



**NATIONAL ENVIRONMENTAL BALANCING BUREAU
CERTIFIED TEST, ADJUST, AND BALANCE REPORT**

by **pb**pro balance

NEBB CERTIFICATION NUMBER 2851

May 12, 2017

Big Whiskey's

Lee's Summit, Missouri

ARCHITECT: ng

CITY/STATE: ng

ENGINEER: ng

CITY/STATE: ng

HVAC CONTRACTOR: AFC

CITY/STATE: Lee's Summit, Missouri

pbpro balance

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Project Sheet

Project Name: Big Whiskey's

Date Started: Wednesday, May 03, 2017

Date Finished: Wednesday, May 10, 2017

Field Tech(s): David Yocum

Project Supervisor: Rick West

NATIONAL ENVIRONMENTAL BALANCING BUREAU PROJECT CERTIFICATION

PROJECT: Big Whiskey's
Lee's Summit, Missouri

The data presented in this report is a record of system measurements and final adjustments that have been obtained in accordance with the current edition of NEBB Procedural Standard for Testing, Adjusting and Balancing of Environmental Systems.

The measurements shown and information given, in this report are certified to be accurate and complete, at the time and the date information was gathered.

Any variances from design quantities, which exceed NEBB tolerances, are noted in the TAB report Summary.

Submitted by:

PRO BALANCE, INC.
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NEBB Supervisor:

Rick West

Date:

May 12, 2017



Rick C. West

Equipment Calibration Log

PROJECT: Big Whiskey's

<i>INSTRUMENT/SERIAL NUMBER</i>	<i>APPLICATION</i>	<i>CALIBRATION TEST DATE</i>	<i>RE CALIBRATION DUE DATE</i>
Shortridge ADM 860/M11838	Velocity, pressures, flow hood, temp.	October 18, 2016	October 18, 2017
Shortridge ADM 860/M96498	Velocity, pressures, flow hood, temp.	March 30, 2016	March 30, 2017
Check-Line PLT-5000/B1298510P	Digital RPM Measurement	December 20, 2016	December 20, 2017
Amprobe Southwire 21010N/60204	Amperage/Voltage Measurement	April 8, 2016	April 8, 2017
Cooper SRH77A-E / 12110020	DB/WB Temperature Measurement	April 7, 2016	April 7, 2017
Shortridge HDM-250 Hydronic/W02041	Water Balance Differential Meter	March 30, 2016	March 30, 2017
Alnor/HM670/71025017	Water Balance Differential Meter	August 1, 2016	August 1, 2017
Shortridge ADM 860C/M12360	Velocity, pressures, flow hood, temp.	November 1, 2016	November 1, 2017
Shortridge ADM 860/M96106	Velocity, pressures, flow hood, temp.	November 11, 2016	November 11, 2017

Report Summary & Nomenclatures

PROJECT: Big Whiskey's

Report Summary : Pro Balance preformed TAB per NEBB standards.

EF-4: Flow measured 109% of design, average of 105 fpm at the grease filters. Pro Balance typically see an average of 150-200 fpm at the filters.

AMP= Amperes	MAT= Mixed Air Temperature (°F)
BTU= British Thermal Unit	NA= Not Applicable
MBH= 1000 BTUs Per Hour	NG= Not Given
CD= Ceiling Diffuser	OA= Outside Air
CFM= Cubic Feet Per Minute	OAT= Outside Air Temperature (°F)
DMP= Damper	PH= Phase
°F= Degrees Fahrenheit	PSI= Pounds Per Square Inch
DIA= Diameter	RLF= Relief
ΔP= Differential Pressure	RA= Return Air
DB= Dry Bulb (°F)	RAT= Return Air Temperature (°F)
EAT= Entering Air Temperature (°F)	RPM= Revolutions Per Minute
EXH= Exhaust	S.F.= Service Factor
EA= Exhaust Air	SCFM= Standard Cubic Feet Per Minute
ESP= External SP ("WG)	SP= Static Pressure ("WG)
EWT= Entering Water Temp (°F)	SA= Supply Air
FT= Feet	SAT= Supply Air Temperature (°F)
FPM= Feet Per Minute	SQFT= Square Feet
HZ= Hertz	ΔT= Temperature Difference
IN= Inches	TSP= Total SP ("WG)
kW= Kilowatt	VFD= Variable Frequency Drive
LAT= Leaving Air Temperature (°F)	WG= Water Gauge
LWT= Leaving Water Temp (°F)	WB= Wet Bulb (°F)

Exhaust/Supply Fan Test Report

PROJECT: Big Whiskey's

UNIT TAG	E-KEF		EF-4			
LOCATION	roof		roof			
SERVICE	existing kitchen hood		kitchen hood			
MANUFACTURER	Captive Aire		Caprive Aire			
MODEL NUMBER	NCA24HPFA		DU85HFA			
SERIAL NUMBER	ng		ng			
TYPE	backward incline		backward incline			
MOTOR MAKE/FRAME	Weg/184T		HSSA/ng			
MOTOR HP/RPM	3.0/1750		1.0/1350			
VOLTS/PH/HZ	208-230/1/60		115-208/1/60			
F.L. AMPS/S.F.	18.6-17.5/1.25		7.2-3.6/1.15			
MTR SHEAVE MAKE	ng		direct drive			
MTR SHEAVE DIA./BORE	2 - 4.0" dia./1.0		direct drive			
FAN SHEAVE MAKE	ng		direct drive			
FAN SHEAVE DIA./BORE	2 - 5.0" dia./1.125		direct drive			
#BELTS/MAKE/SIZE	2/ng/BX30		direct drive			
CENTER LINE/BACK ADJ.	8.0/-2+2		direct drive			
PITCH DIAMETER	-0.75		direct drive			
TEST DATA	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL
DISTRIBUTION CFM TOTAL	4538	4153	1125	1221		
SUBMITTED FAN CFM	4538	4153	1125	1221		
SP IN/OUT	ng	*1	ng	*1		
TOTAL SP	ng	*1	1.00	*1		
FAN RPM/VFD HZ	ng	1098	ng	*2		
VOLTAGE	208	211	208	211		
AMERAGE	18.6	15.4	3.6	3.6		

Remarks: *1 No access to measure static pressure.
*2 No access to fan shaft.

Rectangular Duct Traverse/Surface Velocity Report

PROJECT: Big Whiskey's
SYSTEM: Existing KEF

LOCATION OF TRAVERSE	MEASURING DEVICE	SP	AIR TEMP	ALTITUDE	CORRECTION FACTOR
grease filters	velgride	na	70.0	Standard	1.00

DUCT SIZE			DESIGN DATA		ACTUAL DATA	
W X H:	188.00	X 14.00	SCFM:	4538	SCFM:	4153
LINER:	0.00	SQFT: 18.28	FPM:	248	CFM:	4538
			FPM:	227	CFM:	4153

	1	2	3	4	5	6	7	8	9	10	11	12	13
1	186												
2	209												
3	234												
4	244												
5	227												
6	236												
7	211												
8	258												
9	263												
10	247												
11	224												
12	209												
13	206												

VELOCITIES TOTAL		NO. OF POINTS		AVG. FPM
2954	/	13	=	227

Remarks:

Rectangular Duct Traverse/Surface Velocity Report

PROJECT: Big Whiskey's
SYSTEM: EF-4

LOCATION OF TRAVERSE	MEASURING DEVICE	SP	AIR TEMP	ALTITUDE	CORRECTION FACTOR
grease filters	velgride	na	70.0	Standard	1.00

DUCT SIZE				DESIGN DATA		ACTUAL DATA	
W X H:	93.00	X	18.00	SCFM:	1125	SCFM:	1221
LINER:	0.00		SQFT: 11.63	FPM:	97	FPM:	105
			CFM:	1125	CFM:	1221	

	1	2	3	4	5	6	7	8	9	10	11	12	13
1	94												
2	114												
3	106												
4	103												
5	112												
6	108												
7	98												
8													
9													
10													
11													
12													
13													

VELOCITIES TOTAL **NO. OF POINTS** **AVG. FPM**
735 / 7 = 105

Remarks: