

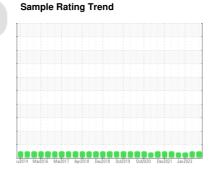
## **OIL ANALYSIS REPORT**



COLORADO/443/EG - EXCAVATOR 20.114L [COLORADO^443^EG - EXCAVATOR]

**Diesel Engine** 

MOBIL DELVAC 1300 SUPER15W40 (--- GAL)







## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the

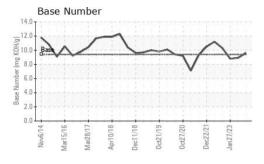
### **Fluid Condition**

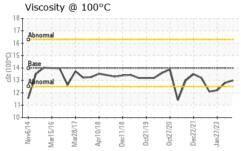
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| SAMPLE INFORM   | MATION      | method            | limit/base | current     | history1    | history2    |  |
|---|-------------|-------------------|------------|-------------|-------------|-------------|--|
|   |             | Client Info       | mmusacc    |             | WC0823109   | WC0766127   |  |
| Sample Number   |             | Client Info       |            | WC0883888   |             |             |  |
| Sample Date   | la con      |                   |            | 11 Mar 2024 | 26 Aug 2023 | 27 Jan 2023 |  |
| Machine Age   | hrs         | Client Info       |            | 7710        | 7422        | 7174        |  |
| Oil Age   | hrs         | Client Info       |            | 0           | 0           | 0           |  |
| Oil Changed   |             | Client Info       |            | Changed     | Changed     | Changed     |  |
| Sample Status   |             |                   |            | NORMAL      | NORMAL      | ATTENTION   |  |
| CONTAMINATIO  | N           | 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       | 6           | 7           | 8           |  |
| Chromium  | ppm         | ASTM D5185m       | >20        | 0           | <1          | <1          |  |
| Nickel  | ppm         | ASTM D5185m       | >2         | 0           | 0           | 0           |  |
| Titanium  | ppm         | ASTM D5185m       |            | 0           | <1          | <1          |  |
| Silver  | ppm         | ASTM D5185m       | >2         | 0           | 0           | 0           |  |
| Aluminum  | ppm         | ASTM D5185m       |            | 2           | 4           | 3           |  |
| Lead  |             | ASTM D5185m       | >40        | 0           | 0           | <1          |  |
|   | ppm         | ASTM D5185m       |            | <1          | 0           | <1          |  |
| Copper  | ppm         |                   |            |             |             | <1          |  |
| Tin   | ppm         |                   | >15        | <1          | <1          |             |  |
| Vanadium  | ppm         | ASTM D5185m       |            | 0           | 0           | <1          |  |
| Cadmium   | ppm         | ASTM D5185m       |            | 0           | 0           | 0           |  |
| ADDITIVES   |             | method            | limit/base | current     | history1    | history2    |  |
| Boron   | ppm         | ASTM D5185m       | 0          | 53          | 62          | 81          |  |
| Barium  | ppm         | ASTM D5185m       | 0          | 0           | 0           | 0           |  |
| Molybdenum  | ppm         | ASTM D5185m       | 0          | 39          | 36          | 25          |  |
| Manganese   | ppm         | ASTM D5185m       |            | <1          | <1          | <1          |  |
| Magnesium   | ppm         | ASTM D5185m       | 0          | 524         | 558         | 628         |  |
| Calcium   | ppm         | ASTM D5185m       |            | 1622        | 1655        | 1547        |  |
| Phosphorus  | ppm         | ASTM D5185m       |            | 770         | 763         | 718         |  |
| Zinc  | ppm         | ASTM D5185m       |            | 903         | 926         | 888         |  |
| Sulfur  | ppm         | ASTM D5185m       |            | 2867        | 3171        | 3303        |  |
| CONTAMINANTS  |             | method            | limit/base | current     | history1    | history2    |  |
| Silicon   | ppm         | ASTM D5185m       | >25        | 4           | 5           | 5           |  |
| Sodium  | ppm         | ASTM D5185m       |            | 2           | 2           | 2           |  |
| Potassium   | ppm         | ASTM D5185m       | >20        | 0           | 1           | 1           |  |
| INFRA-RED   |             | method            | limit/base | current     | history1    | history2    |  |
| Soot %  | %           | *ASTM D7844       | >3         | 0.1         | 0.1         | 0.1         |  |
| Nitration   | Abs/cm      | *ASTM D7624       | >20        | 6.4         | 6.5         | 8.3         |  |
| Sulfation   | Abs/.1mm    | *ASTM D7024       | >30        | 21.5        | 20.6        | 19.2        |  |
| FLUID DEGRADATION method limit/base current history1 history2 |             |                   |            |             |             |             |  |
| Oxidation   | Abs/.1mm    | *ASTM D7414       | >25        | 20.1        | 19.3        | 16.1        |  |
| OλIUaliUII  | W09/1111111 | 4011VI D/414      | 10         | 20.1        | 13.3        | 10.1        |  |
| Base Number (BN)  | mg KOH/g    | <b>ASTM D2896</b> | 9.4        | 9.6         | 8.9         | 8.8         |  |



# **OIL ANALYSIS REPORT**

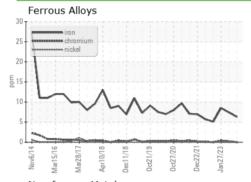


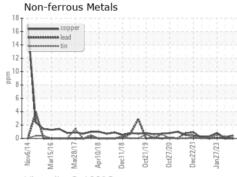


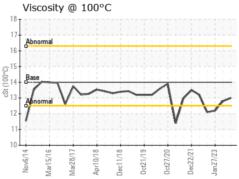
| VISUAL                  |        | method  | limit/base | current | history1 | history2 |
|-------------------------|--------|---------|------------|---------|----------|----------|
| White Metal             | scalar | *Visual | NONE       | NONE    | NONE     | NONE     |
| Yellow Metal            | 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    |
| <b>Emulsified Water</b> | scalar | *Visual | >0.2       | NEG     | NEG      | NEG      |
| Free Water              | scalar | *Visual |            | NEG     | NEG      | NEG      |
|                         |        |         |            |         |          |          |

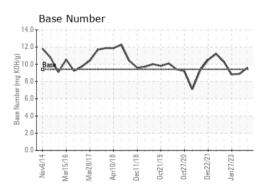
| FLUID PROPER | TIES | method    |    |      |      | history2 |
|--------------|------|-----------|----|------|------|----------|
| Visc @ 100°C | cSt  | ASTM D445 | 14 | 13.0 | 12.8 | 12.2     |

### **GRAPHS**













Laboratory Sample No. Lab Number : 06124202 Unique Number: 10938353

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0883888

**Tested** Diagnosed

Received : 20 Mar 2024 : 21 Mar 2024

: 21 Mar 2024 - Wes Davis Test Package : CONST ( Additional Tests: TBN )

SHERWOOD CONSTRUCTION CO INC

3219 WEST MAY ST WICHITA, KS US 67213

T: (918)691-3306

Contact: JIMMY DERAMUS jimmy.deramus@sherwood.net

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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