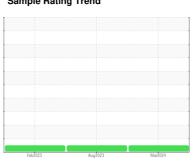


OIL ANALYSIS REPORT

Sample Rating Trend









DT823 Component **Diesel Engine**

PETRO CANADA DURON SHP 10W30 (36 QTS)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the

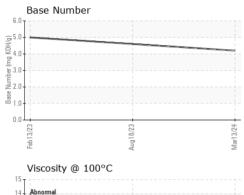
Fluid Condition

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

Cample Number Client Info PCA0113153 PCA0096952 PCA009119 Sample Date Client Info 13 Mar 2024 18 Aug 2023 13 Feb 2023 14	N SHP 10W30 (3	6 Q (S)	Fel	52023	Aug ² 023 Mar ² 0	24	
Sample Date Client Info 13 Mar 2024 18 Aug 2023 13 Feb 2025 Machine Age mis Client Info 75265 50971 24993 24993 2469	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Machine Age mls Client Info 75265 50971 24693 24633 24693 24633 24	Sample Number		Client Info		PCA0113153	PCA0096952	PCA0091194
Oil Age	Sample Date		Client Info		13 Mar 2024	18 Aug 2023	13 Feb 2023
Coli Changed Changed Changed NORMAL NEG NEG	Machine Age	mls	Client Info		75265	50971	24693
NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history2 history2 water WC Method >3.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0 <1.0	Oil Age	mls	Client Info		24294	24693	24693
Fuel	Oil Changed		Client Info		Changed	Changed	Changed
Water	Sample Status				NORMAL	NORMAL	NORMAL
Water Glycol WC Method Solution NEG A 2 4 2 4 2 4 2	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>3.0	<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 METAL	.S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>120	24	33	66
Titanium	Chromium	ppm	ASTM D5185m	>20	1	2	2
Silver	Nickel	ppm	ASTM D5185m	>5	4	2	4
Silver	Titanium	ppm	ASTM D5185m	>2	<1	0	<1
Lead	Silver	ppm	ASTM D5185m	>2	<1	<1	0
Copper	Aluminum	ppm	ASTM D5185m	>20	5	11	26
Property Property	Lead	ppm	ASTM D5185m	>40	<1	0	<1
Tin	Copper	ppm	ASTM D5185m	>330	11	43	120
Vanadium ppm ASTM D5185m <1 0 0 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 2 3 4 52 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 50 60 71 119 Manganese ppm ASTM D5185m 50 60 71 119 Manganesium ppm ASTM D5185m 950 902 901 660 Calcium ppm ASTM D5185m 950 902 901 660 Phosphorus ppm ASTM D5185m 995 897 969 671 Zinc ppm ASTM D5185m 2600 3079 3186 2110 CONTAMINANTS method limit/base current history1 <t< td=""><td></td><td></td><td></td><td></td><td><1</td><td>2</td><td>5</td></t<>					<1	2	5
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 2 3 4 52 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 50 60 71 119 Mangaese ppm ASTM D5185m 0 <1	Vanadium	ppm	ASTM D5185m		<1	0	0
Boron	Cadmium				0	0	0
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 50 60 71 119 Manganese ppm ASTM D5185m 0 <1	Boron	ppm	ASTM D5185m	2	3	4	52
Manganese ppm ASTM D5185m 0 <1 2 6 Magnesium ppm ASTM D5185m 950 902 901 660 Calcium ppm ASTM D5185m 1050 1126 1320 1386 Phosphorus ppm ASTM D5185m 995 897 969 671 Zinc ppm ASTM D5185m 1180 1144 1276 851 Sulfur ppm ASTM D5185m 2600 3079 3186 2110 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 9 13 64 Sodium ppm ASTM D5185m >25 9 13 64 Potassium ppm ASTM D5185m >20 5 7 4 Potassium ppm ASTM D5185m >20 5 22 76 INFRA-RED method limit/base	Barium	ppm	ASTM D5185m	0	0	0	0
Magnesium ppm ASTM D5185m 950 902 901 660 Calcium ppm ASTM D5185m 1050 1126 1320 1386 Phosphorus ppm ASTM D5185m 995 897 969 671 Zinc ppm ASTM D5185m 1180 1144 1276 851 Sulfur ppm ASTM D5185m 2600 3079 3186 2110 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 9 13 64 Sodium ppm ASTM D5185m 5 7 4 Potassium ppm ASTM D5185m >20 5 22 76 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.7 0.7 0.5 Nitration Abs/.1mm *ASTM D7415	Molybdenum	ppm	ASTM D5185m	50	60	71	119
Calcium ppm ASTM D5185m 1050 1126 1320 1386 Phosphorus ppm ASTM D5185m 995 897 969 671 Zinc ppm ASTM D5185m 1180 1144 1276 851 Sulfur ppm ASTM D5185m 2600 3079 3186 2110 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 9 13 64 Sodium ppm ASTM D5185m 5 7 4 Potassium ppm ASTM D5185m >20 5 22 76 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.7 0.7 0.5 Nitration Abs/.1mm *ASTM D7415 >30 23.2 23.3 24.6 FLUID DEGRADATION *ASTM D7414 <t< td=""><td>Manganese</td><td>ppm</td><td>ASTM D5185m</td><td>0</td><td><1</td><td>2</td><td>6</td></t<>	Manganese	ppm	ASTM D5185m	0	<1	2	6
Phosphorus ppm ASTM D5185m 995 897 969 671 Zinc ppm ASTM D5185m 1180 1144 1276 851 Sulfur ppm ASTM D5185m 2600 3079 3186 2110 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 9 13 64 Sodium ppm ASTM D5185m 5 7 4 Potassium ppm ASTM D5185m >20 5 22 76 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.7 0.7 0.5 Nitration Abs/cm *ASTM D7624 >20 10.7 10.6 12.6 Sulfation Abs/.1mm *ASTM D7415 >30 23.2 23.3 24.6 FLUID DEGRADATION method <td< td=""><td>Magnesium</td><td>ppm</td><td>ASTM D5185m</td><td>950</td><td>902</td><td>901</td><td>660</td></td<>	Magnesium	ppm	ASTM D5185m	950	902	901	660
Zinc ppm ASTM D5185m 1180 1144 1276 851 Sulfur ppm ASTM D5185m 2600 3079 3186 2110 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 9 13 64 Sodium ppm ASTM D5185m 5 7 4 Potassium ppm ASTM D5185m >20 5 22 76 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.7 0.7 0.5 Nitration Abs/cm *ASTM D7624 >20 10.7 10.6 12.6 Sulfation Abs/.1mm *ASTM D7415 >30 23.2 23.3 24.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *AS	Calcium	ppm	ASTM D5185m	1050	1126	1320	1386
Sulfur ppm ASTM D5185m 2600 3079 3186 2110 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 9 13 64 Sodium ppm ASTM D5185m 5 7 4 Potassium ppm ASTM D5185m >20 5 22 76 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.7 0.7 0.5 Nitration Abs/.1mm *ASTM D7624 >20 10.7 10.6 12.6 Sulfation Abs/.1mm *ASTM D7415 >30 23.2 23.3 24.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.2 18.4 24.2	Phosphorus	ppm	ASTM D5185m	995	897	969	671
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 9 13 64 Sodium ppm ASTM D5185m 5 7 4 Potassium ppm ASTM D5185m >20 5 22 76 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.7 0.7 0.5 Nitration Abs/cm *ASTM D7624 >20 10.7 10.6 12.6 Sulfation Abs/.1mm *ASTM D7415 >30 23.2 23.3 24.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.2 18.4 24.2	Zinc	ppm	ASTM D5185m	1180	1144	1276	851
Silicon ppm ASTM D5185m >25 9 13 64 Sodium ppm ASTM D5185m 5 7 4 Potassium ppm ASTM D5185m >20 5 22 76 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.7 0.7 0.5 Nitration Abs/cm *ASTM D7624 >20 10.7 10.6 12.6 Sulfation Abs/.1mm *ASTM D7415 >30 23.2 23.3 24.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.2 18.4 24.2	Sulfur	ppm	ASTM D5185m	2600	3079	3186	2110
Sodium ppm ASTM D5185m 5 7 4 Potassium ppm ASTM D5185m >20 5 22 76 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.7 0.7 0.5 Nitration Abs/cm *ASTM D7624 >20 10.7 10.6 12.6 Sulfation Abs/.1mm *ASTM D7415 >30 23.2 23.3 24.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.2 18.4 24.2	CONTAMINAN	ITS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 5 22 76 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.7 0.7 0.5 Nitration Abs/cm *ASTM D7624 >20 10.7 10.6 12.6 Sulfation Abs/.1mm *ASTM D7415 >30 23.2 23.3 24.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.2 18.4 24.2	Silicon	ppm	ASTM D5185m	>25	9	13	64
INFRA-RED	Sodium	ppm	ASTM D5185m		5	7	4
Soot % % *ASTM D7844 >4 0.7 0.7 0.5 Nitration Abs/cm *ASTM D7624 >20 10.7 10.6 12.6 Sulfation Abs/.1mm *ASTM D7415 >30 23.2 23.3 24.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.2 18.4 24.2	Potassium	ppm	ASTM D5185m	>20	5	22	76
Nitration Abs/cm *ASTM D7624 >20 10.7 10.6 12.6 Sulfation Abs/.1mm *ASTM D7415 >30 23.2 23.3 24.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.2 18.4 24.2	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 23.2 23.3 24.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.2 18.4 24.2	Soot %	%	*ASTM D7844	>4	0.7	0.7	0.5
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.2 18.4 24.2	Nitration	Abs/cm	*ASTM D7624	>20	10.7	10.6	12.6
Oxidation Abs/.1mm *ASTM D7414 >25 18.2 18.4 24.2	Sulfation	Abs/.1mm	*ASTM D7415	>30	23.2	23.3	24.6
	FLUID DEGRA	DATION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 4.2 4.6 5.0	Oxidation	Abs/.1mm	*ASTM D7414	>25	18.2	18.4	24.2
	Base Number (BN)	mg KOH/g	ASTM D2896		4.2	4.6	5.0



OIL ANALYSIS REPORT

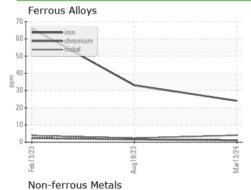


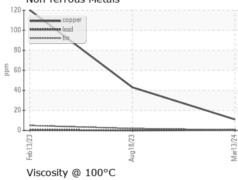
Viscosity @	0 100°C	
15 14 Abnormal	· 	
Base		
Base 0012- Base 111- Base		
Abnormal		
8 1/23		70
Feb13/23	Aug18/7	Clark

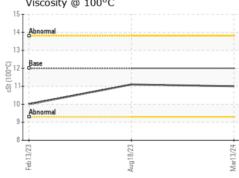
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

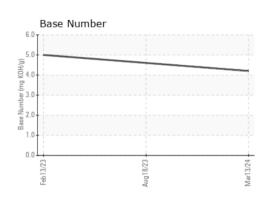
FLUID PROPI	ERTIES	method				history2
Visc @ 100°C	cSt	ASTM D445	12.00	11.0	11.1	10.0

GRAPHS













Certificate L2367

Laboratory Sample No.

Lab Number : 06129247

Unique Number : 10943398 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PCA0113153 Received : 26 Mar 2024 **Tested** : 27 Mar 2024

Diagnosed : 27 Mar 2024 - Wes Davis

NW WHITE & CO - ANDERSON DIVISION 2605 RIVER RD PIEDMONT, SC

US 29673 Contact: James Threatt jthreatt@nwwhite.com T: (864)918-4646

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)