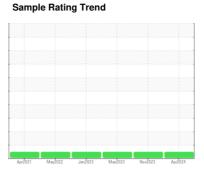


OIL ANALYSIS REPORT



Machine Id 731010 Component
Natural Gas Engine

PETRO CANADA DURON SHP 15W40 (--- GAL)





DIAGNOSIS

Recommendation

Confirm the source of the lubricant being utilized for top-up/fill. 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

Additive levels indicate the addition of a different brand, or type of oil. The condition of the oil is acceptable for the time in service.

N SHP 15W4U (-	GAL)	Apr2021	May2022 Jan2023	May2023 Nov2023	Apr2024	
SAMPLE INFOR	RMATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0100750	GFL0100753	GFL007956
Sample Date		Client Info		19 Apr 2024	28 Nov 2023	10 May 2023
Machine Age	hrs	Client Info		136937	121482	100260
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	Changed	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINA	ΓΙΟΝ	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
WEAR METAI	LS	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>50	10	12	8
Chromium	ppm	ASTM D5185(m)	>4	<1	<1	<1
Nickel	ppm	ASTM D5185(m)	>2	<1	<1	<1
Titanium	ppm	ASTM D5185(m)		0	0	<1
Silver	ppm	ASTM D5185(m)	>3	0	<1	0
Aluminum	ppm	ASTM D5185(m)	>9	2	2	2
Lead	ppm	ASTM D5185(m)	>30	0	2	<1
Copper	ppm	ASTM D5185(m)	>35	1	1	<1
Tin	ppm	ASTM D5185(m)	>4	0	<1	<1
Antimony	ppm	ASTM D5185(m)		0	0	<1
Vanadium	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	9	7	9
Barium	ppm	ASTM D5185(m)	0	0	<1	0
Molybdenum	ppm	ASTM D5185(m)	60	53	55	51
Manganese	ppm	ASTM D5185(m)	0	<1	<1	<1
Magnesium	ppm	ASTM D5185(m)	1010	534	584	549
Calcium	ppm	ASTM D5185(m)	1070	1705	1739	1626
Phosphorus	ppm	ASTM D5185(m)	1150	705	752	738
Zinc	ppm	ASTM D5185(m)	1270	926	959	918
Sulfur	ppm	ASTM D5185(m)	2060	1992	1956	2012
Lithium	ppm	ASTM D5185(m)		<1	<1	<1
CONTAMINA	NTS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>+100	3	5	3
Sodium	ppm	ASTM D5185(m)		2	3	2
Potassium	ppm	ASTM D5185(m)	>20	2	0	0
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*		0	0	0
Nitration	Abs/cm	ASTM D7624*	>20	11.0	12.5	10.9
Sulfation	Abs/.1mm	ASTM D7415*	>30	22.4	26.5	22.9
FLUID DEGRA	DATION	method	limit/base	current	history1	history2
Ovidation	Aba/ta	ACTM D744 4*	. 05	10.0	00.1	10.7

Oxidation

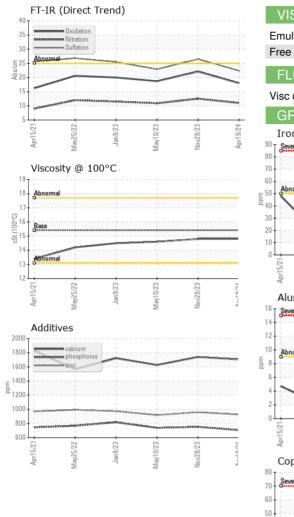
22.1

18.0

18.7



OIL ANALYSIS REPORT



VISUAL		method	limit/bas	se current	hist	ory1	histo	ry2
Emulsified Water Free Water	scalar scalar	Visual* Visual*	>0.1	NEG NEG			NEG NEG	
FLUID PROPE	RTIES	method	limit/bas	se current	history1 h		histo	ry2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	14.8	14.8		14.6	
GRAPHS								
Iron (ppm) Severe Abnormal		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Lead (ppm) Severe Abnormal				
Apr15/212 May/25/22 Jan/9/23	May10/23 -	Nov28/23	Apr19/24	Apr15/2/1	Jan 9/23	May10/23	Nov28/23	Apr19/24
` ≥	May	No	Apı			May	Nov	Apı
Aluminum (ppm) 16 &evere 14 12 10 Abnormal				Chromium	(ppm)		 	
Apr15/21 May25/22	May10/23	Nov28/23	Apr19/24	Apr15/21	Jan9/23	May10/23	Nov28/23	Apr19/24
Copper (ppm) Severe Severe Abnormal		1		Silicon (ppn 200 Severe 150 Abnormal	1)			
30 20 10 10 12 22 22			24	50)/23)/23	9/23	3/24
Viscosity @ 100°C	May10	Nov28/23	Apr19	Additives Way25	Jan9	May10	Nov28/23	Apr19/24
Abnormal 17 17 10 16 18 18 18 17 18 17 18 17 18 17 18 18 18 19 19 10 10 11 11 11 11 11 11 11 11 11 11 11			E d	1800 - calcium phosph 1600 - zinc 1400 - 1000 - 800 - 800 -	Orus	The Hotel of Control		I Recons
15/21 — Apr1 5/21 — May/25/22 — Jan 9/23	May10/23	Nov28/23-	Apr19/24	Apr15/21	Jan9/23 +	May10/23	Nov28/23	Apr19/24



CALA ISO 17025:2017 Accredited Laboratory

Laboratory

Unique Number : 5773012 Test Package : MOB 1

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 277 - Niagara Regional Sample No. : GFL0100750

Lab Number : 02631859

Received **Tested** Diagnosed

: 29 Apr 2024 : 29 Apr 2024

: 29 Apr 2024 - Kevin Marson

C/O Metro Truck Niagara Inc., 411 Glendale Avenue St. Catharines, ON CA L2P 3Y1 Contact: Kelly Bremner

kbremner@gflenv.com T: (437)235-6849

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.