



WEAR **NORMAL**

CONTAMINATION **NORMAL**

FLUID CONDITION **NORMAL**

OIL ANALYSIS REPORT

Area

[45133096]

Machine Id

PETERBILT 9571714 Star Transport

Component

Diesel Engine

Fluid

MOBIL DELVAC MX 15W40 (40 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|-------------|-------------|-------------|
| Sample Number | | Client Info | | RPL0016525 | RPL0016428 | RPL0013718 |
| Sample Date | | Client Info | | 27 Jun 2024 | 26 Feb 2024 | 28 Nov 2023 |
| Machine Age | mls | Client Info | | 357869 | 316910 | 284123 |
| Oil Age | mls | Client Info | | 54411 | 92633 | 59846 |
| Filter Age | mls | Client Info | | 54411 | 92633 | 59846 |
| Oil Changed | | Client Info | | Not Changd | Changed | Not Changd |
| Filter Changed | | Client Info | | Not Changd | Changed | Not Changd |
| Sample Status | | | | NORMAL | ABNORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|------|------|------|
| Iron | ppm | ASTM D5185m | >165 | 41 | 112 | 48 |
| Chromium | ppm | ASTM D5185m | >5 | 1 | 3 | 2 |
| Nickel | ppm | ASTM D5185m | >4 | <1 | 1 | <1 |
| Titanium | ppm | ASTM D5185m | >2 | <1 | <1 | <1 |
| Silver | ppm | ASTM D5185m | >2 | <1 | <1 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 10 | 24 | 16 |
| Lead | ppm | ASTM D5185m | >150 | 7 | 24 | 14 |
| Copper | ppm | ASTM D5185m | >90 | 7 | 7 | 2 |
| Tin | ppm | ASTM D5185m | >5 | <1 | 3 | 2 |
| Vanadium | ppm | ASTM D5185m | | 0 | <1 | <1 |
| 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.

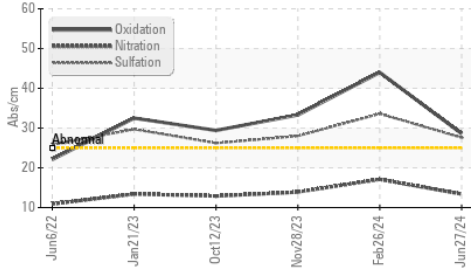
| | | | | | | |
|------------------|----------|-------------|-------|-------|-------|-------|
| Silicon | ppm | ASTM D5185m | >35 | 8 | 14 | 13 |
| Potassium | ppm | ASTM D5185m | >20 | 18 | 49 | 32 |
| Fuel | | WC Method | >3.0 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >7.5 | 0.7 | 1.1 | 0.8 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 13.4 | 17.1 | 13.9 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 27.6 | 33.6 | 28.0 |
| 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

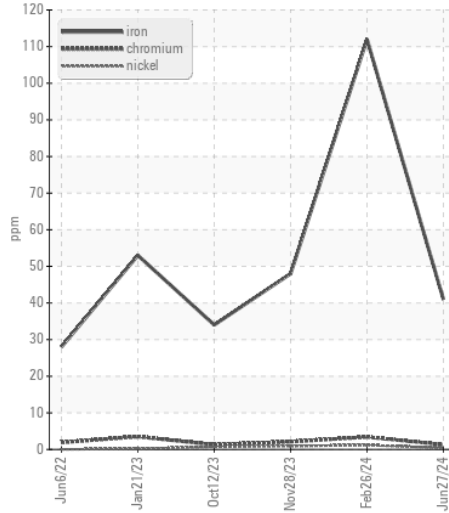
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

| | | | | | | |
|------------------|----------|-------------|------|------|-------|------|
| Sodium | ppm | ASTM D5185m | | 5 | 5 | 3 |
| Boron | ppm | ASTM D5185m | | 8 | 19 | 12 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 56 | 54 | 40 |
| Manganese | ppm | ASTM D5185m | | 2 | 2 | 1 |
| Magnesium | ppm | ASTM D5185m | | 826 | 572 | 488 |
| Calcium | ppm | ASTM D5185m | | 1250 | 1797 | 1695 |
| Phosphorus | ppm | ASTM D5185m | | 937 | 850 | 726 |
| Zinc | ppm | ASTM D5185m | | 1210 | 1025 | 916 |
| Sulfur | ppm | ASTM D5185m | | 3142 | 2667 | 1933 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 28.6 | 44.0 | 33.3 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 12 | 5.6 | ▲ 2.0 | 4.9 |
| Visc @ 100°C | cSt | ASTM D445 | 14.4 | 13.5 | 14.7 | 13.5 |

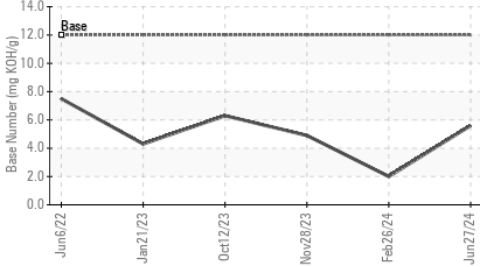
FT-IR (Direct Trend)



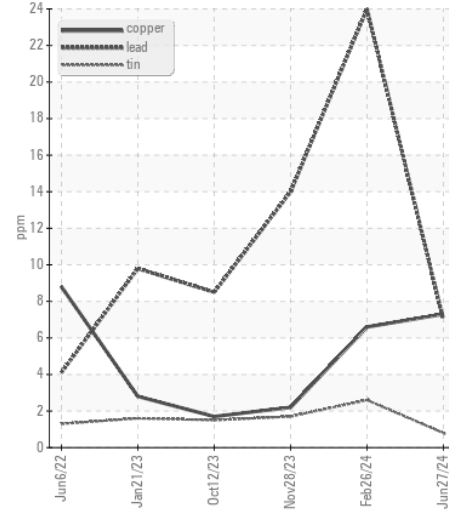
Ferrous Alloys



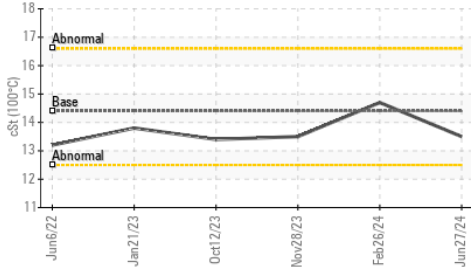
Base Number



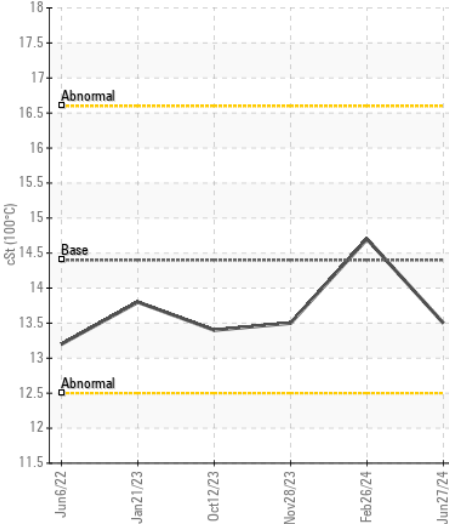
Non-ferrous Metals



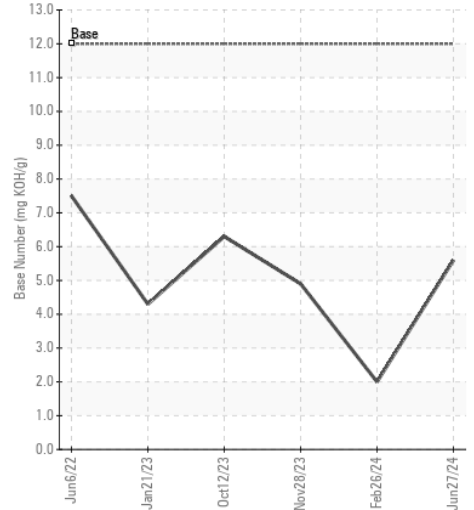
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : RPL0016525

Lab Number : 06238801

Unique Number : 11127635

Test Package : FLEET

Received : 17 Jul 2024

Tested : 17 Jul 2024

Diagnosed : 18 Jul 2024 - Sean Felton

RTL PACLEASE - 7002 - San Antonio

8810 IH-10 Frontage Road

Converse, TX

US 78109

Contact: Mike Friel

FrielM@RushEnterprises.Com

T: (210)901-7283

F:

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)