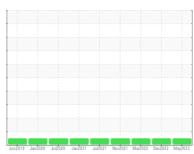


# **OIL ANALYSIS REPORT**

## Sample Rating Trend







Machine Id 334U Component

**Diesel Engine** 

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

## DIAGNOSIS

## Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

#### Wear

All component wear rates are normal.

## Contamination

There is no indication of any contamination in the oil.

## **Fluid Condition**

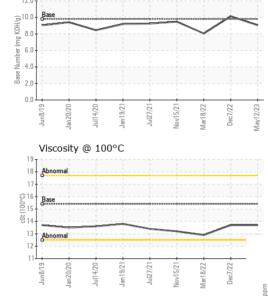
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

QTS)		Jun2019 Jan	2020 Jul2020 Jan2021	Jul2021 Nov2021 Mar2022 Dec202	2 May2023	
SAMPLE INFORI	MATION	method	limit/base	current	history 1	history 2
Sample Number		Client Info		PCA0095370	PCA0082318	PCA0074346
Sample Date		Client Info		12 May 2023	07 Dec 2022	18 Mar 2022
Machine Age	mls	Client Info		181892	163788	135109
Oil Age	mls	Client Info		18104	13161	16667
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history 1	history 2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m	>100	19	15	19
Chromium	ppm	ASTM D5185m	>20	1	1	1
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>3	0	<1	<1
Aluminum	ppm	ASTM D5185m	>20	2	4	2
Lead	ppm	ASTM D5185m	>40	<1	2	2
Copper	ppm	ASTM D5185m	>330	1	2	2
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Antimony	ppm	ASTM D5185m				
Vanadium	ppm	ASTM D5185m		<1	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185m	0	<1	2	<1
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	64	63	62
Manganese	ppm	ASTM D5185m	0	0	<1	1
Magnesium	ppm	ASTM D5185m	1010	989	1017	986
Calcium	ppm	ASTM D5185m	1070	1089	1156	1126
Phosphorus	ppm	ASTM D5185m	1150	1007	1042	1016
Zinc	ppm	ASTM D5185m	1270	1280	1304	1311
Sulfur	ppm	ASTM D5185m	2060	3156	3281	3345
CONTAMINAN	TS	method	limit/base	current	history 1	history 2
Silicon	ppm	ASTM D5185m	>25	5	6	6
Sodium	ppm	ASTM D5185m		2	3	5
Potassium	ppm	ASTM D5185m	>20	0	0	<1
INFRA-RED		method	limit/base	current	history 1	history 2
Soot %	%	*ASTM D7844	>3	0.3	0.3	0.2
Nitration	Abs/cm	*ASTM D7624	>20	10.1	9.1	11.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.4	20.1	22.0
FLUID DEGRA	DATION	method	limit/base	current	history 1	history 2
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.0	16.8	18.2
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	9.06	10.12	8.05



Base Number

## **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
<b>Emulsified Water</b>	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
	DTIEC	mathad	limit/booo	ourront.	hiotom, 1	hiotom, O

Visc @ 100°C	cSt	ASTM D445	15.4	13.7	13.7	12.9
GRAPHS						

250	Iron	(ppm)							100	Lea	d (pp	m)						
200 -	Severe	1		-	-				80	Sever	е		-	-				-
된 150· 100·	Abnorm	al							E 60	Abno	rmal							
50-									20									
0]	Jun8/19	Jan20/20	Jan 19/21	Jul27/21-	Nov15/21-	Mar18/22 +	Dec7/22 +	May12/23	0	Jun8/19 -	Jan 20/20 -	Jul14/20	Jan19/21	Jul27/21-	Nov15/21-	Mar18/22	Dec7/22	May12/23
	Alum	inum (	(ppm)								omiu	m (p	pm)					_
50 - 40 -	Severe								50 - 40 -	Sever	e		I					
E 30-									<sub>∈</sub> 30 ·									
20-	Abnorm	al							E 20	Abno	rmal							-
10-						_	-		10									
	Jun8/19	Jan20/20	Jan 19/21	Jul27/21	Nov15/21	Mar18/22	Dec7/22	May12/23		Jun8/19	Jan20/20	Jul14/20	Jan19/21	Jul27/21	Nov15/21	Mar18/22	Dec7/22	May12/23
400		er (pp				_		2	20	Silic	on (	opm)				_		2
300 -	Severe	al							80- 60-	Sever	e							
틆 200 -									E 40									
ш.									U-70									
100 -									20	Abno	rmal							
0-	6					2	2	3			<u> </u>	0				2	2	3
0-	Jun8/19	Jan20/20	Jan19/21	Jul27/21	Nov15/21-	Mar18/22	Dec7/22	/ay12/23	20	Abno Abno	Jan20/20 +- / Jan	Jul14/20	Jan19/21	Jul27/21+	Nov15/21-	Mar18/22 +	Dec7/22	//ay12/23
0		,	100°C		Nov15/21	Mar18/22	Dec7/22	May12/23	20	Base	Jan20/20 +- /	mber	Jan 19/21	Jul27/21+	Nov15/21+	Mar18/22	Dec7/22 +	May12/23
0-	Visco	sity @			Nov15/21	Mar18/22	Dec7/22	May12/23	20 -	Base	Jan20/20 +- /		Jan19/21	Jul27/21-	Nov15/21	Mar18/22	Dec7/22	May12/23
20 - 18 -		sity @			Nov15/21	Mar18/22	Dec7/22	May12/23	20 -	Base	Jan20/20 +- /		Jan19/21	Jul27/21+	Nov15,21	Mar18/22	Dec7/22	May12/23
20 1 18 · (0001) 183 14 ·	Visco	sity @			Nov15/21	Mar18/22	Dec7/22	May12/23	20 -	Base	Jan20/20 +- /		Jan19/21+	Jul27/21+	Nov15/21	Mar18/22	Dec7/22	May12/23
20 - 18 -	Abnorm Base Abnorm	sity @	100°C		Nov15/21+ Nov15/21+	Mari 8/22 Mari 8/22	Dec7/22 Dec7/22	Aay12/23	20	Base	Jan20/20 +- /		Jan19/21+Jan19/21+	Jul27/214 Jul27/214	Nov15/21Nov15/21	Mar18/22	Dec7/22 + Dec7/22 +	May12/23 +





Laboratory Sample No. Lab Number Unique Number : 10551024 Test Package : MOB 2

: PCA0095370 : 05895214

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 11 Jul 2023

Diagnosed : 12 Jul 2023 Diagnostician : Wes Davis

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)

**BROWN BUS COMPANY - UPSTATE TRANSIT** 

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