

# **OIL ANALYSIS REPORT**



### Machine Id

## 825089

## Diesel Engine

Fluid PETRO CANADA DURON SHP 15W40 (--- GAL)

#### 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		GFL0125403		
Sample Date		Client Info		08 Jul 2024		
Machine Age	hrs	Client Info		14803		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		Changed		
Sample Status				NORMAL		
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0		
Water		WC Method	>0.2	NEG		
Glycol		WC Method		NEG		
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	31		
Chromium	ppm	ASTM D5185m	>20	2		
Nickel	ppm	ASTM D5185m	>4	0		
Titanium	ppm	ASTM D5185m		<1		
Silver	ppm	ASTM D5185m	>3	0		
Aluminum	ppm	ASTM D5185m	>20	4		
Lead	ppm	ASTM D5185m	>40	<1		
Copper	ppm	ASTM D5185m	>330	2		
Tin	ppm	ASTM D5185m	>15	0		
Vanadium	ppm	ASTM D5185m		<1		
Cadmium	ppm	ASTM D5185m		0		
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 10	history1	history2
	ppm ppm					
Boron		ASTM D5185m ASTM D5185m ASTM D5185m	0	10		
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	10 0		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	10 0 65		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	10 0 65 0		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	10 0 65 0 938 1218 1127		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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	10 0 65 0 938 1218	  	   
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	10 0 65 0 938 1218 1127	   	
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	10 0 65 0 938 1218 1127 1333	    	
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	10 0 65 0 938 1218 1127 1333 2724		
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	10 0 65 0 938 1218 1127 1333 2724 current	     history1	      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 <b>method</b> ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	10 0 65 0 938 1218 1127 1333 2724 current 13	     history1	    history2
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 <b>method</b> ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 kimit/base >25	10 0 65 0 938 1218 1127 1333 2724 current 13 13	      history1	       history2
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 <b>limit/base</b> >25 >20	10 0 65 0 938 1218 1127 1333 2724 current 13 13 3	      history1  	      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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25	10 0 65 0 938 1218 1127 1333 2724 current 13 13 3 3 current	     history1   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 ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3	10 0 65 0 938 1218 1127 1333 2724 current 13 13 3 current 1	     history1   history1	     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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 220 220 220 20 20 20 20 20 20 20 20 20	10 0 65 0 938 1218 1127 1333 2724 current 13 13 3 current 1 1.1.4	      history1   history1  	      history2   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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 20 225 20 20 320 33 20 20 20	10 0 65 0 938 1218 1127 1333 2724 current 13 13 3 current 1 11.4 23.2	      history1  history1  history1	       history2  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 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 3 20 20 3 3 20 20 3 3 20 20 20 20 20 20 20 20 20 20 20 20 20	10 0 65 0 938 1218 1127 1333 2724 <i>current</i> 13 3 <i>current</i> 1 1 11.4 23.2 <i>current</i>	      history1   history1  history1	      history2  history2  history2  history2



# **OIL ANALYSIS REPORT**

FT-IR (Direct Trend)		VISUAL		method	limit/base	current	history1	history2
0xidation		White Metal	scalar	*Visual	NONE	NONE		
sussesses Sulfation		Yellow Metal	scalar	*Visual	NONE	NONE		
5 25 - Abnomal		Precipitate	scalar	*Visual	NONE	NONE		
₽ <sub>20</sub>	-	Silt	scalar	*Visual	NONE	NONE		
15		Debris	scalar	*Visual	NONE	NONE		
10		Sand/Dirt	scalar	*Visual	NONE	NONE		
Jul8/24	Jul8/24 -	Appearance	scalar	*Visual	NORML	NORML		
	լոր	Odor	scalar	*Visual	NORML	NORML		
Base Number		Emulsified Water	scalar	*Visual	>0.2	NEG		
Base Number		Free Water	scalar	*Visual		NEG		
(0 8.0 940		FLUID PROPE	RTIES	method	limit/base	current	history1	history2
(b) 8.0		Visc @ 100°C	cSt	ASTM D445	15.4	14.1		
		GRAPHS						
<sup>10</sup> 2.0		Ferrous Alloys						
0.0		iron						
Juß/24	C/ 011	30 - newsame chromium						
		25 -						
Viscosity @ 100°C		20						
19 18 Abnormal		<sup>°</sup> 15 • • • • • • • • • • • • • • • • • •						
17		10-						
G 16 Base		5-						
Base 5 15 3 14		0						
13 - Abnormal		Jul8/24			Jul8/24			
12					,			
11	VC	Non-ferrous Meta	ls					
Juß/24	1.10	copper						
		8 - enseense lead						
		6						
		E						
		4						
		2						
			*****					
		0 4 4			54			
		Jul8/24			Jul8/24			
			_					
		Viscosity @ 100°(				Base Numbe	r	
		18 - Abnormal			10.0	Base		
		17-						
	ž	D <sup>16</sup> Base			(8,0 (0,0)) (0,0)) (0,0)) (0,0			
		Base Base 15			B 6.0			
	ć	3 <sub>14</sub>			4.0			
		13 Abnormal			ase B			
		12-			<sup>2.0</sup>			
		114			0.0	4		
		Jul8/24			Jul8/24	Jul8/24		Jul8/24
						-		
TESTING LABORATORY Unique N	e No. : imber :	WearCheck USA - 50 GFL0125403 06234686 11123520 FLEET	1 Madiso Recei Teste Diagr	ived :12 d :15	v, NC 27513 2 Jul 2024 5 Jul 2024 5 Jul 2024 - We	es Davis		lorth 4th Street Wytheville, VA US 24382
To discuss this sample - Denotes test method Statements of conformi	report, o Is that a	contact Customer Serv re outside of the ISO 1	7025 sco	pe of accrec	litation.		rine.anastasio@v 16:2012) F:	vearcheck.com T: (276)223-1283
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Submitted By: CHARLES CORVIN