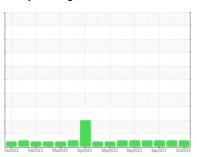


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id **413026**

Component **Diesel Engine**

PETRO CANADA DURON SHP 15W40 (8 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

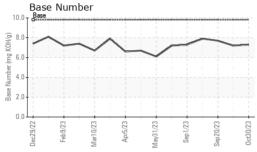
Fluid Condition

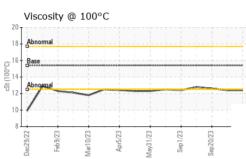
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

AL)		Jec2022 Feb	2023 Mar2023 Apr202	3 May2023 Sep2023 Sep20	23 Oct2023	
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0088737	GFL0097860	GFL0094293
Sample Date		Client Info		30 Oct 2023	09 Oct 2023	20 Sep 2023
Machine Age	hrs	Client Info		2435	2295	2164
Oil Age	hrs	Client Info		428	288	157
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	8	7	4
Chromium	ppm	ASTM D5185m	>20	<1	0	0
Nickel	ppm	ASTM D5185m	>5	1	0	0
Titanium	ppm	ASTM D5185m	>2	0	0	<1
Silver	ppm	ASTM D5185m	>2	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	5	3	0
Lead	ppm	ASTM D5185m	>40	1	0	<1
Copper	ppm	ASTM D5185m	>330	3	2	1
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	<1
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	8	3	11
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	55	60	59
Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m	60 0	55 <1	60 0	59 <1
-						
Manganese	ppm	ASTM D5185m	0	<1	0	<1
Manganese Magnesium	ppm	ASTM D5185m ASTM D5185m	0 1010	<1 761	0 806	<1 817
Manganese Magnesium Calcium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070	<1 761 960	0 806 1042	<1 817 1079
Manganese Magnesium Calcium Phosphorus	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070 1150	<1 761 960 909	0 806 1042 885	<1 817 1079 903
Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070 1150 1270	<1 761 960 909 1038	0 806 1042 885 1096	<1 817 1079 903 1106
Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070 1150 1270 2060	<1 761 960 909 1038 2429	0 806 1042 885 1096 2723	<1 817 1079 903 1106 3363
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070 1150 1270 2060	<1 761 960 909 1038 2429	0 806 1042 885 1096 2723 history1	<1 817 1079 903 1106 3363 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m	0 1010 1070 1150 1270 2060	<1 761 960 909 1038 2429 current	0 806 1042 885 1096 2723 history1	<1 817 1079 903 1106 3363 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m	0 1010 1070 1150 1270 2060 limit/base	<1 761 960 909 1038 2429 current 4	0 806 1042 885 1096 2723 history1 4	<1 817 1079 903 1106 3363 history2 3
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070 1150 1270 2060 limit/base >25	<1 761 960 909 1038 2429 current 4 9 13	0 806 1042 885 1096 2723 history1 4 6	<1 817 1079 903 1106 3363 history2 3 4
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 1010 1070 1150 1270 2060 limit/base >25 >20	<1 761 960 909 1038 2429 current 4 9 13	0 806 1042 885 1096 2723 history1 4 6 9	<1 817 1079 903 1106 3363 history2 3 4 5
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m Method ASTM D5185m	0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	<1 761 960 909 1038 2429 current 4 9 13 current 0.3	0 806 1042 885 1096 2723 history1 4 6 9	<1 817 1079 903 1106 3363 history2 3 4 5 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	<1 761 960 909 1038 2429 current 4 9 13 current 0.3 7.2	0 806 1042 885 1096 2723 history1 4 6 9 history1 0.2 6.0	<1 817 1079 903 1106 3363 history2 3 4 5 history2 0.1 5.3
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >4 >20 >30	<1 761 960 909 1038 2429	0 806 1042 885 1096 2723 history1 4 6 9 history1 0.2 6.0 16.9	<pre><1 817 1079 903 1106 3363 history2 3 4 5 history2 0.1 5.3 16.2</pre>
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAI	ppm	ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method *ASTM D7844 *ASTM D7844 *ASTM D7844 *ASTM D7844 *ASTM D7844	0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >4 >20 >30 limit/base	<1 761 960 909 1038 2429 current 4 9 13 current 0.3 7.2 18.0 current	0 806 1042 885 1096 2723 history1 4 6 9 history1 0.2 6.0 16.9	<1 817 1079 903 1106 3363 history2 3 4 5 history2 0.1 5.3 16.2 history2



OIL ANALYSIS REPORT

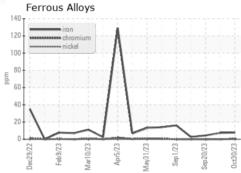


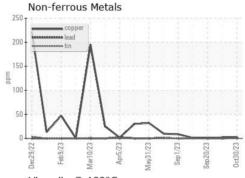


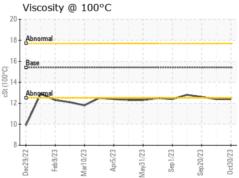
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

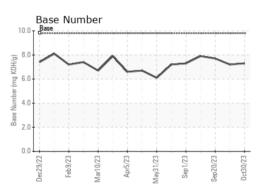
FLUID PROPE	RHES	metnoa	ilmit/base	current	nistory i	nistory2
Visc @ 100°C	cSt	ASTM D445	15.4	12.4	12.4	12.6

GRAPHS













Certificate L2367

Laboratory Sample No. Test Package : FLEET

Lab Number **Unique Number**

: GFL0088737 : 05995292 : 10723652

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

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 01 Nov 2023

: 02 Nov 2023 Diagnosed Diagnostician : Wes Davis

GFL Environmental - 010 - Stockbridge

1280 Rum Creek Parkway Stockbridge, GA US 30281

Contact: JOSHUA TINKER joshuatinker@gflenv.com

* - 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) T:

F: