

OIL ANALYSIS REPORT

Sample Rating Trend





Area GFL035 Machine Id 834039

Fluid

Component Diesel Engine

PETRO CANADA DURON SHP 15W40 (42 QTS)

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.

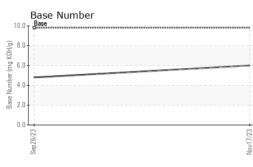
Fluid Condition

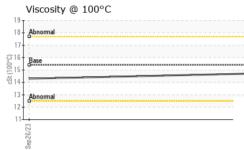
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0102294	GFL0071610	
Sample Date		Client Info		17 Nov 2023	26 Sep 2023	
Machine Age	hrs	Client Info		0	0	
Oil Age	hrs	Client Info		300	600	
Oil Changed		Client Info		Not Changd	Changed	
Sample Status				NORMAL	ABNORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	
Water		WC Method	>0.2	NEG	NEG	
Glycol		WC Method		NEG	NEG	
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	12	28	
Chromium	ppm	ASTM D5185m	>20	<1	<1	
Nickel	ppm	ASTM D5185m	>5	<1	<1	
Titanium	ppm	ASTM D5185m	>2	<1	0	
Silver	ppm	ASTM D5185m	>2	0	<1	
Aluminum	ppm	ASTM D5185m	>20	1	<1	
Lead	ppm	ASTM D5185m	>40	0	<1	
Copper	ppm	ASTM D5185m	>330	2	14	
Tin	ppm	ASTM D5185m	>15	0	<1	
Vanadium	ppm	ASTM D5185m		0	<1	
Cadmium	ppm	ASTM D5185m		0	0	
				Ū	0	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm		limit/base	-		history2
		method		current	history1	
Boron	ppm	method ASTM D5185m	0	current 12	history1 7	
Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	0	current 12 0	history1 7 0	
Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 12 0 52	history1 7 0 52	
Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	current 12 0 52 1	history1 7 0 52 10	
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 12 0 52 1 541	history1 7 0 52 10 755	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	Current 12 0 52 1 541 541 1516	history1 7 0 52 10 755 1301	
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 12 0 52 1 541 1516 701	history1 7 0 52 10 755 1301 638	
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 12 0 52 1 541 1516 701 916	history1 7 0 52 10 755 1301 638 892	
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 ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	Current 12 0 52 1 541 1516 701 916 2296	history1 7 0 52 10 755 1301 638 892 2285	
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 12 0 52 1 541 541 1516 701 916 2296 current	history1 7 0 52 10 755 1301 638 892 2285 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	current 12 0 52 1 541 1516 701 916 2296 current 7	history1 7 0 52 10 755 1301 638 892 2285 history1 227	 history2
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	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	current 12 0 52 1 541 1516 701 916 2296 current 7 5	history1 7 0 52 10 755 1301 638 892 2285 history1 ▲ 27 4	 history2
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	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20	current 12 0 52 1 541 1516 701 916 2296 current 7 5 2	history1 7 0 52 10 755 1301 638 892 2285 history1 27 4 3	 history2
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	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25	current 12 0 52 1 541 1516 701 916 2296 current 7 5 2 current	history1 7 0 52 10 755 1301 638 892 2285 history1 ▲ 27 4 3 history1	 history2 history2
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 TS ppm ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	current 12 0 52 1 541 1516 701 916 2296 current 7 5 2 current 0	history1 7 0 52 10 755 1301 638 892 2285 history1 ▲ 27 4 3 history1 0	 history2 history2 history2
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	0 0 0 1010 1070 1150 1270 2060 <i>imit/base</i> >25 >20 <i>imit/base</i> >20	current 12 0 52 1 541 1516 701 916 2296 current 7 5 2 current 0 10.4	history1 7 0 52 10 755 1301 638 892 2285 history1 27 4 3 history1 0 11.7	 history2 history2
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 2060 225 20 225 20 imit/base >20 imit/base >20	current 12 0 52 1 541 1516 701 916 2296 current 7 5 2 current 0 10.4 19.9	history1 7 0 52 10 755 1301 638 892 2285 history1 ▲ 27 4 3 history1 0 11.7 21.3	 history2 history2 history2



OIL ANALYSIS REPORT





VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
Precipitate	scalar	*Visual	NONE	NONE	NONE	
Silt	scalar	*Visual	NONE	NONE	NONE	
Debris	scalar	*Visual	NONE	NONE	NONE	
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
Appearance	scalar	*Visual	NORML	NORML	NORML	
Odor	scalar	*Visual	NORML	NORML	NORML	
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	
Free Water	scalar	*Visual		NEG	NEG	
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.7	14.3	
GRAPHS						
Ferrous Alloys						
30 25 20 Eg 15 10 5	<u> </u>					
Non-ferrous Metals	5		Nov17/23			
Viscosity @ 100°C			10.0	Base Number	-	
17 5 16 15 5 14 17 17 17 17 17 17 17 17 17 17			0.8 80 (ud KOH/d) 6.0 (ud KOH/d) 4.0 (ud kOH/d) 6.0			
13 Abnormal			ese 8 2.0	-		

0.0

Sep26/23

Nov17/23 -

: 20 Nov 2023

: 21 Nov 2023



Unique Number : 10751178 Diagnostician : Don Baldridge 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)

: WearCheck USA - 501 Madison Ave., Cary, NC 27513

Received

Diagnosed

12 11

Laboratory

Sample No.

Lab Number

Sep26/23 -

: GFL0102294

: 06012034

GFL Environmental - 035 - Greensboro

Nov17/23