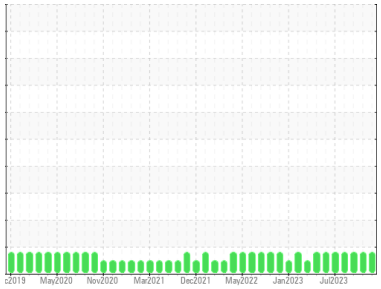
# OIL ANALYSIS REPORT

Sample Rating Trend



**WEAR**

Area
## A J MORRIS
Machine Id
## [A J MORRIS] 004 550220-4
Component
**Port Reduction Gear**
Fluid
**CHEVRON URSA SUPER PLUS 40 (--- GAL)**

## DIAGNOSIS

**Recommendation**
No corrective action is recommended at this time. Resample at the next service interval to monitor.

**Wear**
The copper level is abnormal. All other component wear rates are normal.

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

**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 | | **MW0064585** | MW0062849 | MW0061504 |
| Sample Date | | Client Info | | **01 Jan 2024** | 01 Dec 2023 | 05 Oct 2023 |
| Machine Age | hrs | Client Info | | **53564** | 52880 | 0 |
| Oil Age | hrs | Client Info | | **1230** | 594 | 1773 |
| Oil Changed | | Client Info | | **Not Changd** | Not Changd | Not Changd |
| Sample Status | | | | **ABNORMAL** | ABNORMAL | ABNORMAL |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Water | | WC Method | >0.1 | **NEG** | NEG | NEG |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >150 | **1** | 1 | 2 |
| Chromium | ppm | ASTM D5185m | >10 | **0** | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >10 | **0** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >25 | **1** | <1 | <1 |
| Lead | ppm | ASTM D5185m | >100 | **9** | 6 | 12 |
| Copper | ppm | ASTM D5185m | >50 | ▲ **138** | ▲ 117 | ▲ 158 |
| Tin | ppm | ASTM D5185m | >10 | **<1** | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

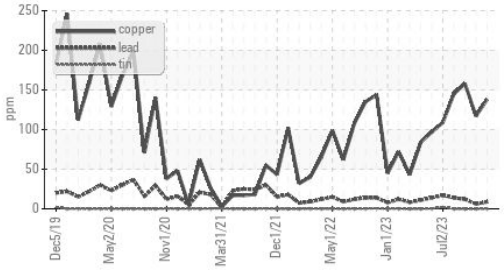
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | | **316** | 336 | 276 |
| Barium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | **32** | 30 | 29 |
| Manganese | ppm | ASTM D5185m | | **<1** | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | | **7** | 10 | 9 |
| Calcium | ppm | ASTM D5185m | | **2366** | 2334 | 2308 |
| Phosphorus | ppm | ASTM D5185m | 1000 | **720** | 666 | 665 |
| Zinc | ppm | ASTM D5185m | 1090 | **784** | 732 | 722 |
| Sulfur | ppm | ASTM D5185m | | **2957** | 2817 | 2823 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >50 | **4** | 4 | 4 |
| Sodium | ppm | ASTM D5185m | | **<1** | 3 | 2 |
| Potassium | ppm | ASTM D5185m | >20 | **<1** | 0 | 0 |

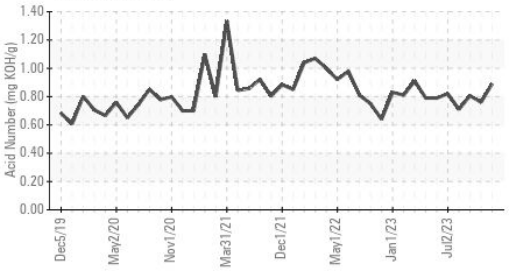
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | **0.89** | 0.76 | 0.806 |

# OIL ANALYSIS REPORT

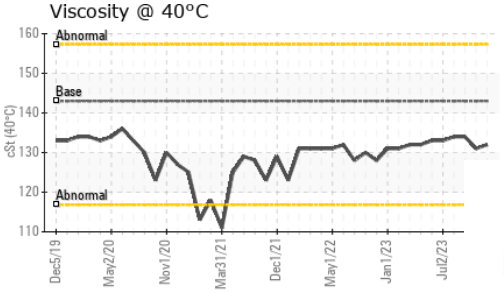
Non-ferrous Metals




Acid Number




Viscosity @ 40°C



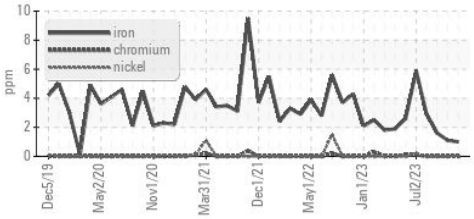

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| 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 | >0.1 | **NEG** | NEG | NEG |
| Free Water | scalar | *Visual | | **NEG** | NEG | NEG |

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 143 | **132** | 131 | 134 |

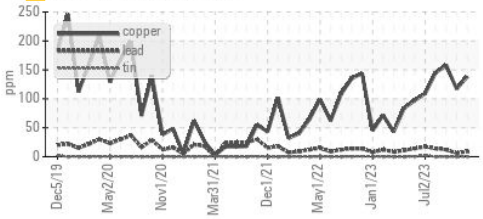
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | | *no image* | *no image* | *no image* |
| Bottom | | | *no image* | *no image* | *no image* |

## GRAPHS

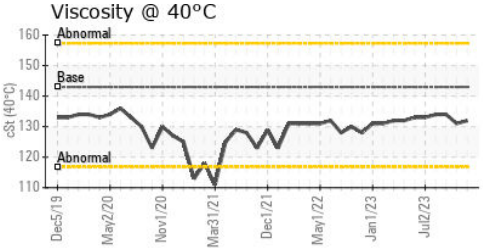
Ferrous Alloys



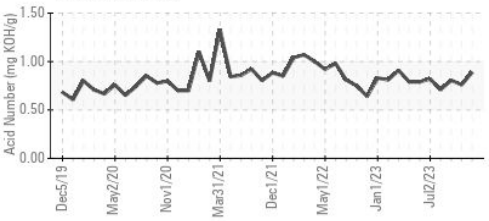

Non-ferrous Metals




Viscosity @ 40°C




Acid Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : MW0064585
**Lab Number** : 06060350
**Unique Number** : 10831732
**Test Package** : MAR 2

**Recieved** : 12 Jan 2024
**Diagnosed** : 16 Jan 2024
**Diagnostician** : Don Baldridge

*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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