

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id Or1981 Component Front Left Planetary Fluid GEAR OIL SAE 90W140 (6 LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) GEAR OIL SAE 90W140. Please confirm.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

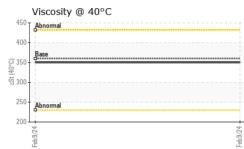
Fluid Condition

The condition of the oil is acceptable for the time in service.

| SAMPLE INFORMATION method limit/base current history1 history2 Sample Number Client Info 09 Feb 2024 Machine Age hrs Client Info 10314 Oil Age hrs Client Info 10314 Oil Age hrs Client Info 10314 Oil Age hrs Client Info Changed Sample Status Imit/base current history1 history2 Water WC Method >0.2 NEG WEAR METALS method Imit/base current history1 history2 Iron ppm ASTM 05f8/m >10 -1 WeAR METALS method imit/base current history1 history2 Iron ppm ASTM 05f8/m >10 -1 Silver ppm | | | | | Feb2024 | | |
|--|---------------|--------|---------------|------------|-------------|----------|----------|
| Sample Date Client Info 09 Feb 2024 Machine Age hrs Client Info 10314 Oil Age hrs Client Info 10314 Oil Changed Client Info NORMAL Sample Status NORMAL CONTAMINATION method limit/base current history1 history2 Water WC Method >0.2 NEG Chromium ppm ASTM DS185(m) >500 174 Nickel ppm ASTM DS185(m) >10 <1 Nickel ppm ASTM DS185(m) >25 2 Aluminum ppm ASTM DS185(m) >25 <1 Auminum ppm ASTM DS185(m) >55 28 Antimony ppm < | SAMPLE INFOR | MATION | method | limit/base | current | history1 | history2 |
| Sample Date Client Info 09 Feb 2024 Machine Age hrs Client Info 10314 Oil Age hrs Client Info 10314 Sample Status Client Info Changed Sample Status Imit/base current history1 history2 Water WC Method >0.2 NEG Chromium ppm ASTM D5185(m) >500 174 Chromium ppm ASTM D5185(m) >10 <1 | Sample Number | | Client Info | | GFL0092266 | | |
| Oil Age hrs Client Info 10314 Oil Changed Client Info Changed Sample Status Imit/base current history1 history2 Water WC Method >0.2 NEG WEAR METALS method imit/base current history1 history2 Iron ppm ASTM D5165(m) >500 174 Chromium ppm ASTM D5165(m) >10 <1 | | | Client Info | | 09 Feb 2024 | | |
| Oil Changed Client Info Changed NORMAL Sample Status method limit/base current history1 history2 Water WC Method >0.2 NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM 05185(m) >500 174 Nickel ppm ASTM 05185(m) >10 <1 | Machine Age | hrs | Client Info | | 10314 | | |
| Sample Status Imit Normal CONTAMINATION method limit/base current history1 history2 Water WC Method >0.2 NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185(m) >500 174 Chromium ppm ASTM D5185(m) >10 <1 | Oil Age | hrs | Client Info | | 10314 | | |
| Sample Status Imit Normal CONTAMINATION method limit/base current history1 history2 Water WC Method >0.2 NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185(m) >500 174 Chromium ppm ASTM D5185(m) >10 <1 | Oil Changed | | Client Info | | Changed | | |
| Water WC Method >0.2 NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185(m) >500 174 Chromium ppm ASTM D5185(m) >10 <1 | | | | | NORMAL | | |
| WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185(m) >500 174 Chromium ppm ASTM D5185(m) >10 <1 Nickel ppm ASTM D5185(m) >10 <1 Titanium ppm ASTM D5185(m) 0 Aluminum ppm ASTM D5185(m) >25 2 Lead ppm ASTM D5185(m) >25 <1 Copper ppm ASTM D5185(m) >75 9 Antimony ppm ASTM D5185(m) >5 28 Antimony ppm ASTM D5185(m) 0 Cadmium ppm ASTM D5185(m) 0 Boron ppm ASTM D5185(m) 20 <th>CONTAMINAT</th> <th>ION</th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th> | CONTAMINAT | ION | method | limit/base | current | history1 | history2 |
| Iron ppm ASTM D5185(m) >500 174 Chromium ppm ASTM D5185(m) >10 <1 | Water | | WC Method | >0.2 | NEG | | |
| Chromium ppm ASTM D5185(m) >10 <1 Nickel ppm ASTM D5185(m) >10 <1 | WEAR METAL | S | method | limit/base | current | history1 | history2 |
| Nickel ppm ASTM D5/85(m) >10 <1 Titanium ppm ASTM D5/85(m) 0 Silver ppm ASTM D5/85(m) >25 2 Aluminum ppm ASTM D5/85(m) >25 <1 | Iron | ppm | ASTM D5185(m) | >500 | 174 | | |
| Titanium ppm ASTM D5185(m) 0 Silver ppm ASTM D5185(m) 0 Aluminum ppm ASTM D5185(m) >25 2 Lead ppm ASTM D5185(m) >25 <1 | Chromium | ppm | ASTM D5185(m) | >10 | <1 | | |
| Silver ppm ASTM D5185(m) 0 Aluminum ppm ASTM D5185(m) >25 2 Lead ppm ASTM D5185(m) >25 <1 | Nickel | ppm | ASTM D5185(m) | >10 | <1 | | |
| Aluminum ppm ASTM D5185(m) >25 2 Lead ppm ASTM D5185(m) >25 <1 | Titanium | ppm | ASTM D5185(m) | | 0 | | |
| Lead ppm ASTM D5185(m) >25 <1 Copper ppm ASTM D5185(m) >75 9 Tin ppm ASTM D5185(m) >50 28 Antimony ppm ASTM D5185(m) >5 28 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) 200 0 Magnaese ppm ASTM D5185(m) 12 0 Magnesium ppm ASTM D5185(m) 12 <1 | Silver | ppm | ASTM D5185(m) | | 0 | | |
| Copper ppm ASTM D5185(m) >75 9 Tin ppm ASTM D5185(m) >10 <1 | Aluminum | ppm | ASTM D5185(m) | >25 | 2 | | |
| Tin ppm ASTM D5185(m) >10 <1 Antimony ppm ASTM D5185(m) >5 28 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) 400 174 Molybdenum ppm ASTM D5185(m) 200 0 Magnesium ppm ASTM D5185(m) 12 0 Magnesium ppm ASTM D5185(m) 12 <1 | Lead | ppm | ASTM D5185(m) | >25 | <1 | | |
| Antimony ppm ASTM D5185(m) >5 28 Vanadium ppm ASTM D5185(m) 0 Beryllium ppm ASTM D5185(m) 0 Cadmium ppm ASTM D5185(m) 0 Cadmium ppm ASTM D5185(m) 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 200 0 Malybdenum ppm ASTM D5185(m) 12 0 Magnesium ppm ASTM D5185(m) 12 <1 | Copper | ppm | ASTM D5185(m) | >75 | 9 | | |
| 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) 400 174 Barium ppm ASTM D5185(m) 200 0 Molybdenum ppm ASTM D5185(m) 12 0 Maganese ppm ASTM D5185(m) 12 <1 | Tin | ppm | ASTM D5185(m) | >10 | <1 | | |
| Beryllium ppm ASTM D5185(m) 0 Cadmium ppm ASTM D5185(m) 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 400 174 Barium ppm ASTM D5185(m) 200 0 Molybdenum ppm ASTM D5185(m) 200 0 Manganese ppm ASTM D5185(m) 12 0 Magnesium ppm ASTM D5185(m) 12 <1 Calcium ppm ASTM D5185(m) 150 3 Phosphorus ppm ASTM D5185(m) 125 6 Zinc ppm ASTM D5185(m) 22500 16804 Sulfur ppm ASTM D5185(m) > | Antimony | ppm | ASTM D5185(m) | >5 | 28 | | |
| Cadmium ppm ASTM D5185(m) 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 400 174 Barium ppm ASTM D5185(m) 200 0 Molybdenum ppm ASTM D5185(m) 12 0 Manganese ppm ASTM D5185(m) 12 0 Magnesium ppm ASTM D5185(m) 12 <1 Magnesium ppm ASTM D5185(m) 150 3 Calcium ppm ASTM D5185(m) 1650 1015 Zinc ppm ASTM D5185(m) 22500 16804 Sulfur ppm ASTM D5185(m) 22500 16804 Lithium ppm ASTM D5185(m) | Vanadium | ppm | ASTM D5185(m) | | 0 | | |
| ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 400 174 Barium ppm ASTM D5185(m) 200 0 Molybdenum ppm ASTM D5185(m) 12 0 Manganese ppm ASTM D5185(m) 12 <1 | Beryllium | ppm | ASTM D5185(m) | | 0 | | |
| Boron ppm ASTM D5185(m) 400 174 Barium ppm ASTM D5185(m) 200 0 Molybdenum ppm ASTM D5185(m) 12 0 Manganese ppm ASTM D5185(m) 12 0 Magnesium ppm ASTM D5185(m) 12 <1 | Cadmium | ppm | ASTM D5185(m) | | 0 | | |
| Barium ppm ASTM D5185(m) 200 0 Molybdenum ppm ASTM D5185(m) 12 0 Manganese ppm ASTM D5185(m) 12 0 Magnesium ppm ASTM D5185(m) 12 <1 | ADDITIVES | | method | limit/base | current | history1 | history2 |
| Molybdenum ppm ASTM D5185(m) 12 0 Manganese ppm ASTM D5185(m) 12 <1 | Boron | ppm | ASTM D5185(m) | 400 | 174 | | |
| Manganese ppm ASTM D5185(m) <1 Magnesium ppm ASTM D5185(m) 12 <1 | Barium | ppm | ASTM D5185(m) | 200 | 0 | | |
| Magnesium ppm ASTM D5185(m) 12 <1 Calcium ppm ASTM D5185(m) 150 3 Phosphorus ppm ASTM D5185(m) 1650 1015 Zinc ppm ASTM D5185(m) 125 6 Sulfur ppm ASTM D5185(m) 22500 16804 Lithium ppm ASTM D5185(m) 22500 16804 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >75 14 Sodium ppm ASTM D5185(m) 0 | Molybdenum | ppm | ASTM D5185(m) | 12 | 0 | | |
| Calcium ppm ASTM D5185(m) 150 3 Phosphorus ppm ASTM D5185(m) 1650 1015 Zinc ppm ASTM D5185(m) 125 6 Sulfur ppm ASTM D5185(m) 22500 16804 Lithium ppm ASTM D5185(m) 22500 16804 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >75 14 Sodium ppm ASTM D5185(m) 0 | Manganese | ppm | ASTM D5185(m) | | <1 | | |
| Phosphorus ppm ASTM D5185(m) 1 650 1015 Zinc ppm ASTM D5185(m) 1 25 6 Sulfur ppm ASTM D5185(m) 22500 16804 Lithium ppm ASTM D5185(m) 22500 16804 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >75 14 Sodium ppm ASTM D5185(m) 0 | Magnesium | ppm | ASTM D5185(m) | 12 | <1 | | |
| Zinc ppm ASTM D5185(m) 125 6 Sulfur ppm ASTM D5185(m) 22500 16804 Lithium ppm ASTM D5185(m) 22500 16804 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >75 14 Sodium ppm ASTM D5185(m) 0 | Calcium | ppm | ASTM D5185(m) | 150 | 3 | | |
| Sulfur ppm ASTM D5185(m) 22500 16804 Lithium ppm ASTM D5185(m) 22500 16804 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >75 14 Sodium ppm ASTM D5185(m) >0 | Phosphorus | ppm | ASTM D5185(m) | 1650 | 1015 | | |
| Lithium ppm ASTM D5185(m) <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >75 14 Sodium ppm ASTM D5185(m) O | - | ppm | ASTM D5185(m) | 125 | 6 | | |
| CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >75 14 Sodium ppm ASTM D5185(m) 0 | Sulfur | ppm | ASTM D5185(m) | 22500 | 16804 | | |
| Silicon ppm ASTM D5185(m) >75 14 Sodium ppm ASTM D5185(m) 0 | Lithium | ppm | ASTM D5185(m) | | <1 | | |
| Sodium ppm ASTM D5185(m) 0 | CONTAMINAN | TS | method | limit/base | current | history1 | history2 |
| Sodium ppm ASTM D5185(m) 0 | Silicon | ppm | ASTM D5185(m) | >75 | 14 | | |
| Potassium ppm ASTM D5185(m) >20 <1 | Sodium | | ASTM D5185(m) | | 0 | | |
| | Potassium | ppm | ASTM D5185(m) | >20 | <1 | | |



OIL ANALYSIS REPORT



| | VISUAL | | method | limit/base | current | history1 | history2 |
|---------------------------------|---|--------|-------------------|------------------|--|------------------------------------|--|
| | White Metal | scalar | Visual* | NONE | VLITE | | |
| | Yellow Metal | scalar | Visual* | NONE | NONE | | |
| | Precipitate | scalar | Visual* | NONE | NONE | | |
| | | | Visual* | | NONE | | |
| | Silt | scalar | | NONE | - | | |
| | Debris | scalar | Visual* | NONE | NONE | | |
| 4 | Sand/Dirt | scalar | Visual* | NONE | NONE | | |
| Feb 9/24 | Appearance | scalar | Visual* | NORML | NORML | | |
| | Odor | scalar | Visual* | NORML | NORML | | |
| | Emulsified Water | scalar | Visual* | >0.2 | NEG | | |
| | Free Water | scalar | Visual* | | NEG | | |
| | FLUID PROP | ERTIES | method | limit/base | current | history1 | history2 |
| | Visc @ 40°C | cSt | ASTM D7279(m) | 360 | 350 | | |
| | SAMPLE IMA | GES | method | limit/base | current | history1 | history2 |
| | Color | | | | | no image | no image |
| | Bottom | | | | (1 + 50 C) (3) | no image | no image |
| | GRAPHS | | | | | | 1 |
| | Iron (ppm) | | | | Lead (ppm) | | |
| | 2000 Severe | | | 150 | T : | | |
| | 5 1000 J | | | E 100 | Severe | | |
| | Abnormal | | | 50 | Abnormal | | |
| | 6 + 10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 | | | Feb 9/24 | Feb9/24 | | |
| | | | | Fel | | | |
| | Aluminum (ppm |) | | 30 | Chromium (p | pm) | |
| | Severe | | | | 0 | | |
| | Abnormal | | | ²⁰ | Abnormal | | |
| | | | | 0 | | | |
| | Feb 9/24 | | | Feb9/24 | Feb9/24 | | |
| | E. | | | E | Fer | | |
| | Copper (ppm) | | | | Silicon (ppm) | | |
| | 200 Severe | | | 300 | Sminn | | |
| | 톱 100 - Abnormal | | | 툴 ²⁰⁰ | Abnormal | | |
| | | | | - 100 | T | | |
| | e Feb9/24 | | | Feb9/24 | Feb9/24 | | |
| | | | | 프 | | | |
| | | _ | | | Additives | | |
| | Viscosity @ 40°C | 2 | | 1500 | | | |
| | Viscosity @ 40°C | 2 | | 1500 | T | 1 | |
| | Viscosity @ 40°C | 2 | | 1500 1000 | calcium | IS | |
| | Viscosity @ 40°C | 2 | | 500 | calcium | 15 | |
| | Viscosity @ 40°C | 2 | | 500 | calcium | IS | |
| tory e No. mber lumber | Viscosity @ 40°C | | ived :10 d :14 | Edboord 2000 | calcium. phosphon. zinc trooperations the second se | rironmental - 720 - 17125 Mc | Lafleche - Land Lafleche Roa Dose Creek, C CA KOC 1V narles Berger |

To discuss this sample Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied.

> Submitted By: Charles Bergeron Page 2 of 2

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