

PROBLEM SUMMARY

Sample Rating Trend

GLYCOL

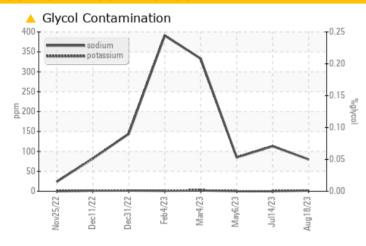
Machine Id **929127**

Component

Diesel Engine

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

COMPONENT CONDITION SUMMARY



RECOMMENDATION

No corrective action is recommended at this time. We recommend an early resample to monitor this condition.

PROBLEMATION	C TEST	RESULT	S			
Sample Status				ATTENTION	ATTENTION	ATTENTION
Sodium	ppm	ASTM D5185m		A 80	<u></u> 113	<u></u> ▲ 85

Customer Id: GFL821 Sample No.: GFL0090239 Lab Number: 05933146 Test Package: FLEET

To manage this report scan the QR code

To discuss the diagnosis or test data:

Don Baldridge +1 don.b505@comcast.net

To change component or sample information: Customer Service +1 1-800-237-1369 customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Resample			?	We recommend an early resample to monitor this condition.

HISTORICAL DIAGNOSIS

14 Jul 2023 Diag: Sean Felton

GLYCOL



No corrective action is recommended at this time. We recommend an early resample to monitor this condition.All component wear rates are normal. Sodium and/or potassium levels remain high. Test for glycol is negative. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.



06 May 2023 Diag: Don Baldridge

GLYCOL



No corrective action is recommended at this time. We recommend an early resample to monitor this condition.All component wear rates are normal. Sodium and/or potassium levels remain high. Test for glycol is negative. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service



04 Mar 2023 Diag: Jonathan Hester

GLYCOL



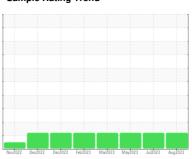
We advise that you check for possible coolant leak. Check for low coolant level. We recommend an early resample to monitor this condition. All component wear rates are normal. Sodium and/or potassium levels remain high. The BN result indicates that there is suitable alkalinity remaining in the oil.





OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id **929127** Component

Diesel Engine

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

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

Sodium and/or potassium levels remain high. Test for glycol is negative.

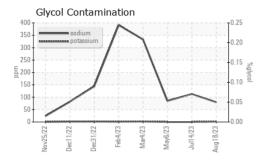
Fluid Condition

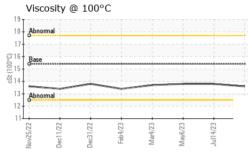
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

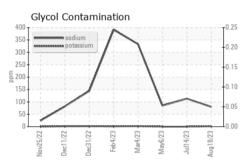
GAL)		Nov2022 D	ec2022 Dec2022 Feb202	23 Mar2023 May2023 Jul2023	Aug2023	
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0090239	GFL0076764	GFL0076813
Sample Date		Client Info		18 Aug 2023	14 Jul 2023	06 May 2023
Machine Age	hrs	Client Info		12418	12165	11973
Oil Age	hrs	Client Info		150	150	150
Oil Changed		Client Info		N/A	Not Changd	Not Changd
Sample Status				ATTENTION	ATTENTION	ATTENTION
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	8	8	4
Chromium	ppm	ASTM D5185m	>20	<1	0	0
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	0	1	2
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	<1	<1	0
Tin	ppm	ASTM D5185m	>15	0	0	0
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
					,	
Boron	ppm	ASTM D5185m	0	0	0	<1
Boron Barium	ppm		0	0 2		
					0	<1
Barium	ppm	ASTM D5185m ASTM D5185m	0	2	0	<1 0
Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m	0 60	2 88	0 0 69	<1 0 64
Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0	2 88 <1	0 0 69 <1	<1 0 64 0
Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010	2 88 <1 1260	0 0 69 <1 997	<1 0 64 0 942
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070	2 88 <1 1260 1426	0 0 69 <1 997 1106	<1 0 64 0 942 1063
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150	2 88 <1 1260 1426 1448	0 0 69 <1 997 1106 1069	<1 0 64 0 942 1063 1003
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150 1270	2 88 <1 1260 1426 1448 1706	0 0 69 <1 997 1106 1069 1253	<1 0 64 0 942 1063 1003 1219
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150 1270 2060	2 88 <1 1260 1426 1448 1706 4573	0 69 <1 997 1106 1069 1253 3740	<1 0 64 0 942 1063 1003 1219 3461
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150 1270 2060	2 88 <1 1260 1426 1448 1706 4573	0 0 69 <1 997 1106 1069 1253 3740 history1	<1 0 64 0 942 1063 1003 1219 3461 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m MEthod ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >25	2 88 <1 1260 1426 1448 1706 4573 current	0 0 69 <1 997 1106 1069 1253 3740 history1	<1 0 64 0 942 1063 1003 1219 3461 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >25	2 88 <1 1260 1426 1448 1706 4573 current 5	0 0 69 <1 997 1106 1069 1253 3740 history1 4 ▲ 113	<1 0 64 0 942 1063 1003 1219 3461 history2 4
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >25	2 88 <1 1260 1426 1448 1706 4573 current 5 80 2	0 0 69 <1 997 1106 1069 1253 3740 history1 4 ▲ 113	<1 0 64 0 942 1063 1003 1219 3461 history2 4 \$\textstyle{85}\$
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol	ppm	ASTM D5185m method ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	2 88 <1 1260 1426 1448 1706 4573 current 5 \$\triangle\$ 80 2 NEG	0 0 69 <1 997 1106 1069 1253 3740 history1 4 ▲ 113 0 NEG	<1 0 64 0 942 1063 1003 1219 3461 history2 4 \$\textstyle{\textstyle{\textstyle{4}}}\$ 85 0 NEG
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	2 88 <1 1260 1426 1448 1706 4573 current 5 \$\triangle\$ 80 2 NEG	0 0 69 <1 997 1106 1069 1253 3740 history1 4 ▲ 113 0 NEG	<1 0 64 0 942 1063 1003 1219 3461 history2 4 ▲ 85 0 NEG
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m **ASTM D5185m ASTM D5185m **ASTM D5185m ASTM D5185m ASTM D5185m **ASTM D5185m ASTM D5185m **ASTM D5185m **ASTM D7844	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	2 88 <1 1260 1426 1448 1706 4573	0 0 69 <1 997 1106 1069 1253 3740 history1 4 ▲ 113 0 NEG history1	<1 0 64 0 942 1063 1003 1219 3461 history2 4 ▲ 85 0 NEG history2 0.1
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration	ppm	ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D76145	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20	2 88 <1 1260 1426 1448 1706 4573	0 0 69 <1 997 1106 1069 1253 3740 history1 4 ▲ 113 0 NEG history1 0.2 6.1	<1 0 64 0 942 1063 1003 1219 3461 history2 4 85 0 NEG history2 0.1 5.7
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D76145	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20 >30	2 88 <1 1260 1426 1448 1706 4573	0 0 69 <1 997 1106 1069 1253 3740 history1 4 ▲ 113 0 NEG history1 0.2 6.1 18.2	<1 0 64 0 942 1063 1003 1219 3461 history2 4 ▲ 85 0 NEG history2 0.1 5.7 18.2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation FLUID DEGRAI	ppm	ASTM D5185m *ASTM D7844 *ASTM D7844 *ASTM D7624 *ASTM D7615 *ASTM D7615 *ASTM D7616	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20 >30 limit/base >25	2 88 <1 1260 1426 1448 1706 4573 current 5 80 2 NEG current 0.1 5.6 17.6 current	0 0 69 <1 997 1106 1069 1253 3740 history1 4 ▲ 113 0 NEG history1 0.2 6.1 18.2 history1	<1 0 64 0 942 1063 1003 1219 3461 history2 4 85 0 NEG history2 0.1 5.7 18.2 history2



OIL ANALYSIS REPORT



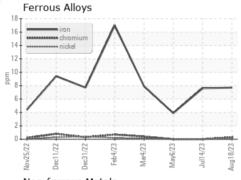


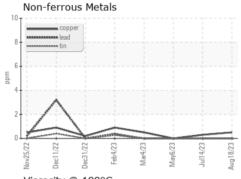


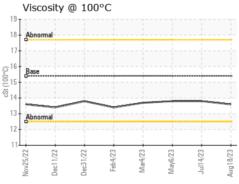
White Metal scalar *Visual NONE NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE NONE Silt scalar *Visual NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORML 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

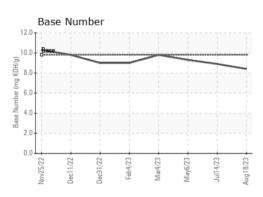
FLUID PROPI	ERIIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.6	13.8	13.8

GRAPHS













Laboratory Sample No. Lab Number

Unique Number : 10618417

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0090239 : 05933146

Received Diagnosed

: 24 Aug 2023 : 25 Aug 2023

Diagnostician : Don Baldridge

Test Package : FLEET (Additional Tests: Glycol) To discuss this sample report, contact Customer Service at 1-800-237-1369.

US 65536 Contact: Landen Johnson

GFL Environmental - 821 - Ozarks Hauling

landen.johnson@gflenv.com T: (417)664-0010

33924 Olath Drive

Lebanon, MO

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

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Contact/Location: GFL821, GFL824 and GFL829 - Landen Johnson - GFL821