

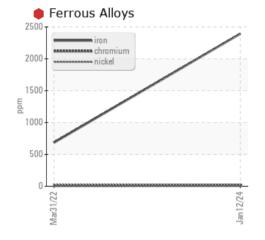
# **PROBLEM SUMMARY**

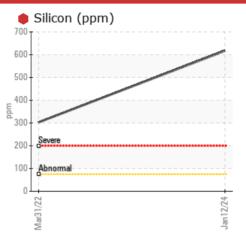
Sample Rating Trend WEAR

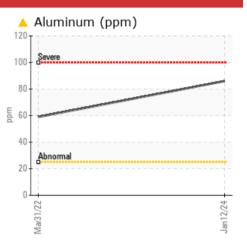
Machine Id VOLVO EC350E 314263 Component Rear Right Final Drive

MOBIL MOBILUBE HD 85W140 (--- GAL)

### COMPONENT CONDITION SUMMARY







#### RECOMMENDATION

We advise that you check all areas where dirt can enter the system. The oil change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition. ( Customer Sample Comment: 500 hour service )

| PROBLEMATIC TEST RESULTS |     |             |      |               |        |  |  |  |
|--------------------------|-----|-------------|------|---------------|--------|--|--|--|
| Sample Status            |     |             |      | SEVERE        | SEVERE |  |  |  |
| Iron                     | ppm | ASTM D5185m | >500 | <b>e</b> 2393 | ▲ 685  |  |  |  |
| Chromium                 | ppm | ASTM D5185m | >10  | <u> </u>      | 🔺 12   |  |  |  |
| Silicon                  | ppm | ASTM D5185m | >75  | 617           | 9 303  |  |  |  |

Customer Id: VOLVO0150 Sample No.: WC0886268 Lab Number: 06063201 Test Package: MOBCE



To manage this report scan the QR code

To discuss the diagnosis or test data: Don Baldridge +1 don.b505@comcast.net

*To change component or sample information:* Customer Service +1 1-800-237-1369 <u>customerservice@wearcheck.com</u>

| RECOMMENDED ACTIONS |        |      |         |   |  |  |
|---------------------|--------|------|---------|---|--|--|
| Action              | Status | Date | Done By | Description   |  |  |
| Inspect Wear Source |        |      | ?       | We advise that you inspect for the source(s) of wear.               |  |  |
| Resample            |        |      | ?       | We recommend an early resample to monitor this condition.           |  |  |
| Check Dirt Access   |        |      | ?       | We advise that you check all areas where dirt can enter the system. |  |  |

### HISTORICAL DIAGNOSIS



31 Mar 2022 Diag: Don Baldridge



We advise that you check all areas where dirt can enter the system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.Gear wear is indicated. Elemental levels of silicon (Si) and aluminum (AI) indicate alumina-silicate (coarse dirt) ingress. The oil is no longer serviceable due to the presence of contaminants.





### **OIL ANALYSIS REPORT**

Sample Rating Trend

WEAR



Machine Id VOLVO EC350E 314263 Component

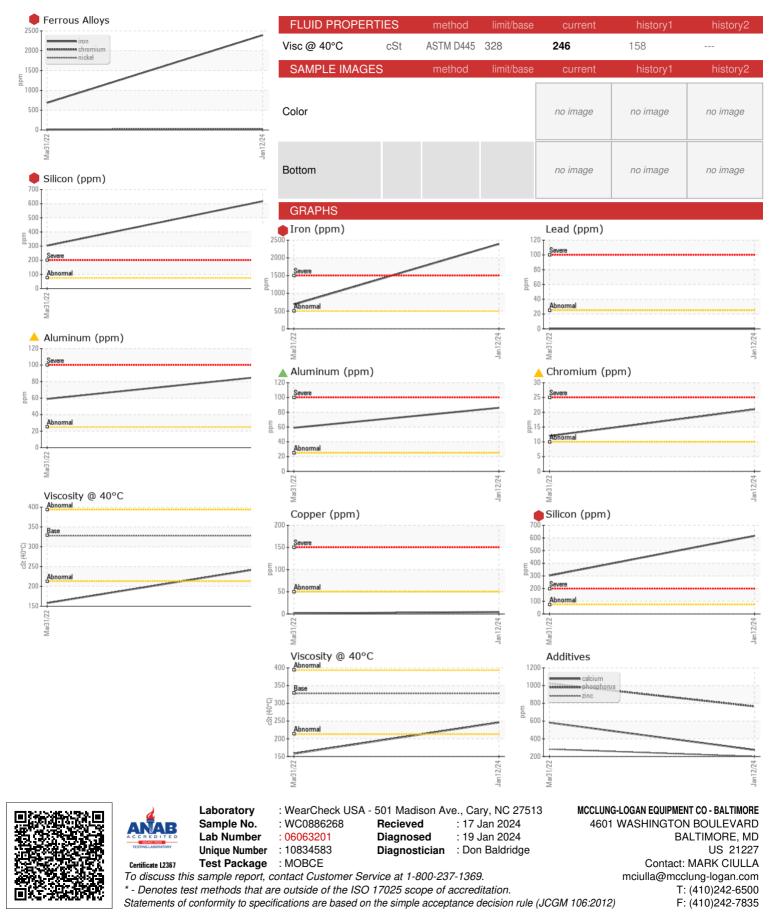
**Rear Right Final Drive** Fluid

MOBIL MOBILUBE HD 85W140 (--- GAL)

| DIAGNOSIS   |  |   |  |  |   |  |  |
|---|--|---|--|--|---|--|--|
|   | SAMPLE INFOR   | MATION  | method   | limit/base   | current   | history1   | history2   |
| Recommendation  | Sample Number  |   | Client Info  | I  | NC0886268   | VCP358598  |  |
| We advise that you check all areas where dirt can   | Sample Date  |   | Client Info  | 1  | 12 Jan 2024   | 31 Mar 2022  |  |
| enter the system. The oil change at the time of   | Machine Age  | hrs   | Client Info  | 3  | 3511  | 1124   |  |
| sampling has been noted. We advise that you   | Oil Age  | hrs   | Client Info  |  | 500   | 0  |  |
| inspect for the source(s) of wear. We recommend   | Oil Changed  |   | Client Info  |  | Changed   | Changed  |  |
| an early resample to monitor this condition. (<br>Customer Sample Comment: 500 hour service ) | Sample Status  |   |  |  | SEVERE  | SEVERE   |  |
| Wear  | CONTAMINATIC   | ON  | method   | limit/base   | current   | history1   | history2   |
| Gear wear is indicated.   | Water  |   | WC Method  | >0.2   | NEG   | NEG  |  |
| Contamination Elemental levels of silicon (Si) and aluminum (AI)                              | WEAR METALS  |   | method   | limit/base   | current   | history1   | history2   |
| ndicate alumina-silicate (coarse dirt) ingress.   | Iron   | ppm   | ASTM D5185m  | >500   | 2393  | 685  |  |
| Fluid Condition   | Chromium   | ppm   | ASTM D5185m  |  | 21  | ▲ 12   |  |
| The oil is no longer serviceable due to the presence  | Nickel   | ppm   | ASTM D5185m  |  | 2   | <1   |  |
| of contaminants.  | Titanium   | ppm   | ASTM D5185m  |  | 10  | 6  |  |
|   | Silver   | ppm   | ASTM D5185m  |  | 0   | 0  |  |
|   | Aluminum   | ppm   | ASTM D5185m  | >25  | 86  | ▲ 59   |  |
|   | Lead   |   | ASTM D5185m  |  | 0   | 0  |  |
|   | Copper   | ppm   | ASTM D5185m  |  | 4   | 1  |  |
|   | Tin  | ppm   | ASTM D5185m  |  | 4   | 0  |  |
|   | Vanadium   | ppm   |  | >10  | 0   | <1   |  |
|   | Cadmium  | ppm<br>ppm  | ASTM D5185m<br>ASTM D5185m   |  | 0   | <1   |  |
|   | ADDITIVES  |   | method   | limit/base   | current   | history1   | history2   |
|   | Boron  | ppm   | ASTM D5185m  |  | 94  | 156  |  |
|   | Barium   | ppm   | ASTM D5185m  |  | 3   | 0  |  |
|   | Molybdenum   | ppm   | ASTM D5185m  |  | 14  | 16   |  |
|   | Manganese  | ppm   | ASTM D5185m  |  | 15  | 7  |  |
|   | 0  |   | ASTM D5185m  |  | 136   | 135  |  |
|   | Magnesium<br>Calcium   | ppm   | ASTM D5185m  |  | 274   | 582  |  |
|   |  | ppm   |  |  |   |  |  |
|   | Phosphorus   |   |  |  |   | 1000   |  |
|   | Zino   | ppm   | ASTM D5185m  |  | 765   | 1023   |  |
|   | Zinc<br>Sulfur   | ppm<br>ppm  | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m  |  | 200<br>28415  | 1023<br>283<br>19759   |  |
|   | Sulfur   | ppm<br>ppm  | ASTM D5185m  | limit/base   | 200   | 283<br>19759   |  |
|   |  | ppm<br>ppm<br>S   | ASTM D5185m<br>ASTM D5185m   |  | 200<br>28415  | 283  |  |
|   | Sulfur<br>CONTAMINANT  | ppm<br>ppm<br>S<br>ppm  | ASTM D5185m<br>ASTM D5185m<br>method<br>ASTM D5185m  |  | 200<br>28415<br>current<br>617  | 283<br>19759<br>history1<br>303  | <br><br>history2   |
|   | Sulfur<br>CONTAMINANT<br>Silicon   | ppm<br>ppm<br>S   | ASTM D5185m<br>ASTM D5185m<br>method   | >75  | 200<br>28415<br>current   | 283<br>19759<br>history1   | <br><br>history2   |
|   | Sulfur<br>CONTAMINANT<br>Silicon<br>Sodium   | ppm<br>ppm<br>S<br>ppm<br>ppm   | ASTM D5185m<br>ASTM D5185m<br><b>method</b><br>ASTM D5185m<br>ASTM D5185m  | >75  | 200<br>28415<br>current<br>617<br><1  | 283<br>19759<br>history1<br>303<br>6   | <br>history2<br>   |
|   | Sulfur<br>CONTAMINANT<br>Silicon<br>Sodium<br>Potassium  | ppm<br>ppm<br>S<br>ppm<br>ppm   | ASTM D5185m<br>ASTM D5185m<br><b>method</b><br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m   | >75<br>>20   | 200<br>28415<br>current<br>617<br><1<br>23  | 283<br>19759<br>history1<br>303<br>6<br>14   | <br>history2<br><br>   |
|   | Sulfur<br>CONTAMINANT<br>Silicon<br>Sodium<br>Potassium<br>VISUAL  | ppm<br>ppm<br>S<br>ppm<br>ppm<br>ppm  | ASTM D5185m<br>ASTM D5185m<br>Method<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>method  | >75<br>>20<br>limit/base   | 200<br>28415<br>current<br>617<br><1<br>23<br>current   | 283<br>19759<br>history1<br>303<br>6<br>14<br>history1   | <ul> <li></li> <li>history2</li> <li></li> <li></li> <li>history2</li> </ul> |
|   | Sulfur<br>CONTAMINANT<br>Silicon<br>Sodium<br>Potassium<br>VISUAL<br>White Metal   | ppm<br>ppm<br>S<br>ppm<br>ppm<br>ppm<br>scalar  | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>Method<br>*Visual   | >75<br>>20<br>limit/base<br>NONE   | 200<br>28415<br>current<br>617<br><1<br>23<br>current<br>NONE   | 283<br>19759<br>history1<br>303<br>6<br>14<br>history1<br>LIGHT  | <br>history2<br><br><br>history2   |
|   | Sulfur<br>CONTAMINANT<br>Silicon<br>Sodium<br>Potassium<br>VISUAL<br>White Metal<br>Yellow Metal   | ppm<br>ppm<br>S<br>ppm<br>ppm<br>ppm<br>scalar<br>scalar  | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>Method<br>*Visual   | >75<br>>20<br>limit/base<br>NONE<br>NONE   | 200<br>28415<br>617<br><1<br>23<br>current<br>NONE<br>NONE  | 283<br>19759<br>history1<br>303<br>6<br>14<br>history1<br>LIGHT<br>NONE  | <br>history2<br><br><br>history2<br><br>history2                             |
|   | Sulfur<br>CONTAMINANT<br>Silicon<br>Sodium<br>Potassium<br>VISUAL<br>White Metal<br>Yellow Metal<br>Precipitate  | ppm<br>ppm<br>s<br>ppm<br>ppm<br>ppm<br>ppm<br>scalar<br>scalar<br>scalar   | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>Method<br>*Visual<br>*Visual  | >75<br>>20<br>limit/base<br>NONE<br>NONE<br>NONE   | 200<br>28415<br>current<br>617<br><1<br>23<br>current<br>NONE<br>NONE<br>NONE                             | 283<br>19759<br>history1<br>303<br>6<br>14<br>history1<br>LIGHT<br>NONE<br>NONE<br>NONE                                  | <br>history2<br><br><br>history2<br><br>                                     |
|   | Sulfur<br>CONTAMINANT<br>Silicon<br>Sodium<br>Potassium<br>VISUAL<br>White Metal<br>Yellow Metal<br>Precipitate<br>Silt                                      | scalar<br>scalar<br>scalar<br>scalar  | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>*Visual<br>*Visual<br>*Visual<br>*Visual   | >75<br>>20<br>limit/base<br>NONE<br>NONE<br>NONE<br>NONE   | 200<br>28415<br>current<br>617<br><1<br>23<br>current<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE             | 283<br>19759<br>history1<br>303<br>6<br>14<br>LIGHT<br>LIGHT<br>NONE<br>NONE<br>NONE<br>NONE                             | <br>history2<br><br><br>history2<br><br>history2                             |
|   | Sulfur<br>CONTAMINANT<br>Silicon<br>Sodium<br>Potassium<br>VISUAL<br>White Metal<br>Yellow Metal<br>Precipitate<br>Silt<br>Debris                            | ppm<br>ppm<br>s<br>ppm<br>ppm<br>ppm<br>ppm<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar               | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>XSTM D5185m<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual                              | >75 >20 Iinit/base NONE NONE NONE NONE NONE NONE NONE NON  | 200<br>28415<br>617<br><1<br>23<br><u>current</u><br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE         | 283<br>19759<br>history1<br>303<br>6<br>14<br>14<br>LIGHT<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE                | history2 history2 history2   |
|   | Sulfur<br>CONTAMINANT<br>Silicon<br>Sodium<br>Potassium<br>VISUAL<br>White Metal<br>Yellow Metal<br>Precipitate<br>Silt<br>Debris<br>Sand/Dirt               | s ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>ppm<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual | >75   >20  limit/base NONE NONE NONE NONE NONE NONE NONE NON   | 200<br>28415<br>617<br><1<br>23<br>Current<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NON | 283<br>19759<br>history1<br>303<br>6<br>14<br>14<br>LIGHT<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NON | <br>history2<br><br><br>history2<br><br><br><br><br><br><br><br><br>         |
|   | Sulfur<br>CONTAMINANT<br>Silicon<br>Sodium<br>Potassium<br>VISUAL<br>White Metal<br>Yellow Metal<br>Precipitate<br>Silt<br>Debris<br>Sand/Dirt<br>Appearance | ppm<br>ppm<br>S<br>ppm<br>ppm<br>ppm<br>ppm<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar<br>scalar     | ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>ASTM D5185m<br>XSTM D5185m<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual<br>*Visual                   | >75<br>>20<br>limit/base<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE | 200<br>28415<br>617<br><1<br>23<br>current<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE        | 283<br>19759<br>history1<br>303<br>6<br>14<br>history1<br>LIGHT<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE<br>NONE  | history2   |



## **OIL ANALYSIS REPORT**



Submitted By: DARRELL ANDES