

OIL ANALYSIS REPORT

Sample Rating Trend



713017 Component Diesel Engine Fluid

PETRO CANADA DURON SHP 15W40 (10 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Machine Id

Wear

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the oil.

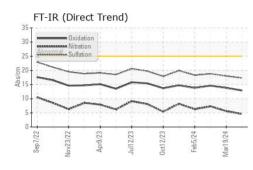
Fluid Condition

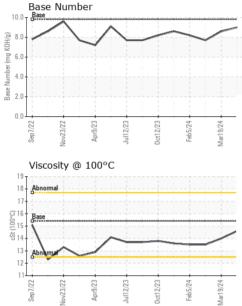
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0118179	GFL0109135	GFL0109187
Sample Date		Client Info		08 Apr 2024	19 Mar 2024	01 Mar 2024
Machine Age	hrs	Client Info		970	4741	4601
Oil Age	hrs	Client Info		300	140	700
Oil Changed		Client Info		N/A	N/A	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<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	>120	0	4	6
Chromium	ppm	ASTM D5185m		0	<1	<1
Nickel	ppm	ASTM D5185m	>5	ء <1	<1	<1
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	3	2
Lead	ppm	ASTM D5185m	>40	0	<1	- <1
Copper	ppm	ASTM D5185m		0	<1	<1
Tin	ppm	ASTM D5185m	>15	<1	1	<1
Vanadium	ppm	ASTM D5185m		0	<1	0
	1-1-			-		
Cadmium	ppm	ASTM D5185m		0	<1	0
ADDITIVES	ppm	ASTM D5185m method	limit/base	0 current	<1 history1	0 history2
	ppm ppm		limit/base			-
ADDITIVES		method		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	0	current 2	history1 0	history2 5
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	0	current 2 0	history1 0 1	history2 5 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 2 0 57	history1 0 1 61	history2 5 0 51
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	current 2 0 57 0	history1 0 1 61 <1	history2 5 0 51 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	current 2 0 57 0 974	history1 0 1 61 <1 935	history2 5 0 51 <1 888
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	current 2 0 57 0 974 1073	history1 0 1 61 <1 935 1169	history2 5 0 51 <1 888 1008
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	Current 2 0 57 0 974 1073 1083	history1 0 1 61 <1 935 1169 1084	history2 5 0 51 <1 888 1008 957
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	current 2 0 57 0 974 1073 1083 1287	history1 0 1 61 <1 935 1169 1084 1230	history2 5 0 51 <1 888 1008 957 1157 3198 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	current 2 0 57 0 974 1073 1083 1287 3842 current 6	history1 0 1 61 <1 935 1169 1084 1230 3364 history1 4	history2 5 0 51 <1 888 1008 957 1157 3198 history2 3
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base	current 2 0 57 0 974 1073 1083 1287 3842 current	history1 0 1 61 <1 935 1169 1084 1230 3364 history1	history2 5 0 51 <1 888 1008 957 1157 3198 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25	current 2 0 57 0 974 1073 1083 1287 3842 current 6	history1 0 1 61 <1 935 1169 1084 1230 3364 history1 4	history2 5 0 51 <1 888 1008 957 1157 3198 history2 3 2 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 Imit/base >25	current 2 0 57 0 974 1073 1083 1287 3842 current 6 1 1 current	history1 0 1 61 <1 935 1169 1084 1230 3364 history1 4 0 2 history1	history2 5 0 51 <1 888 1008 957 1157 3198 history2 3 2 <1 history2 3 2 <1 history2
ADDITIVES 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 TS ppm ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	current 2 0 57 0 974 1073 1083 1287 3842 current 6 1 current 0 0.1	history1 0 1 61 <1 935 1169 1084 1230 3364 history1 4 0 2 history1 0.2	history2 5 0 51 <1 888 1008 957 1157 3198 history2 3 2 <1 history2 3 2 <1 history2 0.5
ADDITIVES 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 TS ppm ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 225 220 220 1imit/base >22 20	current 2 0 57 0 974 1073 1083 1287 3842 current 6 1 current 0 0.1 4.6	history1 0 1 61 <1 935 1169 1084 1230 3364 history1 4 0 2 history1 0.2 5.6	history2 5 0 51 <1 888 1008 957 1157 3198 history2 3 2 <1 history2 0.5 7.3
ADDITIVES 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 TS ppm ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	current 2 0 57 0 974 1073 1083 1287 3842 current 6 1 current 0 0.1	history1 0 1 61 <1 935 1169 1084 1230 3364 history1 4 0 2 history1 0.2	history2 5 0 51 <1 888 1008 957 1157 3198 history2 3 2 <1 history2 3 2 <1 history2 0.5
ADDITIVES 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	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 220 220 220 20 20 20 20 20 20 20 20 20	current 2 0 57 0 974 1073 1083 1287 3842 current 6 1 current 0 0.1 4.6	history1 0 1 61 <1 935 1169 1084 1230 3364 history1 4 0 2 history1 0.2 5.6	history2 5 0 51 <1 888 1008 957 1157 3198 history2 3 2 <1 history2 0.5 7.3
ADDITIVES 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	method ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 20 225 20 <u>1imit/base</u> >4 >20 30	current 2 0 57 0 974 1073 1083 1287 3842 current 6 1 current 0.1 4.6 17.3	history1 0 1 61 <1 935 1169 1084 1230 3364 history1 4 0 2 history1 0.2 5.6 18.0	history2 5 0 51 <1 888 1008 957 1157 3198 history2 3 2 <1 history2 0.5 7.3 18.8



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	14.6	14.0	13.5

GRAPHS Ferrous Alloys

Sep7/22

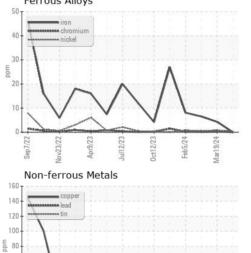
19

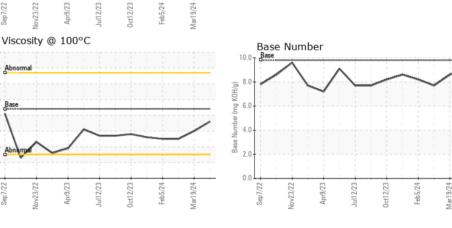
18 17

()-00 15 14

12 11-

Sep7/22





Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 822 - Springfield Hauling Sample No. : GFL0118179 Received : 11 Apr 2024 2120 West Bennett Street Lab Number : 06146334 Tested : 12 Apr 2024 Springfield, MO Unique Number : 10976412 Diagnosed : 12 Apr 2024 - Wes Davis US 65807 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 F:

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

Report Id: GFL822 [WUSCAR] 06146334 (Generated: 04/12/2024 16:35:48) Rev: 1

Submitted By: Dennis Moore

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