Report By:

National TAB
1329 E. KEMPER ROAD
SUITE 4210
CINCINNATI, OH 45246

Report: TAB

Function: Test, Adjust, & Balance

Date: 09/05/2024

PROJECT

09-02-24 CHIPOTLE #04-4316 OAKHURST (OAKHURST, CA)

40027 HWY 49

OAKHURST, CA 93644

Client

Chipotle Mexican Grill

610 Newport Center Drive, Suite 1100

Newport Beach, CA 92660

National TAB

Project: 09-02-24 CHIPOTLE #04-4316 OAKHURST (OAKHURST, CA)

Table Of Contents

Project Summary

The summary below provides a quick understanding of our scope of work and general testing procedures. Enclosed in the report is further detail about your building performance including recommendations, asset data, and pictures. Our focus is to work with the trades to remedy any issues or deficiencies during the actual field balancing and not after the balancing has occurred to achieve a positive environment and outcome. The level of success is determined by the availability of the trades, possible parts needed, or time constraints.

RTU's (Roof Top Units) w/ Diffusers
Each of the RTU's were measured at their terminal devices or via traverse to establish a total flow for that unit. Each RTU was adjusted to within tolerance of the engineer's design flow. Each outlet was then adjusted to within tolerance of the design flow. Outside air was measured by reading the intake air opening with a velocity grid and multiplying by the free area. The outside air damper was adjusted until the airflow was within the design requirements. Any equipment that fell outside of that tolerance is noted throughout the report.

Kitchen Exhaust Hood & Associated Fans
Each kitchen exhaust fan was measured at the hood filter bay utilizing a velocity matrix and a manufacturer's correction factor. Each filter velocity is multiplied by the manufacturer's corrected area. The sum of these readings equals the total flow of the exhaust fans. The total flow of the exhaust was then adjusted to within tolerance of the design flow. . Any EF's that fell outside of this tolerance is noted throughout the report.

MUA (Make Up Air Unit) w/ PSP
Total flow for the MAU (Make-up Air Unit) unit was measured by readings taken at the discharge of the hood's perforated supply plenum. Readings taken with a velocity matrix were averaged and multiplied by a manufacturer's corrected area. Adjustments to the fan speed were made in order to bring the unit to within design tolerance. Any MUA's that fell outside of this tolerance is noted throughout the report.

General Exhaust Fans w/ Grilles
The general exhaust fans were measured by reading each air device with a flow hood. The total airflow for each fan is equivalent to the sum of these readings. Fan speed was then adjusted so that the airflow was within tolerance of design. Each terminal device was balanced to within tolerance of the design volume using the installed volume dampers. Any equipment that fell outside of this tolerance is noted throughout the report.

Final Building Tests
After completing the test and balance the final building pressure was measured. It was confirmed that the building pressure fell within acceptable tolerances of -0.02" wc to +0.02" wc and that the pressure measurement coincides with the actual and design net airflow. Any deviations from these standards are noted throughout the report.
The hood capture was tested at the perimeter of the hood and the cook top level with the equipment heat on to ensure satisfactory hood capture and containment.

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AIR BALANCE SCHEDULE

UNIT	AREA SERVED	HVAC SUPPLY		HVAC RETURN		HVAC OUTDOOR		OA %		HOOD MAKE-UP		HOOD EXHAUST		GENERAL EXH.	
		DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL
RTU-1	KITCHEN	3400	3306	2900	2770	500	536	14.7%	16.2%						
RTU-2	DINING	3400	3559	2400	2523	1000	1036	29.4%	29.1%						
MUA-1	KITCHEN HOOD									1950	1897				
EF-1	KITCHEN HOOD											3200	3256		
EF-2	RESTROOM													150	149
TOTALS		6800	6865	5300	5293	1500	1572			1950	1897	3200	3256	150	149

NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	3450	3469
TOTAL EXHAUST	3350	3405
NET AIRFLOW	100	64

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS (IN. H20)
FRONT	0.0011
SIDE	0.0009
REAR	-0.0011
AVERAGE	**0.0003**

FINAL CHECKS

ACTUAL NET AIRFLOW COINCIDES WITH DESIGN: ✓

MEASURED PRESSURES COINCIDES WITH ACTUAL NET AIRFLOW: ✓

PRESSURE FALLS WITHIN IMC TOLERANCE OF +/-0.02" W.C. ✓

NOTES:

CheckList List

- 00: SITE PICTURES
- 01: RTU's/AHU's
- 02: EF's
- 03: MUA
- 04: HOODS
- 05: FINAL TESTS

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CheckList Information

Name : 00: SITE PICTURES **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 12/15/2023 - Damian Binkowski - National TAB

Completed Date : 09/05/2024 - David Nicolas Sanchez - National TAB

CheckList Item Details

STORE FRONT

Comment:

09/05/2024

RTU-1

Comment:

09/05/2024

RTU-2

Comment:

09/05/2024

MUA

Comment:

09/05/2024

EF-1

Comment:

09/05/2024

EF-2

Comment:

09/05/2024

HOOD-1

Comment:

09/05/2024

09-02-24 CHIPOTLE #04-4316 OAKHURST (OAKHURST, CA)

CheckList Information

Name :	01: RTU's/AHU's	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	12/18/2023 - Damian Binkowski - National TAB		
Completed Date :	09/04/2024 - David Nicolas Sanchez - National TAB		

CheckList Item Details

RTU's/AHU's

Thermostats installed and have power?	Yes
Comment:	
All diffusers and grilles are installed and match design?	Yes
Comment:	
Deflector plates are removed from 1x1 diffusers on the serve line (double check that this is specified on the diffuser schedule first)	Yes
Comment:	
Economizer blank plate is installed below the ouside air intake (Trane only) (N/A = not applicable)	N/A
Comment:	
Economizers are assembled and functional?	Yes
Comment:	
DCV Max damper opening position is set to minimum?	Yes
Comment:	

Free cooling enthalpy set point set for lowest setting (Typically "D")	Yes
Comment:	
Motors are all operating below the FLA rating?	Yes
Comment:	
Are belts tight?	Yes
Comment:	
If direct drive unit is the speed controller working?	N/A
Comment:	
Is gas piping installed and valves turned on?	Yes
Comment:	
Unit free of noticeable noise and vibration	Yes
Comment:	
Final outside air damper position is marked with permanent marker?	Yes
Comment:	

09-02-24 CHIPOTLE #04-4316 OAKHURST (OAKHURST, CA)

CheckList Information

Name :	02: EF's	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	12/18/2023 - Damian Binkowski - National TAB		
Completed Date :	09/04/2024 - David Nicolas Sanchez - National TAB		

CheckList Item Details

EF's

Rotation is correct?	Yes
Comment:	
Belts are tight?	N/A
Comment:	
Viroguard installed on hood fan(s)?	Yes
Comment:	
Hinge kit installed installed on hood fan?	Yes
Comment:	
Lean fan back. Is grease duct installation adequate and is duct ran all the way to the base of the fan?	Yes
Comment:	
Flex conduit is long enough so that fan can be completely tilted back?	Yes
Comment:	

There is no major leakage around base of fan?	Yes
Comment:	
Is the motor operating below the motor FLA rating?	Yes
Comment:	
For restroom fan(s) is the back draft damper installed and can it fully open?	Yes
Comment:	
Unit free of noticeable noise and vibration?	Yes
Comment:	

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CheckList Information

Name :	03: MUA	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	12/18/2023 - Damian Binkowski - National TAB		
Completed Date :	09/04/2024 - David Nicolas Sanchez - National TAB		

CheckList Item Details

MUA

Rotation is correct?	Yes
Comment:	
Gas piping is installed and valves are in on position?	Yes
Comment:	
Internal motorized damper is fully opening?	Yes
Comment:	
Motor is operating below the FLA rating?	Yes
Comment:	
Unit free of noticeable noise and vibration?	Yes
Comment:	

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CheckList Information

Name :	04: HOODS	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	12/18/2023 - Damian Binkowski - National TAB		
Completed Date :	09/04/2024 - David Nicolas Sanchez - National TAB		

CheckList Item Details

HOODS

All hood filters installed and accounted for?	Yes
Comment:	
Hoods are wired and have power?	Yes
Comment:	
Hood is free of alarms?	Yes
Comment:	
Hood is free of damage?	Yes
Comment:	
Quarter or full vertical end panels are installed if specified?	Yes
Comment:	

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CheckList Information

Name :	05: FINAL TESTS	**Status :**	Completed
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		
Created Date :	12/18/2023 - Damian Binkowski - National TAB		
Completed Date :	09/05/2024 - David Nicolas Sanchez - National TAB		

CheckList Item Details

FINAL CHECKS

Is space free of drafting?	Yes
Comment:	
Is space comfortable in all areas?	Yes
Comment:	
Is the space free of ventilation noise?	Yes
Comment:	
List kitchen equipment turned on for testing	N/A
Comment:	
List smoke candle type used	
Comment:	
45 seconds CEO163	

HOOD CAPTURE TEST

Smoke test capture % - Perimeter of hood

Comment:

100%

Smoke test capture % - Top of cooking surface

Comment:

100%

WITNESS

Date test was completed	09/05/2024

Comment:

TAB tech name / Firm

Comment:

David Nicolas Sanchez / National TAB Intelligence

Site super name / Firm

Comment:

Jose Zamora / Tri-Quest Builders & Developers Inc.

Owner representative name / Firm (if Applicable)

Comment:

N/A

BUILDING PRESSURE

Do actual net building airflow, design net building airflow, and pressure coincide? If not why? (All three should either be positive or negative)	Pass

Comment:

Front door: 0.0011 Front exit: 0.0009 Back exit: -0.0011

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Project: 09-02-24 CHIPOTLE #04-4316 OAKHURST (OAKHURST, CA)

System/Unit: AHU/RTU

Asset: RTU-1 AREA:KITCHEN

Unit Data		
	Design	**Actual**
MFG	YORK	YORK
Serial Num	-	N2C3549766
Model Num	ZJ102	ZJ102N18R2B5EAA2A3
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	22X30
Num Final Filter 1	-	4
Final Filter Size 1	-	20X24X2

Motor Data		
	Design	**Actual**
Motor MFG	-	BALDOR
Frame	-	56HZ
Horsepower	-	3
Motor Rpm	-	1750
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	8.3

Drive Data	
	Actual
Motor Sheave Size	5”
Motor Bore Size	1”
Motor Sheave SetPt	3 TURNS OPENED
Fan Sheave Size	7”
Fan Sheave Bore	1”
Belt CL Distance	18”
Num of Belts	1
Belt Size	A54
Belt Alignment	VERIFIED

Test Data		
	Design	**Actual**
SF CFM	3400	3306
SF RPM	-	983
RA CFM	2900	2770
OA CFM	500	536
RL Voltage	-	206/206/207
RL Amperage	-	5.75/5.47/5.63
SF Rotation	-	CCW
RA Damper Position	-	81%
Min OA Damper Position	-	9%
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	27B/#

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.69”
Fan Suction SP	-	-0.83”
Fan Discharge SP	-	0.51”
Total ESP	0.80"	1.34”
Fan Total SP	-	1.20”

General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	YES
Condensate Drain Installed	YES

Completed By: David Nicolas Sanchez on 09/05/2024

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Project:09-02-24 CHIPOTLE #04-4316 OAKHURST (OAKHURST, CA)

AHU/RTU

Diffuser Supply (GRD)

RTU-1/KITCHEN

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	OFFICE	CD1	8"	150	1	88	81	135	90.0
SGRD2	BOH	CD1	12"	325	1	35	403	298	91.7
SGRD3	BOH	CD1	12"	325	1	198	196	293	90.2
SGRD4	FOOD PREP	CD1	12"	400	1	366	584	402	100.5
SGRD5	FOOD PREP	CD1	12"	400	1	290	441	402	100.5
SGRD6	COOKLINE	CD2	8"	250	1	140	205	227	90.8
SGRD7	COOKLINE	CD2	8"	250	1	12	0	228	91.2
SGRD8	COOKLINE	CD2	8"	250	1	146	210	235	94.0
SGRD9	COOKLINE	CD2	8"	250	1	149	223	235	94.0
SGRD10	HOOD1	ACPSP	183"X6"	800	5.95	603	952	851	106.4
Total				3400		2027	3295	3306	97.24%

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Project: 09-02-24 CHIPOTLE #04-4316 OAKHURST (OAKHURST, CA)

System/Unit: AHU/RTU

Asset: RTU-2 AREA:DINING

Unit Data		
	Design	**Actual**
MFG	YORK	YORK
Serial Num	-	N2G3746290
Model Num	ZJ102	ZJ102N18R2B5EAA2A3
Type	RTU	RTU
Configuration	VERTICAL	VERTICAL
Num OA Filters 1	-	1
OA Filter Size 1	-	22X30
Num Final Filter 1	-	1
Final Filter Size 1	-	20X24X2

Motor Data		
	Design	**Actual**
Motor MFG	-	BALDOR
Frame	-	56HZ
Horsepower	-	3
Motor Rpm	-	1750
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	8.3

Drive Data	
	Actual
Motor Sheave Size	5"
Motor Bore Size	1"
Motor Sheave SetPt	2 TURNS OPENED
Fan Sheave Size	7"
Fan Sheave Bore	1"
Belt CL Distance	18"
Num of Belts	1
Belt Size	A54
Belt Alignment	VERIFIED

Test Data		
	Design	**Actual**
SF CFM	3400	3559
SF RPM	-	886
RA CFM	2400	2523
OA CFM	1000	1036
RL Voltage	-	206/205/207
RL Amperage	-	5.35/5.17/5.25
SF Rotation	-	CCW
RA Damper Position	-	80%
Min OA Damper Position	-	20%
Min OA Damper Type	-	ECONOMIZER
OA Enthalpy Setpt	-	27B/#

Performance Data		
	Design	**Actual**
MA Plenum SP	-	-0.45”
Fan Suction SP	-	-0.62”
Fan Discharge SP	-	0.44”
Total ESP	0.80"	0.89”
Fan Total SP	-	1.06”

General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	YES
Condensate Drain Installed	YES

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Project:09-02-24 CHIPOTLE #04-4316 OAKHURST (OAKHURST, CA)

AHU/RTU

Diffuser Supply (GRD)

RTU-2/DINING

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
SGRD1	DINING	SR2	18"X6"	400	1	370	316	373	93.3
SGRD2	DINING	SR2	18"X6"	400	1	343	293	373	93.3
SGRD3	DINING	SR1	14"	700	1	849	727	765	109.3
SGRD4	DINING	SR1	14"	600	1	809	692	659	109.8
SGRD5	DINING	SR1	14"	500	1	697	596	549	109.8
SGRD6	DINING	SR1	14"	400	1	505	432	435	108.8
SGRD7	DINING	SR1	14"	400	1	355	304	405	101.3
Total				3400		3928	3360	3559	104.68%

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Project: 09-02-24 CHIPOTLE #04-4316 OAKHURST (OAKHURST, CA)

System/Unit: FAN - Exhaust

Asset: EF-1 AREA:HD-1 - COOKLINE

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	DU240HFA	DU240HFA
Serial Num	-	5755703
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	NEMA
Frame	-	213/5T
Horsepower	3.000	3.0
Motor Rpm	-	1175
Phase	3	3
Voltage (rated)	208	208
Amperage (rated)	-	8.83
Service Factor	-	1.25

Test Data		
	Design	**Actual**
CFM	3200	3356
Fan RPM	887	828
Fan Rotation	-	CCW
Motor RPM	-	828
System SetPt	-	42.3 HZ
RL Voltage	-	128 @ VFD
RL Amperage	-	6.2 @ VFD
Total ESP	1.500"	0.68”
Fan Inlet SP	-	0.68”
Fan Discharge SP	-	ATMS

Completed By: David Nicolas Sanchez on 09/04/2024

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Project: 09-02-24 CHIPOTLE #04-4316 OAKHURST (OAKHURST, CA)

System/Unit: FAN - Exhaust

Asset: EF-2 AREA:RR

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	DR12HFA	DR12HFA
Serial Num	-	5755703
Type	DOWNBLAST	DOWNBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	NEMA
Frame	-	N/A
Horsepower	0.250	0.25
Motor Rpm	-	1800
Phase	1	1
Voltage (rated)	115	115
Amperage (rated)	-	N/A
Service Factor	-	N/A

Test Data		
	Design	**Actual**
CFM	150	149
Fan RPM	1339	1470
Fan Rotation	-	CCW
Motor RPM	-	1470
System SetPt	-	74P
RL Voltage	-	NA
RL Amperage	-	NA
Total ESP	0.600"	0.48”
Fan Inlet SP	-	0.48”
Fan Discharge SP	-	ATMS

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Project:09-02-24 CHIPOTLE #04-4316 OAKHURST (OAKHURST, CA)

FAN - Exhaust

Diffuser Ret/Exh (GRD)

EF-2/RR

Asset									
Asset Name	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**	**FINAL CFM**	**% to design**
EGRD1	RR	ER1	6"X6"	75	1	75	80	80	106.7
EGRD2	RR	ER1	6"X6"	75	1	158	69	69	92.0
Total				150		233	149	149	99.33%

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Project: 09-02-24 CHIPOTLE #04-4316 OAKHURST (OAKHURST, CA)

System/Unit: FAN - Supply

Asset: MUA-1 AREA:HD-1 - COOKLINE

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	A1-D.250-15D	A1-D.250-15D
Serial Num	-	5755703
Type	MUA	MUA
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	**Actual**
Motor MFG	-	NEMA
Frame	-	145T
Horsepower	2.000	2.0
Motor Rpm	-	1745
Phase	3	3
Voltage (rated)	208	208
Amperage (rated)	-	5.64
Service Factor	-	1.15

Drive Data	
	Actual
Motor Sheave Size	DD
Motor Bore Size	DD
Fan Sheave Size	DD
Fan Sheave Bore	DD
Belt CL Distance	DD
Num of Belts	DD
Belt Size	DD
Belt Alignment Verified	DD

Gas Heat		
	Design	**Actual**
Heater Operates (y/n)	-	Y
Flame Status (pass/fail)	-	PASS
Inlet Air Temp SetPt	55	55
Discharge Air Temp SetPt	60	60
Air Flow Switch SP Actual	-	0.44"

Test Data		
	Design	**Actual**
CFM	1950	1897
SF RPM	2150	1745
Motor RPM	-	1745
RL Voltage	-	158@VFD
RL Amperage	-	4.2@VFD
Total ESP	-	N/A
Fan Discharge SP	-	N/A

General	
	Actual
Fan Rotation Correct	YES

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Project: 09-02-24 CHIPOTLE #04-4316 OAKHURST (OAKHURST, CA)

System/Unit: Kitchen Hood Type I

Asset: HD-1 AREA:COOK LINE

Unit Data		
	Design	**Actual**
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	5424 ND-2-ACPSP-F	5424 ND-2-ACPSP-F
Job / Serial Num	-	5755703
Type	TYPE I CANOPY	TYPE I CANOPY
Hood length	171”	171"
Hood Width	54”	54"
Supply Plenum Type	-	ACPSP
Supply Plenum Width	12”	12"
Supply Plenum Length	183”	183"

Test Data Exhaust		
	Design	**Actual**
Filter Type	CAPTRATE SOLO	CAPTRATE SOLO
Filter Size 1	16”X16”	16”X16”
Filter Qty 1	10	10
Filter AK factor size 1	1.62	1.62
Filter Total AK Area	16.2	16.2
Filter1 FPM	-	172
Filter2 FPM	-	212
Filter3 FPM	-	187
Filter4 FPM	-	213
Filter5 FPM	-	184
Filter6 FPM	-	197
Filter7 FPM	-	221
Filter8 FPM	-	221
Filter9 FPM	-	210
Filter10 FPM	-	198
Filter Ave FPM(corr)	-	201
CFM	3200	3256

Cooking Equipment	
	Actual
Item 1	GRILL
Item 2	STOVE
Item 3	FRYER
Item 4	FRYER

Test Data Supply		
	Design	**Actual**
Total AK Area	15.25	15.25
Kv factor (Vel)	0.87	0.87
Num of Readings	-	12
Reading1 FPM	-	168
Reading2 FPM	-	120
Reading3 FPM	-	129
Reading4 FPM	-	143
Reading5 FPM	-	162
Reading6 FPM	-	122
Reading7 FPM	-	126
Reading8 FPM	-	153
Reading9 FPM	-	151
Reading10 FPM	-	133
Reading11 FPM	-	124
Reading12 FPM	-	185
Ave FPM(corr)	-	143
CFM	1950	1897

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