

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

## BARTO Machine Id 7075 [BARTO] Component Diesel Engine

## PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
Resample at the next service interval to monitor.	Sample Number		Client Info		SBP0007248	SBP0005678	
	Sample Date		Client Info		16 May 2024	10 Oct 2023	
	Machine Age	mls	Client Info		298750	261203	
	Oil Age	mls	Client Info		37547	37932	
	Filter Age	mls	Client Info		37547	37932	
	Oil Changed		Client Info		Changed	Changed	
	Filter Changed		Client Info		Changed	Changed	
	Sample Status				NORMAL	NORMAL	
	Iron		ASTM D5185m	. 00	17	17	
WEAR	Chromium	ppm ppm	ASTM D5185m		17 1	17	
All component wear rates are normal.	Nickel		ASTM D5185m		0	<1	
	Titanium	ppm ppm	ASTM D5185m	>2	0	<1	
	Silver		ASTM D5185m	. 2	0	0	
	Aluminum	ppm	ASTM D5185m		6	5	
	Lead	ppm	ASTM D5185m		0		
	Copper	ppm	ASTM D5185m		9	<1 11	
	Tin	ppm	ASTM D5185m			<1	
	Vanadium	ppm	ASTM D5185m	>0	<1 0	<1	
	White Metal	ppm scalar	*Visual	NONE	NONE	NONE	
				NONE	NONE	NONE	
	Yellow Metal	scalar	*Visual	INOINE		NONE	
CONTAMINATION	Silicon	ppm	ASTM D5185m	>20	6	8	
	Potassium	ppm	ASTM D5185m	>20	4	7	
There is no indication of any contamination in the oil.	Fuel		WC Method	>5	<1.0	<1.0	
	Water		WC Method	>0.2	NEG	NEG	
	Glycol		WC Method		NEG	NEG	
	Soot %	%	*ASTM D7844	>3	0.9	0.9	
	Nitration	Abs/cm	*ASTM D7624	>20	9.1	9.2	
	Sulfation	Abs/.1mm	*ASTM D7415	>30	21.4	22.3	
	Silt	scalar	*Visual	NONE	NONE	NONE	
	Debris	scalar	*Visual	NONE	NONE	NONE	
	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
	Appearance	scalar	*Visual	NORML	NORML	NORML	
	Odor	scalar	*Visual	NORML	NORML	NORML	
	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	
FLUID CONDITION	Sodium		ASTM D5185m		1	2	
	Boron	ppm	ASTM D5185m	0	، <1	0	
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		0	0	
	Molybdenum	ppm ppm	ASTM D5185m		63	60	
	Manganese		ASTM D5185m		<1	<1	
	Manganese	ppm	ASTM D5185m		1009	966	
	Calcium	ppm	ASTM D5185m		1138	1213	
	Phosphorus	ppm	ASTM D5185m		1100	1013	
	Zinc	ppm	ASTM D5185m		1323	1310	
	Sulfur	ppm	ASTM D5185m			2664	
	Oxidation	ppm Abs/.1mm	*ASTM D5165/11		3047 17.5	18.3	
	Base Number (BN)				6.8	6.3	
			ASTIVI D2090		12.0	14.0	

Visc @ 100°C cSt

ASTM D445 15.4

14.0

13.9



