



# OIL ANALYSIS REPORT

|                 |               |
|-----------------|---------------|
| WEAR            | <b>NORMAL</b> |
| CONTAMINATION   | <b>NORMAL</b> |
| FLUID CONDITION | <b>NORMAL</b> |

Machine Id  
**PETERBILT 496367**  
Component  
**Diesel Engine**  
Fluid  
**CITGO CITGUARD 600 15W40 (48 QTS)**

## RECOMMENDATION

Resample at the next service interval to monitor. ( Customer Sample Comment:  
Top Up Amount: 2 QTS )

| Test           | UOM | Method      | Limit/Abn | Current            | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|----------|----------|
| Sample Number  |     | Client Info |           | <b>RPL0022280</b>  | ---      | ---      |
| Sample Date    |     | Client Info |           | <b>10 Jul 2024</b> | ---      | ---      |
| Machine Age    | mls | Client Info |           | <b>331674</b>      | ---      | ---      |
| Oil Age        | mls | Client Info |           | <b>18426</b>       | ---      | ---      |
| Filter Age     | mls | Client Info |           | <b>18426</b>       | ---      | ---      |
| Oil Changed    |     | Client Info |           | <b>Oil Added</b>   | ---      | ---      |
| Filter Changed |     | Client Info |           | <b>Not Changd</b>  | ---      | ---      |
| Sample Status  |     |             |           | <b>NORMAL</b>      | ---      | ---      |

## WEAR

All component wear rates are normal.

|              |        |             |      |              |     |     |
|--------------|--------|-------------|------|--------------|-----|-----|
| Iron         | ppm    | ASTM D5185m | >110 | <b>12</b>    | --- | --- |
| Chromium     | ppm    | ASTM D5185m | >4   | <b>&lt;1</b> | --- | --- |
| Nickel       | ppm    | ASTM D5185m | >2   | <b>0</b>     | --- | --- |
| Titanium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | --- | --- |
| Silver       | ppm    | ASTM D5185m | >2   | <b>&lt;1</b> | --- | --- |
| Aluminum     | ppm    | ASTM D5185m | >25  | <b>3</b>     | --- | --- |
| Lead         | ppm    | ASTM D5185m | >45  | <b>0</b>     | --- | --- |
| Copper       | ppm    | ASTM D5185m | >85  | <b>7</b>     | --- | --- |
| Tin          | ppm    | ASTM D5185m | >4   | <b>&lt;1</b> | --- | --- |
| Vanadium     | ppm    | ASTM D5185m |      | <b>0</b>     | --- | --- |
| White Metal  | scalar | *Visual     | NONE | <b>NONE</b>  | --- | --- |
| Yellow Metal | scalar | *Visual     | NONE | <b>NONE</b>  | --- | --- |

## CONTAMINATION

There is no indication of any contamination in the oil.

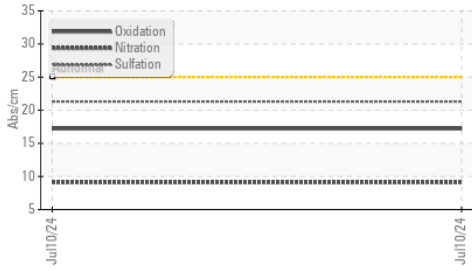
|                  |          |             |       |                |     |     |
|------------------|----------|-------------|-------|----------------|-----|-----|
| Silicon          | ppm      | ASTM D5185m | >30   | <b>7</b>       | --- | --- |
| Potassium        | ppm      | ASTM D5185m | >20   | <b>3</b>       | --- | --- |
| Fuel             |          | WC Method   | >5    | <b>&lt;1.0</b> | --- | --- |
| Water            |          | WC Method   | >0.2  | <b>NEG</b>     | --- | --- |
| Glycol           |          | WC Method   |       | <b>NEG</b>     | --- | --- |
| Soot %           | %        | *ASTM D7844 | >3    | <b>0.3</b>     | --- | --- |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | <b>9.1</b>     | --- | --- |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | <b>21.3</b>    | --- | --- |
| Silt             | scalar   | *Visual     | NONE  | <b>NONE</b>    | --- | --- |
| Debris           | scalar   | *Visual     | NONE  | <b>NONE</b>    | --- | --- |
| Sand/Dirt        | scalar   | *Visual     | NONE  | <b>NONE</b>    | --- | --- |
| Appearance       | scalar   | *Visual     | NORML | <b>NORML</b>   | --- | --- |
| Odor             | scalar   | *Visual     | NORML | <b>NORML</b>   | --- | --- |
| Emulsified Water | scalar   | *Visual     | >0.2  | <b>NEG</b>     | --- | --- |

## FLUID CONDITION

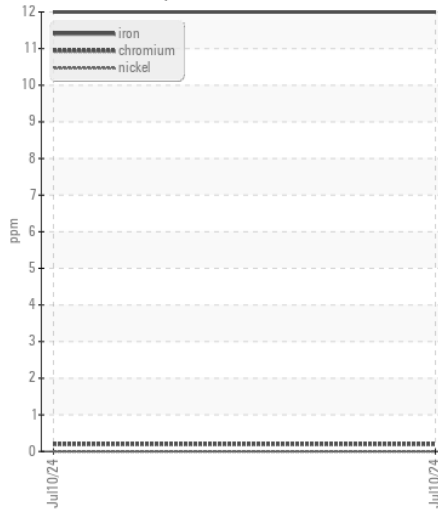
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

|                  |          |             |      |             |     |     |
|------------------|----------|-------------|------|-------------|-----|-----|
| Sodium           | ppm      | ASTM D5185m |      | <b>3</b>    | --- | --- |
| Boron            | ppm      | ASTM D5185m | 13   | <b>4</b>    | --- | --- |
| Barium           | ppm      | ASTM D5185m | 0    | <b>0</b>    | --- | --- |
| Molybdenum       | ppm      | ASTM D5185m | 57   | <b>64</b>   | --- | --- |
| Manganese        | ppm      | ASTM D5185m |      | <b>2</b>    | --- | --- |
| Magnesium        | ppm      | ASTM D5185m | 825  | <b>422</b>  | --- | --- |
| Calcium          | ppm      | ASTM D5185m | 1100 | <b>1862</b> | --- | --- |
| Phosphorus       | ppm      | ASTM D5185m | 933  | <b>1107</b> | --- | --- |
| Zinc             | ppm      | ASTM D5185m | 1089 | <b>1339</b> | --- | --- |
| Sulfur           | ppm      | ASTM D5185m | 2769 | <b>3845</b> | --- | --- |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | <b>17.2</b> | --- | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 11.0 | <b>7.1</b>  | --- | --- |
| Visc @ 100°C     | cSt      | ASTM D445   | 15.4 | <b>13.7</b> | --- | --- |

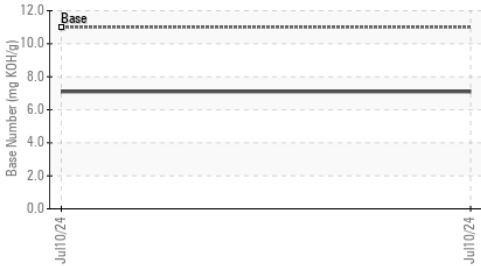
FT-IR (Direct Trend)



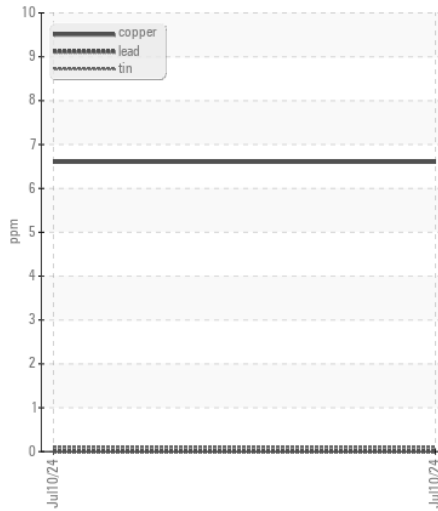
Ferrous Alloys



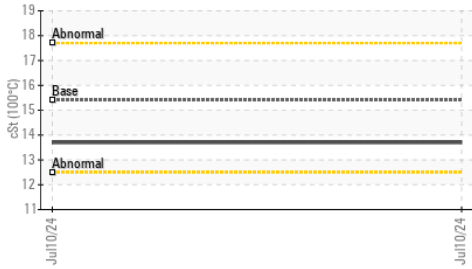
Base Number



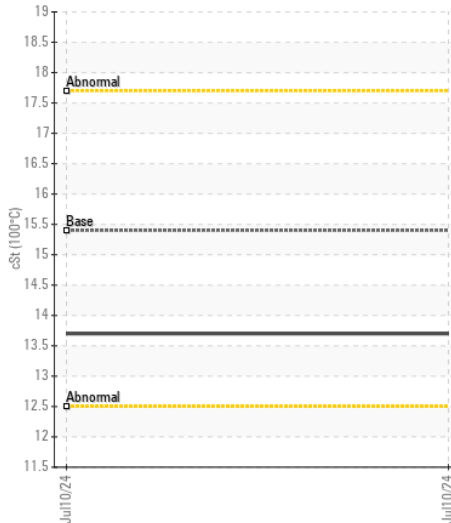
Non-ferrous Metals



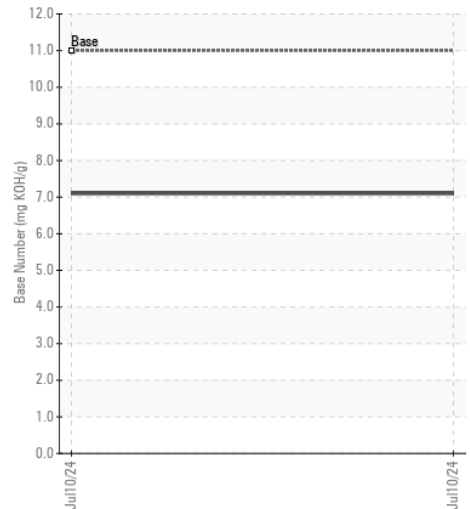
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

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

Sample No. : RPL0022280

Lab Number : 06238810

Unique Number : 11127644

Test Package : FLEET

Received : 17 Jul 2024

Tested : 17 Jul 2024

Diagnosed : 17 Jul 2024 - Jonathan Hester

RTL PACLEASE - 7025 - Tampa

8109 East Adamo Drive

Tampa, FL

US 33619

Contact: Michael Reid

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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)