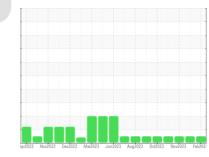


OIL ANALYSIS REPORT

Sample Rating Trend





NORMAL

Machine Id 227070-16

Component Diesel Engine

Fluid PETRO CANADA DURON SHP 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.

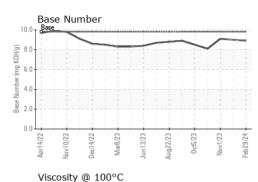
Fluid Condition

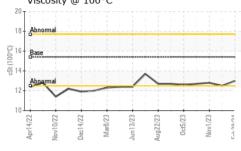
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0110601	GFL0100186	GFL0081206
Sample Date		Client Info		29 Feb 2024	11 Dec 2023	01 Nov 2023
Machine Age	mls	Client Info		358419	17097	354883
Oil Age	mls	Client Info		10197	1200	0
Oil Changed		Client Info		N/A	Changed	Not Changd
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	>80	9	6	2
Chromium	ppm	ASTM D5185m	>5	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	<1	0	<1
Aluminum	ppm	ASTM D5185m	>30	2	1	<1
Lead	ppm	ASTM D5185m	>30	<1	0	0
Copper	ppm	ASTM D5185m	>150	<1	<1	0
Tin	ppm	ASTM D5185m	>5	<1	0	0
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	0.00	AOTH DELOF				0
Caumum	ppm	ASTM D5185m		<1	0	0
ADDITIVES	ррт	method	limit/base	<1 current	0 history1	0 history2
	ppm		limit/base		-	-
ADDITIVES		method ASTM D5185m		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 ASTM D5185m	0	current 2 0	history1 0 0	history2 5 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 2 0 65	history1 0 0 59	history2 5 0 61
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 65 <1	history1 0 0 59 0	history2 5 0 61 0
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 65 <1 1015	history1 0 0 59 0 960	history2 5 0 61 0 947
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm 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 65 <1 1015 1143	history1 0 0 59 0 960 1086	history2 5 0 61 0 947 1091
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	0 0 60 0 1010 1070 1150	Current 2 0 65 <1 1015 1143 1143	history1 0 59 0 960 1086 1065	history2 5 0 61 0 947 1091 1069
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270	Current 2 0 65 <1 1015 1143 1143 1143 1279	history1 0 59 0 960 1086 1065 1301	history2 5 0 61 0 947 1091 1069 1250
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Chosphorus Zinc Sulfur CONTAMINAN Silicon	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	0 0 60 1010 1070 1150 1270 2060	Current 2 0 65 <1 1015 1143 1143 1279 3516	history1 0 59 0 960 1086 1065 1301 2604	history2 5 0 61 0 947 1091 1069 1250 3095
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	0 0 60 1010 1070 1150 1270 2060	Current 2 0 65 <1 1015 1143 1143 1279 3516 Current	history1 0 0 59 0 960 1086 1065 1301 2604 history1	history2 5 0 61 0 947 1091 1069 1250 3095 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 kimit/base	current 2 0 65 <1 1015 1143 1279 3516 current 6	history1 0 0 59 0 960 1086 1065 1301 2604 history1 6	history2 5 0 61 0 947 1091 1069 1250 3095 history2 5
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	0 0 60 1010 1070 1150 1270 2060 kimit/base	current 2 0 65 <1 1015 1143 1143 1279 3516 current 6 <1	history1 0 0 59 0 960 1086 1065 1301 2604 history1 6 <1	history2 5 0 61 0 947 1091 1069 1250 3095 history2 5 1
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	0 0 0 1010 1070 1150 1270 2060 >20 >20	2 0 65 <1 1015 1143 1279 3516 current 6 <1 2	history1 0 0 59 0 960 1086 1065 1301 2604 history1 6 <1 0 history1 0 0.1	history2 5 0 61 0 947 1091 1069 1250 3095 history2 5 1 0 history2 0 history2 0.1
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 ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 Imit/base >20	current 2 0 65 <1 1015 1143 1143 1279 3516 current 6 <1 2 current courrent current	history1 0 0 59 0 960 1086 1065 1301 2604 history1 6 <1 0 history1	history2 5 0 61 0 947 1091 1069 1250 3095 history2 5 1 0 history2 5 1 0 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	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >20 20 limit/base	current 2 0 65 <1 1015 1143 1143 1279 3516 current 6 <1 2 current 0.1	history1 0 0 59 0 960 1086 1065 1301 2604 history1 6 <1 0 history1 0 0.1	history2 5 0 61 0 947 1091 1069 1250 3095 history2 5 1 0 history2 5 1 0 history2 0.1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <i>limit/base</i> >20 <i>limit/base</i> >20	current 2 0 65 <1 1015 1143 1143 1279 3516 current 6 <1 2 current 0.1 6.8	history1 0 0 59 0 960 1086 1065 1301 2604 history1 6 <1 0 history1 6 <1.0 0.1 7.9	history2 5 0 61 0 947 1091 1069 1250 3095 history2 5 1 0 history2 0 history2 0.1 6.6
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 imit/base >20 imit/base >3 >20 >3	2 0 65 <1 1015 1143 1143 1279 3516 current 6 <1 2 current 0.1 6.8 18.2	history1 0 59 0 960 1086 1065 1301 2604 history1 6 <1 0 history1 0 105 1301 2604	history2 5 0 61 0 947 1091 1069 1250 3095 history2 5 1 0 history2 0.1 6.6 18.7



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	13.0	12.5	12.8
GRAPHS						

Ferrous Alloys 35 30 25 20 15 10 c 0. Apr14/22 lov10/22 Dec14/22 Mar8/73 un13/23 ug22/23 ov1/23 Feb 29/24 Non-ferrous Metals 10 lead -eb29/24 Mar8/75 :01/m Dec14/2 Apr1 Viscosity @ 100°C Base Number 19 10.0 Bas 18 17 8. (mg KOH/g) 16 cSt (100°C) 6 (umber 4 (Base 12 10 0.0 -eb29/24. Nov1/23 -Apr14/22 Mar8/23 Nov1/23 Apr14/22 Jun13/23 eb29/24 Nov10/22 Dec14/22 Jun 13/23 Aug22/23 Nov10/22 Dec14/22 Aua22/23 Mar8/23 GFL Environmental - 166 - Phenix City Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 Sample No. : GFL0110601 Received : 11 Mar 2024 18 Old Brickyard Rd Lab Number : 06114014 Tested : 12 Mar 2024 Phenix City, AL Unique Number : 10922847 Diagnosed : 12 Mar 2024 - Wes Davis US 36869 Test Package : FLEET Contact: DEAN PEACE JR To discuss this sample report, contact Customer Service at 1-800-237-1369. dean.peace@gflenv.com Т:

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

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

Certificate L2367

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