

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

Area (AY658D) Supermarket - Tractor FREIGHTLINER 107A1833

Diesel Engine

Fluid PETRO CANADA DURON SHP 10W30 (11 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Elevated aluminum (AI) 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. There is no indication of any contamination in the oil.

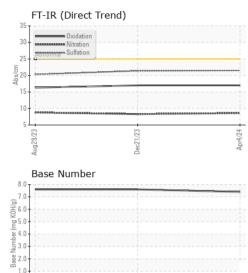
Fluid Condition

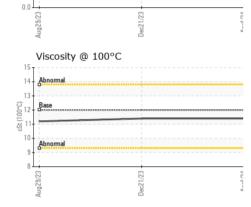
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

GAL)		Aug	2023	Dec2023 Apr202	Apr2024			
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2		
Sample Number		Client Info		PCA0116470	PCA0111511	PCA0104824		
Sample Date		Client Info		04 Apr 2024	21 Dec 2023	29 Aug 2023		
Machine Age	hrs	Client Info		92118	62192	43304		
Oil Age	hrs	Client Info		29926	18888	20228		
Oil Changed		Client Info		Changed	Changed	Changed		
Sample Status				NORMAL	NORMAL	ABNORMAL		
CONTAMINAT	ION	method	limit/base	current	history1	history2		
Fuel		WC Method	>5	<1.0	<1.0	<1.0		
Water		WC Method	>0.2	NEG	NEG	NEG		
Glycol		WC Method		NEG	NEG	NEG		
WEAR METAL	S	method	limit/base	current	history1	history2		
Iron	ppm	ASTM D5185m	>80	33	33	39		
Chromium	ppm	ASTM D5185m	>5	3	2	3		
Nickel	ppm	ASTM D5185m	>2	<1	<1	<1		
Titanium	ppm	ASTM D5185m		<1	0	0		
Silver	ppm	ASTM D5185m	>3	<1	<1	0		
Aluminum	ppm	ASTM D5185m	>30	22	35	60		
Lead	ppm	ASTM D5185m	>30	<1	<1	<1		
Copper	ppm	ASTM D5185m	>150	50	61	<u> </u>		
Tin	ppm	ASTM D5185m	>5	<1	1	2		
Vanadium	ppm	ASTM D5185m		<1	0	0		
Cadmium	ppm	ASTM D5185m		<1	0	0		
ADDITIVES		method	limit/base	current	history1	history2		
Boron	ppm	ASTM D5185m	2	4	8	7		
Barium	ppm	ASTM D5185m	0	0	0	0		
Molybdenum	ppm	ASTM D5185m	50	69	62	61		
Manganese	ppm	ASTM D5185m	0	1	1	1		
Magnesium	ppm	ASTM D5185m	950	970	934	943		
Calcium	ppm	ASTM D5185m	1050	1175	1286	1367		
Phosphorus	ppm	ASTM D5185m	995	978	1059	957		
Zinc	ppm	ASTM D5185m	1180	1256	1374	1235		
Sulfur	ppm	ASTM D5185m	2600	2469	2569	2767		
CONTAMINAN	TS	method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185m	>20	6	5	6		
Sodium	ppm	ASTM D5185m		4	3	3		
Potassium	ppm	ASTM D5185m	>20	42	84	149		
INFRA-RED		method	limit/base	current	history1	history2		
Soot %	%	*ASTM D7844	>3	1.1	1	0.8		
Nitration	Abs/cm	*ASTM D7624	>20	8.6	8.3	8.8		
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.5	21.4	20.3		
FLUID DEGRAD		method	limit/base	current	history1	history2		
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.0	17.0	16.3		
Base Number (BN)	mg KOH/g	ASTM D2896		7.4	7.6	7.6		



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l)		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
1/23	Apr4/24 -	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Dec21/23	Apr	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
		Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
		Free Water	scalar	*Visual		NEG	NEG	NEG
		FLUID PROP	ERTIES	method	limit/base	current	history1	history2
		Visc @ 100°C	cSt	ASTM D445	12.00	11.4	11.4	11.2
		GRAPHS						
		Ferrous Alloys						
23	vc	iron						
Dec21/23	A hours	30 - nickel						
ā		25						
		틆 20						
1		15-						
		10						
		5-						
		Aug29/23	Dec21/23		Apr4/24			
					A			
23	80	Non-ferrous Met	als					
Dec21/23	1 Prev 4	160 - copper						
		140 - tin						
	120							
		E 100						
		60						
	20							
		0	21/23		r4/24			
		Aug29/23	Dec21/23 -		Apr4/24			
		Uiscosity @ 100			Apr4/24	Base Number		
		0 E20622 ⁰⁰⁹ Viscosity @ 100'			8.0-	Base Number		
		0 Viscosity @ 100'			8.0	Base Number		
		Viscosity @ 100'			8.0	Base Number		
		Viscosity @ 100'			8.0	Base Number		
		Uiscosity @ 100'			8.0 7.0 (0)(10) 5.0 10) 5.0 10) 20,0 10,0 10,0 10,0 10,0 10,0 10,0 10,0	Base Number		
		0 Viscosity @ 1004			8.0-	Base Number		
		Uiscosity @ 100 Viscosity @ 100 15 14 13 13 14 13 10 10 11			8.0 7.0 (0)(10) 5.0 10) 5.0 10) 20,0 10,0 10,0 10,0 10,0 10,0 10,0 10,0	Base Number		
		Viscosity @ 100 Viscosity @ 100	°C		8.0 7.0 (0,6.0 HOX SU) Jaquar Ja Ja Ja Ja Ja Ja Ja Ja Ja Ja Ja Ja Ja			
		Viscosity @ 100 Viscosity @ 100	°C		8.0 7.0 (0,6.0 HOX SU) Jaquar Ja Ja Ja Ja Ja Ja Ja Ja Ja Ja Ja Ja Ja			
		Viscosity @ 1000			8.0 7.0 (0,6.0 HOX SU) Jaquar Ja Ja Ja Ja Ja Ja Ja Ja Ja Ja Ja Ja Ja	Base Number	Dec2//23	
		Uiscosity @ 100'	2C		8.0 7.0 (0)(10) 5.0 (0)(10) 5.0 (0)(10) 980 8 8 8 2.0 1.0 1.0 1.0 1.0 1.0	Aug29/23	Dec21/23	
	Laboratory Sample No	Viscosity @ 100 Viscosity @ 100 December 200 Viscosity @ 100 December 200 Viscosity @ 100 Viscosity @ 100 December 200 Viscosity @ 100 Viscosity @ 100 December 200 Viscosity @ 100 December 200 Viscosity @ 100 December 200 Viscosity @ 100 Viscosity @ 100 December 200 Viscosity @ 100 Viscosity	°C EZI[7390 601 Madiso		8.0 7.0 (0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(Aug29/23	ce - Shop 1072 - Sup	ermarket-Elizabe
	Sample No.	Viscosity @ 100 Viscosity @ 100 Viscos	°C EZ/IZ2200 GO1 Madiso Recei	i ved : 08	8.0 7.0 (040) 5.0 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	Aug29/23	ce - Shop 1072 - Sup	ermarket-Elizabe Division Stree
	Sample No. Lab Number	Viscosity @ 100 Viscosity @ 100 Viscos	°C EZI[7390 601 Madiso	ived : 08	8.0 7.0 (0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(E2/620my Transervi	ce - Shop 1072 - Sup	
TETER LABORATORY	Sample No.	Viscosity @ 100 Viscosity @ 100	C EXILIZATION 501 Madiso Recei Teste	ived : 08	8.0 7.0 (040) 5.0 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	E2/620my Transervi	ce - Shop 1072 - Sup 505	ermarket-Elizabe Division Stre Elizabeth, N

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Submitted By: Normand Brizak

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