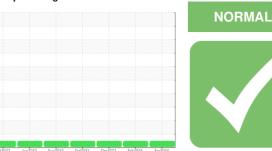


OIL ANALYSIS REPORT

Sample Rating Trend







Machine Id 922039-282 **Diesel Engine**

PETRO CANADA DURON SHP 15W40 (38 QTS)

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

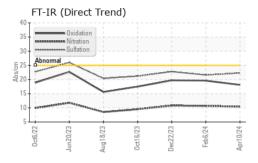
Fluid Condition

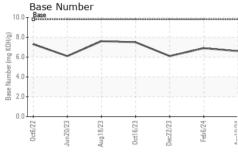
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

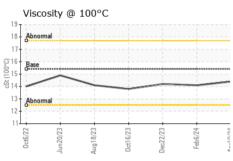
Client Info	N 3HF 13W40 (3	0 (10)	002022	ounzozo Mugzozo		Apiever	
Client Info	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 9846 8995 8649	Sample Number		Client Info		GFL0108555	GFL0108559	GFL0066152
Oil Age hrs Client Info 600 600 600 600 Oil Changed Sample Status Client Info Changed Changed Changed Changed Changed Changed Changed Changed Sample Status NORMAL NORMA	Sample Date		Client Info		10 Apr 2024	06 Feb 2024	22 Dec 2023
Client Info Changed Changed Changed NORMAL NORMAL NORMAL	Machine Age	hrs	Client Info		-	8995	8649
NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history2 history2	Oil Age	hrs	Client Info		600	600	600
CONTAMINATION	-		Client Info		Changed	Changed	Changed
Fuel	-				_		NORMAL
Water Glycol WC Method WC Method >0.2 NEG NEG NEG NEG NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >120 14 23 19 Chromium ppm ASTM D5185m >20 <1	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS	Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >120 14 23 19 Chromium ppm ASTM D5185m >20 <1	Water		WC Method	>0.2	NEG	NEG	NEG
Description Description	Glycol		WC Method		NEG	NEG	NEG
Chromium	WEAR METAL	S	method	limit/base	current	history1	history2
Chromium	Iron	ppm	ASTM D5185m	>120	14	23	19
Description	Chromium		ASTM D5185m	>20	<1	1	<1
Silver	Nickel	ppm	ASTM D5185m	>5	0	0	2
Silver	Titanium		ASTM D5185m	>2	0	0	0
Aluminum	Silver		ASTM D5185m	>2	0	0	0
Lead	Aluminum		ASTM D5185m	>20	2	3	2
Copper	Lead		ASTM D5185m	>40	0	0	2
Standard	Copper		ASTM D5185m	>330	2	4	2
Vanadium ppm ASTM D5185m 0 0 <1 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 3 3 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 60 64 64 66 Manganese ppm ASTM D5185m 0 <1 0 <1 Magnesium ppm ASTM D5185m 1070 1040 1024 1070 Calcium ppm ASTM D5185m 1070 1203 1146 1117 Phosphorus ppm ASTM D5185m 1270 1258 1251 1316 Sulfur ppm ASTM D5185m 2060 3177 3290 2803 CONTAMINANTS method limit/base current <t< td=""><td></td><td></td><td></td><td>>15</td><th>0</th><td>0</td><td><1</td></t<>				>15	0	0	<1
ADDITIVES	Vanadium		ASTM D5185m		0	0	<1
Boron ppm ASTM D5185m 0 0 0 0 0 0 0 0 0	Cadmium		ASTM D5185m		0	0	0
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 60 64 64 66 Manganese ppm ASTM D5185m 0 <1 0 <1 Magnesium ppm ASTM D5185m 1010 1040 1024 1070 Calcium ppm ASTM D5185m 1070 1203 1146 1117 Phosphorus ppm ASTM D5185m 1150 1023 1060 1090 Zinc ppm ASTM D5185m 1270 1258 1251 1316 Sulfur ppm ASTM D5185m 2060 3177 3290 2803 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 9 6 Sodium ppm ASTM D5185m 11 6 12 Potassium ppm ASTM D5185m 20 <1 1 3 INFRA-RED method limit/base curren	Boron	ppm	ASTM D5185m	0	0	3	3
Manganese ppm ASTM D5185m 0 <1 0 <1 Magnesium ppm ASTM D5185m 1010 1040 1024 1070 Calcium ppm ASTM D5185m 1070 1203 1146 1117 Phosphorus ppm ASTM D5185m 1150 1023 1060 1090 Zinc ppm ASTM D5185m 1270 1258 1251 1316 Sulfur ppm ASTM D5185m 2060 3177 3290 2803 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 9 6 Sodium ppm ASTM D5185m >20 <1	Barium	ppm	ASTM D5185m	0	0	0	0
Manganese ppm ASTM D5185m 0 <1 0 <1 Magnesium ppm ASTM D5185m 1010 1040 1024 1070 Calcium ppm ASTM D5185m 1070 1203 1146 1117 Phosphorus ppm ASTM D5185m 1150 1023 1060 1090 Zinc ppm ASTM D5185m 1270 1258 1251 1316 Sulfur ppm ASTM D5185m 2060 3177 3290 2803 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 9 6 Sodium ppm ASTM D5185m >20 <1	Molybdenum	ppm	ASTM D5185m	60	64	64	66
Magnesium ppm ASTM D5185m 1010 1040 1024 1070 Calcium ppm ASTM D5185m 1070 1203 1146 1117 Phosphorus ppm ASTM D5185m 1150 1023 1060 1090 Zinc ppm ASTM D5185m 1270 1258 1251 1316 Sulfur ppm ASTM D5185m 2060 3177 3290 2803 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 9 6 Sodium ppm ASTM D5185m >20 <1	•	ppm	ASTM D5185m	0	<1	0	<1
Calcium ppm ASTM D5185m 1070 1203 1146 1117 Phosphorus ppm ASTM D5185m 1150 1023 1060 1090 Zinc ppm ASTM D5185m 1270 1258 1251 1316 Sulfur ppm ASTM D5185m 2060 3177 3290 2803 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 9 6 Sodium ppm ASTM D5185m >20 <1	-			1010	1040	1024	1070
Phosphorus ppm ASTM D5185m 1150 1023 1060 1090 Zinc ppm ASTM D5185m 1270 1258 1251 1316 Sulfur ppm ASTM D5185m 2060 3177 3290 2803 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 9 6 Sodium ppm ASTM D5185m >20 <1	Calcium		ASTM D5185m	1070	1203	1146	1117
Zinc ppm ASTM D5185m 1270 1258 1251 1316 Sulfur ppm ASTM D5185m 2060 3177 3290 2803 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 9 6 Sodium ppm ASTM D5185m >20 <1	Phosphorus				1023	1060	1090
Sulfur ppm ASTM D5185m 2060 3177 3290 2803 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 3 9 6 Sodium ppm ASTM D5185m 20 11 6 12 Potassium ppm ASTM D5185m >20 <1			ASTM D5185m	1270	1258	1251	1316
Silicon ppm ASTM D5185m >25 3 9 6 Sodium ppm ASTM D5185m 11 6 12 Potassium ppm ASTM D5185m >20 <1 1 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.8 0.6 0.8 Nitration Abs/cm *ASTM D7624 >20 10.4 10.7 10.8 Sulfation Abs/.1mm *ASTM D7415 >30 22.3 21.6 22.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.1 19.6 19.7	Sulfur			2060	3177	3290	
Sodium ppm ASTM D5185m 11 6 12 Potassium ppm ASTM D5185m >20 <1 1 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.8 0.6 0.8 Nitration Abs/cm *ASTM D7624 >20 10.4 10.7 10.8 Sulfation Abs/.1mm *ASTM D7415 >30 22.3 21.6 22.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.1 19.6 19.7	CONTAMINAN	ITS	method	limit/base	current	history1	history2
Sodium ppm ASTM D5185m 11 6 12 Potassium ppm ASTM D5185m >20 <1 1 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.8 0.6 0.8 Nitration Abs/cm *ASTM D7624 >20 10.4 10.7 10.8 Sulfation Abs/.1mm *ASTM D7415 >30 22.3 21.6 22.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.1 19.6 19.7	Silicon	ppm	ASTM D5185m	>25	3	9	6
Potassium ppm ASTM D5185m >20 <1 1 3 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.8 0.6 0.8 Nitration Abs/cm *ASTM D7624 >20 10.4 10.7 10.8 Sulfation Abs/.1mm *ASTM D7415 >30 22.3 21.6 22.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.1 19.6 19.7	Sodium		ASTM D5185m		11	6	
Soot % % *ASTM D7844 >4 0.8 0.6 0.8 Nitration Abs/cm *ASTM D7624 >20 10.4 10.7 10.8 Sulfation Abs/.1mm *ASTM D7415 >30 22.3 21.6 22.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.1 19.6 19.7				>20		1	3
Nitration Abs/cm *ASTM D7624 >20 10.4 10.7 10.8 Sulfation Abs/.1mm *ASTM D7415 >30 22.3 21.6 22.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.1 19.6 19.7	INFRA-RED		method	limit/base	current	history1	history2
Nitration Abs/cm *ASTM D7624 >20 10.4 10.7 10.8 Sulfation Abs/.1mm *ASTM D7415 >30 22.3 21.6 22.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.1 19.6 19.7	Soot %	%	*ASTM D7844	>4	0.8	0.6	0.8
Sulfation Abs/.1mm *ASTM D7415 >30 22.3 21.6 22.8 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.1 19.6 19.7							
Oxidation Abs/.1mm *ASTM D7414 >25 18.1 19.6 19.7					-		
	FLUID DEGRA	OATION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	18.1	19.6	19.7
	Base Number (BN)	mg KOH/g			6.6	6.9	6.1



OIL ANALYSIS REPORT



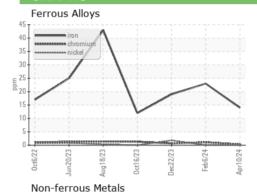


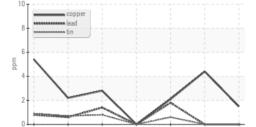


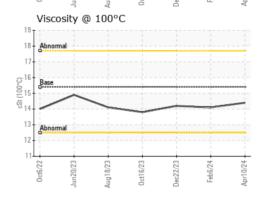
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

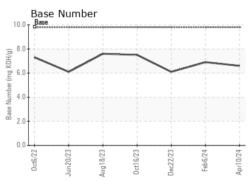
FLUID PROPI	ERHES	method				history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.4	14.1	14.2

GRAPHS













Certificate 12367

Sample No. : GFL0108555 Lab Number : 06178360

Unique Number : 11029686 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 14 May 2024 **Tested** : 14 May 2024

Diagnosed : 14 May 2024 - Wes Davis

GFL Environmental - 904A - Thorpe

N14985 Tieman Ave Thorp, WI

US 54771 Contact: Andy Kane akane@gflenv.com T: (715)202-3420

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)