TRAAP
Texas Refinery Advanced Analysis Program

# OIL ANALYSIS REPORT

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

Machine Id
## PETERBILT PETERBILT
Component
## Diesel Engine
Fluid
## TRC PRO-SPEC IV SYNTHETIC BLEND 15W40 (10 GAL)

## RECOMMENDATION

Resample at the next service interval to monitor.

## WEAR

All component wear rates are normal.

## CONTAMINATION

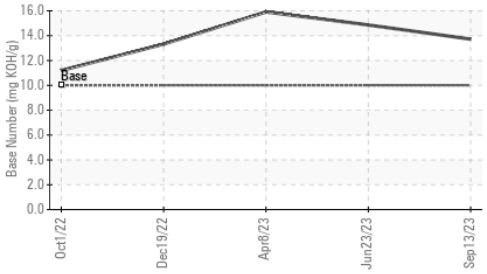
There is no indication of any contamination in the oil.

## FLUID CONDITION

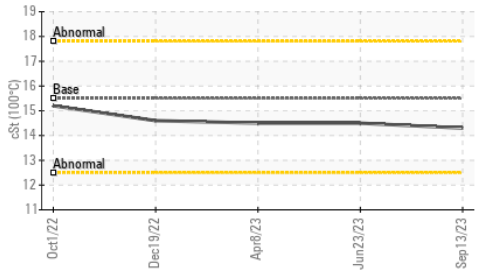
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | TR05957170 | TR05887536 | TR05824513 |
| Sample Date | | Client Info | | 13 Sep 2023 | 23 Jun 2023 | 08 Apr 2023 |
| Machine Age | mls | Client Info | | 15000 | 10000 | 241750 |
| Oil Age | mls | Client Info | | 10000 | 5000 | 5000 |
| Filter Age | mls | Client Info | | 10000 | 5000 | 5000 |
| Oil Changed | | Client Info | | Not Changd | Not Changd | Not Changd |
| Filter Changed | | Client Info | | Not Changd | Not Changd | Not Changd |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |
| Iron | ppm | ASTM D5185m | >110 | 31 | 22 | 17 |
| Chromium | ppm | ASTM D5185m | >4 | 2 | 2 | 2 |
| Nickel | ppm | ASTM D5185m | >2 | <1 | <1 | 0 |
| Titanium | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >25 | 8 | 6 | 1 |
| Lead | ppm | ASTM D5185m | >45 | 6 | 3 | <1 |
| Copper | ppm | ASTM D5185m | >85 | 6 | 5 | 1 |
| Tin | ppm | ASTM D5185m | >4 | 4 | 2 | <1 |
| Vanadium | ppm | ASTM D5185m | | <1 | <1 | <1 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Silicon | ppm | ASTM D5185m | >30 | 8 | 6 | 8 |
| Potassium | ppm | ASTM D5185m | >20 | 3 | 2 | 0 |
| 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 | 0.3 | 0.2 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 11.3 | 9.7 | 8.5 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 24.0 | 20.4 | 16.5 |
| 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 | | 4 | 3 | 3 |
| Boron | ppm | ASTM D5185m | | 3 | 5 | 1 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 117 | 108 | 103 |
| Manganese | ppm | ASTM D5185m | | 1 | 1 | 1 |
| Magnesium | ppm | ASTM D5185m | | 31 | 30 | 28 |
| Calcium | ppm | ASTM D5185m | 2300 | 4633 | 4460 | 4000 |
| Phosphorus | ppm | ASTM D5185m | | 946 | 934 | 871 |
| Zinc | ppm | ASTM D5185m | 1200 | 1148 | 1133 | 1027 |
| Sulfur | ppm | ASTM D5185m | | 4931 | 5303 | 4517 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 15.5 | 14.2 | 10.6 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 10 | 13.72 | 14.86 | 15.91 |
| Visc @ 100°C | cSt | ASTM D445 | 15.5 | 14.3 | 14.5 | 14.5 |

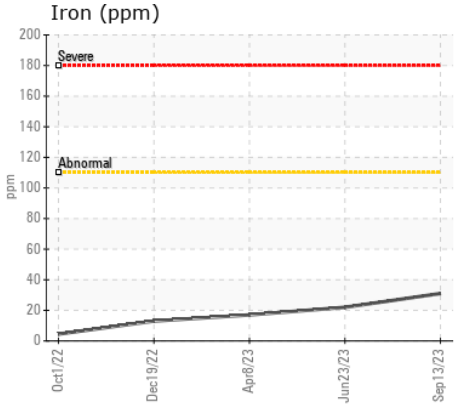
Base Number



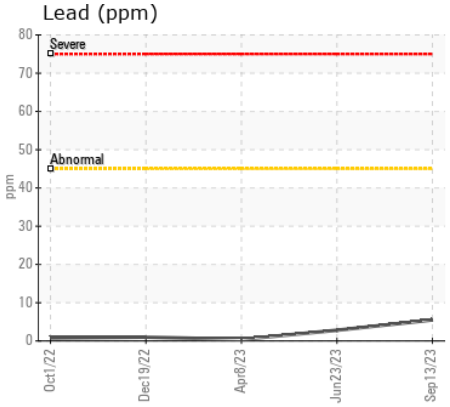

Viscosity @ 100°C



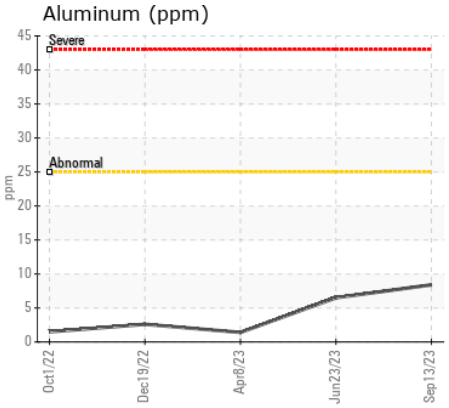

Iron (ppm)



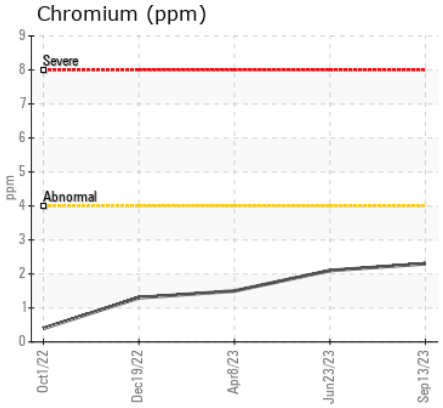

Lead (ppm)



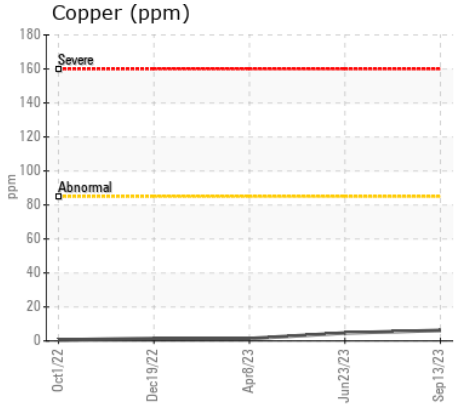

Aluminum (ppm)



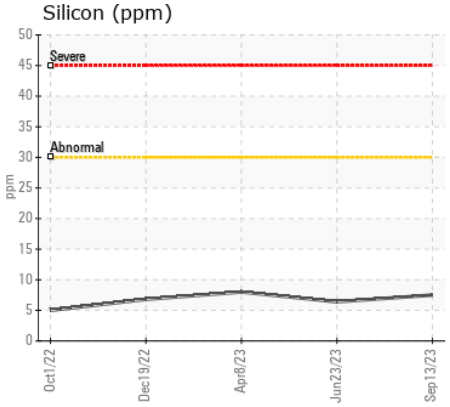

Chromium (ppm)



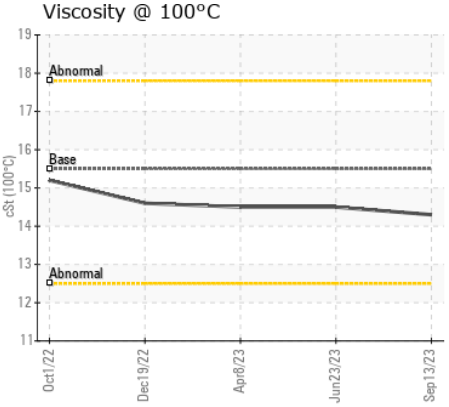

Copper (ppm)



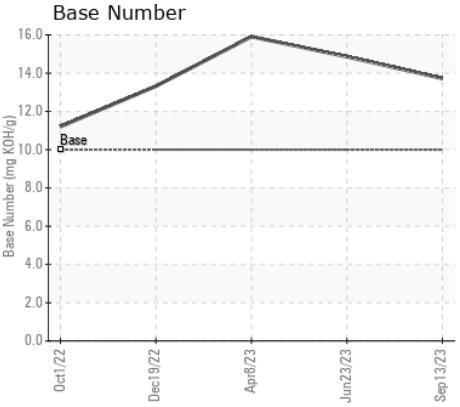

Silicon (ppm)




Viscosity @ 100°C




Base Number





**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : TR05957170
**Lab Number** : 05957170
**Unique Number** : 10658383
**Test Package** : MOB 2

**Received** : 20 Sep 2023
**Tested** : 25 Sep 2023
**Diagnosed** : 25 Sep 2023 - Jonathan Hester

**SPRAGUE RANCH**
6907 ROUTE 14
BROOKFIELD, VT
US 05036
Contact: SCOTT BURRELL

T:
F:


Certificate L2367

*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)*