

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

Area [55513146] 5001-PR11-FC101 COALING PAN Component Gearbox Fluid

GEAR OIL ISO 220 (--- GAL)

DIAGNOSIS

Recommendation

Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

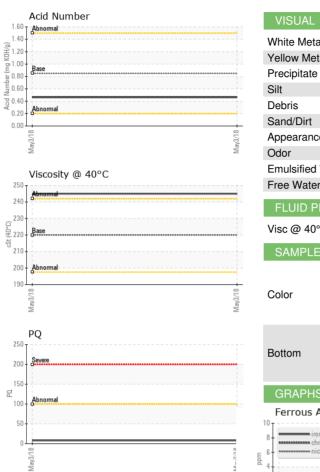
Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

| SAMPLE INFORM | | method | limit/base | current | history1 | history2 |
|----------------------------|----------|----------------------------|------------|------------------|----------|----------|
| | | | mmbase | | | |
| Sample Number | | Client Info Client Info | | CB0027759 | | |
| Sample Date Machine Age | hrs | Client Info | | 03 May 2018 0 | | |
| Oil Age | hrs | Client Info | | 0 | | |
| Oil Changed | mo | Client Info | | N/A | | |
| Sample Status | | | | NORMAL | | |
| CONTAMINATION | | method | limit/base | current | history1 | history2 |
| Water | | WC Method | >0.2 | NEG | | |
| WEAR METALS | | method | limit/base | current | history1 | history2 |
| PQ | | ASTM D8184* | | 8 | | |
| Iron | ppm | ASTM D5185(m) | >200 | 2 | | |
| Chromium | ppm | ASTM D5185(m) | >15 | 0 | | |
| Nickel | ppm | ASTM D5185(m) | >15 | 0 | | |
| Titanium | ppm | ASTM D5185(m) | | 0 | | |
| Silver | ppm | ASTM D5185(m) | | 0 | | |
| Aluminum | ppm | ASTM D5185(m) | >25 | 0 | | |
| Lead | ppm | ASTM D5185(m) | >100 | 0 | | |
| Copper | ppm | ASTM D5185(m) | >200 | 5 | | |
| Tin | ppm | ASTM D5185(m) | >25 | <1 | | |
| Antimony | ppm | ASTM D5185(m) | | 0 | | |
| Vanadium | ppm | ASTM D5185(m) | | 0 | | |
| Beryllium | ppm | ASTM D5185(m) | | 0 | | |
| Cadmium | ppm | ASTM D5185(m) | | 0 | | |
| ADDITIVES | | method | limit/base | current | history1 | history2 |
| Boron | ppm | ASTM D5185(m) | 50 | 70 | | |
| Barium | ppm | ASTM D5185(m) | 15 | 0 | | |
| Molybdenum | ppm | ASTM D5185(m) | 15 | 0 | | |
| Manganese | ppm | ASTM D5185(m) | | 0 | | |
| Magnesium | ppm | ASTM D5185(m) | 50 | <1 | | |
| Calcium | ppm | ASTM D5185(m) | 50 | <1 | | |
| Phosphorus | ppm | ASTM D5185(m) | 350 | 301 | | |
| Zinc | ppm | ASTM D5185(m) | 100 | 2 | | |
| Sulfur | ppm | ASTM D5185(m) | 12500 | 6720 | | |
| Lithium | ppm | ASTM D5185(m) | | <1 | | |
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
| Silicon | ppm | ASTM D5185(m) | >50 | 10 | | |
| Sodium | ppm | ASTM D5185(m) | | 0 | | |
| Potassium | ppm | ASTM D5185(m) | >20 | <1 | | |
| FLUID DEGRADA | TION | method | limit/base | current | history1 | history2 |
| Acid Number (AN) | mg KOH/g | ASTM D974* | 0.85 | 0.462 | | |
| | | | | | | |



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 | | |
| 1 | Silt | scalar | Visual* | NONE | NONE | | |
| | Debris | scalar | Visual* | NONE | MDHVY | | |
| | Sand/Dirt | scalar | Visual* | NONE | NONE | | |
| May3/18 | Appearance | scalar | Visual* | NORML | NORML | | |
| Ma | Odor | scalar | Visual* | NORML | NORML | | |
| | Emulsified Water | scalar | Visual* | >0.2 | NEG | | |
| | Free Water | scalar | Visual* | | NEG | | |
| | FLUID PROPER | RTIES | method | limit/base | current | history1 | history2 |
| | Visc @ 40°C | cSt | ASTM D7279(m) | 220 | 245 | | |
| | SAMPLE IMAGE | ES | method | limit/base | current | history1 | history2 |
| | | | | | | | |
| May3/18 | Color | | | | no image | no image | no image |
| | Bottom | | | | no image | no image | no image |
| | Bottom | | | | no image | no image | no image |
| | GRAPHS | | | | | | |
| | Ferrous Alloys | | | 22 | PQ | | |
| | 8- iron | | | | Samo | | |
| α | E 6 - nickel | | | 20 | | | |
| C #4 | | | | 18 | 0- | | |
| | 2 | | | 16 | 0 | | |
| | | | | 14 | 0- | | |
| | May3/18 | | | 81/8/18 0 | 0 | | |
| | | | | ≥ 2 10 | Abnormal | | |
| | Non-ferrous Meta | als | | | | | |
| | copper | | | 8 | | | |
| | | | | 6 | 0 | | |
| | e 4 | | | 4 | 0 - | | |
| | 2 | | | | 0 | | |
| | 0 | | | | | | 00 |
| | May3/1 | | | May3/18 | May3/18 | | 81/5/m |
| | Viscosity @ 40°C | | | 2.0 | Acid Number | | |
| | 240 - 0 | | | (B/HQ) Bull 1.51 Bull 1.01 W NO.51 OF 0.0 | | | |
| | G 230 € 220 3 210 3 210 | | | | 0 - Base | | |
| | ²³ 210 Abnormal | | | N 0.5 | Abnormal | | |
| | 190 | | | 0.0 ^V | Abnormal | | |
| | May3/18 | | | May3/18 | May3/18 | | Mav3/18 |
| Accredited Unique Number Laboratory Test Package o discuss this sample repor | e : IND 2 (Additional Te t, contact Customer Ser | Rece Teste Diagi ests: Botto vice at 1-8 | ived : 09 ed : 10 nosed : 11 m, TAN Mar 800-268-213 | 9 May 2018 0 May 2018 May 2018 - Ken 1) 1. | vin Marson | 50 Contact: Em | |
| Sample No. Iso 17025:2017 Accredited Laboratory No. Lab Number | r : 02215330 r : 4682454 e : IND 2 (Additional Te t, contact Customer Ser pe of accreditation, (m) r | Etobicoke, | | | | | |

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Contact/Location: Emmanuel Okelue - APOETO Page 2 of 2