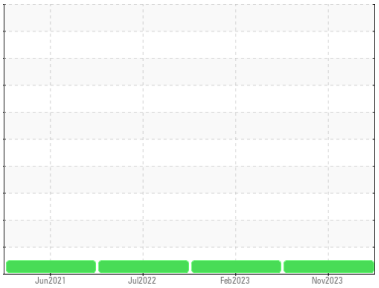
# OIL ANALYSIS REPORT

Area
**[20126]**
Machine Id
**57-02**
Component
**Hydraulic System**
Fluid
**CONOCO PHILLIPS GUARDOL ECT 15W40 (--- GAL)**

Sample Rating Trend




**NORMAL**

## DIAGNOSIS

**Recommendation**
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. The amount and size of particulates present in the system are acceptable.

**Fluid Condition**
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 | | **WC0836107** | WC0754834 | WC0619245 |
| Sample Date | | Client Info | | **06 Nov 2023** | 17 Feb 2023 | 22 Jul 2022 |
| Machine Age | hrs | Client Info | | **8657** | 8084 | 7549 |
| Oil Age | hrs | Client Info | | **573** | 2000 | 298 |
| Oil Changed | | Client Info | | **Not Changd** | Changed | N/A |
| Sample Status | | | | **NORMAL** | NORMAL | NORMAL |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Water | | WC Method | >0.075 | **NEG** | NEG | NEG |

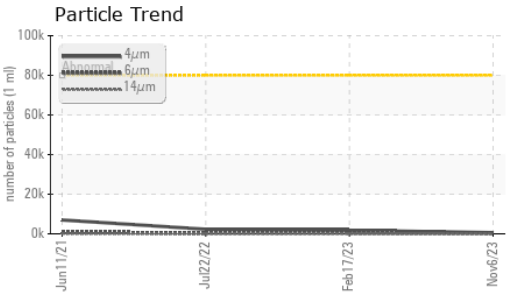
| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >71 | **1** | 5 | 6 |
| Chromium | ppm | ASTM D5185m | >11 | **0** | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >6 | **0** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | **<1** | <1 | <1 |
| Silver | ppm | ASTM D5185m | | **0** | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >11 | **2** | 2 | 3 |
| Lead | ppm | ASTM D5185m | >13 | **0** | 0 | <1 |
| Copper | ppm | ASTM D5185m | >21 | **8** | 12 | 16 |
| Tin | ppm | ASTM D5185m | >5 | **0** | <1 | <1 |
| Antimony | ppm | ASTM D5185m | | **---** | --- | --- |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

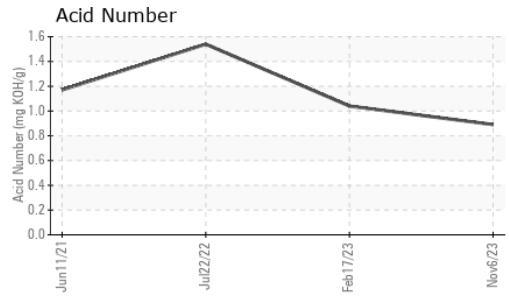
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 85 | **69** | 49 | 113 |
| Barium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | **4** | 9 | 14 |
| Manganese | ppm | ASTM D5185m | | **<1** | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 350 | **217** | 245 | 393 |
| Calcium | ppm | ASTM D5185m | 1800 | **1604** | 722 | 1214 |
| Phosphorus | ppm | ASTM D5185m | 1000 | **915** | 716 | 877 |
| Zinc | ppm | ASTM D5185m | 1100 | **1086** | 836 | 981 |
| Sulfur | ppm | ASTM D5185m | 3500 | **2610** | 2579 | 3431 |

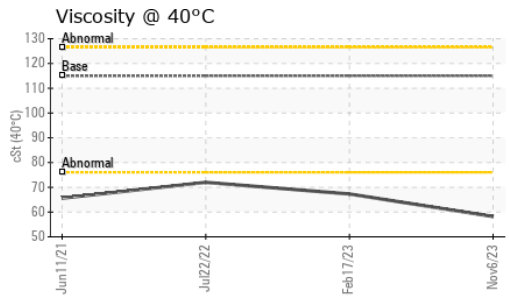
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >24 | **8** | 6 | 8 |
| Sodium | ppm | ASTM D5185m | >21 | **0** | 3 | 0 |
| Potassium | ppm | ASTM D5185m | >20 | **0** | 0 | 3 |

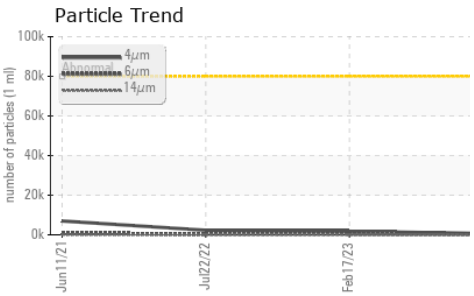
| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >80000 | **581** | 1774 | 2300 |
| Particles >6µm | | ASTM D7647 | >5000 | **183** | 368 | 297 |
| Particles >14µm | | ASTM D7647 | >640 | **13** | 13 | 26 |
| Particles >21µm | | ASTM D7647 | >160 | **3** | 3 | 7 |
| Particles >38µm | | ASTM D7647 | >40 | **0** | 0 | 0 |
| Particles >71µm | | ASTM D7647 | >10 | **0** | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >23/19/16 | **16/15/11** | 18/16/11 | 18/15/12 |

# OIL ANALYSIS REPORT



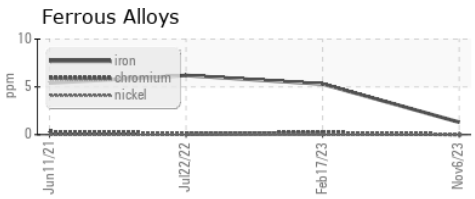

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | **0.89** | 1.04 | 1.54 |

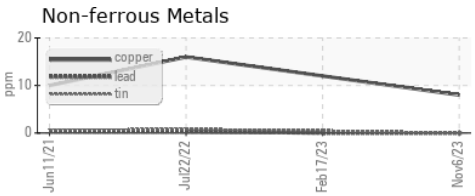
| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| 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 | >0.075 | **NEG** | NEG | NEG |
| Free Water | scalar | *Visual | | **NEG** | NEG | NEG |

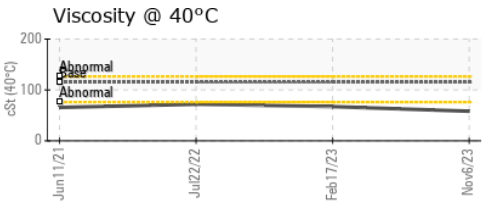
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 115 | **58.2** | 67.3 | 72.0 |

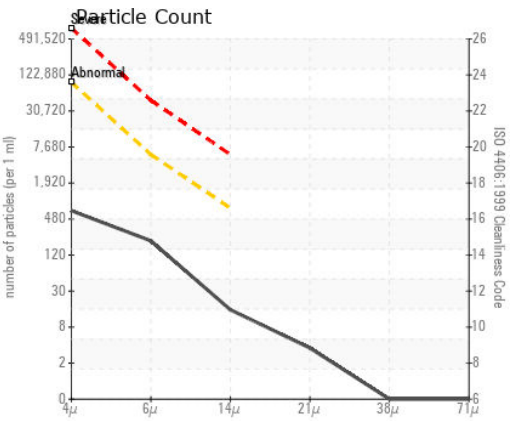
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | | | | |
| Bottom | | | | | |

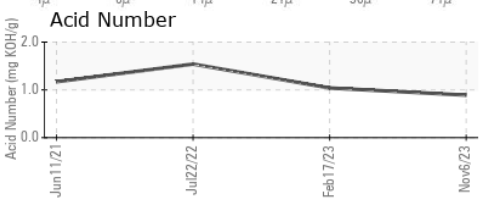
## GRAPHS




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : WC0836107 **Received** : 16 Nov 2023
**Lab Number** : 06010154 **Diagnosed** : 20 Nov 2023
**Unique Number** : 10749298 **Diagnostician** : Don Baldridge
**Test Package** : CONST ( Additional Tests: PrtCount )

*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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Report Id: MANTUL [WUSCAR] 06010154 (Generated: 11/20/2023 14:11:35) Rev: 1

Submitted By: JAMES STEELMON