

OIL ANALYSIS REPORT

Sample Rating Trend







Machine Id **1705** Component **Diesel Engine** Fluid **DIESEL ENGINE OIL SAE 40 (--- GAL)**

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) DIESEL ENGINE OIL SAE 40. Please confirm. Please specify the component make and model with your next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

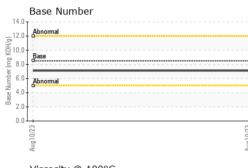
Fluid Condition

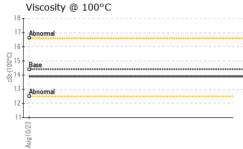
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| SAMPLE INFORM | IATION | method | limit/base | current | history1 | history2 |
|---|--|---|--|--|--|--|
| Sample Number | | Client Info | | WC0844945 | | |
| Sample Date | | Client Info | | 10 Aug 2023 | | |
| Machine Age | mls | Client Info | | 122150 | | |
| Oil Age | mls | Client Info | | 0 | | |
| Oil Changed | | Client Info | | Changed | | |
| Sample Status | | | | NORMAL | | |
| CONTAMINATION | N | method | limit/base | current | history1 | history2 |
| Fuel | | WC Method | >5 | <1.0 | | |
| Glycol | | WC Method | | NEG | | |
| WEAR METALS | | method | limit/base | current | history1 | history2 |
| Iron | ppm | ASTM D5185m | >100 | 4 | | |
| Chromium | ppm | ASTM D5185m | >20 | + <1 | | |
| Nickel | ppm | ASTM D5185m | >4 | 0 | | |
| Titanium | ppm | ASTM D5185m | - 1 | ۰ <1 | | |
| Silver | ppm | ASTM D5185m | >3 | 0 | | |
| Aluminum | ppm | ASTM D5185m | >20 | 4 | | |
| Lead | ppm | ASTM D5185m | >40 | | | |
| Copper | ppm | ASTM D5185m | >330 | ۰ <1 | | |
| Tin | ppm | ASTM D5185m | >15 | <1 | | |
| Vanadium | ppm | ASTM D5185m | 210 | 0 | | |
| Cadmium | ppm | ASTM D5185m | | 0 | | |
| | PP | | | • | | |
| | | | | | | |
| ADDITIVES | | method | limit/base | current | history1 | history2 |
| Boron | ppm | ASTM D5185m | 250 | 20 | | |
| Boron Barium | ppm | ASTM D5185m ASTM D5185m | 250 10 | 20 0 | | |
| Boron Barium Molybdenum | ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m | 250 | 20 0 84 | | |
| Boron Barium Molybdenum Manganese | ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 250 10 100 | 20 0 84 <1 | | |
| Boron Barium Molybdenum Manganese Magnesium | ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 250 10 100 450 | 20 0 84 <1 285 | | |
| Boron Barium Molybdenum Manganese Magnesium Calcium | ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 250 10 100 450 3000 | 20 0 84 <1 285 2025 | | |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus | ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 250 10 100 450 3000 1150 | 20 0 84 <1 285 2025 1058 | | |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc | ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 250 10 100 450 3000 1150 1350 | 20 0 84 <1 285 2025 1058 1318 | | |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur | ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 250 10 100 450 3000 1150 | 20 0 84 <1 285 2025 1058 | | |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc | ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 250 10 100 450 3000 1150 1350 | 20 0 84 <1 285 2025 1058 1318 | | |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur | ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 250 10 100 450 3000 1150 1350 4250 | 20 0 84 <1 285 2025 1058 1318 4240 | | |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS | ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m | 250 10 100 450 3000 1150 1350 4250 limit/base >25 | 20 0 84 <1 285 2025 1058 1318 4240 current | history1 | history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon | ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method | 250 10 100 450 3000 1150 1350 4250 limit/base >25 | 20 0 84 <1 285 2025 1058 1318 4240 current 5 | history1 | history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium | ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m | 250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 | 20 0 84 <1 285 2025 1058 1318 4240 current 5 10 | history1 | history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium | ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m | 250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20 | 20 0 84 <1 285 2025 1058 1318 4240 current 5 10 <1 | history1 | history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED | ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m | 250 10 100 450 3000 1150 1350 4250 imit/base >216 >216 >20 | 20 0 84 <1 285 2025 1058 1318 4240 current 5 10 <1 <1 | history1 history1 | history2 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m | 250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20 limit/base >3 | 20 0 84 <1 285 2025 1058 1318 4240 <i>current</i> 5 10 <1 <i>current</i> 0.3 | history1 history1 | history2 history2 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m | 250 10 100 450 3000 1150 1350 4250 Iimit/base >25 >216 >20 Iimit/base >3 >20 | 20 0 84 <1 285 2025 1058 1318 4240 <i>current</i> 5 10 <1 <i>current</i> 0.3 9.5 | history1 history1 | history2 history2 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m | 250 10 100 450 3000 1150 1350 4250 imit/base >25 >216 >20 imit/base >3 >20 >3 | 20 0 84 <1 285 2025 1058 1318 4240 <u>current</u> 5 10 <1 5 10 <1 0.3 9.5 20.0 | history1 history1 history1 | history2 history2 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844 | 250 10 100 450 3000 1150 1350 4250 20 225 >216 >20 >20 >30 >30 Simit/base | 20 0 84 <1 285 2025 1058 1318 4240 <i>current</i> 5 10 <1 5 10 <1 0.3 9.5 20.0 <i>current</i> | history1 history1 history1 | history2 history2 history2 history2 history2 |



OIL ANALYSIS REPORT





| | White Metal | scalar | *Visual | NONE | NONE | | |
|---|---|------------------------------------|--|---|------------------------------|---------------------|--|
| | Yellow Metal | scalar | *Visual | NONE | NONE | | |
| | Precipitate | scalar | *Visual | NONE | NONE | | |
| | Silt | scalar | *Visual | NONE | NONE | | |
| | Debris | scalar | *Visual | NONE | NONE | | |
| | Sand/Dirt | | *Visual | NONE | NONE | | |
| 0/23 - | Appearance | scalar | *Visual | NORML | NORML | | |
| Aug10/23 | Odor | | *Visual | NORML | NORML | | |
| | Emulsified Water | scalar | *Visual | >0.2 | NEG | | |
| | Free Water | | *Visual | | NEG | | |
| | | | | Provide Research | | In the transmission | |
| | FLUID PROPERT | | method | limit/base | current | history1 | history2 |
| | Visc @ 100°C | cSt | ASTM D445 | 14.4 | 13.9 | | |
| | GRAPHS | | | | | | |
| | Ferrous Alloys | | | | | | |
| | 10 iron] | | | | | | |
| | 8 - nickel | | | | | | |
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| | Aug 10/23 | | | Aug 10/23 | | | |
| | Aug1 | | | Aug1 | | | |
| | Non-ferrous Meta | s | | | | | |
| | 10 copper 1 | | | | | | |
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| | | | | | | | |
| | 6 6 4 2 0 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 | | | Aug10/23 | | | |
| | | | | Aug10/23 | Base Number | | |
| | Viscosity @ 100°C | | | Aug 10/23 | | | |
| | Viscosity @ 100°C | | | 14.0 | T ; | | |
| | Viscosity @ 100°C | | | 14.0 | T ; | | |
| | Viscosity @ 100°C | | | 14.0 | Abnormal | | |
| | Viscosity @ 100°C | | | 14.0 | Abnormal | | |
| | Viscosity @ 100°C | | | 14.0 | Abnormal Base | | |
| | Viscosity @ 100°C | | | Aug 10/23 | Abnormal Base | | |
| | Viscosity @ 100°C | | | 14.0 12.0 (b)HO10.0 (b)HO10.0 (b)HO10.0 (c)HO1 | Abnormal Base Abnormal | | |
| | Viscosity @ 100°C | | | 14.0 12.0 (b)HO10.0 (b)HO10.0 (b)HO10.0 (c)HO1 | Abnormal Base Abnormal | | |
| | 6 4 2 0 E2000 Wiscosity @ 100°C 16 6 6 17 6 6 10 15 8 8 8 8 8 8 8 8 8 8 8 8 8 | | | EZ/01 Bmy 14.0 (B/HOX) Bul, Jack Hold Hox Hours Hours How Hours How Hours How Hours How Hours How Hours How Hours How Hours Ho | Abnormal Base | | |
| Laboratory Sample No. Lab Number Unique Number | Viscosity @ 100°C | 2 | son Ave., Ca 1 : 24 / 2 d : 25 / | 14.0. 12.0. (b)H00 K00 K00 (b)H00 K00 (b)H00 K00 (c)H00 K00 (c)H000 K00 (c)H00 K00 (c)H00 (c)H00 K00 (c)H00 K00 (c)H00 K00 (c)H00 K00 (c)H00 K00 (c)H00 K0 | Abnormal Base Abnormal | 6900 M CH | CHAPEL HII MILLHOUSE F APEL HILL, N US 275 |
| Laboratory Sample No. Lab Number | Viscosity @ 100°C | 501 Madis Received Diagnosti | on Ave., Ca I : 24 / ed : 25 / ician : We | 14.0 14.0 12.0 ()HO3 (0) 12.0 ()HO3 (0) ()HO3 (0 | Abnormal Base Abnormal | 6900 M CH | IILLHOUSE F APEL HILL, N US 275 Lisa DePasq |

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)