

OIL ANALYSIS REPORT

Sample Rating Trend

WEAR

Machine Id

721009-361464

Component Diesel Engine Fluid PETRO CANADA DURON SHP 15W40 (8 GAL)

DIAGNOSIS

A Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

📥 Wear

Valve wear is indicated. All other 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 INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0112261	GFL0112268	GFL0112210
Sample Date		Client Info		21 Jun 2024	31 May 2024	26 Apr 2024
Machine Age	hrs	Client Info		15261	3254	14940
Oil Age	hrs	Client Info		150	150	150
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				ABNORMAL	NORMAL	NORMAL
	ON	method	limit/base	current	history1	history2
Fuel		WC Mathad	. E	1.0	.1.0	1.0
Fuel		WC Method	- O O	<1.0	<1.0	<1.0
Vialer		WC Method	>0.2	NEG	NEG	NEG
Giycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	19	9	10
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	<u> </u>	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	4	1	<1
Lead	ppm	ASTM D5185m	>40	2	0	<1
Copper	ppm	ASTM D5185m	>330	21	<1	<1
Tin	ppm	ASTM D5185m	>15	3	0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		~1	0	0
					-	-
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current	history1	history2
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	limit/base 0 0	current <1 1	history1 0 0	history2 0 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 60	<pre>current <1 1 55</pre>	history1 0 0 54	history2 0 0 56
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 60 0	<1 <1 55 1	history1 0 0 54 <1	history2 0 0 56 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 60 0 1010	 current <1 1 55 1 879 	history1 0 0 54 <1 895	history2 0 0 56 <1 936
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	limit/base 0 0 60 0 1010 1070	 current <1 1 55 1 879 1034 	history1 0 0 54 <1 895 1035	history2 0 0 56 <1 936 1054
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	limit/base 0 0 60 0 1010 1070 1150	 current <1 55 1 879 1034 1067 	history1 0 0 54 <1 895 1035 1032	history2 0 0 56 <1 936 1054 1018
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	limit/base 0 0 60 0 1010 1070 1150 1270	 current <1 55 1 879 1034 1067 1206 	history1 0 0 54 <1 895 1035 1035 1032 1181	history2 0 0 56 <1 936 1054 1018 1212
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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 <1 55 1 879 1034 1067 1206 2861 	history1 0 0 54 <1 895 1035 1032 1181 3414	history2 0 0 56 <1 936 1054 1018 1212 3503
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 0 60 0 1010 1070 1150 1270 2060	 current <1 55 1 879 1034 1067 1206 2861 current 	history1 0 0 54 <1 895 1035 1032 1181 3414 history1	history2 0 0 56 <1 936 1054 1018 1212 3503 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium 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	limit/base 0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	current <1 1 55 1 879 1034 1067 1206 2861 current 12	history1 0 0 54 <1 895 1035 1032 1181 3414 history1 0	history2 0 0 56 <1 936 1054 1018 1212 3503 history2 3
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	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 ASTM D5185m	limit/base 0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	 current <1 55 1 879 1034 1067 1206 2861 current 12 4 	history1 0 0 54 <1 895 1035 1032 1181 3414 history1 0 <1	history2 0 0 56 <1 936 1054 1018 1212 3503 history2 3 3
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m	limit/base 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	current <1 1 55 1 879 1034 1067 1206 2861 current 12 4 3	history1 0 0 54 <1 895 1035 1032 1181 3414 history1 0 <1 0	history2 0 0 56 <1 936 1054 1018 1212 3503 history2 3 3 0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	method ASTM D5185m ASTM D5185m	limit/base 0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	current <1 1 55 1 879 1034 1067 1206 2861 current 12 4 3 current	history1 0 0 54 <1 895 1035 1032 1181 3414 history1 0 <1 0 <1032	history2 0 0 56 <1 936 1054 1018 1212 3503 history2 3 3 0 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	limit/base 0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3	 current <1 1 55 1 879 1034 1067 1206 2861 current 12 4 3 current 0.8 	history1 0 0 54 <1 895 1035 1032 1181 3414 history1 0 <1 0 <1 0.3	history2 0 0 56 <1 936 1054 1018 1212 3503 history2 3 0 history2 3 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 TS ppm ppm	method ASTM D5185m	limit/base 0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20	 current <1 55 1 879 1034 1067 1206 2861 current 12 4 3 current 0.8 9.4 	history1 0 0 54 <1 895 1035 1032 1181 3414 history1 0 <1 0 <1 0 <1 0 <1 0 <10.3 6.3	history2 0 0 56 <1 936 1054 1018 1212 3503 history2 3 0 history2 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 TS ppm ppm ppm	method ASTM D5185m	limit/base 0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20	current <1 1 55 1 879 1034 1067 1206 2861 current 12 4 3 current 0.8 9.4 21.1	history1 0 0 54 <1 895 1035 1032 1181 3414 history1 0 <11 0 <100 <1035 0.3 <1.3 <1.3 <1.3 <1.4 <1.5 0.3 <1.3 <1.3 <1.3 <1.3 <1.3 <1.3 <1.4 <1.5 <1.5 <1.5 <1.5 <1.5 <1.5 <1.5 <1.5 <1.5	history2 0 0 56 <1 936 1054 1018 1212 3503 history2 3 3 0 history2 0 history2 0 history2 0.3 6.8 18.6
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 D7185M ASTM D7844 *ASTM D7624 *ASTM D7415	imit/base 0 0 0 1010 1070 1150 1270 2060 ■ 2060 ■ 225 ■ 220 ■ 1mit/base > 3 20 ■ 3 ■ 20 ■ 1mit/base ■ 3 ■ 20 ■ 1mit/base	current <1 1 55 1 879 1034 1067 1206 2861 current 12 4 3 current 0.8 9.4 21.1	history1 0 0 54 <1 895 1035 1032 1181 3414 history1 0 <1 0 <1 0 <1 0 <100 <1100 0 <100 0 <100 history1 0.3 6.3 18.7 history1	history2 0 0 56 <1 936 1054 1018 1212 3503 history2 3 3 0 history2 0 history2 0.3 6.8 18.6 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm ppm ppm ppm ppm pp	method ASTM D5185m ASTM D7844 *ASTM D7415	imit/base 0 0 60 0 1010 1070 1150 1270 2060 imit/base >25 ≤20 imit/base >3 >20 ≥3 >30 imit/base	current <1 1 55 1 879 1034 1067 1206 2861 current 12 4 3 current 0.8 9.4 21.1 current 16.5	history1 0 0 54 <1 895 1035 1032 1181 3414 history1 0 <1 0 <100 history1 0 history1 0.3 6.3 18.7 history1 14.4	history2 0 0 56 <1 936 1054 1018 1212 3503 history2 3 0 history2 0 history2 0.3 6.8 18.6 history2 14.5
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE Oxidation Base Number (RN)	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm ppm ppm ppm ppm pp	method ASTM D5185m ASTM D7844 *ASTM D7415 method *ASTM D7414 *ASTM D7414	limit/base 0 0 60 0 1010 1070 1150 1270 2060 limit/base >20 limit/base >3 >20 >30 limit/base >25	current <1 1 55 1 879 1034 1067 1206 2861 current 12 4 3 current 0.8 9.4 21.1 current 16.5 6	history1 0 0 54 <1 895 1035 1032 1181 3414 history1 0 <1 0 <10 0 <18.7 history1 14.4 8 3	history2 0 0 56 <1 936 1054 1018 1212 3503 history2 3 0 history2 3 0 history2 0.3 6.8 18.6 history2 14.5 8.0



OIL ANALYSIS REPORT







Jun27/23

Jan 15/19

Aug 16/19

Apr13/22

Nov3/23

Jan26/24

Apr26/24

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	12.8	13.3	13.3

GRAPHS



Laboratory Sample No. Lab Number : 06219260 Tested : 25 Jun 2024 Hartville, MO Unique Number : 11097457 Diagnosed : 26 Jun 2024 - Don Baldridge US 65667 Test Package : FLEET Contact: James Jones Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. james.jones@gflenv.com T: (417)349-5006 * - 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)

Report Id: GFL829 [WUSCAR] 06219260 (Generated: 06/28/2024 00:42:29) Rev: 1

Submitted By: Jerry Hazel Page 2 of 2

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