

Area (N/A) Walgreens - Yard Horse [Walgreens - Yard Horse] 136A82001

Diesel Engine

PETRO CANADA DURON SHP 10W30 (11 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

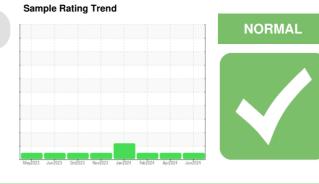
All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

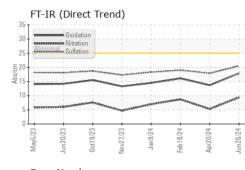
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

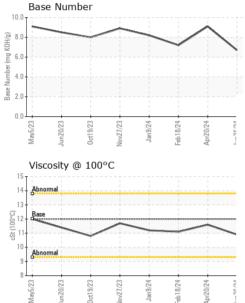


| SAMPLE INFORI | MATION | method | limit/base | current | history1 | history2 |
|---|--|--|--|---|--|--|
| Sample Number | | Client Info | | PCA0127885 | PCA0117860 | PCA0117907 |
| Sample Date | | Client Info | | 26 Jun 2024 | 20 Apr 2024 | 18 Feb 2024 |
| Machine Age | hrs | Client Info | | 13656 | 12999 | 12387 |
| Oil Age | hrs | Client Info | | 657 | 25000 | 746 |
| Oil Changed | | Client Info | | Not Changd | Changed | Not Changd |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |
| CONTAMINAT | ION | method | limit/base | current | history1 | history2 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| WEAR METAL | S | method | limit/base | current | history1 | history2 |
| Iron | ppm | ASTM D5185m | >100 | 19 | 2 | 4 |
| Chromium | ppm | ASTM D5185m | >20 | <1 | 0 | <1 |
| Nickel | ppm | ASTM D5185m | >4 | 4 | 0 | 2 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >3 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | 2 | <1 | 1 |
| Lead | ppm | ASTM D5185m | >40 | 0 | 0 | <1 |
| Copper | ppm | ASTM D5185m | >330 | 6 | <1 | 2 |
| Tin | ppm | ASTM D5185m | >15 | 0 | <1 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | <1 |
| | | | | | | |
| ADDITIVES | | method | limit/base | current | history1 | history2 |
| ADDITIVES Boron | ppm | | limit/base 2 | current 4 | history1 12 | history2 2 |
| | ppm ppm | | 2 | | | |
| Boron | | ASTM D5185m | 2 | 4 | 12 | 2 |
| Boron Barium | ppm | ASTM D5185m ASTM D5185m | 2 0 50 | 4 1 | 12 0 | 2 0 |
| Boron Barium Molybdenum | ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m | 2 0 50 | 4 1 59 | 12 0 54 | 2 0 58 |
| Boron Barium Molybdenum Manganese | ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 2 0 50 0 | 4 1 59 <1 | 12 0 54 0 | 2 0 58 <1 |
| Boron Barium Molybdenum Manganese Magnesium | ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 2 0 50 0 950 | 4 1 59 <1 1085 | 12 0 54 0 864 | 2 0 58 <1 974 |
| Boron Barium Molybdenum Manganese Magnesium Calcium | ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 2 0 50 0 950 1050 | 4 1 59 <1 1085 1308 | 12 0 54 0 864 1090 | 2 0 58 <1 974 1122 |
| 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 | 2 0 50 0 950 1050 995 | 4 1 59 <1 1085 1308 1170 | 12 0 54 0 864 1090 1015 | 2 0 58 <1 974 1122 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 | 2 0 50 950 1050 995 1180 | 4 1 59 <1 1085 1308 1170 1457 | 12 0 54 0 864 1090 1015 1182 | 2 0 58 <1 974 1122 1058 1303 |
| 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 | 2 0 50 950 1050 995 1180 2600 | 4 1 59 <1 1085 1308 1170 1457 4049 | 12 0 54 0 864 1090 1015 1182 3421 | 2 0 58 <1 974 1122 1058 1303 3029 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN | ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 2 0 50 950 1050 995 1180 2600 | 4 1 59 <1 1085 1308 1170 1457 4049 current | 12 0 54 0 864 1090 1015 1182 3421 history1 | 2 0 58 <1 974 1122 1058 1303 3029 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon | ppm ppm ppm ppm ppm ppm ppm ppm TS | 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 | 4 1 59 <1 1085 1308 1170 1457 4049 current 4 | 12 0 54 0 864 1090 1015 1182 3421 history1 4 | 2 0 58 <1 974 1122 1058 1303 3029 history2 2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium | ppm ppm ppm ppm ppm ppm ppm ppm TS | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m | 2 0 50 950 1050 995 1180 2600 limit/base >25 | 4 1 59 <1 1085 1308 1170 1457 4049 <u>current</u> 4 1 | 12 0 54 0 864 1090 1015 1182 3421 history1 4 0 | 2 0 58 <1 974 1122 1058 1303 3029 history2 2 <1 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium | ppm ppm ppm ppm ppm ppm ppm ppm TS | ASTM D5185m ASTM D5185m | 2 0 50 950 1050 995 1180 2600 imit/base >25 | 4 1 59 <1 1085 1308 1170 1457 4049 <u>current</u> 4 1 4 | 12 0 54 0 864 1090 1015 1182 3421 history1 4 0 0 | 2 0 58 <1 974 1122 1058 1303 3029 history2 2 2 <1 1 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED | ppm ppm ppm ppm ppm ppm ppm ppm TS | ASTM D5185m ASTM D5185m | 2 0 50 0 950 1050 995 1180 2600 Imit/base >25 >20 | 4 1 59 <1 1085 1308 1170 1457 4049 current 4 1 4 1 4 Current | 12 0 54 0 864 1090 1015 1182 3421 history1 4 0 0 0 bistory1 | 2 0 58 <1 974 1122 1058 1303 3029 history2 2 <1 1 1 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % | ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm | ASTM D5185m ASTM D5185m | 2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3 | 4 1 59 <1 1085 1308 1170 1457 4049 <u>current</u> 4 1 4 <u>current</u> 0.3 | 12 0 54 0 864 1090 1015 1182 3421 history1 4 0 0 0 history1 0.1 | 2 0 58 <1 974 1122 1058 1303 3029 history2 2 2 <1 1 1 history2 0.3 |
| 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 ppm | ASTM D5185m ASTM D5185m | 2 0 50 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20 | 4 1 59 <1 1085 1308 1170 1457 4049 <u>current</u> 4 1 4 <u>current</u> 0.3 9.4 | 12 0 54 0 864 1090 1015 1182 3421 history1 4 0 0 history1 0.1 5.3 | 2 0 58 <1 974 1122 1058 1303 3029 history2 2 2 <1 1 1 history2 0.3 8.7 |
| 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 | ASTM D5185m ASTM D5185m | 2 0 50 0 950 1050 995 1180 2600 imit/base >25 imit/base >3 >20 | 4 1 59 <1 1085 1308 1170 1457 4049 <u>current</u> 4 1 4 1 4 <u>current</u> 0.3 9.4 20.5 | 12 0 54 0 864 1090 1015 1182 3421 history1 4 0 0 history1 0.1 5.3 17.9 | 2 0 58 <1 974 1122 1058 1303 3029 history2 2 <1 1 1 <u>history2</u> 0.3 8.7 19.0 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAC | ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm | ASTM D5185m ASTM D7844 *ASTM D7624 | 2 0 0 50 0 950 1050 995 1180 2600 imit/base >25 20 >20 >30 >30 imit/base | 4 1 59 <1 1085 1308 1170 1457 4049 Current 4 1 4 Current 0.3 9.4 20.5 Current | 12 0 54 0 864 1090 1015 1182 3421 history1 4 0 0 history1 0.1 5.3 17.9 history1 | 2 0 58 <1 974 1122 1058 1303 3029 history2 2 <1 1 1 history2 0.3 8.7 19.0 history2 |



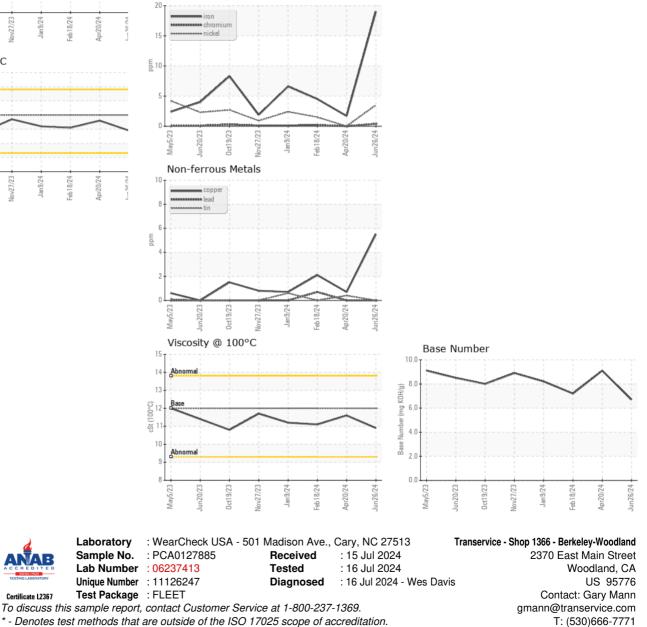
OIL ANALYSIS REPORT





| VISUAL | | method | limit/base | current | history1 | history2 |
|------------------|--------|-----------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | NONE | NONE |
| Silt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | NONE | NONE |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | NORML | NORML | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.2 | NEG | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG | NEG |
| FLUID PROPE | RTIES | method | limit/base | current | history1 | history2 |
| Visc @ 100°C | cSt | ASTM D445 | 12.00 | 10.9 | 11.6 | 11.1 |
| GRAPHS | | | | | | |

Ferrous Alloys



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

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Certificate 12367

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