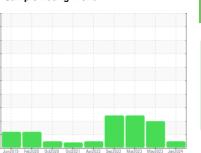


## **OIL ANALYSIS REPORT**

## Sample Rating Trend









Machine Id
DT633
Component
Diesel Engine
Fluid

PETRO CANADA DURON SHP 10W30 (44 mls)

# DIAGNOSIS

## Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

### Contamination

Tests indicate that there is no fuel present in the oil. There is no indication of any contamination in the oil.

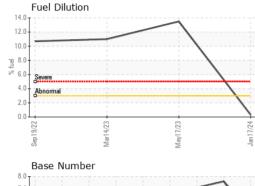
## **Fluid Condition**

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

N SHP 10W30 (4	14 mis)	Jun2019 Feb	2020 Oct2020 Oct2021	Apr2022 Sep2022 Mar2023 May20	Z3 Jan2U24	
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0113169	PCA0096981	PCA0091255
Sample Date		Client Info		17 Jan 2024	17 May 2023	14 Mar 2023
Machine Age	mls	Client Info		259590	234161	226292
Oil Age	mls	Client Info		25429	215742	21805
Oil Changed		Client Info		Changed	Changed	Not Changd
Sample Status				NORMAL	SEVERE	SEVERE
CONTAMINAT	ION	method	limit/base	current	history1	history2
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	>120	14	22	8
Chromium	ppm	ASTM D5185m	>20	<1	1	<1
Nickel	ppm	ASTM D5185m	>5	<1	<1	0
Titanium	ppm	ASTM D5185m	>2	0	1	<1
Silver	ppm	ASTM D5185m	>2	0	<1	0
Aluminum	ppm	ASTM D5185m	>20	3	6	1
Lead	ppm	ASTM D5185m	>40	<1	1	0
Copper	ppm	ASTM D5185m	>330	1	5	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	<1
Cadmium	ppm	ASTM D5185m		0	<1	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	<1	3	2
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum						
	ppm	ASTM D5185m	50	65	52	53
	ppm	ASTM D5185m ASTM D5185m		65 0	52 1	53 1
Manganese						
Manganese Magnesium	ppm	ASTM D5185m	0	0	1	1
Manganese Magnesium Calcium	ppm	ASTM D5185m ASTM D5185m	0 950	0 473	1 355	1 378
Manganese Magnesium Calcium Phosphorus	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050	0 473 1582	1 355 1541	1 378 1499
Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050 995	0 473 1582 1006	1 355 1541 890	1 378 1499 852
Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050 995 1180	0 473 1582 1006 1209	1 355 1541 890 1069	1 378 1499 852 1073
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050 995 1180 2600	0 473 1582 1006 1209 3128	1 355 1541 890 1069 3054	1 378 1499 852 1073 3046
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050 995 1180 2600	0 473 1582 1006 1209 3128	1 355 1541 890 1069 3054 history1	1 378 1499 852 1073 3046 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	0 950 1050 995 1180 2600	0 473 1582 1006 1209 3128 current	1 355 1541 890 1069 3054 history1	1 378 1499 852 1073 3046 history2
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 method ASTM D5185m ASTM D5185m	0 950 1050 995 1180 2600 limit/base >25	0 473 1582 1006 1209 3128 current 5	1 355 1541 890 1069 3054 history1 14	1 378 1499 852 1073 3046 history2 4
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m  Method  ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050 995 1180 2600 limit/base >25	0 473 1582 1006 1209 3128 current 5 1	1 355 1541 890 1069 3054 history1 14 3	1 378 1499 852 1073 3046 history2 4 1
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 950 1050 995 1180 2600 limit/base >25 >20 >3.0	0 473 1582 1006 1209 3128 current 5 1 3	1 355 1541 890 1069 3054 history1 14 3 3	1 378 1499 852 1073 3046 history2 4 1 2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D3524	0 950 1050 995 1180 2600 limit/base >25 >20 >3.0	0 473 1582 1006 1209 3128 current 5 1 3 0.3	1 355 1541 890 1069 3054 history1 14 3 3 13.5	1 378 1499 852 1073 3046 history2 4 1 2 11.0 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D3524  method  *ASTM D7844	0 950 1050 995 1180 2600 limit/base >25 >20 >3.0 limit/base >4	0 473 1582 1006 1209 3128 current 5 1 3 0.3 current	1 355 1541 890 1069 3054 history1 14 3 3 13.5 history1 0.3	1 378 1499 852 1073 3046 history2 4 1 2 11.0 history2 0.3
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D3524  method *ASTM D7844 *ASTM D7624 *ASTM D76145	0 950 1050 995 1180 2600 limit/base >25 >20 >3.0 limit/base >4 >20	0 473 1582 1006 1209 3128 current 5 1 3 0.3 current 0.7 10.4	1 355 1541 890 1069 3054 history1 14 3 3 13.5 history1 0.3 7.4	1 378 1499 852 1073 3046 history2 4 1 2 11.0 history2 0.3 8.0
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D3524  method *ASTM D7844 *ASTM D7624 *ASTM D76145	0 950 1050 995 1180 2600 limit/base >25 >20 >3.0 limit/base >4 >20 >30 limit/base	0 473 1582 1006 1209 3128 current 5 1 3 0.3 current 0.7 10.4 21.8	1 355 1541 890 1069 3054 history1 14 3 3 13.5 history1 0.3 7.4 17.9	1 378 1499 852 1073 3046 history2 4 1 2 11.0 history2 0.3 8.0 17.7



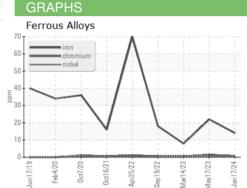
## **OIL ANALYSIS REPORT**



VISUAL		method				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

12.4

8.0 <sub>T</sub>	e mui	iibei						
7.0							1	
Base Number (mg KOHO) 3.0 - 3.								1
g 5.0								1
4.0								
3.0	_/							
2.0								
1.0								
0.0	20 -	20 -	21-	22	22 -	23 -	23 -	-
Jun17/19	Feb4/20	Oct7/20	0ct16/21	Apr25/22	Sep19/2;	Mar14/	May17/	
3			0	A	Š	Σ	Ž	
Visc	ositv	@ 10	0°C					

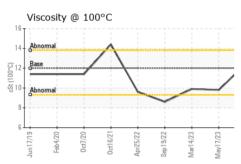


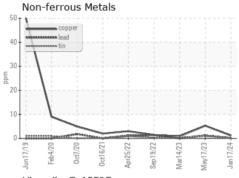
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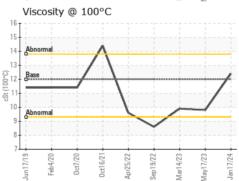
ASTM D445 12.00

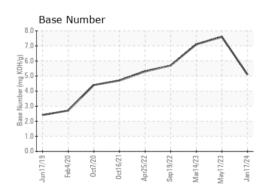
**FLUID PROPERTIES** 

Visc @ 100°C









9.8

**9.9** 





Laboratory Sample No. Lab Number Unique Number

: PCA0113169 : 06066616 : 10843293

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Recieved : 22 Jan 2024 Diagnosed : 25 Jan 2024

Diagnostician : Don Baldridge

Test Package : FLEET ( Additional Tests: PercentFuel ) Certificate L2367 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)

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