Report By:

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

NATIONAL TAB

Comfort. Under control.

Report: TAB REPORT
Function: Test, Adjust, & Balance
Date: 8/1/2022

PROJECT

08-01 MENDOCINO FARMS - ENCINTAS, CA

268 N EL CAMINO REAL

ENCINTAS, CA 92024

Client

Chill - Factor Mechanical

PO BOX 5756

SAN DIEGO, CA 92165

National TAB

Project: 08-01 MENDOCINO FARMS - ENCINTAS, 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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CheckList Information

Name :	TECH - SITE PICTURES	**Status :**	NotSubmitted
Assigned Organization :	National TAB	**Asset :**	
Requesting Organization :	National TAB		

CheckList Item Details

STORE FRONT
RTU-1
RTU-2
EF-1
EF-2
EF-3
MAU-1
HOOD-1
HOOD-2
OTHER

Notes/Comments :

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CheckList Information

Name :	TECH - STEP 1: INITIAL SITE WALKTHRU	**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
All hood filters installed and accounted for?	Yes
Hoods are wired and have power?	Yes
Hood is free of alarms?	Yes
Thermostats have power?	Yes
Have trades/general contractor been notified about any issues and are they created on FaciliBuild?	YES

Notes/Comments :

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08-01 MENDOCINO FARMS - ENCINTAS, CA

CheckList Information

Name :	TECH - STEP 2: UNIT DATA AND EVAL	**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?	Yes
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?	
If direct drive unit is the speed controller working.	
Is gas piping installed and valves turned on?	Yes
Unit free of noticeable noise and vibration	Yes
EF's	
Rotation is correct?	Yes
Belts are tight?	
Grease cup installed on hood fan?	
Hinge kit installed installed on hood fan?	
Lean fan back. Is grease duct installation adequate and is duct ran all the way to the base of the fan?	

Flex conduit is long enough so that fan can be completely tilted back?	
There is no major leakage around base of fan?	
Is the motor operating below the motor FLA rating?	
For restroom fan(s) is the back draft damper installed and can it fully open?	
Unit free of noticeable noise and vibration?	
MUA	
Rotation is correct?	
Gas piping is installed and valves are in on position?	
Heater tested and is functional?	
Internal motorized damper is fully opening?	
Motor is operating below the FLA rating?	
Unit free of noticeable noise and vibration?	
HOODS	
Kitchen equipment installed in proper places?	
Can kitchen equipment be turned on for final smoke test?	
DOCUMENTATION	
Have trades/general contractor been notified about any issues and are they created on FaciliBuild?	

Notes/Comments :

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CheckList Information

Name :	TECH - STEP 3: 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?	
Is space comfortable in all areas?	
Is the space free of ventilation noise?	
If deviations from design were necessary to resolve 1-3 what were they? Otherwise put "NA".	

Notes/Comments :

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CheckList Information

Name :	TECH - STEP 4: 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	
List smoke candle type used	
Smoke test capture - Perimeter of hood	
Smoke test capture - Top of cooking surface	
WITNESS	
Date test was completed	
TAB tech name / Firm	
Site super name / Firm	
Owner representative name / Firm (if Applicable)	
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)	
Thermostats are programmed?	

Notes/Comments :

National TAB

Project: 08-01 MENDOCINO FARMS - ENCINTAS, CA

System/Unit: AHU/RTU

Asset: RTU1 AREA:DINING ROOM

Unit Data		
	Design	**Actual**
MFG	TRANE	TRANE
Serial Num	-	173810391L
Model Num	YHC060	YHC120F3RLA
Type	-	RTU
Configuration	-	HORIZONTAL
Num OA Filters 1	-	1
OA Filter Size 1	-	35X17
Num Final Filter 1	-	4
Final Filter Size 1	-	20X25X2
Num Final Filter 2	-	212X20X2
Final Filter Size 2	-	

Motor Data		
	Design	**Actual**
Motor MFG	-	NL
Frame	-	NL
Horsepower	-	2.75
Motor Rpm	-	NL
Phase	-	3
Rated Voltage	208	208
Rated Amperage	-	7.3

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	DD
Motor Bore Size	-	
Motor Sheave SetPt	-	
Fan Sheave Size	-	
Fan Sheave Bore	-	
Belt CL Distance	-	
Num of Belts	-	
Belt Size	-	
Belt Alignment	-	

Test Data		
	Design	**Actual**
SF CFM	3500	
SF RPM	-	
RA CFM	-	
OA CFM	1200	
RL Voltage	-	
RL Amperage	-	
SF Rotation	-	
RA Damper Position	-	
Min OA Damper Position	-	
Min OA Damper Type	-	
OA Enthalpy Setpt	-	
Brake Horse Power	-	

Performance Data		
	Design	**Actual**
MA Plenum SP	-	
Fan Suction SP	-	
Fan Discharge SP	-	
Total ESP	0.8	
Fan Total SP	-	

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

Completed By: Will Turnbough

Notes:DIFFUSER DESIGN TOTAL = 3650 CFM. SCHEDULED FOR 3500 CFM.

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Diffuser Supply (GRD)

RTU1/DINING ROOM

Asset							
1-1	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**
	RESTROOM	CD3	6"	75			
	FINAL CFM	**% to design**					
		-					
1-2	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**
	RESTROOM	CD3	6"	75			
	FINAL CFM	**% to design**					
		-					
1-3	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**
	DINING	SR1	12X6	350			
	FINAL CFM	**% to design**					
		-					
1-4	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**
	DINING	SR1	12X6	350			
	FINAL CFM	**% to design**					
		-					
1-5	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**
	DINING	SR1	12X6	350			
	FINAL CFM	**% to design**					
		-					
1-6	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**
	DINING	SR1	12X6	350			
	FINAL CFM	**% to design**					
		-					
1-7	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**
	DINING	SR1	12X6	350			
	FINAL CFM	**% to design**					
		-					
1-8	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**
	DINING	SR1	12X6	350			
	FINAL CFM	**% to design**					
		-					
1-9	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**
	DINING	SR1	12X6	350			
	FINAL CFM	**% to design**					
		-					
1-10	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**
	DINING	SR1	12X6	350			
	FINAL CFM	**% to design**					
		-					
1-11	**Location**	**Type**	**Size**	**DESIGN CFM**	**AK**	**CFM(1)**	**CFM(2)**
	DINING	SR1	12X6	350			
	FINAL CFM	**% to design**					
		-					

	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)
1-12	DINING	SR1	12X6	350			
	FINAL CFM	**% to design**					
		-					

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Asset	Notes

National TAB

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Project: 08-01 MENDOCINO FARMS - ENCINTAS, CA

System/Unit: AHU/RTU

Asset: RTU2 AREA:KITCHEN

Unit Data		
	Design	**Actual**
MFG	TRANE	TRANE
Serial Num	-	173713244
Model Num	YHC060	YHC060FRLA1
Type	-	RTU
Configuration	-	HORIZONTAL
Num OA Filters 1	-	1
OA Filter Size 1	-	35X17
Num Final Filter 1	-	4
Final Filter Size 1	-	16X25X2
Num Final Filter 2	-	
Final Filter Size 2	-	

Motor Data		
	Design	**Actual**
Motor MFG	-	MARATHON
Frame	-	56
Horsepower	-	1
Motor Rpm	-	1725
Phase	-	3
Rated Voltage	208	230/460
Rated Amperage	-	4.4/2.2

Drive Data		
	Design	**Actual**
Motor Sheave Size	-	3"
Motor Bore Size	-	1/2"
Motor Sheave SetPt	-	4 TURNS OPEN
Fan Sheave Size	-	AK49
Fan Sheave Bore	-	3/4
Belt CL Distance	-	10"
Num of Belts	-	1
Belt Size	-	AX29
Belt Alignment	-	VERIFIED

Test Data		
	Design	**Actual**
SF CFM	2000	
SF RPM	-	
RA CFM	-	
OA CFM	600	
RL Voltage	-	
RL Amperage	-	
SF Rotation	-	
RA Damper Position	-	
Min OA Damper Position	-	
Min OA Damper Type	-	
OA Enthalpy Setpt	-	
Brake Horse Power	-	

Performance Data		
	Design	**Actual**
MA Plenum SP	-	
Fan Suction SP	-	
Fan Discharge SP	-	
Total ESP	0.8	
Fan Total SP	-	

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

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Notes:

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Diffuser Supply (GRD)

RTU2/KITCHEN

Asset							
2-1	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)
	KITCHEN	CD2	8"	250	1	239	
	FINAL CFM	% to design					
		-					
2-2	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)
	KITCHEN	CD2	8"	250	1	210	
	FINAL CFM	% to design					
		-					
2-3	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)
	KITCHEN	CD1	10"	350	1	396	
	FINAL CFM	% to design					
		-					
2-4	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)
	KITCHEN	CD1	10"	350	1	323	
	FINAL CFM	% to design					
		-					
2-5	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)
	KITCHEN	CD1	8"	250	1	180	
	FINAL CFM	% to design					
		-					
2-6	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)
	KITCHEN	CD1	8"	250	1	131	
	FINAL CFM	% to design					
		-					
2-7	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)
	KITCHEN	CD1	10"	300	1	329	
	FINAL CFM	% to design					
		-					

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Asset	Notes

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Project: 08-01 MENDOCINO FARMS - ENCINTAS, CA

System/Unit: FAN - Exhaust

Asset: EF1 AREA:HOOD 1

Unit Data		
	Design	**Actual**
MFG	CAPTIVE AIRE	CAPTIVE AIRE
Model Num	DU180HFA	DU180HFA
Serial Num	-	5234516
Type	-	VERTICAL
Configuration	-	UPBLAST

Motor Data		
	Design	**Actual**
Motor MFG	-	NEMA
Frame	-	182T
Horsepower	-	3
Motor Rpm	-	1755
Phase	-	3
Voltage (rated)	-	230/460
Amperage (rated)	-	7.7/3.85
Service Factor	-	1.15

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

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Notes:

Asset	Notes

National TAB

Project: 08-01 MENDOCINO FARMS - ENCINTAS, CA

System/Unit: FAN - Exhaust

Asset: EF2 AREA:HOOD 2

Unit Data		
	Design	**Actual**
MFG	CAPTIVE AIRE	CAPTIVE AIRE
Model Num	DU33HFA	DU33HFA
Serial Num	-	5234516
Type	-	VERTICAL
Configuration	-	UPBLAST

Motor Data		
	Design	**Actual**
Motor MFG	-	TELCO GREEN
Frame	-	NL
Horsepower	-	0.333
Motor Rpm	-	2000
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	4.3
Service Factor	-	1.15

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

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Notes:

Asset	Notes

National TAB

Project: 08-01 MENDOCINO FARMS - ENCINTAS, CA

System/Unit: FAN - Exhaust

Asset: EF3 AREA:RESTROOMS

Unit Data		
	Design	**Actual**
MFG	CAPTIVE AIRE	CAPTIVE AIRE
Model Num	DR12HFA	DR12HFA
Serial Num	-	5234516
Type	-	VERTICAL
Configuration	-	DOWNBLAST

Motor Data		
	Design	**Actual**
Motor MFG	-	NEMA
Frame	-	NL
Horsepower	-	1/4
Motor Rpm	-	1800
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	2.9
Service Factor	-	1.15

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

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Notes:

Asset	Notes

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Project: 08-01 MENDOCINO FARMS - ENCINTAS, CA

System/Unit: FAN - Supply

Asset: SF1 AREA:HOOD 1

Unit Data		
	Design	**Actual**
MFG	CAPTIVE AIRE	CAPTIVE AIRE
Model Num	A1-15D	A1-15D
Serial Num	-	5234516
Type	-	MUA
Configuration	-	HORIZONTAL

Motor Data		
	Design	**Actual**
Motor MFG	-	NEMA
Frame	-	143T
Horsepower	-	1
Motor Rpm	-	
Phase	-	3
Voltage (rated)	-	230/460
Amperage (rated)	-	2.9/1.45
Service Factor	-	1.15

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

Gas Heat		
	Design	**Actual**
Heater Operates (y/n)	-	N/A
Flame Status (pass/fail)	-	
Inlet Air Temp SetPt	-	
Discharge Air Temp SetPt	-	
Air Flow Switch SP Actual	-	

Test Data		
	Design	**Actual**
CFM	-	
SF RPM	-	
Motor RPM	-	
RL Voltage	-	
RL Amperage	-	
Total ESP	-	
Fan Discharge SP	-	

General		
	Design	**Actual**
Fan Rotation Correct	-	YES

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Notes:

Asset	Notes

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Project: 08-01 MENDOCINO FARMS - ENCINTAS, CA

System/Unit: Kitchen Hood Type I

Asset: HD1 AREA:MAIN COOKLINE

Unit Data		
	Design	**Actual**
MFG	CAPTIVE AIRE	CAPTIVE AIRE
Model Num	5412 SND-2-ACPSP-F	5412 SND-2-ACPSP-F
Job / Serial Num	-	5234516
Type	TYPE I	TYPE I
Hood length	-	122"
Hood Width	-	55"
Supply Plenum Type	-	PERFORATED
Supply Plenum Width	-	20"
Supply Plenum Length	-	122"

Test Data Exhaust		
	Design	**Actual**
Filter Type	-	BAFFLE
Filter Size 1	-	16X20
Filter Size 2	-	
Filter Qty 1	-	7
Filter Qty 2	-	
Filter AK factor size 1	-	2.08
Filters AK factor size 2	-	
Filter Total AK Area	-	
Filter1 FPM	-	173
Filter2 FPM	-	177
Filter3 FPM	-	178
Filter4 FPM	-	199
Filter5 FPM	-	200
Filter6 FPM	-	185
Filter7 FPM	-	169
Filter8 FPM	-	
Filter9 FPM	-	
Filter10 FPM	-	
Filter11 FPM	-	
Filter12 FPM	-	
Filter Ave FPM(corr)	-	183
CFM	2500	2664

Cooking Equipment		
	Design	**Actual**
Item 1	-	
Item 2	-	
Item 3	-	
Item 4	-	
Item 5	-	

Test Data Supply		
	Design	**Actual**
Total AK Area	-	16.94
Kv factor (Vel)	-	0.89
Num of Readings	-	15.1
Reading1 FPM	-	146
Reading2 FPM	-	102
Reading3 FPM	-	87
Reading4 FPM	-	108
Reading5 FPM	-	94
Reading6 FPM	-	80
Reading7 FPM	-	82
Reading8 FPM	-	108
Reading9 FPM	-	
Reading10 FPM	-	
Reading11 FPM	-	
Reading12 FPM	-	
Reading13 FPM	-	
Reading14 FPM	-	
Ave FPM(corr)	-	100
CFM	1400	1508

Performance Data		
	Design	**Actual**
Exh-Supply Net CFM	-	
Smoke Generation Type	-	
Cooking Equip Heat On	-	
Hood Capture %	-	
End Panels Installed (Y/N)	-	
Space Offset Temp Riser 1	-	
Space Offset Temp Riser 2	-	
Riser Temp F (idle) Riser 1	-	
Riser Temp F (idle) Riser 2	-	
Ambient Room Temp	-	

General		
	Design	**Actual**
Third Party Witness	-	
Third Party Company	-	
Tech Witness	-	

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Notes:

Asset	Notes

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Project: 08-01 MENDOCINO FARMS - ENCINTAS, CA

System/Unit: Kitchen Hood Type II

Asset: HD2 AREA:DISH WASH

Unit Data		
	Design	**Actual**
MFG	CAPTIVE AIRE	CAPTIVE AIRE
Model Num	4224 VHB-G	4224 VHB-G
Serial Num	-	5234519
Type	-	TYPE II
Hood length	-	42"
Hood Width	-	42"

Test Data		
	Design	**Actual**
Exhaust CFM	700	

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Notes:

Asset	Notes