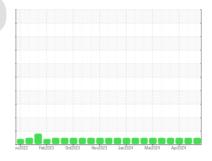


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
413007
Component
Diesel Engine

PETRO CANADA DURON SHP 15W40 (8 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

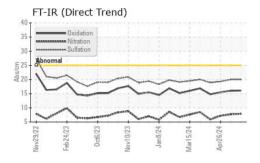
Fluid Condition

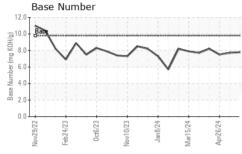
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

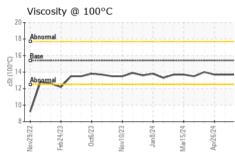
Sample Number Client Info GFL0112201 GFL0112207 Sample Date Client Info 10 May 2024 26 Apr 2024 26 Apr 2024 4504	SAMPLE INFORMA	ATION	method	limit/base	current	history1	history2
Sample Date Client Info 10 May 2024 26 Apr 2024 Achine Age hrs Client Info 4630 4605 4504 4504 4605 Achine Age hrs Client Info 600 150 150 Not Changed North Changed						•	•
Machine Age hrs Client Info 4630 4605 4504 Oil Age hrs Client Info 600 150 150 Oil Changed Client Info Changed Not Changd Not Changd Sample Status NordMAL NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0 <1.0 <1.0 <1.0 Water WC Method NEG NEG NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 7 6 5 Chromium ppm ASTM D5185m >20 <1 <1 0 WEAR METALS method limit/base current history2 history2 Bronch ppm ASTM D5185m >20 <1 <1 0 0 <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>							
Oil Age hrs Client Info 600 150 150 150 Oil Changed Sample Status Client Info Changed Not Changed N		nrs			•	,	
Client Info Changed NorMAL NorMAL NORMAL NORMAL							
CONTAMINATION	-						
Fuel	-					Ŭ	Ü
Water WC Method >0.2 NEG NEG NEG Glycol WC Method Imit/base current history1 history2 WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 7 6 5 Chromium ppm ASTM D5185m >20 <1 <1 0 Nickel ppm ASTM D5185m >4 2 <1 0 0 Silver ppm ASTM D5185m >4 2 <1 0 0 Silver ppm ASTM D5185m >40 0 0 0 0 Silver ppm ASTM D5185m >40 0	CONTAMINATIO	N	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>5	<1.0	<1.0	<1.0
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 7 6 5 Chromium ppm ASTM D5185m >20 <1	Water		WC Method	>0.2	NEG	NEG	NEG
Irron	Glycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m >20 <1 <1 0 Nickel ppm ASTM D5185m >4 2 <1 0 Titanium ppm ASTM D5185m >4 2 <1 0 Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >20 3 3 1 Lead ppm ASTM D5185m >40 0 0 0 Copper ppm ASTM D5185m >40 0 0 0 Copper ppm ASTM D5185m >15 <1 <1 0 0 Vanadium ppm ASTM D5185m <15 <1 <1 0 0 Cadmium ppm ASTM D5185m <1 <1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron p	opm	ASTM D5185m	>100	7	6	5
Titanium	Chromium	opm	ASTM D5185m	>20	<1	<1	0
Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >20 3 3 1 Lead ppm ASTM D5185m >40 0 0 0 Copper ppm ASTM D5185m >330 2 2 2 <1 Vanadium ppm ASTM D5185m >15 <1 <1 0 0 Cadmium ppm ASTM D5185m <1 0 0 0 Cadmium ppm ASTM D5185m 0 <1 3 0 Boron ppm ASTM D5185m 0 <1 3 0 Barium ppm ASTM D5185m 0 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 <1 0 0 Magnesium ppm ASTM D5185m 0 0 <1 0 <1 0 Phosphorus	Nickel	opm	ASTM D5185m	>4		<1	0
Aluminum ppm ASTM D5185m >20 3 3 1 Lead ppm ASTM D5185m >40 0 0 0 Copper ppm ASTM D5185m >330 2 2 <1	Titanium	opm	ASTM D5185m		<1	0	0
Lead ppm ASTM D5185m >40 0 0 0 Copper ppm ASTM D5185m >330 2 2 <1 Tin ppm ASTM D5185m >15 <1 <1 0 Vanadium ppm ASTM D5185m <1 0 0 Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 <1 3 0 Barium ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 0 0 0 0 Barium ppm ASTM D5185m 0 0 <1 0 Malganesium ppm ASTM D5185m 1010 889 946 963 C	Silver	opm	ASTM D5185m	>3	0	0	0
Copper ppm ASTM D5185m >330 2 2 <1 Tin ppm ASTM D5185m >15 <1	Aluminum	opm	ASTM D5185m	>20	3	3	1
Tin	Lead p	opm	ASTM D5185m	>40	0	0	0
Vanadium ppm ASTM D5185m <1 0 0 Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 <1 3 0 Barium ppm ASTM D5185m 0 0 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 0 0 Manganese ppm ASTM D5185m 0 0 <1 0 Magnesium ppm ASTM D5185m 1070 1034 1097 1078 Phosphorus ppm ASTM D5185m 1270 1227 1275 1219 Sulfur ppm ASTM D5185m 2060 3102 3350 3426 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 <	Copper	opm	ASTM D5185m	>330	2	2	<1
Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 <1	Tin p	opm	ASTM D5185m	>15	<1	<1	0
ADDITIVES	Vanadium p	opm	ASTM D5185m		<1	0	0
Boron	Cadmium	opm	ASTM D5185m		<1	0	0
Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 60 56 58 57 Manganese ppm ASTM D5185m 0 0 <1 0 Magnesium ppm ASTM D5185m 1010 889 946 963 Calcium ppm ASTM D5185m 1070 1034 1097 1078 Phosphorus ppm ASTM D5185m 1150 1047 1073 1033 Zinc ppm ASTM D5185m 1270 1227 1275 1219 Sulfur ppm ASTM D5185m 2060 3102 3350 3426 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 4 3 Sodium ppm ASTM D5185m >20 4 2 <1 INFRA-RED method limit/base<	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 56 58 57 Manganese ppm ASTM D5185m 0 0 <1 0 Magnesium ppm ASTM D5185m 1010 889 946 963 Calcium ppm ASTM D5185m 1070 1034 1097 1078 Phosphorus ppm ASTM D5185m 1150 1047 1073 1033 Zinc ppm ASTM D5185m 1270 1227 1275 1219 Sulfur ppm ASTM D5185m 2060 3102 3350 3426 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 4 3 Sodium ppm ASTM D5185m >20 4 2 <1 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7844 >3	Boron	opm	ASTM D5185m	0	<1	3	0
Manganese ppm ASTM D5185m 0 0 <1 0 Magnesium ppm ASTM D5185m 1010 889 946 963 Calcium ppm ASTM D5185m 1070 1034 1097 1078 Phosphorus ppm ASTM D5185m 1150 1047 1073 1033 Zinc ppm ASTM D5185m 1270 1227 1275 1219 Sulfur ppm ASTM D5185m 2060 3102 3350 3426 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 4 3 Sodium ppm ASTM D5185m >20 4 2 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 7.9 7.7 7.2 Sulfation Abs/:1mm *ASTM	Barium p	opm	ASTM D5185m	0	0	0	0
Magnesium ppm ASTM D5185m 1010 889 946 963 Calcium ppm ASTM D5185m 1070 1034 1097 1078 Phosphorus ppm ASTM D5185m 1150 1047 1073 1033 Zinc ppm ASTM D5185m 1270 1227 1275 1219 Sulfur ppm ASTM D5185m 2060 3102 3350 3426 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 4 3 Sodium ppm ASTM D5185m 3 3 3 3 Potassium ppm ASTM D5185m >20 4 2 <1	Molybdenum p	opm	ASTM D5185m	60	56	58	57
Calcium ppm ASTM D5185m 1070 1034 1097 1078 Phosphorus ppm ASTM D5185m 1150 1047 1073 1033 Zinc ppm ASTM D5185m 1270 1227 1275 1219 Sulfur ppm ASTM D5185m 2060 3102 3350 3426 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 4 3 Sodium ppm ASTM D5185m >20 4 2 <1	Manganese	opm	ASTM D5185m	0	0	<1	0
Phosphorus ppm ASTM D5185m 1150 1047 1073 1033 Zinc ppm ASTM D5185m 1270 1227 1275 1219 Sulfur ppm ASTM D5185m 2060 3102 3350 3426 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 4 3 Sodium ppm ASTM D5185m >20 4 2 <1	Magnesium p	opm	ASTM D5185m	1010	889	946	963
Zinc ppm ASTM D5185m 1270 1227 1275 1219 Sulfur ppm ASTM D5185m 2060 3102 3350 3426 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 4 3 Sodium ppm ASTM D5185m 3 3 3 Potassium ppm ASTM D5185m >20 4 2 <1	Calcium	opm	ASTM D5185m	1070	1034	1097	1078
Sulfur ppm ASTM D5185m 2060 3102 3350 3426 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 4 3 Sodium ppm ASTM D5185m 3 3 3 Potassium ppm ASTM D5185m >20 4 2 <1	Phosphorus p	opm	ASTM D5185m	1150	1047	1073	1033
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 5 4 3 Sodium ppm ASTM D5185m 3 3 3 Potassium ppm ASTM D5185m >20 4 2 <1	Zinc	opm	ASTM D5185m	1270	1227	1275	1219
Silicon ppm ASTM D5185m >25 5 4 3 Sodium ppm ASTM D5185m 3 3 3 Potassium ppm ASTM D5185m >20 4 2 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.3 0.3 0.3 Nitration Abs/cm *ASTM D7624 >20 7.9 7.7 7.2 Sulfation Abs/.1mm *ASTM D7415 >30 20.0 20.0 19.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.1 16.0 15.5	Sulfur p	opm	ASTM D5185m	2060	3102	3350	3426
Sodium ppm ASTM D5185m 3 3 3 Potassium ppm ASTM D5185m >20 4 2 <1	CONTAMINANT	S	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 4 2 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.3 0.3 0.3 Nitration Abs/cm *ASTM D7624 >20 7.9 7.7 7.2 Sulfation Abs/.1mm *ASTM D7415 >30 20.0 20.0 19.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.1 16.0 15.5	Silicon	opm	ASTM D5185m	>25	5	4	3
INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.3 0.3 0.3 Nitration Abs/cm *ASTM D7624 >20 7.9 7.7 7.2 Sulfation Abs/.1mm *ASTM D7415 >30 20.0 20.0 19.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.1 16.0 15.5	Sodium	opm	ASTM D5185m		3	3	3
Soot % % *ASTM D7844 >3 0.3 0.3 0.3 Nitration Abs/cm *ASTM D7624 >20 7.9 7.7 7.2 Sulfation Abs/.1mm *ASTM D7415 >30 20.0 20.0 19.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.1 16.0 15.5	Potassium	opm	ASTM D5185m	>20	4	2	<1
Nitration Abs/cm *ASTM D7624 >20 7.9 7.7 7.2 Sulfation Abs/.1mm *ASTM D7415 >30 20.0 20.0 19.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.1 16.0 15.5	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 20.0 20.0 19.3 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.1 16.0 15.5	Soot %	%	*ASTM D7844	>3	0.3	0.3	0.3
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.1 16.0 15.5	Nitration /	Abs/cm	*ASTM D7624	>20	7.9	7.7	7.2
Oxidation Abs/.1mm *ASTM D7414 >25 16.1 16.0 15.5	Sulfation /	Abs/.1mm	*ASTM D7415	>30		20.0	19.3
	FLUID DEGRADA	NOITA	method	limit/base	current	history1	history2
	Oxidation /	Abs/.1mm	*ASTM D7414	>25	16.1	16.0	15.5
	Base Number (BN)	ng KOH/g			7.8		



OIL ANALYSIS REPORT



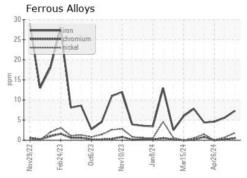


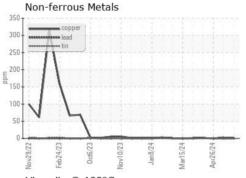


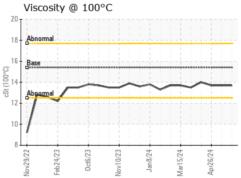
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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

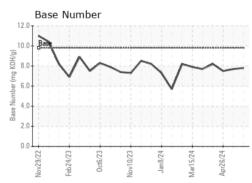
FLUID PROPE	:RHES	method				history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.7	13.7	13.7

GRAPHS













Certificate 12367

Laboratory Sample No.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0112201 Lab Number : 06178569 Unique Number : 11029895 Test Package : FLEET

Received : 14 May 2024 **Tested**

: 15 May 2024 Diagnosed : 15 May 2024 - Wes Davis

GFL Environmental - 829 - Wilco Hauling

5054 Highway HH Hartville, MO US 65667

Contact: James Jones james.jones@gflenv.com T: (417)349-5006

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: GFL829 [WUSCAR] 06178569 (Generated: 05/15/2024 13:01:36) Rev: 1