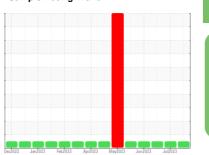


OIL ANALYSIS REPORT

Sample Rating Trend









Machine Id
713007
Component
Diesel Engine
Fluid

PETRO CANADA DURON SHP 15W40 (32 QTS)

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

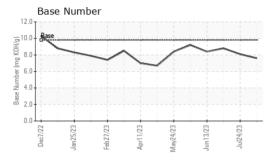
Fluid Condition

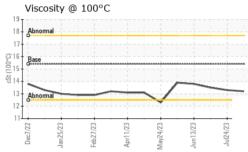
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

					Jul2023	
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0069125	GFL0069173	GFL0068749
Sample Date		Client Info		10 Aug 2023	24 Jul 2023	05 Jul 2023
Machine Age	hrs	Client Info		1685	1559	1420
Oil Age	hrs	Client Info		465	339	200
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
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	9	7	5
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	<1	0	<1
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	<1	0	<1
Aluminum	ppm	ASTM D5185m	>20	2	<1	0
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	3	3	3
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm		limit/base	current 4	history1 3	history2 5
	ppm		0			
Boron		ASTM D5185m	0	4	3	5
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	4 0	3	5 0
Boron Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	4 0 64	3 0 67	5 0 65
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	4 0 64 <1	3 0 67 <1	5 0 65 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	4 0 64 <1 887	3 0 67 <1 1011	5 0 65 <1 866
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	4 0 64 <1 887 1068	3 0 67 <1 1011 1156	5 0 65 <1 866 1094
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	4 0 64 <1 887 1068 982	3 0 67 <1 1011 1156 1054	5 0 65 <1 866 1094 986
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	4 0 64 <1 887 1068 982 1166	3 0 67 <1 1011 1156 1054 1257	5 0 65 <1 866 1094 986 1140
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	4 0 64 <1 887 1068 982 1166 2906	3 0 67 <1 1011 1156 1054 1257 3580	5 0 65 <1 866 1094 986 1140 3004
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	4 0 64 <1 887 1068 982 1166 2906	3 0 67 <1 1011 1156 1054 1257 3580 history1	5 0 65 <1 866 1094 986 1140 3004 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	4 0 64 <1 887 1068 982 1166 2906 current	3 0 67 <1 1011 1156 1054 1257 3580 history1	5 0 65 <1 866 1094 986 1140 3004 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base	4 0 64 <1 887 1068 982 1166 2906 current 5 <1	3 0 67 <1 1011 1156 1054 1257 3580 history1 4	5 0 65 <1 866 1094 986 1140 3004 history2 4
Boron 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 0 60 0 1010 1070 1150 1270 2060 limit/base >25	4 0 64 <1 887 1068 982 1166 2906 current 5 <1	3 0 67 <1 1011 1156 1054 1257 3580 history1 4 3	5 0 65 <1 866 1094 986 1140 3004 history2 4 0 5
Boron 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 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	4 0 64 <1 887 1068 982 1166 2906 current 5 <1 8	3 0 67 <1 1011 1156 1054 1257 3580 history1 4 3 4	5 0 65 <1 866 1094 986 1140 3004 history2 4 0 5
Boron 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 ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	4 0 64 <1 887 1068 982 1166 2906 current 5 <1 8 current	3 0 67 <1 1011 1156 1054 1257 3580 history1 4 3 4 history1 0.2	5 0 65 <1 866 1094 986 1140 3004 history2 4 0 5 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm	ASTM D5185m Method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D76145	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	4 0 64 <1 887 1068 982 1166 2906 current 5 <1 8 current 0.3 7.2	3 0 67 <1 1011 1156 1054 1257 3580 history1 4 3 4 history1 0.2 6.7	5 0 65 <1 866 1094 986 1140 3004 history2 4 0 5 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m Method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D76145	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >4 >20 >30	4 0 64 <1 887 1068 982 1166 2906 current 5 <1 8 current 0.3 7.2 18.5	3 0 67 <1 1011 1156 1054 1257 3580 history1 4 3 4 history1 0.2 6.7 18.7	5 0 65 <1 866 1094 986 1140 3004 history2 4 0 5 history2 0.2 6.4 18.7
Boron 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 D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m METHOD *ASTM D7844 *ASTM D7624 *ASTM D7415 METHOD	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >4 >20 >30	4 0 64 <1 887 1068 982 1166 2906 current 5 <1 8 current 0.3 7.2 18.5 current	3 0 67 <1 1011 1156 1054 1257 3580 history1 4 3 4 history1 0.2 6.7 18.7 history1	5 0 65 <1 866 1094 986 1140 3004 history2 4 0 5 history2 0.2 6.4 18.7 history2



OIL ANALYSIS REPORT

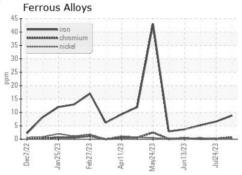


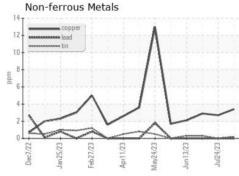


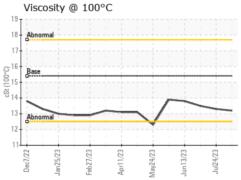
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

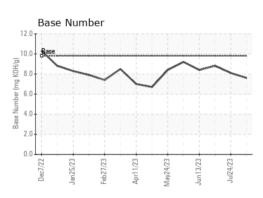
FLUID PROPE	RTIES	method				history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.2	13.3	13.5

GRAPHS













Certificate L2367

Laboratory

Sample No. Lab Number Unique Number : 10604594 Test Package : FLEET

: 05924647

: GFL0069125

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

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 15 Aug 2023 Diagnosed : 15 Aug 2023

Diagnostician : Wes Davis

GFL Environmental - 073 - Warner Robbins - Transwaste

155 Story Road Warner Robbins, GA US 31093

Contact: JOSH MALONEY

jmaloney@gflenv.com T:

* - 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)

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