

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id 330M Component **Diesel Engine**

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

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

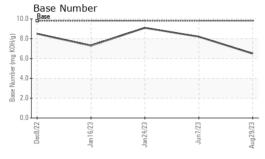
Fluid Condition

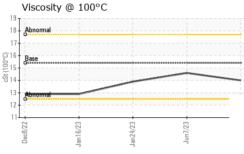
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

		Dec2022	Jan 2023	Jan2023 Jun2023	Aug2023	
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0092743	GFL0080794	GFL0068260
Sample Date		Client Info		29 Aug 2023	07 Jun 2023	24 Jan 2023
Machine Age	hrs	Client Info		69942	0	69942
Oil Age	hrs	Client Info		69942	0	600
Oil Changed		Client Info		Not Changd	Changed	Changed
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	35	26	5
Chromium	ppm	ASTM D5185m	>20	1	5	<1
Nickel	ppm	ASTM D5185m	>5	<1	<1	<1
Titanium	ppm	ASTM D5185m	>2	<1	<1	0
Silver	ppm	ASTM D5185m	>2	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	8	<1	2
Lead	ppm	ASTM D5185m	>40	2	2	<1
Copper	ppm	ASTM D5185m	>330	1	<1	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	<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 5	history1 22	history2
	ppm		0			
Boron		ASTM D5185m	0	5	22	4
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	5 0	22	4 <1
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	5 0 73	22 0 68	4 <1 55
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	5 0 73 <1	22 0 68 <1	4 <1 55 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	5 0 73 <1 1074	22 0 68 <1 679	4 <1 55 <1 836
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	5 0 73 <1 1074 1180	22 0 68 <1 679 1936	4 <1 55 <1 836 972
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	5 0 73 <1 1074 1180 1025	22 0 68 <1 679 1936 843	4 <1 55 <1 836 972 928
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 ASTM D5185m	0 0 60 0 1010 1070 1150 1270	5 0 73 <1 1074 1180 1025 1318	22 0 68 <1 679 1936 843 1160	4 <1 55 <1 836 972 928 1081
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 ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	5 0 73 <1 1074 1180 1025 1318 3182 current	22 0 68 <1 679 1936 843 1160 3372 history1	4 <1 55 <1 836 972 928 1081 2799
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	5 0 73 <1 1074 1180 1025 1318 3182 current	22 0 68 <1 679 1936 843 1160 3372 history1 4	4 <1 55 <1 836 972 928 1081 2799 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	5 0 73 <1 1074 1180 1025 1318 3182 current	22 0 68 <1 679 1936 843 1160 3372 history1	4 <1 55 <1 836 972 928 1081 2799 history2 3
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 >25	5 0 73 <1 1074 1180 1025 1318 3182 current 15 7	22 0 68 <1 679 1936 843 1160 3372 history1 4	4 <1 55 <1 836 972 928 1081 2799 history2 3 2
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	5 0 73 <1 1074 1180 1025 1318 3182 current 15 7 <1	22 0 68 <1 679 1936 843 1160 3372 history1 4 3	4 <1 55 <1 836 972 928 1081 2799 history2 3 2 <1 history2 0.2
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	5 0 73 <1 1074 1180 1025 1318 3182 current 15 7 <1	22 0 68 <1 679 1936 843 1160 3372 history1 4 3 1	4 <1 55 <1 836 972 928 1081 2799 history2 3 2 <1 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	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 D5185m ASTM D5185m *ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	5 0 73 <1 1074 1180 1025 1318 3182 current 15 7 <1	22 0 68 <1 679 1936 843 1160 3372 history1 4 3 1	4 <1 55 <1 836 972 928 1081 2799 history2 3 2 <1 history2 0.2
Boron Barium Molybdenum 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 ASTM D7844 *ASTM D7624 *ASTM D76145	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	5 0 73 <1 1074 1180 1025 1318 3182 current 15 7 <1 current 0.7	22 0 68 <1 679 1936 843 1160 3372 history1 4 3 1 history1 0.2 6.2	4 <1 55 <1 836 972 928 1081 2799 history2 3 2 <1 history2 0.2 5.4
Boron Barium Molybdenum 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 ASTM D7844 *ASTM D7624 *ASTM D76145	0 0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >4 >20 >30	5 0 73 <1 1074 1180 1025 1318 3182 current 15 7 <1 current 0.7 9.2 20.7	22 0 68 <1 679 1936 843 1160 3372 history1 4 3 1 history1 0.2 6.2 18.7	4 <1 55 <1 836 972 928 1081 2799 history2 3 2 <1 history2 0.2 5.4 17.6



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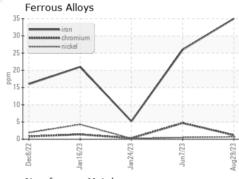


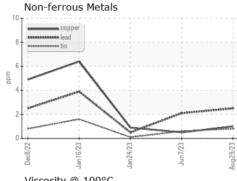


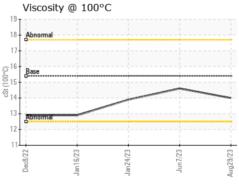
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

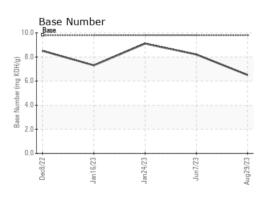
FLUID PROPERTIES		method				history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.0	14.6	13.9

GRAPHS













Certificate L2367

Laboratory

Sample No. Lab Number Test Package : FLEET

: 05940565 Unique Number : 10631177

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0092743

Received : 01 Sep 2023 Diagnosed Diagnostician : Wes Davis

: 01 Sep 2023

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)

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