

OIL ANALYSIS REPORT

Sample Rating Trend



BM-151

Component Diesel Engine

Fluid PETRO CANADA DURON SHP 10W30 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

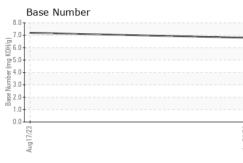
Fluid Condition

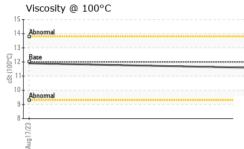
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

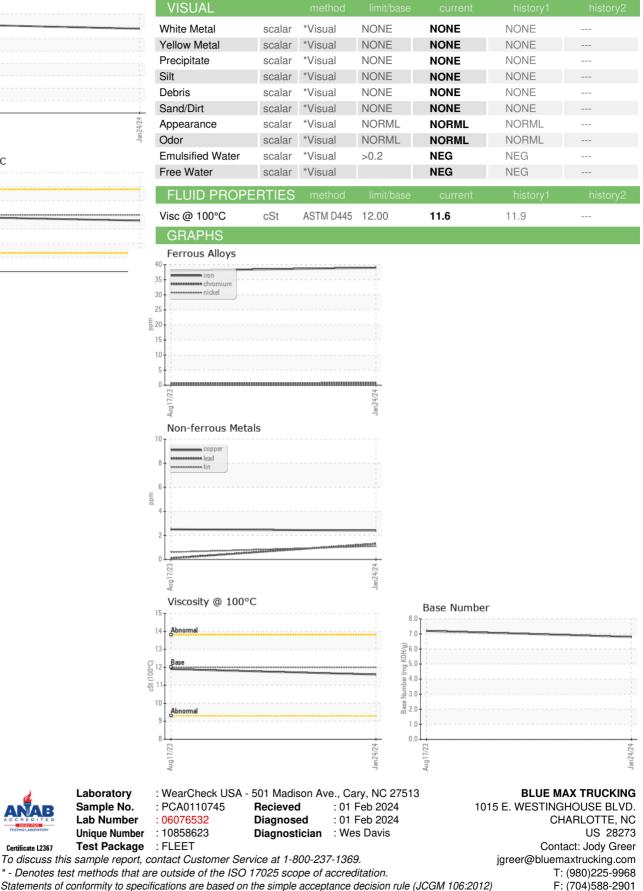
| • | | | Aug2023 | Jan2024 | | |
|--|--|--|---|--|--|---|
| SAMPLE INFORI | MATION | method | limit/base | current | history1 | history2 |
| Sample Number | | Client Info | | PCA0110745 | PCA0103174 | |
| Sample Date | | Client Info | | 24 Jan 2024 | 17 Aug 2023 | |
| Machine Age | hrs | Client Info | | 6850 | 5823 | |
| Oil Age | hrs | Client Info | | 1027 | 1003 | |
| Oil Changed | | Client Info | | Changed | Changed | |
| Sample Status | | | | NORMAL | NORMAL | |
| CONTAMINAT | | method | limit/base | current | history1 | history2 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | |
| Water | | WC Method | >0.2 | <1.0 NEG | NEG | |
| | | WC Method | >0.2 | NEG | NEG | |
| Glycol | | WC Method | | NEG | NEG | |
| WEAR METAL | S | method | limit/base | current | history1 | history2 |
| Iron | ppm | ASTM D5185m | >100 | 39 | 38 | |
| Chromium | ppm | ASTM D5185m | >20 | <1 | <1 | |
| Nickel | ppm | ASTM D5185m | >4 | 0 | 0 | |
| Titanium | ppm | ASTM D5185m | | <1 | <1 | |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | |
| Aluminum | ppm | ASTM D5185m | >20 | 18 | 26 | |
| Lead | ppm | ASTM D5185m | >40 | 1 | <1 | |
| Copper | ppm | ASTM D5185m | >330 | 2 | 2 | |
| Tin | ppm | ASTM D5185m | >15 | 1 | <1 | |
| Vanadium | ppm | ASTM D5185m | | <1 | <1 | |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | |
| Cadiniun | ppm | ASTIM DSTOSIII | | U | 0 | |
| ADDITIVES | ppin | method | limit/base | current | history1 | history2 |
| | ppm | | limit/base | | | |
| ADDITIVES | | method | | current | history1 | history2 |
| ADDITIVES Boron | ppm | method ASTM D5185m | 2 | current <1 | history1 <1 | history2 |
| ADDITIVES Boron Barium | ppm ppm | method ASTM D5185m ASTM D5185m | 2 0 | current <1 <1 | history1 <1 0 | history2 |
| ADDITIVES Boron Barium Molybdenum | ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m | 2 0 50 | current <1 <1 53 | history1 <1 0 64 | history2 |
| ADDITIVES Boron Barium Molybdenum Manganese | ppm ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 2 0 50 0 | current <1 <1 53 <1 | history1 <1 0 64 <1 | history2 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium | ppm ppm ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 2 0 50 0 950 | current <1 <1 53 <1 859 | history1 <1 0 64 <1 1091 | history2 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium | ppm ppm ppm ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 2 0 50 0 950 1050 | <1 <1 53 <1 859 996 | history1 <1 0 64 <1 1091 1271 | history2 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus | ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 2 0 50 0 950 1050 995 | <1 <1 53 <1 859 996 933 | history1 <1 0 64 <1 1091 1271 1111 | history2 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc | ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 2 0 50 950 1050 995 1180 | <1 <1 53 <1 859 996 933 1144 | history1 <1 0 64 <1 1091 1271 1111 1398 | history2 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur | ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 2 0 50 950 1050 995 1180 2600 | <1 <1 53 <1 859 996 933 1144 2342 | history1 <1 0 64 <1 1091 1271 1111 1398 3634 | history2 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN | ppm ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 2 0 50 950 1050 995 1180 2600 | current <1 <1 53 <1 859 996 933 1144 2342 current | history1 <1 0 64 <1 1091 1271 1111 1398 3634 history1 | history2 history2 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m | 2 0 50 950 1050 995 1180 2600 limit/base >25 | <1 <1 53 <1 53 <1 859 996 933 1144 2342 current 8 | <1 0 64 <1 1091 1271 1111 1398 3634 history1 9 | history2 history2 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m | 2 0 50 950 1050 995 1180 2600 limit/base >25 | <1 <1 53 <1 53 <1 859 996 933 1144 2342 current 8 2 | history1 <1 0 64 <1 1091 1271 1111 1398 3634 history1 9 3 | history2 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED | ppm ppm ppm ppm ppm ppm ppm ppm TS | method ASTM D5185m | 2 0 50 0 950 1050 995 1180 2600 Imit/base >25 -20 Imit/base | <1 <1 53 <1 53 <1 859 996 933 1144 2342 current 8 2 37 current | history1 <1 0 64 <1 1091 1271 1111 1398 3634 history1 9 3 45 history1 | history2 history2 history2 history2 history2 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % | ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm | method ASTM D5185m | 2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base | <1 <1 53 <1 53 <1 859 996 933 1144 2342 current 8 2 37 current 1.1 | history1 <1 0 64 <1 1091 1271 1111 1398 3634 history1 9 3 45 history1 0.8 | history2 history2 history2 history2 history2 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration | ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm | method ASTM D5185m | 2 0 50 0 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20 | current <1 53 <1 53 <1 859 996 933 1144 2342 current 8 2 37 current 1.1 10.3 | history1 <1 0 64 <1 1091 1271 1111 1398 3634 history1 9 3 45 history1 0.8 9.8 | history2 history2 history2 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m ASTM D5185m | 2 0 50 0 950 1050 995 1180 2600 imit/base >25 imit/base >3 >20 >30 | <1 <1 53 <1 53 <1 859 996 933 1144 2342 current 8 2 37 current 1.1 10.3 22.4 | <1 0 64 <1 1091 1271 1111 1398 3634 history1 9 3 45 history1 0.8 9.8 21.3 | history2 history2 history2 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD | ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm | method ASTM D5185m ASTM D7185M *ASTM D7624 *ASTM D7415 method | 2 0 50 0 950 1050 995 1180 2600 imit/base >25 >20 imit/base >3 >20 >30 | <1 <1 53 <1 859 996 933 1144 2342 current 8 2 37 current 1.1 10.3 22.4 | <1 0 64 <1 1091 1271 1111 1398 3634 history1 9 3 45 history1 0.8 9.8 21.3 history1 | history2 history2 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE Oxidation | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7414 | 2 0 50 0 950 1050 995 1180 2600 imit/base >25 >20 imit/base >3 >20 >30 | current <1 53 <1 53 <1 859 996 933 1144 2342 current 8 2 37 current 1.1 10.3 22.4 current 18.4 | <1 0 64 <1 1091 1271 1111 1398 3634 history1 9 3 45 history1 0.8 9.8 21.3 history1 | history2 history2 history2 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD | ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm | method ASTM D5185m ASTM D7185M *ASTM D7624 *ASTM D7415 method | 2 0 50 0 950 1050 995 1180 2600 imit/base >25 >20 imit/base >3 >20 >30 | <1 <1 53 <1 859 996 933 1144 2342 current 8 2 37 current 1.1 10.3 22.4 | <1 0 64 <1 1091 1271 1111 1398 3634 history1 9 3 45 history1 0.8 9.8 21.3 history1 | history2 history2 history2 history2 history2 history2 history2 history2 history2 history2 history2 |

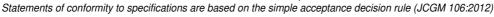


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