

OIL ANALYSIS REPORT

Sample Rating Trend





NO UNIT GFL0091735 Component

Diesel Engine Fluid

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

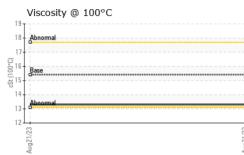
DIAGNOSIS	SAMPLE INFOR	RMATION	method	limit/base	current	history1	history2
Recommendation	Sample Number		Client Info		GFL0091735		
Resample at the next service interval to monitor.	Sample Date		Client Info		21 Aug 2023		
Wear	Machine Age	kms	Client Info		0		
All component wear rates are normal.	Oil Age	kms	Client Info		0		
Contamination	Oil Changed		Client Info		Changed		
There is no indication of any contamination in the	Sample Status				NORMAL		
oil.	CONTAMINA	TION	method	limit/base	current	history1	history2
Fluid Condition	Fuel			>3.0	<1.0		
The condition of the oil is acceptable for the time in service.	Glycol		WC Method		NEG		
	WEAR META	LS	method	limit/base	current	history1	history2
	Iron	ppm		>120	14		
	Chromium	ppm	ASTM D5185(m)		<1		
	Nickel	ppm	ASTM D5185(m)		0		
	Titanium	ppm	ASTM D5185(m)		<1		
	Silver	ppm		>2	<1		
	Aluminum	ppm	ASTM D5185(m)		3		
	Lead	ppm	ASTM D5185(m)	>40	1		
	Copper	ppm	ASTM D5185(m)		2		
	Tin	ppm	ASTM D5185(m)		- <1		
	Antimony	ppm	ASTM D5185(m)		0		
	Vanadium	ppm	ASTM D5185(m)		0		
	Beryllium	ppm	ASTM D5185(m)		0		
	Cadmium	ppm	ASTM D5185(m)		0		
	ADDITIVES		method	limit/base	current	history1	history2
	Boron	ppm	ASTM D5185(m)	0	11		
	Barium	ppm	ASTM D5185(m)		0		
	Molybdenum	ppm	ASTM D5185(m)	60	50		
	Manganese	ppm	ASTM D5185(m)	0	<1		
	Magnesium	ppm	ASTM D5185(m)	1010	917		
	Calcium	ppm	ASTM D5185(m)	1070	1110		
	Phosphorus	ppm	ASTM D5185(m)	1150	961		
				1150	301		
	Zinc	ppm	ASTM D5185(m)	1270	1098		
	•						
	Zinc	ppm ppm	ASTM D5185(m)	1270	1098		
	Zinc Sulfur	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	1270	1098 2436 <1		 history2
	Zinc Sulfur Lithium	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	1270 2060 limit/base	1098 2436 <1		
	Zinc Sulfur Lithium CONTAMINAI	ppm ppm ppm NTS	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) method	1270 2060 limit/base	1098 2436 <1 current	 history1	 history2
	Zinc Sulfur Lithium CONTAMINAI Silicon	ppm ppm ppm NTS ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) method ASTM D5185(m)	1270 2060 limit/base >25	1098 2436 <1 current 8	 history1	 history2
	Zinc Sulfur Lithium CONTAMINAI Silicon Sodium	ppm ppm ppm NTS ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) method ASTM D5185(m) ASTM D5185(m)	1270 2060 limit/base >25	1098 2436 <1 current 8 18 2	 history1 	 history2
	Zinc Sulfur Lithium CONTAMINAL Silicon Sodium Potassium INFRA-RED	ppm ppm ppm NTS ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) Method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) Method	1270 2060 limit/base >25 >20 limit/base	1098 2436 <1 current 8 18 2 2 current	 history1 history1	 history2 history2
	Zinc Sulfur Lithium CONTAMINAL Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm VTS ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D7844*	1270 2060 limit/base >25 >20 limit/base >4	1098 2436 <1 current 8 18 2 2 current 0.7	 history1 	 history2
	Zinc Sulfur Lithium CONTAMINAL Silicon Sodium Potassium INFRA-RED	ppm ppm ppm NTS ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) Method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) Method	1270 2060 limit/base >25 >20 limit/base >4	1098 2436 <1 current 8 18 2 2 current	 history1 history1 	 history2 history2
	Zinc Sulfur Lithium CONTAMINAL Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm VTS ppm ppm ppm ppm % Abs/cm Abs/.1mm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D7844* ASTM D7824* ASTM D7624*	1270 2060 limit/base >25 >20 limit/base >4 >20 >30	1098 2436 <1 current 8 18 2 current 0.7 8.1 20.1	 history1 history1 history1 	 history2 history2
	Zinc Sulfur Lithium CONTAMINAL Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm vTS ppm ppm ppm ppm % Abs/cm Abs/cm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D7844* ASTM D7824* ASTM D7624*	1270 2060 limit/base >25 >20 limit/base >30 limit/base	1098 2436 <1 current 8 18 2 2 current 0.7 8.1 20.1	 history1 history1 	 history2 history2

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Contact/Location: Tom Hatzioannidis - GFL252



OIL ANALYSIS REPORT



Aluminum (ppm)	2	VISUAL		method	limit/base	current	history1	history2
Precipitale scalar Visual* NONE NONE		White Metal	scalar	Visual*	NONE	NONE		
Sit scalar Visual* NONE NONE		Yellow Metal	scalar	Visual*	NONE	NONE		
Debris scalar Visual* NONE NONE Samdbirt scalar Visual* NORM NORM NORM Odor scalar Visual* NORM NORM NORM NORM Odor scalar Visual* NORM NORM NORM Free Water scalar Visual* NORM NORM NORM NORM FLUID PROPERTIES method Imithese current Natory1 Natory2 Natory2 Visc@ 100°C CSI ASIM07296 15.4 13.3 Auminum (pm) Muminum (pm) Muminum (pm) Muminum (pm)		Precipitate	scalar	Visual*	NONE	NONE		
Sand/Dirt scalar Visual* NONE NONE		Silt	scalar	Visual*	NONE	NONE		
Appearance scalar Visual* NORML NORML Gdor scalar Visual* NORML NORML Free Water scalar Visual* NORML NORML Free Water scalar Visual* NORML NORML FEUID PROPERTIES method imitbase current history! history2 Visc@ 100°C cSt & MIU0229(n) 15.4 13.3 CRAPHS Tron (ppm) Auminum (ppm) Auminum (ppm) Copper (pp		Debris	scalar	Visual*	NONE	NONE		
Emulsified Water scalar Visual* >0.2 NEC Free Water scalar Visual* >0.2 NEC FLUID PROPERTIES method innibase current history1 history2 Visco 100°C cist ASTM0729m 15.4 13.3 GRAPHS Tron (ppm) Auminum (ppm) Auminum (ppm) Copper		Sand/Dirt	scalar	Visual*	NONE	NONE		
Emulsified Water scalar Visual* >0.2 NEC Free Water scalar Visual* >0.2 NEC FLUID PROPERTIES method innibase current history1 history2 Visco 100°C cist ASTM0729m 15.4 13.3 GRAPHS Tron (ppm) Auminum (ppm) Auminum (ppm) Copper	6	Appearance	scalar	Visual*	NORML	NORML		
Free Water scalar Visual* NEG FLUID PROPERTIES method Imit/base current history1 history2 Visc @ 100°C cSt ASIM0723(m) 15.4 13.3 GRAPHS Tron (ppm) Muminum (ppm) Muminum (ppm) 0 0 0 0		Odor	scalar	Visual*	NORML	NORML		
FLUID PROPERTIES method imubase current history1 history2 Visc @ 100°C cSt ASTM0723(m) 15.4 13.3		Emulsified Water	scalar	Visual*	>0.2	NEG		
Visc @ 100°C cSL ASTRUZZ95(m) 15.4 13.3 GRAPHS Tron (ppm) Aluminum (ppm) Aluminum (ppm) Copper (ppm) Uscosity @ 100°C Uscosity B Uscosity @ 100°C Uscosity B Uscosity B Uscosity B Uscosity B Uscosity B Uscosity B Uscosity B		Free Water	scalar	Visual*		NEG		
CRAPHS Iron (ppm)		FLUID PROPI	ERTIES	method	limit/base	current	history1	history2
Image: Non-State of the second sec		Visc @ 100°C	cSt	ASTM D7279(m)	15.4	13.3		
Aluminum (ppm) Aluminum (ppm) Aluminum (ppm) Copper (ppm) Generation of the second		GRAPHS						
Aluminum (pm) Aluminum (pm) Alumin					10			
Aluminum (ppm) Aluminum (ppm)		Courses				Smurro		
Aluminum (ppm) Aluminum (ppm) Aluminum (ppm) Aluminum (ppm) Grooper (ppm) Generation of the second of the sec								
Aluminum (ppm) Aluminum (ppm) Chromium (ppm) Copper (pp					G.	Abaran		
Aluminum (ppm) Aluminum (ppm)								
Aluminum (ppm)								
Aluminum (ppm)		21/23			21/23	21/23		Aur 21/23
Copper (ppm) Copper (ppm) Co		Augá			Aug	Augi		Viid
Copper (ppm))				pm)	
Copper (ppm) Copper (ppm) Copper (ppm) Viscosity @ 100°C Copper (ppm) Viscosity @ 100°C Copper (ppm) Copper		Ocvere				Severe		
Copper (ppm) Copper (ppm)								
Copper (ppm) Copper		Abnormal			udd 2	Abnormal		
Copper (ppm)								
Copper (ppm)		0						
Copper (ppm)		1/23			1/23	:1/23		501
Viscosity @ 100°C Viscosity @ 1		Aug2			Aug2	Aug2		
Viscosity @ 100°C Viscosity @ 1								
Viscosity @ 100°C Viscosity @ 1		400 Severe			8	⁰ Severe		
Viscosity @ 100°C Viscosity @ 1		300			6	0-		
Viscosity @ 100°C Viscosity @ 1		튭 200 -			틆.4	0		
Viscosity @ 100°C Viscosity @ 1		100-			2			
Viscosity @ 100°C Viscosity @ 1								
Viscosity @ 100°C Viscosity @ 1		0						20
Viscosity @ 100°C Viscosity @ 1		Aug21			Aug21	Aug 21		CC/1C211V
Image: Severe			C					
CALLA Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 252 - GTA Haulin 0 17025:2017 Sample No. : GFL0091735 Received : 18 Sep 2023 3668 Weston Roa Accredited Unique Number : 02583072 Diagnosed : 18 Sep 2023 North York, O Laboratory : 5644137 Diagnostician : Wes Davis Contact: Tom Hatzioannidi o discuss this sample report, contact Customer Service at 1-800-268-2131. : Wes Davis Contact: Tom Hatzioannidi					8.			
Image: Control of 10225:2017 Accredited Laboratory Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 252 - GTA Haulin : GFL0091735 Image: Control of 10225:2017 Accredited Laboratory : GFL0091735 Received : 18 Sep 2023 : 18 Sep 2023 Image: Control of 10225:2017 Accredited Laboratory : Unique Number : 5644137 : 18 Sep 2023 : 18 Sep 2023 Image: Control of 10225:2017 Accredited Laboratory : MOB 1 (Additional Tests: Visual) : Wes Davis : Contact: Tom Hatzioannidi thatzioannidis@gflenv.com		_18 _ Abnormal			6.	0 - Severe		
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