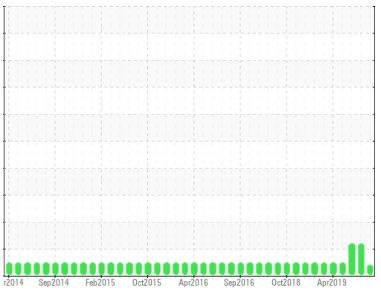
# OIL ANALYSIS REPORT

Area
## SARAH L INGRAM
Machine Id
## [SARAH L INGRAM] 007 663288-7
Component
**Port Genset**
Fluid
**CHEVRON DELO 400 LE 15W40 (--- GAL)**

Sample Rating Trend



**VISCOSITY**

## DIAGNOSIS

**Recommendation**
No corrective action is recommended at this time. 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 oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **MW06207240** | MW06031123 | MW05944988 |
| Sample Date | | Client Info | | **31 May 2024** | 01 Nov 2023 | 01 Sep 2023 |
| Machine Age | hrs | Client Info | | **2945** | 2408 | 2132 |
| Oil Age | hrs | Client Info | | **2945** | 642 | 0 |
| Oil Changed | | Client Info | | **N/A** | N/A | N/A |
| Sample Status | | | | **ATTENTION** | ATTENTION | ABNORMAL |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Water | | WC Method | >0.1 | **NEG** | NEG | NEG |
| Glycol | | WC Method | | **NEG** | NEG | NEG |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >50 | **11** | 16 | 9 |
| Chromium | ppm | ASTM D5185m | >4 | **<1** | 1 | <1 |
| Nickel | ppm | ASTM D5185m | >2 | **<1** | <1 | 0 |
| Titanium | ppm | ASTM D5185m | | **<1** | <1 | 0 |
| Silver | ppm | ASTM D5185m | >5 | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >12 | **4** | 2 | 2 |
| Lead | ppm | ASTM D5185m | >17 | **<1** | 2 | 0 |
| Copper | ppm | ASTM D5185m | >70 | **16** | 40 | 5 |
| Tin | ppm | ASTM D5185m | >15 | **<1** | <1 | <1 |
| Antimony | ppm | ASTM D5185m | | **---** | --- | --- |
| Vanadium | ppm | ASTM D5185m | | **<1** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **<1** | <1 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | | **287** | 254 | 271 |
| Barium | ppm | ASTM D5185m | | **0** | 3 | 0 |
| Molybdenum | ppm | ASTM D5185m | | **114** | 89 | 75 |
| Manganese | ppm | ASTM D5185m | | **3** | 2 | <1 |
| Magnesium | ppm | ASTM D5185m | | **691** | 754 | 703 |
| Calcium | ppm | ASTM D5185m | | **1534** | 1601 | 1468 |
| Phosphorus | ppm | ASTM D5185m | 1200 | **711** | 811 | 724 |
| Zinc | ppm | ASTM D5185m | 1300 | **894** | 976 | 857 |
| Sulfur | ppm | ASTM D5185m | 3200 | **3031** | 3218 | 3175 |

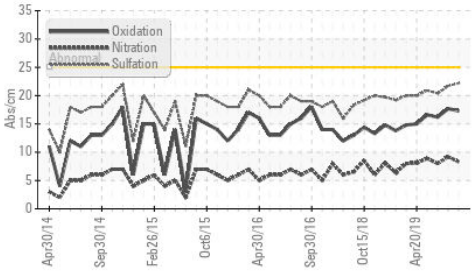
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >25 | **7** | 9 | 12 |
| Sodium | ppm | ASTM D5185m | | **<1** | 2 | 1 |
| Potassium | ppm | ASTM D5185m | >20 | **2** | 2 | <1 |
| Fuel | % | ASTM D3524 | >4.0 | **<1.0** | ▲ 2.9 | ▲ 4.1 |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | *ASTM D7844 | | **0.1** | 0.1 | 0.1 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **8.3** | 9.2 | 8.0 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **22.2** | 21.7 | 20.4 |

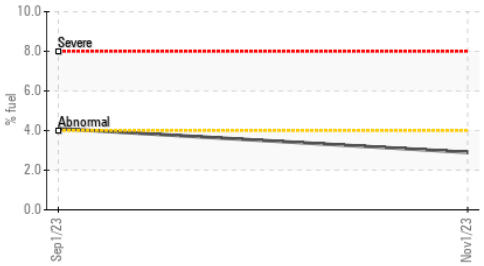
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **17.3** | 17.7 | 16.2 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 9.6 | **8.2** | 7.5 | 7.8 |

# OIL ANALYSIS REPORT

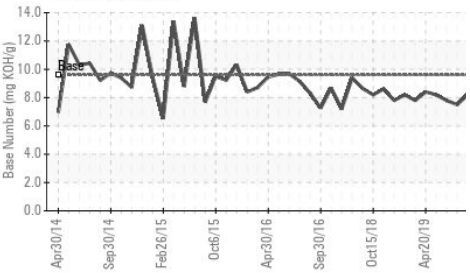
FT-IR (Direct Trend)



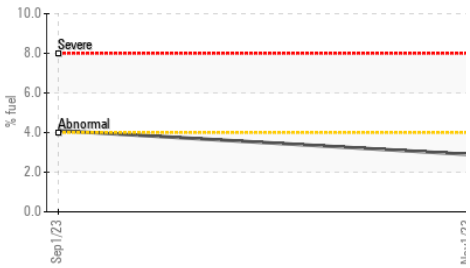

Fuel Dilution




Base Number




Fuel Dilution

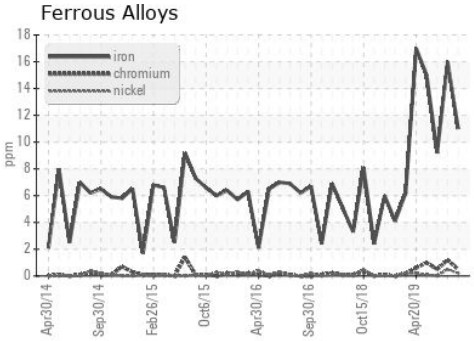



| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| 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 | >0.1 | **NEG** | NEG | NEG |
| Free Water | scalar | *Visual | | **NEG** | NEG | NEG |

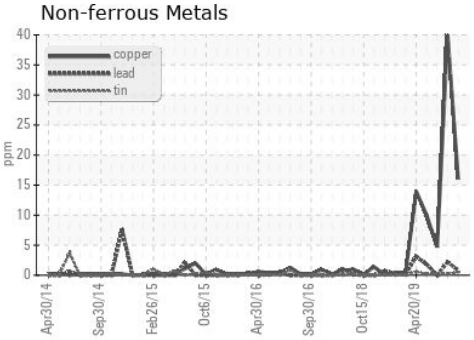
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D445 | 15.7 | ● **12.0** | ● 11.9 | ▲ 11.6 |

## GRAPHS

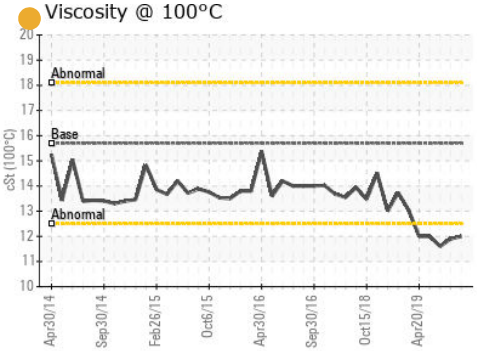
Ferrous Alloys



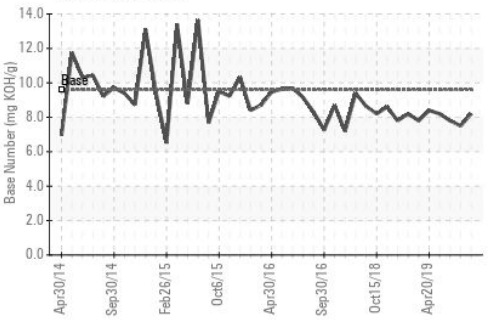

Non-ferrous Metals




Viscosity @ 100°C




Base Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : MW06207240 **Received** : 11 Jun 2024
**Lab Number** : 06207240 **Tested** : 14 Jun 2024
**Unique Number** : 11074701 **Diagnosed** : 14 Jun 2024 - Sean Felton
**Test Package** : MAR 2 ( Additional Tests: FUELDILUTION, GC-PERCFUEL )

*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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