

Machine Id
SERVI CAL014 (S/N ST-14633)

Component
Hydraulic System

Fluid
MOBIL DTE 10 EXCEL 32 (2000 LTR)

DIAGNOSIS

Recommendation

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

The condition of the oil is acceptable for the time in service.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|--------------------|-------------|-------------|------------|--------------------|-------------|----------|
| Sample Number | Client Info | | | PC0011788 | PC0052810 | --- |
| Sample Date | Client Info | | | 09 Oct 2022 | 18 May 2022 | --- |
| Machine Age | hrs | Client Info | | 0 | 0 | --- |
| Oil Age | hrs | Client Info | | 0 | 0 | --- |
| Oil Changed | Client Info | | | N/A | Not Changd | --- |
| Sample Status | | | | NORMAL | SEVERE | --- |

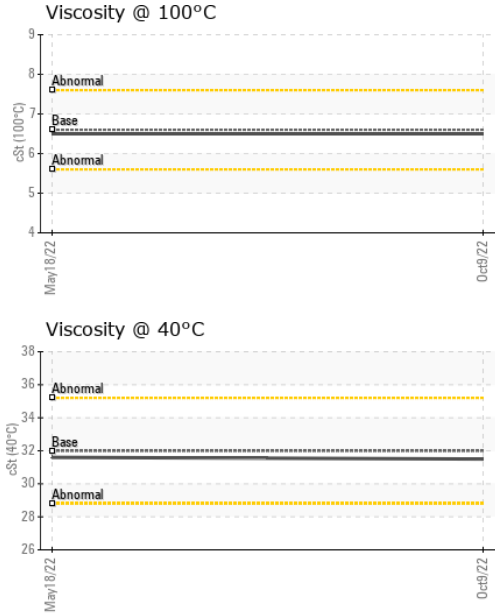
| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---------------|-----------|--------|------------|------------|----------|----------|
| Water | WC Method | | >0.05 | NEG | NEG | --- |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|-------------|-----|---------------|------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185(m) | >20 | 5 | 4 | --- |
| Chromium | ppm | ASTM D5185(m) | >10 | 0 | 0 | --- |
| Nickel | ppm | ASTM D5185(m) | >10 | 0 | 0 | --- |
| Titanium | ppm | ASTM D5185(m) | | 0 | 0 | --- |
| Silver | ppm | ASTM D5185(m) | | 0 | 0 | --- |
| Aluminum | ppm | ASTM D5185(m) | >10 | <1 | 0 | --- |
| Lead | ppm | ASTM D5185(m) | >20 | <1 | <1 | --- |
| Copper | ppm | ASTM D5185(m) | >20 | 3 | 4 | --- |
| Tin | ppm | ASTM D5185(m) | >10 | 0 | <1 | --- |
| Antimony | ppm | ASTM D5185(m) | | 0 | 0 | --- |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | --- |
| Beryllium | ppm | ASTM D5185(m) | | 0 | 0 | --- |
| Cadmium | ppm | ASTM D5185(m) | | 0 | 0 | --- |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|------------|-----|---------------|------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185(m) | | <1 | <1 | --- |
| Barium | ppm | ASTM D5185(m) | | 0 | 0 | --- |
| Molybdenum | ppm | ASTM D5185(m) | | 0 | 0 | --- |
| Manganese | ppm | ASTM D5185(m) | | 0 | <1 | --- |
| Magnesium | ppm | ASTM D5185(m) | | <1 | <1 | --- |
| Calcium | ppm | ASTM D5185(m) | 120 | 83 | 80 | --- |
| Phosphorus | ppm | ASTM D5185(m) | 475 | 484 | 425 | --- |
| Zinc | ppm | ASTM D5185(m) | | 18 | 20 | --- |
| Sulfur | ppm | ASTM D5185(m) | 1275 | 1405 | 1377 | --- |
| Lithium | ppm | ASTM D5185(m) | | <1 | <1 | --- |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|--------------|-----|---------------|------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185(m) | >15 | <1 | <1 | --- |
| Sodium | ppm | ASTM D5185(m) | | 3 | 3 | --- |
| Potassium | ppm | ASTM D5185(m) | >20 | <1 | <1 | --- |

OIL ANALYSIS REPORT



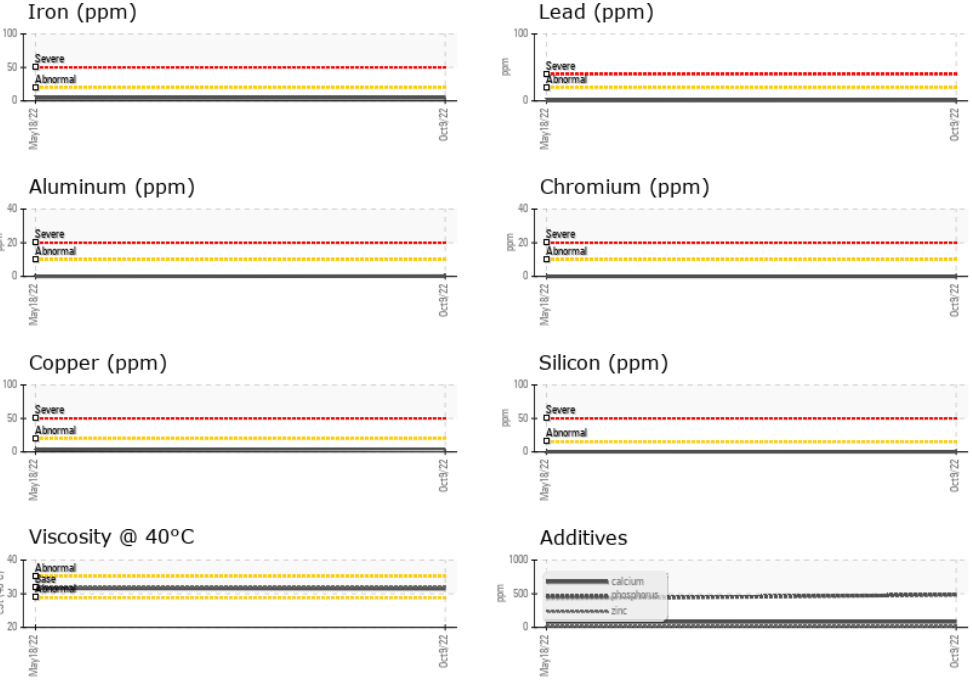
| PARAMETER | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | Visual* | NONE | NONE | --- |
| Yellow Metal | scalar | Visual* | NONE | NONE | --- |
| Precipitate | scalar | Visual* | NONE | NONE | --- |
| 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) | 32 | 31.6 | --- |
| Visc @ 100°C | cSt | ASTM D7279(m) | 6.6 | 6.5 | --- |
| Viscosity Index (VI) | Scale | ASTM D2270* | 164 | 165 | --- |

SAMPLE IMAGES

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

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Ocean Choice International - MV Calvert
Sample No. : PC0011788 **Recieved** : 10 Jan 2023 1315 Topsail Rd, P.O. Box 8190
Lab Number : 02532336 **Diagnosed** : 10 Jan 2023 St. John's, NL
Unique Number : 5513335 **Diagnostician** : Wes Davis 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