

OIL ANALYSIS REPORT

Sample Rating Trend





Machine Id 834051

Fluid

Component
Natural Gas Engine

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

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

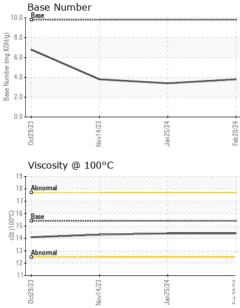
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

	• • • • • • • • • • • • • • • • • • •							
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2		
Sample Number		Client Info		GFL0108068	GFL0108128	GFL0098657		
Sample Date		Client Info		20 Feb 2024	25 Jan 2024	14 Nov 2023		
Machine Age	hrs	Client Info		926	761	587		
Oil Age	hrs	Client Info		926	0	0		
Oil Changed		Client Info		Not Changd	Not Changd	N/A		
Sample Status				NORMAL	NORMAL	NORMAL		
CONTAMINAT	ION	method	limit/base	current	history1	history2		
Water		WC Method	>0.1	NEG	NEG	NEG		
WEAR METAL	S	method	limit/base	current	history1	history2		
Iron	ppm	ASTM D5185m	>50	54	58	52		
Chromium	ppm	ASTM D5185m	>5	1	2	<1		
Nickel	ppm	ASTM D5185m	>4	2	2	2		
Titanium	ppm	ASTM D5185m	>5	0	<1	0		
Silver	ppm	ASTM D5185m	>3	0	0	<1		
Aluminum	ppm	ASTM D5185m	>25	4	3	4		
Lead	ppm	ASTM D5185m	>40	4	3	2		
Copper	ppm	ASTM D5185m	>150	16	19	19		
Tin	ppm	ASTM D5185m	>4	2	3	2		
Vanadium	ppm	ASTM D5185m		<1	0	0		
Cadmium	ppm	ASTM D5185m		0	<1	0		
ADDITIVES			Density/Income			histow.0		
ADDITIVES		method	limit/base	current	history1	history2		
Boron	ppm	ASTM D5185m	limit/base	current 8	history1 5	nistory2 8		
	ppm ppm		0		· · · · · · · · · · · · · · · · · · ·			
Boron		ASTM D5185m	0	8	5	8		
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	8 3	5 0	8 3		
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	8 3 60	5 0 60	8 3 49		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	8 3 60 13	5 0 60 15	8 3 49 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	8 3 60 13 879	5 0 60 15 856	8 3 49 14 756		
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	8 3 60 13 879 1386	5 0 60 15 856 1124	8 3 49 14 756 1164		
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	8 3 60 13 879 1386 828	5 0 60 15 856 1124 676	8 3 49 14 756 1164 717		
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	8 3 60 13 879 1386 828 1080	5 0 60 15 856 1124 676 1037	8 3 49 14 756 1164 717 879		
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 1010 1070 1150 1270 2060	8 3 60 13 879 1386 828 1080 2382	5 0 60 15 856 1124 676 1037 2181	8 3 49 14 756 1164 717 879 2216		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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 1010 1070 1150 1270 2060 limit/base >25	8 3 60 13 879 1386 828 1080 2382 current	5 0 60 15 856 1124 676 1037 2181 history1	8 3 49 14 756 1164 717 879 2216 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 ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 Limit/base	8 3 60 13 879 1386 828 1080 2382 current 26	5 0 60 15 856 1124 676 1037 2181 history1 32	8 3 49 14 756 1164 717 879 2216 history2 36		
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 method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 Limit/base	8 3 60 13 879 1386 828 1080 2382 current 26 6 4	5 0 60 15 856 1124 676 1037 2181 history1 32 <1	8 3 49 14 756 1164 717 879 2216 history2 36 6		
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	8 3 60 13 879 1386 828 1080 2382 current 26 6 4	5 0 60 15 856 1124 676 1037 2181 history1 32 <1 5	8 3 49 14 756 1164 717 879 2216 history2 36 6 5		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	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	8 3 60 13 879 1386 828 1080 2382 <u>current</u> 26 6 4	5 0 60 15 856 1124 676 1037 2181 history1 32 <1 5 history1	8 3 49 14 756 1164 717 879 2216 history2 36 6 5 5 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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	8 3 60 13 879 1386 828 1080 2382 <u>current</u> 26 6 4 4 <u>current</u>	5 0 60 15 856 1124 676 1037 2181 history1 32 <1 5 history1 0	8 3 49 14 756 1164 717 879 2216 history2 36 6 5 5 history2 0.1		
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 limit/base >25 >20 limit/base	8 3 60 13 879 1386 828 1080 2382 <u>current</u> 26 6 4 <u>current</u> 0 12.0	5 0 60 15 856 1124 676 1037 2181 history1 32 <1 5 history1 0 12.3	8 3 49 14 756 1164 717 879 2216 history2 36 6 5 5 history2 0.1 13.0		
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 225 225 220 220 220 220 230 20 20 20 20 20 20 20 20 20 20 20 20 20	8 3 60 13 879 1386 828 1080 2382 <u>current</u> 26 6 4 4 <u>current</u> 0 12.0 24.5	5 0 60 15 856 1124 676 1037 2181 history1 32 <1 5 history1 0 12.3 24.0	8 3 49 14 756 1164 717 879 2216 history2 36 6 5 history2 0.1 13.0 24.2		
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 D7844 *ASTM D7624 *ASTM D7414	0 0 0 1010 1070 1150 1270 2060 /////////////////////////////////	8 3 60 13 879 1386 828 1080 2382 Current 26 6 4 26 6 4 20 24.5	5 0 60 15 856 1124 676 1037 2181 history1 32 <1 5 history1 0 12.3 24.0 history1	8 3 49 14 756 1164 717 879 2216 history2 36 6 5 history2 0.1 13.0 24.2 history2		



OIL ANALYSIS REPORT

VISUAL



atory le No.	: WearCheck USA - 5 : GFL0108068	501 Madison Recei Teste	ved : 20	/, NC 27513 6 Feb 2024 7 Feb 2024	GF	L Environmer 228	320 S State	
	0ct29/23		Jan 25/24	Feb20/24	0ct29/23	Nov14/23	Jan 25/24	Ear20/24
	13 - Abnormal 12 -			2.				
	G-16 Base 15 15 14			(0) (0) (0) (0) (0) (0) (0) (0) (0) (0)				
	17- ;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;			.8. (6/HO) 10.				
	18 - Abnormal		1	10.				
	o ≥ Viscosity @ 100	°C	Ť	Ĩ	Base Nun	nber		
	0ct29/23		Jan25/24 +	Feb20/24				
	5-	Generatedestation	a maintaine an an Anna					
	Ē_10-							
	copper 15-			/				
	Non-ferrous Met	tals	- 2	bates				
	0ct29/23		Jan 25/24 -	Feb20/24				
	10-							
	톱 30 - 20 -							
Lak	40-							
VGUCTED	50 iron							
	GRAPHS Ferrous Alloys							
	Visc @ 100°C	cSt	ASTM D445	15.4	14.4	14.4		14.3
	FLUID PROP	ERTIES	method	limit/base	curren	t hist	ory1	history2
	Free Water	scalar	*Visual	>0.1	NEG	NEG		NEG
Fet	Odor Emulsified Water	scalar scalar	*Visual *Visual	NORML >0.1	NORML NEG	NORI NEG		NORML NEG
Feb20/24 -	Appearance	scalar	*Visual	NORML	NORML		ML	NORML
	Sand/Dirt	scalar	*Visual	NONE	NONE	NONI		NONE
	Debris	scalar scalar	*Visual	NONE	NONE	NON		NONE
	Precipitate Silt	scalar	*Visual *Visual	NONE NONE	NONE NONE	NONI		NONE NONE
	Yellow Metal	scalar	*Visual	NONE	NONE	NON		NONE



Certificate L2367