

OIL ANALYSIS REPORT

Sample Rating Trend



424011-4665

Component Diesel Engine Fluid

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 INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0112753	GFL0101299	GFL0091787
Sample Date		Client Info		02 Mar 2024	27 Dec 2023	11 Oct 2023
Machine Age	hrs	Client Info		35244	35204	35200
Oil Age	hrs	Client Info		0	35204	0
Oil Changed		Client Info		Not Changd	Not Changd	Changed
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	>120	7	3	5
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>5	1	2	<1
Titanium	ppm	ASTM D5185m	>2	0	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	1	2	2
Lead	ppm	ASTM D5185m	>40	0	<1	<1
Copper	ppm	ASTM D5185m	>330	<1	<1	1
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
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 0	current 0	history1 2	history2 8
	ppm ppm	ASTM D5185m				
Boron		ASTM D5185m	0	0	2	8
Boron Barium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	0 0	2 0	8 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	0 0 59	2 0 58	8 0 57
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	0 0 59 <1	2 0 58 <1	8 0 57 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	0 0 59 <1 957	2 0 58 <1 973	8 0 57 <1 906
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	0 0 59 <1 957 1040	2 0 58 <1 973 1071	8 0 57 <1 906 1008 1050 1260
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	0 0 60 0 1010 1070 1150	0 0 59 <1 957 1040 1008	2 0 58 <1 973 1071 979	8 0 57 <1 906 1008 1050
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	0 0 60 0 1010 1070 1150 1270	0 0 59 <1 957 1040 1008 1232	2 0 58 <1 973 1071 979 1327	8 0 57 <1 906 1008 1050 1260
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 ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	0 0 59 <1 957 1040 1008 1232 2779	2 0 58 <1 973 1071 979 1327 3159	8 0 57 <1 906 1008 1050 1260 3123
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 ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	0 0 59 <1 957 1040 1008 1232 2779 current	2 0 58 <1 973 1071 979 1327 3159 history1	8 0 57 <1 906 1008 1050 1260 3123 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 method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	0 0 59 <1 957 1040 1008 1232 2779 current 3	2 0 58 <1 973 1071 979 1327 3159 history1 4	8 0 57 <1 906 1008 1050 1260 3123 history2 3
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 ASTM D5185m method ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 limit/base >25	0 0 59 <1 957 1040 1008 1232 2779 current 3 0	2 0 58 <1 973 1071 979 1327 3159 history1 4 2	8 0 57 <1 906 1008 1050 1260 3123 history2 3 2
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	0 0 0 1010 1070 1150 1270 2060 limit/base >25	0 0 59 <1 957 1040 1008 1232 2779 current 3 0 0	2 0 58 <1 973 1071 979 1327 3159 history1 4 2 2 <1	8 0 57 <1 906 1008 1050 1260 3123 history2 3 2 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25	0 0 59 <1 957 1040 1008 1232 2779 current 3 0 0	2 0 58 <1 973 1071 979 1327 3159 history1 4 2 <1 4	8 0 57 <1 906 1008 1050 1260 3123 history2 3 2 2 2
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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 Limit/base >20	0 0 59 <1 957 1040 1008 1232 2779 <i>current</i> 3 0 0 0 <i>current</i>	2 0 58 <1 973 1071 979 1327 3159 history1 4 2 <1 history1 0.1	8 0 57 <1 906 1008 1050 1260 3123 history2 3 2 2 2 history2 0.5
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 D51854 ASTM D7844 *ASTM D7624	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >20	0 0 59 <1 957 1040 1008 1232 2779 <i>current</i> 3 0 0 0 <i>current</i> 0.6 7.6	2 0 58 <1 973 1071 979 1327 3159 history1 4 2 <1 4 2 <1 history1 0.1 6.4	8 0 57 <1 906 1008 1050 1260 3123 history2 3 2 2 history2 0.5 5.0
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 D51854 ASTM D7844 *ASTM D7624	0 0 0 1010 1070 1150 1270 2060 imit/base >25 imit/base >4 >20 >30	0 0 59 <1 957 1040 1008 1232 2779 <u>current</u> 3 0 0 0 <u>current</u> 0.6 7.6 18.9	2 0 58 <1 973 1071 979 1327 3159 history1 4 2 <1 4 2 <1 0.1 6.4 17.6	8 0 57 <1 906 1008 1050 1260 3123 history2 3 2 2 2 history2 0.5 5.0 17.8
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 ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	0 0 0 1010 1070 1150 1270 2060 2060 225 20 225 20 220 20 20 20 20 20 20 20 20 20 20 20	0 0 59 <1 957 1040 1008 1232 2779 Current 3 0 0 0 Current 0.6 7.6 18.9 Current	2 0 58 <1 973 1071 979 1327 3159 history1 4 2 <1 4 2 <1 0.1 6.4 17.6 history1	8 0 57 <1 906 1008 1050 1260 3123 history2 3 2 2 history2 0.5 5.0 17.8 history2



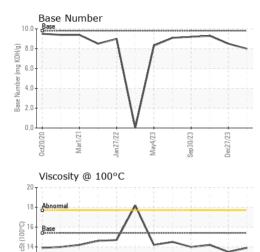
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OIL ANALYSIS REPORT

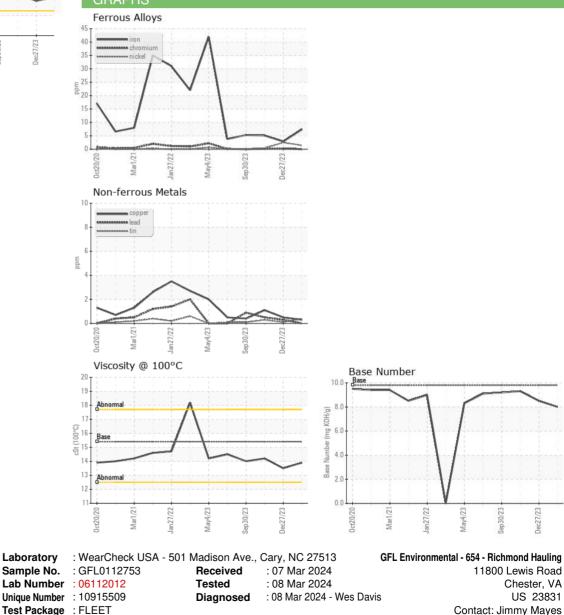


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VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*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	13.9	13.5	14.2
GRAPHS						





Test Package : FLEET Certificate L2367 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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F:

jmayes@gflenv.com

Dec27/23