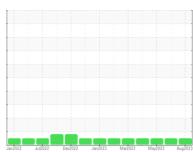


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



166 Machine Id 223030-1

Diesel Engine

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

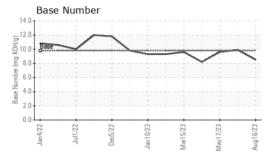
Fluid Condition

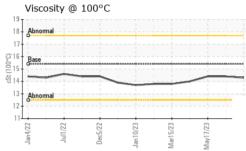
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI	AOLTAN	method	limit/base	current	history1	history2
	WATION				•	•
Sample Number		Client Info		GFL0091210	GFL0081197	GFL0081146
Sample Date		Client Info		16 Aug 2023	30 May 2023	17 May 2023
Machine Age	hrs	Client Info		466936	135	466936
Oil Age	hrs	Client Info		600	1200	0
Oil Changed		Client Info		Not Changd	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
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	13	15	11
Chromium	ppm	ASTM D5185m	>20	<1	0	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	1	0
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	0	<1	0
Tin	ppm	ASTM D5185m	>15	0	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES			lineit/lesses			111
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	current 8	history1 28	nistory2 34
	ppm					
Boron		ASTM D5185m	0	8	28	34
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	8 0	28	34
Boron Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	8 0 79	28 0 61	34 0 62
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	8 0 79 0	28 0 61	34 0 62 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	8 0 79 0 1267	28 0 61 0 927	34 0 62 <1 957
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	8 0 79 0 1267 1362	28 0 61 0 927 1132	34 0 62 <1 957 1088
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	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	8 0 79 0 1267 1362 1365	28 0 61 0 927 1132 1020	34 0 62 <1 957 1088 1064
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 ASTM D5185m	0 0 60 0 1010 1070 1150	8 0 79 0 1267 1362 1365 1793	28 0 61 0 927 1132 1020 1251	34 0 62 <1 957 1088 1064 1292
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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 0 1010 1070 1150 1270 2060	8 0 79 0 1267 1362 1365 1793	28 0 61 0 927 1132 1020 1251 3764	34 0 62 <1 957 1088 1064 1292 3842
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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 ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	8 0 79 0 1267 1362 1365 1793 5517	28 0 61 0 927 1132 1020 1251 3764 history1	34 0 62 <1 957 1088 1064 1292 3842 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base	8 0 79 0 1267 1362 1365 1793 5517 current	28 0 61 0 927 1132 1020 1251 3764 history1	34 0 62 <1 957 1088 1064 1292 3842 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base	8 0 79 0 1267 1362 1365 1793 5517 current 4	28 0 61 0 927 1132 1020 1251 3764 history1 3	34 0 62 <1 957 1088 1064 1292 3842 history2 4 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	8 0 79 0 1267 1362 1365 1793 5517 current 4 0 0	28 0 61 0 927 1132 1020 1251 3764 history1 3 2 <1	34 0 62 <1 957 1088 1064 1292 3842 history2 4 <1 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm	ASTM D5185m method *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1150 1270 2060 limit/base >25 >20 limit/base	8 0 79 0 1267 1362 1365 1793 5517 current 4 0 0 current	28 0 61 0 927 1132 1020 1251 3764 history1 3 2 <1 history1 1.2	34 0 62 <1 957 1088 1064 1292 3842 history2 4 <1 <1 <1
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	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	8 0 79 0 1267 1362 1365 1793 5517 current 4 0 0	28 0 61 0 927 1132 1020 1251 3764 history1 3 2 <1	34 0 62 <1 957 1088 1064 1292 3842 history2 4 <1 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m Method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	0 0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20	8 0 79 0 1267 1362 1365 1793 5517 current 4 0 0 current 0.9 6.0 18.9	28 0 61 0 927 1132 1020 1251 3764 history1 3 2 <1 history1 1.2 7.0 20.4	34 0 62 <1 957 1088 1064 1292 3842 history2 4 <1 <1 0.8 6.5 19.1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm	ASTM D5185m Method *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method *ASTM D7844 *ASTM D7844 *ASTM D7844 *ASTM D7844 *ASTM D7844	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20 >3 limit/base	8 0 79 0 1267 1362 1365 1793 5517 current 4 0 0 current 0.9 6.0 18.9 current	28 0 61 0 927 1132 1020 1251 3764 history1 3 2 <1 history1 1.2 7.0 20.4 history1	34 0 62 <1 957 1088 1064 1292 3842 history2 4 <1 <1 history2 0.8 6.5 19.1 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m Method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20 >30 limit/base	8 0 79 0 1267 1362 1365 1793 5517 current 4 0 0 current 0.9 6.0 18.9	28 0 61 0 927 1132 1020 1251 3764 history1 3 2 <1 history1 1.2 7.0 20.4	34 0 62 <1 957 1088 1064 1292 3842 history2 4 <1 <1 0.8 6.5 19.1



OIL ANALYSIS REPORT

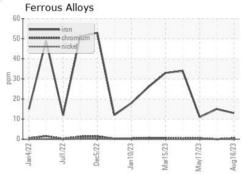


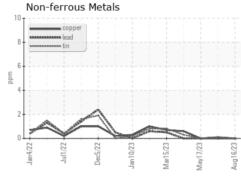


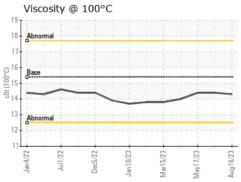
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

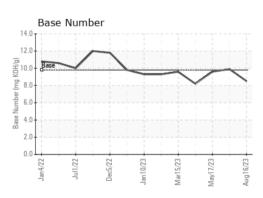
FLUID PROPE	KIIES	metnoa	ilmit/base	current	nistory i	nistory2
Visc @ 100°C	cSt	ASTM D445	15.4	14.3	14.4	14.4

GRAPHS













Certificate L2367

Laboratory Sample No. Lab Number

Unique Number : 10609240 Test Package : FLEET

: GFL0091210 : 05929293

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 21 Aug 2023 Diagnosed : 22 Aug 2023 Diagnostician : Sean Felton

GFL Environmental - 166 - Phenix City 18 Old Brickyard Rd

Phenix City, AL US 36869 Contact: DEAN PEACE JR

dean.peace@gflenv.com T:

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - 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)

F: