

## Machine Id **920092-260371** Component **Diesel Engine** Fluid **PETRO CANADA DURON SHP 15W40 (--- GAL)**

RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
No corrective action is recommended at this time. Resample at the next service interval to monitor.	Sample Number		Client Info		GFL0122926	GFL0118769	GFL0118796
	Sample Date		Client Info		12 Jun 2024	08 May 2024	23 Apr 2024
	Machine Age	hrs	Client Info		24281	24135	24039
	Oil Age	hrs	Client Info		146	24761	23895
	Filter Age	hrs	Client Info		0	266	266
	Oil Changed		Client Info		Not Changd	Changed	Not Changd
	Filter Changed		Client Info		Not Changd	Changed	Not Changd
	Sample Status				MARGINAL	SEVERE	NORMAL
WEAR	Iron	ppm	ASTM D5185m	>100	5	11	10
All component wear rates are normal.	Chromium	ppm	ASTM D5185m	>20	<1	1	<1
	Nickel	ppm	ASTM D5185m	>4	<1	0	0
	Titanium	ppm	ASTM D5185m		<1	0	0
	Silver	ppm	ASTM D5185m	>3	<1	0	0
	Aluminum	ppm	ASTM D5185m	>20	2	2	2
	Lead	ppm	ASTM D5185m	>40	<1	0	0
	Copper	ppm	ASTM D5185m	>330	<1	3	0
	Tin	ppm	ASTM D5185m	>15	<1	<1	<1
	Vanadium	ppm	ASTM D5185m		<1	0	0
	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
CONTAMINATION	Silicon	ppm	ASTM D5185m	>25	3	4	6
	Potassium	ppm	ASTM D5185m	>20	2	0	0
Light fuel dilution occurring. No other contaminants were detected in the oil.	Fuel	%	ASTM D3524		<b>4.8</b>	<b>11.1</b>	<1.0
	Water		WC Method	>0.2	NEG	NEG	NEG
	Glycol		WC Method		NEG	NEG	NEG
	Soot %	%	*ASTM D7844	>3	0.2	0.4	0.5
	Nitration	Abs/cm	*ASTM D7624	>20	5.9	7.2	7.2
	Sulfation	Abs/.1mm	*ASTM D7415	>30	18.0	18.5	18.7
	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
FLUID CONDITION	Sodium	ppm	ASTM D5185m		4	4	8
	Boron		ASTM D5185m	0	4	2	<1
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.	Barium	ppm	ASTM D5185m		<1	0	<1
	Molybdenum	ppm	ASTM D5185m	60	53	50	56
	Manganese	ppm	ASTM D5185m	0	<1	1	0
	Magnesium	ppm	ASTM D5185m	1010	846	853	884
	Calcium	ppm	ASTM D5185m	1070	1014	944	981
	Phosphorus	ppm	ASTM D5185m	1150	983	902	935
	Zinc	ppm	ASTM D5185m	1270	1114	1100	1155
	Sulfur	ppm	ASTM D5185m	2060	3012	2955	3181
	Oxidation	Abs/.1mm	*ASTM D7414	>25	13.4	14.7	14.5
	Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.1	7.0	7.7
	V/ 0 40000	- 01	AOTA DATE	4 - 4	10 -	4 4 0 0	10.0

Visc @ 100°C cSt

ASTM D445 15.4

12.6

10.9

12.7

