

Report By:

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SUITE 4210
CINCINNATI, OH 45246

NATIONAL

TAB

Comfort. Under control.

Report: FINAL TAB REPORT
Function: Test, Adjust, & Balance
Date: 7/27/2022

PROJECT
07-18 APPLEBEE'S - VINELAND, NJ
(REVIVE)

3849 DELSEA DRIVE

VINELAND , NJ

Client

Flynn Restaurant Group
6200 Oak Tree Boulevard
Suite 250
Independence, OH 44131

National TAB

Project: 07-18 APPLEBEE'S - VINELAND, NJ (REVIVE)

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Project Summary

The purpose of the visit to Applebee's in Vineland was to investigate the cause for high humidity inside of the space.

The initial airflows in the space were measured and the building was found net -6465 CFM and -0.20" wc negative which is extremely negative. This is allowing high amounts of unconditioned outside air to enter the space through the building envelope and doors. This appears to be the most significant issue that was identified in relation to the humidity issue. The negative pressure issue is caused by outside air intakes not being installed on RTU's 1 or 2, MUA being low, and EF's being high.

Hood 1, Hood 2 and Hood 3 airflows were excessive. The airflows were reduced to get airflow closer to design on Hoods 1 and 3. Pulley changes on hood 1 and 2 are recommended to reduce airflow further. Unable to speed up the MUA pulley since it was seized but it is not recommended since it is a back return style and could cause smoke rollout. OA was opened up and set on RTU-3. Improvements were made on both RTU-1 and RTU-3 supply air.

The kitchen during peak cooking hours was 82 degrees and it could not keep up. It was not an abnormally hot day outside (88.7 F). The MUA design may be partly to blame and it is recommended to resolve (see item 3 below). It was verified that when the hoods were turned off at the switch that both the MUA and EF turned off as this was a concern prior to arrival.

After completion of balance the pressure is slightly improved (-4931 CFM and -0.15") which is still extremely negative. See recommendations below to further improve the issue:

Recommendations

1. Outside air intakes need to be installed for RTU-1 and RTU-2. Per Flynn these are now on order. This is most critical item that needs to be resolved. Once installed they need to be set to a minimum position. Recommend trying to complete this first before moving on to other items.
2. EF-1 and EF-2 need pulley changes in order to reduce airflow closer to design. However this has to be done carefully as the back return could cause worse smoke rollout at lower exhaust rate (see item 5 below). National TAB can recommend pulley sizes if deciding to go this route.
3. RTU's are 12 years old and when it is time to replace, recommend installing units with dehumidification (i.e., Humiditrol)
4. EF-5 serves a grille in the dining room. This fan is not needed and should be turned off and abandoned.
5. Restroom exhaust fan EF-4 is not operational and needs to be replaced. Recommend sizing for 360 CFM. Ensure it is a direct drive fan with speed controller.
6. Mechanical contractor pointed to what he indicated was mold inside the supply air ducts. Unable to confirm, but if it is then the ducts should be cleaned.
7. Not related to humidity issue, but the MUA heater is not functional and should be repaired.
8. Full vertical end panels should be installed on both hoods to allow for better performance and for exhaust rates to be reduced.
9. MUA is currently a back return style. This is an older style hood that discharges air out the back of the hood. It is not used in new designs any more because it causes poor hood performance and a lot of the MUA to escape into the kitchen. The MUA is also not conditioned which compounds the issue. Recommend an ACPSP be added in the front of the hoods which would stratify air and then also allow more MUA to be re-entrained into the hood instead of into the space. Cap off the existing back return to prevent grease accumulation. Tap off the AC portion of the ACPSP to the kitchen RTU. Will be difficult to add the ACPSP due to lights and sprinklers near the hoods.

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	DINING	4100	3667	3140	3667	960	0	23.4%	0.0%						
RTU-2	DINING	3200	3163	2440	3163	760	0	23.8%	0.0%						
RTU-3	KITCHEN	5000	3874	4400	2587	600	1287	12.0%	33.2%						
MUA-1	COOKLINE									4450	3161				
EF-1	HD1 RANGE											2700	4031		
EF-2	HD2 GRIDDLE/FRYER											2250	3706		
EF-3	HD3 DISH											900	822		
EF-4	TOILET ROOMS													360	0
EF-5	DINING													400	585
EF-6	EMP. RR													100	118
EF-7	EMP. RR													100	117
TOTALS		12300	10704	9980	9417	2320	1287			4450	3161	5850	8559	960	820

NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	6770	4448
TOTAL EXHAUST	6810	9379
NET AIRFLOW	-40	-4931

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS (IN. H2O)
FRONT	
SIDE	-0.147
REAR	-0.154
AVERAGE	-0.1505

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:

PROPOSED 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	DINING	4100		3200		900		22.0%	#DIV/0!						
RTU-2	DINING	3200		2500		700		21.9%	#DIV/0!						
RTU-3	KITCHEN	4500		3600		900		20.0%	#DIV/0!						
MUA-1	COOKLINE									4200					
EF-1	HD1 RANGE											2700			
EF-2	HD2 GRIDDLE/FRYER											2250			
EF-3	HD3 DISH											900			
EF-4	TOILET ROOMS													360	
EF-5	DINING													400	
EF-6	EMP. RR													100	
EF-7	EMP.RR													100	
TOTALS		11800	0	9300	0	2500	0			4200	0	5850	0	960	0

NET BUILDING AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	6700	0
TOTAL EXHAUST	6810	0
NET AIRFLOW	-110	0

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS (IN. H2O)
FRONT	
SIDE	
REAR	
AVERAGE	

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:

Note - assumes that an ACPSP is installed. If back return installed, may not be able to balance as shown above.



RTU-1



RTU-2



RTU-3



EF-1



EF-2



EF-3



EF-4



EF-5



MAU-1



CONDENSATE TRAP



SHEAVE RUSTED



Hood 1



HOOD 2



THERMOSTATS



KITCHEN IS WARMER DESPITE UNIT CALLING FOR COOLING



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Project Issue Information

Issue Name : Hood Exhaust fans motor compartments are covered in grease.
Description : The Hood EFs are all covered in grease making motor adjustments and sheave changes difficult.
Created By : National TAB **Assigned To :** National TAB - Will Turnbough
Status : Open
Originated Date : 07/19/2022 - David Annan - National TAB

Project Issue Response Details

- **07/27/2022** National TAB - David Annan

- Picture



EFGREASE.jpeg



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07-18 APPLEBEE'S - VINELAND, NJ (REVIVE)

Project Issue Information

Issue Name : MAU Motor Sheave is rusted

Description : Unable to adjust the motor sheave of the MAU due to the rust on the sheave and bolt.

Created By : National TAB

Assigned To : National TAB - Will Turnbough

Status : Open

Originated Date : 07/19/2022 - David Annan - National TAB

Project Issue File Details



Screenshot_2022_07_27_14302
1.png



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Project Issue Information

Issue Name : Mold in RTU-2 Supply duct

Description : There is signs of mold on the supply duct stated by Mechanical on site (yellow in picture). Unconfirmed by NT but noted as it would be evidence of elevated humidity in the space. If it is mold, recommend cleaning duct.

Created By : National TAB

Assigned To : National TAB - Will Turnbough

Status : Open

Originated Date : 07/18/2022 - David Annan - National TAB

Project Issue File Details



Screenshot_2022_07_27_152118.png



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Project Issue Information

Issue Name : RTU-1 and RTU-2 No OA intake

Description : RTU-1 and RTU-2 have no OA intakes for these units.

Created By : National TAB

Assigned To : National TAB - Will Turnbough

Status : Open

Originated Date : 07/18/2022 - David Annan - National TAB

Project Issue Response Details

- **07/27/2022** National TAB - David Annan

- Picture



RTU-2NOoA.jpeg



RTU-1NOoA.jpeg



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CheckList Information

Name : TECH - STEP 1: INITIAL READINGS **Status :** NotSubmitted
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB

CheckList Item Details

INITIAL BUILDING REVIEW:

What is the initial building pressure before making any changes?	Front: -0.21" Side:-0.22" Rear:-0.197"
Are thermostats programmed?	Yes, Resturant has the old Robert Shaw thermostats.
Are building pressure relief working properly?	NA RTU's do not have a pressure relief function.

INITIAL AIRFLOWS:

SUPPLY RTU-1	3667 CFM
OA RTU-1	0 CFM, Unit does not have OA intake.
SUPPLY RTU-2	3163
OA RTU-2	0, Unit does not have OA intak.
SUPPLY RTU-3	3874 CFM
OA RTU-3	0 CFM damper is closed.
EF-1	4785 CFM
EF-2	3706 CFM
EF-3	1135 CFM
EF-4	EF-4 was not running.
MAU-1	3161 CFM

Notes/Comments :



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CheckList Information

Name : TECH - STEP 2: INITIAL WALKTHROUGH **Status :** NotSubmitted
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB

CheckList Item Details

INITIAL SITE WALKTHROUGH

All diffusers and grilles are installed and match design?	Yes, diffusers and grilles match design.
All hood filters installed and accounted for?	Yes, all hood are accounted for.
Hoods are wired and have power?	Hoods do not have control panel.
Hood is free of alarms?	Hood does not have a control panel. Just an on or off switch.
Thermostats have power?	Yes, Thermostats have power.
Have trades/general contractor been notified about any issues and are they created on FaciliBuild?	Yes.

Notes/Comments :



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CheckList Information

Name :	TECH - STEP 3 - UNIT DATA AND EVALUATION	Status :	NotSubmitted
Assigned Organization :	National TAB	Asset :	
Requesting Organization :	National TAB		

CheckList Item Details

UNIT DATA AND EVALUATION WHILE GATHERING UNIT DATA CHECK THE FOLLOWING:

RTU's/AHU's

Economizers are assembled and functional?	RTU-1 and RTU-2 do not have economizers nor OA intake installed.
DCV Max damper opening position is set to minimum?	Yes.
Free cooling enthalpy set point set for lowest setting (Typically "D")	Yes
Motors are all operating below the FLA rating?	
Are belts tight?	Belts are tight.
If direct drive unit is the speed controller working.	NA, No direct drive.
Is gas piping installed and valves turned on?	Yes, Gas pipping turned on.
Unit free of noticeable noise and vibration	Yes.

EF's

Rotation is correct?	CCW
Belts are tight?	Yes, Belts are tight
Grease cup installed on hood fan?	Grease Cup in hood is not visible.
Hinge kit installed installed on hood fan?	Hinge kit is installed on hood fans.
Lean fan back. Is grease duct installation adequate and is duct ran all the way to the base of the fan?	Yes.

Flex conduit is long enough so that fan can be completely tilted back?	Yes, Flex conduit is long enough.
There is no major leakage around base of fan?	There is no major leakage.
Is the motor operating below the motor FLA rating?	Motors are operating below FLA.
For restroom fan(s) is the back draft damper installed and can it fully open?	
Unit free of noticeable noise and vibration?	No noticeable noise or vibration.

MUA

Rotation is correct?	Yes, rotation is correct.
Gas piping is installed and valves are in on position?	Gas piping is installed and valves are open.
Heater tested and is functional?	
Internal motorized damper is fully opening?	Yes damper is fully opening.
Motor is operating below the FLA rating?	Motor is below the FLA rating.
Unit free of noticeable noise and vibration?	Unit is free of noise or vibration

HOODS

Kitchen equipment installed in proper places?	Yes, kitchen equipment is installed in proper locations.
Can kitchen equipment be turned on for final smoke test?	Yes, equipment was turned on for smoke test.

DOCUMENTATION

Have trades/general contractor been notified about any issues and are they created on FaciliBuild?	Yes.
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Notes/Comments :



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CheckList Information

Name :	TECH - STEP 4: TEST, ADJUST AND BALANCE	Status :	NotSubmitted
Assigned Organization :	National TAB	Asset :	
Requesting Organization :	National TAB		

CheckList Item Details

TEST, ADJUST, AND BALANCE ALL EQUIPMENT:

DURING TESTING MAKE NOTE OF THE FOLLOWING:

Is space free of drafting?	Yes, space is free of drafting.
Is space comfortable in all areas?	Dining room is chilly since thermostats at 65 degrees to avoid the floors being slippery. Kitchen tends to be a little warmer despite thermostat calls for cooling at 68 degrees.
Is the space free of ventilation noise?	Yes, space is free of noise.
If deviations from design were necessary to resolve 1-3 what were they? Otherwise put "NA".	NA.

Notes/Comments :



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CheckList Information

Name :	TECH - STEP 5: FINAL TESTS	Status :	NotSubmitted
Assigned Organization :	National TAB	Asset :	
Requesting Organization :	National TAB		

CheckList Item Details

FINAL TESTS

HOOD CAPTURE TEST

List equipment turned on for testing	Stove and Grills were on.
List smoke candle type used	45 sec Smoke emitter was used.
Smoke test capture - Perimeter of hood	100 % capture on hoods was achieved.
Smoke test capture - Top of cooking surface	100% on hoods was achieved.

WITNESS

Date test was completed	07/19/2022
TAB tech name / Firm	David Annan/ National Tab
Site super name / Firm	NA
Owner representative name / Firm (if Applicable)	Manager- Valorie
Building pressure at front & back doors (All Systems On)	

ADDITIONAL

Do actual net building airflow, design net building airflow, and pressure coincide? If not why? (All three should either be positive or negative)	Building Net is very negative due to the low flow of the MAU and RTU-1 and RTU-2 have no OA intake.
Thermostats are programmed?	Thermostats are programmed and are controlled by store manager.

Notes/Comments :

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Project: 07-18 APPLEBEE'S - VINELAND, NJ (REVIVE)

System/Unit: AHU/RTU



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Asset: RTU1

AREA: DINING

Unit Data		
	Design	Actual
MFG	CARRIER	Lennox
Serial Num	-	5615C03697
Model Num	48HJD-014-5HE	LGH150S4BH4Y
Type	RTU	RTU
Configuration	VERTICAL	Vertical
Num OA Filters 1	-	0
OA Filter Size 1	-	NA (1)
Num Final Filter 1	-	4
Final Filter Size 1	-	25X20X2

Motor Data		
	Design	Actual
Motor MFG	-	InterLink
Frame	-	56HZ
Horsepower	4	3
Motor Rpm	-	1745
Phase	3	3
Rated Voltage	208	200
Rated Amperage	-	7.8

Drive Data		
	Design	Actual
Motor Sheave Size	-	4 5/8"
Motor Bore Size	-	7/8"
Motor Sheave SetPt	-	3 Turns out
Fan Sheave Size	-	7 1/4"
Fan Sheave Bore	-	1 1/8"
Belt CL Distance	-	21 7/8"
Num of Belts	-	1
Belt Size	-	AX58
Belt Alignment	-	Good

Test Data		
	Design	Actual
SF CFM	4100	4033
SF RPM	-	993
RA CFM	3140	4033
OA CFM	960	0
RL Voltage	-	195/195/194
RL Amperage	-	6.4/6.3/6.2
SF Rotation	-	CCW
RA Damper Position	-	100
Min OA Damper Position	-	0
Min OA Damper Type	-	NA
OA Enthalpy Setpt	-	NA
Brake Horse Power	-	

Performance Data		
	Design	Actual
MA Plenum SP	-	NA
Fan Suction SP	-	-1.147"
Fan Discharge SP	-	0.5475"
Total ESP	0.50"	NA
Fan Total SP	-	1.694"

General		
	Design	Actual
Fan Rotation Correct	-	Yes
Unit Filters Clean	-	Yes
Condensate Drain Installed	-	Yes

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Notes:

Asset	Notes

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Project: 07-18 APPLEBEE'S - VINELAND, NJ (REVIVE)

System/Unit: AHU/RTU



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Asset: RTU2

AREA:DINING

Unit Data		
	Design	Actual
MFG	CARRIER	Lennox
Serial Num	-	5615D02976
Model Num	48HJD-012-5HE	LGH120H4BH3Y
Type	RTU	RTU
Configuration	VERTICAL	Vertical
Num OA Filters 1	-	0
OA Filter Size 1	-	NA
Num Final Filter 1	-	4
Final Filter Size 1	-	25x20x2

Motor Data		
	Design	Actual
Motor MFG	-	InterLink
Frame	-	56HZ
Horsepower	2	3
Motor Rpm	-	1745
Phase	3	3
Rated Voltage	208	200
Rated Amperage	-	7.8

Drive Data		
	Design	Actual
Motor Sheave Size	-	4 3/4"
Motor Bore Size	-	7/8"
Motor Sheave SetPt	-	2 Turns Out
Fan Sheave Size	-	7 1/4"
Fan Sheave Bore	-	1 1/8"
Belt CL Distance	-	22"
Num of Belts	-	1
Belt Size	-	AX58
Belt Alignment	-	Good

Test Data		
	Design	Actual
SF CFM	3200	3163
SF RPM	2440	NR
RA CFM	2440	3163
OA CFM	760	0
RL Voltage	-	196/195/197
RL Amperage	-	3.4/3.6/3.5
SF Rotation	-	CCW
RA Damper Position	-	100%
Min OA Damper Position	-	0
Min OA Damper Type	-	NA
OA Enthalpy Setpt	-	NA
Brake Horse Power	-	

Performance Data		
	Design	Actual
MA Plenum SP	-	NA
Fan Suction SP	-	-0.727"
Fan Discharge SP	-	0.161"
Total ESP	0.5"	NA
Fan Total SP	-	0.888"

General		
	Design	Actual
Fan Rotation Correct	-	Yes
Unit Filters Clean	-	Yes
Condensate Drain Installed	-	Yes

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Notes:

Asset	Notes

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Project: 07-18 APPLEBEE'S - VINELAND, NJ (REVIVE)

System/Unit: AHU/RTU



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Asset: RTU3

AREA: KITCHEN

Unit Data		
	Design	Actual
MFG	CARRIER	Lennox
Serial Num	-	5610E07748
Model Num	48HJD-014-5HE	LGH150S4BH1Y
Type	RTU	RTU
Configuration	VERTICAL	Vertical
Num OA Filters 1	-	2
OA Filter Size 1	-	14x23
Num Final Filter 1	-	4
Final Filter Size 1	-	25x20x2

Motor Data		
	Design	Actual
Motor MFG	-	NIDEC
Frame	-	184T
Horsepower	4	5.00
Motor Rpm	-	1765
Phase	3	3
Rated Voltage	208	208
Rated Amperage	-	14.5

Drive Data		
	Design	Actual
Motor Sheave Size	-	4 3/4"
Motor Bore Size	-	1 1/8"
Motor Sheave SetPt	-	2 Turns Out
Fan Sheave Size	-	6 1/4"
Fan Sheave Bore	-	7/8"
Belt CL Distance	-	22"
Num of Belts	-	1
Belt Size	-	BX57
Belt Alignment	-	Good

Test Data		
	Design	Actual
SF CFM	5000	4610
SF RPM	-	1223
RA CFM	4400	3323
OA CFM	600	1287
RL Voltage	-	194/195/195
RL Amperage	-	10.4/10.4/10.5
SF Rotation	-	CCW
RA Damper Position	-	68%
Min OA Damper Position	-	32%
Min OA Damper Type	-	OBD
OA Enthalpy Setpt	-	FREE COOLING
Brake Horse Power	-	

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.509
Fan Suction SP	-	-1.0086
Fan Discharge SP	-	0.530"
Total ESP	0.50"	1.039"
Fan Total SP	-	1.53"

General		
	Design	Actual
Fan Rotation Correct	-	Yes
Unit Filters Clean	-	A little dirty.
Condensate Drain Installed	-	Yes

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Notes:

Asset	Notes

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Project: 07-18 APPLEBEE'S - VINELAND, NJ (REVIVE)

System/Unit: FAN - Exhaust



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Asset: EF1

AREA:HD1 RANGE/CHARBROIL

Unit Data		
	Design	Actual
MFG	CAPTIVE-AIRE	CAPTIVE-AIRE
Model Num	CNU-200	NCA18FA
Serial Num	-	2106154
Type	UPBLAST	Upblast
Configuration	VERTICAL	Vertical

Test Data		
	Design	Actual
CFM	2700	4031
Fan RPM	1030	957
Fan Rotation	-	CCW
Motor RPM	-	1736
RL Voltage	-	192/192/192
RL Amperage	-	3.2/3.2/3.2
Suction ESP	-	-0.73"
Discharge ESP	-	atm
Total ESP	1.0"	0.73"

Motor Data		
	Design	Actual
Motor MFG	-	Westinghouse
Frame	-	NA
Horsepower	1	2
Motor Rpm	-	NA
Phase	3	3
Voltage (rated)	208	208
Amperage (rated)	-	6.2
Service Factor	-	1.15

Drive Data		
	Design	Actual
Motor Sheave Size	-	4 1/8
Motor Bore Size	-	7/8"
Motor Sheave SetPt	-	6 Turns out
Fan Sheave Size	-	5 3/4"
Fan Sheave Bore	-	7/8"
Belt CL Distance	-	9 5/8"
Num of Belts	-	2
Belt Size	-	BX27

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Notes:

Asset	Notes

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Project: 07-18 APPLEBEE'S - VINELAND, NJ (REVIVE)

System/Unit: FAN - Exhaust



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Asset: EF2

AREA:HD2 FRYER/GRIDDLE

Unit Data		
	Design	Actual
MFG	CAPTIVE-AIRE	CAPTIVE-AIRE
Model Num	CNU-200	CNU-200
Serial Num	-	N/L
Type	UPBLAST	Upblast
Configuration	VERTICAL	Vertical

Test Data		
	Design	Actual
CFM	2250	3706
Fan RPM	930	1374
Fan Rotation	-	CCW
Motor RPM	-	1743
RL Voltage	-	194/194/193
RL Amperage	-	1.1/1.1/1.1
Suction ESP	-	NA [1]
Discharge ESP	-	ATM
Total ESP	1.0"	NA

Motor Data		
	Design	Actual
Motor MFG	-	Westinghouse
Frame	-	NA [2]
Horsepower	1	NA [2]
Motor Rpm	-	NA [2]
Phase	3	3
Voltage (rated)	208	208
Amperage (rated)	-	NA [2]
Service Factor	-	1.15

Drive Data		
	Design	Actual
Motor Sheave Size	-	3 7/8"
Motor Bore Size	-	5/8"
Motor Sheave SetPt	-	5 Turns out
Fan Sheave Size	-	5/8"
Fan Sheave Bore	-	3 7/8"
Belt CL Distance	-	15"
Num of Belts	-	1
Belt Size	-	AX25

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Notes:

Asset	Notes

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Project: 07-18 APPLEBEE'S - VINELAND, NJ (REVIVE)

System/Unit: FAN - Exhaust



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Asset: EF3

AREA:HD3 DISH

Unit Data		
	Design	Actual
MFG	CAPTIVE-AIRE	CAPTIVE-AIRE
Model Num	CAD-118	CAD-118
Serial Num	-	N/L
Type	DOWNBLAST	Downblast
Configuration	VERTICAL	Vertical

Test Data		
	Design	Actual
CFM	900	822
Fan RPM	1550	1415
Fan Rotation	-	CCW
Motor RPM	-	1415
System SetPt	-	"DIAL"
RL Voltage	-	109
RL Amperage	-	3.5
Total ESP	0.25"	0.17"
Fan Inlet SP	-	-0.17"
Fan Discharge SP	-	ATM

Motor Data		
	Design	Actual
Motor MFG	-	HSSA
Frame	-	NA
Horsepower	1/4	0.25
Motor Rpm	-	NA
Phase	3	1
Voltage (rated)	120	115
Amperage (rated)	-	4.0
Service Factor	-	1.15

Completed By: David Annan

Notes:

Asset	Notes
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National TAB

Project: 07-18 APPLEBEE'S - VINELAND, NJ (REVIVE)

System/Unit: FAN - Exhaust



Comfort. Under control.

Asset: EF4

AREA:TOILET ROOMS

Unit Data		
	Design	Actual
MFG	CAPTIVE-AIRE	CAPTIVE-AIRE
Model Num	CAD-110	CAD-110
Serial Num	-	N/L
Type	DOWNBLAST	Downblast
Configuration	HORIZONTAL	Vertical

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	1/10	
Motor Rpm	-	
Phase	-	
Voltage (rated)	120	
Amperage (rated)	-	
Service Factor	-	

Test Data		
	Design	Actual
CFM	360	0
Fan RPM	1250	
Fan Rotation	-	
Motor RPM	-	NA
System SetPt	-	
RL Voltage	-	
RL Amperage	-	
Total ESP	0.25"	
Fan Inlet SP	-	
Fan Discharge SP	-	

Completed By: Brianna Biggs

Notes:EF-4 was not working and will be replaced by new motor by maintenance.

Asset	Notes
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National TAB

Project: 07-18 APPLEBEE'S - VINELAND, NJ (REVIVE)

System/Unit: FAN - Exhaust



Comfort. Under control.

Asset: EF5

AREA:DINING

Unit Data		
	Design	Actual
MFG	CAPTIVE-AIRE	CAPTIVE-AIRE
Model Num	CAD-110	CAD-110
Serial Num	-	
Type	DOWNBLAST	
Configuration	HORIZONTAL	

Test Data		
	Design	Actual
CFM	400	
Fan RPM	1250	
Fan Rotation	-	
Motor RPM	-	
System SetPt	-	
RL Voltage	-	
RL Amperage	-	
Total ESP	0.25"	
Fan Inlet SP	-	
Fan Discharge SP	-	

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	1/10	
Motor Rpm	-	
Phase	-	
Voltage (rated)	120	
Amperage (rated)	-	
Service Factor	-	

Completed By: Brianna Biggs

Notes:

Asset	Notes
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National TAB

Project: 07-18 APPLEBEE'S - VINELAND, NJ (REVIVE)

System/Unit: FAN - Exhaust



Comfort. Under control.

Asset: EF6

AREA:EMPLOYEE RR

Unit Data		
	Design	Actual
MFG	PENN	PENN
Model Num	Z5H	Z5H
Serial Num	-	-
Type	DOWNBLAST	Ceiling
Configuration	VERTICAL	Vertical

Test Data		
	Design	Actual
CFM	100	
Fan RPM	1550	
Fan Rotation	-	
Motor RPM	-	
System SetPt	-	
RL Voltage	-	
RL Amperage	-	
Total ESP	0.25"	
Fan Inlet SP	-	
Fan Discharge SP	-	ATM

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	79W	
Motor Rpm	-	
Phase	-	
Voltage (rated)	120	
Amperage (rated)	-	
Service Factor	-	

Completed By: Brianna Biggs

Notes:

Asset	Notes
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National TAB

Project: 07-18 APPLEBEE'S - VINELAND, NJ (REVIVE)

System/Unit: FAN - Exhaust



Comfort. Under control.

Asset: EF7

AREA:EMPLOYEE RR

Unit Data		
	Design	Actual
MFG	PENN	PENN
Model Num	Z5H	Z5H
Serial Num	-	
Type	DOWNBLAST	Ceiling
Configuration	VERTICAL	Vertical

Test Data		
	Design	Actual
CFM	100	
Fan RPM	1550	
Fan Rotation	-	
Motor RPM	-	
System SetPt	-	
RL Voltage	-	
RL Amperage	-	
Total ESP	0.25"	
Fan Inlet SP	-	
Fan Discharge SP	-	

Motor Data		
	Design	Actual
Motor MFG	-	
Frame	-	
Horsepower	79W	
Motor Rpm	-	
Phase	-	
Voltage (rated)	120	
Amperage (rated)	-	
Service Factor	-	

Completed By: Brianna Biggs

Notes:

Asset	Notes
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National TAB

Project: 07-18 APPLEBEE'S - VINELAND, NJ (REVIVE)

System/Unit: FAN - Supply



Comfort. Under control.

Asset: MAU1

AREA:

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	NA	NA
Serial Num	-	2106154
Type	-	MAU
Configuration	-	Vertical

Motor Data		
	Design	Actual
Motor MFG	-	WEG
Frame	-	D56
Horsepower	-	1.5
Motor Rpm	-	1710
Phase	-	3
Voltage (rated)	-	208
Amperage (rated)	-	4.70
Service Factor	-	1.0

Drive Data		
	Design	Actual
Motor Sheave Size	-	3 5/8"
Motor Bore Size	-	5/8"
Fan Sheave Size	-	7 5/8"
Fan Sheave Bore	-	1"
Belt CL Distance	-	22.75"
Num of Belts	-	1
Belt Size	-	AX51
Belt Alignment Verified	-	Good

Gas Heat		
	Design	Actual
Heater Operates (y/n)	-	No
Flame Status (pass/fail)	-	Fail
Inlet Air Temp SetPt	-	55
Discharge Air Temp SetPt	-	60
Air Flow Switch SP Actual	-	0.37"

Test Data		
	Design	Actual
CFM	4450	3140
SF RPM	-	741
Motor RPM	-	1712
RL Voltage	-	8.8/9.4/9.5
RL Amperage	-	1.8/1.8/1.8
Total ESP	-	NA
Fan Discharge SP	-	NA-See notes

General		
	Design	Actual
Fan Rotation Correct	-	Yes

Completed By: David Annan

Notes: MOTOR PULLEY SEIZED

Asset	Notes

National TAB

Project: 07-18 APPLEBEE'S - VINELAND, NJ (REVIVE)

System/Unit: Kitchen Hood Type I



Comfort. Under control.

Asset: HD1

AREA:CHARBROIL/RANGE

Unit Data		
	Design	Actual
MFG	CAPTIVE-AIRE	CAPTIVE-AIRE
Model Num	4824 -ND/BR	4824 -ND/BR
Type	TYPE I LOW PROXIMITY	TYPE I High Proximity
Hood length	120"	120"
Hood Width	48"	48"
Supply Plenum Type	-	BACK RETURN

Test Data Exhaust		
	Design	Actual
Filter Size 1	20"	16x20"
Filter Qty 1	6	6
Filter AK factor size 1	-	2.22
Filter Total AK Area	-	13.33
Filter1 FPM	-	257
Filter2 FPM	-	296
Filter3 FPM	-	349
Filter4 FPM	-	325
Filter5 FPM	-	299
Filter6 FPM	-	284
Filter Ave FPM(corr)	-	302
CFM	2700	4785

Cooking Equipment		
	Design	Actual
Item 1	-	Charbroil Grill
Item 2	-	Stove

Completed By: Brianna Biggs

Notes:

Asset	Notes

Test Data Supply		
	Design	Actual

Performance Data		
	Design	Actual
Smoke Generation Type	-	45 Sec Emitter
Cooking Equip Heat On	-	Yes
Hood Capture %	-	100%
End Panels Installed (Y/N)	-	No
Space Offset Temp Riser 1	-	NA
Space Offset Temp Riser 2	-	NA
Riser Temp F (idle) Riser 1	-	NA
Riser Temp F (idle) Riser 2	-	NA
Ambient Room Temp	-	NA

General		
	Design	Actual
Third Party Witness	-	Val
Third Party Company	-	Applebee
Tech Witness	-	David Annan

National TAB

Project: 07-18 APPLEBEE'S - VINELAND, NJ (REVIVE)

System/Unit: Kitchen Hood Type I



Comfort. Under control.

Asset: HD2

AREA:GRIDDLE/FRYER

Unit Data		
	Design	Actual
MFG	CAPTIVE-AIRE	CAPTIVE-AIRE
Model Num	4824 -ND/BR	4824 -ND/BR
Type	TYPE I LOW PROXIMITY	TYPE I HIGH PROXIMITY
Hood length	132"	132"
Hood Width	48"	48"

Test Data Exhaust		
	Design	Actual
Filter Size 1	16"	16X20"
Filter Size 2	20"	-
Filter Qty 1	2	6
Filter Qty 2	5	0
Filter AK factor size 1	-	2.22
Filter Total AK Area	-	13.33
Filter1 FPM	-	225
Filter2 FPM	-	247
Filter3 FPM	-	247
Filter4 FPM	-	328
Filter5 FPM	-	315
Filter6 FPM	-	307
Filter Ave FPM(corr)	-	278
CFM	2250	3706

Cooking Equipment		
	Design	Actual
Item 1	-	Fryer
Item 2	-	GRILL

Test Data Supply		
	Design	Actual

Performance Data		
	Design	Actual
Smoke Generation Type	-	45 Sec smoke emitter
Cooking Equip Heat On	-	Yes
Hood Capture %	-	100%
End Panels Installed (Y/N)	-	No
Space Offset Temp Riser 1	-	NA
Space Offset Temp Riser 2	-	NA
Riser Temp F (idle) Riser 1	-	NA
Riser Temp F (idle) Riser 2	-	NA
Ambient Room Temp	-	NA

General		
	Design	Actual
Third Party Witness	-	Val
Third Party Company	-	Applebee's
Tech Witness	-	David Annan

Completed By: Brianna Biggs

Notes:

Asset	Notes
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National TAB

Project: 07-18 APPLEBEE'S - VINELAND, NJ (REVIVE)

System/Unit: Kitchen Hood Type II



Comfort. Under control.

Asset: HD3

AREA:DISHWASHER

Unit Data		
	Design	Actual
MFG	CAPTIVE-AIRE	CAPTIVE-AIRE
Model Num	3624-VHI-G	3624-VHI-G
Serial Num	-	
Type	TYPE II LOW PROXIMITY	
Hood length	48"	
Hood Width	36"	

Test Data		
	Design	Actual
Exhaust CFM	900	

Completed By: Brianna Biggs

Notes:

Asset	Notes

