

OIL ANALYSIS REPORT

Sample Rating Trend

DIRT

VOLKSWAGEN Lances car (S/N WVWFV71K47W164704)

Gasoline Engine Fluid DIESEL ENGINE OIL SAE 30 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

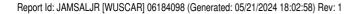
Contamination

Elemental level of silicon (Si) above normal indicating ingress of seal material.

Fluid Condition

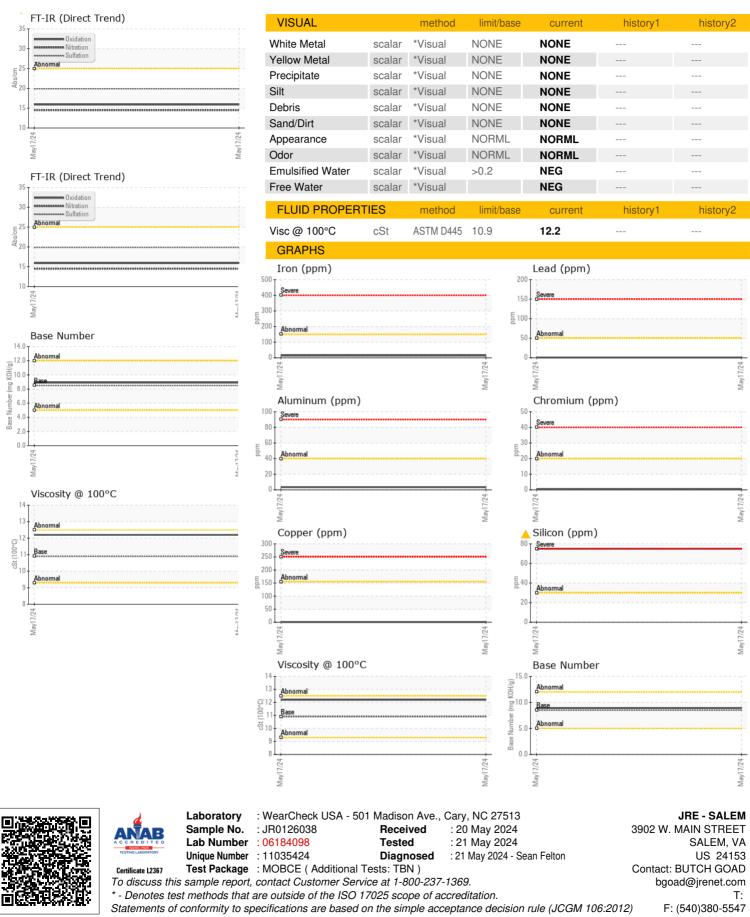
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| Sample Number Client Info JR0126038 Sample Date Client Info 17 May 2024 Machine Age mis Client Info 212400 Oil Age Mis Client Info N/A Sample Status Client Info N/A Sample Status Client Info N/A CONTAMINATION method limit/base current history1 Water CW WC Method >4.0 <1.0 WEAR METALS method limit/base current history1 Iron ppm ASTM 05185m >10 Nickel ppm ASTM 05185m >20 <1 Aluminum ppm ASTM 05185m >20 Aluminum ppm ASTM 05185m >20 | | | <u>.</u> | | May2024 | | |
|--|------------------|----------|-------------|------------|-------------|----------|----------|
| Sample Date Client Info 17 May 2024 Machine Age mls Client Info 212400 Oil Age mls Client Info 0 Sample Status Client Info N/A CONTAMINATION method limit/base current history1 history1 Fuel WC Method >4.0 <1.0 Water WC Method >0.2 NEG WEAR METALS method limit/base current history1 history1 Iron ppm ASTM D5185m >50 14 Nickel ppm ASTM D5185m >50 1 Nickel ppm ASTM D5185m >50 <1 Aluminum ppm ASTM D5185m >50 <1 Aluminum ppm < | SAMPLE INFORM | IATION | method | limit/base | current | history1 | history2 |
| Machine Age mls Client Info 212400 Oil Age mls Client Info 0 Sample Status Image Image Current N/A CONTAMINATION method Imit/base current history1 CONTAMINATION WC Method >4.0 <1.0 | Sample Number | | Client Info | | JR0126038 | | |
| Oil Age mis Client Info O Sample Status Client Info N/A CONTAMINATION method limi/base current history1 history1 Fuel WC Method >4.0 <1.0 | Sample Date | | Client Info | | 17 May 2024 | | |
| Oil Changed Client Info N/A Sample Status Imathod Imit/base current history1 history1 CONTAMINATION method Jenno 2.0.2 NEG Water Imit/base current history1 history1 history1 Glycol WC Method >0.2 NEG WEAR METALS method limit/base current history1 history1 Iron ppm ASTM D5185m >10 14 Othornium ppm ASTM D5185m >20 <1 Nickel ppm ASTM D5185m >20 <1 Aluminum ppm ASTM D5185m >20 <1 | Machine Age | mls | Client Info | | 212400 | | |
| Sample Status Image Status | Oil Age | mls | Client Info | | 0 | | |
| CONTAMINATION method limit/base current history1 histor Fuel WC Method >4.0 <1.0 | Oil Changed | | Client Info | | N/A | | |
| Fuel WC Method >4.0 <1.0 | Sample Status | | | | ABNORMAL | | |
| Water WC Method >0.2 NEG Glycol WC Method NEG WEAR METALS method limit/base current history1 histor Iron ppm ASTM D5185m >150 14 Chromium ppm ASTM D5185m >20 <1 Nickel ppm ASTM D5185m >20 <1 Aluminum ppm ASTM D5185m >2 0 Lead ppm ASTM D5185m >2 0 Copper ppm ASTM D5185m >10 0 Cadmium ppm ASTM D5185m >10 0 ADDITIVES method limit/base current history1 histor Barium ppm ASTM D5185m 100 0 | CONTAMINATION | N | method | limit/base | current | history1 | history2 |
| Glycol WC Method NEG WEAR METALS method limit/base current history1 histor Iron ppm ASTM D5185m >150 14 Ohromium ppm ASTM D5185m >20 <1 | Fuel | | WC Method | >4.0 | <1.0 | | |
| WEAR METALS method limit/base current history1 histor Iron ppm ASTM D5185m >150 14 Chromium ppm ASTM D5185m >20 <1 | Water | | WC Method | >0.2 | NEG | | |
| Iron ppm ASTM D5185m >150 14 Chromium ppm ASTM D5185m >20 <1 | Glycol | | WC Method | | NEG | | |
| Chromium ppm ASTM D5185m >20 <1 | WEAR METALS | | method | limit/base | current | history1 | history2 |
| Nickel ppm ASTM D5185m >5 0 Titanium ppm ASTM D5185m >2 0 Silver ppm ASTM D5185m >2 0 Aluminum ppm ASTM D5185m >40 3 Lead ppm ASTM D5185m >50 <1 | Iron | ppm | ASTM D5185m | >150 | 14 | | |
| Titanium ppm ASTM D5185m <1 Silver ppm ASTM D5185m >2 0 Aluminum ppm ASTM D5185m >40 3 Lead ppm ASTM D5185m >50 <1 | Chromium | ppm | ASTM D5185m | >20 | <1 | | |
| Silver ppm ASTM D5185m >2 0 Aluminum ppm ASTM D5185m >40 3 Lead ppm ASTM D5185m >50 <1 Copper ppm ASTM D5185m >155 <1 Tin ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m 20 104 ADDITIVES method limit/base current history1 histor ADDITIVES method limit/base current history1 no Barium ppm ASTM D5185m 100 67 Magnesium ppm ASTM D5185m 100 67 Magnesium ppm ASTM D5185m 300 <th< td=""><td>Nickel</td><td>ppm</td><td>ASTM D5185m</td><td>>5</td><th>0</th><td></td><td></td></th<> | Nickel | ppm | ASTM D5185m | >5 | 0 | | |
| Aluminum ppm ASTM D5185m >40 3 Lead ppm ASTM D5185m >50 <1 | Titanium | ppm | ASTM D5185m | | <1 | | |
| Lead ppm ASTM D5185m >50 <1 Copper ppm ASTM D5185m >155 <1 | Silver | ppm | ASTM D5185m | >2 | 0 | | |
| Copper ppm ASTM D5185m >155 <1 Tin ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 histor Boron ppm ASTM D5185m 250 104 Barium ppm ASTM D5185m 100 67 Magnaese ppm ASTM D5185m 100 67 Magnesium ppm ASTM D5185m 100 67 Magnesium ppm ASTM D5185m 100 67 Calcium ppm ASTM D5185m 150 996 Sulfur ppm ASTM D5185m 1350 <td>Aluminum</td> <td>ppm</td> <td>ASTM D5185m</td> <td>>40</td> <th>3</th> <td></td> <td></td> | Aluminum | ppm | ASTM D5185m | >40 | 3 | | |
| Tin ppm ASTM D5185m >10 0 Vanadium ppm ASTM D5185m 0 0 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 histor Boron ppm ASTM D5185m 250 104 Barium ppm ASTM D5185m 10 0 Molybdenum ppm ASTM D5185m 100 67 Magnesium ppm ASTM D5185m 100 67 Magnesium ppm ASTM D5185m 100 67 Calcium ppm ASTM D5185m 100 67 Magnesium ppm ASTM D5185m 3000 1705 Sulfur ppm ASTM D5185m 1350 </td <td>Lead</td> <td>ppm</td> <td>ASTM D5185m</td> <td>>50</td> <th><1</th> <td></td> <td></td> | Lead | ppm | ASTM D5185m | >50 | <1 | | |
| Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 histor Boron ppm ASTM D5185m 250 104 Barium ppm ASTM D5185m 10 0 Malganese ppm ASTM D5185m 100 67 Magnesium ppm ASTM D5185m 100 67 Magnesium ppm ASTM D5185m 100 67 Calcium ppm ASTM D5185m 100 975 Viance ppm ASTM D5185m 1350 1126 Sulfur ppm ASTM D5185m >30 75 2 Sodium ppm ASTM D5185m >20 </td <td>Copper</td> <td>ppm</td> <td>ASTM D5185m</td> <td>>155</td> <th><1</th> <td></td> <td></td> | Copper | ppm | ASTM D5185m | >155 | <1 | | |
| CadmiumppmASTM D5185m0ADDITIVESmethodlimit/basecurrenthistory1historBoronppmASTM D5185m250104BariumppmASTM D5185m100MolybdenumppmASTM D5185m10067ManganeseppmASTM D5185m10067MagnesiumppmASTM D5185m450996CalciumppmASTM D5185m30001705PhosphorusppmASTM D5185m1150937SulfurppmASTM D5185m13501126SulfurppmASTM D5185m2874SodiumppmASTM D5185m>3075SodiumppmASTM D5185m>20<1 | Tin | ppm | ASTM D5185m | >10 | 0 | | |
| ADDITIVESmethodlimit/basecurrenthistory1historBoronppmASTM D5185m250104BariumppmASTM D5185m100MolybdenumppmASTM D5185m10067ManganeseppmASTM D5185m10067MagnesiumppmASTM D5185m450996CalciumppmASTM D5185m30001705PhosphorusppmASTM D5185m13501126ZincppmASTM D5185m42502874SulfurppmASTM D5185m>3075SoliconppmASTM D5185m>20<1 | Vanadium | ppm | ASTM D5185m | | 0 | | |
| Boron ppm ASTM D5185m 250 104 Barium ppm ASTM D5185m 10 0 Molybdenum ppm ASTM D5185m 100 67 Manganese ppm ASTM D5185m 100 67 Magnesium ppm ASTM D5185m 100 67 Magnesium ppm ASTM D5185m 100 67 Calcium ppm ASTM D5185m 450 996 Phosphorus ppm ASTM D5185m 3000 1705 Sulfur ppm ASTM D5185m 1350 1126 Sulfur ppm ASTM D5185m >30 75 Solicon ppm ASTM D5185m >75 2 Sodium ppm AS | | ppm | ASTM D5185m | | 0 | | |
| Barium ppm ASTM D5185m 10 0 Molybdenum ppm ASTM D5185m 100 67 Manganese ppm ASTM D5185m 100 67 Magnesium ppm ASTM D5185m 450 996 Calcium ppm ASTM D5185m 3000 1705 Calcium ppm ASTM D5185m 1150 937 Zinc ppm ASTM D5185m 1350 1126 Sulfur ppm ASTM D5185m 4250 2874 Solicon ppm ASTM D5185m >30 75 Solium ppm ASTM D5185m >20 <1 Potassium ppm ASTM D5185m >20 <1 INFRA-RED method | ADDITIVES | | method | limit/base | current | history1 | history2 |
| Molybdenum ppm ASTM D5185m 100 67 Manganese ppm ASTM D5185m 100 67 Magnesium ppm ASTM D5185m 450 996 Calcium ppm ASTM D5185m 3000 1705 Calcium ppm ASTM D5185m 1150 937 Phosphorus ppm ASTM D5185m 1350 1126 Zinc ppm ASTM D5185m 1350 1126 Sulfur ppm ASTM D5185m 4250 2874 Solicon ppm ASTM D5185m >30 75 Sodium ppm ASTM D5185m >20 <1 | Boron | ppm | ASTM D5185m | 250 | 104 | | |
| Manganese ppm ASTM D5185m <1 Magnesium ppm ASTM D5185m 450 996 Calcium ppm ASTM D5185m 3000 1705 Phosphorus ppm ASTM D5185m 3000 1705 Zinc ppm ASTM D5185m 1150 937 Zinc ppm ASTM D5185m 1350 1126 Sulfur ppm ASTM D5185m 4250 2874 Sulfur ppm ASTM D5185m >30 ▲ 75 Solicon ppm ASTM D5185m >30 ▲ 75 Sodium ppm ASTM D5185m >20 <1 | Barium | ppm | ASTM D5185m | 10 | 0 | | |
| Magnesium ppm ASTM D5185m 450 996 Calcium ppm ASTM D5185m 3000 1705 Phosphorus ppm ASTM D5185m 1150 937 Zinc ppm ASTM D5185m 1350 1126 Sulfur ppm ASTM D5185m 4250 2874 CONTAMINANTS method limit/base current history1 histor Silicon ppm ASTM D5185m >30 75 2 Sodium ppm ASTM D5185m >20 <11 INFRA-RED method limit/base current history1 histor Soot % % *ASTM D7844 0.1 Nitration Abs/cm *ASTM D7415 >30 19.9 Sulfation Abs/.1mm *ASTM D7415 >30 19.9 | Molybdenum | ppm | ASTM D5185m | 100 | 67 | | |
| Calcium ppm ASTM D5185m 3000 1705 Phosphorus ppm ASTM D5185m 1150 937 Zinc ppm ASTM D5185m 1350 1126 Sulfur ppm ASTM D5185m 4250 2874 CONTAMINANTS method limit/base current history1 histor Silicon ppm ASTM D5185m >30 75 Sodium ppm ASTM D5185m >75 2 Potassium ppm ASTM D5185m >20 <1 | 0 | ppm | ASTM D5185m | | <1 | | |
| Phosphorus ppm ASTM D5185m 1150 937 Zinc ppm ASTM D5185m 1350 1126 Sulfur ppm ASTM D5185m 1350 1126 Sulfur ppm ASTM D5185m 4250 2874 CONTAMINANTS method limit/base current history1 histor Silicon ppm ASTM D5185m >30 75 Sodium ppm ASTM D5185m >20 <11 Potassium ppm ASTM D5185m >20 <11 INFRA-RED method limit/base current history1 histor Soot % % *ASTM D7844 0.1 Nitration Abs/cm *ASTM D7624 >20 14.5 Sulfation Abs/.1mm *ASTM D7415 | Magnesium | ppm | ASTM D5185m | 450 | 996 | | |
| Zinc ppm ASTM D5185m 1350 1126 Sulfur ppm ASTM D5185m 4250 2874 CONTAMINANTS method limit/base current history1 histor Silicon ppm ASTM D5185m >30< | | ppm | ASTM D5185m | 3000 | 1705 | | |
| Sulfur ppm ASTM D5185m 4250 2874 CONTAMINANTS method limit/base current history1 histor Silicon ppm ASTM D5185m >30 75 Sodium ppm ASTM D5185m >30 75 2 Potassium ppm ASTM D5185m >20 <1 INFRA-RED method limit/base current history1 histor Soot % % *ASTM D7844 0.1 Nitration Abs/cm *ASTM D7624 >20 14.5 Sulfation Abs/.1mm *ASTM D7415 >30 19.9 | • | ppm | | | 937 | | |
| CONTAMINANTS method limit/base current history1 histor Silicon ppm ASTM D5185m >30 A 75 Sodium ppm ASTM D5185m >75 2 Potassium ppm ASTM D5185m >20 <1 | - | ppm | ASTM D5185m | | 1126 | | |
| Silicon ppm ASTM D5185m >30 75 Sodium ppm ASTM D5185m >75 2 Potassium ppm ASTM D5185m >20 <1 | | | ASTM D5185m | 4250 | 2874 | | |
| Sodium ppm ASTM D5185m >75 2 Potassium ppm ASTM D5185m >20 <1 | CONTAMINANTS | | method | limit/base | current | history1 | history2 |
| Potassium ppm ASTM D5185m >20 <1 INFRA-RED method limit/base current history1 histor Soot % % *ASTM D7844 0.1 Nitration Abs/cm *ASTM D7624 >20 14.5 Sulfation Abs/.1mm *ASTM D7415 >30 19.9 | | | | | | | |
| INFRA-RED method limit/base current history1 histor Soot % % *ASTM D7844 0.1 Nitration Abs/cm *ASTM D7624 >20 14.5 Sulfation Abs/.1mm *ASTM D7415 >30 19.9 | | ppm | | | | | |
| Soot % % *ASTM D7844 0.1 Nitration Abs/cm *ASTM D7624 >20 14.5 Sulfation Abs/.1mm *ASTM D7415 >30 19.9 | Potassium | ppm | ASTM D5185m | >20 | <1 | | |
| Nitration Abs/cm *ASTM D7624 >20 14.5 Sulfation Abs/.1mm *ASTM D7415 >30 19.9 | INFRA-RED | | method | limit/base | current | history1 | history2 |
| Sulfation Abs/.1mm *ASTM D7415 >30 19.9 | | % | | | 0.1 | | |
| | Nitration | Abs/cm | *ASTM D7624 | >20 | 14.5 | | |
| FLUID DEGRADATION method limit/base current history1 history | Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 19.9 | | |
| | FLUID DEGRADA | TION | method | limit/base | current | history1 | history2 |
| Oxidation Abs/.1mm *ASTM D7414 >25 15.9 | Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 15.9 | | |
| Base Number (BN) mg KOH/g ASTM D2896 8.5 8.9 | Base Number (BN) | mg KOH/g | ASTM D2896 | 8.5 | 8.9 | | |





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