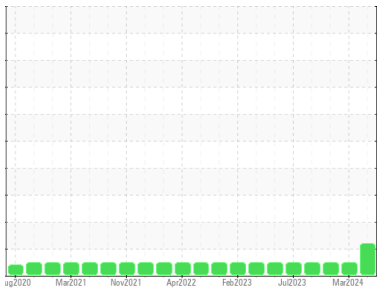
# OIL ANALYSIS REPORT

Area
**OKLAHOMA/102/EG - DOZER**
Machine Id
**35.104L [OKLAHOMA^102^EG - DOZER]**
Component
**Diesel Engine**
Fluid
**MOBIL DELVAC 1300 SUPER 15W40 (5 GAL)**

Sample Rating Trend




**GLYCOL**

## DIAGNOSIS

**Recommendation**
Check for low coolant level. We advise that you check for the source of the coolant leak. We recommend an early resample to monitor this condition. ( Customer Sample Comment: 6241 hours )

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

**Contamination**
Sodium and/or potassium levels are high.

**Fluid Condition**
The BN result indicates that there is suitable alkalinity remaining in the oil.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0925201** | WC0864259 | WC0864352 |
| Sample Date | | Client Info | | **10 Jun 2024** | 14 Mar 2024 | 17 Jan 2024 |
| Machine Age | hrs | Client Info | | **6241** | 5959 | 5659 |
| Oil Age | hrs | Client Info | | **3600** | 3600 | 3600 |
| Oil Changed | | Client Info | | **N/A** | N/A | N/A |
| Sample Status | | | | **ATTENTION** | 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 |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >100 | **36** | 39 | 13 |
| Chromium | ppm | ASTM D5185m | >20 | **<1** | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >2 | **<1** | <1 | 0 |
| Titanium | ppm | ASTM D5185m | >2 | **0** | <1 | <1 |
| Silver | ppm | ASTM D5185m | >2 | **0** | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >25 | **5** | 4 | 8 |
| Lead | ppm | ASTM D5185m | >40 | **0** | <1 | 0 |
| Copper | ppm | ASTM D5185m | >330 | **1** | 1 | <1 |
| Tin | ppm | ASTM D5185m | >15 | **0** | <1 | 0 |
| Vanadium | ppm | ASTM D5185m | | **0** | <1 | <1 |
| Cadmium | ppm | ASTM D5185m | | **0** | <1 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 0 | **14** | 52 | 41 |
| Barium | ppm | ASTM D5185m | 0 | **0** | 1 | <1 |
| Molybdenum | ppm | ASTM D5185m | 0 | **85** | 50 | 42 |
| Manganese | ppm | ASTM D5185m | | **1** | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 0 | **516** | 533 | 537 |
| Calcium | ppm | ASTM D5185m | | **1701** | 1881 | 1712 |
| Phosphorus | ppm | ASTM D5185m | | **766** | 801 | 752 |
| Zinc | ppm | ASTM D5185m | | **939** | 988 | 965 |
| Sulfur | ppm | ASTM D5185m | | **2834** | 2673 | 2469 |

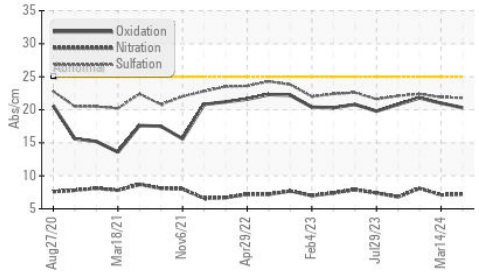
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **7** | 6 | 4 |
| Sodium | ppm | ASTM D5185m | | **211** | 28 | 3 |
| Potassium | ppm | ASTM D5185m | >20 | **20** | 4 | 0 |
| Glycol | % | *ASTM D2982 | | **NEG** | NEG | NEG |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | *ASTM D7844 | >3 | **0.2** | 0.2 | 0.3 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **7.2** | 7.1 | 8.1 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **21.8** | 21.9 | 22.4 |

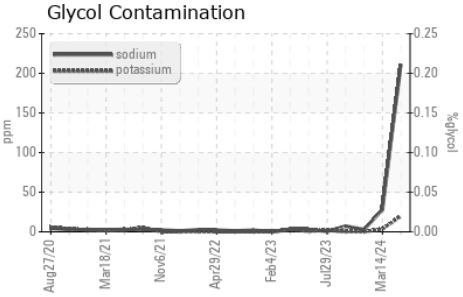
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **20.3** | 21.0 | 21.8 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 9.4 | **9.8** | 9.6 | 9.3 |

# OIL ANALYSIS REPORT

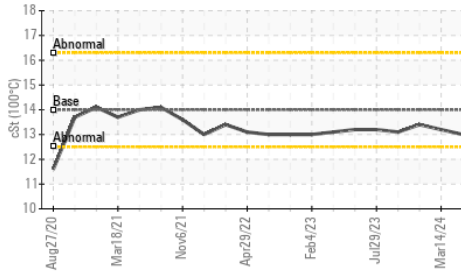
FT-IR (Direct Trend)



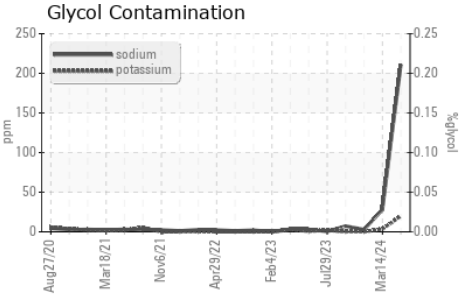

Glycol Contamination




Viscosity @ 100°C




Glycol Contamination

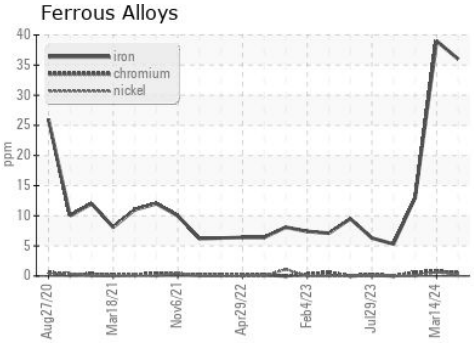



| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
|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

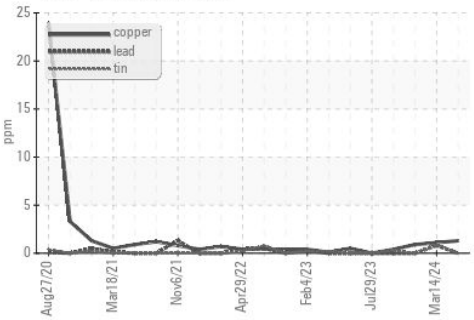
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D445 | 14 | **13.0** | 13.2 | 13.4 |

## GRAPHS

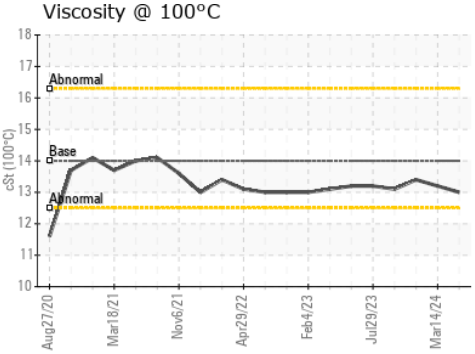
Ferrous Alloys



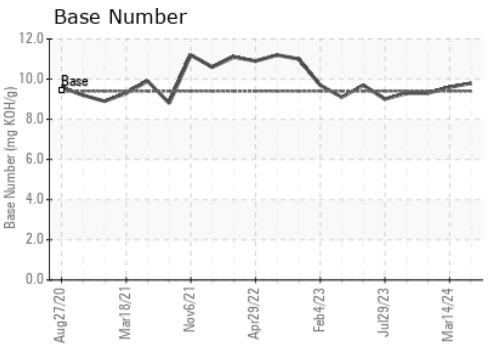

Non-ferrous Metals




Viscosity @ 100°C




Base Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : WC0925201
**Lab Number** : 06212731
**Unique Number** : 11085595
**Test Package** : CONST ( Additional Tests: Glycol, TBN )

**Received** : 17 Jun 2024
**Tested** : 20 Jun 2024
**Diagnosed** : 20 Jun 2024 - Sean Felton

*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] 06212731 (Generated: 06/22/2024 00:12:44) Rev: 1

Submitted By: LOUIS BRESHEARS