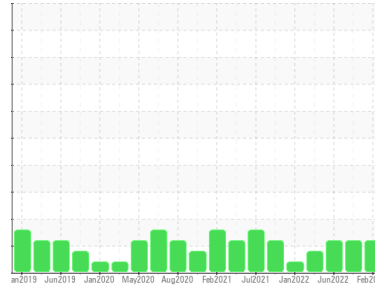




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area

Fresh gallon blow mold room

Machine Id

755-FG-BMM-02-E (S/N N0100AA030134)

Component

Top Gear Extruder

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 a high 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 | | USP0007696 | USP241111 | USP236241 |
| Sample Date | Client Info | | 14 Feb 2024 | 06 Sep 2022 | 22 Jun 2022 |
| 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 |

WEAR METALS

| | method | limit/base | current | history1 | history2 |
|----------|--------|------------------|---------|----------|----------|
| Iron | ppm | ASTM D5185m >150 | 15 | 10 | 9 |
| Chromium | ppm | ASTM D5185m >10 | 0 | 0 | 0 |
| Nickel | ppm | ASTM D5185m >10 | <1 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | 0 | 0 | <1 |
| Aluminum | ppm | ASTM D5185m >25 | <1 | <1 | <1 |
| Lead | ppm | ASTM D5185m >100 | <1 | 0 | <1 |
| Copper | ppm | ASTM D5185m >50 | 1 | <1 | <1 |
| Tin | ppm | ASTM D5185m >10 | <1 | 0 | <1 |
| 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 50 | 22 | 15 | 19 |
| Barium | ppm | ASTM D5185m 15 | 0 | 0 | <1 |
| Molybdenum | ppm | ASTM D5185m 15 | 0 | 0 | 0 |
| Manganese | ppm | ASTM D5185m | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m 50 | <1 | 0 | 0 |
| Calcium | ppm | ASTM D5185m 50 | 10 | 18 | 19 |
| Phosphorus | ppm | ASTM D5185m 350 | 273 | 282 | 274 |
| Zinc | ppm | ASTM D5185m 100 | 16 | 21 | 23 |
| Sulfur | ppm | ASTM D5185m 12500 | 6289 | 7001 | 6924 |

CONTAMINANTS

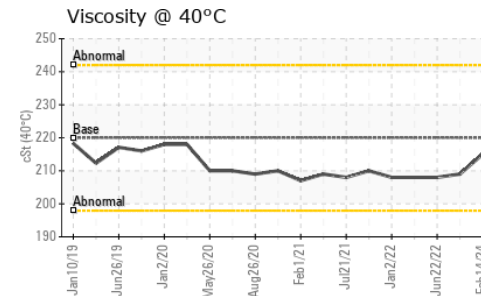
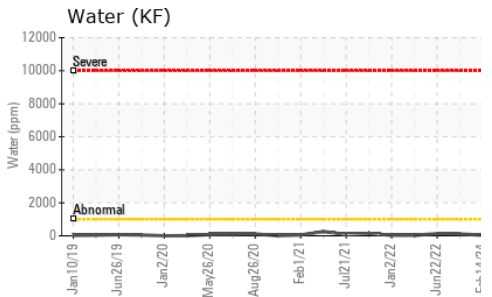
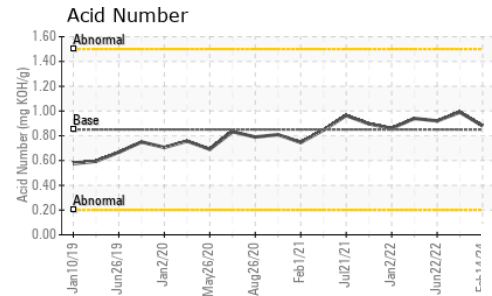
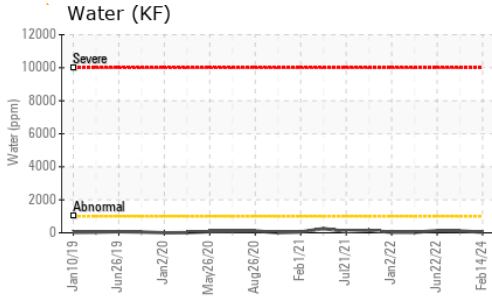
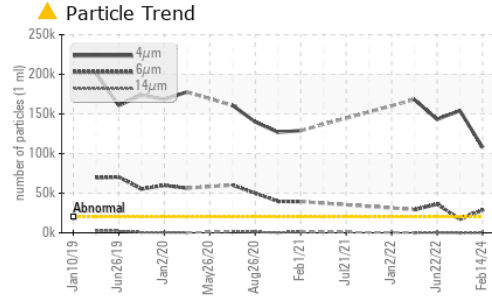
| | method | limit/base | current | history1 | history2 |
|-----------|--------|------------------|---------|----------|----------|
| Silicon | ppm | ASTM D5185m >50 | 12 | 19 | 17 |
| Sodium | ppm | ASTM D5185m | 2 | 4 | 4 |
| Potassium | ppm | ASTM D5185m >20 | 1 | 0 | <1 |
| Water | % | ASTM D6304 >0.1 | 0.004 | 0.011 | 0.013 |
| ppm Water | ppm | ASTM D6304 >1000 | 40 | 112.7 | 132.6 |

FLUID CLEANLINESS

| | method | limit/base | current | history1 | history2 |
|-----------------|--------------|------------|------------|------------|------------|
| Particles >4µm | ASTM D7647 | >20000 | ▲ 107804 | ▲ 154178 | ▲ 143101 |
| Particles >6µm | ASTM D7647 | >5000 | ▲ 28888 | ▲ 17102 | ▲ 36109 |
| Particles >14µm | ASTM D7647 | >640 | 178 | 50 | 265 |
| Particles >21µm | ASTM D7647 | >160 | 10 | 5 | 22 |
| Particles >38µm | ASTM D7647 | >40 | 1 | 0 | 2 |
| Particles >71µm | ASTM D7647 | >10 | 0 | 0 | 0 |
| Oil Cleanliness | ISO 4406 (c) | >21/19/16 | ▲ 24/22/15 | ▲ 24/21/13 | ▲ 24/22/15 |

FLUID DEGRADATION

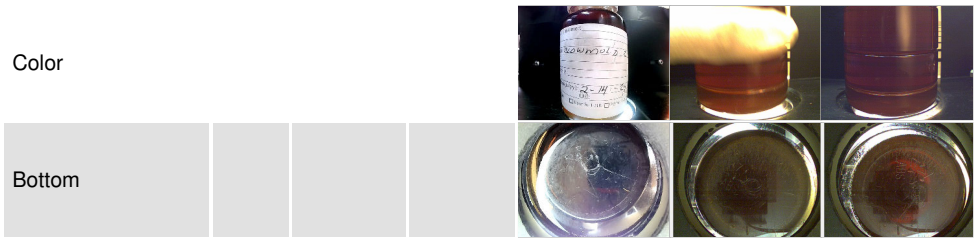
| | method | limit/base | current | history1 | history2 |
|------------------|----------|-----------------|---------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 0.85 | 0.88 | 0.99 | 0.92 |



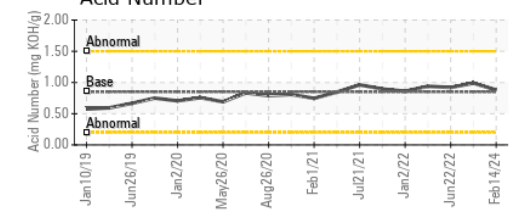
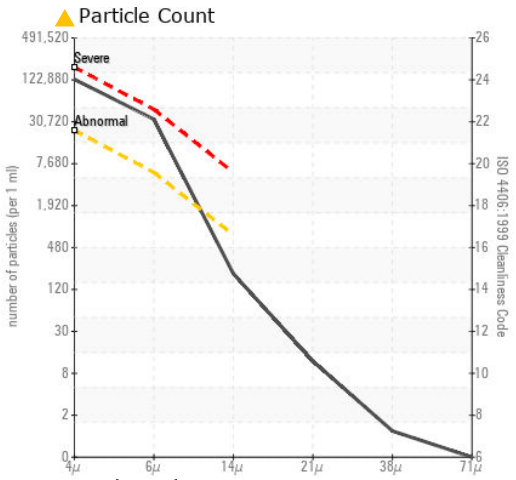
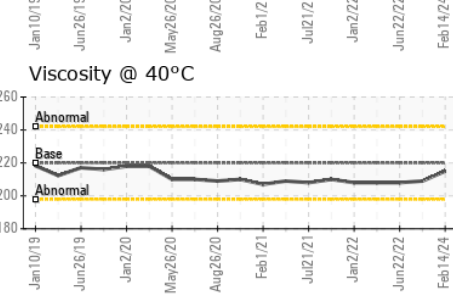
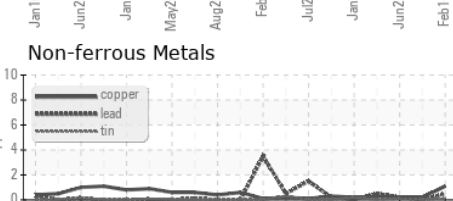
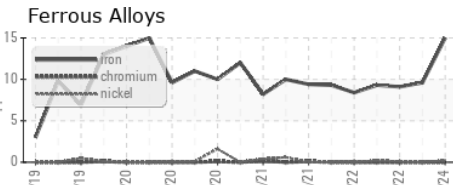
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | LIGHT |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE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

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 40°C | cSt | ASTM D445 | 220 | 215 | 209 |

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



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : USP0007696
Lab Number : 06099170
Unique Number : 10897400
Test Package : IND 2
Received : 23 Feb 2024
Tested : 26 Feb 2024
Diagnosed : 26 Feb 2024 - Doug Bogart

KROGER MOUNTAIN VIEW FOODS
 10241 EAST 51ST AVE
 DENVER, CO
 US 80239
 Contact: CHARLES AMMERMAN

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)

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F: