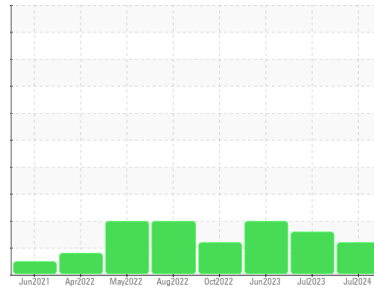




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area

FINISHING/1255

Machine Id

1255-003-1800 - CENTER GUIDE HPU 1255-003-1800 - CENTER GUIDE HPU

Component

Hydraulic System

Fluid

PETRO CANADA HYDREX AW 68 (--- GAL)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with 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 | | | KFS0004547 | KFS0003849 | KFS0002219 |
| Sample Date | Client Info | | | 16 Jul 2024 | 14 Jul 2023 | 19 Jun 2023 |
| 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 | | | | ATTENTION | ABNORMAL | ABNORMAL |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---------------|-----------|--------|------------|------------|----------|----------|
| Water | WC Method | | >0.05 | NEG | NEG | NEG |

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

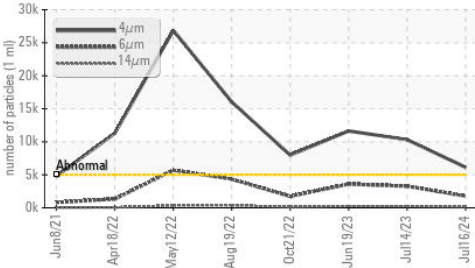
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|------------|-----|-------------|------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185m | 0 | 0 | 0 | 0 |
| Barium | ppm | ASTM D5185m | 0 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 0 | 0 | 0 | 0 |
| Manganese | ppm | ASTM D5185m | 0 | 0 | 0 | <1 |
| Magnesium | ppm | ASTM D5185m | 0 | <1 | 0 | 1 |
| Calcium | ppm | ASTM D5185m | 50 | 50 | 53 | 49 |
| Phosphorus | ppm | ASTM D5185m | 330 | 342 | 363 | 340 |
| Zinc | ppm | ASTM D5185m | 430 | 446 | 465 | 434 |
| Sulfur | ppm | ASTM D5185m | 760 | 942 | 1039 | 932 |

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

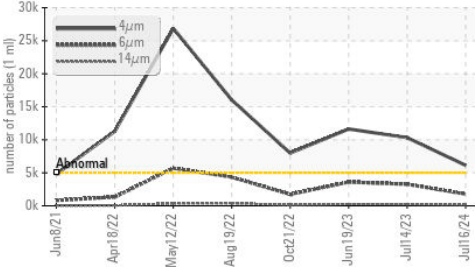
| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|-------------------|--|--------------|------------|-----------------|----------|----------|
| Particles >4µm | | ASTM D7647 | >5000 | 6134 | 10322 | 11633 |
| Particles >6µm | | ASTM D7647 | >1300 | 1764 | 3270 | 3601 |
| Particles >14µm | | ASTM D7647 | >160 | 124 | 235 | 261 |
| Particles >21µm | | ASTM D7647 | >40 | 25 | 50 | 68 |
| Particles >38µm | | ASTM D7647 | >10 | 1 | 1 | 1 |
| Particles >71µm | | ASTM D7647 | >3 | 0 | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | 20/18/14 | 21/19/15 | 21/19/15 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|-------------------|----------|------------|------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.60 | 0.40 | 0.23 | 0.20 |

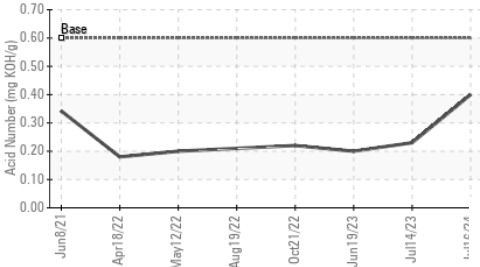
Particle Trend



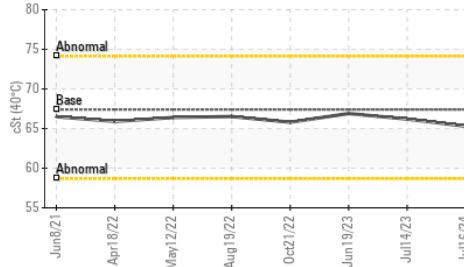
Particle Trend



Acid Number



Viscosity @ 40°C

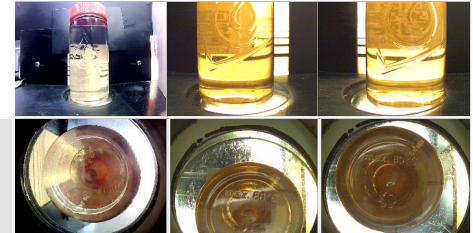


| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | 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 | 67.4 | 65.3 | 66.2 |

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

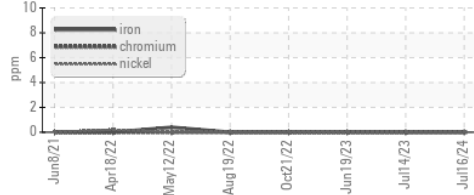
Color



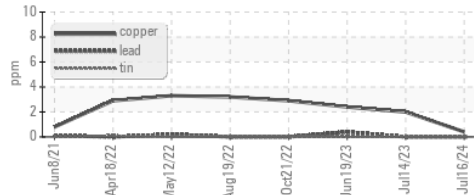
Bottom

GRAPHS

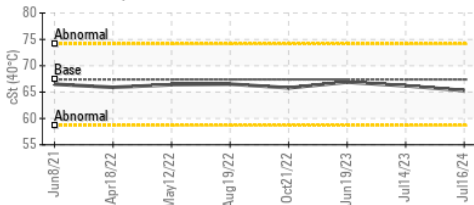
Ferrous Alloys



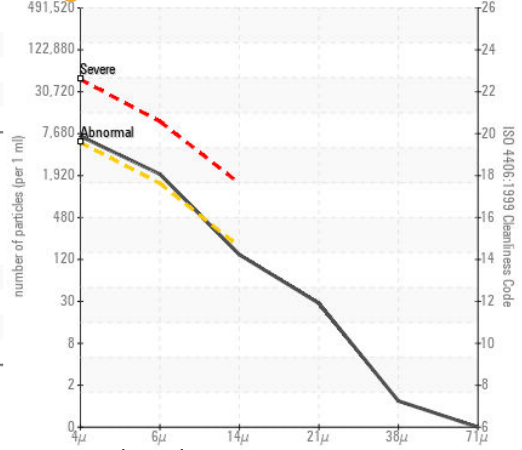
Non-ferrous Metals



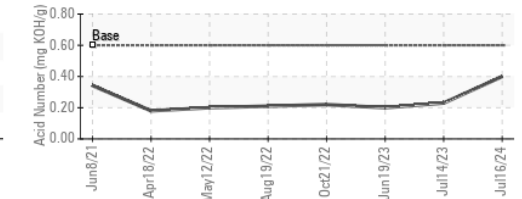
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KFS0004547
Lab Number : 06241622
Unique Number : 11130456
Test Package : IND 2

Received : 19 Jul 2024
Tested : 22 Jul 2024
Diagnosed : 22 Jul 2024 - Wes Davis

CONSTELLIUM
 4805 SECOND STREET
 MUSCLE SHOALS, AL
 US 35661

Contact: Randy Nichols
 randall.nichols@constellium.com
 T: (256)386-6956

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)

F: