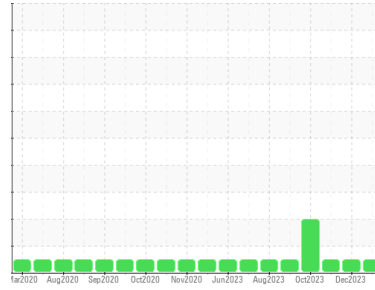




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
W11 (S/N 31037)

Component
Hydraulic System

Fluid
MIL-PRF-83282 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Discrete particle counts [100 ml] 5-15µm = 16500, 15-25µm = 1400, 25-50µm = 600, 50-100µm = 0, >100µm = 0. The water content is negligible. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. Chlorine value is 16.8.

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 | WC0874947 | WC0874937 | WC0874929 | |
| Sample Date | Client Info | 09 Jan 2024 | 06 Dec 2023 | 10 Nov 2023 | |
| Machine Age | hrs | Client Info | 0 | 30253 | 0 |
| Oil Age | hrs | Client Info | 0 | 0 | 0 |
| Oil Changed | Client Info | N/A | Not Changd | N/A | |
| Sample Status | | NORMAL | NORMAL | NORMAL | |

WEAR METALS

| method | limit/base | current | history1 | history2 | | |
|----------|------------|-------------|----------|--------------|----|---|
| Iron | ppm | ASTM D5185m | >20 | 0 | <1 | 0 |
| Chromium | ppm | ASTM D5185m | >20 | 0 | <1 | 0 |
| Nickel | ppm | ASTM D5185m | >20 | 0 | <1 | 0 |
| Titanium | ppm | ASTM D5185m | | 0 | <1 | 0 |
| Silver | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 0 | 1 | 0 |
| Lead | ppm | ASTM D5185m | >20 | 0 | <1 | 0 |
| Copper | ppm | ASTM D5185m | >20 | 0 | <1 | 1 |
| Tin | ppm | ASTM D5185m | >20 | <1 | <1 | 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 | | 0 | 0 | 0 |
| Barium | ppm | ASTM D5185m | | 0 | 11 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 0 | 1 | 0 |
| Manganese | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Magnesium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Calcium | ppm | ASTM D5185m | | 1 | 2 | 0 |
| Phosphorus | ppm | ASTM D5185m | | 709 | 679 | 747 |
| Zinc | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Sulfur | ppm | ASTM D5185m | | 52 | 0 | 29 |

CONTAMINANTS

| method | limit/base | current | history1 | history2 | | |
|------------------|------------|-------------|----------|--------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >15 | 4 | 4 | 4 |
| Sodium | ppm | ASTM D5185m | | 0 | 0 | 2 |
| Potassium | ppm | ASTM D5185m | >20 | 0 | <1 | 0 |
| Chlorine Content | ppm | ASTM D5185m | | 16.8 | 10.6 | 15.8 |
| Water | % | ASTM D6304 | >0.05 | 0.008 | 0.006 | 0.011 |
| ppm Water | ppm | ASTM D6304 | >500 | 90 | 61 | 113 |

FLUID CLEANLINESS

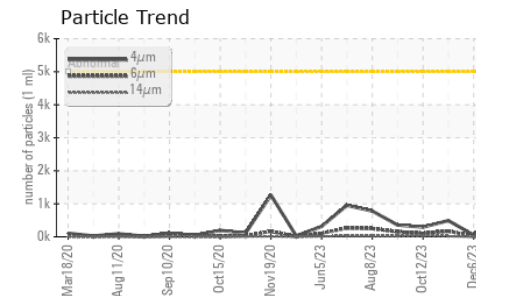
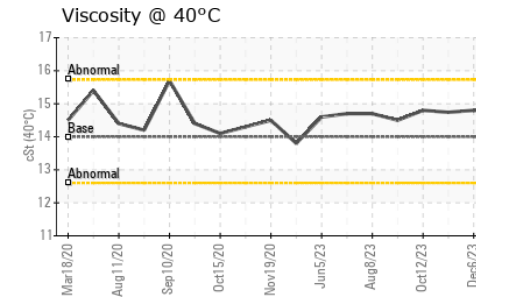
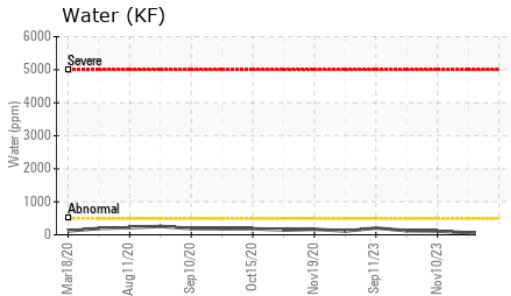
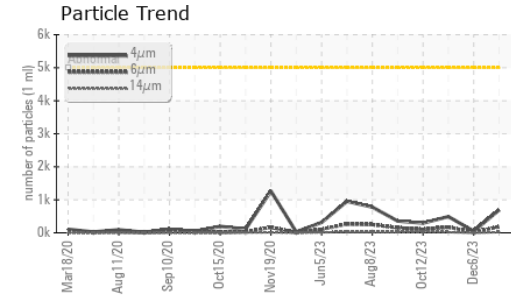
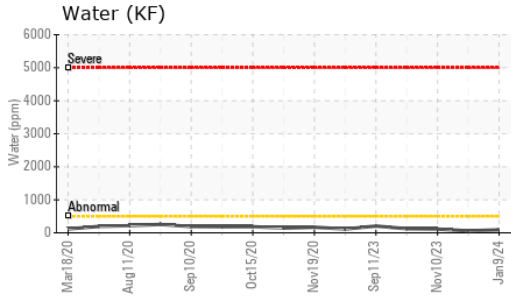
| method | limit/base | current | history1 | history2 | |
|-----------------|--------------|-----------|-----------------|----------|----------|
| Particles >4µm | ASTM D7647 | >5000 | 691 | 48 | 491 |
| Particles >6µm | ASTM D7647 | >1300 | 185 | 13 | 173 |
| Particles >14µm | ASTM D7647 | >160 | 20 | 1 | 19 |
| Particles >21µm | ASTM D7647 | >40 | 6 | 1 | 5 |
| Particles >38µm | ASTM D7647 | >10 | 0 | 0 | 0 |
| Particles >71µm | ASTM D7647 | >3 | 0 | 0 | 0 |
| Oil Cleanliness | ISO 4406 (c) | >19/17/14 | 17/15/11 | 13/11/7 | 16/15/11 |

FLUID DEGRADATION

| method | limit/base | current | history1 | history2 | | |
|------------------|------------|------------|----------|-------------|-------|------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.1 | 0.25 | 0.221 | 0.29 |



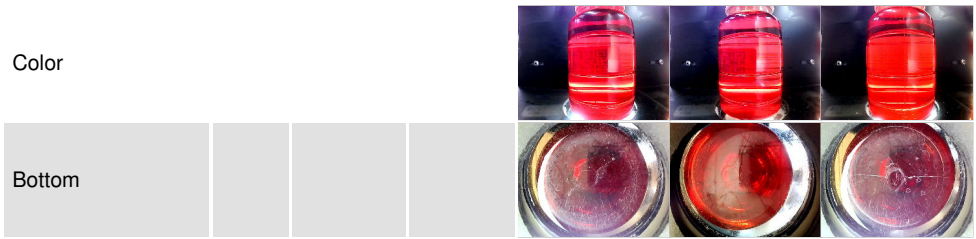
OIL ANALYSIS REPORT



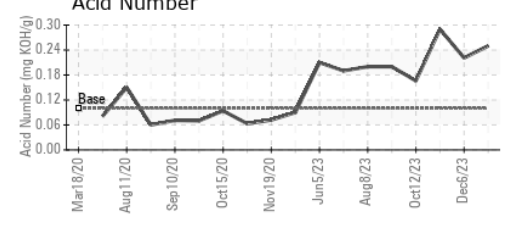
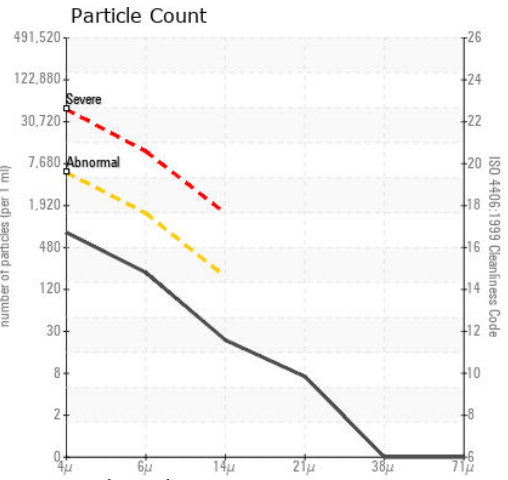
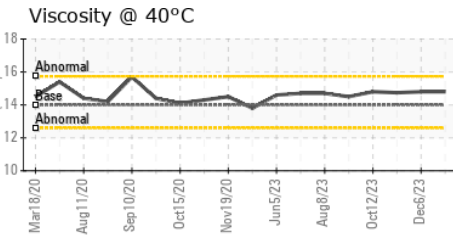
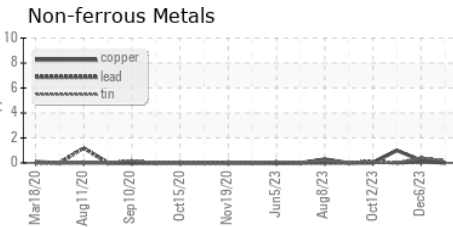
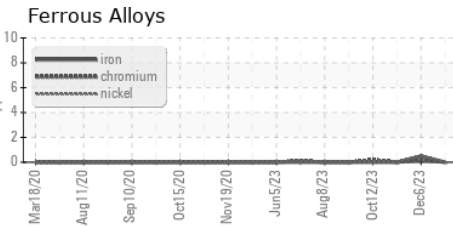
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | 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 | >0.05 | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 | 14.0 | 14.8 | 14.74 |

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



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0874947 **Received** : 18 Jan 2024
Lab Number : 06064340 **Diagnosed** : 02 Feb 2024
Unique Number : 10835722 **Diagnostician** : Doug Bogart
Test Package : IND 2 (Additional Tests: CHLORINEXRF, KF)

NORTHLAND-WILLETTE INC
 12 HIGH ST
 PLAINVILLE, MA
 US 02762
 Contact: JIM ALLEN
 JALLEN@NWHYDINC.COM
 T:
 F: (508)699-4017

Certificate L2367
 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)