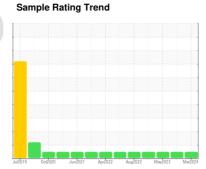


# **OIL ANALYSIS REPORT**



**NORMAL** 



**DT662** Component

Diesel Engine

Machine Id

## PETRO CANADA DURON SHP 10W30 (36 mls)

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

Metal levels are typical for a new component breaking in.

### Contamination

There is no indication of any contamination in the

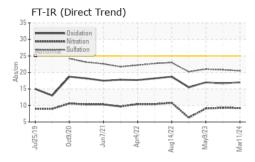
### **Fluid Condition**

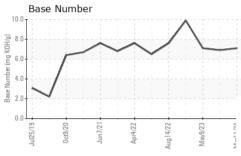
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

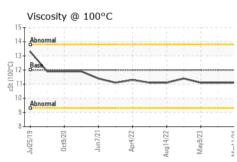
Sample Number   Client Info   PCA0111593   PCA0101817   PCA009523.	115)		3012013	OCIZOZO JUNZOZI	Apizozz Mugzozz mayzozs	Marzuz4	
Client Info	SAMPLE INFOR	RMATION	method	limit/base	current	history1	history2
Machine Age   mis   Client Info   47964   47	Sample Number		Client Info		PCA0111593	PCA0101817	PCA0095233
Oil Age	Sample Date		Client Info		11 Mar 2024	26 Oct 2023	09 May 2023
Oil Changed   Client Info   N/A   N/A   N/A   N/A   NORMAL   NOR	Machine Age	mls	Client Info		47964	47964	47964
NORMAL   NORMAL   NORMAL   CONTAMINATION   method   limit/base   current   history1   history2   history2   NEG   NEG	Oil Age	mls	Client Info		47964	47964	47964
NORMAL   NORMAL   NORMAL   CONTAMINATION   method   limit/base   current   history1   history2   history2   NEG   NEG	Oil Changed		Client Info		N/A	N/A	N/A
Fuel	_				NORMAL	NORMAL	NORMAL
Water         WC Method         >0.2         NEG         NEG         NEG         NEG           Glycol         WC Method         Imitibase         Current         history1         history2           WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >110         3         15         9           Chromium         ppm         ASTM D5185m         >4         0         <1         <1           Nickel         ppm         ASTM D5185m         >2         0         0         <1           Silver         ppm         ASTM D5185m         >2         0         0         0           Silver         ppm         ASTM D5185m         >25         3         3         4           Lead         ppm         ASTM D5185m         >25         3         3         4           Lead         ppm         ASTM D5185m         >45         0         0         <1           Copper         ppm         ASTM D5185m         >4         0         0         <1           Vanadium         ppm         ASTM D5185m         0         0         0         <	CONTAMINA	TION	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>5	<1.0	<1.0	<1.0
WEAR METALS	Water		WC Method	>0.2	NEG	NEG	NEG
Chromium	Glycol		WC Method		NEG	NEG	NEG
Chromium	WEAR METAI	LS	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>110	3	15	9
Description	Chromium	ppm	ASTM D5185m	>4	0	<1	<1
Silver	Nickel	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	Titanium	ppm	ASTM D5185m		0	0	0
Aluminum	Silver		ASTM D5185m	>2	0	0	0
Lead	Aluminum		ASTM D5185m	>25	3	3	4
Copper					0		<1
Princolor   Prin				>85	<1	1	<1
Vanadium         ppm         ASTM D5185m         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         2         5         5         12           Barium         ppm         ASTM D5185m         0         0         0         0         0           Wolybdenum         ppm         ASTM D5185m         50         67         68         68         68           Manganese         ppm         ASTM D5185m         0         <1         0         <1         0         <1           Magnesium         ppm         ASTM D5185m         950         968         935         909         909           Calcium         ppm         ASTM D5185m         995         1043         980         1048         1157         1241         1157         1241         1241         1241         1241         1241         1241         1241         1241         1241         1241         1241         1241         1241         1241         1241         1241 <t< td=""><td></td><td></td><td></td><td></td><th></th><td></td><td></td></t<>							
Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         2         5         5         12           Barium         ppm         ASTM D5185m         0         0         0         0           Molybdenum         ppm         ASTM D5185m         50         67         68         68           Manganese         ppm         ASTM D5185m         0         <1							
Boron					-		
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         50         67         68         68           Manganese         ppm         ASTM D5185m         0         <1	Boron	ppm	ASTM D5185m	2	5	5	12
Manganese         ppm         ASTM D5185m         0         <1         0         <1           Magnesium         ppm         ASTM D5185m         950         968         935         909           Calcium         ppm         ASTM D5185m         1050         1149         1157         1241           Phosphorus         ppm         ASTM D5185m         995         1043         980         1048           Zinc         ppm         ASTM D5185m         995         1043         980         1048           Zinc         ppm         ASTM D5185m         1180         1198         1292         1315           Sulfur         ppm         ASTM D5185m         2600         3214         2994         3597           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >30         0         6         5           Sodium         ppm         ASTM D5185m         2         0         2           Potassium         ppm         ASTM D5185m         20         0         6         4           INFRA-RED         method         limit/base         cur	Barium	ppm	ASTM D5185m	0	0	0	0
Manganese         ppm         ASTM D5185m         0         <1         0         <1           Magnesium         ppm         ASTM D5185m         950         968         935         909           Calcium         ppm         ASTM D5185m         1050         1149         1157         1241           Phosphorus         ppm         ASTM D5185m         995         1043         980         1048           Zinc         ppm         ASTM D5185m         1180         1198         1292         1315           Sulfur         ppm         ASTM D5185m         2600         3214         2994         3597           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >30         0         6         5           Sodium         ppm         ASTM D5185m         2         0         2           Potassium         ppm         ASTM D5185m         >20         0         6         4           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3	Molybdenum	ppm	ASTM D5185m	50	67	68	68
Magnesium         ppm         ASTM D5185m         950         968         935         909           Calcium         ppm         ASTM D5185m         1050         1149         1157         1241           Phosphorus         ppm         ASTM D5185m         1043         980         1048           Zinc         ppm         ASTM D5185m         1180         1198         1292         1315           Sulfur         ppm         ASTM D5185m         2600         3214         2994         3597           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >30         0         6         5           Sodium         ppm         ASTM D5185m         2         0         2           Potassium         ppm         ASTM D5185m         >20         0         6         4           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7624         >20         9.2         9.3         9.1           Sulfation         Abs/.1mm         *ASTM D7415         >30         20.5	•		ASTM D5185m	0	<1	0	<1
Calcium         ppm         ASTM D5185m         1050         1149         1157         1241           Phosphorus         ppm         ASTM D5185m         995         1043         980         1048           Zinc         ppm         ASTM D5185m         1180         1198         1292         1315           Sulfur         ppm         ASTM D5185m         2600         3214         2994         3597           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >30         0         6         5           Sodium         ppm         ASTM D5185m         2         0         2           Potassium         ppm         ASTM D5185m         >20         0         6         4           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7624         >20         9.2         9.3         9.1           Sulfation         Abs/.1mm         *ASTM D7415         >30         20.5         20.8         21.0           FLUID DEGRADATION         *ASTM D7414         >25         1				950	968	935	909
Phosphorus         ppm         ASTM D5185m         995         1043         980         1048           Zinc         ppm         ASTM D5185m         1180         1198         1292         1315           Sulfur         ppm         ASTM D5185m         2600         3214         2994         3597           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >30         0         6         5           Sodium         ppm         ASTM D5185m         2         0         2           Potassium         ppm         ASTM D5185m         >20         0         6         4           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.4         0.5         0.4           Nitration         Abs/cm         *ASTM D7624         >20         9.2         9.3         9.1           Sulfation         Abs/.1mm         *ASTM D7415         >30         20.5         20.8         21.0           FLUID DEGRADATION         method         lim	<u> </u>		ASTM D5185m			1157	
Zinc   ppm   ASTM D5185m   1180   1198   1292   1315     Sulfur   ppm   ASTM D5185m   2600   3214   2994   3597     CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >30   0   6   5     Sodium   ppm   ASTM D5185m   2   0   2     Potassium   ppm   ASTM D5185m   >20   0   6   4     INFRA-RED   method   limit/base   current   history1   history2     Soot %   *ASTM D7844   >3   0.4   0.5   0.4     Nitration   Abs/cm   *ASTM D7624   >20   9.2   9.3   9.1     Sulfation   Abs/.1mm   *ASTM D7415   >30   20.5   20.8   21.0     FLUID DEGRADATION   method   limit/base   current   history1   history2     Oxidation   Abs/.1mm   *ASTM D7414   >25   17.0   16.7   17.0							1048
Sulfur         ppm         ASTM D5185m         2600         3214         2994         3597           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >30         0         6         5           Sodium         ppm         ASTM D5185m         2         0         2           Potassium         ppm         ASTM D5185m         >20         0         6         4           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.4         0.5         0.4           Nitration         Abs/cm         *ASTM D7624         >20         9.2         9.3         9.1           Sulfation         Abs/.1mm         *ASTM D7415         >30         20.5         20.8         21.0           FLUID DEGRADATION         method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         17.0         16.7         17.0							
Silicon         ppm         ASTM D5185m         >30         0         6         5           Sodium         ppm         ASTM D5185m         2         0         2           Potassium         ppm         ASTM D5185m         >20         0         6         4           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.4         0.5         0.4           Nitration         Abs/cm         *ASTM D7624         >20         9.2         9.3         9.1           Sulfation         Abs/.1mm         *ASTM D7415         >30         20.5         20.8         21.0           FLUID DEGRADATION method         limit/base         current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         17.0         16.7         17.0							
Sodium         ppm         ASTM D5185m         2         0         2           Potassium         ppm         ASTM D5185m         >20         0         6         4           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.4         0.5         0.4           Nitration         Abs/cm         *ASTM D7624         >20         9.2         9.3         9.1           Sulfation         Abs/.1mm         *ASTM D7415         >30         20.5         20.8         21.0           FLUID DEGRADATION method limit/base current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         17.0         16.7         17.0	CONTAMINA	NTS	method	limit/base	current	history1	history2
Sodium         ppm         ASTM D5185m         2         0         2           Potassium         ppm         ASTM D5185m         >20         0         6         4           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         >3         0.4         0.5         0.4           Nitration         Abs/cm         *ASTM D7624         >20         9.2         9.3         9.1           Sulfation         Abs/.1mm         *ASTM D7415         >30         20.5         20.8         21.0           FLUID DEGRADATION method limit/base current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         17.0         16.7         17.0	Silicon	ppm	ASTM D5185m	>30	0	6	5
INFRA-RED	Sodium	ppm	ASTM D5185m		2	0	2
Soot %         *ASTM D7844         >3         0.4         0.5         0.4           Nitration         Abs/cm         *ASTM D7624         >20         9.2         9.3         9.1           Sulfation         Abs/.1mm         *ASTM D7415         >30         20.5         20.8         21.0           FLUID DEGRADATION method limit/base current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         17.0         16.7         17.0		ppm	ASTM D5185m	>20	0		4
Nitration         Abs/cm         *ASTM D7624         >20         9.2         9.3         9.1           Sulfation         Abs/.1mm         *ASTM D7415         >30         20.5         20.8         21.0           FLUID DEGRADATION method limit/base current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         17.0         16.7         17.0	INFRA-RED		method	limit/base	current	history1	history2
Nitration         Abs/cm         *ASTM D7624         >20         9.2         9.3         9.1           Sulfation         Abs/.1mm         *ASTM D7415         >30         20.5         20.8         21.0           FLUID DEGRADATION method limit/base current         history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         17.0         16.7         17.0	Soot %	%	*ASTM D7844	>3	0.4	0.5	0.4
Sulfation         Abs/.1mm         *ASTM D7415         >30         20.5         20.8         21.0           FLUID DEGRADATION method limit/base current history1         history2           Oxidation         Abs/.1mm         *ASTM D7414         >25         17.0         16.7         17.0							
Oxidation Abs/.1mm *ASTM D7414 >25 <b>17.0</b> 16.7 17.0							
	FLUID DEGRA	DATION	method	limit/base	current	history1	history2
	Oxidation	Ahs/.1mm	*ASTM D7414	>25	17.0	16.7	17.0
	Base Number (BN)		ASTM D2896		7.1	6.9	7.1



# **OIL ANALYSIS REPORT**



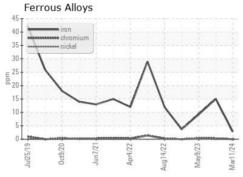


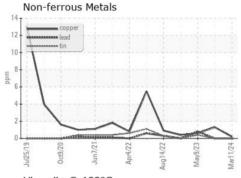


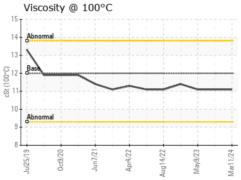
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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

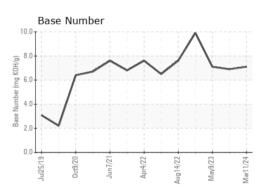
FLUID PROPI	ERTIES	method				history2
Visc @ 100°C	cSt	ASTM D445	12.00	11.1	11.1	11.1

### **GRAPHS**













Certificate 12367

Laboratory Sample No.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PCA0111593 Lab Number : 06157386 Unique Number : 10992809

Test Package : FLEET

Received **Tested** Diagnosed

: 23 Apr 2024 : 24 Apr 2024

: 24 Apr 2024 - Wes Davis

**NW WHITE & CO - BEAUFORT DIVISION** 

1491 YENMASSEE HIGHWAY VARNVILLE, SC US 29944

Contact: VINCENT BULLOCK bullockvince514@gmail.com

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) T:

F: