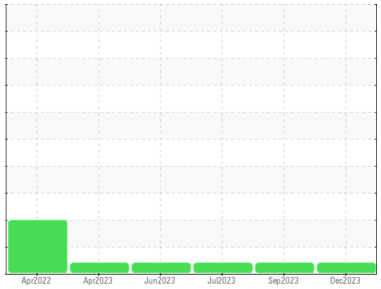
# OIL ANALYSIS REPORT

Area
**OKLAHOMA/102**
Machine Id
**69.105L [OKLAHOMA^102]**
Component
**Diesel Engine**
Fluid
**MOBIL DELVAC 1300 SUPER15W40 (--- GAL)**

Sample Rating Trend




**VISCOSITY**

## DIAGNOSIS

**Recommendation**
Resample at the next service interval to monitor. ( Customer Sample Comment: 2822 hrs )

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

**Contamination**
There is no indication of any contamination in the oil.

**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.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0864286** | WC0848925 | WC0834031 |
| Sample Date | | Client Info | | **18 Dec 2023** | 13 Sep 2023 | 20 Jul 2023 |
| Machine Age | hrs | Client Info | | **2822** | 2603 | 2389 |
| Oil Age | hrs | Client Info | | **2822** | 214 | 360 |
| Oil Changed | | Client Info | | **N/A** | Not Changd | Changed |
| Sample Status | | | | **ATTENTION** | ATTENTION | ATTENTION |

| 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 | **13** | 6 | 14 |
| Chromium | ppm | ASTM D5185m | >20 | **<1** | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >2 | **0** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | >2 | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185m | >2 | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >25 | **2** | 0 | 1 |
| Lead | ppm | ASTM D5185m | >40 | **0** | 0 | 0 |
| Copper | ppm | ASTM D5185m | >330 | **13** | 7 | 20 |
| Tin | ppm | ASTM D5185m | >15 | **0** | <1 | <1 |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 0 | **44** | 45 | 32 |
| Barium | ppm | ASTM D5185m | 0 | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 0 | **42** | 39 | 41 |
| Manganese | ppm | ASTM D5185m | | **0** | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 0 | **507** | 523 | 511 |
| Calcium | ppm | ASTM D5185m | | **1737** | 1762 | 1866 |
| Phosphorus | ppm | ASTM D5185m | | **771** | 777 | 827 |
| Zinc | ppm | ASTM D5185m | | **959** | 939 | 1019 |
| Sulfur | ppm | ASTM D5185m | | **2602** | 3223 | 3457 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **6** | 5 | 6 |
| Sodium | ppm | ASTM D5185m | | **0** | 2 | 1 |
| Potassium | ppm | ASTM D5185m | >20 | **<1** | 0 | 0 |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | *ASTM D7844 | >3 | **0.3** | 0.2 | 0.3 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **7.1** | 6.8 | 7.7 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **21.8** | 21.3 | 21.9 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **19.3** | 18.9 | 19.1 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 9.4 | **9.3** | 10.3 | 9.4 |

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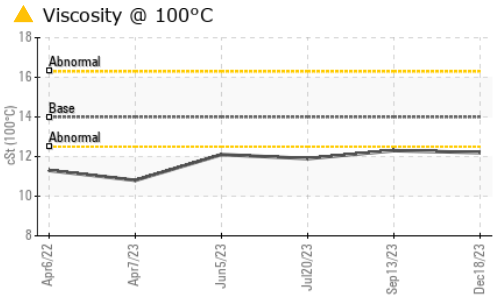
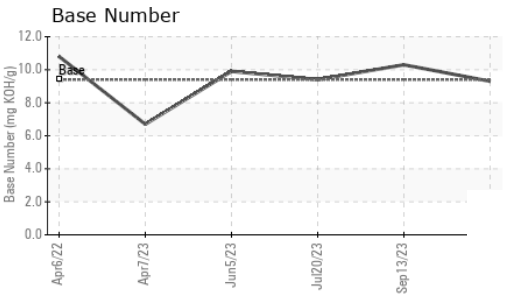
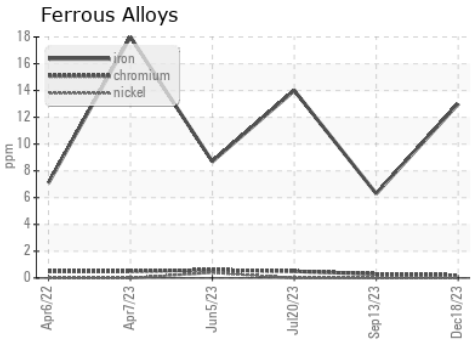


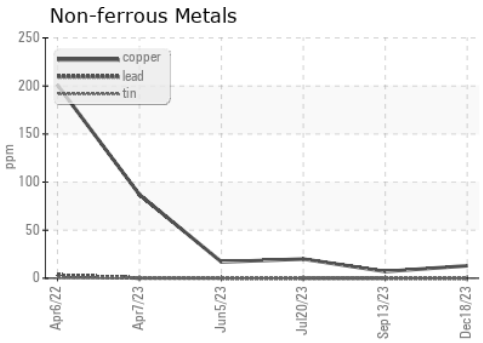



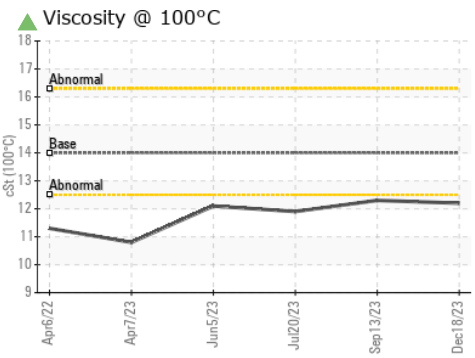

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| 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 |

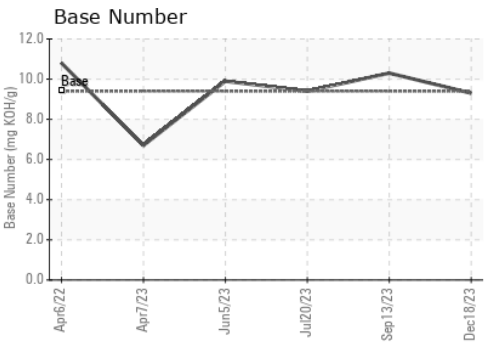
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D445 | 14 | ▲ **12.2** | ▲ 12.3 | ▲ 11.9 |

## GRAPHS




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : WC0864286 **Recieved** : 10 Jan 2024
**Lab Number** : 06056300 **Diagnosed** : 11 Jan 2024
**Unique Number** : 10822249 **Diagnostician** : Angela Borella
**Test Package** : CONST ( Additional Tests: TBN )

*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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