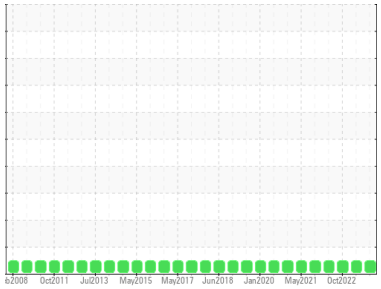
# OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Area
## BARRIER DEPARTMENT SAMPLES
Machine Id
## WEB 03 SD SUBSTRATE WEB 03 SD
Component
**Gearbox**
Fluid
**TEXACO MEROPA 220 (--- GAL)**

## DIAGNOSIS

**Recommendation**
Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

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

**Contamination**
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. 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 | | **WC0869567** | WC0757198 | WC0365574 |
| Sample Date | | Client Info | | **20 Nov 2023** | 04 Apr 2023 | 30 Oct 2022 |
| Machine Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **N/A** | N/A | N/A |
| Sample Status | | | | **NORMAL** | NORMAL | NORMAL |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Water | | WC Method | >0.2 | **NEG** | NEG | NEG |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >200 | **57** | 40 | 19 |
| Chromium | ppm | ASTM D5185m | >15 | **1** | <1 | 0 |
| Nickel | ppm | ASTM D5185m | >15 | **<1** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | **<1** | 0 | 0 |
| Silver | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >25 | **2** | 0 | 0 |
| Lead | ppm | ASTM D5185m | >100 | **<1** | <1 | 0 |
| Copper | ppm | ASTM D5185m | >200 | **1** | 1 | 1 |
| Tin | ppm | ASTM D5185m | >25 | **<1** | 0 | <1 |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **<1** | 0 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 3.2 | **3** | 3 | 2 |
| Barium | ppm | ASTM D5185m | 0.5 | **4** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 1.1 | **<1** | <1 | <1 |
| Manganese | ppm | ASTM D5185m | | **<1** | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 0.1 | **<1** | 0 | 0 |
| Calcium | ppm | ASTM D5185m | 1.6 | **4** | 3 | 5 |
| Phosphorus | ppm | ASTM D5185m | 159 | **246** | 248 | 227 |
| Zinc | ppm | ASTM D5185m | 0.5 | **9** | 15 | 13 |
| Sulfur | ppm | ASTM D5185m | 10342 | **5432** | 5518 | 5870 |

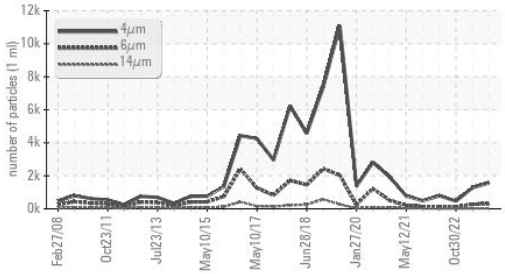
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >50 | **4** | 3 | 2 |
| Sodium | ppm | ASTM D5185m | | **1** | 0 | 1 |
| Potassium | ppm | ASTM D5185m | >20 | **<1** | <1 | 0 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | | **1574** | 1275 | 470 |
| Particles >6µm | | ASTM D7647 | >5000 | **294** | 274 | 105 |
| Particles >14µm | | ASTM D7647 | >640 | **20** | 19 | 14 |
| Particles >21µm | | ASTM D7647 | >160 | **5** | 3 | 3 |
| Particles >38µm | | ASTM D7647 | >40 | **0** | 0 | 0 |
| Particles >71µm | | ASTM D7647 | >10 | **0** | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >--/19/16 | **18/15/11** | 17/15/11 | 16/14/11 |

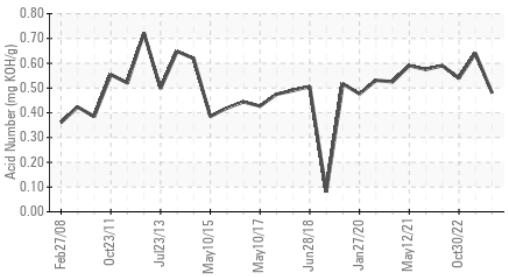
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | **0.48** | 0.64 | 0.54 |

# OIL ANALYSIS REPORT

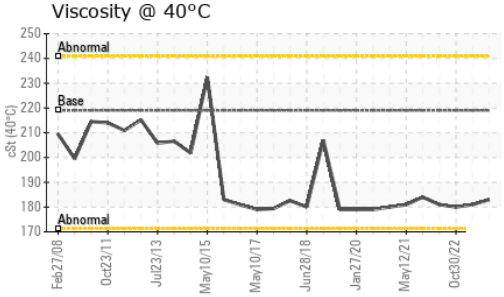
Particle Trend



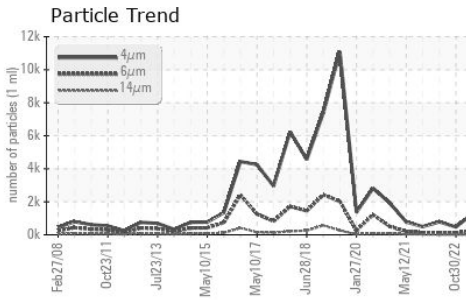

Acid Number




Viscosity @ 40°C

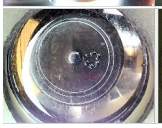
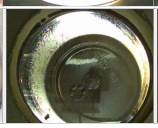
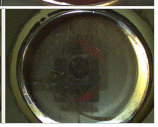



Particle Trend



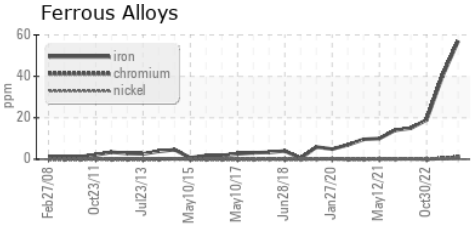

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| 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 @ 40°C | cSt | ASTM D445 | 219 | **183** | 181 | 180 |

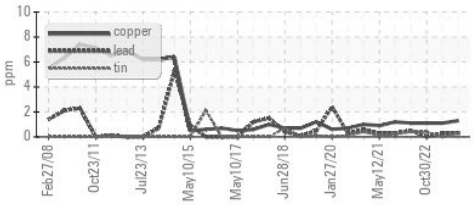
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  |  |  |
| Bottom | | |  |  |  |

## GRAPHS

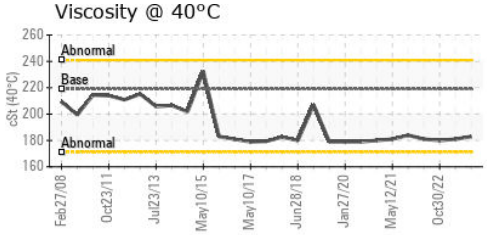
Ferrous Alloys



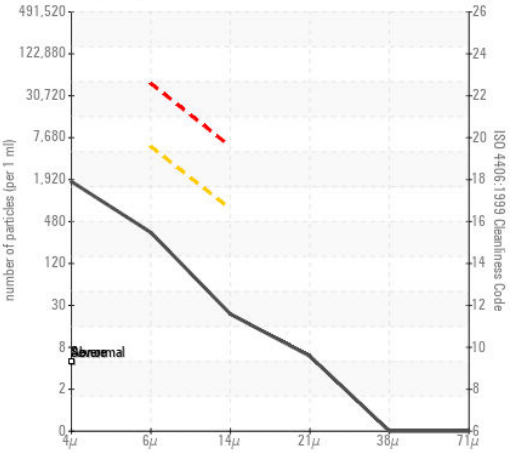

Non-ferrous Metals



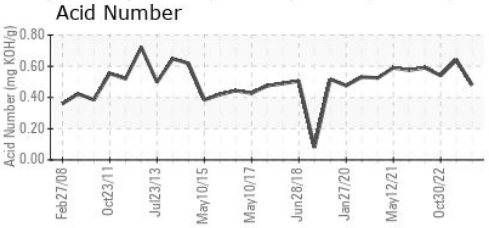

Viscosity @ 40°C




Particle Count




Acid Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : WC0869567 **Received** : 21 Nov 2023
**Lab Number** : 06014002 **Diagnosed** : 30 Nov 2023
**Unique Number** : 10753146 **Diagnostician** : Wes Davis
**Test Package** : IND 2 ( Additional Tests: PrtCount )

*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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