KOWA
Komatsu Oil & Wear Analysis

Bureau Veritas Oil Condition Monitoring -
3385 Martin Farm Road, Suwanee, GA - 30024
800-241-6315

# Sample Analysis Report

Status: ABNORMAL

| Account Information | | Sample Information | | Other Sample Information | |
|---|---|---|---|---|---|
| Lab Customer ID#: | 230268 | Lab No.: | 202005270574 | PO No.: | MIDLANTIC HARRISBURG PA |
| Company Name: | F&M Equipment LTD | Sample Tracking #: | S20190806005817 | Work Order No.: | |
| Company Worksite: | Harrisburg, PA | Sample Date: | May 14, 2020 | Reference No.: | 8700038 |
| Company Address: | 6375 ALLENTOWN BLVD<br>HARRISBURG, PA, 17111-5402 | Received Date: | May 27, 2020 | Filter Age: | 0 |
| | | Completed Date: | May 28, 2020 | Make Up Oil Amount: | 0 |
| **Unit Information** | | **Component Information** | | **Fluid Information** | |
| Unit ID: | VCED480DT00210499 | Cpnt. Description: | RIGHT SWING GEAR | Fluid Manufacturer: | - |
| Unit Mfg: | Volvo | Cpnt. Mfg: | Volvo | Fluid Brand/Product: | UNKNOWN |
| Unit Model: | EC480DL | Cpnt. Model: | EC480DL | Fluid Grade: | SAE 90 |
| Unit Serial #: | VCED480DT00210499 | Cpnt. Serial #: | | | |
| Unit Worksite: | | Cpnt. Type: | SWING GEAR | | |

**Maintenance Recommendations for Lab No.: 202005270574**
**Evaluated By: Grant Dawson - Data Analyst**
ANALYSIS INDICATES ABNORMAL CONDITIONS! NOTED ELEMENTS are generally associated with: Gear wear. Other test results are satisfactory. CHANGE OIL if not already performed. ADDITIONAL SAMPLING is REQUIRED to develop baseline & trend data for this component / application. Assure continued routine sampling.

SPECTROCHEMICAL ANALYSIS PPM

| | | Wear Metals | | | | | | | | | | Contaminants | | | Additives | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LAB NO. | SAMPLE DRAWN | Iron | Chromium | Nickel | Aluminum | Lead | Copper | Tin | Silver | Titanium | Vanadium | Silicon | Sodium | Potassium | Boron | Molybdenum | Phosphorus | Zinc | Calcium | Barium | Magnesium | Antimony |
| 0574 | 05/14/2020 | 465 * | 4 | <1 | 1 | <1 | 11 | 1 | <0.1 | <1 | <1 | 8 | <1 | 1 | 91 | 1 | 996 | 49 | 41 | <1 | 11 | 1 |

SAMPLE INFORMATION

| LAB NO. | SAMPLE DRAWN | UNIT TIME | FLUID TIME | UOM | FILTER CHG. | LUBE SERVICE |
|---|---|---|---|---|---|---|
| 0574 | 05/14/2020 | 2913 | | HR | No | S |

FLUID PROPERTIES/CONTAMINANTS

| Water | D7279 Vis 100 °C |
|---|---|
| <0.1 | 20.8 |

KEY: UoM - Unit of Measure Y - Yes N - No C - Changed S - Sampled > - Greater Than < - Less Than N/R - Not Reported (M) - Modified Method

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# Sample Analysis Report

Status: ⚠ ABNORMAL

| Account Information | | Sample Information | | Other Sample Information | |
|---|---|---|---|---|---|
| Lab Customer ID#: | 230268 | Lab No.: | 202005270576 | PO No.: | MIDLANTIC HARRISBURG PA |
| Company Name: | F&M Equipment LTD | Sample Tracking #: | S20190806005015 | Work Order No.: | |
| Company Worksite: | Harrisburg, PA | Sample Date: | May 14, 2020 | Reference No.: | 8700040 |
| Company Address: | 6375 ALLENTOWN BLVD<br>HARRISBURG, PA, 17111-5402 | Received Date: | May 27, 2020 | Filter Age: | 0 |
| | | Completed Date: | May 28, 2020 | Make Up Oil Amount: | 0 |
| **Unit Information** | | **Component Information** | | **Fluid Information** | |
| Unit ID: | VCED480DT00210499 | Cpnt. Description: | RIGHT FINAL DRIVE | Fluid Manufacturer: | - |
| Unit Mfg: | Volvo | Cpnt. Mfg: | Volvo | Fluid Brand/Product: | UNKNOWN |
| Unit Model: | EC480DL | Cpnt. Model: | EC480DL | Fluid Grade: | SAE 90 |
| Unit Serial #: | VCED480DT00210499 | Cpnt. Serial #: | | | |
| Unit Worksite: | | Cpnt. Type: | FINAL DRIVE | | |

**Maintenance Recommendations for Lab No.: 202005270576**
**Evaluated By: Grant Dawson - Data Analyst**
ANALYSIS INDICATES ABNORMAL COMPONENT & LUBRICANT CONDITIONS! Gear or bearing wear. SILICON (dirt) is causing abrasive wear. DRAIN and SERVICE the system if not performed at (or since) sampling. CHECK for the source of contaminant entry. RESAMPLE at 1/2 normal interval.

SPECTROCHEMICAL ANALYSIS PPM

| | | Wear Metals | | | | | | | | | | Contaminants | | | Additives | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LAB NO. | SAMPLE DRAWN | Iron | Chromium | Nickel | Aluminum | Lead | Copper | Tin | Silver | Titanium | Vanadium | Silicon | Sodium | Potassium | Boron | Molybdenum | Phosphorus | Zinc | Calcium | Barium | Magnesium | Antimony |
| 0576 | 05/14/2020 | 979 * | 7 | 4 | 76 * | <1 | 70 * | 4 | <0.1 | 5 | <1 | 294 * | 9 | 24 | 124 | 1 | 971 | 57 | 71 | 1 | 28 | <1 |

SAMPLE INFORMATION

| LAB NO. | SAMPLE DRAWN | UNIT TIME | FLUID TIME | UOM | FILTER CHG. | LUBE SERVICE |
|---|---|---|---|---|---|---|
| 0576 | 05/14/2020 | 2913 | | HR | No | S |

FLUID PROPERTIES/CONTAMINANTS

| Water | D7279 Vis 100 °C |
|---|---|
| <0.1 | 13.7 |

KEY: UoM - Unit of Measure Y - Yes N - No C - Changed S - Sampled > - Greater Than < - Less Than N/R - Not Reported (M) - Modified Method