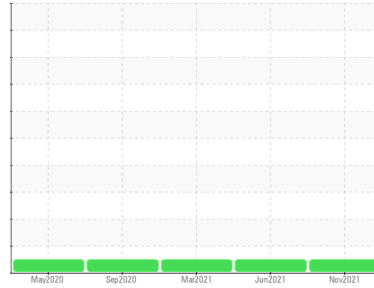




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
88-19
 Machine Id
AFP4 - HS PRIMARY (S/N SC004376)
 Component
Gearbox
 Fluid
GEAR OIL (PAG) ISO 220 (7 LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. 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 INFORMATION | | method | limit/base | current | history1 | history2 |
|--------------------|-------------|-------------|------------|--------------------|-------------|-------------|
| Sample Number | Client Info | | | WC0565776 | WC0565763 | WC0466812 |
| Sample Date | Client Info | | | 01 Nov 2021 | 29 Jun 2021 | 04 Mar 2021 |
| 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 | NORMAL | NORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|-------------|-----|-------------|------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185m | >200 | 0 | <1 | 0 |
| Chromium | ppm | ASTM D5185m | >15 | 0 | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >15 | 0 | <1 | 0 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | | 0 | <1 | <1 |
| Aluminum | ppm | ASTM D5185m | >25 | 0 | <1 | 0 |
| Lead | ppm | ASTM D5185m | >100 | <1 | <1 | 0 |
| Copper | ppm | ASTM D5185m | >200 | 0 | <1 | 0 |
| Tin | ppm | ASTM D5185m | >25 | <1 | <1 | <1 |
| Antimony | ppm | ASTM D5185m | | 0 | <1 | 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 | 5 | <1 | 1 | 1 |
| Barium | ppm | ASTM D5185m | 5 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 5 | 0 | <1 | 0 |
| Manganese | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Magnesium | ppm | ASTM D5185m | 5 | 0 | 1 | 0 |
| Calcium | ppm | ASTM D5185m | 5 | 0 | 0 | 0 |
| Phosphorus | ppm | ASTM D5185m | 775 | 444 | 465 | 437 |
| Zinc | ppm | ASTM D5185m | 5 | 0 | 0 | 0 |
| Sulfur | ppm | ASTM D5185m | 2000 | 468 | 510 | 466 |

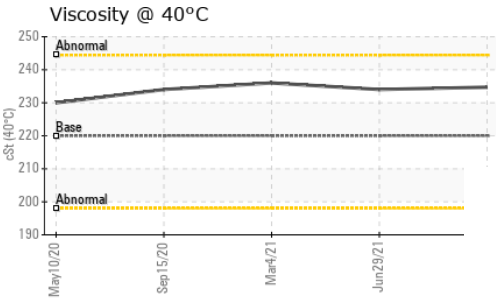
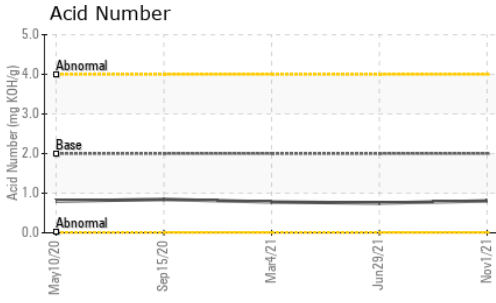
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|--------------|-----|-------------|------------|----------|----------|----------|
| Silicon | ppm | ASTM D5185m | >50 | 0 | 1 | <1 |
| Sodium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Potassium | ppm | ASTM D5185m | >20 | 0 | 1 | 0 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|-------------------|----------|------------|------------|--------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 2.00 | 0.805 | 0.751 | 0.779 |

| VISUAL | | method | limit/base | current | history1 | history2 |
|------------------|--------|---------|------------|--------------|----------|----------|
| White Metal | scalar | *Visual | NONE | MODER | MODER | MODER |
| 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 | >0.2 | NEG | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG | NEG |



OIL ANALYSIS REPORT



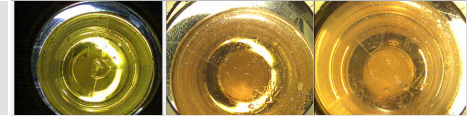
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|------------------|-----|-----------|------------|--------------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 | 220 | 234.7 | 234 | 236 |

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

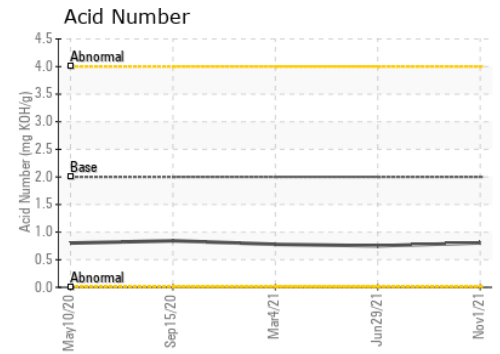
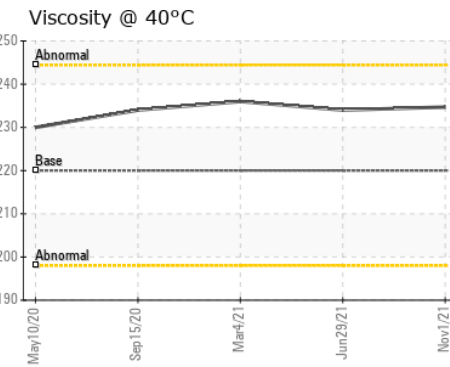
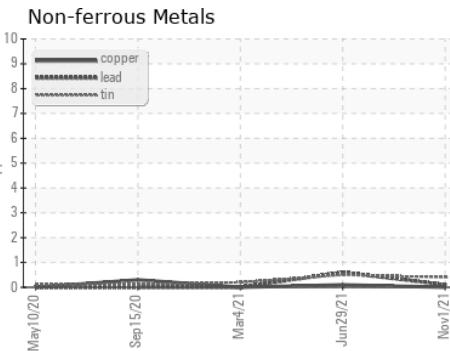
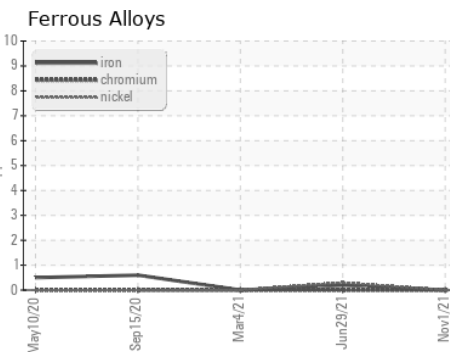
Color



Bottom



GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0565776 **Received** : 12 Nov 2021
Lab Number : 05399285 **Diagnosed** : 16 Nov 2021
Unique Number : 9738435 **Diagnostician** : Wes Davis
Test Package : IND 2

THE BOEING COMPANY
 5400 AIRFRAME DR
 NORTH CHARLESTON, SC
 US 29418

Contact: DAN HARRIS
 DANIEL.R.HARRIS2@BOEING.COM
 T: (843)730-0805
 F:

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)