

# **OIL ANALYSIS REPORT**

## Sample Rating Trend





Component Diesel Engine

Fluid PETRO CANADA DURON SHP 10W30 (--- 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.

TS)			Jan2023	Jun2023		
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0100165	PCA0090094	
Sample Date		Client Info		28 Jun 2023	11 Jan 2023	
Machine Age	mls	Client Info		0	0	
Oil Age	mls	Client Info		20000	20000	
Oil Changed		Client Info		Not Changd	Not Changd	
Sample Status				NORMAL	ABNORMAL	
CONTAMINATI	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	
Glycol		WC Method		NEG	NEG	
WEAR METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	21	41	
Chromium	ppm	ASTM D5185m	>20	<1	<1	
Nickel	ppm	ASTM D5185m	>4	<1	<1	
Titanium	ppm	ASTM D5185m		<1	<1	
Silver	ppm	ASTM D5185m	>3	<1	1	
Aluminum	ppm	ASTM D5185m	>20	10	31	
Lead	ppm	ASTM D5185m	>40	2	2	
Copper	ppm	ASTM D5185m	>330	117	188	
Tin	ppm	ASTM D5185m	>15	2	6	
Vanadium	ppm	ASTM D5185m		0	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	5	258	
Barium	ppm	ASTM D5185m	0	0	<1	
Molybdenum	ppm	ASTM D5185m	50	69	122	
Manganese	ppm	ASTM D5185m	0	1	5	
Magnesium	ppm	ASTM D5185m	950	928	674	
Calcium	ppm	ASTM D5185m	1050	1205	1514	
Phosphorus	ppm	ASTM D5185m	995	1023	654	
Zinc	ppm	ASTM D5185m	1180	1232	791	
Sulfur	ppm	ASTM D5185m	2600	3198	2685	
CONTAMINAN	TS	method	limit/base	current	history1	history2
Dillion in						
Silicon	ppm	ASTM D5185m	>25	8	<b>3</b> 7	
	ppm ppm	ASTM D5185m ASTM D5185m	>25	8 1	▲ 37	
Sodium						
Sodium	ppm	ASTM D5185m		1	5	
Sodium Potassium INFRA-RED	ppm	ASTM D5185m ASTM D5185m	>20	1 31	5 93	
Sodium Potassium INFRA-RED Soot %	ppm ppm	ASTM D5185m ASTM D5185m method *ASTM D7844 *ASTM D7624	>20 limit/base >3	1 31 current	5 93 history1	  history2
Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm	ASTM D5185m ASTM D5185m method *ASTM D7844	>20 limit/base >3	1 31 current 0.4	5 93 history1 0.3	  history2
Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7824 *ASTM D7415	>20 limit/base >3 >20	1 31 current 0.4 8.5	5 93 history1 0.3 10.0	 history2 
Soot % Nitration Sulfation	ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7824 *ASTM D7415	>20 limit/base >3 >20 >30	1 31 current 0.4 8.5 20.0	5 93 history1 0.3 10.0 24.4	 history2  

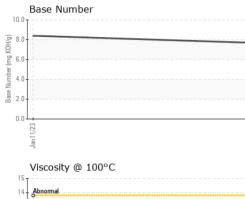


13 cSt (100°C) 11 Base

10 Abnorma

8. Jan11/23

# **OIL ANALYSIS REPORT**



VISUAL		method				history2
White Metal	scalar	*Visual	NONE	NONE	NONE	
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
Precipitate	scalar	*Visual	NONE	NONE	NONE	
Silt	scalar	*Visual	NONE	NONE	NONE	
Debris	scalar	*Visual	NONE	NONE	NONE	
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
Appearance	scalar	*Visual	NORML	NORML	NORML	
Odor	scalar	*Visual	NORML	NORML	NORML	
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	
Free Water	scalar	*Visual		NEG	NEG	
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	12.00	11.0	9.7	
GRAPHS						
Ferrous Alloys						
· · · · · · · · · · · · · · · · · · ·						
essesses chromium						
30-						
E 25						
1						
1/23			28/23			
Jan1			Jun2			
Non-ferrous Metal	s					
200						
sessesses lead						
150						
E						
ā 100 -						
50						
50-						
	*********					
123			3/23			
Jan 11			Jun28			
Viscosity @ 100°C			-,	5 N I		
<sup>15</sup>			9.0	Base Number		
14 - Abnormal			8.0-			
13-			₽7.0			
D 12 Base			<u>ن</u> 6.0			
000			£ 5.0-			
			4.0 N 2.0	]		
10 Abnormal			e 2.0			
9-			1.0			
8			0.0			
11/23			128/2:	11/2:		
			Jur	Jar		
: WearCheck USA - 5	01 Madis	son Ave., Ca	ry, NC 27513	PERD	UE FARMS - G	EORGETOV
	Received	: 22 /	Aug 2023			SAVANAH I
.1040100103	Diagnage		Aug 2023		GEOF	
: 05930748	Diagnose					
: <mark>05930748</mark> r : 10616019	Diagnose		s Davis			US 199
: 05930748	Diagnost	ician : We	s Davis		ontact: ROBER	
	Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor Emulsified Water Free Water FLUID PROPE Visc @ 100°C GRAPHS Ferrous Alloys 40 40 40 40 40 40 40 40 40 40	Yellow Metal  scalar    Precipitate  scalar    Silt  scalar    Debris  scalar    Sand/Dirt  scalar    Appearance  scalar    Odor  scalar    Free Water  scalar    Free Water  scalar    Ferrous Alloys  Ferrous Alloys    Image: Second State  Second State    Second State  Second State	Yellow Metal  scalar  *Visual    Precipitate  scalar  *Visual    Silt  scalar  *Visual    Debris  scalar  *Visual    Sand/Dirt  scalar  *Visual    Appearance  scalar  *Visual    Odor  scalar  *Visual    Codor  scalar  *Visual    Emulsified Water  scalar  *Visual    Free Water  scalar  *Visual    Free Water  scalar  *Visual    Ferrous Alloys  Ferrous Alloys  Ferrous Alloys    Image: Scalar micked  Scalar  Scalar    Sonon-ferrous Metals  Scalar  Scalar    Stron-ferrous Metals  Scalar  Scalar    Stronmal  Scalar  Scalar    Scalar  Scalar	Yellow Metal scalar *Visual NONE Precipitate scalar *Visual NONE Silt scalar *Visual NONE Sand/Dirt scalar *Visual NONE Sand/Dirt scalar *Visual NONE Appearance scalar *Visual NORML Odor scalar *Visual NORML Emulsified Water scalar *Visual >0.2 Free Water scalar *Visual FLUID PROPERTIES method limit/base Visc @ 100°C cSt ASTM D445 12.00 GRAPHS Ferrous Alloys Mon-ferrous Metals Viscosity @ 100°C Viscosity @ 100°C Viscosity @ 100°C Viscosity @ 100°C	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    Visco  010°C  cst  ASTM D445  12.00  11.0    Odor  off  off  off  off  off  off    Odor  off  off  of	Yellow Metal  scalar  *Visual  NONE  NONE  NONE  NONE    Precipitate  scalar  *Visual  NONE  NONE  NONE  NONE    Sitt  scalar  *Visual  NONE  NONE  NONE  NONE    Debris  scalar  *Visual  NONE  NONE  NONE  NONE    Appearance  scalar  *Visual  NORML  NORML  NORML  NORML    Odor  scalar  *Visual  NORML  NORML  NORML  NORML    Codor  scalar  *Visual  NOR  NOR  NONE  NONE    Emulsified Water  scalar  *Visual  >0.2  NEG  NEG    Free Water  scalar  *Visual  NEG  NEG  NEG    Visc @ 100*C  cst  ASTM D445  12.00  11.0  9.7    On-ferrous Metals