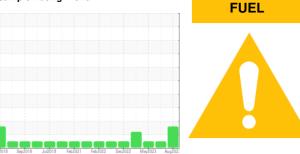


OIL ANALYSIS REPORT

Sample Rating Trend



801039 Component **Diesel Engine** Fluid

Machine Id

PETRO CANADA DURON SHP 15W40 (22 LTR)

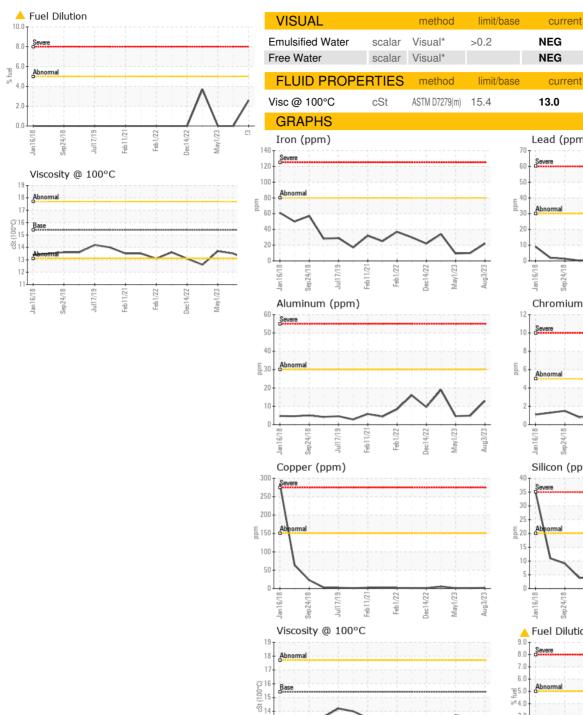
DIAGNOSIS	SAMPLE INFOR	RMATION	method	limit/base	current	history1	history
Recommendation	Sample Number		Client Info		GFL0091039	GFL0082003	GFL008199
The oil change at the time of sampling has been noted. Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. No other corrective action is recommended at this time.	Sample Date		Client Info		03 Aug 2023	10 May 2023	01 May 202
	Machine Age	hrs	Client Info		108944	12097	12042
	Oil Age	hrs	Client Info		0	0	0
	Oil Changed		Client Info		Changed	Changed	Not Chango
	Sample Status				ATTENTION	NORMAL	NORMAL
ear I component wear rates are normal.	CONTAMINA	TION	method	limit/base	current	history1	history
Contamination Elevated aluminum (AI) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. Light fuel dilution occurring. No other contaminants were detected in the oil.	Glycol		WC Method		NEG	NEG	NEG
	WEAR META	LS	method	limit/base	current	history1	history
	Iron	ppm	ASTM D5185(m)	>80	22	10	9
	Chromium		ASTM D5185(m)	>5	<1	<1	<1
	Nickel	ppm	ASTM D5185(m) ASTM D5185(m)		<1 <1	<1	<1
	Titanium	ppm	ASTM D5185(m)	>2	0	0	<1
Fluid Condition Additive levels indicate the addition of a different brand, or type of oil. The condition of the oil is acceptable for the time in service.	Silver	ppm	ASTM D5185(m) ASTM D5185(m)	2	0	0	0
	Aluminum	ppm	ASTM D5185(m) ASTM D5185(m)	>3 >30	13	5	5
	Lead	ppm		>30		0	0
		ppm	ASTM D5185(m)		0 2	1	1
	Copper Tin	ppm	ASTM D5185(m)			0	0
		ppm	ASTM D5185(m)	>0	0		
	Antimony Vanadium	ppm	ASTM D5185(m) ASTM D5185(m)		0	0	<1 0
		ppm			0	0	0
	Beryllium	ppm	ASTM D5185(m)				
	Cadmium	ppm	ASTM D5185(m)		0	0	0
	ADDITIVES		method	limit/base	current	history1	history
	Boron	ppm	ASTM D5185(m)		<u> </u>	7	7
	Barium	ppm	ASTM D5185(m)	0	0	0	0
	Molybdenum	ppm	ASTM D5185(m)	60	78	59	59
	Manganese	ppm	ASTM D5185(m)	0	<1	<1	<1
	Magnesium	ppm	ASTM D5185(m)	1010	<u> </u>	923	930
	Magneolam						
	Calcium	ppm	ASTM D5185(m)	1070	1265	1088	1070
	-			1070 1150	1265 1060	1088 1059	1070 1057
	Calcium	ppm	ASTM D5185(m)				
	Calcium Phosphorus	ppm ppm	ASTM D5185(m)	1150	1060	1059	1057
	Calcium Phosphorus Zinc	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	1150 1270	1060 1188	1059 1182	1057 1155
	Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	1150 1270	1060 1188 2624	1059 1182 2673	1057 1155 2661 <1
	Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) method	1150 1270 2060	1060 1188 2624 <1	1059 1182 2673 <1	1057 1155 2661
	Calcium Phosphorus Zinc Sulfur Lithium CONTAMINA	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) method	1150 1270 2060 limit/base	1060 1188 2624 <1 current	1059 1182 2673 <1 history1	1057 1155 2661 <1 history
	Calcium Phosphorus Zinc Sulfur Lithium CONTAMINA Silicon	ppm ppm ppm ppm ppm ppm NTS	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) method ASTM D5185(m)	1150 1270 2060 limit/base	1060 1188 2624 <1 current 5	1059 1182 2673 <1 history1 2	1057 1155 2661 <1 history2
	Calcium Phosphorus Zinc Sulfur Lithium CONTAMINA Silicon Sodium	ppm ppm ppm ppm ppm ppm NTS	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) Method ASTM D5185(m) ASTM D5185(m)	1150 1270 2060 limit/base >20 >20	1060 1188 2624 <1 <u>current</u> 5 7	1059 1182 2673 <1 history1 2 4	1057 1155 2661 <1 history: 3 4
	Calcium Phosphorus Zinc Sulfur Lithium CONTAMINA Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm NTS ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	1150 1270 2060 limit/base >20 >20	1060 1188 2624 <1 <u>current</u> 5 7 21	1059 1182 2673 <1 history1 2 4 5	1057 1155 2661 <1 history 3 4 5 <1.0
	Calcium Phosphorus Zinc Sulfur Lithium CONTAMINA Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm NTS ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D7593*	1150 1270 2060 limit/base >20 >20 >5	1060 1188 2624 <1 <u>current</u> 5 7 21 ▲ 2.6	1059 1182 2673 <1 history1 2 4 5 <1.0	1057 1155 2661 <1 history 3 4 5 <1.0
	Calcium Phosphorus Zinc Sulfur Lithium CONTAMINA Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm vtts 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 D7593* method	1150 1270 2060 limit/base >20 >20 >5 limit/base	1060 1188 2624 <1 current 5 7 21 ≥1 2.6 current	1059 1182 2673 <1 history1 2 4 5 <1.0 history1	1057 1155 2661 <1 history 3 4 5 <1.0 history
	Calcium Phosphorus Zinc Sulfur Lithium CONTAMINA Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm vtts ppm ppm %	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D7593*	1150 1270 2060 limit/base >20 >20 >5 limit/base >3	1060 1188 2624 <1 current 5 7 21 ≥1 2.6 current 0.5	1059 1182 2673 <1 history1 2 4 5 <1.0 history1 0.1	1057 1155 2661 <1 history2 3 4 5 <1.0 history2 0.1
	Calcium Phosphorus Zinc Sulfur Lithium CONTAMINA Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm 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 D7593* method ASTM D7624* ASTM D7624*	1150 1270 2060 imit/base >20 >20 >5 imit/base >3 >20	1060 1188 2624 <1 5 7 21 ▲ 2.6 current 0.5 9.4	1059 1182 2673 <1 <u>history1</u> 2 4 5 <1.0 <u>history1</u> 0.1 6.7	1057 1155 2661 <1 history 3 4 5 <1.0 history 0.1 6.3 18.3
	Calcium Phosphorus Zinc Sulfur Lithium CONTAMINA Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm 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 D7593* method ASTM D7624* ASTM D7624* ASTM D7415*	1150 1270 2060 imit/base >20 >20 >5 imit/base >3 >20 >3 >20	1060 1188 2624 <1 current 5 7 21 ▲ 2.6 current 0.5 9.4 24.0	1059 1182 2673 <1 history1 2 4 5 <1.0 history1 0.1 6.7 18.6	1057 1155 2661 <1 history 3 4 5 <1.0 history 0.1 6.3

Contamination Elevated aluminum (Al) and/or lead (Pb) and

Fluid Condition



OIL ANALYSIS REPORT

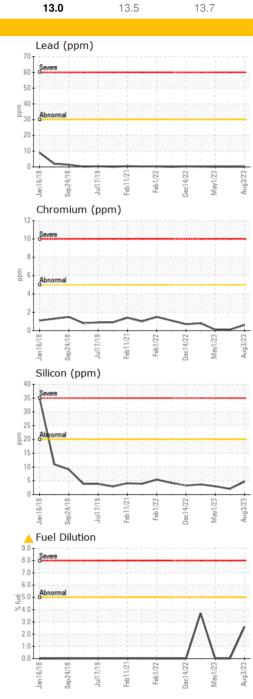


12

11

Jan 16/18

Sen 24/18



history1

history⁻

NEG

NEG

history2

history2

NEG

NEG

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Laboratory GFL Environmental - 217 - Aurora CALA Sample No. Received : 16 Aug 2023 14131 BAYVIEW AVE, AURORA YARD : GFL0091039 Lab Number : 02576139 Diagnosed : 17 Aug 2023 AURORA, ON ISO 17025:2017 Accredited Laboratory Diagnostician : Wes Davis CA L4G 0K6 Unique Number : 5629199 Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel) Contact: Mike Havens To discuss this sample report, contact Customer Service at 1-800-268-2131. MHavens@gflenv.com Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. T: F: (905)713-2445 Validity of results and interpretation are based on the sample and information as supplied.

Feb11/21.

117/19

Feb1/22

Dec14/22

May1/23

Aug3/23