

OIL ANALYSIS REPORT

G.LOPES CONSTRUCTION INC./On-Road

Sample Rating Trend



DIAGNOSIS

Component Diesel Engine

Recommendation

Resample at the next service interval to monitor.

PETRO CANADA DURON SHP 15W40 (--- GAL)

Wear

311

Fluic

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

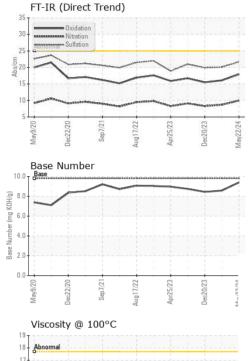
Fluid Condition

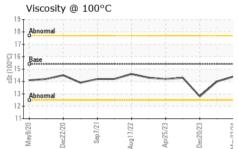
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| SAMPLE INFORI | MATION | method | limit/base | current | history1 | history2 |
|--|--|---|--|---|---|--|
| Sample Number | | Client Info | | PCA0110070 | PCA0122610 | PCA0110110 |
| Sample Date | | Client Info | | 22 May 2024 | 23 Apr 2024 | 20 Dec 2023 |
| Machine Age | mls | Client Info | | 386000 | 386000 | 386000 |
| Oil Age | mls | Client Info | | 232000 | 232000 | 310000 |
| Oil Changed | | Client Info | | N/A | N/A | N/A |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |
| CONTAMINAT | ION | method | limit/base | current | history1 | history2 |
| Fuel | | WC Method | >3.0 | <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 | >65 | 18 | 25 | 24 |
| Chromium | ppm | ASTM D5185m | >5 | 1 | 3 | 2 |
| Nickel | ppm | ASTM D5185m | >3 | <1 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | >5 | <1 | <1 | <1 |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >35 | 8 | 12 | 11 |
| Lead | ppm | ASTM D5185m | >10 | <1 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >180 | 4 | 10 | 11 |
| Tin | ppm | ASTM D5185m | >8 | <1 | 0 | <1 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| 0 1 1 | | | | | | |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| ADDITIVES | ppm | ASTM D5185m method | limit/base | 0 current | 0 history1 | 0 history2 |
| | ppm ppm | | limit/base 0 | | - | - |
| ADDITIVES | | method | 0 | current | history1 | history2 |
| ADDITIVES Boron | ppm | method ASTM D5185m | 0 | current 1 | history1 0 | history2 11 |
| ADDITIVES Boron Barium | ppm ppm | method ASTM D5185m ASTM D5185m | 0 0 60 | current 1 <1 | history1 0 0 | history2 11 0 |
| ADDITIVES Boron Barium Molybdenum | ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 60 | current 1 <1 59 | history1 0 0 60 | history2 11 0 62 |
| ADDITIVES Boron Barium Molybdenum Manganese | ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 60 0 | current 1 <1 59 <1 | history1 0 0 60 <1 | history2 11 0 62 <1 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium | ppm ppm ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 60 0 1010 | current 1 <1 59 <1 928 | history1 0 0 60 <1 974 | history2 11 0 62 <1 873 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium | ppm ppm ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 60 0 1010 1070 | current 1 <1 59 <1 928 1125 | history1 0 0 60 <1 974 1157 | history2 11 0 62 <1 873 1059 |
| 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 | 0 0 60 0 1010 1070 1150 | current 1 <1 59 <1 928 1125 1134 | history1 0 0 60 <1 974 1157 1026 | history2 11 0 62 <1 873 1059 985 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc | ppm ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 60 0 1010 1070 1150 1270 | current 1 <1 59 <1 928 1125 1134 1292 | history1 0 0 60 <1 974 1157 1026 1243 | history2 11 0 62 <1 873 1059 985 1205 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur | 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 | 0 0 60 1010 1070 1150 1270 2060 | current 1 <1 59 <1 928 1125 1134 1292 3285 | history1 0 0 60 <1 974 1157 1026 1243 3190 | history2 11 0 62 <11 873 1059 985 1205 2603 |
| 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 ASTM D5185m | 0 0 60 1010 1070 1150 1270 2060 | current 1 <1 59 <1 928 1125 1134 1292 3285 current | history1 0 0 60 <1 974 1157 1026 1243 3190 history1 | history2 11 0 62 <1 873 1059 985 1205 2603 history2 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon | ppm 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 method | 0 0 60 1010 1070 1150 1270 2060 kimit/base >15 | current 1 <1 59 <1 928 1125 1134 1292 3285 current 5 | history1 0 0 60 <1 974 1157 1026 1243 3190 history1 4 | history2 11 0 62 <1 873 1059 985 1205 2603 history2 4 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium | ppm ppm ppm ppm ppm ppm ppm ppm ppm TS | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m | 0 0 60 1010 1070 1150 1270 2060 kimit/base >15 | current 1 <1 59 <1 928 1125 1134 1292 3285 current 5 <1 | history1 0 0 60 <1 974 1157 1026 1243 3190 history1 4 3 | history2 11 0 62 <1 873 1059 985 1205 2603 history2 4 <1 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sidium Potassium | ppm ppm ppm ppm ppm ppm ppm ppm ppm TS | method ASTM D5185m ASTM D5185m | 0 0 0 1010 1070 1150 1270 2060 limit/base >15 >20 | current 1 <1 59 <1 928 1125 1134 1292 3285 current 5 <1 4 | history1 0 0 60 <1 974 1157 1026 1243 3190 history1 4 3 1 | history2 11 0 62 <1 873 1059 985 1205 2603 history2 4 <1 1 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m ASTM D5185m | 0 0 0 1010 1070 1150 1270 2060 2060 >15 >20 20 imit/base >20 | current 1 <1 59 <1 928 1125 1134 1292 3285 current 5 <1 4 current | history1 0 0 60 <1 974 1157 1026 1243 3190 history1 4 3 1 wistory1 | history2 11 0 62 <1 873 1059 985 1205 2603 history2 4 <1 1 history2 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Silicon Sodium Potassium INFRA-RED Soot % | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m ASTM D5185m | 0 0 0 1010 1070 1150 1270 2060 2060 >15 >20 20 imit/base >20 | current 1 <1 59 <1 928 1125 1134 1292 3285 current 5 <1 4 current 0.7 | history1 0 0 60 <1 974 1157 1026 1243 3190 history1 4 3 1 | history2 11 0 62 <1 873 1059 985 1205 2603 history2 4 <1 1 history2 0 0.7 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Silicon Sidium Potassium INFRA-RED Soot % Nitration | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m ASTM D7844 *ASTM D7624 | 0 0 0 1010 1070 1150 1270 2060 <i>limit/base</i> >15 >20 <i>limit/base</i> >3 >20 | current 1 <1 59 <1 928 1125 1134 1292 3285 current 5 <1 4 current 0.7 10.0 | history1 0 0 60 <1 974 1157 1026 1243 3190 history1 4 3 1 | history2 11 0 62 <1 873 1059 985 1205 2603 history2 4 <1 1 history2 0.7 8.3 |
| 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 D7844 *ASTM D7624 | 0 0 0 1010 1070 1150 1270 2060 imit/base >20 imit/base >3 >20 >30 | current 1 <1 59 <1 928 1125 1134 1292 3285 current 5 <1 4 current 0.7 10.0 21.7 | history1 0 0 60 <1 974 1157 1026 1243 3190 history1 4 3 1 history1 0.7 8.7 20.1 | history2 11 0 62 <1 873 1059 985 1205 2603 history2 4 <1 1 history2 0.7 8.3 19.9 |



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 | | | |
| \sim | Silt | scalar | *Visual | NONE | NONE | NONE | NONE | | | |
| | Debris | scalar | *Visual | NONE | NONE | NONE | NONE | | | |
| A DESCRIPTION OF THE OWNER | Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | NONE | | | |
| 0/23 | Appearance | scalar | *Visual | NORML | NORML | NORML | NORML | | | |
| Dec20/23 May22/24 | Odor | scalar | *Visual | NORML | NORML | NORML | NORML | | | |
| | Emulsified Water | scalar | *Visual | >0.2 | NEG | NEG | NEG | | | |
| | Free Water | scalar | *Visual | | NEG | NEG | NEG | | | |
| | FLUID PROPER | RTIES | method | limit/base | current | history1 | history2 | | | |
| | Visc @ 100°C | cSt | ASTM D445 | 15.4 | 14.4 | 14.0 | 12.8 | | | |
| | GRAPHS | | | | | | | | | |
| | Iron (ppm) | | | 30 | Sama | | | | | |
| Dec20/23 | 150 - Severe | | | 25 | , 1 | | | - | | |
| Dec | E 100 - Abnormal | | | <u>ة</u> 19 | Abnormal | | | | | |
| | 50 | | | | | | | | | |
| | 20 | 22 | 23 | | | 21 | 23 | 24 | | |
| | May9/20 Dec22/20 Sep7/21 | Aug17/22 | Apr25/23 Dec20/23 | May22/24 | May9/20 Dec22/20 | Sep7/21 Aug17/22 | Apr25/23 Dec20/23 | May22/24 | | |
| | – – – Aluminum (ppm) | A | 4 O | Z | Chromium (| | A D | M | | |
| | ⁸⁰ T | | | 12 | 2 T 3 | ррпту | | | | |
| V | 60 - Severe | | | 10 | Severe | | | - | | |
| | | | | Ε, | | | | | | |
| Dec20/23 мс.л. | E 40 - Abnormal | | | ud d | G | | | | | |
| Dec | 20 | - | | | 2 | | \sim | | | |
| | | 12 | | | | 21+ | | ++ | | |
| | May9/20 Dec22/20 Sep7/21 | Aug17/22 | Apr25/23 Dec20/23 | May22/24 | May9/20 Dec22/20 | Sep7/21 Aug17/22 | Apr25/23 Dec20/23 | May22/24 | | |
| | Copper (ppm) | A | A D | W | Silicon (ppm) | A | A D | M | | |
| | 400 - | | | 40 | | , | | | | |
| | Severe | | | 30 | | | | | | |
| | - | | | 틆 20 | | | | | | |
| | | | | | | | | - | | |
| | 100 - | | | 10 | | | | | | |
| | 20-00-00-00-00-00-00-00-00-00-00-00-00-0 | | 23 | | | 22 | 23 | - + - | | |
| | May9/20 Dec22/20 Sep7/21 | Aug17/22 - | Apr25/23 | May22/24 | May9/20 Dec22/20 | Sep7/21. Aug17/22. | Apr25/23 Dec20/23 | May22/24 | | |
| | Viscosity @ 100°C | 4 | ~ U | ≝ | | | | | | |
| | 20 | | | 10.0 S | Base | \sim | | - | | |
| | 18- Abnormal | | | (B)HOX Bull Bull Bull Bull Bull Bull Bull Bull | | | | | | |
| | 30 16 - Base | | **** | Ĕ 6.0 | | | | | | |
| | Abhormai | | | quint 4.0 | | | | | | |
| | 12 | | | 82.0 80 | | | | T | | |
| | | 1/22 | 5/23 + | 0.0 | | Sep7/21+ | 5/23 - | 2/24 | | |
| | May9/20 Dec22/20 Sep7/21 | Aug17/22 - | Apr25/23 - Dec20/23 - | May22/24 | May9/20 Dec22/20 | Sep 7/21 Aug 17/22 | Apr25/23 Dec20/23 | May22/24 | | |
| | : WearCheck USA - 501 : PCA0110070 : 06191241 : 11047993 : MOB 2 | n Ave., Cary, NC 27513 ved : 24 May 2024 d : 31 May 2024 osed : 31 May 2024 - Wes Davis | | | G LOPES CONSTRUCTION 565 WINTHROP ST TAUNTON, MA US 02780 Contact: BUTCH MCGRATH | | | | | |



Test Package : MOB 2 Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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Submitted By: MATT MANOLI

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