

OIL ANALYSIS REPORT

Sample Rating Trend

Machine Id 701030

Component Diesel Engine

Fluid

PETRO CANADA DURON SHP 15W40 (19 LTR)

DIAGNOSIS

Recommendation

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. Light fuel dilution occurring.

Fluid Condition

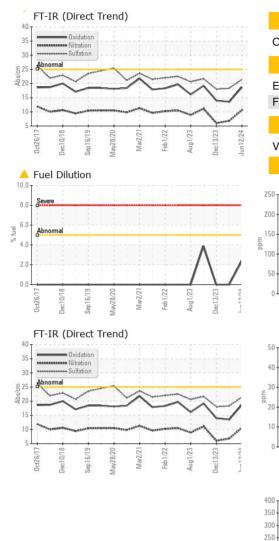
Fuel is present in the oil and is lowering the viscosity. The condition of the oil is acceptable for the time in service.

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0122297	GFL0107125	WC0875106
Sample Date		Client Info		12 Jun 2024	17 Jan 2024	13 Dec 2023
Machine Age	hrs	Client Info		11361	0	106415
Oil Age	hrs	Client Info		600	0	106415
Oil Changed		Client Info		Changed	Changed	N/A
Sample Status				ABNORMAL	NORMAL	NORMAL
CONTAMINATI	ON	method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS	S	method	limit/base	current	history1	history2
ron	ppm	ASTM D5185(m)	>100	25	12	7
Chromium	ppm	ASTM D5185(m)	>20	<1	<1	0
Nickel	ppm	ASTM D5185(m)	>4	0	<1	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)	>3	0	0	<1
Aluminum	ppm	ASTM D5185(m)	>20	7	7	3
_ead	ppm	ASTM D5185(m)	>40	0	0	0
Copper	ppm	ASTM D5185(m)	>330	2	<1	3
Fin	ppm	ASTM D5185(m)	>15	0	0	0
Antimony	ppm	ASTM D5185(m)		0	0	0
/anadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	6	15	20
Barium	ppm	ASTM D5185(m)	0	0	0	<1
Volybdenum	ppm	ASTM D5185(m)	60	60	57	59
Manganese	ppm	ASTM D5185(m)	0	<1	0	0
Vagnesium	ppm	ASTM D5185(m)	1010	946	908	918
Calcium	ppm	ASTM D5185(m)	1070	1036	1023	1014
Phosphorus	ppm	ASTM D5185(m)	1150	946	991	962
Zinc	ppm	ASTM D5185(m)	1270	1166	1145	1170
Sulfur	ppm	ASTM D5185(m)	2060	2366	2688	2571
_ithium	ppm	ASTM D5185(m)		<1	<1	<1
CONTAMINAN	TS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	4	5	4
Sodium	ppm	ASTM D5185(m)		7	4	4
Potassium	ppm	ASTM D5185(m)	>20	10	8	2
Fuel	%	ASTM D7593*	>5	<mark>/</mark> 2.4	<1.0	<1.0
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	0.5	0.1	0.1
Nitration	Abs/cm	ASTM D7624*	>20	10.6	6.8	6.0

FUEL



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FLUID DEGRA		method	limit/base	current	history1	history2						
Oxidation	Abs/.1mm	ASTM D7414*	>25	18.7	13.5	14.0						
VISUAL		method	limit/base	current	history1	history2						
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG						
Free Water	scalar	Visual*	l'actula a c	NEG	NEG	NEG						
FLUID PROPE Visc @ 100°C	cSt		limit/base	current	history1 13.3	history2 14.0						
GRAPHS	COL	ASTM D7279(m)	15.4 4	13.0	15.5	14.0						
Iron (ppm) Lead (ppm)												
250 200 Severe			100	Severe								
150			60									
Abnormal			^{Ed} 40	Abnormal								
50	\sim		20									
119 119 110 110 110 110 110 110	21-	23	- ²⁴	2 6U	/20 /21	23						
0ct26/17 Dec10/18 Sep16/19 May28/20	Mar2/21	Aug1/23	Jun12/24	0ct26/17 Dec10/18 Sep16/19	May28/20 Mar2/21 Feb1/22	Aug1/23 Dec13/23 Jun12/24						
Aluminum (ppm)			50	Chromium (p	pm)							
40 - Severe			40	Severe								
30 - Abnormal			30 E									
20 - Abnormal			20	Abnormal								
	\frown	\sim	10									
0ct26/17	Mar2/21-	Aug 1/23	Jun12/24	0ct26/17	May28/20 - Mar2/21 - Feb1/22 -	Aug1/23 -						
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400 350 Abnormal			80	Sincon (ppin)								
300			60									
250			50 40									
150			30 20	Abnormal		· · · · · · · · · · · · · · · · · · ·						
50			10									
0ct26/17 Dec10/18 Sep16/19 May28/20	Mar2/21	Feb 1/23 Aug 1/23 Dec 13/23	Jun12/24	0ct26/17 Dec10/18 Sep16/19	May28/20 Mar2/2 Feb1/22	Aug1/23 Dec13/23 Jun12/24						
▲ Viscosity @ 100°C				Fuel Dilution	2							
19 18 Abnormal			8.0	Severe								
17 © 16 Base				Abnormal								
은 15 중 14		~~	₹ 4.0	Abnormal		Λ						
13 - Abnormal			2.0			/ /						
114	2/21	/23	0.0	5/17 - 1018 - 1019	3/20	123						
0ct26/17 Dec10/18 Sep16/19 May28/20	Mar2/21	Feb 1/22 Aug 1/23 Dec1 3/23	Jun12/24	0ct26/17 Dec10/18 Sep16/19	May28/20 Mar2/21 Feb1/22	Aug1/23 Dec13/23 Jun12/24						

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 CALA Sample No. : GFL0122297 Received : 14 Jun 2024 Lab Number : 02641921 Tested : 17 Jun 2024 ISO 17025:2017 Accredited Laboratory Unique Number : 5799460 Diagnosed : 17 Jun 2024 - Wes Davis Test Package : MOB 1 (Additional Tests: FuelDilution, PercentFuel) To discuss this sample report, contact Customer Service at 1-800-268-2131. Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied.

> > GFL Environmental - 217 - Aurora 14131 BAYVIEW AVE, AURORA YARD AURORA, ON CA L4G 0K6 Contact: Mike Havens MHavens@gflenv.com T: F: (905)713-2445

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Submitted By: Scott Ewan
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