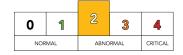


Lubricant Analysis Report

North America: +1-877-808-3750

Latin America: +1-317-808-3750 / +502-3093-6466 (WhatsApp)

Europe: +1-317-808-3750



Overall report severity based on comments.

Additional Testing

| Account Information | Component Information | Sample Information | | | | | |
|--|---|--|--|--|--|--|--|
| Account Number: 122750-0001-0000 Company Name: ARCH OIL COMMENTS Contact: Address: Phone Number: | Component ID: #7132-1 VW GOLF GTI MK2 8V Secondary ID: Component Type: UNLEADED GASOLINE ENGINE Manufacturer: VOLKSWAGEN Model: GOLF Application: AUTOMOTIVE Sump Capacity: | Tracking Number: 00009723898 Lab Number: Z-294287 Lab Location: Poznan Data Analyst: JPH Sampled: 15-Aug-2022 Received: 21-Dec-2022 Completed: 22-Dec-2022 | | | | | |
| Filter Information | Miscellaneous Information | Product Information | | | | | |
| Filter Type: FULLFLOW Micron Rating: 0 Comments Flagged data does not indicate an | Wildcard 1: +10% MANNOL 9929 Product Manufacturer: SHELL Product Name: HELIX ULTRA Viscosity Grade: SAE 5W40 | | | | | | |

fluid conditions. LEAD is at a MODERATE LEVEL and may be OVERLAY METAL from MAIN/ROD BEARINGS; OXIDATION is at a MODERATE level, which may be due to extended drain interval or high operating temperature. Viscosity is SLIGHTLY LOW. Causes include contamination, incorrectly identified viscosity grade, or adding a different viscosity grade to the component. Please provide this units

sump capacity with next sample.

| | Wear Metals (ppm) | | | | | | | | Contaminant Metals (ppm) Multi-Source Metals (ppm) | | | | | Additive Metals (ppm) | | | | | | | | | | |
|----------|-------------------|----------|--------|----------|--------|------|-----|---------|--|----------|---------|--------|-----------|-----------------------|------------|----------|-----------|---------|-------|-----------|---------|--------|------------|------|
| Sample # | Iron | Chromium | Nickel | Aluminum | Copper | Lead | Tin | Cadmium | Silver | Vanadium | Silicon | Sodium | Potassium | Titanium | Molybdenum | Antimony | Manganese | Lithium | Boron | Magnesium | Calcium | Barium | Phosphorus | Zinc |
| BL | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 3 | 0 | 0 | 92 | 0 | 0 | 0 | 234 | 1143 | 1484 | 0 | 884 | 970 |
| 1 | 10 | 0 | 0 | 1 | 9 | 15 | 0 | 0 | 0 | 0 | 16 | 3 | 0 | 0 | 88 | 1 | 0 | 0 | 184 | 916 | 1694 | 0 | 880 | 1023 |

| | | Sample | e Infori | mation | | | | | Fluid Properties | | | | | | | |
|-------|-------------|---------------|-----------|-----------|------------|---------------|--------------|------------------|------------------|------------|-------------------|---------------------|--------------------|-------------------|--------------|---------|
| mple# | ite Sampled | Date Received | Lube Time | Unit Time | ube Change | Lube Added | ilter Change | Fuel Dilution | Soot | Water | Viscosity 40°C | Viscosity 100 °C | a Acid © Number | Base No. D4739 | sq Oxidation | y sde / |
| Sa | Da | РΘ | km | km |]] | gal | 豆 | % | % | % | cSt | cSt | KOH/g | KOH/g | cm | 0.1mm |
| BL | N/A | 11-Oct-2019 | 0 | 0 | Unk | 0 | Unk | | | <.1 - FTIR | | 12.8 | 2.78 | | 7 | 7 |
| 1 | 15-Aug-2022 | 21-Dec-2022 | 2000 | 303266 | Unk | 0 | Unk | 1.0 - GC | <.1 | <.1 - FTIR | | 12.1 | | 9.97 | 24 | 10 |

| | Particle Count (particles/mL) | | | | | | | | | | | | |
|----------|------------------------------------|------------------------|-----------------------------|-----------------------------|----------------------------|-----------------------------|----------------------------------|------------------------------|-----------------------------|-------------|-----------------------|---|--|
| Sample # | OQG ISO Code Based On 4/6/14 | mL ^ particles / | ပ ^ particles / mL | 0 ^ particles / mL | particles / particles / | C \ particles / mL | & M ^ particles / mL | 02 ^ particles / mL | O A particles / mL | Test Method | b Base No. H D2896 | | |
| BL | 11 | | | | | | | | | | 11.9 | | |
| 1 | 11 | | | | | | | | | | | ĺ | |

Comments are advisory only and are based on the assumption that the sample and data submitted are valid. Results relate only to the items tested. Missing fluid or component information limits the evaluation. No warranty is expressed or implied. Measurement uncertainty available upon request.