MOB II WEAR CHECK

# OIL ANALYSIS REPORT

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

Area
**RIG 3**
Machine Id
**R3-CHANGE SHACK-NKL**
Component
**Diesel Engine**
Fluid
**CHEVRON 15W40 (--- GAL)**

## RECOMMENDATION

We recommend you service the filters on this component. Resample at the next service interval to monitor.

## WEAR

All component wear rates are normal.

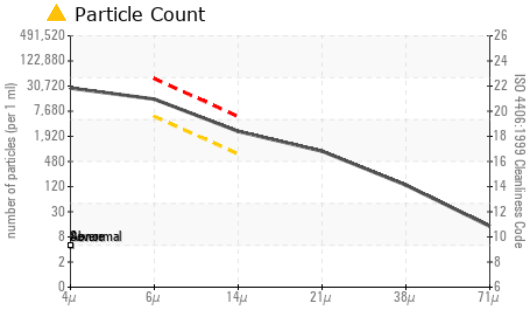
## CONTAMINATION

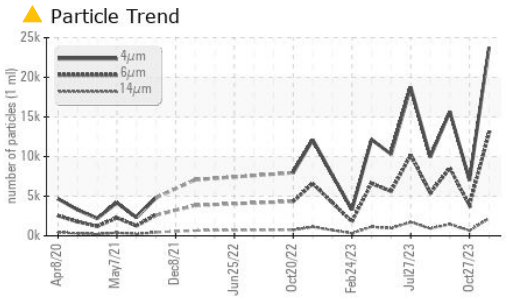
There is a high amount of particulates present in the oil.

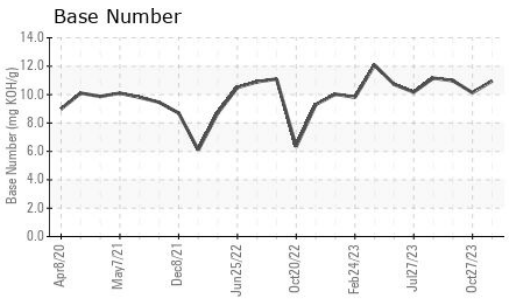
## FLUID CONDITION

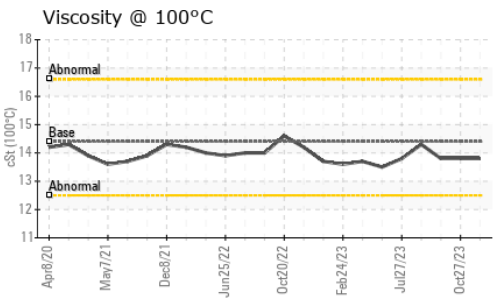
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

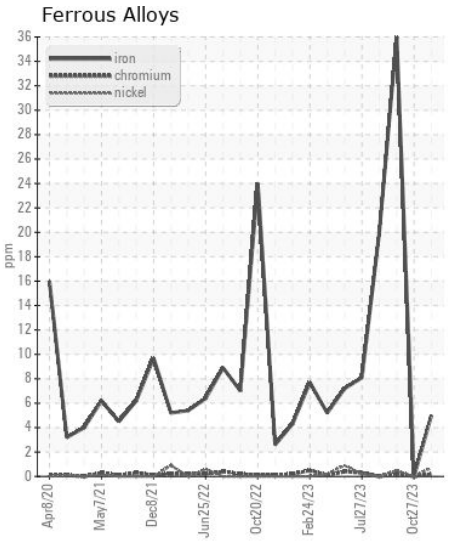
| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | KL0013151 | KL0013121 | KL0012973 |
| Sample Date | | Client Info | | 28 Dec 2023 | 27 Oct 2023 | 25 Sep 2023 |
| Machine Age | days | Client Info | | 45288 | 45225 | 45192 |
| Oil Age | days | Client Info | | 0 | 0 | 0 |
| Filter Age | days | 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 | ATTENTION | ATTENTION |
| Iron | ppm | ASTM D5185m | >100 | 5 | 0 | 36 |
| Chromium | ppm | ASTM D5185m | >20 | <1 | 0 | <1 |
| Nickel | ppm | ASTM D5185m | >4 | <1 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | | <1 | 0 | <1 |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 2 | 4 | 0 |
| Lead | ppm | ASTM D5185m | >40 | <1 | 0 | 3 |
| Copper | ppm | ASTM D5185m | >330 | 7 | 2 | 4 |
| Tin | ppm | ASTM D5185m | >15 | <1 | 0 | <1 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Silicon | ppm | ASTM D5185m | >25 | 7 | 5 | 14 |
| Potassium | ppm | ASTM D5185m | >20 | 2 | 3 | 3 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | 0.4 | 0.3 | 0.4 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 6.4 | 5.9 | 8.0 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 23.4 | 23.3 | 22.9 |
| Particles >4µm | | ASTM D7647 | | 23794 | 7003 | 15659 |
| Particles >6µm | | ASTM D7647 | >5000 | ▲ 12962 | 3815 | ▲ 8531 |
| Particles >14µm | | ASTM D7647 | >640 | ▲ 2206 | ▲ 649 | ▲ 1452 |
| Particles >21µm | | ASTM D7647 | >160 | ▲ 743 | ▲ 219 | ▲ 489 |
| Particles >38µm | | ASTM D7647 | >40 | ▲ 115 | 34 | ▲ 75 |
| Particles >71µm | | ASTM D7647 | >10 | 12 | 3 | 8 |
| Oil Cleanliness | | ISO 4406 (c) | >19/16 | ▲ 21/18 | ▲ 19/17 | ▲ 20/18 |
| 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 | >0.2 | NEG | NEG | NEG |
| Sodium | ppm | ASTM D5185m | >50 | 0 | 5 | 10 |
| Boron | ppm | ASTM D5185m | | 371 | 393 | 369 |
| Barium | ppm | ASTM D5185m | | 0 | <1 | 6 |
| Molybdenum | ppm | ASTM D5185m | | 129 | 128 | 154 |
| Manganese | ppm | ASTM D5185m | | <1 | 0 | <1 |
| Magnesium | ppm | ASTM D5185m | | 674 | 676 | 682 |
| Calcium | ppm | ASTM D5185m | | 1549 | 1593 | 1552 |
| Phosphorus | ppm | ASTM D5185m | | 665 | 686 | 753 |
| Zinc | ppm | ASTM D5185m | | 832 | 832 | 884 |
| Sulfur | ppm | ASTM D5185m | | 2504 | 2391 | 3237 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 16.9 | 16.6 | 17.6 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | | 10.96 | 10.13 | 10.98 |
| Visc @ 100°C | cSt | ASTM D445 | 14.4 | 13.8 | 13.8 | 13.8 |

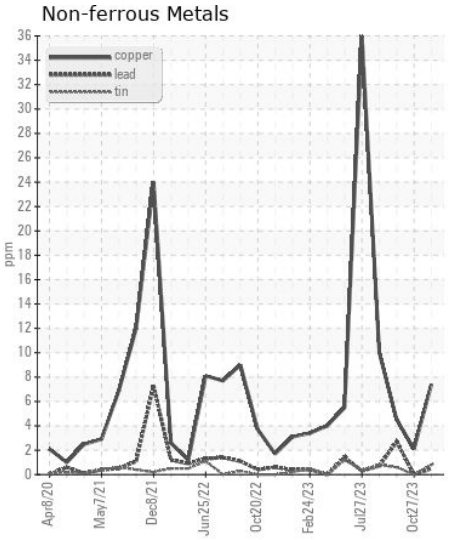


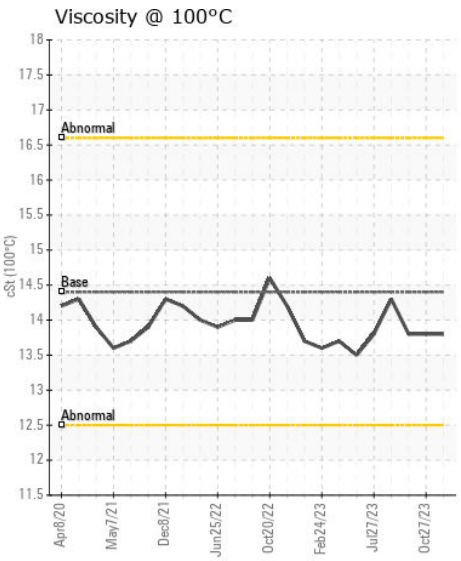



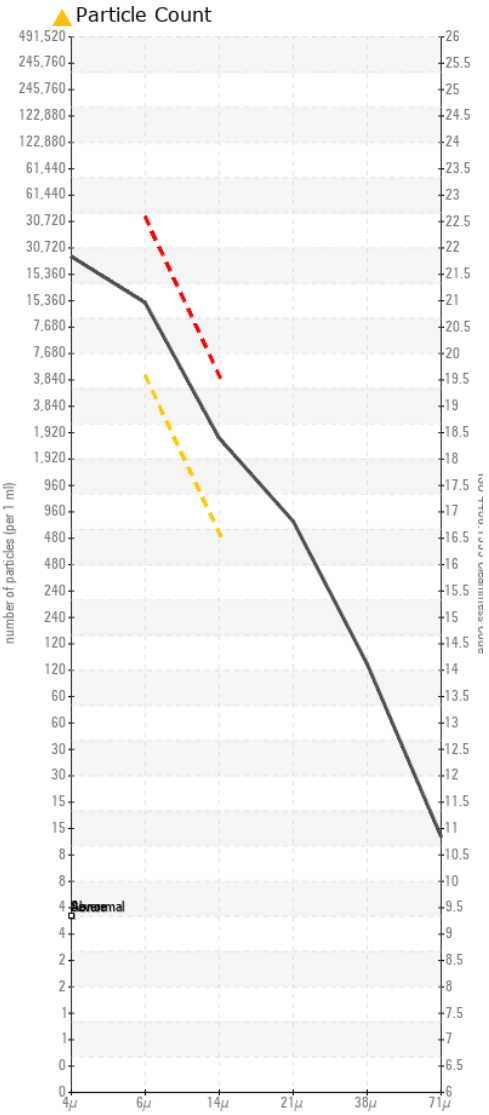



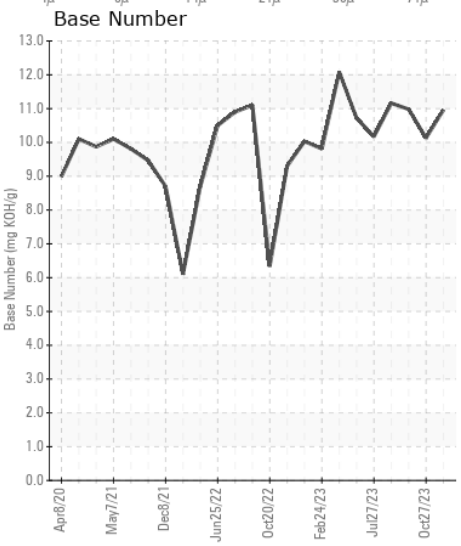

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|---|---|---|---|
| **Laboratory** | : WearCheck USA - 501 Madison Ave., Cary, NC 27513 | | |
| **Sample No.** | : KL0013151 | **Recieved** | : 08 Jan 2024 |
| **Lab Number** | : 06055036 | **Diagnosed** | : 10 Jan 2024 |
| **Unique Number** | : 10820985 | **Diagnostician** | : Sean Felton |
| **Test Package** | : MOB 2 ( Additional Tests: PrtCount ) | | |

Certificate L2367

*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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