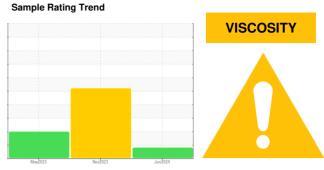


OIL ANALYSIS REPORT

HOTLINE/120 MILL #2 PINCH ROLL REDUCER BTM 1415-004-0080 BTM

Bottom Gearbox

CITGO COMPOUND EP 320 (20 GAL)



DIAGNOSIS

Recommendation

We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor. We were unable to perform a particle count due to a high concentration of particles present in this sample.

All component wear rates are normal.

Contamination

Moderate concentration of visible dirt/debris present in the oil.

Fluid Condition

Viscosity of sample indicates oil is within ISO 460 range, advise investigate. Confirm oil type. The AN level is acceptable for this fluid.

| | | MBJCULS JURCULY | | | | | |
|-----------------|--------|-----------------|------------|-------------|-------------|-------------------|--|
| SAMPLE INFORM | MATION | method | limit/base | current | history1 | history2 | |
| Sample Number | | Client Info | | KFS0004451 | KFS0004816 | KFS0003346 | |
| Sample Date | | Client Info | | 19 Jun 2024 | 10 Nov 2023 | 31 May 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 | | | | ABNORMAL | 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 | |
| Iron | ppm | ASTM D5185m | >200 | 82 | 7 | 97 | |
| Chromium | ppm | ASTM D5185m | >15 | 0 | 0 | 0 | |
| Nickel | ppm | ASTM D5185m | >15 | 0 | 0 | 0 | |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | <1 | |
| Silver | ppm | ASTM D5185m | | 0 | 0 | 0 | |
| Aluminum | ppm | ASTM D5185m | >25 | 3 | <1 | 4 | |
| Lead | ppm | ASTM D5185m | >100 | 0 | 0 | <1 | |
| Copper | ppm | ASTM D5185m | >200 | 8 | 4 | 11 | |
| Tin | ppm | ASTM D5185m | >25 | 0 | 0 | 0 | |
| 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 | | 2 | 0 | 3 | |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 | |
| Molybdenum | ppm | ASTM D5185m | | 0 | 0 | 0 | |
| Manganese | ppm | ASTM D5185m | | <1 | 0 | 1 | |
| Magnesium | ppm | ASTM D5185m | | 0 | <1 | 0 | |
| Calcium | ppm | ASTM D5185m | | 2 | 1 | <1 | |
| Phosphorus | ppm | ASTM D5185m | | 99 | 104 | 91 | |
| Zinc | ppm | ASTM D5185m | | 0 | 2 | 0 | |
| Sulfur | ppm | ASTM D5185m | | 7191 | 5135 | 7374 | |
| CONTAMINANTS | 5 | method | limit/base | current | history1 | history2 | |
| Silicon | ppm | ASTM D5185m | >50 | 2 | <1 | 2 | |
| Sodium | ppm | ASTM D5185m | | 3 | 0 | 2 | |
| Potassium | ppm | ASTM D5185m | >20 | 0 | <1 | <1 | |
| FLUID CLEANLIN | IESS | method | limit/base | current | history1 | history2 | |
| Particles >4µm | | ASTM D7647 | >20000 | | | <u>235713</u> | |
| Particles >6µm | | ASTM D7647 | >5000 | | | △ 99834 | |
| Particles >14µm | | ASTM D7647 | >640 | | | △ 698 | |
| Particles >21µm | | ASTM D7647 | >160 | | | 102 | |
| Particles >38μm | | ASTM D7647 | >40 | | | 7 | |
| Particles >71µm | | ASTM D7647 | >10 | | | 1 | |
| Oil Cleanliness | | ISO 4406 (c) | >21/19/16 | | | <u>△</u> 25/24/17 | |
| FLUID DEGRADA | ATION | method | limit/base | current | history1 | history2 | |
| | | | | | | | |

Acid Number (AN)

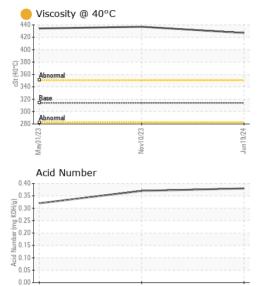
mg KOH/g ASTM D8045

Submitted By: COLD MILL - Josh Edwards

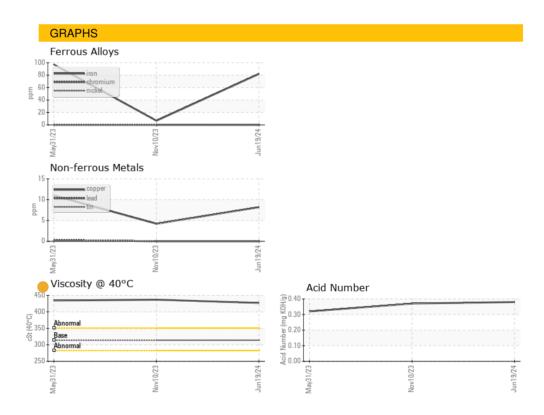
0.37



OIL ANALYSIS REPORT



| 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 | ▲ HEAVY | NONE | | |
| Debris | scalar | *Visual | NONE | MODER | NONE | LIGHT | | |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | NONE | | |
| Appearance | scalar | *Visual | NORML | NORML | HAZY | NORML | | |
| Odor | scalar | *Visual | NORML | NORML | NORML | NORML | | |
| Emulsified Water | scalar | *Visual | >0.2 | NEG | 0.2% | NEG | | |
| Free Water | scalar | *Visual | | NEG | <u> </u> | NEG | | |
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 | | |
| Visc @ 40°C | cSt | ASTM D445 | 314 | 427 | 437 | 434.3 | | |
| SAMPLE IMAGES | | method | limit/base | current | history1 | history2 | | |
| Color | | | | | | | | |
| | | | | | C5. 10 | | | |







Certificate 12367

Laboratory

Sample No.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : KFS0004451 Lab Number : 06219649

Bottom

Unique Number : 11097846 Test Package : IND 2 (Additional Tests: PrtCount)

Received **Tested** Diagnosed

: 25 Jun 2024 : 26 Jun 2024

: 26 Jun 2024 - Don Baldridge

4805 SECOND STREET MUSCLE SHOALS, AL

US 35661 Contact: Joel Even joel.even@constellium.com T: (256)740-7490

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)

Report Id: CONMUSAL [WUSCAR] 06219649 (Generated: 06/30/2024 15:34:10) Rev: 1

CONSTELLIUM