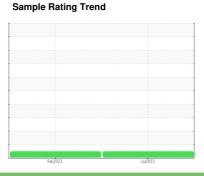


OIL ANALYSIS REPORT

(16059Z) Walgreens [Walgreens] 136A61347

Diesel Engine

PETRO CANADA DURON SHP 10W30 (11 GAL)





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

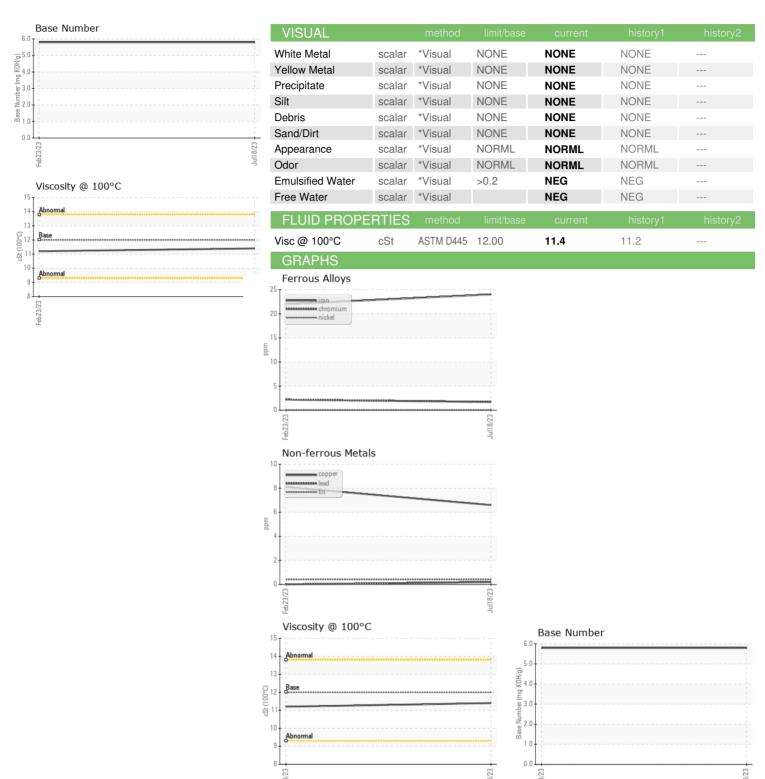
Fluid Condition

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

Sample Number	,		-	Feb 2023	Jul2023	<u> </u>	
Sample Date	SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Machine Age mls Client Info 51983 50000 Client Info Changed Chan	Sample Number		Client Info		PCA0096026	PCA0092805	
Machine Age mls Client Info 51983 50000 Client Info Changed Chan	Sample Date		Client Info		18 Jul 2023	23 Feb 2023	
Oil Changed Sample Status Client Info NORMAL NO	Machine Age	mls	Client Info		319438	267455	
Sample Status		mls	Client Info		51983	50000	
CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0 <1.0 Glycol WC Method NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >80 24 22 Chromium ppm ASTM D5185m >5 2 2 Nickel ppm ASTM D5185m >0 0 Silver ppm ASTM D5185m >30 10 12 Aluminum ppm ASTM D5185m >30 10 12 Lead ppm ASTM D5185m >30 10 12 Tin ppm ASTM D5185m >15 0 7 8 Vanadium ppm ASTM D5185m 0 0 <th>Oil Changed</th> <th></th> <th>Client Info</th> <th></th> <th>Changed</th> <th>Changed</th> <th></th>	Oil Changed		Client Info		Changed	Changed	
Fuel	Sample Status				NORMAL	NORMAL	
WC Method NEG NEG NEG WC Method WC Method WEAR METALS method limit/base current history1 history2	CONTAMINATIO	NC	method	limit/base	current	history1	history2
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >80 24 22 Chromium ppm ASTM D5185m >5 2 2 Nickel ppm ASTM D5185m >2 0 0 Silver ppm ASTM D5185m >3 0 0 Aluminum ppm ASTM D5185m >30 10 12 Aluminum ppm ASTM D5185m >30 1 0 Aluminum ppm ASTM D5185m >30 -1 0 Aluminum ppm ASTM D5185m >30 -1 0 Lead ppm ASTM D5185m >150 7 8	Fuel		WC Method	>5	<1.0	<1.0	
Iron	Glycol		WC Method		NEG	NEG	
Chromium ppm ASTM D5185m >5 2 2 2 Nickel ppm ASTM D5185m >2 0 0 Titanium ppm ASTM D5185m >2 0 0 Silver ppm ASTM D5185m >30 10 12 Lead ppm ASTM D5185m >30 <1 0 Copper ppm ASTM D5185m >30 <1 0 Tin ppm ASTM D5185m >5 <1 <1 Vanadium ppm ASTM D5185m 0 0 Vanadium ppm ASTM D5185m 0 0 0 Vanadium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 </th <th>WEAR METALS</th> <th></th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	WEAR METALS		method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m >2 0 0	Iron	ppm	ASTM D5185m	>80	24	22	
Titanium	Chromium	ppm	ASTM D5185m	>5	2	2	
Silver	Nickel	ppm	ASTM D5185m	>2	0	0	
Aluminum	Titanium	ppm	ASTM D5185m		<1	0	
Lead ppm ASTM D5185m >30 <1	Silver	ppm	ASTM D5185m	>3	0	0	
Copper ppm ASTM D5185m >150 7 8	Aluminum	ppm	ASTM D5185m	>30	10	12	
Tin ppm ASTM D5185m >5 <1	Lead	ppm	ASTM D5185m	>30	<1	0	
Vanadium ppm ASTM D5185m 0 0 Cadmium ppm ASTM D5185m 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 2 0 4 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 50 63 60 Magnesium ppm ASTM D5185m 0 <-1	Copper	ppm	ASTM D5185m	>150	7	8	
Cadmium ppm ASTM D5185m 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 2 0 4 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 50 63 60 Manganese ppm ASTM D5185m 50 63 60 Magnesium ppm ASTM D5185m 950 1023 885 Calcium ppm ASTM D5185m 950 1023 885 Calcium ppm ASTM D5185m 1050 1237 1054 Phosphorus ppm ASTM D5185m 995 1050 879 Zinc ppm ASTM D5185m 2600 3301 2817 Sulfur ppm ASTM D5185m >20 4 </th <td>Tin</td> <td>ppm</td> <td>ASTM D5185m</td> <td>>5</td> <th><1</th> <td><1</td> <td></td>	Tin	ppm	ASTM D5185m	>5	<1	<1	
ADDITIVES	Vanadium	ppm	ASTM D5185m		0	0	
Boron	Cadmium	ppm	ASTM D5185m		0	0	
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 50 63 60 Manganese ppm ASTM D5185m 0 <1 <1 Magnesium ppm ASTM D5185m 950 1023 885 Calcium ppm ASTM D5185m 1050 1237 1054 Phosphorus ppm ASTM D5185m 995 1050 879 Zinc ppm ASTM D5185m 995 1050 879 Zinc ppm ASTM D5185m 995 1050 879 Zinc ppm ASTM D5185m 2600 3301 2817 Sulfur ppm ASTM D5185m 20 4 4 Sodium ppm ASTM D5185m >20 4 4 Potassium ppm ASTM D5185m >20 8 10 INFRA-RED method limit/base	Boron	ppm	ASTM D5185m	2	0	4	
Manganese ppm ASTM D5185m 0 <1	Barium	ppm	ASTM D5185m	0	0	0	
Magnesium ppm ASTM D5185m 950 1023 885 Calcium ppm ASTM D5185m 1050 1237 1054 Phosphorus ppm ASTM D5185m 995 1050 879 Zinc ppm ASTM D5185m 1180 1361 1152 Sulfur ppm ASTM D5185m 2600 3301 2817 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 4 4 Sodium ppm ASTM D5185m 2 2 2 Potassium ppm ASTM D5185m >20 8 10 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 9.2 9.4 Sulfation Abs/.1mm <	Molybdenum	ppm	ASTM D5185m	50	63	60	
Calcium ppm ASTM D5185m 1050 1237 1054 Phosphorus ppm ASTM D5185m 995 1050 879 Zinc ppm ASTM D5185m 1180 1361 1152 Sulfur ppm ASTM D5185m 2600 3301 2817 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 4 4 Sodium ppm ASTM D5185m >20 8 10 Potassium ppm ASTM D5185m >20 8 10 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.1 1.1 1.1 Nitration Abs/.1mm *ASTM D7415 >30 21.8 22.5 FLUID DEGRADATION *ASTM D	Manganese	ppm	ASTM D5185m	0	<1	<1	
Phosphorus ppm ASTM D5185m 995 1050 879 Zinc ppm ASTM D5185m 1180 1361 1152 Sulfur ppm ASTM D5185m 2600 3301 2817 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 4 4 Sodium ppm ASTM D5185m 2 2 Potassium ppm ASTM D5185m >20 8 10 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.1 1.1 Nitration Abs/.1mm *ASTM D7415 >30 21.8 22.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414	Magnesium	ppm	ASTM D5185m	950	1023	885	
Zinc ppm ASTM D5185m 1180 1361 1152 Sulfur ppm ASTM D5185m 2600 3301 2817 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 4 4 Sodium ppm ASTM D5185m 2 2 2 Potassium ppm ASTM D5185m >20 8 10 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.1 1.1 1.1 Nitration Abs/cm *ASTM D7624 >20 9.2 9.4 Sulfation Abs/.1mm *ASTM D7415 >30 21.8 22.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs	Calcium	ppm	ASTM D5185m	1050	1237	1054	
Sulfur ppm ASTM D5185m 2600 3301 2817 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 4 4 Sodium ppm ASTM D5185m 2 2 Potassium ppm ASTM D5185m >20 8 10 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.1 1.1 1.1 Nitration Abs/cm *ASTM D7624 >20 9.2 9.4 Sulfation Abs/.1mm *ASTM D7415 >30 21.8 22.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.7 17.9	Phosphorus	ppm	ASTM D5185m	995			
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 4 4 Sodium ppm ASTM D5185m 2 2 Potassium ppm ASTM D5185m >20 8 10 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.1 1.1 Nitration Abs/cm *ASTM D7624 >20 9.2 9.4 Sulfation Abs/.1mm *ASTM D7415 >30 21.8 22.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.7 17.9		ppm					
Silicon ppm ASTM D5185m >20 4 4 Sodium ppm ASTM D5185m 2 2 2 Potassium ppm ASTM D5185m >20 8 10 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.1 1.1 Nitration Abs/cm *ASTM D7624 >20 9.2 9.4 Sulfation Abs/.1mm *ASTM D7415 >30 21.8 22.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.7 17.9				2600	3301	2817	
Sodium ppm ASTM D5185m 2 2 Potassium ppm ASTM D5185m >20 8 10 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.1 1.1 Nitration Abs/cm *ASTM D7624 >20 9.2 9.4 Sulfation Abs/.1mm *ASTM D7415 >30 21.8 22.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.7 17.9	CONTAMINANT	S	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 8 10 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 1.1 1.1 Nitration Abs/cm *ASTM D7624 >20 9.2 9.4 Sulfation Abs/.1mm *ASTM D7415 >30 21.8 22.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.7 17.9				>20			
INFRA-RED		ppm					
Soot % % *ASTM D7844 >3 1.1 1.1 Nitration Abs/cm *ASTM D7624 >20 9.2 9.4 Sulfation Abs/.1mm *ASTM D7415 >30 21.8 22.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.7 17.9		ppm	ASTM D5185m	>20	8	10	
Nitration Abs/cm *ASTM D7624 >20 9.2 9.4 Sulfation Abs/.1mm *ASTM D7415 >30 21.8 22.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.7 17.9	INFRA-RED			limit/base	current		history2
Sulfation Abs/.1mm *ASTM D7415 >30 21.8 22.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.7 17.9				>3			
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.7 17.9							
Oxidation Abs/.1mm *ASTM D7414 >25 17.7 17.9	Sulfation	Abs/.1mm	*ASTM D7415	>30	21.8	22.5	
	FLUID DEGRADA	ATION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 5.8	Oxidation	Abs/.1mm	*ASTM D7414	>25	17.7	17.9	
	Base Number (BN)	mg KOH/g	ASTM D2896		5.8	5.8	



OIL ANALYSIS REPORT







Certificate L2367

Laboratory Sample No. Lab Number Test Package : FLEET

Unique Number

: PCA0096026 : 05923983 : 10603930

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 14 Aug 2023 Diagnosed

: 15 Aug 2023 : Wes Davis Diagnostician

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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