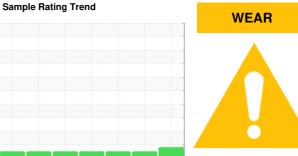


OIL ANALYSIS REPORT

OODT





Machine Id 922010 Component Diesel Engine

PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

Valve wear is indicated. All other component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

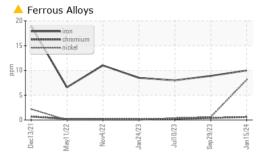
Fluid Condition

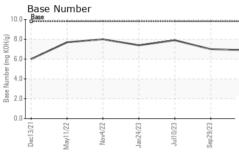
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

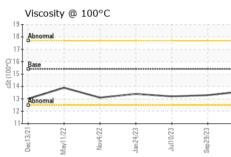
Client Info	N SHP 15W40 (- GAL)	Dec2021	May2022 Nov2022	Jan 2023 Jul 2023 Sep 2023	Jan 2024	
Sample Date	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 30040 29444 28910 Dil Age hrs Client Info 596 604 609 Dil Changed Client Info Not Changed Changed Changed Sample Status BRORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history2 Fuel WC Method >3.0 <1.0	Sample Number		Client Info		GFL0104550	GFL0082512	GFL0082508
Dil Changed	Sample Date		Client Info		15 Jan 2024	29 Sep 2023	10 Jul 2023
Contamped Client Info	Machine Age	hrs	Client Info		30040	29444	28910
CONTAMINATION method minit/base current history1 history2	Oil Age	hrs	Client Info		596	604	609
CONTAMINATION	Oil Changed		Client Info		Not Changd	Changed	Changed
Water	Sample Status				ABNORMAL	NORMAL	NORMAL
Water Gilycol WC Method >0.2 NEG NEG NEG WEAR METALS method limit/base current history1 history2 ron ppm ASTM D5185m >120 10 9 8 Chromium ppm ASTM D5185m >20 <1	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS	-uel		WC Method	>3.0	<1.0	<1.0	<1.0
WEAR METALS method limit/base current history1 history2 ron ppm ASTM D5185m >120 10 9 8 Chromium ppm ASTM D5185m >20 <1	Nater		WC Method	>0.2	NEG	NEG	NEG
Pron	Glycol		WC Method		NEG	NEG	NEG
Chromium	WEAR METAL	S	method	limit/base	current	history1	history2
Strickel	ron	ppm	ASTM D5185m	>120	10	9	8
Silver	Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Description	Nickel		ASTM D5185m	>5	<u>^</u> 8	<1	<1
Salver	Titanium		ASTM D5185m	>2	0	0	<1
Aluminum	Silver		ASTM D5185m	>2	0	0	0
Lead	Aluminum			>20	3	2	2
Copper	_ead	ppm	ASTM D5185m	>40	0	<1	<1
Standard	Copper		ASTM D5185m	>330	1	<1	<1
Vanadium ppm ASTM D5185m <1 <1 <1 Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 0 2 0 Barium ppm ASTM D5185m 0 0 0 0 0 Molybdenum ppm ASTM D5185m 0 53 60 62 Manganese ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 1010 900 927 1012 Calcium ppm ASTM D5185m 1070 975 1015 1111 Phosphorus ppm ASTM D5185m 1270 1141 1222 1245 Sulfur ppm ASTM D5185m 2060 2741 2876 3385 CONTAMINANTS method limit/base current <th< td=""><td></td><td></td><td></td><td></td><th><1</th><td><1</td><td><1</td></th<>					<1	<1	<1
ADDITIVES	Vanadium		ASTM D5185m		<1	<1	<1
Soron 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 53 60 62 Manganese ppm ASTM D5185m 0 <1	Boron	ppm	ASTM D5185m	0	0	2	0
Manganese ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 1010 900 927 1012 Calcium ppm ASTM D5185m 1070 975 1015 1111 Phosphorus ppm ASTM D5185m 1150 953 980 1027 Zinc ppm ASTM D5185m 1270 1141 1222 1245 Sulfur ppm ASTM D5185m 2060 2741 2876 3385 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 3 Godium ppm ASTM D5185m >20 1 <1	Barium	ppm	ASTM D5185m	0	0	0	0
Magnesium ppm ASTM D5185m 1010 900 927 1012 Calcium ppm ASTM D5185m 1070 975 1015 1111 Phosphorus ppm ASTM D5185m 1150 953 980 1027 Zinc ppm ASTM D5185m 1270 1141 1222 1245 Sulfur ppm ASTM D5185m 2060 2741 2876 3385 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 3 Sodium ppm ASTM D5185m >20 1 <1	Molybdenum	ppm	ASTM D5185m	60	53	60	62
Calcium ppm ASTM D5185m 1070 975 1015 1111 Phosphorus ppm ASTM D5185m 1150 953 980 1027 Zinc ppm ASTM D5185m 1270 1141 1222 1245 Sulfur ppm ASTM D5185m 2060 2741 2876 3385 CONTAMINANTS method limit/base current history1 history2 Soliticon ppm ASTM D5185m >25 4 4 3 Soliticon ppm ASTM D5185m >20 1 <1	Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Phosphorus ppm ASTM D5185m 1150 953 980 1027 Zinc ppm ASTM D5185m 1270 1141 1222 1245 Sulfur ppm ASTM D5185m 2060 2741 2876 3385 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 3 Sodium ppm ASTM D5185m >20 1 <1	Magnesium	ppm	ASTM D5185m	1010	900	927	1012
Zinc ppm ASTM D5185m 1270 1141 1222 1245 Sulfur ppm ASTM D5185m 2060 2741 2876 3385 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 3 Sodium ppm ASTM D5185m >20 1 <1	Calcium	ppm	ASTM D5185m	1070	975	1015	1111
Sulfur ppm ASTM D5185m 2060 2741 2876 3385 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 3 Sodium ppm ASTM D5185m 20 1 <1	Phosphorus	ppm	ASTM D5185m	1150	953	980	1027
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 3 Sodium ppm ASTM D5185m 4 5 4 Potassium ppm ASTM D5185m >20 1 <1	Zinc	ppm	ASTM D5185m	1270	1141	1222	1245
Silicon ppm ASTM D5185m >25 4 4 3 Sodium ppm ASTM D5185m 4 5 4 Potassium ppm ASTM D5185m >20 1 <1 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.9 0.5 0.5 Nitration Abs/cm *ASTM D7624 >20 9.9 8.6 8.7 Sulfation Abs/.1mm *ASTM D7415 >30 20.6 20.0 19.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.1 17.2 16.1	Sulfur	ppm	ASTM D5185m	2060		2876	3385
Sodium ppm ASTM D5185m 4 5 4 Potassium ppm ASTM D5185m >20 1 <1	CONTAMINAN	ITS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 1 <1 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.9 0.5 0.5 Nitration Abs/cm *ASTM D7624 >20 9.9 8.6 8.7 Sulfation Abs/.1mm *ASTM D7415 >30 20.6 20.0 19.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.1 17.2 16.1	Silicon	ppm	ASTM D5185m	>25	4	4	3
INFRA-RED	Sodium	ppm	ASTM D5185m		4	5	4
Soot % % *ASTM D7844 >4 0.9 0.5 0.5 Nitration Abs/cm *ASTM D7624 >20 9.9 8.6 8.7 Sulfation Abs/.1mm *ASTM D7415 >30 20.6 20.0 19.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.1 17.2 16.1	Potassium	ppm	ASTM D5185m	>20	1	<1	0
Nitration Abs/cm *ASTM D7624 >20 9.9 8.6 8.7 Sulfation Abs/.1mm *ASTM D7415 >30 20.6 20.0 19.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.1 17.2 16.1	INFRA-RED		method	limit/base	current	history1	history2
Nitration Abs/cm *ASTM D7624 >20 9.9 8.6 8.7 Sulfation Abs/.1mm *ASTM D7415 >30 20.6 20.0 19.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.1 17.2 16.1	Soot %	%	*ASTM D7844	>4	0.9	0.5	0.5
Sulfation Abs/.1mm *ASTM D7415 >30 20.6 20.0 19.4 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.1 17.2 16.1		Abs/cm	*ASTM D7624	>20			
Oxidation							
	FLUID DEGRA	OATION	method	limit/base	current	history1	history2
	Oxidation	Abs/.1mm	*ASTM D7414	>25	17.1	17.2	16.1
	Base Number (BN)	mg KOH/g			6.9	7.0	



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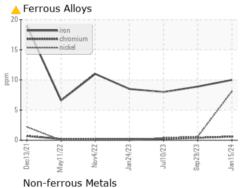


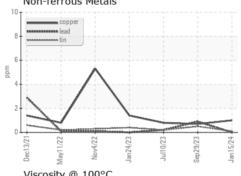


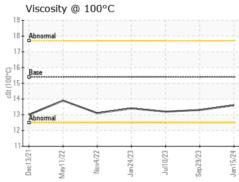
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

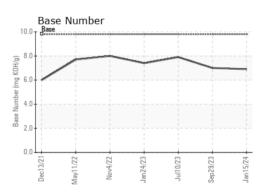
FLUID PROPE	ERITES	method	ilmit/base	current	nistory i	nistoryz
Visc @ 100°C	cSt	ASTM D445	15.4	13.6	13.3	13.2

GRAPHS













Laboratory

Sample No. Lab Number **Unique Number**

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0104550 : 06067493

: 10844170

Recieved : 22 Jan 2024 Diagnosed : 24 Jan 2024 Diagnostician : Don Baldridge GFL Environmental - 947 - WB Horicon HC N7296 County Rd V

Horicon, WI US 53032 Contact: Tim Kieffer tim.kieffer@gflenv.com T: (608)219-0288

Test Package : FLEET Certificate L2367 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)