

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

6006M

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.

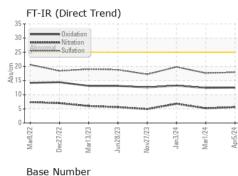
Fluid Condition

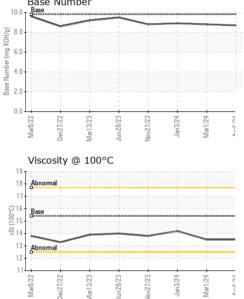
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0097494	GFL0029668	GFL0097509
Sample Date		Client Info		05 Apr 2024	01 Mar 2024	03 Jan 2024
Machine Age	hrs	Client Info		26854	26777	26740
Oil Age	hrs	Client Info		26568	26568	26568
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
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	>100	6	4	9
Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	<1	<1
Lead	ppm	ASTM D5185m	>40	<1	0	3
Copper	ppm	ASTM D5185m	>330	2	<1	0
Tin	ppm	ASTM D5185m	>15	<1	0	0
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 0	current 11	history1 9	history2 2
	ppm ppm					
Boron		ASTM D5185m	0	11	9	2
Boron Barium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	11 0	9 0	2 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	11 0 60	9 0 61	2 0 57
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	11 0 60 <1	9 0 61 0	2 0 57 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	11 0 60 <1 892	9 0 61 0 930	2 0 57 0 950
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	11 0 60 <1 892 1051	9 0 61 0 930 1083	2 0 57 0 950 1023
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	11 0 60 <1 892 1051 1021	9 0 61 0 930 1083 998	2 0 57 0 950 1023 939
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	11 0 60 <1 892 1051 1021 1211	9 0 61 0 930 1083 998 1161	2 0 57 0 950 1023 939 1262
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 ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	11 0 60 <1 892 1051 1021 1211 3592	9 0 61 0 930 1083 998 1161 3050	2 0 57 0 950 1023 939 1262 2853
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	11 0 60 <1 892 1051 1021 1211 3592 current	9 0 61 0 930 1083 998 1161 3050 history1	2 0 57 0 950 1023 939 1262 2853 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	11 0 60 <1 892 1051 1021 1211 3592 current 4	9 0 61 0 930 1083 998 1161 3050 history1 3	2 0 57 0 950 1023 939 1262 2853 history2 2
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 limit/base	11 0 60 <1 892 1051 1021 1211 3592 current 4 2	9 0 61 0 930 1083 998 1161 3050 history1 3 2	2 0 57 0 950 1023 939 1262 2853 history2 2 2 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 0 1010 1070 1150 1270 2060 limit/base >25	11 0 60 <1 892 1051 1021 1211 3592 current 4 2 0	9 0 61 0 930 1083 998 1161 3050 history1 3 2 0 history1 0.4	2 0 57 0 950 1023 939 1262 2853 history2 2 2 2 2 2 2 3 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	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 >20 Limit/base >20	11 0 60 <1 892 1051 1021 1211 3592 current 4 2 0 0	9 0 61 0 930 1083 998 1161 3050 history1 3 2 0 0	2 0 57 0 950 1023 939 1262 2853 history2 2 2 2 2 2 <1 <i>history2</i>
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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 Limit/base >20	11 0 60 <1 892 1051 1021 1211 3592 current 4 2 0 current 0.6	9 0 61 0 930 1083 998 1161 3050 history1 3 2 0 history1 0.4	2 0 57 0 950 1023 939 1262 2853 history2 2 2 2 2 2 3 4 1 2 1.7
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 225 220 220 220 20 20 20 20 20 20 20 20 20	11 0 60 <1 892 1051 1021 1211 3592 <i>current</i> 4 2 0 <i>current</i> 0.6 5.6	9 0 61 0 930 1083 998 1161 3050 history1 3 2 0 history1 0.4 5.2	2 0 57 0 950 1023 939 1262 2853 history2 2 2 2 2 2 2 2 3 1 1 5 1 1 7 6.8
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 225 20 225 20 20 320 33 20 20 20	11 0 60 <1 892 1051 1021 1211 3592 <u>current</u> 4 2 0 <u>current</u> 0.6 5.6 17.9	9 0 61 0 930 1083 998 1161 3050 history1 3 2 0 history1 0.4 5.2 17.6	2 0 57 0 950 1023 939 1262 2853 history2 2 2 2 2 2 3 - 1 - 1 7 6.8 19.8

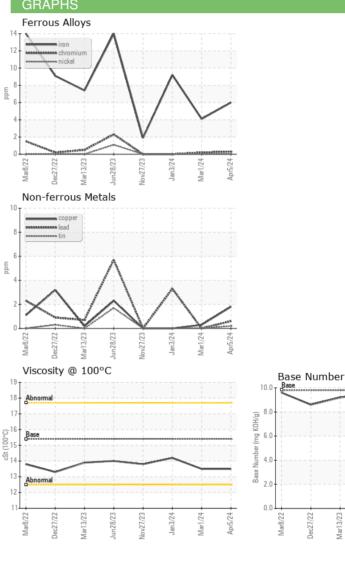


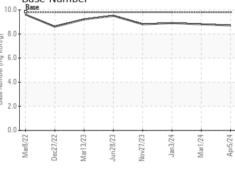
OIL ANALYSIS REPORT





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	13.5	13.5	14.2
GRAPHS						





Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 463 - Cheboygan Sample No. : GFL0097494 Received : 12 Apr 2024 501 N. Western Ave Lab Number : 06147125 Tested : 15 Apr 2024 Cheboygan, MI US 49721 Unique Number : 10977203 Diagnosed : 15 Apr 2024 - Wes Davis Test Package : FLEET Contact: Chris Gee Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. cgee@gflenv.com T: (231)597-8553 * - 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) F:

Submitted By: GFL463 and GFL641 - DYLAN TOLAN