

OIL ANALYSIS REPORT

Sample Rating Trend



829013-1086

Component

Diesel Engine

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

DIAGNOSIS

Recommendation

We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

Sodium and/or potassium levels are high.

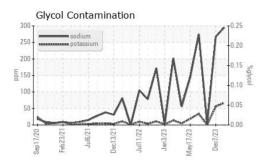
Fluid Condition

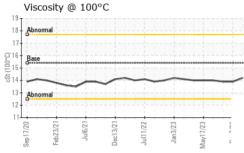
The BN result indicates that there is suitable alkalinity remaining in the oil.

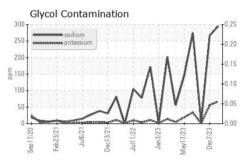
-TR)						
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0100158	GFL0100170	GFL0058048
Sample Date		Client Info		03 Jan 2024	07 Dec 2023	28 Aug 2023
Machine Age	hrs	Client Info		10226	10104	9648
Oil Age	hrs	Client Info		578	156	389
Oil Changed		Client Info		Changed	Not Changd	Changed
Sample Status				ABNORMAL	ABNORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	12	9	17
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	<1	0	2
Titanium	ppm	ASTM D5185m	>2	<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	2	2	3
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	5	5	100
Tin	ppm	ASTM D5185m	>15	1	0	1
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	0	5	6	1
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	80	72	63
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	1010	961	903	1017
Calcium	ppm	ASTM D5185m	1070	1092	1016	1185
Phosphorus	ppm	ASTM D5185m	1150	988	951	1025
Zinc	ppm	ASTM D5185m	1270	1287	1238	1345
Sulfur	ppm	ASTM D5185m	2060	3100	2968	3083
CONTAMINAN	ITS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	10	10	5
Sodium	ppm	ASTM D5185m		295	<u>^</u> 267	4
Potassium	ppm	ASTM D5185m	>20	67	<u></u> ▲ 56	<1
Glycol	%	*ASTM D2982		NEG	NEG	NEG
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>4	0.6	0.5	0.5
Nitration	Abs/cm	*ASTM D7624	>20	10.7	10.4	8.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.3	21.7	20.6
FLUID DEGRAI	OATION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.2	16.9	16.8
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	5.6	6.1	6.9
= acc ranibol (DIV)	mg norng		3.0	0.0	V. 1	0.0



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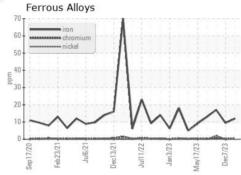


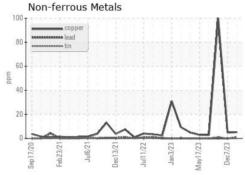


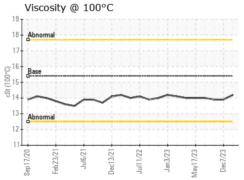
White Metal scalar *Visual NONE NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE NONE Silt scalar *Visual NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML Fmulsified Water scalar *Visual NORML	VISUAL		method	limit/base	current	history1	history2
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	White Metal	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 NORML NORML NORML	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Debrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORML	Precipitate	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	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance scalar *Visual NORML NORML NORML NORML NORML NORML NORML NORML NORML	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Odor scalar *Visual NORML NORML NORML NORML	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
100	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water scalar *Visual >0.2 NFG NFG NFG	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emdomod Frator Codia Flora Fig.	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water scalar *Visual NEG NEG NEG	Free Water	scalar	*Visual		NEG	NEG	NEG

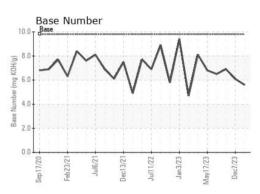
FLUID PROPE	ERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.2	13.9	13.9

GRAPHS













Certificate L2367

Laboratory Sample No. Lab Number **Unique Number**

: 10816557

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0100158 : 06050608

Recieved Diagnosed

: 04 Jan 2024 Diagnostician Test Package : FLEET (Additional Tests: Glycol)

: 05 Jan 2024 : Jonathan Hester

Troy, VA US 22974 Contact: Brian Ulickas bulickas@gflenv.com

5498 Richmond Road

GFL Environmental - 657 - Charlottesville Hauling

To discuss this sample report, contact Customer Service at 1-800-237-1369. * - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

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

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