

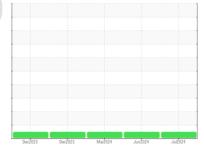
OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area (51464R) 712051 Diesel Engine





PETRO CANADA DURON SHP 15W40 (--- 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

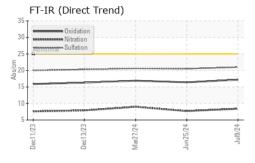
Fluid Condition

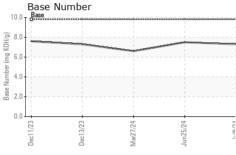
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

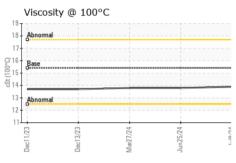
Sample Number Client Info GFL0119946 GFL0119949 GFL0103556 Sample Date Client Info O9 Jul 2024 25 Jun 2024 27 Mar 2024 4085 0	SAMPLE INFORM	ATIO <u>N</u>	method	limit/base	current	history1	history2
Sample Date	Sample Number		Client Info		GFL0119946	GFL0119949	GFL0103556
Machine Age hrs Client Info 4697 4641 4085 Oil Age hrs Client Info 4085 0 0 Oil Changed Client Info Changed Not Changed Changed Sample Status worm NoRMAL NORMAL NORMAL CONTAMINATION method limit/bass current history1 history2 Fuel WC Method >3.0 <1.0			Client Info		09 Jul 2024	25 Jun 2024	27 Mar 2024
Oil Age hrs Client Info 4085 0 0 Oil Changed Sample Status Client Info Changed Changed Not Changed NormAL NORMA		hrs					4085
Client Info Changed Not Changed NORMAL NORMAL NORMAL NORMAL NORMAL NORMAL		hrs	Client Info		4085	0	0
NORMAL NORMAL NORMAL NORMAL						Not Changd	Changed
Fuel	-					_	_
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 18 8 12 Chromium ppm ASTM D5185m >20 <1	CONTAMINATIO	NC	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
WEAR METALS	Water		WC Method	>0.2	NEG	NEG	NEG
Irron	Glycol		WC Method		NEG	NEG	NEG
Chromium	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>120	18	8	12
Titanium	Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Silver	Nickel	ppm	ASTM D5185m	>5	1	0	4
Aluminum ppm ASTM D5185m >20 2 1 1 Lead ppm ASTM D5185m >40 <1	Titanium	ppm	ASTM D5185m	>2	<1	<1	0
Lead	Silver	ppm	ASTM D5185m	>2	<1	<1	0
Copper ppm ASTM D5185m >330 1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	Aluminum	ppm	ASTM D5185m	>20	2	1	1
Tin	Lead	ppm	ASTM D5185m	>40	<1	0	0
Vanadium ppm ASTM D5185m <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	Copper	ppm	ASTM D5185m	>330	1	<1	<1
Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 2 1 6 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 1 <1	Tin	ppm	ASTM D5185m	>15	<1	0	<1
ADDITIVES	Vanadium	ppm	ASTM D5185m		<1	<1	<1
Boron ppm ASTM D5185m 0 2 1 6			ASTM D5185m		<1	0	0
Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 60 60 63 61 Manganese ppm ASTM D5185m 0 1 <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 60 63 61 Manganese ppm ASTM D5185m 0 1 <1 <1 Magnesium ppm ASTM D5185m 1010 946 1129 987 Calcium ppm ASTM D5185m 1070 1070 1234 1122 Phosphorus ppm ASTM D5185m 1150 1005 1133 1019 Zinc ppm ASTM D5185m 1270 1223 1535 1267 Sulfur ppm ASTM D5185m 2060 2689 3925 3281 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 3 3 Sodium ppm ASTM D5185m >20 2 1 2 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7844 >4	Boron	ppm	ASTM D5185m	0	2	1	6
Manganese ppm ASTM D5185m 0 1 <1 <1 Magnesium ppm ASTM D5185m 1010 946 1129 987 Calcium ppm ASTM D5185m 1070 1070 1234 1122 Phosphorus ppm ASTM D5185m 1150 1005 1133 1019 Zinc ppm ASTM D5185m 1270 1223 1535 1267 Sulfur ppm ASTM D5185m 2060 2689 3925 3281 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 3 3 Sodium ppm ASTM D5185m >20 2 1 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 8.4 7.7 9.0 Sulfation Abs/:1mm *AST	Barium	ppm	ASTM D5185m	0	0	0	0
Magnesium ppm ASTM D5185m 1010 946 1129 987 Calcium ppm ASTM D5185m 1070 1070 1234 1122 Phosphorus ppm ASTM D5185m 1150 1005 1133 1019 Zinc ppm ASTM D5185m 1270 1223 1535 1267 Sulfur ppm ASTM D5185m 2060 2689 3925 3281 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 3 3 Sodium ppm ASTM D5185m 5 2 3 Potassium ppm ASTM D5185m >20 2 1 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 8.4 7.7 9.0 Sulfation Abs/.1mm *ASTM D7415	Molybdenum	ppm	ASTM D5185m	60	60	63	61
Calcium ppm ASTM D5185m 1070 1070 1234 1122 Phosphorus ppm ASTM D5185m 1150 1005 1133 1019 Zinc ppm ASTM D5185m 1270 1223 1535 1267 Sulfur ppm ASTM D5185m 2060 2689 3925 3281 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 3 3 Sodium ppm ASTM D5185m >20 2 1 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.5 0.4 0.6 Nitration Abs/.1mm *ASTM D7415 >30 21.0 20.5 20.6 FLUID DEGRADATION method limit/base current history1 history2	Manganese	ppm	ASTM D5185m	0	1	<1	<1
Phosphorus ppm ASTM D5185m 1150 1005 1133 1019 Zinc ppm ASTM D5185m 1270 1223 1535 1267 Sulfur ppm ASTM D5185m 2060 2689 3925 3281 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 3 3 Sodium ppm ASTM D5185m 5 2 3 Potassium ppm ASTM D5185m >20 2 1 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.5 0.4 0.6 Nitration Abs/cm *ASTM D7624 >20 8.4 7.7 9.0 Sulfation Abs/.1mm *ASTM D7415 >30 21.0 20.5 20.6 FLUID DEGRADATION method l	Magnesium	ppm	ASTM D5185m	1010	946	1129	987
Zinc ppm ASTM D5185m 1270 1223 1535 1267 Sulfur ppm ASTM D5185m 2060 2689 3925 3281 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 3 3 Sodium ppm ASTM D5185m 5 2 3 Potassium ppm ASTM D5185m >20 2 1 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.5 0.4 0.6 Nitration Abs/cm *ASTM D7624 >20 8.4 7.7 9.0 Sulfation Abs/.1mm *ASTM D7415 >30 21.0 20.5 20.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D74	Calcium	ppm	ASTM D5185m	1070	1070	1234	1122
Sulfur ppm ASTM D5185m 2060 2689 3925 3281 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 3 3 Sodium ppm ASTM D5185m 5 2 3 Potassium ppm ASTM D5185m >20 2 1 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.5 0.4 0.6 Nitration Abs/cm *ASTM D7624 >20 8.4 7.7 9.0 Sulfation Abs/.1mm *ASTM D7415 >30 21.0 20.5 20.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.2 16.4 16.9	Phosphorus	ppm	ASTM D5185m	1150	1005	1133	1019
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 3 3 Sodium ppm ASTM D5185m 5 2 3 Potassium ppm ASTM D5185m >20 2 1 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.5 0.4 0.6 Nitration Abs/cm *ASTM D7624 >20 8.4 7.7 9.0 Sulfation Abs/.1mm *ASTM D7415 >30 21.0 20.5 20.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.2 16.4 16.9	Zinc	ppm	ASTM D5185m	1270	1223	1535	1267
Silicon ppm ASTM D5185m >25 4 3 3 Sodium ppm ASTM D5185m 5 2 3 Potassium ppm ASTM D5185m >20 2 1 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.5 0.4 0.6 Nitration Abs/cm *ASTM D7624 >20 8.4 7.7 9.0 Sulfation Abs/.1mm *ASTM D7415 >30 21.0 20.5 20.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.2 16.4 16.9	Sulfur	ppm	ASTM D5185m	2060	2689	3925	3281
Sodium ppm ASTM D5185m 5 2 3 Potassium ppm ASTM D5185m >20 2 1 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.5 0.4 0.6 Nitration Abs/cm *ASTM D7624 >20 8.4 7.7 9.0 Sulfation Abs/.1mm *ASTM D7415 >30 21.0 20.5 20.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.2 16.4 16.9	CONTAMINANT	S	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 2 1 2 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.5 0.4 0.6 Nitration Abs/cm *ASTM D7624 >20 8.4 7.7 9.0 Sulfation Abs/.1mm *ASTM D7415 >30 21.0 20.5 20.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.2 16.4 16.9	Silicon	ppm	ASTM D5185m	>25	4	3	3
INFRA-RED	Sodium	ppm	ASTM D5185m		5	2	3
Soot % % *ASTM D7844 >4 0.5 0.4 0.6 Nitration Abs/cm *ASTM D7624 >20 8.4 7.7 9.0 Sulfation Abs/.1mm *ASTM D7415 >30 21.0 20.5 20.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.2 16.4 16.9	Potassium	ppm	ASTM D5185m	>20	2	1	2
Nitration Abs/cm *ASTM D7624 >20 8.4 7.7 9.0 Sulfation Abs/.1mm *ASTM D7415 >30 21.0 20.5 20.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.2 16.4 16.9	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 21.0 20.5 20.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.2 16.4 16.9	Soot %	%	*ASTM D7844	>4	0.5	0.4	0.6
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.2 16.4 16.9	Nitration	Abs/cm	*ASTM D7624	>20	8.4	7.7	9.0
Oxidation Abs/.1mm *ASTM D7414 >25 17.2 16.4 16.9			*ASTM D7415	>30	21.0	20.5	20.6
	FLUID DEGRADA	NOITA	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 9.8 7.3 7.5 6.6	Oxidation	Abs/.1mm	*ASTM D7414	>25	17.2	16.4	16.9
	Base Number (BN)	mg KOH/g	ASTM D2896	9.8	7.3	7.5	6.6



OIL ANALYSIS REPORT



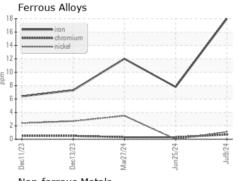


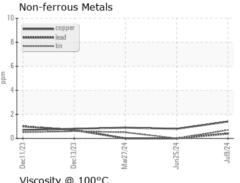


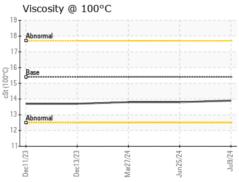
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

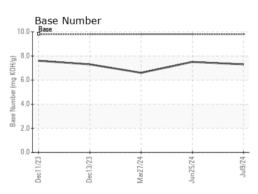
FLUID PROPI	ERIIES	method				history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.9	13.8	13.8

GRAPHS













Certificate 12367

Laboratory Sample No. Lab Number : 06238680 Unique Number : 11127514

: GFL0119946 Test Package : FLEET

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

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

GFL Environmental - 958A - Chillicothe Wigand

19908 N. State Rd 29 Chillicothe, IL US 61523

Contact: Bryan Link blink@gflenv.com T:

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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