MAR II

WEAR CHECK Inland Marine Oil Analysis Program

# OIL ANALYSIS REPORT

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

Area
**STEPHEN P VENABLE**
Machine Id
**[STEPHEN P VENABLE] 001 590046-1**
Component
**Port Main Engine**
Fluid
**CHEVRON DELO 400 LE 15W40 (55 GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

## WEAR

All component wear rates are normal.

## CONTAMINATION

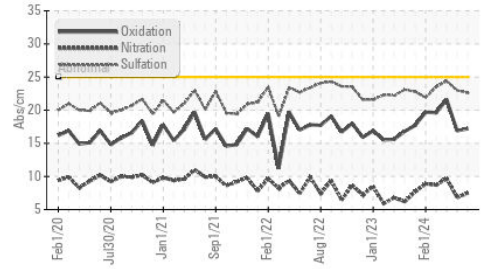
There is no indication of any contamination in the oil.

## FLUID CONDITION

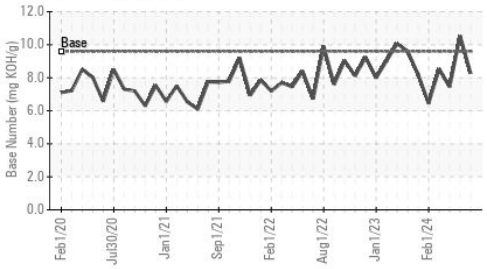
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | MW0063006 | MW0067995 | MW0067972 |
| Sample Date | | Client Info | | 01 Jun 2024 | 22 May 2024 | 03 Apr 2024 |
| Machine Age | hrs | Client Info | | 6887 | 6669 | 5991 |
| Oil Age | hrs | Client Info | | 550 | 332 | 5991 |
| Filter Age | hrs | Client Info | | 550 | 332 | 5991 |
| Oil Changed | | Client Info | | Not Changd | Not Changd | Not Changd |
| Filter Changed | | Client Info | | Not Changd | Not Changd | Not Changd |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |
| Iron | ppm | ASTM D5185m | >75 | 5 | 7 | 5 |
| Chromium | ppm | ASTM D5185m | >8 | 0 | <1 | 0 |
| Nickel | ppm | ASTM D5185m | >2 | 0 | <1 | 0 |
| Titanium | ppm | ASTM D5185m | >3 | 0 | <1 | 0 |
| Silver | ppm | ASTM D5185m | >2 | 0 | 1 | 0 |
| Aluminum | ppm | ASTM D5185m | >15 | 2 | 4 | 3 |
| Lead | ppm | ASTM D5185m | >18 | 0 | 1 | 4 |
| Copper | ppm | ASTM D5185m | >80 | 4 | 7 | 7 |
| Tin | ppm | ASTM D5185m | >14 | 0 | <1 | <1 |
| Vanadium | ppm | ASTM D5185m | | <1 | <1 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Silicon | ppm | ASTM D5185m | >20 | 4 | 6 | 5 |
| Potassium | ppm | ASTM D5185m | >20 | <1 | 2 | 1 |
| Fuel | | WC Method | >4.0 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.1 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | | 0.1 | 0.1 | 0.2 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 7.5 | 6.8 | 9.7 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 22.6 | 23.0 | 24.4 |
| 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 |
| Sodium | ppm | ASTM D5185m | >75 | <1 | 2 | 2 |
| Boron | ppm | ASTM D5185m | | 320 | 357 | 284 |
| Barium | ppm | ASTM D5185m | | 0 | <1 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 128 | 110 | 124 |
| Manganese | ppm | ASTM D5185m | | <1 | 1 | 1 |
| Magnesium | ppm | ASTM D5185m | | 651 | 524 | 691 |
| Calcium | ppm | ASTM D5185m | | 1788 | 1386 | 1537 |
| Phosphorus | ppm | ASTM D5185m | 1200 | 832 | 655 | 685 |
| Zinc | ppm | ASTM D5185m | 1300 | 1033 | 784 | 827 |
| Sulfur | ppm | ASTM D5185m | 3200 | 3419 | 2509 | 2431 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 17.2 | 16.9 | 21.6 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 9.6 | 8.26 | 10.53 | 7.45 |
| Visc @ 100°C | cSt | ASTM D445 | 15.7 | 13.5 | 13.69 | 13.1 |

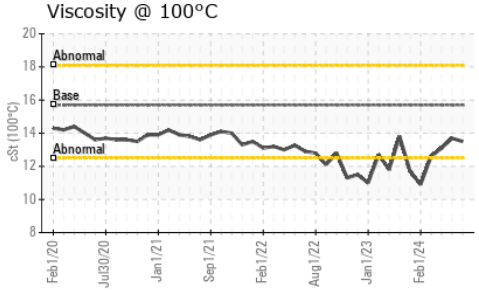
FT-IR (Direct Trend)



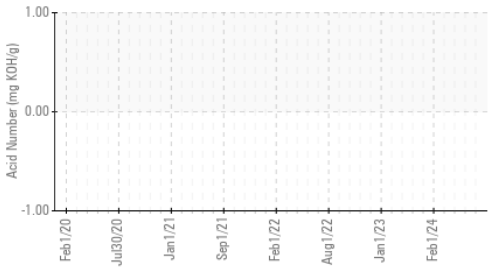

Base Number



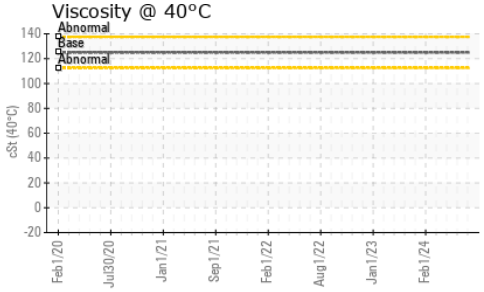

Viscosity @ 100°C



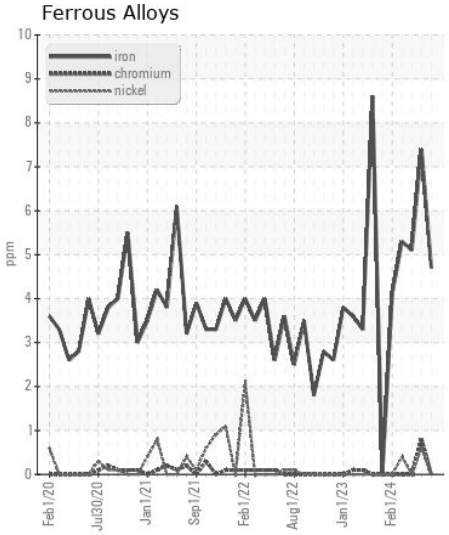

Acid Number



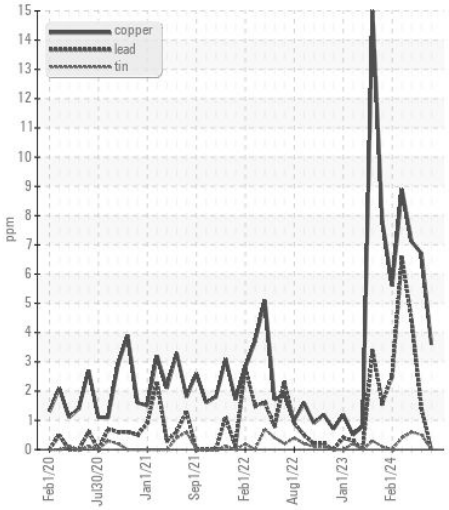

Viscosity @ 40°C



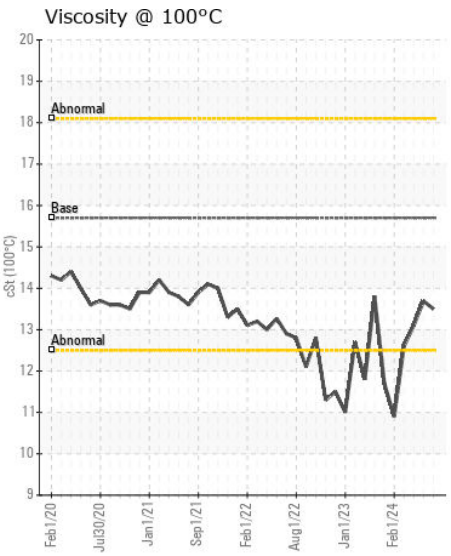

Ferrous Alloys



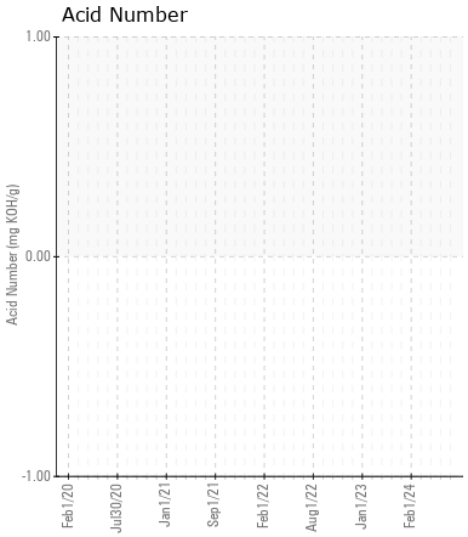

Non-ferrous Metals




Viscosity @ 100°C




Acid Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : MW0063006 **Received** : 14 Jun 2024
**Lab Number** : 06210904 **Tested** : 18 Jun 2024
**Unique Number** : 11083768 **Diagnosed** : 18 Jun 2024 - Sean Felton
**Test Package** : MAR 2 ( Additional Tests: KV40, TAN Man )

*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)*

**INGRAM BARGE**
900 S 3RD ST
PADUCAH, KY
US 42003
Contact: ANTHONY VAN CURA
anthony.vancura@ingrambarge.com
T: (270)415-4467
F: (615)695-3697