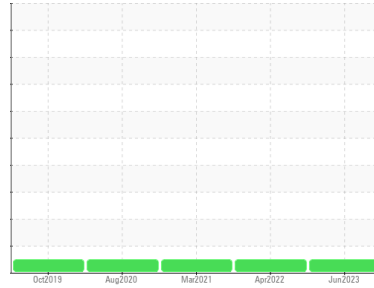




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
FINISHING BAY CRANES
 Machine Id
EST 10 S.W. BRIDGE
 Component
Gearbox
 Fluid
GEAR OIL ISO 220 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|--------------------|-------------|-------------|------------|--------------------|-------------|-------------|
| Sample Number | Client Info | | | RP0035130 | RP0024993 | RP0016830 |
| Sample Date | Client Info | | | 16 Jun 2023 | 20 Apr 2022 | 22 Mar 2021 |
| 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 | | | | NORMAL | NORMAL | NORMAL |

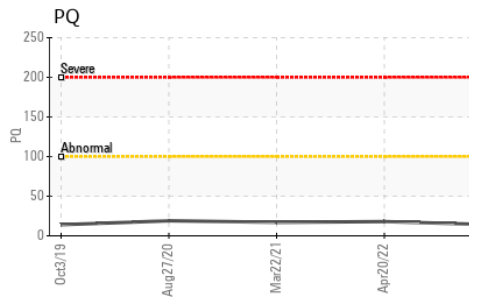
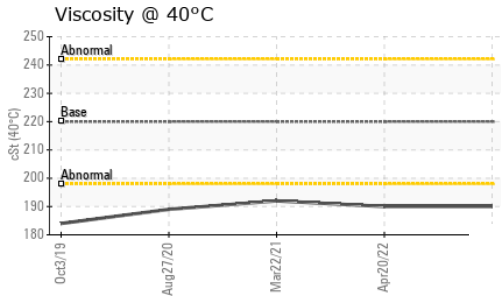
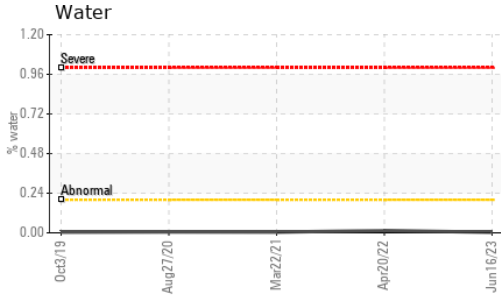
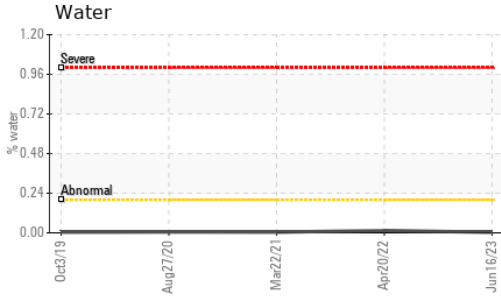
| WEAR METALS | | method | limit/base | current | history1 | history2 |
|-------------|-----|-------------|------------|--------------|----------|----------|
| PQ | | ASTM D8184 | | 14 | 18 | 17 |
| Iron | ppm | ASTM D5185m | >200 | 18 | 19 | 19 |
| Chromium | ppm | ASTM D5185m | >15 | <1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >15 | 0 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | | 0 | 3 | <1 |
| Aluminum | ppm | ASTM D5185m | >25 | <1 | <1 | 0 |
| Lead | ppm | ASTM D5185m | >100 | <1 | 1 | <1 |
| Copper | ppm | ASTM D5185m | >200 | 27 | 30 | 30 |
| Tin | ppm | ASTM D5185m | >25 | <1 | <1 | <1 |
| Antimony | ppm | ASTM D5185m | >5 | --- | --- | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | 0 | <1 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|------------|-----|-------------|------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185m | 50 | 0 | 2 | 2 |
| Barium | ppm | ASTM D5185m | 15 | 0 | 0 | <1 |
| Molybdenum | ppm | ASTM D5185m | 15 | 0 | <1 | 0 |
| Manganese | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 50 | 0 | <1 | <1 |
| Calcium | ppm | ASTM D5185m | 50 | 6 | 8 | 6 |
| Phosphorus | ppm | ASTM D5185m | 350 | 215 | 231 | 216 |
| Zinc | ppm | ASTM D5185m | 100 | 1 | 25 | 13 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|--------------|-----|-------------|------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185m | >50 | 16 | 16 | 15 |
| Sodium | ppm | ASTM D5185m | | <1 | <1 | 0 |
| Potassium | ppm | ASTM D5185m | >20 | 1 | 1 | 1 |
| Water | % | ASTM D6304 | >0.2 | 0.003 | 0.014 | 0.004 |
| ppm Water | ppm | ASTM D6304 | >2000 | 31.3 | 140.3 | 48.0 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|-------------------|----------|------------|------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.85 | 0.47 | 0.52 | 0.460 |

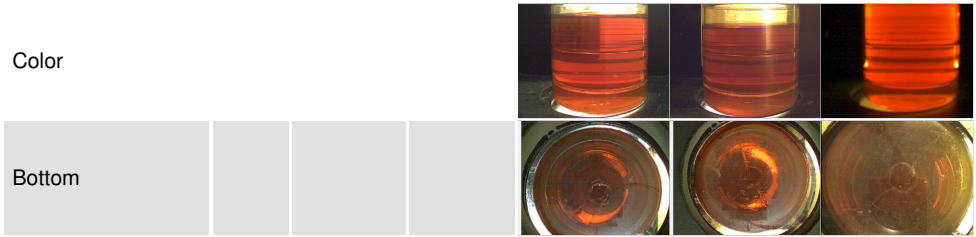
OIL ANALYSIS REPORT



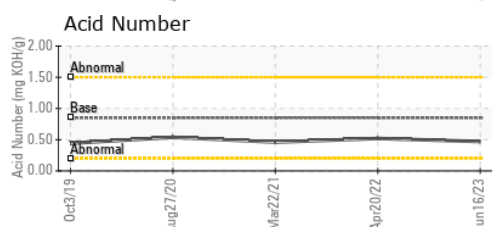
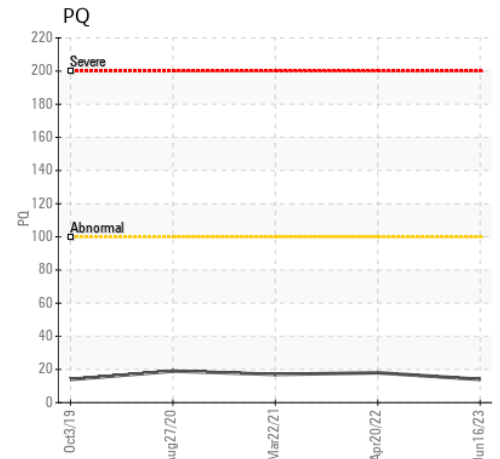
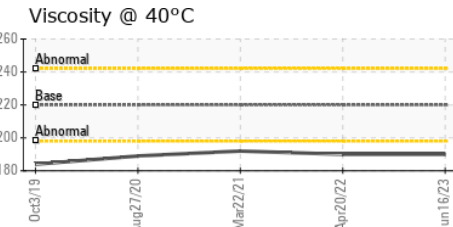
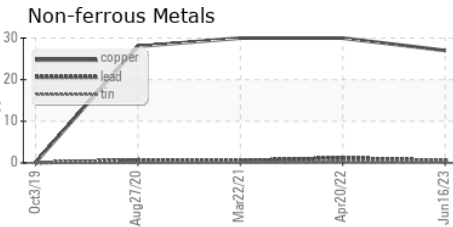
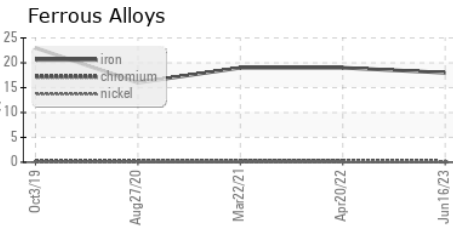
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE |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

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 | 220 | 190 | 192 |

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



GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RP0035130 **Received** : 19 Jun 2023
Lab Number : 05876873 **Diagnosed** : 21 Jun 2023
Unique Number : 10521976 **Diagnostician** : Jonathan Hester
Test Package : IND 2 (Additional Tests: PQ)

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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