

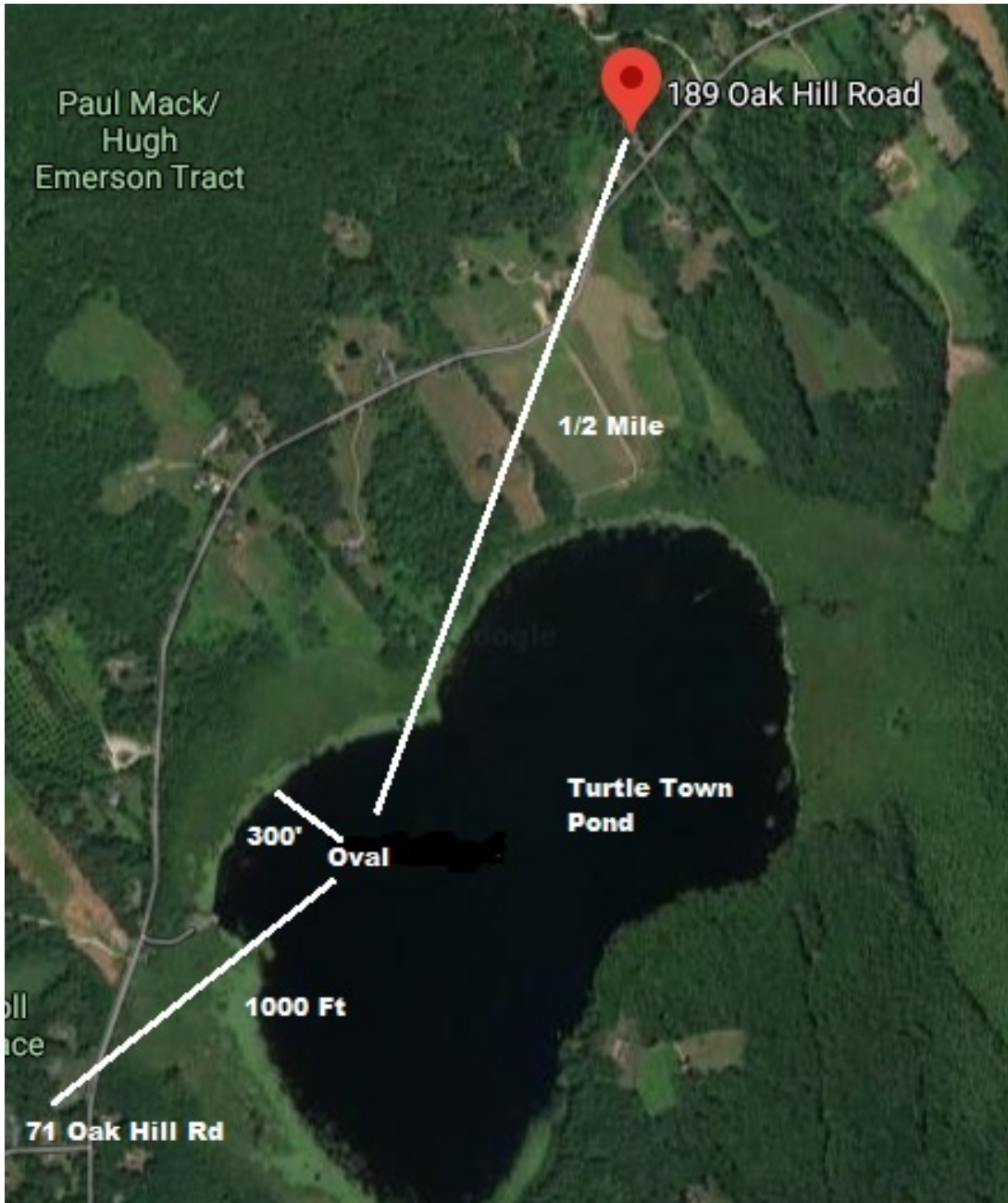
**OHRV Motorcycle Sound Level Survey – Turtle Town Pond Concord, NH**  
By the Merrimack Valley Trail Riders, 16 February 2020

Executive Summary

- At ½ Mile, the seven motorcycles could not be heard inside or outside the house.
- At 1000 Ft., the seven motorcycles could not be heard inside the house. Outside the house, the seven motorcycles were barely detectable, 2dB louder than with all their engines off. A single passing car was louder than the seven motorcycles.
- At 300 Ft, the sound from the seven motorcycles was equivalent to a home clothes washing machine.

Survey Overview

Seven motorcycles that were typically used at the Hoit Road Marsh were used in this survey. The motorcycles operated simultaneously on an oval on the ice at speed, to create sound levels comparable to those at Hoit Road Marsh. Sound level measurements were made near the edge of the pond, at a house 1000 feet away, and a house ½ Mile away. Sound level measurements were also made in the same locations with all motorcycle engines off. These seven motorcycles, and another three for reference, were tested individually for compliance with NH sound limits. The test equipment was obtained from the American Motorcyclist Association.



Test Area, Concord, NH

Summary of Data, House at 189 Oak Hill Road, ½ mile distance

<u>Common References (1)</u>	<u>Measured Outside House</u>	<u>Measured Inside House</u>
110 dB: Rock Concert		
100 dB: Hair Dryer		
90 dB: Gas Lawn Mower		
80 dB: Cafeteria, City Traffic		
70 dB: Home Washing Machine		
	65dB: No bikes active, cars passing	
60 dB: Normal conversation from 10 ft distance.	59 dB: Bikes active, 1 car passing	
	50 dB: Motorcycles active	50dB: Motorcycles active 50dB: Engines off
40 dB: Refrigerator Hum		
30 dB: Soft Whisper		
0 dB: Theoretical minimum		

(1) World Health Organization: [A Review of Hearing Loss due to Recreational Noise](#)

The ½ mile path is approximately 80% open space, and 20% deciduous trees with no leaves. A portion of the pond could be seen from the house.

Summary of Data, House at 71 Oak Hill Road, 1000 ft distance

<u>Common References (1)</u>	<u>Measured Outside House</u>	<u>Measured Inside House</u>
110 dB: Rock Concert		
100 dB: Hair Dryer		
90 dB: Gas Lawn Mower		
80 dB: Cafeteria, City Traffic		
70 dB: Home Washing Machine		
60 dB: Normal Conversation from 10 ft distance.		
	54dB: Bikes active, 1 car passing. 53dB: Bikes active 51dB: No bikes active	49dB: Motorcycles active 49dB: Engines off
40 dB: Refrigerator Hum		
30 dB: Soft Whisper		
0 dB: Theoretical minimum		

(1) World Health Organization: A Review of Hearing Loss due to Recreational Noise

The 1000 Ft path was approximately 90% open space, and 10% deciduous trees with no leaves. The oval on the ice was clearly visible from the house.

Summary of Data, Pond Edge, 300 ft distance

<u>Common References (1)</u>	<u>Measured at Pond Edge</u>
110 dB: Rock Concert	
100 dB: Hair Dryer	
90 dB: Gas Lawn Mower	
80 dB: Cafeteria, City Traffic	
70 dB: Home Washing Machine	69dB: Motorcycles active
60 dB: Normal Conversation from 10 ft distance.	
	53 dB: Engines off
40 dB: Refrigerator Hum	
30 dB: Soft Whisper	
0 dB: Theoretical minimum	

(1) World Health Organization: A Review of Hearing Loss due to Recreational Noise

There were no obstructions between the oval and the measurement location.

## Summary of Data, Individual Motorcycle Static Tests

<u>Used in oval test</u>	<u>Make</u>	<u>Model</u>	<u>Year</u>	<u>Proscribed Test RPM</u>	<u>dB emitted @ 20 inches from exhaust</u>
Y	Yamaha	YZ450	2015	4500	105
Y	KTM	300XCW	2012	3550	92
Y	Kawasaki	KX450	2008	4250	108
Y	Yamaha	WR450	2004	4500	102
Y	KTM	450XCW	2007	4625	100
Y	Kawasaki	KXF450	2015	3750	101
Y	Kawasaki	KXF450	2015	3750	100
N	Yamaha	YZ85	2015	6000	89
N	Kawasaki	KX100	2019	5750	88
N	Yamaha	TTR125	2003	4000	103

The bikes not used during the oval test were children's models.

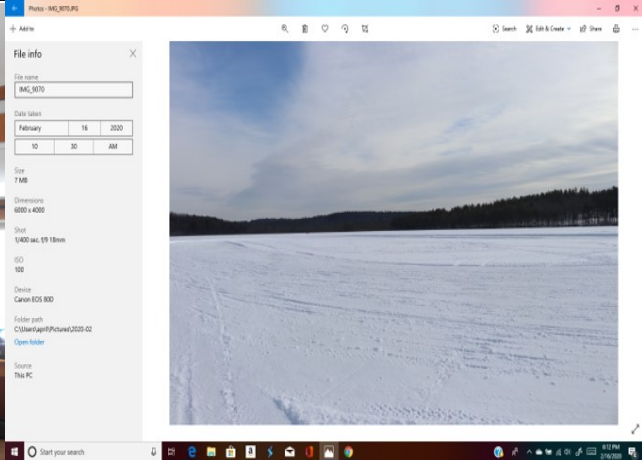
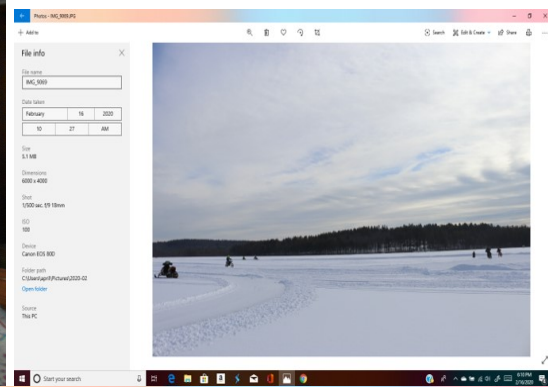
Static Test Standard: Society of Automotive Engineers J 1287: Measurement of Exhaust Sound Levels of Stationary Motorcycles



Sound Test Kit



# Test Data, House at 189 Oak Hill Road, 1/2 mile distance



Mobile phone communications were utilized to synchronize activities



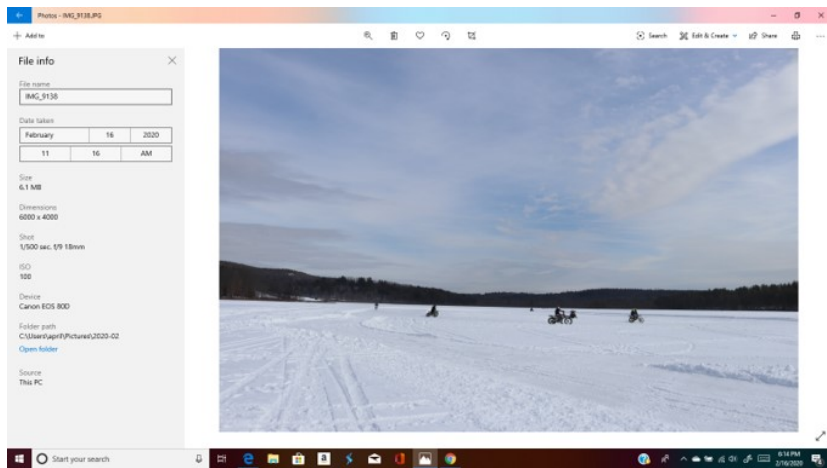
**189 Oak Hill Road  
7 Motorcycles active  
on oval 1/2 Mile ahead.  
Passing cars on road.**

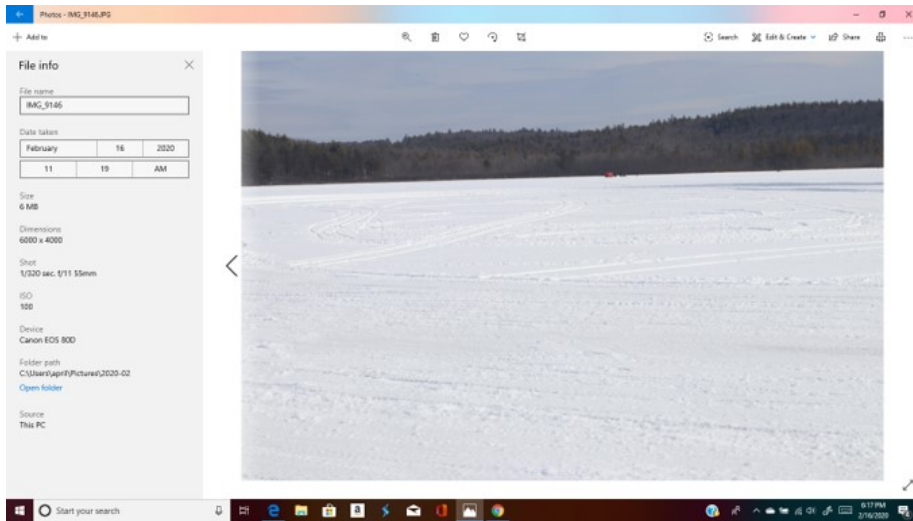


**189 Oak Hill Road  
All motorcycle engines  
off, passing traffic**



# Test Data, House at 71 Oak Hill Road, 1000 ft distance





Test Data, Pond Edge, 300 ft distance

