

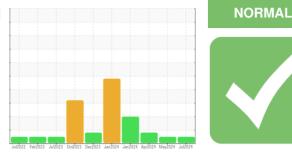
Area (34718UA)

828100 Component Diesel Engine

OIL ANALYSIS REPORT

SAMPLE INFORMATION method

Sample Rating Trend



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

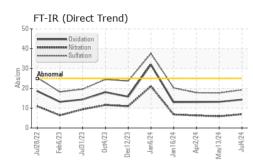
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

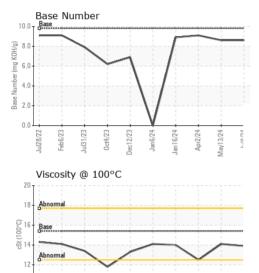
SAMPLE INFORM		method	limit/base	current	history 1	history2
Sample Number		Client Info		GFL0127210	GFL0116597	GFL0116561
Sample Date		Client Info		04 Jul 2024	13 May 2024	02 Apr 2024
Machine Age	hrs	Client Info		12476	12290	12130
Oil Age	hrs	Client Info		186	160	12130
Oil Changed		Client Info		Not Changd	Changed	Changed
Sample Status		onone mio		NORMAL	NORMAL	ABNORMAL
-				Normize		//BINOT IN//LE
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	0.2	▲ 5.2
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	>100	10	13	19
Chromium	ppm	ASTM D5185m	>20	1	<1	1
Nickel	ppm	ASTM D5185m	>4	1	0	0
Titanium	ppm	ASTM D5185m		1	<1	<1
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	4	4	6
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	7	2	1
Tin	ppm	ASTM D5185m	>15	<1	0	0
Vanadium	ppm	ASTM D5185m		<1	0	<1
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method				history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 19	history1 9	history2 17
	ppm ppm					
Boron Barium		ASTM D5185m	0	19	9	17
Boron	ppm	ASTM D5185m ASTM D5185m	0	19 0	9 0	17 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	19 0 58	9 0 60	17 0 51
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	19 0 58 <1	9 0 60 <1	17 0 51 <1
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	19 0 58 <1 948	9 0 60 <1 1015	17 0 51 <1 896
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	19 0 58 <1 948 1184	9 0 60 <1 1015 1226	17 0 51 <1 896 1089
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	19 0 58 <1 948 1184 1031	9 0 60 <1 1015 1226 1082	17 0 51 <1 896 1089 910
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	19 0 58 <1 948 1184 1031 1279	9 0 60 <1 1015 1226 1082 1339	17 0 51 <1 896 1089 910 1194
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm 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 2060	19 0 58 <1 948 1184 1031 1279 3174	9 0 60 <1 1015 1226 1082 1339 3948	17 0 51 <1 896 1089 910 1194 3658
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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 2060	19 0 58 <1 948 1184 1031 1279 3174 current	9 0 60 <1 1015 1226 1082 1339 3948 history1	17 0 51 <1 896 1089 910 1194 3658 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 limit/base	19 0 58 <1 948 1184 1031 1279 3174 current 6	9 0 60 <1 1015 1226 1082 1339 3948 history1 5	17 0 51 <1 896 1089 910 1194 3658 history2 7
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 ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base	19 0 58 <1 948 1184 1031 1279 3174 current 6 5	9 0 60 <1 1015 1226 1082 1339 3948 history1 5 2	17 0 51 <1 896 1089 910 1194 3658 history2 7 2
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 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	19 0 58 <1 948 1184 1031 1279 3174 current 6 5 4	9 0 60 <1 1015 1226 1082 1339 3948 history1 5 2 2 2	17 0 51 <1 896 1089 910 1194 3658 history2 7 2 6
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 ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3	19 0 58 <1 948 1184 1031 1279 3174 <i>current</i> 6 5 4 <i>current</i> 0.4	9 0 60 <1 1015 1226 1082 1339 3948 history1 5 2 2 2 2 history1 0.3	17 0 51 <1 896 1089 910 1194 3658 history2 7 2 6 6 history2 0.5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25	19 0 58 <1 948 1184 1031 1279 3174 <i>current</i> 6 5 4	9 0 60 <1 1015 1226 1082 1339 3948 history1 5 2 2 2 2 history1	17 0 51 <1 896 1089 910 1194 3658 history2 7 2 6 6 history2
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 imit/base >25 >20 imit/base >3 >20	19 0 58 <1 948 1184 1031 1279 3174 <i>current</i> 6 5 4 <i>current</i> 0.4 6.9	9 0 60 <1 1015 1226 1082 1339 3948 history1 5 2 2 2 2 history1 0.3 5.9	17 0 51 <1 896 1089 910 1194 3658 history2 7 2 6 6 history2 0.5 6.3
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 TS ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	0 0 0 1010 1070 1150 1270 2060 2060 225 20 220 220 20 3 20 20 20 3 3 20 20 20 20 20 20 20 20 20 20 20 20 20	19 0 58 <1 948 1184 1031 1279 3174 <i>current</i> 6 5 4 <i>current</i> 0.4 6.9 19.2 <i>current</i>	9 0 60 <1 1015 1226 1082 1339 3948 history1 5 2 2 2 history1 0.3 5.9 17.7 history1	17 0 51 <1 896 1089 910 1194 3658 history2 7 2 6 6 history2 0.5 6.3 17.8 history2
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 D7415	0 0 0 1010 1070 1150 1270 2060 2060 225 20 225 20 20 3 20 3 20 3 20 20 20 20 20 20 20 20 20 20 20 20 20	19 0 58 <1 948 1184 1031 1279 3174 <i>current</i> 6 5 4 <i>current</i> 0.4 6.9 19.2	9 0 60 <1 1015 1226 1082 1339 3948 history1 5 2 2 2 2 history1 0.3 5.9 17.7	17 0 51 <1 896 1089 910 1194 3658 history2 7 2 6 6 <u>history2</u> 0.5 6.3 17.8



Feb.6/23

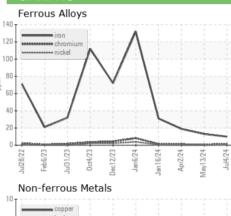
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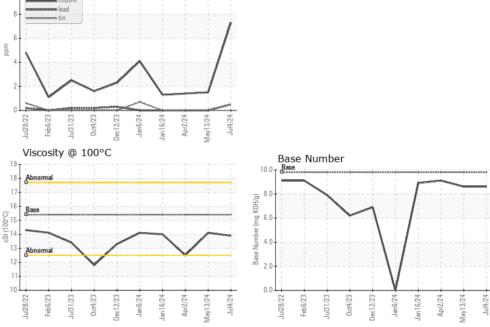




0ct4/23 Jec12/23 Jan6/24 Apr2/24 /av13/24

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 PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.9	14.1	12.5
GRAPHS						





Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 652 - Fredericksburg Hauling Sample No. : GFL0127210 Received : 08 Jul 2024 10954 Houser Drive Ē Lab Number : 06229919 Tested : 09 Jul 2024 Fredericksburg, VA Unique Number : 11113412 Diagnosed : 09 Jul 2024 - Wes Davis US 22408 Test Package : FLEET Contact: WILLIAM MILO Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. wmilo@gflenv.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: F: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Report Id: GFL652 [WUSCAR] 06229919 (Generated: 07/09/2024 08:06:13) Rev: 1

Submitted By: TECHNICIAN ACCOUNT

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