

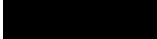


January 25, 2017

Ryan Adams
Evidence Preservation Specialist



Ref: Locomotive Number: BNSF 8489
Claim # 49451
Conducted at the Argentine Railyard in Kansas City, Kansas on January 24, 2017

Terracon Project Number 

Dear Mr. Adams:

On January 24, 2017 Blake Harris, Project Industrial Hygienist, and I conducted a locomotive horn test for locomotive number BNSF 8489 at the Argentine Railyard test track in Kansas City, Kansas. The test was conducted as specified in the Record of Locomotive Horn Test (attached) following the Federal Railroad Administration Standard 49 CFR 229.129 for Audible Warning Devices. I have reviewed the test records and results, and am satisfied with the quality and accuracy of the test procedures, documentation, and results.

Test results indicate the average sound level produced by the horn of locomotive BNSF 8489 is 105.5 dBA, at a measured distance of 100 feet from the front knuckle of the locomotive, 15 feet above the rail surface.

Please find attached supporting documentation for the horn test, including the horn test data sheet and a photo plate showing the site conditions. Please contact us if you have any questions regarding the methodology, results, or interpretation of the horn test results. Terracon Consultants very much appreciates the opportunity to provide locomotive horn testing services to Burlington Northern Santa Fe.

Regards,
TERRACON



Jeffery H Brinkmeyer CIH,
Industrial Hygiene Project Manager



Record of Locomotive Horn Test

This document details the results of a field locomotive horn test. The sound measuring device used for the testing was positioned 100 feet forward of the front knuckle of the locomotive, centerline of the direction of locomotive travel and 15 feet above the top of the rail. Six (6) individual readings were collected, and the arithmetic average of all six readings was used to determine the average sound level of the horn.

TEST LOCATION: Argentina Yard - Kansas City, KS

Unit Number: BNSF 8489

Unit Direction: West

Test Date: 1-24-2017

Test Time: 6:00 PM

Test Equipment Used: Casella dBadge

Model Number: CEL-35X

Serial Number: 0973296

Factory Calibration Date: 11-21-2016

Weather Conditions: Clear

Temperature: 50.7°F

Windspeed: 4-7 mph

Wind Direction: ENE

Person Performing Calibration: Blake Harris

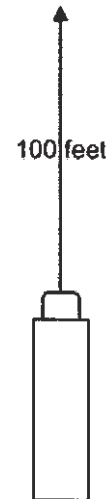
Person Performing Test: Blake Harris

Field Calibrations	Date	Value (dBA)
Pre-Test Calibration	1-24-17	114.0
Post-Test Calibration	1-24-17	114.0

Centerline Readings

1. 106.0
2. 105.4
3. 106.2
4. 105.8
5. 105.0
6. 104.8

105.5
Average
0.56
Standard Deviation



Person Performing Test (Printed Name)

Blake Harris

Signature of Person Performing Test

[Redacted Signature]

Date:

1-24-2017

Certified Industrial Hygienist Review by (Printed Name)

Jeff Brinkmeyer CIH

Certified Industrial Hygienist Signature:

[Redacted Signature]

Date:

1-24-2017

Terracon

PHOTO LOG

LOCATION: Argentine Test Track, Kansas City Kansas.

DATE: January 24, 2017

ADDRESS: 39° 4.7273' N 94° 39.779'W

CONTACT NAME: Ryan Adams

PHONE: 913-551-4208

Terracon TEAM: Jeff Brinkmeyer CIH, Blake Harris IH

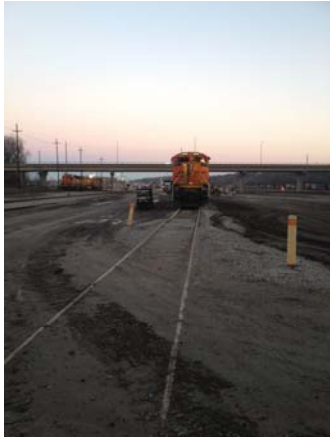


Photo #1 Locomotive BNSF 8489
Positioned at test location facing west.
Photo taken from sample location



Photo #2 Locomotive BNSF 8489
No reflective obstructions 200ft to the south



Photo #3 Locomotive BNSF 8489
No reflective obstructions 200 ft to the north



Photo #4 Locomotive BNSF 8489
Side view of locomotive indicating horn position mid-vehicle