

## NORMAL WEAR NORMAL CONTAMINATION NORMAL FLUID CONDITION

Area (42989HA) 727018 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		GFL0104086	GFL0053271	
	Sample Date		Client Info		26 Feb 2024	27 Jul 2022	
	Machine Age	hrs	Client Info		13342	12200	
	Oil Age	hrs	Client Info		600	600	
	Filter Age	hrs	Client Info		600	600	
	Oil Changed		Client Info		N/A	Changed	
	Filter Changed		Client Info		N/A	Changed	
	Sample Status				NORMAL	NORMAL	
WEAR All component wear rates are normal.	Iron	ppm	ASTM D5185m	>120	16	<1	
	Chromium	ppm	ASTM D5185m		1	0	
	Nickel	ppm	ASTM D5185m		1	0	
	Titanium	ppm	ASTM D5185m		<1	1	
	Silver		ASTM D5185m		0	<1	
	Aluminum	ppm	ASTM D5185m		5	4	
	Lead	ppm	ASTM D5185m	>20 >40	ວ <1	<1	
	Copper	ppm	ASTM D5185m		3	6	
	Tin	ppm	ASTM D5185m		- 3 - 1	<1	
	Vanadium	ppm	ASTM D5185m	>15	ı <1	0	
	White Metal	ppm	*Visual	NONE	NONE	NONE	
		scalar		NONE	NONE	NONE	
	Yellow Metal	scalar	*Visual	NONE		NONE	
CONTAMINATION	Silicon	ppm	ASTM D5185m	>25	6	2	
	Potassium	ppm	ASTM D5185m		3	2	
There is no indication of any contamination in the oil.	Fuel	1-1-	WC Method		<1.0	<1.0	
	Water		WC Method		NEG	NEG	
	Glycol		WC Method	, o.1	NEG	NEG	
	Soot %	%	*ASTM D7844	>4	0.8	0.2	
	Nitration	Abs/cm	*ASTM D7624	>20	9.5	6.8	
	Sulfation	Abs/.1mm	*ASTM D7415		19.7	18.4	
	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	
		Jouran	Vibuui	20.L		NEG	
FLUID CONDITION	Sodium	ppm	ASTM D5185m		3	2	
	Boron	ppm	ASTM D5185m	0	3	8	
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	1	0	
	Molybdenum	ppm	ASTM D5185m	60	55	56	
	Manganese	ppm	ASTM D5185m	0	<1	<1	
	Magnesium	ppm	ASTM D5185m	1010	792	864	
	Calcium	ppm	ASTM D5185m		948	1060	
	Phosphorus	ppm	ASTM D5185m	1150	870	1018	
	Zinc	ppm	ASTM D5185m		1117	1218	
	Sulfur	ppm	ASTM D5185m		2968	3441	
	Oxidation	Abs/.1mm	*ASTM D7414		14.8	14.0	
	Base Number (BN)	mg KOH/g	ASTM D2896		6.0	9.8	



