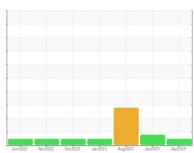


OIL ANALYSIS REPORT

Sample Rating Trend







Machine Id
912005
Component
Diesel Engine
Fluid

PETRO CANADA DURON SHP 15W40 (9 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

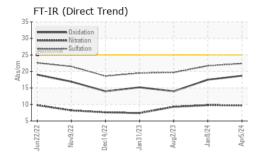
Fluid Condition

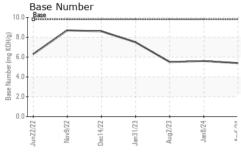
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

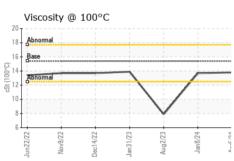
Sample Date	ON SHP 15W40 (9 GAL)	Jun2022	Nov2022 Dec2022	Jan2023 Aug2023 Jan2024	Apr2024	
Sample Date	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Date	Sample Number		Client Info		GFL0115163	GFL0106662	GFL0086219
Dil Age			Client Info		05 Apr 2024	08 Jan 2024	02 Aug 2023
Client Info	•	hrs	Client Info		-	4613	0
CONTAMINATION method limit/base current history1 history2	Oil Age	hrs	Client Info		582	600	4349
Fuel	Oil Changed		Client Info		Changed	Changed	N/A
Fuel	Sample Status				NORMAL	ABNORMAL	SEVERE
Water Glycol WC Method WC Method >0.2 NEG NEG NEG NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >120 24 29 61 Chronium ppm ASTM D5185m >20 <1	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>3.0	<1.0	0.7	1 8.3
WEAR METALS	Water		WC Method	>0.2	NEG	NEG	NEG
Port	Glycol		WC Method		NEG	NEG	NEG
Chromium	WEAR METAL	S	method	limit/base	current	history1	history2
Strickel	ron	ppm	ASTM D5185m	>120	24	29	61
Act Act	Chromium	ppm	ASTM D5185m	>20	<1	1	6
Description	Nickel		ASTM D5185m	>5	6	1 1	<1
Silver	Titanium	ppm	ASTM D5185m	>2	0	0	0
December December	Silver		ASTM D5185m	>2	0	0	<1
Copper	Aluminum	ppm	ASTM D5185m	>20	2	2	32
Standard	_ead	ppm	ASTM D5185m	>40	0	<1	<1
Vanadium ppm ASTM D5185m 0 <1 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 2 5 3 Barium ppm ASTM D5185m 0 0 <1 0 Molybdenum ppm ASTM D5185m 0 0 <1 0 Magnesium ppm ASTM D5185m 0 1 2 1 Magnesium ppm ASTM D5185m 1010 994 879 628 Calcium ppm ASTM D5185m 1070 1055 964 895 Phosphorus ppm ASTM D5185m 1270 1312 1199 931 Zinc ppm ASTM D5185m 2060 2923 2496 2143 CONTAMINANTS method limit/base current <t< td=""><td>Copper</td><td>ppm</td><td>ASTM D5185m</td><td>>330</td><th>5</th><td>15</td><td>3</td></t<>	Copper	ppm	ASTM D5185m	>330	5	15	3
ADDITIVES	Γin	ppm	ASTM D5185m	>15	<1	<1	<1
ADDITIVES	Vanadium	ppm	ASTM D5185m		0	<1	0
Soron ppm ASTM D5185m 0 2 5 3	Cadmium	ppm	ASTM D5185m		0	0	0
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 60 56 54 Manganese ppm ASTM D5185m 0 1 2 1 Magnesium ppm ASTM D5185m 1010 994 879 628 Calcium ppm ASTM D5185m 1070 1055 964 895 Phosphorus ppm ASTM D5185m 1150 1077 976 749 Zinc ppm ASTM D5185m 1270 1312 1199 931 Sulfur ppm ASTM D5185m 2060 2923 2496 2143 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 4 7 Sodium ppm ASTM D5185m >20 <1	Boron	ppm	ASTM D5185m	0	2	5	3
Manganese ppm ASTM D5185m 0 1 2 1 Magnesium ppm ASTM D5185m 1010 994 879 628 Calcium ppm ASTM D5185m 1070 1055 964 895 Phosphorus ppm ASTM D5185m 1150 1077 976 749 Zinc ppm ASTM D5185m 1270 1312 1199 931 Sulfur ppm ASTM D5185m 2060 2923 2496 2143 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 4 7 Sodium ppm ASTM D5185m >20 <1	Barium	ppm	ASTM D5185m	0	0	<1	0
Magnesium ppm ASTM D5185m 1010 994 879 628 Calcium ppm ASTM D5185m 1070 1055 964 895 Phosphorus ppm ASTM D5185m 1150 1077 976 749 Zinc ppm ASTM D5185m 1270 1312 1199 931 Sulfur ppm ASTM D5185m 2060 2923 2496 2143 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 4 7 Sodium ppm ASTM D5185m >20 <1	Molybdenum	ppm	ASTM D5185m	60	60	56	54
Calcium ppm ASTM D5185m 1070 1055 964 895 Phosphorus ppm ASTM D5185m 1150 1077 976 749 Zinc ppm ASTM D5185m 1270 1312 1199 931 Sulfur ppm ASTM D5185m 2060 2923 2496 2143 CONTAMINANTS method limit/base current history1 history2 Soliticon ppm ASTM D5185m >25 6 4 7 Soliticon ppm ASTM D5185m 5 6 3 Potassium ppm ASTM D5185m >20 <1	Manganese	ppm	ASTM D5185m	0	1	2	1
Phosphorus ppm ASTM D5185m 1150 1077 976 749 Zinc ppm ASTM D5185m 1270 1312 1199 931 Sulfur ppm ASTM D5185m 2060 2923 2496 2143 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 4 7 Sodium ppm ASTM D5185m 5 6 3 Potassium ppm ASTM D5185m >20 <1	Magnesium	ppm	ASTM D5185m	1010	994	879	628
Zinc ppm ASTM D5185m 1270 1312 1199 931 Sulfur ppm ASTM D5185m 2060 2923 2496 2143 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 4 7 Sodium ppm ASTM D5185m 5 6 3 Potassium ppm ASTM D5185m >20 <1 2 111 INFRA-RED method limit/base current history1 history2 Goot % % *ASTM D7844 >4 0.9 0.8 1 Nitration Abs/cm *ASTM D7624 >20 9.7 9.8 9.3 Sulfation Abs/.1mm *ASTM D7415 >30 22.4 21.7 19.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D74	Calcium	ppm	ASTM D5185m	1070	1055	964	895
Sulfur ppm ASTM D5185m 2060 2923 2496 2143 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 4 7 Sodium ppm ASTM D5185m 5 6 3 Potassium ppm ASTM D5185m >20 <1	Phosphorus	ppm	ASTM D5185m	1150	1077	976	749
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 4 7 Sodium ppm ASTM D5185m 5 6 3 Potassium ppm ASTM D5185m >20 <1	Zinc	ppm	ASTM D5185m	1270	1312	1199	931
Silicon ppm ASTM D5185m >25 6 4 7 Sodium ppm ASTM D5185m 5 6 3 Potassium ppm ASTM D5185m >20 <1 2 1111 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.9 0.8 1 Nitration Abs/cm *ASTM D7624 >20 9.7 9.8 9.3 Sulfation Abs/.1mm *ASTM D7415 >30 22.4 21.7 19.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.7 17.5 14.0	Sulfur	ppm	ASTM D5185m	2060	2923	2496	2143
Sodium ppm ASTM D5185m 5 6 3 Potassium ppm ASTM D5185m >20 <1	CONTAMINAN	ITS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 <1 2 111 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.9 0.8 1 Nitration Abs/cm *ASTM D7624 >20 9.7 9.8 9.3 Sulfation Abs/.1mm *ASTM D7415 >30 22.4 21.7 19.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.7 17.5 14.0	Silicon	ppm	ASTM D5185m	>25	6	4	7
INFRA-RED	Sodium	ppm	ASTM D5185m		5	6	3
Soot % % *ASTM D7844 >4 0.9 0.8 1 Nitration Abs/cm *ASTM D7624 >20 9.7 9.8 9.3 Sulfation Abs/.1mm *ASTM D7415 >30 22.4 21.7 19.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.7 17.5 14.0	Potassium	ppm	ASTM D5185m	>20	<1	2	111
Nitration Abs/cm *ASTM D7624 >20 9.7 9.8 9.3 Sulfation Abs/.1mm *ASTM D7415 >30 22.4 21.7 19.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.7 17.5 14.0	INFRA-RED		method	limit/base	current	history1	history2
Nitration Abs/cm *ASTM D7624 >20 9.7 9.8 9.3 Sulfation Abs/.1mm *ASTM D7415 >30 22.4 21.7 19.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.7 17.5 14.0	Soot %	%	*ASTM D7844	>4	0.9	0.8	1
Sulfation Abs/.1mm *ASTM D7415 >30 22.4 21.7 19.7 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.7 17.5 14.0	Vitration	Abs/cm	*ASTM D7624	>20			9.3
Oxidation	Sulfation	Abs/.1mm	*ASTM D7415	>30			
	FLUID DEGRA	OATION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	18.7	17.5	14.0
	Base Number (BN)	mg KOH/g			5.4	5.6	5.5



OIL ANALYSIS REPORT



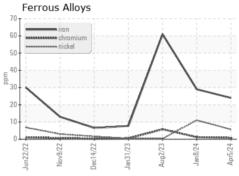


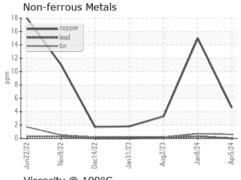


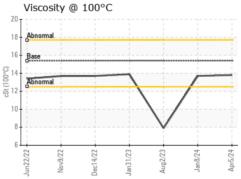
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

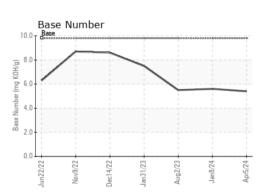
FLUID PROPI	ERHES	method				history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.8	13.7	1 7.9

GRAPHS













Certificate 12367

Laboratory Sample No.

: GFL0115163 Lab Number : 06150103

Unique Number : 10980181 Test Package : FLEET

To discuss this sample report, contact Customer Service at 1-800-237-1369.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 16 Apr 2024

Tested : 17 Apr 2024 Diagnosed : 17 Apr 2024 - Wes Davis

GFL Environmental - 405 - Arbor Hills

7811 Chubb Rd NORTHVILLE, MI US 48168 Contact: John Nahal

jnahal@gflenv.com T:

* - 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)

F: