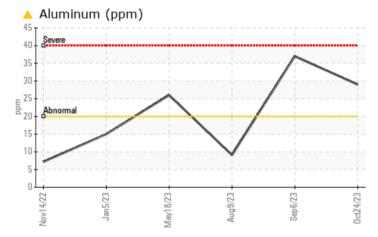
PROBLEM SUMMARY

Sample Rating Trend WEAR

Machine Id **420063** Component **Diesel Engine** Fluid

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

COMPONENT CONDITION SUMMARY



RECOMMENDATION

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

PROBLEMATIC	C TEST	RESULT	S			
Sample Status				ABNORMAL	ABNORMAL	NORMAL
Aluminum	ppm	ASTM D5185m	>20	<u> </u>	A 37	9

Customer Id: GFL072 Sample No.: GFL0097229 Lab Number: 05994065 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

06 Sep 2023 Diag: Don Baldridge



No corrective action is recommended at this time. Resample at the next service interval to monitor. The aluminum level is abnormal. All other 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.



view report

09 Aug 2023 Diag: Sean Felton



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.

18 May 2023 Diag: Don Baldridge









OIL ANALYSIS REPORT

Sample Rating Trend

WEAR

Machine Id 420063

Component

Diesel Engine

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

DIAGNOSIS

Recommendation

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

🔺 Wear

The aluminum level is abnormal. All other component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

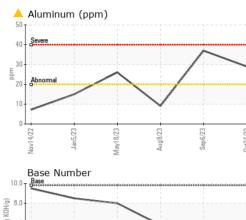
Fluid Condition

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

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0097229	GFL0069135	GFL0083039
Sample Date		Client Info		24 Oct 2023	06 Sep 2023	09 Aug 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		- Not Changd	Not Changd	Not Changd
Sample Status				ABNORMAL	ABNORMAL	NORMAL
CONTAMINATI	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	36	38	33
Chromium	ppm			4	4	1
Nickel	ppm		>4	0	<1	0
Titanium	ppm	ASTM D5185m		1	1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm			<u> </u>	▲ 37	9
Lead	ppm	ASTM D5185m	>40	0	0	15
Copper	ppm			8	8	3
Tin	ppm	ASTM D5185m		ء <1	<1	<1
Vanadium	ppm	ASTM D5185m	210	0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
	1º 1º · · · ·					
		method	limit/base	current	history1	history?
ADDITIVES Baran	nom	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	2	2	18
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	2 0	2	18 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	2 0 59	2 0 62	18 0 68
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	2 0 59 <1	2 0 62 2	18 0 68 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	2 0 59 <1 861	2 0 62 2 961	18 0 68 <1 476
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	2 0 59 <1 861 1053	2 0 62 2 961 1121	18 0 68 <1 476 1794
Boron 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 0 60 0 1010 1070 1150	2 0 59 <1 861 1053 989	2 0 62 2 961 1121 975	18 0 68 <1 476 1794 1084
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm 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 1270	2 0 59 <1 861 1053 989 1142	2 0 62 2 961 1121 975 1309	18 0 68 <1 476 1794 1084 1312
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	0 0 60 0 1010 1070 1150 1270 2060	2 0 59 <1 861 1053 989	2 0 62 2 961 1121 975 1309 3285	18 0 68 <1 476 1794 1084 1312 3117
Boron Barium Molybdenum Maganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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 1010 1070 1150 1270 2060 limit/base	2 0 59 <1 861 1053 989 1142 2392 current	2 0 62 2 961 1121 975 1309 3285 history1	18 0 68 <1 476 1794 1084 1312 3117 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 limit/base	2 0 59 <1 861 1053 989 1142 2392 current 6	2 0 62 2 961 1121 975 1309 3285 history1 9	18 0 68 <1 476 1794 1084 1312 3117 history2 13
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 limit/base >25	2 0 59 <1 861 1053 989 1142 2392 current 6 8	2 0 62 2 961 1121 975 1309 3285 history1 9 7	18 0 68 <1 476 1794 1084 1312 3117 history2 13 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 limit/base	2 0 59 <1 861 1053 989 1142 2392 current 6	2 0 62 2 961 1121 975 1309 3285 history1 9	18 0 68 <1 476 1794 1084 1312 3117 history2 13
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 limit/base >25	2 0 59 <1 861 1053 989 1142 2392 current 6 8	2 0 62 2 961 1121 975 1309 3285 history1 9 7	18 0 68 <1 476 1794 1084 1312 3117 history2 13 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	2 0 59 <1 861 1053 989 1142 2392 current 6 8 20	2 0 62 2 961 1121 975 1309 3285 history1 9 7 21	18 0 68 <1 476 1794 1084 1312 3117 history2 13 0 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 >20 imit/base >3	2 0 59 <1 861 1053 989 1142 2392 current 6 8 20 current	2 0 62 2 961 1121 975 1309 3285 history1 9 7 21 history1	18 0 68 <1 476 1794 1084 1312 3117 history2 13 0 2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20	2 0 59 <1 861 1053 989 1142 2392 current 6 8 20 current 0.9	2 0 62 2 961 1121 975 1309 3285 history1 9 7 21 history1 0.9	18 0 68 <1 476 1794 1084 1312 3117 history2 13 0 2 history2 1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20	2 0 59 <1 861 1053 989 1142 2392 current 6 8 20 current 0.9 9.7	2 0 62 961 1121 975 1309 3285 history1 9 7 21 9 7 21 0.9 0.9 9.6	18 0 68 <1 476 1794 1084 1312 3117 history2 13 0 2 history2 1 1 11.5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 imit/base >20 imit/base >3 >20 >30	2 0 59 <1 861 1053 989 1142 2392 current 6 8 20 current 0.9 9.7 21.6	2 0 62 2 961 1121 975 1309 3285 history1 9 7 21 9 7 21 history1 0.9 9.6 21.0	18 0 68 <1 476 1794 1084 1312 3117 history2 13 0 2 history2 1 1.1.5 25.9



OIL ANALYSIS REPORT



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Nov14/22	Jan 5/23	May18/23	Aug9/23	Sep 6/23
Visco	sity @ 10 al	0°C	1	
Visco		IO°C		
Visco		0°C		
Visco Abnorm Abnorm Base Base Abnorm Abnorm Abnorm		10°C		
Visco		Mav1 823	Aug5/23	Septi23

VICLIAI			11 1. 0		biotond	la la ta mu
VISUAL		method	limit/base	current	history1	history
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 PROF	PERTIES	method	limit/base	current	history1	history
Visc @ 100°C	cSt	ASTM D445	15.4	13.4	13.3	13.8
GRAPHS						
Ferrous Alloys						
35 - iron		-				
30 - nickel	/	-				
25 -	/					
la 20						
15-						
10						
5-	a Statat Augustan	ACCOUNTS OF THE OWNER				
53 53	23	23	23			
Nov14/22 Jan5/23	May18/23 Aug9/23	Sep6/23	0ct24/23			
Ň	A A		5			
NI-	Real Provide P	0	Oct			
Non-ferrous Me	Real Provide P	ω.	Oct			
16 14 copper]	Real Provide P		Oct			
16 cooper 1	Real Provide P	5	Oct			
16 14	Real Provide P	5	Oct			
16 14 12	Real Provide P	×	Ott			
16 14 12 10	Real Provide P	5	Ott			
16 14 12 10 10 10 10 10 10 10	Real Provide P	5	Ott			
16 14 12 10 10 10 10 10 10 10	Real Provide P		Gtt			
Lead times and the second seco	tals					
Lead times and the second seco	tals					
tin tin tin tin tin tin tin tin	tals		0ct24/23			
Lead times and the second seco	tals		0ct24/23	Base Number		
Viscosity @ 100	tals		0ct24/23	Base Number		
Viscosity @ 100	tals		001			
Viscosity @ 100	tals		001			
Viscosity @ 100	tals		001			
Copper lead udd 6 4 2 0 CZV; CZ; Ser CZV; Ser Ser CZV; Ser CZV; Ser CZV; Ser CZV; Ser CZV; Ser CZV; Se	tals		001			
Coopper lead coopper lead coopper lead coopper lead coopper lead coopper lead coopper lead coopper lead coopper lead coopper lead coopper lead coopper lead coopper coopper lead coopper cooppe	tals		001			
Copper lead tin tin tin tin tin tin tin tin tin tin	tals		0.0 001 0.0 0.0 0.0 0.0 0.0 0.0 0.0			
Cooper lead lead lead lead lead lead cooper lead lead cooper lead lead cooper lead lead cooper lead lead cooper lead	tals		10.0 (0)HOX but June (0)HOX bu			
Copper lead tin lead totin lead tin tin lead tin tot tin tot tin totin tot tot totin tot toti	tals	CZJ9daS	00000000000000000000000000000000000000	Base		23
Copper lead tin lead totin lead tin tin lead tin tot tin tot tin totin tot tot totin tot toti	tals	CZJ9daS	10.0 (0)HOX but June (0)HOX bu	Base		Sept6/23
Copper lead line lead lead lead lead lead lead lead lea	czug likew °C	CZJ9daS	00000000000000000000000000000000000000	Base		Sep6/23
Copper Lead Copper Lead Copper Lead Copper Lead Copper Lead Copper Lead Copper Copper Lead Copper Copper Lead Copper	tals	EZIGAR EZIGAR EZIGAR ESON Ave., Ca	10.0 (0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0	Base EZ/SIRE	EZIBINE EZIBINE ronmental - 072 - Arr	nericus - Transv
Viscosity @ 100 babnomal Copper Viscosity @ 100 babnomal Copper	tals	EZIGAR EZIGAR EZIGAR Son Ave., Ca	10.0 (0)НОУ Du Jaquiny 9888 2.0 (0)НОУ Du Jaquiny 9888 2.0 (0)НОУ Du Jaquiny 9888 2.0 0.0 гу, NC 27513 Ост 2023	Base EZ/SIRE	EZIBINE EZIBINE ronmental - 072 - Arr	nericus - Transw cMath Mill R
Copper Lead Copper Lead Copper Lead Copper Lead Copper Lead Copper Lead Copper Lead Copper Copper Lead Copper	tals	E7090eg son Ave., Ca	10.0 (0)НОУ ВШ элем 2.0 (0)НОУ ВШ элем 2.0 (0)НОУ ВШ элем 4.0 (0)НОУ ВШ элем 2.0 0.0 (0)НОУ ВШ элем 2.0 (0)НОУ ВШ	Base EZ/SIRE	EZIBINE EZIBINE ronmental - 072 - Arr	nericus - Transw cMath Mill R Americus,
Viscosity @ 100 babnomal Copper Viscosity @ 100 babnomal Copper	tals	E7090eg son Ave., Ca	10.0 (0)НОУ Du Jaquiny 9888 2.0 (0)НОУ Du Jaquiny 9888 2.0 (0)НОУ Du Jaquiny 9888 2.0 0.0 гу, NC 27513 Ост 2023	EZUSUEC GFL Envir	EZIBINE EZIBINE ronmental - 072 - Arr	nericus - Transw cMath Mill R Americus, US 31

To discuss this sample * - 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

F: