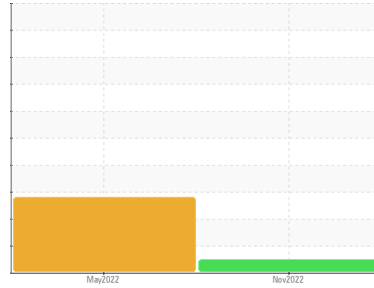


Machine Id  
**PALFINGER CAL019 (S/N 510008325)**  
Component  
**Hydraulic System**  
Fluid  
**MOBIL DTE 10 EXCEL 15 (250 LTR)**



**DIAGNOSIS**

**Recommendation**  
Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using MOB 2 test kits, this testkit includes Particle Count to determine the ISO cleanliness of the fluid.

**Wear**  
All component wear rates are normal.

**Contamination**  
There is no indication of any contamination in the component(unconfirmed).

**Fluid Condition**  
Additive levels indicate the addition of a different brand, or type of oil. The condition of the oil is acceptable for the time in service.

**SAMPLE INFORMATION** method limit/base current history1 history2

|               |             |                    |             |     |
|---------------|-------------|--------------------|-------------|-----|
| Sample Number | Client Info | <b>PC0023779</b>   | PC0052741   | --- |
| Sample Date   | Client Info | <b>30 Nov 2022</b> | 19 May 2022 | --- |
| Machine Age   | hrs         | <b>0</b>           | 0           | --- |
| Oil Age       | hrs         | <b>0</b>           | 0           | --- |
| Oil Changed   | Client Info | <b>N/A</b>         | Not Changd  | --- |
| Sample Status |             | <b>NORMAL</b>      | ABNORMAL    | --- |

**CONTAMINATION** method limit/base current history1 history2

|       |           |       |            |     |     |
|-------|-----------|-------|------------|-----|-----|
| Water | WC Method | >0.05 | <b>NEG</b> | NEG | --- |
|-------|-----------|-------|------------|-----|-----|

**WEAR METALS** method limit/base current history1 history2

|           |     |               |     |              |    |     |
|-----------|-----|---------------|-----|--------------|----|-----|
| Iron      | ppm | ASTM D5185(m) | >20 | <b>&lt;1</b> | <1 | --- |
| Chromium  | ppm | ASTM D5185(m) | >10 | <b>0</b>     | 0  | --- |
| Nickel    | ppm | ASTM D5185(m) | >10 | <b>0</b>     | 0  | --- |
| Titanium  | ppm | ASTM D5185(m) |     | <b>0</b>     | 0  | --- |
| Silver    | ppm | ASTM D5185(m) |     | <b>0</b>     | 0  | --- |
| Aluminum  | ppm | ASTM D5185(m) | >10 | <b>&lt;1</b> | 0  | --- |
| Lead      | ppm | ASTM D5185(m) | >20 | <b>&lt;1</b> | <1 | --- |
| Copper    | ppm | ASTM D5185(m) | >20 | <b>&lt;1</b> | <1 | --- |
| Tin       | ppm | ASTM D5185(m) | >10 | <b>0</b>     | 0  | --- |
| Antimony  | ppm | ASTM D5185(m) |     | <b>0</b>     | 0  | --- |
| Vanadium  | ppm | ASTM D5185(m) |     | <b>0</b>     | 0  | --- |
| Beryllium | ppm | ASTM D5185(m) |     | <b>0</b>     | 0  | --- |
| Cadmium   | ppm | ASTM D5185(m) |     | <b>0</b>     | 0  | --- |

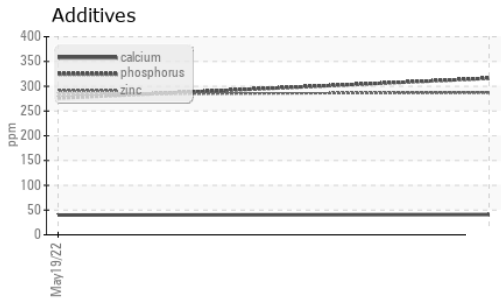
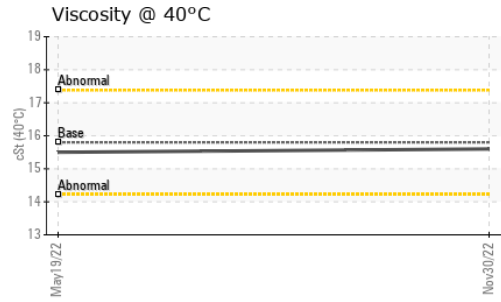
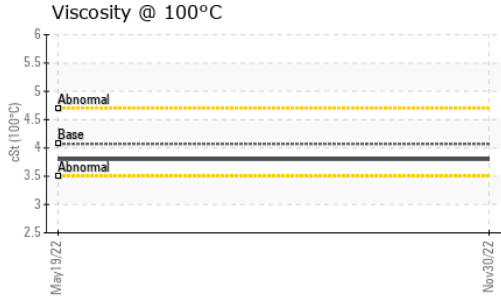
**ADDITIVES** method limit/base current history1 history2

|            |     |               |      |              |       |     |
|------------|-----|---------------|------|--------------|-------|-----|
| Boron      | ppm | ASTM D5185(m) |      | <b>&lt;1</b> | <1    | --- |
| Barium     | ppm | ASTM D5185(m) |      | <b>0</b>     | 0     | --- |
| Molybdenum | ppm | ASTM D5185(m) |      | <b>0</b>     | 0     | --- |
| Manganese  | ppm | ASTM D5185(m) |      | <b>0</b>     | 0     | --- |
| Magnesium  | ppm | ASTM D5185(m) |      | <b>9</b>     | 9     | --- |
| Calcium    | ppm | ASTM D5185(m) | 120  | <b>41</b>    | ▲ 40  | --- |
| Phosphorus | ppm | ASTM D5185(m) | 475  | <b>316</b>   | 276   | --- |
| Zinc       | ppm | ASTM D5185(m) |      | <b>287</b>   | ▲ 284 | --- |
| Sulfur     | ppm | ASTM D5185(m) | 1275 | <b>839</b>   | ▲ 809 | --- |
| Lithium    | ppm | ASTM D5185(m) |      | <b>&lt;1</b> | <1    | --- |

**CONTAMINANTS** method limit/base current history1 history2

|           |     |               |     |              |    |     |
|-----------|-----|---------------|-----|--------------|----|-----|
| Silicon   | ppm | ASTM D5185(m) | >15 | <b>7</b>     | 5  | --- |
| Sodium    | ppm | ASTM D5185(m) |     | <b>&lt;1</b> | <1 | --- |
| Potassium | ppm | ASTM D5185(m) | >20 | <b>&lt;1</b> | 2  | --- |

# OIL ANALYSIS REPORT



| VISUAL           | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal      | scalar | Visual*    | NONE    | NONE     | ---      |
| Yellow Metal     | scalar | Visual*    | NONE    | NONE     | ---      |
| Precipitate      | scalar | Visual*    | NONE    | NONE     | ---      |
| 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*    | >0.05   | NEG      | ---      |
| Free Water       | scalar | Visual*    |         | NEG      | ---      |

| FLUID PROPERTIES     | method | limit/base    | current | history1 | history2 |
|----------------------|--------|---------------|---------|----------|----------|
| Visc @ 40°C          | cSt    | ASTM D7279(m) | 15.8    | 15.6     | ▲ 15.5   |
| Visc @ 100°C         | cSt    | ASTM D7279(m) | 4.07    | 3.8      | ▲ 3.8    |
| Viscosity Index (VI) | Scale  | ASTM D2270*   | 168     | 138      | 140      |

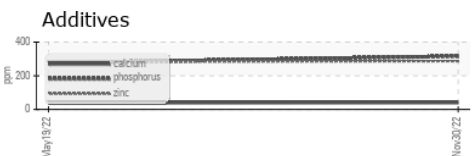
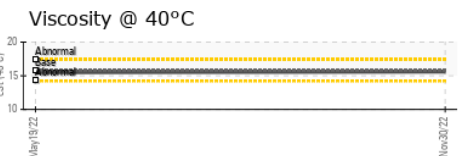
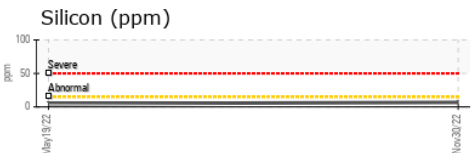
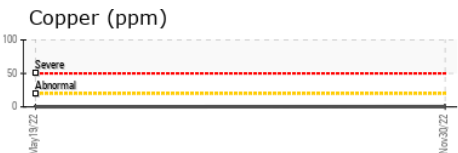
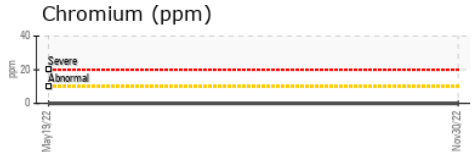
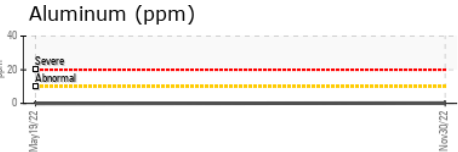
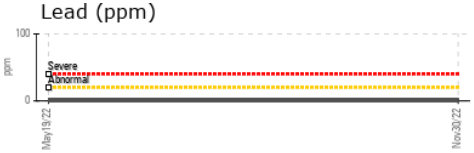
### SAMPLE IMAGES

| method | limit/base | current | history1 | history2 |
|--------|------------|---------|----------|----------|
| Color  |            |         |          |          |
| Bottom |            |         |          |          |

no image

no image

### GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **Ocean Choice International - MV Calvert**  
**Sample No.** : PC0023779 **Received** : 10 Jan 2023 1315 Topsail Rd, P.O. Box 8190  
**Lab Number** : 02532367 **Diagnosed** : 11 Jan 2023 St. John's, NL  
**Unique Number** : 5513366 **Diagnostician** : Kevin Marson CA A1B 3N4  
**Test Package** : MOB 1 ( Additional Tests: KV100, VI )

To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.

Contact: Calvert Engine Control Room  
 calvertengine@oceanchoice.com