

OIL ANALYSIS REPORT

Sample Rating Trend





Component

Diesel Engine

PETRO CANADA DURON SHP 15W40 (5 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the oil.

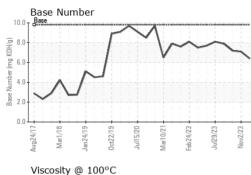
Fluid Condition

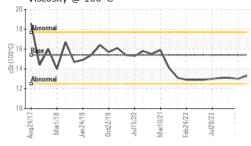
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sample Date Client Info 30 Jan 2024 02 Nov 2023 23 Oct 2023 Machine Age hrs Client Info 307 255 2232 Oil Age hrs Client Info 0 423 447 Oil Changed Client Info N/A Changed Not Changed Not Changed Sample Status method limit/base current History1 History2 Fuel WC Method >5.2 <1.0 <1.0 <1.0 Water WC Method >0.2 NEG NEG NEG Glycol WC Method >0.2 NEG NEG NEG Vexter ppm ASTM 05165m >100 10 17 20 Chromium ppm ASTM 05165m >4 0 0 <1 1 Nickel ppm ASTM 05165m >30 0 0 <1 2 2 Itraium ppm ASTM 05165m >30 <1 2 2 <th>AL)</th> <th></th> <th>1g2017 Mar20</th> <th>8 9 9 9 9 9 9 9 18 Jan2019 Oct2019 J</th> <th>Bolloopoop ui2020 Mar2021 Feb2023 Jul202</th> <th>0 0 0 0 3 Nov2023</th> <th></th>	AL)		1g2017 Mar20	8 9 9 9 9 9 9 9 18 Jan2019 Oct2019 J	Bolloopoop ui2020 Mar2021 Feb2023 Jul202	0 0 0 0 3 Nov2023	
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CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0	-		Client Info		N/A	Changed	Not Changd
Fuel WC Method >5 <1.0 <1.0 <1.0 <1.0 Water WC Method >0.2 NEG NEG NEG Glycol WC Method NEG NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5165m >20 0 <1	Sample Status				NORMAL	NORMAL	NORMAL
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Copper ppm ASTM D5185m >330 <1 2 2 Tin ppm ASTM D5185m >15 <1					-		
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Zinc ppm ASTM D5185m 1270 1147 1172 1348 Sulfur ppm ASTM D5185m 2060 2761 2720 4118 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 6 7 Sodium ppm ASTM D5185m >25 4 6 7 Sodium ppm ASTM D5185m >20 1 2 2 Potassium ppm ASTM D5185m >20 1 <1	Phosphorus		ASTM D5185m	1150	967	912	1197
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>25467SodiumppmASTM D5185m>20122PotassiumppmASTM D5185m>201<1			ASTM D5185m	1270	1147	1172	1348
Silicon ppm ASTM D5185m >25 4 6 7 Sodium ppm ASTM D5185m >20 1 2 2 Potassium ppm ASTM D5185m >20 1 21 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.7 1 0.9 Nitration Abs/cm *ASTM D7624 >20 8.7 10.8 10.3 Sulfation Abs/.tm *ASTM D7415 >30 18.5 20.5 19.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.tmm *ASTM D7414 >25 15.3 17.8 17.0	Sulfur	ppm	ASTM D5185m	2060	2761	2720	4118
Sodium ppm ASTM D5185m 1 2 2 Potassium ppm ASTM D5185m >20 1 <1	CONTAMINAN	TS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 1 <1 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.7 1 0.9 Nitration Abs/cm *ASTM D7624 >20 8.7 10.8 10.3 Sulfation Abs/.1mm *ASTM D7415 >30 18.5 20.5 19.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.3 17.8 17.0	Silicon	ppm	ASTM D5185m	>25	4	6	7
INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.7 1 0.9 Nitration Abs/cm *ASTM D7624 >20 8.7 10.8 10.3 Sulfation Abs/.tmm *ASTM D7415 >30 18.5 20.5 19.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.tmm *ASTM D7414 >25 15.3 17.8 17.0	Sodium	ppm	ASTM D5185m		1	2	2
Soot % % *ASTM D7844 >3 0.7 1 0.9 Nitration Abs/cm *ASTM D7624 >20 8.7 10.8 10.3 Sulfation Abs/.1mm *ASTM D7415 >30 18.5 20.5 19.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.3 17.8 17.0	Potassium	ppm	ASTM D5185m	>20	1	<1	2
Nitration Abs/cm *ASTM D7624 >20 8.7 10.8 10.3 Sulfation Abs/.1mm *ASTM D7415 >30 18.5 20.5 19.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.3 17.8 17.0	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 18.5 20.5 19.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.3 17.8 17.0	Soot %	%	*ASTM D7844	>3	0.7	1	0.9
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 15.3 17.8 17.0	Nitration	Abs/cm	*ASTM D7624	>20	8.7	10.8	10.3
Oxidation Abs/.1mm *ASTM D7414 >25 15.3 17.8 17.0	Sulfation	Abs/.1mm	*ASTM D7415	>30	18.5	20.5	19.8
	FLUID DEGRA	DATION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 9.8 6.4 7.1 7.2		Abs/.1mm	*ASTM D7414	>25	15.3	17.8	
	Base Number (BN)	mg KOH/g	ASTM D2896	9.8	6.4	7.1	7.2

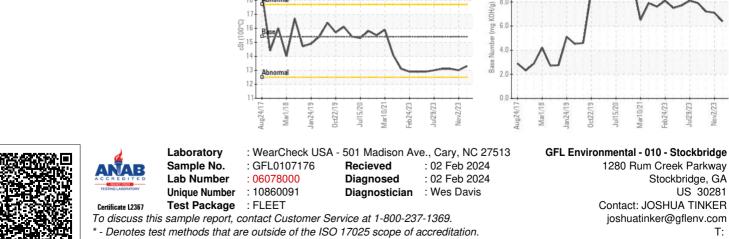


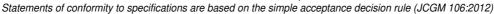
OIL ANALYSIS REPORT





VISUAL		method	limit/base	current	history1	history2
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
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.3	13.0	13.1
GRAPHS						
Ferrous Alloys						
0 LL/LE Non-ferrous Meta	Jul15/20	Feb24/23	Nov2/23			
copper						
00						
80 60 40 40 7 7 7 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8	Juli5/20 Mar10/21	Feb24/23	Nov2/23			
80 60 40 20 0		Feb:24/23		Base Number		





Submitted By: JOSHUA TINKER

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