

## **OIL ANALYSIS REPORT**

#### Sample Rating Trend





## Component

Diesel Engine

### MOBIL DELVAC 1300 SUPER15W40 (--- GAL)

#### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

#### Wear

Metal levels are typical for a new component breaking in.

#### 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 INFORM    | IATION   | method      | limit/base | current     | history1    | history2    |
|------------------|----------|-------------|------------|-------------|-------------|-------------|
| Sample Number    |          | Client Info |            | IL0033140   | IL0024690   | IL0013277   |
| Sample Date      |          | Client Info |            | 07 Dec 2023 | 08 Nov 2022 | 06 Mar 2020 |
| Machine Age      | mls      | Client Info |            | 67821       | 55515       | 0           |
| Oil Age          | mls      | Client Info |            | 12306       | 0           | 0           |
| Oil Changed      |          | Client Info |            | Changed     | N/A         | N/A         |
| Sample Status    |          |             |            | NORMAL      | NORMAL      | NORMAL      |
| CONTAMINATION    | J        | method      | limit/base | current     | history1    | history2    |
| Fuel             |          | WC Method   | >5         | <1.0        | <1.0        | <1.0        |
| Water            |          | WC Method   | >0.2       | NEG         | NEG         | NEG         |
| Glycol           |          | WC Method   |            | NEG         | NEG         | NEG         |
| WEAR METALS      |          | method      | limit/base | current     | history1    | history2    |
| Iron             | ppm      | ASTM D5185m | >100       | 129         | 141         | 22          |
| Chromium         | ppm      | ASTM D5185m | >20        | 1           | 2           | <1          |
| Nickel           | ppm      | ASTM D5185m | >4         | 0           | <1          | 0           |
| Titanium         | ppm      | ASTM D5185m |            | 0           | <1          | <1          |
| Silver           | ppm      | ASTM D5185m | >3         | 0           | 0           | 0           |
| Aluminum         | ppm      | ASTM D5185m | >20        | 6           | 6           | 6           |
| Lead             | ppm      | ASTM D5185m | >40        | 0           | 3           | 0           |
| Copper           | ppm      | ASTM D5185m | >330       | 3           | 3           | 4           |
| Tin              | ppm      | ASTM D5185m | >15        | <1          | <1          | 0           |
| Antimony         | ppm      | ASTM D5185m |            |             |             | 0           |
| Vanadium         | ppm      | ASTM D5185m |            | 0           | <1          | 0           |
| Cadmium          | ppm      | ASTM D5185m |            | 0           | 0           | 0           |
| ADDITIVES        |          | method      | limit/base | current     | history1    | history2    |
| Boron            | ppm      | ASTM D5185m | 0          | 26          | 37          | 77          |
| Barium           | ppm      | ASTM D5185m | 0          | 0           | 0           | 0           |
| Molybdenum       | ppm      | ASTM D5185m | 0          | 46          | 5           | 22          |
| Manganese        | ppm      | ASTM D5185m |            | 1           | 1           | <1          |
| Magnesium        | ppm      | ASTM D5185m | 0          | 683         | 686         | 581         |
| Calcium          | ppm      | ASTM D5185m |            | 1259        | 1366        | 1409        |
| Phosphorus       | ppm      | ASTM D5185m |            | 809         | 676         | 716         |
| Zinc             | ppm      | ASTM D5185m |            | 1005        | 896         | 818         |
| Sulfur           | ppm      | ASTM D5185m |            | 2637        | 3065        | 2203        |
| CONTAMINANTS     |          | method      | limit/base | current     | history1    | history2    |
| Silicon          | ppm      | ASTM D5185m | >25        | 11          | 11          | 8           |
| Sodium           | ppm      | ASTM D5185m |            | 3           | 3           | 4           |
| Potassium        | ppm      | ASTM D5185m | >20        | 3           | 5           | <1          |
| INFRA-RED        |          | method      | limit/base | current     | history1    | history2    |
| Soot %           | %        | *ASTM D7844 | >3         | 1.3         | 1.4         | 0.7         |
| Nitration        | Abs/cm   | *ASTM D7624 | >20        | 13.1        | 14.0        | 9.9         |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30        | 24.8        | 29.1        | 21.6        |
| FLUID DEGRADA    | TION     | method      | limit/base | current     | history1    | history2    |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25        | 22.6        | 21.8        | 17.4        |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 9.4        | 6.6         | 7.3         | 9.1         |
|                  |          |             | -          |             |             |             |

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|                           |                   | VISUAL                    |                    | method  | limit/base            | current   | history1        | history2        |
|---------------------------|-------------------|---------------------------|--------------------|---|-----------------------|-----------|-----------------|-----------------|
|                           | 1                 | 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            |
| 0v8/22                    | ec7/23            | Appearance                | scalar             | *Visual   | NORML                 | NORML     | NORML           | NORML           |
| ž                         | ă                 | Odor                      | scalar             | *Visual   | NORML                 | NORML     | NORML           | NORML           |
| С                         |                   | Emulsified Water          | scalar             | *Visual   | >0.2                  | NEG       | NEG             | NEG             |
|                           |                   | Free Water                | scalar             | *Visual   |                       | NEG       | NEG             | NEG             |
|                           |                   | FLUID PROPERT             | IES                | method  | limit/base            | current   | history1        | history2        |
|                           |                   | Visc @ 100°C              | cSt                | ASTM D445   | 14                    | 13.1      | 13.5            | 13.3            |
|                           |                   | GRAPHS                    |                    |   |                       |           |                 |                 |
|                           |                   | Ferrous Alloys            |                    |   |                       |           |                 |                 |
| 22                        |                   | 140 iron                  |                    |   |                       |           |                 |                 |
| Nov8/2                    |                   | 120 - nickel              |                    |   |                       |           |                 |                 |
|                           |                   | 100                       |                    |   |                       |           |                 |                 |
|                           |                   | Ha 80                     |                    |   |                       |           |                 |                 |
|                           |                   | 60                        |                    |   |                       |           |                 |                 |
|                           |                   | 40                        |                    |   |                       |           |                 |                 |
|                           |                   | 20                        |                    |   |                       |           |                 |                 |
|                           |                   | 6/20                      | 8/22 -             |   | 3/23                  |           |                 |                 |
|                           |                   | Mai                       | Nov                |   | Dec                   |           |                 |                 |
|                           |                   | Non-ferrous Metal         | S                  |   |                       |           |                 |                 |
|                           |                   | copper                    |                    |   |                       |           |                 |                 |
|                           |                   | 8 - measurement tin       |                    |   |                       |           |                 |                 |
|                           |                   | 6-                        |                    |   |                       |           |                 |                 |
|                           |                   | udd                       |                    |   |                       |           |                 |                 |
|                           |                   |                           |                    |   |                       |           |                 |                 |
|                           |                   | 2-                        | ADDRESS OF TAXABLE | Charles and the second second   |                       |           |                 |                 |
|                           |                   |                           |                    | A CONTRACTOR OF | Nutation and a second |           |                 |                 |
|                           |                   | lar6/2(                   | 0v8/22             |   | ec7/2:                |           |                 |                 |
|                           |                   |                           | Z                  |   |                       |           |                 |                 |
|                           |                   | <sup>18</sup>             | •<br>              | Base Number   |                       |           |                 |                 |
|                           |                   | 17 - Ba                   |                    |   |                       |           | ****            |                 |
|                           |                   |                           |                    |   | (B/H                  | 0         |                 |                 |
|                           |                   | Ĵ 15-                     |                    |   | 9 B2 6.               | 0         |                 |                 |
|                           |                   | 14- Base                  |                    |   | mber                  | 0         |                 |                 |
|                           |                   | 13 Abnormal               |                    |   | N as                  |           |                 |                 |
|                           |                   | 12-                       | I<br>              |   | <u>د</u> 2.           | 0-        |                 |                 |
|                           |                   | 11                        |                    |   |                       | o L       |                 |                 |
|                           |                   | lar6/20                   | ov8/22             |   | ec7/23                | lar6/20   | ov8/22          | ec7/23          |
|                           |                   | 2                         | Z                  |   |                       | 2         | 2               | á               |
| d                         | Laboratory        | : WearCheck USA - 5       | 501 Madi           | son Ave., Ca  | ry, NC 2751           | 3 RUSH TR | UCK LEASING - B | OISE IDEALEASE  |
| ANAB                      | Sample No.        | : IL0033140               | Recieved           | d : 01 F  | Feb 2024              |           | 770 WEST        | AMITY ROAD      |
| A C C R E D I T E D       | Lab Number        | : 06077493<br>: 10859584  | Diagnos            | ed :02 l<br>tician :We  | -eb 2024<br>s Davis   |           |                 | BUISE, ID       |
| Certificate L2367         | Test Package      | : FLEET                   | Liagnosi           |   | 5 DUV15               |           | Contact: MATT   | BORCHARDT       |
| To discuss thi            | is sample report, | contact Customer Servi    | ice at 1-8         | 800-237-1369  | Э.                    | bord      | hardtm@rushe    | enterprises.com |
| <sup>^</sup> - Denotes te | st methods that a | are outside of the ISO 1. | 7025 scc           | pe of accred  | itation.              |           |                 | T:              |

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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