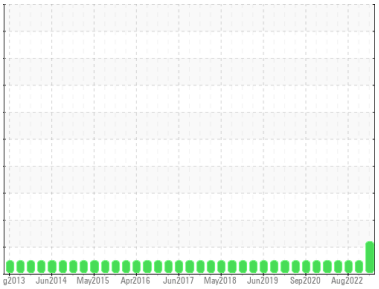
# OIL ANALYSIS REPORT

Sample Rating Trend



**GLYCOL**

Machine Id
## TEREX MIXER 217
Component
**Diesel Engine**
Fluid
**DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

## DIAGNOSIS

**Recommendation**
Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

**Wear**
All component wear rates are normal.

**Contamination**
Sodium and/or potassium levels are high. Test for glycol is negative.

**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.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0802320** | WC0661751 | WC0721494 |
| Sample Date | | Client Info | | **09 May 2023** | 06 Jan 2023 | 17 Aug 2022 |
| Machine Age | hrs | Client Info | | **30446** | 29805 | 29088 |
| Oil Age | hrs | Client Info | | **500** | 500 | 500 |
| Oil Changed | | Client Info | | **Changed** | Changed | Changed |
| Sample Status | | | | **ABNORMAL** | NORMAL | NORMAL |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Fuel | | WC Method | >5 | **<1.0** | <1.0 | <1.0 |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >75 | **11** | 9 | 15 |
| Chromium | ppm | ASTM D5185m | >4 | **<1** | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >5 | **<1** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | >2 | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185m | >2 | **0** | <1 | 0 |
| Aluminum | ppm | ASTM D5185m | >54 | **3** | 1 | 0 |
| Lead | ppm | ASTM D5185m | >20 | **2** | 3 | 9 |
| Copper | ppm | ASTM D5185m | >240 | **8** | 7 | 5 |
| Tin | ppm | ASTM D5185m | >5 | **<1** | <1 | <1 |
| Antimony | ppm | ASTM D5185m | | **---** | --- | --- |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 250 | **27** | 8 | 12 |
| Barium | ppm | ASTM D5185m | 10 | **0** | 2 | 0 |
| Molybdenum | ppm | ASTM D5185m | 100 | **86** | 57 | 71 |
| Manganese | ppm | ASTM D5185m | | **<1** | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 450 | **686** | 866 | 1015 |
| Calcium | ppm | ASTM D5185m | 3000 | **1749** | 1008 | 1257 |
| Phosphorus | ppm | ASTM D5185m | 1150 | **1186** | 934 | 1122 |
| Zinc | ppm | ASTM D5185m | 1350 | **1527** | 1171 | 1358 |
| Sulfur | ppm | ASTM D5185m | 4250 | **4921** | 3320 | 3720 |

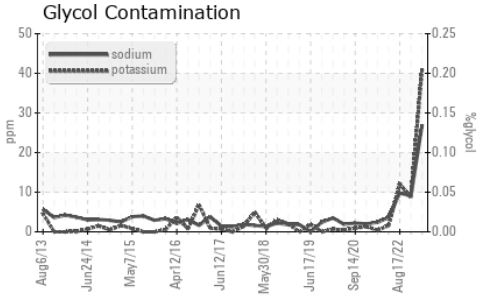
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >35 | **6** | 3 | 3 |
| Sodium | ppm | ASTM D5185m | >158 | **27** | 9 | 10 |
| Potassium | ppm | ASTM D5185m | >20 | ▲ **41** | 9 | 12 |
| Glycol | % | *ASTM D2982 | | **NEG** | NEG | NEG |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | *ASTM D7844 | >3 | **0.3** | 0.3 | 1 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **8.7** | 8.1 | 9.8 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **20.2** | 20.1 | 23.6 |

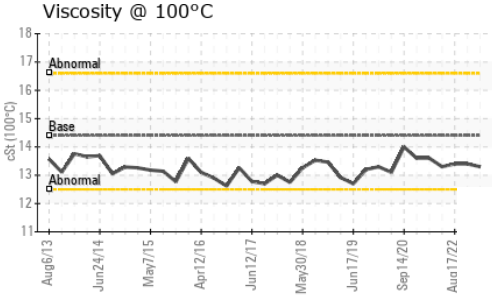
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **16.3** | 16.4 | 17.2 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 8.5 | **11.09** | 10.38 | 9.68 |

# OIL ANALYSIS REPORT

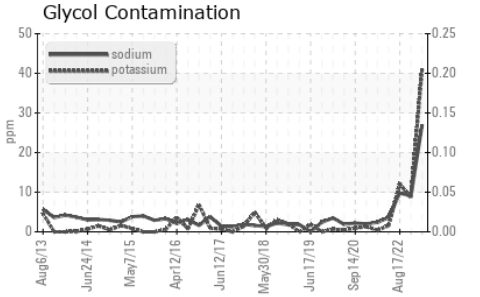
Glycol Contamination




Viscosity @ 100°C




Glycol Contamination

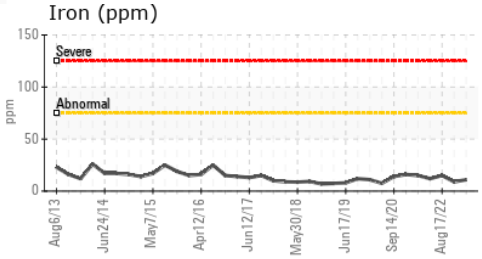



| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| 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 | >0.2 | **NEG** | NEG | NEG |
| Free Water | scalar | *Visual | | **NEG** | NEG | NEG |

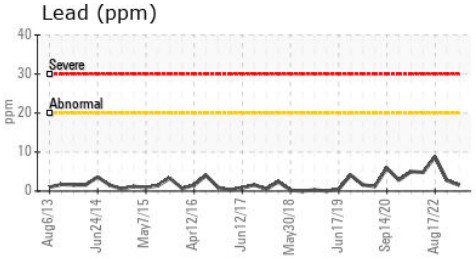
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D445 | 14.4 | **13.3** | 13.4 | 13.4 |

## GRAPHS

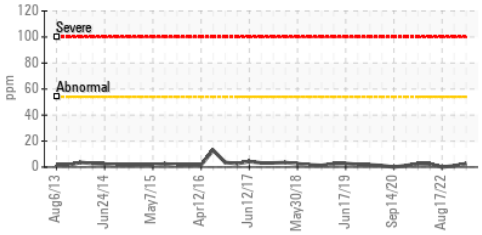
Iron (ppm)



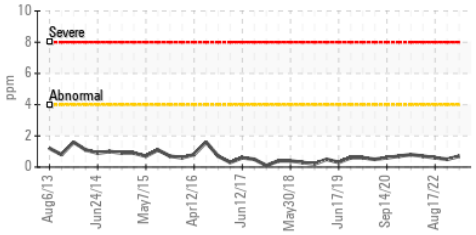

Lead (ppm)



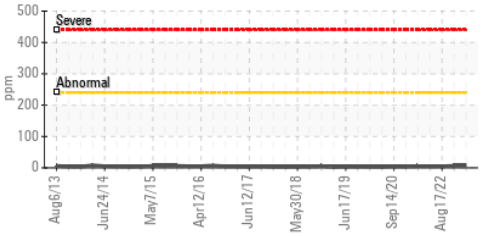

Aluminum (ppm)



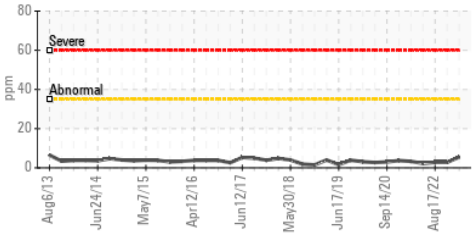

Chromium (ppm)



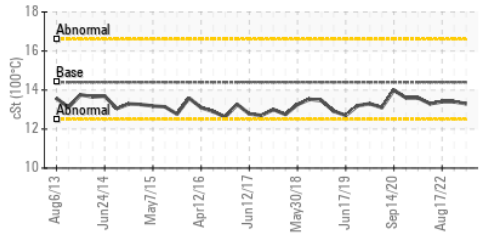

Copper (ppm)



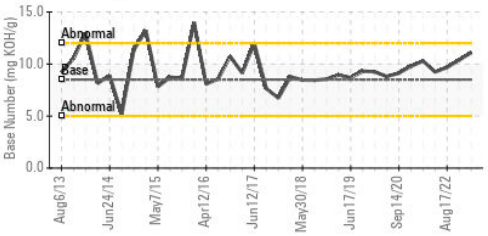

Silicon (ppm)




Viscosity @ 100°C




Base Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : WC0802320 **Received** : 12 May 2023
**Lab Number** : 05846409 **Diagnosed** : 17 May 2023
**Unique Number** : 10470516 **Diagnostician** : Jonathan Hester
**Test Package** : MOB 2 ( Additional Tests: Glycol )

*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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Submitted By: MARVIN IBARRA