



OIL ANALYSIS REPORT

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

Machine Id
8611
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | NL0002078 | NL0001794 | NL0000574 |
| Sample Date | | Client Info | | 09 Apr 2024 | 21 Jan 2024 | 09 Oct 2023 |
| Machine Age | mls | Client Info | | 316467 | 277306 | 240333 |
| Oil Age | mls | Client Info | | 45000 | 45000 | 45000 |
| Filter Age | mls | Client Info | | 45000 | 45000 | 45000 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Filter Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >100 | 42 | 33 | 35 |
| Chromium | ppm | ASTM D5185m | >20 | <1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >4 | 2 | 1 | <1 |
| Titanium | ppm | ASTM D5185m | | <1 | <1 | 0 |
| Silver | ppm | ASTM D5185m | >3 | <1 | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >20 | 6 | 4 | 5 |
| Lead | ppm | ASTM D5185m | >40 | 3 | 2 | 3 |
| Copper | ppm | ASTM D5185m | >330 | 14 | 13 | 13 |
| Tin | ppm | ASTM D5185m | >15 | 2 | 1 | 2 |
| Vanadium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

There is no indication of any contamination in the oil.

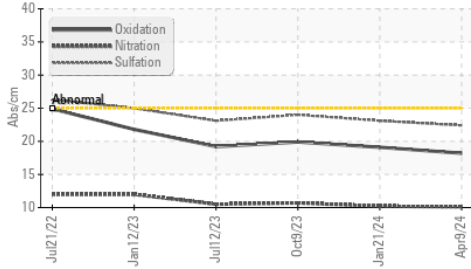
| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >25 | 8 | 6 | 7 |
| Potassium | ppm | ASTM D5185m | >20 | 6 | 5 | 9 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | 0.7 | 0.8 | 0.8 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 10.1 | 10.2 | 10.7 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 22.4 | 23.1 | 24.0 |
| Silt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | NONE | NONE |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | NORML | NORML | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.2 | NEG | NEG | NEG |

FLUID CONDITION

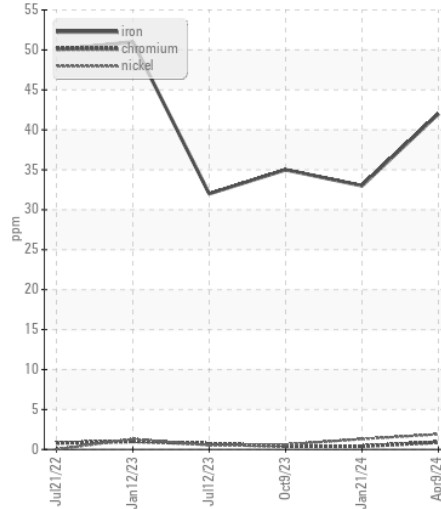
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| | | | | | | |
|------------------|----------|-------------|------|-------------|------|------|
| Sodium | ppm | ASTM D5185m | | 1 | 0 | 0 |
| Boron | ppm | ASTM D5185m | 0 | 7 | <1 | 2 |
| Barium | ppm | ASTM D5185m | 0 | 2 | <1 | 4 |
| Molybdenum | ppm | ASTM D5185m | 60 | 67 | 63 | 67 |
| Manganese | ppm | ASTM D5185m | 0 | 1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 1010 | 945 | 917 | 911 |
| Calcium | ppm | ASTM D5185m | 1070 | 1163 | 1089 | 1161 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 1023 | 943 | 1021 |
| Zinc | ppm | ASTM D5185m | 1270 | 1293 | 1199 | 1229 |
| Sulfur | ppm | ASTM D5185m | 2060 | 2863 | 2760 | 2875 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 18.2 | 19.1 | 19.9 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 9.8 | 6.0 | 5.8 | 5.3 |
| Visc @ 100°C | cSt | ASTM D445 | 15.4 | 13.5 | 13.6 | 13.6 |

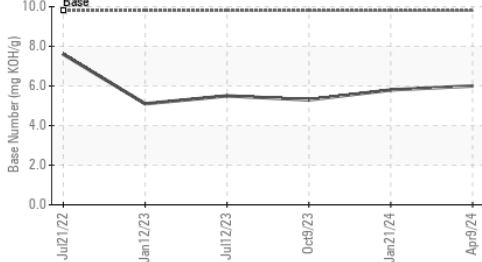
FT-IR (Direct Trend)



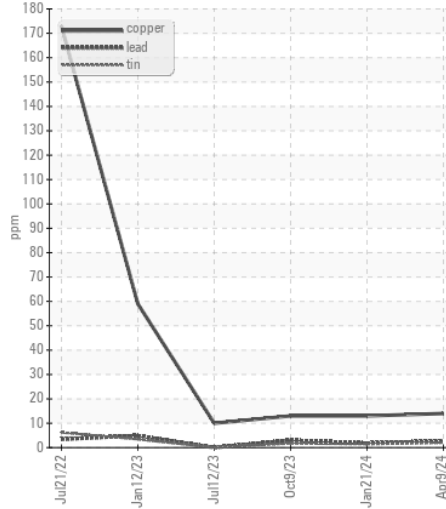
Ferrous Alloys



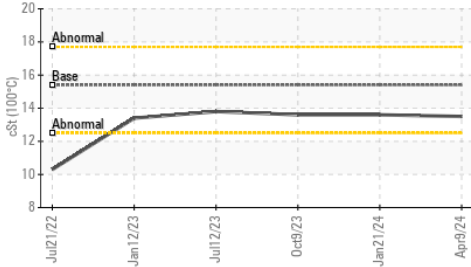
Base Number



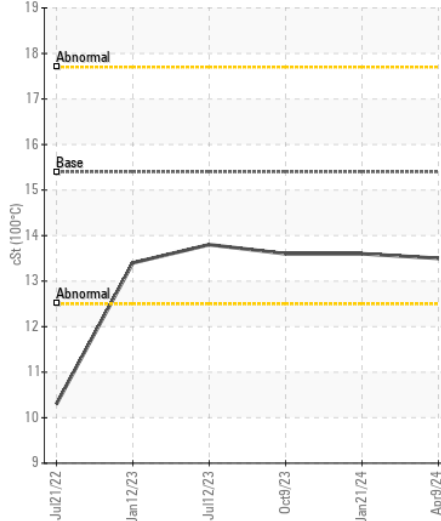
Non-ferrous Metals



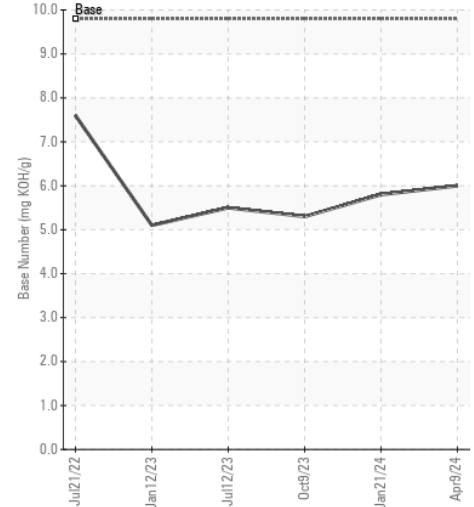
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : NL0002078
Lab Number : 06217849
Unique Number : 11096046
Test Package : FLEET

Received : 24 Jun 2024
Tested : 25 Jun 2024
Diagnosed : 25 Jun 2024 - Wes Davis

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 US 20109
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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)