

OIL ANALYSIS REPORT

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NORMAL

Machine Id

Component

Diesel Engine

PETRO CANADA DURON SHP 15W40 (56 QTS)

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.

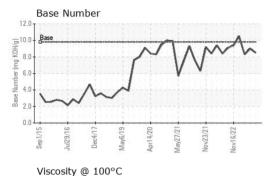
Fluid Condition

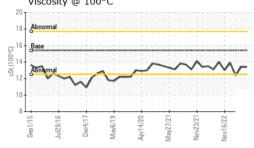
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0079021	GFL0079044	GFL0049473
Sample Date		Client Info		02 Nov 2023	31 May 2023	13 Mar 2023
Machine Age	hrs	Client Info		19076	18663	1617
Oil Age	hrs	Client Info		64916	64916	0
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	ABNORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	4 .1
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>75	41	26	13
Chromium	ppm	ASTM D5185m	>5	3	2	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	6	5	2
Lead	ppm	ASTM D5185m	>25	0	<1	0
Copper	ppm	ASTM D5185m	>100	<1	3	1
Tin	ppm	ASTM D5185m	>4	0	<1	0
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES			11 11 11			h la tam 0
ADDITIVES		method				history2
Boron	ppm	ASTM D5185m	limit/base	8	history1 4	5
	ppm ppm					
Boron		ASTM D5185m	0	8	4	5
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	8 0	4 2	5 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	8 0 57	4 2 61	5 0 52
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	8 0 57 <1	4 2 61 <1	5 0 52 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	8 0 57 <1 923	4 2 61 <1 913	5 0 52 <1 808
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	8 0 57 <1 923 1083	4 2 61 <1 913 1119	5 0 52 <1 808 1031
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	8 0 57 <1 923 1083 1093	4 2 61 <1 913 1119 1053	5 0 52 <1 808 1031 916
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	8 0 57 <1 923 1083 1093 1295	4 2 61 <1 913 1119 1053 1285	5 0 52 <1 808 1031 916 1125
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 0 1010 1070 1150 1270 2060	8 0 57 <1 923 1083 1093 1295 3041	4 2 61 <1 913 1119 1053 1285 3392	5 0 52 <1 808 1031 916 1125 3256
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	8 0 57 <1 923 1083 1093 1295 3041 current	4 2 61 <1 913 1119 1053 1285 3392 history1	5 0 52 <1 808 1031 916 1125 3256 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus 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 ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	8 0 57 <1 923 1083 1093 1295 3041 <i>current</i> 10	4 2 61 <1 913 1119 1053 1285 3392 history1 7	5 0 52 <1 808 1031 916 1125 3256 history2 7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 Limit/base >25	8 0 57 <1 923 1083 1093 1295 3041 current 10 7 0	4 2 61 <1 913 1119 1053 1285 3392 history1 7 8	5 0 52 <1 808 1031 916 1125 3256 history2 7 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25	8 0 57 <1 923 1083 1093 1295 3041 <i>current</i> 10 7 0 <i>current</i>	4 2 61 <1 913 1119 1053 1285 3392 history1 7 8 3 3	5 0 52 <1 808 1031 916 1125 3256 history2 7 2 0 0 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 TS	ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >20	8 0 57 <1 923 1083 1093 1295 3041 <i>current</i> 10 7 0 <i>current</i> 0.9	4 2 61 <1 913 1119 1053 1285 3392 history1 7 8 3 3 <u>history1</u> 0.6	5 0 52 <1 808 1031 916 1125 3256 history2 7 2 0 history2 0.4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25	8 0 57 <1 923 1083 1093 1295 3041 <i>current</i> 10 7 0 <i>current</i>	4 2 61 <1 913 1119 1053 1285 3392 history1 7 8 3 3	5 0 52 <1 808 1031 916 1125 3256 history2 7 2 0 0 history2
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> >20	8 0 57 <1 923 1083 1093 1295 3041 <i>current</i> 10 7 0 <i>current</i> 0.9 9.2	4 2 61 <1 913 1119 1053 1285 3392 history1 7 8 3 3 <u>history1</u> 0.6 8.2	5 0 52 <1 808 1031 916 1125 3256 history2 7 2 0 Vistory2 0.4 8.1
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 2060 225 20 220 220 20 20 20 20 20 20 20 20 20 2	8 0 57 <1 923 1083 1093 1295 3041 <i>current</i> 10 7 0 <i>current</i> 0.9 9.2 20.4 <i>current</i>	4 2 61 <1 913 1119 1053 1285 3392 history1 7 8 3 history1 0.6 8.2 19.8 history1	5 0 52 <1 808 1031 916 1125 3256 history2 7 2 2 0 history2 0.4 8.1 19.1 history2
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 D7844 *ASTM D7624	0 0 0 1010 1070 1150 1270 2060 2060 225 225 20 imit/base >20 imit/base >20 30	8 0 57 <1 923 1083 1093 1295 3041 <i>current</i> 10 7 0 <i>current</i> 0.9 9.2 20.4	4 2 61 <1 913 1119 1053 1285 3392 history1 7 8 3 history1 0.6 8.2 19.8	5 0 52 <1 808 1031 916 1125 3256 history2 7 2 0 0 history2 0.4 8.1 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	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.4	13.4	1 2.4
GRAPHS						

Ferrous Alloys

Non-ferrous Metals

16

() 19 () 100-01

10

9 Sep1/15

Unique Number : 10728056

Laboratory

Sample No.

Lab Number

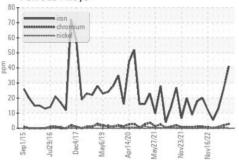
Jul29/16

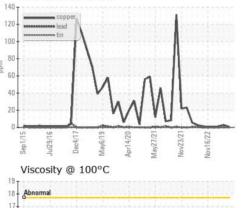
: GFL0079021

: 05999696

Dec4/17

In All





or14/20

Received

Diagnosed

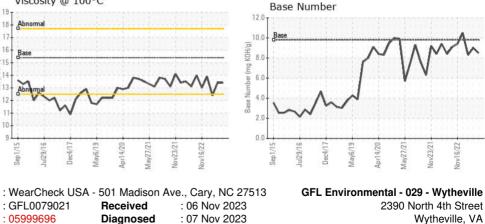
Diagnostician

Nov16/22

: Wes Davis

Nov23/21

May27/21



Wytheville, VA US 24382 Contact: CHARLES CORVIN charles.corvin@gflenv.com;canastasio@wearcheckusa.com T: (276)223-4476 F: (276)223-1283



Test Package : FLEET Certificate L2367 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)