

OIL ANALYSIS REPORT

Machine Id **401100**

Component **Diesel Engine**

PETRO CANADA DURON SHP 15W40 (--- GAL)

Sample Rating Trend **FUEL**

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear

All component wear rates are normal.

Contamination

Light fuel dilution occurring. No other contaminants were detected in the oil.

Fluid Condition

The condition of the oil is acceptable for the time in service.

Sample Number Client Info GFL0096755 Sample Date Client Info 14 Nov 2023 Machine Age kms Client Info 1317164 Oil Age kms Client Info N/A Oil Changed Client Info N/A Sample Status MARGINAL CONTAMINATION method limit/base current history1 history2 Water WC Method >0.2 NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM 05185m >10.0 30 VEAR METALS method limit/base current history1 history2 Iron ppm ASTM 05185m >10.0 Nickel ppm ASTM 05185m >3 <1 Itanium	iAL)				Nov2023		
Sample Date Client Info 14 Nov 2023	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Date Client Info 14 Nov 2023	Sample Number		Client Info		GFL0096755		
Machine Age kms Client Info 1317164 <td></td> <td></td> <td>Client Info</td> <td></td> <td>14 Nov 2023</td> <td></td> <td></td>			Client Info		14 Nov 2023		
Cilient Info	•	kms	Client Info		1317164		
CONTAMINATION method limit/base current history1 history2	Oil Age	kms	Client Info		0		
Water	Oil Changed		Client Info		N/A		
Water	Sample Status				MARGINAL		
WEAR METALS	CONTAMINAT	TION	method	limit/base	current	history1	history2
WEAR METALS	Water		WC Method	>0.2	NEG		
Description Description	Glycol		WC Method		NEG		
Chromium ppm ASTM D5185(m) >20 2 Nickel ppm ASTM D5185(m) >4 0 Titanium ppm ASTM D5185(m) >3 <1	WEAR METAL	_S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185(m)	>100	30		
Titanium ppm ASTM D5185(m) 0 Silver ppm ASTM D5185(m) >3 <1	Chromium	ppm	ASTM D5185(m)	>20	2		
Silver	Nickel	ppm	ASTM D5185(m)	>4	0		
Aluminum ppm ASTM D5185(m) >20 4	Titanium	ppm	ASTM D5185(m)		0		
Lead ppm ASTM D5185(m) >40 <1 Copper ppm ASTM D5185(m) >330 <1	Silver	ppm	ASTM D5185(m)	>3	<1		
Copper ppm ASTM D5185(m) >330 <1 Tin ppm ASTM D5185(m) >15 0 Antimony ppm ASTM D5185(m) 0 Vanadium ppm ASTM D5185(m) 0 Beryllium ppm ASTM D5185(m) 0 Cadmium ppm ASTM D5185(m) 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 0 -1 Barium ppm ASTM D5185(m) 0 -1 Molybdenum ppm ASTM D5185(m) 0 6 61 Manganese ppm ASTM D5185(m) 0 0 Calcium ppm ASTM D5185(m) 1010 970	Aluminum	ppm	ASTM D5185(m)	>20	4		
Tin ppm ASTM D5185(m) >15 0 Antimony ppm ASTM D5185(m) 0	Lead	ppm	ASTM D5185(m)	>40	<1		
Antimony ppm ASTM D5185(m) 0	Copper	ppm	ASTM D5185(m)	>330	<1		
Vanadium ppm ASTM D5185(m) 0 Beryllium ppm ASTM D5185(m) 0 Cadmium ppm ASTM D5185(m) 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 0 3 Barium ppm ASTM D5185(m) 0 <1 Molybdenum ppm ASTM D5185(m) 0 60 61 Manganese ppm ASTM D5185(m) 1010 970 Manganesium ppm ASTM D5185(m) 1070 1080 Calcium ppm ASTM D5185(m) 1150 1030 Phosphorus ppm ASTM D5185(m) 1270 1223 Sulfur ppm ASTM D5185(m) 2060	Tin	ppm	ASTM D5185(m)	>15	0		
Description	Antimony	ppm	ASTM D5185(m)		0		
Cadmium ppm ASTM D5185(m) 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 0 3 Barium ppm ASTM D5185(m) 0 41 Molybdenum ppm ASTM D5185(m) 60 61 Manganese ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m) 1010 970 Calcium ppm ASTM D5185(m) 1070 1080 Phosphorus ppm ASTM D5185(m) 1150 1030 Zinc ppm ASTM D5185(m) 2060 2644 Sulfur ppm ASTM D5185(m) <1	Vanadium	ppm	ASTM D5185(m)		0		
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185(m) 0 3 Barium ppm ASTM D5185(m) 0 <1	Beryllium	ppm	ASTM D5185(m)		0		
Boron	Cadmium	ppm	ASTM D5185(m)		0		
Barium ppm ASTM D5185(m) 0 <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185(m) 60 61 Manganese ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m) 1010 970 Calcium ppm ASTM D5185(m) 1070 1080 Phosphorus ppm ASTM D5185(m) 1150 1030 Zinc ppm ASTM D5185(m) 1270 1223 Sulfur ppm ASTM D5185(m) 2060 2644 Lithium ppm ASTM D5185(m) 20 21 CONTAMINANTS method limit/base current history1 history2 Solicon ppm ASTM D5185(m) >20 2 Foolium ppm ASTM D5185(m) >20 2 Fuel %	Boron	ppm	ASTM D5185(m)	0	3		
Manganese ppm ASTM D5185(m) 0 0 Magnesium ppm ASTM D5185(m) 1010 970 Calcium ppm ASTM D5185(m) 1070 1080 Phosphorus ppm ASTM D5185(m) 1150 1030 Zinc ppm ASTM D5185(m) 1270 1223 Sulfur ppm ASTM D5185(m) 2060 2644 Lithium ppm ASTM D5185(m) 2060 26444 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >25 13 Sodium ppm ASTM D5185(m) >20 2 Fuel % ASTM D7593* >5 2.6 INFRA-RED method	Barium	ppm	ASTM D5185(m)	0	<1		
Magnesium ppm ASTM D5185(m) 1010 970 Calcium ppm ASTM D5185(m) 1070 1080 Phosphorus ppm ASTM D5185(m) 1150 1030 Zinc ppm ASTM D5185(m) 1270 1223 Sulfur ppm ASTM D5185(m) 2060 2644 Lithium ppm ASTM D5185(m) 2060 26444 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >25 13 Sodium ppm ASTM D5185(m) >20 2 Fuel % ASTM D7593* >5 2.6 INFRA-RED method limit/base current history1 history2 Soot % % ASTM	Molybdenum	ppm	ASTM D5185(m)	60	61		
Calcium ppm ASTM D5185(m) 1 070 1080 Phosphorus ppm ASTM D5185(m) 1 150 1030 Zinc ppm ASTM D5185(m) 1 270 1 223 Sulfur ppm ASTM D5185(m) 2060 2644 Lithium ppm ASTM D5185(m) <1	Manganese	ppm	ASTM D5185(m)	0	0		
Phosphorus ppm ASTM D5185(m) 1 150 1030 Zinc ppm ASTM D5185(m) 1 270 1223 Sulfur ppm ASTM D5185(m) 2060 2644 Lithium ppm ASTM D5185(m) <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >25 13 Sodium ppm ASTM D5185(m) >25 13 Potassium ppm ASTM D5185(m) >20 2 Fuel % ASTM D7593* >5 2.6 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7624* >3 0.7 Nitration Abs/cm ASTM D7624* >	Magnesium	ppm	ASTM D5185(m)	1010	970		
Zinc ppm ASTM D5185(m) 1270 1223 Sulfur ppm ASTM D5185(m) 2060 2644 Lithium ppm ASTM D5185(m) <1	Calcium	ppm	ASTM D5185(m)	1070	1080		
Sulfur ppm ASTM D5185(m) 2060 2644 Lithium ppm ASTM D5185(m) 2060 2644 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >25 13 Sodium ppm ASTM D5185(m) 4 Potassium ppm ASTM D5185(m) >20 2 Fuel % ASTM D7593* >5 ▲ 2.6 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* >3 0.7 Nitration Abs/cm ASTM D7624* >20 9.4	Phosphorus	ppm			1030		
Lithium ppm ASTM D5185(m) <1 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >25 13 Sodium ppm ASTM D5185(m) 4 Potassium ppm ASTM D5185(m) >20 2 Fuel % ASTM D7593* >5 ▲ 2.6 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* >3 0.7 Nitration Abs/cm ASTM D7624* >20 9.4			. ,		-		
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185(m) >25 13 Sodium ppm ASTM D5185(m) 4 Potassium ppm ASTM D5185(m) >20 2 Fuel % ASTM D7593* >5 ▲ 2.6 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* >3 0.7 Nitration Abs/cm ASTM D7624* >20 9.4		ppm		2060	2644		
Silicon ppm ASTM D5185(m) >25 13 Sodium ppm ASTM D5185(m) 4 Potassium ppm ASTM D5185(m) >20 2 Fuel % ASTM D7593* >5 ▲ 2.6 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* >3 0.7 Nitration Abs/cm ASTM D7624* >20 9.4	Lithium	ppm	ASTM D5185(m)		<1		
Sodium ppm ASTM D5185(m) 4 Potassium ppm ASTM D5185(m) >20 2 Fuel % ASTM D7593* >5 ▲ 2.6 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* >3 0.7 Nitration Abs/cm ASTM D7624* >20 9.4	CONTAMINAN	NTS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185(m) >20 2 Fuel % ASTM D7593* >5 ▲ 2.6 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* >3 0.7 Nitration Abs/cm ASTM D7624* >20 9.4	Silicon	ppm	ASTM D5185(m)	>25	13		
Fuel % ASTM D7593* >5 ▲ 2.6 INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* >3 0.7 Nitration Abs/cm ASTM D7624* >20 9.4		ppm	, ,		4		
INFRA-RED method limit/base current history1 history2 Soot % % ASTM D7844* >3 0.7 Nitration Abs/cm ASTM D7624* >20 9.4				>20			
Soot % % ASTM D7844* >3 0.7 Nitration Abs/cm ASTM D7624* >20 9.4	Fuel	%	ASTM D7593*	>5	<u>^</u> 2.6		
Nitration Abs/cm ASTM D7624* >20 9.4	INFRA-RED		method	limit/base	current	history1	history2
	Soot %	%	ASTM D7844*	>3	0.7		
Sulfation Abs/.1mm ASTM D7415* >30 20.0	Nitration	Abs/cm	ASTM D7624*	>20	9.4		
	Sulfation	Abs/.1mm	ASTM D7415*	>30	20.0		



OIL ANALYSIS REPORT





CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No. Lab Number Unique Number

: GFL0096755 : 02600382

Received

Diagnosed Diagnostician : Wes Davis

: 04 Dec 2023 : 05 Dec 2023

Test Package: MOB 1 (Additional Tests: FuelDilution, PercentFuel)

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 574 - Vancouver Fleet 70 Golden Drive, Coquitlam, BC CA V3K 6B5 Contact: Gary Ewasiuk

To discuss this sample report, contact Customer Service at 1-800-268-2131.

: 5685462

gewasiuk@gflenv.com T:

Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied.

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