



TRAAP

Texas Refinery Advanced Analysis Program

OIL ANALYSIS REPORT

| | |
|-----------------|--------|
| WEAR | NORMAL |
| CONTAMINATION | NORMAL |
| FLUID CONDITION | NORMAL |

Machine Id
FREIGHTLINER 5013

Component
Transmission

Fluid
TRC TEXTRANS MULTI-VEHICLE SYN ATF (36 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|-------------|-------------|-------------|
| Sample Number | | Client Info | | TR06210320 | TR05556307 | TR05489164 |
| Sample Date | | Client Info | | 07 Jun 2024 | 18 May 2022 | 09 Mar 2022 |
| Machine Age | hrs | Client Info | | 15829 | 13134 | 13043 |
| Oil Age | hrs | Client Info | | 0 | 0 | 0 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Not Changd | Not Changd | N/A |
| Filter Changed | | Client Info | | Not Changd | Not Changd | N/A |
| Sample Status | | | | NORMAL | NORMAL | ABNORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|------|------|-------|
| Iron | ppm | ASTM D5185m | >250 | 96 | 45 | 210 |
| Chromium | ppm | ASTM D5185m | >2 | 0 | 0 | <1 |
| Nickel | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | >2 | 0 | <1 | <1 |
| Silver | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >55 | 13 | 8 | 30 |
| Lead | ppm | ASTM D5185m | >65 | 24 | 8 | 30 |
| Copper | ppm | ASTM D5185m | >230 | 98 | 70 | ▲ 254 |
| Tin | ppm | ASTM D5185m | >6 | 2 | <1 | 3 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | LIGHT |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

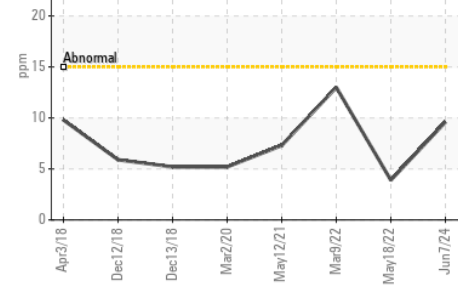
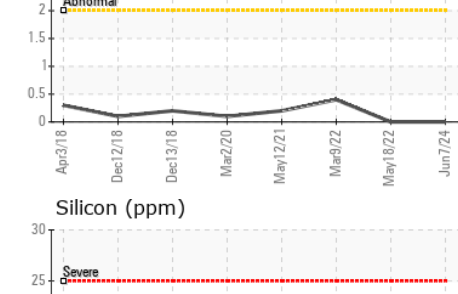
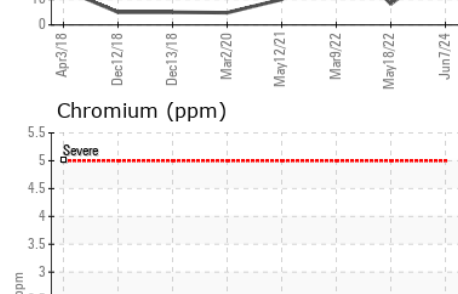
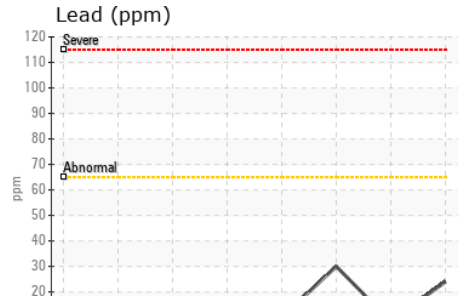
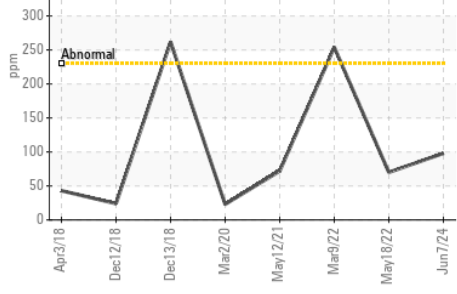
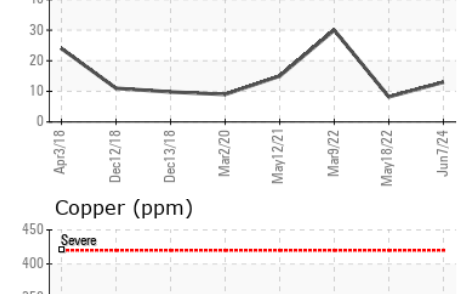
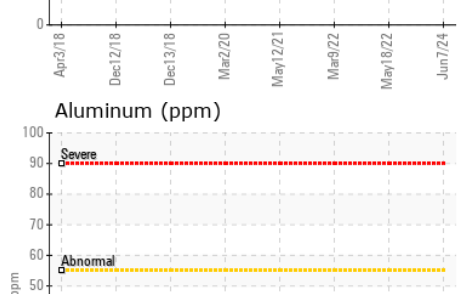
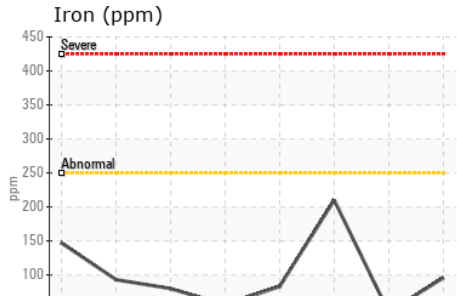
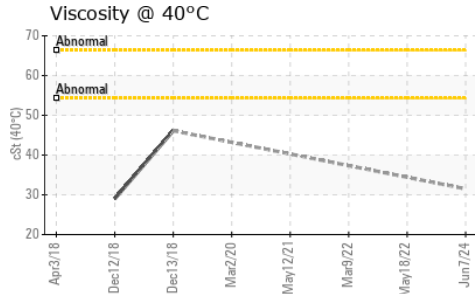
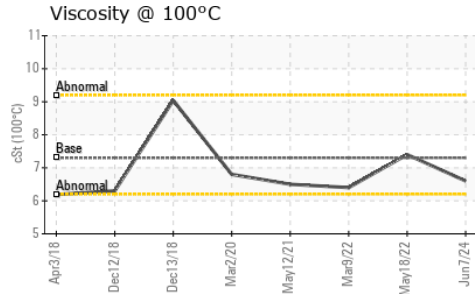
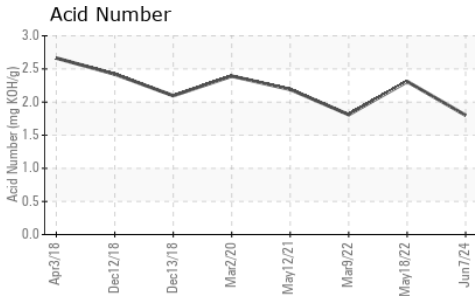
There is no indication of any contamination in the fluid.

| | | | | | | |
|------------------|--------|-------------|-------|-------|-------|-------|
| Silicon | ppm | ASTM D5185m | >15 | 10 | 4 | 13 |
| Potassium | ppm | ASTM D5185m | >20 | <1 | 2 | 2 |
| Water | | WC Method | >0.1 | NEG | NEG | NEG |
| 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 |

FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the fluid is suitable for further service.

| | | | | | | |
|----------------------|----------|-------------|-----|------|------|------|
| Sodium | ppm | ASTM D5185m | | 5 | 2 | 7 |
| Boron | ppm | ASTM D5185m | | 256 | 360 | 296 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 0 | <1 | 0 |
| Manganese | ppm | ASTM D5185m | | <1 | <1 | 2 |
| Magnesium | ppm | ASTM D5185m | | 2 | 1 | 0 |
| Calcium | ppm | ASTM D5185m | | 281 | 250 | 234 |
| Phosphorus | ppm | ASTM D5185m | | 699 | 607 | 733 |
| Zinc | ppm | ASTM D5185m | | 12 | 13 | 33 |
| Sulfur | ppm | ASTM D5185m | | 2758 | 2352 | 2077 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | 1.80 | 2.31 | 1.81 |
| Visc @ 40°C | cSt | ASTM D445 | | 31.5 | --- | --- |
| Visc @ 100°C | cSt | ASTM D445 | 7.3 | 6.6 | 7.4 | 6.4 |
| Viscosity Index (VI) | Scale | ASTM D2270 | 193 | 171 | --- | --- |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TR06210320
Lab Number : 06210320
Unique Number : 11083184
Test Package : MOB 2 (Additional Tests: KV100, VI)
Received : 14 Jun 2024
Tested : 18 Jun 2024
Diagnosed : 18 Jun 2024 - Don Baldrige

MATHIOWETZ CONSTRUCTION COMPANY
 30676 COUNTY RD 24
 SLEEPY EYE, MN
 US 56085
 Contact: Jim Warwick
 jimwarwick@mathiowetzconst.com

To discuss this sample report, contact Customer Service at 1-800-827-0711.

* - 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)

T:
F: