		
1	50	30.1		2	50	29.4		3	50	47.4		
1	55	32.6		2	55	30.5		3	55	50		
1	60	39.4		2	60	31.8		3	60	45.7		
1	1:05	29.8		2	1:05	30.9		3	1:05	41.1		
1	1:10			2	1:10	29.5		3	1:10	39		
1	1:15	28.9		2	1:15	29.6		3	1:15	38.5		
1	1:20	29.8		2	1:20	32		3	1:20	38.6		
1	1:25	29.5		2	1:25	28.8		3	1:25	38.6		
1	1:30	29.3		2	1:30	28.6		3	1:30	38.6		
1	1:35	30		2	1:35	28.9		3	1:35	38.7		
1	1:40	30.3		2	1:40	30.6		3	1:40	38.8		
1	1:45	33.8		2	1:45	33.1		3	1:45	38.6		
1	1:50	29.4		2	1:50	30.1		3	1:50	38.7		
1	1:55	29.3		2	1:55	31		3	1:55	38.7		
1	2:00	28.3		2	2:00	31.2		3	2:00	31.9		
1	2:05	28.6		2	2:05	33.6		3	2:05	32		
1	2:10	27.5		2	2:10	36.3		3	2:10	31.3		
1	2:15	27.6		2	2:15	37.3		3	2:15	32.1		
1	2:20	27.4		2	2:20	37.7		3	2:20	32.7		
1	2:25	27.8		2	2:25	38.5		3	2:25	35		
1	2:30	29.1		2	2:30	42		3	2:30	34.4		
1	2:35	29.8		2	2:35	45		3	2:35	34.8		
1	2:40	29.2		2	2:40	47.1		3	2:40	35.3		
1	2:45	28.8		2	2:45	45.9		3	2:45	40.5		
1	2:50	29.1		2	2:50	50.9		3	2:50	38.6		
1	2:55	29.1		2	2:55	56.8		3	2:55	43		
1	3:00	28.9		2	3:00	50.1		3	3:00	43		
1	3:05	29.7		2	3:05	44		3	3:05	48.5		
1	3:10	33		2	3:10	41.2		3	3:10	46.5		
1	3:15	42.5		2	3:15	39.2		3	3:15	38.3		
1	3:20	46		2	3:20	38.4		3	3:20	35.6		
1	3:25	44.3		2	3:25	40.6		3	3:25	41.1		
1	3:30	42.9		2	3:30	38.6		3	3:30	37.6		
1	3:35	42.8		2	3:35	38.5		3	3:35	41.5		
1	3:40	38.5		2	3:40	38.4		3	3:40	45.8		
1	3:45	37.3		2	3:45			3	3:45	44.6		
1	3:50	35.6		2	3:50	38.3		3	3:50	48.5		
1	3:55	34		2	3:55	37.9		3	3:55	44		
1	4:00	31		2	4:00	37.8		3	4:00	36.2		
1	4:05	31.1		2	4:05	37.8		3	4:05	34.4		
1	4:10	31.2		2	4:10	37.8		3	4:10	33.1		
1	4:15	30.2		2	4:15	38.1		3	4:15	32.9		
1	4:20	30.7		2	4:20	38.2		3	4:20	32.6		
1	4:25	31.3		2	4:25	37.9		3	4:25	33.6		
1	4:30	30.5		2	4:30	37.8		3	4:30	32.8		
1	4:35	30		2	4:35	38.2		3	4:35	34.7		
1	4:40	28.2		2	4:40	38.4		3	4:40	33.6		

BACKGROUND SOUND LEVELS

OBSERVED DATA		
27 Ridgeview Rd		
Date: 15 Mar 2012		
Time: 2:22 am		
1	5	34
1	4:45	28.9
1	4:50	29.9
1	4:55	30.6
1	5:00	30.9

27 Ridgeview Rd		
Date: 15 Mar 2012		
Time: 02:30 am		
2	5	32.5
2	4:45	37.9
2	4:50	37.9
2	4:55	37.9
2	5:00	38

27 Ridgeview Rd		
Date: 15 Mar 2012		
Time: 2: 47 am		
3	5	43.7
3	4:45	33.8
3	4:50	33.5
3	4:55	33.8
3	5:00	34.4

L90	**29.2**	**dBA**

Sampler Summary Data		
Lmax	46.5	dBA
Leq	35.3	dBA
L01	45.7	dBA
L10	38.2	dBA
L50	30.5	dBA
L90	28.6	dBA
LC-A	8.8	dBA

Lmax	56.9	dBA
Leq	42.5	dBA
L01	56.2	dBA
L10	44.3	dBA
L50	37.7	dBA
L90	29.3	dBA
LC-A	8.4	dBA

Lmax	52.4	dBA
Leq	41.8	dBA
L01	51.5	dBA
L10	45.3	dBA
L50	38.6	dBA
L90	32.9	dBA
LC-A	7.1	dBA

Met Data		
WS at Hub	5.2	m/s
WS at CGAS	3	m/s
WS at Ground	< 1	m/s
WD at Hub	037	degrees
WD at CGAS	020	degrees
BP	30.27	in
Humidity	93	%
Temp	39.2	degr F

BACKGROUND SOUND LEVELS

OBSERVED DATA									
211 Blacksmith			211 Blacksmith				211 Blacksmith		
Date: 27 Mar 12			Date: 27 Mar 12				Date: 27 Mar 12		
Time: 2:23 am			Time: 2:30 am				Time: 02:38 am		
Run #	mm:ss	dB(A)	Run #	mm:ss	dB(A)		Run #	mm:ss	dB(A)
1	5	40	2	5	41.9		3	5	44.5
1	10	42.6	2	10	45.2		3	10	45
1	15	43.9	2	15	47		3	15	44.3
1	20	42.2	2	20	44		3	20	43.8
1	25	40.7	2	25	44.9		3	25	45.6
1	30	40.5	2	30	46.2		3	30	46.9
1	35	41	2	35	45.9		3	35	44.7
1	40	40.9	2	40	44		3	40	44.3
1	45	41.9	2	45	43.1		3	45	42.9
1	50	42.3	2	50	42.6		3	50	43.2
1	55	41	2	55	44.6		3	55	43.1
1	60	40	2	60	41.9		3	60	44.8
1	1:05	40.8	2	1:05	40.7		3	1:05	47.7
1	1:10	43.9	2	1:10	41.1		3	1:10	45.6
1	1:15	43.9	2	1:15	40.5		3	1:15	44.8
1	1:20	43.2	2	1:20	41.8		3	1:20	43
1	1:25	41.1	2	1:25	42.8		3	1:25	42.1
1	1:30	41.2	2	1:30	44.2		3	1:30	41.7
1	1:35	42.9	2	1:35	42.9		3	1:35	41.2
1	1:40	41.7	2	1:40	42		3	1:40	41.5
1	1:45	41.1	2	1:45	41.2		3	1:45	40.3
1	1:50	41.9	2	1:50	40.4		3	1:50	38.9
1	1:55	44	2	1:55	38.7		3	1:55	39.5
1	2:00	45.8	2	2:00	38.4		3	2:00	40.1
1	2:05	44.1	2	2:05	38.3	L90	3	2:05	39.9
1	2:10	42.3	2	2:10	39		3	2:10	40.7
1	2:15	40.5	2	2:15	38.3		3	2:15	42.9
1	2:20	39.9	2	2:20	40.5		3	2:20	44.3
1	2:25	40.1	2	2:25	38.9		3	2:25	42.9
1	2:30	40.3	2	2:30	39.5		3	2:30	42.2
1	2:35	40.3	2	2:35	39.7		3	2:35	42.4
1	2:40	39.7	2	2:40	40.1		3	2:40	42.2
1	2:45	40.7	2	2:45	41.4		3	2:45	41.3
1	2:50	41.3	2	2:50	40.7		3	2:50	42.1
1	2:55	41.5	2	2:55	40.2		3	2:55	41.5
1	3:00	40.8	2	3:00	39.5		3	3:00	41
1	3:05	41.6	2	3:05	43.6		3	3:05	42.1
1	3:10	41.7	2	3:10	37.7		3	3:10	41.6
1	3:15	42.3	2	3:15	37		3	3:15	42.7
1	3:20	43.9	2	3:20	36.9		3	3:20	42.8
1	3:25	45	2	3:25	39.5		3	3:25	42.3
1	3:30	42	2	3:30	41		3	3:30	42.9
1	3:35	43.1	2	3:35	42.3		3	3:35	42.6
1	3:40	42.4	2	3:40	41.6		3	3:40	43.4
1	3:45	41.1	2	3:45	40.6		3	3:45	42.9
1	3:50	40.5	2	3:50	40.9		3	3:50	41.8
1	3:55	40.9	2	3:55	36.8		3	3:55	41.1
1	4:00	41.1	2	4:00	34.6		3	4:00	42
1	4:05	41.6	2	4:05	34.9		3	4:05	42.4
1	4:10	41.7	2	4:10	34.7		3	4:10	42.7
1	4:15	40.1	2	4:15	34.7		3	4:15	42.3
1	4:20	40.2	2	4:20	35.4		3	4:20	42.4
1	4:25	40.3	2	4:25	36.4		3	4:25	43.2
1	4:30	40.9	2	4:30	35.4		3	4:30	42.2
1	4:35	41.2	2	4:35	36.3		3	4:35	45.1

BACKGROUND SOUND LEVELS

OBSERVED DATA

211 Blacksmith		
Date: 27 Mar 12		
Time: 2:23 am		
Run #	mm:ss	dB(A)
1	4:40	42.7
1	4:45	43.3
1	4:50	44.2
1	4:55	45.4
1	5:00	45.1

211 Blacksmith		
Date: 27 Mar 12		
Time: 2:30 am		
Run #	mm:ss	dB(A)
2	4:40	34.7
2	4:45	35
2	4:50	34.9
2	4:55	36.5
2	5:00	36.6

211 Blacksmith		
Date: 27 Mar 12		
Time: 02:38 am		
Run #	mm:ss	dB(A)
3	4:40	43.3
3	4:45	42.6
3	4:50	43.1
3	4:55	50.2
3	5:00	50.3

L90	38.3	dBA

Sampler Summary Data		
Lmax	46.6	dBA
Leq	42.2	dBA
L01	45.8	dBA
L10	44.1	dBA
L50	41.4	dBA
L90	40.1	dBA
LC-A	12.3	dBA

Lmax	50.6	dBA
Leq	43.7	dBA
L01	50.2	dBA
L10	45.9	dBA
L50	42.5	dBA
L90	40.7	dBA
LC-A	13.6	dBA

Lmax	48.5	dBA
Leq	41.2	dBA
L01	47.1	dBA
L10	44.2	dBA
L50	40	dBA
L90	35	dBA
LC-A	17.9	dBA

Met Data		
WS at Hub	10	m/s
WS at CGAS	6.7	m/s
WS at Ground	2.6	m/s
WD at Hub	357	degrees
WD at CGAS	330	degrees
BP	29.98	in
Humidity	31	%
Temp	28.4	degr F

BACKGROUND SOUND LEVELS

OBSERVED DATA									
27 Ridgeview			27 Ridgeview				27 Ridgeview		
Date: 27 Mar 12			Date: 27 Mar 12				Date: 27 Mar 12		
Time:1:52 am			Time: 2:00 am				Time: 2:07 am		
Run #	mm:ss	dB(A)	Run #	mm:ss	dB(A)		Run #	mm:ss	dB(A)
1	5	40.8	2	5	46.4		3	5	43.2
1	10	39.3	2	10	40.2		3	10	44.3
1	15	40.5	2	15	38.6		3	15	43.5
1	20	37.5	2	20	39.9		3	20	41.2
1	25	37.6	2	25	42.9		3	25	42.2
1	30	40.1	2	30	38.4		3	30	39.9
1	35	38.4	2	35	36.8		3	35	39.1
1	40	35.6	2	40	37.6		3	40	41.4
1	45	38.5	2	45	37		3	45	41.6
1	50	43.5	2	50	39.2		3	50	51.3
1	55	44	2	55	41.5		3	55	49.4
1	60	45.1	2	60	42.9		3	60	47.1
1	1:05	43.6	2	1:05	45.1		3	1:05	49.8
1	1:10	46.5	2	1:10	45.1		3	1:10	45.9
1	1:15	48.2	2	1:15	43.9		3	1:15	50.5
1	1:20	50.3	2	1:20	45.5		3	1:20	49.5
1	1:25	49.1	2	1:25	46.7		3	1:25	45.9
1	1:30	48.5	2	1:30	55.7		3	1:30	47.9
1	1:35	49.8	2	1:35	51		3	1:35	49.4
1	1:40	49.4	2	1:40	45		3	1:40	49.2
1	1:45	51.3	2	1:45	42.5		3	1:45	49.4
1	1:50	48.6	2	1:50	43.5		3	1:50	46.9
1	1:55	48	2	1:55	43.1		3	1:55	50.5
1	2:00	46	2	2:00	44.9		3	2:00	46.7
1	2:05	45.6	2	2:05	44.4		3	2:05	48.6
1	2:10	44.6	2	2:10	44.2		3	2:10	51.8
1	2:15	45.3	2	2:15	43.2		3	2:15	50.5
1	2:20	44.6	2	2:20	46.5		3	2:20	46.7
1	2:25	45.3	2	2:25	48.6		3	2:25	45.1
1	2:30	43.2	2	2:30	50.8		3	2:30	47.4
1	2:35	41.9	2	2:35	48.4		3	2:35	46.1
1	2:40	45.4	2	2:40	46.8		3	2:40	46.2
1	2:45	47.9	2	2:45	46.9		3	2:45	45.5
1	2:50	45	2	2:50	48.7		3	2:50	44.7
1	2:55	43.4	2	2:55	46		3	2:55	45.6
1	3:00	42	2	3:00	44		3	3:00	43.8
1	3:05	40.5	2	3:05	42.5		3	3:05	43.5
1	3:10	40.4	2	3:10	41.9		3	3:10	43.2
1	3:15	42	2	3:15	40		3	3:15	44.6
1	3:20	43.6	2	3:20	39.3		3	3:20	46.3
1	3:25	48.1	2	3:25	40.6		3	3:25	47.9
1	3:30	44.2	2	3:30	39.6		3	3:30	46.3
1	3:35	45	2	3:35	38.7		3	3:35	45.1
1	3:40	46.8	2	3:40	37.5		3	3:40	43.9
1	3:45	46.8	2	3:45	37.1		3	3:45	42.2
1	3:50	47.5	2	3:50	37.7		3	3:50	46.1
1	3:55	52	2	3:55	39.2	L90	3	3:55	41.1
1	4:00	49.3	2	4:00	39.4		3	4:00	41.8
1	4:05	48	2	4:05	39.4		3	4:05	42.3
1	4:10	48.4	2	4:10	45.9		3	4:10	44
1	4:15	44.9	2	4:15	45.5		3	4:15	46.5
1	4:20	44.8	2	4:20	42.2		3	4:20	44
1	4:25	40.6	2	4:25	39.9		3	4:25	41.3
1	4:30	41.6	2	4:30	41.7		3	4:30	40.5
1	4:35	44.1	2	4:35	42.2		3	4:35	42.2

BACKGROUND SOUND LEVELS

OBSERVED DATA

27 Ridgeview		
Date: 27 Mar 12		
Time:1:52 am		
Run #	mm:ss	dB(A)
1	4:40	46.4
1	4:45	47.1
1	4:50	46.2
1	4:55	45.6
1	5:00	44.2

27 Ridgeview		
Date: 27 Mar 12		
Time: 2:00 am		
Run #	mm:ss	dB(A)
2	4:40	43.6
2	4:45	43
2	4:50	39.7
2	4:55	39.1
2	5:00	39.4

27 Ridgeview		
Date: 27 Mar 12		
Time: 2:07 am		
Run #	mm:ss	dB(A)
3	4:40	41.5
3	4:45	41.7
3	4:50	43.3
3	4:55	42.6
3	5:00	44.1

L90	39.2	dBA

Sampler Summary Data		
Lmax	57.8	dBA
Leq	46.2	dBA
L01	51.9	dBA
L10	49.1	dBA
L50	45	dBA
L90	39.7	dBA
LC-A	12.1	dBA

Lmax	56.7	dBA
Leq	45.3	dBA
L01	55.3	dBA
L10	48.4	dBA
L50	42.7	dBA
L90	38.1	dBA
LC-A	11	dBA

Lmax	52.5	dBA
Leq	56.5	dBA
L01	51.8	dBA
L10	49.7	dBA
L50	45.2	dBA
L90	41.4	dBA
LC-A	13.6	dBA

Met Data		
WS at Hub	10.5	m/s
WS at CGAS	4.6	m/s
WS at Ground	3.4	m/s
WD at Hub	357	degrees
WD at CGAS	320	degrees
BP	29.97	in
Humidity	32	%
Temp	30.2	degr F

BROADBAND IMPACT ANALYSIS

OBSERVED DATA (x indicates interference from another sound source)											
260 Fire Tower Rd				260 Fire Tower Rd				260 Fire Tower Rd			
Date: 6 Mar 2012				Date: 6 Mar 2012				Date: 7 Mar 2012			
Time 11:40 pm				Time 11:52 pm				Time 12:01 pm			
Run #	MM:ss	DbA		Run #	MM:ss	DbA		Run #	MM:ss	DbA	
1	5	36.6		2	5	39.4	x	3	5	37	Lmax3
1	10	37.5		2	10	36.8		3	10	36.5	
1	15	37.7	Lmax1	2	15	34.6		3	15	34.6	
1	20	36.3		2	20	34.7		3	20	36.1	
1	25	35		2	25	35.3		3	25	35.4	
1	30	37.6		2	30	36.2		3	30	35.8	
1	35	35.4		2	35	35.4		3	35	35.7	
1	40	35.3		2	40	35.7		3	40	34.6	
1	45	33.5		2	45	36.1		3	45	34.3	
1	50	33.9		2	50	36		3	50	33.8	
1	55	33.5		2	55	36		3	55	34.7	
1	60	36		2	60	34.7		3	60	34.7	
1	1:05	36.3		2	1:05	35.3		3	1:05	35.2	
1	1:10	35.4		2	1:10	35.2		3	1:10	35.8	
1	1:15	36.4		2	1:15	35.4		3	1:15	34.7	
1	1:20	35.2		2	1:20	35.4		3	1:20	33.3	
1	1:25	37.4	x	2	1:25	33.9		3	1:25	34.9	
1	1:30	36.5	x	2	1:30	34		3	1:30	32.7	
1	1:35	38.6	x	2	1:35	34.1		3	1:35	35.4	
1	1:40	40	x	2	1:40	34.2		3	1:40	35.4	
1	1:45	37.4	x	2	1:45	36		3	1:45	35.8	
1	1:50	36.5		2	1:50	34.7		3	1:50	36.6	
1	1:55	38.9	x	2	1:55	34.3		3	1:55	34.9	
1	2:00	38	x	2	2:00	36.6		3	2:00	34.6	
1	2:05	38.7	x	2	2:05	36.5		3	2:05	35	
1	2:10	36.7		2	2:10	36.2		3	2:10	35.8	
1	2:15	36.6		2	2:15	37.2	Lmax2	3	2:15	35.8	
1	2:20	35.7		2	2:20	36.1		3	2:20	35.1	
1	2:25	35.1		2	2:25	37.8	x	3	2:25	35	
1	2:30	34.6		2	2:30	36.9	x	3	2:30	35.4	
1	2:35	35.5		2	2:35	37	x	3	2:35	35.2	
1	2:40	35.9		2	2:40	37.6	x	3	2:40	34	
1	2:45	34.2		2	2:45	37.8	x	3	2:45	34.2	
1	**2:50**	34.2		2	**2:50**	37.3	x	3	**2:50**	35.6	
1	2:55	34.5		2	2:55	37.8.	x	3	2:55	36.2	
1	3:00	33.9		2	3:00	37.9	x	3	3:00	35	
1	3:05	35.8		2	3:05	37.8	x	3	3:05	33.4	
1	3:10	34.5		2	3:10	37.9	x	3	3:10	34	
1	3:15	34.2		2	3:15	37.6	x	3	3:15	35.1	
1	3:20	34.5		2	3:20	38.1	x	3	3:20	35.2	
1	3:25	35.1		2	3:25	36.3		3	3:25	35.5	
1	3:30	33.6		2	3:30	36		3	3:30	37.8	x
1	3:35	34.5		2	3:35	35.2		3	3:35	36.5	x
1	3:40	33.7		2	3:40	35.1		3	3:40	35.9	
1	3:45	33.5		2	3:45	35.2		3	3:45	35.5	
1	3:50	34.2		2	3:50	34.2		3	3:50	36.2	
1	3:55	36		2	3:55	33.4		3	3:55	35.6	
1	4:00	36.1		2	4:00	35		3	4:00	35.3	
1	4:05	35.8		2	4:05	35.6		3	4:05	35.9	
1	4:10	35.2		2	4:10	34.9		3	4:10	34.8	
1	4:15	35.9		2	4:15	37.2		3	4:15	35.9	
1	4:20	35.6		2	4:20	36.3		3	4:20	36.9	
1	4:25	34.6		2	4:25	33.8		3	4:25	35.3	
1	4:30	35.9		2	4:30	33.6		3	4:30	37.2	x
1	4:35	36.9	x	2	4:35	34.6		3	4:35	37.7	x
1	4:40	49.6	x	2	4:40	34.7		3	4:40	37.1	x
1	4:45	54.7	x	2	4:45	35.4		3	4:45	34.7	

BROADBAND IMPACT ANALYSIS

OBSERVED DATA (x indicates interference from another sound source)									
260 Fire Tower Rd				260 Fire Tower Rd				260 Fire Tower Rd		
Date: 6 Mar 2012				Date: 6 Mar 2012				Date: 7 Mar 2012		
Time 11:40 pm				Time 11:52 pm				Time 12:01 pm		
Run #	MM:ss	DbA		Run #	MM:ss	DbA		Run #	MM:ss	DbA
1	4:50	42.6	x	2	4:50	35.3		3	4:50	36
1	4:55	37.3		2	4:55	34.7		3	4:55	36.6
1	5:00	35.4		2	5:00	35.5		3	5:00	34.6

Lmax (Avg)	37.3	dBA

Sampler Summary Data (Does NOT Exclude interference sound)								
Lmax	43.1	dBA	Lmax	40.3	dBA	Lmax	39.7	dBA
Leq	35.6	dBA	Leq	36.1	dBA	Leq	35.5	dBA
L01	39.7	dBA	L01	38.8	dBA	L01	37.9	dBA
L10	37.1	dBA	L10	37.6	dBA	L10	36.6	dBA
L50	35.2	dBA	L50	35.7	dBA	L50	35.3	dBA
L90	33.5	dBA	L90	34	dBA	L90	34.1	dBA
LC-A	13.7	dBA	LC-A	13.6	dBA	LC-A	15	dBA

Met Data		
WS at Hub	7.7	m/s
WS at CGAS	2	m/s
WS at Ground	NONE	m/s
WD at Hub	261	degrees
WD at CGAS	210	degrees
BP	30.6	in
Humidity	69	%
Temp	32	degr F

BROADBAND IMPACT ANALYSIS

OBSERVED DATA (x indicates interference from another sound source)

211 Black Smith Shop Rd			
Date: 7 Mar 2012			
Time: 12:20 am			
Run #	**MM:ss**	**DbA**	
1	5	39.1	
1	10	38.3	
1	15	40.1	x
1	20	40.3	x
1	25	39.2	
1	30	39.7	x
1	35	37.3	
1	40	37.7	
1	45	38.9	
1	50	39.4	
1	55	40.3	x
1	60	37.3	
1	1:05	37.9	
1	1:10	37.7	
1	1:15	39	
1	1:20	39.2	
1	1:25	38.6	
1	1:30	38.1	
1	1:35	39	
1	1:40	36.6	
1	1:45	36.4	
1	1:50	38.2	
1	1:55	38.8	
1	2:00	37.9	
1	2:05	38.6	
1	2:10	39.7	
1	2:15	40.1	
1	2:20	38.9	
1	2:25	39.1	
1	2:30	40.2	
1	2:35	38.4	
1	2:40	41.7	**x**
1	2:45	39	
1	2:50	39.8	
1	2:55	39	
1	3:00	39.5	
1	3:05	39.6	
1	3:10	38.7	
1	3:15	38.4	
1	3:20	38.8	
1	3:25	39.1	
1	3:30	40.1	
1	3:35	40.3	
1	3:40	39.1	
1	3:45	38.7	
1	3:50	38.9	
1	3:55	38.2	
1	4:00	40.8	Lmax 1
1	4:05	39.2	
1	4:10	38.3	
1	4:15	39.1	
1	4:20	39.4	
1	4:25	39.7	
1	4:30	40.2	
1	4:35	38.8	
1	4:40	37.3	
1	4:45	39	
1	4:50	41.4	**x**
1	4:55	40.8	x
1	5:00	37.6	

211 Black Smith Shop Rd			
Date: 7 Mar 2012			
Time: 12:28am			
Run #	MM:ss	DbA	
2	5	41.2	**x**
2	10	39.5	
2	15	40.1	
2	20	40.3	
2	25	38.9	
2	30	39.2	
2	35	39.4	
2	40	40.8	Lmax 2
2	45	40.5	
2	50	39.5	
2	55	40.8	
2	60	40.5	
2	1:05	40.1	
2	1:10	38.5	
2	1:15	38.2	
2	1:20	38.2	
2	1:25	38.1	
2	1:30	38.4	
2	1:35	40	
2	1:40	39.1	
2	1:45	39.5	
2	1:50	37.6	
2	1:55	38	
2	2:00	38.3	
2	2:05	38.5	
2	2:10	38.7	
2	2:15	38.7	
2	2:20	39.6	
2	2:25	39.6	
2	2:30	40	
2	2:35	38.3	
2	2:40	38.8	
2	2:45	37.6	
2	2:50	38.8	
2	2:55	40	
2	3:00	38.9	
2	3:05	39.2	
2	3:10	40	
2	3:15	37.7	
2	3:20	38.4	
2	3:25	39.3	
2	3:30	39.1	
2	3:35	40.1	
2	3:40	38.5	
2	3:45	38.5	
2	3:50	38	
2	3:55	37.7	
2	4:00	38	
2	4:05	38.1	
2	4:10	38.9	
2	4:15	38.3	
2	4:20	39	
2	4:25	38.3	
2	4:30	40.1	
2	4:35	39.3	
2	4:40	39	
2	4:45	37.6	
2	4:50	37.8	
2	4:55	36.9	
2	5:00	39.3	

211 Black Smith Shop Rd			
Date: 7 Mar 2012			
Time: 12:35 am			
Run #	**MM:ss**	**DbA**	
3	5	40.7	
3	10	38.2	
3	15	39.5	
3	20	39.8	
3	25	40	
3	30	38.9	
3	35	37.2	
3	40	39.9	
3	45	40.3	
3	50	39.4	
3	55	39.4	
3	60	40.5	
3	1:05	38.5	
3	1:10	39.2	
3	1:15	41.2	Lmax 3
3	1:20	39.4	
3	1:25	40.2	
3	1:30	39.8	
3	1:35	39.2	
3	1:40	40.1	
3	1:45	39.6	
3	1:50	38.4	
3	1:55	39.1	
3	2:00	42.5	**x**
3	2:05	40.5	x
3	2:10	39.7	
3	2:15	40.9	
3	2:20	42.6	**x**
3	2:25	42.1	**x**
3	2:30	44.6	**x**
3	2:35	46.7	**x**
3	2:40	45.5	**x**
3	2:45	45	x
3	2:50	43.8	**x**
3	2:55	42	**x**
3	3:00	41.6	**x**
3	3:05	43.2	**x**
3	3:10	44.3	**x**
3	3:15	43.2	**x**
3	3:20	43.2	**x**
3	3:25	42.3	**x**
3	3:30	40.2	x
3	3:35	41.5	**x**
3	3:40	40.9	
3	3:45	40.5	
3	3:50	40.3	
3	3:55	39.1	
3	4:00	40.5	
3	4:05	39.3	
3	4:10	38.5	
3	4:15	37.7	
3	4:20	39.4	
3	4:25	40.1	
3	4:30	39.4	
3	4:35	38.3	
3	4:40	38.1	
3	4:45	39.8	
3	4:50	38.5	
3	4:55	38.9	
3	5:00	39	

BROADBAND IMPACT ANALYSIS

OBSERVED DATA (x indicates interference from another sound source)

211 Black Smith Shop Rd		
Date: 7 Mar 2012		
Time: 12:20 am		
Run #	**MM:ss**	**DbA**
Lmax (Avg)	**40.9**	**dBA**

211 Black Smith Shop Rd		
Date: 7 Mar 2012		
Time: 12:28am		
Run #	MM:ss	DbA

211 Black Smith Shop Rd		
Date: 7 Mar 2012		
Time: 12:35 am		
Run #	**MM:ss**	**DbA**

Sampler Summary Data (Does NOT Exclude interference sound)		
Lmax	42.2	dBA
Leq	39.1	dBA
L01	41.2	dBA
L10	40.2	dBA
L50	38.9	dBA
L90	37.5	dBA
LC-A	11.3	dBA

Lmax	43.6	dBA
Leq	39.2	dBA
L01	41.6	dBA
L10	40.4	dBA
L50	39	dBA
L90	37.7	dBA
LC-A	11.3	dBA

Lmax	51.6	dBA
Leq	41.2	dBA
L01	47.1	dBA
L10	43.3	dBA
L50	39.9	dBA
L90	38.3	dBA
LC-A	11	dBA

Met Data		
WS at Hub	7.5	m/s
WS at CGAS	2	m/s
WS at Ground	NONE	m/s
WD at Hub	256	degrees
WD at CGAS	225	degrees
BP	30.6	in
Humidity	80	%
Temp	28.4	degr F

BROADBAND IMPACT ANALYSIS

OBSERVED DATA (x indicates interference from another sound source)											
161 Blacksmith Shop Rd				161 Blacksmith Shop Rd				161 Blacksmith Shop Rd			
Date: 7 Mar 2012				Date: 7 Mar 2012				Date: 7 Mar 2012			
Time 1:21 am				Time 1:28 am				Time 1:35 am			
Run #	MM:ss	DbA		Run #	MM:ss	DbA		Run #	MM:ss	DbA	
1	5	36		2	5	31.6		3	5	34.3	
1	10	35.5		2	10	36.1		3	10	34.5	
1	15	36.1		2	15	33.2		3	15	32.6	
1	20	35.9		2	20	33.1		3	20	33.2	
1	25	34.1		2	25	33.8		3	25	32.8	
1	30	36.6		2	30	34.4		3	30	32.8	
1	35	35.2		2	35	35.9		3	35	32.3	
1	40	34.4		2	40	35		3	40	32.5	
1	45	34		2	45	35		3	45	33.6	
1	50	35		2	50	34.2		3	50	32.6	
1	**55**	**36.8**	**Lmax**	2	55	34.7		3	55	32.5	
1	60	35.8		2	60	35.1		3	60	32.1	
1	1:05	35.3		2	1:05	36.1		3	1:05	33.1	
1	1:10	38.2	x	2	1:10	36.2	x	3	1:10	33.1	
1	1:15	36.6	x	2	1:15	35.5	x	3	1:15	32.9	
1	1:20	36.9	x	2	1:20	34.3		3	1:20	33.8	
1	1:25	36.5		2	1:25	33.7		3	1:25	31.8	
1	1:30	34.2		2	1:30	34.1		3	1:30	33	
1	1:35	35.3		2	1:35	32.9		3	1:35	33.6	
1	1:40	34.3		2	1:40	33.1		3	1:40	32.5	
1	1:45	35.9		2	1:45	36.1		3	1:45	34.5	
1	1:50	35.2		2	1:50	35.1		3	1:50	33.5	
1	1:55	34.7		2	1:55	36.7	Lmax 2	3	1:55	34	
1	2:00	34.7		2	2:00	34.1		3	2:00	33.4	
1	2:05	34		2	2:05	32.9		3	2:05	33.7	
1	2:10	34.8		2	2:10	32.9		3	2:10	32	
1	2:15	34.9		2	2:15	32.9		3	2:15	31.1	
1	2:20	34.5		2	2:20	36.1		3	2:20	31.4	
1	2:25	35.2		2	2:25	36.2		3	2:25	32.1	
1	2:30	37.4	x	2	2:30	35.8		3	2:30	32.2	
1	2:35	37.9	x	2	2:35	36.7	x	3	2:35	33.6	
1	2:40	36.7	x	2	2:40	38.4	x	3	2:40	33.7	
1	2:45	35.9		2	2:45	37.6	x	3	2:45	33.8	
1	**2:50**	**35.7**		2	**2:50**	35.9	x	3	**2:50**	33.7	
1	2:55	36.2		2	2:55	36	x	3	2:55	34	
1	3:00	35.6		2	3:00	34.7		3	3:00	33.7	
1	3:05	35.4		2	3:05	34.7		3	3:05	33.4	
1	3:10	35		2	3:10	35		3	3:10	33.5	
1	3:15	34.8		2	3:15	34.9		3	3:15	33.4	
1	3:20	36		2	3:20	36.2	x	3	3:20	33.2	
1	3:25	37.1	x	2	3:25	38.9	x	3	3:25	34.1	
1	3:30	37.2	x	2	3:30	35.7	x	3	3:30	33.1	
1	3:35	35.3		2	3:35	35		3	3:35	33.7	
1	3:40	33.6		2	3:40	34.1		3	3:40	33	
1	3:45	34.5		2	3:45	35.2		3	3:45	33.5	
1	3:50	36		2	3:50	34.5		3	3:50	33.7	
1	3:55	35.1		2	3:55	36.1		3	3:55	34.1	
1	4:00	33.7		2	4:00	34.7		3	4:00	34	
1	4:05	33.8		2	4:05	33.8		3	4:05	33.3	
1	4:10	33.5		2	4:10	33.5		3	4:10	32.9	
1	4:15	34.1		2	4:15	34.1		3	4:15	33.1	
1	4:20	34.5		2	4:20	33.7		3	4:20	33	
1	4:25	34.5		2	4:25	34.6		3	4:25	33.5	
1	4:30	34.9		2	4:30	33.7		3	4:30	33.3	
1	4:35	36		2	4:35	33.6		3	4:35	33.9	

BROADBAND IMPACT ANALYSIS

OBSERVED DATA (x indicates interference from another sound source)

161 Blacksmith Shop Rd		
Date: 7 Mar 2012		
Time 1:21 am		
Run #	MM:ss	DbA
1	4:40	35
1	4:45	34.1
1	4:50	35.7
1	4:55	34.1
1	5:00	33.5

161 Blacksmith Shop Rd		
Date: 7 Mar 2012		
Time 1:28 am		
Run #	MM:ss	DbA
2	4:40	35
2	4:45	34.7
2	4:50	35.8
2	4:55	35.9
2	5:00	34.7

161 Blacksmith Shop Rd			
Date: 7 Mar 2012			
Time 1:35 am			
Run #	MM:ss	DbA	
3	4:40	34.8	Lmax3
3	4:45	34	
3	4:50	33.3	
3	4:55	33.2	
3	5:00	33.5	

Lmax (Avg)	36.1	dBA

Sampler Summary Data (Does NOT Exclude interference sound)

Lmax	40.8	dBA
Leq	35.5	dBA
L01	39	dBA
L10	36.8	dBA
L50	35.1	dBA
L90	33.7	dBA
LC-A	13	dBA

Lmax	44.9	dBA
Leq	35.1	dBA
L01	38.6	dBA
L10	36.2	dBA
L50	34.7	dBA
L90	33.4	dBA
LC-A	14.1	dBA

Lmax	39.6	dBA
Leq	33.5	dBA
L01	36.9	dBA
L10	43.3	dBA
L50	33.2	dBA
L90	32.1	dBA
LC-A	14.5	dBA

Met Data

WS at Hub	7	m/s
WS at CGAS	Calm	m/s
WS at Ground	None	m/s
WD at Hub	252	degrees
WD at CGAS	200	degrees
BP	30.6	in
Humidity	86	%
Temp	26.6	degr F

BROADBAND IMPACT ANALYSIS

OBSERVED DATA (x indicates interference from another sound source)											
Corner Service RD/ Black Smith Shop Rd				Corner Service RD/ Black Smith Shop Rd				Corner Service RD/ Black Smith Shop Rd			
Date: 7 Mar 2012				Date: 7 Mar 2012				Date: 7 Mar 2012			
Time 1:44 am				Time 1:53 am				Time 1:58 am			
Run #	MM:ss	DbA		Run #	MM:ss	DbA		Run #	MM:ss	DbA	
1	5	33.9		2	5	34.4		3	5	34	
1	10	33.2		2	10	31.8		3	10	33	
1	15	32.6		2	15	30.9		3	15	32.4	
1	20	32.2		2	20	30.9		3	20	32.1	
1	25	32.9		2	25	30.8		3	25	32.8	
1	30	32.8		2	30	32.1		3	30	32.8	
1	35	33.7		2	35	31.9		3	35	32.4	
1	40	34.5	x	2	40	32.1		3	40	32.2	
1	45	38.6	x	2	45	32.2		3	45		
1	50	41.5	x	2	50	32.5		3	50	33	
1	55	38.6	x	2	55	32.8		3	55	33.7	
1	60	36.5	x	2	60	33		3	60	33.9	
1	1:05	36.2	x	2	1:05	33		3	1:05	33	
1	1:10	34.7		2	1:10	33.3		3	1:10	32.6	
1	1:15	36.1	Lmax1	2	1:15	32.5		3	1:15	33.5	
1	1:20	33.6		2	1:20	37.2	Lmax2	3	1:20	32.3	
1	1:25	33.2		2	1:25	33.6		3	1:25	32.4	
1	1:30	33.3		2	1:30	33.1		3	1:30	32.8	
1	1:35	34.4		2	1:35	32.5		3	1:35	32.8	
1	1:40	33.5		2	1:40	33.5		3	1:40	32.9	
1	1:45	34.3		2	1:45	35.6		3	1:45	34.9	
1	1:50	35.2		2	1:50	33		3	1:50	33.8	
1	1:55	32.3		2	1:55	32.7		3	1:55	33.3	
1	2:00	32		2	2:00	32.6		3	2:00	33.1	
1	2:05	33.1		2	2:05	32.6		3	2:05	33.5	
1	2:10	33.6		2	2:10	32.7		3	2:10	32.2	
1	2:15	33.2		2	2:15	31.7		3	2:15	31.9	
1	2:20	33.2		2	2:20	32.7		3	2:20	32.5	
1	2:25	32.9		2	2:25	32.9		3	2:25	35.3	Lmax 3
1	2:30	34.2		2	2:30	32.9		3	2:30	32.8	
1	2:35	33.2		2	2:35	32		3	2:35	34.6	
1	2:40	33.9		2	2:40	31.9		3	2:40	33.1	
1	2:45	33.9		2	2:45	32.1		3	2:45	32.3	
1	**2:50**	32.6		2	**2:50**	32.1		3	**2:50**	31.7	
1	2:55	33.2		2	2:55	31.8		3	2:55	32.1	
1	3:00	35.2		2	3:00	32.4		3	3:00	31.8	
1	3:05	36		2	3:05	31.8		3	3:05	32.3	
1	3:10	35.5		2	3:10	31.6		3	3:10	32.6	
1	3:15	36.6	x	2	3:15	32.2		3	3:15	32.9	
1	3:20	43.1	x	2	3:20	32.4		3	3:20	32.9	
1	3:25	42.4	x	2	3:25	32.6		3	3:25	35	
1	3:30	38.7	x	2	3:30	31.7		3	3:30	34.1	
1	3:35	33.3		2	3:35	34.5		3	3:35	32.8	
1	3:40	32.4		2	3:40	32.5		3	3:40	33.5	
1	3:45	32.1		2	3:45	33		3	3:45	33.2	
1	3:50	32.1		2	3:50	32.5		3	3:50	33.6	
1	3:55	31.9		2	3:55	32.7		3	3:55	33.2	
1	4:00	31.5		2	4:00	32.8		3	4:00	32.9	
1	4:05	31.8		2	4:05	32.2		3	4:05	33.1	
1	4:10	31.3		2	4:10	33		3	4:10	34.1	
1	4:15	32.3		2	4:15	33.2		3	4:15	32.3	
1	4:20	32.9		2	4:20	32.5		3	4:20	32.8	
1	4:25	33.3		2	4:25	31.8		3	4:25	32.8	
1	4:30	32.9		2	4:30	32		3	4:30	32.5	

BROADBAND IMPACT ANALYSIS

OBSERVED DATA (x indicates interference from another sound source)									
Corner Service RD/ Black Smith Shop Rd			Corner Service RD/ Black Smith Shop Rd			Corner Service RD/ Black Smith Shop Rd			
Date: 7 Mar 2012			Date: 7 Mar 2012			Date: 7 Mar 2012			
Time 1:44 am			Time 1:53 am			Time 1:58 am			
Run #	MM:ss	DbA	Run #	MM:ss	DbA	Run #	MM:ss	DbA	
1	4:35	32.7	2	4:35	32.4	3	4:35	32.2	
1	4:40	32.4	2	4:40	32.1	3	4:40	32.6	
1	4:45	31.4	2	4:45	31.8	3	4:45	32.6	
1	4:50	32	2	4:50	32.2	3	4:50	32.7	
1	4:55	32.2	2	4:55	32.2	3	4:55	32.9	
1	5:00	31.5	2	5:00	31.3	3	5:00	41	x

Lmax (Avg)	36.2	dBA

Sampler Summary Data (Does NOT Exclude interference sound)								
Lmax	45.2	dBA	Lmax	39.6	dBA	Lmax	46.7	dBA
Leq	35.3	dBA	Leq	32.6	dBA	Leq	33.5	dBA
L01	43.3	dBA	L01	36.2	dBA	L01	38.5	dBA
L10	37.2	dBA	L10	33.2	dBA	L10	34.1	dBA
L50	33.2	dBA	L50	32.3	dBA	L50	32.7	dBA
L90	31.7	dBA	L90	31.5	dBA	L90	32	dBA
LC-A	13.2	dBA	LC-A	15	dBA	LC-A	18.6	dBA

Met Data		
WS at Hub	7.9	m/s
WS at CGAS	1.6	m/s
WS at Ground	None	m/s
WD at Hub	237	degrees
WD at CGAS	150	degrees
BP	30.59	in
Humidity	80	%
Temp	24.8	degr F

BROADBAND IMPACT ANALYSIS

OBSERVED DATA (x indicates interference from another sound source)

211 Blacksmith Shop Rd			
Date: 15 Mar 2012			
Time: 1222			
Run #	mm:ss	dB(A)	
1	5	39.8	p
1	10	38	p
1	15	37.7	p
1	20	37.7	p
1	25	37.8	p
1	30	37.7	p
1	35	37.7	p
1	40	37.9	p
1	45	38.2	p
1	50	38.5	p
1	55	40	LMax1P
1	60	42	x
1	1:05	47.4	x
1	1:10	45	x
1	1:15	45.8	x
1	1:20	47	x
1	1:25	46.5	x
1	1:30	43.1	x
1	1:35	41	x
1	1:40	40.7	x
1	1:45	39.9	x
1	1:50	39.2	x
1	1:55	39.1	x
1	2:00	39	x
1	2:05	38.4	p
1	2:10	36.9	p
1	2:15	36.2	p
1	2:20	35.7	p
1	2:25	35.2	
1	2:30	35.5	
1	2:35	36.2	
1	2:40	36.4	
1	2:45	36.2	
1	2:50	36.3	
1	2:55	35.2	
1	3:00	35.6	
1	3:05	35.2	
1	3:10	35.6	
1	3:15	35.4	
1	3:20	35.1	
1	3:25	35.9	
1	3:30	34.9	

211 Blacksmith Shop Rd			
Date: 15 Mar 2012			
Time: 1232			
Run #	mm:ss	dB(A)	
2	5	36.5	p
2	10	35.5	p
2	15	35.6	p
2	20	35.9	p
2	25	35.8	p
2	30	35.7	p
2	35	35.1	p
2	40	35.1	p
2	45	35.2	p
2	50	35.6	
2	55	35.3	
2	60	34.3	
2	1:05	34.6	
2	1:10	34.9	
2	1:15	34.6	
2	1:20	35.8	
2	1:25	34.7	
2	1:30	35.4	p
2	1:35	35.4	p
2	1:40	36	p
2	1:45	36.8	Lmax 2P
2	1:50	35.7	p
2	1:55	36.2	p
2	2:00	36.1	p
2	2:05	35.7	p
2	2:10	33.8	
2	2:15	33.6	
2	2:20	34.3	
2	2:25	34.3	
2	2:30	34.5	
2	2:35	35	
2	2:40	35.2	
2	2:45	35.8	p
2	2:50	36.2	p
2	2:55	36	p
2	3:00	36	p
2	3:05	35.7	p
2	3:10	35.9	p
2	3:15	36.1	p
2	3:20	36	p
2	3:25	36.8	p
2	3:30	35.7	p

BROADBAND IMPACT ANALYSIS

OBSERVED DATA (x indicates interference from another sound source)

211 Blacksmith Shop Rd			
Date: 15 Mar 2012			
Time: 1222			
Run #	mm:ss	dB(A)	
1	3:35	35.7	
1	3:40	36.3	
1	3:45	38.9	Lmax1
1	3:50	42.6	x
1	3:55	44.5	x
1	4:00	43.5	x
1	4:05	46.2	x
1	4:10	44.8	x
1	4:15	42	x
1	4:20	40.5	x
1	4:25	41.8	x
1	4:30	38.9	x
1	4:35	39.1	x
1	4:40	38.3	x
1	4:45	38.1	x
1	4:50	37.4	x
1	4:55	37.7	p
1	5:00	38.3	p

211 Blacksmith Shop Rd			
Date: 15 Mar 2012			
Time: 1232			
Run #	mm:ss	dB(A)	
2	3:35	35.3	p
2	3:40	35.8	p
2	3:45	36.2	
2	3:50	35.2	
2	3:55	36.1	
2	4:00	36.5	x
2	4:05	43	x
2	4:10	45.3	x
2	4:15	39	x
2	4:20	36.6	Lmax 2
2	4:25	35.5	
2	4:30	35.2	
2	4:35	35.5	
2	4:40	35.3	
2	4:45	35.2	
2	4:50	35.6	
2	4:55	34.9	
2	5:00	35.3	

NOTE: Levels marked "p" are influenced by the sound from nearby tree frogs

Lmax (Avg)	37.8	dBA

Without tree frogs

Lmax (Avg)	38.4	dBA

With tree frogs

Sampler Summary Data (Does NOT Exclude interference sound)

Lmax	47.8	dBA
Leq	40.5	dBA
L01	46.9	dBA
L10	44.7	dBA
L50	38.3	dBA
L90	35.3	dBA
LC-A	11.6	dBA

Lmax	49	dBA
Leq	36.9	dBA
L01	46.8	dBA
L10	36.5	dBA
L50	35.5	dBA
L90	34.4	dBA
LC-A	14.1	dBA

Met Data

WS at Hub	4.4	m/s
WS at CGAS	2.6	m/s
WS at Ground	None	m/s
WD at Hub	035	degrees
WD at CGAS	020	degrees
BP	30.25	in
Humidity	93	%
Temp	39.2	degr F

BROADBAND IMPACT ANALYSIS

BROADBAND IMPACT ANALYSIS

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BROADBAND IMPACT ANALYSIS

OBSERVED DATA (x indicates interference from another sound source)																				
27 Ridgeview Rd				27 Ridgeview Rd				27 Ridgeview Rd				27 Ridgeview Rd				27 Ridgeview Rd			
Date:15 Mar 12				Date:15 Mar 12				Date:15 Mar 12				Date:15 Mar 12				Date:15 Mar 12			
Time: 1:08 am				Time: 1:14 am				Time: 1:21 am				Time: 1:28 am				Time: 1:37 am			
Run #	mm:ss	dB(A)		Run #	mm:ss	dB(A)		Run #	mm:ss	dB(A)		Run #	mm:ss	dB(A)		Run #	mm:ss	dB(A)	
1	5	38.7	Lmax 1	2	5	32.8		3	5	33.1		4	5	41	x	5	5	36.3	
1	10	40.3	x	2	10	nd		3	10	30.2		4	10	39.3		5	10	34.6	
1	15	44.6	x	2	15	33.2		3	15	29		4	15	39.3		5	15	34.2	
1	20	42.5	x	2	20	32.5		3	20	27.8		4	20	39.2		5	20	34.1	
1	25	42.6	x	2	25	33.2		3	25	28.2		4	25	39.6		5	25	35.1	
1	30	40.7	x	2	30	33.7		3	30	28.6		4	30	39.7	Lmax 4	5	30	33.9	
1	35	38.7	x	2	35	33.5		3	35	28.7		4	35	39.6		5	35	35.9	
1	40	37.7	x	2	40	33.2		3	40	29.6		4	40	39.6		5	40	34.4	
1	45	36.3	x	2	45	32.6		3	45	31.1		4	45	40.3	x	5	45	35.2	
1	50	35.2	x	2	50	34.2		3	50	32.8	x	4	50	38.2	x	5	50	34.1	
1	55	35.3	x	2	55	34.4	Lmax 2	3	55	33.1	x	4	55	38.2	x	5	55	34	
1	60	33.5		2	60	40.2	x	3	60	34.5	x	4	60	42.7	x	5	60	33.7	
1	1:05	34.1		2	1:05	37.4	x	3	1:05	35.3	x	4	1:05	48.1	x	5	1:05	35.2	
1	1:10	33.5		2	1:10	40.3	x	3	1:10	35.9	x	4	1:10	44.1	x	5	1:10	34	
1	1:15	33.9		2	1:15	43	x	3	1:15	35.7	x	4	1:15	36.9		5	1:15	34.1	
1	1:20	33.4		2	1:20	42.6	x	3	1:20	36.6	x	4	1:20	35.4		5	1:20	34.3	
1	1:25	33.3		2	1:25	46.3	x	3	1:25	37.6	x	4	1:25	35		5	1:25	34.3	
1	1:30	32.1		2	1:30	48.9	x	3	1:30	40.4	x	4	1:30	35.3		5	1:30	34.8	
1	1:35	32.2		2	1:35	46.3	x	3	1:35	41	x	4	1:35	32.9		5	1:35	34.9	
1	1:40	32.5		2	1:40	44.4	x	3	1:40	50.1	x	4	1:40	32.1		5	1:40	34.9	
1	1:45	38.3	x	2	1:45	45.9	x	3	1:45			4	1:45	35.1		5	1:45	40.8	Lmax 5
1	1:50	43.7	x	2	1:50	50.9	x	3	1:50	44.2	x	4	1:50	34.1		5	1:50	36	
1	1:55	41.7	x	2	1:55	48.2	x	3	1:55	41.7	x	4	1:55	33.5		5	1:55	35.4	
1	2:00	40.3	x	2	2:00	38	x	3	2:00	41.4	x	4	2:00	33.5		5	2:00	33.1	
1	2:05	40.1	x	2	2:05	34		3	2:05	46.5	x	4	2:05	34.7		5	2:05	33	
1	2:10	37.6	x	2	2:10	31.6		3	2:10	50.8	x	4	2:10	32.6		5	2:10	33.8	
1	2:15	36.2	x	2	2:15	31.2		3	2:15	43	x	4	2:15	32.4		5	2:15	32.6	
1	2:20	35.8	x	2	2:20	31.5		3	2:20	39	x	4	2:20	33.9		5	2:20	34	
1	2:25	33.7		2	2:25	30.6		3	2:25	36.2	x	4	2:25	34		5	2:25	32.1	
1	2:30	35		2	2:30	30.5		3	2:30	35	Lmax 3	4	2:30	33.5		5	2:30	33.7	
1	2:35	33.8		2	2:35	30.1		3	2:35	32.7		4	2:35	37.3		5	2:35	32.3	
1	2:40	34.1		2	2:40	30.1		3	2:40	31.8		4	2:40	34.2		5	2:40	32.6	
1	2:45	34.9		2	2:45	30.6		3	2:45	31.4		4	2:45	33.8		5	2:45	33.5	
1	2:50	35.2		2	2:50	33.3	x	3	2:50	31.9		4	2:50	33.8		5	2:50	33.6	
1	2:55	37.4	x	2	2:55	40.6	x	3	2:55	31.3		4	2:55	34.2		5	2:55	39.3	x
1	3:00	40.8	x	2	3:00	48.3	x	3	3:00	30.3		4	3:00	34.1		5	3:00	37.2	x
1	3:05	46.7	x	2	3:05	52.6	x	3	3:05	29.6		4	3:05	35.3		5	3:05	36.8	x
1	3:10	45.1	x	2	3:10	50.2	x	3	3:10	30.8		4	3:10	36.7	x	5	3:10	37.3	x
1	3:15	44.8	x	2	3:15	48.1	x	3	3:15	31.1		4	3:15	47.5	x	5	3:15	38	x
1	3:20	42.5	x	2	3:20	50.6	x	3	3:20	29.2		4	3:20	49.3	x	5	3:20	42.2	x
1	3:25	42.2	x	2	3:25	49.6	x	3	3:25	32.4		4	3:25	47.3	x	5	3:25		
1	3:30	43.5	x	2	3:30	47	x	3	3:30	30.5		4	3:30	45.8	x	5	3:30	48.9	x
1	3:35	52.2	x	2	3:35	44.1	x	3	3:35	30.9		4	3:35	44.1	x	5	3:35	45	x
1	3:40	47	x	2	3:40	43.2	x	3	3:40	29.5		4	3:40	41.1	x	5	3:40	37.7	x
1	3:45	40.2	x	2	3:45	44.3	x	3	3:45	29.4		4	3:45	39.6	x	5	3:45	33.7	
1	3:50	37.8	x	2	3:50	46	x	3	3:50	31.4		4	3:50	36.9	x	5	3:50	33.2	
1	3:55	36		2	3:55	44.7	x	3	3:55	30		4	3:55	35.9	x	5	3:55	31	
1	4:00	33.2		2	4:00	44.7	x	3	4:00	30.3		4	4:00	35.6	x	5	4:00	30.2	

BROADBAND IMPACT ANALYSIS

OBSERVED DATA (x indicates interference from another sound source)

27 Ridgeview Rd				27 Ridgeview Rd				27 Ridgeview Rd				27 Ridgeview Rd				27 Ridgeview Rd		
Date:15 Mar 12				Date:15 Mar 12				Date:15 Mar 12				Date:15 Mar 12				Date:15 Mar 12		
Time: 1:08 am				Time: 1:14 am				Time: 1:21 am				Time: 1:28 am				Time: 1:37 am		
Run #	mm:ss	dB(A)		Run #	mm:ss	dB(A)		Run #	mm:ss	dB(A)		Run #	mm:ss	dB(A)		Run #	mm:ss	dB(A)
1	4:05	34.5		2	4:05	45.5	x	3	4:05	31.3		4	4:05	36.1	x	5	4:05	31.9
1	4:10	33.6		2	4:10	42.5	x	3	4:10	32		4	4:10	35.2		5	4:10	30.2
1	4:15	34.1		2	4:15	39.3	x	3	4:15	33.5	x	4	4:15	35.4		5	4:15	30.9
1	4:20	34.8		2	4:20	37.5	x	3	4:20	44.8	x	4	4:20	35.6		5	4:20	30.2
1	4:25	36.5		2	4:25	33.3		3	4:25	44.2	x	4	4:25	35.2		5	4:25	30.3
1	4:30	36.9	x	2	4:30	33.9		3	4:30	42.9	x	4	4:30	35.4		5	4:30	29.9
1	4:35	42.6	x	2	4:35	32		3	4:35	42.9	x	4	4:35	34.5		5	4:35	30.5
1	4:40	43.7	x	2	4:40	31.8		3	4:40	40.8	x	4	4:40	34.6		5	4:40	31.4
1	4:45	45	x	2	4:45	32.7		3	4:45	41.1	x	4	4:45	35.3		5	4:45	31.3
1	4:50	43.8	x	2	4:50	32.3		3	4:50	39.4	x	4	4:50	36.6		5	4:50	30.3
1	4:55	51.6	x	2	4:55	31.1		3	4:55	41.5	x	4	4:55	35.9		5	4:55	30.5
1	5:00	49.7	x	2	5:00	30.6		3	5:00	41	x	4	5:00	39.4		5	5:00	31.4

Lmax (Avg)	37.7	dBA

Sampler Summary Data (Does NOT Exclude interference sound)

Lmax	53	dBA	Lmax	58.6	dBA	Lmax	51	dBA	Lmax	54.1	dBA	Lmax	49	dBA
Leq	42.1	dBA	Leq	44.1	dBA	Leq	40.5	dBA	Leq	40.4	dBA	Leq	37.2	dBA
L01	51.8	dBA	L01	52.2	dBA	L01	50.2	dBA	L01	49.3	dBA	L01	48.5	dBA
L10	45.1	dBA	L10	49	dBA	L10	44.5	dBA	L10	44.2	dBA	L10	38.4	dBA
L50	37.8	dBA	L50	37.8	dBA	L50	33	dBA	L50	35.7	dBA	L50	34.2	dBA
L90	33.5	dBA	L90	31	dBA	L90	29.4	dBA	L90	33.4	dBA	L90	30.7	dBA
LC-A	9.4	dBA	LC-A	9.8	dBA	LC-A	6.5	dBA	LC-A	7.2	dBA	LC-A	9.1	dBA

Met Data

WS at Hub	5.2	m/s
WS at CGAS	2.1	m/s
WS at Ground	< 1	m/s
WD at Hub	033	degrees
WD at CGAS	010	degrees
BP	30.25	in
Humidity	93	%
Temp	39.2	degr F

BROADBAND IMPACT ANALYSIS

OBSERVED DATA (x indicates interference from another sound source)												
260 Fire Tower Rd				260 Fire Tower Rd				260 Fire Tower Rd				
Date: 7 Mar 12				Date: 7 Mar 12				Date: 8 Mar 12				
Time: 11:49 pm				Time: 11:57 pm				Time: 12:06 am				
Run #	mm:SS	dB(A)		Run #	mm:SS	dB(A)		Run #	mm:SS	dB(A)		
1	5	44.8		2	5	45		3	5	43.8		
1	10	45.3		2	10	45.3		3	10	43.7		
1	15	45.1		2	15	44.9		3	15	44.4		
1	20	45.6		2	20	46.3		3	20	43.4		
1	25	45		2	25	46.2		3	25	44.4		
1	30	44		2	30	44.9		3	30	45		
1	35	44.7		2	35	44.4		3	35	45.3		
1	40	43.6		2	40	43.5		3	40	45.3		
1	45	44.7		2	45	44.7		3	45	45.8		
1	50	47.1		2	50	44.2		3	50	45.1		
1	55	45.5		2	55	43.9		3	55	45.5		
1	60	46.9		2	60	44.6		3	60	45.7		
1	1:05	44.7		2	1:05	44.5		3	1:05	45.7		
1	1:10	44.1		2	1:10	46.1		3	1:10	44.2		
1	1:15	46		2	1:15	45.1	x	3	1:15	44.7		
1	1:20	46.1		2	1:20	44		3	1:20	45.9		
1	1:25	45		2	1:25	42.9		3	1:25	46		
1	1:30	44.5		2	1:30	44.7		3	1:30	45.2		
1	1:35	43.7		2	1:35	45.3		3	1:35	43.2		
1	1:40	44.8		2	1:40	45.4		3	1:40	43.7		
1	1:45	45.4		2	1:45	46		3	1:45	44		
1	1:50	45.5		2	1:50	45.3	x	3	1:50	45.4		
1	1:55	45.4		2	1:55	45.8	x	3	1:55	42.8		
1	2:00	44.6		2	2:00	45.8	x	3	2:00	43.4		
1	2:05	44.2		2	2:05	49	x	3	2:05	44.3		
1	2:10	45		2	2:10	48.2	x	3	2:10	43.3		
1	2:15	44.6		2	2:15	48.7	x	3	2:15	43.2		
1	2:20	44.9		2	2:20	47.6	x	3	2:20	43.9		
1	2:25	46.7		2	2:25	45.7	x	3	2:25	43.1		
1	2:30	45.7		2	2:30	45.4		3	2:30	43.4		
1	2:35	45.1		2	2:35	46.5		3	2:35	44.4		
1	2:40	45.6		2	2:40	45.3		3	2:40	45.5		
1	2:45	44.8		2	2:45	45.7		3	2:45	45		
1	2:50	45.4		2	2:50	46.1		3	2:50	43.6		
1	2:55	43.7		2	2:55	46.5		3	2:55	44.8		
1	3:00	45		2	3:00	46.6	Lmax2	3	3:00	42.8		
1	3:05	44.9		2	3:05	46.1		3	3:05	44.8		
1	3:10	45.6		2	3:10	45		3	3:10	44.4		
1	3:15	45.8		2	3:15	45		3	3:15	43.8		
1	3:20	46.4		2	3:20	46.5		3	3:20	44.6		
1	3:25	45.7		2	3:25	45.8		3	3:25	44.7		
1	3:30	45.1		2	3:30	43.1		3	3:30	45.1		
1	3:35	45.9		2	3:35	44.4		3	3:35	45.1		
1	3:40	46.3		2	3:40	45		3	3:40	44.1		
1	3:45	45.6		2	3:45	46.2		3	3:45	44.5		
1	3:50	44.3		2	3:50	46.2	x	3	3:50	43		
1	3:55	44.2		2	3:55	48.1	x	3	3:55	43.6		
1	4:00	44.7		2	4:00	45.9		3	4:00	47	Lmax3	
1	4:05	45.2		2	4:05	45.6		3	4:05	43.9		
1	4:10	47.6	Lmax1	2	4:10	45.2		3	4:10	45.2		
1	4:15	45.3		2	4:15	45.6		3	4:15	44.2		
1	4:20	46		2	4:20	43.7		3	4:20	44		
1	4:25	44.8		2	4:25	45.2		3	4:25	45.3		
1	4:30	46		2	4:30	44.6		3	4:30	44.4		
1	4:35	45.8		2	4:35	44.6		3	4:35	44.6		
1	4:40	47.1		2	4:40	44.5		3	4:40	43.9		

BROADBAND IMPACT ANALYSIS

OBSERVED DATA (x indicates interference from another sound source)									
260 Fire Tower Rd			260 Fire Tower Rd				260 Fire Tower Rd		
Date: 7 Mar 12			Date: 7 Mar 12				Date: 8 Mar 12		
Time: 11:49 pm			Time: 11:57 pm				Time: 12:06 am		
Run #	mm:SS	dB(A)	Run #	mm:SS	dB(A)		Run #	mm:SS	dB(A)
1	4:45	46.3	2	4:45	44.4		3	4:45	42.8
1	4:50	44.5	2	4:50	45.6		3	4:50	45.1
1	4:55	45.8	2	4:55	48.3	x	3	4:55	43.2
1	5:00	44.5	2	5:00	47.3	x	3	5:00	42.9

Lmax (Avg)	47.06	dBA

Sampler Summary Data (Does NOT Exclude interference sound)								
Lmax	49	dBA	Lmax	50.2	dBA	Lmax	53.8	dBA
Leq	45.3	dBA	Leq	45.6	dBA	Leq	44.6	dBA
L01	47.5	dBA	L01	49	dBA	L01	47.2	dBA
L10	46.4	dBA	L10	46.9	dBA	L10	45.6	dBA
L50	45.1	dBA	L50	45.2	dBA	L50	44.2	dBA
L90	44	dBA	L90	43.7	dBA	L90	43	dBA
LC-A	12.9	dBA	LC-A	12.5	dBA	LC-A	12.7	dBA

Met Data		
WS at Hub	13.1	m/s
WS at CGAS	8.7	m/s
WS at Ground	5.1	m/s
WD at Hub	232	degrees
WD at CGAS	240	degrees
BP	30.33	in
Humidity	87	%
Temp	46.4	degr F

BROADBAND IMPACT ANALYSIS

OBSERVED DATA (x indicates interference from another sound source)											
211 Blacksmith Shop Rd				211 Blacksmith Shop Rd				211 Blacksmith Shop Rd			
Date: 8 Mar 12				Date: 8 Mar 12				Date: 8 Mar 12			
Time: 12:27 am				Time: 12:34 am				Time: 12:40 am			
Run #	mm:ss	dB(A)		Run #	mm:ss	dB(A)		Run #	mm:ss	dB(A)	
1	5	nd		2	5	46.2		3	5	46.4	
1	10	nd		2	10	47.4		3	10	47.7	
1	15	nd		2	15	46.5		3	15	48.1	
1	20	45.3		2	20	46.1		3	20	48	
1	25	46.5		2	25	48.8		3	25	49.4	
1	30	46.2		2	30	47.1		3	30	49.5	
1	35	46.2		2	35	46.6		3	35	48.3	
1	40	46.9		2	40	46.3		3	40	49.6	
1	45	46.7		2	45	47.5		3	45	47.8	
1	50	48.2		2	50	45.2		3	50	50.2	
1	55	47.2		2	55	47		3	55	49	
1	60	45.5		2	60	46.7		3	60	48	
1	1:05	44.1		2	1:05	48.6	x	3	1:05	48	
1	1:10	45.8	x	2	1:10	46.8		3	1:10	49.3	
1	1:15	47.5	x	2	1:15	45.9		3	1:15	49.8	
1	1:20	45.2		2	1:20	48.9		3	1:20	47.3	x
1	1:25	45.8		2	1:25	45.3		3	1:25	51.6	x
1	1:30	43.3		2	1:30	46.8		3	1:30	50.8	x
1	1:35	44.6		2	1:35	46.5		3	1:35	48.5	
1	1:40	44.7		2	1:40	46.5		3	1:40	48	
1	1:45	45.1		2	1:45	44.5		3	1:45	47.8	
1	1:50	48.2		2	1:50	48.1	x	3	1:50	47.7	
1	1:55	48		2	1:55	50.5	x	3	1:55	50	
1	2:00	50.2	x	2	2:00	48.6	x	3	2:00	49.4	
1	2:05	49.1	x	2	2:05	48.7		3	2:05	49.1	
1	2:10	47.9		2	2:10	48		3	2:10	51	Lmax3
1	2:15	45.9		2	2:15	49.6		3	2:15	49.4	
1	2:20	46.1		2	2:20	46		3	2:20	50.5	
1	2:25	47.9		2	2:25	48.6		3	2:25	49.5	
1	2:30	47.8		2	2:30	50		3	2:30	50.8	
1	2:35	48.3		2	2:35	47.6		3	2:35	49.8	
1	2:40	47.3		2	2:40	51.7	LMax2	3	2:40	49.6	
1	2:45	45.7		2	2:45	47.6		3	2:45	46	
1	2:50	45.1		2	2:50	48.7		3	2:50	50.4	
1	2:55	47.7		2	2:55	48.5		3	2:55	43.7	
1	3:00	48.8	LMax1	2	3:00	49.3		3	3:00	48.3	
1	3:05	47.2		2	3:05	48.7		3	3:05	47.9	
1	3:10	46.9		2	3:10	48.3		3	3:10	49.6	
1	3:15	46.1		2	3:15	46.6		3	3:15	49.1	x
1	3:20	44.8		2	3:20	47.6		3	3:20	52.4	x
1	3:25	47.4		2	3:25	45.5		3	3:25	50.1	x
1	3:30	45.4		2	3:30	45		3	3:30	49.7	
1	3:35	48.1		2	3:35	46.1		3	3:35	47.4	
1	3:40	47.2		2	3:40	47.8		3	3:40	50.1	x
1	3:45	48		2	3:45	49.8		3	3:45	49.9	x
1	3:50	46.9		2	3:50	49		3	3:50	50.4	x
1	3:55	46		2	3:55	48.5		3	3:55	50.5	x
1	4:00	46.5		2	4:00	48.9		3	4:00	49.8	x
1	4:05	44.4		2	4:05	47.3		3	4:05	49	x
1	4:10	45.2		2	4:10	48.3		3	4:10	50.3	x
1	4:15	47.7		2	4:15	47.9		3	4:15	47.3	
1	4:20	50.4	x	2	4:20	46		3	4:20	48.9	
1	4:25	51.1	x	2	4:25	47.3		3	4:25	49.4	
1	4:30	46.8		2	4:30	47.5		3	4:30	49.6	
1	4:35	47.7		2	4:35	49.6		3	4:35	49.6	
1	4:40	46.8		2	4:40	48.6		3	4:40	49.9	

BROADBAND IMPACT ANALYSIS

OBSERVED DATA (x indicates interference from another sound source)										
211 Blacksmith Shop Rd				211 Blacksmith Shop Rd				211 Blacksmith Shop Rd			
Date: 8 Mar 12				Date: 8 Mar 12				Date: 8 Mar 12			
Time: 12:27 am				Time: 12:34 am				Time: 12:40 am			
Run #	mm:ss	dB(A)		Run #	mm:ss	dB(A)		Run #	mm:ss	dB(A)	
1	4:45	47.1		2	4:45	48.6		3	4:45	48.2	x
1	4:50	48.2	x	2	4:50	50.5	x	3	4:50	47.9	
1	4:55	48.2	x	2	4:55	48.6	x	3	4:55	49.5	
1	5:00	46.6		2	5:00	47.4		3	5:00	47.8	

Lmax (Avg)	50.5	dBA

Sampler Summary Data (Does NOT Exclude interference sound)								
Lmax	51.2	dBA	Lmax	51.8	dBA	Lmax	52.8	dBA
Leq	47	dBA	Leq	47.8	dBA	Leq	49.2	dBA
L01	50.7	dBA	L01	51	dBA	L01	52.3	dBA
L10	48.5	dBA	L10	49.4	dBA	L10	50.5	dBA
L50	46.7	dBA	L50	47.6	dBA	L50	49	dBA
L90	44.9	dBA	L90	45.5	dBA	L90	47.4	dBA
LC-A	14.4	dBA	LC-A	14.9	dBA	LC-A	14.2	dBA

Met Data		
WS at Hub	13.7	m/s
WS at CGAS	10.8	m/s
WS at Ground	3.4	m/s
WD at Hub	232	degrees
WD at CGAS	240	degrees
BP	30.32	in
Humidity	87	%
Temp	46.4	degr F

BROADBAND IMPACT ANALYSIS

OBSERVED DATA (x indicates interference from another sound source)											
161 Blacksmith Shop Rd				161 Blacksmith Shop Rd				161 Blacksmith Shop Rd			
Date: Mar 8, 2012				Date: Mar 8, 2012				Date: Mar 8, 2012			
Time: 1:07 am				Time: 1:15 am				Time: 1:21 am			
Run #	MM:SS	dB(A)		Run #	MM:SS	dB(A)		Run #	MM:SS	dB(A)	
1	5	44.8		2	5	46.6	Lmax2	3	5	45	
1	10	45.2	x	2	10	43.7		3	10	45.1	
1	15	46.8	x	2	15	42.7		3	15	44.5	
1	20	45.3		2	20	42.3		3	20	43.6	x
1	25	43.1		2	25	42.5		3	25	43.7	
1	30	43.8		2	30	43.5		3	30	44.6	
1	35	47.1	x	2	35	42.5		3	35	44.2	
1	40	46.7	x	2	40	43		3	40	44.3	
1	45	43.7		2	45	51.6	x	3	45	43.6	
1	50	42.7		2	50	45.5		3	50	43.1	
1	55	45.1	x	2	55	44.7		3	55	42.7	
1	60	45.6	x	2	60	44.8		3	60	41.9	
1	1:05	44.6		2	1:05	44		3	1:05	43.2	
1	1:10	48.6	x	2	1:10	44.7		3	1:10	42.3	
1	1:15	43.5		2	1:15	44.2		3	1:15	42.3	
1	1:20	42.9		2	1:20	44.5		3	1:20	41.6	
1	1:25	43.2		2	1:25	44.1		3	1:25	42.1	
1	1:30	43.7		2	1:30	44.6		3	1:30	43.1	
1	1:35	43.7		2	1:35	45.1		3	1:35	45.7	x
1	1:40	43.4		2	1:40	44.2		3	1:40	45.3	x
1	1:45	44.1		2	1:45	42.7		3	1:45	44.1	x
1	1:50	44.4		2	1:50	41.9		3	1:50	42.9	
1	1:55	46.8	Lmax 1	2	1:55	42.7		3	1:55	42.6	
1	2:00	45.1		2	2:00	43		3	2:00	42.9	
1	2:05	45.1		2	2:05	42.3		3	2:05	43.6	x
1	2:10	45.1		2	2:10	43.5		3	2:10	43.4	
1	2:15	43.2		2	2:15	44.3		3	2:15	43.5	
1	2:20	44.8		2	2:20	44.5		3	2:20	43.2	
1	2:25	43.1		2	2:25	45.7	x	3	2:25	42.5	
1	2:30	43.2		2	2:30	44.1		3	2:30	42.3	
1	2:35	41.3		2	2:35	44.3		3	2:35	43.2	
1	2:40	42		2	2:40	43.2		3	2:40	43.1	
1	2:45	43.2		2	2:45	44.5		3	2:45	43	
1	2:50	42.5		2	2:50	43.9		3	2:50	43.3	
1	2:55	44.3		2	2:55	42.5		3	2:55	43.7	
1	3:00	48	x	2	3:00	43.9		3	3:00	45.9	x
1	3:05	48.9	x	2	3:05	43.7		3	3:05	44.6	
1	3:10	49.5	x	2	3:10	42.8		3	3:10	43	
1	3:15	47.1	x	2	3:15	42		3	3:15	43	
1	3:20	45.1		2	3:20	44		3	3:20	43.7	
1	3:25	44.3		2	3:25	42.9		3	3:25	44.5	
1	3:30	43.1		2	3:30	44.1		3	3:30	43.8	
1	3:35	42.2		2	3:35	46.4	x	3	3:35	43.5	
1	3:40	41.8		2	3:40	43.9		3	3:40	42.6	
1	3:45	42.6		2	3:45	42.4		3	3:45	42.2	
1	3:50	43.2		2	3:50	43.1		3	3:50	43.4	
1	3:55	43.2		2	3:55	43.3		3	3:55	44.7	
1	4:00	45		2	4:00	44.7		3	4:00	44.7	
1	4:05	46.1	x	2	4:05	44.3		3	4:05	42.7	
1	4:10	47.3	x	2	4:10	43.6		3	4:10	43.1	
1	4:15	46.1	x	2	4:15	44		3	4:15	43.7	
1	4:20	41.5		2	4:20	44		3	4:20	43	
1	4:25	43.5		2	4:25	43.7		3	4:25	43	
1	4:30	43.4		2	4:30	42.7		3	4:30	44.6	
1	4:35	44		2	4:35	42.2		3	4:35	44.9	

BROADBAND IMPACT ANALYSIS

OBSERVED DATA (x indicates interference from another sound source)									
161 Blacksmith Shop Rd			161 Blacksmith Shop Rd			161 Blacksmith Shop Rd			
Date: Mar 8, 2012			Date: Mar 8, 2012			Date: Mar 8, 2012			
Time: 1:07 am			Time: 1:15 am			Time: 1:21 am			
Run #	MM:SS	dB(A)	Run #	MM:SS	dB(A)	Run #	MM:SS	dB(A)	
1	4:40	42.6	2	4:40	42.5	3	4:40	45.2	
1	4:45	43.2	2	4:45	41.7	3	4:45	45.6	Lmax 3
1	4:50	43.7	2	4:50	42.2	3	4:50	44.4	
1	4:55	45.9	2	4:55	41.8	3	4:55	44.5	
1	5:00	46	2	5:00	42.7	3	5:00	43.9	

Lmax (Avg)	46.3	dBA

Sampler Summary Data (Does NOT Exclude interference sound)								
Lmax	54.1	dBA	Lmax	51.7	dBA	Lmax	48.8	dBA
Leq	45.1	dBA	Leq	43.9	dBA	Leq	43.8	dBA
L01	49.8	dBA	L01	48.7	dBA	L01	46.2	dBA
L10	47.2	dBA	L10	44.9	dBA	L10	45	dBA
L50	44.1	dBA	L50	43.4	dBA	L50	43.5	dBA
L90	42.2	dBA	L90	42.3	dBA	L90	42.4	dBA
LC-A	16.7	dBA	LC-A	18	dBA	LC-A	16.6	dBA

Met Data		
WS at Hub	13.7	m/s
WS at CGAS	10.8	m/s
WS at Ground	3.8	m/s
WD at Hub	232	degrees
WD at CGAS	240	degrees
BP	30.31	in
Humidity	87	%
Temp	48.2	degr F

BROADBAND IMPACT ANALYSIS

OBSERVED DATA (x indicates interference from another sound source)											
Service Rd/ Blacksmith Shop Rd				Service Rd/ Blacksmith Shop Rd				Service Rd/ Blacksmith Shop Rd			
Date: 8 Mar 12				Date: 8 Mar 12				Date: 8 Mar 12			
Time: 1:32 am				Time: 1:40 am				Time: 1:47 am			
Run #	mm:ss	dB(A)		Run #	mm:ss	dB(A)		Run #	mm:ss	dB(A)	
1	5	46		2	5	45.4		3	5	43.5	
1	10	46.9		2	10	45.1		3	10	45.2	
1	15	46.6		2	15	43.9		3	15	44.7	
1	20	46.2		2	20	43.4		3	20	43.4	
1	25	44.9		2	25	42.3		3	25	43.4	
1	30	43.4		2	30	43.2		3	30	42.9	
1	35	45.6		2	35	44.4		3	35	45	
1	40	45.5		2	40	47.9		3	40	42.2	
1	45	43.1		2	45	45.8		3	45	43.3	
1	50	42.9		2	50	42.2		3	50	44.6	
1	55	42		2	55	44.5		3	55	44.6	
1	60	42.8		2	60	43.8		3	60	45.8	
1	1:05	42.8		2	1:05	44.2		3	1:05	46.4	
1	1:10	44.4		2	1:10	44.9		3	1:10	46.5	Lmax3
1	1:15	42.5		2	1:15	44.7		3	1:15	45.9	
1	1:20	42.5		2	1:20	43.6		3	1:20	42.1	
1	1:25	43		2	1:25	47.2		3	1:25	44.2	
1	1:30	42.3		2	1:30	46.9		3	1:30	45	
1	1:35	47.4	x	2	1:35	43.9		3	1:35	43.5	
1	1:40	43.4		2	1:40	45.7		3	1:40	44.7	
1	1:45	44.2		2	1:45	43.6		3	1:45	46	
1	1:50	44.4		2	1:50	44.7		3	1:50	45.3	
1	1:55	41.5		2	1:55	42.2		3	1:55	43.2	
1	2:00	41.5		2	2:00	44.8		3	2:00	43.1	
1	2:05	43.5		2	2:05	43		3	2:05	44.4	
1	2:10	43.7		2	2:10	42.4		3	2:10	42.1	
1	2:15	45.3		2	2:15	43.5		3	2:15	43.4	
1	2:20	45.2		2	2:20	43.5		3	2:20	40.9	
1	2:25	45.9		2	2:25	44.1		3	2:25	42.6	
1	2:30	45.6		2	2:30	43		3	2:30	42.3	
1	2:35	45.5		2	2:35	42.2		3	2:35	44.8	
1	2:40	45.7		2	2:40	42.8		3	2:40	42.6	
1	2:45	45.9		2	2:45	43.7		3	2:45	41.2	
1	2:50	46.6	x	2	2:50	43.7		3	2:50	44	
1	2:55	45.6	x	2	2:55	43.6		3	2:55	43.1	
1	3:00	47.3	x	2	3:00	43.7		3	3:00	42.8	
1	3:05	45.9	x	2	3:05	43.8		3	3:05	42.6	
1	3:10	46.4	x	2	3:10	48	Lmax2	3	3:10	42.2	
1	3:15	47	x	2	3:15	45		3	3:15	40.1	
1	3:20	47.5	x	2	3:20	45.3		3	3:20	42.2	
1	3:25	44.4		2	3:25	45		3	3:25	43.1	
1	3:30	45.3		2	3:30	44		3	3:30	43.5	
1	3:35	45.1		2	3:35	43.7		3	3:35	43.6	
1	3:40	41.5		2	3:40	42.6		3	3:40	43.3	
1	3:45	44.6		2	3:45	42.7		3	3:45	44.2	
1	3:50	43.1		2	3:50	44.1		3	3:50	44.5	
1	3:55	44.7		2	3:55	44.1		3	3:55	44.6	
1	4:00	44.4		2	4:00	43.8		3	4:00	43	
1	4:05	46.4		2	4:05	44		3	4:05	39.7	
1	4:10	46.9		2	4:10	41.7		3	4:10	41.6	
1	4:15	46.8		2	4:15	43.2		3	4:15	42	
1	4:20	45.7		2	4:20	42.9		3	4:20	40.1	
1	4:25	45.2		2	4:25	44.2		3	4:25	44.3	
1	4:30	47.6	Lmax1	2	4:30	43.7		3	4:30	44.3	
1	4:35	46.5		2	4:35	46.5	x	3	4:35	42.9	
1	4:40	42.8		2	4:40	44.4		3	4:40	43	

BROADBAND IMPACT ANALYSIS

OBSERVED DATA (x indicates interference from another sound source)									
Service Rd/ Blacksmith Shop Rd				Service Rd/ Blacksmith Shop Rd				Service Rd/ Blacksmith Shop Rd		
Date: 8 Mar 12				Date: 8 Mar 12				Date: 8 Mar 12		
Time: 1:32 am				Time: 1:40 am				Time: 1:47 am		
Run #	mm:ss	dB(A)		Run #	mm:ss	dB(A)		Run #	mm:ss	dB(A)
1	4:45	47.1		2	4:45	43.8		3	4:45	43.5
1	4:50	45		2	4:50	44.8		3	4:50	44.7
1	4:55	45.7		2	4:55	43.8		3	4:55	44.3
1	5:00	47.8	x	2	5:00	44.6		3	5:00	44

Lmax (Avg)	47.4	dBA

Sampler Summary Data (Does NOT Exclude interference sound)								
Lmax	50.8	dBA	Lmax	49.8	dBA	Lmax	49.3	dBA
Leq	45.4	dBA	Leq	44.3	dBA	Leq	43.8	dBA
L01	49	dBA	L01	48.1	dBA	L01	46.5	dBA
L10	47.1	dBA	L10	45.7	dBA	L10	45.3	dBA
L50	45.1	dBA	L50	43.8	dBA	L50	43.5	dBA
L90	42.3	dBA	L90	42.5	dBA	L90	41.4	dBA
LC-A	18.5	dBA	LC-A	18	dBA	LC-A	19	dBA

Met Data		
WS at Hub	14.8	m/s
WS at CGAS	11.3	m/s
WS at Ground	7.5	m/s
WD at Hub	232	degrees
WD at CGAS	240	degrees
BP	30.3	in
Humidity	87	%
Temp	48.2	degr F

BROADBAND IMPACT ANALYSIS

OBSERVED DATA (x indicates interference from another sound source)											
211 Blacksmith Shop Rd				211 Blacksmith Shop Rd				211 Blacksmith Shop Rd			
Date: 27 March 2011				Date: 27 March 2011				Date: 27 March 2011			
Time: 12:03 pm				Time: 12:10 am				Time: 12:16 am			
Run #	mm:ss	dB(A)		Run #	mm:ss	dB(A)		Run #	mm:ss	dB(A)	
1	5	45.9		2	5	45.9		3	5	46.1	
1	10	48.8	Lmax 1	2	10	44.1		3	10	46.8	
1	15	48.8		2	15	44.8		3	15	48	
1	20	48.6		2	20	44.9		3	20	45.7	
1	25	47.6		2	25	48		3	25	47.5	
1	30	47.9		2	30	46.9		3	30	48.5	
1	35	46.8		2	35	46.7		3	35	47.6	
1	40	45.8		2	40	46.8		3	40	47.8	
1	45	46.6		2	45	46.5		3	45	47.2	
1	50	45.4		2	50	47.6		3	50	49.6	x
1	55	45.5		2	55	47.9		3	55	48.4	
1	60	45.7		2	60	48.9	LMax2	3	60	46.9	
1	1:05	45.4		2	1:05	48.6		3	1:05	46.6	
1	1:10	48		2	1:10	46.4		3	1:10	47.5	
1	1:15	46.7		2	1:15	47.3		3	1:15	48.7	Lmax3
1	1:20	47.6		2	1:20	45.6		3	1:20	46.5	
1	1:25	48.5		2	1:25	45.9		3	1:25	46	
1	1:30	47		2	1:30	45.5		3	1:30	45.9	
1	1:35	45.1		2	1:35	44.8		3	1:35	44.3	
1	1:40	47		2	1:40	45.1		3	1:40	46.7	
1	1:45	47		2	1:45	43.3		3	1:45	47.1	
1	1:50	46.2		2	1:50	43.6		3	1:50	45.7	
1	1:55	46.3		2	1:55	43		3	1:55	45.7	
1	2:00	46.2		2	2:00	42.9		3	2:00	44.2	
1	2:05	44.9		2	2:05	42.9		3	2:05	45.7	
1	2:10	46.3		2	2:10	43.3		3	2:10	47.7	
1	2:15	46.6		2	2:15	43.3		3	2:15	49	x
1	2:20	45.8		2	2:20	43.6		3	2:20	49.4	x
1	2:25	45.2		2	2:25	45		3	2:25	48.4	x
1	2:30	46.6		2	2:30	45.2		3	2:30	47.5	
1	2:35	48.8		2	2:35	44.1		3	2:35	48	
1	2:40	47.9		2	2:40	42.9		3	2:40	46.3	
1	2:45	47.9		2	2:45	42.6		3	2:45	46.6	
1	2:50	47.5		2	2:50	41.9		3	2:50	45.1	
1	2:55	45.7		2	2:55	44.3		3	2:55	46.3	
1	3:00	45.3		2	3:00	42.9		3	3:00	44.9	
1	3:05	44.8		2	3:05	42.1		3	3:05	44.5	
1	3:10	44.8		2	3:10	43.5		3	3:10	44.1	
1	3:15	44.6		2	3:15	43.8		3	3:15	44.6	
1	3:20	45.1		2	3:20	44.8		3	3:20	42.1	
1	3:25	46.8		2	3:25	45.4		3	3:25	43.5	
1	3:30	47		2	3:30	44.6		3	3:30	44.4	
1	3:35	45.8		2	3:35	45		3	3:35	45.6	
1	3:40	44.2		2	3:40	43.2		3	3:40	46.8	
1	3:45	43.6		2	3:45	43		3	3:45	45.2	
1	3:50	44.1		2	3:50	47.5		3	3:50	43	
1	3:55	45.2		2	3:55	46		3	3:55	41.7	
1	4:00	47.1		2	4:00	45.5		3	4:00	41.2	
1	4:05	46.2		2	4:05	43.7		3	4:05	42.5	
1	4:10	45.8		2	4:10	43.9		3	4:10	43	
1	4:15	45.8		2	4:15	43.3		3	4:15	45.9	
1	4:20	46.9		2	4:20	44		3	4:20	46.2	
1	4:25	46.2		2	4:25	43.5		3	4:25	49.1	x
1	4:30	45.8		2	4:30	45.2		3	4:30	47.6	
1	4:35	45.7		2	4:35	46		3	4:35	47.6	

BROADBAND IMPACT ANALYSIS

OBSERVED DATA (x indicates interference from another sound source)

211 Blacksmith Shop Rd		
Date: 27 March 2011		
Time: 12:03 pm		
Run #	mm:ss	dB(A)
1	4:40	46
1	4:45	47.2
1	4:50	45.8
1	4:55	45.6
1	5:00	45.6

211 Blacksmith Shop Rd		
Date: 27 March 2011		
Time: 12:10 am		
Run #	mm:ss	dB(A)
2	4:40	43.6
2	4:45	44.1
2	4:50	41.6
2	4:55	40.8
2	5:00	41

211 Blacksmith Shop Rd		
Date: 27 March 2011		
Time: 12:16 am		
Run #	mm:ss	dB(A)
3	4:40	48
3	4:45	47.3
3	4:50	45.8
3	4:55	44.9
3	5:00	46.9

Lmax (Avg)	**48.8**	**dBA**

Sampler Summary Data (Does NOT Exclude interference sound)

Lmax	53	dBA
Leq	46.6	dBA
L01	50.6	dBA
L10	47.9	dBA
L50	46.2	dBA
L90	44.7	dBA
LC-A	15.2	dBA

Lmax	53.3	dBA
Leq	45.1	dBA
L01	49.1	dBA
L10	47.2	dBA
L50	44.3	dBA
L90	42.4	dBA
LC-A	16	dBA

Lmax	50.3	dBA
Leq	46.5	dBA
L01	49.6	dBA
L10	48.3	dBA
L50	46.2	dBA
L90	43.5	dBA
LC-A	15.9	dBA

Met Data

WS at Hub	11.6	m/s
WS at CGAS	4.6	m/s
WS at Ground	2.7	m/s
WD at Hub	350	degrees
WD at CGAS	320	degrees
BP	29.95	in
Humidity	37	%
Temp	30.2	degr F

BROADBAND IMPACT ANALYSIS

OBSERVED DATA (x indicates interference from another sound source)											
27 Ridgeview Road				27 Ridgeview Road				27 Ridgeview Road			
Date: 27 Mar 12				Date: 27 Mar 12				Date: 27 Mar 12			
Time: 12:45 am				Time: 12:52 am				Time: 12:59 am			
Run #	mm:ss	dB(A)		Run #	mm:ss	dB(A)		Run #	mm:ss	dB(A)	
1	5	45.5	x	2	5	41.9		3	5	47.3	x
1	10	47.4	x	2	10	40.1		3	10	42.5	
1	15	50.5	x	2	15	41.4		3	15	42.9	
1	20	49.6	x	2	20	47.8	x	3	20	42.8	
1	25	47.7	x	2	25	52.8	x	3	25	44.5	
1	30	46.5		2	30	50.4	x	3	30	44.9	
1	35	46.7	Lmax 1	2	35	48.3	x	3	35	48.1	x
1	40	49.7	x	2	40	47.8	x	3	40	44.7	
1	45	47.4	x	2	45	45.9	Lmax2	3	45	45.2	
1	50	47	x	2	50	43.3		3	50	43	
1	55	48.4	x	2	55	44.4		3	55	43.4	
1	60	45		2	60	45.6		3	60	43.4	
1	1:05	44.3		2	1:05	44.8		3	1:05	42.9	
1	1:10	42		2	1:10	42.5		3	1:10	42.4	
1	1:15	42.9		2	1:15	42.6		3	1:15	42.3	
1	1:20	43.7		2	1:20	43.5		3	1:20	43.9	
1	1:25	43.8		2	1:25	44.6		3	1:25	44.8	
1	1:30	43.7		2	1:30	45		3	1:30	43.5	
1	1:35	43.2		2	1:35	44.9		3	1:35	45	
1	1:40	43.1		2	1:40	44.3		3	1:40	42.6	
1	1:45	44.3		2	1:45	43.5		3	1:45	43.7	
1	1:50	44.7		2	1:50	41.6		3	1:50	44.1	
1	1:55	41.9		2	1:55	43.2		3	1:55	41.9	
1	2:00	40.1		2	2:00	45.2		3	2:00	43.9	
1	2:05	41		2	2:05	43.9		3	2:05	45.5	
1	2:10	42.8		2	2:10	42.5		3	2:10	44.2	
1	2:15	42.4		2	2:15	44.5		3	2:15	43.2	
1	2:20	46.3		2	2:20	45		3	2:20	42.5	
1	2:25	44.8		2	2:25	43.4		3	2:25	41	
1	2:30	42.8		2	2:30	44		3	2:30	42.5	
1	2:35	42.6		2	2:35	45.7		3	2:35	45.6	
1	2:40	43.1		2	2:40	47.6	x	3	2:40	43	
1	2:45	43.5		2	2:45	49.5	x	3	2:45	41.6	
1	2:50	42.7		2	2:50	47.4	x	3	2:50	42.7	
1	2:55	43		2	2:55	45.7	x	3	2:55	42.4	
1	3:00	45.1		2	3:00	47.3	x	3	3:00	43.5	
1	3:05	42.7		2	3:05	46.5	x	3	3:05	45.5	
1	3:10	48.7	x	2	3:10	48.6	x	3	3:10	44.4	
1	3:15	47.3	x	2	3:15	48.5	x	3	3:15	41.6	
1	3:20	47.1	x	2	3:20	42.5		3	3:20	40.8	
1	3:25	49.8	x	2	3:25	41		3	3:25	44.6	x
1	3:30	50.8	x	2	3:30	42.2		3	3:30	50.1	x
1	3:35	49.4	x	2	3:35	44.5		3	3:35	47.2	x
1	3:40	50.1	x	2	3:40	47.3	x	3	3:40	47.5	x
1	3:45	52.9	x	2	3:45	47.7	x	3	3:45	45.6	x
1	3:50	51.2	x	2	3:50	45		3	3:50	46	Lmax 3
1	3:55	47.3	x	2	3:55	43.6		3	3:55	44.4	
1	4:00	47.2	x	2	4:00	42.2		3	4:00	43.3	
1	4:05	49.4	x	2	4:05	41.6		3	4:05	42.1	
1	4:10	50.7	x	2	4:10	40.5		3	4:10	42.9	
1	4:15	49.2	x	2	4:15	42.9		3	4:15	42.8	
1	4:20	49	x	2	4:20	40.7		3	4:20	42.6	
1	4:25	47.5	x	2	4:25	40.5		3	4:25	43	
1	4:30	45.1		2	4:30	41.7		3	4:30	44.1	
1	4:35	44.9		2	4:35	44		3	4:35	42.7	
1	4:40	45.9		2	4:40	41.8		3	4:40	43	

BROADBAND IMPACT ANALYSIS

OBSERVED DATA (x indicates interference from another sound source)								
27 Ridgeview Road			27 Ridgeview Road			27 Ridgeview Road		
Date: 27 Mar 12			Date: 27 Mar 12			Date: 27 Mar 12		
Time: 12:45 am			Time: 12:52 am			Time: 12:59 am		
Run #	mm:ss	dB(A)	Run #	mm:ss	dB(A)	Run #	mm:ss	dB(A)
1	4:45	45.9	2	4:45	41.3	3	4:45	42.5
1	4:50	44.7	2	4:50	42.2	3	4:50	44.1
1	4:55	44.1	2	4:55	43.1	3	4:55	41.9
1	5:00	44.2	2	5:00	41.9	3	5:00	42.1

Lmax (Avg)	**46.2**	**dBA**

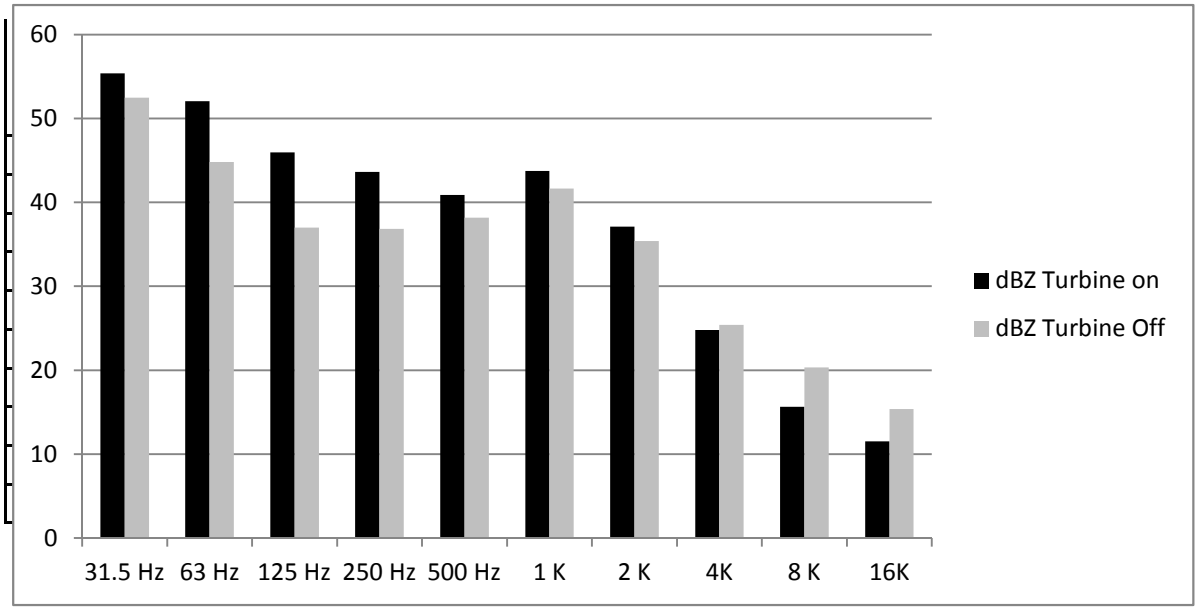
Sampler Summary Data (Does NOT Exclude interference sound)								
Lmax	55	dBA	Lmax	53.7	dBA	Lmax	50.6	dBA
Leq	47.1	dBA	Leq	45.5	dBA	Leq	44.2	dBA
L01	52.6	dBA	L01	52.7	dBA	L01	48.6	dBA
L10	50	dBA	L10	48.3	dBA	L10	46	dBA
L50	45.6	dBA	L50	43.9	dBA	L50	43.4	dBA
L90	42.5	dBA	L90	41	dBA	L90	42.1	dBA
LC-A	14.2	dBA	LC-A	15.7	dBA	LC-A	17.1	dBA

Met Data		
WS at Hub	11.1	m/s
WS at CGAS	5.1	m/s
WS at Ground	3.8	m/s
WD at Hub	357	degrees
WD at CGAS	320	degrees
BP	29.96	in
Humidity	37	%
Temp	28.4	degr F

PURE TONE ANALYSIS

PURE TONE ANALYSIS								
Location: 211 Blacksmith Shop Road								
Date: 8 March 2012								
1/1 Oct Band	dBZ Turbine on	compare to previous	compare to next		Oct Band	dBZ Turbine Off	compare to previous	compare to next
31.5 Hz	55.35	na	-3.3		31.5 Hz	52.47	na	-7.7
63 Hz	52.07	3.3	6.1		63 Hz	44.79	7.7	7.8
125 Hz	45.94	6.1	2.3		125 Hz	37.01	7.8	0.2
250 Hz	43.63	2.3	2.8		250 Hz	36.85	0.2	-1.3
500 Hz	40.87	2.8	-2.9		500 Hz	38.19	-1.3	-3.4
1 K	43.75	-2.9	6.6		1 K	41.63	-3.4	6.2
2 K	37.12	6.6	12.3		2 K	35.40	6.2	10.0
4K	24.78	12.3	9.1		4K	25.42	10.0	5.1
8 K	15.64	9.1	4.1		8 K	20.32	5.1	4.9
16K	11.54	4.1			16K	15.38	4.9	na

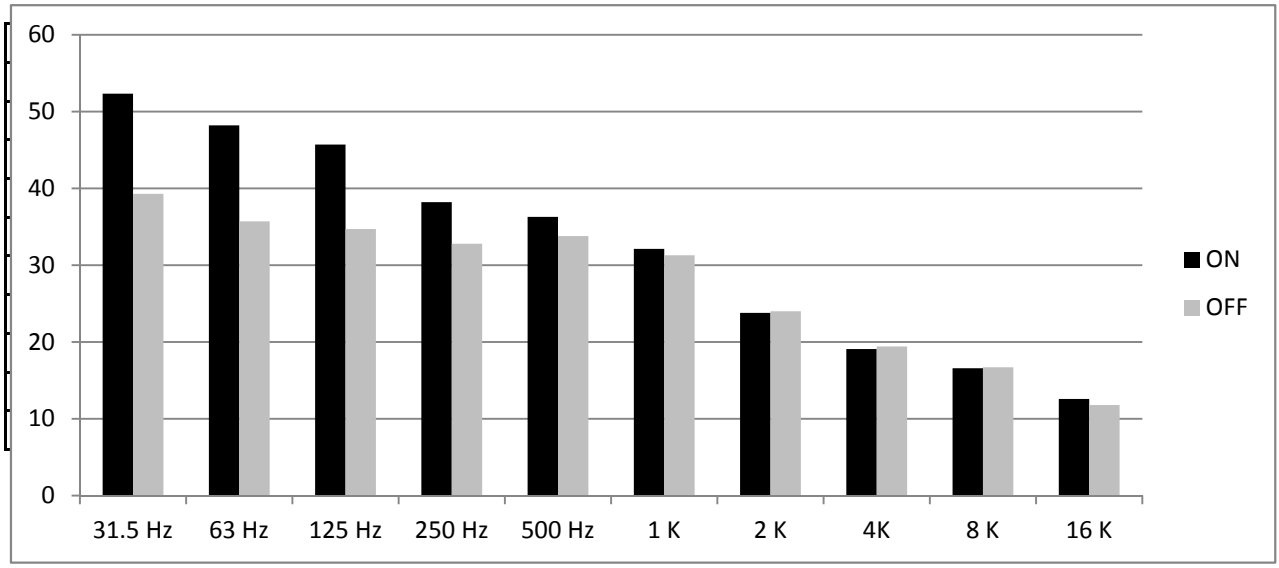
1/1 Oct Band	difference	compare to previous	compare to next
31.5 Hz	2.88	na	-4.4
63 Hz	7.28	-4.4	-1.7
125 Hz	8.93	-1.7	2.2
250 Hz	6.78	2.2	4.1
500 Hz	2.68	4.1	0.6
1 K	2.12	0.6	0.4
2 K	1.72	0.4	2.4
4K	-0.64	2.4	4.0
8 K	-4.68	4.0	-0.8
16K	-3.84	-0.8	na



PURE TONE ANALYSIS

PURE TONE ANALYSIS							
Location: 211 Blacksmith Shop Road							
Date: 27 March 2012							
Oct Band	ON	compare to previous	compare to next	Oct Band	OFF	compare to previous	compare to next
31.5 Hz	52.3	na	4.1	31.5 Hz	39.3	na	3.6
63 Hz	48.2	4.1	2.5	63 Hz	35.7	3.6	1.0
125 Hz	45.7	2.5	7.5	125 Hz	34.7	1.0	1.9
250 Hz	38.2	7.5	1.9	250 Hz	32.8	1.9	-1.0
500 Hz	36.3	1.9	4.2	500 Hz	33.8	-1.0	2.5
1 K	32.1	4.2	8.3	1 K	31.3	2.5	7.3
2 K	23.8	8.3	4.7	2 K	24	7.3	4.6
4K	19.1	4.7	2.5	4K	19.4	4.6	2.7
8 K	16.6	2.5	4.0	8 K	16.7	2.7	4.9
16 K	12.6	4.0	na	16 K	11.8	4.9	na

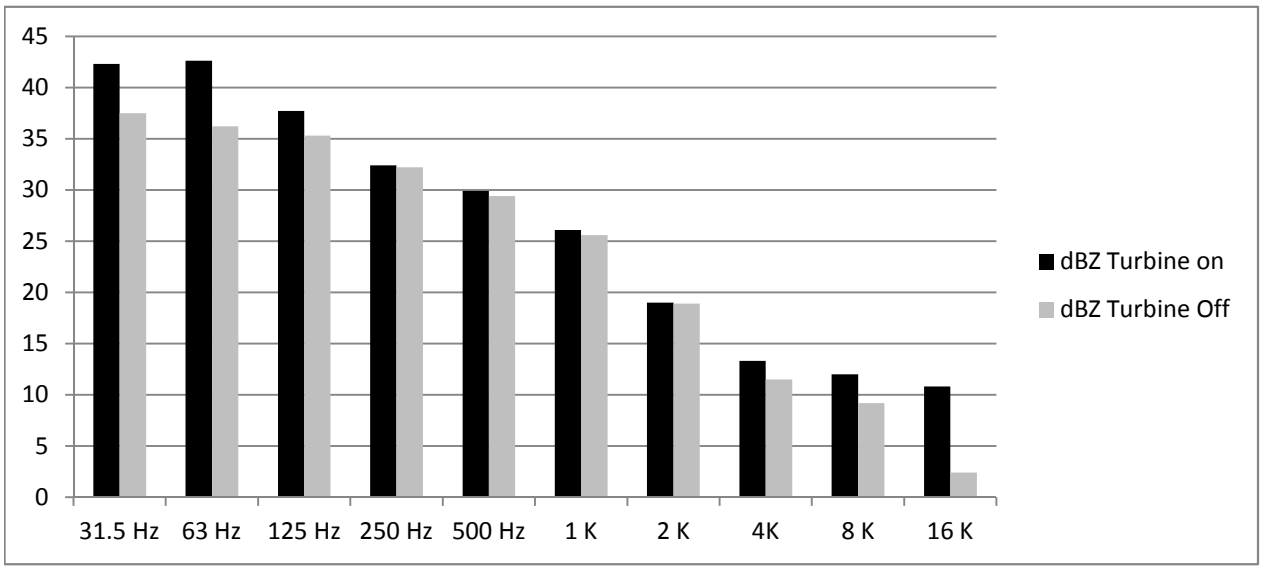
1/1 Oct Band	difference	compare to previous	compare to next
31.5 Hz	13.00	na	0.5
63 Hz	12.50	0.5	1.5
125 Hz	11.00	1.5	5.6
250 Hz	5.40	5.6	2.9
500 Hz	2.50	2.9	1.7
1 K	0.80	1.7	1.0
2 K	-0.20	1.0	0.1
4K	-0.30	0.1	-0.2
8 K	-0.10	-0.2	-0.9
16K	0.80	-0.9	na



PURE TONE ANALYSIS			
Location: 211 Blacksmith Shop Road			
Date: 15 March 2012			
Oct Band	**dBZ Turbine on**	**compare to previous**	**compare to next**
31.5 Hz	42.3	na	-0.3
63 Hz	42.6	-0.3	4.9
125 Hz	37.7	4.9	5.3
250 Hz	32.4	5.3	2.5
500 Hz	29.9	2.5	3.8
1 K	26.1	3.8	7.1
2 K	19	7.1	5.7
4K	13.3	5.7	1.3
8 K	12	1.3	1.2
16 K	10.8	1.2	na

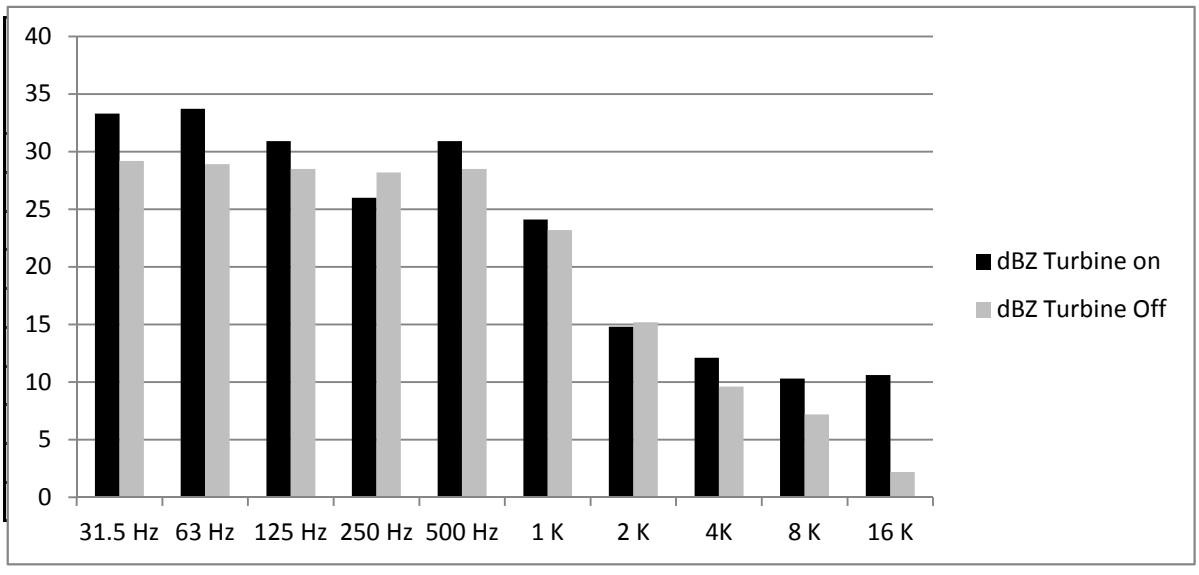
Oct Band	dBZ Turbine Off	compare to previous	compare to next
31.5 Hz	37.5	na	1.3
63 Hz	36.2	1.3	0.9
125 Hz	35.3	0.9	3.1
250 Hz	32.2	3.1	2.8
500 Hz	29.4	2.8	3.8
1 K	25.6	3.8	6.7
2 K	18.9	6.7	7.4
4K	11.5	7.4	2.3
8 K	9.2	2.3	6.8
16 K	2.4	6.8	na

1/1 Oct Band	dBZ difference	compare to previous	compare to next
31.5 Hz	4.80	na	-1.6
63 Hz	6.40	-1.6	4.0
125 Hz	2.40	4.0	2.2
250 Hz	0.20	2.2	-0.3
500 Hz	0.50	-0.3	0.0
1 K	0.50	0.0	0.4
2 K	0.10	0.4	-1.7
4K	1.80	-1.7	-1.0
8 K	2.80	-1.0	-5.6
16K	8.40	-5.6	na



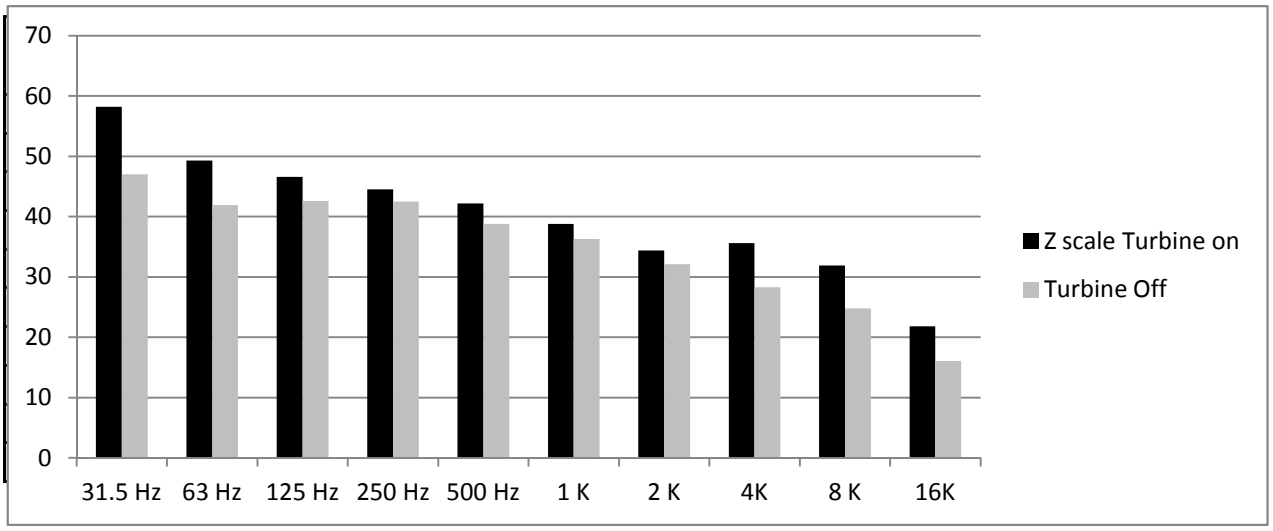
PURE TONE ANALYSIS							
Location: 27 Ridgeview Road							
Date: 15 March 2012							
Oct Band	dBZ Turbine on	compare to previous	compare to next	Oct Band	dBZ Turbine Off	compare to previous	compare to next
31.5 Hz	33.3	na	-0.4	31.5 Hz	29.2	na	0.3
63 Hz	33.7	-0.4	2.8	63 Hz	28.9	0.3	0.4
125 Hz	30.9	2.8	4.9	125 Hz	28.5	0.4	0.3
250 Hz	26	4.9	-4.9	250 Hz	28.2	0.3	-0.3
500 Hz	30.9	-4.9	6.8	500 Hz	28.5	-0.3	5.3
1 K	24.1	6.8	9.3	1 K	23.2	5.3	8
2 K	14.8	9.3	2.7	2 K	15.2	8	5.6
4K	12.1	2.7	1.8	4K	9.6	5.6	2.4
8 K	10.3	1.8	-0.3	8 K	7.2	2.4	5
16 K	10.6	-0.3	na	16 K	2.2	5	na

1/1 Oct Band	dBZ difference	compare to previous	compare to next
31.5 Hz	4.10	na	-0.7
63 Hz	4.80	-0.7	2.4
125 Hz	2.40	2.4	4.6
250 Hz	-2.20	4.6	-4.6
500 Hz	2.40	-4.6	1.5
1 K	0.90	1.5	1.3
2 K	-0.40	1.3	-2.9
4K	2.50	-2.9	-0.6
8 K	3.10	-0.6	-5.3
16K	8.40	-5.3	na



PURE TONE ANALYSIS							
Location: 27 Ridgeview Road							
Date: 27 March 2012							
Oct Band	dBZ Turbine on	compare to previous	compare to next	Oct Band	dBZ Turbine Off	compare to previous	compare to next
31.5 Hz	58.2	na	-8.9	31.5 Hz	47	na	-5.1
63 Hz	49.3	8.9	2.7	63 Hz	41.9	5.1	-0.7
125 Hz	46.6	2.7	2.1	125 Hz	42.6	-0.7	0.1
250 Hz	44.5	2.1	2.3	250 Hz	42.5	0.1	3.7
500 Hz	42.2	2.3	3.4	500 Hz	38.8	3.7	2.5
1 K	38.8	3.4	4.4	1 K	36.3	2.5	4.2
2 K	34.4	4.4	-1.2	2 K	32.1	4.2	3.8
4K	35.6	-1.2	3.7	4K	28.3	3.8	3.5
8 K	31.9	3.7	10.1	8 K	24.8	3.5	8.7
16K	21.8	10.1	na	16K	16.1	8.7	na

1/1 Oct Band	dBZ difference	compare to previous	compare to next
31.5 Hz	11.20	na	3.8
63 Hz	7.40	3.8	3.4
125 Hz	4.00	3.4	2.0
250 Hz	2.00	2.0	-1.4
500 Hz	3.40	-1.4	0.9
1 K	2.50	0.9	0.2
2 K	2.30	0.2	-5.0
4K	7.30	-5.0	0.2
8 K	7.10	0.2	1.4
16K	5.70	1.4	na



PURE TONE ANALYSIS							
Location: Corner Service Rd/ Blacksmith Shop Road							
Date: 8 March 2012							
Oct Band	dBZ Turbine on	compare to previous	compare to next	Oct Band	dBZ Turbine Off	compare to previous	compare to next
31.5 Hz	60.55	na	8.59	31.5 Hz	48.81	na	6.28
63 Hz	51.96	8.59	7.61	63 Hz	42.53	6.28	5.72
125 Hz	44.35	7.61	4.26	125 Hz	36.81	5.72	1.28
250 Hz	40.09	4.26	0.08	250 Hz	35.53	1.28	-2.77
500 Hz	40.01	0.08	-3.99	500 Hz	38.3	-2.77	-2.07
1 K	44	-3.99	4.89	1 K	40.37	-2.07	9.22
2 K	39.11	4.89	9.71	2 K	31.15	9.22	9.58
4K	29.4	9.71	3.97	4K	21.57	9.58	5.05
8 K	25.43	3.97	-2.93	8 K	16.52	5.05	3.06
16 K	28.36	-2.93	na	16 K	13.46	3.06	na

1/1 Oct Band	dBZ difference	compare to previous	compare to next
31.5 Hz	11.74	na	2.3
63 Hz	9.43	2.3	1.9
125 Hz	7.54	1.9	3.0
250 Hz	4.56	3.0	2.9
500 Hz	1.71	2.9	-1.9
1 K	3.63	-1.9	-4.3
2 K	7.96	-4.3	0.1
4K	7.83	0.1	-1.1
8 K	8.91	-1.1	-6.0
16K	14.90	-6.0	na