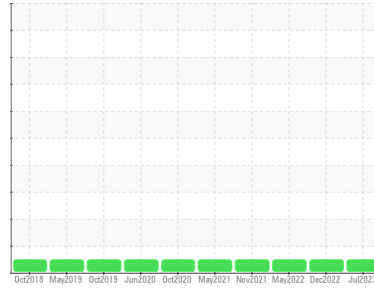




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
PARTS
 Machine Id
LVD PRT-PBR-07 (S/N 25833)
 Component
Hydraulic System
 Fluid
AW HYDRAULIC OIL ISO 46 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

The amount and size of particulates present in the system are acceptable. 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 | WC0830447 | WC0753854 | WC0696329 |
| Sample Date | Client Info | 17 Jul 2023 | 04 Dec 2022 | 18 May 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 | | NORMAL | NORMAL | NORMAL |

WEAR METALS

| method | limit/base | current | history1 | history2 |
|----------|---------------------|--------------|----------|----------|
| Iron | ppm ASTM D5185m >20 | 4 | 2 | 1 |
| Chromium | ppm ASTM D5185m >20 | 0 | 0 | 0 |
| Nickel | ppm ASTM D5185m >20 | 0 | 0 | 0 |
| Titanium | ppm ASTM D5185m | 0 | 0 | 0 |
| Silver | ppm ASTM D5185m | <1 | 0 | <1 |
| Aluminum | ppm ASTM D5185m >20 | 0 | 0 | 0 |
| Lead | ppm ASTM D5185m >20 | 0 | 0 | 0 |
| Copper | ppm ASTM D5185m >20 | 5 | 3 | 2 |
| Tin | ppm ASTM D5185m >20 | <1 | 0 | 0 |
| Antimony | ppm ASTM D5185m | --- | --- | --- |
| Vanadium | ppm ASTM D5185m | 0 | 0 | 0 |
| Cadmium | ppm ASTM D5185m | 0 | 0 | 0 |

ADDITIVES

| method | limit/base | current | history1 | history2 |
|------------|----------------------|--------------|----------|----------|
| Boron | ppm ASTM D5185m 5 | 0 | 0 | 0 |
| Barium | ppm ASTM D5185m 5 | 1 | 0 | 0 |
| Molybdenum | ppm ASTM D5185m 5 | 0 | 0 | 0 |
| Manganese | ppm ASTM D5185m | 0 | 0 | 0 |
| Magnesium | ppm ASTM D5185m 25 | <1 | 0 | 0 |
| Calcium | ppm ASTM D5185m 200 | 60 | 42 | 42 |
| Phosphorus | ppm ASTM D5185m 300 | 518 | 385 | 393 |
| Zinc | ppm ASTM D5185m 370 | 662 | 488 | 485 |
| Sulfur | ppm ASTM D5185m 2500 | 3644 | 2926 | 2159 |

CONTAMINANTS

| method | limit/base | current | history1 | history2 |
|-----------|---------------------|--------------|----------|----------|
| Silicon | ppm ASTM D5185m >15 | 2 | <1 | 2 |
| Sodium | ppm ASTM D5185m | 0 | <1 | 0 |
| Potassium | ppm ASTM D5185m >20 | <1 | 0 | 0 |

FLUID CLEANLINESS

| method | limit/base | current | history1 | history2 |
|-----------------|------------------------|-----------------|----------|----------|
| Particles >4µm | ASTM D7647 >5000 | 1784 | 189 | 190 |
| Particles >6µm | ASTM D7647 >1300 | 675 | 54 | 66 |
| Particles >14µm | ASTM D7647 >160 | 104 | 5 | 12 |
| Particles >21µm | ASTM D7647 >40 | 28 | 2 | 4 |
| Particles >38µm | ASTM D7647 >10 | 2 | 0 | 0 |
| Particles >71µm | ASTM D7647 >3 | 0 | 0 | 0 |
| Oil Cleanliness | ISO 4406 (c) >19/17/14 | 18/17/14 | 15/13/10 | 15/13/11 |

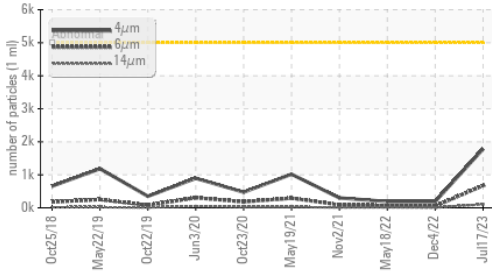
FLUID DEGRADATION

| method | limit/base | current | history1 | history2 |
|------------------|--------------------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g ASTM D8045 0.57 | 0.40 | 0.38 | 0.42 |

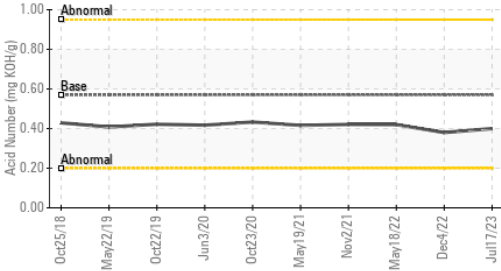


OIL ANALYSIS REPORT

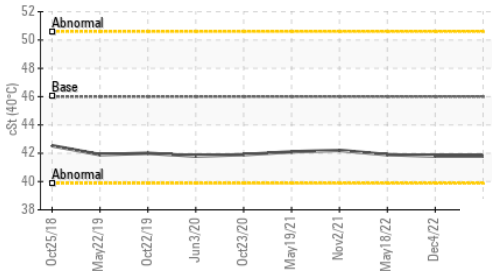
Particle Trend



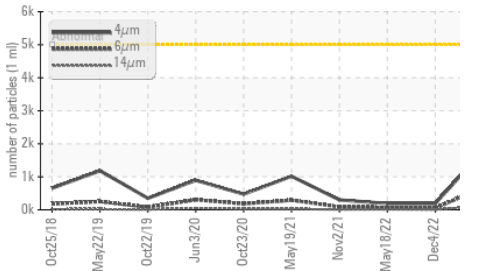
Acid Number



Viscosity @ 40°C



Particle Trend

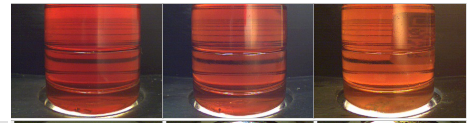


| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | 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 46 | 41.8 | 41.8 | 41.9 |

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

Color

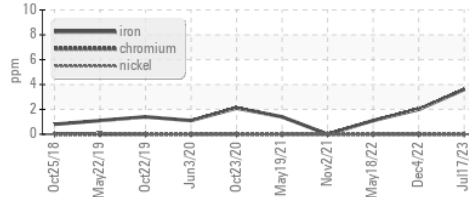


Bottom

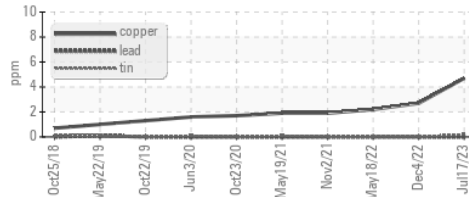


GRAPHS

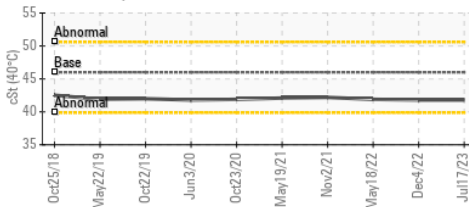
Ferrous Alloys



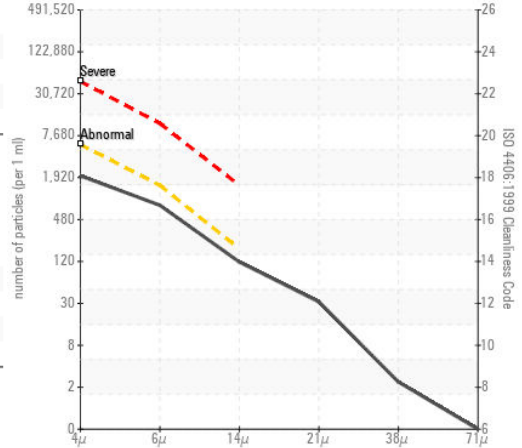
Non-ferrous Metals



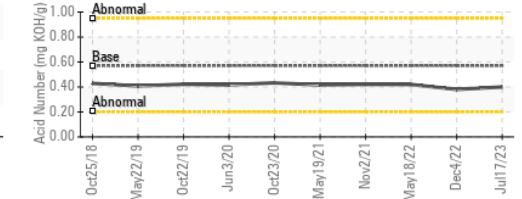
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0830447 **Received** : 20 Jul 2023
Lab Number : 05903232 **Diagnosed** : 24 Jul 2023
Unique Number : 10564588 **Diagnostician** : Angela Borella
Test Package : PLANT

LUND BOATS
 318 WEST GILMAN ST
 NEW YORK MILLS, MN
 US 56567
 Contact: TODD PITMAN
 todd.pitman@lundboats.com

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)

T:
F: