

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

722024-310036

Component Diesel Engine

Fluid PETRO CANADA DURON SHP 15W40 (--- 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

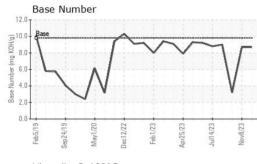
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

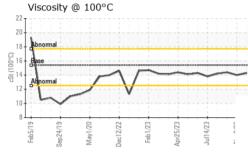
		102010 0002	019 May2020 Dec2022	Feb2023 Apr2023 Jul2023		
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0099910	GFL0095167	GFL0090722
Sample Date		Client Info		05 Dec 2023	08 Nov 2023	27 Sep 2023
Machine Age	hrs	Client Info		20082	19937	19745
Oil Age	hrs	Client Info		0	0	600
Oil Changed		Client Info		Not Changd	Not Changd	Changed
Sample Status				NORMAL	NORMAL	ABNORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<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	>110	9	9	19
Chromium	ppm	ASTM D5185m	>4	<1	<1	2
Nickel	ppm	ASTM D5185m	>2	<1	<1	<1
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>2	0	<1	0
Aluminum	ppm	ASTM D5185m	>25	2	2	2
Lead	ppm	ASTM D5185m	>45	0	<1	21
Copper	ppm	ASTM D5185m	>85	<1	<1	2
Tin	ppm	ASTM D5185m	>4	0	<1	2
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	<1	0
	1-1-					
ADDITIVES	1- 1-	method	limit/base	current	history1	history2
	ppm		limit/base	current 6		history2 10
Boron		method ASTM D5185m			history1	
Boron Barium	ppm	method ASTM D5185m	0	6	history1 5	10
Boron Barium Molybdenum	ppm ppm	method ASTM D5185m ASTM D5185m	0 0 60	6 0	history1 5 0	10 0
Boron Barium Molybdenum Manganese	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	6 0 58	history1 5 0 61	10 0 61
Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	6 0 58 <1	history1 5 0 61 <1	10 0 61 1
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	6 0 58 <1 912	history1 5 0 61 <1 891	10 0 61 1 677
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	6 0 58 <1 912 1065	history1 5 0 61 <1 891 1081	10 0 61 1 677 1799
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	6 0 58 <1 912 1065 1045	history1 5 0 61 <1 891 1081 1023	10 0 61 1 677 1799 808
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270	6 0 58 <1 912 1065 1045 1276	history1 5 0 61 <1 891 1081 1023 1202	10 0 61 1 677 1799 808 1075
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	6 0 58 <1 912 1065 1045 1276 3174	history1 5 0 61 <1 891 1081 1023 1202 3121	10 0 61 1 677 1799 808 1075 2553
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	6 0 58 <1 912 1065 1045 1276 3174 current	history1 5 0 61 <1 891 1081 1023 1202 3121 history1	10 0 61 1 677 1799 808 1075 2553 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	6 0 58 <1 912 1065 1045 1276 3174 current 2	history1 5 0 61 <1 891 1081 1023 1202 3121 history1 3	10 0 61 1 677 1799 808 1075 2553 history2 5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 limit/base	6 0 58 <1 912 1065 1045 1276 3174 current 2 3	history1 5 0 61 <1 891 1081 1023 1202 3121 history1 3 0	10 0 61 1 677 1799 808 1075 2553 history2 5 9
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 limit/base >30	6 0 58 <1 912 1065 1045 1276 3174 current 2 3 3 3	history1 5 0 61 <1 891 1081 1023 1202 3121 history1 3 0 3 0 3 0 3	10 0 61 1 677 1799 808 1075 2553 history2 5 9 1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >30	6 0 58 <1 912 1065 1045 1276 3174 <i>current</i> 2 3 3 3 <i>current</i>	history1 5 0 61 <1 891 1081 1023 1202 3121 history1 3 0 3 0 3 history1	10 0 61 1 677 1799 808 1075 2553 history2 5 9 1 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	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >30 20 limit/base >30	6 0 58 <1 912 1065 1045 1276 3174 2 3 3 3 2 2 3 3 2 2 3 3 3	history1 5 0 61 <1 891 1081 1023 1202 3121 history1 3 0 3 0 3 0.5	10 0 61 1 677 1799 808 1075 2553 history2 5 9 1 1 history2 0
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	method ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >30 20 limit/base >30	6 0 58 <1 912 1065 1045 1276 3174 <i>current</i> 2 3 3 <i>current</i> 0.5 6.6	history1 5 0 61 <1 891 1081 1023 1202 3121 history1 3 0 3 0 3 0.5 6.4	10 0 61 1 677 1799 808 1075 2553 history2 5 9 1 5 9 1 <i>history2</i> 0 11.3
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	method ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >30 imit/base >3 20	6 0 58 <1 912 1065 1045 1276 3174 <i>current</i> 2 3 3 3 <i>current</i> 0.5 6.6 19.2	history1 5 0 61 <1 891 1081 1023 1202 3121 history1 3 0 3 0.5 6.4 19.4	10 0 61 1 677 1799 808 1075 2553 history2 5 9 1 history2 0 11.3 25.4
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 TS ppm ppm ppm ppm	method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	0 0 0 1010 1070 1150 1270 2060 Iimit/base >30 200 Iimit/base >3 >20 >30	6 0 58 <1 912 1065 1045 1276 3174 2 2 3 3 7 4 2 3 3 0 0.5 6.6 19.2 0urrent	history1 5 0 61 <1	10 0 61 1 677 1799 808 1075 2553 history2 5 9 1 <i>history2</i> 0 11.3 25.4 <i>history2</i>

Contact/Location: See also GFL823, 834, 837, 840 - Robert Hart - GFL836

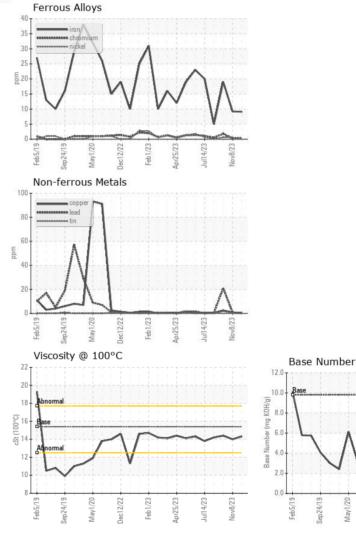


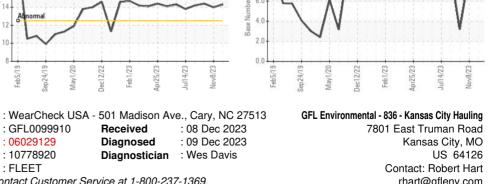
OIL ANALYSIS REPORT





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	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.3	14.0	14.4
GRAPHS						





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Test Package : FLEET Certificate L2367 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)

Received

Diagnosed

Diagnostician : Wes Davis

: GFL0099910

: 06029129

Laboratory

Sample No.

Lab Number

Unique Number : 10778920

Contact/Location: See also GFL823, 834, 837, 840 - Robert Hart - GFL836