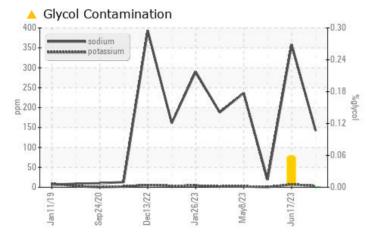
PROBLEM SUMMARY

Sample Rating Trend GLYCOL

Machine Id 728047-361698

Component Diesel Engine Fluid PETRO CANADA DURON SHP 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS								
Sample Status				ATTENTION	ABNORMAL	NORMAL		
Sodium	ppm	ASTM D5185m		<u> </u>	4 358	19		

Customer Id: GFL824 Sample No.: GFL0076775 Lab Number: 05892061 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 <u>customerservice@wearcheck.com</u>

RECOMMENDED ACTIONS

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

17 Jun 2023 Diag: Wes Davis

GLYCOL



We advise that you check for the source of the coolant leak. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.All component wear rates are normal. Test for glycol is positive. There is a moderate concentration of glycol present in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

03 Jun 2023 Diag: Wes Davis



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.

08 May 2023 Diag: Don Baldridge

GLYCOL



No corrective action is recommended at this time. Resample at the next service interval to monitor.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.



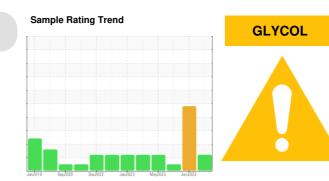


view report



OIL ANALYSIS REPORT

SAMPLE INFORMATION method



current

history 1

history 2

Machine Id 728047-361698

Component Diesel Engine

Fluid

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

DIAGNOSIS

A Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

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

Fluid Condition

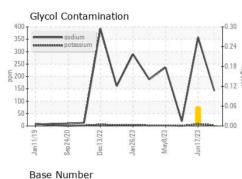
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

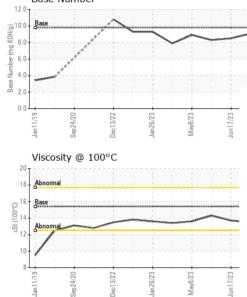
SAMPLE INFORM		method	limit/base	current		
Sample Number		Client Info		GFL0076775	GFL0065443	GFL0065510
Sample Date		Client Info		04 Jul 2023	17 Jun 2023	03 Jun 2023
Machine Age	hrs	Client Info		13115	12991	12876
Oil Age	hrs	Client Info		150	600	600
Oil Changed		Client Info		Not Changd	Changed	Changed
Sample Status				ATTENTION	ABNORMAL	NORMAL
CONTAMINAT	ON	method	limit/base	current	history 1	history 2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
WEAR METAL	S	method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m	>100	8	23	12
Chromium	ppm	ASTM D5185m	>20	<1	2	<1
Nickel	ppm	ASTM D5185m	>4	0	1	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>3	0	<1	0
Aluminum	ppm	ASTM D5185m	>20	2	<1	0
Lead	ppm	ASTM D5185m	>40	0	<1	0
Copper	ppm	ASTM D5185m	>330	3	5	0
Tin	ppm	ASTM D5185m	>15	0	<1	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	<1	0
Cadmium ADDITIVES	ppm	ASTM D5185m method	limit/base	0 current	<1 history 1	0 history 2
ADDITIVES	ppm ppm		limit/base			-
		method		current	history 1	history 2
ADDITIVES Boron Barium	ppm	method ASTM D5185m	0	current <1	history 1 0	history 2
ADDITIVES Boron Barium Molybdenum	ppm ppm	method ASTM D5185m ASTM D5185m	0	current <1 0	history 1 0 4	history 2 1 0
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current <1 0 72	history 1 0 4 87	history 2 1 0 54
ADDITIVES Boron	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	current <1 0 72 <1	history 1 0 4 87 1	history 2 1 0 54 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	<1 <1 0 72 <1 968	history 1 0 4 87 1 975	history 2 1 0 54 <1 936
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm ppm	methodASTM D5185mASTM D5185mASTM D5185mASTM D5185mASTM D5185mASTM D5185m	0 0 60 0 1010 1070	<pre>current <1 0 72 <1 968 1054</pre>	history 1 0 4 87 1 975 1104	history 2 1 0 54 <1 936 997
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	methodASTM D5185mASTM D5185mASTM D5185mASTM D5185mASTM D5185mASTM D5185mASTM D5185m	0 0 60 0 1010 1070 1150	 current <1 0 72 <1 968 1054 1066 	history 1 0 4 87 1 975 1104 1047	history 2 1 0 54 <1 936 997 1000
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270	current <1 0 72 <1 968 1054 1066 1317	history 1 0 4 87 1 975 1104 1047 1305	history 2 1 0 54 <1 936 997 1000 1276
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	current <1 0 72 <1 968 1054 1066 1317 3799	history 1 0 4 87 1 975 1104 1047 1305 3475	history 2 1 0 54 <1 936 997 1000 1276 3615
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	methodASTM D5185mASTM D5185m	0 0 60 1010 1070 1150 1270 2060 limit/base	current <1 0 72 <1 968 1054 1066 1317 3799 current	history 1 0 4 87 1 975 1104 1047 1305 3475 history 1	history 2 1 0 54 <1 936 997 1000 1276 3615 history 2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 Iimit/base >25	current <1 0 72 <1 968 1054 1066 1317 3799 current 4	history 1 0 4 87 1 975 1104 1047 1305 3475 history 1 6	history 2 1 0 54 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 Iimit/base >25	current <1 0 72 <1 968 1054 1066 1317 3799 current 4 142	history 1 0 4 87 1 975 1104 1047 1305 3475 history 1 6 ▲ 358	history 2 1 0 54 <1 936 997 1000 1276 3615 history 2 3 19
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 Iimit/base >25	 <1 0 72 <1 968 1054 1066 1317 3799 current 4 142 3 	history 1 0 4 87 1 975 1104 1047 1305 3475 history 1 6 ▲ 358 ▲ 7	history 2 1 0 54 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 limit/base >25 >20	 current <1 0 72 <1 968 1054 1066 1317 3799 current 4 142 3 0.0 	history 1 0 4 87 1 975 1104 1047 1305 3475 history 1 6 ▲ 358 ▲ 7 ● 0.06	history 2 1 0 54 <1
ADDITIVES Boron 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	method ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3	<ur> <1 0 72 <1 968 1054 1066 1317 3799 current 4 142 3 0.0</ur>	history 1 0 4 87 1 975 1104 1047 1305 3475 history 1 6 358 7 0.06 history 1	history 2 1 0 54 <1
ADDITIVES Boron 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	method ASTM D5185m *ASTM D2982 method *ASTM D2982	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3	<urrent <ur=""> <1 0 72 <1 968 1054 1066 1317 3799 current 4 142 3 0.0 current </urrent>	history 1 0 4 87 1 975 1104 1047 1305 3475 bistory 1 6 ▲ 358 ▲ 7 ▲ 0.06 bistory 1 0.5	history 2 1 0 54 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m *ASTM D2982 method *ASTM D2982 *ASTM D7844 *ASTM D7624	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20	 current <1 0 72 <1 968 1054 1066 1317 3799 current 4 142 3 0.0 current 0.2 7.4 	history 1 0 4 87 1 975 1104 1047 1305 3475 0 1305 3475 0 0 0 0 0 0 0 0 0 0 0 0 0	history 2 1 0 54 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m *ASTM D2982 method *ASTM D2982 *ASTM D7844 *ASTM D7624	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20 >3	<urrent <urre<="" <urrent="" th=""><td>history 1 0 4 87 1 975 1104 1047 3475 history 1 6 358 7 0.06 history 1 0.5 11.2 21.5</td><td>history 2 1 0 54 <1</td> 936 997 1000 1276 3615 history 2 3 19 <1 NEG history 2 0.2 6.6 19.6</urrent>	history 1 0 4 87 1 975 1104 1047 3475 history 1 6 358 7 0.06 history 1 0.5 11.2 21.5	history 2 1 0 54 <1

limit/base

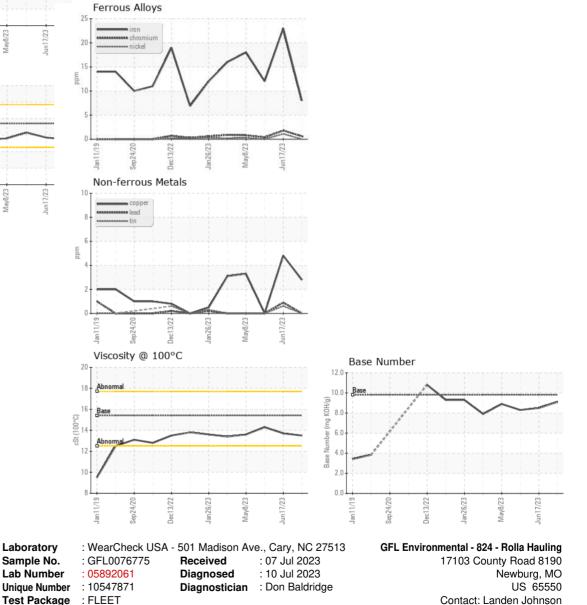


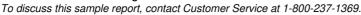
OIL ANALYSIS REPORT





VISUAL		method	limit/base	current	history 1	history 2
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	history 1	history 2
Visc @ 100°C	cSt	ASTM D445	15.4	13.5	13.7	14.3
GRAPHS						





* - 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)

Certificate L2367

Contact/Location: Wc account under GFL821 - Landen Johnson - GFL824