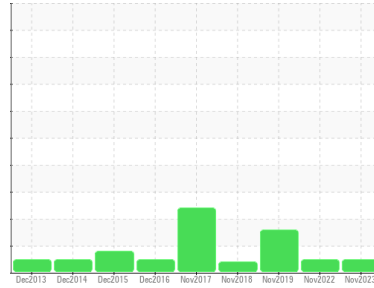




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
[603715580 SDR]
 Machine Id
SCALPER SECONDARY (S/N 20045491)
 Component
Gearbox
 Fluid
GEAR OIL ISO 220 (--- GAL)

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.

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 | WC0562374 | WC0562032 | WC0321945 |
| Sample Date | Client Info | 11 Nov 2023 | 18 Nov 2022 | 29 Nov 2019 |
| Machine Age | mls | Client Info | 0 | 0 |
| Oil Age | mls | Client Info | 0 | 0 |
| Oil Changed | Client Info | Changed | Changed | Changed |
| Sample Status | | NORMAL | NORMAL | ABNORMAL |

WEAR METALS

| method | limit/base | current | history1 | history2 | |
|----------|------------|------------------|--------------|----------|----|
| Iron | ppm | ASTM D5185m >200 | 0 | 4 | 29 |
| Chromium | ppm | ASTM D5185m >15 | 0 | <1 | <1 |
| Nickel | ppm | ASTM D5185m >15 | 0 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m >25 | <1 | 2 | 0 |
| Lead | ppm | ASTM D5185m >100 | 0 | 0 | <1 |
| Copper | ppm | ASTM D5185m >200 | 0 | <1 | <1 |
| Tin | ppm | ASTM D5185m >25 | <1 | 0 | 0 |
| Antimony | ppm | ASTM D5185m >5 | --- | --- | 0 |
| Vanadium | ppm | ASTM D5185m | 0 | 0 | <1 |
| Cadmium | ppm | ASTM D5185m | 0 | 0 | <1 |

ADDITIVES

| method | limit/base | current | history1 | history2 | |
|------------|------------|-------------------|--------------|----------|-----|
| Boron | ppm | ASTM D5185m 50 | 0 | <1 | 0 |
| Barium | ppm | ASTM D5185m 15 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m 15 | 0 | 0 | <1 |
| Manganese | ppm | ASTM D5185m | 0 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m 50 | <1 | 0 | <1 |
| Calcium | ppm | ASTM D5185m 50 | 0 | 7 | 2 |
| Phosphorus | ppm | ASTM D5185m 350 | 130 | 170 | 415 |
| Zinc | ppm | ASTM D5185m 100 | 0 | 1 | 2 |
| Sulfur | ppm | ASTM D5185m 12500 | 1822 | 2467 | 425 |

CONTAMINANTS

| method | limit/base | current | history1 | history2 | |
|-----------|------------|-----------------|----------|----------|------|
| Silicon | ppm | ASTM D5185m >50 | 2 | 9 | ▲ 52 |
| Sodium | ppm | ASTM D5185m | 0 | <1 | 2 |
| Potassium | ppm | ASTM D5185m >20 | 0 | 0 | 0 |

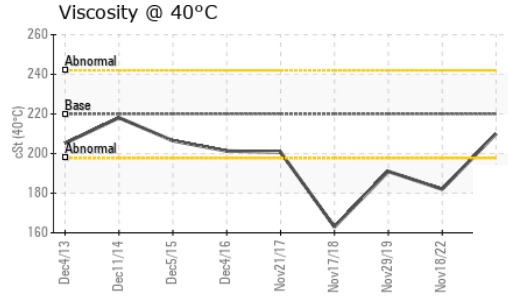
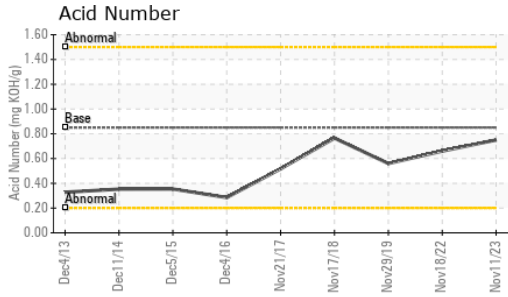
FLUID DEGRADATION

| method | limit/base | current | history1 | history2 | |
|------------------|------------|-----------------|-------------|----------|-------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 0.85 | 0.75 | 0.66 | 0.560 |

VISUAL

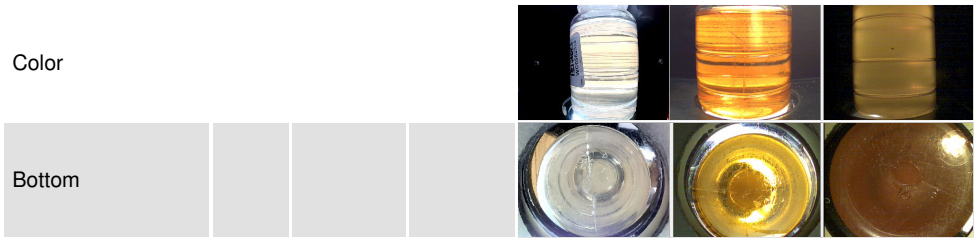
| method | limit/base | current | history1 | history2 | |
|------------------|------------|---------------|--------------|----------|-------|
| White Metal | scalar | *Visual NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual NONE | NONE | NONE | NONE |
| Precipitate | scalar | *Visual NONE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

OIL ANALYSIS REPORT

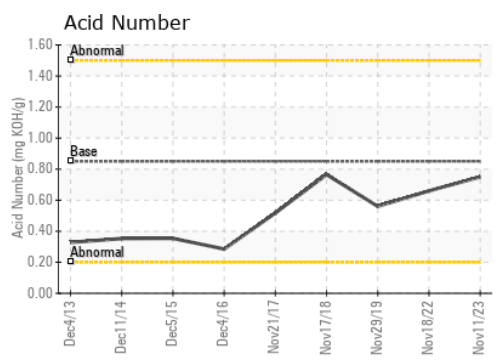
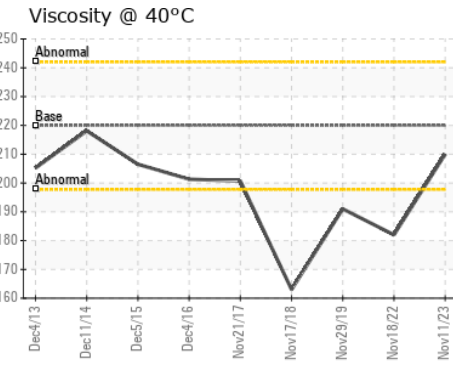
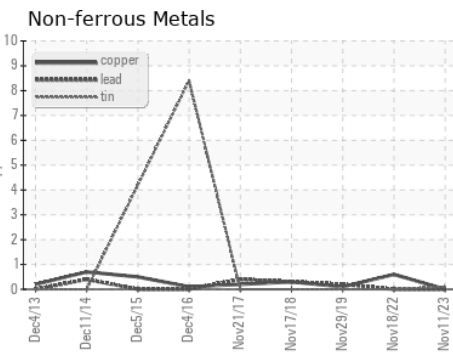
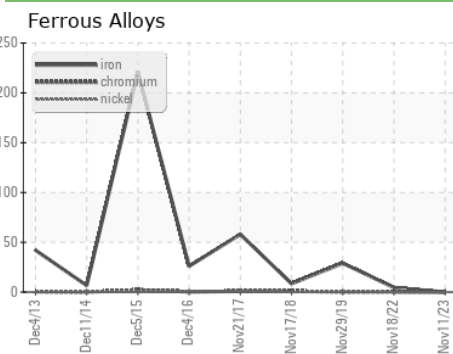


| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|------------------|-----|-----------|------------|------------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 | 220 | 210 | 182 | 191 |

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



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0562374 **Received** : 15 Nov 2023
Lab Number : 06008499 **Diagnosed** : 17 Nov 2023
Unique Number : 10742261 **Diagnostician** : Don Baldrige
Test Package : IND 2

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 2019 NORTH OAK PARK
 CHICAGO, IL
 US 60707
 Contact: TONY FIORE
 tony.fiore@effem.com
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 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)