

OIL ANALYSIS REPORT

Machine Id **PETERBILT 123**

Component Diesel Engine Fluid

CHEVRON DELO 400 XLE 15W40 (38 LTR)

Recommendation

Resample at the next service interval to monitor.

Wear

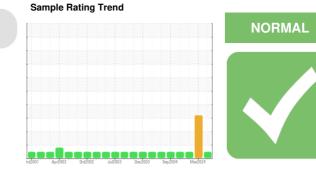
All component wear rates are normal.

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.



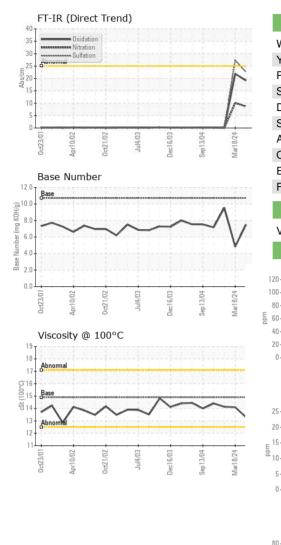
| SAMPLE INFORM | IATION | method | limit/base | current | history1 | history2 |
|------------------|------------|-------------|------------|-------------------|-------------|-------------|
| Sample Number | | Client Info | | WC0851781 | WC0733172 | WCM2056357 |
| Sample Date | | Client Info | | 27 May 2024 | 18 Mar 2024 | 28 Feb 2005 |
| Machine Age | kms | Client Info | | 162336 | 141211 | 749802 |
| Oil Age | kms | Client Info | | 7365 | 40000 | 20000 |
| Oil Changed | | Client Info | | Not Changd | Changed | Changed |
| Sample Status | | | | NORMAL | ABNORMAL | NORMAL |
| CONTAMINATION | | method | limit/base | current | history1 | history2 |
| Fuel | | WC Method | >3.0 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| WEAR METALS | | method | limit/base | current | history1 | history2 |
| Iron | ppm | ASTM D5185m | >65 | 5 | 21 | 12 |
| Chromium | ppm | ASTM D5185m | >10 | 5 <1 | 0 | 2 |
| Nickel | | ASTM D5185m | >4 | <1 | 0 | <1 |
| Titanium | ppm ppm | ASTM D5185m | | 1 | 71 | <1 |
| Silver | ppm | ASTM D5185m | >2 | ، <1 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >10 | 3 | ▲ 17 | 2 |
| Lead | ppm | ASTM D5185m | >30 | ۲ ۲ | 0 | 1 |
| Copper | ppm | ASTM D5185m | | 1 | 3 | 9 |
| Tin | ppm | ASTM D5185m | >4 | ، <1 | 0 | 0 |
| Antimony | ppm | ASTM D5185m | ~7 | | | 1 |
| Vanadium | ppm | ASTM D5185m | | <1 | <1 | 0 |
| Cadmium | ppm | ASTM D5185m | | <1 | 0 | <1 |
| | ррш | | | | | |
| ADDITIVES | | method | limit/base | current | history1 | history2 |
| Boron | ppm | ASTM D5185m | | 484 | 22 | 100 |
| Barium | ppm | ASTM D5185m | | 2 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 88 | 12 | 82 |
| Manganese | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | | 447 | 443 | 8 |
| Calcium | ppm | ASTM D5185m | | 1490 | 1854 | 2644 |
| Phosphorus | ppm | ASTM D5185m | 760 | 1179 | 1001 | 1108 |
| Zinc | ppm | ASTM D5185m | 830 | 1279 | 1208 | 1232 |
| Sulfur | ppm | ASTM D5185m | 2770 | 3763 | 4070 | 3698 |
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
| Silicon | ppm | | >20 | 6 | 7 | 8 |
| Sodium | ppm | ASTM D5185m | | 14 | <u> </u> | 2 |
| Potassium | ppm | ASTM D5185m | >20 | 9 | 47 | 0 |
| INFRA-RED | | method | limit/base | current | history1 | history2 |
| Soot % | % | *ASTM D7844 | >6 | 0.4 | 0.4 | 0.4 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 8.7 | 10.1 | 0.03 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 22.6 | 27.3 | 0.04 |
| FLUID DEGRADA | TION | method | limit/base | current | history1 | history2 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 19.1 | 21.9 | 0.09 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 10.7 | 7.51 | 4.83 | 9.54 |
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Contact/Location: Mathieu Carby - LYNSPR



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| | | 0-cr23/01 | Jul4/03 | Dec1 6,03 + 6 | 10,10,0 8,0 4,0 10,10,10,10 10,10 | | 0ct21/02 Jul4/03 | Dec16/03 + | Mar18/24 |
|--------------------------------|------------------------|--|------------------|----------------------|--|----------------|-------------------------|--------------------------|------------|
| | | e da la da l | \sim | | 4.0 | | | | V |
| | | 8 16 - B | | | E | | \sim | | |
| | | 18 - Abnormal | | | (BH0.0 BH0.0 B 8.0 | Dase | | $\sim \Lambda$ | |
| | | Viscosity @ 100° | | - Ø | ≥ | Base Number | | 0 0 | 2 |
| | | 0ct23/01 | Jul4/03 - | Dec1 6/03 - | Mar18/24 | 0ct23/01 | 0ct21/02 - Jul4/03 - | Dec16/03 - Sep13/04 - | Mar18/24 + |
| | | 20 | | | | \sim | $\sim\sim$ | | |
| | | 60 - Abnormal | | | 30 <u>톰</u> 20 | | | | |
| | | 80 | | | 40 | | | | |
| | | Copper (ppm) | Jul | Dec1 Sep1 | Mar1 | Silicon (ppm) | | Dec1 Sep1 | Mar18/24 |
| | | 0ct23/01 | Jul4/03 | Dec16/03 | Mar18/24 | 0ct23/01 | 0ct21/02 | Dec16/03 + (| 8/24 |
| Jul4/03 Dec16/03 | Sep 13/04 Mar1 8/24 | E 10 - Abnormal | | | | | | | |
| | | 20 - Severe | | | 19 ۲ ا | | | | |
| \sim | $\sim \sim$ | Aluminum (ppm) | | | 20 | | pm) | | |
| | | 0ct23/01 Apr10/02 0ct21/02 | | Dec16/03 Sep13/04 | Mar18/24 | | | Dec16/03 Sep13/04 | Mar18/24 |
| | | | 03 | | \sim | | | | 24 |
| °C | 0 2 | | $\sim \frown$ | ~ ^ | 특.40 20 | • | | | |
| Jul4/03 - Jul4/03 - Dec16/03 - | Sep 13/04 - | 80 - Abnomal | | | 60 | | | | - |
| | | Iron (ppm) | | | 80 | Lead (ppm) | | | |
| | V | GRAPHS | | | | | | | |
| ~~~ | $\neg \land$ | FLUID PROPER Visc @ 100°C | TIES cSt | method ASTM D445 | limit/base 14.9 | current | history1 14.1 | histor 14.14 | <u>y2</u> |
| | | Free Water | scalar | *Visual | 1 <i>a</i> | NEG | NEG | NEG | 0 |
| | | Emulsified Water | scalar | *Visual | >0.2 | NEG | NEG | NEG | L |
| Jul4/03 Dec16/03 | Sep 13/04 Mar1 8/24 | Appearance Odor | scalar scalar | *Visual *Visual | NORML NORML | NORML NORML | NORML NORML | NORM | |
| | | Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | NONE | |
| ľ. | | Silt Debris | scalar scalar | *Visual *Visual | NONE | NONE NONE | NONE | NONE | |
| | | Precipitate | scalar | *Visual | NONE | NONE | NONE | NONE | |
| | N | Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE | |
| | | White Metal | scalar | *Visual | NONE | NONE | NONE | NONE | |
| | | | | | | | | | 1 |

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