



PROBLEM SUMMARY

Sample Rating Trend

ISO

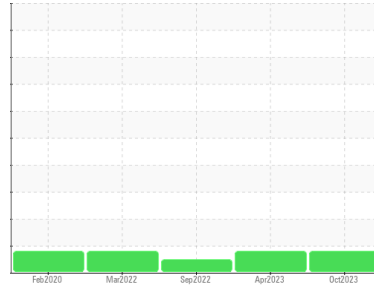


Area
[84123]

Machine Id
ESPS

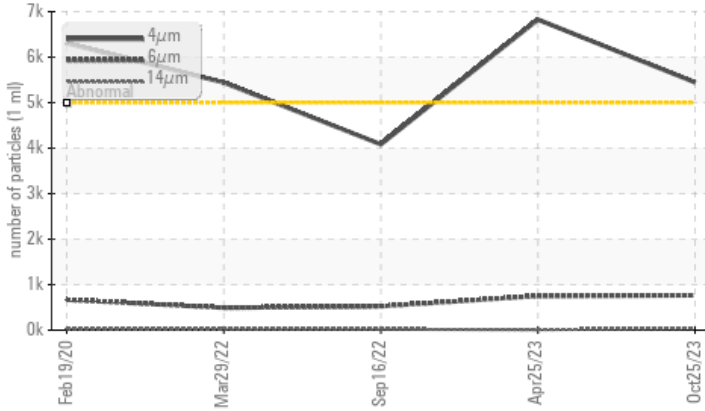
Component
Hydraulic System

Fluid
AW HYDRAULIC OIL ISO 46 (--- GAL)



COMPONENT CONDITION SUMMARY

▲ Particle Trend



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. The filter change at the time of sampling has been noted. 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 brand, type, and viscosity of the oil on your next sample.

PROBLEMATIC TEST RESULTS

| Sample Status | | ATTENTION | ATTENTION | NORMAL |
|-----------------|------------------------|------------|------------|----------|
| Particles >4µm | ASTM D7647 >5000 | ▲ 5446 | ▲ 6826 | 4083 |
| Oil Cleanliness | ISO 4406 (c) >19/17/14 | ▲ 20/17/12 | ▲ 20/17/10 | 19/16/11 |

Customer Id: NORPLAMA
 Sample No.: WC0789379
 Lab Number: 05996267
 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Wes Davis +1 905-569-8600 x223
wesd@wearcheck.ca

To change component or sample information:
 Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

| Action | Status | Date | Done By | Description |
|----------------------|--------|------|---------|---|
| Alert | --- | --- | ? | 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. |
| Information Required | --- | --- | ? | Please specify the brand, type, and viscosity of the oil on your next sample. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. |

HISTORICAL DIAGNOSIS

25 Apr 2023 Diag: Angela Borella

ISO



No corrective action is recommended at this time. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor. All component wear rates are normal. There is a moderate amount of particulates present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



16 Sep 2022 Diag: Doug Bogart

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. Confirm oil type. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



29 Mar 2022 Diag: Don Baldrige

VISCOSITY



No corrective action is recommended at this time. Resample at the next service interval to monitor. All component wear rates are normal. There is a moderate amount of silt (particulates < 6 microns in size) present in the oil. Viscosity of sample indicates oil is within ISO 32 range, advise investigate. Confirm oil type. The AN level is acceptable for this fluid.

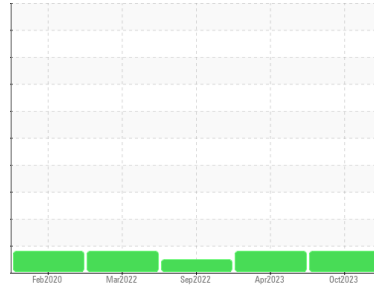
view report





OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area
[84123]
 Machine Id
ESPS

Component
Hydraulic System

Fluid
AW HYDRAULIC OIL ISO 46 (--- 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. The filter change at the time of sampling has been noted. 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 brand, type, and viscosity of the oil on your next sample.

Wear

All component wear rates are normal.

Contamination

There is a light amount of silt (particulates < 14 microns in size) present 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 | | WC0789379 | WC0723454 | WC0609163 |
| Sample Date | Client Info | | 25 Oct 2023 | 25 Apr 2023 | 16 Sep 2022 |
| Machine Age | mths | Client Info | 0 | 0 | 0 |
| Oil Age | mths | Client Info | 0 | 0 | 0 |
| Oil Changed | Client Info | | Not Changed | N/A | N/A |
| Sample Status | | | ATTENTION | ATTENTION | NORMAL |

WEAR METALS

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

ADDITIVES

| | method | limit/base | current | history1 | history2 |
|------------|--------|------------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185m 5 | 0 | 1 | 2 |
| Barium | ppm | ASTM D5185m 5 | 2 | 2 | 2 |
| Molybdenum | ppm | ASTM D5185m 5 | <1 | <1 | <1 |
| Manganese | ppm | ASTM D5185m | 0 | <1 | 0 |
| Magnesium | ppm | ASTM D5185m 25 | 7 | 12 | 8 |
| Calcium | ppm | ASTM D5185m 200 | 75 | 71 | 98 |
| Phosphorus | ppm | ASTM D5185m 300 | 273 | 293 | 338 |
| Zinc | ppm | ASTM D5185m 370 | 339 | 371 | 412 |
| Sulfur | ppm | ASTM D5185m 2500 | 2681 | 3591 | 3778 |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|-----------------|----------|----------|----------|
| Silicon | ppm | ASTM D5185m >15 | 1 | <1 | 1 |
| Sodium | ppm | ASTM D5185m | 2 | 6 | 2 |
| Potassium | ppm | ASTM D5185m >20 | 2 | 1 | 0 |

FLUID CLEANLINESS

| | method | limit/base | current | history1 | history2 |
|-----------------|--------------|------------|-------------------|------------|----------|
| Particles >4µm | ASTM D7647 | >5000 | ▲ 5446 | ▲ 6826 | 4083 |
| Particles >6µm | ASTM D7647 | >1300 | 766 | 751 | 524 |
| Particles >14µm | ASTM D7647 | >160 | 39 | 9 | 20 |
| Particles >21µm | ASTM D7647 | >40 | 10 | 2 | 4 |
| Particles >38µm | ASTM D7647 | >10 | 0 | 1 | 1 |
| Particles >71µm | ASTM D7647 | >3 | 0 | 0 | 1 |
| Oil Cleanliness | ISO 4406 (c) | >19/17/14 | ▲ 20/17/12 | ▲ 20/17/10 | 19/16/11 |

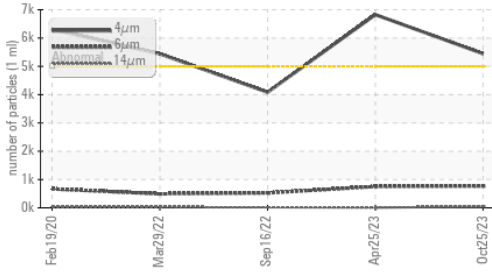
FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|------------------|----------|-----------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 0.57 | 0.25 | 0.29 | 0.30 |

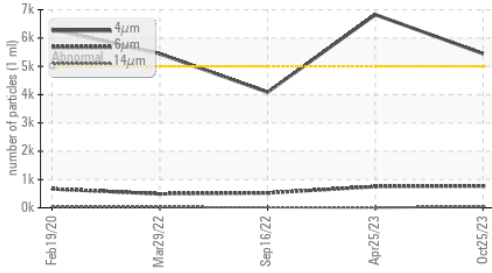


OIL ANALYSIS REPORT

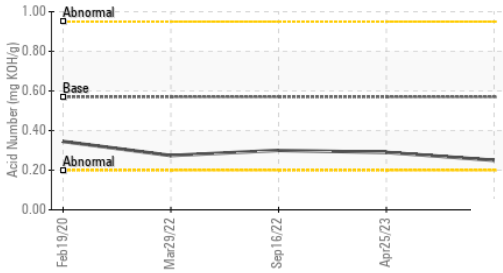
▲ Particle Trend



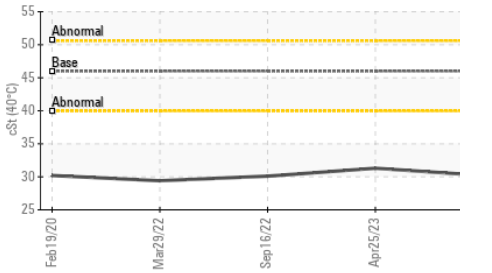
▲ Particle Trend



Acid Number



Viscosity @ 40°C



| 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 |

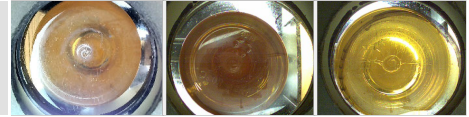
| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|--------------|---------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 46 | 30.2 | 31.3 | 30.1 |

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

Color

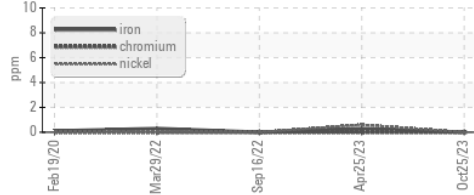


Bottom

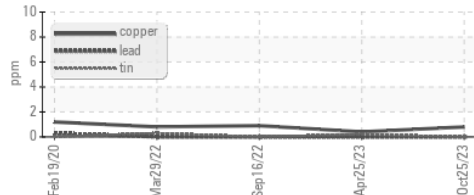


GRAPHS

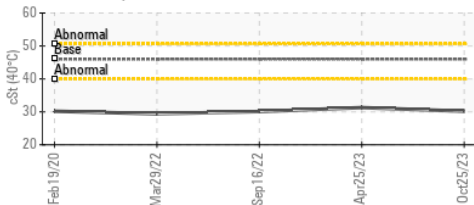
Ferrous Alloys



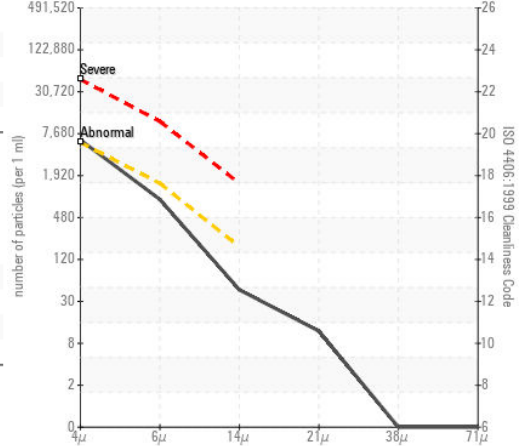
Non-ferrous Metals



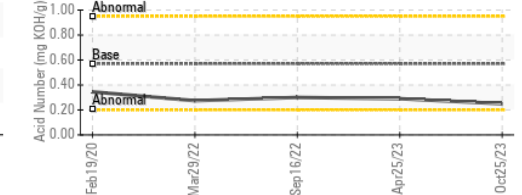
Viscosity @ 40°C



▲ Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : WC0789379
 Lab Number : 05996267
 Unique Number : 10724627
 Test Package : IND 2

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 US 02762
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 mboucher@nwhydinc.com
 T: (508)699-4016
 F: (508)699-4017

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)