VIBECHECK PRO

Vibration Analysis- Laser Alignment- Balancing- Ultrasound- Oil Analysis

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Vibration Analysis Survey Report

Client: Fourways Crushing Plant

Contact: Eng C Tekwani

Report No: VCP003/01/0026

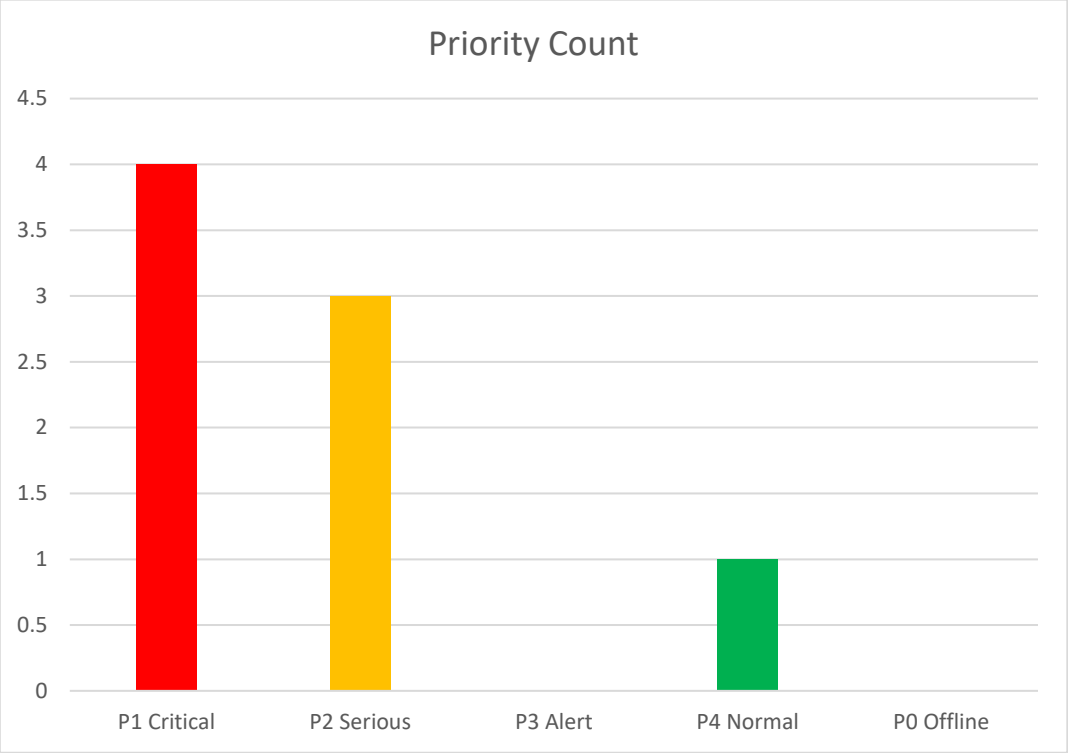
Survey Date: 21 January 2026

Vibration Analysis -Fault Priority Definitions

(As per ISO 10816)

Extreme	**1**	Immediate action is required. Consider shutting down the equipment and taking repair action now
Serious	**2**	Take maintenance action during the next planned downtime or maintenance period
Moderate	**3**	Issue is present but no immediate repair action is required. Continue to monitor
OK	**4**	No repair action is recommended. Continue to monitor and trend

ALARM STATUS REPORT



Summary Report

#	Equipment ID	Asset	Status	Fault
1	Jaw Crusher	Motor	P2	Structural looseness, Unbalance
2	Cone Crusher A	Motor	P4	Vibration Acceptable
3	Cone Crusher A	Crusher	P2	Bearing fault
4	Cone Crusher B	Motor	P2	Structural looseness
5	Cone Crusher B	Crusher	P1	Bearing fault, Lubrication fault
6	Vibro Screen 1	Motor	P1	Structural looseness, Belt Misalignment
7	Vibro Screen 2	Motor	P1	Structural looseness, Loose belts
8	Vibro Screen 3	Motor	P1	Structural looseness

Detailed Reporting

Fourways Crushing Plant/ Jaw Crusher - Motor

P1 Extreme

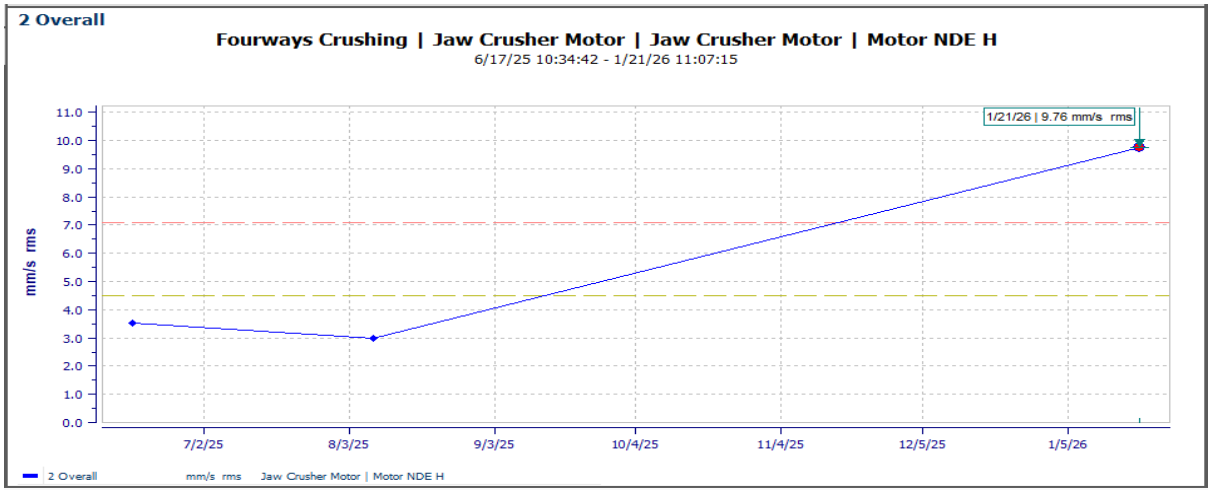
Fault: Structural looseness, Unbalance

Date: 21 January 2026

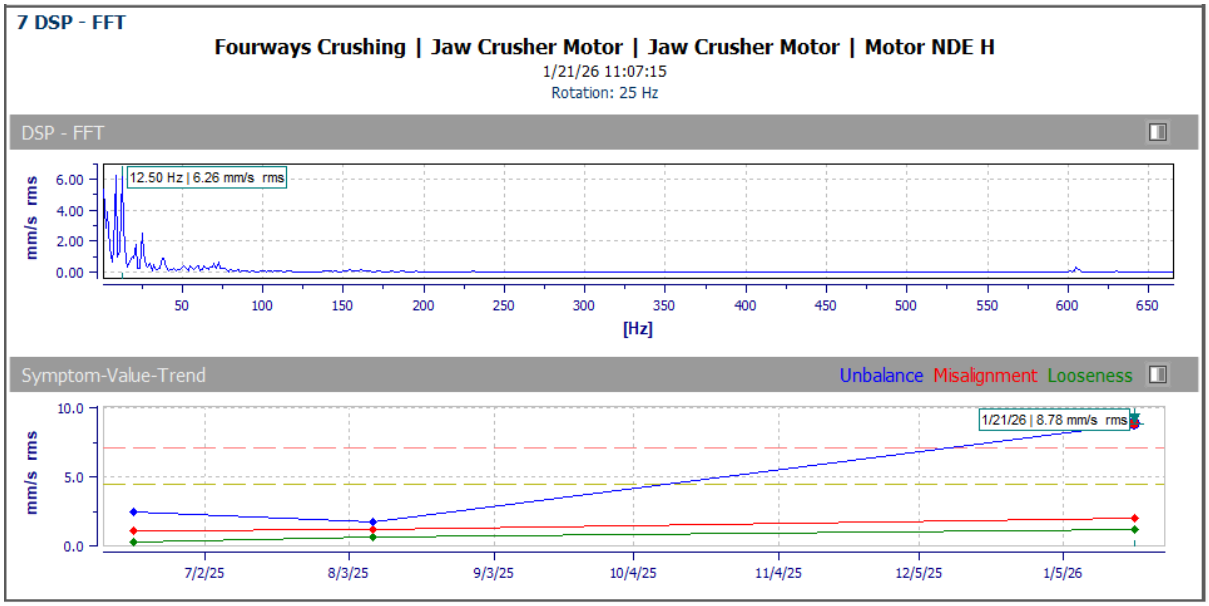
Findings: Overall vibration on the motor NDE horizontal is trending upwards from 3.0 to **9.8** mm/s RMS. Spectra shows a dominant 1x vibration, which is characteristic to structural looseness. Motor DE bearing exhibits a strong 1x vibration suspected from the crusher running speed, this characteristic to unbalance.

Recommendations: Inspect and address any loose motor hold down bolts or weakened structures supporting the motor and the crusher. Inspect motor cooling fan and crusher pulleys for stuck dust accumulation and clean to remove dust accumulation.

Motor NDE Horizontal



Motor NDE Horizontal



Fourways Crushing Plant/ Cone Crusher A - Crusher

P2 Serious

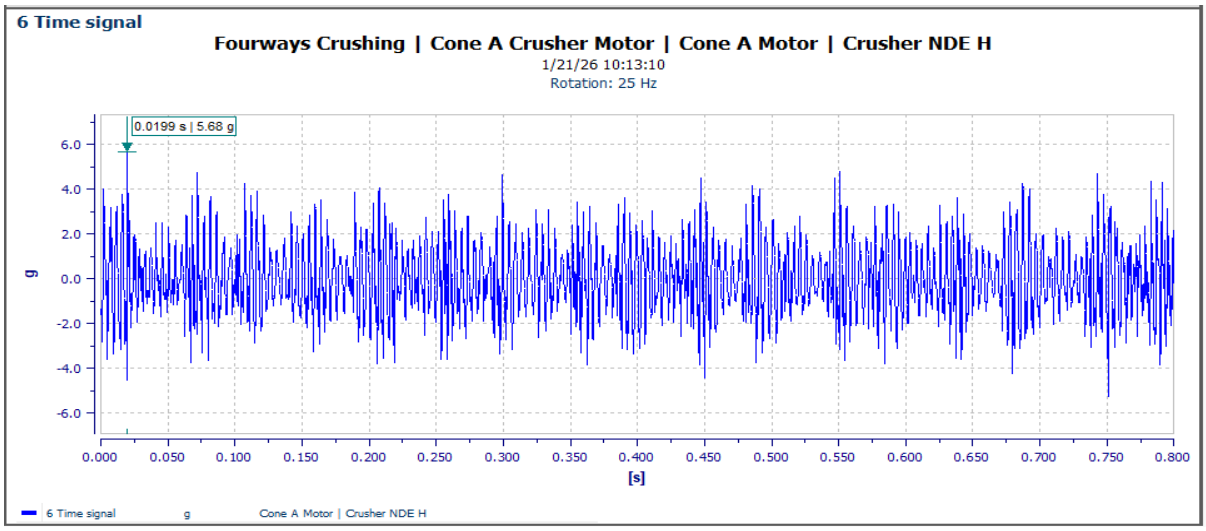
Fault: Bearing fault

Date: 21 January 2026

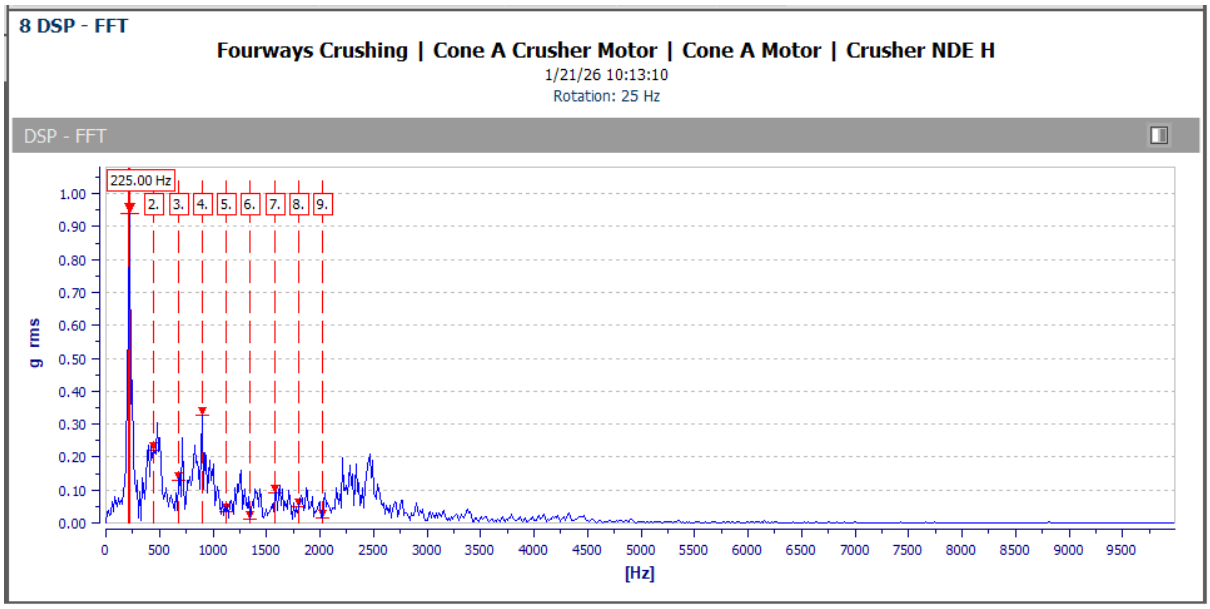
Findings: Time waveform shows distinct impacting of up to **5.7** G's, which can be associated with bearing fault. Suspected bearing defect at 225Hz.

Recommendations: Ensure the crusher bearings are adequately lubricated. Continue to monitor and trend.

Crusher NDE Horizontal



Crusher NDE Horizontal



Fourways Crushing Plant/ Cone Crusher B - Motor

P2 Serious

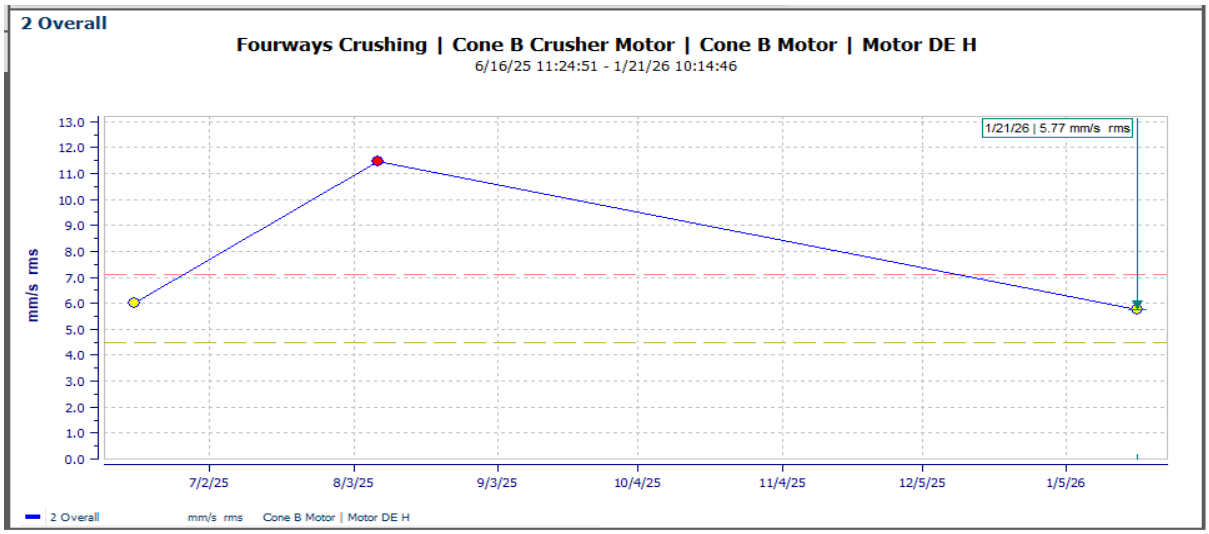
Fault: Structural looseness

Date: 21 January 2026

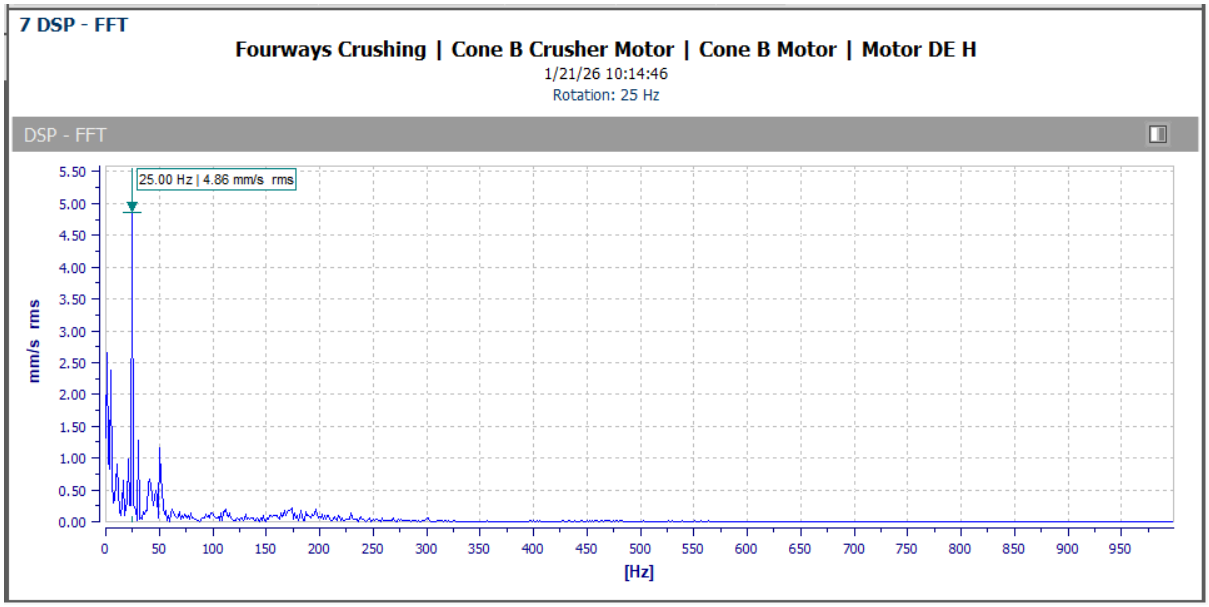
Findings: Overall vibration on the motor DE Horizontal is trending upwards from **11.5** to **5.8** mm/s RMS. Spectra shows 1x vibration which is characteristic to structural looseness.

Recommendations: Inspect and address any loose motor hold down bolts or weakened structures supporting the motor. The recommended practice is to isolate the motor and crusher structural framework.

Motor DE Horizontal



Motor DE Horizontal



Fourways Crushing Plant/ Cone Crusher B - Crusher

P1 Extreme

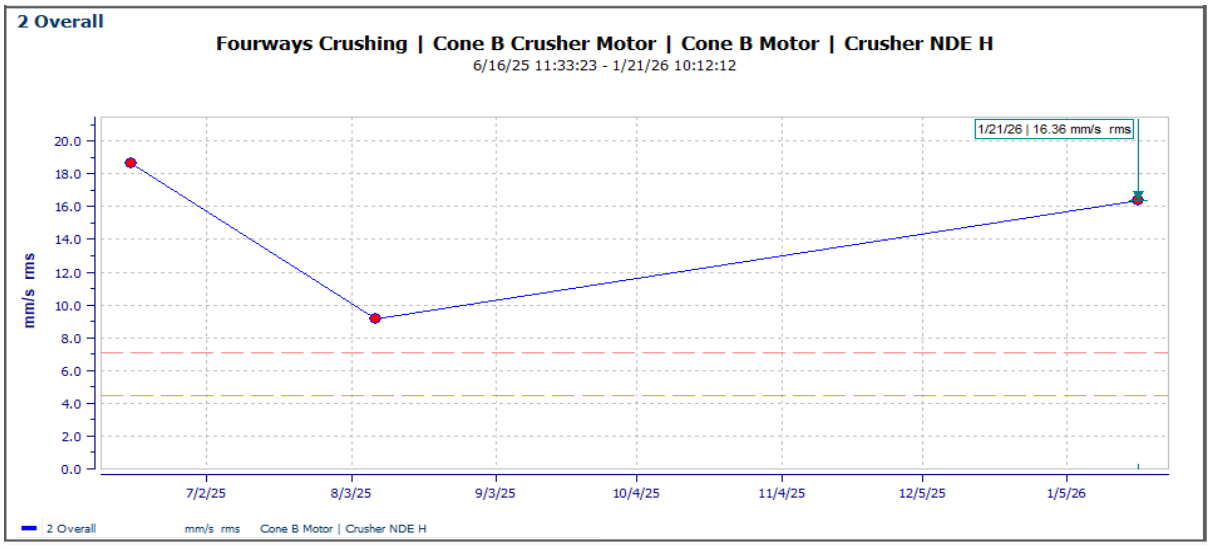
Fault: Bearing fault, Lubrication fault

Date: 21 January 2026

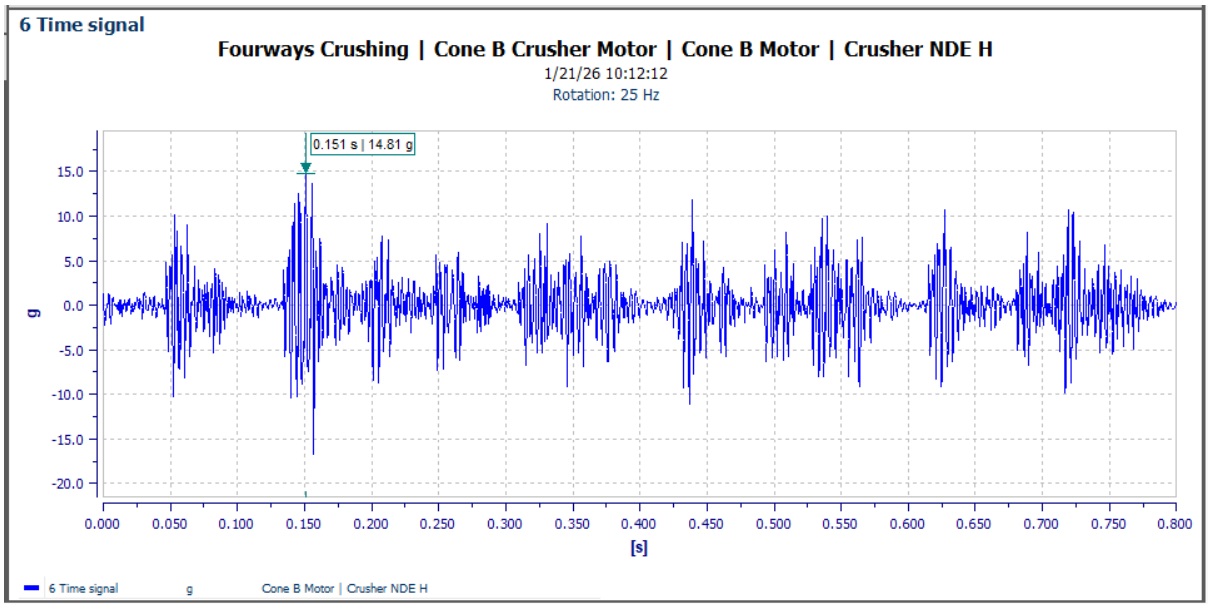
Findings: Overall vibration on the crusher NDE Horizontal is trending upwards from **9.2** to **16.4** mm/s RMS. Time waveform plot shows distinct impacting of up to **14.8** G's, which can be associated with bearing fault. Random broadband noise floors dominate the spectrum which is associated with lubrication fault.

Recommendations: Ensure the crusher bearings are adequately lubricated. Continue to monitor and trend.

Crusher NDE Horizontal



Crusher NDE Horizontal



Fourways Crushing Plant/ Vibro Screen 1 - Motor

P1 Extreme

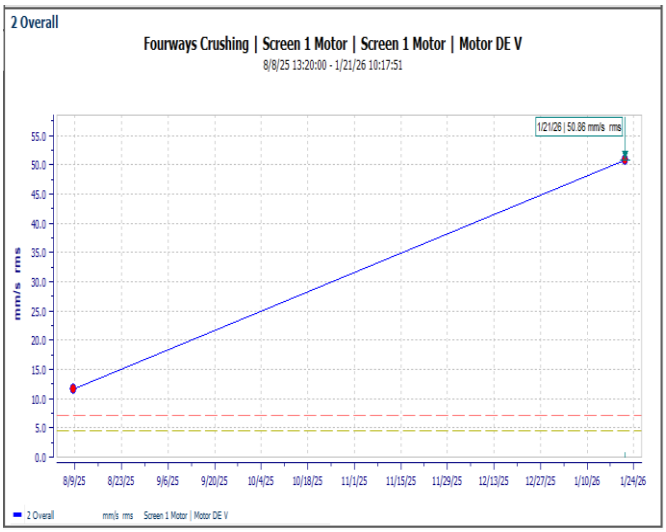
Fault: Structural looseness, Belt Misalignment

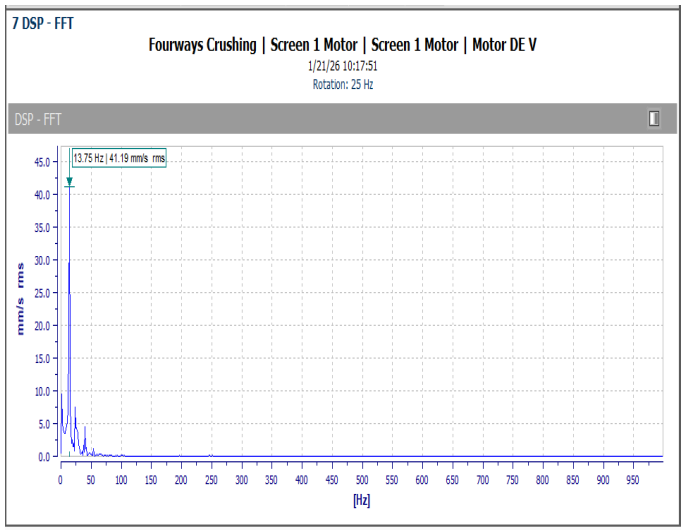
Date: 21 January 2026

Findings: Overall vibration on the motor DE vertical is trending upwards at **50.9** mm/s RMS. Spectra shows a strong 1x vibration which is characteristic to structural looseness. Axial vibration is upwards from **13.3** to **21.8** mm/s RMS, this is an indication of belt misalignment

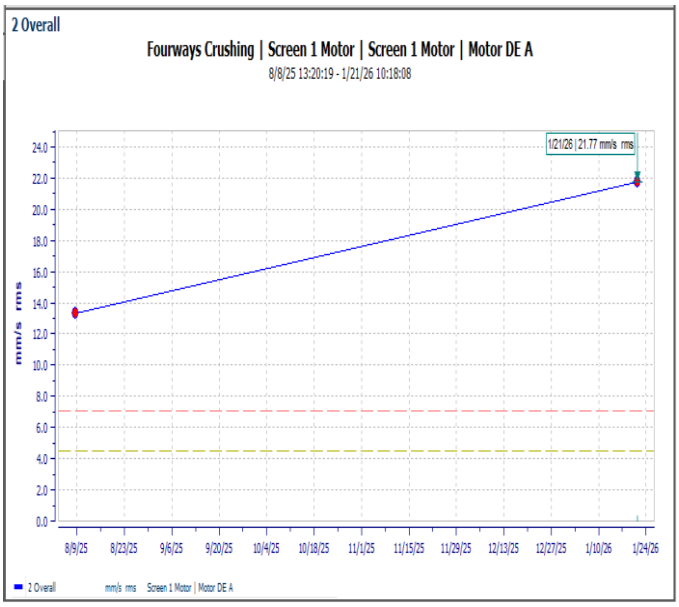
Recommendations: Address any loose motor hold down bolts, weakened structures to improve the structural rigidity. Inspect belts for wear and damage and replace as per condition, schedule for belt alignment. Visible cracked framework supporting the motor.

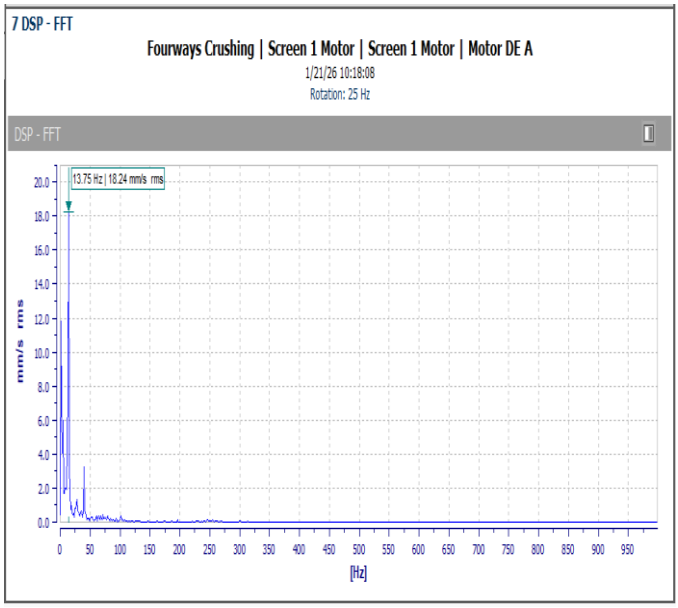
Motor DE Vertical





Motor DE Axial





Fourways Crushing Plant/ Vibro Screen 2 - Motor

P1 Extreme

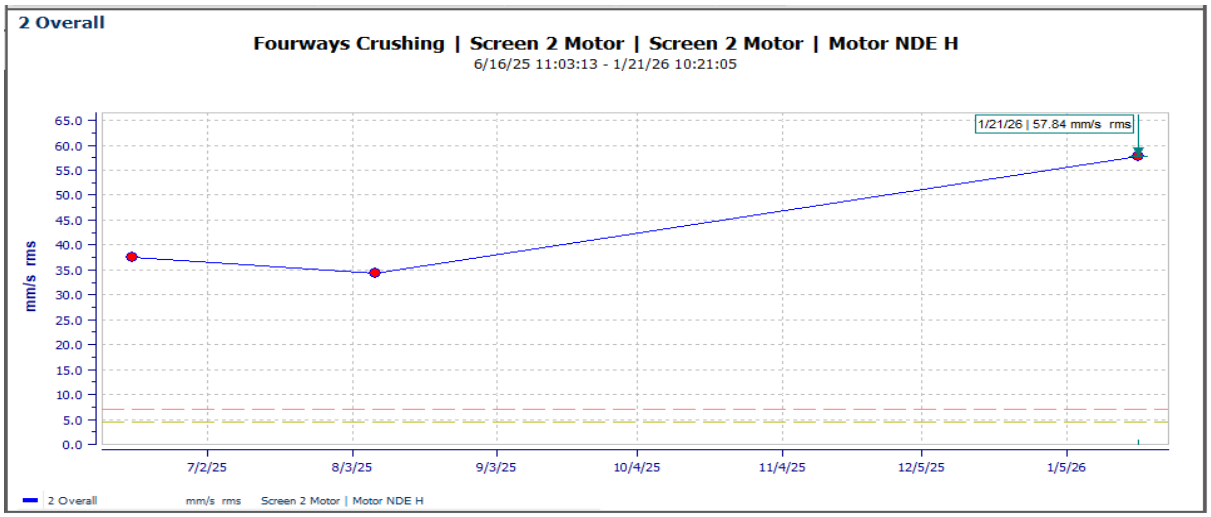
Fault: Structural looseness, Loose belts

Date: 21 January 2026

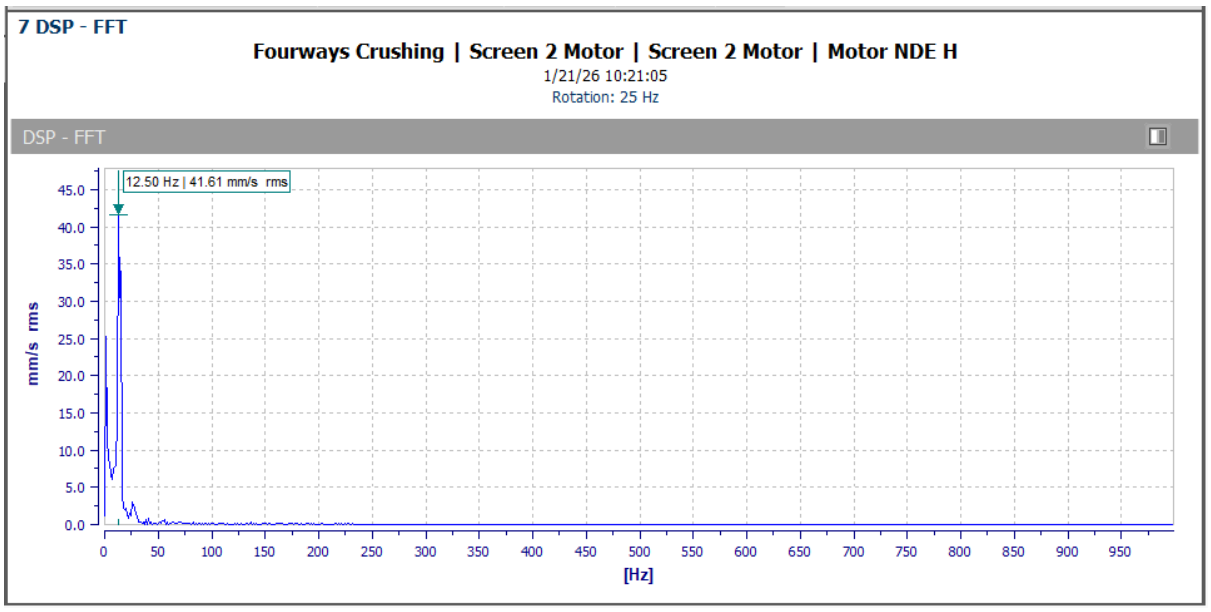
Findings: Overall vibration on the motor NDE Horizontal is trending at **57.8** mm/s RMS. Spectra shows a strong 1x vibration which is characteristic to structural looseness. Drive belts were flapping indication unequal belt tensioning.

Recommendations: Inspect and address any loose motor hold down bolts, weakened structures to improve the structural rigidity. Replace the belts and ensure all belts are equally tensioned. Inspect motor cooling fan for dust accumulation and clean as per condition of the fan. Visible cracked framework supporting the motor

Motor NDE Horizontal



Motor NDE Horizontal



Fourways Crushing Plant/ Vibro Screen 3 - Motor

P1 Extreme

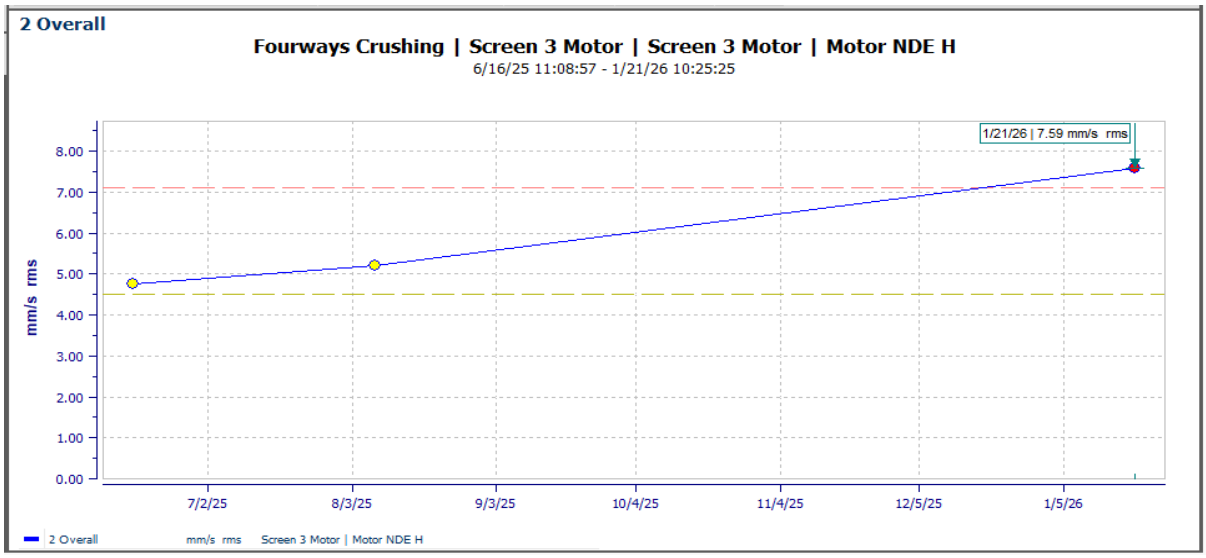
Fault: Structural looseness

Date: 21 January 2026

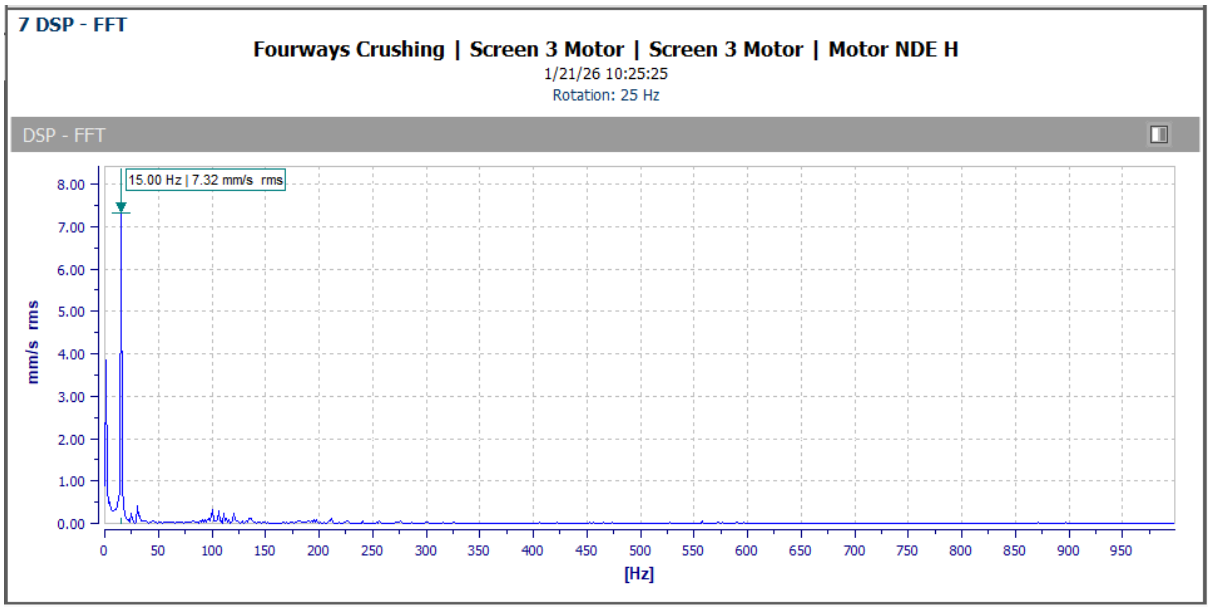
Findings: Overall vibration on the motor NDE Horizontal is trending at **7.6** mm/s RMS. Spectra shows a strong 1x vibration which is characteristic to structural looseness.

Recommendations: Inspect and address any loose motor hold down bolts, weakened structures to improve the structural rigidity. Inspect motor cooling fan for dust accumulation and clean as per condition of the fan.

Motor NDE Horizontal



Motor NDE Horizontal



Observations

1. Structures supporting the electrical motors on the screens, in particular screen 1 and 2, are damaged resulting in excessive vibrations.
2. All the drives are running with inadequate belts and misaligned.
3. Plan to reinforce the motor supporting structures to improve rigidity.
4. Plan to isolate motor base-frames from the crusher to minimise transmitted vibrations.