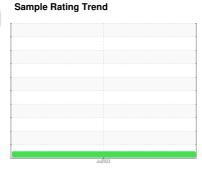


OIL ANALYSIS REPORT





Machine Id **36200** Component **Diesel Engine**

PETRO CANADA DURON SHP 15W40 (--- 0

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

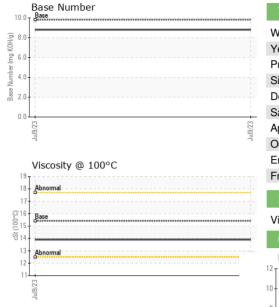
Fluid Condition

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

SAMPLE INFORMATION method limit/base current history 1 history 2							
Sample Number Client Info GFL0067705	iAL)				Jul2023		
Sample Date Client Info 09 Jul 2023	SAMPLE INFOR	MATION	method	limit/base	current	history 1	history 2
Machine Age hrs Client Info 0	Sample Number		Client Info		GFL0067705		
Oil Changed	Sample Date		Client Info		09 Jul 2023		
Contamped Client Info N/A NORMAL CONTAMINATION method limit/base current history 1 history 2	Machine Age	hrs	Client Info		0		
CONTAMINATION	Oil Age	hrs	Client Info		0		
Fuel	Oil Changed		Client Info		N/A		
Fuel	Sample Status				NORMAL		
WEAR METALS	CONTAMINAT	ION	method	limit/base	current	history 1	history 2
WEAR METALS method limit/base current history 1 history 2 Iron ppm ASTM D5185m >100 11 Chromium ppm ASTM D5185m >20 <1	Fuel		WC Method	>5	<1.0		
Comport	Glycol		WC Method		NEG		
Chromium	WEAR METAL	S	method	limit/base	current	history 1	history 2
Nickel	Iron	ppm	ASTM D5185m	>100	11		
Titanium	Chromium	ppm	ASTM D5185m	>20	<1		
Silver	Nickel	ppm	ASTM D5185m	>4	0		
Aluminum ppm ASTM D5185m >20 1	Titanium	ppm	ASTM D5185m		<1		
Lead	Silver	ppm	ASTM D5185m	>3	0		
Copper	Aluminum	ppm	ASTM D5185m	>20	1		
Tin	Lead	ppm	ASTM D5185m	>40	0		
Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history 1 history 2 Boron ppm ASTM D5185m 0 0 Barium ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m 0 57 Manganese ppm ASTM D5185m 0 <1 Magnesium ppm ASTM D5185m 1070 970 Calcium ppm ASTM D5185m 1070 970 Phosphorus ppm ASTM D5185m 1270 1148 Sulfur ppm ASTM D5185m 2060 3397 CONTAMINANTS method limit/base current histor	Copper	ppm	ASTM D5185m	>330	10		
Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history 1 history 2 Boron ppm ASTM D5185m 0 0 Barium ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m 0 <1	Tin	ppm	ASTM D5185m	>15	0		
ADDITIVES method limit/base current history 1 history 2 Boron ppm ASTM D5185m 0 0 Barium ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m 60 57 Manganese ppm ASTM D5185m 0 <1	Vanadium	ppm	ASTM D5185m		0		
Boron ppm ASTM D5185m 0 0 0 0 0 0 0 0	Cadmium	ppm	ASTM D5185m		0		
Barium ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m 60 57 Manganese ppm ASTM D5185m 0 <1 Magnesium ppm ASTM D5185m 1010 879 Calcium ppm ASTM D5185m 1070 970 Phosphorus ppm ASTM D5185m 1150 936 Zinc ppm ASTM D5185m 1270 1148 Sulfur ppm ASTM D5185m 2060 3397 CONTAMINANTS method limit/base current history 1 history 2 Silicon ppm ASTM D5185m >25 3 Sodium ppm ASTM D5185m >20 13 INFRA-RED	ADDITIVES		method	limit/base	current	history 1	history 2
Molybdenum ppm ASTM D5185m 60 57 Manganese ppm ASTM D5185m 0 <1 Magnesium ppm ASTM D5185m 1010 879 Calcium ppm ASTM D5185m 1070 970 Phosphorus ppm ASTM D5185m 1150 936 Zinc ppm ASTM D5185m 1270 1148 Sulfur ppm ASTM D5185m 2060 3397 CONTAMINANTS method limit/base current history 1 history 2 Silicon ppm ASTM D5185m >25 3 Sodium ppm ASTM D5185m >20 13 Potassium ppm ASTM D5185m >20 13 INFRA-RED method limit/b	Boron	ppm	ASTM D5185m	0	0		
Manganese ppm ASTM D5185m 0 <1 Magnesium ppm ASTM D5185m 1010 879 Calcium ppm ASTM D5185m 1070 970 Phosphorus ppm ASTM D5185m 1150 936 Zinc ppm ASTM D5185m 1270 1148 Sulfur ppm ASTM D5185m 2060 3397 CONTAMINANTS method limit/base current history 1 history 2 Silicon ppm ASTM D5185m >25 3 Sodium ppm ASTM D5185m >20 13 Potassium ppm ASTM D5185m >20 13 INFRA-RED method limit/base current history 1 history 2 Soot % % *ASTM D7624	Barium	ppm	ASTM D5185m	0	0		
Magnesium ppm ASTM D5185m 1010 879 Calcium ppm ASTM D5185m 1070 970 Phosphorus ppm ASTM D5185m 1150 936 Zinc ppm ASTM D5185m 1270 1148 Sulfur ppm ASTM D5185m 2060 3397 CONTAMINANTS method limit/base current history 1 history 2 Silicon ppm ASTM D5185m >25 3 Sodium ppm ASTM D5185m >20 13 Potassium ppm ASTM D5185m >20 13 INFRA-RED method limit/base current history 1 history 2 Soot % % *ASTM D7624 >20 6.4 Sulfation Abs/.1mm *ASTM D74	Molybdenum	ppm	ASTM D5185m	60	57		
Calcium ppm ASTM D5185m 1070 970 Phosphorus ppm ASTM D5185m 1150 936 Zinc ppm ASTM D5185m 1270 1148 Sulfur ppm ASTM D5185m 2060 3397 CONTAMINANTS method limit/base current history 1 history 2 Silicon ppm ASTM D5185m >25 3 Sodium ppm ASTM D5185m 36 Potassium ppm ASTM D5185m >20 13 INFRA-RED method limit/base current history 1 history 2 Soot % % *ASTM D7844 >3 0.3 Nitration Abs/.1mm *ASTM D7415 >30 19.0 FLUID DEGRADATION method limit/base	Manganese	ppm	ASTM D5185m	0	<1		
Phosphorus ppm ASTM D5185m 1150 936 Zinc ppm ASTM D5185m 1270 1148 Sulfur ppm ASTM D5185m 2060 3397 CONTAMINANTS method limit/base current history 1 history 2 Silicon ppm ASTM D5185m >25 3 Sodium ppm ASTM D5185m 36 Potassium ppm ASTM D5185m >20 13 INFRA-RED method limit/base current history 1 history 2 Soot % % *ASTM D7844 >3 0.3 Nitration Abs/cm *ASTM D7624 >20 6.4 Sulfation Abs/.1mm *ASTM D7415 >30 19.0 FLUID DEGRADATION *ASTM D7414 <th< td=""><td>Magnesium</td><td>ppm</td><td>ASTM D5185m</td><td>1010</td><td>879</td><td></td><td></td></th<>	Magnesium	ppm	ASTM D5185m	1010	879		
Zinc ppm ASTM D5185m 1270 1148 Sulfur ppm ASTM D5185m 2060 3397 CONTAMINANTS method limit/base current history 1 history 2 Silicon ppm ASTM D5185m >25 3 Sodium ppm ASTM D5185m 36 Potassium ppm ASTM D5185m >20 13 INFRA-RED method limit/base current history 1 history 2 Soot % % *ASTM D7844 >3 0.3 Nitration Abs/cm *ASTM D7624 >20 6.4 Sulfation Abs/.1mm *ASTM D7415 >30 19.0 FLUID DEGRADATION method limit/base current history 1 history 2 Oxidation Abs/.1mm *ASTM D7414	Calcium	ppm	ASTM D5185m	1070	970		
Sulfur ppm ASTM D5185m 2060 3397 CONTAMINANTS method limit/base current history 1 history 2 Silicon ppm ASTM D5185m >25 3 Sodium ppm ASTM D5185m 36 Potassium ppm ASTM D5185m >20 13 INFRA-RED method limit/base current history 1 history 2 Soot % % *ASTM D7844 >3 0.3 Nitration Abs/.mm *ASTM D7624 >20 6.4 Sulfation Abs/.1mm *ASTM D7415 >30 19.0 FLUID DEGRADATION method limit/base current history 1 history 2 Oxidation Abs/.1mm *ASTM D7414 >25 15.1	Phosphorus	ppm	ASTM D5185m	1150	936		
CONTAMINANTS method limit/base current history 1 history 2 Silicon ppm ASTM D5185m >25 3 Sodium ppm ASTM D5185m 36 Potassium ppm ASTM D5185m >20 13 INFRA-RED method limit/base current history 1 history 2 Soot % % *ASTM D7844 >3 0.3 Nitration Abs/cm *ASTM D7624 >20 6.4 Sulfation Abs/.1mm *ASTM D7415 >30 19.0 FLUID DEGRADATION method limit/base current history 1 history 2 Oxidation Abs/.1mm *ASTM D7414 >25 15.1	Zinc	ppm	ASTM D5185m	1270	1148		
Silicon ppm ASTM D5185m >25 3	Sulfur	ppm	ASTM D5185m	2060	3397		
Sodium	CONTAMINAN	ITS	method	limit/base	current	history 1	history 2
Potassium ppm ASTM D5185m >20 13 INFRA-RED method limit/base current history 1 history 2 Soot % % *ASTM D7844 >3 0.3 Nitration Abs/cm *ASTM D7624 >20 6.4 Sulfation Abs/.1mm *ASTM D7415 >30 19.0 FLUID DEGRADATION method limit/base current history 1 history 2 Oxidation Abs/.1mm *ASTM D7414 >25 15.1	Silicon	ppm	ASTM D5185m	>25	3		
INFRA-RED	Sodium	ppm	ASTM D5185m		36		
Soot % % *ASTM D7844 >3 0.3 Nitration Abs/cm *ASTM D7624 >20 6.4 Sulfation Abs/.1mm *ASTM D7415 >30 19.0 FLUID DEGRADATION method limit/base current history 1 history 2 Oxidation Abs/.1mm *ASTM D7414 >25 15.1	Potassium	ppm	ASTM D5185m	>20	13		
Nitration Abs/cm *ASTM D7624 >20 6.4 Sulfation Abs/.1mm *ASTM D7615 >30 19.0 FLUID DEGRADATION method limit/base current history 1 history 2 Oxidation Abs/.1mm *ASTM D7414 >25 15.1	INFRA-RED		method	limit/base	current	history 1	history 2
Sulfation Abs/.1mm *ASTM D7415 >30 19.0 FLUID DEGRADATION method limit/base current history 1 history 2 Oxidation Abs/.1mm *ASTM D7414 >25 15.1	Soot %	%	*ASTM D7844	>3	0.3		
Sulfation Abs/.1mm *ASTM D7415 >30 19.0 FLUID DEGRADATION method limit/base current history 1 history 2 Oxidation Abs/.1mm *ASTM D7414 >25 15.1	Nitration	Abs/cm	*ASTM D7624	>20	6.4		
Oxidation	Sulfation		*ASTM D7415	>30	19.0		
	FLUID DEGRA	OATION	method	limit/base	current	history 1	history 2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	15.1		
	Base Number (BN)		ASTM D2896	9.8			



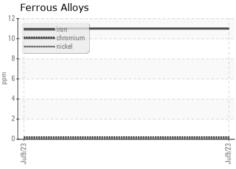
OIL ANALYSIS REPORT

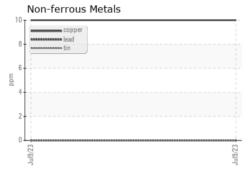


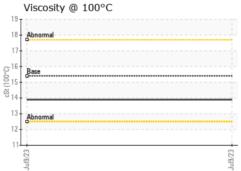
VISUAL		method	limit/base	current	history 1	history 2
White Metal	scalar	*Visual	NONE	NONE		
Yellow Metal	scalar	*Visual	NONE	NONE		
Precipitate	scalar	*Visual	NONE	NONE		
Silt	scalar	*Visual	NONE	NONE		
Debris	scalar	*Visual	NONE	NONE		
Sand/Dirt	scalar	*Visual	NONE	NONE		
Appearance	scalar	*Visual	NORML	NORML		
Odor	scalar	*Visual	NORML	NORML		
Emulsified Water	scalar	*Visual	>0.2	NEG		
Free Water	scalar	*Visual		NEG		
FLUID PROPE	RTIES	method	limit/base	current	history 1	history 2

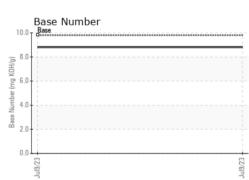
FLUID FNOF		memod			HISTORY I	HISTORY Z
Visc @ 100°C	cSt	ASTM D445	15.4	13.9		

GRAPHS













Certificate L2367

Laboratory Sample No. Lab Number Unique Number : 10549100

: GFL0067705 : 05893290 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 10 Jul 2023 Diagnosed

Diagnostician : Wes Davis

: 11 Jul 2023

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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