



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

Area  
**FLEET**  
Machine Id  
**VOLVO 2227074 (S/N 4V4NC9EH4RN631483)**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 10W30 (42 QTS)**

**RECOMMENDATION**

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current     | History1 | History2 |
|----------------|-----|-------------|-----------|-------------|----------|----------|
| Sample Number  |     | Client Info |           | PCA0118702  | ---      | ---      |
| Sample Date    |     | Client Info |           | 14 Feb 2024 | ---      | ---      |
| Machine Age    | mls | Client Info |           | 40729       | ---      | ---      |
| Oil Age        | mls | Client Info |           | 19739       | ---      | ---      |
| Filter Age     | mls | Client Info |           | 19739       | ---      | ---      |
| Oil Changed    |     | Client Info |           | Changed     | ---      | ---      |
| Filter Changed |     | Client Info |           | Changed     | ---      | ---      |
| Sample Status  |     |             |           | ABNORMAL    | ---      | ---      |

**WEAR**

All component wear rates are normal.

|              |        |             |      |      |     |     |
|--------------|--------|-------------|------|------|-----|-----|
| Iron         | ppm    | ASTM D5185m | >100 | 38   | --- | --- |
| Chromium     | ppm    | ASTM D5185m | >20  | <1   | --- | --- |
| Nickel       | ppm    | ASTM D5185m | >2   | 4    | --- | --- |
| Titanium     | ppm    | ASTM D5185m |      | 0    | --- | --- |
| Silver       | ppm    | ASTM D5185m | >2   | 8    | --- | --- |
| Aluminum     | ppm    | ASTM D5185m | >25  | 34   | --- | --- |
| Lead         | ppm    | ASTM D5185m | >40  | 0    | --- | --- |
| Copper       | ppm    | ASTM D5185m | >330 | 296  | --- | --- |
| Tin          | ppm    | ASTM D5185m | >15  | 4    | --- | --- |
| Vanadium     | ppm    | ASTM D5185m |      | 0    | --- | --- |
| White Metal  | scalar | *Visual     | NONE | NONE | --- | --- |
| Yellow Metal | scalar | *Visual     | NONE | NONE | --- | --- |

**CONTAMINATION**

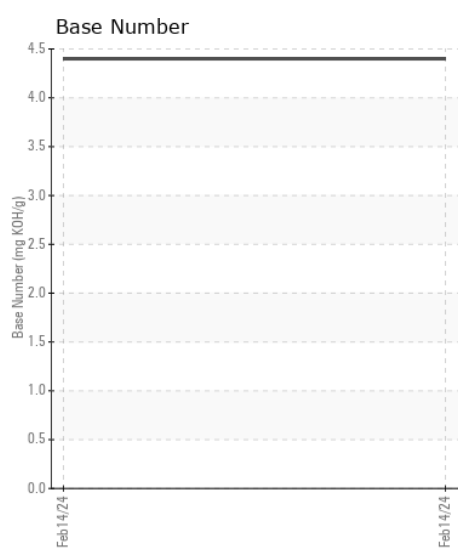
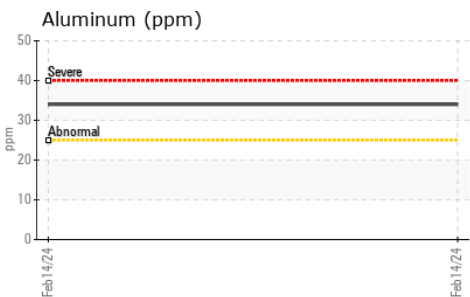
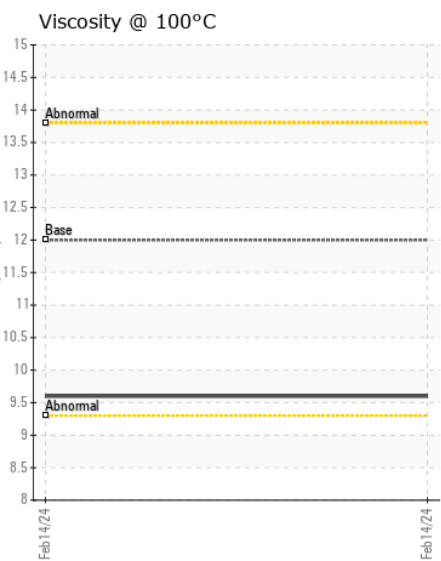
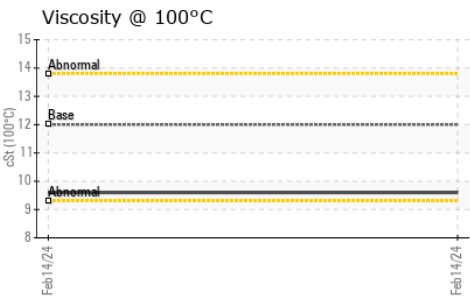
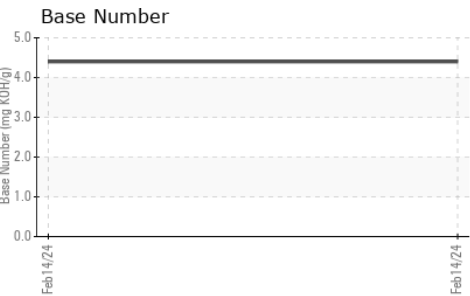
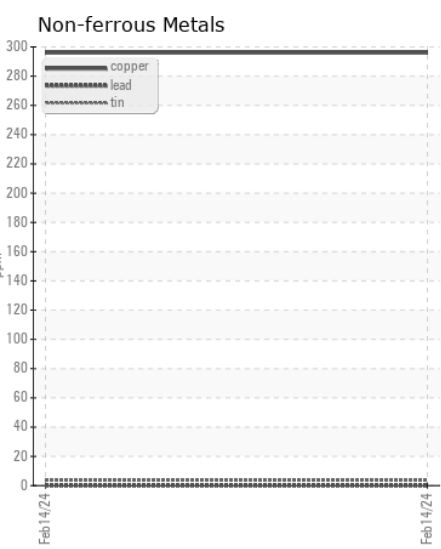
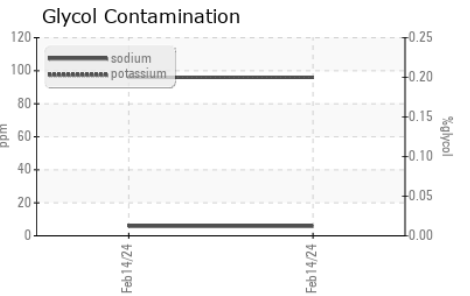
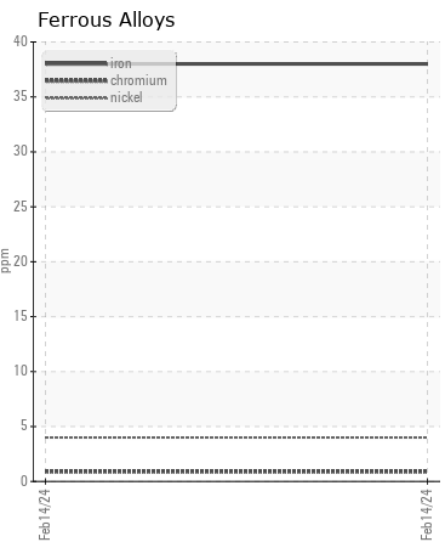
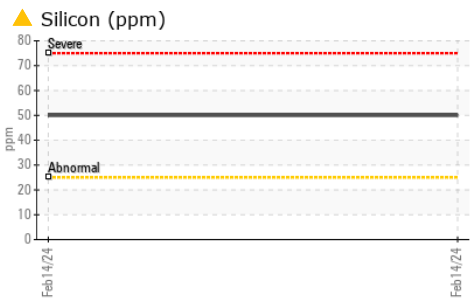
Elemental level of silicon (Si) above normal indicating ingress of seal material. Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components.

|                  |          |             |       |       |     |     |
|------------------|----------|-------------|-------|-------|-----|-----|
| Silicon          | ppm      | ASTM D5185m | >25   | ▲ 50  | --- | --- |
| Potassium        | ppm      | ASTM D5185m | >20   | 96    | --- | --- |
| Fuel             |          | WC Method   | >6.0  | <1.0  | --- | --- |
| Water            |          | WC Method   | >0.2  | NEG   | --- | --- |
| Glycol           |          | WC Method   |       | NEG   | --- | --- |
| Soot %           | %        | *ASTM D7844 | >3    | 0.2   | --- | --- |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | 9.4   | --- | --- |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | 20.6  | --- | --- |
| Silt             | scalar   | *Visual     | NONE  | NONE  | --- | --- |
| Debris           | scalar   | *Visual     | NONE  | NONE  | --- | --- |
| Sand/Dirt        | scalar   | *Visual     | NONE  | NONE  | --- | --- |
| Appearance       | scalar   | *Visual     | NORML | NORML | --- | --- |
| Odor             | scalar   | *Visual     | NORML | NORML | --- | --- |
| Emulsified Water | scalar   | *Visual     | >0.2  | 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 |       | 6    | --- | --- |
| Boron            | ppm      | ASTM D5185m | 2     | 80   | --- | --- |
| Barium           | ppm      | ASTM D5185m | 0     | 0    | --- | --- |
| Molybdenum       | ppm      | ASTM D5185m | 50    | 96   | --- | --- |
| Manganese        | ppm      | ASTM D5185m | 0     | 3    | --- | --- |
| Magnesium        | ppm      | ASTM D5185m | 950   | 704  | --- | --- |
| Calcium          | ppm      | ASTM D5185m | 1050  | 1238 | --- | --- |
| Phosphorus       | ppm      | ASTM D5185m | 995   | 685  | --- | --- |
| Zinc             | ppm      | ASTM D5185m | 1180  | 815  | --- | --- |
| Sulfur           | ppm      | ASTM D5185m | 2600  | 2001 | --- | --- |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25   | 19.9 | --- | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896  |       | 4.4  | --- | --- |
| Visc @ 100°C     | cSt      | ASTM D445   | 12.00 | 9.6  | --- | --- |



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PCA0118702  
**Lab Number** : 06098122  
**Unique Number** : 10896352  
**Test Package** : FLEET

**Received** : 23 Feb 2024  
**Tested** : 25 Feb 2024  
**Diagnosed** : 26 Feb 2024 - Don Baldrige

**PERDUE FARMS - ACCOMAC**  
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 T: (757)787-5304  
 F: (757)787-5208

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)