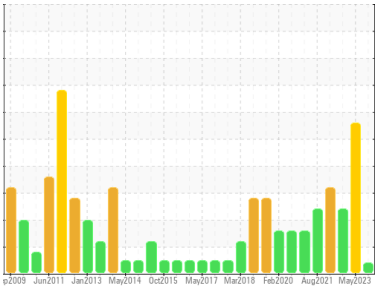
# PROBLEM SUMMARY

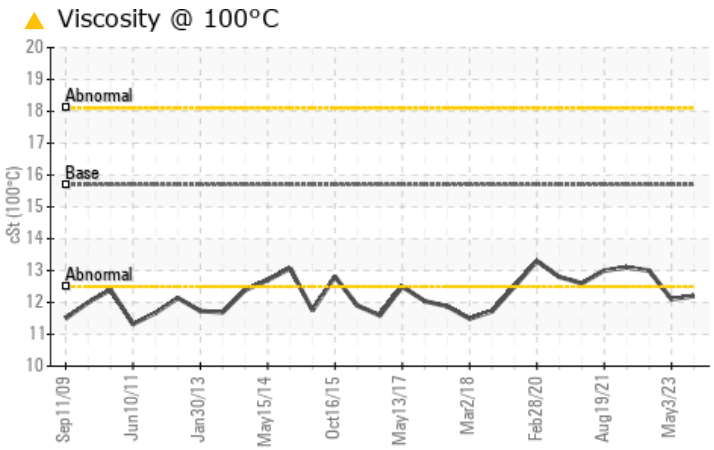
Sample Rating Trend



**VISCOSITY**

Machine Id
## 2007 PETERBILT 9627E
Component
**Diesel Engine**
Fluid
**PURUS SYNTHETIC BLEND 15W40 (32 QTS)**

## COMPONENT CONDITION SUMMARY




## RECOMMENDATION

Resample at the next service interval to monitor.

## PROBLEMATIC TEST RESULTS

| Sample Status | | | | ATTENTION | ABNORMAL | ABNORMAL |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D445 | 15.7 | ▲ **12.2** | ▲ 12.1 | 13.0 |

**Customer Id:** RUIRUI
**Sample No.:** KL0013230
**Lab Number:** 05966134
**Test Package:** FLEET

*To manage this report scan the QR code*

*To discuss the diagnosis or test data:*
Don Baldridge +1
don.b505@comcast.net

*To change component or sample information:*
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

## RECOMMENDED ACTIONS

*There are no recommended actions for this sample.*

## HISTORICAL DIAGNOSIS

**03 May 2023 Diag: Jonathan Hester**

DIRT

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We recommend you service the filters on this component. Resample at the next service interval to monitor.All component wear rates are normal. There is a high amount of particulates present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. Light fuel dilution occurring. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

view report

**08 Jul 2022 Diag: Don Baldridge**

DIRT

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Resample at the next service interval to monitor.All component wear rates are normal. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

**20 Jan 2022 Diag: Doug Bogart**

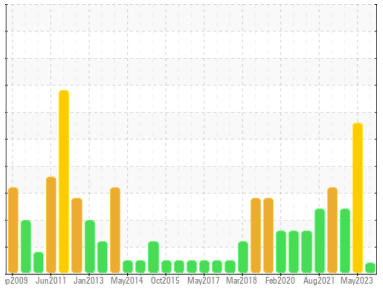
DIRT

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor. Please note that this is a corrected copy for data entry updates.Cylinder, crank, or cam shaft wear is indicated. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

# OIL ANALYSIS REPORT

Sample Rating Trend



**VISCOSITY**

Machine Id
## 2007 PETERBILT 9627E
Component
**Diesel Engine**
Fluid
**PURUS SYNTHETIC BLEND 15W40 (32 QTS)**

## 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**
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **KL0013230** | KL0012170 | KL0008596 |
| Sample Date | | Client Info | | **06 Sep 2023** | 03 May 2023 | 08 Jul 2022 |
| Machine Age | mls | Client Info | | **9722** | 376644 | 360700 |
| Oil Age | mls | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **N/A** | N/A | N/A |
| Sample Status | | | | **ATTENTION** | ABNORMAL | ABNORMAL |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Fuel | | WC Method | >5 | **<1.0** | ▲ 3.1 | <1.0 |
| Glycol | | WC Method | | **NEG** | NEG | NEG |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >110 | **27** | 13 | 100 |
| Chromium | ppm | ASTM D5185m | >4 | **1** | 0 | 3 |
| Nickel | ppm | ASTM D5185m | >2 | **0** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | **<1** | 0 | <1 |
| Silver | ppm | ASTM D5185m | >2 | **0** | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >25 | **4** | ▲ 5 | ▲ 8 |
| Lead | ppm | ASTM D5185m | >45 | **3** | <1 | 16 |
| Copper | ppm | ASTM D5185m | >85 | **8** | 2 | 17 |
| Tin | ppm | ASTM D5185m | >4 | **2** | 0 | 3 |
| Antimony | ppm | ASTM D5185m | | **---** | --- | --- |
| 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 | | **19** | 68 | 13 |
| Barium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | **80** | 50 | 67 |
| Manganese | ppm | ASTM D5185m | | **1** | 0 | 2 |
| Magnesium | ppm | ASTM D5185m | | **1130** | 651 | 1004 |
| Calcium | ppm | ASTM D5185m | | **1330** | 1638 | 1226 |
| Phosphorus | ppm | ASTM D5185m | | **1274** | 852 | 1081 |
| Zinc | ppm | ASTM D5185m | | **1536** | 1043 | 1361 |
| Sulfur | ppm | ASTM D5185m | | **3903** | 3070 | 3590 |

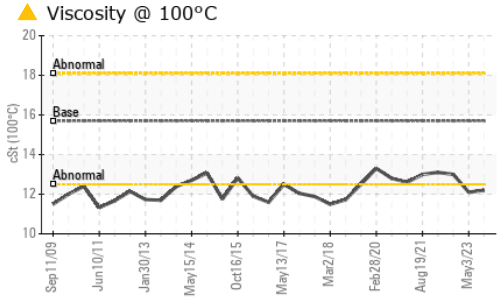
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >30 | **29** | ▲ 44 | ▲ 32 |
| Sodium | ppm | ASTM D5185m | | **5** | 1 | 4 |
| Potassium | ppm | ASTM D5185m | >20 | **4** | 2 | 3 |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | *ASTM D7844 | >3 | **0.4** | 0.2 | 0.6 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **7.2** | 7.0 | 12.0 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **20.6** | 21.4 | 27.8 |

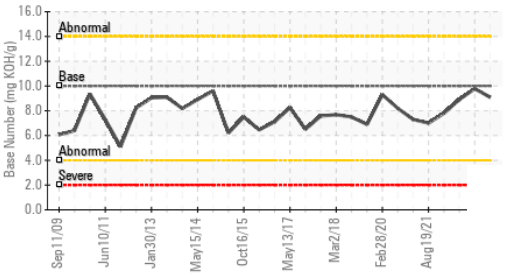
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **17.3** | 18.8 | 25.2 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 10 | **9.1** | 9.78 | 8.9 |

# OIL ANALYSIS REPORT

Viscosity @ 100°C




Base Number

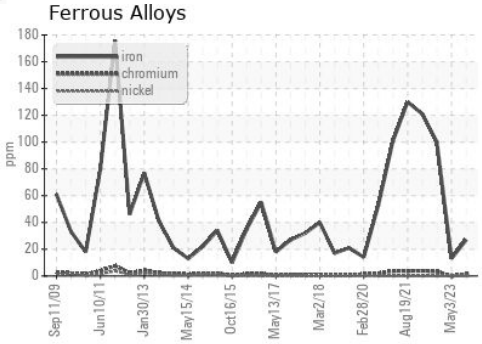



| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
|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

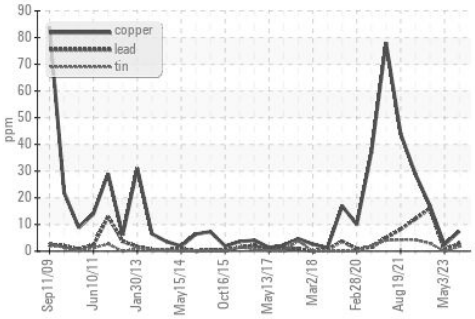
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D445 | 15.7 | ▲ **12.2** | ▲ 12.1 | 13.0 |

## GRAPHS

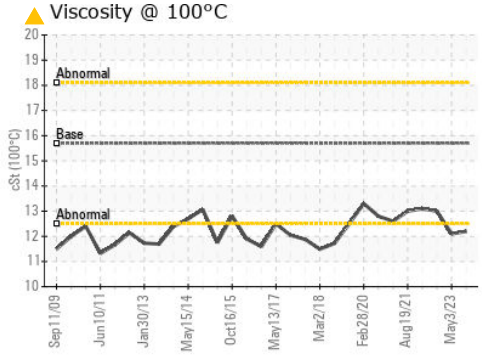
Ferrous Alloys



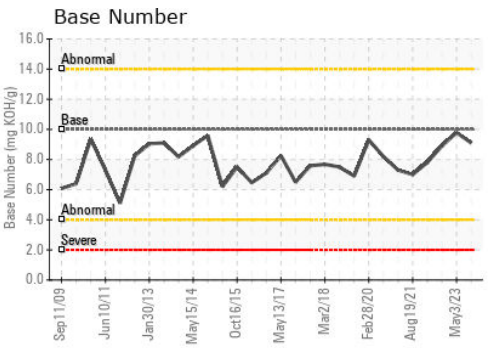

Non-ferrous Metals




Viscosity @ 100°C




Base Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : KL0013230
**Lab Number** : 05966134
**Unique Number** : 10672685
**Test Package** : FLEET

**Received** : 02 Oct 2023
**Diagnosed** : 03 Oct 2023
**Diagnostician** : Don Baldridge

*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)*

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