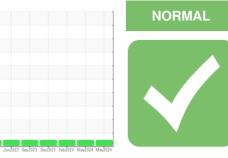


OIL ANALYSIS REPORT

Sample Rating Trend



812098 Component Diesel Engine Fluid

PETRO CANADA DURON SHP 15W40 (--- GAL)

SAMPLE INFORMATION method

DIAGNOSIS Recommendation

Resample at the next service interval to monitor.

Machine Id

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

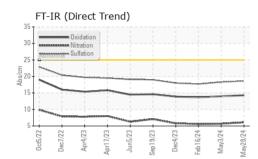
Fluid Condition

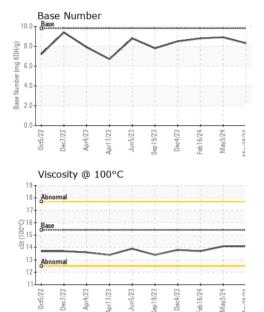
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sample Number		Client Info		GFL0113615	GFL0113646	GFL0103899
Sample Date		Client Info		28 May 2024	03 May 2024	16 Feb 2024
Machine Age	hrs	Client Info		5032	4999	4999
Oil Age	hrs	Client Info		205	4999	344
Oil Changed		Client Info		Changed	N/A	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATI	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	>120	<1	2	2
Chromium	ppm	ASTM D5185m	>20	0	0	0
Nickel	ppm	ASTM D5185m	>5	0	0	<1
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	1	1	2
Lead	ppm	ASTM D5185m	>40	0	<1	0
Copper	ppm	ASTM D5185m	>330	0	<1	0
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		and the second	12 11 11		1 C	history 0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	limit/base	current 2	history1 4	nistory2 8
	ppm ppm					
Boron		ASTM D5185m	0	2	4 0 58	8 0 57
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	2 0	4 0 58 <1	8
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	2 0 57 <1 949	4 0 58 <1 934	8 0 57 <1 907
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	2 0 57 <1 949 1036	4 0 58 <1 934 1039	8 0 57 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	2 0 57 <1 949	4 0 58 <1 934	8 0 57 <1 907 1051 1040
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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	2 0 57 <1 949 1036	4 0 58 <1 934 1039 1050 1241	8 0 57 <1 907 1051 1040 1241
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	2 0 57 <1 949 1036 1010	4 0 58 <1 934 1039 1050	8 0 57 <1 907 1051 1040
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	2 0 57 <1 949 1036 1010 1228	4 0 58 <1 934 1039 1050 1241	8 0 57 <1 907 1051 1040 1241
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 1010 1070 1150 1270 2060	2 0 57 <1 949 1036 1010 1228 3199	4 0 58 <1 934 1039 1050 1241 3657	8 0 57 <1 907 1051 1040 1241 3089
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	2 0 57 <1 949 1036 1010 1228 3199 current	4 0 58 <1 934 1039 1050 1241 3657 history1	8 0 57 <1 907 1051 1040 1241 3089 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Chosphorus 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 1010 1070 1150 1270 2060 kimit/base >25	2 0 57 <1 949 1036 1010 1228 3199 current 2	4 0 58 <1 934 1039 1050 1241 3657 history1 3	8 0 57 <1 907 1051 1040 1241 3089 history2 3
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 1010 1070 1150 1270 2060 kimit/base >25	2 0 57 <1 949 1036 1010 1228 3199 current 2 1	4 0 58 <1 934 1039 1050 1241 3657 history1 3 2	8 0 57 <1 907 1051 1040 1241 3089 history2 3 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	2 0 57 <1 949 1036 1010 1228 3199 current 2 1 1 <1	4 0 58 <1 934 1039 1050 1241 3657 history1 3 2 2	8 0 57 <1 907 1051 1040 1241 3089 history2 3 2 1
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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 Imit/base >25	2 0 57 <1 949 1036 1010 1228 3199 current 2 1 <1 <1	4 0 58 <1 934 1039 1050 1241 3657 history1 3 2 2 2 history1	8 0 57 <1 907 1051 1040 1241 3089 history2 3 2 1 history2
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 limit/base >25 >20 limit/base	2 0 57 <1 949 1036 1010 1228 3199 current 2 1 <1 <1 <1 current	4 0 58 <1 934 1039 1050 1241 3657 history1 3 2 2 2 history1 0.2	8 0 57 <1 907 1051 1040 1241 3089 history2 3 2 1 history2 0.2
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 <i>limit/base</i> >25 >20 <i>limit/base</i> >4 >20	2 0 57 <1 949 1036 1010 1228 3199 <i>current</i> 2 1 <1 <1 <i>current</i> 0.2 6.1	4 0 58 <1 934 1039 1050 1241 3657 history1 3 2 2 2 history1 0.2 5.7	8 0 57 <1 907 1051 1040 1241 3089 history2 3 2 1 1 history2 0.2 5.6
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 imit/base >25 imit/base >4 >20	2 0 57 <1 949 1036 1010 1228 3199 <u>current</u> 2 1 <1 <1 <1 0.2 6.1 18.6	4 0 58 <1 934 1039 1050 1241 3657 history1 3 2 2 history1 0.2 5.7 18.3	8 0 57 <1 907 1051 1040 1241 3089 history2 3 2 1 1 history2 0.2 5.6 17.7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAC	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624	0 0 0 1010 1070 1150 1270 2060 2060 225 220 220 220 220 20 20 20 20 20 20 20 20	2 0 57 <1 949 1036 1010 1228 3199 current 2 1 <1 <1 current 0.2 6.1 18.6	4 0 58 <1 934 1039 1050 1241 3657 history1 3 2 2 history1 0.2 5.7 18.3 history1	8 0 57 <1 907 1051 1040 1241 3089 history2 3 2 1 1 history2 0.2 5.6 17.7 history2



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	14.1	14.1	13.7
GRAPHS						

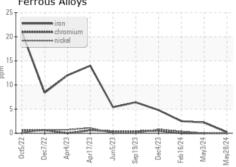
Ferrous Alloys

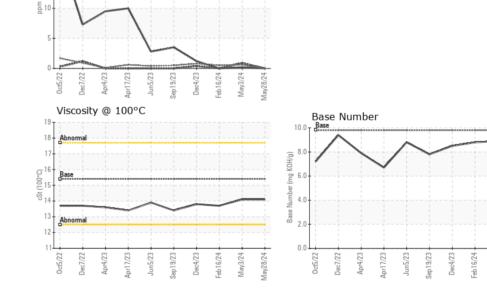
Non-ferrous Metals

lead

20

15





Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 654S - Midlothian Sample No. : GFL0113615 Received : 03 Jun 2024 12230 Deergrove Road Lab Number : 06198505 Tested : 04 Jun 2024 Midlothian, VA Unique Number : 11060628 Diagnosed : 04 Jun 2024 - Wes Davis US 23112 Test Package : FLEET Contact: Corbin Umphlet Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. cumphlet@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:

Submitted By: GFL654,GFL654S,GFL659 - Chuck Warr

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May3/24 lay28/24