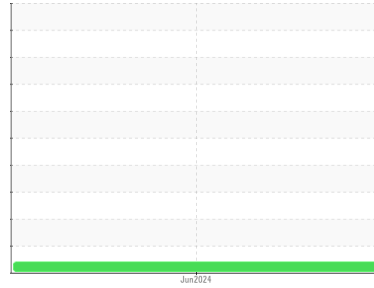




OIL ANALYSIS REPORT

Area
MINING
 Machine Id
ME-581 CATERPILLAR 988F BNH01437
 Component
Rear Left Final Drive
 Fluid
SHELL Spirax S4 CX 30 (--- GAL)

Sample Rating Trend



VISCOSITY



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

Viscosity of sample indicates oil is within SAE 20 range, advise investigate. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION

| | method | limit/base | current | history1 | history2 |
|---------------|-------------|-------------|--------------------|----------|----------|
| Sample Number | Client Info | | WC0942053 | --- | --- |
| Sample Date | Client Info | | 26 Jun 2024 | --- | --- |
| Machine Age | hrs | Client Info | 54690 | --- | --- |
| Oil Age | hrs | Client Info | 0 | --- | --- |
| Oil Changed | Client Info | | Not Changed | --- | --- |
| Sample Status | | | ABNORMAL | --- | --- |

CONTAMINATION

| | method | limit/base | current | history1 | history2 |
|-------|-----------|------------|------------|----------|----------|
| Water | WC Method | >0.2 | NEG | --- | --- |

WEAR METALS

| | method | limit/base | current | history1 | history2 | |
|-----------|--------|---------------|---------|--------------|----------|-----|
| Iron | ppm | ASTM D5185(m) | >800 | 8 | --- | --- |
| Chromium | ppm | ASTM D5185(m) | >10 | 0 | --- | --- |
| Nickel | ppm | ASTM D5185(m) | >5 | <1 | --- | --- |
| Titanium | ppm | ASTM D5185(m) | >15 | 0 | --- | --- |
| Silver | ppm | ASTM D5185(m) | >2 | 0 | --- | --- |
| Aluminum | ppm | ASTM D5185(m) | >75 | 5 | --- | --- |
| Lead | ppm | ASTM D5185(m) | >10 | <1 | --- | --- |
| Copper | ppm | ASTM D5185(m) | >75 | 44 | --- | --- |
| Tin | ppm | ASTM D5185(m) | >8 | 0 | --- | --- |
| Antimony | ppm | ASTM D5185(m) | >50 | 0 | --- | --- |
| Vanadium | ppm | ASTM D5185(m) | | 0 | --- | --- |
| Beryllium | ppm | ASTM D5185(m) | | 0 | --- | --- |
| Cadmium | ppm | ASTM D5185(m) | | 0 | --- | --- |

ADDITIVES

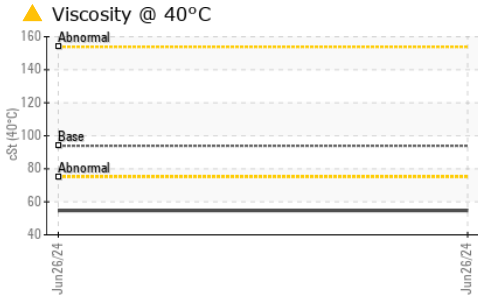
| | method | limit/base | current | history1 | history2 | |
|------------|--------|---------------|---------|--------------|----------|-----|
| Boron | ppm | ASTM D5185(m) | | 4 | --- | --- |
| Barium | ppm | ASTM D5185(m) | | 0 | --- | --- |
| Molybdenum | ppm | ASTM D5185(m) | | 2 | --- | --- |
| Manganese | ppm | ASTM D5185(m) | | <1 | --- | --- |
| Magnesium | ppm | ASTM D5185(m) | | 15 | --- | --- |
| Calcium | ppm | ASTM D5185(m) | | 3256 | --- | --- |
| Phosphorus | ppm | ASTM D5185(m) | | 875 | --- | --- |
| Zinc | ppm | ASTM D5185(m) | | 1051 | --- | --- |
| Sulfur | ppm | ASTM D5185(m) | | 3109 | --- | --- |
| Lithium | ppm | ASTM D5185(m) | | <1 | --- | --- |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 | |
|-----------|--------|---------------|---------|--------------|----------|-----|
| Silicon | ppm | ASTM D5185(m) | >400 | 7 | --- | --- |
| Sodium | ppm | ASTM D5185(m) | | <1 | --- | --- |
| Potassium | ppm | ASTM D5185(m) | >20 | <1 | --- | --- |



OIL ANALYSIS REPORT



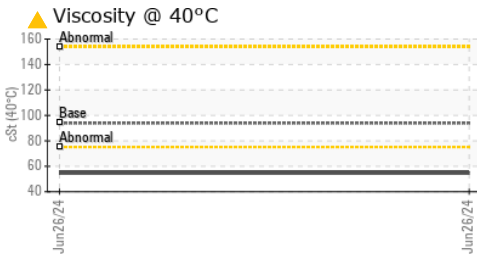
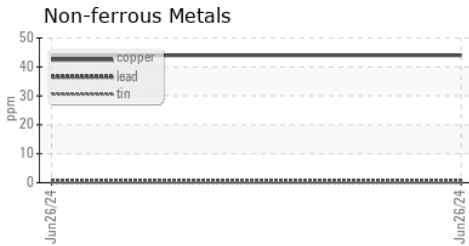
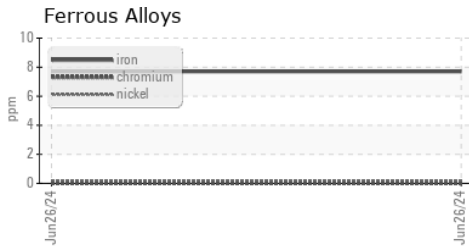
| VISUAL | method | limit/base | current | history1 | history2 | |
|------------------|--------|------------|---------|--------------|----------|-----|
| White Metal | scalar | Visual* | NONE | NONE | --- | --- |
| Yellow Metal | scalar | Visual* | NONE | NONE | --- | --- |
| Precipitate | scalar | Visual*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

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|---------------|--------------------|----------|----------|
| Visc @ 40°C | cSt | ASTM D7279(m) | 93.9 ▲ 54.7 | --- | --- |

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

| | | | |
|--------|--|----------|----------|
| Color | | no image | no image |
| Bottom | | no image | no image |

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0942053 **Received** : 05 Jul 2024
Lab Number : **02645958** **Tested** : 05 Jul 2024
Unique Number : 5811510 **Diagnosed** : 05 Jul 2024 - Kevin Marson
Test Package : CONST

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 Havelock, ON
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 dan.lyon@coviacorp.com
 T: (705)632-8904
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To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.