

OIL ANALYSIS REPORT

Sample Rating Trend

FUEL

Machine Id 727108-310052

Component Diesel Engine

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

DIAGNOSIS

A Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Light fuel dilution occurring. No other contaminants were detected in the oil.

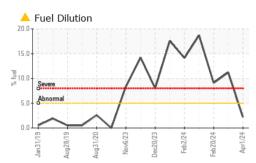
Fluid Condition

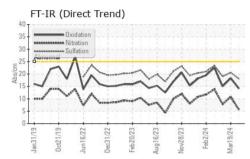
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

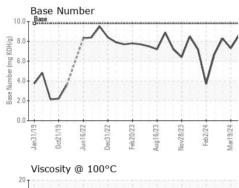
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0105070	GFL0105190	GFL0105275
Sample Date		Client Info		01 Apr 2024	19 Mar 2024	20 Feb 2024
Machine Age	hrs	Client Info		2701	2576	2424
Oil Age	hrs	Client Info		150	300	2400
Oil Changed		Client Info		Not Changd	Not Changd	Changed
Sample Status				MARGINAL	SEVERE	SEVERE
CONTAMINAT	ION	method	limit/base	current	history1	history2
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	8	28	12
Chromium	ppm	ASTM D5185m		0	2	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m		2	5	2
Lead	ppm	ASTM D5185m	>30	0	<1	<1
Copper		ASTM D5185m		<1	2	<1
Tin	ppm	ASTM D5185m	>5	0	<1	<1
Vanadium	ppm	ASTM D5185m	>0	0 <1	<1	<1
Cadmium	ppm	ASTM D5185m		0	0	0
	ppm			-	-	-
		method	limit/base	current	hictory1	history2
ADDITIVES		methou	IIIIIVDase		history1	
	ppm	ASTM D5185m	0	0	0	<1
Boron	ppm ppm					
Boron Barium		ASTM D5185m	0	0	0	<1
Boron Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m	0	0 0	0	<1 0
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	0 0 56	0 0 71	<1 0 55
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	0 0 56 0	0 0 71 <1	<1 0 55 <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	0 0 56 0 922	0 0 71 <1 1118	<1 0 55 <1 1039
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	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 56 0 922 1036	0 0 71 <1 1118 1259	<1 0 55 <1 1039 1122
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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 56 0 922 1036 1008	0 0 71 <1 1118 1259 1276	<1 0 55 <1 1039 1122 1082
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm 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 56 0 922 1036 1008 1245	0 0 71 <1 1118 1259 1276 1505	<1 0 55 <1 1039 1122 1082 1374
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 56 0 922 1036 1008 1245 3611	0 0 71 <1 1118 1259 1276 1505 3577	<1 0 55 <1 1039 1122 1082 1374 3346
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	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 56 0 922 1036 1008 1245 3611 current	0 0 71 <1 1118 1259 1276 1505 3577 history1	<1 0 55 <1 1039 1122 1082 1374 3346 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	0 0 60 1010 1070 1150 1270 2060	0 0 56 0 922 1036 1008 1245 3611 current 4	0 0 71 <1 1118 1259 1276 1505 3577 history1 11	<1 0 55 <1 1039 1122 1082 1374 3346 history2 5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm 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 ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 limit/base >20	0 0 56 0 922 1036 1008 1245 3611 <u>current</u> 4 2	0 0 71 <1 1118 1259 1276 1505 3577 history1 11 7	<1 0 55 <1 1039 1122 1082 1374 3346 history2 5 3
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 ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 limit/base >20	0 0 56 0 922 1036 1008 1245 3611 <u>current</u> 4 2 2	0 0 71 <1 1118 1259 1276 1505 3577 history1 11 7 4	<1 0 55 <1 1039 1122 1082 1374 3346 history2 5 3 1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 limit/base >20 >20 >20	0 0 56 0 922 1036 1008 1245 3611 <u>current</u> 4 2 <1 2.2	0 0 71 <1 1118 1259 1276 1505 3577 history1 11 7 4 ▲ 11.2	<1 0 55 <1 1039 1122 1082 1374 3346 history2 5 3 3 1 1 ▲ 9.1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >20 >20 >5	0 0 56 0 922 1036 1008 1245 3611 current 4 2 <1 2 <1 2.2 current	0 0 71 <1 1118 1259 1276 1505 3577 history1 11 7 4 4 ▲ 11.2 history1	<1 0 55 <1 1039 1122 1082 1374 3346 history2 5 3 1 ▲ 9.1 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >20 >20 >5 limit/base >3	0 0 56 0 922 1036 1008 1245 3611 <i>current</i> 4 2 <1 2.2 <1 2.2	0 0 71 <1 1118 1259 1276 1505 3577 history1 11 7 4 ▲ 11.2 history1 1	<1 0 55 <1 1039 1122 1082 1374 3346 history2 5 3 3 1 ▲ 9.1 history2 0.6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel 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 220 >20 20 20 20 20 20 20 20 20 20 20 20 20 2	0 0 56 0 922 1036 1008 1245 3611 <i>current</i> 4 2 2 <1 ≥.2 <i>current</i> 0.2 5.5	0 0 71 <1 1118 1259 1276 1505 3577 history1 11 7 4 ↓ 11.2 history1 1 1.2	<1 0 55 <1 1039 1122 1082 1374 3346 bistory2 5 3 3 1 ↓ 9.1 history2 0.6 7.8
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRAI	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >20 >20 >5 imit/base >3 >20 >3 >30 imit/base	0 0 56 0 922 1036 1008 1245 3611 current 4 2 2 <1 2.2 current 0.2 5.5 18.0 current	0 0 71 <1 1118 1259 1276 1505 3577 history1 11 7 4 ▲ 11.2 history1 1 10.8 20.6 history1	<1 0 55 <1 1039 1122 1082 1374 3346 history2 5 3 1 bistory2 0.6 7.8 19.0 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel 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 Iimit/base >20 >20 >5 Iimit/base >3 >20 >3	0 0 56 0 922 1036 1008 1245 3611 <i>current</i> 4 2 <1 2.2 <1 2.2 <i>current</i> 0.2 5.5 18.0	0 0 71 <1 1118 1259 1276 1505 3577 history1 11 7 4 ▲ 11.2 history1 1 1.0.8 20.6	<1 0 55 <1 1039 1122 1082 1374 3346 history2 5 3 1 k 9.1 history2 0.6 7.8 19.0

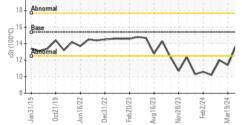


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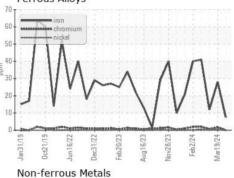


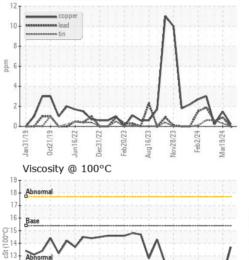


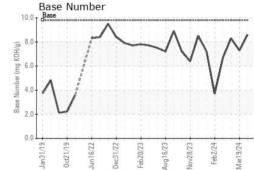


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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 PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.7	▲ 11.4	1 2.0
GRAPHS						

Ferrous Alloys







Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 821 - Ozarks Hauling Sample No. : GFL0105070 Received : 03 Apr 2024 33924 Olath Drive Lab Number : 06137293 Tested : 05 Apr 2024 Lebanon, MO US 65536 Unique Number : 10956758 Diagnosed : 05 Apr 2024 - Wes Davis Test Package : FLEET (Additional Tests: PercentFuel) Contact: Landen Johnson Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. landen.johnson@gflenv.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (417)664-0010 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F:

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Report Id: GFL821 [WUSCAR] 06137293 (Generated: 04/05/2024 08:12:16) Rev: 1

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Submitted By: GFL821, GFL824 and GFL829 - Landen Johnson