TRAAP
Texas Refinery Advanced Analysis Program

# OIL ANALYSIS REPORT

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

Machine Id
## PETERBILT 2008
Component
## Diesel Engine
Fluid
## TRC MOLY XL PRO-SPEC IV 15W40 (11 GAL)

## RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

## WEAR

The iron level is abnormal. All other component wear rates are normal.

## CONTAMINATION

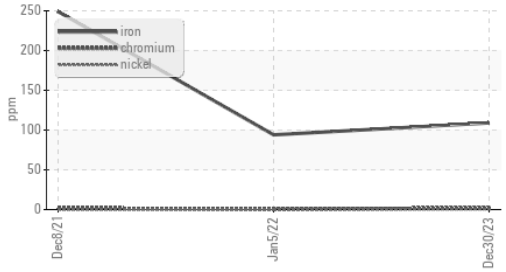
There is no indication of any contamination in the oil.

## FLUID CONDITION

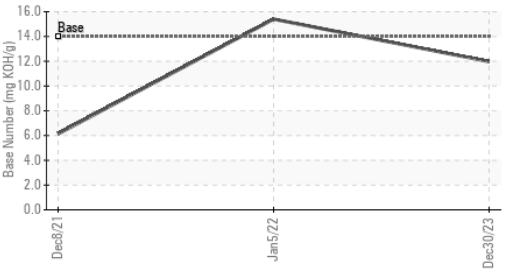
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | TR06057473 | TR05440385 | TR05423962 |
| Sample Date | | Client Info | | 30 Dec 2023 | 05 Jan 2022 | 08 Dec 2021 |
| Machine Age | mls | Client Info | | 640000 | 618000 | 616353 |
| Oil Age | mls | Client Info | | 20000 | 2000 | 15000 |
| Filter Age | mls | Client Info | | 20000 | 2000 | 15000 |
| Oil Changed | | Client Info | | Changed | Not Changd | Changed |
| Filter Changed | | Client Info | | Changed | Not Changd | Changed |
| Sample Status | | | | ABNORMAL | ABNORMAL | SEVERE |
| Iron | ppm | ASTM D5185m | >90 | ▲ 109 | ▲ 94 | ⬢ 249 |
| Chromium | ppm | ASTM D5185m | >20 | 2 | <1 | 2 |
| Nickel | ppm | ASTM D5185m | >2 | <1 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | >2 | <1 | <1 | <1 |
| Silver | ppm | ASTM D5185m | >2 | 0 | <1 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 5 | 6 | 9 |
| Lead | ppm | ASTM D5185m | >40 | 7 | <1 | 6 |
| Copper | ppm | ASTM D5185m | >330 | 5 | 2 | 4 |
| Tin | ppm | ASTM D5185m | >15 | 1 | <1 | 1 |
| Vanadium | ppm | ASTM D5185m | | 0 | <1 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Silicon | ppm | ASTM D5185m | >25 | 19 | 12 | 10 |
| Potassium | ppm | ASTM D5185m | >20 | 4 | 2 | 3 |
| Fuel | | WC Method | >3.0 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >6 | 0.6 | 0.5 | 1.3 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 11.5 | 9.6 | 11.5 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 24.3 | 19 | 24.4 |
| 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 |
| Sodium | ppm | ASTM D5185m | | <1 | 0 | 4 |
| Boron | ppm | ASTM D5185m | | 128 | 6 | 30 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 183 | 111 | 11 |
| Manganese | ppm | ASTM D5185m | | 1 | <1 | 2 |
| Magnesium | ppm | ASTM D5185m | | 355 | 82 | 643 |
| Calcium | ppm | ASTM D5185m | 1300 | 4122 | 3687 | 1671 |
| Phosphorus | ppm | ASTM D5185m | | 870 | 836 | 744 |
| Zinc | ppm | ASTM D5185m | 1300 | 1048 | 973 | 837 |
| Sulfur | ppm | ASTM D5185m | | 3669 | 3451 | 2701 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 18.3 | 11.4 | 18.8 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 14 | 11.97 | 15.4 | 6.13 |
| Visc @ 100°C | cSt | ASTM D445 | 15.5 | 15.5 | 15.6 | 14.7 |

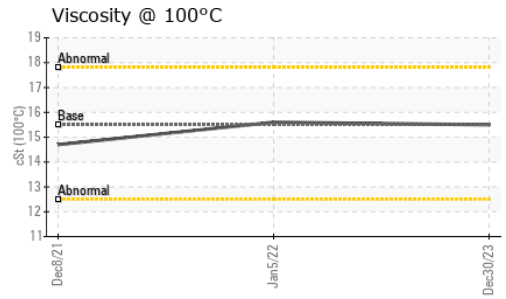
Ferrous Alloys



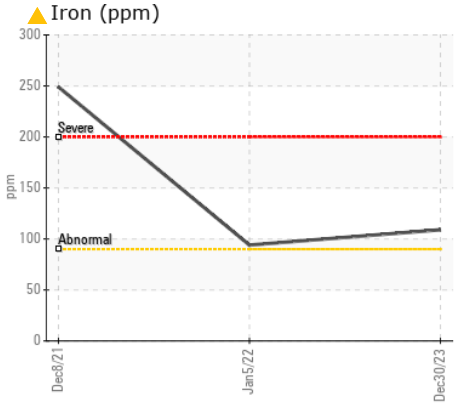

Base Number



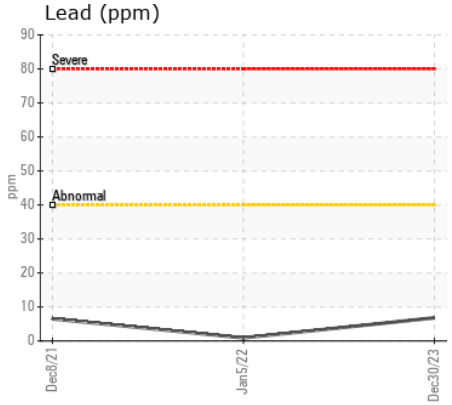

Viscosity @ 100°C



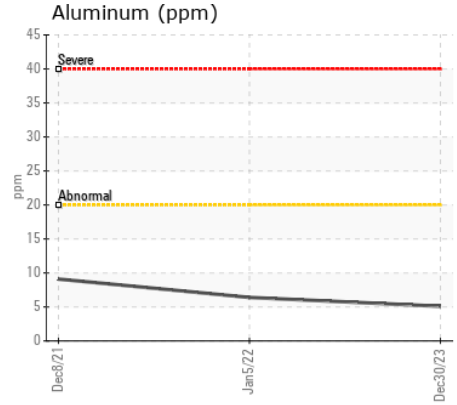

Iron (ppm)



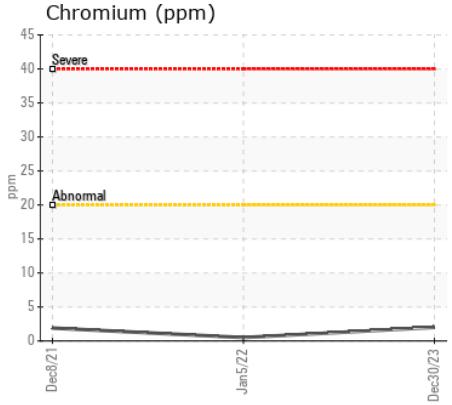

Lead (ppm)



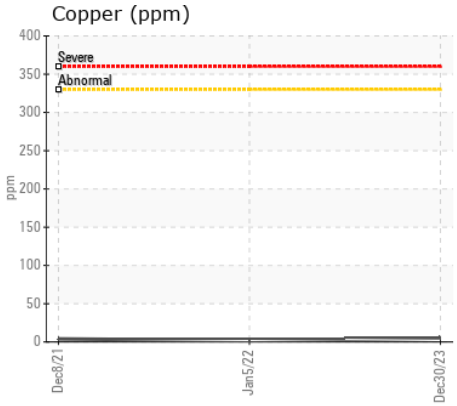

Aluminum (ppm)



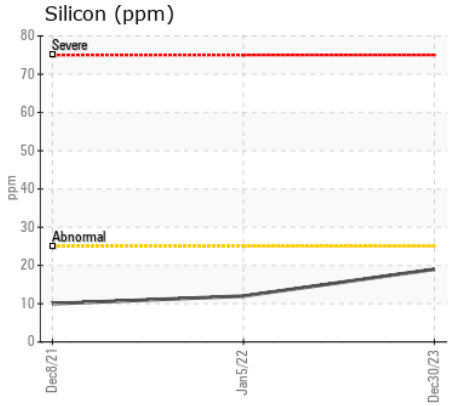

Chromium (ppm)



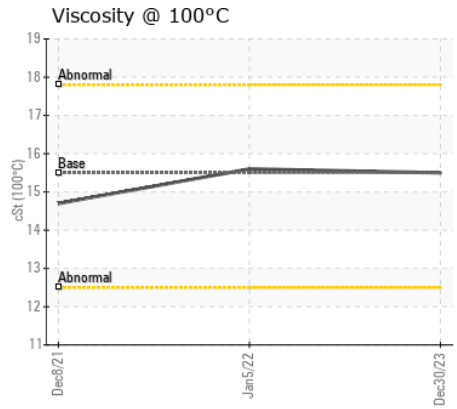

Copper (ppm)



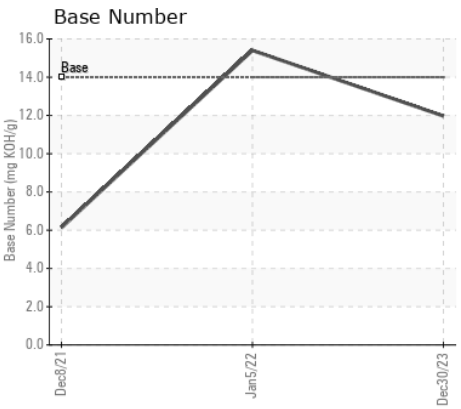

Silicon (ppm)




Viscosity @ 100°C




Base Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : TR06057473 **Recieved** : 10 Jan 2024
**Lab Number** : 06057473 **Diagnosed** : 12 Jan 2024
**Unique Number** : 10823422 **Diagnostician** : Don Baldridge
**Test Package** : MOB 2

*To discuss this sample report, contact Customer Service at 1-800-827-0711.*
** - 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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