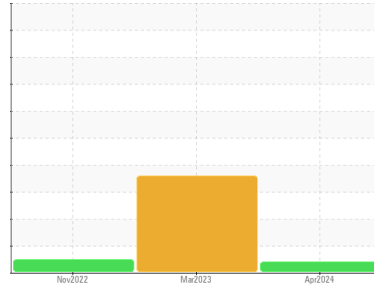




OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY



Area
WEST CRANE
 Machine Id
170832 MAIN HOIST BRAKE
 Component
Brake
 Fluid
GEAR OIL LS 80W90 (--- GAL)

DIAGNOSIS

Recommendation

Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the fluid.

Fluid Condition

Viscosity of sample indicates oil is within SAE 75W90 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. The AN level is acceptable for this fluid. The condition of the fluid is suitable for further service.

SAMPLE INFORMATION

| method | limit/base | current | history1 | history2 |
|---------------|-----------------|--------------------|-------------|-------------|
| Sample Number | Client Info | PP | PP | PP |
| Sample Date | Client Info | 18 Apr 2024 | 07 Mar 2023 | 21 Nov 2022 |
| Machine Age | hrs Client Info | 0 | 0 | 0 |
| Oil Age | hrs Client Info | 0 | 0 | 0 |
| Oil Changed | Client Info | N/A | N/A | N/A |
| Sample Status | | ABNORMAL | ABNORMAL | NORMAL |

CONTAMINATION

| method | limit/base | current | history1 | history2 |
|--------|----------------|------------|----------|----------|
| Water | WC Method >0.2 | NEG | NEG | NEG |

WEAR METALS

| method | limit/base | current | history1 | history2 |
|-----------|------------------------|-----------|----------|----------|
| PQ | ASTM D8184* | 4 | ▲ 25 | 0 |
| Iron | ppm ASTM D5185(m) >350 | 14 | 29 | 17 |
| Chromium | ppm ASTM D5185(m) >5 | 0 | <1 | 0 |
| Nickel | ppm ASTM D5185(m) >5 | 0 | <1 | <1 |
| Titanium | ppm ASTM D5185(m) | 0 | 0 | 0 |
| Silver | ppm ASTM D5185(m) | 0 | <1 | 0 |
| Aluminum | ppm ASTM D5185(m) >8 | 0 | <1 | 0 |
| Lead | ppm ASTM D5185(m) >10 | 0 | 1 | <1 |
| Copper | ppm ASTM D5185(m) >150 | 4 | 8 | 6 |
| Tin | ppm ASTM D5185(m) >5 | 0 | <1 | 0 |
| Antimony | ppm ASTM D5185(m) >5 | 0 | 0 | 0 |
| Vanadium | ppm ASTM D5185(m) | 0 | <1 | 0 |
| Beryllium | ppm ASTM D5185(m) | 0 | 0 | 0 |
| Cadmium | ppm ASTM D5185(m) | 0 | <1 | 0 |

ADDITIVES

| method | limit/base | current | history1 | history2 |
|------------|-------------------------|--------------|----------|----------|
| Boron | ppm ASTM D5185(m) 150 | 273 | 176 | 185 |
| Barium | ppm ASTM D5185(m) | 0 | 0 | 0 |
| Molybdenum | ppm ASTM D5185(m) | 0 | <1 | <1 |
| Manganese | ppm ASTM D5185(m) | 0 | <1 | <1 |
| Magnesium | ppm ASTM D5185(m) 10 | 1 | 33 | 32 |
| Calcium | ppm ASTM D5185(m) 70 | 6 | 33 | 35 |
| Phosphorus | ppm ASTM D5185(m) 2000 | 1308 | 1333 | 1360 |
| Zinc | ppm ASTM D5185(m) 50 | 7 | 26 | 20 |
| Sulfur | ppm ASTM D5185(m) 20000 | 21847 | 23254 | 23270 |
| Lithium | ppm ASTM D5185(m) | <1 | <1 | <1 |

CONTAMINANTS

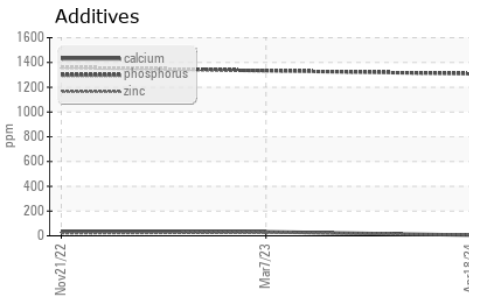
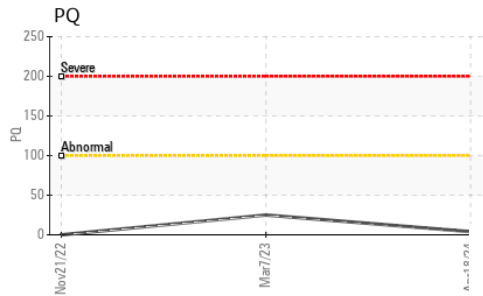
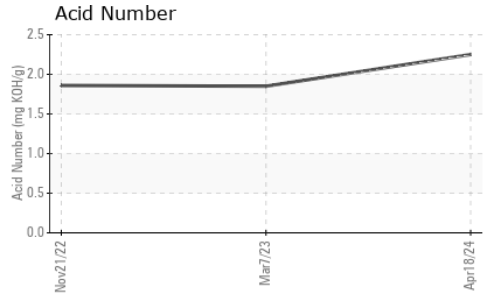
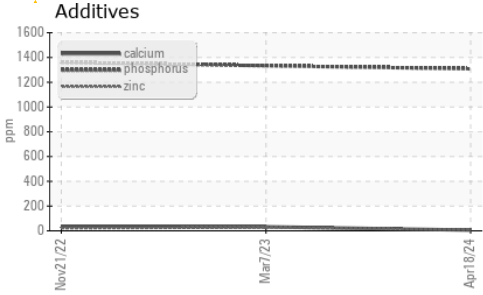
| method | limit/base | current | history1 | history2 |
|-----------|------------------------|--------------|----------|----------|
| Silicon | ppm ASTM D5185(m) >400 | 0 | 1 | <1 |
| Sodium | ppm ASTM D5185(m) | <1 | 3 | 3 |
| Potassium | ppm ASTM D5185(m) >20 | 0 | <1 | <1 |

FLUID DEGRADATION

| method | limit/base | current | history1 | history2 |
|------------------|---------------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g ASTM D974* | 2.25 | 1.85 | 1.86 |



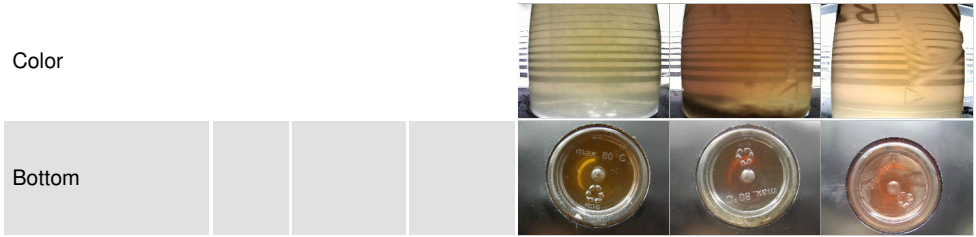
OIL ANALYSIS REPORT



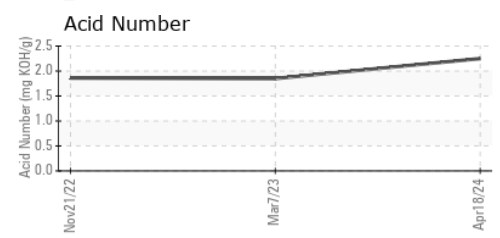
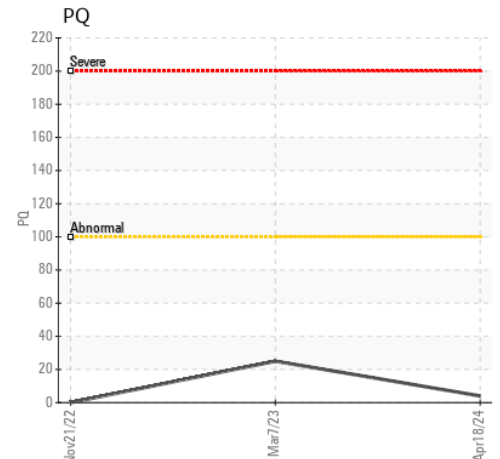
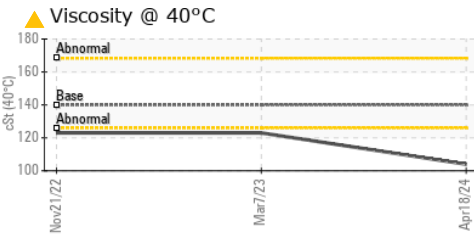
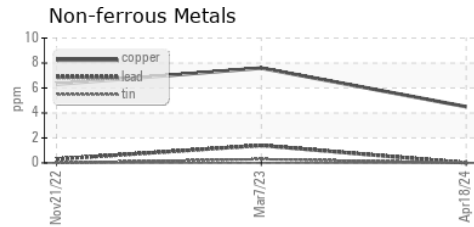
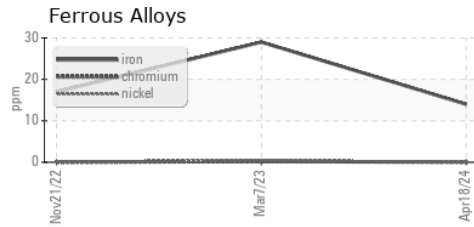
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | Visual* | NONE | VLITE | NONE |
| Yellow Metal | scalar | Visual* | NONE | NONE | NONE |
| Precipitate | scalar | Visual* | NONE | NONE | NONE |
| Silt | scalar | Visual* | NONE | VLITE | NONE |
| Debris | scalar | Visual* | NONE | NONE | NONE |
| Sand/Dirt | scalar | Visual* | NONE | VLITE | NONE |
| Appearance | scalar | Visual* | NORML | NORML | NORML |
| Odor | scalar | Visual* | NORML | NORML | NORML |
| Emulsified Water | scalar | Visual* | >0.2 | NEG | .2% |
| Free Water | scalar | Visual* | | NEG | ▲ 1% |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|---------------|---------|----------|----------|
| Visc @ 40°C | cSt | ASTM D7279(m) | 140 | ▲ 104 | 123 |

| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---------------|--------|------------|---------|----------|----------|
|---------------|--------|------------|---------|----------|----------|



GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PP
Lab Number : 02630350
Unique Number : 5763482
Test Package : IND 2 (Additional Tests: TAN Man)
Received : 19 Apr 2024
Tested : 22 Apr 2024
Diagnosed : 22 Apr 2024 - Kevin Marson

HIBERNIA MGMT & DEVELOPMENT CO. LTD
 SUITE 1000., 100 NEW GOWER STREET
 ST. JOHNS, NL
 CA A1C 6K3
 Contact: Sam Nash
 samantha.m.nash@exxonmobil.com

To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.

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