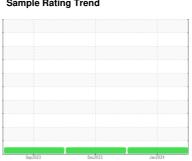


OIL ANALYSIS REPORT

Sample Rating Trend









714057 Component **Diesel Engine**

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

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the

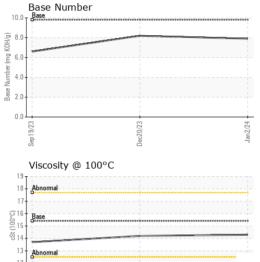
Fluid Condition

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

Sample Number Client Info GFL0107660 GFL0107053 GFL0027 Sample Date Client Info 02 Jan 2024 20 Dec 2023 19 Sep 2 Machine Age hrs Client Info 600 600 600 600 600 600 GO GO GO GO GO GO GO	N SHP 15W40 (-	GAL)	Sej	2023	Dec2023 Jan20	24	
Sample Date Client Info 02 Jan 2024 20 Dec 2023 19 Sep 21 Machine Age hrs Client Info 600	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 1191 1142 443 443 449 600	Sample Number		Client Info		GFL0107660	GFL0107053	GFL002755
Dil Age	Sample Date		Client Info		02 Jan 2024	20 Dec 2023	19 Sep 2023
Dil Changed Client Info N/A Not Changd NorMAL NEG NEG	Machine Age	hrs	Client Info		1191	1142	443
CONTAMINATION	Oil Age	hrs	Client Info		600	600	600
CONTAMINATION	Oil Changed		Client Info		N/A	Not Changd	Not Changd
Fuel	Sample Status				NORMAL	NORMAL	NORMAL
Water WC Method >0.2 NEG NEG NEG Glycol WC Method NEG NEG NEG WEAR METALS method limit/base current history1 history1 ron ppm ASTM D5185m >90 32 31 34 Chromium ppm ASTM D5185m >20 <1	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
WEAR METALS method limit/base current history1 histor ron ppm ASTM D5185m >20 32 31 34 Chromium ppm ASTM D5185m >20 <1	Nater		WC Method	>0.2	NEG	NEG	NEG
Chromium	Glycol		WC Method		NEG	NEG	NEG
Chromium	WEAR METAL	_S	method	limit/base	current	history1	history2
Nickel	ron	ppm	ASTM D5185m	>90	32	31	34
Description	Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Silver	Nickel	ppm	ASTM D5185m	>2	0	<1	1
Aluminum	Titanium	ppm	ASTM D5185m	>2	0	0	0
Lead	Silver	ppm	ASTM D5185m	>2	0	0	0
Copper ppm ASTM D5185m >330 2 2 13 Tin ppm ASTM D5185m >15 <1	Aluminum	ppm	ASTM D5185m	>20	2	2	5
Standard	_ead	ppm	ASTM D5185m	>40	<1	0	<1
ASTM D5185m Pope	Copper	ppm	ASTM D5185m	>330	2	2	13
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history1 Boron ppm ASTM D5185m 0 8 4 55 Barium ppm ASTM D5185m 0 <1	Γin	ppm	ASTM D5185m	>15	<1	<1	<1
ADDITIVES	Vanadium	ppm	ASTM D5185m		0	0	0
Soron ppm ASTM D5185m 0 8 4 55	Cadmium	ppm	ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 0 <1 0 6 Molybdenum ppm ASTM D5185m 60 60 63 103 Manganese ppm ASTM D5185m 0 <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 60 63 103 Manganese ppm ASTM D5185m 0 <1 <1 6 Magnesium ppm ASTM D5185m 1010 899 906 682 Calcium ppm ASTM D5185m 1070 1098 1075 1185 Phosphorus ppm ASTM D5185m 1150 1009 985 723 Zinc ppm ASTM D5185m 1270 1177 1201 884 Sulfur ppm ASTM D5185m 2060 2891 3183 2755 CONTAMINANTS method limit/base current history1 history1 Solicon ppm ASTM D5185m >25 3 3 14 Sodium ppm ASTM D5185m 5 4 3 Potassium ppm ASTM D5185m 5 4 3 Soot % *ASTM D7844 >6 0.8 0.8 <	Boron	ppm	ASTM D5185m	0	8	4	55
Manganese ppm ASTM D5185m 0 <1 <1 6 Magnesium ppm ASTM D5185m 1010 899 906 682 Calcium ppm ASTM D5185m 1070 1098 1075 1185 Phosphorus ppm ASTM D5185m 1150 1009 985 723 Zinc ppm ASTM D5185m 1270 1177 1201 884 Sulfur ppm ASTM D5185m 2060 2891 3183 2755 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 3 3 14 Sodium ppm ASTM D5185m >20 <1	Barium	ppm	ASTM D5185m	0	<1	0	6
Magnesium ppm ASTM D5185m 1010 899 906 682 Calcium ppm ASTM D5185m 1070 1098 1075 1185 Phosphorus ppm ASTM D5185m 1150 1009 985 723 Zinc ppm ASTM D5185m 1270 1177 1201 884 Sulfur ppm ASTM D5185m 2060 2891 3183 2755 CONTAMINANTS method limit/base current history1 histo Silicon ppm ASTM D5185m >25 3 3 14 Sodium ppm ASTM D5185m 5 4 3 3 Potassium ppm ASTM D5185m >20 <1	Molybdenum	ppm	ASTM D5185m	60	60	63	103
Calcium ppm ASTM D5185m 1070 1098 1075 1185 Phosphorus ppm ASTM D5185m 1150 1009 985 723 Zinc ppm ASTM D5185m 1270 1177 1201 884 Sulfur ppm ASTM D5185m 2060 2891 3183 2755 CONTAMINANTS method limit/base current history1 histor Solicon ppm ASTM D5185m >25 3 3 14 Sodium ppm ASTM D5185m 5 4 3 Potassium ppm ASTM D5185m >20 <1	Manganese	ppm	ASTM D5185m	0	<1	<1	6
Phosphorus ppm ASTM D5185m 1150 1009 985 723 Zinc ppm ASTM D5185m 1270 1177 1201 884 Sulfur ppm ASTM D5185m 2060 2891 3183 2755 CONTAMINANTS method limit/base current history1 histor Silicon ppm ASTM D5185m >25 3 3 14 Sodium ppm ASTM D5185m 5 4 3 Potassium ppm ASTM D5185m >20 <1 3 5 INFRA-RED method limit/base current history1 history1 history1 Soot % % *ASTM D7844 >6 0.8 0.8 0.4 Nitration Abs/:1mm *ASTM D7415 >30 21.3 21.0 20.1 FLUID DEGRADATION method limit/base current history1 history1 Oxidation Abs/:1mm *ASTM D7	Magnesium	ppm	ASTM D5185m	1010	899	906	682
Zinc ppm ASTM D5185m 1270 1177 1201 884 Sulfur ppm ASTM D5185m 2060 2891 3183 2755 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 3 3 14 Sodium ppm ASTM D5185m 5 4 3 Potassium ppm ASTM D5185m >20 <1	Calcium	ppm	ASTM D5185m	1070	1098	1075	1185
Sulfur ppm ASTM D5185m 2060 2891 3183 2755 CONTAMINANTS method limit/base current history1 histor Silicon ppm ASTM D5185m >25 3 3 14 Sodium ppm ASTM D5185m 5 4 3 Potassium ppm ASTM D5185m >20 <1	Phosphorus	ppm	ASTM D5185m	1150	1009	985	723
CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 3 3 14 Sodium ppm ASTM D5185m 5 4 3 Potassium ppm ASTM D5185m >20 <1	Zinc	ppm	ASTM D5185m	1270	1177	1201	884
Silicon ppm ASTM D5185m >25 3 3 14 Sodium ppm ASTM D5185m 5 4 3 Potassium ppm ASTM D5185m >20 <1 3 5 INFRA-RED method limit/base current history1 history1 history1 Soot % % *ASTM D7844 >6 0.8 0.8 0.4 Nitration Abs/cm *ASTM D7624 >20 10.1 9.8 10.3 Sulfation Abs/.1mm *ASTM D7415 >30 21.3 21.0 20.1 FLUID DEGRADATION method limit/base current history1 history1 Oxidation Abs/.1mm *ASTM D7414 >25 18.3 18.0 18.4	Sulfur	ppm	ASTM D5185m	2060	2891	3183	2755
Sodium ppm ASTM D5185m 5 4 3 Potassium ppm ASTM D5185m >20 <1	CONTAMINAN	NTS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 <1 3 5 INFRA-RED method limit/base current history1 history1 Soot % % *ASTM D7844 >6 0.8 0.8 0.4 Nitration Abs/cm *ASTM D7624 >20 10.1 9.8 10.3 Sulfation Abs/.1mm *ASTM D7415 >30 21.3 21.0 20.1 FLUID DEGRADATION method limit/base current history1 history1 Oxidation Abs/.1mm *ASTM D7414 >25 18.3 18.0 18.4	Silicon	ppm	ASTM D5185m	>25	3	3	14
INFRA-RED	Sodium	ppm	ASTM D5185m		5	4	3
Soot % % *ASTM D7844 >6 0.8 0.8 0.4 Nitration Abs/cm *ASTM D7624 >20 10.1 9.8 10.3 Sulfation Abs/.1mm *ASTM D7415 >30 21.3 21.0 20.1 FLUID DEGRADATION method limit/base current history1 history1 history1 Oxidation Abs/.1mm *ASTM D7414 >25 18.3 18.0 18.4	Potassium	ppm	ASTM D5185m	>20	<1	3	5
Nitration Abs/cm *ASTM D7624 >20 10.1 9.8 10.3 Sulfation Abs/.1mm *ASTM D7415 >30 21.3 21.0 20.1 FLUID DEGRADATION method limit/base current history1 history1 history1 Oxidation Abs/.1mm *ASTM D7414 >25 18.3 18.0 18.4	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 21.3 21.0 20.1 FLUID DEGRADATION method limit/base current history1 history1 history1 history1 Oxidation Abs/.1mm *ASTM D7414 >25 18.3 18.0 18.4	Soot %	%	*ASTM D7844	>6	8.0	0.8	0.4
Sulfation Abs/.1mm *ASTM D7415 >30 21.3 21.0 20.1 FLUID DEGRADATION method limit/base current history1 history1 history1 history1 Oxidation Abs/.1mm *ASTM D7414 >25 18.3 18.0 18.4	Nitration	Abs/cm	*ASTM D7624	>20	10.1	9.8	10.3
Oxidation Abs/.1mm *ASTM D7414 >25 18.3 18.0 18.4	Sulfation	Abs/.1mm	*ASTM D7415	>30	21.3	21.0	20.1
	FLUID DEGRA	DATION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	18.3	18.0	18.4
Date Frances (DIT) my normy norms Decore 0.0	Base Number (BN)	mg KOH/g	ASTM D2896	9.8	7.9	8.2	6.6



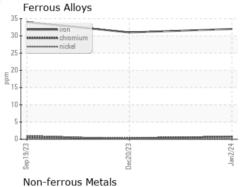
OIL ANALYSIS REPORT

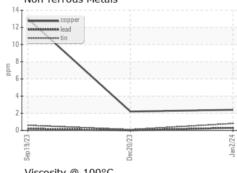


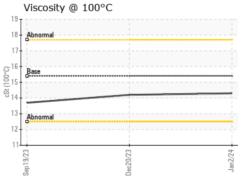
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

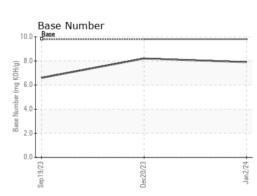
FLUID PROPI	ERIIES	memod			riistory i	History2
Visc @ 100°C	cSt	ASTM D445	15.4	14.3	14.2	13.7

GRAPHS













Certificate L2367

Laboratory Sample No. Lab Number

Unique Number : 10819243 Test Package : FLEET

: GFL0107660 : 06053294

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

: 08 Jan 2024 : 09 Jan 2024 Diagnostician : 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)

Report Id: GFL465 [WUSCAR] 06053294 (Generated: 01/09/2024 08:38:27) Rev: 1