

OIL ANALYSIS REPORT

Sample Rating Trend NORMAL





Machine Id 713078 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

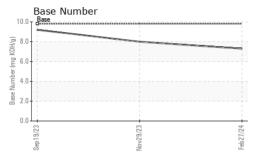
Fluid Condition

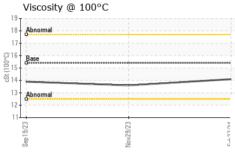
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sample Date	N SHP 15W40 (- GAL)	Sej	2023	Nov2023 Feb20	24	
Sample Date	SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 600 600 600 0 0 0 0 0	Sample Number		Client Info		GFL0107717	GFL0096585	GFL0046383
Oil Age hrs Client Info 600 600 0 Oil Changed Sample Status Client Info Changed Changed Changed Not Cha	Sample Date		Client Info		27 Feb 2024	29 Nov 2023	19 Sep 2023
Client Info	Machine Age	hrs	Client Info		1334	613	
Contact Con	Oil Age	hrs	Client Info		600	600	0
NORMAL NORMAL ABNORMAL	-		Client Info			Changed	Not Changd
Fuel							
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 >90 27 39 41 Chromium ppm ASTM D5185m >20 <1 <1 3 Nickel ppm ASTM D5185m >2 0 0 0 Silver ppm ASTM D5185m >2 0 0 0 Silver ppm ASTM D5185m >20 2 3 5 Lead ppm ASTM D5185m >40 0 0 0 Copper ppm ASTM D5185m >330 2 13 <1 Tin ppm ASTM D5185m >15 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 Barium	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
WEAR METALS	Water		WC Method	>0.2	NEG	NEG	NEG
Potential Pot	Glycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m >20 <1 <1 3	WEAR METAL	S	method	limit/base	current	history1	history2
Nickel	ron	ppm	ASTM D5185m	>90	27	39	41
Nickel	Chromium		ASTM D5185m	>20	<1	<1	3
Titanium ppm ASTM D5185m >2 <1 0 0 Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >20 2 3 5 Lead ppm ASTM D5185m >40 0 0 0 Copper ppm ASTM D5185m >30 2 13 <1 Tin ppm ASTM D5185m >15 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 2 44 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 6 0 <td>Nickel</td> <td>ppm</td> <td>ASTM D5185m</td> <td>>2</td> <th>0</th> <td>0</td> <td>0</td>	Nickel	ppm	ASTM D5185m	>2	0	0	0
Silver	Titanium		ASTM D5185m	>2	<1	0	0
Aluminum ppm ASTM D5185m >20 2 3 5 Lead ppm ASTM D5185m >40 0 0 0 0 Copper ppm ASTM D5185m >330 2 13 <1 Fin ppm ASTM D5185m >15 0 0 0 Cadmium ppm ASTM D5185m >0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 6 0 Cadmium ppm ASTM D5185m 0 0 0 6 0 Cadmium ppm ASTM D5185m 0 0 0 6 0 Cadmium ppm ASTM D5185m 0 0 0 6 0 Cadmium ppm ASTM D5185m 0 0 0 6 0 Cadmium ppm ASTM D5185m 0 0 0 6 0 Cadmium ppm ASTM D5185m 0 0 0 6 0 Cadmium ppm ASTM D5185m 0 0 0 6 0 Cadmium ppm ASTM D5185m 0 0 0 6 0 Cadmium ppm ASTM D5185m 0 0 0 6 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 6 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 6 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 6 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 6 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 6 0 0 Cadmium ppm ASTM D5185m 1010 1051 543 934 00 Calcicium ppm ASTM D5185m 1070 1243 1498 1096 0 Flosphorus ppm ASTM D5185m 1150 11112 670 985 0 Calcicium ppm ASTM D5185m 1270 1300 874 1195 0 Calcicium ppm ASTM D5185m 2060 3228 2376 3549 0 CONTAMINANTS method limit/base current history1 history2 Calcicium ppm ASTM D5185m >20 <1 8 8 8 0 CONTAMINANTS method limit/base current history1 history2 Calcicium ppm ASTM D5185m >20 0 6 23.1 18.2 FLUID DEGRADATION method limit/base current history1 history2 Calcicium Abs/.1mm *ASTM D7844 >6 0.6 0.5 0.5 0.2 FLUID DEGRADATION method limit/base current history1 history2 Calcicium Abs/.1mm *ASTM D7844 >20 9.6 10.2 5.9 Calcicium Abs/.1mm *ASTM D7844 >20 9.6 10.2 5.9 Calcicium Abs/.1mm *ASTM D7844 >25 18.4 23.8 13.6						0	0
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Potassium ppm ASTM D5185m >20 <1 8 8 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.6 0.5 0.2 Nitration Abs/cm *ASTM D7624 >20 9.6 10.2 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 20.6 23.1 18.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.4 23.8 13.6				720			
INFRA-RED				>20			
Soot % % *ASTM D7844 > 6 0.6 0.5 0.2 Nitration Abs/cm *ASTM D7624 > 20 9.6 10.2 5.9 Sulfation Abs/.1mm *ASTM D7415 > 30 20.6 23.1 18.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 > 25 18.4 23.8 13.6	INFRA-RED		method	limit/base	current	history1	history2
Nitration Abs/cm *ASTM D7624 >20 9.6 10.2 5.9 Sulfation Abs/.1mm *ASTM D7615 >30 20.6 23.1 18.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.4 23.8 13.6		%	*ASTM D7844	>6	0.6	0.5	
Sulfation Abs/.1mm *ASTM D7415 >30 20.6 23.1 18.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.4 23.8 13.6							
Oxidation							
Oxidation		DAT <u>ION</u>	method_		current		history <u>2</u>
				>25	18.4	23.8	
	Base Number (BN)	mg KOH/g			7.3	8.0	9.2



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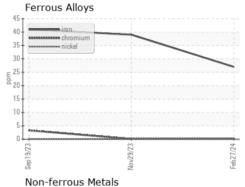


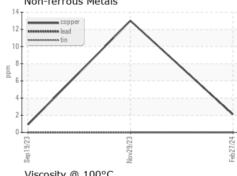


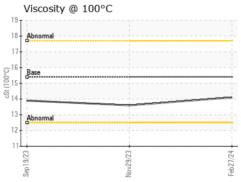
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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

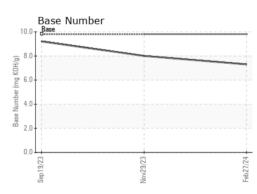
FLUID PROPE	RTIES	method				history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.1	13.6	13.9

GRAPHS













Laboratory Sample No.

Lab Number : 06108031 Unique Number: 10911528

: GFL0107717 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 04 Mar 2024 **Tested** Diagnosed

: 05 Mar 2024 : 05 Mar 2024 - Wes Davis GFL Environmental - 465 - Pontiac

888 Baldwin Pontiac, MI US 48340

Contact: Ricky Matthews rickymathews@gflenv.com T: (586)825-9514

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

* - 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)