

Machine Id 501072 omponen **Diesel Engine** PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

No corrective action is recommended at this time. Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor.

WEAR		

All component wear rates are normal.

CONTAMINATION

Light fuel dilution occurring. No other contaminants were detected in the oil.

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		Soot %	%	ASTM D7844*
		Nitration	Abs/cm	ASTM D7624*
		Sulfation	Abs/.1mm	ASTM D7415*
		Emulsified Water	scalar	Visual*
FLUID CONDITION		Sodium	ppm	ASTM D5185(m)
Viscosity of sample indicates oil is w	thin SAE 30 range, advise	Boron	ppm	ASTM D5185(m)
investigate. This plus the additive lev		Barium	ppm	ASTM D5185(m)
same brand, or type of oil as reported acceptable for the time in service.	d. The condition of the oil is	Molybdenum	ppm	ASTM D5185(m)
		Manganese	ppm	ASTM D5185(m)
		Magnesium	ppm	ASTM D5185(m)
		Calcium	nnm	ASTM D5185(m)

Oxidation

Visc @ 100°C cSt

Abs/.1mm ASTM D7414* >25

ASTM D7279(m) 15.4

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0110673	GFL0088987	GFL0082934
Sample Date		Client Info		28 Mar 2024	21 Aug 2023	06 Jun 2023
Machine Age	hrs	Client Info		14468	13762	13209
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	Changed
Filter Changed		Client Info		N/A	N/A	Changed
Sample Status				ABNORMAL	NORMAL	NORMAL
			400			
Iron	ppm	ASTM D5185(m)	>100	11	6	5
Chromium	ppm	ASTM D5185(m)	>20	0	<1	0
Nickel	ppm	ASTM D5185(m)	>4	0	0	0
Titanium	ppm	ASTM D5185(m)	0	0	0	<1
Silver	ppm	ASTM D5185(m)	>3	0	0	0
Aluminum	ppm	ASTM D5185(m)	>20	2	1	1
Lead	ppm	ASTM D5185(m)	>40	0	0	<1
Copper	ppm	ASTM D5185(m)	>330	10	1	1
Tin	ppm	ASTM D5185(m)	>15	<1	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
Silicon	ppm	ASTM D5185(m)	>25	20	3	3
Silicon Potassium	ppm ppm	ASTM D5185(m) ASTM D5185(m)	>25 >20	20 15	3 <1	3 <1
		()				
Potassium	ppm	ASTM D5185(m)	>20	15	<1	<1
Potassium Fuel	ppm	ASTM D5185(m) ASTM D7593*	>20 >5	15 1	<1 <1.0	<1 <1.0
Potassium Fuel Water	ppm %	ASTM D5185(m) ASTM D7593* WC Method	>20 >5	15 1 NEG	<1 <1.0 NEG	<1 <1.0 NEG
Potassium Fuel Water Glycol	ppm % %	ASTM D5185(m) ASTM D7593* WC Method ASTM D7922*	>20 >5 >0.2	15 1 NEG 0.0	<1 <1.0 NEG NEG	<1 <1.0 NEG NEG
Potassium Fuel Water Glycol Soot %	ppm % % %	ASTM D5185(m) ASTM D7593* WC Method ASTM D7922* ASTM D7844*	>20 >5 >0.2 >3	15 1 NEG 0.0 0	<1 <1.0 NEG NEG 0.1	<1 <1.0 NEG 0.1
Potassium Fuel Water Glycol Soot % Nitration	ppm % % % % Abs/cm	ASTM D5185(m) ASTM D7593* WC Method ASTM D7922* ASTM D7844* ASTM D7624*	>20 >5 >0.2 >3 >20	15 1 NEG 0.0 0 7.0	<1 <1.0 NEG NEG 0.1 7.7	<1 <1.0 NEG 0.1 7.9
Potassium Fuel Water Glycol Soot % Nitration Sulfation	ppm % % % Abs/cm Abs/.1mm	ASTM D5185(m) ASTM D7593* WC Method ASTM D7922* ASTM D7844* ASTM D7624* ASTM D7415*	>20 >5 >0.2 >3 >20 >30	15 1 NEG 0.0 0 7.0 17.9	<1 <1.0 NEG 0.1 7.7 19.3	<1 <1.0 NEG 0.1 7.9 18.8
Potassium Fuel Water Glycol Soot % Nitration Sulfation Emulsified Water	ppm % % % Abs/cm Abs/.1mm scalar	ASTM D5185(m) ASTM D7593* WC Method ASTM D7922* ASTM D7844* ASTM D7624* ASTM D7624* Visual*	>20 >5 >0.2 >3 >20 >30	15 1 NEG 0.0 0 7.0 17.9 NEG	<1 <1.0 NEG 0.1 7.7 19.3 NEG	<1 <10 <10 <p>NEG 0.1 7.9 18.8 NEG</p>
Potassium Fuel Water Glycol Soot % Nitration Sulfation Emulsified Water Sodium	ppm % % % Abs/cm Abs/.1mm scalar ppm	ASTM D5185(m) ASTM D7593* WC Method ASTM D7922* ASTM D7824* ASTM D7624* ASTM D7624* Visual* ASTM D5185(m)	>20 >5 >0.2 >3 >20 >30 >0.2	15 1 NEG 0.0 7.0 17.9 NEG 15	<1 <1.0 NEG 0.1 7.7 19.3 NEG <1	<1 <10 NEG NEG 0.1 7.9 18.8 NEG 1
Potassium Fuel Water Glycol Soot % Nitration Sulfation Emulsified Water Sodium Boron	ppm % % % Abs/cm Abs/cm scalar ppm	ASTM D5185(m) ASTM D7593* WC Method ASTM D7922* ASTM D7844* ASTM D7624* ASTM D7415* Visual* ASTM D5185(m) ASTM D5185(m)	>20 >5 >0.2 >3 >20 >30 >0.2	15 1 NEG 0.0 0 7.0 17.9 NEG 15 64	<1 <1.0 NEG 0.1 7.7 19.3 NEG <1 3	<1 <10 NEG 0.1 7.9 18.8 NEG 1 3
Potassium Fuel Water Glycol Soot % Nitration Sulfation Emulsified Water Sodium Boron Barium	ppm % % % Abs/cm Abs/cm Abs/.1mm scalar ppm ppm	ASTM D5185(m) ASTM D7593* WC Method ASTM D7922* ASTM D7844* ASTM D7624* ASTM D7415* Visual* ASTM D5185(m) ASTM D5185(m)	>20 >5 >0.2 >3 >20 >30 >0.2 0 0	15 1 NEG 0.0 0 7.0 17.9 NEG 15 64 <1	<1 <1.0 NEG 0.1 7.7 19.3 NEG <1 3 0	<1 <1.0 NEG 0.1 7.9 18.8 NEG 1 3 0
Potassium Fuel Water Glycol Soot % Nitration Sulfation Emulsified Water Sodium Boron Barium	ppm % % % Abs/cm Abs/cm scalar ppm ppm ppm	ASTM D5185(m) ASTM D7593* WC Method ASTM D7922* ASTM D7844* ASTM D7624* ASTM D7415* Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	>20 >5 >0.2 >3 >20 >30 >0.2 0 0 0	15 1 NEG 0.0 0 7.0 17.9 NEG 15 64 <1 11	<1 <1.0 NEG 0.1 7.7 19.3 NEG <1 3 0 59	<1 <1 <1.0 NEG 0.1 7.9 18.8 NEG 1 3 0 57
Potassium Fuel Water Glycol Soot % Nitration Sulfation Emulsified Water Sodium Boron Barium Molybdenum Manganese	ppm % % % Abs/cm Abs/.1mm scalar ppm ppm ppm ppm	ASTM D5185(m) ASTM D7593* WC Method ASTM D7922* ASTM D7844* ASTM D7624* ASTM D7415* Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	>20 >5 >0.2 >3 >20 >30 >0.2 0 0 0 60 0	15 1 NEG 0.0 0 7.0 17.9 NEG 15 64 <1 11 11 0	<1 <1.0 NEG 0.1 7.7 19.3 NEG <1 3 0 59 <1	<1 <1 <1.0 NEG 0.1 7.9 18.8 NEG 1 3 0 57 <1
Potassium Fuel Water Glycol Soot % Nitration Sulfation Emulsified Water Sodium Boron Barium Malybdenum Manganese Magnesium	ppm % % % % Abs/cm Abs/cm Abs/.1mm scalar ppm ppm ppm ppm	ASTM D5185(m) ASTM D7593* WC Method ASTM D7922* ASTM D7824* ASTM D7624* ASTM D7624* Visual* Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	>20 >5 >0.2 >3 >20 >30 >0.2 0 0 60 0 0 1010	15 1 NEG 0.0 7.0 17.9 NEG 15 64 <1 11 0 745	<1 <1.0 NEG 0.1 7.7 19.3 NEG <1 3 0 59 <1 976	<1 <1 <1.0 NEG 0.1 7.9 18.8 NEG 1 3 0 57 <1 932
Potassium Fuel Water Glycol Soot % Nitration Sulfation Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium	ppm % % % % Abs/cm Abs/.1mm scalar ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7593* WC Method ASTM D7922* ASTM D7844* ASTM D7624* ASTM D7624* Visual* Visual* ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	>20 >5 >0.2 >3 >20 >30 >0.2 0 0 0 0 0 0 0 0 0 0 1010 1070	15 1 NEG 0.0 7.0 17.9 NEG 15 64 <1 11 0 745 1261	<1 <1.0 NEG 0.1 7.7 19.3 NEG <1 3 0 59 <1 976 1039 	<1 <1 ×1.0 NEG 0.1 7.9 18.8 NEG 1 3 0 57 <1 932 1100

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15.5

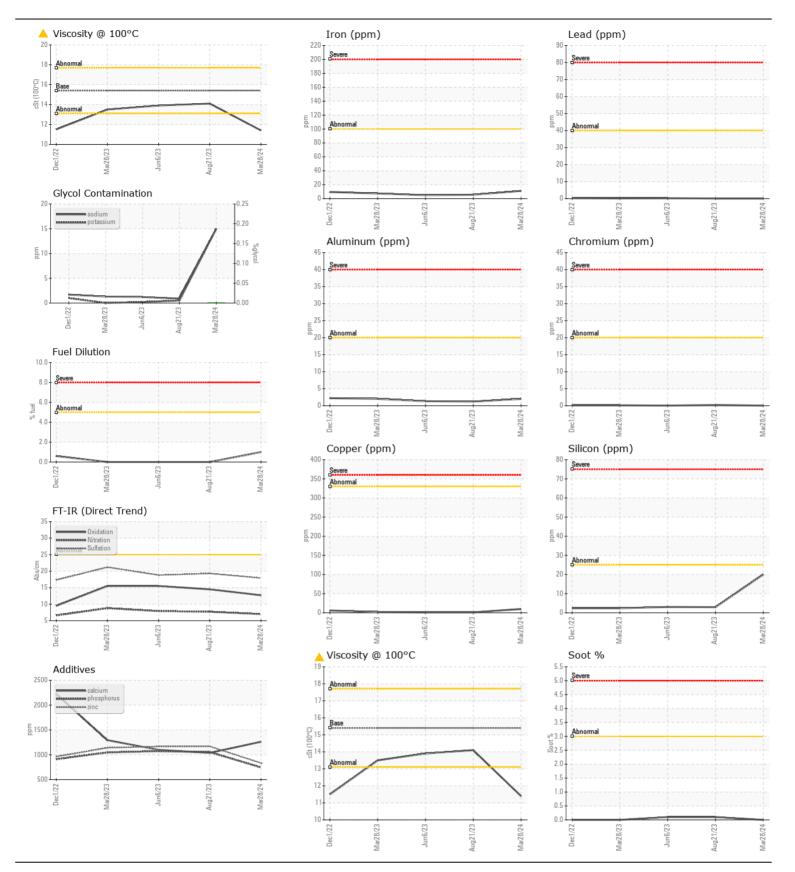
13.9

14.5

14.1

12.7

11.4



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 207 - Pickering SW CALA Sample No. Received 1034 TOY AVENUE, PICKERING YARD : GFL0110673 : 02 Apr 2024 : 02625990 Lab Number PICKERING, ON Tested :04 Apr 2024 ISO 17025:2017 Accredited CA L1W 3P1 Unique Number : 5759122 Diagnosed : 04 Apr 2024 - Kevin Marson Laboratory Test Package : MOB 1 (Additional Tests: FUELDILUTION, Glycol, PercentFuel) Contact: Ian Patton To discuss this sample report, contact Customer Service at 1-800-268-2131. ipatton@gflenv.com Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. T: (905)831-6297 F: (905)426-3577 Validity of results and interpretation are based on the sample and information as supplied.