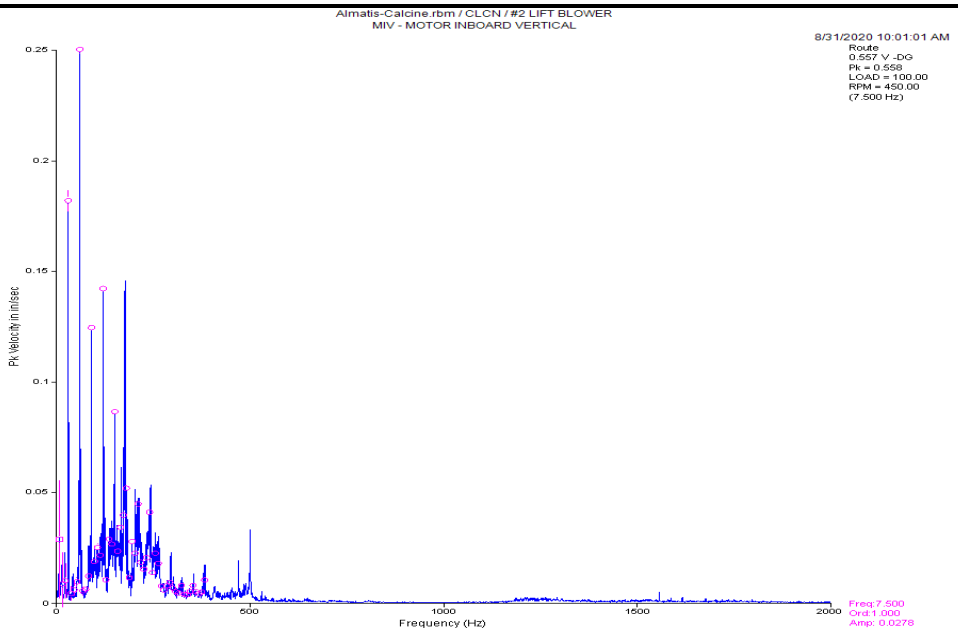
HI-SPEED PREDICTIVE MAINTENANCE

Machinery Vibration Report

Client	Almatis	**Survey Date**	8/31/20
Location	Benton	**Report Date**	9/1/20
Machine	Calcine Lift Blower #2	**QMS No.**	97224
Component	Motor	**Analyst**	WR

Defect Rating for this machine	**CLASS II**
Defect Rating System	
Class I: Defect is present, but effect on reliability is not clear; no immediate action is required. Continue normal monitoring.	**Class III;** Defect (s) present that may cause failure in short term (less than 2 mos.). Should be addressed as soon as practical, with a high maintenance priority. Increase monitoring frequency.
Class II: Defect (s) present that may cause problem in long term (2-6 mos.). Repair during normal maintenance scheduling. Continue to monitor.	**Class IV;** Defect (s) present that makes continued reliability unpredictable, and possibility of secondary damage is high. ***Repairs should be made ASAP. An unscheduled shutdown should be considered for repairs.***

Vibration Data



Analysis

1x peak with harmonics and a raised noise floor.

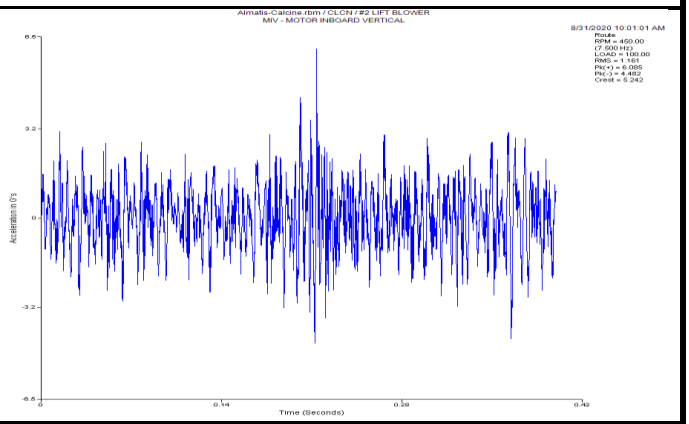
Raised noise floor and harmonics could be an indication of a looseness issue.

Discussion / Repair recommendations

We suggest an inspection of the motor, including a lift check, and run out check on the shaft to see if the looseness can be found. We also recommend a torque inspection of all fasteners for proper torque.

CLASS II

Time Waveform



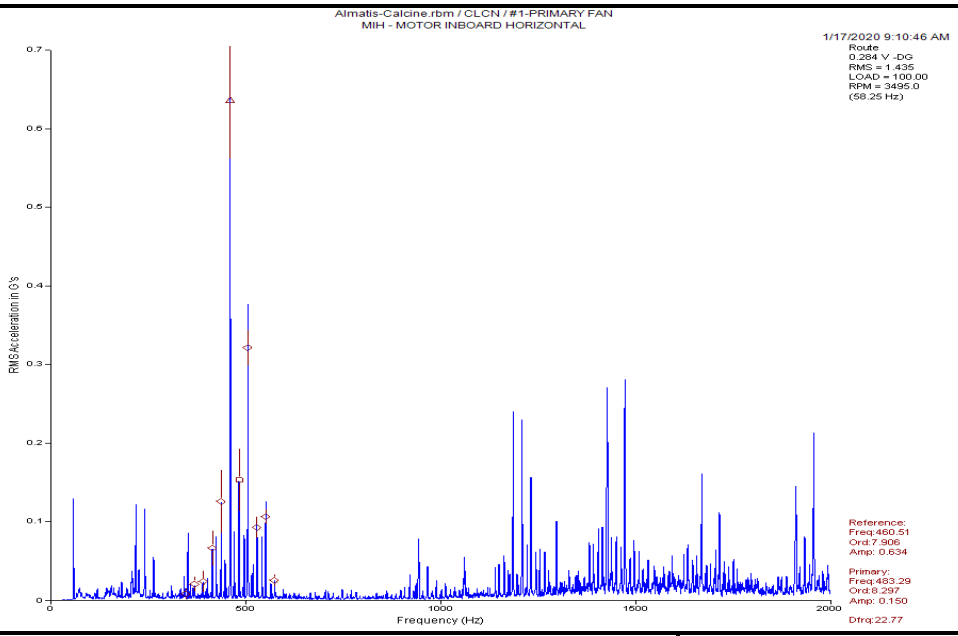
HI-SPEED PREDICTIVE MAINTENANCE

Machinery Vibration Report

Client	Almatis	**Survey Date**	8/31/20
Location	Benton	**Report Date**	9/1/20
Machine	Calcine #1 Primary Fan	**QMS No.**	97244
Component	Motor	**Analyst**	WR

Defect Rating for this machine	**CLASS II**
Defect Rating System	
Class I: Defect is present, but effect on reliability is not clear; no immediate action is required. Continue normal monitoring.	**Class III;** Defect (s) present that may cause failure in short term (less than 2 mos.). Should be addressed as soon as practical, with a high maintenance priority. Increase monitoring frequency.
Class II: Defect (s) present that may cause problem in long term (2-6 mos.). Repair during normal maintenance scheduling. Continue to monitor.	**Class IV;** Defect (s) present that makes continued reliability unpredictable, and possibility of secondary damage is high. ***Repairs should be made ASAP. An unscheduled shutdown should be considered for repairs.***

Vibration Data



Analysis

Reference peak at 7.9 orders at an amplitude of 0.634 G's with harmonic sidebands that reproduces throughout the spectrum and a raised noise floor in the end.

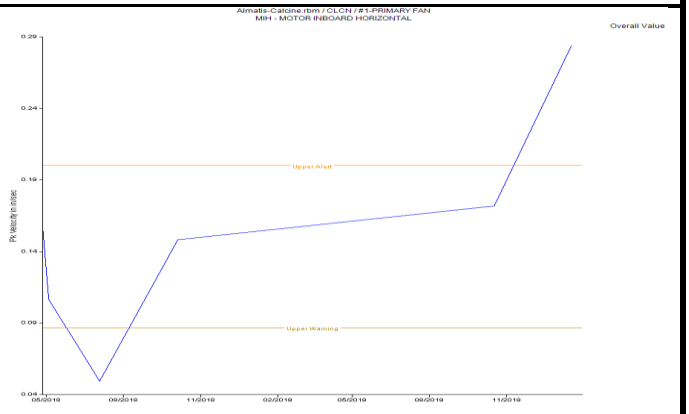
Harmonic sidebands and reproduction of the peaks throughout the spectrum could indicate a bearing fault.

Discussion / Repair recommendations

We recommend a lift and run out check of the shaft as well as an inspection of the fan and housing for any obvious signs of degradation.

CLASS II

Trend Data



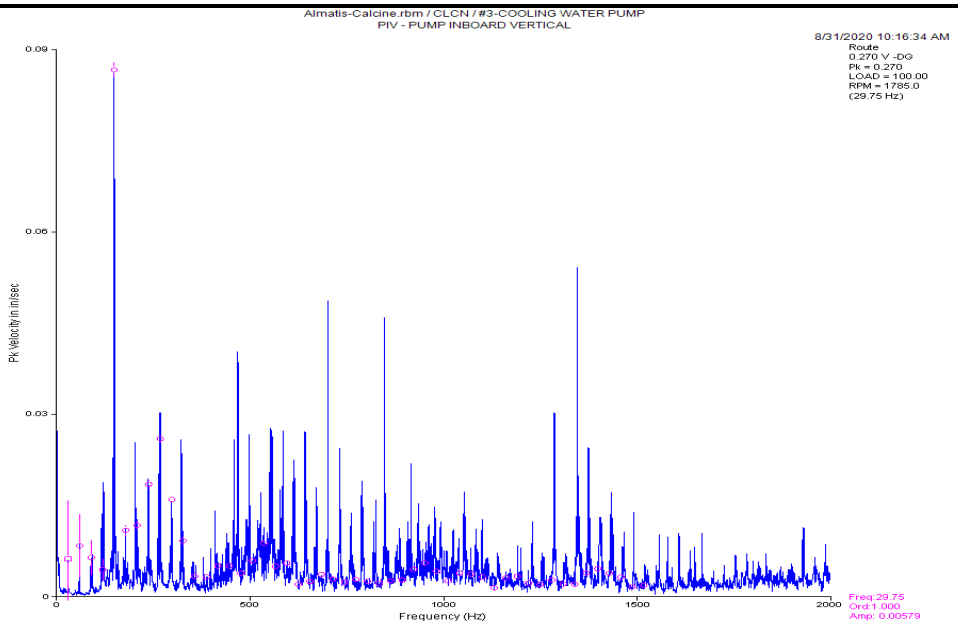
HI-SPEED PREDICTIVE MAINTENANCE

Machinery Vibration Report

Client	Almatis	**Survey Date**	8/31/20
Location	Benton	**Report Date**	9/1/20
Machine	Calcine #3 Cooling Water Pump	**QMS No.**	97244
Component	Pump	**Analyst**	WR

Defect Rating for this machine	**CLASS IV**
Defect Rating System	
Class I: Defect is present, but effect on reliability is not clear; no immediate action is required. Continue normal monitoring.	**Class III;** Defect (s) present that may cause failure in short term (less than 2 mos.). Should be addressed as soon as practical, with a high maintenance priority. Increase monitoring frequency.
Class II: Defect (s) present that may cause problem in long term (2-6 mos.). Repair during normal maintenance scheduling. Continue to monitor.	**Class IV;** Defect (s) present that makes continued reliability unpredictable, and possibility of secondary damage is high. ***Repairs should be made ASAP. An unscheduled shutdown should be considered for repairs.***

Vibration Data



Analysis

Non-synchronous peaks throughout the spectrum with a raised noise floor throughout.

Non-synchronous peaks and raised noise floor could indicate a bearing or gear mesh issue.

Discussion / Repair recommendations

We suggest an inspection of the bearings of this pump to see where the degradation is. This asset is thought to be in extreme danger of failure.

CLASS IV

Time Waveform