

OIL ANALYSIS REPORT

Sample Rating Trend





Component Diesel Engine

PETRO CANADA DURON SHP 10W30 (--- LTR)

DIAGNOSIS Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

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.

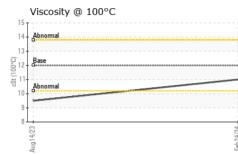
Fluid Condition

The condition of the oil is acceptable for the time in service.

Sample Date Client Info 24 Feb 2024 14 Aug 2023 Wachine Age hrs Client Info 0 0 Dil Age hrs Client Info 0 0 Sample Status Client Info Changed N/A CONTAMINATION method imit/base current history1 history2 Fuel WC Method >3.0 <1.0 1.1 Water WC Method >0.2 NEG NEG Saycol WC Method >0.2 NEG 0.0 WEAR METALS method imit/base current history1 history2 ron ppm ASTM DBIS(m) >20 <1 <1 Silver ppm ASTM DBIS(m) >20 <1 <1 Silver ppm ASTM DBIS(m) >20 3 8 Silver ppm ASTM DBIS(m)	N SHP 10W30 (-	LTR)		Aug2023	Feb2024		
Sample Date Client Info 24 Feb 2024 14 Aug 2023 Machine Age hrs Client Info 0 0 Dil Age hrs Client Info 0 0 Sample Status Client Info Changed NORMAL NORMAL CONTAMINATION method imit/base current history1 history2 Fuel WC Method >3.0 <1.0 1.1 Water WC Method >0.2 NEG 0.0 Silycol WC Method >0.2 NEG 0.0 Verant ppm ASTM05180m >120 21 29 Chromium ppm ASTM05180m >20 <1 <1 Silver ppm ASTM05180m >2 0 0 Silver ppm ASTM05180m >2 <1 <1 Sopper ppm AS	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 1655 583 Dil Age hrs Client Info 0 0 Dil Age hrs Client Info 0 0 Sample Status Imit/base current History1 History2 Fuel WC Method >3.0 <1.0	Sample Number		Client Info		GFL0102660	GFL0090626	
Dil Age hrs Client Info 0 Sample Status Client Info Changed N/A Sample Status Method init/base current history1 history2 CONTAMINATION method init/base current history1 history2 Fuel WC Method >3.0 <1.0	Sample Date		Client Info		24 Feb 2024	14 Aug 2023	
Dil Changed Client Info Changed N/A Sample Status NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history2 Fuel WC Method >0.2 NEG NEG Silycol WC Method >0.2 NEG NEG WEAR METALS method limit/base current history1 history2 ron ppm ASTM 05185(m) >20 <1	Machine Age	hrs	Client Info		1655	583	
Sample Status NORMAL NORMAL NORMAL CONTAMINATION method imit/base current history1 history2 Fuel WC Method >3.0 <1.0	Oil Age	hrs	Client Info		0	0	
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Silveol WE Method NEG 0.0 WEAR METALS method limit/base current history1 history2 ron ppm ASTM D5185(m) >120 21 29 Chromium ppm ASTM D5185(m) >20 <1	Fuel		WC Method	>3.0	<1.0	1.1	
WEAR METALS method limit/base current history1 history2 iron ppm ASTM D5165(m) >120 21 29 Chromium ppm ASTM D5165(m) >5 3 4 Nickel ppm ASTM D5165(m) >5 3 4 Silver ppm ASTM D5165(m) >2 0 0 Aluminum ppm ASTM D5165(m) >2 3 8 Aluminum ppm ASTM D5165(m) >20 3 86 Aluminum ppm ASTM D5165(m) >300 172 386 Copper ppm ASTM D5165(m) >15 <1	Water		WC Method	>0.2	NEG	NEG	
ron ppm ASTM D5185(m) >12.0 21 29 Chromium ppm ASTM D5185(m) >20 <1	Glycol		WC Method		NEG	0.0	
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Titanium ppm ASTM D5185(m) >2 0 0 Silver ppm ASTM D5185(m) >2 <1	Chromium	ppm	ASTM D5185(m)	>20	<1	<1	
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Manganese ppm ASTM D5185(m) 0 <1 3 Magnesium ppm ASTM D5185(m) 950 953 719 Calcium ppm ASTM D5185(m) 1050 1044 1407 Calcium ppm ASTM D5185(m) 1050 1044 1407 Calcium ppm ASTM D5185(m) 1050 1044 1407 Phosphorus ppm ASTM D5185(m) 995 999 754 Zinc ppm ASTM D5185(m) 2600 2417 2334 Sulfur ppm ASTM D5185(m) 2600 2417 2334 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >25 4 24 Sodium ppm ASTM D5185(m) >20 7 14 INFRA-RED meth	Barium	ppm	ASTM D5185(m)	0	0	0	
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Soot % % ASTM D7844* >4 0.2 0.1 Nitration Abs/cm ASTM D7624* >20 9.2 9.8	Potassium	ppm	ASTM D5185(m)	>20	7	14	
Nitration Abs/cm ASTM D7624* >20 9.2 9.8	INFRA-RED		method	limit/base	current	history1	history2
	Soot %	%	ASTM D7844*	>4	0.2	0.1	
Sulfation Abs/.1mm ASTM D7415* >30 20.2 25.8	Nitration	Abs/cm	ASTM D7624*	>20	9.2	9.8	
	Sulfation	Abs/.1mm	ASTM D7415*	>30	20.2	25.8	



OIL ANALYSIS REPORT



°C		FLUID DEGRAD	ATION	method	limit/base	current	history1	history2
	C	xidation	Abs/.1mm	ASTM D7414*	>25	16.4	23.7	
		VISUAL		method	limit/base	current	history1	history2
	v	Vhite Metal	scalar	Visual*	NONE	NONE		
		ellow Metal	scalar	Visual*	NONE	NONE		
	Р	recipitate	scalar	Visual*	NONE	NONE		
	Feb24/24	ilt	scalar	Visual*	NONE	NONE		
		ebris	scalar	Visual*	NONE	NONE		
		and/Dirt	scalar	Visual*	NONE	NONE		
		ppearance	scalar	Visual*	NORML	NORML		
		dor	scalar	Visual*	NORML	NORML	NORML	
		mulsified Water ree Water	scalar scalar	Visual* Visual*	>0.2	NEG NEG	NEG NEG	
	_							
					limit/base	current	history1	history2
	V	íisc @ 100°C GRAPHS	cSt	ASTM D7279(m)	12.00	11.0	9.5	
		Iron (ppm)				Lead (ppm)		
	300	Severe			100			
					80 E 60) -		
	톱. 100 -	Abnormal			und 41			-
	0				2) 		
		Aug 14/23			Feb24/24	Aug14/23		Feb24/24
					E			B
	50 T	Aluminum (ppm)			50	Chromium (pp	om)	
	40				40			
	ی ³⁰	Abnormal			트 ³⁰	Abnormal		
	10-				10			
	0	- 23			24			24
		Aug 14/23			Feb24/24	Aug14/23		Feb24/24
		Copper (ppm)				Silicon (ppm)		
	400	Gevere Obnormal				Severe		
	300 - 틆 200 -				60 			
	음 200 100-				특 41 20	Abnormal		
	0					, L		
		Aug 14/23			Feb24/24	Aug14/23		Feb24/24
					æ			Fet
	¹⁶ T	Viscosity @ 100°C			8.0	Soot %		
	_ට 14	Abnormal			6.0) - Severe		
	() () () () () () () () () () () () () (Base	*****		54.0 S	Abnormal		
	^ਲ ੋਂ 10-	Abnormal			2.0]		
	8	/23+						/24
		Aug14/23			Feb24/24	Aug14/23		Feb24,24
Accredited Unique Laboratory Test Pa	eNo. : GF umber : 020 Number : 573 ackage : MC		Recei Teste Diagn sts: Visu	ved : 06 d : 06 iosed : 06 al) : 06	Mar 2024 Mar 2024 Mar 2024 - W		Con	- Edmonton SW 15th Street NW Edmonton, AB CA T6P 0B8 ttact: Tim Greig ig@gflenv.com

Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.

Validity of results and interpretation are based on the sample and information as supplied.

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