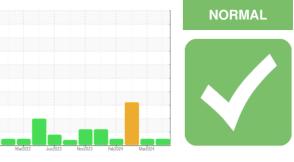


OIL ANALYSIS REPORT

SAMPLE INFORMATION method

Sample Rating Trend



Machine Id

923029-260205.1

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.

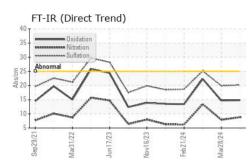
Fluid Condition

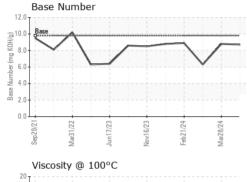
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

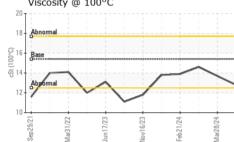
SAMPLE INFOR				current	Thistory I	
Sample Number		Client Info		GFL0118206	GFL0109189	GFL0084579
Sample Date		Client Info		25 Jun 2024	28 Mar 2024	29 Feb 2024
Machine Age	hrs	Client Info		12152	11980	28257
Oil Age	hrs	Client Info		600	300	0
Oil Changed		Client Info		Not Changd	N/A	Changed
Sample Status				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	c	method	limit/base	current	history1	history2
	3					
Iron	ppm		>100	19	15	72
Chromium	ppm	ASTM D5185m	>20	1	<1	3
Nickel	ppm	ASTM D5185m	>4	0	0	2
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>20	3	3	<u> </u>
Lead	ppm	ASTM D5185m	>40	<1	<1	2
Copper	ppm	ASTM D5185m	>330	<1	0	17
Tin	ppm	ASTM D5185m	>15	<1	<1	1
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	<1
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm		limit/base	current 2	history1 4	history2 19
	ppm ppm		0			
Boron		ASTM D5185m	0	2	4	19
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	2 0	4	19 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	2 0 54	4 0 54	19 0 78
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	2 0 54 <1	4 0 54 <1	19 0 78 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	2 0 54 <1 967	4 0 54 <1 948	19 0 78 1 1284
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	2 0 54 <1 967 1139	4 0 54 <1 948 1072	19 0 78 1 1284 1708
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	2 0 54 <1 967 1139 1070	4 0 54 <1 948 1072 1037	19 0 78 1 1284 1708 1129
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	2 0 54 <1 967 1139 1070 1306	4 0 54 <1 948 1072 1037 1255	19 0 78 1 1284 1708 1129 1544
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 0 1010 1070 1150 1270 2060	2 0 54 <1 967 1139 1070 1306 3761 current	4 0 54 <1 948 1072 1037 1255 3543 history1	19 0 78 1 1284 1708 1129 1544 4147 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	2 0 54 <1 967 1139 1070 1306 3761 current 5	4 0 54 <1 948 1072 1037 1255 3543 history1 5	19 0 78 1 1284 1708 1129 1544 4147 history2 ▲ 41
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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	2 0 54 <1 967 1139 1070 1306 3761 current	4 0 54 <1 948 1072 1037 1255 3543 history1	19 0 78 1 1284 1708 1129 1544 4147 history2
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 imit/base >25	2 0 54 <1 967 1139 1070 1306 3761 current 5 2 3	4 0 54 <1 948 1072 1037 1255 3543 history1 5 3 3 3 3	19 0 78 1 1284 1708 1129 1544 4147 history2 ▲ 41 40 11
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25	2 0 54 <1 967 1139 1070 1306 3761 current 5 2 3 3 current	4 0 54 <1 948 1072 1037 1255 3543 history1 5 3 3 3 3 history1	19 0 78 1 1284 1708 1129 1544 4147 history2 ↓ 41 40 11 11
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 limit/base >25 >20 limit/base >3	2 0 54 <1 967 1139 1070 1306 3761 <i>current</i> 5 2 3 <i>current</i> 1.1	4 0 54 <1 948 1072 1037 1255 3543 history1 5 3 3 3 3 history1 0.9	19 0 78 1 1284 1708 1129 1544 4147 history2 ▲ 41 40 11 history2 1.8
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 220 220 220 20 20 20 20 20 20 20 20 20	2 0 54 <1 967 1139 1070 1306 3761 <i>current</i> 5 2 3 <i>current</i> 1.1 8.8	4 0 54 <1 948 1072 1037 1255 3543 history1 5 3 3 3 history1 0.9 7.9	19 0 78 1 1284 1708 1129 1544 4147 history2 ▲ 41 40 11 11 history2 1.8 1.8 13.4
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 TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 imit/base >3 >20	2 0 54 <1 967 1139 1070 1306 3761 <i>current</i> 5 2 3 <i>current</i> 1.1	4 0 54 <1 948 1072 1037 1255 3543 history1 5 3 3 3 3 history1 0.9	19 0 78 1 1284 1708 1129 1544 4147 history2 ▲ 41 40 11 11 history2 1.8
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 220 220 220 20 20 20 20 20 20 20 20 20	2 0 54 <1 967 1139 1070 1306 3761 <i>current</i> 5 2 3 <i>current</i> 1.1 8.8	4 0 54 <1 948 1072 1037 1255 3543 history1 5 3 3 3 history1 0.9 7.9	19 0 78 1 1284 1708 1129 1544 4147 history2 ▲ 41 40 11 11 history2 1.8 1.8 13.4
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 TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 imit/base >3 >20	2 0 54 <1 967 1139 1070 1306 3761 <i>current</i> 5 2 3 <i>current</i> 1.1 8.8 20.2	4 0 54 <1 948 1072 1037 1255 3543 history1 5 3 3 3 3 history1 0.9 7.9 19.9	19 0 78 1 1284 1708 1129 1544 4147 history2 ▲ 41 40 11 history2 1.8 13.4 25.1
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 TS 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 20 220 220 20 3 20 20 20 20 20 20 20 20 20 20 20 20 20	2 0 54 <1 967 1139 1070 1306 3761 <i>current</i> 5 2 3 <i>current</i> 1.1 8.8 20.2 <i>current</i>	4 0 54 <1 948 1072 1037 1255 3543 history1 5 3 3 3 history1 0.9 7.9 19.9 history1	19 0 78 1 1284 1708 1129 1544 4147 history2 ▲ 41 40 11 history2 1.8 13.4 25.1 history2



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	12.8	13.7	14.6
GRAPHS						

Ferrous Alloys

18

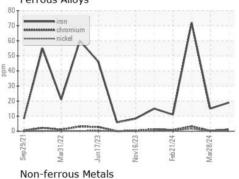
16

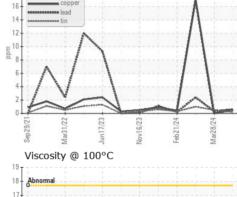
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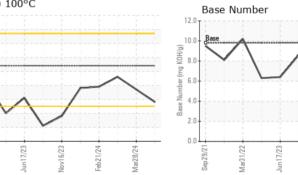
Sep 29/21

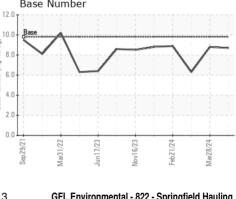
Mar31/22

cSt (100°C)









Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 822 - Springfield Hauling Sample No. : GFL0118206 2120 West Bennett Street Received : 01 Jul 2024 Lab Number : 06224338 Tested : 02 Jul 2024 Springfield, MO ŬS 65807 Unique Number : 11102535 Diagnosed : 02 Jul 2024 - Wes Davis Test Package : FLEET Contact: Dennis Moore Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. dennis.moore@gflenv.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (417)403-3641

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Report Id: GFL822 [WUSCAR] 06224338 (Generated: 07/02/2024 07:35:40) Rev: 1

Submitted By: Dennis Moore

F: