

OIL ANALYSIS REPORT

Sample Rating Trend





Component **Diesel Engine**

Fluid

PETRO CANADA DURON SHP 15W40 (--- GA

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All 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 INFORMATION method imult/base current history1 history1 Sample Number Client Info 13 Oct 2023 12 Jun 2023 10 Apr 2023 Sample Date Client Info 152509 16932 16639 Dil Age mis Client Info 0 0 0 Dil Age Client Info Dil Kage Changed Changed Changed Sample Status Client Info Changed Changed Changed Changed Sycol WC Method >2.0 <1.0 <1.0 <1.0 Sycol WC Method Imit/base current History1 History2 Struct method Imit/base current History1 History2 Con pp ASTM D5185n >20 <1 <1 <1 <1 Struct pp ASTM D5185n >3 0 0 0 0 Struct pp ASTM D5185n >3 0 0 0							
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Sample Date Client Info 13 Oct 2023 12 Jun 2023 10 Apr 2023 Machine Age mis Client Info 152509 16932 16639 Dil Age mis Client Info 0 0 0 Dil Changed Client Info 0 0 0 0 Sample Status method imit/base current Netsort Netsort CONTAMINATION method imit/base current Netsort Netsort Saycol WC Method >2.0 <1.0	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Adachine Age mis Client Info 152509 16932 16639 Di Age mis Client Info 0 0 0 Di Age mis Client Info 0 0 0 Sample Status Imit/base current NoRMAL NORMAL NORMAL CONTAMINATION method Imit/base current history1 Fistory2 Fuel WC Method >2.0 <1.0	Sample Number		Client Info		GFL0093703	GFL0078560	GFL0078530
Dail Age mis Client Info 0 0 0 Dil Changed Client Info Changed Changed Changed Changed Sample Status MCRMAL NORMAL NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history2 Viel WC Method \$2.0 <1.0	Sample Date		Client Info		13 Oct 2023	12 Jun 2023	10 Apr 2023
Dil Changed sample Status Client Info Changed NORMAL NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history2 Silved method limit/base current history1 history2 orn ppm ASTM D5185m >20 c1 <1	lachine Age	mls	Client Info		152509	16932	16639
NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL CONTAMINATION method limit/bass current history1 history2 ivel WC Method >2.0 <1.0	Dil Age	mls	Client Info		-	•	0
CONTAMINATION method imit/base current history1 history2 vial WC Method >2.0 <1.0	Dil Changed		Client Info			Changed	Changed
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WEAR METALS method limit/base current history1 history2 ron ppm ASTM D5185m >100 9 5 2 biromium ppm ASTM D5185m >20 <1	uel		WC Method	>2.0	<1.0	<1.0	<1.0
ron ppm ASTM D5185m >100 9 5 2 Chromium ppm ASTM D5185m >20 <1	Alycol		WC Method		NEG	NEG	NEG
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ead ppm ASTM D5185m >40 <1 0 0 Copper ppm ASTM D5185m >330 <1	Silver	ppm	ASTM D5185m	>3	0	0	0
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Initimony ppm ASTM D5185m Aranadium ppm ASTM D5185m <1	Copper	ppm	ASTM D5185m	>330	<1	<1	0
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ithiumppmASTM D5185mCONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>25246SodiumppmASTM D5185m2261PotassiumppmASTM D5185m>202<1	linc	ppm	ASTM D5185m	1270	1147	1306	1287
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>25246SodiumppmASTM D5185m261PotassiumppmASTM D5185m>202<1	Sulfur	ppm	ASTM D5185m	2060	2942	3784	3976
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Sodium ppm ASTM D5185m 2 6 1 Potassium ppm ASTM D5185m >20 2 <1	CONTAMINAN	TS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 2 <1 <1 INFRA-RED method limit/base current history1 history2 Goot % % *ASTM D7844 >3 0.4 0.2 0.1 Nitration Abs/cm *ASTM D7624 >20 6.4 6.2 4.7 Gulfation Abs/.1mm *ASTM D7415 >30 18.8 18.3 15.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.4 13.9 12.8	Silicon	ppm	ASTM D5185m	>25	2	4	6
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Soot % % *ASTM D7844 >3 0.4 0.2 0.1 Ilitration Abs/cm *ASTM D7624 >20 6.4 6.2 4.7 Sulfation Abs/.1mm *ASTM D7415 >30 18.8 18.3 15.9 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.4 13.9 12.8	otassium	ppm	ASTM D5185m	>20	2	<1	<1
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Bulfation Abs/.1mm *ASTM D7415 >30 18.8 18.3 15.9 FLUID DEGRADATION method limit/base current history1 history2 Dxidation Abs/.1mm *ASTM D7414 >25 14.4 13.9 12.8		Abs/cm		>20			
Dxidation Abs/.1mm *ASTM D7414 >25 14.4 13.9 12.8							
	FLUID DEGRAD	DATION	method	limit/base	current	history1	history2
	Dxidation	Abs/.1mm	*ASTM D7414	>25	14.4	13.9	12.8
		mg KOH/g	ASTM D2896	9.8			

Contact/Location: BRYAN SWANSON - GFL837



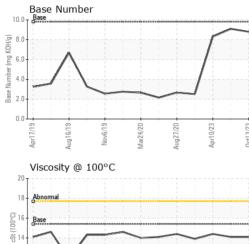
12

Apr17/19

Aug16/19

OIL ANALYSIS REPORT

VISUAL



Mar24/20

Aug27/20

VISUAL		methoa	limit/base		nistory i	nistoi
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	NORM
Odor	scalar	*Visual	NORML	NORML	NORML	NORM
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	RTIES	method	limit/base	current	history1	histo
Visc @ 100°C	cSt	ASTM D445	15.4	14.1	14.1	14.4
GRAPHS						
Ferrous Alloys						
iron						
0 - nickel						
5	$\backslash /$	1				
	V					
0-		1	1			
E			/			
5-		V				
0			automatic .			
Apr17/19 Aug16/19 Nov6/19	Mar24/20	Aug27/20 Apr10/23	0ct13/23			
Apr1 Aug1 Nov	Mar2	Aug2 Apr1	0ct1			
Non-ferrous Metal	s					
Copper						
second lead						
•••••••••						
6-						
4						
		$\Delta \Lambda$				
			-			
Apr17/19 -	Mar24/20	Aug27/20	0ct13/23			
Apr1 Aug1 Nov	Mar2	Aug2 Apr1	0ct1			
Viscosity @ 100°C	;			D		
9T1			10.0-	Base Number		
8 Abnormal						_
7			_☉ 8.0·			r
6 Base			KOH/			
5- 4-	the second se		말 6.0			
			Ĕ 0.0			
		\sim	mber (mg	\land		
3 Abnormal	~	$\sim \sim$	Jaquan 4.0	$ \land $		
	~	\sim	iber (n			
Abnormal		\sim	1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	$ \land $		
Abnorma		\sim	10.0 10.0		<u> </u>	

0ct13/23 -

: 17 Oct 2023

: 18 Oct 2023

Apr17/19 +

Aug16/19 -



 Certificate 12367
 Test Package
 : FLEET

 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)

Nov6/19

Mar24/20 -

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

Received

Diagnosed

Aug27/20

Diagnostician : Wes Davis

Apr10/23

Apr17/19

Laboratory Sample No.

Lab Number

Unique Number : 10699089

Aug16/19

: GFL0093703

: 05981794

Contact/Location: BRYAN SWANSON - GFL837

Mar24/20

Nov6/19

Aug27/20

22820 S State Route 291

Contact: BRYAN SWANSON

bryanswanson@gflenv.com

GFL Environmental - 837 - Harrison TS

Apr10/23

Harrisonville, MO

US 64701

Oct13/23

T:

F: