

OIL ANALYSIS REPORT

Sample Rating Trend





Component

Diesel Engine Fluid PETRO CANADA DURON SHP 10W30 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

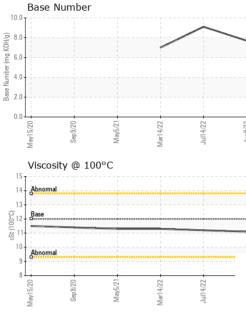
Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

JAL)		May2020	Sep2020 May202	1 Mar2022 Jul2022	Jun2023	
SAMPLE INFOR	MATION	method	limit/base	current	history 1	history 2
Sample Number		Client Info		PCA0097789	PCA0076021	PCA0068455
Sample Date		Client Info		09 Jun 2023	14 Jul 2022	14 Mar 2022
Machine Age	mls	Client Info		181339	144449	129106
Oil Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history 1	history 2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	.S	method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m	>100	13	11	25
Chromium	ppm	ASTM D5185m	>20	<1	<1	1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>3	0	<1	0
Aluminum	ppm	ASTM D5185m	>20	3	6	11
Lead	ppm	ASTM D5185m	>40	0	0	<1
Copper	ppm	ASTM D5185m	>330	15	21	41
Tin	ppm	ASTM D5185m	>15	<1	1	1
Antimony	ppm	ASTM D5185m				
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185m	2	2	19	4
Barium	ppm	ASTM D5185m	0	11	0	0
Molybdenum	ppm	ASTM D5185m	50	54	80	59
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	950	736	891	950
Calcium	ppm	ASTM D5185m	1050	866	1168	1139
Phosphorus	ppm	ASTM D5185m	995	752	1024	903
Zinc	ppm	ASTM D5185m	1180	978	1248	1132
Sulfur	ppm	ASTM D5185m	2600	2346	3397	1941
CONTAMINAN	NTS	method	limit/base	current	history 1	history 2
Silicon	ppm	ASTM D5185m	>25	3	2	3
Sodium	ppm	ASTM D5185m		2	<1	3
Potassium	ppm	ASTM D5185m	>20	6	15	16
INFRA-RED		method	limit/base	current	history 1	history 2
Soot %	%	*ASTM D7844	>3	0.6	0.4	0.8
Nitration	Abs/cm	*ASTM D7624	>20	8.6	7.8	9.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.9	20.1	22.8
FLUID DEGRA	DATION	method	limit/base	current	history 1	history 2
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.8	15.4	18.9
Base Number (BN)	mg KOH/g	ASTM D2896		7.7	9.1	7.0



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		VISUAL		method	limit/base	current	history 1	history 2	
	\wedge	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE	
		Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE	
		Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE	
		Silt	scalar	*Visual	NONE	NONE	NONE	NONE	
		Debris	scalar	*Visual	NONE	NONE	NONE	NONE	
		Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE	
Mar14/22	Jul14/22 Jun9/23	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML	
Mar	յու հե	Odor	scalar	*Visual	NORML	NORML	NORML	NORML	
		Emulsified W	ater scalar	*Visual	>0.2	NEG	NEG	NEG	
		Free Water	scalar	*Visual		NEG	NEG	NEG	
		FLUID P	ROPERTIES	S method	limit/base	current	history 1	history 2	
		Visc @ 100°		ASTM D445	12.00	11.1	11.2	11.3	
		GRAPHS							
		Iron (ppm))		100	Lead (ppm)			
22	22	200 Severe			80	Severe			
Mar14/22	Jul14,22				0.0				
2		Abnormal		; 	40	Abnormal			
		50-			20	-			
		0							
		May15/20 Sep9/20	May5/21	Mar14/22	Jun9/23	May15/20 Sep9/20	May5/21 Mar14/22	Jul14/22	
		Z		Ju Ma	٦٢	Σ	2		
		Aluminum	(ppm)			Chromium (p	pm)		
		40 Severe	1			Severe		1	
		20 - Abnormal		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	³⁰	Abnormal			
		10			10	1.1			
		0							
		May15/20 Sep 9/20	May5/21	Mar14/22 Jul14/22	Jun9/23	May15/20 Sep9/20	May5/21 Mar14/22	Jul14/22	
		May	Ma	Jul'	ηη	Sel	Mar		
		Copper (pp	om)			Silicon (ppm)			
		400 Severe		+	80	Severe			
		300			60				
		톱 200 -			틆 40				
		100				Abnormal			
		0							
		May15/20 -	May5/21-	Mar14/22 - Jul14/22 -	Jun9/23 -	May15/20 - Sep9/20 -	May5/21 - Mar14/22 -	Jul14/22 -	
		\geq		Marl Jul1	μη		2	Jul 1	
		Viscosity @) 100°C			Base Number			
		14 Abnormal	aaaaadaaaaaa		(b) HOX HOX Bu ba 6.0 u ba 4.0 www.w 82.0 eeg				
		() () () () () () () () () ()			ے 6.0 ت				
		tss			⁴ .0				
		10 Abnormal		1 1		-			
		20 +	21+	22			22	22 +	
		May15/20 Sep 9/20	May5/21	Mar14/22 Jul14/22	Jun9/23	May15/20 Sep9/20	May5/21 Mar14/22	Jul14/22	
		W	_	2 7		N N	- 2		
d	Laboratory	: WearCheck	USA - 501 Mad	dison Ave., Ca	ary, NC 27513	3			
ANAB	Sample No.	: PCA009778			Jul 2023				
C C R E D I T E D	Lab Number	: 05888630 r : 10539113	Diagno			LOGAN	IOWNSHIP, N US 0808		
Certificate L2367	Unique Number Test Package		Diagno ditional Tests: T			Con	tact: ED DAVIS		
		contact Custom			<i>9.</i>	edavis@millertransgroup.cor			
								(856)214-352	

Contact/Location: ED DAVIS - MILLOG