



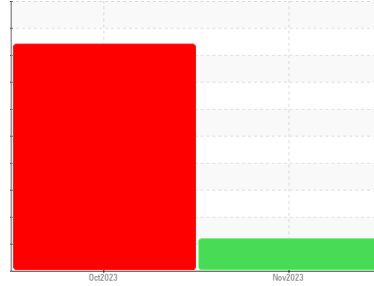
OIL ANALYSIS REPORT

Sample Rating Trend

GLYCOL



Machine Id
CATERPILLAR 5606
Component
Diesel Engine
Fluid
SHELL ROTELLA T 15W40 (--- GAL)



DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Sodium and/or potassium levels remain high. Test for glycol is negative.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

| | method | limit/base | current | history1 | history2 |
|---------------|-------------|-------------|--------------------|-------------|----------|
| Sample Number | Client Info | | WC0840503 | WC0840499 | --- |
| Sample Date | Client Info | | 15 Nov 2023 | 17 Oct 2023 | --- |
| Machine Age | hrs | Client Info | 8746 | 8675 | --- |
| Oil Age | hrs | Client Info | 71 | 0 | --- |
| Oil Changed | Client Info | | N/A | N/A | --- |
| Sample Status | | | ATTENTION | SEVERE | --- |

CONTAMINATION

| | method | limit/base | current | history1 | history2 |
|-------|-----------|------------|----------------|----------|----------|
| Fuel | WC Method | >5 | <1.0 | <1.0 | --- |
| Water | WC Method | >0.2 | NEG | NEG | --- |

WEAR METALS

| | method | limit/base | current | history1 | history2 |
|----------|--------|------------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185m >100 | 10 | 30 | --- |
| Chromium | ppm | ASTM D5185m >20 | <1 | 1 | --- |
| Nickel | ppm | ASTM D5185m >2 | 0 | 2 | --- |
| Titanium | ppm | ASTM D5185m >2 | 0 | 0 | --- |
| Silver | ppm | ASTM D5185m >2 | 0 | 0 | --- |
| Aluminum | ppm | ASTM D5185m >25 | 7 | 24 | --- |
| Lead | ppm | ASTM D5185m >40 | 0 | <1 | --- |
| Copper | ppm | ASTM D5185m >330 | <1 | 3 | --- |
| Tin | ppm | ASTM D5185m >15 | 0 | 0 | --- |
| Vanadium | ppm | ASTM D5185m | 0 | 0 | --- |
| Cadmium | ppm | ASTM D5185m | 0 | 0 | --- |

ADDITIVES

| | method | limit/base | current | history1 | history2 |
|------------|--------|------------------|-------------|----------|----------|
| Boron | ppm | ASTM D5185m 316 | 22 | 19 | --- |
| Barium | ppm | ASTM D5185m 0.0 | 2 | 0 | --- |
| Molybdenum | ppm | ASTM D5185m 1.2 | 73 | 99 | --- |
| Manganese | ppm | ASTM D5185m | 0 | <1 | --- |
| Magnesium | ppm | ASTM D5185m 24 | 720 | 725 | --- |
| Calcium | ppm | ASTM D5185m 2292 | 1203 | 1143 | --- |
| Phosphorus | ppm | ASTM D5185m 1064 | 927 | 1011 | --- |
| Zinc | ppm | ASTM D5185m 1160 | 1125 | 1141 | --- |
| Sulfur | ppm | ASTM D5185m 4996 | 3462 | 3131 | --- |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|-----------------|-------------|----------|----------|
| Silicon | ppm | ASTM D5185m >25 | 5 | 9 | --- |
| Sodium | ppm | ASTM D5185m | 44 | ▲ 230 | --- |
| Potassium | ppm | ASTM D5185m >20 | ▲ 96 | ▲ 408 | --- |
| Glycol | % | *ASTM D2982 | NEG | ◆ 0.10 | --- |

INFRA-RED

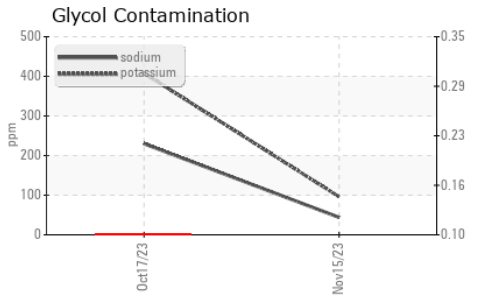
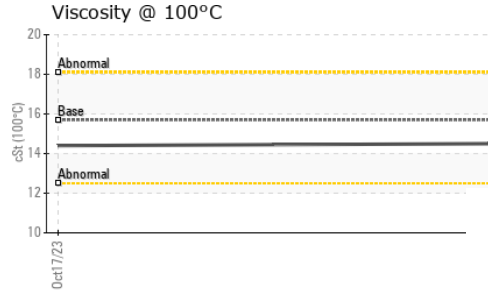
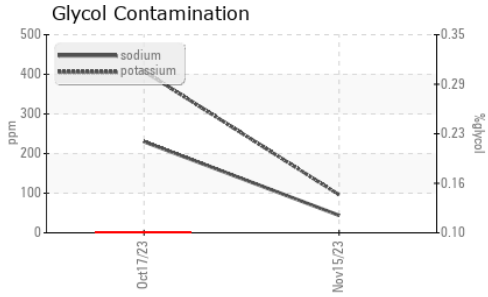
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|-----------|----------|-----------------|-------------|----------|----------|
| Soot % | % | *ASTM D7844 >3 | 0.1 | 0.2 | --- |
| Nitration | Abs/cm | *ASTM D7624 >20 | 5.4 | 6.8 | --- |
| Sulfation | Abs/.1mm | *ASTM D7415 >30 | 17.0 | 17.9 | --- |

FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|------------------|----------|-----------------|-------------|----------|----------|
| Oxidation | Abs/.1mm | *ASTM D7414 >25 | 12.8 | 13.6 | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896 10.1 | 8.9 | 10.0 | --- |



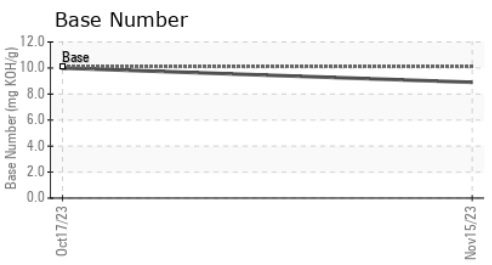
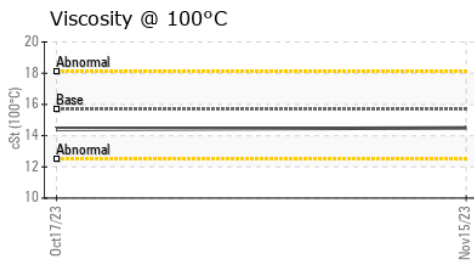
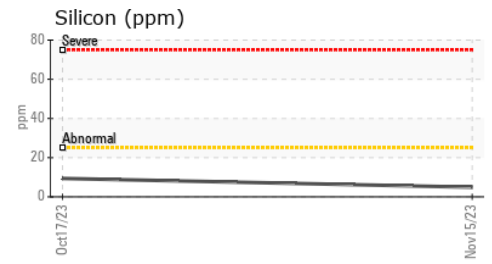
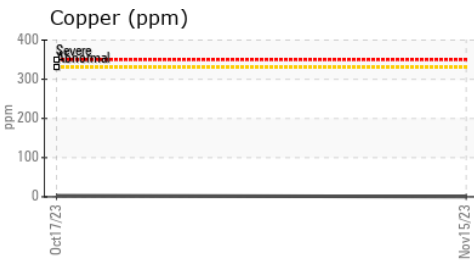
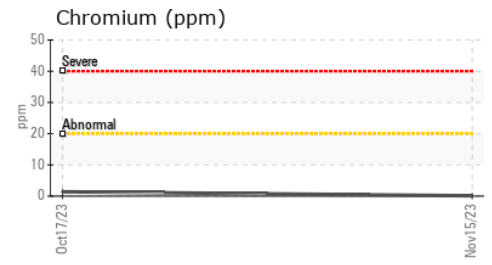
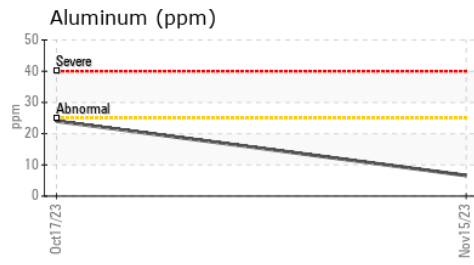
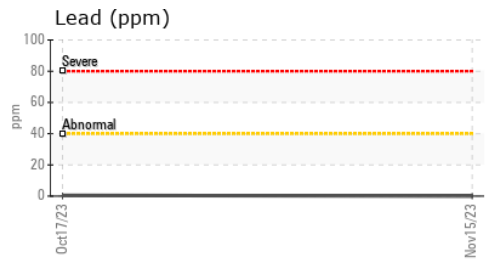
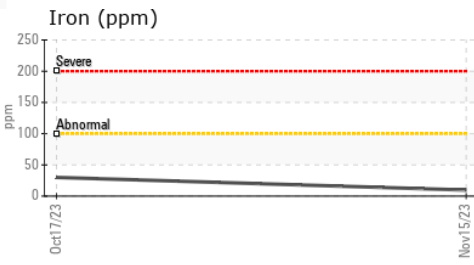
OIL ANALYSIS REPORT



| 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 @ 100°C | cSt | ASTM D445 | 15.7 | 14.5 | 14.4 |

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0840503 **Received** : 05 Dec 2023
Lab Number : 06025682 **Diagnosed** : 07 Dec 2023
Unique Number : 10770182 **Diagnostician** : Jonathan Hester
Test Package : MOB 1 (Additional Tests: TBN)

INTERSTATE WASTE-NEW BRUNSWICK
 986 JERSEY AVE
 NEW BRUNSWICK, NJ
 US 08901
 Contact: Service Manager

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)

T:
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