



OIL ANALYSIS REPORT

Sample Rating Trend

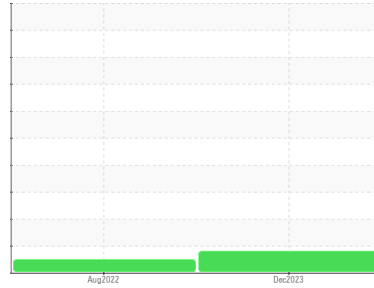
ISO



Machine Id
50-118

Component
Hydraulic System

Fluid
CONOCO PHILLIPS GUARDOL ECT 15W40 (--- GAL)



DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. 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 a moderate amount of silt (particulates < 14 microns in size) present in the oil.

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 | | WC0836226 | WC0709448 | --- |
| Sample Date | Client Info | | 14 Dec 2023 | 24 Aug 2022 | --- |
| Machine Age | hrs | Client Info | 3998 | 3515 | --- |
| Oil Age | hrs | Client Info | 1998 | 1515 | --- |
| Oil Changed | Client Info | | Changed | Not Changd | --- |
| Sample Status | | | ATTENTION | NORMAL | --- |

CONTAMINATION

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

WEAR METALS

| | method | limit/base | current | history1 | history2 |
|----------|--------|-----------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185m >20 | 7 | 8 | --- |
| Chromium | ppm | ASTM D5185m >10 | 0 | <1 | --- |
| Nickel | ppm | ASTM D5185m >10 | 0 | 0 | --- |
| Titanium | ppm | ASTM D5185m | 0 | <1 | --- |
| Silver | ppm | ASTM D5185m | 0 | 2 | --- |
| Aluminum | ppm | ASTM D5185m >10 | <1 | 2 | --- |
| Lead | ppm | ASTM D5185m >10 | <1 | 2 | --- |
| Copper | ppm | ASTM D5185m >75 | 11 | 10 | --- |
| Tin | ppm | ASTM D5185m >10 | 0 | <1 | --- |
| Vanadium | ppm | ASTM D5185m | 0 | 0 | --- |
| Cadmium | ppm | ASTM D5185m | 0 | <1 | --- |

ADDITIVES

| | method | limit/base | current | history1 | history2 |
|------------|--------|------------------|-------------|----------|----------|
| Boron | ppm | ASTM D5185m 85 | 55 | 57 | --- |
| Barium | ppm | ASTM D5185m | 0 | 0 | --- |
| Molybdenum | ppm | ASTM D5185m | 6 | 5 | --- |
| Manganese | ppm | ASTM D5185m | 0 | <1 | --- |
| Magnesium | ppm | ASTM D5185m 350 | 35 | 13 | --- |
| Calcium | ppm | ASTM D5185m 1800 | 2159 | 2176 | --- |
| Phosphorus | ppm | ASTM D5185m 1000 | 915 | 825 | --- |
| Zinc | ppm | ASTM D5185m 1100 | 954 | 1031 | --- |
| Sulfur | ppm | ASTM D5185m 3500 | 3115 | 3323 | --- |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|-----------------|-----------|----------|----------|
| Silicon | ppm | ASTM D5185m >20 | 12 | 13 | --- |
| Sodium | ppm | ASTM D5185m | 2 | 1 | --- |
| Potassium | ppm | ASTM D5185m >20 | 1 | 2 | --- |

FLUID CLEANLINESS

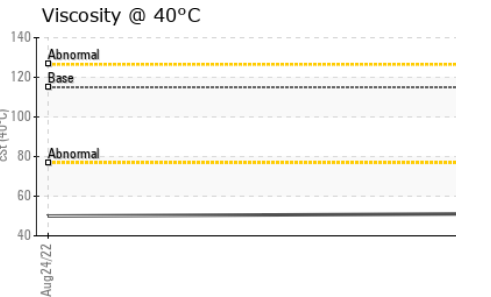
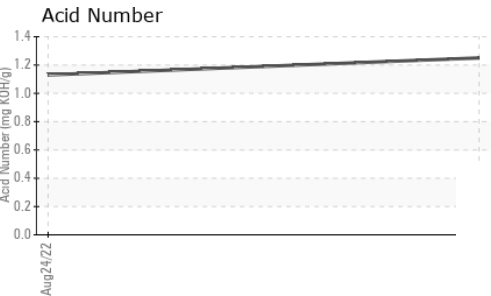
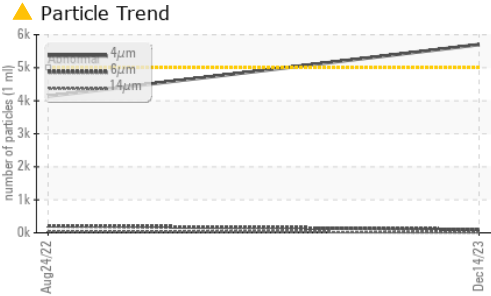
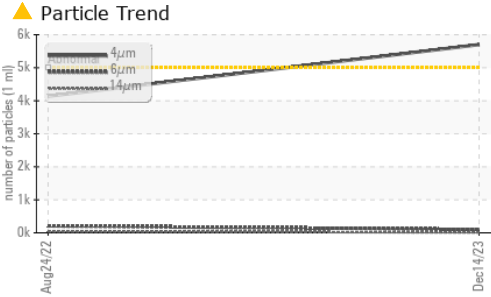
| | method | limit/base | current | history1 | history2 |
|-----------------|--------------|------------|-------------------|----------|----------|
| Particles >4µm | ASTM D7647 | >5000 | ▲ 5700 | 4137 | --- |
| Particles >6µm | ASTM D7647 | >1300 | 96 | 209 | --- |
| Particles >14µm | ASTM D7647 | >160 | 8 | 36 | --- |
| Particles >21µm | ASTM D7647 | >40 | 3 | 9 | --- |
| Particles >38µm | ASTM D7647 | >10 | 0 | 1 | --- |
| Particles >71µm | ASTM D7647 | >3 | 0 | 0 | --- |
| Oil Cleanliness | ISO 4406 (c) | >19/17/14 | ▲ 20/14/10 | 19/15/12 | --- |

FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|------------------|----------|------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 1.25 | 1.13 | --- |



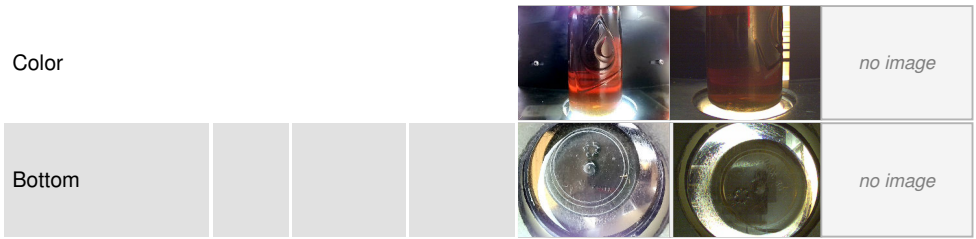
OIL ANALYSIS REPORT



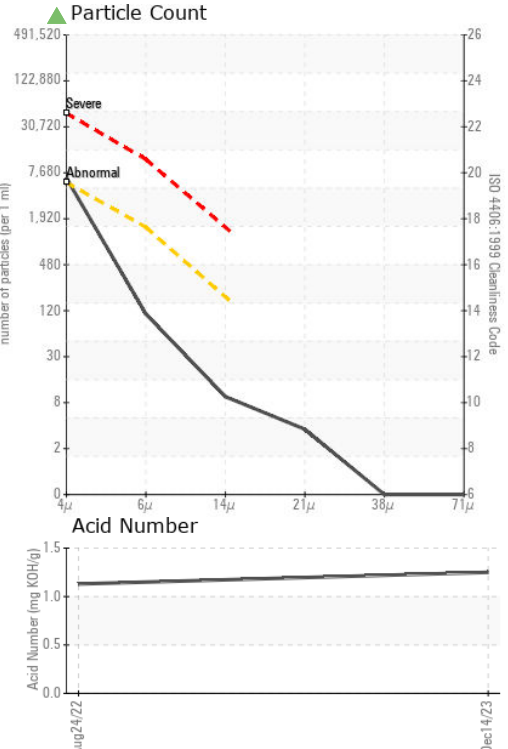
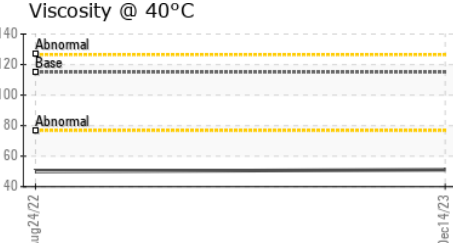
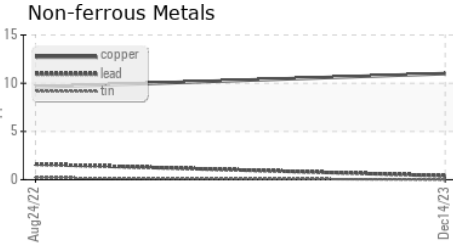
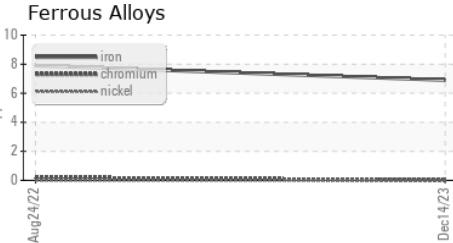
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | --- |
| Precipitate | scalar | *Visual | NONE | NONE | --- |
| Silt | scalar | *Visual | NONE | NONE | --- |
| Debris | scalar | *Visual | NONE | NONE | --- |
| Sand/Dirt | scalar | *Visual | NONE | NONE | --- |
| Appearance | scalar | *Visual | NORML | NORML | --- |
| Odor | scalar | *Visual | NORML | NORML | --- |
| Emulsified Water | scalar | *Visual | >0.1 | NEG | --- |
| Free Water | scalar | *Visual | | NEG | --- |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 | 115 | 51.1 | 50.0 |

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



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0836226 **Received** : 09 Jan 2024
Lab Number : 06055866 **Diagnosed** : 10 Jan 2024
Unique Number : 10821815 **Diagnostician** : Don Baldrige
Test Package : CONST

MANHATTAN ROAD AND BRIDGE
 5601 S 122ND E AVE
 TULSA, OK
 US 74146
 Contact: BEN CALDWELL
 kevin.marson@wearcheck.com
 T: (918)728-5749
 F:

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)