

Machine Id **2026869** Component **Diesel Engine** Fluid **PETRO CANADA DURON SHP 10W30 (--- GAL)**

RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
	Sample Number	00IVI	Client Info	LIIIUAUI	PCA0124534	PCA0118720	PCA0108206
Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.	Sample Date		Client Info		16 May 2024	26 Feb 2024	13 Dec 2023
	Machine Age	mls	Client Info		336797	314305	296269
	Oil Age	mls	Client Info		40528	18036	41713
	Filter Age	mls	Client Info		22492	18036	19751
	Oil Changed	11115	Client Info		Changed	Not Changd	Changed
	Filter Changed		Client Info		Changed	Changed	Changed
	Sample Status		Cilent into		ABNORMAL	NORMAL	NORMAL
WEAR	Iron	ppm	ASTM D5185m		45	25	25
Valve wear is indicated. All other component wear rates are normal.	Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
	Nickel	ppm	ASTM D5185m	>4	<u> </u>	3	<1
	Titanium	ppm	ASTM D5185m		0	0	0
	Silver	ppm	ASTM D5185m	>3	<1	0	<1
	Aluminum	ppm	ASTM D5185m	>20	4	2	3
	Lead	ppm	ASTM D5185m	>40	2	<1	<1
	Copper	ppm	ASTM D5185m	>330	27	19	7
	Tin	ppm	ASTM D5185m	>15	1	0	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	6	4	4
SONTAMINATION	Potassium	ppm	ASTM D5185m		2	1	5
There is no indication of any contamination in the oil.	Fuel	ppin	WC Method		- <1.0	<1.0	<1.0
	Water		WC Method		NEG	NEG	NEG
	Glycol		WC Method	/ 0.1	NEG	NEG	NEG
	Soot %	%	*ASTM D7844	>3	0.5	0.3	0.5
	Nitration	Abs/cm	*ASTM D7624	>20	9.8	7.5	9.8
	Sulfation	Abs/.1mm	*ASTM D7415		20.2	18.6	20.8
	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	NORMI
	Odor	scalar	*Visual	NORML	NORML	NORML	NORMI
	Emulsified Water		*Visual	>0.2	NEG	NEG	NEG
FLUID CONDITION	Sodium	ppm	ASTM D5185m	0	3	1	2
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.	Boron	ppm	ASTM D5185m		0	<1	1
	Barium	ppm	ASTM D5185m		0	0	<1
	Molybdenum	ppm	ASTM D5185m		62	60	60
	Manganese	ppm	ASTM D5185m		1	<1	<1
	Magnesium	ppm	ASTM D5185m		1001	1078	908
	Calcium	ppm	ASTM D5185m		1160	1144	1004
	Phosphorus	ppm	ASTM D5185m		959	1095	986
	Zinc	ppm	ASTM D5185m		1240	1338	1195
	Sulfur	ppm	ASTM D5185m	2600	3221	3343	2807
	Out dation	Also / document	*****	05	40.0		40.0

Oxidation

Visc @ 100°C cSt

Abs/.1mm *ASTM D7414 >25

ASTM D445 12.00

Base Number (BN) mg KOH/g ASTM D2896

14.4

8.1

10.9

16.8

6.5

10.6

16.6

6.0

10.8

