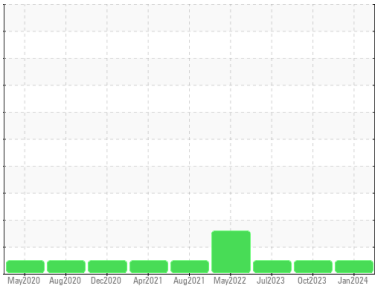
OIL DIAGNOSTICS

# OIL ANALYSIS REPORT

Sample Rating Trend




NORMAL

Machine Id
## KENWORTH 30
Component
**Diesel Engine**
Fluid
**PETRO CANADA DURON XL SYN BLEND 15W40 (--- GAL)**

## DIAGNOSIS

**Recommendation**
Resample at the next service interval to monitor.

**Wear**
All component wear rates are normal.

**Contamination**
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. There is no indication of any contamination in the oil.

**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 | | **PCA0066381** | PCA0105050 | PCA0054217 |
| Sample Date | | Client Info | | **22 Jan 2024** | 14 Oct 2023 | 12 Jul 2023 |
| Machine Age | mls | Client Info | | **89680** | 74161 | 53461 |
| Oil Age | mls | Client Info | | **20000** | 20000 | 20000 |
| Oil Changed | | Client Info | | **Changed** | Changed | Changed |
| Sample Status | | | | **NORMAL** | NORMAL | NORMAL |

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

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >100 | **23** | 36 | 41 |
| Chromium | ppm | ASTM D5185m | >20 | **1** | 3 | 3 |
| Nickel | ppm | ASTM D5185m | >4 | **0** | <1 | <1 |
| Titanium | ppm | ASTM D5185m | | **0** | <1 | 0 |
| Silver | ppm | ASTM D5185m | >3 | **0** | <1 | <1 |
| Aluminum | ppm | ASTM D5185m | >20 | **27** | 24 | 40 |
| Lead | ppm | ASTM D5185m | >40 | **1** | 3 | 3 |
| Copper | ppm | ASTM D5185m | >330 | **0** | 1 | 2 |
| Tin | ppm | ASTM D5185m | >15 | **<1** | <1 | <1 |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 1 | **3** | 7 | 4 |
| Barium | ppm | ASTM D5185m | 1 | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 60 | **57** | 60 | 59 |
| Manganese | ppm | ASTM D5185m | 1 | **<1** | <1 | 1 |
| Magnesium | ppm | ASTM D5185m | 1010 | **894** | 989 | 989 |
| Calcium | ppm | ASTM D5185m | 1070 | **897** | 1096 | 1180 |
| Phosphorus | ppm | ASTM D5185m | 1150 | **957** | 1067 | 1047 |
| Zinc | ppm | ASTM D5185m | 1270 | **1176** | 1297 | 1344 |
| Sulfur | ppm | ASTM D5185m | 2060 | **2734** | 2922 | 3650 |

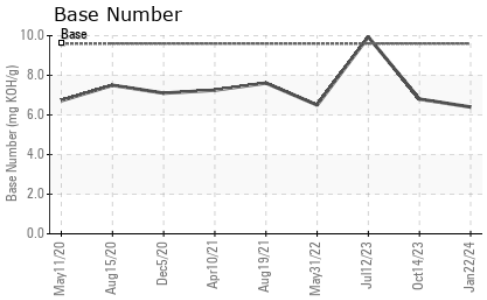
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **9** | 16 | 12 |
| Sodium | ppm | ASTM D5185m | | **2** | 2 | 2 |
| Potassium | ppm | ASTM D5185m | >20 | **67** | 68 | 117 |

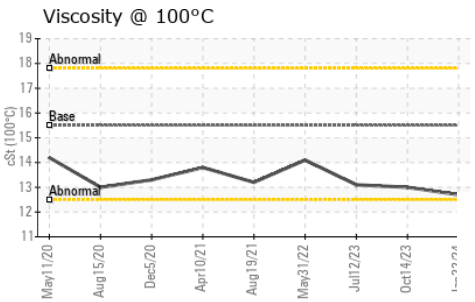
| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | *ASTM D7844 | >3 | **0.3** | 0.4 | 0.3 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **8.3** | 8.7 | 8.5 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **22.4** | 22.0 | 21.9 |

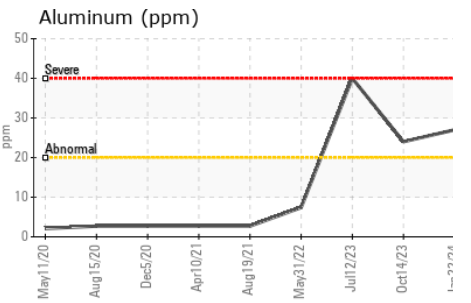
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **20.2** | 19.2 | 18.8 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 9.6 | **6.4** | 6.8 | 9.94 |

# OIL ANALYSIS REPORT

OIL DIAGNOSTICS



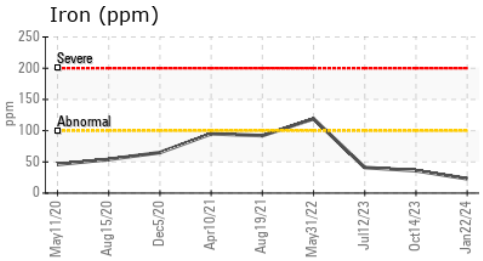



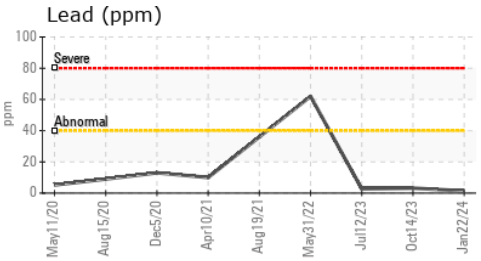



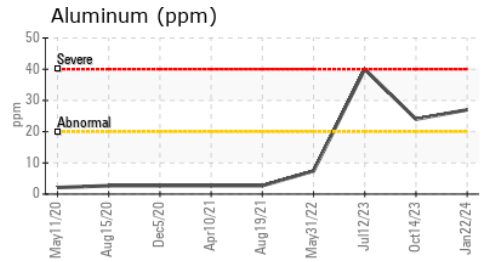

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| 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 |
| Free Water | scalar | *Visual | | **NEG** | NEG | NEG |

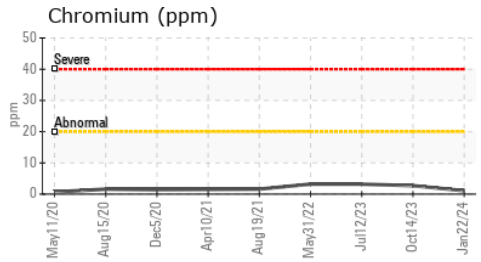
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D445 | 15.5 | **12.7** | 13.0 | 13.1 |

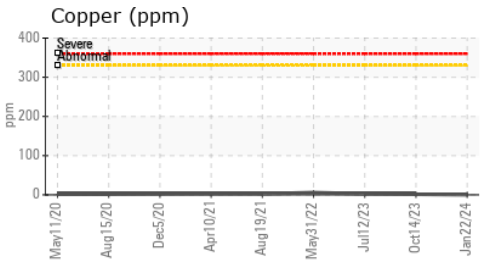
## GRAPHS

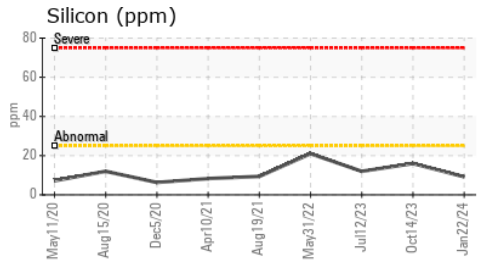


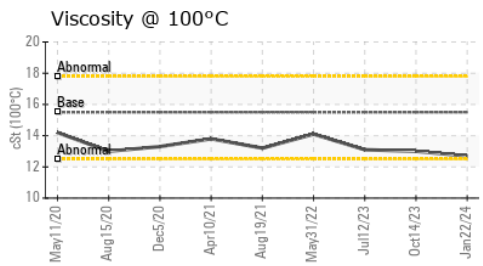



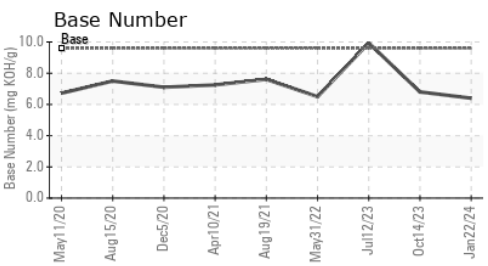




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : PCA0066381 **Received** : 07 Feb 2024
**Lab Number** : 06082943 **Tested** : 08 Feb 2024
**Unique Number** : 10870388 **Diagnosed** : 08 Feb 2024 - Wes Davis
**Test Package** : MOB 1 ( Additional Tests: TBN )

*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)*

**B & B HARVESTING**
2842 LADD RD
MODESTO, CA
US 95356
Contact: Service Manager
drcalvalley@gmail.com
T: (209)545-8300
F: