

OIL ANALYSIS REPORT





tion ge at the ine of sampling has miple at the next service interval miple at the next service interval miple at the next service interval are rates are normal. Sample Date Sample Date Machine Age hrs Client Info Client Info FT Jan 2020 (00 COP 2002 (00 (00) (00 Operation (00) (00 Operation (00) (00) (00 Operation (00) (00) (00) (00) (00) (00) (00) (00	ADA DURON SHP 15W40 (- GAL)		ep2021 Feb202	22 Apr2022 Jun2022 Dec2	022 Dec2022 Feb2023 Mar2023 Ma	ny2023 Jan202	
ge at the time of sampling has imple at the next service interval at rates are normal. Sample Date Client Info 972.07 0 Oil Age hrs Client Info 0 91207 75321 on Chromalitation Client Info 0 91207 75321 sample Date Client Info 0<		SAMPLE INFOR	RMATION	method	limit/base	current	history1	history2
matrix Machine Age hrs Client Info 8958 91207 75321 ar rates are normal. OI (Anged Not Changed Not Changed Changed Not Changed Changed Not Changed Changed Not Change	tion	Sample Number		Client Info		GFL0078141	GFL0092096	GFL0078147
Initial interpole Initial initerpole	nge at the time of sampling has sample at the next service interval	Sample Date		Client Info		17 Jan 2024	02 Dec 2023	03 May 2023
Clicent InfoClient InfoChangedNot ChangedChangedChangedNormAlltain of any contamination infoCONTAMINATIONNetticedSo<1.0		Machine Age	hrs	Client Info		8958	91207	75321
air rates are normal. Sample Status Imathe serves ABNORMAL NORMAL NORMAL tion of any contamination in the oil is normal water CONTAMINATION method Sol <1.0		Oil Age	hrs	Client Info		0	91207	0
Itempe database Itempe database Itempe database Itempe database Itempe database n CONTAMINATION wethed >5 <1.0		Oil Changed		Client Info		Changed	Not Changd	Changed
Fuel WC Method >5 <1.0 <1.0 <1.0 n WAter WC Method >0.2 NEG	ear rates are normal.	Sample Status				ABNORMAL	NORMAL	NORMAL
n Fuel WC Method >50 1.0 <1.0 <1.0 w. The condition of the oil is Bigocl WC Method >0.2 NEG NEG NEG w. The condition of the oil is Bigocl WC Method NEG NEG NEG NEG w. The condition of the oil is WEAR METALS method Imit/base current NEG NEG WEAR METALS method SitM 0516m >110 17 12 8 Chromium ppm ASTM 0516m >4 1 -1 -1 Nickel ppm ASTM 0516m >4 0 0 0 Silver ppm ASTM 0516m >4 1 0 0 Copper ppm ASTM 0516m >4 1 0 0 0 Cadmium ppm ASTM 0516m 0 2 0 0 0 0 0 0 10 0 0 0 0 0 0	tion of any contamination in the	CONTAMINA	TION	method	limit/base	current	history1	history2
Big Gig WC Method NEG NEG NEG NEG WEAR METALS method imit/base current history1 history2 Iron ppm ASTM 05185m >4 1 1 2 8 Chronium ppm ASTM 05185m >4 1 1 1 1 Nickel ppm ASTM 05185m >2 0 0 1		Fuel		WC Method	>5	<1.0	<1.0	<1.0
time in service. WEAR METALS nethod limit/base current history1 history2 Iron ppm ASTM 05185m >110 17 12 8 Chromium ppm ASTM 05185m >2 0 0 <1	n	Water		WC Method	>0.2	NEG	NEG	NEG
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM 05185m >110 1 -1 -1 Chromium ppm ASTM 05185m >2 0 0 -1 Nickel ppm ASTM 05185m >2 0 0 0 Silver ppm ASTM 05185m >2 0 0 0 Aluminum ppm ASTM 05185m >25 13 1 -1 Lead ppm ASTM 05185m >45 -1 0 -1 Vanadium ppm ASTM 05185m >4 -1 0 -1 Vanadium ppm ASTM 05185m >4 -1 0 -1 Barium ppm ASTM 05185m 0 -1 7 11 Barium ppm ASTM 05185m 0 51 55 52 Marganese ppm ASTM 05185m 0 1 0	w. The condition of the oil is	Glycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m >4 1 <1 <1 <1 Nickel ppm ASTM D5185m >2 0 0 0 Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >2 13 1 <1	time in service.	WEAR METAI	LS	method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m >2 0 0 <1 Titanium ppm ASTM D5185m >2 0 0 0 Silver ppm ASTM D5185m >2 0 0 0 Auminum ppm ASTM D5185m >25 13 1 <1		Iron	ppm	ASTM D5185m	>110	17	12	8
Titanium ppm ASTM D5185m >2 0 0 0 Silver ppm ASTM D5185m >25 0 0 0 Auminum ppm ASTM D5185m >25 13 1 <1		Chromium	ppm	ASTM D5185m	>4	1	<1	<1
Titanium ppm ASTM D5185m >2 0 0 0 Silver ppm ASTM D5185m >2 0 0 0 Auminum ppm ASTM D5185m >25 13 1 <1		Nickel	ppm	ASTM D5185m	>2	0	0	<1
Aluminum ppm ASTM D5185m >25 13 1 <1		Titanium	ppm	ASTM D5185m		0	0	0
Lead ppm ASTM D5185m >45 <1 0 0 Copper ppm ASTM D5185m >85 1 4 1 Tin ppm ASTM D5185m >4 <1		Silver	ppm	ASTM D5185m	>2	0	0	0
Copper ppm ASTM D5185m >85 1 4 1 Tin ppm ASTM D5185m >4 <1		Aluminum	ppm	ASTM D5185m	>25	13	1	<1
Tin ppm ASTM D5185m >4 <1 0 <1 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 <1		Lead	ppm	ASTM D5185m	>45	<1	0	0
Vanadium ppm ASTM D5185m 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 <1		Copper	ppm	ASTM D5185m	>85	1	4	1
CadmiumppmASTM D5185m000ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185m0<1		Tin	ppm	ASTM D5185m	>4	<1	0	<1
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 <1		Vanadium	ppm	ASTM D5185m		0	0	0
Boron ppm ASTM D5185m 0 <1 7 11 Barium ppm ASTM D5185m 0 0 2 0 Molybdenum ppm ASTM D5185m 60 51 55 52 Manganese ppm ASTM D5185m 0 1 0 <1		Cadmium	ppm	ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 0 0 2 0 Molybdenum ppm ASTM D5185m 60 51 55 52 Manganese ppm ASTM D5185m 0 1 0 <1		ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 51 55 52 Manganese ppm ASTM D5185m 0 1 0 <1		Boron	ppm	ASTM D5185m	0	<1	7	11
Manganese ppm ASTM D5185m 0 1 0 <1 Magnesium ppm ASTM D5185m 1010 537 636 572 Calcium ppm ASTM D5185m 1070 1493 1331 1656 Phosphorus ppm ASTM D5185m 1150 700 764 706 Zinc ppm ASTM D5185m 1270 882 981 1010 Sulfur ppm ASTM D5185m 2060 2150 2539 2800 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 4 4 5 Sodium ppm ASTM D5185m >20 0 20 <1		Barium	ppm	ASTM D5185m	0	0	2	0
Magnesium ppm ASTM D5185m 1010 537 636 572 Calcium ppm ASTM D5185m 1070 1493 1331 1656 Phosphorus ppm ASTM D5185m 1150 700 764 706 Zinc ppm ASTM D5185m 1270 882 981 1010 Sulfur ppm ASTM D5185m 2060 2150 2539 2800 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 4 4 5 Sodium ppm ASTM D5185m >20 0 20 <1		Molybdenum	ppm	ASTM D5185m	60	51	55	52
Calcium ppm ASTM D5185m 1070 1493 1331 1656 Phosphorus ppm ASTM D5185m 1150 700 764 706 Zinc ppm ASTM D5185m 1270 882 981 1010 Sulfur ppm ASTM D5185m 2060 2150 2539 2800 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 4 4 5 Sodium ppm ASTM D5185m >30 4 4 5 Sodium ppm ASTM D5185m >20 0 20 <1		Manganese	ppm	ASTM D5185m	0	1	0	<1
Phosphorus ppm ASTM D5185m 1150 700 764 706 Zinc ppm ASTM D5185m 1270 882 981 1010 Sulfur ppm ASTM D5185m 2060 2150 2539 2800 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 4 4 5 Sodium ppm ASTM D5185m >20 0 20 <10 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7644 >3 0 0.1 0 Nitration Abs/1mm *ASTM D7645 >20 11.1 9.1 0.1 Sulfation Abs/1mm *ASTM D7645 <		Magnesium	ppm	ASTM D5185m	1010	537	636	572
Zinc ppm ASTM D5185m 1270 882 981 1010 Sulfur ppm ASTM D5185m 2060 2150 2539 2800 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >30 4 4 5 Sodium ppm ASTM D5185m >30 4 4 5 Sodium ppm ASTM D5185m >20 0 20 <1		Calcium	ppm	ASTM D5185m	1070	1493	1331	1656
SulfurppmASTM D5185m2060215025392800CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>30445SodiumppmASTM D5185m>30445PotassiumppmASTM D5185m>20020<1		Phosphorus	ppm	ASTM D5185m	1150	700	764	706
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>30445SodiumppmASTM D5185m>307234PotassiumppmASTM D5185m>20020<1		Zinc	ppm	ASTM D5185m	1270	882	981	1010
SiliconppmASTM D5185m>30445SodiumppmASTM D5185m7234PotassiumppmASTM D5185m>20020<1		Sulfur	ppm	ASTM D5185m	2060	2150	2539	2800
SodiumppmASTM D5185m7234PotassiumppmASTM D5185m>20020<1		CONTAMINA	NTS	method	limit/base	current	history1	history2
PotassiumppmASTM D5185m>20020<1INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844>300.10NitrationAbs/cm*ASTM D7624>2011.19.110.1SulfationAbs/1mm*ASTM D7415>3023.419.320.2FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/.1mm*ASTM D7414>2519.615.917.8		Silicon	ppm	ASTM D5185m	>30	4	4	5
INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844>300.10NitrationAbs/cm*ASTM D7624>2011.19.110.1SulfationAbs/.1mm*ASTM D7415>3023.419.320.2FLUID DEGRADATION methodlimit/basecurrenthistory1history2OxidationAbs/.1mm*ASTM D7414>2519.615.917.8		Sodium	ppm	ASTM D5185m		7	23	4
Soot % % *ASTM D7844 >3 0 0.1 0 Nitration Abs/cm *ASTM D7624 >20 11.1 9.1 10.1 Sulfation Abs/.1mm *ASTM D7415 >30 23.4 19.3 20.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.6 15.9 17.8		Potassium	ppm	ASTM D5185m	>20	0	20	<1
Nitration Abs/cm *ASTM D7624 >20 11.1 9.1 10.1 Sulfation Abs/.1mm *ASTM D7415 >30 23.4 19.3 20.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.6 15.9 17.8		INFRA-RED		method	limit/base	current	history1	history2
SulfationAbs/.1mm*ASTM D7415>3023.419.320.2FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/.1mm*ASTM D7414>2519.615.917.8		Soot %	%	*ASTM D7844	>3	0	0.1	0
FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/.1mm*ASTM D7414>2519.615.917.8		Nitration	Abs/cm	*ASTM D7624	>20	11.1	9.1	10.1
Oxidation Abs/.1mm *ASTM D7414 >25 19.6 15.9 17.8		Sulfation	Abs/.1mm				19.3	20.2
		FLUID DEGRA		method	limit/base	current	history1	history2
		Oxidation	Abs/.1mm	*ASTM D7414	>25	19.6	15.9	17.8
		Base Number (BN)				2.6	7.1	3.9

Machine Id 741007-310098 Component

Diesel Engine

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

DIAGNOSIS

A Recommenda

Oil and filter char been noted. Resa to monitor.

Wear

All component we

Contamination

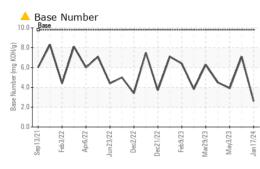
There is no indica oil.

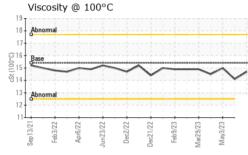
Fluid Condition

The BN level is lo acceptable for the

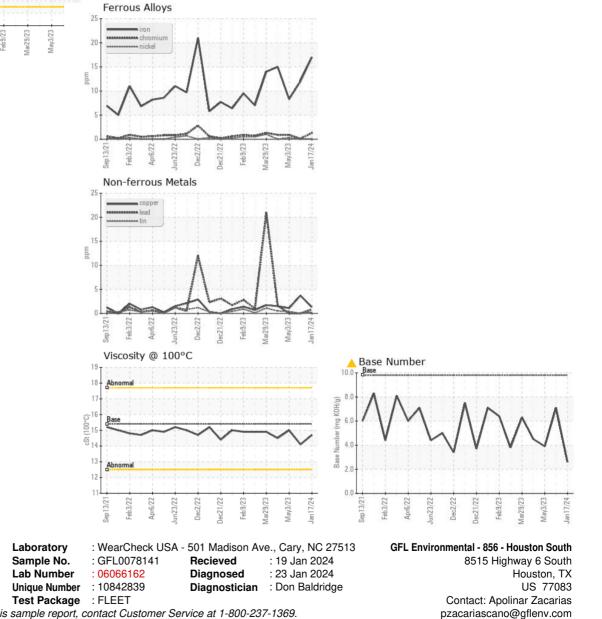


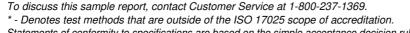
OIL ANALYSIS REPORT





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 PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.7	14.1	15.0
GRAPHS						





Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Certificate L2367

Т:

F: