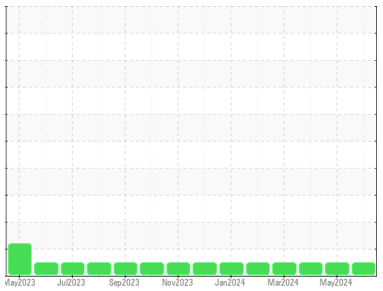
# OIL ANALYSIS REPORT

Sample Rating Trend




NORMAL

Area
**OKLAHOMA**
Machine Id
**3592**
Component
**Diesel Engine**
Fluid
**MYSTIK JT-8 SYN SUPER HD 15W40 (--- GAL)**

## DIAGNOSIS

**Recommendation**
No corrective action is recommended at this time. Resample at the next service interval to monitor.

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

**Contamination**
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. No other contaminants were detected in the oil.

**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.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0935476** | WC0929929 | WC0929934 |
| Sample Date | | Client Info | | **08 Jun 2024** | 07 May 2024 | 09 Apr 2024 |
| Machine Age | hrs | Client Info | | **2614** | 2391 | 2218 |
| Oil Age | hrs | Client Info | | **2291** | 2068 | 1895 |
| Oil Changed | | Client Info | | **Not Changd** | Not Changd | Not Changd |
| Sample Status | | | | **NORMAL** | NORMAL | NORMAL |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Fuel | | WC Method | >5 | **<1.0** | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | **NEG** | NEG | NEG |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >100 | **81** | 84 | 77 |
| Chromium | ppm | ASTM D5185m | >20 | **8** | 8 | 8 |
| Nickel | ppm | ASTM D5185m | >4 | **0** | <1 | 0 |
| Titanium | ppm | ASTM D5185m | | **<1** | <1 | 0 |
| Silver | ppm | ASTM D5185m | >3 | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | **66** | 67 | 59 |
| Lead | ppm | ASTM D5185m | >40 | **0** | <1 | 0 |
| Copper | ppm | ASTM D5185m | >330 | **3** | 4 | 2 |
| Tin | ppm | ASTM D5185m | >15 | **<1** | 1 | <1 |
| Vanadium | ppm | ASTM D5185m | | **<1** | <1 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | <1 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | | **0** | 3 | 9 |
| Barium | ppm | ASTM D5185m | | **0** | <1 | 0 |
| Molybdenum | ppm | ASTM D5185m | | **62** | 63 | 65 |
| Manganese | ppm | ASTM D5185m | | **2** | 2 | 2 |
| Magnesium | ppm | ASTM D5185m | | **1025** | 963 | 1083 |
| Calcium | ppm | ASTM D5185m | | **1191** | 1150 | 1204 |
| Phosphorus | ppm | ASTM D5185m | | **1059** | 1045 | 1153 |
| Zinc | ppm | ASTM D5185m | | **1318** | 1294 | 1420 |
| Sulfur | ppm | ASTM D5185m | | **3307** | 3311 | 3539 |

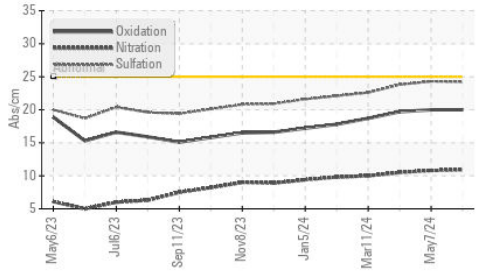
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **6** | 6 | 5 |
| Sodium | ppm | ASTM D5185m | | **15** | 12 | 12 |
| Potassium | ppm | ASTM D5185m | >20 | **157** | 173 | 148 |
| Glycol | % | *ASTM D2982 | | **NEG** | NEG | 0.0 |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | *ASTM D7844 | >3 | **1.1** | 1.1 | 1 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **10.9** | 10.8 | 10.5 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **24.2** | 24.3 | 23.8 |

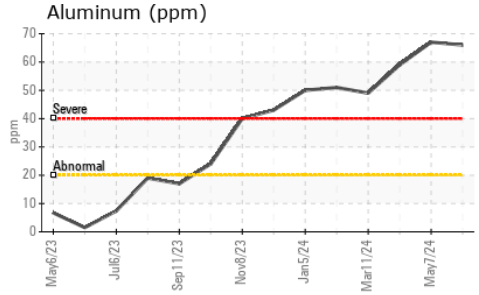
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **20.0** | 20.0 | 19.7 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | | **7.2** | 6.7 | 6.9 |

# OIL ANALYSIS REPORT

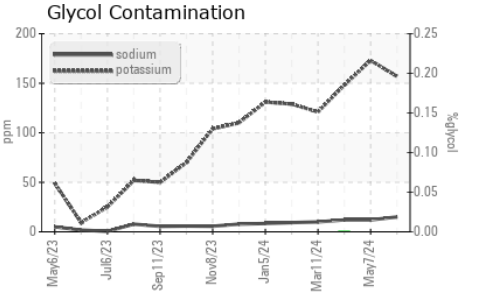
FT-IR (Direct Trend)



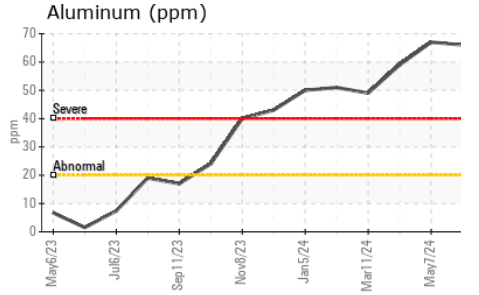

Aluminum (ppm)



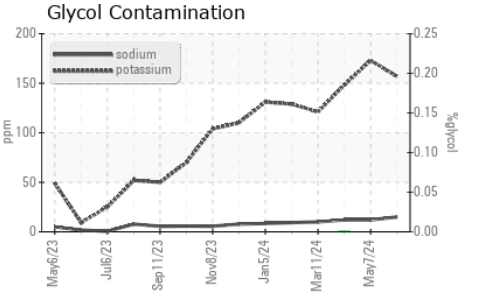

Glycol Contamination




Aluminum (ppm)




Glycol Contamination

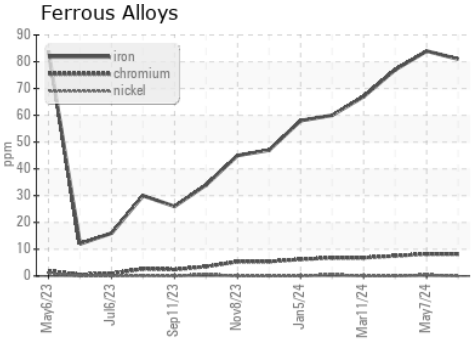



| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| 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 | >0.2 | **NEG** | NEG | NEG |
| Free Water | scalar | *Visual | | **NEG** | NEG | NEG |

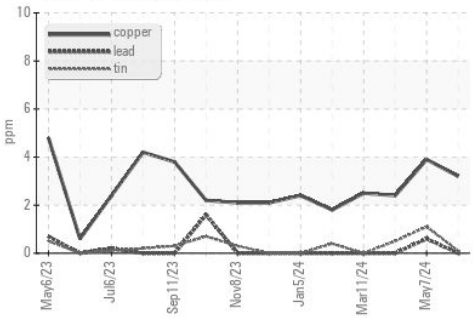
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D445 | 15.6 | **13.4** | 13.1 | 13.1 |

## GRAPHS

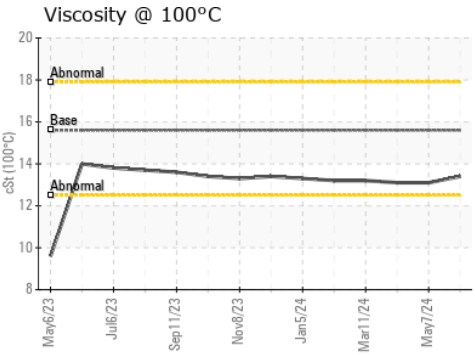
Ferrous Alloys



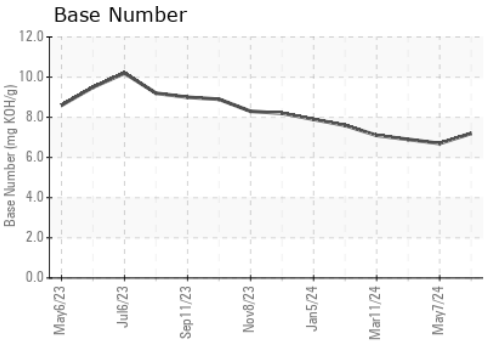

Non-ferrous Metals




Viscosity @ 100°C




Base Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : WC0935476 **Received** : 14 Jun 2024
**Lab Number** : 06211128 **Tested** : 19 Jun 2024
**Unique Number** : 11083992 **Diagnosed** : 19 Jun 2024 - Sean Felton
**Test Package** : FLEET ( Additional Tests: Glycol )

*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)*

**LIBERTY DISPOSAL**
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T:
F:

Report Id: SEAOKL [WUSCAR] 06211128 (Generated: 06/22/2024 21:35:56) Rev: 1

Contact/Location: M Rutherford - SEAOKL