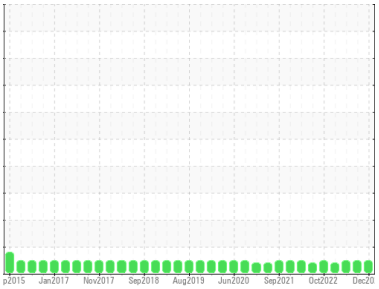
# OIL ANALYSIS REPORT

Area
## COLORADO/443/EG - EXCAVATOR
Machine Id
## 20.303L [COLORADO^443^EG - EXCAVATOR]
Component
**Diesel Engine**
Fluid
**MOBIL DELVAC 1300 SUPER15W40 (--- GAL)**

**Sample Rating Trend**




**NORMAL**

## DIAGNOSIS

**Recommendation**
Resample at the next service interval to monitor.

**Wear**
All component wear rates are normal.

**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 INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0859595** | WC0823120 | WC0799173 |
| Sample Date | | Client Info | | **05 Dec 2023** | 15 Sep 2023 | 04 May 2023 |
| Machine Age | hrs | Client Info | | **11132** | 10862 | 10610 |
| Oil Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **Changed** | Changed | Changed |
| Sample Status | | | | **NORMAL** | NORMAL | NORMAL |

| CONTAMINATION | | 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 | **12** | 10 | 8 |
| Chromium | ppm | ASTM D5185m | >20 | **<1** | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >2 | **0** | <1 | <1 |
| Titanium | ppm | ASTM D5185m | >2 | **0** | 0 | <1 |
| Silver | ppm | ASTM D5185m | >2 | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >25 | **7** | 6 | 2 |
| Lead | ppm | ASTM D5185m | >40 | **0** | 0 | <1 |
| Copper | ppm | ASTM D5185m | >330 | **2** | 2 | <1 |
| Tin | ppm | ASTM D5185m | >15 | **0** | <1 | 1 |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | <1 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

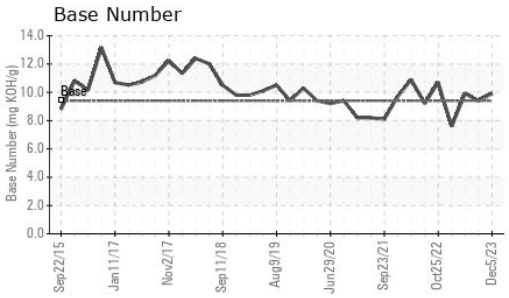
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 0 | **41** | 44 | 49 |
| Barium | ppm | ASTM D5185m | 0 | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 0 | **47** | 43 | 40 |
| Manganese | ppm | ASTM D5185m | | **0** | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 0 | **569** | 545 | 549 |
| Calcium | ppm | ASTM D5185m | | **1706** | 1770 | 1595 |
| Phosphorus | ppm | ASTM D5185m | | **784** | 775 | 754 |
| Zinc | ppm | ASTM D5185m | | **1002** | 937 | 907 |
| Sulfur | ppm | ASTM D5185m | | **2332** | 3047 | 3061 |

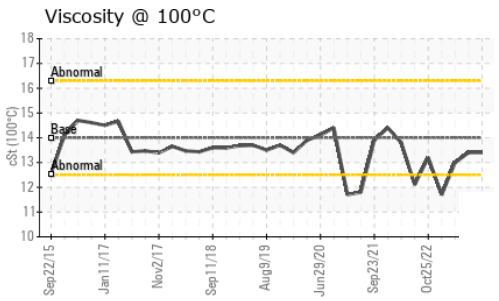
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **8** | 6 | 5 |
| Sodium | ppm | ASTM D5185m | | **14** | 10 | 6 |
| Potassium | ppm | ASTM D5185m | >20 | **1** | 1 | 2 |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | *ASTM D7844 | >3 | **0.2** | 0.2 | 0.1 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **7.3** | 7.0 | 7.0 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **22.1** | 21.8 | 21.7 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **21.0** | 20.4 | 20.0 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 9.4 | **9.9** | 9.4 | 9.9 |

# OIL ANALYSIS REPORT

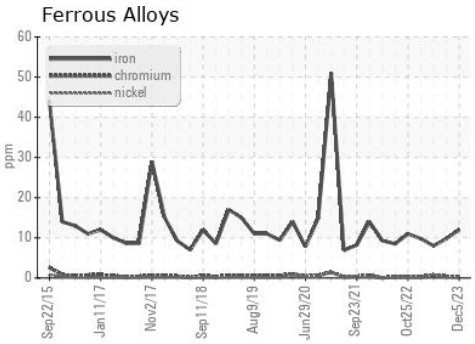


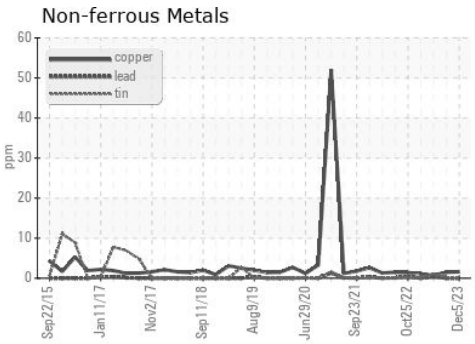



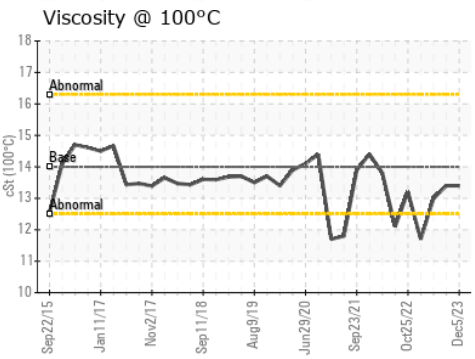

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
|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

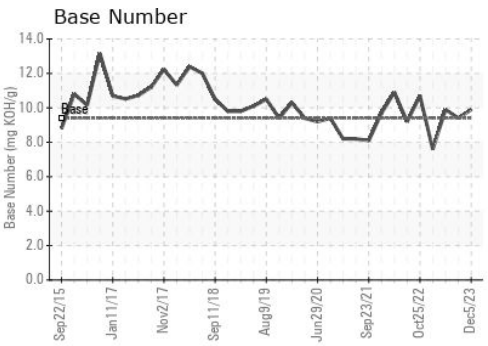
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D445 | 14 | **13.4** | 13.4 | 13.0 |

## GRAPHS




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : WC0859595
**Lab Number** : 06029926
**Unique Number** : 10779717
**Test Package** : CONST ( Additional Tests: TBN )

**Received** : 08 Dec 2023
**Diagnosed** : 12 Dec 2023
**Diagnostician** : Wes Davis

*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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Report Id: SHEWIC [WUSCAR] 06029926 (Generated: 12/12/2023 23:48:29) Rev: 1

Submitted By: BRANDEN JAQUIAS