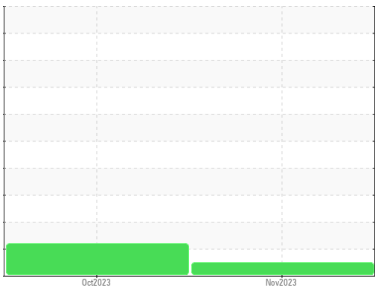
# OIL ANALYSIS REPORT

Sample Rating Trend




NORMAL

Area
**DICK LAVY**
Machine Id
**DICK LAVY 4964**
Component
**Front Differential**
Fluid
**GEAR OIL SAE 75W90 (--- GAL)**

## DIAGNOSIS

**Recommendation**
Resample at the next service interval to monitor. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) GEAR OIL SAE 75W90. Please confirm.
Please specify the component make and model with your next sample.

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

**Contamination**
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The water content is negligible. The system and fluid cleanliness is acceptable.

**Fluid Condition**
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0843132** | WC0843133 | --- |
| Sample Date | | Client Info | | **03 Nov 2023** | 03 Oct 2023 | --- |
| Machine Age | mls | Client Info | | **481** | 481 | --- |
| Oil Age | mls | Client Info | | **0** | 0 | --- |
| Oil Changed | | Client Info | | **N/A** | N/A | --- |
| Sample Status | | | | **NORMAL** | ABNORMAL | --- |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >500 | **0** | 16 | --- |
| Chromium | ppm | ASTM D5185m | >10 | **0** | <1 | --- |
| Nickel | ppm | ASTM D5185m | >10 | **0** | 0 | --- |
| Titanium | ppm | ASTM D5185m | | **0** | 0 | --- |
| Silver | ppm | ASTM D5185m | | **<1** | 3 | --- |
| Aluminum | ppm | ASTM D5185m | >25 | **0** | 0 | --- |
| Lead | ppm | ASTM D5185m | >25 | **0** | 0 | --- |
| Copper | ppm | ASTM D5185m | >100 | **0** | 0 | --- |
| Tin | ppm | ASTM D5185m | >10 | **<1** | <1 | --- |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | --- |
| Cadmium | ppm | ASTM D5185m | | **0** | <1 | --- |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 400 | **264** | 167 | --- |
| Barium | ppm | ASTM D5185m | 200 | **0** | 2 | --- |
| Molybdenum | ppm | ASTM D5185m | 12 | **0** | 0 | --- |
| Manganese | ppm | ASTM D5185m | | **0** | 6 | --- |
| Magnesium | ppm | ASTM D5185m | 12 | **<1** | <1 | --- |
| Calcium | ppm | ASTM D5185m | 150 | **1** | 16 | --- |
| Phosphorus | ppm | ASTM D5185m | 1650 | **1420** | 1115 | --- |
| Zinc | ppm | ASTM D5185m | 125 | **0** | 10 | --- |
| Sulfur | ppm | ASTM D5185m | 22500 | **23819** | 23334 | --- |

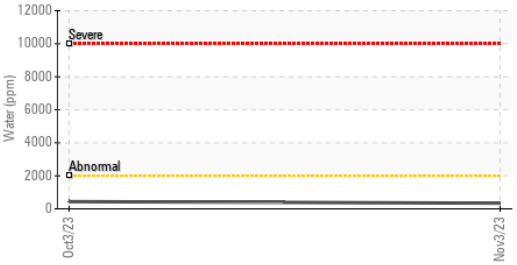
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >75 | **1** | 12 | --- |
| Sodium | ppm | ASTM D5185m | | **0** | 2 | --- |
| Potassium | ppm | ASTM D5185m | >20 | **0** | <1 | --- |
| Water | % | ASTM D6304 | >.2 | **0.034** | 0.043 | --- |
| ppm Water | ppm | ASTM D6304 | >2000 | **341.5** | 436.4 | --- |

| FLUID CLEANLINESS | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Particles >4µm | ASTM D7647 | >20000 | **4741** | ▲ 106897 | --- |
| Particles >6µm | ASTM D7647 | >5000 | **924** | ▲ 22828 | --- |
| Particles >14µm | ASTM D7647 | >640 | **33** | 131 | --- |
| Particles >21µm | ASTM D7647 | >160 | **7** | 12 | --- |
| Particles >38µm | ASTM D7647 | >40 | **0** | 1 | --- |
| Particles >71µm | ASTM D7647 | >10 | **0** | 0 | --- |
| Oil Cleanliness | ISO 4406 (c) | >21/19/16 | **19/17/12** | ▲ 24/22/14 | --- |

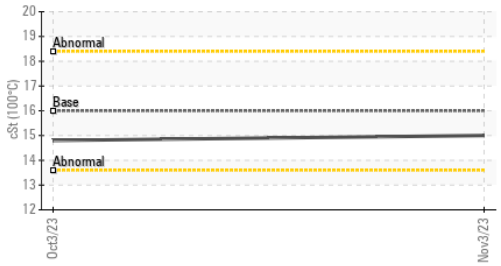
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 2.00 | **2.29** | 2.89 | --- |

# OIL ANALYSIS REPORT

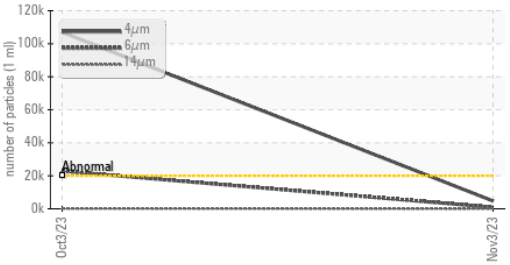
Water (KF)



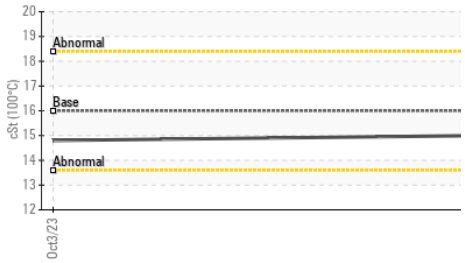

Viscosity @ 100°C




Particle Trend



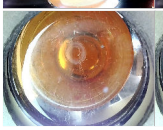

Viscosity @ 100°C




Viscosity @ 40°C

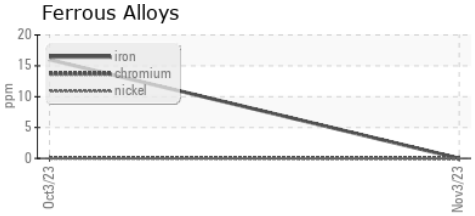

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Silt | scalar | *Visual | NONE | **NONE** | LIGHT | --- |
| Debris | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Sand/Dirt | scalar | *Visual | NONE | **NONE** | NONE | --- |
| Appearance | scalar | *Visual | NORML | **NORML** | NORML | --- |
| Odor | scalar | *Visual | NORML | **NORML** | NORML | --- |
| Emulsified Water | scalar | *Visual | >.2 | **NEG** | NEG | --- |
| Free Water | scalar | *Visual | | **NEG** | NEG | --- |

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 109 | **107** | 100 | --- |
| Visc @ 100°C | cSt | ASTM D445 | 16.0 | **15.0** | 14.8 | --- |
| Viscosity Index (VI) | Scale | ASTM D2270 | 157 | **146** | 154 | --- |

| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  |  | *no image* |
| Bottom | | |  |  | *no image* |

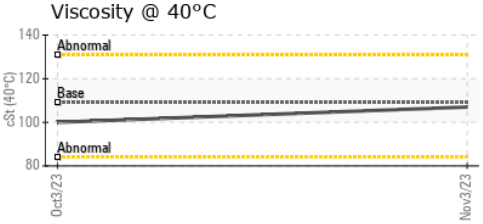
GRAPHS

Ferrous Alloys

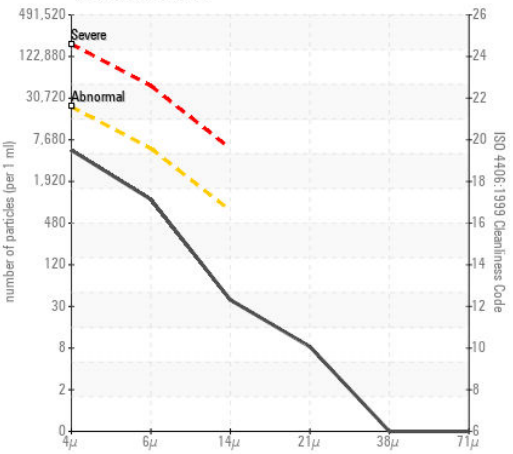



Non-ferrous Metals

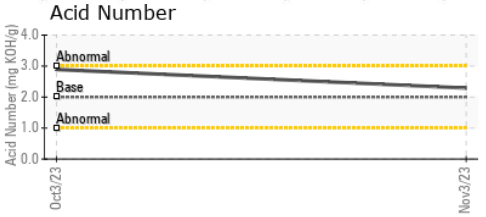

Viscosity @ 40°C




Particle Count




Acid Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : WC0843132 **Received** : 20 Nov 2023
**Lab Number** : 06013264 **Diagnosed** : 21 Nov 2023
**Unique Number** : 10752408 **Diagnostician** : Wes Davis
**Test Package** : MOB 2 ( Additional Tests: KF, KV100, PrtCount, VI )

*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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