

OIL ANALYSIS REPORT

Area (62A1N88) ALEXANDER CITY 10818

Diesel Engine

Fluid PETRO CANADA DURON SHP 15W40 (11 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

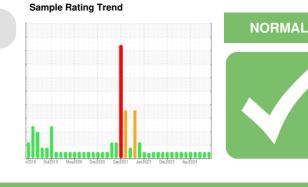
All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

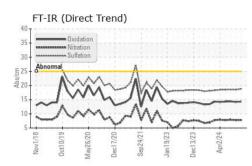
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

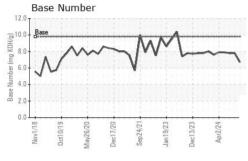


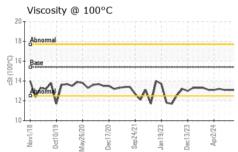
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0079736	GFL0091347	GFL0079739
Sample Date		Client Info		09 May 2024	17 Apr 2024	11 Apr 2024
Machine Age	hrs	Client Info		5749	16624	16587
Oil Age	hrs	Client Info		2419	2222	2185
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ON	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	>75	9	10	10
Chromium	ppm	ASTM D5185m	>5	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	3	2	2
Lead	ppm	ASTM D5185m	>25	<1	0	<1
Copper	ppm	ASTM D5185m	>100	4	<1	<1
Tin	ppm	ASTM D5185m	>4	<1	0	<1
Vanadium	ppm	ASTM D5185m		<1	<1	<1
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	9	11	12
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60			60
	ppiii	ASTIVI DOTODITI	60	60	58	00
Manganese	ppm	ASTM D5185m	0	60 0	58 <1	0
Manganese Magnesium						
-	ppm	ASTM D5185m	0	0	<1	0
Magnesium	ppm ppm	ASTM D5185m ASTM D5185m	0 1010	0 817	<1 832	0 881
Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070	0 817 1020	<1 832 1005	0 881 1087
Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070 1150	0 817 1020 942	<1 832 1005 870	0 881 1087 999
Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070 1150 1270	0 817 1020 942 1128	<1 832 1005 870 1051	0 881 1087 999 1185
Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070 1150 1270 2060	0 817 1020 942 1128 2938	<1 832 1005 870 1051 3060	0 881 1087 999 1185 3371
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070 1150 1270 2060 limit/base	0 817 1020 942 1128 2938 current	<1 832 1005 870 1051 3060 history1	0 881 1087 999 1185 3371 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	0 1010 1070 1150 1270 2060 limit/base	0 817 1020 942 1128 2938 current 5	<1 832 1005 870 1051 3060 history1 5	0 881 1087 999 1185 3371 history2 5
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070 1150 1270 2060 limit/base >25	0 817 1020 942 1128 2938 current 5 8	<1 832 1005 870 1051 3060 history1 5 29	0 881 1087 999 1185 3371 history2 5 32
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070 1150 1270 2060 <i>limit/base</i> >25	0 817 1020 942 1128 2938 current 5 8 3	<1 832 1005 870 1051 3060 history1 5 29 0	0 881 1087 999 1185 3371 history2 5 32 16
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	0 817 1020 942 1128 2938 current 5 8 3 3 current	<1 832 1005 870 1051 3060 history1 5 29 0 history1	0 881 1087 999 1185 3371 history2 5 32 16 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070 1150 1270 2060 <i>limit/base</i> >25 >20 <i>limit/base</i> >6	0 817 1020 942 1128 2938 current 5 8 3 3 current 0.3	<1 832 1005 870 1051 3060 history1 5 29 0 history1 0.3	0 881 1087 999 1185 3371 history2 5 32 16 history2 0.3
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >6 >20	0 817 1020 942 1128 2938 current 5 8 3 current 0.3 7.8	<1 832 1005 870 1051 3060 history1 5 29 0 history1 0.3 7.8	0 881 1087 999 1185 3371 history2 5 32 16 history2 0.3 7.9
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624	0 1010 1070 1150 1270 2060 imit/base >25 >20 imit/base >6 >20 >30	0 817 1020 942 1128 2938 current 5 8 3 current 0.3 7.8 18.8	<1 832 1005 870 1051 3060 history1 5 29 0 history1 0.3 7.8 18.5	0 881 1087 999 1185 3371 history2 5 32 16 history2 0.3 7.9 18.6



OIL ANALYSIS REPORT







VISUAL		method				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	13.1	13.1	13.1
GRAPHS						

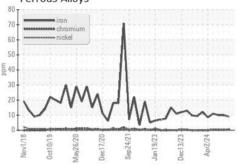
Ferrous Alloys

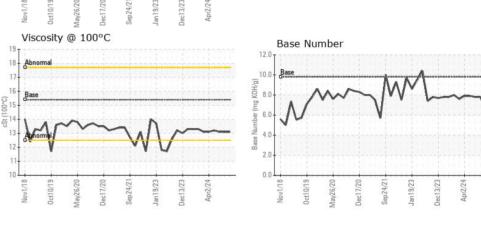
Non-ferrous Metals

lead

300

250





Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 172 - Montgomery-Alexander City-Tallahassee Sample No. : GFL0079736 Received : 14 May 2024 **Multiple Sites** Lab Number : 06178555 Tested : 15 May 2024 Montgomery, AL Unique Number : 11029881 Diagnosed : 15 May 2024 - Wes Davis US 36108 Test Package : FLEET Contact: BRANDON HURST Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. brandonhurst@gflenv.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F:

Report Id: GFL172 [WUSCAR] 06178555 (Generated: 05/15/2024 12:52:24) Rev: 1

Submitted By: Lisa Reeves Page 2 of 2