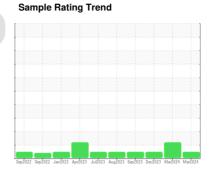


OIL ANALYSIS REPORT



Area (GBX608) 423070 Diesel Engine

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





DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Light fuel dilution occurring. No other contaminants were detected in the oil.

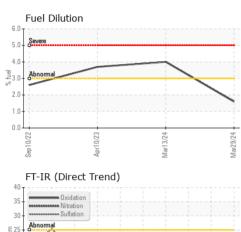
Fluid Condition

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

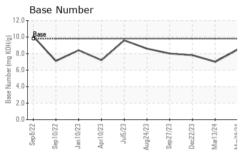
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SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0068837	GFL0068821	GFL0097170
Sample Date		Client Info		29 Mar 2024	13 Mar 2024	22 Dec 2023
Machine Age	hrs	Client Info		24896	24885	24777
Oil Age	hrs	Client Info		11	109	1
Oil Changed		Client Info		Not Changd	Changed	Not Changd
Sample Status				NORMAL	ABNORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	1	11	3
Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Nickel	ppm	ASTM D5185m	>5	0	<1	<1
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	1	4	2
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	0	2	0
Tin	ppm	ASTM D5185m	>15	<1	<1	2
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 7	history1	history2 4
	ppm					
Boron		ASTM D5185m	0	7	3	4
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	7 0	3	4
Boron Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	7 0 54	3 0 50	4 0 52
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	7 0 54 <1	3 0 50 <1	4 0 52 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	7 0 54 <1 879	3 0 50 <1 823	4 0 52 <1 862
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	7 0 54 <1 879 960	3 0 50 <1 823 902	4 0 52 <1 862 905
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	7 0 54 <1 879 960 991	3 0 50 <1 823 902 930	4 0 52 <1 862 905 999
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270	7 0 54 <1 879 960 991 1150	3 0 50 <1 823 902 930 1093	4 0 52 <1 862 905 999 1211
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	7 0 54 <1 879 960 991 1150 3344	3 0 50 <1 823 902 930 1093 2825	4 0 52 <1 862 905 999 1211 2923
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	7 0 54 <1 879 960 991 1150 3344 current	3 0 50 <1 823 902 930 1093 2825 history1	4 0 52 <1 862 905 999 1211 2923 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	7 0 54 <1 879 960 991 1150 3344 current	3 0 50 <1 823 902 930 1093 2825 history1	4 0 52 <1 862 905 999 1211 2923 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base	7 0 54 <1 879 960 991 1150 3344 current 2	3 0 50 <1 823 902 930 1093 2825 history1 4 3	4 0 52 <1 862 905 999 1211 2923 history2 3 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	7 0 54 <1 879 960 991 1150 3344 current 2 1	3 0 50 <1 823 902 930 1093 2825 history1 4 3	4 0 52 <1 862 905 999 1211 2923 history2 3 2 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel	ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 >3.0	7 0 54 <1 879 960 991 1150 3344 current 2 1 <1	3 0 50 <1 823 902 930 1093 2825 history1 4 3 0	4 0 52 <1 862 905 999 1211 2923 history2 3 2 <1 <1.0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED	ppm	ASTM D5185m	0 0 0 0 1010 1150 1270 2060 limit/base >25 >20 >3.0	7 0 54 <1 879 960 991 1150 3344 current 2 1 <1	3 0 50 <1 823 902 930 1093 2825 history1 4 3 0 ▲ 4.0	4 0 52 <1 862 905 999 1211 2923 history2 3 2 <1 <1.0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm	ASTM D5185m	0 0 0 0 1010 1150 1270 2060 limit/base >25 >20 >3.0	7 0 54 <1 879 960 991 1150 3344 current 2 1 <1 1.6 current 0.1	3 0 50 <1 823 902 930 1093 2825 history1 4 3 0 ▲ 4.0 history1 0.3	4 0 52 <1 862 905 999 1211 2923 history2 3 2 <1 <1.0 history2 0.2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624 *ASTM D7624	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 >3.0 limit/base	7 0 54 <1 879 960 991 1150 3344 current 2 1 <1 1.6 current 0.1 5.1	3 0 50 <1 823 902 930 1093 2825 history1 4 3 0 ▲ 4.0 history1 0.3 8.7	4 0 52 <1 862 905 999 1211 2923 history2 3 2 <1 <1.0 history2 0.2 6.9
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm	ASTM D5185m METHOD ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D78185m ASTM D7824 *ASTM D7844 *ASTM D7844 *ASTM D7844 *ASTM D7844 *ASTM D7844	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 >3.0 limit/base >4 >20 >30 limit/base	7 0 54 <1 879 960 991 1150 3344 current 2 1 <1 1.6 current 0.1 5.1 17.0 current	3 0 50 <1 823 902 930 1093 2825 history1 4 3 0 ▲ 4.0 history1 0.3 8.7 17.6 history1	4 0 52 <1 862 905 999 1211 2923 history2 3 2 <1 <1.0 history2 0.2 6.9 17.1 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624 *ASTM D7624	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 >3.0 limit/base >4 >20 >30	7 0 54 <1 879 960 991 1150 3344 current 2 1 <1 1.6 current 0.1 5.1 17.0	3 0 50 <1 823 902 930 1093 2825 history1 4 3 0 ▲ 4.0 history1 0.3 8.7 17.6	4 0 52 <1 862 905 999 1211 2923 history2 3 2 <1 <1.0 history2 0.2 6.9 17.1

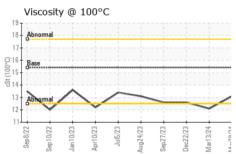


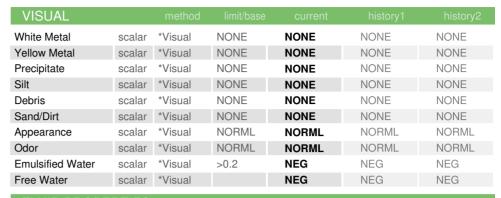
OIL ANALYSIS REPORT



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Oxida	tion						
35 - Witrati	on						
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Abnormal							
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April 1	ASSESSMENT OF THE PERSON NAMED IN	tion.	Long	distantanta	annual section	SAN BARRADE	raye.
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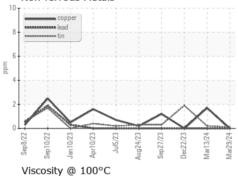


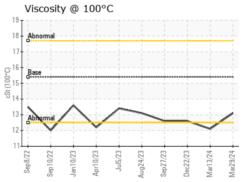


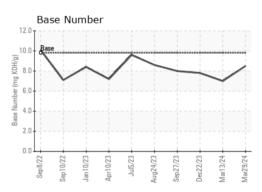
FLUID PROPE	=RIIES	method				history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.1	<u> </u>	12.6

GRAPHS













Certificate 12367

Laboratory

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Sample No.

: GFL0068837 Lab Number : 06136037 Unique Number : 10955502

Received **Tested** Diagnosed

: 02 Apr 2024 : 05 Apr 2024

: 05 Apr 2024 - Wes Davis

GFL Environmental - 073 - Warner Robins - Transwaste 155 Story Road Warner Robins, GA US 31093 Contact: JOSH MALONEY

jmaloney@gflenv.com

To discuss this sample report, contact Customer Service at 1-800-237-1369. st - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Test Package : FLEET (Additional Tests: PercentFuel)

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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