Report By:

National TAB
1329 E. KEMPER ROAD
SUITE 4210
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Report: TAB REPORT

Function: Test, Adjust, & Balance

Date: 11/26/2024

Completed By: National TAB

PROJECT

USACE HVAC Reset (Palatka, FL)

4300 St. Johns Avenue

Palatka, FL _____

Client

TEAM CONSTRUCTION

825 GUM BRANCH RD

STE 128

JACKSONVILLE, NC 28540

National TAB

Project: USACE HVAC Reset (Palatka, FL)

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CERTIFICATION

PROJECT: USACE HVAC Reset (Palatka, FL)

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 the NEBB *Procedural Standards for Testing, Adjusting, and Balancing of Environmental Systems.* Any variances from design quantities, which exceed NEBB tolerances, are noted in the Test-Adjust-Balance Report Project Summary.

The air distribution system has been tested and balanced and final adjustments have been made in accordance with NEBB standards and the project specifications.

NEBB TAB FIRM: National TAB-Southeast
REGISTRATION NO: 3755
CERTIFIED BY: J. Scott Springer 23312
DATE: 11/26/2024

The hydronic distribution system has been tested and balanced and final adjustments have been made in accordance with NEBB standards and the project specifications.

NEBB TAB FIRM: National TAB-Southeast
REGISTRATION NO: 3086
CERTIFIED BY: J. Scott Springer 23312
DATE:

Submitted and Certified by:

NEBB TAB FIRM: National TAB-Southeast
TAB PROFESSIONAL: J. Scott Springer
SIGNATURE:
REGISTRATION NO: 3755 (NTAB) / 23312
CERTIFICATION EXP: 12/31/2024

National TAB

Testing, Adjusting, and Balancing Equipment

Function		Range	Minimum Accuracy	Instrument Information	Calibration Date	Date Due
AIR	AIR PRESSURE	0 in wg to 10 in wg	2% +/- 0.001 in wg	Shortridge ADM-880C S/N M05066	10/15/2024	10/15/2025
	AIR VELOCITY INSTRUMENT	50 fpm to 3900 fpm	+/- 5 % +/- 7 fpm	Shortridge ADM-880C S/N M05066	10/15/2024	10/15/2025
	DIRECT HOOD READING	100 cfm to 2000 cfm	+/- 3 % +/- 7 cfm	Shortridge Flow Hood	10/15/2024	10/15/2025
TEMPERATURE	AIR METER	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - SRH77A S/N 081820093	10/15/2024	10/15/2025
	AIR PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - PD1388 7-6 S/N 5028	10/15/2024	10/15/2025
	IMMERSION METER	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - SRH77A S/N 081820093	10/15/2024	10/15/2025
	IMMERSION PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - PD1388 7-6 S/N 1075	10/15/2024	10/15/2025
	CONTACT METER	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - SRH77A S/N 081820093	10/15/2024	10/15/2025
	CONTACT PROBE	-20 F to 240 F	+/- .5 % 2 F	Cooper ATKINS - PD1388 7-6 S/N 4011	10/15/2024	10/15/2025
HUMIDITY	HUMIDITY PROBE	10 % RH to 90 % RH	3% of reading	Cooper ATKINS - SRH77A S/N 090315046	10/15/2024	10/15/2025
ELECTRICAL	VOLTAGE MEASUREMENT	0 VAC to 600 VAC	2 % reading +/- 5 digits	Dwyer CM-1 - S/N 190800099	10/15/2024	10/15/2025
	AMPERAGE MEASUREMENT	0 Amperers to 100 Amperes	2 % reading +/- 5 digits	Dwyer CM-1 - S/N 190800099	10/15/2024	10/15/2025
ROTATION	ROTATION MEASUREMENT	60 rpm to 5000 rpm	2 % reading 2 rpm	Dwyer TAC-L - S/N S1100123	10/15/2024	10/15/2025
HYDRONIC	PRESSURE MEASUREMENT	-30 in Hg to 200 psi	±2% of reading +/- 1 psi	Dwyer 490W-6 - S/N 01L6NK	6/3/2024	6/3/2025
	DIFFERENTIAL PRESSURE MEASUREMENT	0 psi - 80 psi	±2% of reading +/- 1 psi	Dwyer 490W-6 - S/N 01L6NK	6/3/2024	6/3/2025
DALT	DUCT LEAKAGE	-10"- +10" wc	±1% of reading +/- 0.004" wc	Kanomax DALT 6900 S/N: 080439	3/2024	3/1/2025

Abbreviation List

A = Area (ft^2)	S.F. = Service Factor
AHU = Air Handling Unit	SF = Supply Fan
A_k = Effective Area	SP = Static Pressure
BHP = Brake Horsepower (IP) HP	SR = Supply Register
Btu = British Thermal Unit	T = Temperature
Btu/h = Btuh = BTUH = BTU/Hour	T_{ma} = Mixed Air Temperature
CL = Center Distance (used in belt formula)	T_{oa} = Outside Air Temperature
CD = Ceiling Diffuser	T_{ra} = Return Air Temperature
CF = Correction Factor	H = Head (in wc, ft wc, psi)
CFM = Volumetric Flow: Cubic Feet Per Minute	h = Enthalpy
CO2 = Carbon Dioxide	HP = Horsepower
CO = Carbon Monoxide	hr = Hour
C_v = Flow Constant	K_v = Flow constant (SI)
d = Diameter (in.) IP	kW = Kilowatt = 1000 Watts
Δ = Difference or Change (Final - Initial)	LAT = Leaving Air Temperature
DB = Dry Bulb	lb = Pounds
EA = Exhaust Air	LWT = Leaving Water Temperature
EAT = Entering Air Temperature	ma = Mixed Air
EF = Exhaust Fan	MIN = Minimum
Eff = Efficiency	MAX = Maximum
EG = Exhaust Grille	N/A = Not Applicable
ESP = External Static Pressure	NA = No Access
EWT = Entering Water Temperature	NL = Not Listed
°F = Degrees Fahrenheit, °F	NPSHA = Net Positive Suction Head Available
FPB = Fan Powered Box	NS = Not Specified
FLA = Full Load Amps	OA = Outside Air
fpm = Feet per Minute (fpm)	OAT = Outside Air Temperature
ft = Foot	PD = Sheave Pitch Diameter
gal = Gallons	P.D. = Pressure Drop
GPM = Gallons Per Minute (GPM)	PF = Power Factor
h = Enthalpy (BTU/lb dry air)	SG = Supply Grille
P = Pressure	SR = Supply Register
ppm = parts per million	TP = Total Pressure
psi = Pounds Per Square Inch	T_{ra} = Return Air Temperature
psid = PSI Differential	TS = Tip Speed (fpm) IP, (m/s) SI
r = Radius (in)	TSP = Total Static Pressure
$\%_{ra}$ = % of Return Air	V = Velocity
RA = Return Air	VAV = Variable Air Volume
RAT = Return Air Temperature	VD = Volume Damper
RF = Return Fan	VFD = Variable Frequency Drive
RG = Return Grille	W = Watt
RH = Relative Humidity	WB = Wet Bulb
RPM = Revolutions Per Minute	wg = wc = water gauge = water column
RTU = Roof Top Unit	WHP = Water Horsepower (IP)
SA = Supply Air	ω = Humidity Ratio

National TAB

Project: USACE HVAC Reset

Address: Palatka, FL

Asset: AHU-1

Unit Data	
Manufacturer	TRANE
Model Num	TWE12043BAA
Serial Num	24032574BA
Configuration	HORIZONTAL
Num PreFilter	3
PreFilter Size	16x20x2
Num PreFilter	N/A
PreFilter Size	N/A

Test Data		
	Design	**Actual**
SF CFM	3400	3388
SF RPM	765	49HZ
RA CFM	3000	3025
OA CFM	400	363
RL VOLTAGE	208	207/207/205
RL AMPERAGE	6.8	5.0 VFD
OA Damper Position		Damper Marked
Brake Horsepower	1.21	1.47

Motor Data	
Motor MFG	N/A
Frame	N/A
Horsepower	2
Motor RPM	N/A
Phase	3
Rated Voltage	208
Rated Amperage	6.8
Service Factor	N/A

Performance Data		
	Design	**Actual**
Fan Suction SP		-0.72
Fan Discharge SP		0.20
Fan Total SP		0.92
DX Coil PD *		0.26
Pre Filter PD		0.40
Total ESP	0.50	0.26

DX Coil DB EAT		73.6F
DX Coil DB LAT		58.9F
DX Coil WB EAT		71.8F
DX Coil WB LAT		55.2F

CURRENT TEMP.	75.1F
HUMIDITY	71.80%
WETBULB	68.4F
OUTDOOR TEMPS	
CURRENT TEMP.	82.4F
HUMIDITY	81.90%
WETBULB	75.8F
DEWPOINT	71.8F

National TAB

Project: USACE HVAC Reset

Address: Palatka, FL

Asset: AHU-1

Asset	Area Served	Type	Size	DESIGN CFM	Prelim CFM	FINAL CFM	% to design
SGRD-1	13	D	12X6	265	294	257	0.97
SGRD-2	13	D	12X6	275	311	266	0.97
SGRD-3	13	D	12X6	265	258	264	1.00
SGRD-4	13	D	12X6	265	326	247	0.93
SGRD-5	13	D	12X6	265	234	270	1.02
SGRD-6	13	D	12X6	265	243	275	1.04
SGRD-7	13	D	12X6	300	315	275	0.92
SGRD-8	13	D	12X6	300	416	304	1.01
SGRD-9	13	D	12X6	300	294	312	1.04
SGRD-10	13	D	12X6	300	339	293	0.98
SGRD-11	13	D	12X6	300	283	328	1.09
SGRD-12	13	D	12X6	300	219	297	0.99
				3400		**3388**	**1.00**

National TAB

Project: USACE HVAC Reset

Address: Palatka, FL

Asset: OAHU-1 **Area:**

Unit Data	
Manufacurer	TRANE
Model Number	UCCAG06
Serial Number	H24D33224
Configuration	HORIZONTAL
No. Pre Filters / Size	4 / 20X20X2

Test Data		
	Design	**Actual**
SF CFM	1310	1309
SF RPM	2317	1350
DESIGN HZ	78	45
RL VOLTAGE	208	134
RL AMPERAGE	N/L	4.8
Motor B.H.P.	1.832	N/A

Motor Data		
Motor MFG	COMEFRI	
Frame	N/L	
HP	3	
RPM	2710	
Phase	3	
Volts	N/L	
Amps	N/L	
	N/L	not listed

Performance Data		
	Design	**Actual**
Suction S.P.		-0.4
Discharge S.P.		0.42
Total SP	2.85	0.82
DX Coil P.D.	0.30	0.18
REHEAT P.D.	0.136	0.06
Pre Filters P.D.	0.536	0.02
Total ESP	1.75	0.55

CURRENT TEMP.	72.9F
HUMIDITY	56.10%
WETBULB	62.6F
OUTDOOR TEMPS	
CURRENT TEMP.	79.8F
HUMIDITY	59.20%
WETBULB	69.2F
DEWPOINT	64.3F

DX Coil DB EAT		69.2F
DX Coil DB LAT		53.1F
DX Coil WB EAT		79.9F
DX Coil WB LAT		51.3F

National TAB

Project: USACE HVAC Reset

Address: Palatka, FL

Asset:

Asset	Area Served	Type	Size	DESIGN CFM	Prelim CFM	FINAL CFM	% to design
SGRD-1	4	A	4	10	32	22	2.20
SGRD-2	2	A	5	50	58	54	1.08
SGRD-3	20	B	4	10	28	20	2.00
SGRD-4	21	A	6	50	53	52	1.04
SGRD-5	1	A	5	30	113	32	1.07
SGRD-6	22	A	4	20	39	28	1.40
SGRD-7	29	A	5	40	75	43	1.08
SGRD-8	27	A	6	90	71	95	1.06
SGRD-9	25	A	5	40	61	43	1.08
SGRD-10	103	A	10	220	277	217	0.99
SGRD-11	CORRIDOR	A	8	170	174	164	0.96
SGRD-12	14	A	6	70	82	66	0.94
SGRD-13	13	E	16X8	210	212	192	0.91
SGRD-14	11	A	10	290	0	281	0.97
				1300		**1309**	**1.01**
Damper Closed							

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Project: USACE HVAC Reset

Address: Palatka, FL

Asset: RTU-1

Unit Data	
Manufacturer	TRANE
Model Num	OABD108D3
Serial Num	OA356396-1-1
Configuration	VERTICAL
Num OA Filters	1
OA Filter Size	10X10
Num PreFilter	2
PreFilter Size	20X24X2

Test Data		
	Design	**Actual**
SF CFM	2800	2845
SF RPM	2745	45Hz
RA CFM	2200	2274
OA CFM	600	571
RL VOLTAGE	208	158
RL AMPERAGE	7.2	6.5
OA Damper Position		7/8"
Brake Horsepower	1.82	2.71

Motor Data	
Motor MFG	MARATHON
Frame	145T
Horsepower	3
Motor RPM	3500
Phase	3
Rated Voltage	208
Rated Amperage	7.2
Service Factor	1.15

Performance Data		
	Design	**Actual**
Fan Suction SP		-1.00
Fan Discharge SP		0.33
Fan Total SP	1.75	1.33
DX Coil PD *	0.29	*0.47
Pre Filter PD		*combined
Total ESP	0.50	0.86

DX Coil DB EAT		66.2F
DX Coil DB LAT		55.6F
DX Coil WB EAT		58.5F
DX Coil WB LAT		51.4F

CURRENT TEMP.	72.9F
HUMIDITY	56.10%
WETBULB	62.6F
OUTDOOR TEMPS	
CURRENT TEMP.	79.8F
HUMIDITY	59.20%
WETBULB	69.2F
DEWPOINT	64.3F

National TAB

Project: USACE HVAC Reset

Address: Palatka, FL

Asset: RTU-1

Asset	Area Served	Type	Size	DESIGN CFM	Prelim CFM	FINAL CFM	% to design
SGRD-1	11	A	10	280	184	300	1.07
SGRD-2	11	A	10	280	162	291	1.04
SGRD-3	11	A	10	280	163	279	1.00
SGRD-4	11	A	10	280	161	299	1.07
SGRD-5	11	A	10	280	137	279	1.00
SGRD-6	11	A	10	280	127	253	0.90
SGRD-7	11	A	10	280	138	280	1.00
SGRD-8	11	A	10	280	138	291	1.04
SGRD-9	11	A	10	280	163	282	1.01
SGRD-10	11	A	10	280	172	291	1.04
				2800		**2845**	**1.02**

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Project: USACE HVAC Reset

Address: Palatka, FL

Asset: FCU 3-3 **Area: Corridors**

Unit Data	
MFG	TRANE
Model Num	TPEADA0181AA80A
Serial Num	3XR0119630P10C

Motor Data	
Motor MFG	N/L
Horsepower	0.162
Motor Rpm	N/L
Phase	1
Voltage (rated)	208/230
Amperage (rated)	1.95

Test Data		
	Design	**Actual**
SA CFM	635	626
Fan Speed		HIGH
RL Voltage	208	205
RL Amperage	1.95	0.60
Suction ESP		-0.25
Discharge ESP		0.08
Total ESP		0.33
DX Coil DB EAT		73.9F
DX Coil DB LAT		61.4F
DX Coil WB EAT		67.8F
DX Coil WB LAT		58.0F

Asset	Area Served	Type	Size	DESIGN CFM	Prelim CFM	FINAL CFM	% to design
SGRD-1	103	A	6	50	67	53	1.06
SGRD-2	103	A	8	200	120	181	0.91
SGRD-3	102	A	6	50	65	52	1.04
SGRD-4	104	F	12X6	185	199	185	1.00
SGRD-5	102	A	6	50	71	54	1.08
SGRD-6	30	B	6	100	88	101	1.01
				635		**626**	**0.99**

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Project: USACE HVAC Reset

Address: Palatka, FL

Asset: FCU 6-2 **Area: Supply Office**

Unit Data	
MFG	TRANE
Model Num	TPEADA0151AA80A
Serial Num	37R0008130P10B

Motor Data	
Motor MFG	N/L
Horsepower	0.162
Motor Rpm	N/L
Phase	1
Voltage (rated)	208/230
Amperage (rated)	1.95

Test Data		
	Design	**Actual**
SA CFM	530	572
Fan Speed		HIGH
RL Voltage	208	205
RL Amperage	1.95	0.56
Suction ESP		-0.12
Discharge ESP		0.15
Total ESP		0.27
DX Coil DB EAT	See	Notes
DX Coil DB LAT		
DX Coil WB EAT		
DX Coil WB LAT		

Unit communication error, locked in high speed only with a dry coil. May need medium speed for design airflow. Temperature testing cannot be completed at this time.

National TAB

Project: USACE HVAC Reset

Address: Palatka, FL

Asset: FCU 8 **Area:**

Unit Data	
MFG	TRANE
Model Num	TPVA0A0181AA70A
Serial Num	39G0031332P809

Motor Data	
Motor MFG	N/L
Horsepower	121W
Motor Rpm	N/L
Phase	1
Voltage (rated)	208/230
Amperage (rated)	2.4

Final filter cloggged, removed for TAB. No dampers installed in hard ceiling.

Test Data	Design	Actual
SA CFM	715	694
Fan Speed		high
RL Voltage	208	205
RL Amperage	2.4	0.65
Suction ESP		-0.12
Discharge ESP		0.08
Total ESP		0.20
DX Coil DB EAT		78.6F
DX Coil DB LAT		55.0F
DX Coil WB EAT		72.3F
DX Coil WB LAT		52.4F

Asset	Area Served	Type	Size	DESIGN CFM	Prelim CFM	FINAL CFM	% to design
SGRD-1	9	B	6	75	107	76	1.01
SGRD-2	8	B	6	100	92	108	1.08
SGRD-3	12	C	12	540	297	510	0.94
				715	**496**	**694**	**0.97**

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Project: USACE HVAC Reset

Address: Palatka, FL

Asset: EF-1 **Area: Men**

Unit Data	
MFG	GREENHECK
Model Num	G-090-VG-1-17-X
Serial Num	23835750 24A
Type	DOWNBLAST

Motor Data	
Motor MFG	BROAD-OCEAN
Frame	N/L
Horsepower	0.10
Motor Rpm	1750
Phase	1
Voltage (rated)	115
Amperage (rated)	1.38
Service Factor	1.0

Test Data		
	Design	**Actual**
CFM	520	504
Fan RPM	1365	DD
RL Voltage	115	120
RL Amperage	1.38	1.03
Suction ESP		-0.14
Total ESP	0.25	0.14

Asset	Area Served	Type	Size	DESIGN	CFM(1)	FINAL CFM	% to design
EF-1	SHOWERS	EG	16X16	200	206	188	0.94
EF-1	MEN	EG	16X16	320	395	316	0.99
				520		**504**	**0.97**

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Project: USACE HVAC Reset

Address: Palatka, FL

Asset: EF- **Area: Women**

Unit Data	
MFG	GREENHECK
Model Num	G-080-VG-1-17-X
Serial Num	23835752 24A
Type	CRE

Motor Data	
Motor MFG	BROAD-OCEAN
Frame	N/L
Horsepower	0.10
Motor Rpm	1750
Phase	1
Voltage (rated)	115
Amperage (rated)	1.38
Service Factor	1.0

Test Data		
	Design	**Actual**
CFM	380	349
Fan RPM	1553	DD
RL Voltage	115	120
RL Amperage	1.38	1.1
Suction ESP		-0.20
Total ESP	0.25	0.20

Asset	Area Served	Type	Size	DESIGN	CFM(1)	FINAL CFM	% to design
EF-2	WOMEN	EG	10X10	240	185	185	0.77
EF-2	JC	EG	6X6	70	79	79	1.13
EF-2	URINALYSIS	EG	6X6	70	85	85	1.21
				380		**349**	**0.92**

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Project: USACE HVAC Reset

Address: Palatka, FL

Asset: EF-3 **Area: VAULTs**

Unit Data	
MFG	GREENHECK
Model Num	G-060-VG-1-17-X
Serial Num	23835751 24A
Type	CRE

Motor Data	
Motor MFG	BROAD-OCEAN'
Frame	N/L
Horsepower	0.066
Motor Rpm	1750
Phase	1
Voltage (rated)	115
Amperage (rated)	1.3
Service Factor	1.0

Test Data		
	Design	**Actual**
CFM	150	147
Fan RPM	1449	DD
RL Voltage	115	120
RL Amperage	1.3	0.2
Suction ESP		-0.03
Total ESP	0.125	0.03

Asset	Area Served	Type	Size	DESIGN	CFM(1)	FINAL CFM	% to design
EF-3	VAULT 120	DUCT	6X6	75	102	78	1.04
EF-3	VAULT 122	DUCT	6X6	75	89	69	0.92
				150		**147**	**0.98**

National TAB

Project: USACE HVAC Reset

Address: Palatka, FL

Asset: EF-4 **Area: MECHANICAL ROOM 17**

Unit Data	
MFG	GREENHECK
Model Num	SQ-120-X
Serial Num	14939014 24F
Type	INLINE

Motor Data	
Motor MFG	N/L
Frame	N/L
Horsepower	1
Motor Rpm	1750
Phase	1
Voltage (rated)	115
Amperage (rated)	10.3
Service Factor	1.0

Motor plate not accessible.

Test Data		
	Design	**Actual**
CFM	500	501
Fan RPM	1017	DD
RL Voltage	115	119
RL Amperage	10.3	1.9
Suction ESP		-0.06
Discharge ESP		0.03
Total ESP		0.09

National TAB

Project: USACE HVAC Reset

Address: Palatka, FL

Asset: PAL02-EF-1 **Area:**

Unit Data	
MFG	GREENHECK
Model Num	USF-10
Serial Num	N/L
Type	UTILITY SET

Motor Data	
Motor MFG	BALDOR RELIANCE
Frame	143T
Horsepower	2
Motor Rpm	3475
Phase	3
Voltage (rated)	208-230/460
Amperage (rated)	5.3-5.0/2.5
Service Factor	1.15

Drive Data	
Motor Sheave Size	3.25"
Motor Bore Size	7/8"
Fan Sheave Size	3.75"
Fan Bore Size	0.75"
Belt CL Distance	7.75"
No of Belts	1
Belt Size	AX24

Test Data		
	Design	**Actual**
CFM	1600	1637
Fan RPM	3169	3192
RL Voltage	208	205
RL Amperage	5.3	4.2
Discharge SP		0.53
Suction ESP		-3.22
Total ESP	4.00	3.75
Brake Horse Power	1.76	1.58

Asset	Area Served	Type	Size	DESIGN	CFM(1)	FINAL CFM	% to design
PAL02-EF-1	202	DUCT	10	1600	1637	1637	1.02

National TAB

Project: USACE HVAC Reset

Address: Palatka, FL

Asset: PAL02-EF-2 **Area:**

Unit Data	
MFG	GREENHECK
Model Num	SE2-30-620-B20-X
Serial Num	23922384 24A
Type	PROP SIDEWALL

Motor Data	
Motor MFG	BALDOR RELIANCE
Frame	184T
Horsepower	2
Motor Rpm	1165
Phase	3
Voltage (rated)	230/460
Amperage (rated)	6.8/3.4
Service Factor	1.15

Test Data		
	Design	**Actual**
CFM	10000	14193
Fan RPM	1750	1165
RL Voltage	208	205
RL Amperage	6.8	6.2
Suction ESP		-0.692
Total ESP	0.583	0.692
Brake Horse Power	2.18	1.82

NO SPEED CONTROLLER

National TAB

Project: USACE HVAC Reset

Address: Palatka, FL

Asset: PAL02-EF-3 **Area: 203**

Unit Data	
MFG	GREENHECK
Model Num	BSQ-80-4-X
Serial Num	23851788 24A
Type	INLINE

Motor Data	
Motor MFG	MARATHON
Frame	56
Horsepower	0.25
Motor Rpm	1725
Phase	1
Voltage (rated)	115
Amperage (rated)	4.4
Service Factor	1

Motor plate not accessible.

Drive Data	
Motor Sheave Size	3.0"
Motor Bore Size	5/8"
Fan Sheave Size	NOT ACCESSIBLE
Fan Bore Size	0.75"
Belt CL Distance	NOT ACCESSIBLE
No of Belts	1
Belt Size	AX41

Test Data		
	Design	**Actual**
CFM	200	209
Fan RPM	901	NA
RL Voltage	115	119
RL Amperage	4.4	2.97
Discharge SP		0.03
Suction ESP		-0.2
Total ESP	0.25	0.23

Asset	Area Served	Type	Size	DESIGN	CFM(1)	FINAL CFM	% to design
PAL02-EF-3	203	DUCT	8X8	200	118	209	1.05

National TAB

Project: USACE HVAC Reset

Address: Palatka, FL

Asset: KEF-1 **Area: GREASE HOOD**

Unit Data	
MFG	CAPTIVE AIR
Model Num	EADU180H
Serial Num	6589840
Type	PRV- UPBLAST

Motor Data	
Motor MFG	TECO WESTINGHOUSE
Frame	182T
Horsepower	1.5
Motor Rpm	1170
Phase	3
Voltage (rated)	208
Amperage (rated)	6.01
Service Factor	1.15

Test Data		
	Design	**Actual**
CFM	1750	1782
Fan RPM	1024	44.4HZ
RL Voltage	208	95V VFD
RL Amperage	6.6	4.9A VFD
Suction ESP		-0.56
Total ESP	1.25	0.56
Brake Horse Power	0.78	1.22

National TAB

Project: USACE HVAC Reset

Address: Palatka, FL

Asset: KEF-2 **Area: HOT WELLS**

Unit Data	
MFG	CAPTIVE AIR
Model Num	EADU50H
Serial Num	659840
Type	PRV- UPBLAST

Motor Data	
Motor MFG	TELCO INTERCON
Frame	48
Horsepower	0.50
Motor Rpm	1800
Phase	1
Voltage (rated)	208
Amperage (rated)	3.8
Service Factor	N/L

Test Data		
	Design	**Actual**
CFM	1275	1279
Fan RPM	1378	60%
RL Voltage	208	205
RL Amperage	3.8	1.8
Suction ESP		-0.71
Total ESP		0.71
Brake Horse Power	0.296	0.24

National TAB

Project: USACE HVAC Reset

Address: Palatka, FL

Asset: KEF-3 **Area: DISH**

Unit Data	
MFG	CAPTIVE AIR
Model Num	EADU33H
Serial Num	6589840
Type	PRV- UPBLAST

Motor Data	
Motor MFG	TELCO INTERCON
Frame	48
Horsepower	0.33
Motor Rpm	1800
Phase	1
Voltage (rated)	208
Amperage (rated)	2.5
Service Factor	N/L

Test Data		
	Design	**Actual**
CFM	450	432
Fan RPM		1006
RL Voltage	208	207
RL Amperage	2.5	0.7
Suction ESP		-0.30
Total ESP	0.60	0.30
Brake Horse Power	0.11	0.09

National TAB

Project: USACE HVAC Reset
Address: Palatka, FL

Asset: MAU-1 **Area: KH-1**

Unit Data	
MFG	CAPTIVE AIR
Model Num	EA1-D.500-15D
Serial Num	6589840
Type	MUA
Configuration	VERTICAL
No. Filters / Size	3 / 16X20X2
No. Filters / Size	3 / 20X25X2

Motor Data	
Motor MFG	TECO WESTINGHOUSE
Frame	145T
Horsepower	1.5
Motor Rpm	1740
Phase	3
Voltage (rated)	230/460
Amperage (rated)	4.03/2.02
Service Factor	1.15

Test Data		
	Design	**Actual**
CFM	1650	1612
SF RPM	1877	1404 48.4 hz
RL Voltage	208	95V VFD
RL Amperage	4.4	2.8A VFD
Suction ESP		-0.46
Discharge ESP		0.05
Total ESP	0.57	0.51
Brake Horse Power	1.03	1.04

National TAB

Project: USACE HVAC Reset

Address: Palatka, FL

Asset: MAU-2 **Area: KH-2**

Unit Data	
MFG	CAPTIVE AIR
Model Num	EA1-D.500-15D
Serial Num	6589840
Type	MUA
Configuration	VERTICAL
No. Filters / Size	3 / 16X20X2
No. Filters / Size	3 / 20X25X2

Motor Data	
Motor MFG	TELCO GREEN
Frame	N/L
Horsepower	1
Motor Rpm	1800
Phase	1
Voltage (rated)	115
Amperage (rated)	11.6
Service Factor	N/L

Test Data		
	Design	**Actual**
CFM	1200	1204
SF RPM	1558	1209
RL Voltage	115	119
RL Amperage	11.6	3.1
Suction ESP		-0.28
Discharge ESP		0.09
Total ESP	0.59	0.37
Brake Horse Power	0.568	0.27

RPM read via tachometer on direct drive fan wheel. ECM set to 100% via HMI. Does not appear that motor is actually running at 100% based on RPM and amperage.

National TAB

Project: USACE HVAC Reset

Address: Palatka, FL

Asset: KH-1 **Area: GREASE HOOD**

Unit Data	
MFG	CAPTIVE AIR
Model Num	5424 EX-2-PSP-FS
Job / Serial Num	6119534
Type	CANOPY w/ PSP
Hood Length	106"
Hood Width	68"
Supply Plenum Type	PSP
Supply Plenum Width	14"
Supply Plenum Length	106" / 68"

Test Data Exhaust		
Filter Type	BAFFLE	
Filter Size 1	16X16	
Filter Qty 1	6	
Filter AK factor size 1	1.62	
Filter Total AK Area 1	9.72	
Filter Size 2	N/A	
Filter Qty 2	N/A	
Filter AK factor size 2	N/A	
Filter Total AK Area 2	N/A	
	PRELIM	**FINAL**
Filter1 FPM	134	167
Filter2 FPM	132	180
Filter3 FPM	156	194
Filter4 FPM	150	198
Filter5 FPM	145	188
Filter6 FPM	133	173
Filter7 FPM		
Filter8 FPM		
	Design	**Actual**
Filter Ave FPM	180	183
CFM	1750	1782

Test Data Supply		
AK factor	16.72	
Total AK Area	0.89	
	PRELIM	**FINAL**
Reading1 FPM	163	158
Reading2 FPM	113	91
Reading3 FPM	123	100
Reading4 FPM	150	127
Reading5 FPM	121	99
Reading6 FPM	142	119
Reading7 FPM	110	101
Reading8 FPM	94	90
Reading9 FPM	95	95
Reading10 FPM	129	103
	Design	**Actual**
Ave FPM(corr)	110	108
CFM	1650	1612

National TAB

Project: USACE HVAC Reset

Address: Palatka, FL

Asset: KH-2 **Area: HOT WELLS**

Unit Data	
MFG	CAPTIVE AIR
Model Num	4824 ES-VHB-G-PSP-F-ND
Job / Serial Num	6119534
Type	CANOPY w/ PSP
Hood Length	102"
Hood Width	62"
Supply Plenum Type	PSP
Supply Plenum Width	102"
Supply Plenum Length	14"

Test Data Exhaust		
CFM	1275	1279

Test Data Supply		
AK factor	0.89	
Total AK Area	9.92	
	PRELIM	**FINAL**
Reading1 FPM	148	179
Reading2 FPM	104	126
Reading3 FPM	96	116
Reading4 FPM	92	111
Reading5 FPM	120	145
Reading6 FPM	106	128
Reading7 FPM	101	122
Reading8 FPM	112	136
Reading9 FPM	123	149
Reading10 FPM	126	152
	Design	**Actual**
Ave FPM(corr)	136	136
CFM	1200	1204

National TAB

Project: USACE HVAC Reset

Address: Palatka, FL

Asset: KH-1 **Area: DISHWASHER**

Unit Data	
MFG	CAPTIVE AIR
Model Num	4824ES-VHB-G-ND
Job / Serial Num	6119534
Type	CANOPY w/o PSP
Hood Length	48"
Hood Width	48"

Test Data Exhaust		
	DESIGN	**ACTUAL**
CFM	450	432