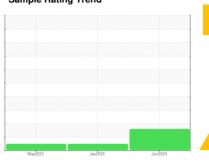


OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Machine Id 741010

Natural Gas Engine

PETRO CANADA DURON GEO LD 15W40 (

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Bearing and/or bushing wear is indicated. Valve wear is indicated.

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 acceptable for the time in service.

SAMPLE INFORMAT Sample Number Sample Date Machine Age hrs Oil Age hrs Oil Changed Sample Status CONTAMINATION Water WEAR METALS Iron pp Chromium pp Nickel pp Titanium pp Silver pp Aluminum pp Lead pp Copper pp Tin pp Vanadium pp Vanadium pp ADDITIVES Boron pp Manganese pp Magnesium pp	Client Info WC Method WC Method MASTM D5185n	limit/base d >0.1	Current GFL0114770 25 Jun 2024 8172 0 Not Changd ABNORMAL	history1 GFL0102756 22 Jan 2024 7033 6112 N/A NORMAL history1 19 1 1 0 0 0 3 11 0 1 0 0	history2 GFL0082286 09 May 2023 30655 0 Changed NORMAL history2 NEG history2 23 3 <1 <1 0 <1 2 3 <1 0 0
Sample Date Machine Age hrs Oil Age hrs Oil Changed Sample Status CONTAMINATION Water WEAR METALS Iron pp Chromium pp Nickel pp Titanium pp Silver pp Aluminum pp Lead pp Copper pp Tin pp Vanadium pp Vanadium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp	Client Info Machine Ma	limit/base d >0.1	25 Jun 2024 8172 0 Not Changd ABNORMAL	22 Jan 2024 7033 6112 N/A NORMAL history1 NEG history1 19 1 0 0 1 1 0 1 0 0	09 May 2023 30655 0 Changed NORMAL history2 NEG history2 23 3 <1 <1 0 <1 2 3 <1 0
Machine Age hrs Oil Age Oil Changed Sample Status CONTAMINATION Water WEAR METALS Iron pp Chromium pp Nickel pp Titanium pp Silver pp Aluminum pp Lead pp Copper pp Tin pp Vanadium pp Vanadium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp	Client Info WC Method METHOD MASTM D5185n	limit/base d >0.1 limit/base n >50 n >4 n >2 n >3 n >9 n >30 n >35 n >4 limit/base	8172 0 Not Changd ABNORMAL current NEG current 27 2 6 <1 <1 4 5 58 2 <1 <1 <1	7033 6112 N/A NORMAL history1 NEG history1 19 1 0 0 1 1 0 0 0 3 11 0 1	30655 0 Changed NORMAL history2 NEG history2 23 3 <1 <1 0 <1 2 3 <1 0
Oil Age Oil Changed Sample Status CONTAMINATION Water WEAR METALS Iron pp Chromium pp Nickel pp Titanium pp Silver pp Aluminum pp Lead pp Copper pp Tin pp Vanadium pp Vanadium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp	Client Info Client Info Client Info Client Info Client Info Client Info MEthod WC Method MASTM D5185n	limit/base d >0.1 limit/base n >50 n >4 n >2 n >3 n >3 n >9 n >30 n >35 n >4 limit/base	0 Not Changd ABNORMAL current NEG current 27 2 ▲ 6 <1 <1 4 5 ▲ 58 2 <1 <1	6112 N/A NORMAL history1 NEG history1 19 1 0 0 1 1 0 0 0	0 Changed NORMAL history2 NEG history2 23 3 <1 <1 0 <1 2 3 <1 0
Oil Age Oil Changed Sample Status CONTAMINATION Water WEAR METALS Iron pp Chromium pp Nickel pp Titanium pp Silver pp Aluminum pp Lead pp Copper pp Tin pp Vanadium pp Vanadium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp	Client Info WC Method WC Method M ASTM D5185n	limit/base d >0.1 limit/base n >50 n >4 n >2 n >3 n >9 n >30 n >35 n >4 limit/base	Not Changd ABNORMAL current NEG current 27 2 6 <1 <1 4 5 58 2 <1 <1 <1	N/A NORMAL history1 NEG history1 19 1 1 0 0 1 1 0 1 0 1	Changed NORMAL history2 NEG history2 23 3 <1 <1 0 <1 2 3 <1 0
CONTAMINATION Water WEAR METALS Iron pp Chromium pp Nickel pp Titanium pp Aluminum pp Lead pp Copper pp Tin pp Vanadium pp Cadmium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp	method WC Method WC Method M ASTM D5185n M METhod	limit/base d >0.1	ABNORMAL current NEG current 27 2 ▲ 6 <1 <1 4 5 ▲ 58 2 <1 <1	NORMAL history1 NEG history1 19 1 0 0 3 11 0 1 0 0	NORMAL history2 NEG history2 23 3 <1 <1 0 <1 2 3 <1 0
CONTAMINATION Water WEAR METALS Iron pp Chromium pp Nickel pp Titanium pp Aluminum pp Lead pp Copper pp Tin pp Vanadium pp Cadmium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp	method method method m ASTM D5185n	limit/base 1 >50 1 >4 1 >2 1 >3 1 >9 1 >30 1 >4 1 >9 1 >30 1 >4 1 >1 1	current NEG current 27 2 ▲ 6 <1 <1 4 5 ▲ 58 2 <1 <1	history1 NEG history1 19 1 0 0 3 11 0 1 0 0	history2 NEG history2 23 3 <1 <1 0 <1 2 3 <1 0
Water WEAR METALS Iron ppi Chromium ppi Nickel ppi Titanium ppi Aluminum ppi Lead ppi Copper ppi Tin ppi Vanadium ppi ADDITIVES Boron ppi Barium ppi Manganese ppi	method method method m ASTM D5185n	limit/base 1 >50 1 >4 1 >2 1 >3 1 >9 1 >30 1 >4 1 >9 1 >30 1 >4 1 >1 1	NEG current 27 2 ▲ 6 <1 <1 4 5 ▲ 58 2 <1 <1	NEG history1 19 1 1 0 0 3 11 0 1 0 1	NEG history2 23 3 <1 <1 0 <1 2 3 <1 0 1 0 0 1 0 1 0 1 0 1 0 1 0 1 0 1 1
WEAR METALS Iron pp Chromium pp Nickel pp Titanium pp Aluminum pp Lead pp Copper pp Tin pp Vanadium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp	method m ASTM D5185n	limit/base 1 >50 1 >4 1 >2 1 >3 1 >9 1 >30 1 >35 1 >4 1 35 1 >4 1 35 1 36 1 37 1 38 1 3	current 27 2 ▲ 6 <1 <1 4 5 ▲ 58 2 <1 <1	history1 19 1 0 0 3 11 0 1 0	history2 23 3 <1 <1 0 <1 2 3 <1 0
Iron pp Chromium pp Nickel pp Titanium pp Silver pp Aluminum pp Lead pp Copper pp Tin pp Vanadium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp	m ASTM D5185n m MSTM D5185n m MSTM D5185n m MSTM D5185n	>50	27 2 6 <1 <1 4 5 58 2 <1 <1	19 1 1 0 0 3 11 0 1 0	23 3 <1 <1 0 <1 2 3 <1 0
Chromium ppi Nickel ppi Titanium ppi Silver ppi Aluminum ppi Lead ppi Copper ppi Tin ppi Vanadium ppi ADDITIVES Boron ppi Barium ppi Manganese ppi	m ASTM D5185n m MSTM D5185n m MSTM D5185n m MSTM D5185n	1 >4	2 6 <1 <1 4 5 58 2 <1 <1	1 1 0 0 3 11 0 1	3 <1 <1 0 <1 2 3 <1 0
Nickel ppi Titanium ppi Silver ppi Aluminum ppi Lead ppi Copper ppi Tin ppi Vanadium ppi ADDITIVES Boron ppi Barium ppi Molybdenum ppi Manganese ppi	m ASTM D5185n m MSTM D5185n m MSTM D5185n	>2	- 6	1 0 0 3 11 0 1	<1
Titanium ppr Silver pp Aluminum pp Lead pp Copper pp Tin pp Vanadium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp	m ASTM D5185n m MSTM D5185n m MSTM D5185n	1	<1 <1 4 5 58 2 <1 <1	0 0 3 11 0 1	<1 0 <1 2 3 <1
Silver pp Aluminum pp Lead pp Copper pp Tin pp Vanadium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp	m ASTM D5185n m method	>3	<1 4 5 58 2 <1 <1	0 3 11 0 1 0	0 <1 2 3 <1 0
Aluminum pp Lead pp Copper pp Tin pp Vanadium pp Cadmium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp	m ASTM D5185n m ASTM D5185n m ASTM D5185n m ASTM D5185n m ASTM D5185n m ASTM D5185n m method	>9	4 5 ▲ 58 2 <1 <1	3 11 0 1 0 0	<1 2 3 <1 0
Lead ppi Copper ppi Tin ppi Vanadium ppi ADDITIVES Boron ppi Barium ppi Molybdenum ppi Manganese ppi	m ASTM D5185n m ASTM D5185n m ASTM D5185n m ASTM D5185n m ASTM D5185n method	>30	5 58 2 <1 <1	11 0 1 0 0	2 3 <1 0
Lead pp Copper pp Tin pp Vanadium pp Cadmium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp	m ASTM D5185n m ASTM D5185n m ASTM D5185n m ASTM D5185n m ASTM D5185n method	>35	▲ 58 2 <1 <1	0 1 0 0	3 <1 0
Copper ppi Tin ppi Vanadium ppi Cadmium ppi ADDITIVES Boron ppi Barium ppi Molybdenum ppi Manganese ppi	m ASTM D5185n m ASTM D5185n m ASTM D5185n m ASTM D5185n method	limit/base	2 <1 <1	1 0 0	<1 0
Tin ppp Vanadium pp Cadmium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp	m ASTM D5185n m ASTM D5185n m ASTM D5185n method	limit/base	2 <1 <1	1 0 0	<1 0
Vanadium pp Cadmium pp ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp	m ASTM D5185n m ASTM D5185n method	limit/base	<1 <1	0	0
ADDITIVES Boron pp Barium pp Molybdenum pp Manganese pp	m ASTM D5185n	limit/base	<1	0	
Boron pp Barium pp Molybdenum pp Manganese pp			current	In the Landson of	
Barium pp Molybdenum pp Manganese pp	m ASTM D5185n			history1	history2
Molybdenum pp Manganese pp		1 50	49	7	7
Manganese pp	m ASTM D5185n	n 5	1	<1	0
	m ASTM D5185n	1 50	75	64	100
	m ASTM D5185n	1 0	2	1	<1
		n 560	619	590	655
Calcium pp		1510	1508	1568	1611
Phosphorus pp		n 780	663	711	737
Zinc pp			910	934	942
Sulfur pp		2040	2205	2292	3143
CONTAMINANTS	method	limit/base	current	history1	history2
Silicon pp	m ASTM D5185n	1 >+100	25	5	6
Sodium pp	m ASTM D5185n	1	7	11	7
Potassium pp	m ASTM D5185n	>20	4	2	1
INFRA-RED	method	limit/base	current	history1	history2
Soot % %	*ASTM D7844	1	0.2	0	0
Nitration Abs	s/cm *ASTM D7624	1 >20	11.4	12.7	11.1
Sulfation Abs/	/.1mm *ASTM D7415	5 >30	25.2	27.1	24.3
FLUID DEGRADAT	ION method	11 11 11			
Oxidation Abs/	ION memou	limit/base	current	history1	history2
	/.1mm *ASTM D7414		current 21.5	history1 22.4	history2 18.2



OIL ANALYSIS REPORT







Certificate 12367

Sample No.

Lab Number : 06223134 Unique Number : 11101331 Test Package : FLEET

: GFL0114770

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

Received : 28 Jun 2024 **Tested** : 28 Jun 2024

Diagnosed : 30 Jun 2024 - Don Baldridge

1113 N. Swords Ave.

West Peoria, IL US 61604

Contact: Corey Dozard cdozard@gflenv.com T:

 st - 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)

Report Id: GFL963 [WUSCAR] 06223134 (Generated: 06/30/2024 12:53:29) Rev: 1

Submitted By: Corey Dozard

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