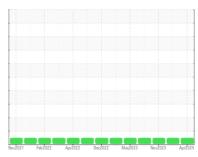


OIL ANALYSIS REPORT

Sample Rating Trend







Machine Id
T2019
Component
Diesel Engine
Fluid
CHEVRON 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil

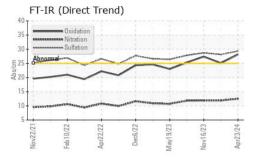
Fluid Condition

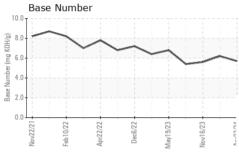
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

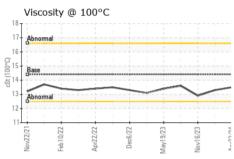
| SAMPLE INFORMATION method limit/base current history1 history2 | | | Nov2021 F | eb2022 Apr2022 | Dec2022 May2023 Nov2023 | Apr2024 | | | |
|---|--|----------|-------------|----------------|-------------------------|-------------|-------------|-----|-----|
| Sample Date | SAMPLE INFORM | MATION | method | limit/base | current | history1 | history2 | | |
| Machine Age mls Client Info 540757 521001 503104 Oil Age mls Client Info 0 0 0 0 Oil Changed Client Info Changed Changed Changed Changed Sample Status NCRMAL NCRMAL NCRMAL NCRMAL NCRMAL CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0 <1.0 <1.0 Water WC Method NEG NEG NEG NEG Glycol WC Method NEG NEG NEG NEG WEAR METALS method limit/base current history2 history2 Iron ppm ASTM D5185m >10 33 31 25 Chromium ppm ASTM D5185m >2 <1 0 0 Chromium ppm ASTM D5185m >2 <1 0 0 | Sample Number | | Client Info | | WC0859267 | WC0829004 | WC0859255 | | |
| Oil Age mls Client Info Changed NORMAL NORMAL | Sample Date | | Client Info | | 23 Apr 2024 | 30 Jan 2024 | 16 Nov 2023 | | |
| Oil Changed Sample Status | Machine Age | mls | Client Info | | 540757 | 521001 | 503104 | | |
| Sample Status | Oil Age | mls | Client Info | | 0 | 0 | 0 | | |
| CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 | Oil Changed | | Client Info | | Changed | Changed | Changed | | |
| Fuel | Sample Status | | | | NORMAL | NORMAL | NORMAL | | |
| Water Glycol WC Method WC Method >0.2 NEG NEG NEG NEG NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >110 33 31 25 Chromium ppm ASTM D5185m >4 1 <1 | CONTAMINATION | ٧ | method | limit/base | current | history1 | history2 | | |
| WEAR METALS | Fuel | | WC Method | >5 | <1.0 | <1.0 | <1.0 | | |
| WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >110 33 31 25 Chromium ppm ASTM D5185m >4 1 <1 <1 Nickel ppm ASTM D5185m >2 <1 0 0 Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >2 0 0 0 Lead ppm ASTM D5185m >2 16 24 10 Lead ppm ASTM D5185m >4 2 3 <1 Vanadium ppm ASTM D5185m >4 2 3 <1 Vanadium ppm ASTM D5185m <1 0 <1 0 Cadmium ppm ASTM D5185m 112 111 9 | Water | | WC Method | >0.2 | NEG | NEG | NEG | | |
| Iron | Glycol | | WC Method | | NEG | NEG | NEG | | |
| Chromium ppm ASTM D5185m >4 1 <1 | WEAR METALS | | method | limit/base | current | history1 | history2 | | |
| Nickel | Iron | ppm | ASTM D5185m | >110 | 33 | 31 | 25 | | |
| Titanium | | ppm | ASTM D5185m | >4 | 1 | <1 | <1 | | |
| Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >25 16 24 10 Lead ppm ASTM D5185m >45 5 4 3 Copper ppm ASTM D5185m >4 2 3 <1 | Nickel | ppm | | >2 | <1 | 0 | 0 | | |
| Aluminum ppm ASTM D5185m >25 16 24 10 Lead ppm ASTM D5185m >45 5 4 3 Copper ppm ASTM D5185m >85 2 <1 <1 Tin ppm ASTM D5185m >4 2 3 <1 Vanadium ppm ASTM D5185m -1 0 <1 Cadmium ppm ASTM D5185m -1 0 <1 Cadmium ppm ASTM D5185m -1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 ADITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 133 125 122 120 12 12 | Titanium | ppm | ASTM D5185m | | | | | | |
| Lead ppm ASTM D5185m >45 5 4 3 Copper ppm ASTM D5185m >85 2 <1 | Silver | ppm | ASTM D5185m | >2 | | 0 | _ | | |
| Copper ppm ASTM D5185m >85 2 <1 | Aluminum | ppm | ASTM D5185m | >25 | 16 | 24 | | | |
| Tin ppm ASTM D5185m >4 2 3 <1 | Lead | ppm | ASTM D5185m | >45 | | 4 | 3 | | |
| Vanadium ppm ASTM D5185m <1 | Copper | ppm | ASTM D5185m | >85 | | <1 | <1 | | |
| Cadmium ppm ASTM D5185m <1 | Tin | ppm | | >4 | 2 | 3 | <1 | | |
| ADDITIVES | | ppm | ASTM D5185m | | | 0 | <1 | | |
| Boron | Cadmium | ppm | ASTM D5185m | | <1 | 0 | 0 | | |
| Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 133 125 122 Manganese ppm ASTM D5185m 1 <1 <1 Magnesium ppm ASTM D5185m 690 649 669 Calcium ppm ASTM D5185m 1586 1437 1507 Phosphorus ppm ASTM D5185m 828 677 660 Zinc ppm ASTM D5185m 908 824 834 Sulfur ppm ASTM D5185m 3180 2317 2334 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 12 9 12 Sodium ppm ASTM D5185m >50 3 1 2 Potassium ppm ASTM D5185m >20 3 0 <1 INFRA-RED method limit | ADDITIVES | | method | limit/base | current | history1 | history2 | | |
| Molybdenum ppm ASTM D5185m 133 125 122 Manganese ppm ASTM D5185m 690 649 669 Calcium ppm ASTM D5185m 690 649 669 Calcium ppm ASTM D5185m 1586 1437 1507 Phosphorus ppm ASTM D5185m 828 677 660 Zinc ppm ASTM D5185m 908 824 834 Sulfur ppm ASTM D5185m 3180 2317 2334 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 12 9 12 Sodium ppm ASTM D5185m >50 3 1 2 Potassium ppm ASTM D5185m >20 3 0 <1 | Boron | ppm | ASTM D5185m | | 112 | 111 | 92 | | |
| Manganese ppm ASTM D5185m 1 <1 | Barium | ppm | ASTM D5185m | | 0 | 0 | 0 | | |
| Magnesium ppm ASTM D5185m 690 649 669 Calcium ppm ASTM D5185m 1586 1437 1507 Phosphorus ppm ASTM D5185m 828 677 660 Zinc ppm ASTM D5185m 908 824 834 Sulfur ppm ASTM D5185m 3180 2317 2334 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 12 9 12 Sodium ppm ASTM D5185m >50 3 1 2 Potassium ppm ASTM D5185m >20 3 0 <1 | <th>Molybdenum</th> <th>ppm</th> <th>ASTM D5185m</th> <th></th> <th>133</th> <th>125</th> <th>122</th> | | Molybdenum | ppm | ASTM D5185m | | 133 | 125 | 122 |
| Calcium ppm ASTM D5185m 1586 1437 1507 Phosphorus ppm ASTM D5185m 828 677 660 Zinc ppm ASTM D5185m 908 824 834 Sulfur ppm ASTM D5185m 3180 2317 2334 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 12 9 12 Sodium ppm ASTM D5185m >50 3 1 2 Potassium ppm ASTM D5185m >20 3 0 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1 0.9 0.8 Nitration Abs/.1mm *ASTM D7415 >30 29.3 28.1 28.7 FLUID DEGRADATION method limit/base current history1 history2 < | Manganese | ppm | ASTM D5185m | | 1 | <1 | <1 | | |
| Phosphorus ppm ASTM D5185m 828 677 660 Zinc ppm ASTM D5185m 908 824 834 Sulfur ppm ASTM D5185m 3180 2317 2334 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 12 9 12 Sodium ppm ASTM D5185m >50 3 1 2 Potassium ppm ASTM D5185m >20 3 0 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1 0.9 0.8 Nitration Abs/cm *ASTM D7624 >20 12.5 11.9 11.9 Sulfation Abs/.1mm *ASTM D7415 >30 29.3 28.1 28.7 FLUID DEGRADATION method limit/base current | Magnesium | ppm | | | 690 | 649 | 669 | | |
| Zinc ppm ASTM D5185m 908 824 834 Sulfur ppm ASTM D5185m 3180 2317 2334 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 12 9 12 Sodium ppm ASTM D5185m >50 3 1 2 Potassium ppm ASTM D5185m >20 3 0 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1 0.9 0.8 Nitration Abs/cm *ASTM D7624 >20 12.5 11.9 11.9 Sulfation Abs/.1mm *ASTM D7415 >30 29.3 28.1 28.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 28.1< | | ppm | ASTM D5185m | | | 1437 | | | |
| Sulfur ppm ASTM D5185m 3180 2317 2334 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 12 9 12 Sodium ppm ASTM D5185m >50 3 1 2 Potassium ppm ASTM D5185m >20 3 0 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1 0.9 0.8 Nitration Abs/cm *ASTM D7624 >20 12.5 11.9 11.9 Sulfation Abs/.1mm *ASTM D7415 >30 29.3 28.1 28.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 28.1 25.1 27.4 | Phosphorus | ppm | ASTM D5185m | | 828 | 677 | | | |
| CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 12 9 12 Sodium ppm ASTM D5185m >50 3 1 2 Potassium ppm ASTM D5185m >20 3 0 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1 0.9 0.8 Nitration Abs/cm *ASTM D7624 >20 12.5 11.9 11.9 Sulfation Abs/.1mm *ASTM D7415 >30 29.3 28.1 28.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 28.1 25.1 27.4 | Zinc | ppm | ASTM D5185m | | 908 | 824 | | | |
| Silicon ppm ASTM D5185m >30 12 9 12 Sodium ppm ASTM D5185m >50 3 1 2 Potassium ppm ASTM D5185m >20 3 0 <1 | Sulfur | ppm | ASTM D5185m | | 3180 | 2317 | 2334 | | |
| Sodium ppm ASTM D5185m >50 3 1 2 Potassium ppm ASTM D5185m >20 3 0 <1 | CONTAMINANTS | | method | limit/base | current | history1 | history2 | | |
| Potassium ppm ASTM D5185m >20 3 0 <1 | | ppm | | | | | | | |
| INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1 0.9 0.8 Nitration Abs/cm *ASTM D7624 >20 12.5 11.9 11.9 Sulfation Abs/.1mm *ASTM D7415 >30 29.3 28.1 28.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 28.1 25.1 27.4 | | ppm | | >50 | 3 | 1 | 2 | | |
| Soot % % *ASTM D7844 >3 1 0.9 0.8 Nitration Abs/cm *ASTM D7624 >20 12.5 11.9 11.9 Sulfation Abs/.1mm *ASTM D7415 >30 29.3 28.1 28.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 28.1 25.1 27.4 | Potassium | ppm | ASTM D5185m | >20 | 3 | 0 | <1 | | |
| Nitration Abs/cm *ASTM D7624 >20 12.5 11.9 11.9 Sulfation Abs/.1mm *ASTM D7415 >30 29.3 28.1 28.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 28.1 25.1 27.4 | INFRA-RED | | method | limit/base | current | history1 | history2 | | |
| Sulfation Abs/.1mm *ASTM D7415 >30 29.3 28.1 28.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 28.1 25.1 27.4 | Soot % | % | *ASTM D7844 | >3 | 1 | 0.9 | 0.8 | | |
| FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 28.1 25.1 27.4 | Nitration | Abs/cm | *ASTM D7624 | >20 | 12.5 | 11.9 | 11.9 | | |
| Oxidation Abs/.1mm *ASTM D7414 >25 28.1 25.1 27.4 | Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 29.3 | 28.1 | 28.7 | | |
| | FLUID DEGRADA | TION | method | limit/base | current | history1 | history2 | | |
| | Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 28.1 | 25.1 | 27.4 | | |
| | Base Number (BN) | mg KOH/g | ASTM D2896 | | | | 5.6 | | |



OIL ANALYSIS REPORT



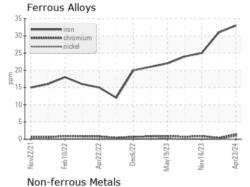


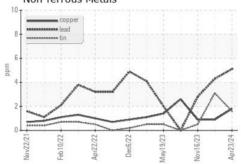


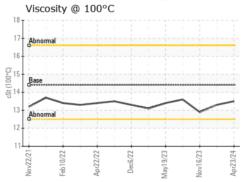
| VISUAL | | method | limit/base | current | history1 | history2 |
|-------------------------|--------|---------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Precipitate | 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 |

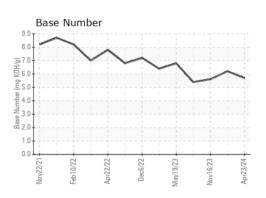
| FLUID PROPERTIES | | method | ilmit/base | | nistory i | nistoryz |
|------------------|-----|-----------|------------|------|-----------|----------|
| Visc @ 100°C | cSt | ASTM D445 | 14.4 | 13.5 | 13.3 | 12.9 |

GRAPHS













Certificate 12367

Laboratory Sample No.

Test Package : FLEET

: WC0859267 Lab Number : 06161129 Unique Number : 10996552

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 25 Apr 2024 **Tested** Diagnosed

: 29 Apr 2024 : 29 Apr 2024 - Don Baldridge **Ergon Trucking Inc. - MAG601**

11337 State Route 800 Magnolia, OH US 44643

Contact: Eddy Smith eddy.smith@ergon.com

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)

Report Id: ERGMAG601 [WUSCAR] 06161129 (Generated: 04/29/2024 13:45:25) Rev: 1

Submitted By: Eddy Smith

T:

F: