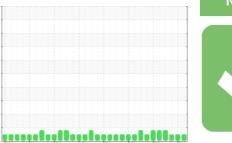


OIL ANALYSIS REPORT

Sample Rating Trend







Machine Id **812003** Component **Diesel Engine**

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

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

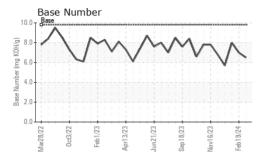
Fluid Condition

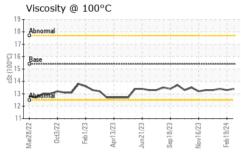
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORT	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0068824	GFL0097174	GFL0097162
Sample Date		Client Info		11 Mar 2024	19 Feb 2024	29 Jan 2024
Machine Age	hrs	Client Info		6633	6495	6278
Oil Age	hrs	Client Info		505	367	150
Oil Changed		Client Info		Changed	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
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	9	8	5
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	7	5	4
Titanium	ppm	ASTM D5185m	>2	0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	1	<1
Lead	ppm	ASTM D5185m	>40	<1	<1	<1
Copper	ppm	ASTM D5185m	>330	2	2	2
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	<1
ADDITIVES		method	limit/base	current	history1	history2
_						
Boron	ppm	ASTM D5185m	0	2	3	4
Boron	ppm ppm		0	2 0	3	4
Barium	ppm	ASTM D5185m	0	0	0	0
Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m	0	0 56	0 59	0 59
Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0	0 56 0	0 59 <1	0 59 <1
Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010	0 56 0 846	0 59 <1 979	0 59 <1 933
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070	0 56 0 846 971	0 59 <1 979 1019	0 59 <1 933 941
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150	0 56 0 846 971 883	0 59 <1 979 1019 1012	0 59 <1 933 941 936
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	0 60 0 1010 1070 1150 1270	0 56 0 846 971 883 1116	0 59 <1 979 1019 1012 1299	0 59 <1 933 941 936 1188
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 60 0 1010 1070 1150 1270 2060	0 56 0 846 971 883 1116 2575	0 59 <1 979 1019 1012 1299 2906	0 59 <1 933 941 936 1188 2883
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	0 60 0 1010 1070 1150 1270 2060	0 56 0 846 971 883 1116 2575	0 59 <1 979 1019 1012 1299 2906 history1	0 59 <1 933 941 936 1188 2883
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060	0 56 0 846 971 883 1116 2575 current	0 59 <1 979 1019 1012 1299 2906 history1	0 59 <1 933 941 936 1188 2883 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base	0 56 0 846 971 883 1116 2575 current	0 59 <1 979 1019 1012 1299 2906 history1 4	0 59 <1 933 941 936 1188 2883 history2 5
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >25	0 56 0 846 971 883 1116 2575 current 4 1	0 59 <1 979 1019 1012 1299 2906 history1 4	0 59 <1 933 941 936 1188 2883 history2 5 12 6
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >25	0 56 0 846 971 883 1116 2575 current 4 1 2	0 59 <1 979 1019 1012 1299 2906 history1 4 4 2	0 59 <1 933 941 936 1188 2883 history2 5 12 6
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	0 56 0 846 971 883 1116 2575 current 4 1 2	0 59 <1 979 1019 1012 1299 2906 history1 4 4 2 history1 0.5	0 59 <1 933 941 936 1188 2883 history2 5 12 6 history2 0.2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm	ASTM D5185m method ASTM D5185m ASTM D5185m *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D5185m ASTM D76185m *ASTM D7844 *ASTM D7624 *ASTM D76185M	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	0 56 0 846 971 883 1116 2575 current 4 1 2 current 0.6 8.3	0 59 <1 979 1019 1012 1299 2906 history1 4 4 2 history1 0.5 7.5	0 59 <1 933 941 936 1188 2883 history2 5 12 6 history2 0.2 5.7
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m method ASTM D5185m ASTM D5185m *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D5185m ASTM D76185m *ASTM D7844 *ASTM D7624 *ASTM D76185M	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >4 >20 >30	0 56 0 846 971 883 1116 2575 current 4 1 2 current 0.6 8.3 19.8	0 59 <1 979 1019 1012 1299 2906 history1 4 4 2 history1 0.5 7.5 19.2	0 59 <1 933 941 936 1188 2883 history2 5 12 6 history2 0.2 5.7 18.0
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm	ASTM D5185m METHOD ASTM D5185m METHOD *ASTM D7844 *ASTM D7624 *ASTM D7415 METHOD *ASTM D7414	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >4 >20 >30 limit/base	0 56 0 846 971 883 1116 2575 current 4 1 2 current 0.6 8.3 19.8	0 59 <1 979 1019 1012 1299 2906 history1 4 4 2 history1 0.5 7.5 19.2 history1	0 59 <1 933 941 936 1188 2883 history2 5 12 6 history2 0.2 5.7 18.0 history2



OIL ANALYSIS REPORT

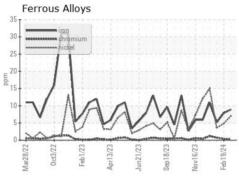


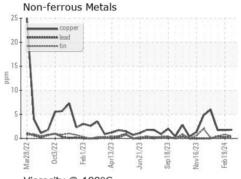


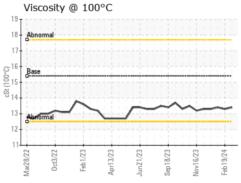
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

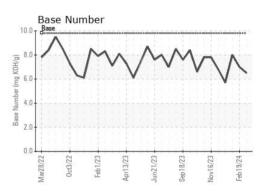
FLUID PROPE	ERTIES	method				history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.4	13.3	13.4

GRAPHS













Certificate L2367

Laboratory Sample No.

Lab Number : 06116925 Unique Number: 10925758

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0068824

Received **Tested** Diagnosed Test Package : FLEET

: 13 Mar 2024 : 14 Mar 2024

: 14 Mar 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. * - 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: GFL073 [WUSCAR] 06116925 (Generated: 03/14/2024 14:30:35) Rev: 1

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