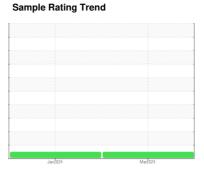


OIL ANALYSIS REPORT



Area (SB14911) 913172 Diesel Engine

PETRO CANADA DURON SHP 15W40 (1 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

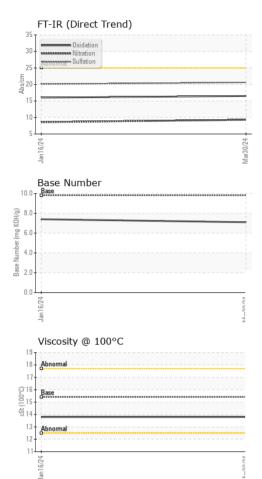
Fluid Condition

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

Cample Number Client Info GFL0107490 GFL0107490 Cample Date Client Info Client Info Cample Date Client Info Changed If Jan 2024 If J	N 3HP 15W40	(I GAL)		Jan2U24	Marzuz4		
Sample Date Client Info 30 Mar 2024 16 Jan 2024 Machine Age hrs Client Info 2399 1728 Dil Age hrs Client Info 671 603 Changed Change	SAMPLE INFOR	RMATION	method	limit/base	current	history1	history2
Machine Age	Sample Number		Client Info		GFL0107490	GFL0107499	
Dil Age	Sample Date		Client Info		30 Mar 2024	16 Jan 2024	
Contained Client Info Changed Normal Normal Normal Contained Normal Normal Contained Normal Normal Contained Normal Contained Normal Contained Normal Contained Normal Contained Contained Normal Contained Cont	Machine Age	hrs	Client Info		2399	1728	
NORMAL NORMAL CONTAMINATION method fimit/base current history1 history1 history1 history1 history1 history2 water WC Method >3.0 <1.0 <1.0 <1.0 <	Oil Age	hrs	Client Info		671	603	
NORMAL NORMAL CONTAMINATION method fimit/base current history1 history1 history1 history1 history1 history2 water WC Method >3.0 <1.0 <1.0 <1.0 <	-		Client Info		Changed	Changed	
Fuel	Sample Status				_		
Water WC Method So.2 NEG NEG Signal WC Method NEG NEG Signal NEG Signal NEG Signal NEG Signal NEG Signal Sign	CONTAMINA	TION	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>3.0	<1.0	<1.0	
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >120 18 14	Water		WC Method	>0.2	NEG	NEG	
Chromium	Glycol		WC Method		NEG	NEG	
Chromium	WEAR METAI	LS	method	limit/base	current	history1	history2
Strickel	ron	ppm	ASTM D5185m	>120	18	14	
Description	Chromium	ppm	ASTM D5185m	>20	2	<1	
Silver	Nickel	ppm	ASTM D5185m	>5	3	<1	
Aluminum	Titanium	ppm	ASTM D5185m	>2	<1	0	
December December	Silver	ppm	ASTM D5185m	>2	<1	<1	
Copper	Aluminum	ppm	ASTM D5185m	>20	8	1	
Tin	_ead	ppm	ASTM D5185m	>40	2	0	
Vanadium ppm ASTM D5185m <1 0 Cadmium ppm ASTM D5185m <1 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 13 22 Barium ppm ASTM D5185m 0 0 0 Wolybdenum ppm ASTM D5185m 0 60 68 64 Manganese ppm ASTM D5185m 0 1 <1 Magnesium ppm ASTM D5185m 1070 1223 1107 Phosphorus ppm ASTM D5185m 1150 1005 890 Zinc ppm ASTM D5185m 1270 1260 1185 Sulfur ppm ASTM D5185m 2060 3364 2768 CONTAMINANTS method limit/base current	Copper	ppm	ASTM D5185m	>330	2	2	
ADDITIVES	Γin	ppm	ASTM D5185m	>15	2	<1	
ADDITIVES	Vanadium	ppm	ASTM D5185m		<1	0	
Soron ppm ASTM D5185m 0 0 0 0 0 0 0 0	Cadmium	ppm	ASTM D5185m		<1	0	
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 68 64 Manganese ppm ASTM D5185m 0 1 <1	Boron	ppm	ASTM D5185m	0	13	22	
Manganese ppm ASTM D5185m 0 1 <1 Magnesium ppm ASTM D5185m 1010 977 869 Calcium ppm ASTM D5185m 1070 1223 1107 Phosphorus ppm ASTM D5185m 1150 1005 890 Zinc ppm ASTM D5185m 1270 1260 1185 Sulfur ppm ASTM D5185m 2060 3364 2768 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 5 Sodium ppm ASTM D5185m >20 5 0 Potassium ppm ASTM D5185m >20 5 0 INFRA-RED method limit/base current history1 history1 Soot % % *ASTM D7844 <	Barium	ppm	ASTM D5185m	0	0	0	
Magnesium ppm ASTM D5185m 1010 977 869 Calcium ppm ASTM D5185m 1070 1223 1107 Phosphorus ppm ASTM D5185m 1150 1005 890 Zinc ppm ASTM D5185m 1270 1260 1185 Sulfur ppm ASTM D5185m 2060 3364 2768 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 5 Sodium ppm ASTM D5185m >20 5 0 Potassium ppm ASTM D5185m >20 5 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.7 0.6 Sulfation Abs/.1mm *ASTM D7624	Molybdenum	ppm	ASTM D5185m	60	68	64	
Calcium ppm ASTM D5185m 1070 1223 1107 Phosphorus ppm ASTM D5185m 1150 1005 890 Zinc ppm ASTM D5185m 1270 1260 1185 Sulfur ppm ASTM D5185m 2060 3364 2768 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 7 5 Sodium ppm ASTM D5185m >20 5 0 Potassium ppm ASTM D5185m >20 5 0 INFRA-RED method limit/base current history1 history1 Soot % % *ASTM D7844 >4 0.7 0.6 Nitration Abs/.1mm *ASTM D7845 >30 20.6 20.1 FLUID DEGRADATION method	Manganese	ppm	ASTM D5185m	0	1	<1	
Phosphorus ppm ASTM D5185m 1150 1005 890 Zinc ppm ASTM D5185m 1270 1260 1185 Sulfur ppm ASTM D5185m 2060 3364 2768 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 7 5 Sodium ppm ASTM D5185m 4 3 Potassium ppm ASTM D5185m >20 5 0 INFRA-RED method limit/base current history1 history1 Soot % % *ASTM D7844 >4 0.7 0.6 Nitration Abs/cm *ASTM D7624 >20 9.3 8.6 Sulfation Abs/.1mm *ASTM D7415 >30 20.6 20.1 FLUID DEGRADATION method limit/base	Magnesium	ppm	ASTM D5185m	1010	977	869	
Zinc ppm ASTM D5185m 1270 1260 1185 Sulfur ppm ASTM D5185m 2060 3364 2768 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 5 Sodium ppm ASTM D5185m 4 3 Potassium ppm ASTM D5185m >20 5 0 INFRA-RED method limit/base current history1 history2 Soot % *ASTM D7844 >4 0.7 0.6 Nitration Abs/cm *ASTM D7624 >20 9.3 8.6 Sulfation Abs/.1mm *ASTM D7415 >30 20.6 20.1 FLUID DEGRADATION method limit/base current history1 history2 Dxidation Abs/.1mm *ASTM D7414 >25 16.5 16.0	Calcium	ppm	ASTM D5185m	1070	1223	1107	
Sulfur ppm ASTM D5185m 2060 3364 2768 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 5 Sodium ppm ASTM D5185m 4 3 Potassium ppm ASTM D5185m >20 5 0 INFRA-RED method limit/base current history1 history3 Soot % % *ASTM D7844 >4 0.7 0.6 Nitration Abs/cm *ASTM D7624 >20 9.3 8.6 Sulfation Abs/.1mm *ASTM D7415 >30 20.6 20.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.5 16.0	Phosphorus	ppm	ASTM D5185m	1150	1005	890	
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 7 5 Sodium ppm ASTM D5185m 4 3 Potassium ppm ASTM D5185m >20 5 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.7 0.6 Nitration Abs/cm *ASTM D7624 >20 9.3 8.6 Sulfation Abs/.1mm *ASTM D7415 >30 20.6 20.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.5 16.0	Zinc	ppm	ASTM D5185m	1270	1260	1185	
Silicon ppm ASTM D5185m >25 7 5	Sulfur	ppm	ASTM D5185m	2060	3364	2768	
Sodium	CONTAMINA	NTS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 5 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.7 0.6 Nitration Abs/cm *ASTM D7624 >20 9.3 8.6 Sulfation Abs/.1mm *ASTM D7415 >30 20.6 20.1 FLUID DEGRADATION method limit/base current history1 history2 Dxidation Abs/.1mm *ASTM D7414 >25 16.5 16.0	Silicon	ppm	ASTM D5185m	>25	7	5	
INFRA-RED	Sodium	ppm	ASTM D5185m		4	3	
Soot % % *ASTM D7844 >4 0.7 0.6 Nitration Abs/cm *ASTM D7624 >20 9.3 8.6 Sulfation Abs/.1mm *ASTM D7415 >30 20.6 20.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.5 16.0	Potassium	ppm	ASTM D5185m	>20	5	0	
Nitration Abs/cm *ASTM D7624 >20 9.3 8.6 Sulfation Abs/.1mm *ASTM D7415 >30 20.6 20.1 FLUID DEGRADATION method limit/base current history1 history1 Oxidation Abs/.1mm *ASTM D7414 >25 16.5 16.0	INFRA-RED		method	limit/base	current	history1	history2
Sulfation Abs/.1mm *ASTM D7415 >30 20.6 20.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 16.5 16.0	Soot %	%	*ASTM D7844	>4	0.7	0.6	
FLUID DEGRADATION method limit/base current history1 history2 Dxidation Abs/.1mm *ASTM D7414 >25 16.5 16.0	Vitration	Abs/cm	*ASTM D7624	>20	9.3	8.6	
Oxidation	Sulfation	Abs/.1mm	*ASTM D7415	>30	20.6	20.1	
	FLUID DEGRA	DATION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	16.5	16.0	
	Base Number (BN)				7.1		



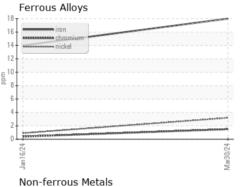
OIL ANALYSIS REPORT

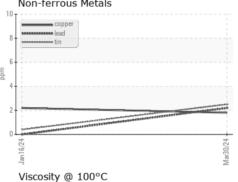


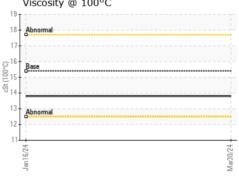
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
Precipitate	scalar	*Visual	NONE	NONE	NONE	
Silt	scalar	*Visual	NONE	NONE	NONE	
Debris	scalar	*Visual	NONE	NONE	NONE	
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
Appearance	scalar	*Visual	NORML	NORML	NORML	
Odor	scalar	*Visual	NORML	NORML	NORML	
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	
Free Water	scalar	*Visual		NEG	NEG	

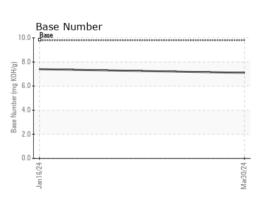
FLUID PR	OPERILES	method	limit/base		history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.8	13.8	

GRAPHS













Laboratory Sample No.

: GFL0107490 Lab Number : 06140504 Unique Number : 10965312

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received **Tested**

: 05 Apr 2024 : 08 Apr 2024 Diagnosed : 08 Apr 2024 - Wes Davis

1215 Klement St. Fort Atkinson, WI

US 53538 Contact: LEONARD KOZLEUCHAR leonard.kozleuchar@gflenv.com T: (262)210-6528

GFL Environmental - 912 - Fort Atkinson HC

Test Package : FLEET Certificate 12367 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)