

Report By:

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



Report: TAB Report
Function: Test, Adjust, & Balance
Date: 03/12/2026
Completed By: National TAB

PROJECT

02-02-26 QT #1430 SURPRISE, AZ

12294 N Prasada PKWY

SURPRISE, AZ 85388

Client

QUIKTRIP
4705 SOUTH 129TH EAST AVENUE
TULSA, OK 74134

National TAB

Project: 02-02-26 QT #1430 SURPRISE, AZ

Table Of Contents

Section	Page #
SUMMARY	3
REMARKS	4
BALANCE SCHEDULE	8
CHECKLISTS	9
RTU-1	15
RTU-2	17
RTU-3	19
EF-1 - Exhaust	22
Combi-Oven Grille	24
EF-3 - Hood Exhaust	25
Kitchen Hood Type I	27
GRD Layout	29



National TAB

Project: 02-02-26 QT #1430 SURPRISE, AZ
Function: Test, Adjust, & Balance

Project Summary

Project Summary

The summary below provides a quick understanding of our scope of work and general testing procedures. Enclosed in the report are further details 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)

Each of the RTU's was measured with a flow hood to establish total flow. The total flow was then adjusted via the VFD so that airflow fell within design tolerances. All diffusers on the kitchen RTU were balanced to the engineer's design flow. The diffusers on the sales floor were only adjusted when there were noticeable issues present like drafting or dampers that were found completely closed. The Hoods On outside air rate was set by first establishing the typical QT set point at the Emerson controller and then making manually adjustments on the roof. The hoods off airflow setpoint was found by adjusting the damper position at the Emerson controller until the design airflow was achieved. Outside air was measured by reading the intake air opening with a velocity grid and multiplying by the free area. After completion of TAB all overrides were released.

Kitchen Exhaust Hood & Associated Fans

The 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.

Restroom Exhaust Fans

The restroom exhaust fans were measured with a flow hood. The total flow was balanced for the fan with the exception of the new grille over the combi-oven, which was balanced to the listed design.

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 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.

Issue List

- AFEE FAULT ON RTU3 VFD
- EF3 CURB LEAK
- EXTREMELY DIRTY FINAL FILTERS



02-02-26 QT #1430 SURPRISE, AZ

Project Issue Information

Issue Name : AFEE FAULT ON RTU3 VFD
Description : Unit will not run. QT aware.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : Urgent **Asset Tag :** RT-3
Originated Date : 02/09/2026 - Christine Weale - National TAB

Project Issue File Details





02-02-26 QT #1430 SURPRISE, AZ

Project Issue Information

Issue Name : EF3 CURB LEAK
Description : Fan is set for higher than normal, yet flow is too low. Losing quite a bit of air due to improper flange installation at curb.
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : Urgent **Asset Tag :** EF3
Originated Date : 02/25/2026 - Christine Weale - National TAB

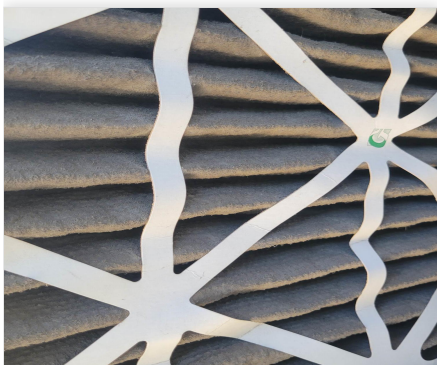


02-02-26 QT #1430 SURPRISE, AZ

Project Issue Information

Issue Name : EXTREMELY DIRTY FINAL FILTERS
Description : ALL UNITS: See pics
Created By : National TAB **Assigned To :** National TAB - Dan Hertenstein
Status : Open
Priority : Low **Asset Tag :**
Originated Date : 03/12/2026 - Christine Weale - National TAB

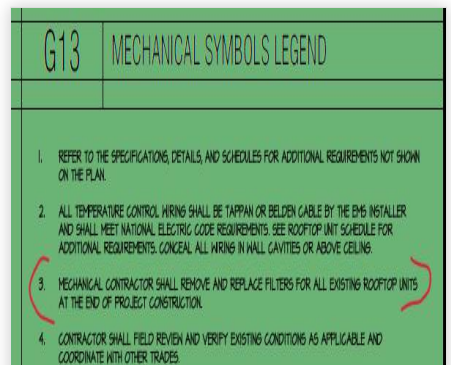
Project Issue File Details



03/12/2026



03/12/2026



03/12/2026

AIR BALANCE SCHEDULE

UNIT	AREA SERVED	HOOD ON OA		HOOD OFF OA		HOOD ON EXHAUST		HOOD OFF EXHAUST	
		DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL
RTU 1	SALES	800	866	350	364				
RTU-2	SALES	800	859	350	358				
RTU-3	BOH/KITCHEN	800		350					
EF-1	RR/JANITOR					750	730	750	730
EF-3	HOOD					1350	1321	0	0
TOTALS		2400	1725	1050	722	2100	2051	750	730

HOOD ON

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	2400	1725
TOTAL EXHAUST	2100	2051
NET AIRFLOW	300	-326

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	
SIDE	
REAR	
AVERAGE	

HOOD OFF

NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	1050	722
TOTAL EXHAUST	750	730
NET AIRFLOW	300	-8

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	
SIDE	
REAR	
AVERAGE	

NOTES:

Air leak at EF3 curb and RTU3 not running at all, BP not meas'd since unable to balance store.

CheckList List

- 01: RTU's/AHU's
- 02: Exhaust Fans
- 03: Hoods
- 04: Final Tests



02-02-26 QT #1430 SURPRISE, AZ

CheckList Information

Name : 01: RTU's/AHU's **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 12/23/2025 - Trinity Dodds - National TAB

Completed Date : 03/12/2026 - Christine Weale - National TAB

CheckList Item Details

RTU's/AHU's

Evaporator coils are clean?	Pass
-----------------------------	------

Comment:

Condenser coils are clean?	Pass
----------------------------	------

Comment:

Gas piping is installed and valves are turned on?	Pass
---	------

Comment:

Unit free of noticeable noise and vibration	Pass
---	------

Comment:

Notes/Comments :

RTU3 NOT RUNNING. ALARM ON VFD.

Date :03/12/2026



02-02-26 QT #1430 SURPRISE, AZ

CheckList Information

Name : 02: Exhaust Fans **Status :** Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 12/23/2025 - Trinity Dodds - National TAB
Completed Date : 03/12/2026 - Christine Weale - National TAB

CheckList Item Details

EF's

Hinge kit installed installed on hood fan? Pass

Comment:

Flex conduit is long enough so that fan can be completely tilted back? Pass

Comment:

No major leakage around the fan base Fail

Comment:

Needs to be fixed, unit left higher than normal but under FLA.

Unit is free of noise and vibration Pass

Comment:



02-02-26 QT #1430 SURPRISE, AZ

CheckList Information

Name : 03: Hoods **Status :** Completed
Assigned Organization : National TAB **Asset :**
Requesting Organization : National TAB
Created Date : 12/23/2025 - Trinity Dodds - National TAB
Completed Date : 03/12/2026 - Christine Weale - National TAB

CheckList Item Details

HOODS

Hood is free of alarms? Pass

Comment:

Hood is free of damage? Pass

Comment:

End panels are installed per prototype? Pass

Comment:



02-02-26 QT #1430 SURPRISE, AZ

CheckList Information

Name : 04: Final Tests **Status :** Completed

Assigned Organization : National TAB **Asset :**

Requesting Organization : National TAB

Created Date : 12/23/2025 - Trinity Dodds - National TAB

Completed Date : 03/12/2026 - Christine Weale - National TAB

CheckList Item Details

FINAL CHECKS

HOOD CAPTURE TEST

List kitchen equipment turned on for testing

Comment:

All

List smoke candle type used

Comment:

45s, S102

Smoke test capture % - Perimeter of hood

Comment:

100

Smoke test capture % - Top of cooking surface

Comment:

100

WITNESS

Date test was completed

02/06/2026

Comment:

TAB tech name / Firm

Comment:

Christine Weale, NTI

Site super name / Firm

Comment:

Owner representative name / Firm (if Applicable)

Comment:

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)

N/A

Comment:



National TAB

Project: 02-02-26 QT #1430 SURPRISE, AZ

System/Unit: AHU/RTU

Asset: RT-1

AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	202502-BNEK32988
Model Num	RN-013-3-0-GAAY
Num OA Filters 1	1
OA Filter Size 1	46X22
Num Final Filter 1	4
Final Filter Size 1	20X25X2

Motor Data	
	Actual
Motor MFG	NL
Frame	NL
Horsepower	3.0
Motor Rpm	1760
Phase	3
Rated Voltage	208
Rated Amperage	10.6

Test Data		
	Design	Actual
SF CFM	4200	3955
SF RPM	-	47 HZ
OA CFM (Hoods On)	800	866
OA CFM (Hoods Off)	350	364
RL Voltage	-	211.3
RL Amperage	-	8.47
VFD Max SetPt	-	78.3
VFD Min SetPt	-	24.0
OA Damper Position (Hoods On)	-	46.0
OA Damper Position (Hoods Off)	-	8.0

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.49"
Fan Suction SP	-	-1.63"
Fan Discharge SP	-	0.64"
Total ESP	-	1.13"
Fan Total SP	-	2.27"

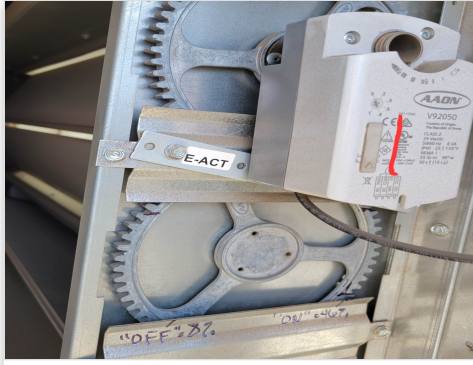
General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	NO
Condensate Drain Installed	YES

Completed By: Christine Weale on 03/12/2026

Unit Data - PHOTO LOG



03/12/2026



03/12/2026



National TAB

Project: 02-02-26 QT #1430 SURPRISE, AZ

System/Unit: AHU/RTU

Asset: RT-2

AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	202502-BNEK32987
Model Num	RN-013-3-0-GAAY
Num OA Filters 1	1
OA Filter Size 1	45X22
Num Final Filter 1	4
Final Filter Size 1	20X25X2

Motor Data	
	Actual
Motor MFG	NL
Frame	NL
Horsepower	3.0
Motor Rpm	1760
Phase	3
Rated Voltage	208
Rated Amperage	10.6

Test Data		
	Design	Actual
SF CFM	4200	3982
SF RPM	-	49 HZ
OA CFM (Hoods On)	800	859
OA CFM (Hoods Off)	350	358
RL Voltage	-	203.3
RL Amperage	-	7.61
VFD Max SetPt	-	NA (ABB)
VFD Min SetPt	-	NA (ABB)
OA Damper Position (Hoods On)	-	24.0
OA Damper Position (Hoods Off)	-	10.0

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.37"
Fan Suction SP	-	-1.29"
Fan Discharge SP	-	0.44"
Total ESP	-	0.81"
Fan Total SP	-	1.73"

General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	NO
Condensate Drain Installed	YES

Completed By: Christine Weale on 03/12/2026

Unit Data - PHOTO LOG



03/12/2026



03/12/2026



National TAB

Project: 02-02-26 QT #1430 SURPRISE, AZ

System/Unit: AHU/RTU

Asset: RT-3

AREA:BOH/KITCHEN

Unit Data	
	Actual
MFG	AAON
Serial Num	202502-BNEK32989
Model Num	RN-013-3-0-GAAY
Num OA Filters 1	1
OA Filter Size 1	45X22
Num Final Filter 1	4
Final Filter Size 1	20X25X2

Motor Data	
	Actual
Motor MFG	NL
Frame	NL
Horsepower	3.0
Motor Rpm	1760
Phase	3
Rated Voltage	208
Rated Amperage	10.6

Test Data		
	Design	Actual
SF CFM	4200	
SF RPM	-	
OA CFM (Hoods On)	800	
OA CFM (Hoods Off)	350	
RL Voltage	-	
RL Amperage	-	
VFD Max SetPt	-	
VFD Min SetPt	-	
OA Damper Position (Hoods On)	-	
OA Damper Position (Hoods Off)	-	

Performance Data		
	Design	Actual
MA Plenum SP	-	
Fan Suction SP	-	
Fan Discharge SP	-	
Total ESP	-	
Fan Total SP	-	

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

Completed By: Christine Weale on 03/12/2026

Notes:
UNIT NOT RUNNING FOR TESTING.

Written By: Christine Weale on 03/12/2026

Unit Data - PHOTO LOG



03/12/2026



National TAB

Project:02-02-26 QT #1430 SURPRISE, AZ

AHU/RTU

Diffuser Supply (GRD)

RT-3/BOH/KITCHEN

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	SUPPORT SERVICE	SI	12"	800					-
SGRD2	SUPPORT SERVICE	SI	12"	800					-
SGRD3	SUPPORT SERVICE	SI	12"	800					-
SGRD4	SUPPORT SERVICE	SI	12"	800					-
SGRD5	DOCK	ES	10"	500					-
SGRD6	WORKROOM	ES	10"	500					-
SGRD7	PLUMBING	ES	8"	540					-
Total				4740		0	0	0	0%



National TAB

Project: 02-02-26 QT #1430 SURPRISE, AZ

System/Unit: FAN - Exhaust

Asset: EF1

AREA:RESTROOMS/JANITOR

Unit Data		
	Design	Actual
MFG	NA	CAPTIVE AIRE
Model Num	NA	DR33HFA
Serial Num	-	7267180
Type	-	DOWNBLAST
Configuration	-	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	NEMA (TELCO)
Frame	-	48
Horsepower	-	1/3
Motor Rpm	-	1800
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	4.3
Service Factor	-	NL

Test Data		
	Design	Actual
CFM	750	730
Fan RPM	-	1066
Fan Rotation	-	CCW
Motor RPM	-	1066
System SetPt	-	54P
RL Voltage	-	N/A
RL Amperage	-	1.19
Total ESP	-	0.18"
Fan Inlet SP	-	-0.18"
Fan Discharge SP	-	ATMS

Completed By: Christine Weale on 03/12/2026

Unit Data - PHOTO LOG



03/12/2026



National TAB

Project:02-02-26 QT #1430 SURPRISE, AZ

Diffuser Ret/Exh (GRD)

EF1/RESTROOMS/JANITOR

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
EGRD4	COMBI	RI	8"	150	1	124	124	135	90.0
Total				150		124	124	135	90%



National TAB

Project: 02-02-26 QT #1430 SURPRISE, AZ

System/Unit: FAN - Exhaust

Asset: EF3

AREA: KITCHEN HD

Unit Data		
	Design	Actual
MFG	NA	CAPTIVEAIRE
Model Num	NA	DU50HFA
Serial Num	-	8384991
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	NEMA (TELCO)
Frame	-	48
Horsepower	1/2	0.5
Motor Rpm	-	1800
Phase	-	1
Voltage (rated)	-	208
Amperage (rated)	-	3.8
Service Factor	-	NL

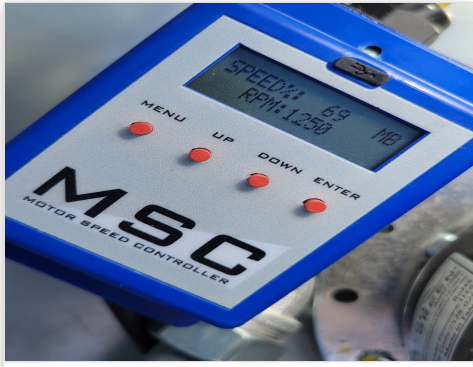
Test Data		
	Design	Actual
CFM	1350	1321
Fan RPM	-	55.8 HZ
Fan Rotation	-	CCW
Motor RPM	-	55.8 HZ
System SetPt	-	55.8 HZ
RL Voltage	-	210.0
RL Amperage	-	2.03
Total ESP	-	0.80"
Fan Inlet SP	-	-0.80"
Fan Discharge SP	-	ATMS

Completed By: Christine Weale on 03/12/2026

Notes:
LEAK AT CURB, SEE 'REMARKS'.

Written By: Christine Weale on 03/12/2026

Unit Data - PHOTO LOG



03/12/2026



03/12/2026



National TAB

Project: 02-02-26 QT #1430 SURPRISE, AZ

System/Unit: Kitchen Hood Type I

Asset: HD1

AREA:KITCHEN

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	6030ND-2-F	6030ND-2-F
Job / Serial Num	-	8384991
Type	-	TYPE I CANOPY
Hood length	-	108"
Hood Width	-	60"

Test Data Exhaust		
	Design	Actual
Filter Type	-	CAPTRATE SOLO
Filter Size 1	-	16X20
Filter Qty 1	-	6
Filter AK factor size 1	-	2.08
Filter Total AK Area	-	12.48
Filter1 FPM	-	98
Filter2 FPM	-	113
Filter3 FPM	-	118
Filter4 FPM	-	113
Filter5 FPM	-	88
Filter6 FPM	-	105
Filter Ave FPM(corr)	-	105.83
CFM	1350	1321

Cooking Equipment	
	Actual
Item 1	FRYER
Item 2	DUAL-OVEN

Completed By: Christine Weale on 03/12/2026

Unit Data - PHOTO LOG



03/12/2026

