



# ASCENDUM

## OIL ANALYSIS REPORT

|                 |               |
|-----------------|---------------|
| WEAR            | <b>NORMAL</b> |
| CONTAMINATION   | <b>NORMAL</b> |
| FLUID CONDITION | <b>NORMAL</b> |



Machine Id  
**VOLVO A45G 13409 (S/N 353519)**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 30 (--- GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>ASC0002905</b>  | ASC0008507  | VCP421671   |
| Sample Date    |     | Client Info |           | <b>06 Apr 2024</b> | 24 Feb 2024 | 11 Dec 2023 |
| Machine Age    | hrs | Client Info |           | <b>2389</b>        | 1995        | 771         |
| Oil Age        | hrs | Client Info |           | <b>394</b>         | 0           | 0           |
| Filter Age     | hrs | Client Info |           | <b>0</b>           | 0           | 0           |
| Oil Changed    |     | Client Info |           | <b>N/A</b>         | Changed     | Changed     |
| Filter Changed |     | Client Info |           | <b>N/A</b>         | Changed     | Changed     |
| Sample Status  |     |             |           | <b>NORMAL</b>      | NORMAL      | NORMAL      |

### WEAR

All component wear rates are normal.

|              |        |             |      |              |      |      |
|--------------|--------|-------------|------|--------------|------|------|
| Iron         | ppm    | ASTM D5185m | >100 | <b>11</b>    | 15   | 29   |
| Chromium     | ppm    | ASTM D5185m | >20  | <b>&lt;1</b> | <1   | <1   |
| Nickel       | ppm    | ASTM D5185m | >2   | <b>2</b>     | 1    | 2    |
| Titanium     | ppm    | ASTM D5185m |      | <b>2</b>     | 0    | <1   |
| Silver       | ppm    | ASTM D5185m | >2   | <b>&lt;1</b> | 0    | 0    |
| Aluminum     | ppm    | ASTM D5185m | >25  | <b>3</b>     | 3    | 3    |
| Lead         | ppm    | ASTM D5185m | >40  | <b>&lt;1</b> | 1    | 3    |
| Copper       | ppm    | ASTM D5185m | >330 | <b>5</b>     | 15   | 172  |
| Tin          | ppm    | ASTM D5185m | >15  | <b>2</b>     | 1    | 5    |
| Vanadium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | 0    | 0    |
| White Metal  | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |
| Yellow Metal | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |

### CONTAMINATION

There is no indication of any contamination in the oil.

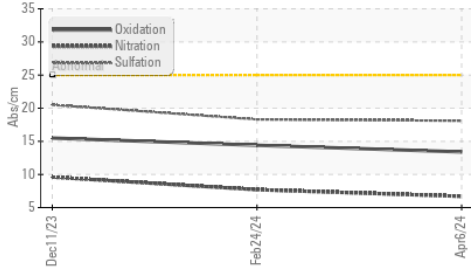
|                  |          |             |       |                |       |       |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon          | ppm      | ASTM D5185m | >25   | <b>5</b>       | 6     | 28    |
| Potassium        | ppm      | ASTM D5185m | >20   | <b>2</b>       | 1     | 1     |
| Fuel             |          | WC Method   | >6.0  | <b>&lt;1.0</b> | <1.0  | 0.9   |
| Water            |          | WC Method   | >0.2  | <b>NEG</b>     | NEG   | NEG   |
| Glycol           |          | WC Method   |       | <b>NEG</b>     | NEG   | NEG   |
| Soot %           | %        | *ASTM D7844 | >3    | <b>0.3</b>     | 0.4   | 0.5   |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | <b>6.7</b>     | 7.7   | 9.6   |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | <b>18.1</b>    | 18.3  | 20.5  |
| Silt             | scalar   | *Visual     | NONE  | <b>NONE</b>    | NONE  | NONE  |
| Debris           | scalar   | *Visual     | NONE  | <b>NONE</b>    | NONE  | NONE  |
| Sand/Dirt        | scalar   | *Visual     | NONE  | <b>NONE</b>    | NONE  | NONE  |
| Appearance       | scalar   | *Visual     | NORML | <b>NORML</b>   | NORML | NORML |
| Odor             | scalar   | *Visual     | NORML | <b>NORML</b>   | NORML | NORML |
| Emulsified Water | scalar   | *Visual     | >0.2  | <b>NEG</b>     | NEG   | NEG   |

### FLUID CONDITION

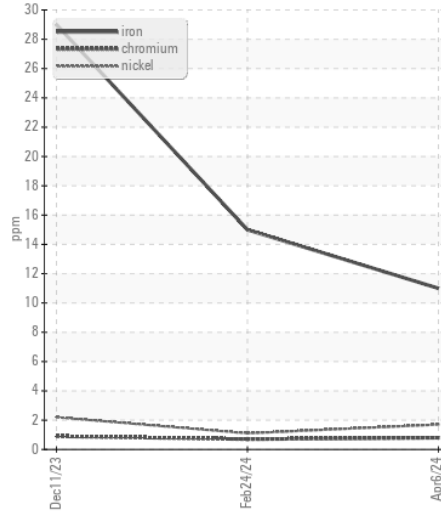
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

|                  |          |             |      |              |      |      |
|------------------|----------|-------------|------|--------------|------|------|
| Sodium           | ppm      | ASTM D5185m | >75  | <b>0</b>     | 2    | 5    |
| Boron            | ppm      | ASTM D5185m | 250  | <b>3</b>     | 2    | 27   |
| Barium           | ppm      | ASTM D5185m | 10   | <b>0</b>     | 0    | 0    |
| Molybdenum       | ppm      | ASTM D5185m | 100  | <b>60</b>    | 64   | 77   |
| Manganese        | ppm      | ASTM D5185m |      | <b>&lt;1</b> | <1   | 2    |
| Magnesium        | ppm      | ASTM D5185m | 450  | <b>846</b>   | 970  | 27   |
| Calcium          | ppm      | ASTM D5185m | 3000 | <b>1039</b>  | 1138 | 2309 |
| Phosphorus       | ppm      | ASTM D5185m | 1150 | <b>899</b>   | 1070 | 997  |
| Zinc             | ppm      | ASTM D5185m | 1350 | <b>1124</b>  | 1248 | 1157 |
| Sulfur           | ppm      | ASTM D5185m | 4250 | <b>2918</b>  | 3194 | 3500 |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | <b>13.4</b>  | 14.4 | 15.5 |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 8.5  | <b>8.4</b>   | 7.5  | 4.8  |
| Visc @ 100°C     | cSt      | ASTM D445   | 10.9 | <b>12.6</b>  | 12.3 | 10.6 |

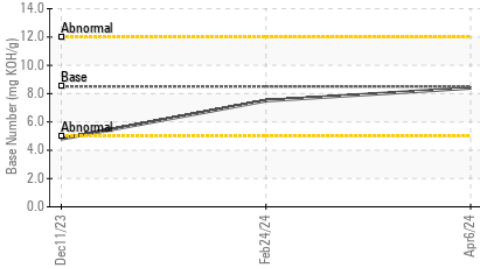
**FT-IR (Direct Trend)**



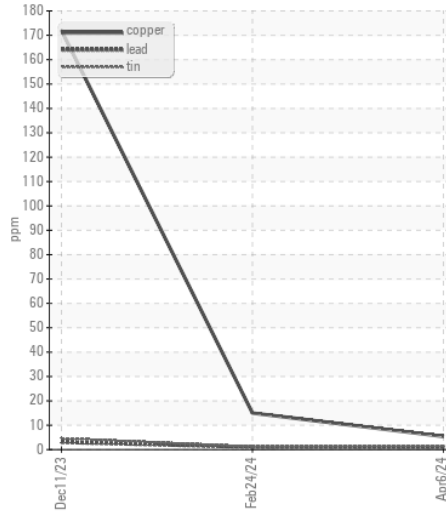
**Ferrous Alloys**



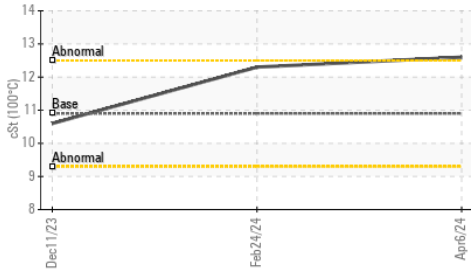
**Base Number**



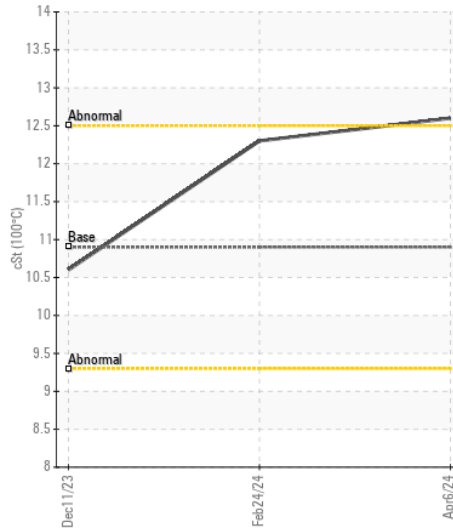
**Non-ferrous Metals**



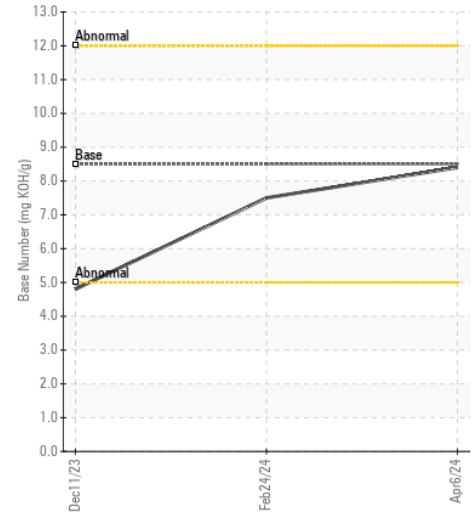
**Viscosity @ 100°C**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : ASC0002905 **Received** : 23 Apr 2024  
**Lab Number** : 06157180 **Tested** : 24 Apr 2024  
**Unique Number** : 10992603 **Diagnosed** : 25 Apr 2024 - Jonathan Hester  
**Test Package** : CONST ( Additional Tests: TBN )

**117 - ASCENDUM MACHINERY INC - GREENVILLE**  
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 GREENVILLE, NC  
 US 27834  
 Contact: ALLEN WILLIAMS  
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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)

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