MAR II

WEAR CHECK Inland Marine Oil Analysis Program

# OIL ANALYSIS REPORT

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

Machine Id
**WMC**
Component
**Port Genset**
Fluid
**CHEVRON URSA SUPER PLUS 40 (--- GAL)**

## RECOMMENDATION

We advise that you check the fuel injection system. Resample at the next service interval to monitor.

## WEAR

All component wear rates are normal.

## CONTAMINATION

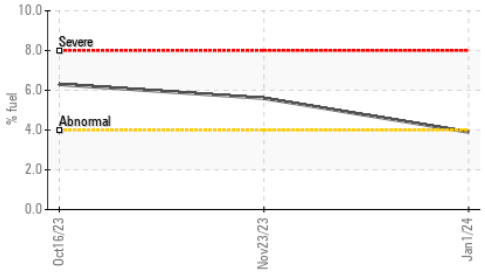
There is a moderate amount of fuel present in the oil.

## FLUID CONDITION

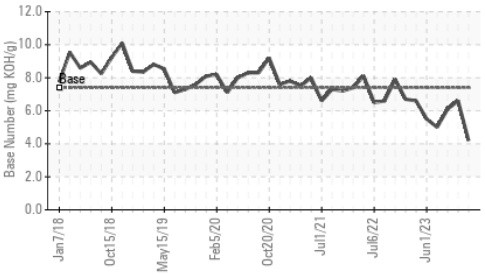
The BN result indicates that there is suitable alkalinity remaining in the oil.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | MW06048286 | MW06017154 | MW05981739 |
| Sample Date | | Client Info | | 01 Jan 2024 | 23 Nov 2023 | 16 Oct 2023 |
| Machine Age | hrs | Client Info | | 47630 | 46962 | 46443 |
| Oil Age | hrs | Client Info | | 668 | 519 | 504 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | N/A | N/A | N/A |
| Filter Changed | | Client Info | | N/A | N/A | N/A |
| Sample Status | | | | ABNORMAL | ABNORMAL | ABNORMAL |
| Iron | ppm | ASTM D5185m | >50 | 10 | 5 | 10 |
| Chromium | ppm | ASTM D5185m | >4 | <1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >2 | 0 | <1 | <1 |
| Titanium | ppm | ASTM D5185m | | 2 | 2 | 3 |
| Silver | ppm | ASTM D5185m | >5 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >12 | 2 | 3 | 4 |
| Lead | ppm | ASTM D5185m | >17 | <1 | 1 | 2 |
| Copper | ppm | ASTM D5185m | >70 | <1 | 0 | <1 |
| Tin | ppm | ASTM D5185m | >15 | <1 | <1 | <1 |
| Vanadium | ppm | ASTM D5185m | | 0 | <1 | <1 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Silicon | ppm | ASTM D5185m | >25 | 6 | 6 | 7 |
| Potassium | ppm | ASTM D5185m | >20 | 2 | 2 | 3 |
| Fuel | % | ASTM D3524 | >4.0 | ▲ 3.9 | ▲ 5.6 | ▲ 6.3 |
| Water | | WC Method | >0.1 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | | 0.1 | 0.1 | 0.1 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 10.5 | 11.0 | 10.3 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 26.6 | 26.3 | 26.5 |
| 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 | | <1 | 2 | <1 |
| Boron | ppm | ASTM D5185m | | 115 | 209 | 280 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 10 |
| Molybdenum | ppm | ASTM D5185m | | 50 | 85 | 116 |
| Manganese | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | | 358 | 570 | 684 |
| Calcium | ppm | ASTM D5185m | | 1886 | 1314 | 1572 |
| Phosphorus | ppm | ASTM D5185m | 1000 | 769 | 788 | 852 |
| Zinc | ppm | ASTM D5185m | 1090 | 1144 | 899 | 1072 |
| Sulfur | ppm | ASTM D5185m | | 3096 | 2588 | 3450 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 31.3 | 30.5 | 30.8 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 7.4 | 4.2 | 6.6 | 6.1 |
| Visc @ 100°C | cSt | ASTM D445 | 14.7 | 12.6 | 13.0 | ▲ 12.4 |

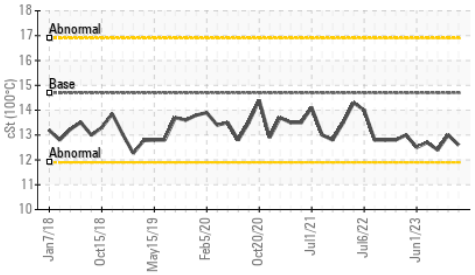
Fuel Dilution



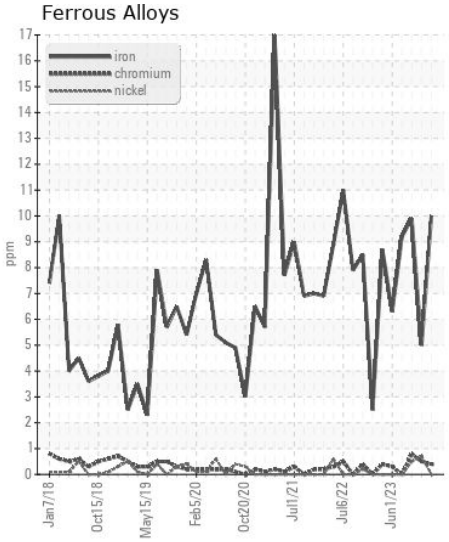

Base Number



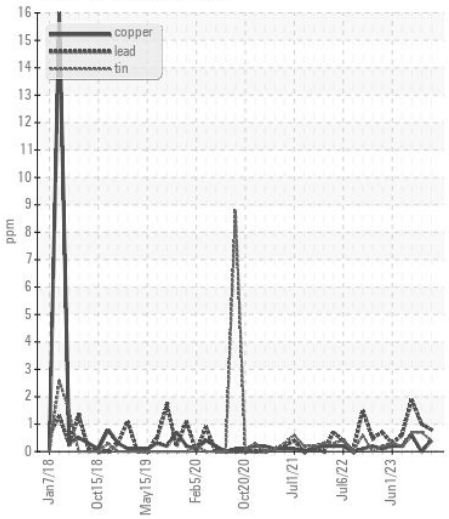

Viscosity @ 100°C



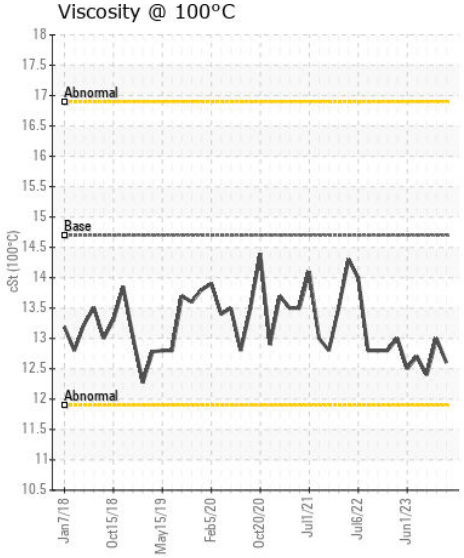

Ferrous Alloys




Non-ferrous Metals




Viscosity @ 100°C

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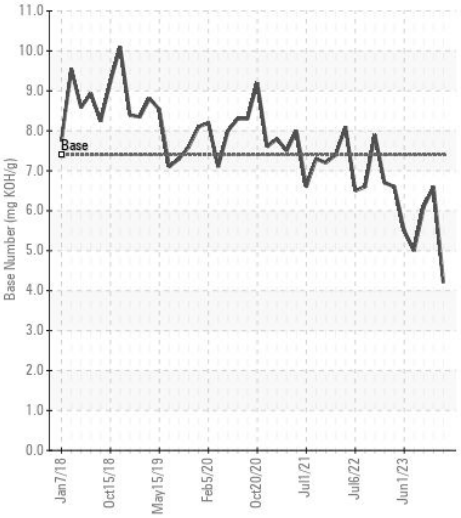


Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : MW06048286 **Received** : 29 Dec 2023
**Lab Number** : 06048286 **Tested** : 02 Jan 2024
**Unique Number** : 10808894 **Diagnosed** : 02 Jan 2024 - Don Baldridge
**Test Package** : MAR 2 ( Additional Tests: PercentFuel )

*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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