

OIL ANALYSIS REPORT

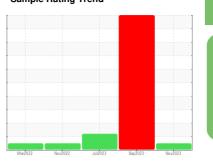
Sample Rating Trend

NORMAL



Machine Id 4554M Component **Diesel Engine**

PETRO CANADA DURON HP 15W40 (36 QTS)





DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the

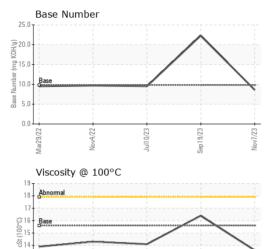
Fluid Condition

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 INFORMATION method Imilibase current history1 history2	ЛИ ПР 15W4U (3	0 Q13)	Mar2022	Nov2022	Jul2023 Sep2023	Nov2023	
Sample Date Client Info 07 Nov 2023 19 Sep 2023 10 Jul 2023 Machine Age hrs Client Info 22408 22017 21346 Oil Age hrs Client Info 0 671 1626 Oil Changed Client Info N/A N/A N/A Changed Sample Status Client Info N/A N/A N/A Changed CONTAMINATION method limit/bass current Inistory1 history2 Fuel WC Method >3.0 <1.0	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Date Client Info Q7 Nov 2023 19 Sep 2023 10 Jul 2023 Machine Age hrs Client Info Q2408 22017 21346 Client Info Q G71 1626 Client Info Q G71 1626 Client Info N/A N/A Changed Client Info NORMAL SEVERE ABNORMAL ABNORMAL SEVERE ABNORMAL CONTAMINATION method Iimil/base current filstory1 filstory2 Client Info NEG N	Sample Number		Client Info		GFL0059151	GFL0085010	GFL0084883
Machine Age hrs Client Info 22408 22017 21346 Oil Age hrs Client Info 0 671 1626 Oil Changed Client Info N/A N/A N/A Changed Sample Status NORMAL SEVERE ABNORMAL CONTAMINATION method Imitibase current history1 history2 Fuel WC Method >3.0 <1.0			Client Info		07 Nov 2023	19 Sep 2023	10 Jul 2023
Oil Age hrs Client Info N/A N/A N/A Changed Sample Status Control Imition NoRMAL SEVERE ABNORMAL Fuel Control Imition Ned Ned Ned Ned WEAR METALS method Imitiobase current history1 history2 Iron ppm ASTM D5186m >5 <1 <1 <1 Iron ppm ASTM D5186m >4 <1 <1 <1 Iron ppm ASTM D5186m >2 <1 <1 <1 <1 Chromium ppm ASTM D5186m >2 <1 <1 <1 <1 Chromium ppm ASTM D5186m >2	•	hrs	Client Info		22408		21346
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CONTAMINATION method limit/base current history1 history2 history2	-		Client Info				
Fuel	-						Ü
WEAR METALS	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >75 8 22 8 Chromium ppm ASTM D5185m >5 <1	Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Concombin	Glycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185n >5 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <td>WEAR METAL</td> <td>S</td> <td>method</td> <td>limit/base</td> <th>current</th> <td>history1</td> <td>history2</td>	WEAR METAL	S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>75	8	22	8
Silver	Chromium	ppm	ASTM D5185m	>5	<1	<1	<1
Titanium ppm ASTM D5185m >2 <1 <1 <1 Silver ppm ASTM D5185m >2 <1	Nickel	ppm	ASTM D5185m	>4	<1	<1	0
Silver	Titanium		ASTM D5185m	>2	<1	<1	<1
Aluminum	Silver		ASTM D5185m	>2		<1	0
Lead ppm ASTM D5185m >25 <1 2 1 Copper ppm ASTM D5185m >100 <1 4 8 Tin ppm ASTM D5185m >4 0 4 0 Vanadium ppm ASTM D5185m 0 0 <1 Cadmium ppm ASTM D5185m <1 <1 0 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 4 55 4 Barium ppm ASTM D5185m 6 0 0 Molybdenum ppm ASTM D5185m 4 12 61 Manganese ppm ASTM D5185m 1239 61 895 Calcium ppm ASTM D5185m 1376 438 969 Zinc ppm ASTM D5185m 1625 89 1188 Sulfur ppm ASTM D5185m	Aluminum		ASTM D5185m	>15	2	<u>^</u> 7	2
Copper ppm ASTM D5185m >100 <1 4 8 Tin ppm ASTM D5185m >4 0 4 0 Vanadium ppm ASTM D5185m 0 0 <1	Lead		ASTM D5185m	>25	<1	2	1
Trin			ASTM D5185m	>100			8
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Boron ppm ASTM D5185m 4					-		
Barium ppm ASTM D5185m 6 0 0 Molybdenum ppm ASTM D5185m 84 ▲ 12 61 Manganese ppm ASTM D5185m <1 <1 <1 Magnesium ppm ASTM D5185m 1239 ♠ 61 895 Calcium ppm ASTM D5185m 1459 ♠ 236 1056 Phosphorus ppm ASTM D5185m 1376 ♠ 438 969 Zinc ppm ASTM D5185m 1625 ♠ 89 1188 Sulfur ppm ASTM D5185m ♣ 4889 ♠ 2211 3638 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 16 ♠ 34 ♠ Sodium ppm ASTM D5185m >20 3 7 5 INFRA-RED method limit/base current history1 history2 Soot % % <	ADDITIVES		method	limit/base	current	history1	history2
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Magnesium ppm ASTM D5185m 1239 61 895 Calcium ppm ASTM D5185m 1459 236 1056 Phosphorus ppm ASTM D5185m 1376 438 969 Zinc ppm ASTM D5185m 1625 89 1188 Sulfur ppm ASTM D5185m 4889 2211 3638 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 16 34 4 Sodium ppm ASTM D5185m >20 3 7 5 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.1 0.5 0.2 Nitration Abs/cm *ASTM D7624 >20 5.9 44.6 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 18.2 0.0 18.7 <	Manganese	ppm	ASTM D5185m		<1	<1	<1
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Silicon ppm ASTM D5185m >25 16 ▲ 34 4 Sodium ppm ASTM D5185m 0 ▲ 738 ▲ 119 Potassium ppm ASTM D5185m >20 3 7 5 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.1 0.5 0.2 Nitration Abs/cm *ASTM D7624 >20 5.9 44.6 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 18.2 0.0 18.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.9 35.6 14.3							
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INFRA-RED	Sodium	ppm	ASTM D5185m		0	▲ 738	<u>119</u>
Soot % % *ASTM D7844 >6 0.1 0.5 0.2 Nitration Abs/cm *ASTM D7624 >20 5.9 44.6 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 18.2 0.0 18.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.9 35.6 14.3	Potassium	ppm	ASTM D5185m	>20	3	7	5
Nitration Abs/cm *ASTM D7624 >20 5.9 44.6 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 18.2 0.0 18.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.9 35.6 14.3	INFRA-RED		method	limit/base	current	history1	history2
Nitration Abs/cm *ASTM D7624 >20 5.9 44.6 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 18.2 0.0 18.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.9 35.6 14.3	Soot %	%	*ASTM D7844	>6	0.1	0.5	0.2
Sulfation Abs/.1mm *ASTM D7415 >30 18.2 0.0 18.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.9 35.6 14.3	Nitration	Abs/cm	*ASTM D7624	>20	5.9	44.6	5.9
Oxidation							
	FLUID DEGRA	OATION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	13.9	35.6	14.3
	Base Number (BN)	mg KOH/g			8.6	22.3	9.5



OIL ANALYSIS REPORT

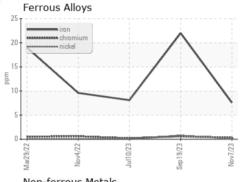


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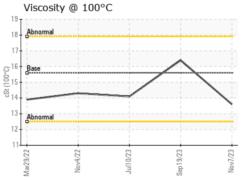
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	▲ MODER	NONE
Sand/Dirt	scalar	*Visual	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	0.2%	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

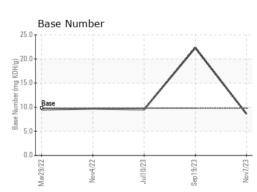
FLUID PROPE	ERHES	method			history1	history2
Visc @ 100°C	cSt	ASTM D445	15.6	13.6	16.4	14.1

GRAPHS



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Certificate L2367

Laboratory Sample No.

Lab Number **Unique Number** Test Package : FLEET

: GFL0059151 : 06006704

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

: 10740466

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 14 Nov 2023

Diagnosed Diagnostician : Sean Felton

: 16 Nov 2023

Wayne, MI US 48184 Contact: Belal Dgheish bdgheish@gflenv.com T: (734)714-2340

39000 Van Born Rd

GFL Environmental - 410 - Michigan West

* - 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)