

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

827019-1031

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

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.

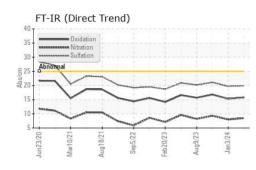
Fluid Condition

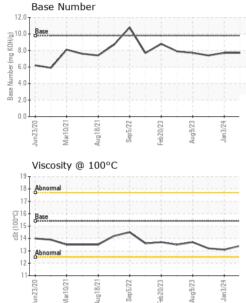
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| SAMPLE INFOR | MATION | method | limit/base | current | history1 | history2 |
|--|---|--|--|--|--|--|
| Sample Number | | Client Info | | GFL0077726 | GFL0077758 | GFL0077782 |
| Sample Date | | Client Info | | 15 May 2024 | 03 Jan 2024 | 16 Nov 2023 |
| Machine Age | hrs | Client Info | | 16203 | 15708 | 15235 |
| Oil Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Not Changd | Changed | Changed |
| 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 | >110 | 18 | 14 | 23 |
| Chromium | ppm | ASTM D5185m | >4 | 1 | <1 | 2 |
| Nickel | ppm | ASTM D5185m | >2 | <1 | <1 | <1 |
| Titanium | ppm | ASTM D5185m | | <1 | 0 | <1 |
| Silver | ppm | ASTM D5185m | >2 | 2 | <1 | <1 |
| Aluminum | ppm | ASTM D5185m | >25 | 2 | 2 | 2 |
| Lead | ppm | ASTM D5185m | >45 | 2 | 2 | 4 |
| Copper | ppm | ASTM D5185m | >85 | 8 | <1 | 2 |
| Tin | ppm | ASTM D5185m | >4 | <1 | <1 | <1 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Codmium | 0.00 | ACTM DE10Em | | - | 0 | -1 |
| Cadmium | ppm | ASTM D5185m | | 0 | 0 | <1 |
| ADDITIVES | ррпі | method | limit/base | 0 current | 0 history1 | <1 history2 |
| | ppm | | limit/base | | - | |
| ADDITIVES | | method ASTM D5185m | | current | history1 | history2 |
| ADDITIVES Boron | ppm | method ASTM D5185m | 0 | current 2 | history1 9 | history2 6 |
| ADDITIVES Boron Barium | ppm ppm | method ASTM D5185m ASTM D5185m | 0 0 60 | current 2 0 | history1 9 0 | history2 6 0 |
| ADDITIVES Boron Barium Molybdenum | ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 60 | current 2 0 66 | history1 9 0 62 | history2 6 0 68 |
| ADDITIVES Boron Barium Molybdenum Manganese | ppm ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 60 0 | current 2 0 66 <1 | history1 9 0 62 <1 | history2 6 0 68 <1 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium | ppm ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 60 0 1010 | current 2 0 66 <1 1016 | history1 9 0 62 <1 956 | history2 6 0 68 <1 979 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium | ppm ppm ppm ppm ppm | method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 0 0 60 0 1010 1070 | Current 2 0 66 <1 1016 1140 | history1 9 0 62 <1 956 1065 | history2 6 0 68 <1 979 1166 |
| 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 2 0 66 <1 1016 1140 1060 | history1 9 0 62 <1 956 1065 1070 | history2 6 0 68 <1 979 1166 980 |
| 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 | 0 0 60 0 1010 1070 1150 1270 | current 2 0 66 <1 1016 1140 1060 1339 | history1 9 0 62 <1 956 1065 1070 1284 | history2 6 0 68 <1 979 1166 980 1261 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon | 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 | 0 0 60 1010 1070 1150 1270 2060 | Current 2 0 66 <1 1016 1140 1060 1339 3449 | history1 9 0 62 <1 956 1065 1070 1284 2968 | history2 6 0 68 <1 979 1166 980 1261 3110 |
| 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 | 0 0 60 1010 1070 1150 1270 2060 | current 2 0 66 <1 1016 1140 1060 1339 3449 current | history1 9 0 62 <1 956 1065 1070 1284 2968 history1 8 8 8 | history2 6 0 68 <1 979 1166 980 1261 3110 history2 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon | 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 ASTM D5185m | 0 0 60 1010 1070 1150 1270 2060 Limit/base >30 | current 2 0 66 <1 1016 1140 1060 1339 3449 current 10 | history1 9 0 62 <1 956 1065 1070 1284 2968 history1 8 | history2 6 0 68 <1 979 1166 980 1261 3110 history2 14 |
| 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 | 0 0 60 1010 1070 1150 1270 2060 Limit/base >30 | current 2 0 66 <1 1016 1140 1060 1339 3449 current 10 7 25 current | history1 9 0 62 <1 956 1065 1070 1284 2968 history1 8 19 history1 | history2 6 0 68 <1 979 1166 980 1261 3110 history2 14 6 39 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 ppm | method ASTM D5185m | 0 0 0 1010 1070 1150 1270 2060 limit/base >30 20 | current 2 0 66 <1 1016 1140 1060 1339 3449 current 10 7 25 | history1 9 0 62 <1 956 1065 1070 1284 2968 history1 8 19 history1 0.3 | history2 6 0 68 <1 979 1166 980 1261 3110 history2 14 6 39 history2 0.5 |
| 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 | 0 0 0 1010 1070 1150 1270 2060 limit/base >30 20 | current 2 0 66 <1 1016 1140 1060 1339 3449 current 10 7 25 current | history1 9 0 62 <1 956 1065 1070 1284 2968 history1 8 19 history1 | history2 6 0 68 <1 979 1166 980 1261 3110 history2 14 6 39 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 T S | method ASTM D5185m | 0 0 0 1010 1070 1150 1270 2060 limit/base >30 20 | current 2 0 66 <1 1016 1140 1060 1339 3449 current 10 7 25 current 0.4 | history1 9 0 62 <1 956 1065 1070 1284 2968 history1 8 19 history1 0.3 | history2 6 0 68 <1 979 1166 980 1261 3110 history2 14 6 39 history2 0.5 |
| ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Silicon Sodium Potassium INFRA-RED Soot % Nitration | ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm | method ASTM D5185m ASTM D5185m | 0 0 0 1010 1070 1150 1270 2060 limit/base >30 20 limit/base >33 >20 | current 2 0 66 <1 1016 1140 1060 1339 3449 current 10 7 25 current 0.4 8.5 | history1 9 0 62 <1 956 1065 1070 1284 2968 history1 8 19 history1 0.3 8.0 | history2 6 0 68 <1 979 1166 980 1261 3110 history2 14 6 39 history2 0.5 9.3 |
| 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 D5185m | 0 0 0 1010 1070 1150 1270 2060 imit/base >30 imit/base >3 20 | 2 0 66 <1 1016 1140 1060 1339 3449 current 10 7 25 current 0.4 8.5 19.9 | history1 9 0 62 <1 956 1065 1070 1284 2968 history1 8 19 history1 0.3 8.0 19.7 | history2 6 0 68 <1 979 1166 980 1261 3110 history2 14 6 39 history2 0.5 9.3 21.1 |



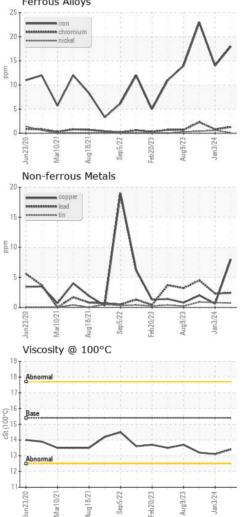
OIL ANALYSIS REPORT

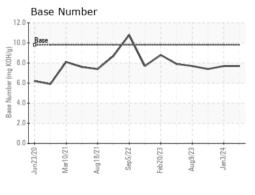




| VISUAL | | method | limit/base | current | history1 | history2 |
|------------------|--------|-----------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Precipitate | scalar | *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 | 15.4 | 13.4 | 13.1 | 13.2 |
| GRAPHS | | | | | | |

Ferrous Alloys





Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 650 - West Point Hauling Sample No. : GFL0077726 Received : 22 May 2024 7825 Parham Landing Road Lab Number : 06188551 Tested : 24 May 2024 West Point, VA Unique Number : 11045303 Diagnosed : 28 May 2024 - Don Baldridge US 23181 Test Package : FLEET Contact: Jason Smith Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. jasonsmith@gflenv.com T: (804)843-9288 * - 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) F:

Report Id: GFL650 [WUSCAR] 06188551 (Generated: 05/28/2024 14:20:28) Rev: 1

Contact/Location: Jason Smith - GFL650 Page 2 of 2