

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

Machine Id 223030-1

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.

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0118634	GFL0110580	GFL0110556
Sample Date		Client Info		11 Apr 2024	22 Mar 2024	14 Mar 2024
Machine Age	hrs	Client Info		1274	1159	1117
Oil Age	hrs	Client Info		150	600	400
Oil Changed		Client Info		Not Changd	Changed	Not Changd
Sample Status				NORMAL	ABNORMAL	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	>80	16	47	47
Chromium	ppm	ASTM D5185m	>5	1	2	0
Nickel	ppm	ASTM D5185m	>2	1	<1	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>30	1	3	<1
Lead	ppm	ASTM D5185m	>30	2	1	0
Copper	ppm	ASTM D5185m	>150	1	1	2
Tin	ppm	ASTM D5185m	>5	1	2	0
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	ppm	ASTM D5185m		1	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 0	history1 2	history2 3
	ppm ppm					-
Boron		ASTM D5185m	0	0	2	3
Boron Barium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	0 0	2 0	3
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	0 0 61	2 0 59	3 0 63
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	0 0 61 1	2 0 59 <1	3 0 63 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	0 0 61 1 890	2 0 59 <1 943	3 0 63 0 991
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	0 0 61 1 890 1073	2 0 59 <1 943 1072	3 0 63 0 991 1106
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	0 0 61 1 890 1073 1086	2 0 59 <1 943 1072 913	3 0 63 0 991 1106 1043
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	0 0 60 0 1010 1070 1150 1270	0 0 61 1 890 1073 1086 1189	2 0 59 <1 943 1072 913 1195	3 0 63 0 991 1106 1043 1200
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	0 0 60 1010 1070 1150 1270 2060	0 0 61 1 890 1073 1086 1189 3398	2 0 59 <1 943 1072 913 1195 3261	3 0 63 0 991 1106 1043 1200 3417
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	0 0 60 1010 1070 1150 1270 2060	0 0 61 1 890 1073 1086 1189 3398 current	2 0 59 <1 943 1072 913 1195 3261 history1	3 0 63 0 991 1106 1043 1200 3417 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	0 0 60 0 1010 1070 1150 1270 2060 kimit/base >20	0 0 61 1 890 1073 1086 1189 3398 current 17	2 0 59 <1 943 1072 913 1195 3261 history1 ▲ 48	3 0 63 991 1106 1043 1200 3417 history2 ▲ 48
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 kimit/base >20	0 0 61 1 890 1073 1086 1189 3398 current 17 <1	2 0 59 <1 943 1072 913 1195 3261 history1 ▲ 48 3	3 0 63 0 991 1106 1043 1200 3417 history2 ▲ 48 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >20	0 0 61 1 890 1073 1086 1189 3398 current 17 <17 2	2 0 59 <1 943 1072 913 1195 3261 history1 ▲ 48 3 <1	3 0 63 0 991 1106 1043 1200 3417 history2 ▲ 48 <1 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 220 220 220 220	0 0 61 1 890 1073 1086 1189 3398 current 17 <1 2 current	2 0 59 <1 943 1072 913 1195 3261 history1 ▲ 48 3 <1 +istory1	3 0 63 0 991 1106 1043 1200 3417 history2 ▲ 48 <1 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 220 220 220 220	0 0 61 1 890 1073 1086 1189 3398 current 17 <1 2 current 1	2 0 59 <1 943 1072 913 1195 3261 history1 ▲ 48 3 <1 history1 history1	3 0 63 0 991 1106 1043 1200 3417 history2 ▲ 48 <1 0 0 history2 2.9
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 D5185m	0 0 0 1010 1070 1150 1270 2060 2060 2060 200 200 200 200 200 200	0 0 61 1 890 1073 1086 1189 3398 current 17 <1 2 current 1 2 1 6.2	2 0 59 <1 943 1072 913 1195 3261 history1 ▲ 48 3 <1 history1 history1 ▲ 3.1 10.9	3 0 63 0 991 1106 1043 1200 3417 history2 ▲ 48 <1 0 bistory2 2.9 10.3
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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 200 200 200 320 320 33 200 230	0 0 61 1 890 1073 1086 1189 3398 <u>current</u> 17 <1 2 <u>current</u> 1 6.2 19.6	2 0 59 <1 943 1072 913 1195 3261 history1 ▲ 48 3 <1 ► 1 history1 ▲ 3.1 10.9 25.0	3 0 63 0 991 1106 1043 1200 3417 history2 48 <1 0 bistory2 2.9 10.3 24.4



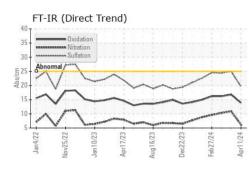
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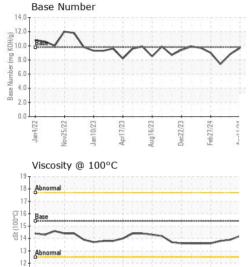
Jan4/22

Vov25/22

lan10/23

OIL ANALYSIS REPORT





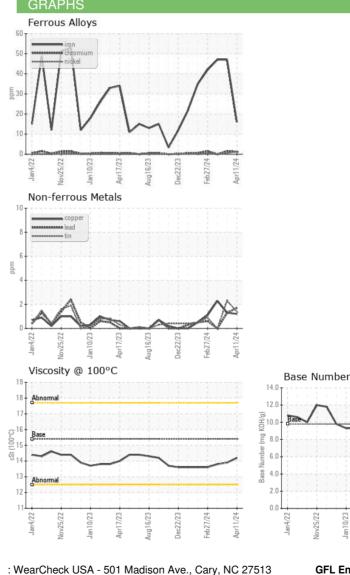
Apr17/23

Vug16/23

Jec27/73

Feb27/24

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 PROPEI	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.2	13.9	13.8
GRAPHS						





Apr17/23

Aug16/23

Dec22/23

Lab Number : 06152761 Unique Number : 10982839 Certificate L2367 Test Package : FLEET To discuss this sample report, contact Cus * - Denotes test methods that are outside of

 Certificate 12367
 Test Package
 : FLEET
 Condiscuss this sample report, contact Customer Service at 1-800-237-1369.
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 * - 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

Tested

: GFL0118634

Report Id: GFL166 [WUSCAR] 06152761 (Generated: 04/18/2024 16:38:50) Rev: 1

Laboratory

Sample No.

Submitted By: DARRIN WRIGHT

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