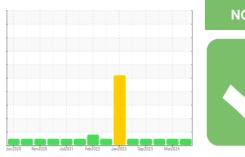


OIL ANALYSIS REPORT

Sample Rating Trend









Machine Id
825026-178
Component
Diesel Engine

PETRO CANADA DURON SHP 15W40 (39 QTS)

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

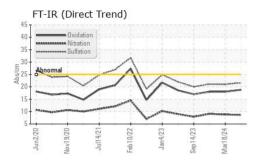
Fluid Condition

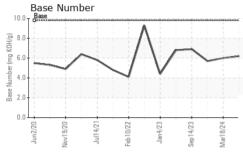
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

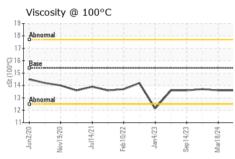
Sample Number Client Info GFL0114585 GFL0096498 GFL009618 GRungle Date Client Info 12 Jun 2024 18 Mar 2024 22 Dec 20 Machine Age hrs Client Info 614 556 590 Changed Changed	N 3HF 13W40 (3	o u.o,						
Sample Date Client Info 12 Jun 2024 18 Mar 2024 22 Dec 20 Machine Age hrs Client Info 22196 21012	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2	
Machine Age hrs Client Info 22196 21012 21012 21012 20114 20114 20114 20114 21012 21	Sample Number		Client Info		GFL0114585	GFL0096498	GFL0090900	
Dil Age	Sample Date		Client Info		12 Jun 2024	18 Mar 2024	22 Dec 2023	
Client Info	Machine Age	hrs	Client Info		22196	21012	21012	
NORMAL NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history1 history1 history1 water WC Method NEG	Oil Age	hrs	Client Info		614	556	590	
CONTAMINATION method limit/base current history1 history1 Fuel WC Method >3.0 <1.0	Oil Changed		Client Info		Changed	Changed	Changed	
Fuel	Sample Status				NORMAL	NORMAL	NORMAL	
Water WC Method >0.2 NEG Net Net <t< td=""><td>CONTAMINAT</td><td>ION</td><td>method</td><td>limit/base</td><th>current</th><td>history1</td><td>history2</td></t<>	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 history1 Iron ppm ASTM D5185m >120 8 10 7 Chromium ppm ASTM D5185m >20 0 <1	Water		WC Method	>0.2	NEG	NEG	NEG	
ASTM D5185m >120	Glycol		WC Method		NEG	NEG	NEG	
Chromium ppm ASTM D5185m >20 0 <1 <1	WEAR METAL	S	method	limit/base	current	history1	history2	
Nickel	ron	ppm	ASTM D5185m	>120	8	10	7	
Titanium	Chromium	ppm	ASTM D5185m	>20	0	<1	<1	
Description	Nickel	ppm	ASTM D5185m	>5	2	3	5	
Aluminum	Titanium	ppm	ASTM D5185m	>2	0	<1	0	
Lead	Silver	ppm	ASTM D5185m	>2	0	0	0	
Copper	Aluminum	ppm	ASTM D5185m	>20	2	2	<1	
Programmer Pro	_ead	ppm	ASTM D5185m	>40	0	<1	<1	
Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history1 Boron ppm ASTM D5185m 0 5 13 6 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 60 64 55 Manganese ppm ASTM D5185m 0 <1 <1 <1 <1 Magnesium ppm ASTM D5185m 1070 1130 1175 997 Phosphorus ppm ASTM D5185m 1070 1130 1175 997 Phosphorus ppm ASTM D5185m 1270 1300 1285 1302 Sulfur ppm ASTM D5185m 2060 3087 2697 2768 CONTAMINANTS method limit/base<	Copper	ppm	ASTM D5185m	>330	1	<1	0	
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history1 Boron ppm ASTM D5185m 0 5 13 6 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 -1 -1 -1 Magnesium ppm ASTM D5185m 1010 973 962 943 Calcium ppm ASTM D5185m 1070 1130 1175 997 Phosphorus ppm ASTM D5185m 1270 1300 1285 1302 Zinc ppm ASTM D5185m 2060 3087 2697 2768 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >20 2 1 1 Potassium ppm ASTM D5185m >20 2	Γin	ppm	ASTM D5185m	>15	<1	<1	2	
ADDITIVES	Vanadium	ppm	ASTM D5185m		0	0	0	
Boron ppm ASTM D5185m 0 0 0 0 0 0 0 0 0	Cadmium	ppm	ASTM D5185m		0	0	0	
Barium	ADDITIVES		method	limit/base	current	history1	history2	
Molybdenum ppm ASTM D5185m 60 60 64 55 Manganese ppm ASTM D5185m 0 <1	Boron	ppm	ASTM D5185m	0	5	13	6	
Manganese ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 1010 973 962 943 Calcium ppm ASTM D5185m 1070 1130 1175 997 Phosphorus ppm ASTM D5185m 1150 1037 987 1007 Zinc ppm ASTM D5185m 1270 1300 1285 1302 Sulfur ppm ASTM D5185m 2060 3087 2697 2768 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 5 6 4 Sodium ppm ASTM D5185m >20 2 1 1 Potassium ppm ASTM D5185m >20 2 1 1 INFRA-RED method limit/base current history1 history1 Soot % % *ASTM D7624	Barium	ppm	ASTM D5185m	0	0	0	0	
Magnesium ppm ASTM D5185m 1010 973 962 943 Calcium ppm ASTM D5185m 1070 1130 1175 997 Phosphorus ppm ASTM D5185m 1150 1037 987 1007 Zinc ppm ASTM D5185m 1270 1300 1285 1302 Sulfur ppm ASTM D5185m 2060 3087 2697 2768 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 5 6 4 Sodium ppm ASTM D5185m >20 2 1 1 Potassium ppm ASTM D5185m >20 2 1 1 INFRA-RED method limit/base current history1 history1 Soot % % *ASTM D7624 >20 8.7 8.8 9.1 Sulfation Abs/.1mm *ASTM D7415	Molybdenum	ppm	ASTM D5185m	60	60	64	55	
Calcium ppm ASTM D5185m 1070 1130 1175 997 Phosphorus ppm ASTM D5185m 1150 1037 987 1007 Zinc ppm ASTM D5185m 1270 1300 1285 1302 Sulfur ppm ASTM D5185m 2060 3087 2697 2768 CONTAMINANTS method limit/base current history1 history1 history1 Silicon ppm ASTM D5185m >25 5 6 4 Sodium ppm ASTM D5185m >20 2 1 1 Potassium ppm ASTM D5185m >20 2 1 1 INFRA-RED method limit/base current history1 history1 Soot % % *ASTM D7844 >4 0.4 0.2 0.3 Nitration Abs/cm *ASTM D7415 >30 21.6 21.0 21.1 FLUID DEGRADATION *ASTM D	Manganese	ppm	ASTM D5185m	0	<1	<1	<1	
Phosphorus ppm ASTM D5185m 1150 1037 987 1007 Zinc ppm ASTM D5185m 1270 1300 1285 1302 Sulfur ppm ASTM D5185m 2060 3087 2697 2768 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 5 6 4 Sodium ppm ASTM D5185m 7 3 <1	Magnesium	ppm	ASTM D5185m	1010	973	962	943	
Zinc ppm ASTM D5185m 1270 1300 1285 1302	Calcium	ppm	ASTM D5185m	1070	1130	1175	997	
Sulfur ppm ASTM D5185m 2060 3087 2697 2768 CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 5 6 4 Sodium ppm ASTM D5185m 7 3 <1	Phosphorus	ppm	ASTM D5185m	1150	1037	987	1007	
CONTAMINANTS method limit/base current history1 history1 Silicon ppm ASTM D5185m >25 5 6 4 Sodium ppm ASTM D5185m 7 3 <1	Zinc	ppm	ASTM D5185m	1270	1300	1285	1302	
Silicon ppm ASTM D5185m >25 5 6 4 Sodium ppm ASTM D5185m 7 3 <1 Potassium ppm ASTM D5185m >20 2 1 1 INFRA-RED method limit/base current history1 history1 history1 Soot % % *ASTM D7844 >4 0.4 0.2 0.3 Nitration Abs/cm *ASTM D7624 >20 8.7 8.8 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 21.6 21.0 21.1 FLUID DEGRADATION method limit/base current history1 history Oxidation Abs/.1mm *ASTM D7414 >25 18.8 18.0 18.0	Sulfur	ppm	ASTM D5185m	2060	3087	2697	2768	
Sodium ppm ASTM D5185m 7 3 <1 Potassium ppm ASTM D5185m >20 2 1 1 INFRA-RED method limit/base current history1 history1 Soot % % *ASTM D7844 >4 0.4 0.2 0.3 Nitration Abs/cm *ASTM D7624 >20 8.7 8.8 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 21.6 21.0 21.1 FLUID DEGRADATION method limit/base current history1 history Oxidation Abs/.1mm *ASTM D7414 >25 18.8 18.0 18.0	CONTAMINAN	ITS	method	limit/base	current	history1	history2	
Potassium ppm ASTM D5185m >20 2 1 1 INFRA-RED method limit/base current history1 history1 Soot % % *ASTM D7844 >4 0.4 0.2 0.3 Nitration Abs/cm *ASTM D7624 >20 8.7 8.8 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 21.6 21.0 21.1 FLUID DEGRADATION method limit/base current history1 history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.8 18.0 18.0	Silicon	ppm	ASTM D5185m	>25	5	6	4	
INFRA-RED	Sodium	ppm	ASTM D5185m		7	3	<1	
Soot % *ASTM D7844 >4 0.4 0.2 0.3 Nitration Abs/cm *ASTM D7624 >20 8.7 8.8 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 21.6 21.0 21.1 FLUID DEGRADATION method limit/base current history1 history1 history1 Oxidation Abs/.1mm *ASTM D7414 >25 18.8 18.0 18.0	Potassium	ppm	ASTM D5185m	>20	2	1	1	
Nitration Abs/cm *ASTM D7624 >20 8.7 8.8 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 21.6 21.0 21.1 FLUID DEGRADATION method limit/base current history1 history Oxidation Abs/.1mm *ASTM D7414 >25 18.8 18.0 18.0	INFRA-RED		method	limit/base	current	history1	history2	
Nitration Abs/cm *ASTM D7624 >20 8.7 8.8 9.1 Sulfation Abs/.1mm *ASTM D7415 >30 21.6 21.0 21.1 FLUID DEGRADATION method limit/base current history1 history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 18.8 18.0 18.0	Soot %	%	*ASTM D7844	>4	0.4	0.2	0.3	
Sulfation Abs/.1mm *ASTM D7415 >30 21.6 21.0 21.1 FLUID DEGRADATION method limit/base current history1 history1 history1 Oxidation Abs/.1mm *ASTM D7414 >25 18.8 18.0 18.0	Nitration			>20				
Oxidation								
	FLUID DEGRADATION method limit/base current history1 history2							
	Oxidation	Abs/.1mm	*ASTM D7414	>25	18.8	18.0	18.0	
Dase Inditide: (DIN) Highory Astro 200 3.0 0.2 0.0 5.7	Base Number (BN)	mg KOH/g	ASTM D2896		6.2	6.0	5.7	



OIL ANALYSIS REPORT



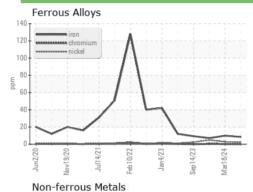


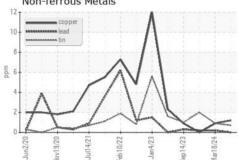


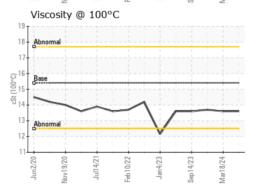
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

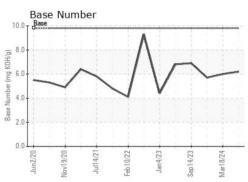
FLUID PROP	ERIIES	metnoa	ilmit/base	current	nistory i	nistory2
Visc @ 100°C	cSt	ASTM D445	15.4	13.6	13.6	13.7

GRAPHS













Certificate 12367

Laboratory Sample No. Lab Number : 06212772

: GFL0114585 Unique Number : 11085636 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 : 17 Jun 2024

Tested : 19 Jun 2024 Diagnosed : 19 Jun 2024 - Wes Davis

GFL Environmental - 656 - Culpeper Hauling

15490 Montanus Drive Culpeper, VA US 22701

Contact: Matt Hanna mhanna@gflenv.com T: (540)727-0887

* - 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)