

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id **721562** Component **Diesel Engine** Fluid **PETRO CANADA DURON SHP 10W30 (--- GAL)**

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. 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.

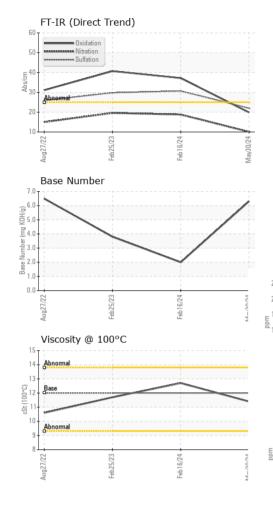
Fluid Condition

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

| SAMPLE INFORI | MATION | method | limit/base | current | history1 | history2 | | | | | | |
|---|--|---|---|---|--|--|--|--|--|--|--|--|
| Sample Number | | Client Info | | PCA0125230 | PCA0119050 | PCA0093284 | | | | | | |
| Sample Date | | Client Info | | 30 May 2024 | 16 Feb 2024 | 25 Feb 2023 | | | | | | |
| Machine Age | mls | Client Info | | 136956 | 118426 | 0 | | | | | | |
| Oil Age | mls | Client Info | | 136956 | 118426 | 0 | | | | | | |
| Oil Changed | | Client Info | | N/A | Changed | N/A | | | | | | |
| Sample Status | | | | NORMAL | ABNORMAL | ABNORMAL | | | | | | |
| 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 METALS method limit/base current history1 history2 | | | | | | | | | | | | |
| Iron | ppm | ASTM D5185m | >100 | 42 | 1 24 | <u> </u> | | | | | | |
| Chromium | ppm | ASTM D5185m | >20 | <1 | 3 | 6 | | | | | | |
| Nickel | ppm | ASTM D5185m | >4 | 0 | 1 | 1 | | | | | | |
| Titanium | ppm | ASTM D5185m | | 21 | 3 | <1 | | | | | | |
| Silver | ppm | ASTM D5185m | >3 | <1 | <1 | 0 | | | | | | |
| Aluminum | ppm | ASTM D5185m | >20 | 7 | 21 | 54 | | | | | | |
| Lead | ppm | ASTM D5185m | >40 | 0 | 0 | <1 | | | | | | |
| Copper | ppm | ASTM D5185m | >330 | 9 | 29 | 200 | | | | | | |
| Tin | ppm | ASTM D5185m | >15 | 1 | 2 | 6 | | | | | | |
| Vanadium | ppm | ASTM D5185m | | <1 | <1 | 0 | | | | | | |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | 0 | | | | | | |
| | | | | | | | | | | | | |
| ADDITIVES | | method | limit/base | current | history1 | history2 | | | | | | |
| ADDITIVES Boron | ppm | method ASTM D5185m | limit/base 2 | current 19 | history1 4 | history2 16 | | | | | | |
| | ppm ppm | ASTM D5185m | | | | | | | | | | |
| Boron | | ASTM D5185m ASTM D5185m ASTM D5185m | 2 0 50 | 19 | 4 | 16 | | | | | | |
| Boron Barium | ppm | ASTM D5185m ASTM D5185m | 2 0 50 | 19 <1 | 4 | 16 0 | | | | | | |
| Boron Barium Molybdenum | ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m | 2 0 50 | 19 <1 47 | 4 0 58 | 16 0 43 | | | | | | |
| Boron Barium Molybdenum Manganese | ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 2 0 50 0 | 19 <1 47 1 | 4 0 58 2 | 16 0 43 6 | | | | | | |
| Boron Barium Molybdenum Manganese Magnesium | ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 2 0 50 950 1050 995 | 19 <1 47 1 826 | 4 0 58 2 916 | 16 0 43 6 531 1656 733 | | | | | | |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc | ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 2 0 50 0 950 1050 | 19 <1 47 1 826 1279 | 4 0 58 2 916 1213 | 16 0 43 6 531 1656 733 936 | | | | | | |
| 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 50 950 1050 995 | 19 <1 47 1 826 1279 1082 | 4 0 58 2 916 1213 1110 | 16 0 43 6 531 1656 733 | | | | | | |
| 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 | 19 <1 47 1 826 1279 1082 1227 | 4 0 58 2 916 1213 1110 1359 | 16 0 43 6 531 1656 733 936 | | | | | | |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon | ppm ppm ppm ppm ppm ppm ppm | 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 | 19 <1 47 1 826 1279 1082 1227 3283 current 5 | 4 0 58 2 916 1213 1110 1359 2392 | 16 0 43 6 531 1656 733 936 1738 history2 10 | | | | | | |
| 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 | 19 <1 47 1 826 1279 1082 1227 3283 current | 4 0 58 2 916 1213 1110 1359 2392 history1 | 16 0 43 6 531 1656 733 936 1738 history2 10 4 | | | | | | |
| 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 limit/base >25 | 19 <1 47 1 826 1279 1082 1227 3283 current 5 | 4 0 58 2 916 1213 1110 1359 2392 history1 7 | 16 0 43 6 531 1656 733 936 1738 history2 10 | | | | | | |
| 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 | 19 <1 47 1 826 1279 1082 1227 3283 current 5 2 14 current | 4 0 58 2 916 1213 1110 1359 2392 history1 7 2 2 41 history1 | 16 0 43 6 531 1656 733 936 1738 history2 10 4 136 history2 | | | | | | |
| 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 | ASTM D5185m ASTM D5185m | 2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 | 19 <1 47 1 826 1279 1082 1227 3283 current 5 2 14 2 14 0.8 | 4 0 58 2 916 1213 1110 1359 2392 history1 7 2 41 history1 1.9 | 16 0 43 6 531 1656 733 936 1738 history2 10 4 136 history2 1.6 | | | | | | |
| 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 TS ppm ppm | ASTM D5185m ASTM D5185m | 2 0 50 0 950 1050 995 1180 2600 limit/base >25 -20 limit/base | 19 <1 47 1 826 1279 1082 1227 3283 <i>current</i> 5 2 14 <i>current</i> 0.8 10.1 | 4 0 58 2 916 1213 1110 1359 2392 history1 7 2 2 41 7 2 41 1.9 18.8 | 16 0 43 6 531 1656 733 936 1738 history2 10 4 136 history2 1.6 19.6 | | | | | | |
| 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 | 19 <1 47 1 826 1279 1082 1227 3283 current 5 2 14 2 14 0.8 | 4 0 58 2 916 1213 1110 1359 2392 history1 7 2 41 history1 1.9 | 16 0 43 6 531 1656 733 936 1738 history2 10 4 136 history2 1.6 | | | | | | |
| 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 TS ppm ppm ppm | ASTM D5185m ASTM D5185m | 2 0 50 0 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20 | 19 <1 47 1 826 1279 1082 1227 3283 <i>current</i> 5 2 14 <i>current</i> 0.8 10.1 | 4 0 58 2 916 1213 1110 1359 2392 history1 7 2 2 41 7 2 41 1.9 18.8 | 16 0 43 6 531 1656 733 936 1738 history2 10 4 136 history2 1.6 19.6 | | | | | | |
| 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 TS ppm ppm ppm | ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415 | 2 0 50 0 950 1050 995 1180 2600 imit/base >25 imit/base >3 >20 | 19 <1 47 1 826 1279 1082 1227 3283 current 5 2 14 current 0.8 10.1 22.0 | 4 0 58 2 916 1213 1110 1359 2392 history1 7 2 41 history1 1.9 18.8 30.7 | 16 0 43 6 531 1656 733 936 1738 history2 10 4 136 history2 1.6 19.6 29.8 | | | | | | |
| 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 TS ppm ppm ppm ppm | ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844 | 2 0 50 0 950 1050 995 1180 2600 imit/base >25 >20 imit/base >3 >20 >30 | 19 <1 47 1 826 1279 1082 1227 3283 <i>current</i> 5 2 14 <i>current</i> 0.8 10.1 22.0 <i>current</i> | 4 0 58 2 916 1213 1110 1359 2392 history1 7 2 41 1.9 18.8 30.7 history1 | 16 0 43 6 531 1656 733 936 1738 history2 10 4 136 history2 1.6 19.6 29.8 history2 | | | | | | |



OIL ANALYSIS REPORT



| | | VISUAL | | method | limit/base | current | history1 | history2 | |
|--------------------------|--------------------------|--|------------|------------|---|--------------|--|-------------|--|
| | | White Metal | scala | ır *Visual | NONE | NONE | NONE | NONE | |
| | | Yellow Metal | scala | r *Visual | NONE | NONE | NONE | NONE | |
| | | Precipitate | scala | r *Visual | NONE | NONE | NONE | NONE | |
| | | Silt | scala | r *Visual | NONE | NONE | NONE | NONE | |
| Concession of the second | | Debris | scala | ır *Visual | NONE | NONE | NONE | NONE | |
| | | Sand/Dirt | scala | r *Visual | NONE | NONE | NONE | NONE | |
| Feb16/24 | May30/24 | Appearance | scala | r *Visual | NORML | NORML | NORML | NORML | |
| Feb | May | Odor | scala | r *Visual | NORML | NORML | NORML | NORML | |
| | | Emulsified W | ater scala | r *Visual | >0.2 | NEG | NEG | NEG | |
| | | Free Water | scala | r *Visual | | NEG | NEG | NEG | |
| | | FLUID PI | ROPERTIE | S method | limit/base | current | history1 | history2 | |
| | | Visc @ 100°0 | C cSt | ASTM D44 | 5 12.00 | 11.4 | 12.7 | 11.7 | |
| \checkmark | | GRAPHS | ; | | | | | | |
| | | Iron (ppm) | 1 | | 10 | Lead (ppm |) | | |
| | | 250 200 - Severe | 1 | 1 | 100 | Savara | 1 | | |
| Feb16/24 | C/UC- | 200 - 4 | \sim | | | | | | |
| Ľ. | P.V. | Abnormal | | | E 4 | | | | |
| | | 50 | | | 21 | Ť | | | |
| | | 0 | | | |) | | | |
| | | Aug27/22 | -eb25/23 | Feb16/24 | May30/24 | Aug27/22 | Feb25/23 | 17/0 | |
| | | Aug | Feb2 | Feb | May | Aug | Feb | | |
| | | Aluminum | (ppm) | | _ | Chromium | (ppm) | | |
| | | ⁶⁰ 50 | | | 5 | Savara | | | |
| | | 40 Severe | | | 40 | 1 | | | |
| 24 - | VC | ۾ 30- | | | E 3 | Abnormal | | | |
| Feb16/24 | UC1 | 20 - Abnormal | | | | | | | |
| | 2 | 10 | | | | | | | |
| | | | -eb25/23 - | Feb16/24 - | | 1/22 | Feb25/23 - | 17/0 | |
| | | Aug27/22 | Feb2 | Feb 1 | May30/24 | Aug27/22 | Feb25/23 | L7/01091 | |
| | | Copper (pp | om) | | | Silicon (ppr | n) | | |
| | | 400 Severe | | | 80 | Severe | | | |
| | | 300 | | | 60 |) | | | |
| | | 튭 200 | | | 특.4I |) | | | |
| | | 100 - | | | 21 | Abnormal | | | |
| | | | | | | | | | |
| | | 1/22 | 5/23 - | 6/24 - | 1/24 | , , | 5/23 + | 1.7/0 | |
| | | Aug27/22 | Feb 25/23 | Feb 16/24 | May30/24 | Aug27/22 | Feb 25/23 | | |
| | | Viscosity @ | 100°C | | ~ | Base Numb | | | |
| | | 16 | | | 8.(0)H | T | | | |
| | | .14 - Abnormal | | | - Q 6.0 | | | / | |
| | | C2-000112- #3 | | | | | | / | |
| | | ^認 10 Abnormal | | | (B) 1,0 1,0 1,0 1,0 1,0 1,0 1,0 1,0 1,0 1,0 | | | / | |
| | | 8 | | | 0.0 |)++ | | | |
| | | Aug27/22 | Feb25/23 | Feb16/24 | May30/24 | Aug27/22 | Feb25/23 | ± 7/01 m2 i | |
| | | Aug | Feb | Feb | May | Aug | 192 - 1 | 2 | |
| | l aboratory | · MoorChook - 19 | | | W NO 07510 | | | | |
| | Laboratory Sample No. | : WearCheck US : PCA0125230 | | | y, NC 27513)5 Jun 2024 | | MILLER TRUCK LEASING #11 2196 BENNETT ROA | | |
| AB | Lab Number | | Tes | | 5 Jun 2024 | | 2196 BENNETT ROA PHILADELPHIA, P | | |
| ABORATORY | Unique Number | : 11061958 | Dia | gnosed : (| 5 Jun 2024 - W | les Davis | | US 1911 | |
| ate L2367 | | : MOB 1 (Additi | | | | | | ROSTY VITE | |
| | | contact Customer Service at 1-800-237-1369. rviter@millertra are outside of the ISO 17025 scope of accreditation. T: (2 | | | | | | | |

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