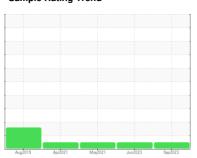


OIL ANALYSIS REPORT

Sample Rating Trend









DT634 Component **Diesel Engine**

PETRO CANADA DURON SHP 10W30 (44 mls)

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

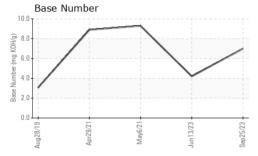
Fluid Condition

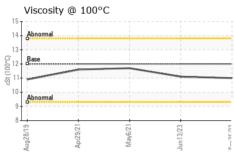
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Client Info PCA0089170 PCA0074069 PCA004511 Sample Date Client Info 25 Sep 2023 13 Jun 2023 06 May 202 07 Machine Age mls Client Info 33045 23978 0 0 01 Changed Changed Changed Changed Changed NORMAL NO	N SHP 10W30 (4	l4 mls)	Aug2019	Apr2021	May2021 Jun2023	Sep2023	
Sample Date	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Machine Age mls Client Info 186604 177537 0 17537	Sample Number		Client Info		PCA0089170	PCA0074069	PCA0045118
Dil Changed	Sample Date		Client Info		25 Sep 2023	13 Jun 2023	06 May 2021
Changed Changed Changed Changed Changed Changed NORMAL NORM	Machine Age	mls	Client Info		186604	177537	0
NORMAL NORMAL NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history2 Nature 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	Dil Age	mls	Client Info		33045	23978	0
CONTAMINATION method limit/base current history1 history2	Oil Changed		Client Info		Changed	Changed	Changed
Vicinity Vicinity	Sample Status				NORMAL	NORMAL	NORMAL
Water WC Method Solz NEG NEG NEG Glycol WC Method Imitibase current history1 history1 WEAR METALS method limit/base current history1 history2 ron ppm ASTM D5185m >20 <1	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS	uel		WC Method	>3.0	<1.0	<1.0	<1.0
WEAR METALS method limit/base current history1 history2 ron ppm ASTM D5185m >120 10 24 6 Chromium ppm ASTM D5185m >20 -1 -1 -1 Alickel ppm ASTM D5185m >2 0 0 0 Silver ppm ASTM D5185m >2 0 -1 -1 Aluminum ppm ASTM D5185m >2 0 -1 -1 Aluminum ppm ASTM D5185m >2 0 -1 -1 Aluminum ppm ASTM D5185m >20 8 16 0 Acead ppm ASTM D5185m >330 1 2 1 -1 Copper ppm ASTM D5185m >15 <1	Vater		WC Method	>0.2	NEG	NEG	NEG
Chromium	Glycol		WC Method		NEG	NEG	NEG
Chromium	WEAR METAL	S	method	limit/base	current	history1	history2
Astronome	ron	ppm	ASTM D5185m	>120	10	24	6
Silver ppm ASTM D5185m >2 0 0 0 0 0 0 0 0 0	Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Silver	lickel	ppm	ASTM D5185m	>5	<1	<1	<1
Astronometric Astronometri	itanium	ppm	ASTM D5185m	>2	0	0	0
December December	Silver	ppm	ASTM D5185m	>2	0	<1	<1
Copper	Aluminum	ppm	ASTM D5185m	>20	8	16	0
Antimony ppm ASTM D5185m >15 <1 <1 <1 <1 <1 <1 <1	_ead	ppm	ASTM D5185m	>40	<1	0	<1
Continuon	Copper	ppm	ASTM D5185m	>330	1	2	1
Anadium 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 2 3 10 Barium ppm ASTM D5185m 0 0 0 0 0 Molybdenum ppm ASTM D5185m 50 61 61 51 Magnesium ppm ASTM D5185m 950 1088 954 888 Calcium ppm ASTM D5185m 950 1088 954 888 Calcium ppm ASTM D5185m 995 1025 947 960 Zinc ppm ASTM D5185m 995 1025 947 960 Zinc ppm ASTM D5185m 2600 3496 3385 2740 CONTAMINANTS method limit/base current history1 </td <td></td> <td></td> <td>ASTM D5185m</td> <td>>15</td> <th><1</th> <td><1</td> <td><1</td>			ASTM D5185m	>15	<1	<1	<1
Anadium 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 2 3 10 Barium ppm ASTM D5185m 0 0 0 0 0 Molybdenum ppm ASTM D5185m 50 61 61 51 Magnesium ppm ASTM D5185m 950 1088 954 888 Calcium ppm ASTM D5185m 950 1088 954 888 Calcium ppm ASTM D5185m 995 1025 947 960 Zinc ppm ASTM D5185m 995 1025 947 960 Zinc ppm ASTM D5185m 2600 3496 3385 2740 CONTAMINANTS method limit/base current history1 </td <td>Antimony</td> <td></td> <td>ASTM D5185m</td> <td></td> <th></th> <td></td> <td>0</td>	Antimony		ASTM D5185m				0
ADDITIVES	-		ASTM D5185m		<1	0	0
Soron ppm ASTM D5185m 2 2 3 10 0 0 0 0 0 0 0 0	Cadmium		ASTM D5185m		0	0	0
Sarium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 50 61 61 51 Manganese ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 950 1088 954 888 Calcium ppm ASTM D5185m 950 1218 1107 1074 Phosphorus ppm ASTM D5185m 1050 1218 1107 1074 Phosphorus ppm ASTM D5185m 995 1025 947 960 Zinc ppm ASTM D5185m 2600 3496 3385 2740 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 7 2 Godium ppm ASTM D5185m >20 14 36 3 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7844 >4	Boron	ppm	ASTM D5185m	2	2	3	10
Manganese ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 950 1088 954 888 Calcium ppm ASTM D5185m 1050 1218 1107 1074 Phosphorus ppm ASTM D5185m 995 1025 947 960 Zinc ppm ASTM D5185m 1180 1444 1261 1066 Sulfur ppm ASTM D5185m 2600 3496 3385 2740 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 7 2 Goldium ppm ASTM D5185m >20 14 36 3 INFRA-RED method limit/base current history1 history2 Goot % % *ASTM D7844 >4 0.4 0.8 0.1 Sulfation Abs/:1mm *ASTM D7845	Barium	ppm	ASTM D5185m	0	0	0	0
Magnesium ppm ASTM D5185m 950 1088 954 888 Calcium ppm ASTM D5185m 1050 1218 1107 1074 Phosphorus ppm ASTM D5185m 995 1025 947 960 Zinc ppm ASTM D5185m 1180 1444 1261 1066 Sulfur ppm ASTM D5185m 2600 3496 3385 2740 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 7 2 Sodium ppm ASTM D5185m >20 14 36 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.4 0.8 0.1 Sulfration Abs/cm *ASTM D7624 >20 9.3 11.0 5.8 Sulfation Abs/cm *ASTM D741	Molybdenum	ppm	ASTM D5185m	50	61	61	51
Calcium ppm ASTM D5185m 1050 1218 1107 1074 Phosphorus ppm ASTM D5185m 995 1025 947 960 Zinc ppm ASTM D5185m 1180 1444 1261 1066 Sulfur ppm ASTM D5185m 2600 3496 3385 2740 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 7 2 Solium ppm ASTM D5185m >20 14 36 3 Potassium ppm ASTM D5185m >20 14 36 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.4 0.8 0.1 Silicon Abs/:mm *ASTM D7845 >30 18.4 23.2 19.4 FLUID DEGRADATION method<	Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Calcium ppm ASTM D5185m 1050 1218 1107 1074 Phosphorus ppm ASTM D5185m 995 1025 947 960 Zinc ppm ASTM D5185m 1180 1444 1261 1066 Sulfur ppm ASTM D5185m 2600 3496 3385 2740 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 7 2 Goldium ppm ASTM D5185m >20 14 36 3 Potassium ppm ASTM D5185m >20 14 36 3 INFRA-RED method limit/base current history1 history2 Goot % % *ASTM D7844 >4 0.4 0.8 0.1 Witration Abs/cm *ASTM D7415 >30 18.4 23.2 19.4 FLUID DEGRADATION metho	//agnesium	ppm	ASTM D5185m	950	1088	954	888
Zinc ppm ASTM D5185m 1180 1444 1261 1066 Sulfur ppm ASTM D5185m 2600 3496 3385 2740 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 7 2 Sodium ppm ASTM D5185m >20 14 36 3 Potassium ppm ASTM D5185m >20 14 36 3 INFRA-RED method limit/base current history1 history2 Goot % % *ASTM D7844 >4 0.4 0.8 0.1 Nitration Abs/cm *ASTM D7624 >20 9.3 11.0 5.8 Sulfation Abs/.1mm *ASTM D7415 >30 18.4 23.2 19.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm	-		ASTM D5185m	1050	1218	1107	1074
Zinc ppm ASTM D5185m 1180 1444 1261 1066 Sulfur ppm ASTM D5185m 2600 3496 3385 2740 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 7 2 Sodium ppm ASTM D5185m >20 14 36 3 Potassium ppm ASTM D5185m >20 14 36 3 INFRA-RED method limit/base current history1 history2 Goot % % *ASTM D7844 >4 0.4 0.8 0.1 Nitration Abs/cm *ASTM D7624 >20 9.3 11.0 5.8 Sulfation Abs/.1mm *ASTM D7415 >30 18.4 23.2 19.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm	Phosphorus	ppm	ASTM D5185m	995	1025	947	960
Gulfur ppm ASTM D5185m 2600 3496 3385 2740 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 7 2 Sodium ppm ASTM D5185m >20 14 36 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.4 0.8 0.1 Nitration Abs/cm *ASTM D7624 >20 9.3 11.0 5.8 Gulfation Abs/.1mm *ASTM D7415 >30 18.4 23.2 19.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.4 18.8 14.6	•		ASTM D5185m	1180	1444	1261	1066
Solicon ppm ASTM D5185m >25 5 7 2 4	Sulfur		ASTM D5185m	2600	3496	3385	2740
Sodium ppm ASTM D5185m <1 2 4 Potassium ppm ASTM D5185m >20 14 36 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.4 0.8 0.1 Vitration Abs/cm *ASTM D7624 >20 9.3 11.0 5.8 Sulfation Abs/.1mm *ASTM D7415 >30 18.4 23.2 19.4 FLUID DEGRADATION method limit/base current history1 history2 Dxidation Abs/.1mm *ASTM D7414 >25 14.4 18.8 14.6	CONTAMINAN	TS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 14 36 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.4 0.8 0.1 Nitration Abs/cm *ASTM D7624 >20 9.3 11.0 5.8 Sulfation Abs/.1mm *ASTM D7415 >30 18.4 23.2 19.4 FLUID DEGRADATION method limit/base current history1 history2 Dxidation Abs/.1mm *ASTM D7414 >25 14.4 18.8 14.6	Silicon	ppm	ASTM D5185m	>25	5	7	2
INFRA-RED	Sodium	ppm	ASTM D5185m		<1	2	4
Soot % % *ASTM D7844 >4 0.4 0.8 0.1 Nitration Abs/cm *ASTM D7624 >20 9.3 11.0 5.8 Sulfation Abs/.1mm *ASTM D7415 >30 18.4 23.2 19.4 FLUID DEGRADATION method limit/base current history1 history2 Dxidation Abs/.1mm *ASTM D7414 >25 14.4 18.8 14.6	Potassium	ppm	ASTM D5185m	>20	14	36	3
Nitration Abs/cm *ASTM D7624 >20 9.3 11.0 5.8 Sulfation Abs/.1mm *ASTM D7415 >30 18.4 23.2 19.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.4 18.8 14.6	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 18.4 23.2 19.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.4 18.8 14.6	Soot %	%	*ASTM D7844	>4	0.4	0.8	0.1
Sulfation Abs/.1mm *ASTM D7415 >30 18.4 23.2 19.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 14.4 18.8 14.6	Nitration	Abs/cm	*ASTM D7624	>20	9.3	11.0	5.8
Dxidation Abs/.1mm *ASTM D7414 >25 14.4 18.8 14.6	Sulfation	Abs/.1mm					
	FLUID DEGRA	OATION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 7.0 4.2 9.3	Oxidation	Abs/.1mm	*ASTM D7414	>25	14.4	18.8	14.6
	Base Number (BN)	mg KOH/g	ASTM D2896		7.0	4.2	9.3



OIL ANALYSIS REPORT

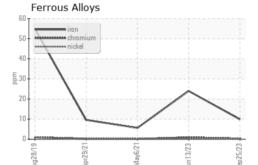


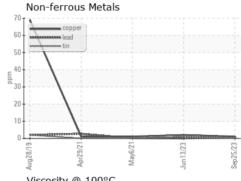


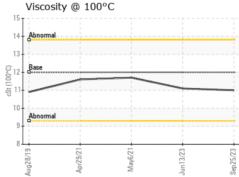
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

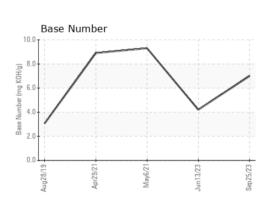
FLUID PROPERTIES		method				history2
Visc @ 100°C	cSt	ASTM D445	12.00	11.0	11.1	11.7

GRAPHS













Certificate L2367

Laboratory Sample No.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Lab Number : 06104209

Test Package : FLEET

: PCA0089170 Unique Number : 10902439

Received **Tested** Diagnosed

: 29 Feb 2024 : 01 Mar 2024 : 02 Mar 2024 - Don Baldridge

NW WHITE & CO - GREER DIVISION 1060 ROGERS BRIDGE RD

DUNCAN, SC US 29334 Contact: Matt Quinlan

mquinlan@nwwhite.com T: (864)905-8506

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)

Report Id: NWWDUN [WUSCAR] 06104209 (Generated: 03/02/2024 12:16:31) Rev: 1

Submitted By: Matt Quinlan