



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

Machine Id  
**SENNEBOGEN 825 C183344 (S/N 825.0.1186)**

Component  
**Diesel Engine**

Fluid  
**{not provided} (--- QTS)**

### RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|----------|
| Sample Number  |     | Client Info |           | <b>JR0210768</b>   | JR0112224   | ---      |
| Sample Date    |     | Client Info |           | <b>22 May 2024</b> | 12 Jan 2022 | ---      |
| Machine Age    | hrs | Client Info |           | <b>16776</b>       | 16076       | ---      |
| Oil Age        | hrs | Client Info |           | <b>16076</b>       | 0           | ---      |
| Filter Age     | hrs | Client Info |           | <b>16076</b>       | 0           | ---      |
| Oil Changed    |     | Client Info |           | <b>Changed</b>     | Changed     | ---      |
| Filter Changed |     | Client Info |           | <b>Changed</b>     | Changed     | ---      |
| Sample Status  |     |             |           | <b>ABNORMAL</b>    | NORMAL      | ---      |

### WEAR

All component wear rates are normal.

|              |        |             |      |              |      |     |
|--------------|--------|-------------|------|--------------|------|-----|
| Iron         | ppm    | ASTM D5185m | >100 | <b>21</b>    | 16   | --- |
| Chromium     | ppm    | ASTM D5185m | >20  | <b>8</b>     | 5    | --- |
| Nickel       | ppm    | ASTM D5185m | >4   | <b>0</b>     | <1   | --- |
| Titanium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | <1   | --- |
| Silver       | ppm    | ASTM D5185m | >3   | <b>&lt;1</b> | <1   | --- |
| Aluminum     | ppm    | ASTM D5185m | >20  | <b>2</b>     | 2    | --- |
| Lead         | ppm    | ASTM D5185m | >40  | <b>&lt;1</b> | 1    | --- |
| Copper       | ppm    | ASTM D5185m | >330 | <b>1</b>     | 1    | --- |
| Tin          | ppm    | ASTM D5185m | >15  | <b>0</b>     | <1   | --- |
| Vanadium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | <1   | --- |
| White Metal  | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | --- |
| Yellow Metal | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | --- |

### CONTAMINATION

Tests indicate that there is no fuel present in the oil. There is no indication of any contamination in the oil.

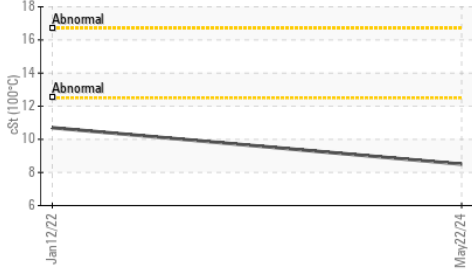
|                  |          |             |       |              |       |     |
|------------------|----------|-------------|-------|--------------|-------|-----|
| Silicon          | ppm      | ASTM D5185m | >25   | <b>3</b>     | 3     | --- |
| Potassium        | ppm      | ASTM D5185m | >20   | <b>2</b>     | 2     | --- |
| Fuel             | %        | ASTM D3524  | >5    | <b>0.0</b>   | 0.0   | --- |
| Water            |          | WC Method   | >0.2  | <b>NEG</b>   | NEG   | --- |
| Glycol           |          | WC Method   |       | <b>NEG</b>   | NEG   | --- |
| Soot %           | %        | *ASTM D7844 | >3    | <b>0.4</b>   | 0.4   | --- |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | <b>4.4</b>   | 6.5   | --- |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | <b>14.9</b>  | 17.7  | --- |
| Silt             | scalar   | *Visual     | NONE  | <b>NONE</b>  | NONE  | --- |
| Debris           | scalar   | *Visual     | NONE  | <b>NONE</b>  | NONE  | --- |
| Sand/Dirt        | scalar   | *Visual     | NONE  | <b>NONE</b>  | NONE  | --- |
| Appearance       | scalar   | *Visual     | NORML | <b>NORML</b> | NORML | --- |
| Odor             | scalar   | *Visual     | NORML | <b>NORML</b> | NORML | --- |
| Emulsified Water | scalar   | *Visual     | >0.2  | <b>NEG</b>   | NEG   | --- |

### FLUID CONDITION

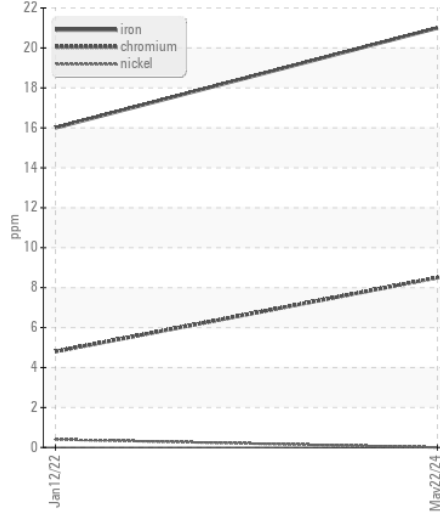
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

|                  |          |             |     |              |      |     |
|------------------|----------|-------------|-----|--------------|------|-----|
| Sodium           | ppm      | ASTM D5185m |     | <b>4</b>     | 3    | --- |
| Boron            | ppm      | ASTM D5185m |     | <b>20</b>    | 6    | --- |
| Barium           | ppm      | ASTM D5185m |     | <b>0</b>     | 0    | --- |
| Molybdenum       | ppm      | ASTM D5185m |     | <b>31</b>    | 3    | --- |
| Manganese        | ppm      | ASTM D5185m |     | <b>&lt;1</b> | <1   | --- |
| Magnesium        | ppm      | ASTM D5185m |     | <b>235</b>   | 69   | --- |
| Calcium          | ppm      | ASTM D5185m |     | <b>572</b>   | 1521 | --- |
| Phosphorus       | ppm      | ASTM D5185m |     | <b>565</b>   | 685  | --- |
| Zinc             | ppm      | ASTM D5185m |     | <b>662</b>   | 875  | --- |
| Sulfur           | ppm      | ASTM D5185m |     | <b>3023</b>  | 3665 | --- |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25 | <b>7.0</b>   | 8.7  | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896  |     | <b>3.7</b>   | 5.5  | --- |
| Visc @ 100°C     | cSt      | ASTM D445   |     | <b>▲ 8.5</b> | 10.7 | --- |

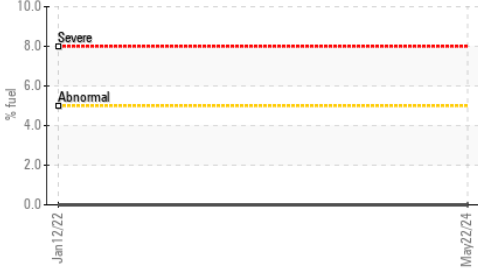
▲ Viscosity @ 100°C



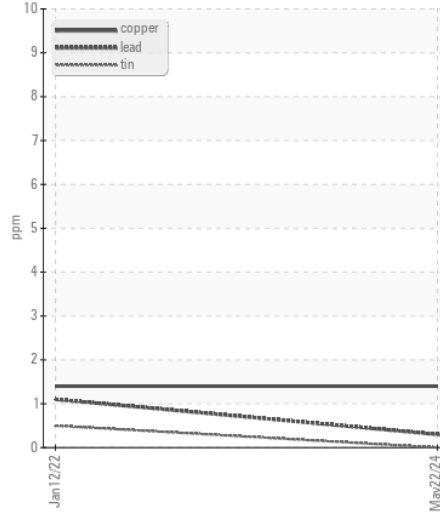
Ferrous Alloys



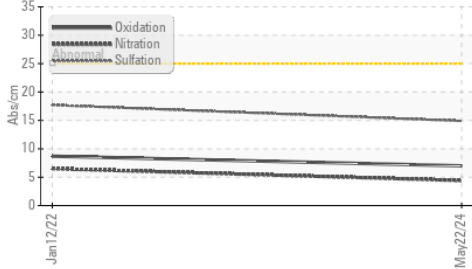
Fuel Dilution



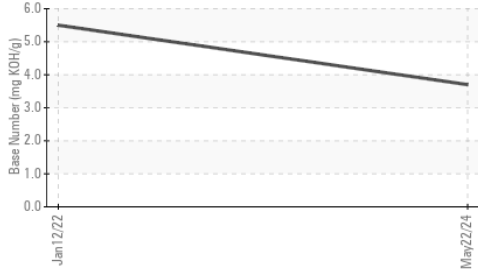
Non-ferrous Metals



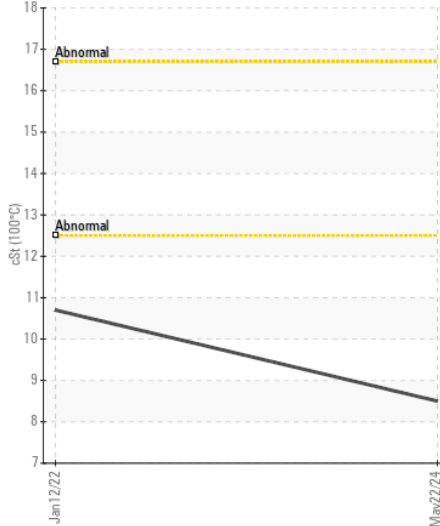
FT-IR (Direct Trend)



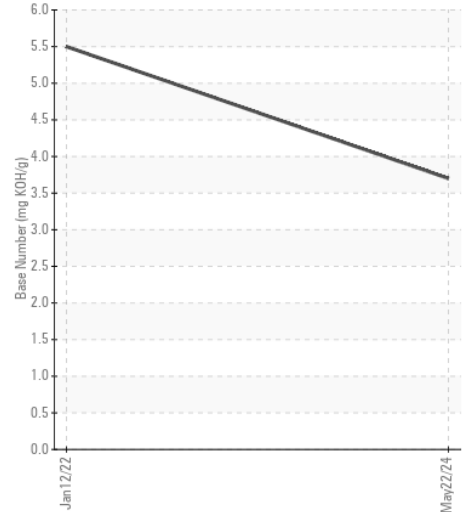
Base Number



▲ Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : JR0210768  
**Lab Number** : 06191491  
**Unique Number** : 11048243  
**Test Package** : CONST ( Additional Tests: FuelDilution, PercentFuel, TBN )

**Received** : 24 May 2024  
**Tested** : 29 May 2024  
**Diagnosed** : 29 May 2024 - Angela Borella

**JRE - STEPHENSON**  
 245 YARDMASTER COURT  
 STEPHENSON, VA  
 US 22656-1761  
 Contact: PHIL DAUGHERTY  
 pdaugherty@jamesriverequipment.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)

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