

OIL ANALYSIS REPORT

Sample Rating Trend





Area GFL035 Machine Id 834019

Fluid

Component Diesel Engine

PETRO CANADA DURON SHP 15W40 (38 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

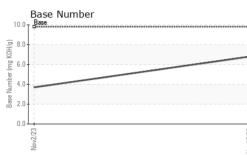
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

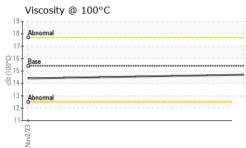
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0085160	GFL0085171	
Sample Date		Client Info		17 Nov 2023	02 Nov 2023	
Machine Age	hrs	Client Info		0	0	
Oil Age	hrs	Client Info		300	600	
Oil Changed		Client Info		Not Changd	Changed	
Sample Status				NORMAL	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	16	36	
Chromium	ppm	ASTM D5185m	>20	<1	<1	
Nickel	ppm	ASTM D5185m	>15	<1	1	
Titanium	ppm	ASTM D5185m	>2	<1	<1	
Silver	ppm	ASTM D5185m	>3	0	<1	
Aluminum	ppm	ASTM D5185m	>20	2	4	
Lead	ppm	ASTM D5185m	>40	<1	2	
Copper	ppm	ASTM D5185m	>330	3	18	
Tin	ppm	ASTM D5185m	>15	<1	1	
Vanadium	ppm	ASTM D5185m		0	0	
Cadmium	ppm	ASTM D5185m		0	<1	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 0	20	history1 3	history2
Boron Barium	ppm ppm					
Boron Barium Molybdenum		ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	20	3 9 55	
Boron Barium Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	20 0 52 2	3 9 55 14	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	20 0 52 2 568	3 9 55 14 806	
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	20 0 52 2 568 1517	3 9 55 14 806 1276	
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	20 0 52 2 568 1517 742	3 9 55 14 806 1276 732	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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	20 0 52 2 568 1517 742 933	3 9 55 14 806 1276 732 878	
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	0 0 60 0 1010 1070 1150 1270 2060	20 0 52 2 568 1517 742	3 9 55 14 806 1276 732 878 2425	
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 1010 1070 1150 1270 2060	20 0 52 2 568 1517 742 933 2465 current	3 9 55 14 806 1276 732 878 2425 history1	
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 ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	20 0 52 2 568 1517 742 933 2465 current 6	3 9 555 14 806 1276 732 878 2425 history1 ▲ 30	 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 method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	20 0 52 2 568 1517 742 933 2465 current 6 4	3 9 55 14 806 1276 732 878 2425 kistory1 ▲ 30 2	 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 limit/base >25 >20	20 0 52 2 568 1517 742 933 2465 current 6 4 3	3 9 55 14 806 1276 732 878 2425 history1 ▲ 30 2 2 8	 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	20 0 52 2 568 1517 742 933 2465 current 6 4 3 3	3 9 55 14 806 1276 732 878 2425 history1 30 2 2 8 8 8	 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 TS ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	20 0 52 2 568 1517 742 933 2465 <i>current</i> 6 4 3 <i>current</i> 0	3 9 55 14 806 1276 732 878 2425 history1 ▲ 30 2 8 8 8 <i>history1</i>	 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 TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <i>imit/base</i> >25 >20 <i>imit/base</i> >20	20 0 52 2 568 1517 742 933 2465 <i>current</i> 6 4 3 <i>current</i> 0 9.2	3 9 55 14 806 1276 732 878 2425 history1 ▲ 30 2 2 8 8 history1 0 13.1	 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 TS ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	20 0 52 2 568 1517 742 933 2465 <i>current</i> 6 4 3 <i>current</i> 0	3 9 55 14 806 1276 732 878 2425 history1 ▲ 30 2 8 8 8 <i>history1</i>	 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 <i>imit/base</i> >25 >20 <i>imit/base</i> >20	20 0 52 2 568 1517 742 933 2465 <i>current</i> 6 4 3 <i>current</i> 0 9.2	3 9 55 14 806 1276 732 878 2425 history1 ▲ 30 2 2 8 8 history1 0 13.1	 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 imit/base >4 >20 >30	20 0 52 2 568 1517 742 933 2465 <u>current</u> 6 4 3 <u>current</u> 0 9.2 19.6	3 9 55 14 806 1276 732 878 2425 history1 ▲ 30 2 2 8 8 <u>history1</u> 0 13.1 24.1	 history2 history2 history2



OIL ANALYSIS REPORT

VISUAL





White Metal		method	limit/base	current	history1	history
	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 W	ater scalar	*Visual	>0.2	NEG	NEG	
Free Water	scalar	*Visual		NEG	NEG	
FLUID PF	ROPERTIES	method	limit/base	current	history1	history
Visc @ 100°0		ASTM D445	15.4	14.7	14.4	
GRAPHS						
Ferrous Allo	oys					
35 - iron						
30 - nickel	um					
25 -						
툡 20 -		Contraction of the local division of the loc				
15						
10						
5-						
Nov2/23			Nov17/23			
			Nov			
Non-ferrou	s Metals					
16 copper	1					
14 -						
12						
12 5 8						
			/			
E 10 8 6 4 2			\			
			²³			
E 10 8 6 4 2						
	100°C		Nov17/23	Doop Number		
	100°C		27 EZ/LL/NON	Base Number		
Uiscosity @	100°C		10.0	Base Number		
Uiscosity @	100°C		10.0	Base Number		
Viscosity @	100°C		10.0	Base Number		
Viscosity @	100°C		10.0	Base Number		
Viscosity @	100°C		10.0	Base Number		
Viscosity @	100°C		10.0 (6)HOX Bru) tao 4.0 Way area	Base Number		
Viscosity @ Viscosity @ Base Base Abnomal Abnomal	100°C		10.0 (B) 8.0 (B) HOX (B) 6.0 (B) 10.0 (C) 10.0 (Base Number		
Viscosity @ Viscosity @ 10 4 2 0 Viscosity @ 10 10 10 10 10 10 10 10 10 10	100°C		10.0 (0)HOX B0 (0)HOX B0 (Base Number		
Viscosity @	100°C		10.0 (6)HOX Bru) tao 4.0 Way area	Base Number		



 Unique Number
 : 10751317
 Diagnostician
 : Don Baldridge

 Certificate L2367
 Test Package
 : FLEET

 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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