

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



927088-205245

Diesel Engine

Fluid PETRO CANADA DURON GEO LD 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.

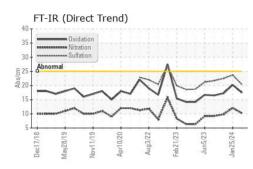
Fluid Condition

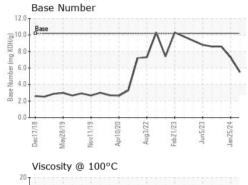
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

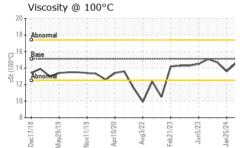
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0114437	GFL0103921	GFL0100500
Sample Date		Client Info		03 Apr 2024	25 Jan 2024	11 Nov 2023
Machine Age	hrs	Client Info		3205	17762	17172
Oil Age	hrs	Client Info		0	0	17172
Oil Changed		Client Info		Changed	Changed	Changed
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	12	22	29
Chromium	ppm	ASTM D5185m	>20	1	2	2
Nickel	ppm		>4	1	0	0
Titanium	ppm	ASTM D5185m	27	<1	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	4	3	5
Lead	ppm	ASTM D5185m	>40	2	2	<1
Copper	ppm	ASTM D5185m	>330	1	<1	1
Tin	ppm	ASTM D5185m	>15	1	<1	<1
Vanadium	ppm	ASTM D5185m	210	- <1	<1	0
Vanadiani	ppm	7101111 00100111				0
Cadmium	maa	ASTM D5185m			<1	0
Cadmium ADDITIVES	ppm	ASTM D5185m method	limit/base	<1 current	<1 history1	0 history2
ADDITIVES		method	limit/base	<1 current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	50	<1 current 14	history1 5	history2 1
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	50 5	<1 current 14 0	history1 5 0	history2 1 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50	<1 current 14 0 53	history1 5 0 55	history2 1 0 58
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0	<1 current 14 0 53 1	history1 5 0 55 <1	history2 1 0 58 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560	<1 current 14 0 53 1 596	history1 5 0 55 <1 989	history2 1 0 58 <1 959
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510	<1 current 14 0 53 1 596 1678	history1 5 0 55 <1 989 1128	history2 1 0 58 <1 959 1089
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780	<1 current 14 0 53 1 596 1678 815	history1 5 0 55 <1 989 1128 1060	history2 1 0 58 <1 959 1089 1063
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510	<1 current 14 0 53 1 596 1678	history1 5 0 55 <1 989 1128	history2 1 0 58 <1 959 1089
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	50 5 50 0 560 1510 780 870	<1 current 14 0 53 1 596 1678 815 1051	history1 5 0 55 <1 989 1128 1060 1234	history2 1 0 58 <1 959 1089 1063 1308
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 ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040	<1 current 14 0 53 1 596 1678 815 1051 2903	history1 5 0 55 <1 989 1128 1060 1234 2932	history2 1 0 58 <1 959 1089 1063 1308 3042
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 limit/base	<1 current 14 0 53 1 596 1678 815 1051 2903 current	history1 5 0 55 <1 989 1128 1060 1234 2932 history1	history2 1 0 58 <1 959 1089 1063 1308 3042 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	50 5 50 0 560 1510 780 870 2040 limit/base >25	<1 current 14 0 53 1 596 1678 815 1051 2903 current 6	history1 5 0 55 <1 989 1128 1060 1234 2932 history1 6	history2 1 0 58 <1 959 1089 1063 1308 3042 history2 7
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	50 5 50 0 560 1510 780 870 2040 limit/base >25	<1 current 14 0 53 1 596 1678 815 1051 2903 current 6 8	history1 5 0 55 <1 989 1128 1060 1234 2932 history1 6 8	history2 1 0 58 <1 959 1089 1063 1308 3042 history2 7 10
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 ppm	method ASTM D5185m	50 50 00 560 1510 780 870 2040 limit/base >25	<1 current 14 0 53 1 596 1678 815 1051 2903 current 6 8 2 	history1 5 0 55 <1 989 1128 1060 1234 2932 history1 6 8 2	history2 1 0 58 <1 959 1063 1308 3042 history2 7 10 2
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 ppm	method ASTM D5185m	50 50 560 1510 780 870 2040 Imit/base >25 >20 Imit/base >20	<1 current 14 0 53 1 596 1678 815 1051 2903 current 6 8 2 current 	history1 5 0 55 <1 989 1128 1060 1234 2932 history1 6 8 2 history1	history2 1 0 58 <1 959 1089 1063 1308 3042 history2 7 10 2 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 ppm	method ASTM D5185m	50 50 560 1510 780 870 2040 Imit/base >25 >20 Imit/base >20	<1 current 14 0 53 1 596 1678 815 1051 2903 current 6 8 2 current 0 	history1 5 0 55 <1 989 1128 1060 1234 2932 history1 6 8 2 history1 1	history2 1 0 58 <1 959 1089 1063 1308 3042 history2 7 10 2 history2 1.4
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 ppm	method ASTM D5185m ASTM D5185m	50 50 560 1510 780 870 2040 2040 2040 225 225 220 imit/base 220 20	<1 current 14 0 53 1 596 1678 815 1051 2903 current 6 8 2 current 0 10.2 	history1 5 0 55 <1 989 1128 1060 1234 2932 history1 6 8 2 history1 1 1.2.1	history2 1 0 58 <1 959 1089 1063 1308 3042 history2 7 10 2 history2 1.4 9.8
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 TS ppm ppm ppm	method ASTM D5185m ASTM D5185m	50 50 560 1510 780 870 2040 Imit/base >25 20 Imit/base >3 >20 >3	<1 current 14 0 53 1 596 1678 815 1051 2903 current 6 8 2 current 0 10.2 20.4 	history1 5 0 55 <1 989 1128 1060 1234 2932 history1 6 8 2 history1 1 12.1 23.7	history2 1 0 58 <1 959 1089 1063 1308 3042 history2 7 10 2 history2 1.4 9.8 22.5



OIL ANALYSIS REPORT





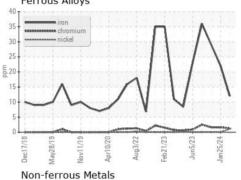


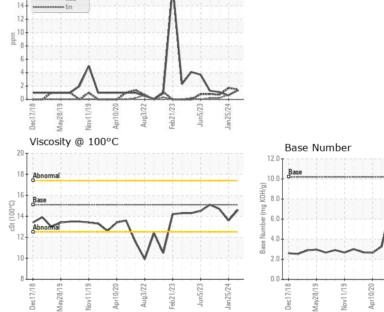
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	15.1	14.6	13.6	14.7
GRAPHS						

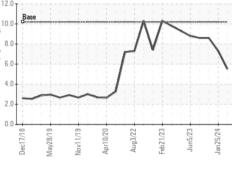
Ferrous Alloys

18

16







Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 865 - East Mount Hauling Sample No. : GFL0114437 Received : 09 Apr 2024 7213 East Mount Houston Road Lab Number : 06143562 Tested : 10 Apr 2024 Houston, TX Unique Number : 10968370 Diagnosed : 10 Apr 2024 - Wes Davis US 77050 Test Package : FLEET Contact: Saul Castillo Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. saul.castillo@gflenv.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: F:

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

Report Id: GFL865 [WUSCAR] 06143562 (Generated: 04/10/2024 13:40:50) Rev: 1

Submitted By: TECHNICIAN ACCOUNT