

OIL ANALYSIS REPORT

VISCOSITY



Machine Id **117** Component **Diesel Engine** Fluid **PETRO CANADA DURON HP 15W40 (--- GAL)**

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Fuel content negligible. There is no indication of any contamination in the oil.

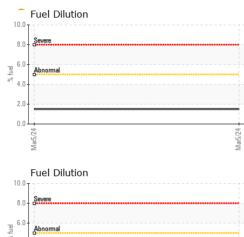
Fluid Condition

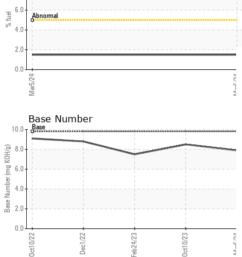
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sample Number Sample Date Machine Age	mls	Client Info Client Info Client Info		WC0905883 05 Mar 2024 0	WC0792667 10 Oct 2023 109438	WC0792771 24 Feb 2023 100765
Oil Age	mls	Client Info		0	5000	0
Oil Changed		Client Info		Not Changd	Not Changd	N/A
Sample Status				ATTENTION	NORMAL	NORMAL
CONTAMINATION	١	method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	40	26	38
Chromium	ppm	ASTM D5185m	>20	<1	<1	2
Nickel	ppm	ASTM D5185m	>4	<1	<1	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	8	10	6
Lead	ppm	ASTM D5185m	>40	0	0	1
Copper	ppm	ASTM D5185m	>330	2	1	2
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		6	10	6
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		60	66	64
Manganese	ppm	ASTM D5185m		<1	0	<1
Magnesium	ppm	ASTM D5185m		902	886	857
Calcium	ppm	ASTM D5185m		1103	1124	1171
Phosphorus	ppm	ASTM D5185m		884	934	968
Zinc	ppm	ASTM D5185m		1170	1219	1205
Sulfur	ppm	ASTM D5185m		3175	3302	2664
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	6	5	6
Sodium	ppm	ASTM D5185m		3	<1	2
Potassium	ppm	ASTM D5185m	>20	12	16	9
Fuel	%	ASTM D3524	>5	1.5	<1.0	<1.0
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	1.9	0.9	1.7
Nitration	Abs/cm	*ASTM D7624	>20	12.2	8.1	12.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.8	19.0	24.7
FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.9	14.4	20.6
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	7.9	8.5	7.5



OIL ANALYSIS REPORT





		VISUAL		method	limit/base	e current	history1	histo	ory2
		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	-
	Mar5/24 -	Appearance	scalar	*Visual	NORML	NORML	NORML	NORM	ЛL
	Mar	Odor	scalar	*Visual	NORML	NORML	NORML	NORM	ИL
		Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG	
		Free Water	scalar	*Visual		NEG	NEG	NEG	
		FLUID PROPER	TIES	method	limit/base	e current	history1	histo	ory2
		Visc @ 100°C	cSt	ASTM D445	15.6	<mark> </mark> 10.8	13.7	13.4	
		GRAPHS							
		Iron (ppm)			1	Lead (ppm)			
	4 C.	200 - Severe				80 - Severe			
	M~E	= 150-				60-			
		Abnormal			bm	40 - Abnormal			
		50				20-			
		0				0			
		0ct10/22 Dec1/22	Feb24/23	0ct10/23	Mar5/24	0ct10/22 Dec1/22	-eb24/23	0ct10/23	
		D	Feb	0	×	Det	Feb	0	:
		Aluminum (ppm))			Chromium (p	pm)		
		50 40 Severe				40 Severe			
		+0 1 4							
- 23 -	/23	20 - Abnormal				30 20 - Abnormal			
Feb24/23	0ct10/23 ме.лл	10				10			
		0				0			
		0ct10/22 -	Feb24/23 -	0ct10/23 -	Mar5/24 -	0ct10/22	Feb24/23 -	0ct10/23 -	
		0ct1 Dec	Feb 2	0ct1	Mar	0ct1 Dec	Feb2	0ct1	:
		Copper (ppm)				Silicon (ppm)			
		300 -				60	 		
					E				
		틆 200 -		1	dd	40 Abnormal		1	
		100-				20			
				~	4				
		0ct10/22 Dec1/22	Feb24/23	0ct10/23	Mar5/24	0ct10/22 Dec1/22	Feb24/23	0ct10/23	
				õ	2	-	_	0	
	Viscosity @ 100°	C			Base Number				
		18 Abnormal	i I	1	(B/HC	8.0			
	2 16 - Base			×	6.0-				
		© 16 Base 00 14 37 12		-	uber (4.0			
		1		1	e Num	2.0			
		10				0.0			
		0ct10/22 -	Feb24/23 -	0ct10/23 -	Mar5/24 -	0ct10/22	Feb24/23 -	0ct10/23 -	
		0ct1 Dec	Feb 2	0ct1	Mar	0ct1 Dec	Feb2	0ct1	:
		: WearCheck USA - 5 : WC0905883 r : 06132666 r : 10952131	Rece Teste	ived : 28 ed : 02	, NC 27513 Mar 2024 2 Apr 2024 Apr 2024 - S		E CO SCHOOL 1603 SALEI GC	M CHURC	HR

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Т:

F: