

### **OIL ANALYSIS REPORT**

Sample Rating Trend



# REIGHTLINER 110

#### Component Diesel Engine

Fluid PETRO CANADA DURON SHP 10W30 (11 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

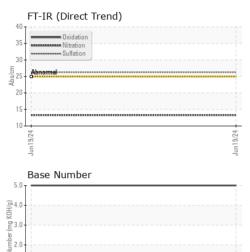
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

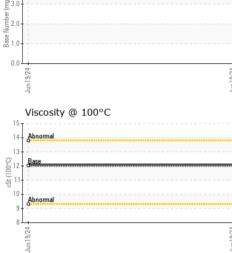
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0117369		
Sample Date		Client Info		19 Jun 2024		
Machine Age	mls	Client Info		323582		
Oil Age	mls	Client Info		50000		
Oil Changed		Client Info		Changed		
Sample Status				NORMAL		
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0		
Water		WC Method	>0.2	NEG		
Glycol		WC Method		NEG		
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>80	57		
Chromium	ppm	ASTM D5185m	>5	1		
Nickel	ppm	ASTM D5185m	>2	0		
Titanium	ppm	ASTM D5185m		0		
Silver	ppm	ASTM D5185m	>3	0		
Aluminum	ppm	ASTM D5185m	>30	13		
Lead	ppm	ASTM D5185m	>30	0		
Copper	ppm	ASTM D5185m	>150	3		
Tin	ppm	ASTM D5185m	>5	0		
Vanadium	ppm	ASTM D5185m		0		
Cadmium	ppm	ASTM D5185m		0		
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 3	history1	history2
	ppm ppm					
Boron		ASTM D5185m	2	3		
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0	3 0		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	3 0 65 <1 981		
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	3 0 65 <1 981 1311		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995	3 0 65 <1 981 1311 1110		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180	3 0 65 <1 981 1311 1110 1412	    	
Boron 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	2 0 50 0 950 1050 995	3 0 65 <1 981 1311 1110	   	   
Boron 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 ASTM D5185m	2 0 50 0 950 1050 995 1180	3 0 65 <1 981 1311 1110 1412	    	
Boron 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 ASTM D5185m	2 0 50 950 1050 995 1180 2600	3 0 65 <1 981 1311 1110 1412 3161 current 9		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600	3 0 65 <1 981 1311 1110 1412 3161 current	     history1	     history2
Boron 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	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b> >20	3 0 65 <1 981 1311 1110 1412 3161 current 9	    history1	     history2
Boron 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 ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b> >20	3 0 65 <1 981 1311 1110 1412 3161 current 9 2	     history1	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b> >20	3 0 65 <1 981 1311 1110 1412 3161 current 9 2 2 24	     history1  	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>Imit/base</b> >20 20 <b>Imit/base</b>	3 0 65 <1 981 1311 1110 1412 3161 <i>current</i> 9 2 24 24 <i>current</i> 1.3 13.3	     history1   history1	     history2    history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b> >20 >20 <b>limit/base</b>	3 0 65 <1 981 1311 1110 1412 3161 <i>current</i> 9 2 24 24 <i>current</i> 1.3	     history1   history1  history1	    history2  history2  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 imit/base >20 20 imit/base >3 >20	3 0 65 <1 981 1311 1110 1412 3161 <i>current</i> 9 2 24 24 <i>current</i> 1.3 13.3	     history1   history1   history1	     history2   history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	2 0 50 0 950 1050 995 1180 2600 <b>imit/base</b> >20 <b>imit/base</b> >3 >20 >30	3 0 65 <1 981 1311 1110 1412 3161 <i>current</i> 9 2 24 24 <i>current</i> 1.3 13.3 26.3	     history1  history1  history1	     history2  history2  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	2 0 50 0 950 1050 995 1180 2600 2600 20 20 220 220 20 33 220 330	3 0 65 <1 981 1311 1110 1412 3161 <i>current</i> 9 2 24 <i>current</i> 1.3 13.3 26.3 <i>current</i>	     history1  history1  history1  history1	    history2  history2  history2  history2



## **OIL ANALYSIS REPORT**

VISUAL





VICONE		mounou		<i>ourioni</i>	inotory i	inotory
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		NEG		
FLUID PROP		method	limit/base		history1	histor
Visc @ 100°C	cSt	ASTM D445	12.00	12.1		
GRAPHS	001	AOTIM D440	12.00	12.1		
Ferrous Alloys						
<sup>60</sup>						
50 - iron						
nickel						
40 -						
톱 30						
20						
10-						
0			4 			
Jun 19/24			Jun 19/24			
			Jur			
Non-ferrous Met	als					
10 copper						
8 - Internet lead						
6						
E 4						
2 -						
0						
9/24			9/24			
Jun 19/24			Jun 19/24			
Viscosity @ 100°	C					
<sup>15</sup>	-			Base Numb	per	
14 Abnormal						
13			(B	4.0		
			Base Number (mg KOH/g)			
012 - Base 000 75 11-			r (mg	3.0		
ि रहु 11-			Imber	2.0		
10			ase Nr			
Abnormal 9			Ē.	1.0		
8				0.0		
3/24						
Jun 19/24			Jun 19/24	Jun 19/24		
			,			
y : WearCheck USA - 5			, NC 27513	5		A Truck Re
. : PCA0117369	Recei		3 Jul 2024		9349 China Grov	
r : 06240087	Teste		Jul 2024	- Dalati		Pineville
er : 11128921	Diagn	osed : 20	Jul 2024 - Do	on Baldridge	Contact	US 28
ge : FLEET		~~~~	-			Vlad Melnic

Report Id: ATRPIN [WUSCAR] 06240087 (Generated: 07/21/2024 10:55:44) Rev: 1

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)

Certificate L2367

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