

PROBLEM SUMMARY

Sample Rating Trend

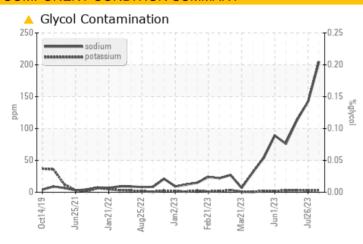
GLYCOL

Machine Id **12036**

Component **Diesel Engine**

PETRO CANADA DURON SHP 15W40 (32 QTS)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS							
Sample Status				ATTENTION	ATTENTION	ATTENTION	
Sodium	ppm	ASTM D5185m		<u>^</u> 205	<u>▲</u> 142	<u>113</u>	

Customer Id: GFL073 Sample No.: GFL0069128 Lab Number: 05928032 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
Change Fluid			?	Oil and filter change at the time of sampling has been noted.
Change Filter			?	Oil and filter change at the time of sampling has been noted.
Resample			?	We recommend an early resample to monitor this condition.

HISTORICAL DIAGNOSIS

26 Jul 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 are 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.



10 Jul 2023 Diag: Jonathan Hester

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 are 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.



20 Jun 2023 Diag: Don Baldridge

NORMAL



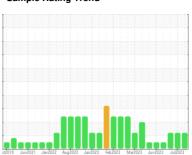
Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.





OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id 12036 Component

Diesel Engine

PETRO CANADA DURON SHP 15W40 (32 QTS)

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. 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 are high. Test for glycol is negative.

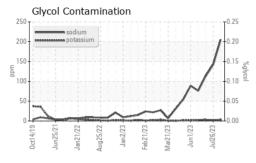
Fluid Condition

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

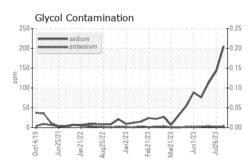
QTS)							
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2	
Sample Number		Client Info		GFL0069128	GFL0069171	GFL0068753	
Sample Date		Client Info		14 Aug 2023	26 Jul 2023	10 Jul 2023	
Machine Age	hrs	Client Info		12796	12768	12650	
Oil Age	hrs	Client Info		941	913	795	
Oil Changed		Client Info		Changed	Not Changd	Not Changd	
Sample Status				ATTENTION	ATTENTION	ATTENTION	
CONTAMINAT	ION	method	limit/base	current	history1	history2	
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0	
WEAR METAL	S	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>75	16	13	11	
Chromium	ppm	ASTM D5185m	>5	<1	<1	<1	
Nickel	ppm	ASTM D5185m	>4	<1	0	0	
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1	
Silver	ppm	ASTM D5185m	>2	<1	0	0	
Aluminum	ppm	ASTM D5185m	>15	3	4	3	
Lead	ppm	ASTM D5185m	>25	0	0	<1	
Copper	ppm	ASTM D5185m	>100	1	<1	1	
Tin	ppm	ASTM D5185m	>4	<1	0	<1	
Vanadium	ppm	ASTM D5185m		<1	0	0	
Cadmium	ppm	ASTM D5185m		0	0	0	
ADDITIVES							
ADDITIVES		method	limit/base	current	history1	history2	
Boron	ppm	method ASTM D5185m	limit/base	current 5	history1 8	history2 8	
	ppm ppm						
Boron		ASTM D5185m	0	5	8	8	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	5 0	8 2	8	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	5 0 69	8 2 69	8 0 67	
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	5 0 69 <1	8 2 69 <1	8 0 67 <1	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	5 0 69 <1 887	8 2 69 <1 958	8 0 67 <1 965	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	5 0 69 <1 887 1011	8 2 69 <1 958 1080	8 0 67 <1 965 1082	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	5 0 69 <1 887 1011 915	8 2 69 <1 958 1080 1028	8 0 67 <1 965 1082 1046	
Boron 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 ASTM D5185m	0 0 60 0 1010 1070 1150 1270	5 0 69 <1 887 1011 915 1125	8 2 69 <1 958 1080 1028 1268	8 0 67 <1 965 1082 1046 1303	
Boron 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 ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	5 0 69 <1 887 1011 915 1125 3253	8 2 69 <1 958 1080 1028 1268 3665	8 0 67 <1 965 1082 1046 1303 3824	
Boron 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 ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	5 0 69 <1 887 1011 915 1125 3253 current	8 2 69 <1 958 1080 1028 1268 3665 history1	8 0 67 <1 965 1082 1046 1303 3824 history2	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	5 0 69 <1 887 1011 915 1125 3253 current 7	8 2 69 <1 958 1080 1028 1268 3665 history1 8	8 0 67 <1 965 1082 1046 1303 3824 history2	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	5 0 69 <1 887 1011 915 1125 3253 current 7 ▲ 205	8 2 69 <1 958 1080 1028 1268 3665 history1 8 142	8 0 67 <1 965 1082 1046 1303 3824 history2 7 ▲ 113	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	5 0 69 <1 887 1011 915 1125 3253 current 7 ▲ 205 3	8 2 69 <1 958 1080 1028 1268 3665 history1 8 142 2	8 0 67 <1 965 1082 1046 1303 3824 history2 7 ▲ 113 3	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol	ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	5 0 69 <1 887 1011 915 1125 3253 current 7 ▲ 205 3 NEG	8 2 69 <1 958 1080 1028 1268 3665 history1 8 142 2 0.0	8 0 67 <1 965 1082 1046 1303 3824 history2 7 ▲ 113 3 NEG	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED	ppm	ASTM D5185m *ASTM D2982	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	5 0 69 <1 887 1011 915 1125 3253 current 7 ▲ 205 3 NEG	8 2 69 <1 958 1080 1028 1268 3665 history1 8 142 2 0.0 history1	8 0 67 <1 965 1082 1046 1303 3824 history2 7 ▲ 113 3 NEG	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot %	ppm	ASTM D5185m *ASTM D7844	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	5 0 69 <1 887 1011 915 1125 3253 current 7 ▲ 205 3 NEG current 0.6	8 2 69 <1 958 1080 1028 1268 3665 history1 8 142 2 0.0 history1 0.5	8 0 67 <1 965 1082 1046 1303 3824 history2 7 ▲ 113 3 NEG history2 0.4	
Boron 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 D7624	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	5 0 69 <1 887 1011 915 1125 3253 current 7 ▲ 205 3 NEG current 0.6 10.9	8 2 69 <1 958 1080 1028 1268 3665 history1 8 142 2 0.0 history1 0.5 9.3	8 0 67 <1 965 1082 1046 1303 3824 history2 7 ▲ 113 3 NEG history2 0.4 8.7	
Boron 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 D7624	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >6 >20 >30	5 0 69 <1 887 1011 915 1125 3253 current 7 ▲ 205 3 NEG current 0.6 10.9 20.5	8 2 69 <1 958 1080 1028 1268 3665 history1 8 142 2 0.0 history1 0.5 9.3 19.5	8 0 67 <1 965 1082 1046 1303 3824 history2 7 ▲ 113 3 NEG history2 0.4 8.7 19.8	



OIL ANALYSIS REPORT



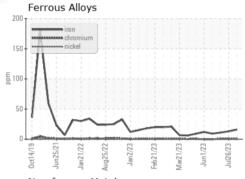
Viso	cosity	@ 10	0°C					
18 - Abno	ormal			Ш				
⊕ 16 - Base								
(100 the Base	out 1							_
12			_	1	<u> </u>			
8								_
Oct14/19	lun25/21	Jan 2 1/22	Aug25/22	Jan2/23	eb21/23	Mar21/23	Jun1/23	

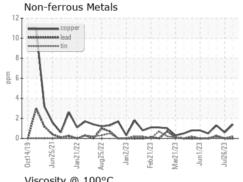


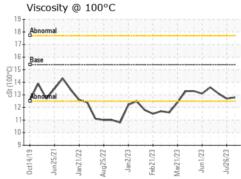
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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

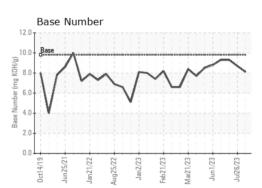
FLUID PROFE		memod	IIIIII/Dase	Current	HISTORY	HISTORY
Visc @ 100°C	cSt	ASTM D445	15.4	12.8	12.7	13.1

GRAPHS













Laboratory Sample No. Lab Number Unique Number : 10607979

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : 05928032

: GFL0069128

Received Diagnosed Test Package : FLEET (Additional Tests: Glycol)

: 18 Aug 2023 : 21 Aug 2023 Diagnostician : Don Baldridge

GFL Environmental - 073 - Warner Robbins - Transwaste 155 Story Road Warner Robbins, GA

US 31093 Contact: JOSH MALONEY jmaloney@gflenv.com

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)

T:

F: