



OIL ANALYSIS REPORT

| | |
|-----------------|----------|
| WEAR | NORMAL |
| CONTAMINATION | ABNORMAL |
| FLUID CONDITION | NORMAL |

Machine Id
117430
 Component
Diesel Engine
 Fluid
 {not provided} (--- GAL)

RECOMMENDATION

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

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|-------------|----------|----------|
| Sample Number | | Client Info | | RPL0009890 | --- | --- |
| Sample Date | | Client Info | | 18 Jun 2024 | --- | --- |
| Machine Age | hrs | Client Info | | 0 | --- | --- |
| Oil Age | hrs | Client Info | | 0 | --- | --- |
| Filter Age | hrs | Client Info | | 0 | --- | --- |
| Oil Changed | | Client Info | | N/A | --- | --- |
| Filter Changed | | Client Info | | N/A | --- | --- |
| Sample Status | | | | ABNORMAL | --- | --- |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|------|-----|-----|
| Iron | ppm | ASTM D5185m | >100 | 65 | --- | --- |
| Chromium | ppm | ASTM D5185m | >20 | <1 | --- | --- |
| Nickel | ppm | ASTM D5185m | >4 | 0 | --- | --- |
| Titanium | ppm | ASTM D5185m | | 0 | --- | --- |
| Silver | ppm | ASTM D5185m | >3 | <1 | --- | --- |
| Aluminum | ppm | ASTM D5185m | >20 | 44 | --- | --- |
| Lead | ppm | ASTM D5185m | >40 | <1 | --- | --- |
| Copper | ppm | ASTM D5185m | >330 | 10 | --- | --- |
| Tin | ppm | ASTM D5185m | >15 | 1 | --- | --- |
| Vanadium | ppm | ASTM D5185m | | 0 | --- | --- |
| White Metal | scalar | *Visual | NONE | NONE | --- | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | --- | --- |

CONTAMINATION

Elemental level of silicon (Si) above normal indicating ingress of dirt/seal material. Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components.

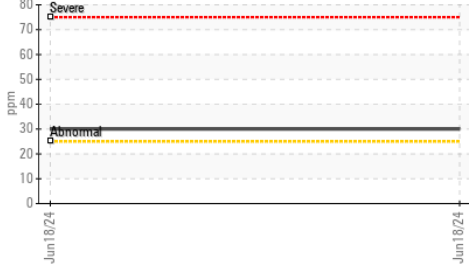
| | | | | | | |
|------------------|----------|-------------|-------|-------|-----|-----|
| Silicon | ppm | ASTM D5185m | >25 | ▲ 30 | --- | --- |
| Potassium | ppm | ASTM D5185m | >20 | 145 | --- | --- |
| Fuel | | WC Method | >5 | <1.0 | --- | --- |
| Water | | WC Method | >0.2 | NEG | --- | --- |
| Glycol | | WC Method | | NEG | --- | --- |
| Soot % | % | *ASTM D7844 | >3 | 0.5 | --- | --- |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 11.4 | --- | --- |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 25.7 | --- | --- |
| 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 | --- | --- |

FLUID CONDITION

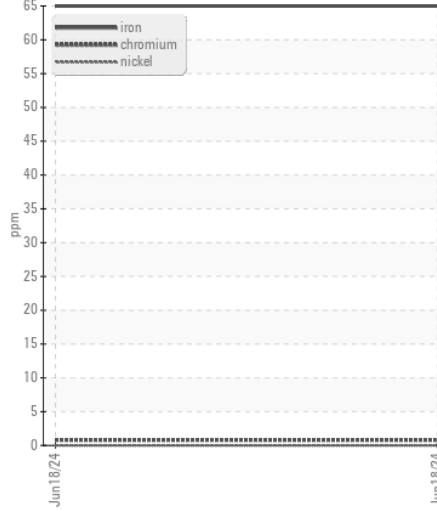
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

| | | | | | | |
|------------------|----------|-------------|-----|------|-----|-----|
| Sodium | ppm | ASTM D5185m | | 5 | --- | --- |
| Boron | ppm | ASTM D5185m | | 43 | --- | --- |
| Barium | ppm | ASTM D5185m | | 0 | --- | --- |
| Molybdenum | ppm | ASTM D5185m | | 11 | --- | --- |
| Manganese | ppm | ASTM D5185m | | 2 | --- | --- |
| Magnesium | ppm | ASTM D5185m | | 670 | --- | --- |
| Calcium | ppm | ASTM D5185m | | 1775 | --- | --- |
| Phosphorus | ppm | ASTM D5185m | | 897 | --- | --- |
| Zinc | ppm | ASTM D5185m | | 1048 | --- | --- |
| Sulfur | ppm | ASTM D5185m | | 3808 | --- | --- |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 20.7 | --- | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896 | | 5.2 | --- | --- |
| Visc @ 100°C | cSt | ASTM D445 | | 12.7 | --- | --- |

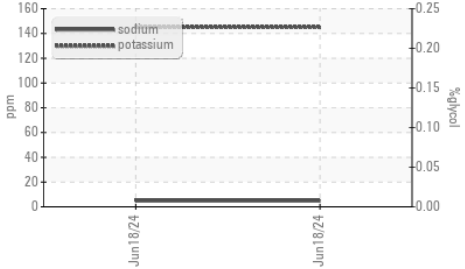
▲ Silicon (ppm)



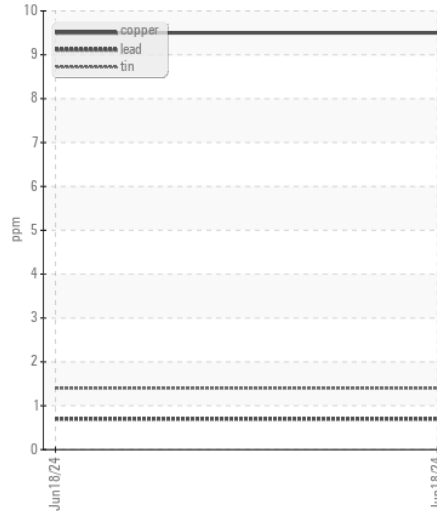
Ferrous Alloys



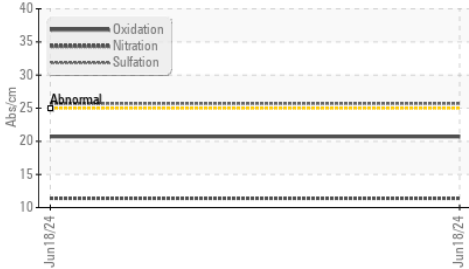
Glycol Contamination



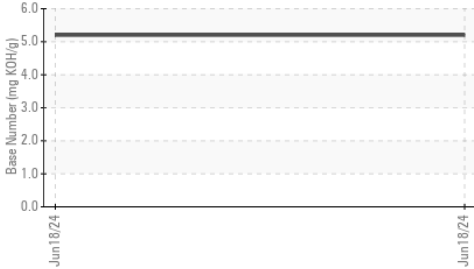
Non-ferrous Metals



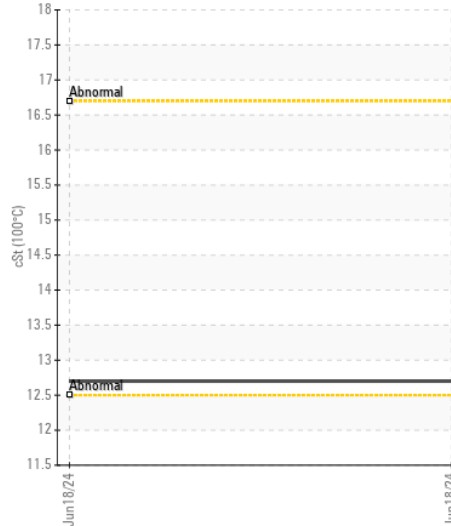
FT-IR (Direct Trend)



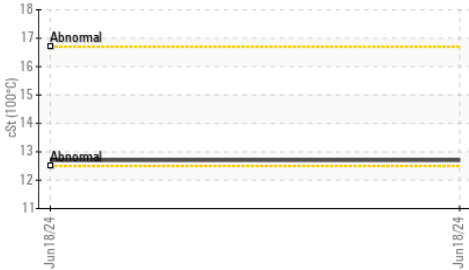
Base Number



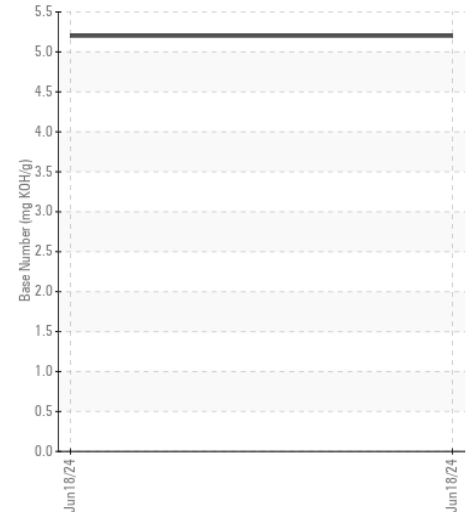
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : RPL0009890

Lab Number : 06231094

Unique Number : 11114587

Test Package : FLEET (Additional Tests: KV40)

Received : 08 Jul 2024

Tested : 10 Jul 2024

Diagnosed : 10 Jul 2024 - Don Baldrige

RTL PACLEASE - 7019 - Birmingham

601 Republic Circle

Birmingham, AL

US 35214

Contact: Johnathan King

KingJ1@RushEnterprises.com

T:

F:

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)