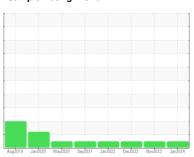


# **OIL ANALYSIS REPORT**

## **Sample Rating Trend**



NORMAL



Machine Id **606341** 

Component **Diesel Engine** 

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.

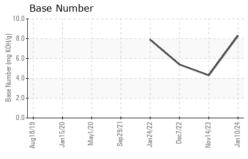
### **Fluid Condition**

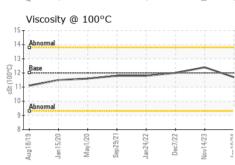
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

QTS)		Aug2019 J	an2020 May2020 Sep20	21 Jan2022 Dec2022 Nov2023	Jan 2024	
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0097336	PCA0097358	PCA0071692
Sample Date		Client Info		10 Jan 2024	14 Nov 2023	07 Dec 2022
Machine Age	mls	Client Info		287788	264526	218317
Oil Age	mls	Client Info		23262	46209	53987
Oil Changed		Client Info		Not Changd	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATI	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	12	38	34
Chromium	ppm	ASTM D5185m	>20	1	3	3
Nickel	ppm	ASTM D5185m	>4	0	0	<1
Titanium	ppm	ASTM D5185m		5	15	9
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	10	20	19
Lead	ppm	ASTM D5185m	>40	0	0	1
Copper	ppm	ASTM D5185m	>330	4	9	14
Tin	ppm	ASTM D5185m	>15	<1	1	1
Antimony	ppm	ASTM D5185m				
Vanadium	ppm	ASTM D5185m		<1	<1	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	7	4	6
Barium	ppm	ASTM D5185m	0	0	<1	0
Molybdenum	ppm	ASTM D5185m	50	60	59	58
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	950	960	982	1018
Calcium	ppm	ASTM D5185m	1050	1140	1318	1346
Phosphorus	ppm	ASTM D5185m	995	1061	1145	1026
Zinc	ppm	ASTM D5185m	1180	1260	1375	1376
Sulfur	ppm	ASTM D5185m	2600	3197	3091	3220
CONTAMINAN	TS	method	limit/base	current	history1	history2
Silicon	ppm		>25	4	6	7
Sodium	ppm	ASTM D5185m		2	4	4
Potassium	ppm	ASTM D5185m	>20	1	6	8
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.6	2.1	1.7
Nitration	Abs/cm	*ASTM D7624	>20	7.7	12.4	12.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.6	28.4	26.1
FLUID DEGRAD	ATION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.7	21.5	19.7
Base Number (BN)	mg KOH/g	ASTM D2896		8.3	4.3	5.4



# **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
	DTIEC	mathad	limit/bass	ourront.	hiotomut	hiotom/2

L LOID PROPI	EHILO	method			riistory i	HISTORYZ
Visc @ 100°C	cSt	ASTM D445	12.00	11.7	12.4	12.0

G	RAPH	S						
Ire	on (ppn	1)						Lead (ppm)
	vere							80 - Severe
150 100 A								E 60 - Abnormal
1	onormal						-	40 7
50			_	_		_	_	20
Aug18/19	Jan15/20 -	May1/20 -	Sep29/21-	Jan24/22 -	Dec7/22 -	Nov14/23 -	Jan 10/24	Aug18/19 - Jan15/20 - Sep29/21 - Jan24/22 - Dec7/22 - Nov14/23 -
	_ uminum			Jai		No	Jai	Thromium (ppm)
100 T	ummum	i (ppii						50 T
80								40 Severe
E 40 Se	evere							E 20 - Abnormal
	onormal							10-
0	02	20	21	22	22	23	24	13 + 12 - 13 + 13 + 13 + 13 + 13 + 13 + 13 + 13
Aug18/19	Jan15/20	May1/20 .	Sep29/21.	Jan24/22	Dec7/22 -	Nov14/23	Jan10/24	Aug18/19 Jan15/20 May1/20 Sep29/21 Jan24/22 Dec7/22
Co	opper (p	pm)						Silicon (ppm)
500 400 Se								Severe Severe
<b>₽</b>	onomea!							60 E co
E 200								Abnormal
100			/					20
Aug18/19	Jan15/20 -	May1/20	Sep29/21-	Jan24/22	Dec7/22 -	Nov14/23 -	Jan10/24	Aug18/19 - Jan15/20 - Jan15/20 - Sep29/21 - Sep29/21 - Dec7/22 - Dec7/22 - Nov14/23 - Nov14/23 - Paug18/19 - Paug18/20 - Paug1
				Jan	De	Nov	Jan	
16 <sub>T</sub>	scosity	@ 100	)°C					Base Number
14 - At	onormal							0.8 VO
().001) 12 Bi	ase							E 6.0
75 10 - At	onormal							9.8 ese Mumber (mg KOH/g) 4.0 + 4.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0 + 2.0
8								001:
e1/81gn	an 15/20	/lay1/20	ep29/21.	an 24/22	Dec7/22	ov14/23	an 10/24 -	an 15/20 - Aay 1/20 - Aay 1/20 - Aay 1/20 - Aay 1/20 - Aay 1/22 - Bec7/22 - Ov1 4/23 -





Laboratory

Sample No. : PCA0097336

Lab Number : 06084518 Unique Number : 10871963

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

: 09 Feb 2024 **Tested** Diagnosed

: 09 Feb 2024

: 09 Feb 2024 - Wes Davis

Test Package: MOB 1 (Additional Tests: TBN) 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.

66 KELLER AVENUE LANCASTER, PA US 17601

Contact/Location: RON ROBERTS - MILLAN

**MILLER TRUCK LEASING #123** 

Contact: RON ROBERTS rroberts@millertransgroup.com

T: (717)945-6205

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F: (717)945-5818