

Vibration Analysis Report

August 2025 / 408 Section Vibration Report



Report Date: August 2025

Report Period: 8/19/2025

Analyst: Donavin Parsonage

Cell: 066 393 8393

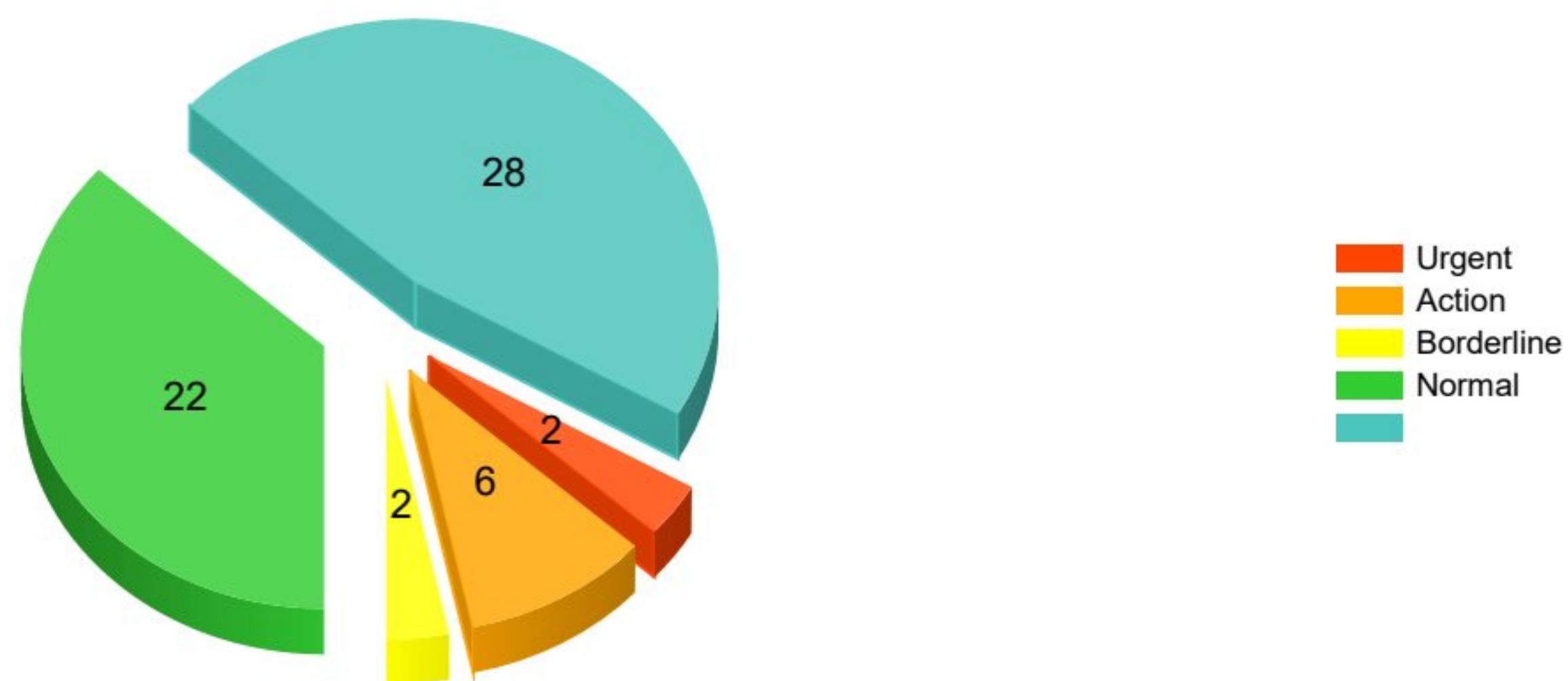
Email: d.parsonage@yellotec.com

Tel. Number: +27 656 9111

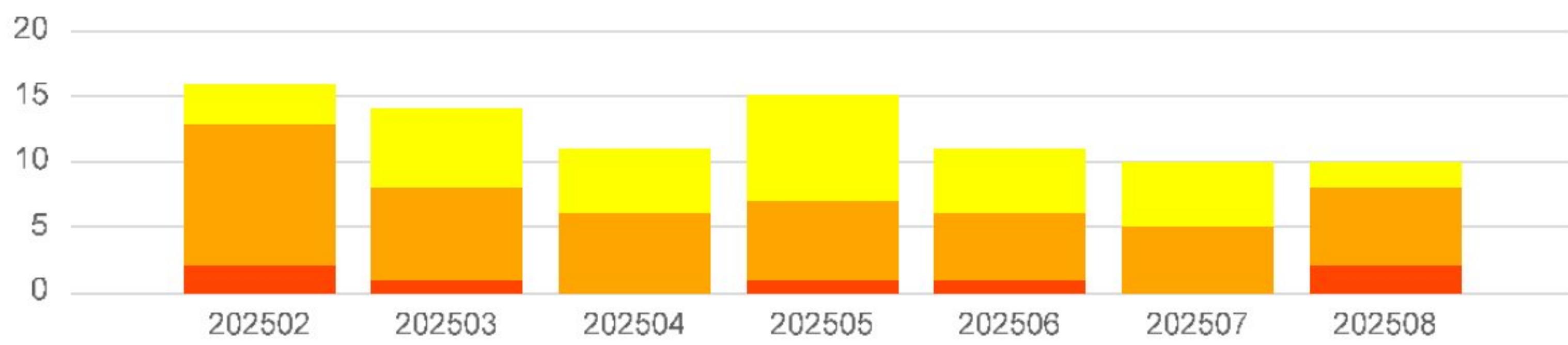
Report Number: 408 Sec-VA-190825

Diagnostic Report

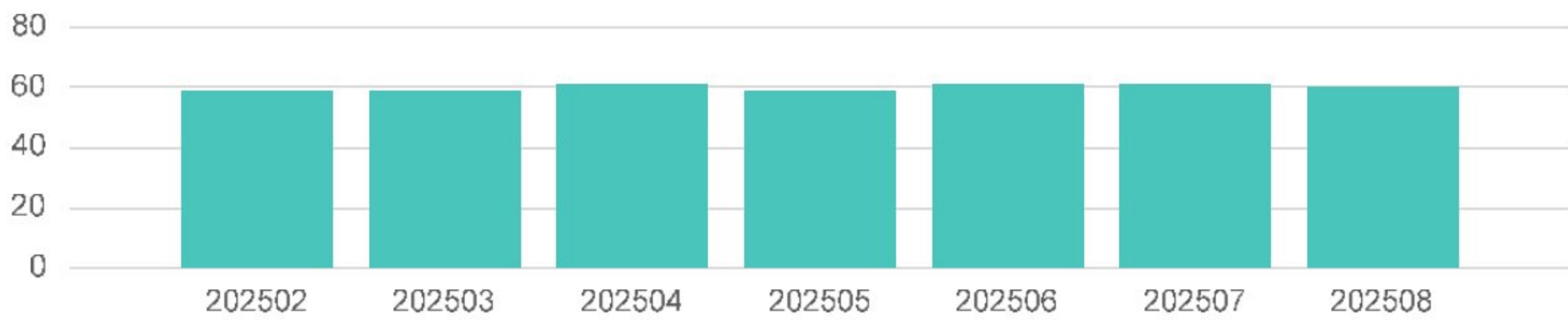
Severity Summary



Identified Problems per Month



Tested Components per Month



Summary Report

Report Date: Date 2025/08/17 to 2025/08/19



Mogalakwena North Concentrator/MNC Wet Section/VIB-Section-408/408 Off Line/408 Conveyors/408 Conveyor Drives

408-CV-001 / Gearbox	Normal	2025/08/19	 	Normal
408-CV-001 / Motor	Normal	2025/08/19	 	Normal
408-CV-003 / Gearbox	Normal	2025/08/19	 	Normal
408-CV-003 / Motor	Normal	2025/08/19	 	Normal
408-CV-004 / Gearbox	Normal	2025/08/19	 	Normal
408-CV-004 / Motor	Normal	2025/08/19	 	Normal
408-CV-002 / Gearbox	Not in service	2025/08/19	 	*
408-CV-002 / Motor	Not in service	2025/08/19	 	*

Mogalakwena North Concentrator/MNC Wet Section/VIB-Section-408/408 Off Line/408 Conveyors/408 Conveyor Pulleys

408-CV-001 / Pulley Bearings	Normal	2025/08/19	 	Normal
408-CV-003 / Pulley Bearings	Normal	2025/08/19	 	Normal
408-CV-004 / Pulley Bearings	Normal	2025/08/19	 	Normal
408-CV-002 / Pulley Bearings	Not in service	2025/08/19	 	*

Mogalakwena North Concentrator/MNC Wet Section/VIB-Section-408/408 Off Line/408 Pumps

408-PP-033 / Motor	Unbalance / Structural looseness	2025/08/19	 	Action
408-PP-037 / Motor	Monitor Condition	2025/08/19	 	Borderline
408-PP-034 / Motor	Normal	2025/08/19	 	Normal
408-PP-034 / Pump Overhung	Normal	2025/08/19	 	Normal
408-PP-037 / Pump Overhung	Normal	2025/08/19	 	Normal
408-PP-029 / Motor	Not in service	2025/08/19	 	*
408-PP-029 / Pump Overhung	Not in service	2025/08/19	 	*
408-PP-030 / Motor	Not in service	2025/08/19	 	*
408-PP-031 / Motor	Not in service	2025/08/19	 	*
408-PP-031 / Pump Overhung	Not in service	2025/08/19	 	*
408-PP-032 / Motor	Not in service	2025/08/19	 	*
408-PP-032 / Pump Overhung	Not in service	2025/08/19	 	*
408-PP-036 / Motor	Not in service	2025/08/19	 	*
408-PP-036 / Pump Overhung	Not in service	2025/08/19	 	*
408-PP-038 / Motor	Not in service	2025/08/19	 	*

408-PP-038 / Pump Overhung	Not in service	2025/08/19		*
----------------------------	----------------	------------	--	---

Mogalakwena North Concentrator/MNC Wet Section/VIB-Section-408/408 On Line/408 Mill Discharge Pumps

408-PP-002 / Gearbox	Bearing Defect	2025/08/18		Urgent
408-PP-002 / Motor	Bearing Defect & Lubrication	2025/08/18		Action
408-PP-008 / Pump Overhung	Inspection Needed	2025/08/18		Action
408-PP-002 / Pump Overhung	Normal	2025/08/18		Normal
408-PP-008 / Gearbox	Normal	2025/08/18		Normal
408-PP-008 / Motor	Normal	2025/08/18		Normal
408-PP-001 / Gearbox	Not in service	2025/08/18		*
408-PP-001 / Motor	Not in service	2025/08/18		*
408-PP-001 / Pump Overhung	Not in service	2025/08/18		*
408-PP-009 / Gearbox	Not in service	2025/08/18		*
408-PP-009 / Motor	Not in service	2025/08/18		*
408-PP-009 / Pump Overhung	Not in service	2025/08/18		*

Mogalakwena North Concentrator/MNC Wet Section/VIB-Section-408/408 On Line/408 Mill Oil Room

408-PP-013 / Pump Overhung	Hydraulic Pump - Looseness / Wear	2025/08/18		Urgent
408-PP-013 / Motor	Transferred Vibration	2025/08/18		Action
408-PP-021 / Motor	Bearing Defect	2025/08/19		Action
408-PP-021 / Pump Overhung	Structural / Base Looseness	2025/08/19		Action
408-PP-022 / Motor	Bearing Defect	2025/08/19		Borderline
408-PP-011 / Motor	Normal	2025/08/18		Normal
408-PP-011 / Pump Overhung	Normal	2025/08/18		Normal
408-PP-014 / Motor	Normal	2025/08/18		Normal
408-PP-014 / Pump Overhung	Normal	2025/08/18		Normal
408-PP-020 / Motor	Normal	2025/08/18		Normal
408-PP-020 / Pump Overhung	Normal	2025/08/18		Normal
408-PP-022 / Pump Overhung	Normal	2025/08/19		Normal
408-PP-012 / Motor	Not in service	2025/08/18		*
408-PP-012 / Pump Overhung	Not in service	2025/08/18		*
408-PP-015 / Motor	Not in service	2025/08/18		*
408-PP-015 / Pump Overhung	Not in service	2025/08/18		*
408-PP-019 / Motor	Not in service	2025/08/18		*
408-PP-019 / Pump Overhung	Not in service	2025/08/18		*
408-PP-023 / Motor	Not in service	2025/08/18		*
408-PP-023 / Pump Overhung	Not in service	2025/08/18		*

Component Findings

Mogalakwena North Concentrator/MNC Wet Section/VIB-Section-408/408 Off Line/408 Conveyors/408 Conveyor Drives

408-CV-001 / Gearbox



Normal

Date: 2025/08/19

Fault Type: **Normal**

Findings: Vibration Acceptable

Action: No Action Required

408-CV-001 / Motor



Normal

Date: 2025/08/19

Fault Type: **Normal**

Findings: Vibration Acceptable

Action: No Action Required

408-CV-003 / Gearbox



Normal

Date: 2025/08/19

Fault Type: **Normal**

Findings: Vibration Acceptable

Action: No Action Required

408-CV-003 / Motor



Normal

Date: 2025/08/19

Fault Type: **Normal**

Findings: Vibration Acceptable

Action: No Action Required

408-CV-004 / Gearbox



Normal

Date: 2025/08/19

Fault Type: **Normal**

Findings: Vibration Acceptable

Action: No Action Required

408-CV-004 / Motor



Normal

Date: 2025/08/19

Fault Type: **Normal**

Findings: Vibration Acceptable

Action: No Action Required

408-CV-002 / Gearbox



*

Date: 2025/08/19
Fault Type: **Not in service**
Findings: Not In Operation.
Action: Test when able



408-CV-002 / Motor



*

Date: 2025/08/19
Fault Type: **Not in service**
Findings: Not In Operation.
Action: Test when able



Mogalakwena North Concentrator/MNC Wet Section/VIB-Section-408/408 Off Line/408 Conveyors/408 Conveyor Pulleys

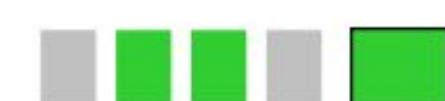
408-CV-001 / Pulley Bearings



Normal

Date: 2025/08/19
Fault Type: **Normal**
Findings: Vibration Acceptable
Action: No Action Required

408-CV-003 / Pulley Bearings



Normal

Date: 2025/08/19
Fault Type: **Normal**
Findings: Vibration Acceptable
Action: No Action Required

408-CV-004 / Pulley Bearings



Normal

Date: 2025/08/19
Fault Type: **Normal**
Findings: Vibration Acceptable
Action: No Action Required

408-CV-002 / Pulley Bearings



*

Date: 2025/08/19
Fault Type: **Not in service**
Findings: Not In Operation.
Action: Test when able

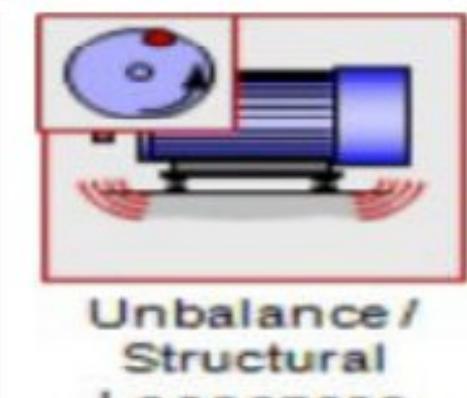


Mogalakwena North Concentrator/MNC Wet Section/VIB-Section-408/408 Off Line/408 Pumps

408-PP-033 / Motor



Action



Date: 2025/08/19

Fault Type: **Unbalance / Structural looseness**

Findings: The vibration recorded during our last survey indicates, a looseness / unbalance condition. The vibration levels have decreased but remain above alarm limits.

Action: Inspect base / base bolts for any looseness condition. Inspect coupling for any defects.

408-PP-037 / Motor



Borderline



Date: 2025/08/19

Fault Type: **Monitor Condition**

Findings: The vibration recorded indicates a possible lubrication starvation and or early bearing defect developing in the enveloping spectrum. impacting at low amplitudes is also present in the time domain.

Action: Continue to monitor the condition for any change.

408-PP-034 / Motor



Normal

Date: 2025/08/19

Fault Type: **Normal**

Findings: Vibration Acceptable

Action: No Action Required

408-PP-034 / Pump Overhung



Normal

Date: 2025/08/19

Fault Type: **Normal**

Findings: Vibration Acceptable

Action: No Action Required

408-PP-037 / Pump Overhung



Normal

Date: 2025/08/19

Fault Type: **Normal**

Findings: Vibration Acceptable

Action: No Action Required

408-PP-029 / Motor



*



**Machine train
not in service**

Date: 2025/08/19

Fault Type: **Not in service**

Findings: Not In Operation.

Action: Test when able

408-PP-029 / Pump Overhung



*

Date: 2025/08/19
Fault Type: **Not in service**
Findings: Not In Operation.
Action: Test when able



408-PP-030 / Motor



*

Date: 2025/08/19
Fault Type: **Not in service**
Findings: Not In Operation.
Action: Test when able



408-PP-031 / Motor



*

Date: 2025/08/19
Fault Type: **Not in service**
Findings: Not In Operation.
Action: Test when able



408-PP-031 / Pump Overhung



*

Date: 2025/08/19
Fault Type: **Not in service**
Findings: Not In Operation.
Action: Test when able



408-PP-032 / Motor



*

Date: 2025/08/19
Fault Type: **Not in service**
Findings: Not In Operation.
Action: Test when able



408-PP-032 / Pump Overhung



*

Date: 2025/08/19
Fault Type: **Not in service**
Findings: Not In Operation.
Action: Test when able



408-PP-036 / Motor



*

Date: 2025/08/19
Fault Type: **Not in service**
Findings: Not In Operation.
Action: Test when able



**Machine train
not in service**

408-PP-036 / Pump Overhung



*

Date: 2025/08/19
Fault Type: **Not in service**
Findings: Not In Operation.
Action: Test when able



**Machine train
not in service**

408-PP-038 / Motor



*

Date: 2025/08/19
Fault Type: **Not in service**
Findings: Not In Operation.
Action: Test when able



**Machine train
not in service**

408-PP-038 / Pump Overhung



*

Date: 2025/08/19
Fault Type: **Not in service**
Findings: Not In Operation.
Action: Test when able



**Machine train
not in service**

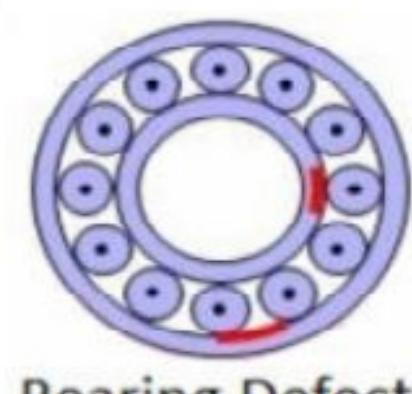
Mogalakwena North Concentrator/MNC Wet Section/VIB-Section-408/408 On Line/408 Mill Discharge Pumps

408-PP-002 / Gearbox



Urgent

Date: 2025/08/18
Fault Type: **Bearing Defect**
Findings: The vibration recorded indicates a increase in overall acceleration 0-Pk. High amplitude impacts in the time domain typically relates to a bearing defect. Multiple harmonics of the input speed indicates severe deterioration.
Action: Continue with replacement of gearbox.



Bearing Defect

408-PP-002 / Motor



Action

Date: 2025/08/18
Fault Type: **Bearing Defect & Lubrication**
Findings: The vibration recorded indicates raised noise floor in the high frequency range with low amplitude defect frequency present. This typically relates to a lubrication starvation and or early bearing defect developing.
The 10-1KHz band trend has been increasing, bearing defect visible in the acceleration spectrum in 10-1KHz frequency range.
Action: Ensure both bearings have optimal lubrication.



**Bearing Defect
& Lubrication**

408-PP-008 / Pump Overhung



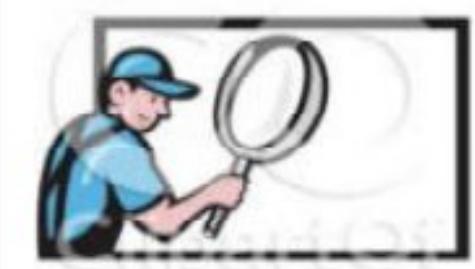
Action

Date: 2025/08/18

Fault Type: **Inspection Needed**

Findings: The vibration recorded indicates a increase in the second harmonic of vane pass frequency, which typically relates to impellor wear.

Action: Plan a inspection of the wet end of the pump.



www.clipartof.com - 1243947

408-PP-002 / Pump Overhung



Normal

Date: 2025/08/18

Fault Type: **Normal**

Findings: Vibration Acceptable

Action: No Action Required

408-PP-008 / Gearbox



Normal

Date: 2025/08/18

Fault Type: **Normal**

Findings: Vibration Acceptable

Action: No Action Required

408-PP-008 / Motor



Normal

Date: 2025/08/18

Fault Type: **Normal**

Findings: Vibration Acceptable

Action: No Action Required

408-PP-001 / Gearbox



*



Machine train
not in service

408-PP-001 / Motor



*



Machine train
not in service

408-PP-001 / Pump Overhung



*



**Machine train
not in service**

408-PP-009 / Gearbox



*



**Machine train
not in service**

408-PP-009 / Motor



*



**Machine train
not in service**

408-PP-009 / Pump Overhung



*



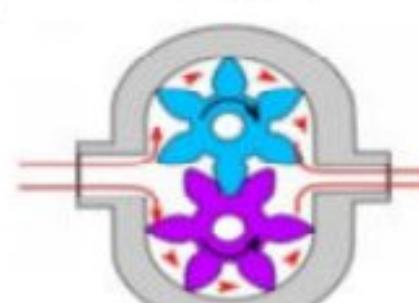
**Machine train
not in service**

Mogalakwena North Concentrator/MNC Wet Section/VIB-Section-408/408 On Line/408 Mill Oil Room

408-PP-013 / Pump Overhung



Urgent

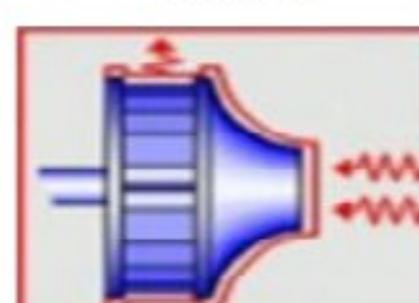


**Hydraulic Pump
Looseness / Wear**

408-PP-013 / Motor



Action

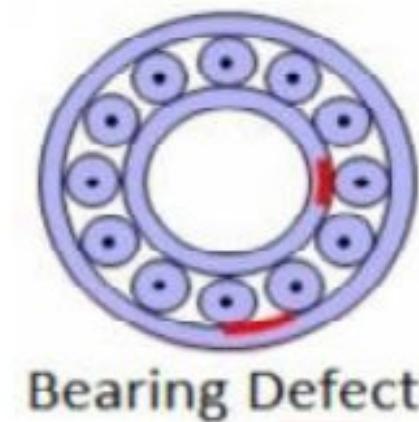


**Transferred
Vibration**

408-PP-021 / Motor



Action



Bearing Defect

Date: 2025/08/19

Fault Type: **Bearing Defect**

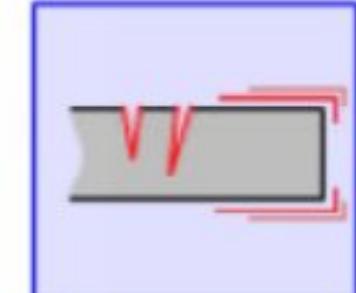
Findings: The vibration recorded indicated the deterioration of previously recorded defect. Multiple harmonics of running speed frequency with impacts and high frequency vibration recorded on the motor non drive end bearing. The motor has been lubricated for the last 3 months and it has not changed the vibration amplitude or signature.

Action: Plan for medium to long term replacement of the motor.

408-PP-021 / Pump Overhung



Action



Structural looseness

Date: 2025/08/19

Fault Type: **Structural / Base Looseness**

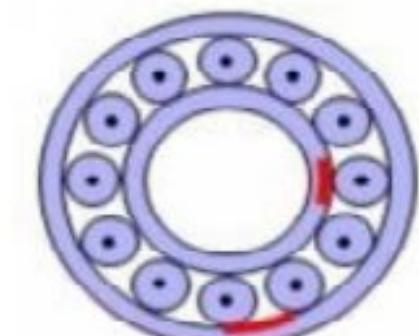
Findings: The vibration recorded indicates, a possible defective coupling and or looseness condition that is evident in the increase in 1 x running speed in the velocity spectra which typically relates to a looseness condition

Action: Inspect the pump / motor flange mounting bolts for any looseness, inspect the motor hold down bolts for any looseness and rectify based on findings.
Inspect coupling for any defects.

408-PP-022 / Motor



Borderline



Bearing Defect

Date: 2025/08/19

Fault Type: **Bearing Defect**

Findings: The vibration recorded indicates no further deterioration of previously recorded bearing defect. Low amplitude impacts in the time domain, enveloping RMS band trend and overall acceleration trends are stable.

Action: Continue to monitor the condition for any further deterioration.

408-PP-011 / Motor



Normal

Date: 2025/08/18

Fault Type: **Normal**

Findings: Vibration Acceptable

Action: No Action Required

408-PP-011 / Pump Overhung



Normal

Date: 2025/08/18

Fault Type: **Normal**

Findings: Vibration Acceptable

Action: No Action Required

408-PP-014 / Motor



Normal

Date: 2025/08/18

Fault Type: **Normal**

Findings: Vibration Acceptable

Action: No Action Required

408-PP-014 / Pump Overhung

Normal

Date: 2025/08/18

Fault Type: **Normal**

Findings: Vibration Acceptable

Action: No Action Required

408-PP-020 / Motor

Normal

Date: 2025/08/18

Fault Type: **Normal**

Findings: Vibration Acceptable

Action: No Action Required

408-PP-020 / Pump Overhung

Normal

Date: 2025/08/18

Fault Type: **Normal**

Findings: Vibration Acceptable

Action: No Action Required

408-PP-022 / Pump Overhung

Normal

Date: 2025/08/19

Fault Type: **Normal**

Findings: Vibration Acceptable

Action: No Action Required

408-PP-012 / Motor

*

**Machine train
not in service****408-PP-012 / Pump Overhung**

*

**Machine train
not in service**

408-PP-015 / Motor



*



**Machine train
not in service**

408-PP-015 / Pump Overhung



*



**Machine train
not in service**

408-PP-019 / Motor



*



**Machine train
not in service**

408-PP-019 / Pump Overhung



*



**Machine train
not in service**

408-PP-023 / Motor



*



**Machine train
not in service**

408-PP-023 / Pump Overhung



*



**Machine train
not in service**

: Detailed Analysis Report



Urgent

Report Date: 2025/08/18

Plant: Mogalakwena North Concentrator

Site: MNC Wet Section/VIB-Section-408/408 On Line/408 Mill Discharge Pumps

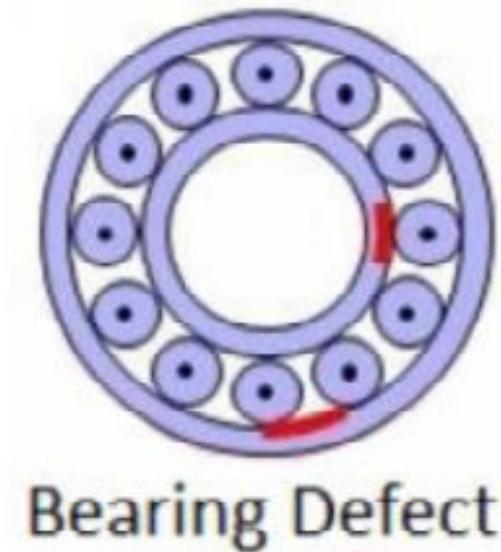
Machine: 408-PP-002

Component: Gearbox

CMMS ID: 355959832

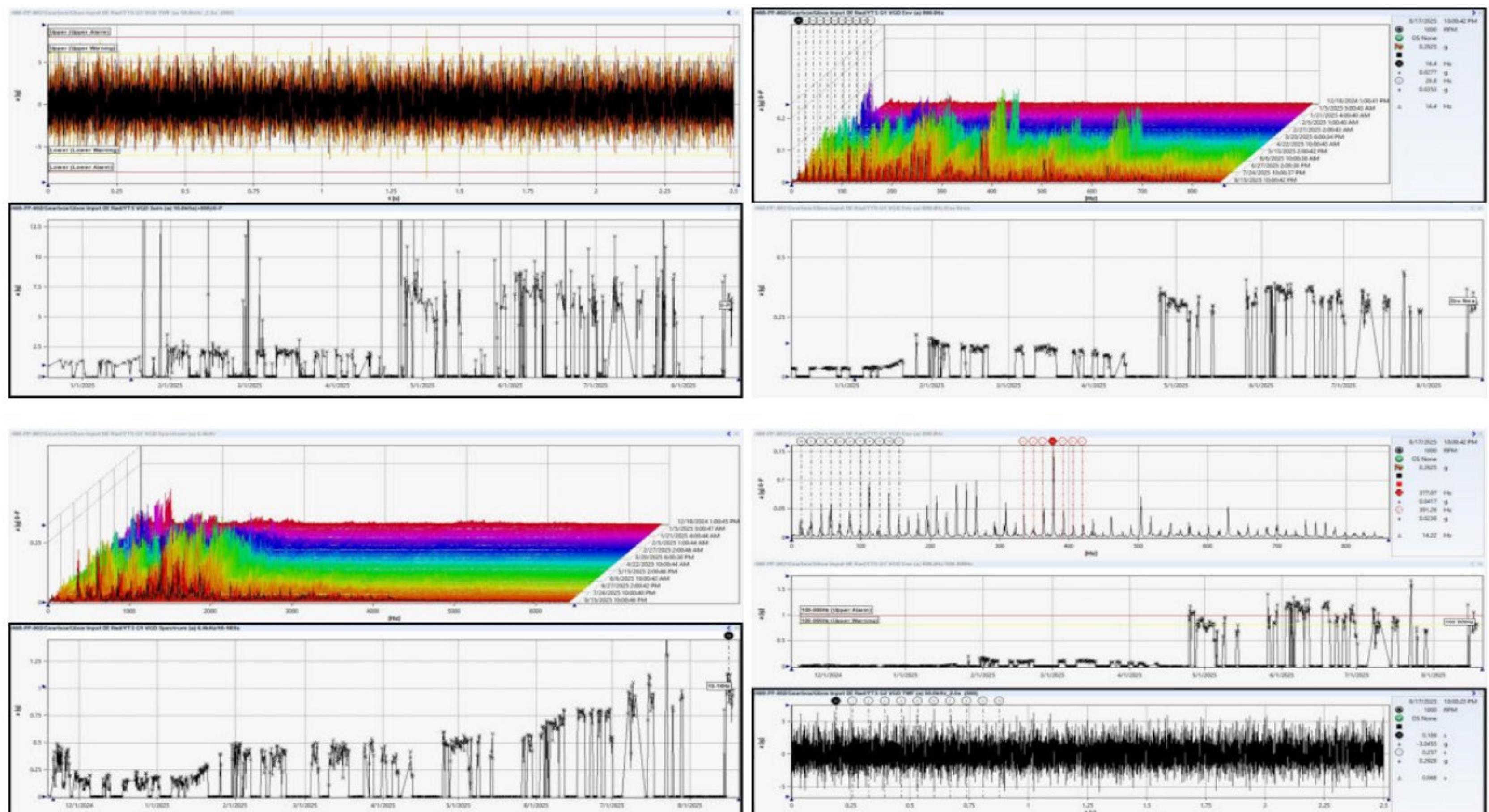
Fault Type: Bearing Defect

Findings: The vibration recorded indicates a increase in overall acceleration O-Pk. High amplitude impacts in the time domain typically relates to a bearing defect. Multiple harmonics of the input speed indicates severe deterioration.



Bearing Defect

Action: Continue with replacement of gearbox.



: Detailed Analysis Report



Urgent

Report Date: 2025/08/18

Plant: Mogalakwena North Concentrator

Site: MNC Wet Section/VIB-Section-408/408 On Line/408 Mill Oil Room

Machine: 408-PP-013

Component: Pump Overhung

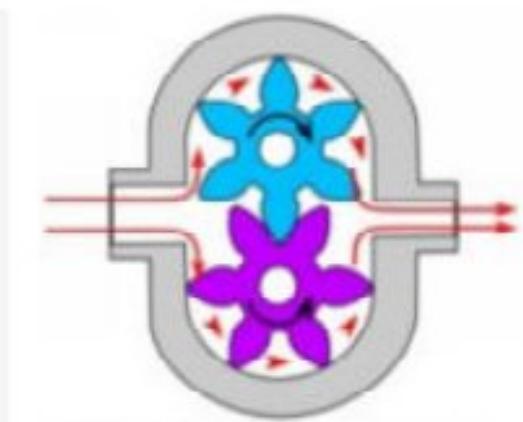
CMMS ID: 355959832

Fault Type: Hydraulic Pump - Looseness / Wear

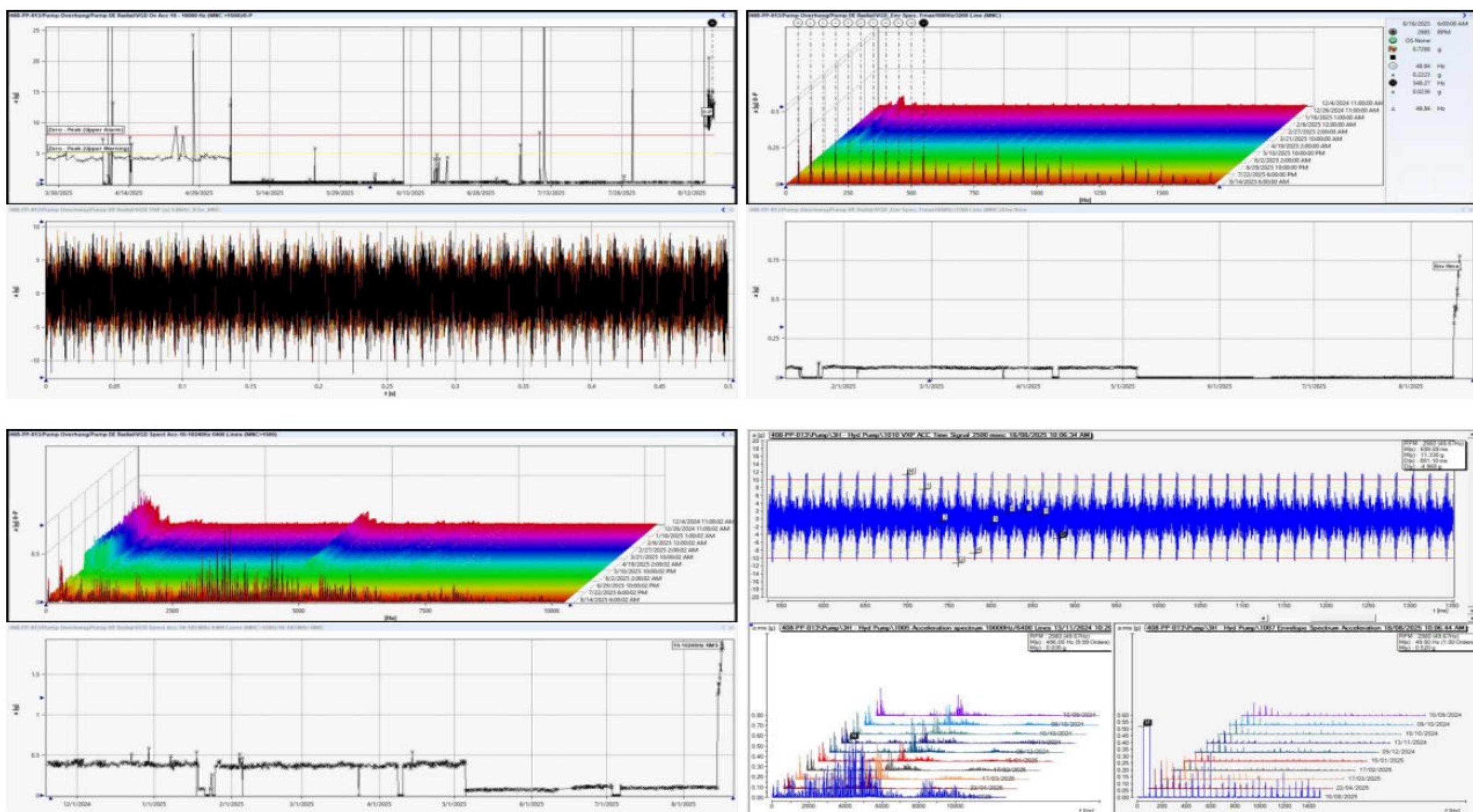
Findings: The vibration recorded indicates a increase in running speed activities in the velocity spectra, this typically relates to a Hydraulic Pump - Looseness / Wear and or coupling anomaly.

Handheld data confirms the defect.

Action: Swap to standby unit at next mill stoppage.
Plan to replace the pump at next available opportunity.



Hydraulic Pump
Looseness / Wear



: Detailed Analysis Report



Action

Report Date: 2025/08/19

Plant: Mogalakwena North Concentrator

Site: MNC Wet Section/VIB-Section-408/408 Off Line/408 Pumps

Machine: 408-PP-033

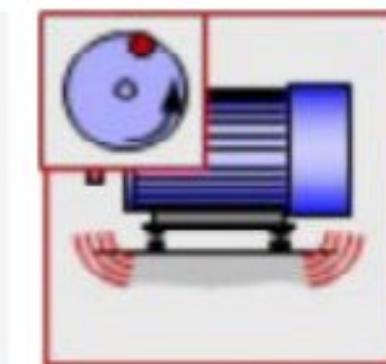
Component: Motor

CMMS ID: 355959832

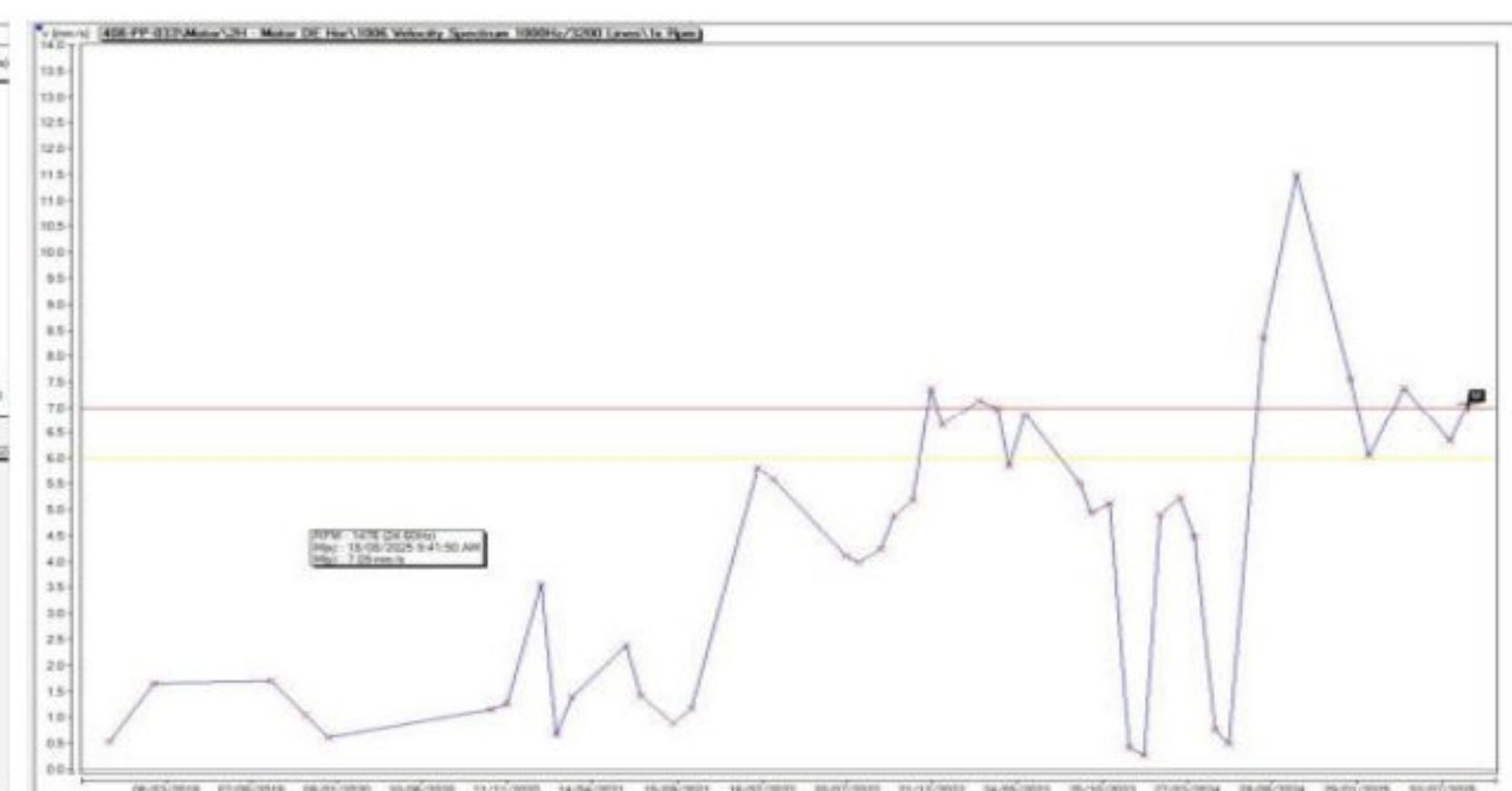
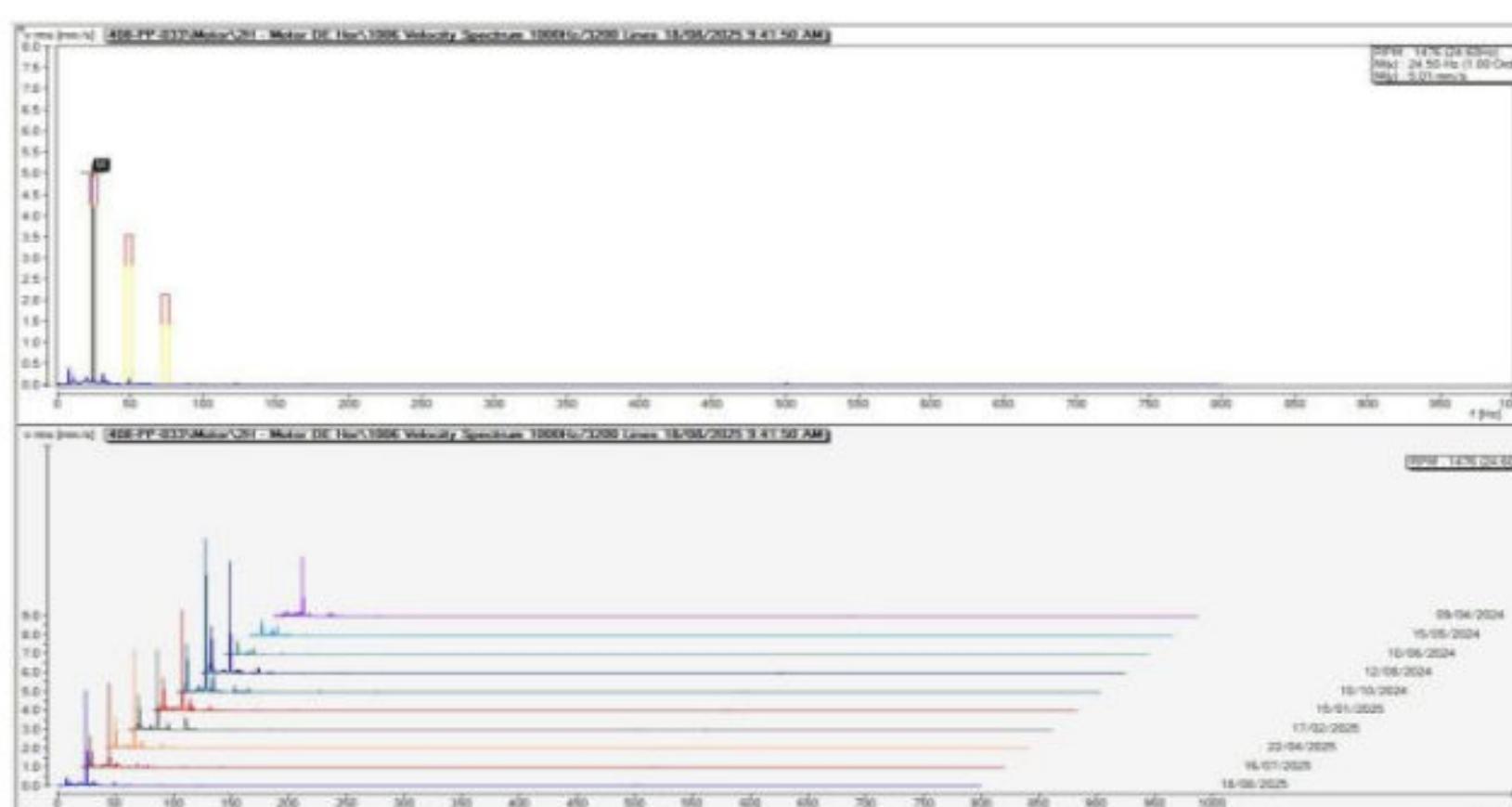
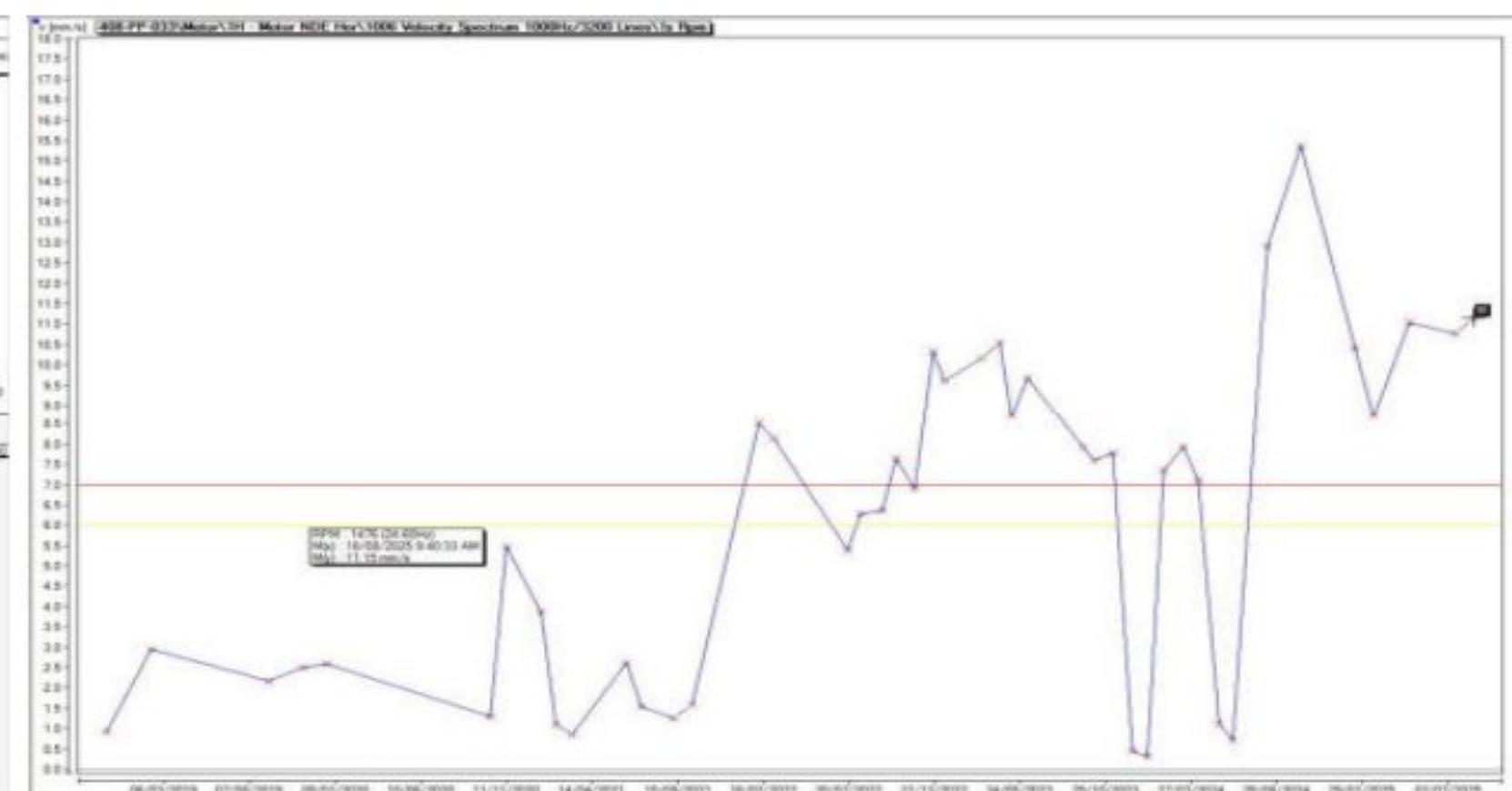
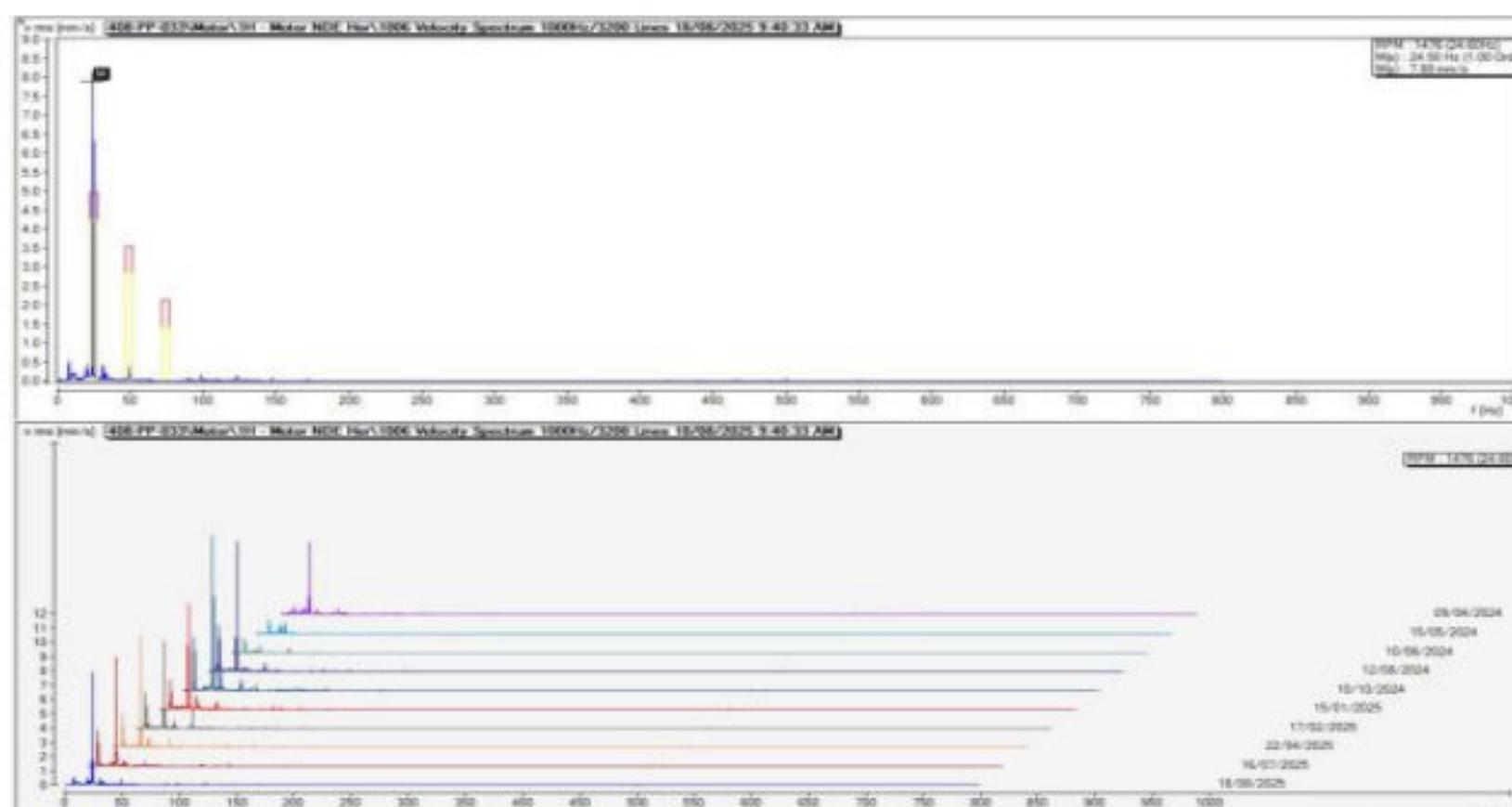
Fault Type: Unbalance / Structural looseness

Findings: The vibration recorded during our last survey indicates, a looseness / unbalance condition. The vibration levels have decreased but remain above alarm limits.

Action: Inspect base / base bolts for any looseness condition. Inspect coupling for any defects.



Unbalance/
Structural
Looseness



: Detailed Analysis Report



Action

Report Date: 2025/08/18

Plant: Mogalakwena North Concentrator

Site: MNC Wet Section/VIB-Section-408/408 On Line/408 Mill Discharge Pumps

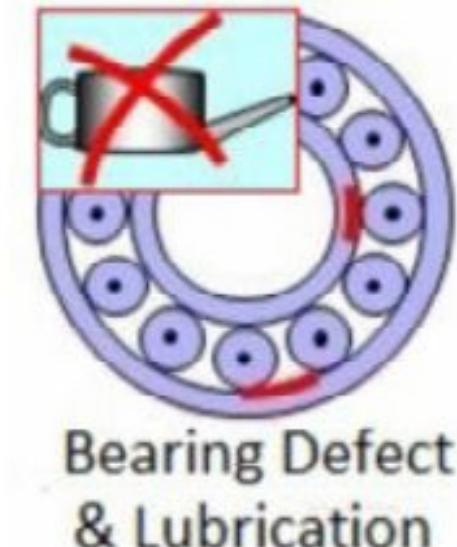
Machine: 408-PP-002

Component: Motor

CMMS ID: 355959832

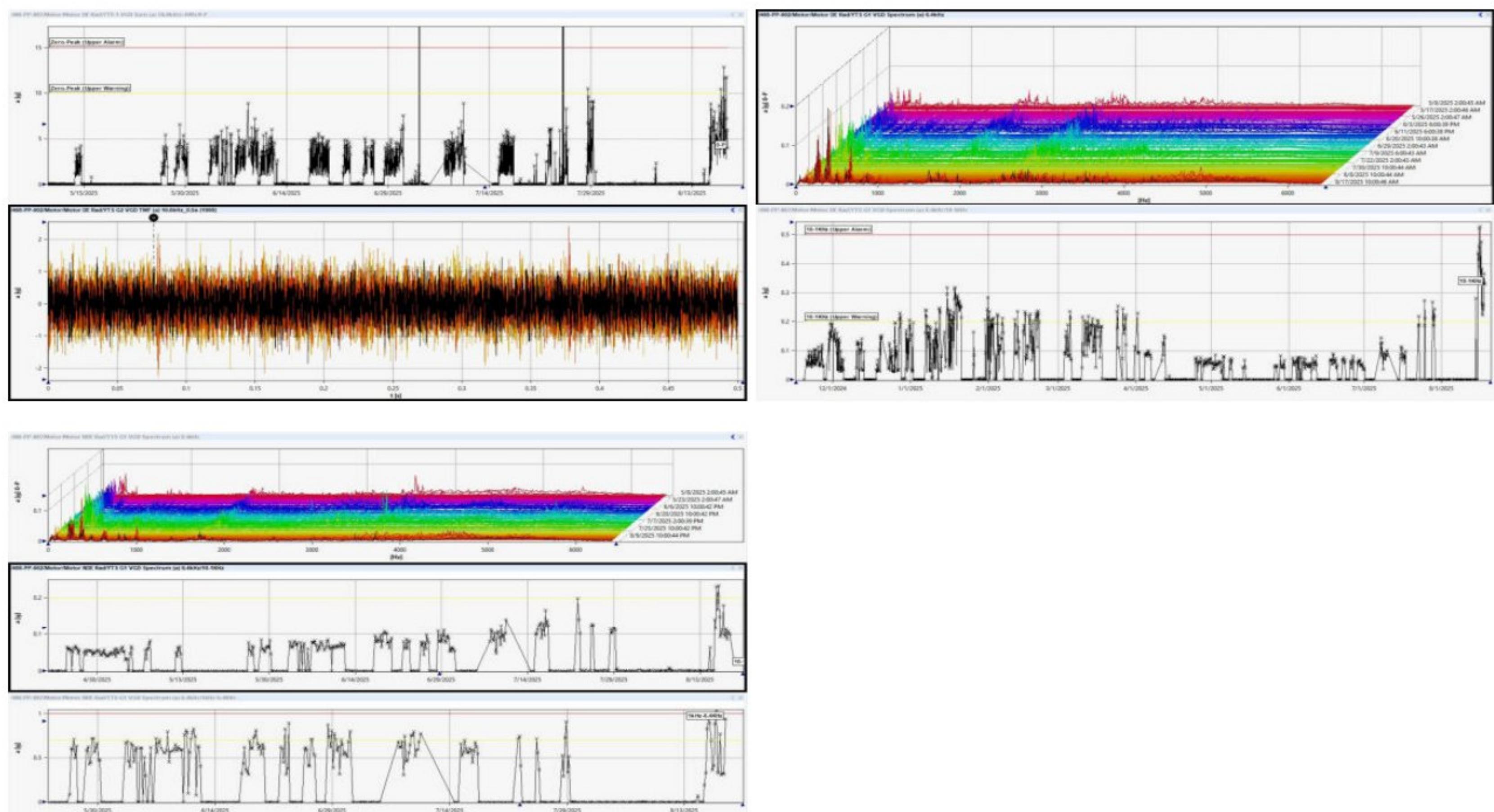
Fault Type: Bearing Defect & Lubrication

Findings: The vibration recorded indicates raised noise floor in the high frequency range with low amplitude defect frequency present, This typically relates to a lubrication starvation and or early bearing defect developing.
The 10-1KHz band trend has been increasing, bearing defect visible in the acceleration spectrum in 10-1KHz frequency range.



Bearing Defect & Lubrication

Action: Ensure both bearings have optimal lubrication.



: Detailed Analysis Report



Action

Report Date: 2025/08/18

Plant: Mogalakwena North Concentrator

Site: MNC Wet Section/VIB-Section-408/408 On Line/408 Mill Discharge Pumps

Machine: 408-PP-008

Component: Pump Overhung

CMMS ID: 355959832

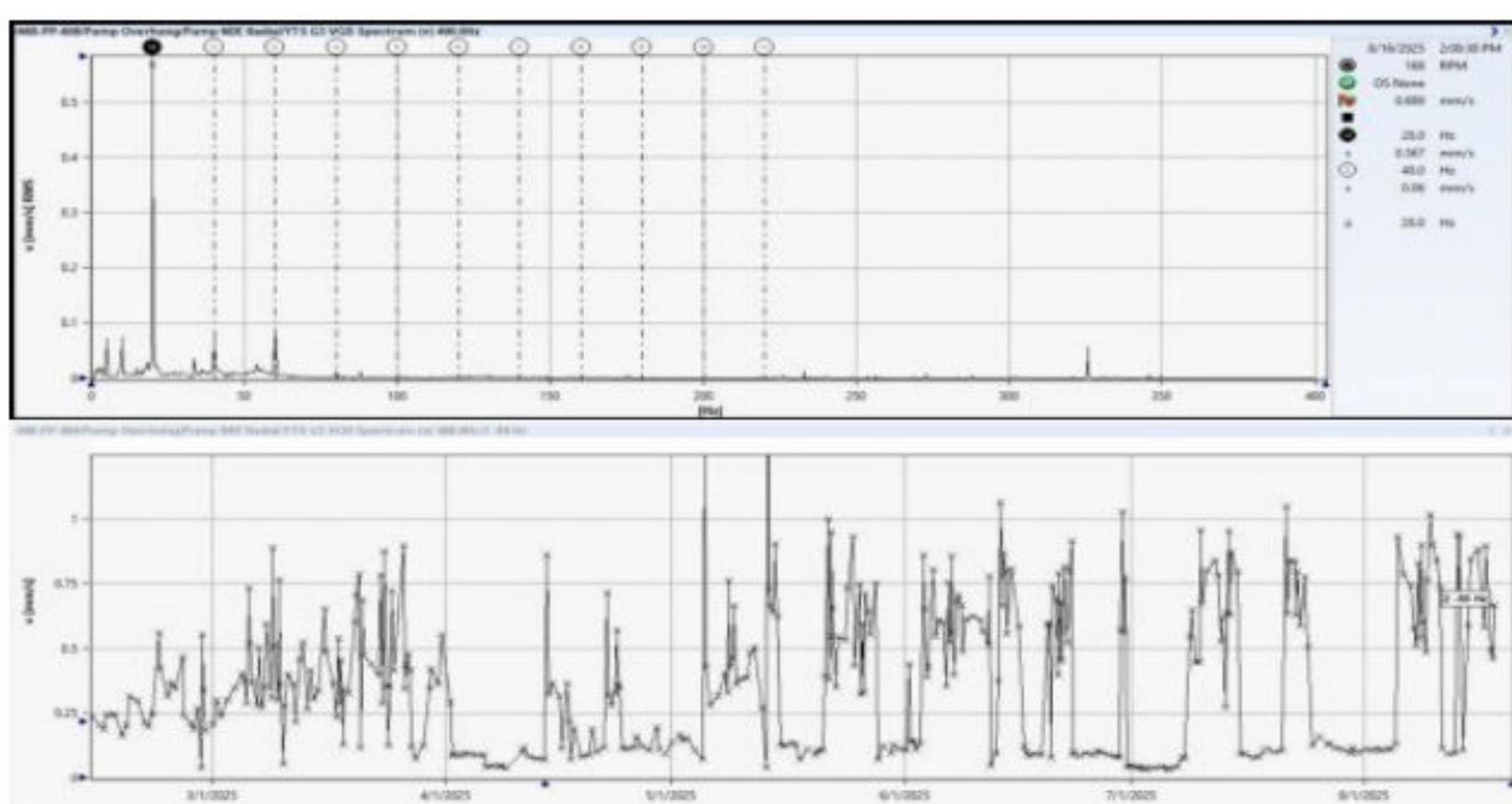
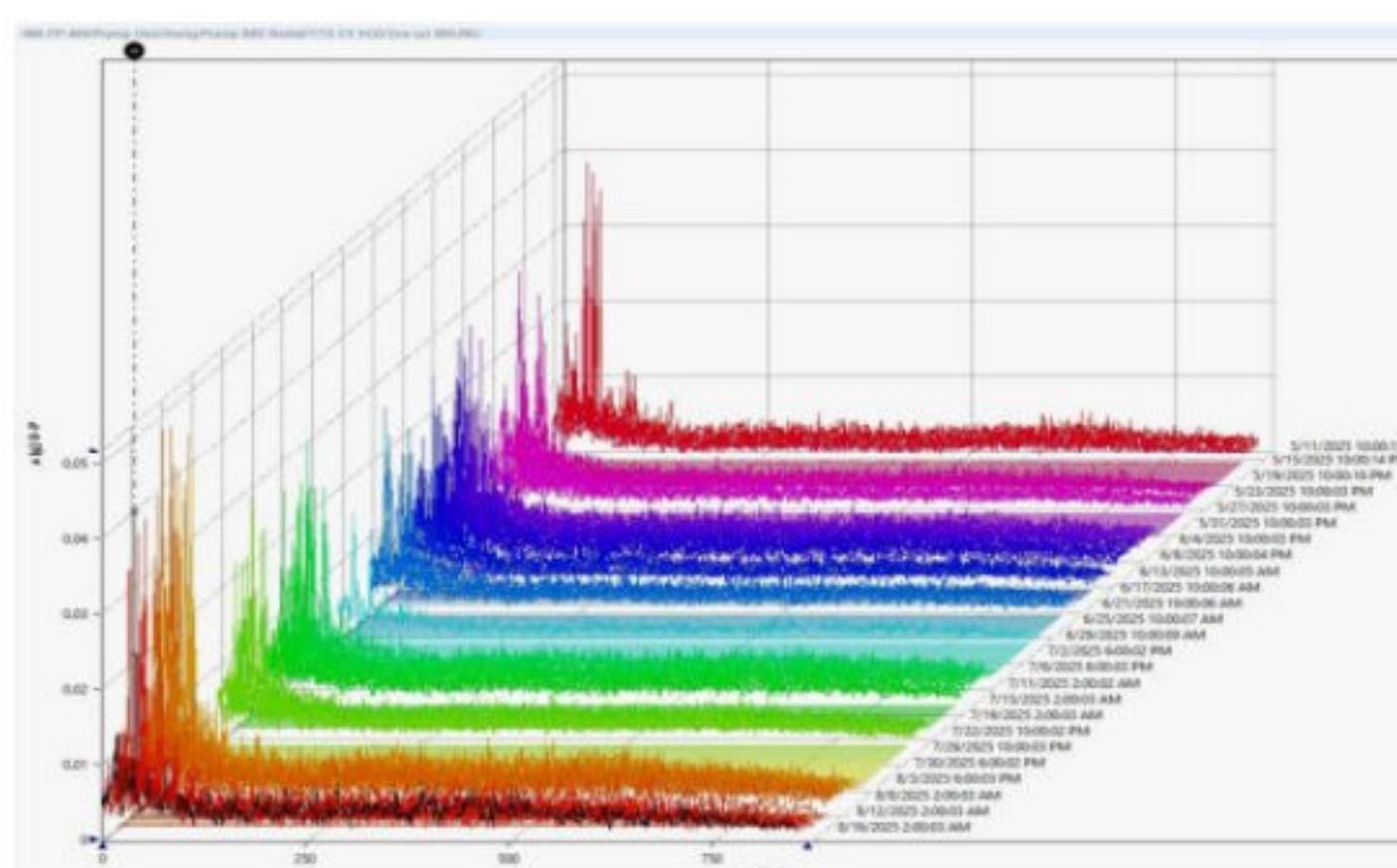
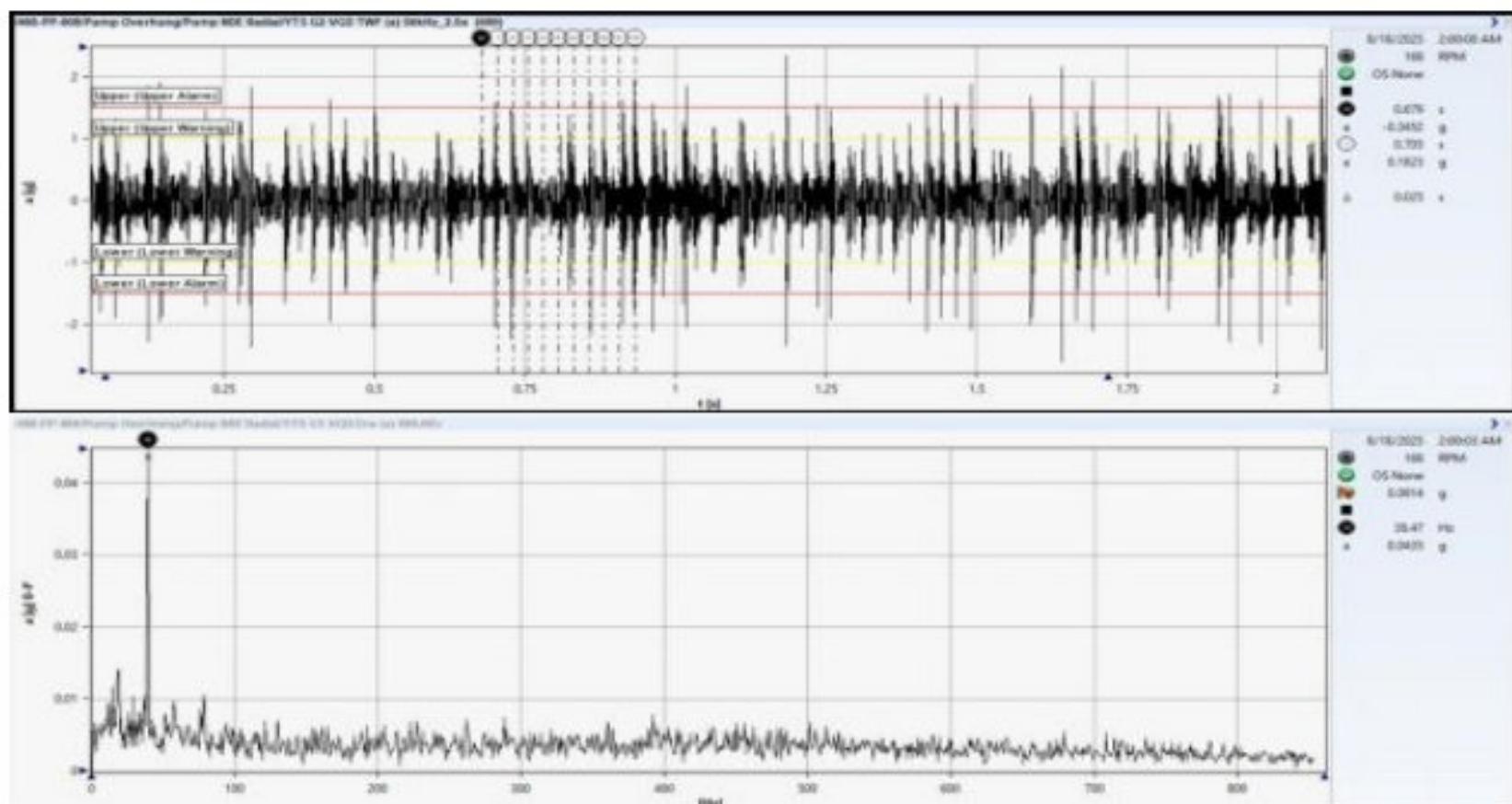
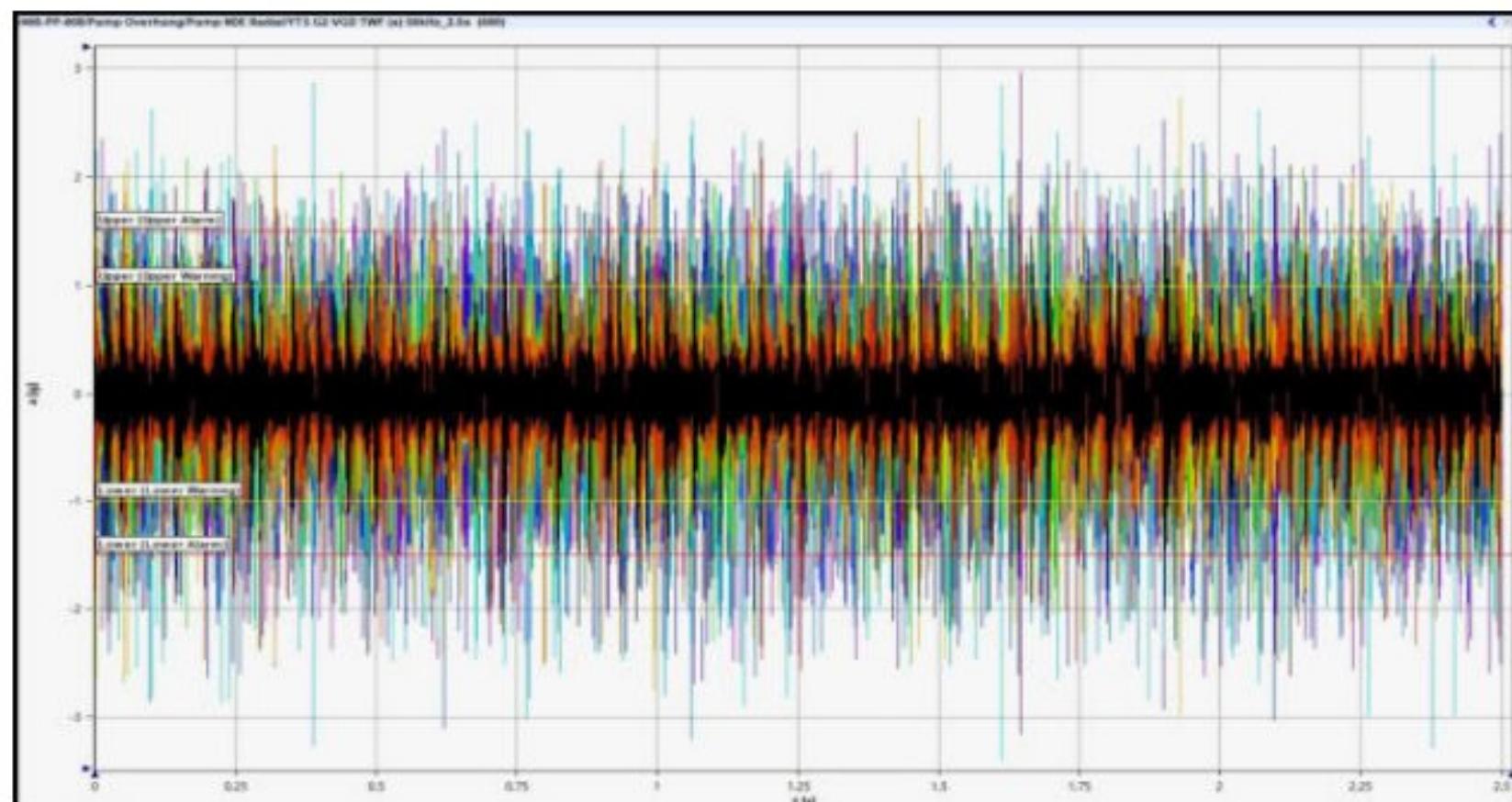
Fault Type: Inspection Needed

Findings: The vibration recorded indicates a increase in the second harmonic of vane pass frequency, which typically relates to impellor wear.

Action: Plan a inspection of the wet end of the pump.



www.clipartel.com - 1243947



: Detailed Analysis Report



Action

Report Date: 2025/08/18

Plant: Mogalakwena North Concentrator

Site: MNC Wet Section/VIB-Section-408/408 On Line/408 Mill Oil Room

Machine: 408-PP-013

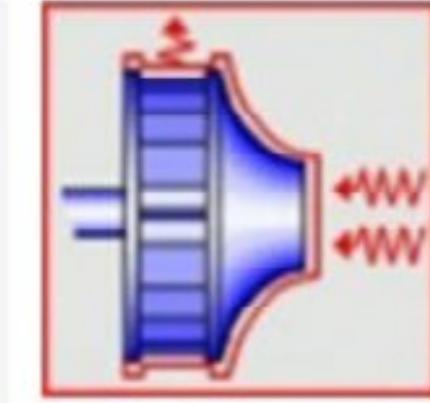
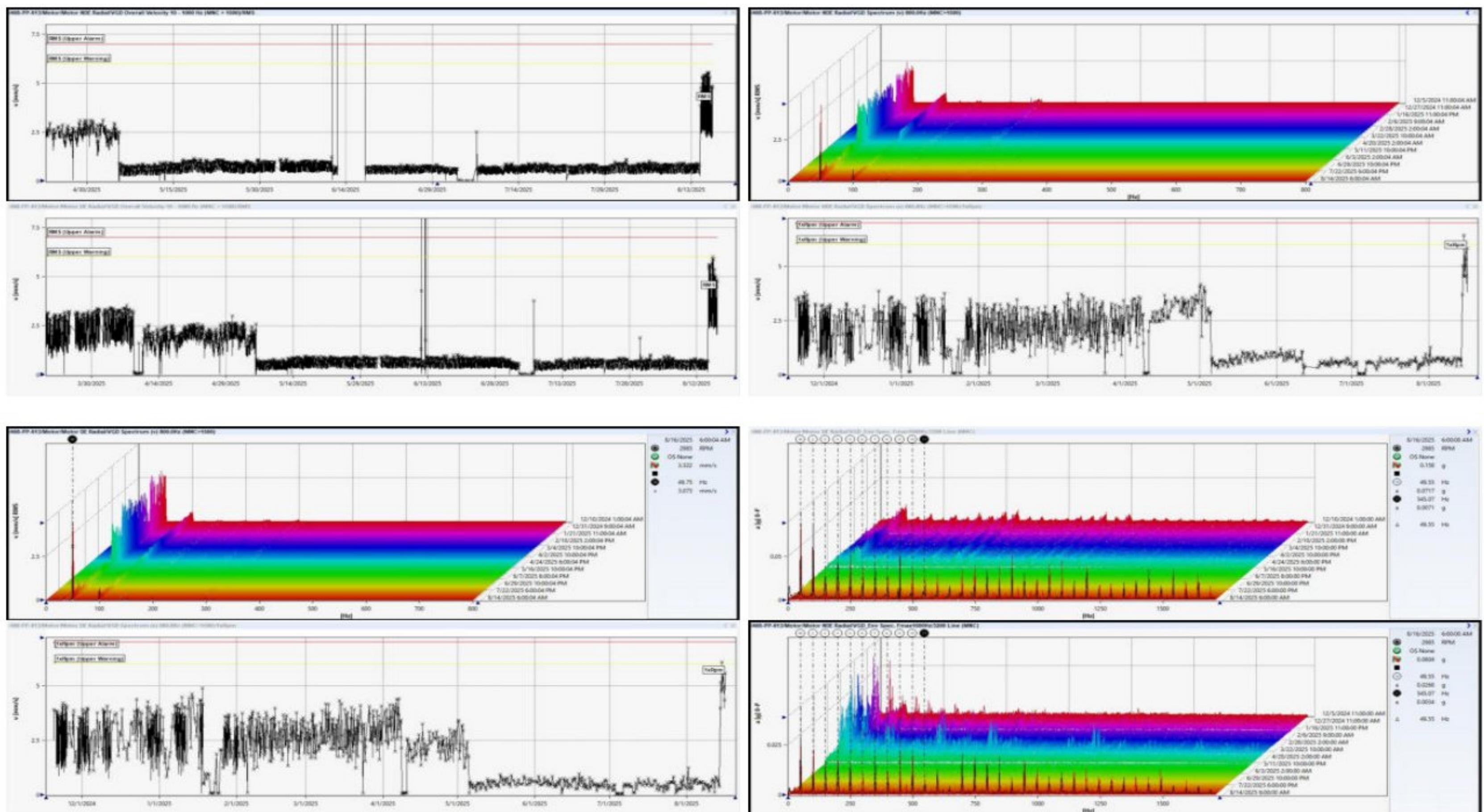
Component: Motor

CMMS ID: 355959832

Fault Type: Transferred Vibration

Findings: The vibration recorded indicates a increase in running speed activities in the velocity spectra, this typically relates Transferred Vibration coming from the pump and or coupling anomaly.

Action: Refer to the pump report.
Plan to inspect the coupling at next available opportunity.

Transferred
Vibration

: Detailed Analysis Report



Action

Report Date: 2025/08/19

Plant: Mogalakwena North Concentrator

Site: MNC Wet Section/VIB-Section-408/408 On Line/408 Mill Oil Room

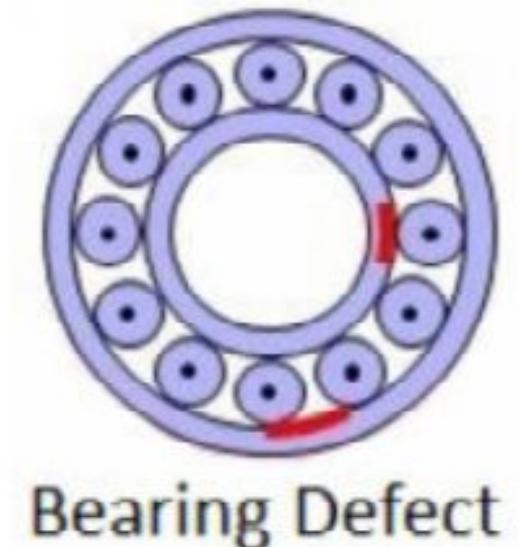
Machine: 408-PP-021

Component: Motor

CMMS ID: 355959832

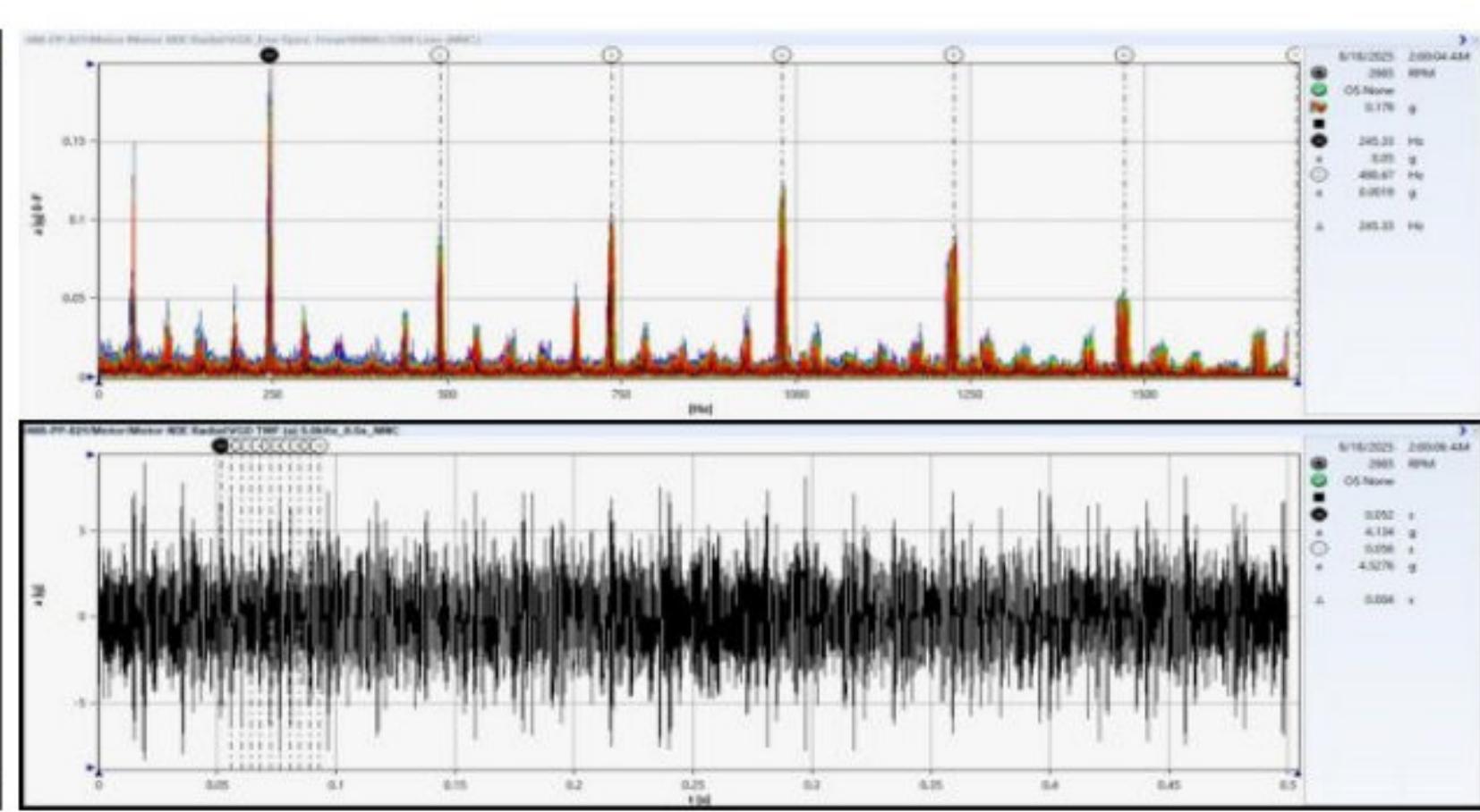
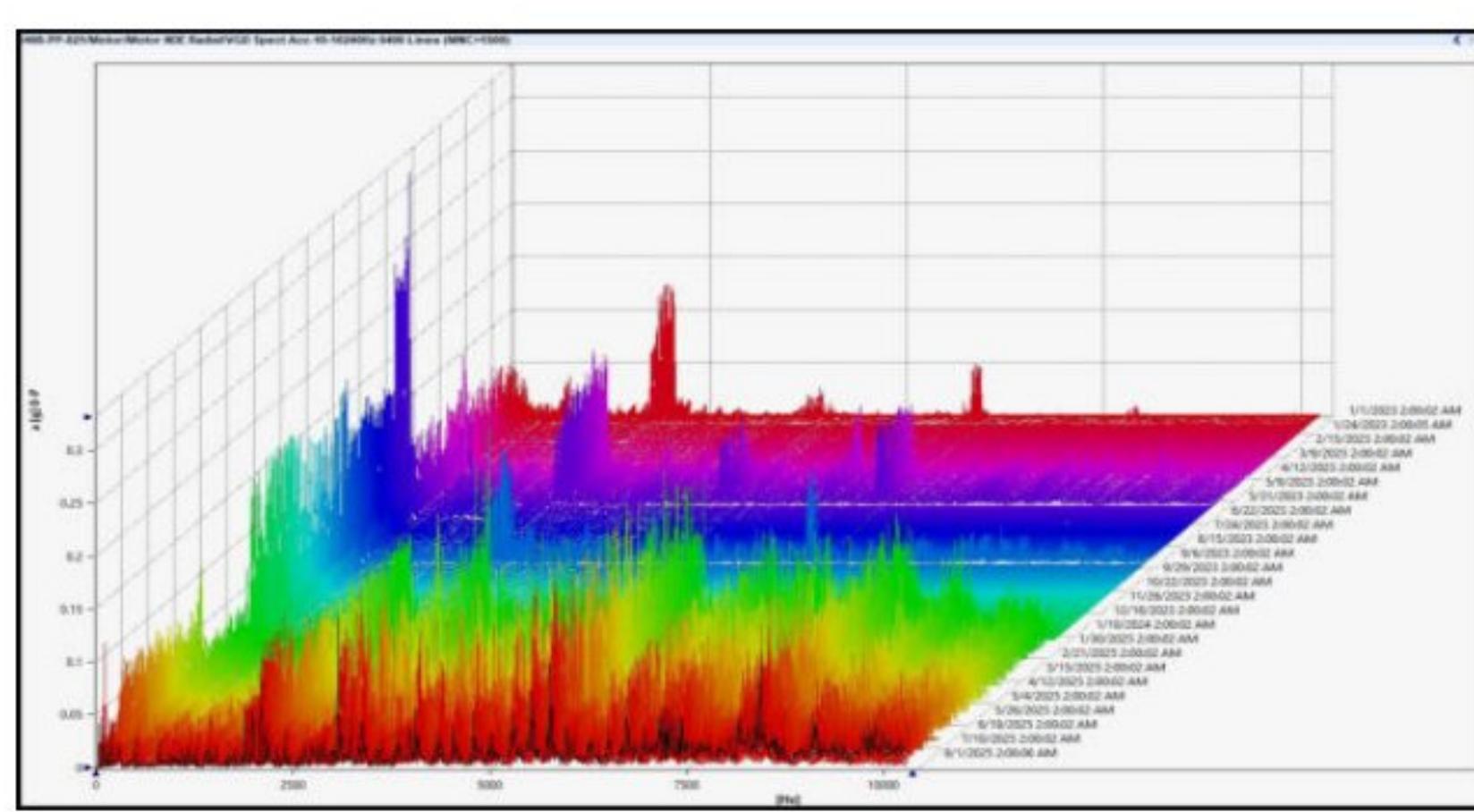
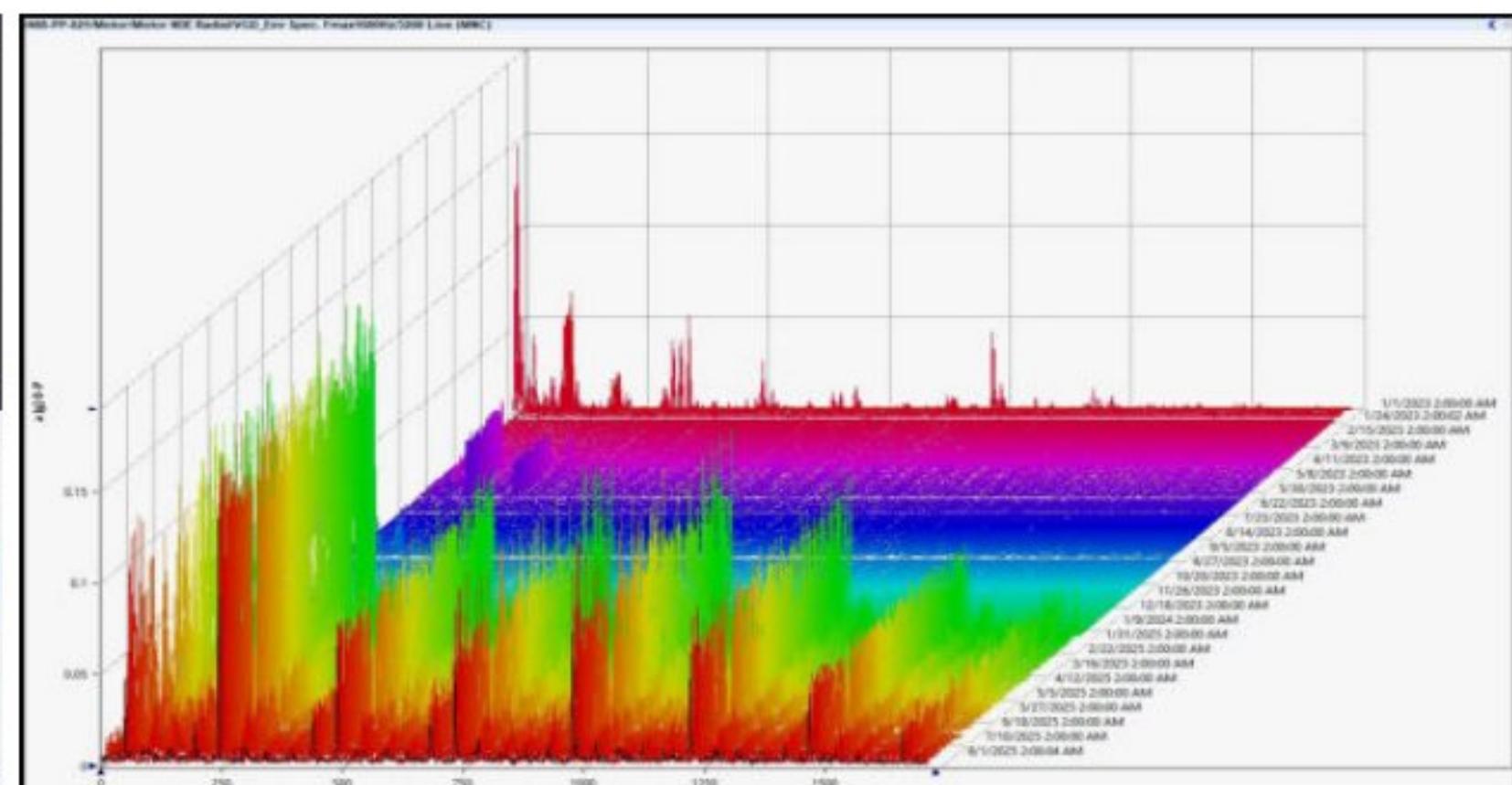
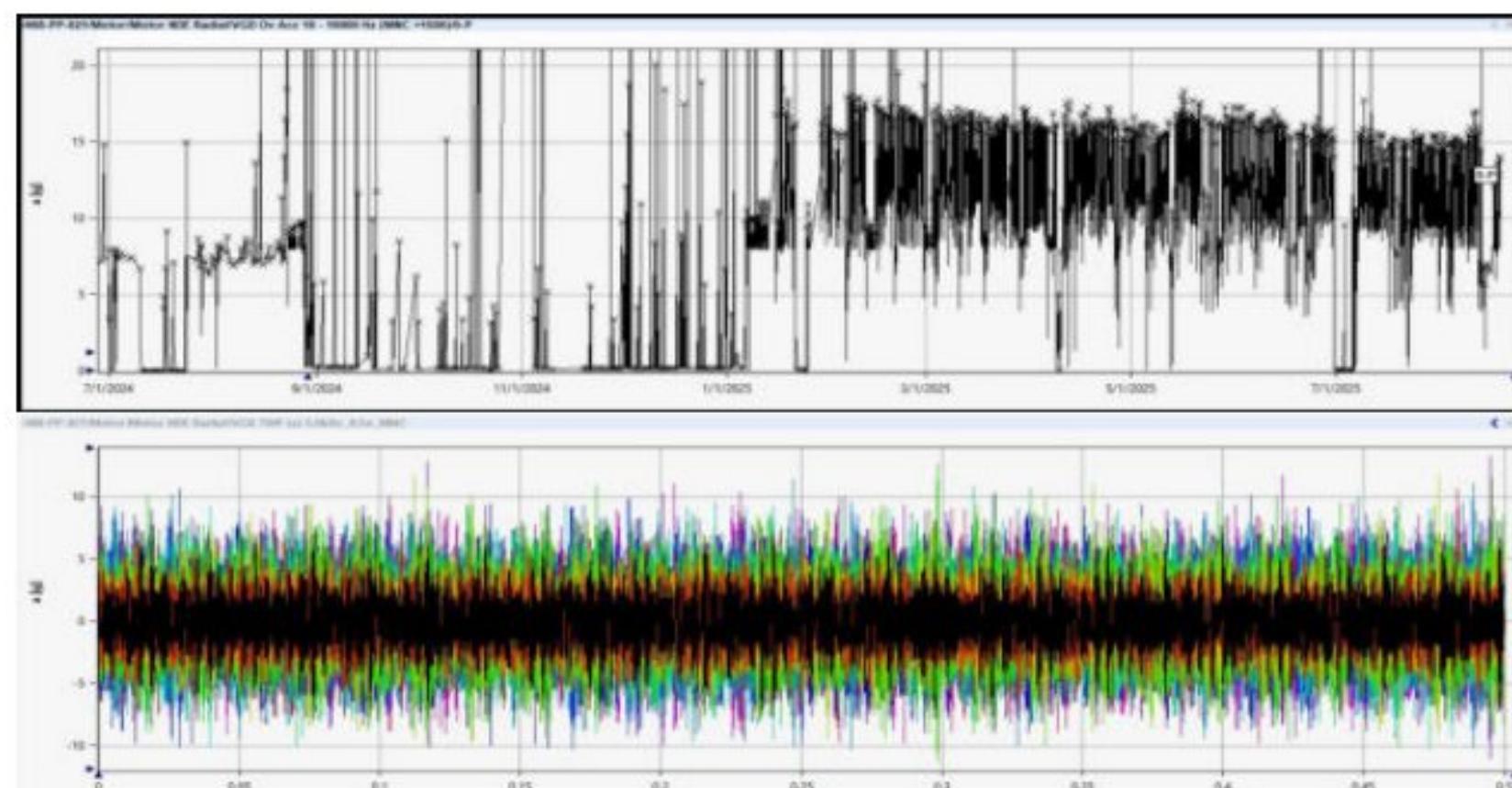
Fault Type: Bearing Defect

Findings: The vibration recorded indicated the deterioration of previously recorded defect. Multiple harmonics of running speed frequency with impacts and high frequency vibration recorded on the motor non drive end bearing. The motor has been lubricated for the last 3 months and it has not changed the vibration amplitude or signature.



Bearing Defect

Action: Plan for medium to long term replacement of the motor.



: Detailed Analysis Report



Action

Report Date: 2025/08/19

Plant: Mogalakwena North Concentrator

Site: MNC Wet Section/VIB-Section-408/408 On Line/408 Mill Oil Room

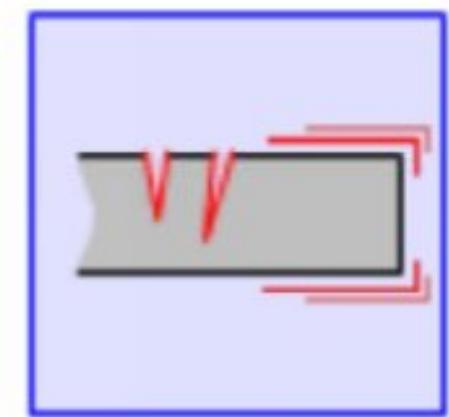
Machine: 408-PP-021

Component: Pump Overhung

CMMS ID: 355959832

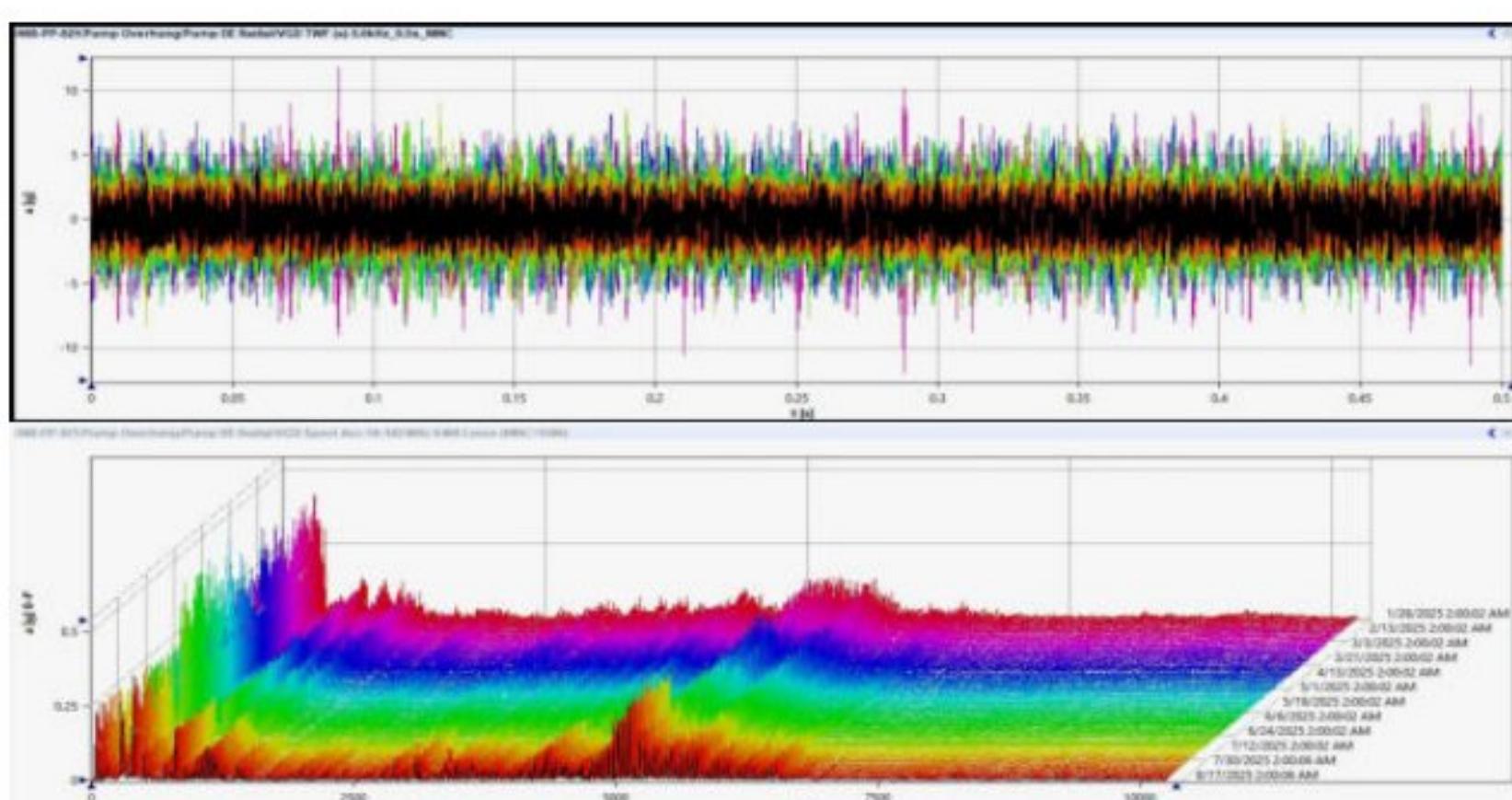
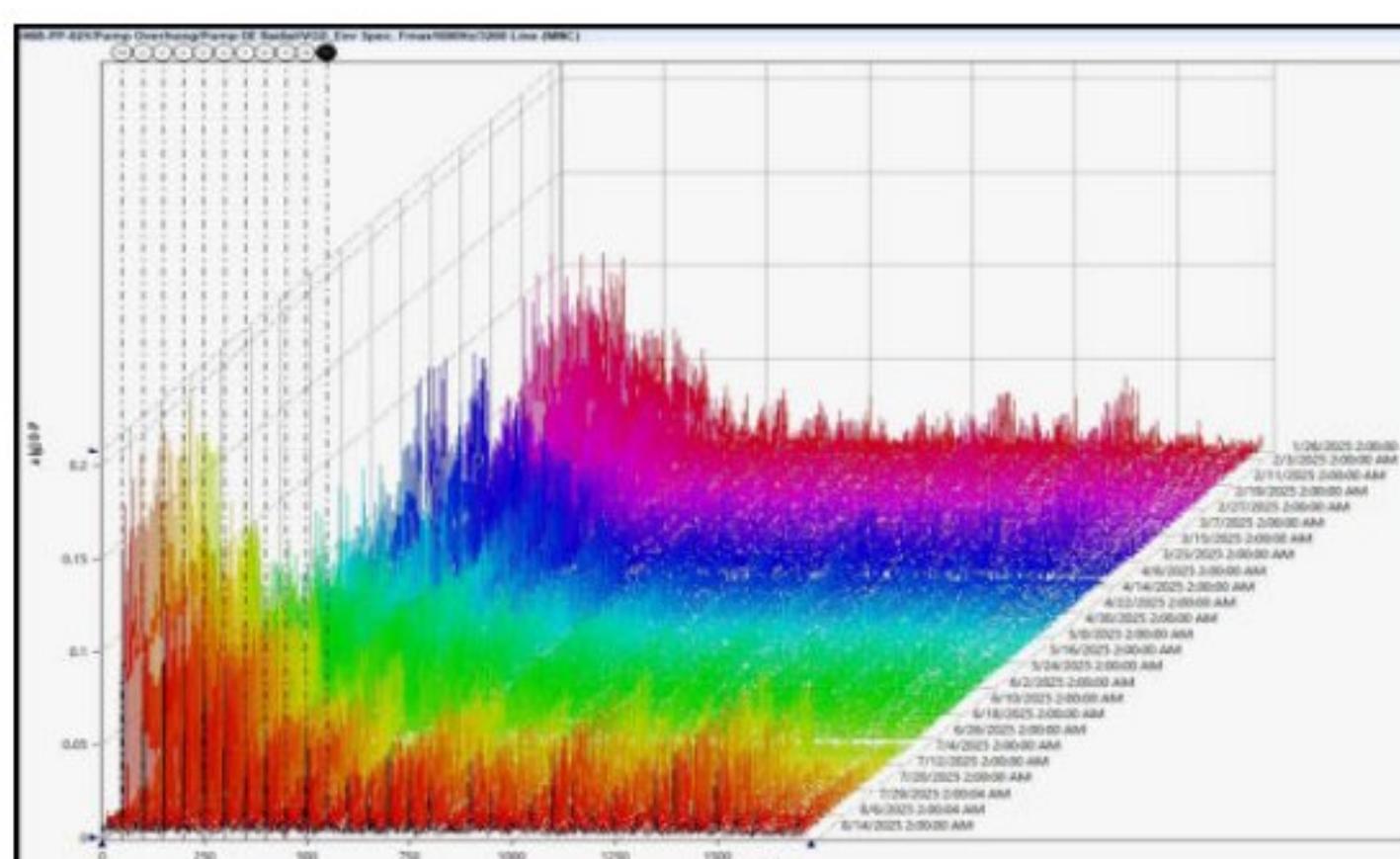
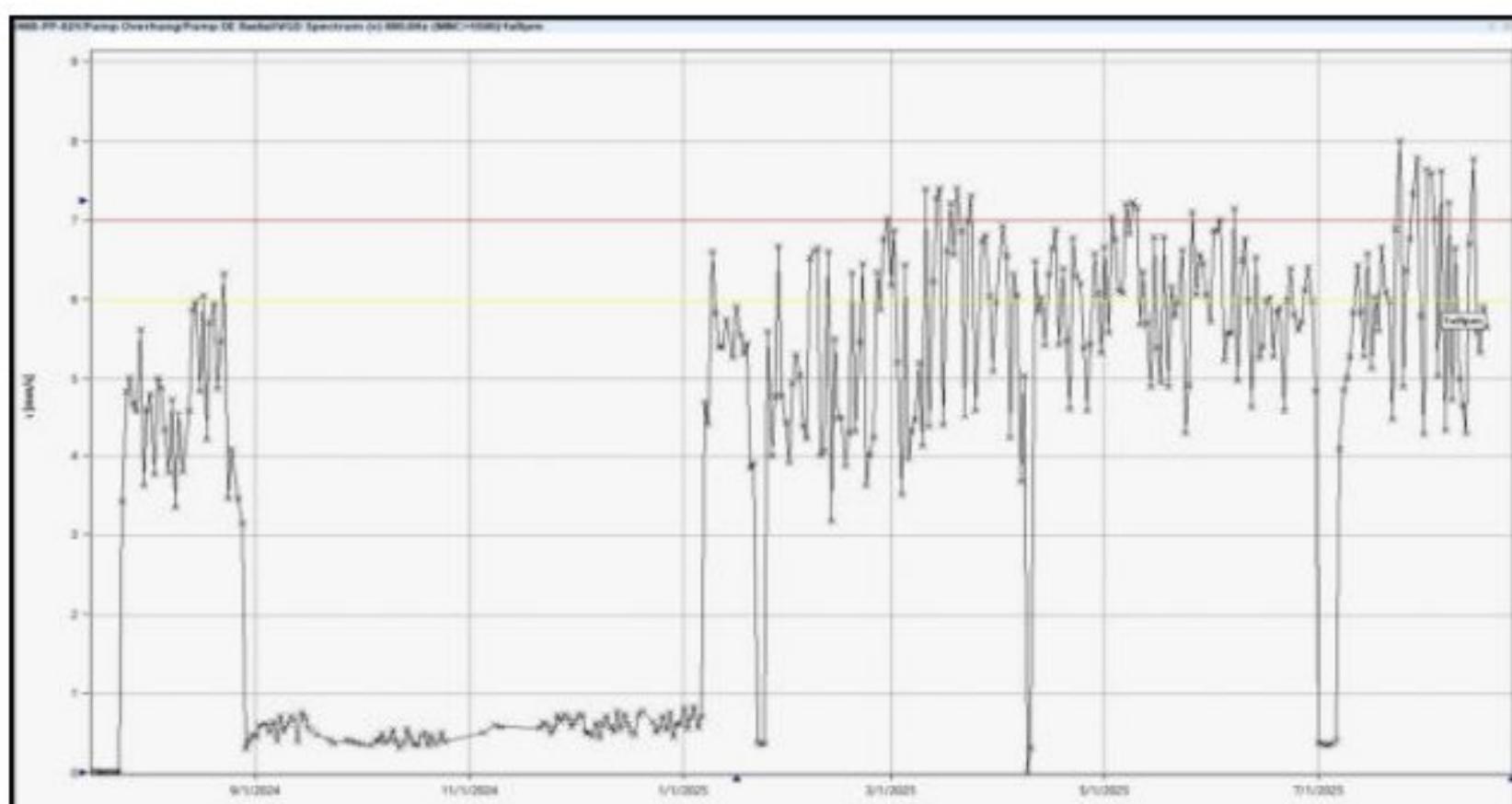
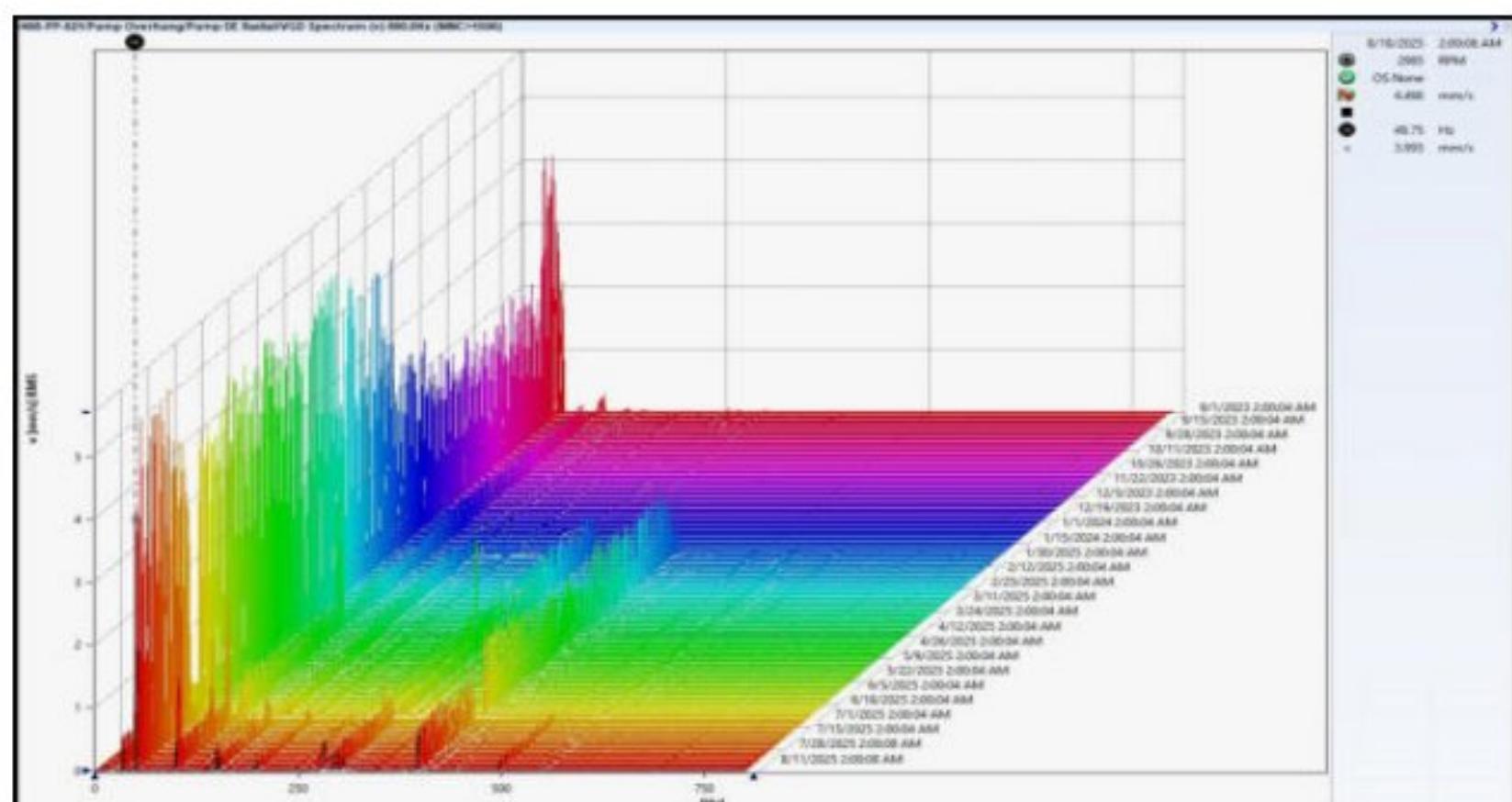
Fault Type: Structural / Base Looseness

Findings: The vibration recorded indicates, a possible defective coupling and or looseness condition that is evident in the increase in 1 x running speed in the velocity spectra which typically relates to a looseness condition

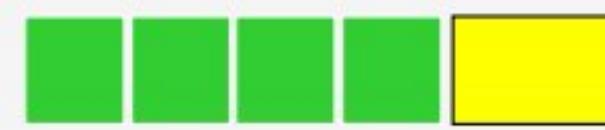


Structural looseness

Action: Inspect the pump / motor flange mounting bolts for any looseness, inspect the motor hold down bolts for any looseness and rectify based on findings. Inspect coupling for any defects.



: Detailed Analysis Report



Borderline

Report Date: 2025/08/19

Plant: Mogalakwena North Concentrator

Site: MNC Wet Section/VIB-Section-408/408 Off Line/408 Pumps

Machine: 408-PP-037

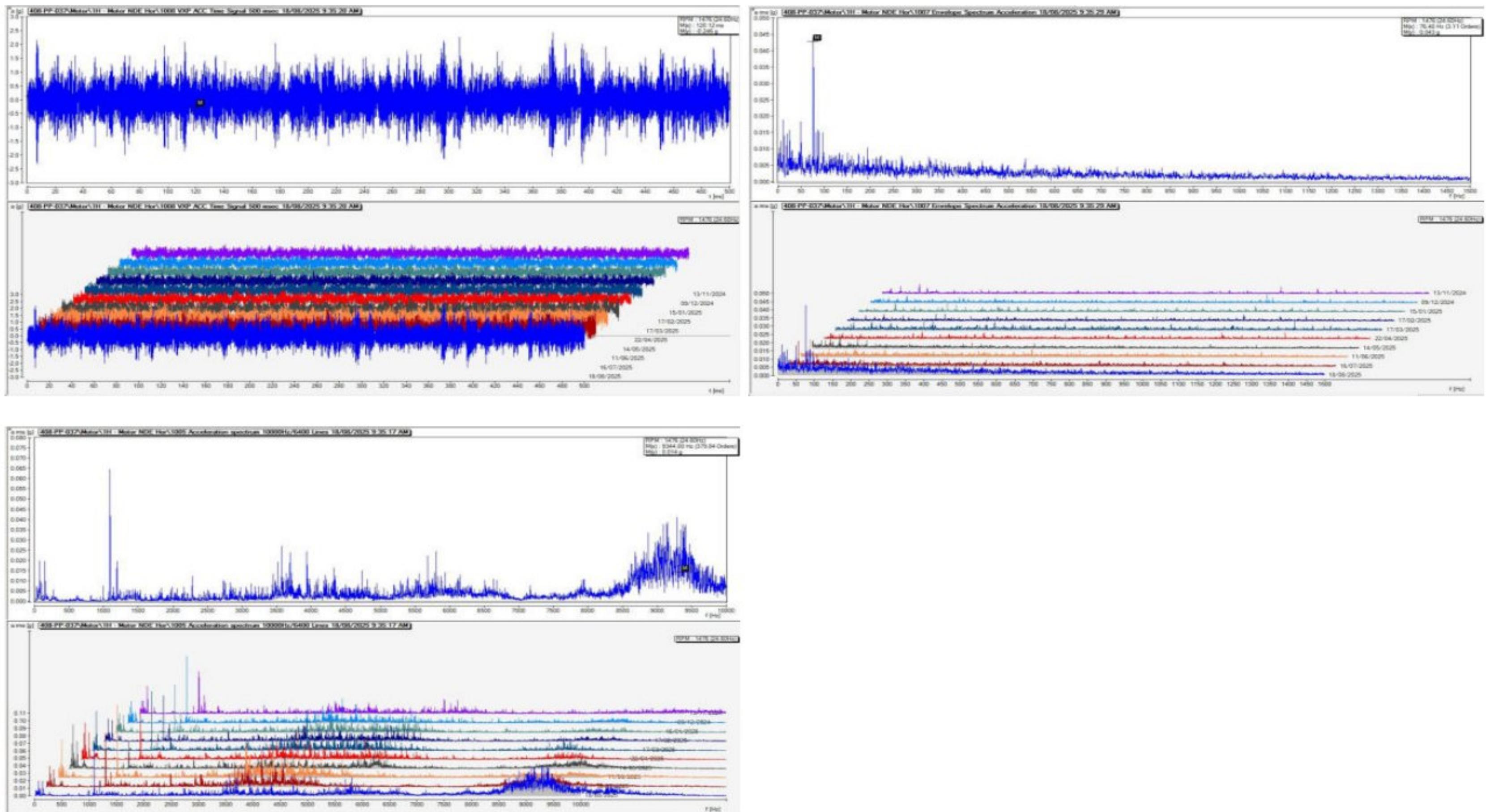
Component: Motor

CMMS ID: 355959832

Fault Type: Monitor Condition

Findings: The vibration recorded indicates a possible lubrication starvation and or early bearing defect developing in the enveloping spectrum. impacting at low amplitudes is also present in the time domain.

Action: Continue to monitor the condition for any change.



: Detailed Analysis Report



Borderline

Report Date: 2025/08/19

Plant: Mogalakwena North Concentrator

Site: MNC Wet Section/VIB-Section-408/408 On Line/408 Mill Oil Room

Machine: 408-PP-022

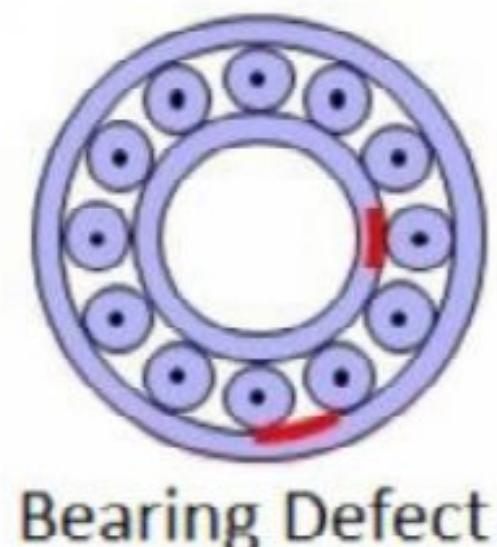
Component: Motor

CMMS ID: 355959832

Fault Type: Bearing Defect

Findings: The vibration recorded indicates no further deterioration of previously recorded bearing defect. Low amplitude impacts in the time domain, enveloping RMS band trend and overall acceleration trends are stable.

Action: Continue to monitor the condition for any further deterioration.



Bearing Defect

