

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.

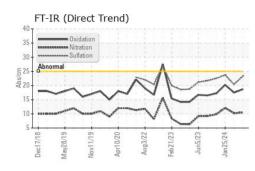
Fluid Condition

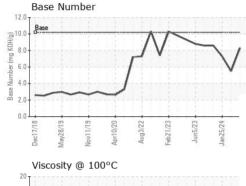
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

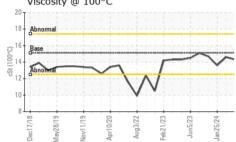
SAMPLE INFORMATION me	ethod limit/ba	se current	history1	history2
Sample Number Clie	nt Info	GFL0117798	GFL0114437	GFL0103921
Sample Date Clie	nt Info	06 May 2024 0	3 Apr 2024	25 Jan 2024
Machine Age hrs Clie	nt Info	18354 3	205	17762
Oil Age hrs Clie	nt Info	0 0		0
Oil Changed Clie	nt Info	Changed 0	Changed	Changed
Sample Status		NORMAL	IORMAL	NORMAL
CONTAMINATION me	ethod limit/ba	se 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 METALS me	ethod limit/ba	se current	history1	history2
Iron ppm ASTM	1D5185m >100	24	12	22
Chromium ppm ASTM	1 D5185m >20	2	1	2
Nickel ppm ASTM	ID5185m >4	<1	1	0
Titanium ppm ASTM	l D5185m	<1	<1	<1
Silver ppm ASTM	ID5185m >3	0	0	0
Aluminum ppm ASTM	I D5185m >20	8	4	3
Lead ppm ASTM	D5185m >40	2	2	2
Copper ppm ASTM	ID5185m >330	2	1	<1
Tin ppm ASTM	D5185m >15	<1	1	<1
Vanadium ppm ASTM	l D5185m	<1	<1	<1
Cadmium ppm ASTN	l D5185m	<1	<1	<1
ADDITIVES me	ethod limit/ba	ise current	history1	history2
	ethod limit/ba I D5185m 50	se current 41	history1 14	history2 5
Boron ppm ASTM				
Boron ppm ASTM Barium ppm ASTM	D5185m 50	41	14	5
BoronppmASTMBariumppmASTMMolybdenumppmASTM	D5185m 50	41 2	14 0	5 0
BoronppmASTMBariumppmASTMMolybdenumppmASTMManganeseppmASTM	D5185m 50 D5185m 5 D5185m 50	41 2 84	14 0 53	5 0 55
BoronppmASTMBariumppmASTMMolybdenumppmASTMManganeseppmASTMMagnesiumppmASTM	D5185m 50 D5185m 5 D5185m 50 D5185m 50 D5185m 0	41 2 84 <1	14 0 53 1	5 0 55 <1
BoronppmASTMBariumppmASTMMolybdenumppmASTMManganeseppmASTMMagnesiumppmASTMCalciumppmASTM	D5185m 50 D5185m 5 D5185m 50 D5185m 0 D5185m 560	41 2 84 <1 967	14 0 53 1 596	5 0 55 <1 989
BoronppmASTMBariumppmASTMMolybdenumppmASTMManganeseppmASTMMagnesiumppmASTMCalciumppmASTMPhosphorusppmASTM	D5185m 50 D5185m 5 D5185m 50 D5185m 0 D5185m 560 D5185m 1510	41 2 84 <1 967 1295	14 0 53 1 596 1678	5 0 55 <1 989 1128
BoronppmASTMBariumppmASTMMolybdenumppmASTMManganeseppmASTMMagnesiumppmASTMCalciumppmASTMPhosphorusppmASTMZincppmASTM	D5185m 50 D5185m 5 D5185m 50 D5185m 0 D5185m 560 D5185m 1510 D5185m 780	41 2 84 <1 967 1295 1100	14 0 53 1 596 1678 815	5 0 55 <1 989 1128 1060
BoronppmASTMBariumppmASTMMolybdenumppmASTMManganeseppmASTMMagnesiumppmASTMCalciumppmASTMPhosphorusppmASTMZincppmASTMSulfurppmASTM	D5185m 50 D5185m 50 D5185m 50 D5185m 0 D5185m 560 D5185m 1510 D5185m 780 D5185m 870	41 2 84 <1 967 1295 1100 1255 3312	14 0 53 1 596 1678 815 1051	5 0 55 <1 989 1128 1060 1234
BoronppmASTMBariumppmASTMMolybdenumppmASTMManganeseppmASTMMagnesiumppmASTMCalciumppmASTMPhosphorusppmASTMZincppmASTMSulfurppmASTMCONTAMINANTSmeter	D5185m 50 D5185m 50 D5185m 50 D5185m 560 D5185m 1510 D5185m 780 D5185m 870 D5185m 2040	41 2 84 <1 967 1295 1100 1255 3312	14 0 53 1 596 1678 815 1051 2903	5 0 55 <1 989 1128 1060 1234 2932
BoronppmASTMBariumppmASTMMolybdenumppmASTMMagnaeseppmASTMMagnesiumppmASTMCalciumppmASTMPhosphorusppmASTMZincppmASTMSulfurppmASTMCONTAMINANTSmeSiliconppmASTM	D5185m 50 D5185m 50 D5185m 50 D5185m 560 D5185m 1510 D5185m 780 D5185m 2040 ethod limit/base	41 2 84 <1 967 1295 1100 1255 3312 se current	14 0 53 1 596 1678 815 1051 2903 history1	5 0 55 <1 989 1128 1060 1234 2932 history2
BoronppmASTMBariumppmASTMMolybdenumppmASTMMagnaeseppmASTMMagnesiumppmASTMCalciumppmASTMPhosphorusppmASTMZincppmASTMSulfurppmASTMSiliconppmASTMSodiumppmASTMSodiumppmASTM	D5185m 50 D5185m 50 D5185m 50 D5185m 560 D5185m 1510 D5185m 780 D5185m 2040 D5185m 2040 ethod Imit/base D5185m >25	41 2 84 <1 967 1295 1100 1255 3312 se current 8	14 0 53 1 596 1678 815 1051 2903 history1	5 0 55 <1 989 1128 1060 1234 2932 history2 6
BoronppmASTMBariumppmASTMMolybdenumppmASTMManganeseppmASTMMagnesiumppmASTMCalciumppmASTMPhosphorusppmASTMZincppmASTMSulfurppmASTMSoliconppmASTMSodiumppmASTMPotassiumppmASTM	D5185m 50 D5185m 50 D5185m 50 D5185m 560 D5185m 1510 D5185m 780 D5185m 870 D5185m 2040 ethod limit/bat D5185m >25 D5185m >25	41 2 84 <1 967 1295 1100 1255 3312 se current 8 8 8 3	14 0 53 1 596 1678 815 1051 2903 history1 6 8	5 0 55 <1 989 1128 1060 1234 2932 history2 6 8
BoronppmASTMBariumppmASTMMolybdenumppmASTMManganeseppmASTMMagnesiumppmASTMCalciumppmASTMCalciumppmASTMPhosphorusppmASTMZincppmASTMSulfurppmASTMSollfurppmASTMSodiumppmASTMPotassiumppmASTMINFRA-REDmeSoot %%"ASTM	D5185m 50 D5185m 50 D5185m 50 D5185m 560 D5185m 780 D5185m 2040 D5185m 2040 D5185m >25 D5185m >20	41 2 84 <1 967 1295 1100 1255 3312 se current 8 8 8 3	14 0 53 1 596 1678 815 1051 2903 history1 6 8 2 2 history1 0	5 0 55 <1 989 1128 1060 1234 2932 history2 6 8 2 2 history2 1
BoronppmASTMBariumppmASTMMolybdenumppmASTMManganeseppmASTMMagnesiumppmASTMCalciumppmASTMPhosphorusppmASTMZincppmASTMSulfurppmASTMCONTAMINANTSmeSiliconppmASTMPotassiumppmASTMINFRA-REDmeSoot %%*ASTM	D5185m 50 D5185m 50 D5185m 50 D5185m 50 D5185m 560 D5185m 1510 D5185m 780 D5185m 2040 ethod limit/base D5185m >25 D5185m >20 ethod limit/base lD5185m >20	41 2 84 <1 967 1295 1100 1255 3312 se current 8 8 3 3 se current	14 0 53 1 596 1678 815 1051 2903 history1 6 8 2 2	5 0 55 <1 989 1128 1060 1234 2932 history2 6 8 2 2 history2
BoronppmASTMBariumppmASTMMolybdenumppmASTMManganeseppmASTMMagnesiumppmASTMCalciumppmASTMPhosphorusppmASTMZincppmASTMSulfurppmASTMCONTAMINANTSrmSodiumppmASTMPotassiumppmASTMINFRA-REDrmSoot %%*ASTMNitrationAbs/cm*ASTM	D5185m 50 D5185m 50 D5185m 50 D5185m 560 D5185m 1510 D5185m 780 D5185m 2040 ethod limit/base D5185m >25 D5185m >20 ethod limit/base D5185m >20 ethod limit/base P3185m >20	41 2 84 <1 967 1295 1100 1255 3312 se current 8 8 8 3 se current 1	14 0 53 1 596 1678 815 1051 2903 history1 6 8 2 2 history1 0	5 0 55 <1 989 1128 1060 1234 2932 history2 6 8 2 2 history2 1
BoronppmASTMBariumppmASTMMolybdenumppmASTMManganeseppmASTMMagnesiumppmASTMCalciumppmASTMCalciumppmASTMCalciumppmASTMZincppmASTMSulfurppmASTMSulfurppmASTMSodiumppmASTMPotassiumppmASTMINFRA-REDmeSoot %%*ASTMNitrationAbs/cm*ASTMSulfationAbs/.11mm*ASTM	D5185m 50 D5185m 50 D5185m 50 D5185m 560 D5185m 780 D5185m 2040 D5185m 225 D5185m >25 D5185m >20 D5185m >20	41 2 84 <1 967 1295 1100 1255 3312 se current 8 8 8 3 se current 1 10.5 23.3	14 0 53 1 596 1678 815 1051 2903 history1 6 8 2 2 history1 0 10.2	5 0 55 <1 989 1128 1060 1234 2932 history2 6 8 2 2 history2 1 1 12.1
BoronppmASTMBariumppmASTMMolybdenumppmASTMManganeseppmASTMMagnesiumppmASTMCalciumppmASTMPhosphorusppmASTMZincppmASTMSulfurppmASTMSoliconppmASTMSodiumppmASTMPotassiumppmASTMSoot %%*ASTMNitrationAbs/.11m*ASTMSulfationAbs/.11m*ASTM	D5185m 50 D5185m 50 D5185m 50 D5185m 560 D5185m 1510 D5185m 780 D5185m 2040 D5185m 2040 D5185m >20 ethod limit/base D5185m >20 ethod limit/base M D7844 >3 M D7624 >20	41 2 84 <1 967 1295 1100 1255 3312 se current 8 8 8 3 se current 1 10.5 23.3	14 0 53 1 596 1678 815 1051 2903 history1 6 8 2 history1 0 10.2 20.4	5 0 55 <1 989 1128 1060 1234 2932 history2 6 8 2 history2 1 1 12.1 23.7



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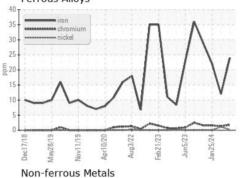


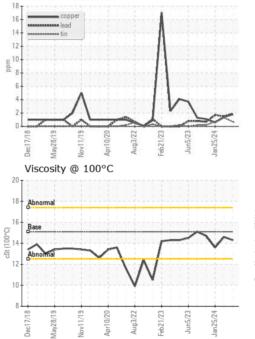


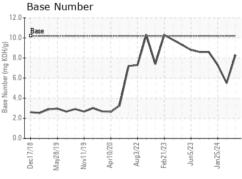


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	14.3	14.6	13.6
GRAPHS						

Ferrous Alloys







Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 865 - East Mount Hauling Sample No. : GFL0117798 Received : 10 May 2024 7213 East Mount Houston Road Lab Number : 06176623 Tested : 13 May 2024 Houston, TX Unique Number : 11022676 Diagnosed : 14 May 2024 - Angela Borella 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] 06176623 (Generated: 05/14/2024 14:50:04) Rev: 1

Submitted By: TECHNICIAN ACCOUNT

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