

OIL ANALYSIS REPORT

Sample Rating Trend







Machine Id 820014

Component Diesel Engine

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

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

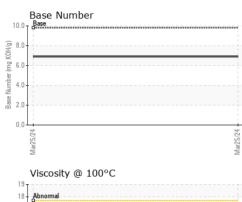
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

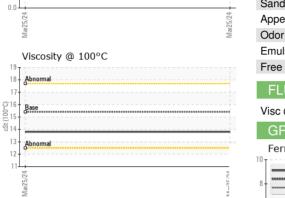
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0058054		
Sample Date		Client Info		25 Mar 2024		
Machine Age	hrs	Client Info		12642		
Oil Age	hrs	Client Info		243		
Oil Changed		Client Info		Changed		
Sample Status				NORMAL		
CONTAMINATI	ON	method	limit/base	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	7		
Chromium	ppm	ASTM D5185m	>20	<1		
Nickel	ppm	ASTM D5185m	>4	<1		
Titanium	ppm	ASTM D5185m		0		
Silver	ppm	ASTM D5185m	>3	0		
Aluminum	ppm	ASTM D5185m	>20	2		
Lead	ppm	ASTM D5185m	>40	<1		
Copper	ppm	ASTM D5185m	>330	<1		
Tin	ppm	ASTM D5185m	>15	2		
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 0	current <1	history1	history2
	ppm ppm					
Boron		ASTM D5185m	0	<1		
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	<1 0		
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	<1 0 61		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	<1 0 61 <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	<1 0 61 <1 999		
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	<1 0 61 <1 999 1120	 	
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	<1 0 61 <1 999 1120 995	 	
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	<1 0 61 <1 999 1120 995 1273	 	
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	0 0 60 0 1010 1070 1150 1270 2060	<1 0 61 <1 999 1120 995 1273 3426		
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	0 0 60 0 1010 1070 1150 1270 2060	<1 0 61 <1 999 1120 995 1273 3426 current	 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25	<1 0 61 <1 999 1120 995 1273 3426 current 4	 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25	<1 0 61 <1 999 1120 995 1273 3426 <u>current</u> 4 4	 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25	<1 0 61 <1 999 1120 995 1273 3426 <u>current</u> 4 4	 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 2060 225 >20 20	<1 0 61 <1 999 1120 995 1273 3426 current 4 4 1 2	 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 imit/base >25 >20 imit/base >3	<1 0 61 <1 999 1120 995 1273 3426 <i>current</i> 4 4 1 <i>current</i> 0.5	 history1 history1 	 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 imit/base >25 >20 imit/base >3 >20	<1 0 61 <1 999 1120 995 1273 3426 <u>current</u> 4 4 1 2 <u>current</u> 0.5 7.6	 history1 history1 	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAC	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	0 0 0 1010 1070 1150 1270 2060 2060 2060 225 20 220 20 3 20 20 20 330 20 330	<1 0 61 <1 999 1120 995 1273 3426 current 4 4 4 1 0.5 7.6 19.3 current	 history1 history1 history1 history1	 history2 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 3 20 20 3 3 20 20 20 20 20 20 20 20 20 20 20 20 20	<1 0 61 <1 999 1120 995 1273 3426 current 4 4 1 1 current 0.5 7.6 19.3	 history1 history1 history1	 history2 history2



OIL ANALYSIS REPORT

VISUAL





- naaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa	VISUAL		method	limit/base	current	history1	history2
	White Metal	scalar	*Visual	NONE	NONE		
	Yellow Metal	scalar	*Visual	NONE	NONE		
	Precipitate	scalar	*Visual	NONE	NONE		
	Silt	scalar	*Visual	NONE	NONE		
	Debris	scalar	*Visual	NONE	NONE		
	Sand/Dirt	scalar	*Visual	NONE	NONE		
6/24	Appearance	scalar	*Visual	NORML	NORML		
Mar25/24	Odor	scalar	*Visual	NORML	NORML		
	Emulsified Water	scalar	*Visual	>0.2	NEG		
	Free Water	scalar	*Visual		NEG		
	FLUID PROPE		method	limit/base	current	history1	history2
	Visc @ 100°C	cSt	ASTM D445	15.4	13.8		
	GRAPHS						
	Ferrous Alloys						
	10iron						
25.74	8 - chromium						
1 H	TICKEI						
	6						
	E 4						
	2						
	74+10			/24			
	Mar25/24			Mar25/24			
	Non-ferrous Metals	-		2			
	¹⁰ T	.					
	copper						
	8 -						
	6						
	шdd						
	4						
	2+						
	0	*****					
	Mar25/24			Mar25/24			
				Ma			
	Viscosity @ 100°C				Base Number		
				10.			
	18 - Abnormal			- 8.			
	17			(b)HOX (b)HOX (b)HOX (b)HOX (b)HOX (b)HOX (b)HOX (b)HOX (c)HOX (c			
	D Base			E 6.	D -		
	© 16 Base © 15 3 14			nber (i			
				In 4.	u		
	13 Abnormal			⁸⁸ 2.1	0-		
	12-						
	114			.0			
	Mar25/24			Mar25/24	Mar25/24		
	≥			M	Z		
		Madiso	n Ave. Carv	NC 27513	GFI Enviro	nmental - 657 - Ch	arlottesville Haul
l aboratory	WearCheck LISA - 501						
	: WearCheck USA - 501 : GFL0058054		ved : 27	Mar 2024		5498	Richmond Ro
	: GFL0058054	Recei Teste		Mar 2024 Mar 2024		5498	
Sample No. Lab Number Unique Number	: GFL0058054 : <mark>06131312</mark> : 10950777	Recei	d : 28		les Davis		Richmond Roa Troy, \ US 229 ⁻
Sample No. Lab Number	: GFL0058054 : 06131312 : 10950777 : FLEET	Recei Teste Diagr	d : 28 losed : 28	Mar 2024 Mar 2024 - W	les Davis	Conta	Troy, ۱

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Submitted By: TECHNICIAN ACCOUNT