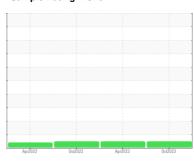


# **OIL ANALYSIS REPORT**

Sample Rating Trend



NORMAL



Machine Id
4384L
Component
Diesel Engine
Fluid

MOBIL 15W40 (--- GAL)

### 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**

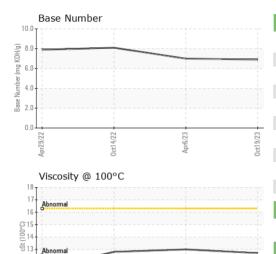
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

|   |  | Apr202  | 2 Oct2022  | Apr2023 (   | Oct2023   |  |
|---|--|---|--|---|---|--|
| SAMPLE INFORM   | MATION   | method  | limit/base   | current   | history1  | history2   |
| Sample Number   |  | Client Info   |  | IL0032356   | IL0030089   | IL0028070  |
| Sample Date   |  | Client Info   |  | 19 Oct 2023   | 06 Apr 2023   | 14 Oct 2022  |
| Machine Age   | mls  | Client Info   |  | 99214   | 82479   | 69448  |
| Oil Age   | mls  | Client Info   |  | 20000   | 13031   | 13000  |
| Oil Changed   |  | Client Info   |  | Changed   | Changed   | Changed  |
| Sample Status   |  |   |  | NORMAL  | NORMAL  | NORMAL   |
| CONTAMINATIO  | V  | method  | limit/base   | current   | history1  | history2   |
| Fuel  |  | WC Method   | >5   | <1.0  | <1.0  | <1.0   |
| Glycol  |  | WC Method   |  | NEG   | NEG   | NEG  |
| WEAR METALS   |  | method  | limit/base   | current   | history1  | history2   |
| Iron  | ppm  | ASTM D5185m   | >100   | 27  | 26  | 21   |
| Chromium  | ppm  | ASTM D5185m   | >20  | <1  | 0   | <1   |
| Nickel  | ppm  | ASTM D5185m   | >4   | <1  | 0   | 0  |
| Titanium  | ppm  | ASTM D5185m   |  | <1  | <1  | 3  |
| Silver  | ppm  | ASTM D5185m   | >3   | <1  | 0   | 0  |
| Aluminum  | ppm  | ASTM D5185m   | >20  | 5   | 13  | 6  |
| Lead  | ppm  | ASTM D5185m   | >40  | 0   | 0   | 0  |
| Copper  | ppm  | ASTM D5185m   | >330   | 1   | <1  | 1  |
| Tin   | ppm  | ASTM D5185m   | >15  | 0   | 0   | <1   |
| Vanadium  | ppm  | ASTM D5185m   |  | 0   | 0   | 0  |
| Cadmium   | ppm  | ASTM D5185m   |  | <1  | 0   | 0  |
| ADDITIVES   |  | method  | limit/base   | current   | history1  | history2   |
| Boron   | ppm  | ASTM D5185m   |  | 0   | 3   | 15   |
|   |  | ASTM D5185m   |  | 4   | 0   | 0  |
| Barium  | ppm  | ASTIVI DOTOSITI   |  | -   | U   | U  |
| Barium<br>Molybdenum  | ppm<br>ppm   | ASTM D5185m   |  | 65  | 57  | 48   |
|   |  |   |  | 65<br><1  |   |  |
| Molybdenum<br>Manganese<br>Magnesium  | ppm  | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   |  |   | 57  | 48   |
| Molybdenum<br>Manganese   | ppm  | ASTM D5185m<br>ASTM D5185m  |  | <1  | 57<br><1  | 48 <1  |
| Molybdenum<br>Manganese<br>Magnesium  | ppm<br>ppm   | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   |  | <1<br>953<br>1111<br>940  | 57<br><1<br>915<br>1141<br>939  | 48 <1 771 1267 912   |
| Molybdenum Manganese Magnesium Calcium Phosphorus Zinc  | ppm<br>ppm<br>ppm  | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  |  | <1<br>953<br>1111   | 57<br><1<br>915<br>1141<br>939<br>1229                                      | 48 <1 771 1267 912 1125  |
| Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm                             | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   |  | <1<br>953<br>1111<br>940  | 57<br><1<br>915<br>1141<br>939  | 48 <1 771 1267 912   |
| Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm                             | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  | limit/base   | <1<br>953<br>1111<br>940<br>1258                                      | 57<br><1<br>915<br>1141<br>939<br>1229                                      | 48 <1 771 1267 912 1125  |
| Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm                             | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | limit/base >25   | <1<br>953<br>1111<br>940<br>1258<br>3329<br>current                   | 57 <1 915 1141 939 1229 3160 history1 6                                     | 48<br><1<br>771<br>1267<br>912<br>1125<br>3506                               |
| Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm                             | ASTM D5185m   | >25  | <1<br>953<br>1111<br>940<br>1258<br>3329                              | 57 <1 915 1141 939 1229 3160 history1 6 1                                   | 48 <1 771 1267 912 1125 3506 history2 6 <1                                   |
| Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS  | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm                             | ASTM D5185m Method ASTM D5185m  | >25  | <1<br>953<br>1111<br>940<br>1258<br>3329<br>current                   | 57 <1 915 1141 939 1229 3160 history1 6                                     | 48 <1 771 1267 912 1125 3506 history2 6                                      |
| Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm               | ASTM D5185m   | >25<br>>118  | <1 953 1111 940 1258 3329 current 7 0 8                               | 57 <1 915 1141 939 1229 3160 history1 6 1                                   | 48 <1 771 1267 912 1125 3506 history2 6 <1 8 history2                        |
| Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm               | ASTM D5185m  Method ASTM D5185m   | >25<br>>118<br>>20<br>limit/base<br>>3                             | <1 953 1111 940 1258 3329 current 7 0 8 current 0.4                   | 57 <1 915 1141 939 1229 3160 history1 6 1                                   | 48 <1 771 1267 912 1125 3506 history2 6 <1 8                                 |
| Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm        | ASTM D5185m   | >25<br>>118<br>>20<br>limit/base<br>>3                             | <1 953 1111 940 1258 3329 current 7 0 8                               | 57 <1 915 1141 939 1229 3160 history1 6 1 6 history1                        | 48 <1 771 1267 912 1125 3506 history2 6 <1 8 history2                        |
| Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur  CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %                                   | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm        | ASTM D5185m  Method ASTM D5185m   | >25<br>>118<br>>20<br>limit/base<br>>3<br>>20                      | <1 953 1111 940 1258 3329 current 7 0 8 current 0.4                   | 57 <1 915 1141 939 1229 3160 history1 6 1 6 history1 0.5                    | 48 <1 771 1267 912 1125 3506 history2 6 <1 8 history2 0.4                    |
| Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur  CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration                         | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m  method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m   | >25<br>>118<br>>20<br>limit/base<br>>3<br>>20                      | <1 953 1111 940 1258 3329 current 7 0 8 current 0.4 10.7              | 57 <1 915 1141 939 1229 3160 history1 6 1 6 1 0.5 10.1                      | 48 <1 771 1267 912 1125 3506 history2 6 <1 8 history2 0.4 10.7               |
| Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur  CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation               | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m  Method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D76145 | >25<br>>118<br>>20<br>limit/base<br>>3<br>>20<br>>30<br>limit/base | <1 953 1111 940 1258 3329 current 7 0 8 current 0.4 10.7 23.4         | 57 <1 915 1141 939 1229 3160 history1 6 1 6 history1 0.5 10.1 21.2          | 48 <1 771 1267 912 1125 3506 history2 6 <1 8 history2 0.4 10.7 24.3          |
| Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur  CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA | ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm | ASTM D5185m  Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D78185m  Method  | >25<br>>118<br>>20<br>limit/base<br>>3<br>>20<br>>30<br>limit/base | <1 953 1111 940 1258 3329 current 7 0 8 current 0.4 10.7 23.4 current | 57 <1 915 1141 939 1229 3160 history1 6 1 6 history1 0.5 10.1 21.2 history1 | 48 <1 771 1267 912 1125 3506 history2 6 <1 8 history2 0.4 10.7 24.3 history2 |



10-

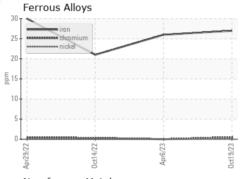
# **OIL ANALYSIS REPORT**

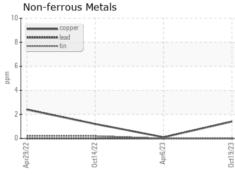


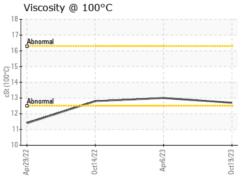
| VISUAL           |        | method  | limit/base | current | history1 | history2 |
|------------------|--------|---------|------------|---------|----------|----------|
| White Metal      | scalar | *Visual | NONE       | NONE    | NONE     | NONE     |
| Yellow Metal     | scalar | *Visual | NONE 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

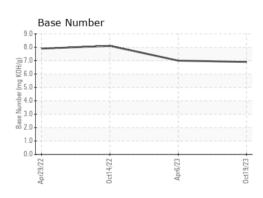
| FLUID PROPER | THES | method    | ilmit/base |      | nistory i | nistory∠ |
|--------------|------|-----------|------------|------|-----------|----------|
| Visc @ 100°C | cSt  | ASTM D445 |            | 12.7 | 13.0      | 12.8     |

### **GRAPHS**













Certificate L2367

Laboratory Sample No.

Lab Number Unique Number : 10726045 Test Package : FLEET

: IL0032356 : 05997685

To discuss this sample report, contact Customer Service at 1-800-237-1369.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 03 Nov 2023 Diagnosed

: 06 Nov 2023 Diagnostician : Don Baldridge **RUSH TRUCK CENTER - CHICAGO IDEALEASE** 4655 SOUTH CENTRAL AVENUE

CHICAGO, IL US 60638

Contact: MIKE LINLEY

linleym@rushtruckcenters.com T: (708)496-7500

\* - 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)

F: (708)496-8818 Contact/Location: MIKE LINLEY - IDECHIIL