

OIL ANALYSIS REPORT

Sample Rating Trend



929031 Component Diesel Engine Fluid

PETRO CANADA DURON SHP 15W40 (11 GAL)

SAMPLE INFORMATION method

DIAGNOSIS Recommendation

Resample at the next service interval to monitor.

Machine Id

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 Number Sample Date Machine Age	hrs	Client Info Client Info Client Info		GFL0107470 05 Apr 2024 13579	GFL0107501 18 Jan 2024 12996	GFL0078772 01 Apr 2023 11624
Oil Changed Sample Status	1115	Client Info		Changed NORMAL	Changed NORMAL	Changed NORMAL
CONTAMINATI	ON	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 METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	8	6	7
Chromium	ppm	ASTM D5185m	>20	0	0	0
Nickel	ppm	ASTM D5185m	>5	0	0	0
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	2	2
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	3	1	2
Tin	ppm	ASTM D5185m	>15	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 13	history1 21	history2 0
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	limit/base 0 0	current 13 0	history1 21 0	history2 0 1
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 60	current 13 0 62	history1 21 0 57	history2 0 1 58
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 60 0	current 13 0 62 <1	history1 21 0 57 0	history2 0 1 58 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 60 0 1010	current 13 0 62 <1 912	history1 21 0 57 0 845	history2 0 1 58 <1 928
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 60 0 1010 1070	current 13 0 62 <1 912 1125	history1 21 0 57 0 845 1130	history2 0 1 58 <1 928 998
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 60 0 1010 1070 1150	current 13 0 62 <1 912 1125 1003	history1 21 0 57 0 845 1130 854	history2 0 1 58 <1 928 998 950
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 60 0 1010 1070 1150 1270	current 13 0 62 <1 912 1125 1003 1216	history1 21 0 57 0 845 1130 854 1051	history2 0 1 58 <1 928 998 950 1178
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 60 0 1010 1070 1150 1270 2060	current 13 0 62 <1 912 1125 1003 1216 3438	history1 21 0 57 0 845 1130 854 1051 2511	history2 0 1 58 <1 928 998 950 1178 3088
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	limit/base 0 60 0 1010 1070 1150 1270 2060	current 13 0 62 <1 912 1125 1003 1216 3438 current	history1 21 0 57 0 845 1130 854 1051 2511 history1	history2 0 1 58 <1 928 998 950 1178 3088 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN ^T Silicon	ppm	method ASTM D5185m	limit/base 0 0 60 0 1010 1070 1150 1270 2060 2060 225	current 13 0 62 <1 912 1125 1003 1216 3438 current 6	history1 21 0 57 0 845 1130 854 1051 2511 history1 4	history2 0 1 58 <1 928 998 950 1178 3088 history2 3
ADDITIVES Boron Barium Molybdenum Maganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN ^T Silicon Sodium	ppm	method ASTM D5185m	limit/base 0 0 60 0 1010 1070 1070 1150 1270 2060 Limit/base >25	current 13 0 62 <1 912 1125 1003 1216 3438 current 6 3	history1 21 0 57 0 845 1130 854 1051 2511 history1 4 4 4	history2 0 1 58 <1 928 998 950 1178 3088 history2 3 2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	method ASTM D5185m	limit/base 0 60 1010 1070 1150 1270 2060 vimit/base >25	current 13 0 62 <1 912 1125 1003 1216 3438 current 6 3 <1	history1 21 0 57 0 845 1130 854 1051 2511 history1 4 4 4 4 4 1	history2 0 1 58 <1 928 998 950 1178 3088 history2 3 2 0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	method ASTM D5185m	limit/base 0 60 1010 1070 1150 1270 2060 limit/base >25 20	current 13 0 62 <1 912 1125 1003 1216 3438 current 6 3 <1	history1 21 0 57 0 845 1130 854 1051 2511 history1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 5 105	history2 0 1 58 <1 928 998 950 1178 3088 history2 3 2 0 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	method ASTM D5185m	<pre>limit/base 0 0 0 0 1010 1010 1150 1270 2060 limit/base >25 </pre>	current 13 0 62 <1 912 1125 1003 1216 3438 current 6 3 <1 current 0.5	history1 21 0 57 0 845 1130 854 1051 2511 history1 4 - - - 0 0.4	history2 0 1 58 <1 928 998 950 1178 3088 history2 3 2 0 history2 0.3
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 ppm	method ASTM D5185m	<pre>limit/base 0 0 0 1010 1070 1150 1270 2060 limit/base >25 limit/base >4 >20</pre>	current 13 0 62 <1 912 1125 1003 1216 3438 current 6 3 <1 current 0.5 7.7	history1 21 0 57 0 845 1130 854 1051 2511 history1 4 4 4 0 0.4 7.5	history2 0 1 58 <1 928 998 950 1178 3088 history2 3 2 0 history2 0.3 6.8
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 t ppm ppm	method ASTM D5185m	limit/base 0 0 60 0 1010 1070 1150 1270 2060 limit/base >20 limit/base >4 >20 >30	current 13 0 62 <1 912 1125 1003 1216 3438 current 6 3 <1 0.5 7.7 19.4	history1 21 0 57 0 845 1130 854 1051 2511 history1 4 4 4 0.4 7.5 19.3	history2 0 1 58 <1 928 998 950 1178 3088 history2 3 2 0 history2 0.3 6.8 16.8
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	imit/base 0 0 60 0 1010 1070 1150 1270 2060 imit/base >20 imit/base >20 1 >20 30	current 13 0 62 <1 912 1125 1003 1216 3438 current 6 3 <1 current 0.5 7.7 19.4 current	history1 21 0 57 0 845 1130 854 1051 2511 history1 4 4 4 4 0.4 7.5 19.3	history2 0 1 58 <1 928 998 950 1178 3088 history2 3 2 0 history2 0.3 6.8 16.8 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD Oxidation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7415 method *ASTM D7414	limit/base 0 0 60 0 1010 1070 1150 1270 2060 limit/base >20 limit/base >20 limit/base >30 limit/base >25	current 13 0 62 <1 912 1125 1003 1216 3438 current 6 3 <1 current 0.5 7.7 19.4 current 14.8	history1 21 0 57 0 845 1130 854 1051 2511 history1 4 4 4 0.4 7.5 19.3 history1 14.6	history2 0 1 58 <1 928 998 950 1178 3088 history2 3 2 0 history2 0 history2 0.3 6.8 16.8 history2 13.8

Submitted By: GFL912,GFL921,GFL924 - LEONARD KOZLEUCHAR Page 1 of 2



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OIL ANALYSIS REPORT



Apr1/23

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Unique Number : 10977232 Diagnosed : 15 Apr 2024 - Wes Davis Test Package : FLEET 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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Laboratory

Sample No.

Submitted By: GFL912, GFL921, GFL924 - LEONARD KOZLEUCHAR