PdM Solutions of San Antonio, Inc

Vibration Analysis Summary

Plant Name	Sanderson Farm
Location	Oakwood, TX
Date	July 9, 2024

ID#	Equipment		Note
HM#1	H/M Champion HM44-48		Extremely high mill vibration continued and increasing. Data shows unbalancing of rotors/hammers as well as looseness.
	Motor Toshiba 400HP/4P		High motor vibration continued and trending upward in vertical direction. Tighten all anchoring/bolts and inspect base for signs of cracks or damage. Check alignment as well.
HM#2	H/M Champion HM44-48		
	Motor Toshiba 400HP/4P		
HM#3	H/M Champion HM44-48		Mill vibration remains high and trending upward on non-drive end side of mill. H/M bearing noise (drive-end) continuing at unreliable levels. Defects, bearing retainer/inner-outer raceways such as pitting. Grease up bearings proper amount and prepare for bearings change out.
	Motor Toshiba 400HP/4P		
#1 Pellet Mill	CPM 7700-9000		
	Motor Toshiba 600HP/4P		
#2 Pellet Mill	CPM 7700-9000		Mill vibration has increased in the horizontal direction. Tighten all tie down bolts/anchoring.
	Motor Toshiba 600HP/4P		
#1 Cooler Fan	Industrial Air 540		
	Motor Baldor 200HP/4P		
#2 Cooler Fan	Industrial Air 540		
	Motor Toshiba 200HP/4P		High motor drive-end and non-drive end bearing noise continued and trending higher significantly on non-drive end side. Prepare for motor bearing change out.
Truck receiving Gear	Euro Drive MG3LHF09		
	Motor Reliance 200HP/4P		
Rail receiving Gear	Euro Drive MG3LHF09		
	Motor Reliance 200HP/4P		

Warning Flag Notation

Flag Type	Reliability Assessments
Normal	Reliable
Showed sign of problem(s)	Reliable, but concern(s) existed.
Progresses problem(s)	Not reliable for continuous operation.
Critical	Unsafe to operate

Next Inspection: In 6 months. January 2025

PdM Solutions of San Antonio, Inc
Vibration analysis, Thermal imaging, oil analysis ,laser alignment
Phone:(210)492-8363 Fax:(509)275-7676

Vibration Analysis Cover Sheet

1. Machinery Information.

Plant	Sanderson Farms	Location.	Oakwood, TX
Contract No.	Oakwood F/M Plant	Date	Jul 8,2024
Unit ID#	#1 Hammer Mill		
Model	Champion HM 44-48 S/N 442269-2014		
Drive	Direct Drive	Pump Speed	100%(1800RPM)
Motor BHP-RPM	400 HP-4P-VFD	Motor Manufacturer	Toshiba-TEFC TKKH 4F4400L180014
Motor Bearing-Drive	6320C3	Motor Bearing-Open	6320C3
Data Taken by	Scott Brown/PdM Solutions	Data Analyses by	Scott Brown/PdM Solutions
Service History			

2. Result

		Comment
Hammer Mill		Extremely high mill vibration continued and trending higher. Data showed balancing of rotor/hammers and looseness.
Motor		High motor vibration continued and trending higher.
Alignment		Alignment is likely off.

Warning Flag Notation

Flag Type	Reliability Assessments
Normal	Reliable
Showed a sign of problem(s)	Reliable, but concern(s) existed.
Progresses problem(s)	Not reliable for continuous operation.
Critical	Unsafe to operate

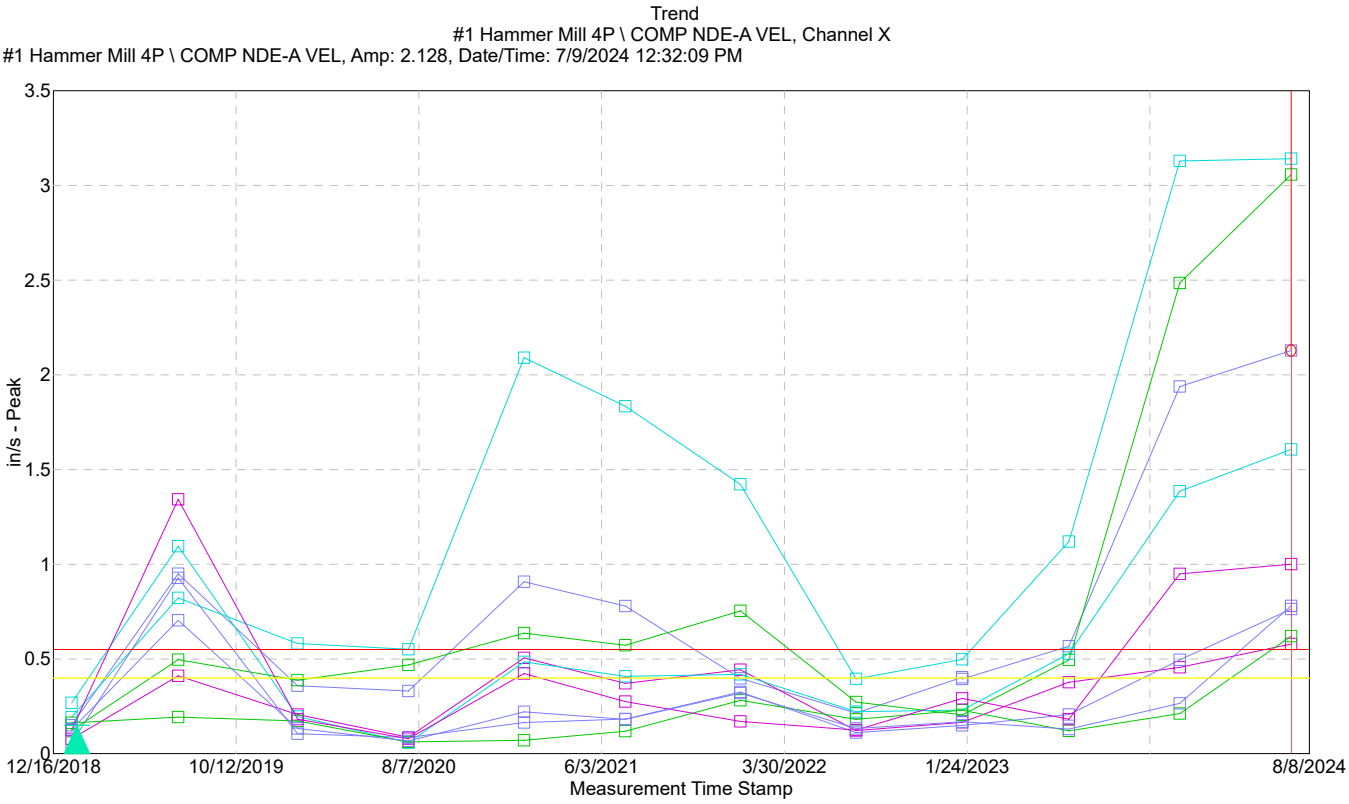
Inspection Note

- High hammer mill and motor vibration continued and trending higher.
- Data shows signs of balancing and mechanical looseness. Check for loose pillow block bolts and/or damage to the frame structure or bearing pedestal.
- Such high vibration can cause damage to outboard bearings on the mill.

3. Recommendation
   - This H/M is not safe to operate. It will cause serious damages on motor and H/M.
   - Immediately tighten all anchoring/nuts/bolts.
   - Check/adjust alignment and coupling for damages such as shredding/twisting center piece.
   - Check outboard pillow block bearings housing for looseness.
   - Check balancing of mill rotor and make sure of the same qty of blades are on each rod.

4. Attachment
   - Vibration last measurement report.
   - Vibration trend data…motor/mill vibration.

5. Next Inspection. In (6) months, **January 2025**



Vibration trend data
#1 Hammer Mill and motor vibration continue trending higher.
Data showed looseness and/or balancing of rotor/hammers.
Check balancing of rotor cage and check hammers.(shape and qty of hammers on the shaft)
Check alignment of the motor and damages on coupling. Tighten all anchoring bolts/nuts.

PdM Solutions of San Antonio, Inc
Vibration analysis, Thermal imaging, oil analysis ,laser alignment
Phone:(210)492-8363 Fax:(509)275-7676

Vibration Analysis Cover Sheet

1. Machinery Information.

Plant	Sanderson Farms	Location.	Oakwood, TX
Contract No.	Oakwood F/M Plant	Date	July 9, 2024
Unit ID#	#3 Hammer Mill		
Model	Champion HM 44-48 S/N 442270-2014		
Drive	Direct Drive	Pump Speed	68%(1215RPM)
Motor BHP-RPM	400 HP-4P-VFD	Motor Manufacturer	Toshiba-TEFC TKKH 4F4400L180014
Motor Bearing-Drive	6320C3	Motor Bearing-Open	6320C3
Data Taken by	Scott Brown/PdM Solutions	Data Analyses by	Scott Brown/PdM Solutions
Service History			

2. Result

		Comment
Hammer Mill		Bearing noise continues at very high levels and trending even higher on non-drive end side of mill.
Motor		
Alignment		

Warning Flag Notation

Flag Type	Reliability Assessments
Normal	Reliable
Showed a sign of problem(s)	Reliable, but concern(s) existed.
Progresses problem(s)	Not reliable for continuous operation.
Critical	Unsafe to operate

Inspection Note

- High hammer mill vibration continued and increasing on non-drive end side of mill to non-reliable levels.
- Higher mill's drive end bearing noise is continued at critical levels.
- Hammer mills drive end bearings are not reliable for continuous operation.
- Mill bearings show signs of lack of lubrication.

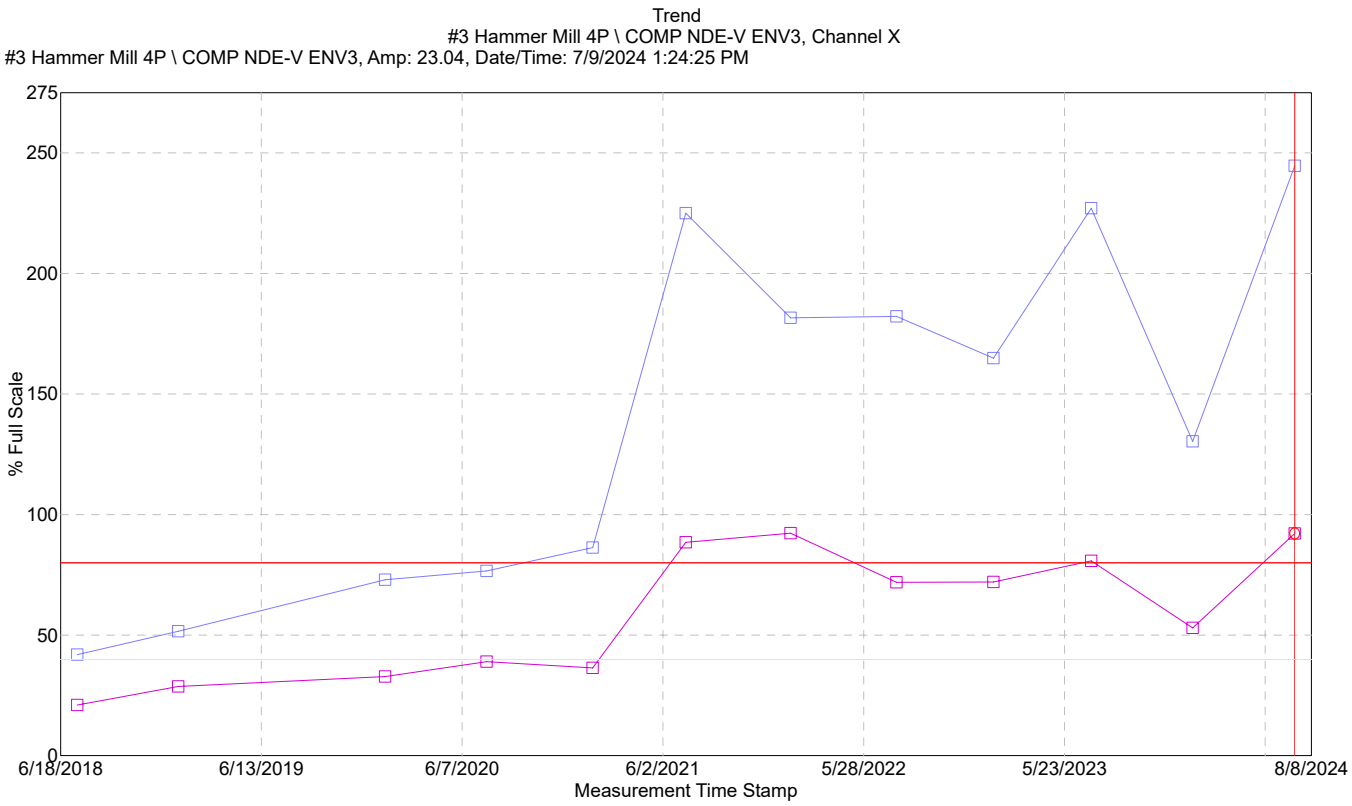
3. Recommendation

- Schedule mills bearings change out.
- Check and clean off motor fan blades.
- Tighten all anchoring/nuts/bolts.
- Check coupling for damages center piece such as twisted or shredded.

4. Attachment

- Vibration last measurement report.
- Vibration trend data…Hammer mill bearing vibration

5. Next Inspection. In (6) months, **January 2025**


Trend
#3 Hammer Mill 4P \ COMP NDE-V ENV3, Channel X
#3 Hammer Mill 4P \ COMP NDE-V ENV3, Amp: 23.04, Date/Time: 7/9/2024 1:24:25 PM
% Full Scale
275
250
200
150
100
50
0
6/18/2018
6/13/2019
6/7/2020
6/2/2021
5/28/2022
5/23/2023
8/8/2024
Measurement Time Stamp

PdM Solutions of San Antonio, Inc
Vibration analysis, Thermal imaging, oil analysis ,laser alignment
Phone:(210)492-8363 Fax:(509)275-7676

Vibration Analysis Cover Sheet

1. Machinery Information.

Plant	Sanderson Farms	Location.	Oakwood, TX
Contract No.	Oakwood F/M plant	Date	July 9, 2024
Unit ID#	#2 Pellet Mill		
Model	CPM 7700-9000 S/N:		
Drive	Direct Drive	Pump Speed	1785 RPM
Motor BHP-RPM	600 HP-4P	Motor Manufacturer	Reliance
Motor Bearing-Drive	6320C3	Motor Bearing-Open	6320C3
Installation Note			
Data Taken by	Scott Brown/PdM Solutions	Data Analyses by	Scott Brown/PdM Solutions
Service History			

2. Result

		Comment
Pellet Mill		Mill vibration increased in horizontal direction. Shows signs of looseness.
Motor		

Warning Flag Notation

Flag Type	Reliability Assessments
Normal	Reliable
Showed a sign of problem(s)	Reliable, but concern(s) existed.
Progresses problem(s)	Not reliable for continuous operation.
Critical	Unsafe to operate

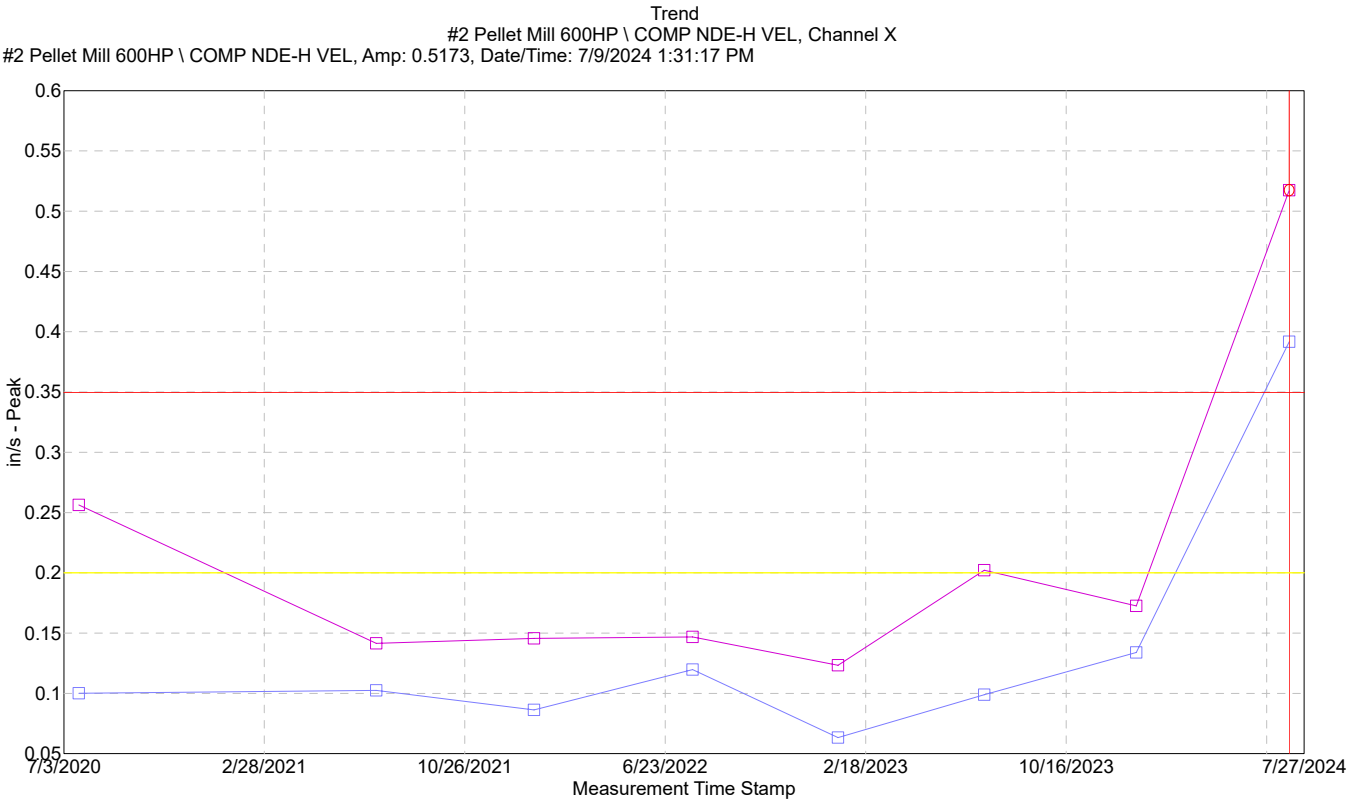
Inspection Note

- Pellet mill vibration has increases in horizontal direction.
- Data shows signs of looseness.

3. Recommendation
   - Tighten all bolts/anchoring to proper torque.
   - Check vibration in 6 months.

4. Attachment
   - Vibration last measurement report.
   - Vibration trend data…mill vibration

5. Next Inspection. In (6) months, **January 2025**


Trend
#2 Pellet Mill 600HP \ COMP NDE-H VEL, Channel X
#2 Pellet Mill 600HP \ COMP NDE-H VEL, Amp: 0.5173, Date/Time: 7/9/2024 1:31:17 PM
in/s - Peak
0.6
0.55
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
7/3/2020
2/28/2021
10/26/2021
6/23/2022
2/18/2023
10/16/2023
7/27/2024
Measurement Time Stamp

PdM Solutions of San Antonio, Inc
Vibration analysis, Thermal imaging, oil analysis ,laser alignment
Phone:(210)492-8363 Fax:(509)275-7676

Vibration Analysis Cover Sheet

1. Machinery Information.

Plant	Sanderson Farms	Location.	Oakwood, TX
Contract No.	Oakwood F/M	Date	July 9, 2024
Unit ID#	#2 Cooling Fan		
Model	Industrial Air Technology Size 540 RTF-SW-14 505260		
Drive	V Belt Drive	Drive/Driven Speed	1775/1045 rpm
Motor BHP-RPM	200 HP4P/445T	Motor Manufacturer	Toshiba-TEFC
Motor Bearing-Drive	NU318	Motor Bearing-Open	6318C3
Note	Unit mounted on vibration isolation damper		
Data Taken by	Scott Brown/PdM Solutions	Data Analyses by	Hank/PdM Solutions
Service History			

2. Result

		Comment
Fan		
Motor		Higher motor bearing noise continued and increasing at a critical level on non-drive end side of motor. Prepare for motor change out.
Pillow Block Bearings		

Warning Flag Notation

Flag Type	Reliability Assessments	ANSI/AMCA 204-5 BV-3(Less than 400HP)
Normal	Reliable	0.25ips
Showed a sign of problem(s)	Reliable, but concern(s) existed.	0.5ips
Progresses problem(s)	Not reliable for continuous operation.	0.65ips
Critical	Unsafe to operate	0.7ips

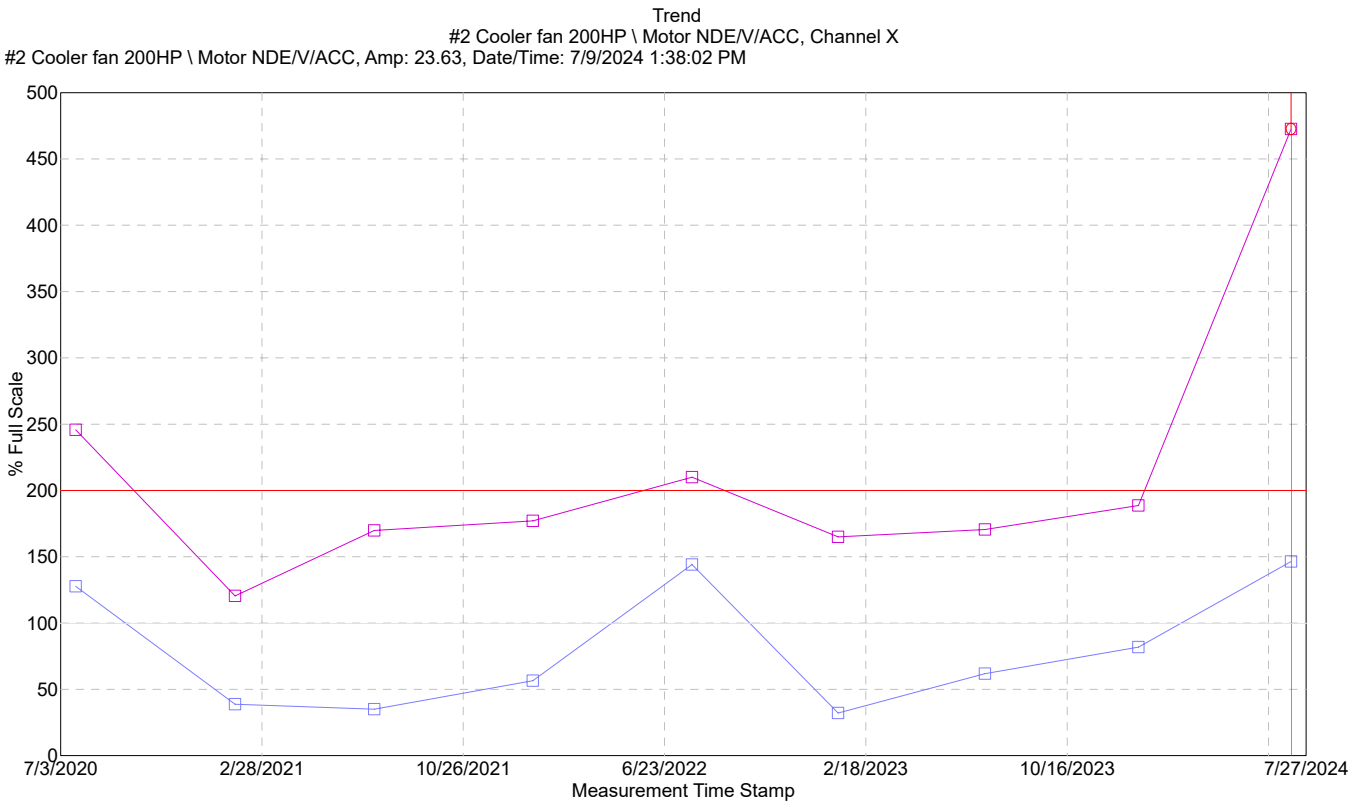
Inspection Note

- High motor's drive end bearing noise continued.
- High motor's non- drive end bearing noised continued and increasing to critical level.
- Vibration continued to show signs of lack of lubrication.

3. Recommendation
   - Grease up motor bearings recommended amount.
   - Prepare to change out motor.

4. Attachment
   - Vibration last measurement report
   - Vibration trend data…motor bearing vibration

Next Inspection. In (6) months, **January 2025**


Trend
#2 Cooler fan 200HP \ Motor NDE/V/ACC, Channel X
#2 Cooler fan 200HP \ Motor NDE/V/ACC, Amp: 23.63, Date/Time: 7/9/2024 1:38:02 PM
% Full Scale
500
450
400
350
300
250
200
150
100
50
0
7/3/2020
2/28/2021
10/26/2021
6/23/2022
2/18/2023
10/16/2023
7/27/2024
Measurement Time Stamp