



| | |
|-----------------|---------------|
| WEAR | NORMAL |
| CONTAMINATION | NORMAL |
| FLUID CONDITION | NORMAL |

Machine Id
PAUL F BROTZGE
Component
Port Reduction Gear
Fluid
CHEVRON MEROPA 220 (220 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | MW0066417 | MW0066430 | MW0055962 |
| Sample Date | | Client Info | | 02 Mar 2024 | 01 Feb 2024 | 04 Jan 2024 |
| Machine Age | hrs | Client Info | | 61902 | 61186 | 60520 |
| Oil Age | hrs | Client Info | | 61902 | 61186 | 60520 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Not Changd | Not Changd | Not Changd |
| Filter Changed | | Client Info | | None | None | None |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >150 | 98 | 83 | 92 |
| Chromium | ppm | ASTM D5185m | >10 | <1 | <1 | 0 |
| Nickel | ppm | ASTM D5185m | >10 | <1 | 1 | 0 |
| Titanium | ppm | ASTM D5185m | | <1 | <1 | 0 |
| Silver | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >25 | 4 | 3 | 2 |
| Lead | ppm | ASTM D5185m | >100 | <1 | 3 | 2 |
| Copper | ppm | ASTM D5185m | >50 | 12 | 12 | 11 |
| Tin | ppm | ASTM D5185m | >10 | 0 | <1 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

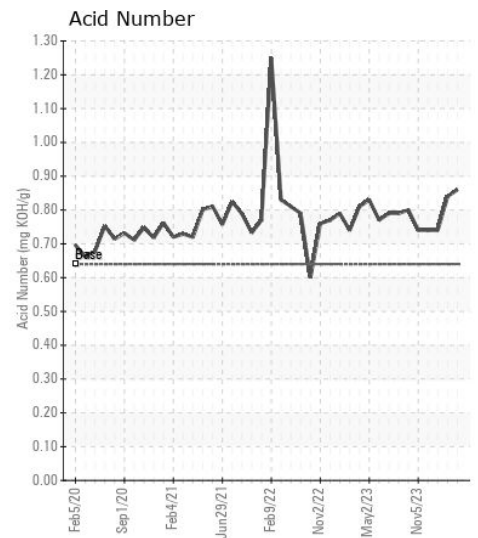
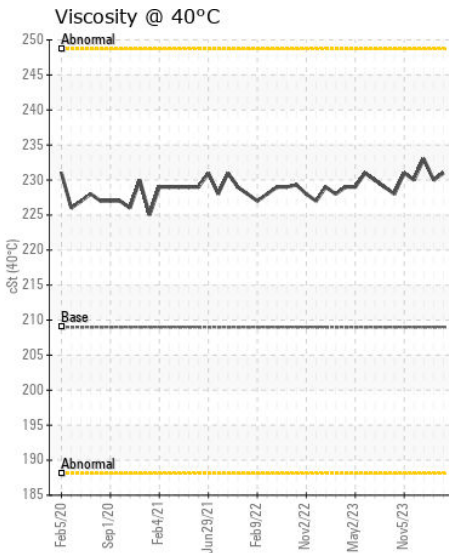
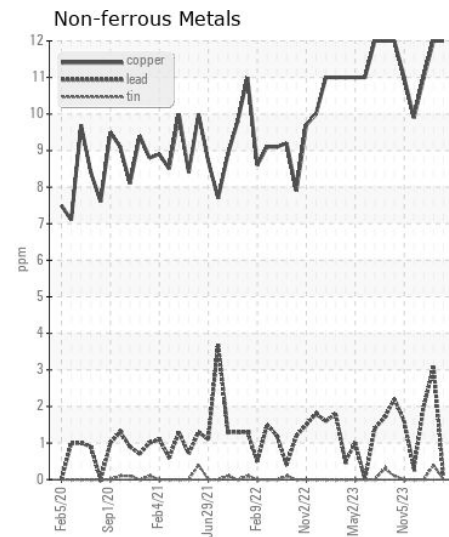
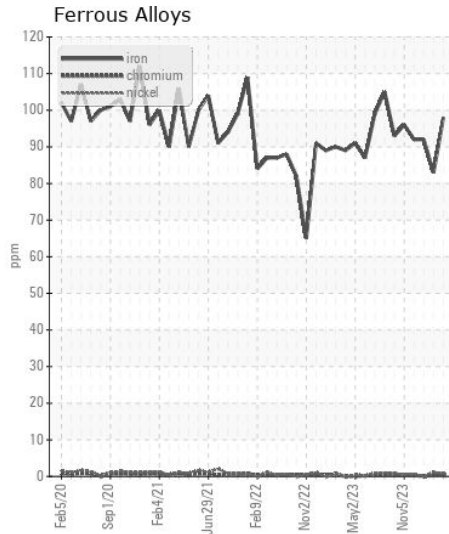
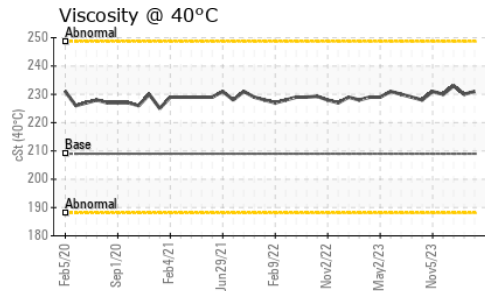
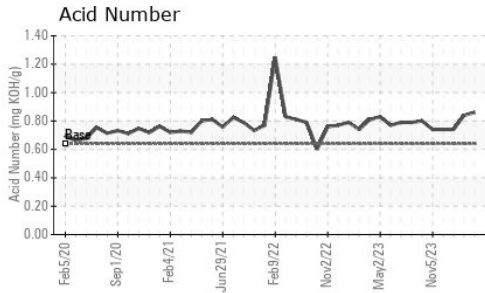
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|--------|-------------|-------|--------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >50 | 6 | 6 | 4 |
| Potassium | ppm | ASTM D5185m | >20 | 1 | 5 | 3 |
| Water | | WC Method | >0.1 | NEG | NEG | NEG |
| 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 |

FLUID CONDITION

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

| | | | | | | |
|------------------|----------|-------------|------|-------------|------|------|
| Sodium | ppm | ASTM D5185m | | 28 | 26 | 25 |
| Boron | ppm | ASTM D5185m | 40 | 1 | 1 | <1 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 3 | 0 | 0 |
| Manganese | ppm | ASTM D5185m | | 1 | 1 | <1 |
| Magnesium | ppm | ASTM D5185m | | 3 | 2 | 0 |
| Calcium | ppm | ASTM D5185m | | 27 | 38 | 23 |
| Phosphorus | ppm | ASTM D5185m | 270 | 238 | 212 | 199 |
| Zinc | ppm | ASTM D5185m | | 0 | <1 | 4 |
| Sulfur | ppm | ASTM D5185m | 8600 | 5765 | 4904 | 4615 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.64 | 0.86 | 0.84 | 0.74 |
| Visc @ 40°C | cSt | ASTM D445 | 209 | 231 | 230 | 233 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0066417
Lab Number : 06123234
Unique Number : 10937385
Test Package : MAR 2

Received : 19 Mar 2024
Tested : 20 Mar 2024
Diagnosed : 20 Mar 2024 - Wes Davis

AMERICAN COMMERCIAL LINES
 PO BOX 610, 1701 E. MARKET STREET
 JEFFERSONVILLE, IN
 US 47130
 Contact: RONALD SCHNEIDER
 ronald.schneider@bargeacbl.com

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)

T:
 F: (812)288-1644