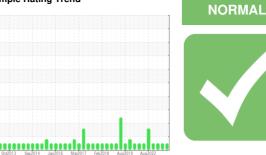


## **OIL ANALYSIS REPORT**

### **Sample Rating Trend**



# 2014 MCI D4500 78

Component

**Diesel Engine** 

PETRO CANADA DURON XL SYN BLEND 15W40 (9 GAL)

## 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

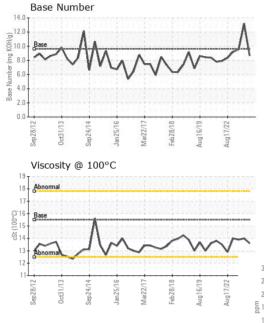
### **Fluid Condition**

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

15W40 (9 GAL)  32012 0ct2013 Sep2014 Jan2016 Mar2017 Feb2018 Aug2018 Aug2012 Aug2012								
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2		
Sample Number		Client Info		PCA0111548	PCA0101061	PCA0085128		
Sample Date		Client Info		07 Dec 2023	11 Jul 2023	14 Feb 2023		
Machine Age	mls	Client Info		328656	316054	306680		
Oil Age	mls	Client Info		12602	9374	9050		
Oil Changed		Client Info		Changed	Changed	Changed		
Sample Status				NORMAL	NORMAL	NORMAL		
CONTAMINAT	TION	method	limit/base	current	history1	history2		
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0		
Water		WC Method	>0.2	NEG	NEG	NEG		
Glycol		WC Method		NEG	NEG	NEG		
WEAR METAL	S	method	limit/base	current	history1	history2		
Iron	ppm	ASTM D5185m	>165	16	12	11		
Chromium	ppm	ASTM D5185m	>5	<1	<1	<1		
Nickel	ppm	ASTM D5185m	>4	0	0	0		
Titanium	ppm	ASTM D5185m	>2	0	<1	0		
Silver	ppm	ASTM D5185m	>2	0	0	0		
Aluminum	ppm	ASTM D5185m	>20	2	2	1		
Lead	ppm	ASTM D5185m	>150	3	3	<1		
Copper	ppm	ASTM D5185m	>90	<1	<1	<1		
Tin	ppm	ASTM D5185m	>5	0	<1	<1		
Vanadium	ppm	ASTM D5185m		0	<1	0		
Cadmium	ppm	ASTM D5185m		0	0	0		
ADDITIVES		method	limit/base	current	history1	history2		
Boron	ppm	ASTM D5185m	1	2	<1	1		
Barium	ppm	ASTM D5185m	1	0	0	0		
Molybdenum	ppm	ASTM D5185m	60	70	64	63		
Manganese	ppm	ASTM D5185m	1	0	<1	<1		
Magnesium	ppm	ASTM D5185m	1010	1081	1077	982		
Calcium	ppm	ASTM D5185m	1070	1146	1183	1120		
Phosphorus	ppm	ASTM D5185m	1150	1022	1092	1046		
Zinc	ppm	ASTM D5185m	1270	1399	1333	1295		
Sulfur	ppm	ASTM D5185m	2060	3121	3646	3604		
CONTAMINAN	NTS	method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185m	>35	10	11	10		
Sodium				. •				
Socium	ppm	ASTM D5185m		<1	2	2		
Potassium	ppm	ASTM D5185m ASTM D5185m	>20		0	2		
			>20 limit/base	<1		0		
Potassium		ASTM D5185m		<1 1	0	0		
Potassium INFRA-RED	ppm	ASTM D5185m method	limit/base	<1 1 current	0 history1	0 history2		
Potassium INFRA-RED Soot %	ppm %	ASTM D5185m method *ASTM D7844	limit/base >7.5	<1 1 current	0 history1 0.3	0 history2 0.3		
Potassium INFRA-RED Soot % Nitration	% Abs/cm Abs/.1mm	ASTM D5185m method *ASTM D7844 *ASTM D7624 *ASTM D7415	limit/base >7.5 >20	<1 1 current 0.4 10.9	0 history1 0.3 10.7	0 history2 0.3 10.0 20.9		
Potassium INFRA-RED Soot % Nitration Sulfation	% Abs/cm Abs/.1mm	ASTM D5185m method *ASTM D7844 *ASTM D7624 *ASTM D7415	limit/base >7.5 >20 >30	<1 1 current 0.4 10.9 22.1	0 history1 0.3 10.7 21.9	0 history2 0.3 10.0		



## **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
<b>Emulsified Water</b>	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	RTIFS	method	limit/base	current	historv1	historv2

Visc @ 100°C	cSt	ASTM D445	15.5	13.6		14.0		13.9	)
GRAPHS									
Iron (ppm)  Severe  Abnormal  Abnormal  Abnormal	Ma22/17-	Aug16/19		O - Abnormal		Jan 25/16 Mar 22/17	Feb28/18 -	Aug16/19	Aug17/22
Aluminum (ppm)	_	- 4 <		Chromiu				⋖	⋖
Severe  30 Abnormal	hm_		mod d	2		\	~~	M	
Sep28/12 - Oct31/13 - Sep24/14 - Jan25/16 -	Mar22/17	Aug16/19	1	Sep28/12 -	Sep24/14	Jan25/16 -	Feb28/18	Aug16/19	Aug17/22
Copper (ppm)  Severe	×		81	Silicon (p		ν N		A	A
E 100 - Anomal			E 4	Abnormal					٨
Sep28/12 Sep24/14	Mar22/17	Aug16/19	2		Sep24/14	Jan 25/116	Feb28/18	Aug16/19	Aug17/22
Viscosity @ 100°0				Base Nu	mber				
20 Abnormal Abnormal Base Base	<u></u>	~~	15. Base Number (mg KOH/g)	Base	M	<b>√</b> √	$\sim$	<u>~</u>	
ep28/12	lar22/17	ug16/19+		ep28/12	ep24/14	an 25/16	eb28/18	- 61/91Bn	





Certificate L2367

Report Id: BROAMS [WUSCAR] 06044140 (Generated: 12/28/2023 05:27:07) Rev: 1

Laboratory

Sample No. Lab Number Unique Number : 10804748 Test Package : MOB 2

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PCA0111548 : 06044140

To discuss this sample report, contact Customer Service at 1-800-237-1369.

Recieved Diagnosed

: 22 Dec 2023 : 27 Dec 2023 Diagnostician : Wes Davis

50 VENNER ROAD AMSTERDAM, NY US 12010

**BROWN BUS COMPANY - UPSTATE TRANSIT** 

Contact: CONNIE WILBUR cwilbur@browncoach.com T: (518)843-4700

\* - 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)

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