



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

Area
PRO
Machine Id
PRO
Component
Starboard Reduction Gear
Fluid
CHEVRON MEROPA 320 (180 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | MW0054630 | MW0043953 | MW0043950 |
| Sample Date | | Client Info | | 21 Oct 2023 | 17 Jun 2023 | 17 Mar 2023 |
| Machine Age | hrs | Client Info | | 67 | 0 | 0 |
| Oil Age | hrs | Client Info | | 67 | 19248 | 17490 |
| Filter Age | hrs | Client Info | | 0 | 0 | 17490 |
| Oil Changed | | Client Info | | Changed | N/A | Not Changd |
| Filter Changed | | Client Info | | None | None | Not Changd |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >150 | 8 | 9 | 50 |
| Chromium | ppm | ASTM D5185m | >10 | 0 | 0 | <1 |
| Nickel | ppm | ASTM D5185m | >10 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | 0 | <1 | 0 |
| Silver | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >25 | <1 | 1 | 0 |
| Lead | ppm | ASTM D5185m | >100 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >50 | 2 | 4 | 2 |
| Tin | ppm | ASTM D5185m | >10 | <1 | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | <1 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

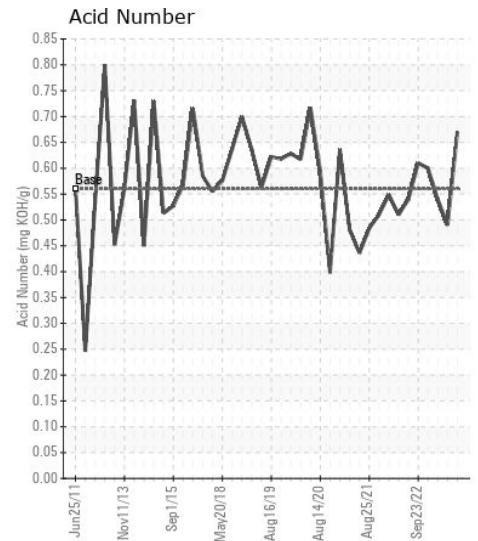
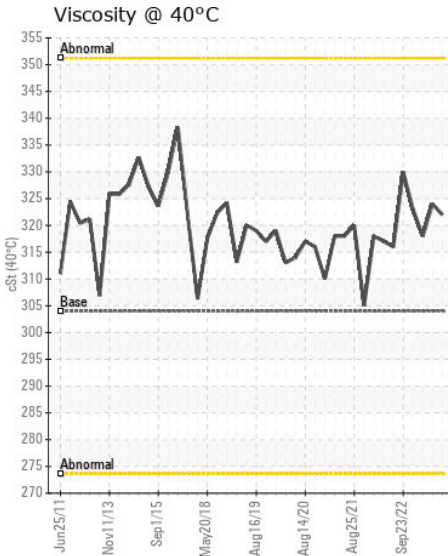
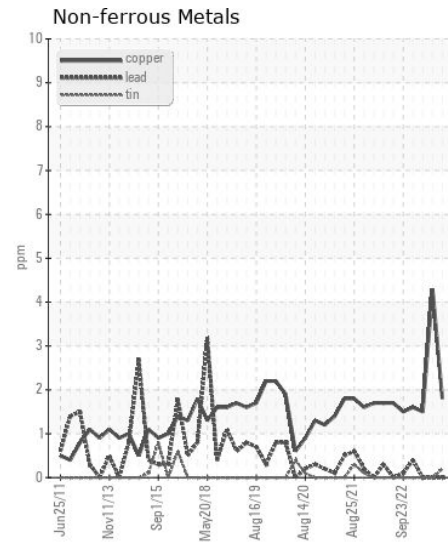
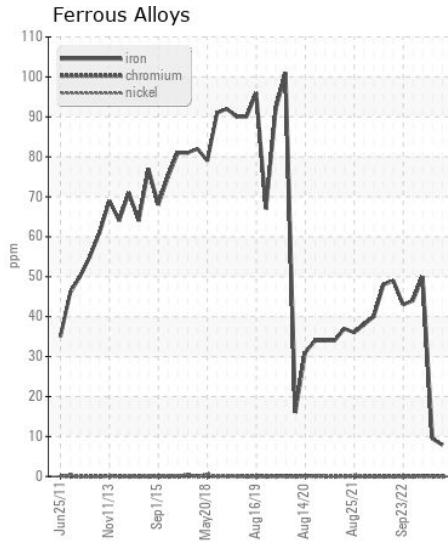
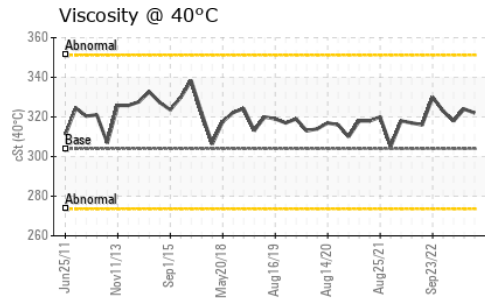
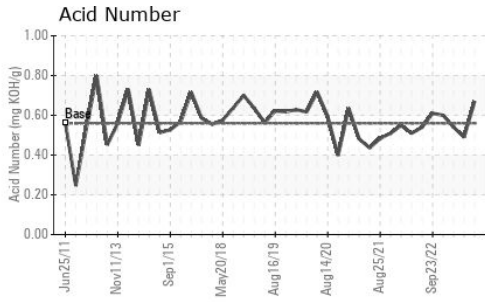
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|--------|-------------|-------|--------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >50 | <1 | <1 | <1 |
| Potassium | ppm | ASTM D5185m | >20 | <1 | 0 | 4 |
| 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 | | 2 | 13 | <1 |
| Boron | ppm | ASTM D5185m | 20 | 26 | 9 | 3 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 0 | <1 | 3 | 9 |
| Manganese | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Calcium | ppm | ASTM D5185m | 25 | 20 | 48 | 51 |
| Phosphorus | ppm | ASTM D5185m | 235 | 242 | 205 | 233 |
| Zinc | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Sulfur | ppm | ASTM D5185m | | 7373 | 7543 | 7163 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.56 | 0.67 | 0.49 | 0.54 |
| Visc @ 40°C | cSt | ASTM D445 | 304 | 322 | 324 | 318 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0054630
Lab Number : 05984943
Unique Number : 10702238
Test Package : MAR 2

Received : 20 Oct 2023
Tested : 23 Oct 2023
Diagnosed : 23 Oct 2023 - Wes Davis

AMERICAN RIVER TRANSPORTATION CO.
P.O. BOX 2889
ST. LOUIS, MO
US 63111
Contact: BRIAN GRIEWING
brian.griewing@adm.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)

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