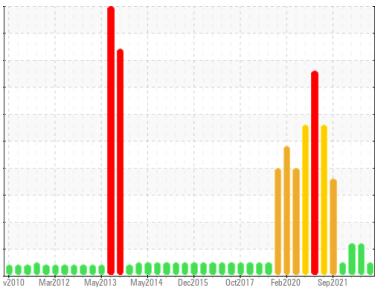
# OIL ANALYSIS REPORT

Sample Rating Trend




NORMAL

Area
**TC02**
Machine Id
**TC02 Bottom 6 Inch**
Component
**Gearbox**
Fluid
**TRIBOL GEAROIL 1100/320 (17 GAL)**

## DIAGNOSIS

**Recommendation**
Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. The fluid was specified as TRIBOL GEAROIL 1100/320, however, a fluid match indicates that this fluid is ISO 320 Gear Oil. Please confirm the oil type and grade on your next sample. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

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

**Contamination**
There is no indication of any contamination in the oil.

**Fluid Condition**
Additive levels indicate the addition of a different brand, or type of oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0841285** | WC22128061 | WC0754410 |
| Sample Date | | Client Info | | **25 Aug 2023** | 25 Apr 2023 | 05 Feb 2023 |
| Machine Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **N/A** | N/A | N/A |
| Sample Status | | | | **NORMAL** | ABNORMAL | ABNORMAL |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Water | | WC Method | >0.2 | **NEG** | NEG | NEG |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| PQ | | ASTM D8184* | | **0** | 0 | 0 |
| Iron | ppm | ASTM D5185(m) | >200 | **44** | 40 | 44 |
| Chromium | ppm | ASTM D5185(m) | >15 | **<1** | <1 | 0 |
| Nickel | ppm | ASTM D5185(m) | >15 | **0** | 2 | 0 |
| Titanium | ppm | ASTM D5185(m) | | **0** | <1 | 0 |
| Silver | ppm | ASTM D5185(m) | | **0** | <1 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >25 | **2** | 9 | 2 |
| Lead | ppm | ASTM D5185(m) | >100 | **<1** | 19 | 1 |
| Copper | ppm | ASTM D5185(m) | >200 | **2** | ▲ 134 | 4 |
| Tin | ppm | ASTM D5185(m) | >25 | **0** | <1 | 0 |
| Antimony | ppm | ASTM D5185(m) | >5 | **0** | <1 | 0 |
| Vanadium | ppm | ASTM D5185(m) | | **0** | <1 | 0 |
| Beryllium | ppm | ASTM D5185(m) | | **0** | 0 | 0 |
| Cadmium | ppm | ASTM D5185(m) | | **0** | <1 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185(m) | | **<1** | <1 | 2 |
| Barium | ppm | ASTM D5185(m) | | **0** | <1 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | | **13** | 0 | 36 |
| Manganese | ppm | ASTM D5185(m) | | **1** | <1 | 1 |
| Magnesium | ppm | ASTM D5185(m) | | **1** | 23 | 2 |
| Calcium | ppm | ASTM D5185(m) | | **11** | 69 | 85 |
| Phosphorus | ppm | ASTM D5185(m) | | **289** | 803 | 338 |
| Zinc | ppm | ASTM D5185(m) | | **37** | 587 | 65 |
| Sulfur | ppm | ASTM D5185(m) | | **8586** | 2415 | 7968 |
| Lithium | ppm | ASTM D5185(m) | | **<1** | <1 | <1 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | >50 | **3** | 16 | 4 |
| Sodium | ppm | ASTM D5185(m) | | **<1** | 3 | 1 |
| Potassium | ppm | ASTM D5185(m) | >20 | **<1** | <1 | 0 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D974* | | **0.29** | 1.02 | 0.29 |

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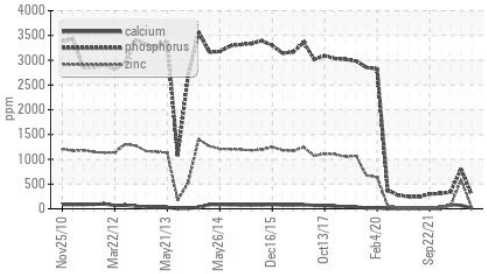
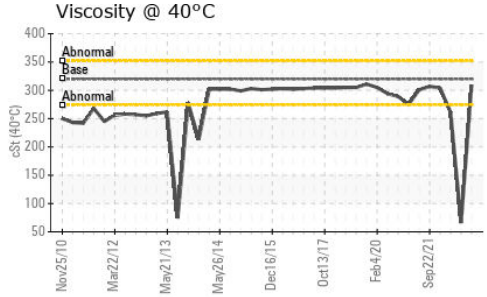
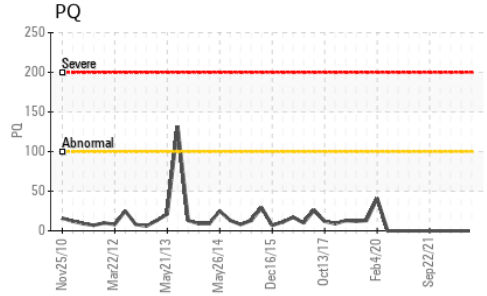
Additives



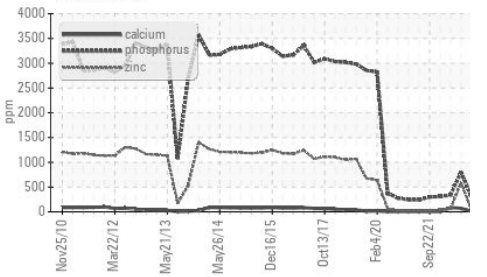

Viscosity @ 40°C




PQ




Additives



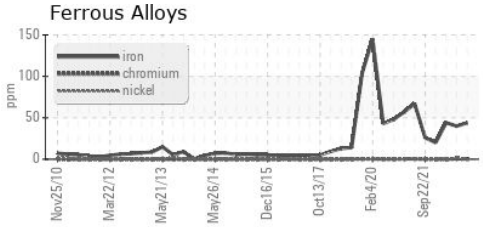

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | Visual* | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | Visual* | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | Visual* | NONE | **NONE** | NONE | NONE |
| 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 | ▲ HAZY |
| 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 @ 40°C | cSt | ASTM D7279(m) | 320 | **309** | ▲ 66.2 | ▲ 261 |

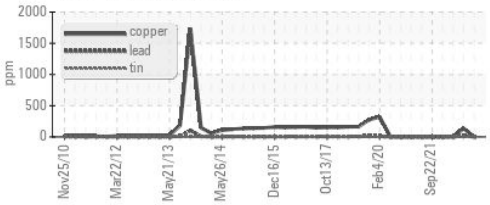
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |

## GRAPHS

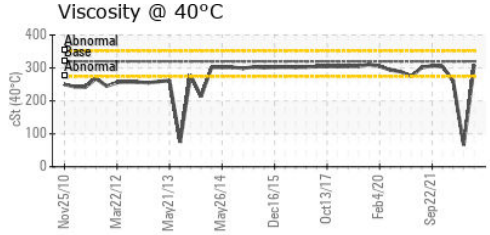
Ferrous Alloys



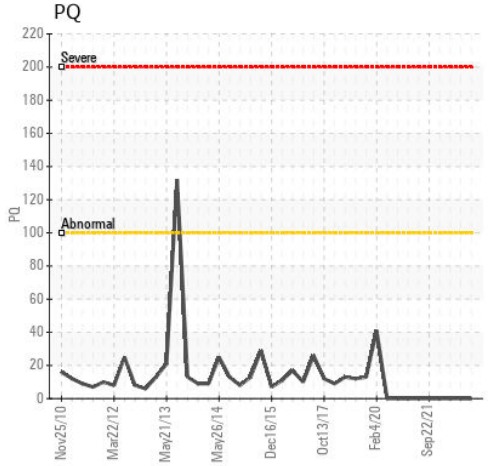

Non-ferrous Metals



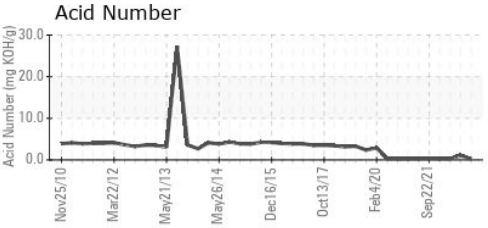

Viscosity @ 40°C




PQ




Acid Number




ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
**Sample No.** : WC0841285
**Lab Number** : 02579787
**Unique Number** : 5632847
**Test Package** : IND 2

**Received** : 31 Aug 2023
**Tested** : 01 Sep 2023
**Diagnosed** : 01 Sep 2023 - Kevin Marson

*To discuss this sample report, contact Customer Service at 1-800-268-2131.*
*Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.*
*Validity of results and interpretation are based on the sample and information as supplied.*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