

OIL ANALYSIS REPORT

Area (62A1N79) TALLASSEE 226022-266013

Diesel Engine Fluid PETRO CANADA DURON SHP 15W40 (--- LT

DIAGNOSIS

A Recommendation

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

A Wear

Cylinder, crank, or cam shaft wear is indicated. All other 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.

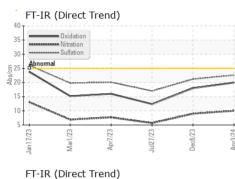
.TR)		Jan2023	Mar2023 Apr2023	3 Jul2023 Dec2023	Apr2024	
SAMPLE INFORI		method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0092433	GFL0092353	GFL0085979
Sample Date		Client Info		03 Apr 2024	08 Dec 2023	27 Jul 2023
Machine Age	hrs	Client Info		2784	2287	1966
Oil Age	hrs	Client Info		1357	860	44
Oil Changed		Client Info		Not Changd	N/A	Not Changd
Sample Status				ABNORMAL	ABNORMAL	NORMAL
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	>100	▲ 130	143	4
Chromium	ppm	ASTM D5185m	>20	4	5	<1
Nickel	ppm	ASTM D5185m	>4	2	3	<1
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	11	12	3
Lead	ppm	ASTM D5185m	>40	8	5	0
Copper	ppm	ASTM D5185m	>330	11	12	<1
Tin	ppm	ASTM D5185m	>15	0	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	16	26	43
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	73	68	60
Manganese	ppm	ASTM D5185m	0	2	4	<1
Magnesium	ppm	ASTM D5185m	1010	1116	928	840
Calcium	ppm	ASTM D5185m	1070	1448	1251	1080
Phosphorus	ppm	ASTM D5185m	1150	1171	1022	938
Zinc	ppm	ASTM D5185m	1270	1478	1306	1122
Sulfur	ppm	ASTM D5185m	2060	3909	3020	3191
CONTAMINAN	TS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	11	14	6
Sodium	ppm	ASTM D5185m		3	3	2
Potassium	ppm	ASTM D5185m	>20	2	3	1
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.8	0.6	0.3
Nitration	Abs/cm	*ASTM D7624	>20	10.0	9.0	5.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.6	21.2	17.0
FLUID DEGRA		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	20.0	18.0	12.4
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.7	7.9	6.8

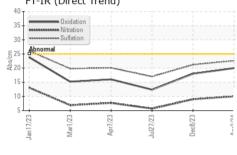
Sample Rating Trend

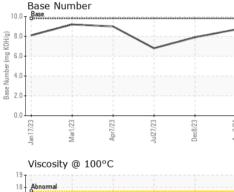
WEAR

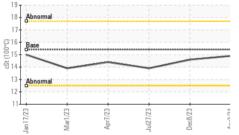


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		method	limit/base	current	history1	history
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	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	RTIES	method	limit/base	current	history1	history
Visc @ 100°C	cSt	ASTM D445	15.4	14.9	14.6	13.9
GRAPHS	001					1010
Ferrous Alloys						
rerrous Alloys						
iron						
chromium						
D- nickel		/				
		1				
0						
0						
0		/				
0		/				
	_ /					
		CONTRACTOR DATA DATA DATA DATA DATA DATA DATA DAT				
	1/23 .					
	127/23					
Jan 17/23	Jul27/23	Dec8/23	Apr3/24			
Jan 17/23 Mar1/23 Apr7/23						
Jan 17/23 Mar 1/23 Apr7/23						
Non-ferrous Metal						
EZ/LI ^{uB} Non-ferrous Metal						
Non-ferrous Metal						
Non-ferrous Metal						
Non-ferrous Metal						
EZULIER Non-ferrous Metal						
EZULIER Non-ferrous Metal						
Non-ferrous Metals						
EZULIER Non-ferrous Metal						
EZULINE Non-ferrous Metals						
EZULUAR Non-ferrous Metal						
EZULINER Non-ferrous Metal		De:8/23	Apr3/24			
EZULINER Non-ferrous Metall	S	De:8/23	Apr3/24			
EZULUAR Non-ferrous Metal	S	De:8/23	Apr3/24			
EZULUER Non-ferrous Metals EZULUER Non-ferrous Metals EZULUER EZULUER	S	De:8/23	Apr3/24			
EZULINER Non-ferrous Metals EZULINER EZ	S	De:8/23	Apr3/24 Apr3/24	Base Number		
EZULINER Non-ferrous Metals Lead EZULINER Viscosity @ 100°C	S	De:8/23	Apr3/24			
EZULINER Non-ferrous Metal: EZULINE EZULINE Viscosity @ 100°C	S	De:8/23	Apri3/24			
EZULINER Non-ferrous Metall EZULINE EZULINE Viscosity @ 100°C	S	De:8/23	Apri3/24			
EZULINER Non-ferrous Metall EZULINE EZULINE Viscosity @ 100°C	S	De:8/23	Apri3/24			
EZULINER Non-ferrous Metall EZULINE EZULINE Viscosity @ 100°C	S	De:8/23	Apri3/24			
EZULINER Non-ferrous Metall EZULINE EZULINE Viscosity @ 100°C	S	De:8/23	Apri3/24			
EZULINER Non-ferrous Metall EZULINE EZULINE Viscosity @ 100°C	S	De:8/23	Apri3/24			
EZULINER Non-ferrous Metal	S	De:8/23	Apr3/24 ase Mumber (mg KOH(g) 0°9 0°9			
EZULINER Non-ferrous Metal	S	De:8/23	Apr3/24 Apr3/2			
EZULINER Non-ferrous Metal	S	De:8/23	Apr3/24 ase Mumber (mg KOH(g) 0°9 0°9			
EZULINE Non-ferrous Metal: Non-ferrous Metal: Copper EZULINE Viscosity @ 100°C	S	De:8/23	42/ξ/dΨ 10.0 (0/HQ) Mulpara 4.0 2.0			
EZULINER Non-ferrous Metall COMPACTIVE Viscosity @ 100°C	S EZIZIN	Dec8/23	Apr3/24 Apr3/24 Apr3/24 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	Base		33
EZULINE Non-ferrous Metal: Non-ferrous Metal: Copper EZULINE Viscosity @ 100°C	S	De:8/23	42/ξ/dΨ 10.0 (0/HQ) Mulpara 4.0 2.0		April23	Dec8/23

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 172 - Montgomery-Alexander City-Tallahassee Sample No. : GFL0092433 Received **Multiple Sites** : 05 Apr 2024 Lab Number : 06139723 Tested : 06 Apr 2024 Montgomery, AL Unique Number : 10964531 US 36108 : 07 Apr 2024 - Don Baldridge Diagnosed Test Package : FLEET Contact: BRANDON HURST Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. brandonhurst@gflenv.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: F:

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

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Submitted By: Lisa Reeves Page 2 of 2