

Machine Id 4164 Component Diesel Engine Fluid PETRO CANADA DURON SHP 10W30 (--- 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

Metal levels are typical for a new component breaking in.

CONTAMINATION

FLUID CONDITION

Fuel content negligible. Elevated aluminum (Al) 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. There is no indication of any contamination in the oil.

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.

	Test	UOM	Method	Limit/Abn	Current	History1	History2
	Sample Number		Client Info		PC0082253		
	Sample Date		Client Info		24 Dec 2023		
	Machine Age	kms	Client Info		38809		
	Oil Age	kms	Client Info		0		
	Filter Age	kms	Client Info		0		
	Oil Changed		Client Info		Changed		
	Filter Changed		Client Info		Changed		
	Sample Status				NORMAL		
	Iron	ppm	ASTM D5185(m)	>80	61		
	Chromium	ppm	ASTM D5185(m)	>5	3		
	Nickel	ppm	ASTM D5185(m)	>2	1		
	Titanium	ppm	ASTM D5185(m)		0		
	Silver	ppm	ASTM D5185(m)	>3	<1		
	Aluminum	ppm	ASTM D5185(m)	>30	24		
	Lead	ppm	ASTM D5185(m)	>30	6		
	Copper	ppm	ASTM D5185(m)	>150	256		
	Tin	ppm	ASTM D5185(m)	>5	6		
	Vanadium	ppm	ASTM D5185(m)		0		
	White Metal	scalar	Visual*	NONE	LIGHT		
	Yellow Metal	scalar	Visual*	NONE	NONE		
	Ciliaan				<u>^</u>		
	Silicon	ppm	ASTM D5185(m)	>20	6		
	Potassium Fuel	ppm	ASTM D5185(m)	>20	71		
		%	ASTM D7593*	>5	0.4		
	Water		WC Method	>0.2	NEG		
	Glycol	%	WC Method	>3	NEG 0.5		
	Soot % Nitration	% Abs/cm	ASTM D7844* ASTM D7624*	>3 >20	10.2		
	Sulfation	Abs/.1mm	ASTM D7624 ASTM D7415*	>20	23.8		
	Silt	scalar	Visual*	NONE	NONE		
	Debris	scalar	Visual*	NONE	NONE		
	Sand/Dirt	scalar	Visual*	NONE	NONE		
	Appearance	scalar	Visual*	NORML	NORML		
	Odor	scalar	Visual*	NORML	NORML		
	Emulsified Water	scalar	Visual*	>0.2	NEG		
	Linuisilieu Walei Scalai Visuai >0.2						
	Sodium	ppm	ASTM D5185(m)		5		
	Boron	ppm	ASTM D5185(m)	2	31		
	Barium	ppm	ASTM D5185(m)	0	<1		
	Molybdenum	ppm	ASTM D5185(m)	50	44		
	Manganese	ppm	ASTM D5185(m)	0	3		
	Magnesium	ppm	ASTM D5185(m)	950	557		
	Calcium	ppm	ASTM D5185(m)	1050	1723		
	Phosphorus	ppm	ASTM D5185(m)	995	747		
	Zinc	ppm	ASTM D5185(m)	1180	896		
	Sulfur	ppm	ASTM D5185(m)	2600	1739		
	Oxidation	Abs/.1mm	ASTM D7414*	>25	24.5		
	Visc @ 40°C	cSt	ASTM D7279(m)	80.1	64.6		
	Visc @ 100°C	cSt	ASTM D7279(m)	12.00	10.0		
	Viscosity Index (VI)	Scale	ASTM D2270*	144	139		



