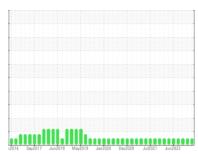


OIL ANALYSIS REPORT

Sample Rating Trend







GFL035
Machine id
3680
Component
Diesel Engine

PETRO CANADA DURON SHP 15W40 (36 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.

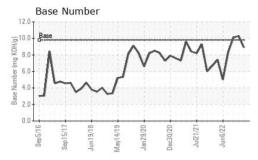
Fluid Condition

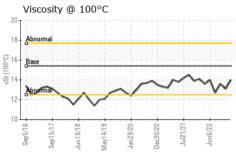
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION method limit/base current history1 history2	32016 Sep2017 Jun2018 Men2019 Jan2020 Dec2020 Ju2021 Jun2022						
Sample Date	SAMPLE INFOR	RMATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 600 29616 29616 29616 Oil Age hrs Client Info 600 600 600 Oil Changed Client Info Not Changed Changed Changed Changed Changed Sample Status Imition Imition NoRMAL NORMAL NORMAL CONTAMINATION method Imitiobase current history1 history2 Fuel WC Method >3.0 <1.0	Sample Number		Client Info		GFL0116460	GFL0102285	GFL0061644
Oil Age hrs Client Info 600 600 600 Oil Changed Client Info Not Changed Changed Changed Sample Status NORMAL NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history2 Fuel WC Method >3.0 <1.0 <1.0 <1.0 Water WC Method >0.2 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >75 5 20 4 Chromium ppm ASTM D5185m >5 0 <1 <1 Nickel ppm ASTM D5185m >2 0 <1 <1 Silver ppm ASTM D5185m >2 0 <1 <1 Lead ppm ASTM D5185m >2 0 <1 <1 Copper ppm ASTM D5185m	Sample Date		Client Info		22 Mar 2024	27 Nov 2023	14 Dec 2022
Oil Changed Sample Status Client Info Not Changed NORMAL Change Anded NoRMAL Change Anded NoRMAL Change Anded NoRM	Machine Age	hrs	Client Info		29616	29616	29616
Sample Status Morman Norman Norman Norman CONTAMINATION method limit/base current history1 history2 Fuel WC Method 3.0 <1.0 <1.0 <1.0 Water WC Method NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >75 5 20 4 Chromium ppm ASTM D5185m >5 0 <1 <1 Nickel ppm ASTM D5185m >2 0 <1 <1 Silver ppm ASTM D5185m >2 0 <1 <1 Lead ppm ASTM D5185m >25 0 <1 <1 Copper ppm ASTM D5185m >25 0 <1 <1 Cadmium ppm ASTM D5185m >4 0 0 0 ADDITIVES meth	Oil Age	hrs	Client Info		600	600	600
CONTAMINATION method limit/base current history1 history2 Fuel WC Method >3.0 <1.0	Oil Changed		Client Info		Not Changd	Changed	Changed
Fuel	Sample Status				NORMAL	NORMAL	NORMAL
Water Glycol WC Method >0.2. NEG NEG NEG WEAR METALS mothod limit/base current history1 history2 Iron ppm ASTM D5185m >75 5 20 4 Chromium ppm ASTM D5185m >5 0 <1	CONTAMINAT	ΓΙΟΝ	method	limit/base	current	history1	history2
Glycol WC Method NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >75 5 20 4 Chromium ppm ASTM D5185m >5 0 <1	Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
WEAR METALS	Water		WC Method	>0.2	NEG	NEG	NEG
Iron	Glycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m >5 0 <1 <1 Nickel ppm ASTM D5185m >4 <1	WEAR METAL	_S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>75	5	20	4
Titanium ppm ASTM D5185m >2 0 <1 <1 Silver ppm ASTM D5185m >2 0 0 <1 Aluminum ppm ASTM D5185m >15 1 7 2 Lead ppm ASTM D5185m >25 0 <1 <1 Copper ppm ASTM D5185m >100 0 2 <1 Tin ppm ASTM D5185m >10 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 46 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 46 0	Chromium	ppm	ASTM D5185m	>5	0	<1	<1
Silver	Nickel	ppm	ASTM D5185m	>4	<1	<1	0
Aluminum	Titanium	ppm	ASTM D5185m	>2	0	<1	<1
Lead ppm ASTM D5185m >25 0 <1 <1 Copper ppm ASTM D5185m >100 0 2 <1 Tin ppm ASTM D5185m >4 0 0 0 Vanadium ppm ASTM D5185m <1 <1 <1 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 46 0 Barium ppm ASTM D5185m 0 0 0 1 Molybdenum ppm ASTM D5185m 0 0 0 1 <1 Magnesium ppm ASTM D5185m 0 0 <1 <1 <1 Calcium ppm ASTM D5185m 1070 1150 1610 1121 Phosphorus ppm ASTM D5185m 1270 <td>Silver</td> <td>ppm</td> <td>ASTM D5185m</td> <td>>2</td> <th>0</th> <td>0</td> <td><1</td>	Silver	ppm	ASTM D5185m	>2	0	0	<1
Copper ppm ASTM D5185m >100 0 2 <1 Tin ppm ASTM D5185m >4 0 0 0 Vanadium ppm ASTM D5185m <1	Aluminum	ppm	ASTM D5185m	>15	1	7	2
Tin ppm ASTM D5185m >4 0 0 0 Vanadium ppm ASTM D5185m <1 <1 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 46 0 Barium ppm ASTM D5185m 0 0 0 1 Molybdenum ppm ASTM D5185m 0 0 0 1 Molybdenum ppm ASTM D5185m 0 0 <1 <1 Magnesium ppm ASTM D5185m 0 0 <1 <1 <1 Magnesium ppm ASTM D5185m 1070 1150 1610 1121 Phosphorus ppm ASTM D5185m 1070 1335 978 1218 Sulfur ppm ASTM D5185m 2060 3958	Lead	ppm	ASTM D5185m	>25	0	<1	<1
Vanadium ppm ASTM D5185m <1 <1 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 46 0 Barium ppm ASTM D5185m 0 0 0 1 Molybdenum ppm ASTM D5185m 0 0 43 62 Manganese ppm ASTM D5185m 0 0 41 41 Magnesium ppm ASTM D5185m 1010 977 577 853 Calcium ppm ASTM D5185m 1070 1150 1610 1121 Phosphorus ppm ASTM D5185m 1270 1335 978 1218 Sulfur ppm ASTM D5185m 2060 3958 2540 3596 CONTAMINANTS method limit/base current history1<	Copper	ppm	ASTM D5185m	>100	0	2	<1
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 46 0 Barium ppm ASTM D5185m 0 0 0 1 Molybdenum ppm ASTM D5185m 0 0 43 62 Manganese ppm ASTM D5185m 0 0 <1	Tin	ppm	ASTM D5185m	>4	0	0	0
ADDITIVES	Vanadium	ppm	ASTM D5185m		<1	<1	0
Boron ppm ASTM D5185m 0 0 46 0 Barium ppm ASTM D5185m 0 0 0 1 Molybdenum ppm ASTM D5185m 60 60 43 62 Manganese ppm ASTM D5185m 0 0 <1 <1 Magnesium ppm ASTM D5185m 1010 977 577 853 Calcium ppm ASTM D5185m 1070 1150 1610 1121 Phosphorus ppm ASTM D5185m 1270 1335 978 1218 Zinc ppm ASTM D5185m 1270 1335 978 1218 Sulfur ppm ASTM D5185m 2060 3958 2540 3596 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 10 3 Sodium ppm ASTM D5185m >20	Cadmium	ppm	ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 0 0 0 1 Molybdenum ppm ASTM D5185m 60 60 43 62 Manganese ppm ASTM D5185m 0 0 <1 <1 Magnesium ppm ASTM D5185m 1010 977 577 853 Calcium ppm ASTM D5185m 1070 1150 1610 1121 Phosphorus ppm ASTM D5185m 1070 1335 978 1218 Zinc ppm ASTM D5185m 1270 1335 978 1218 Sulfur ppm ASTM D5185m 2060 3958 2540 3596 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 10 3 Sodium ppm ASTM D5185m >20 1 6 0 INFRA-RED method limit/base </td <td>ADDITIVES</td> <td></td> <td>method</td> <td>limit/base</td> <th>current</th> <td>history1</td> <td>history2</td>	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 60 43 62 Manganese ppm ASTM D5185m 0 0 <1 <1 Magnesium ppm ASTM D5185m 1010 977 577 853 Calcium ppm ASTM D5185m 1070 1150 1610 1121 Phosphorus ppm ASTM D5185m 1150 1088 839 976 Zinc ppm ASTM D5185m 1270 1335 978 1218 Sulfur ppm ASTM D5185m 2060 3958 2540 3596 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 10 3 Sodium ppm ASTM D5185m >20 1 6 0 INFRA-RED method limit/base current history1 history2 Soot % "ASTM D7844 >6 <td>Boron</td> <td>ppm</td> <td>ASTM D5185m</td> <td>0</td> <th></th> <td></td> <td></td>	Boron	ppm	ASTM D5185m	0			
Manganese ppm ASTM D5185m 0 0 <1 <1 Magnesium ppm ASTM D5185m 1010 977 577 853 Calcium ppm ASTM D5185m 1070 1150 1610 1121 Phosphorus ppm ASTM D5185m 1150 1088 839 976 Zinc ppm ASTM D5185m 1270 1335 978 1218 Sulfur ppm ASTM D5185m 2060 3958 2540 3596 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 10 3 Sodium ppm ASTM D5185m >20 1 6 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.2 0.2 0.1 Nitration Abs/cm *ASTM D784		ppm		0	-		
Magnesium ppm ASTM D5185m 1010 977 577 853 Calcium ppm ASTM D5185m 1070 1150 1610 1121 Phosphorus ppm ASTM D5185m 1150 1088 839 976 Zinc ppm ASTM D5185m 1270 1335 978 1218 Sulfur ppm ASTM D5185m 2060 3958 2540 3596 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 10 3 Sodium ppm ASTM D5185m >25 3 10 3 Sodium ppm ASTM D5185m >20 1 6 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 6.0 5.6 5.9 Sulfation Abs/.1mm *ASTM D74		ppm	ASTM D5185m	60			
Calcium ppm ASTM D5185m 1070 1150 1610 1121 Phosphorus ppm ASTM D5185m 1150 1088 839 976 Zinc ppm ASTM D5185m 1270 1335 978 1218 Sulfur ppm ASTM D5185m 2060 3958 2540 3596 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 10 3 Sodium ppm ASTM D5185m >25 3 10 3 Sodium ppm ASTM D5185m >20 1 6 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 6.0 5.6 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 17.8 21.6 19.2 FLUID DEGRADATION method </td <td>-</td> <td>ppm</td> <td></td> <td></td> <th>-</th> <td></td> <td></td>	-	ppm			-		
Phosphorus ppm ASTM D5185m 1150 1088 839 976 Zinc ppm ASTM D5185m 1270 1335 978 1218 Sulfur ppm ASTM D5185m 2060 3958 2540 3596 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 10 3 Sodium ppm ASTM D5185m >25 3 10 3 Sodium ppm ASTM D5185m >20 1 4 2 Potassium ppm ASTM D5185m >20 1 6 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 6.0 5.6 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 17.8 21.6 19.2 FLUID DEGRADATION method	-						
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Sulfur ppm ASTM D5185m 2060 3958 2540 3596 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 10 3 Sodium ppm ASTM D5185m >25 1 4 2 Potassium ppm ASTM D5185m >20 1 6 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.2 0.2 0.1 Nitration Abs/.mm *ASTM D7624 >20 6.0 5.6 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 17.8 21.6 19.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.6 19.3 14.2							
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Silicon ppm ASTM D5185m >25 3 10 3 Sodium ppm ASTM D5185m 1 4 2 Potassium ppm ASTM D5185m >20 1 6 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.2 0.2 0.1 Nitration Abs/cm *ASTM D7624 >20 6.0 5.6 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 17.8 21.6 19.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.6 19.3 14.2			ASTM D5185m	2060	3958		3596
Sodium ppm ASTM D5185m 1 4 2 Potassium ppm ASTM D5185m >20 1 6 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.2 0.2 0.1 Nitration Abs/cm *ASTM D7624 >20 6.0 5.6 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 17.8 21.6 19.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.6 19.3 14.2		NTS	method	limit/base	current		
Potassium ppm ASTM D5185m >20 1 6 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >6 0.2 0.2 0.1 Nitration Abs/cm *ASTM D7624 >20 6.0 5.6 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 17.8 21.6 19.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.6 19.3 14.2		ppm		>25			
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Soot % % *ASTM D7844 >6 0.2 0.2 0.1 Nitration Abs/cm *ASTM D7624 >20 6.0 5.6 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 17.8 21.6 19.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.6 19.3 14.2		ppm	ASTM D5185m	>20	1	6	0
Nitration Abs/cm *ASTM D7624 >20 6.0 5.6 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 17.8 21.6 19.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.6 19.3 14.2				limit/base			
Sulfation Abs/.1mm *ASTM D7415 >30 17.8 21.6 19.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 13.6 19.3 14.2							
FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/.1mm*ASTM D7414>2513.619.314.2							
Oxidation Abs/.1mm *ASTM D7414 >25 13.6 19.3 14.2				>30	17.8	21.6	19.2
	FLUID DEGRA	DATION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 9.8 8.9 10.3 10.1		Abs/.1mm	*ASTM D7414	>25	13.6	19.3	14.2
	Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.9	10.3	10.1



OIL ANALYSIS REPORT

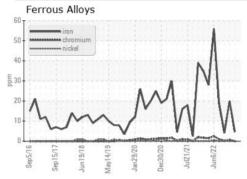


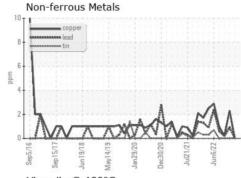


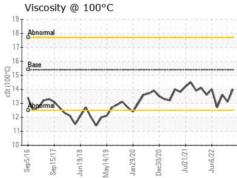
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

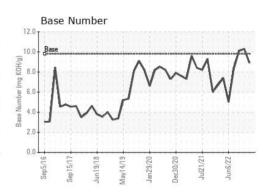
FLUID PROPE	ERTIES	method				history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.0	13.1	13.6

GRAPHS













Certificate L2367

Laboratory Sample No.

: GFL0116460 Lab Number : 06137219 Unique Number: 10956684 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 03 Apr 2024 **Tested** : 04 Apr 2024

Diagnosed : 04 Apr 2024 - Wes Davis

GFL Environmental - 035 - Greensboro

1236 Elon Place High Point, NC US 27263

Contact: JORGE COSTA jorge.costa@gflenv.com T: (336)668-3712

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: