

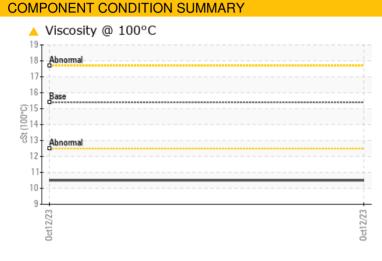
PROBLEM SUMMARY

Sample Rating Trend VISCOSITY

PETRO CANADA DURON SHP 15W40 (25 GAL)

Machine Id 914054 Component Diesel Engine

Fluid



RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS							
Sample Status				ATTENTION			
Visc @ 100°C	cSt	ASTM D445	15.4	<u> </u>			

Customer Id: GFL415 Sample No.: GFL0093155 Lab Number: 05979297 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data: Jonathan Hester +1 919-379-4092 x4092 jhester@wearcheckusa.com

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

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.		

HISTORICAL DIAGNOSIS



OIL ANALYSIS REPORT

Sample Rating Trend





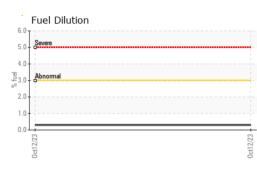
Machine Id 914054 Component

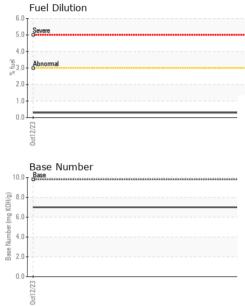
Diesel Engine Fluid PETRO CANADA DURON SHP 15W40 (25 GAL)

DIAGNOSIS	SAMPLE INFOR		method	limit/base	current	history1	history2
				mmvbase	GFL0093155		
Recommendation Oil and filter change at the time of sampling has	Sample Number		Client Info				
been noted. Resample at the next service interval	Sample Date	bro	Client Info		12 Oct 2023		
to monitor.	Machine Age	hrs	Client Info		770		
Wear	Oil Age	hrs	Client Info Client Info		0 Channed		
All component wear rates are normal.	Oil Changed Sample Status		Client into		Changed ATTENTION		
Contamination					ATTENTION		
Fuel content negligible. There is no indication of any contamination in the oil.	CONTAMINAT Glycol	ION	method WC Method	limit/base	current NEG	history1	history2
Fluid Condition	-	-					
he oil viscosity is lower than normal. The BN result	WEAR METAL	S	method	limit/base	current	history1	history2
ndicates that there is suitable alkalinity remaining in	Iron	ppm	ASTM D5185m	>120	58		
ne oil. Confirm oil type.	Chromium	ppm	ASTM D5185m	>20	2		
	Nickel	ppm	ASTM D5185m	>5	4		
	Titanium	ppm	ASTM D5185m	>2	<1		
	Silver	ppm	ASTM D5185m	>2	<1		
	Aluminum	ppm	ASTM D5185m	>20	5		
	Lead	ppm	ASTM D5185m	>40	0		
	Copper	ppm	ASTM D5185m	>330	249		
	Tin	ppm	ASTM D5185m	>15	5		
	Vanadium	ppm	ASTM D5185m		<1		
	Cadmium	ppm	ASTM D5185m		0		
	ADDITIVES		method	limit/base	current	history1	history2
	Boron	ppm	ASTM D5185m	0	106		
	Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m		106 0		
	Barium	ppm		0			
	Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m	0 60	0		
	Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m	0 60	0 118		
	Barium Molybdenum	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010	0 118 4		
	Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070	0 118 4 767 1526	 	
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150	0 118 4 767	 	
	Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070	0 118 4 767 1526 646	 	
	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	0 60 0 1010 1070 1150 1270	0 118 4 767 1526 646 928 2237	 	
	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	0 60 0 1010 1070 1150 1270 2060	0 118 4 767 1526 646 928 2237	 	
	Barium Molybdenum Manganese 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	0 60 0 1010 1070 1150 1270 2060	0 118 4 767 1526 646 928 2237 current	 	
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	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 limit/base >25	0 118 4 767 1526 646 928 2237 current 69	 history1	 history2
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >25 	0 118 4 767 1526 646 928 2237 current 69 3	 history1	 history2
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m 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 limit/base >25 	0 118 4 767 1526 646 928 2237 current 69 3 10 0.3	 history1 	 history2
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 2060 >25 >20 >20 >3.0	0 118 4 767 1526 646 928 2237 current 69 3 10 0.3 current	 history1 history1	 history2 history2
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm %	ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >20 >20 >3.0	0 118 4 767 1526 646 928 2237 current 69 3 10 0.3 current 0.8	 history1 	 history2 history2
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D51854 ASTM D5844 *ASTM D7844	0 60 1010 1070 1150 1270 2060 limit/base >25 >20 >3.0 limit/base >4 >20	0 118 4 767 1526 646 928 2237 current 69 3 10 0.3 current 0.8 10.9	 history1 history1	 history2 history2
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm trs ppm ppm ppm ppm %	ASTM D5185m ASTM D51854 *ASTM D7844 *ASTM D7824	0 60 0 1010 1070 1150 1270 2060 2060 225 20 >20 >3.0 limit/base >4 >20 >3.0	0 118 4 767 1526 646 928 2237 current 69 3 10 0.3 current 0.8 10.9 24.5	 history1 history1 history1 	history2 history2
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D3524 ASTM D3524 *ASTM D7844 *ASTM D7844 *ASTM D7415	0 60 1010 1070 1150 1270 2060 bimit/base >25 20 >20 >3.0 bimit/base >4 >20 >30 bimit/base	0 118 4 767 1526 646 928 2237 current 69 3 10 0.3 current 0.8 10.9 24.5 current	 history1 history1 history1 history1 history1 	 <li< td=""></li<>
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D51854 *ASTM D7844 *ASTM D7824	0 60 1010 1070 1150 1270 2060 2060 225 20 >20 >20 >3.0 Elimit/base >4 >20 >30 Elimit/base >20	0 118 4 767 1526 646 928 2237 current 69 3 10 0.3 current 0.8 10.9 24.5	 history1 history1 history1 	 history2 history2 history2



OIL ANALYSIS REPORT





VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE		
Yellow Metal	scalar	*Visual	NONE	NONE		
Precipitate	scalar	*Visual	NONE	NONE		
Silt	scalar	*Visual	NONE	NONE		
Debris	scalar	*Visual	NONE	NONE		
Sand/Dirt	scalar	*Visual	NONE	NONE		
Appearance	scalar	*Visual	NORML	NORML		
Odor	scalar	*Visual	NORML	NORML		
Emulsified Water	scalar	*Visual	>0.2	NEG		
Free Water	scalar	*Visual	20.2	NEG		
			11 11 11			
FLUID PROPE		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	10.5		
GRAPHS						
Ferrous Alloys						
iron						
0 - nickel						
0						
0						
0-						
0-						

0ct12/23			0ct12/23			
ۃ Non-ferrous Meta	ls		ŏ			
⁵⁰ T	15		-			
copper						
0 - essesses tin						
0 -						
0-						
0-						
			23			
0ct12/23			0ct12/23			
∽ Viscosity @ 100°0	C		0			
9 T			10	Base Numbe	r	
8 - Abnormal						
			(B/H	.0 0 0		
Dase			Base Number (mg KOH/g)	.0-		
5 - Abnormal			ber (m			
			Tung 4	.0-		
2			Base	.0		
0						
9				.0		
0ct12/23			0ct12/23	0ct12/23		0ct12/23
00			00	00		Oct
MaarObastallOA		A				(F. Mishiwan F. 1
: WearCheck USA - : GFL0093155	501 Madia Received		ry, NC 2751 Oct 2023	3 GFL Er	ivironmental - 4	15 - Michigan East
: 05979297	Diagnos		Oct 2023 Oct 2023		Sta	6200 Elmridge erling Heights, MI
: 10696592	Diagnos		athan Heste	er	Ole	US 48313
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Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel) Certificate L2367 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)

Contact: Frank Wolak fwolak@gflenv.com T: (586)825-9514

Laboratory

Sample No. Lab Number **Unique Number**

F: