

November 3, 2021

IFF

Subject: October MS2P area vibration report data up to 10-27-21

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Most of the machines surveyed were found to be in good condition with the exception of the following:

**QualiTest®** uses a four step rating system for defects.

**Class I:** Defect is present, but effect on reliability is not clear; no immediate action is required. Continue to normally monitor.

**Class II:** Defect (s) present that may cause problem in long term (2-6 months.). Repair during normal maintenance scheduling. Continue to monitor.

**Class III:** Defect (s) present that may cause failure in short term (less than 2 months.). This should be addressed as soon as practical, with a high maintenance priority. Increase monitoring frequency.

**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

**Hi-Speed Industrial Service** tests and inspects industrial machinery and equipment and makes recommendations concerning maintenance and repairs based on its experience in the field of industrial repair and maintenance. The information contained herein is provided as an opinion only, not as a guaranty or warranty of the matters discussed herein.

This completes our assessment of your equipment for this survey. Thank you for your business and feel free to call if you have any comments or questions.

Sincerely,

*David W Shook*

David W. Shook  
Senior Reliability Specialists

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### MS2P data up to 10-27-21

#### **15-3050 FLAKE BIN EXHAUST FAN**

Fan bearings still shows lower frequency range shaft speed harmonic and non-synchronous vibrations. Inspect the unit fan bearings for looseness. Bearings could be in distress. Check drive train components for wear and alignment. Ensure all fasteners are tight. Check for structural or fasteners issues. **Rated a Class II Defect.**

#### **15-3085 WET-IN FLAKE SCREW CONVEYOR**

Motor still shows a slight increase in a vibration at 31.8 Hz. Please confirm motor RPM. Check all fasteners, coupling and alignment as time allows. **Rated a Class I Defect.**

#### **15-3133 #9 CENTRIFUGE DEFOAMER PUMP**

Unit data still show 1x, 2x RPM and sub synchronous vibrations/ noise hump for multiple points. Ensure the structure is sound and all fasteners are tight. Check the coupling hubs and insert for defects. Perform a shaft alignment. Sub synchronous vibration could be a resonance due to pipe strain. **Rated a Class I Defect.**

#### **15-3137 #8 CENTRIFUGE DEFOAMER PUMP**

Motor data appears to indicate that the motor was replaced. No further action is required.

#### **15-3141 #9 1<sup>ST</sup> EXT SHARPLE CENTRIFUGE**

Motor and centrifuge still shows slight bearing wear. Clean and flush. **Rated a Class I Defect.**

#### **15-3149 #6 2<sup>ND</sup> EXT CENT SHARPLES**

The centrifuge inboard bearing still shows a strong shaft speed vibration and a few harmonics indicating possible looseness. Some impacting is also evident in the data. The unit should be cleaned and flushed. This unit has had a high shaft speed vibration for several years. The shaft could have some run out, check with a dial indicator. Check the bearing fasteners and sheave alignment. **Rated a Class III Defect.**

#### **15-3151 #8 1<sup>ST</sup> EXT CENT SHARPLES**

Vibration data for the motor still shows non-synchronous vibrations in the bearings. We believe the bearing are in distress. Ensure the bearings are lubricated properly if applicable. **Rated a Class II Defect.**

#### **15-3161 #7 1<sup>ST</sup> EXT CENT SHARPLES**

Vibration data at the time of the survey shows a strong shaft speed vibration in the centrifuge bearings as well as a few harmonics. Clean and flush the centrifuge, inspect the centrifuge and bearing fasteners and ensure the bearings are not cocked or have excessive clearances. **Rated a Class II Defect.**

**15-3207 #7 CENTRIFUGE DEFOAMER PUMP**

Possible slight pipe strain. No immediate concern. Not rated going forward.

**15-3224 MS2P CLARIFIED TANK PUMP**

The motor vibration data continues to show a dominant shaft speed vibration. Inspect the installation for loose fasteners, base defects, coupling defects and alignment. Look for any other damage in the unit. **Rated a Class II Defect.**

**15-3233-E HOLD PUMP TO 1&2 WASH CENT**

No immediate concern. Not rated going forward.

**15-3234-W HOLD PUMP TO 3&4 WASH CENT**

No immediate concern. Not rated going forward.

**15-3237 E WASHING RESLURRY TANK PUMP**

The motor vibration data continues to show dominant shaft speed vibrations, especially in the axial. Inspect the installation for loose fasteners, coupling defects and alignment. Look for any other damage in the unit. The pump vibrations have decreased. **Rated a Class II Defect.**

**15-3246 C-30 #1 WASHING CENTRIFUGE**

Vibration data on 10-11-21 for the centrifuge has dramatically increased at shaft speed and is dominant in the axial. Clean and flush the unit. Inspect the drive train for wear and alignment. Check all fasteners and structures. **Rated a Class IV Defect.**

**15-3256 C-30 #2 WASHING CENTRIFUGE**

Vibration data on 10-11-21 for the centrifuge has dramatically increased at shaft speed and is dominant in the axial. Clean and flush the unit. Inspect the drive train for wear and alignment. Check all fasteners and structures. **Rated a Class III Defect.**

**15-3266 C-30 #3 WASHING CENTRIFUGE**

Vibration data on 10-11-21 for the centrifuge has dramatically increased at shaft speed and is dominant in the axial. Clean and flush the unit. Inspect the drive train for wear and alignment. Check all fasteners and structures. **Rated a Class IV Defect.**

**15-3276 C-30 #4 WASHING CENTRIFUGE**

Vibration data on 10-11-21 for the centrifuge has dramatically increased at shaft speed and is dominant in the axial. Clean and flush the unit. Inspect the drive train for wear and alignment. Check all fasteners and structures. **Rated a Class II Defect.**

**15-3289 W WASHING RESLURRY TANK PUMP**

Vibration data for the motor has substantially dropped but still shows a very strong motor 1x RPM vibration. Check all fasteners and structures, the coupling or drive train components for defects, wear, eccentricity, and alignment. **Rated a Class II Defect.**

**15-3296 #4 CONCENTRAT CENT SHARPLES**

Centrifuge still has a shaft speed vibration and a few harmonics. The inboard bearing has primarily a shaft speed vibration. Clean and flush the unit. Check the outboard bearing for slight looseness or for being cocked. **Rated a Class I Defect.**

**15-3304 #2 CONCENTRAT CENT SHARPLES**

The centrifuge vibration is still up at shaft speed. Clean and flush the centrifuge and inspect the installation for any deficiencies. Check the bearings for slight internal looseness, loose fasteners, or for being cocked. **Rated a Class III Defect.**

**15-3320 #3 CONCENTRAT CENT SHARPLES**

Centrifuge still has shaft speed vibrations in the bearings including a few low harmonics. Clean and flush the unit. The outboard bearing Peakue measurement still shows a possible bearing race defect. Check all fasteners. **Rated a Class II Defect.**

**15-3352 MS2P SOUTH CHILL TANK PUMP**

Data shows a large drop in vibrations due to probable repairs. No further action required other than ensuring motor is lubricated.

**15-3425-2P E IDN TANK DISCHARGE PUMP**

Motor outboard vibration has significantly dropped which indicates probable repairs. No further action indicated

**15-3471-E VACUUMIZER VACUUM PUMP**

Motor data shows a large drop in vibration at very near 360 Hz. No further action required.

**15-3475 E VACUUMIZER DISCHARGE PUMP**

Slight shaft speed axial vibration in the pump. Check coupling, fasteners, structure, and alignment as time allows. **Rated a Class I Defect.**

**15-3539 WEST VACUUMIZER VACUUM PUMP**

The pump data still shows multiple harmonics for all points. 3x RPM is dominant. We suspect wear in the pump and looseness in the bearings or fits. Inspect as time allows. **Rated a Class I Defect.**

**15-3562 E HYDROLISIS DISCHARGE PUMP**

Pump and motor still have a in 1x RPM vibration. Inspect the unit for loose fasteners and/or a coupling issue first. Check the shaft alignment The pump impeller could be worn, damaged, or have something stuck on it also. **Rated a Class II Defect.**

**15-3720-#2 AZO BB ROTARY SCREENER**

No issues.

**15-3727-1 AZO PACKER ROTARY SCREENER**

Vibrations have dropped again. No further action required.

**15-3844 MS2P FEED DRYER EXHAUST FAN**

Motor data suggests wear in drive train components again. Inspect at next opportunity. Check belts, sheaves, fasteners, and sheave alignment. **Rated a Class II Defect.**

**15-3847 MS2P FEED DRYER INLET FAN**

Increase in vibrations in the inboard fan bearing. Multiple harmonics suggest possible looseness. Inspect unit as time allows. Ensure bearings are lubricated and inspect bearings for looseness. Check belts and sheaves. **Rated a Class I Defect.**

**15-3862 MS2P FEED MILL RCVR VENT FAN**

Dominant motor speed vibration in motor. Signs of early bearing defects in the motor also. Ensure motor bearing are lubricated and inspect the installation and drive train for defects and alignment. **Rated a Class III Defect.**

**15-4019 CIP CAUSTIC RECIRC HEAT PUMP**

Motor vibrations have jumped exponentially. Inspect for damaged components, loose, or missing fasteners, coupling, and alignment issues immediately. Perform a run out check and ensure all fasteners are tight. **Rated a Class IV Defect.**

**15-4085 #1 CONCENTRATI CENT SHARPLES**

Centrifuge bearings shows a shaft speed vibration and multiple low harmonics. Clean and flush the centrifuge. Check the bearing fasteners and make sure the bearings are not cocked and that drive belts and sheaves are aligned and tensioned properly. **Rated a Class II Defect.**

**15-4203 HOT WATER PUMP PRESS IND IN**

Motor vibrations still have a strong 1x RPM radial and axial vibration. Inspect for coupling and alignment issues. Perform a run out check and ensure all fasteners are tight. **Rated a Class III Defect.**

**15-8001-MS2P-SPRAY DRYER INLET FAN**

No issues.

**15-8006 MS2P COOLING RING FAN**

The inboard fan bearing data still shows possible early bearing defects. Ensure adequate lubrication.

**Rated a Class I Defect.**

**15-8008 MS2P STATIC FLUID BED FAN**

No issues.

**15-8014-PC TRANS BLOWER TO ISO S BIN**

No issues.

**15-8069 NW & NE BH CONE HEATER FAN**

Motor still has a strong fan speed vibration. Inspect the unit drive train components for wear, eccentricity, and alignment. Ensure all fasteners are tight and structures are sound. **Rated a Class II Defect.**

**15-8074 #4 CMC SE BAGHOUSE BLOWER**

Blower bearing data shows shaft speed harmonics dominate the spectrum. Blowers generate harmonics as they start to wear. No action required. **Rated a Class I Defect.**

**15-8088 #2SPRAY DRYER S EXHAUST FAN**

Possible early defects in the inboard fan bearing. No action required. **Rated a Class I Defect.**

**15-8089 SW & SE BH CONE HEATER FAN**

Motor has a very high fan speed vibration, especially in the axial. Inspect the unit drive train components for wear, eccentricity, and alignment. Ensure all fasteners are tight and structures are sound. Fan vibration data quality is poor. **Rated a Class III Defect.**

**15-8100 MS2P VF BAGHOUSE EXHAUST FAN**

Unit still has a dominant vibration near 25 Hz in the motor and fan. Please adjust the data base to reflect accurate motor and fan speeds. Inspect the unit. Check all fasteners and drive train components. **Rated a Class II Defect.**

**15-9241-W VACUUMIZER DISCHARGE PUMP**

Vibrations have dropped but pulse is still evident in pump. **Rated a Class I Defect.**