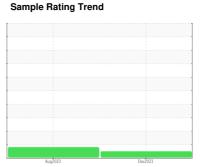


OIL ANALYSIS REPORT



Machine Id **712047** Component **Diesel Engine**

PETRO CANADA DURON SHP 15W40 (--- GAL)





DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the

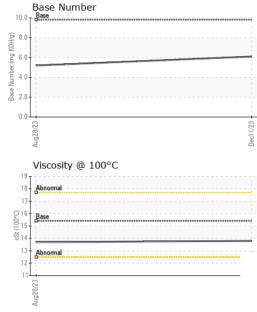
Fluid Condition

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

Cample Number Client Info Cample Number Client Info Colient Colient Info Colient Colient Info Colient Info	N SHP 15W40 (GAL)		Aug2023	Dec2023		
Sample Date	SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 598 0	Sample Number		Client Info		GFL0103598	GFL0085287	
Machine Age hrs Client Info 598 0	•		Client Info		11 Dec 2023	28 Aug 2023	
Dil Changed Client Info N/A N/A ABNORMAL Sample Status NORMAL ABNORMAL ABNORMAL Sample Status NORMAL ABNORMAL ABNORMAL Sample Status NORMAL NORMAL Sample Status NORM		hrs	Client Info		0	0	
CONTAMINATION method limit/base current history1 history2	Oil Age	hrs	Client Info		598	0	
CONTAMINATION	Oil Changed		Client Info		N/A	N/A	
Fuel	Sample Status				NORMAL	ABNORMAL	
Water WC Method Solution NEG NEG	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>3.0	<1.0	<1.0	
WEAR METALS method limit/base current history1 history2 ron ppm ASTM D5185m >120 11 30 Chromium ppm ASTM D5185m >20 <1	Nater		WC Method	>0.2	NEG	NEG	
Chromium	Glycol		WC Method		NEG	NEG	
Chromium	WEAR METAL	S	method	limit/base	current	history1	history2
Strickel	ron	ppm	ASTM D5185m	>120	11	30	
Description	Chromium	ppm	ASTM D5185m	>20	<1	1	
Salver	Nickel	ppm	ASTM D5185m	>5	2	<u> </u>	
Aluminum	Titanium	ppm	ASTM D5185m	>2	0	0	
Lead	Silver	ppm	ASTM D5185m	>2	0	<1	
Copper	Aluminum	ppm	ASTM D5185m	>20	<1	0	
Tin	_ead	ppm	ASTM D5185m	>40	<1	0	
Vanadium ppm ASTM D5185m <1 0	Copper	ppm	ASTM D5185m	>330	3	9	
ADDITIVES	Γin	ppm	ASTM D5185m	>15	<1	0	
ADDITIVES	Vanadium	ppm	ASTM D5185m		<1	0	
Soron ppm ASTM D5185m 0 1 0 0 0	Cadmium	ppm	ASTM D5185m		0	0	
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 59 55 Manganese ppm ASTM D5185m 0 <1	Boron	ppm	ASTM D5185m	0	1	0	
Manganese ppm ASTM D5185m 0 <1 2 Magnesium ppm ASTM D5185m 1010 959 895 Calcium ppm ASTM D5185m 1070 1030 1165 Phosphorus ppm ASTM D5185m 1150 889 937 Zinc ppm ASTM D5185m 1270 1220 1196 Sulfur ppm ASTM D5185m 2060 2737 2943 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 6 Sodium ppm ASTM D5185m >20 <1	Barium	ppm	ASTM D5185m	0	0	0	
Magnesium ppm ASTM D5185m 1010 959 895 Calcium ppm ASTM D5185m 1070 1030 1165 Phosphorus ppm ASTM D5185m 1150 889 937 Zinc ppm ASTM D5185m 1270 1220 1196 Sulfur ppm ASTM D5185m 2060 2737 2943 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 6 Sodium ppm ASTM D5185m >20 <1	Molybdenum	ppm	ASTM D5185m	60	59	55	
Calcium ppm ASTM D5185m 1070 1030 1165 Phosphorus ppm ASTM D5185m 1150 889 937 Zinc ppm ASTM D5185m 1270 1220 1196 Sulfur ppm ASTM D5185m 2060 2737 2943 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 6 Sodium ppm ASTM D5185m >20 <1	Manganese	ppm	ASTM D5185m	0	<1	2	
Phosphorus ppm ASTM D5185m 1150 889 937 Zinc ppm ASTM D5185m 1270 1220 1196 Sulfur ppm ASTM D5185m 2060 2737 2943 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 6 Sodium ppm ASTM D5185m 20 <1	Magnesium	ppm	ASTM D5185m	1010	959	895	
Zinc ppm ASTM D5185m 1270 1220 1196 Sulfur ppm ASTM D5185m 2060 2737 2943 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 6 Sodium ppm ASTM D5185m >20 <1 0 Potassium ppm ASTM D5185m >20 <1 0 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7844 >4 0.5 0.9 Nitration Abs/cm *ASTM D7624 >20 9.0 10.9 Sulfation Abs/.1mm *ASTM D7415 >30 21.1 24.3 FLUID DEGRADATION method limit/base current history1 history2 Dxidation Abs/.1mm *ASTM D7414 >25 17.4 21.3	Calcium	ppm	ASTM D5185m	1070	1030	1165	
Sulfur ppm ASTM D5185m 2060 2737 2943 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 6 Sodium ppm ASTM D5185m 4 6 Potassium ppm ASTM D5185m >20 <1 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.5 0.9 Sulfation Abs/.1mm *ASTM D7624 >20 9.0 10.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.4 21.3	Phosphorus	ppm	ASTM D5185m	1150	889	937	
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 6 Sodium ppm ASTM D5185m 4 6 Potassium ppm ASTM D5185m >20 <1	Zinc	ppm	ASTM D5185m	1270	1220	1196	
Solition ppm ASTM D5185m >25 4 6	Sulfur	ppm	ASTM D5185m	2060	2737	2943	
Sodium	CONTAMINAN	ITS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 <1 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.5 0.9 Nitration Abs/cm *ASTM D7624 >20 9.0 10.9 Sulfation Abs/.1mm *ASTM D7415 >30 21.1 24.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.4 21.3	Silicon	ppm	ASTM D5185m	>25	4	6	
INFRA-RED	Sodium	ppm	ASTM D5185m		4	6	
Soot % % *ASTM D7844 >4 0.5 0.9 Nitration Abs/cm *ASTM D7624 >20 9.0 10.9 Sulfation Abs/.1mm *ASTM D7415 >30 21.1 24.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.4 21.3	Potassium	ppm	ASTM D5185m	>20	<1	0	
Nitration Abs/cm *ASTM D7624 >20 9.0 10.9 Sulfation Abs/.1mm *ASTM D7415 >30 21.1 24.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.4 21.3	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 21.1 24.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.4 21.3	Soot %	%	*ASTM D7844	>4	0.5	0.9	
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.4 21.3	Nitration	Abs/cm	*ASTM D7624	>20	9.0	10.9	
Oxidation	Sulfation	Abs/.1mm	*ASTM D7415	>30	21.1	24.3	
	FLUID DEGRA	OATION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 9.8 6.1 5.2	Oxidation	Abs/.1mm	*ASTM D7414	>25	17.4	21.3	
	Base Number (BN)	mg KOH/g	ASTM D2896	9.8	6.1	5.2	



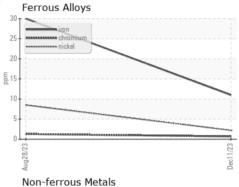
OIL ANALYSIS REPORT

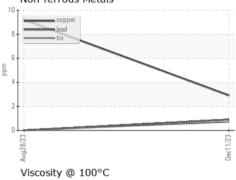


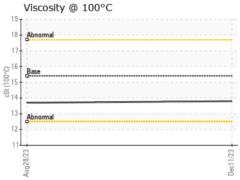
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
Precipitate	scalar	*Visual	NONE	NONE	NONE	
Silt	scalar	*Visual	NONE	NONE	NONE	
Debris	scalar	*Visual	NONE	NONE	NONE	
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
Appearance	scalar	*Visual	NORML	NORML	NORML	
Odor	scalar	*Visual	NORML	NORML	NORML	
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	
Free Water	scalar	*Visual		NEG	NEG	

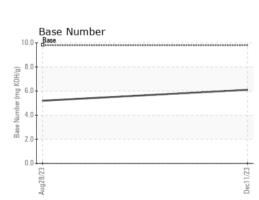
FLUID PROPE	ERITES	method	limit/base		nistory1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.8	13.7	

GRAPHS











Certificate L2367

Laboratory Sample No. Lab Number Unique Number : 10795188

Test Package : FLEET

: GFL0103598 : 06039959

To discuss this sample report, contact Customer Service at 1-800-237-1369.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Recieved Diagnosed

: 19 Dec 2023 : 20 Dec 2023 Diagnostician : Wes Davis

GFL Environmental - 958 - Tri County HC Morton 1090 W. Jefferson St.

Morton, IL US 61550

Contact: Bryan Link blink@gflenv.com T:

* - 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)

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