



# WEAR CHECK

## OIL ANALYSIS REPORT

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

Area  
**2H28**  
Machine Id  
Component  
**PETERBILT 348 RTK6249 TK (S/N 2NP3LJ0X2KM622511)**  
Fluid  
**DIESEL ENGINE OIL SAE 40 (--- GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>ARI06237527</b> | ARI06207361 | ARI06108489 |
| Sample Date    |     | Client Info |           | <b>15 Jul 2024</b> | 11 Jun 2024 | 04 Mar 2024 |
| Machine Age    | hrs | Client Info |           | <b>9764</b>        | 9208        | 8892        |
| Oil Age        | hrs | Client Info |           | <b>0</b>           | 0           | 0           |
| Filter Age     | hrs | Client Info |           | <b>0</b>           | 0           | 0           |
| Oil Changed    |     | Client Info |           | <b>N/A</b>         | N/A         | N/A         |
| Filter Changed |     | Client Info |           | <b>N/A</b>         | N/A         | N/A         |
| Sample Status  |     |             |           | <b>NORMAL</b>      | NORMAL      | NORMAL      |

### WEAR

All component wear rates are normal.

|              |        |             |      |              |      |      |
|--------------|--------|-------------|------|--------------|------|------|
| Iron         | ppm    | ASTM D5185m | >100 | <b>4</b>     | 3    | 3    |
| Chromium     | ppm    | ASTM D5185m | >20  | <b>0</b>     | 0    | 0    |
| Nickel       | ppm    | ASTM D5185m | >4   | <b>0</b>     | 0    | <1   |
| Titanium     | ppm    | ASTM D5185m |      | <b>0</b>     | 0    | 0    |
| Silver       | ppm    | ASTM D5185m | >3   | <b>0</b>     | 0    | 0    |
| Aluminum     | ppm    | ASTM D5185m | >20  | <b>&lt;1</b> | 1    | <1   |
| Lead         | ppm    | ASTM D5185m | >40  | <b>0</b>     | <1   | 1    |
| Copper       | ppm    | ASTM D5185m | >330 | <b>&lt;1</b> | <1   | <1   |
| Tin          | ppm    | ASTM D5185m | >15  | <b>0</b>     | 0    | <1   |
| Vanadium     | ppm    | ASTM D5185m |      | <b>0</b>     | <1   | <1   |
| White Metal  | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |
| Yellow Metal | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |

### CONTAMINATION

There is no indication of any contamination in the oil.

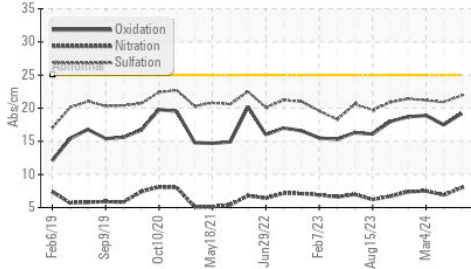
|                  |          |             |       |                |       |       |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon          | ppm      | ASTM D5185m | >25   | <b>4</b>       | 3     | 4     |
| Potassium        | ppm      | ASTM D5185m | >20   | <b>4</b>       | 6     | 4     |
| Fuel             |          | WC Method   | >5    | <b>&lt;1.0</b> | <1.0  | <1.0  |
| Water            |          | WC Method   | >0.2  | <b>NEG</b>     | NEG   | NEG   |
| Glycol           |          | WC Method   |       | <b>NEG</b>     | NEG   | NEG   |
| Soot %           | %        | *ASTM D7844 | >3    | <b>0.3</b>     | 0.2   | 0.2   |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | <b>8.0</b>     | 6.9   | 7.5   |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | <b>21.9</b>    | 20.9  | 21.2  |
| Silt             | scalar   | *Visual     | NONE  | <b>NONE</b>    | NONE  | NONE  |
| Debris           | scalar   | *Visual     | NONE  | <b>NONE</b>    | NONE  | NONE  |
| Sand/Dirt        | scalar   | *Visual     | NONE  | <b>NONE</b>    | NONE  | NONE  |
| Appearance       | scalar   | *Visual     | NORML | <b>NORML</b>   | NORML | NORML |
| Odor             | scalar   | *Visual     | NORML | <b>NORML</b>   | NORML | NORML |
| Emulsified Water | scalar   | *Visual     | >0.2  | <b>NEG</b>     | NEG   | NEG   |

### FLUID CONDITION

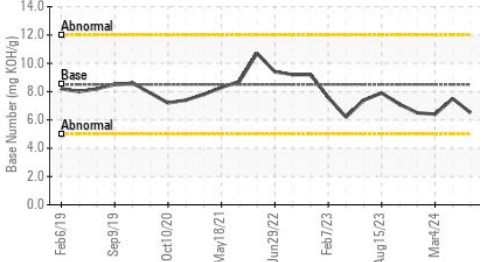
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

|                  |          |             |      |              |      |      |
|------------------|----------|-------------|------|--------------|------|------|
| Sodium           | ppm      | ASTM D5185m | >216 | <b>4</b>     | 2    | 3    |
| Boron            | ppm      | ASTM D5185m | 250  | <b>132</b>   | 189  | 139  |
| Barium           | ppm      | ASTM D5185m | 10   | <b>0</b>     | 0    | 0    |
| Molybdenum       | ppm      | ASTM D5185m | 100  | <b>4</b>     | 4    | <1   |
| Manganese        | ppm      | ASTM D5185m |      | <b>&lt;1</b> | 0    | 0    |
| Magnesium        | ppm      | ASTM D5185m | 450  | <b>47</b>    | 35   | 10   |
| Calcium          | ppm      | ASTM D5185m | 3000 | <b>2208</b>  | 2412 | 2156 |
| Phosphorus       | ppm      | ASTM D5185m | 1150 | <b>955</b>   | 1029 | 948  |
| Zinc             | ppm      | ASTM D5185m | 1350 | <b>1113</b>  | 1220 | 1109 |
| Sulfur           | ppm      | ASTM D5185m | 4250 | <b>3816</b>  | 4232 | 3396 |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | <b>19.2</b>  | 17.5 | 18.9 |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 8.5  | <b>6.5</b>   | 7.5  | 6.4  |
| Visc @ 100°C     | cSt      | ASTM D445   | 14.4 | <b>12.8</b>  | 13.2 | 12.9 |

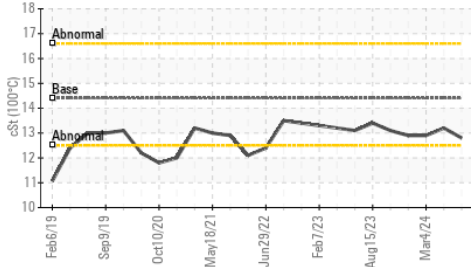
**FT-IR (Direct Trend)**



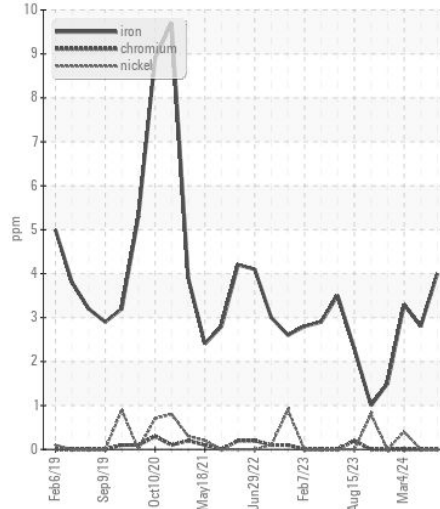
**Base Number**



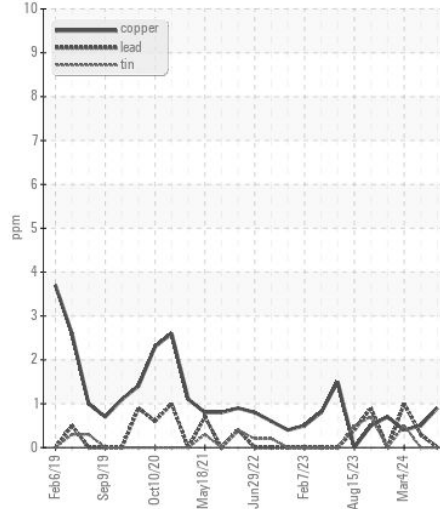
**Viscosity @ 100°C**



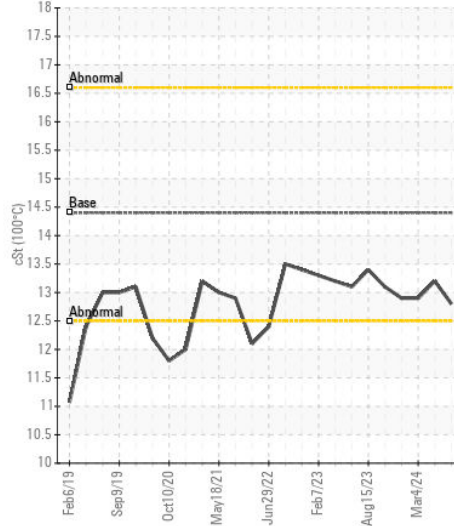
**Ferrous Alloys**



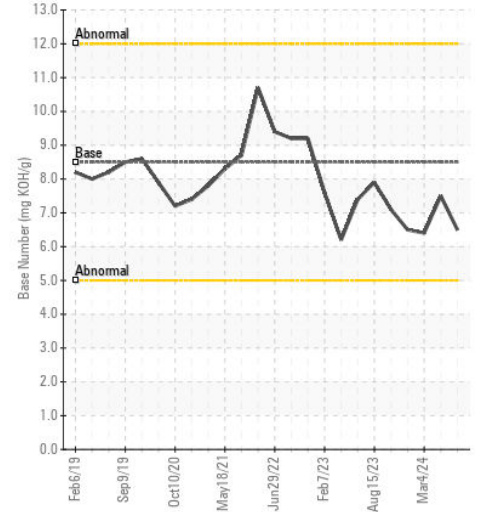
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : ARI06237527  
**Lab Number** : 06237527  
**Unique Number** : 11126361  
**Test Package** : CONST ( Additional Tests: TBN )

**Received** : 16 Jul 2024  
**Tested** : 17 Jul 2024  
**Diagnosed** : 17 Jul 2024 - Wes Davis

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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)