

OIL ANALYSIS REPORT

NORMAL

Machine Id 10809

Component

Diesel Engine

PETRO CANADA DURON SHP 15W40 (7 GAL)

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.

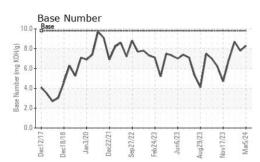
Fluid Condition

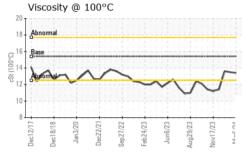
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

,		c2017 Dec201				
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0112338	GFL0112292	GFL0109901
Sample Date		Client Info		05 Mar 2024	13 Feb 2024	22 Jan 2024
Machine Age	hrs	Client Info		19921	19799	19656
Oil Age	hrs	Client Info		122	549	406
Oil Changed		Client Info		Not Changd	Changed	Not Changd
Sample Status				NORMAL	NORMAL	MARGINAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	1 .4
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	>75	8	22	13
Chromium	ppm	ASTM D5185m	>5	0	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m	>2	0	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	2	5	3
Lead	ppm	ASTM D5185m	>25	<1	0	0
Copper	ppm	ASTM D5185m	>100	1	4	3
Tin	ppm	ASTM D5185m	>4	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	15	4	5
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	61	58	58
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	1010	870	868	878
Calcium	ppm	ASTM D5185m	1070	1026	981	1041
Phosphorus	ppm	ASTM D5185m	1150	999	935	866
Zinc	ppm	ASTM D5185m	1270	1186	1146	1102
Sulfur	ppm	ASTM D5185m	2060	3336	2804	2749
CONTAMINAN	TS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	6	13	12
	ppm ppm	ASTM D5185m ASTM D5185m			13 75	12 63
Silicon			>25	6		
Silicon Sodium	ppm	ASTM D5185m	>25	6 14	75	63
Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	>25 >20	6 14 1	75 6	63 5
Silicon Sodium Potassium INFRA-RED	ppm ppm	ASTM D5185m ASTM D5185m method	>25 >20 limit/base >6	6 14 1 current	75 6 history1	63 5 history2
Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm	ASTM D5185m ASTM D5185m method *ASTM D7844	>25 >20 limit/base >6	6 14 1 current 0.3	75 6 history1 0.5	63 5 history2 0.3
Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D7415	>25 >20 limit/base >6 >20	6 14 1 current 0.3 6.2	75 6 history1 0.5 7.3	63 5 history2 0.3 6.5
Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D7415	>25 >20 limit/base >6 >20 >30	6 14 1 current 0.3 6.2 17.2	75 6 history1 0.5 7.3 17.7	63 5 history2 0.3 6.5 17.8
Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAU	ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D7415 method	>25 >20 limit/base >6 >20 >30 limit/base	6 14 1 current 0.3 6.2 17.2 current	75 6 history1 0.5 7.3 17.7 history1	63 5 history2 0.3 6.5 17.8 history2



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	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.4	13.5	13.6
GRAPHS						

Ferrous Alloys 90 80 70 60 mdd 50 30 20 10 0 Dec12/17 Dec18/18 Sep27/22 Feb24/23 lan3/70 CITIVA Non-ferrous Metals 180 160 140 120 e 100 80 60 40 20 0 Sep27/22 Dec18/18 eh24/73 Mar5/24 lan3/7(Der 77/7 Dec12/1 Viscosity @ 100°C Base Number 19 10.0 Base 18 17 8 (mg KOH/g) 16 () 15 () 10 14 13 6.0 4 Base 11 10 0.0 0 Mar5/24 -Dec12/17 1g29/23 Nov17/23 Sep27/22 Dec12/17 Dec22/21 1=n2/20 Dec22/21 in6/73 Dec18/18 an 3/20 Feb 24/23 Dec18/18 Sen 27/22 =eb24/23 : WearCheck USA - 501 Madison Ave., Cary, NC 27513

GFL Environmental - 010 - Stockbridge Laboratory Sample No. : GFL0112338 Received : 13 Mar 2024 1280 Rum Creek Parkway Lab Number : 06117724 Tested : 14 Mar 2024 Stockbridge, GA Unique Number : 10926557 Diagnosed : 14 Mar 2024 - Wes Davis US 30281 Test Package : FLEET Contact: JOSHUA TINKER Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. joshuatinker@gflenv.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. Т: F:

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

Mar5/24

Vov17/23