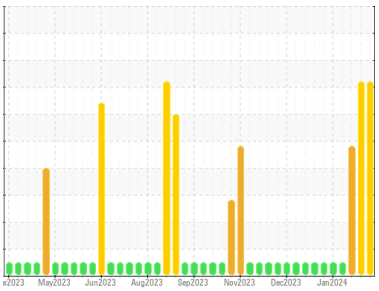
# OIL ANALYSIS REPORT

Sample Rating Trend



DIRT

Machine Id
**WVTM01BE**
Component
**Biogas Engine**
Fluid
**MOBIL PEGASUS 605 (--- GAL)**

## DIAGNOSIS

**Recommendation**
We recommend that you drain the oil and perform a filter service on this component if not already done. We recommend an early resample to monitor this condition.

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

**Contamination**
Elemental level of silicon (Si) above normal indicating ingress of seal material.

**Fluid Condition**
The AN level is above the recommended limit. The BN level is low.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0785354** | WC0785362 | WC0785361 |
| Sample Date | | Client Info | | **26 Jan 2024** | 24 Jan 2024 | 19 Jan 2024 |
| Machine Age | hrs | Client Info | | **115625** | 113583 | 113497 |
| Oil Age | hrs | Client Info | | **886** | 841 | 755 |
| Oil Changed | | Client Info | | **N/A** | Not Changd | Not Changd |
| Sample Status | | | | **SEVERE** | SEVERE | SEVERE |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Fuel | | WC Method | >4.0 | **<1.0** | <1.0 | <1.0 |
| Water | | WC Method | >0.1 | **NEG** | NEG | NEG |
| Glycol | | WC Method | | **NEG** | NEG | NEG |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >15 | **10** | 8 | 8 |
| Chromium | ppm | ASTM D5185m | >4 | **<1** | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >2 | **<1** | 0 | <1 |
| Titanium | ppm | ASTM D5185m | | **0** | 0 | <1 |
| Silver | ppm | ASTM D5185m | >5 | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >6 | **3** | 3 | 1 |
| Lead | ppm | ASTM D5185m | >9 | **5** | 4 | 3 |
| Copper | ppm | ASTM D5185m | >6 | **3** | 3 | 3 |
| Tin | ppm | ASTM D5185m | >4 | **6** | 6 | 5 |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | | **41** | 58 | 55 |
| Barium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | **2** | 1 | 2 |
| Manganese | ppm | ASTM D5185m | | **<1** | <1 | 0 |
| Magnesium | ppm | ASTM D5185m | | **21** | 23 | 19 |
| Calcium | ppm | ASTM D5185m | | **1601** | 1758 | 1688 |
| Phosphorus | ppm | ASTM D5185m | | **394** | 418 | 389 |
| Zinc | ppm | ASTM D5185m | | **604** | 626 | 624 |
| Sulfur | ppm | ASTM D5185m | | **5072** | 5211 | 5133 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >181 | **229** | 222 | 220 |
| Sodium | ppm | ASTM D5185m | | **1** | 1 | 0 |
| Potassium | ppm | ASTM D5185m | >20 | **2** | 2 | 2 |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | *ASTM D7844 | | **0** | 0 | 0 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **4.0** | 4.0 | 3.9 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **26.8** | 26.1 | 25.2 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **14.3** | 14.1 | 13.8 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | **2.47** | 2.26 | 1.97 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 7.1 | **1.65** | 2.17 | 2.31 |

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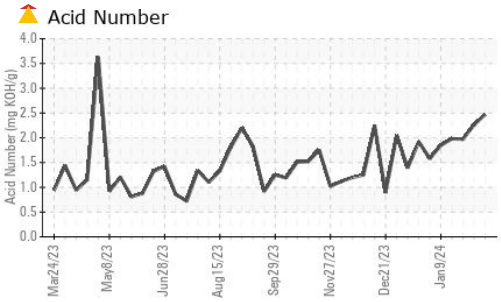
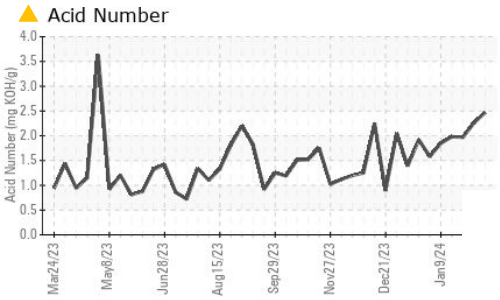
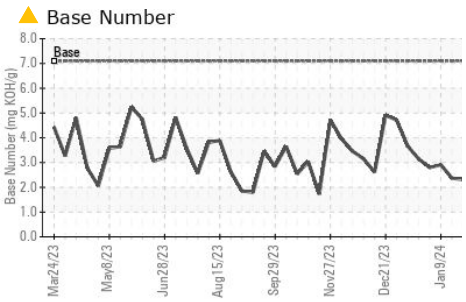
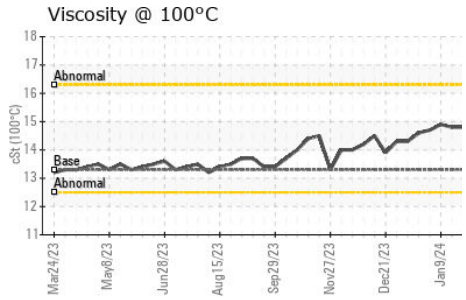


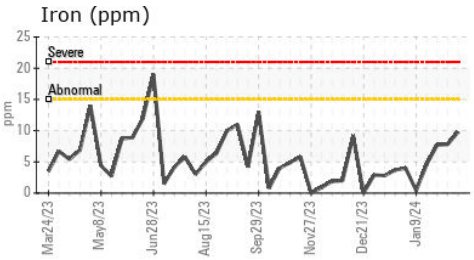



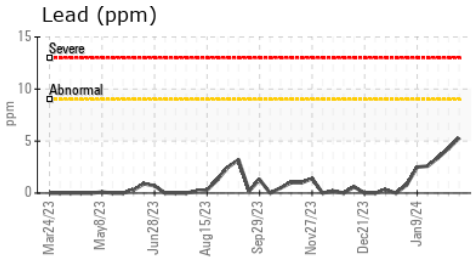



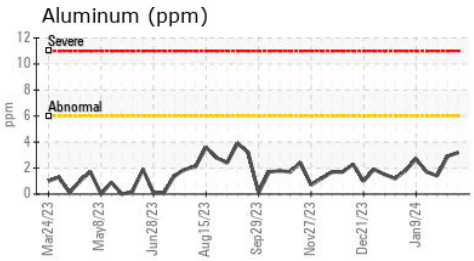

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Silt | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Debris | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Sand/Dirt | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Appearance | scalar | *Visual | NORML | **NORML** | NORML | NORML |
| Odor | scalar | *Visual | NORML | **NORML** | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.1 | **NEG** | NEG | NEG |
| Free Water | scalar | *Visual | | **NEG** | NEG | NEG |

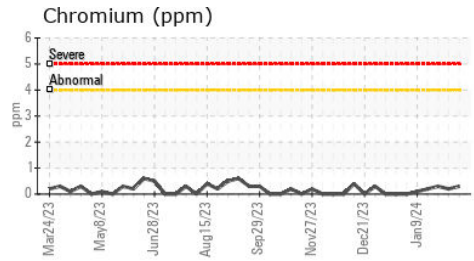
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D445 | 13.3 | **15.0** | 15.1 | 14.8 |

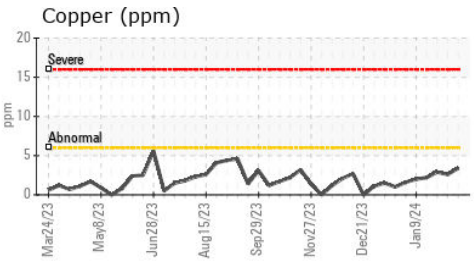
## GRAPHS

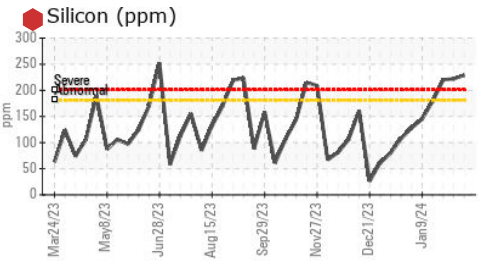


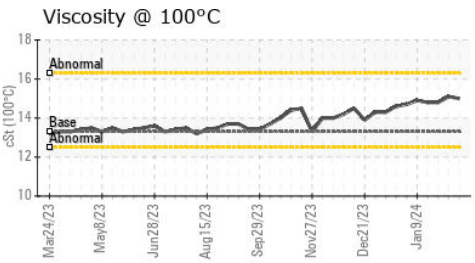



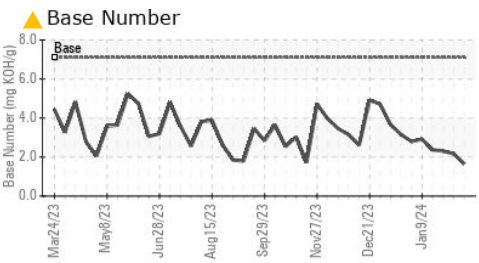




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : WC0785354
**Lab Number** : 06076013
**Unique Number** : 10858104
**Test Package** : MOB 2

**Recieved** : 31 Jan 2024
**Diagnosed** : 01 Feb 2024
**Diagnostician** : Sean Felton

*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)*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