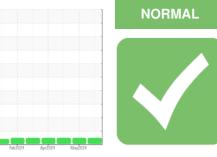


OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

913151

Component Diesel Engine Fluid

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

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.

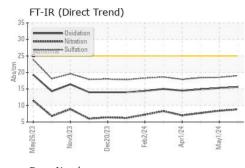
Fluid Condition

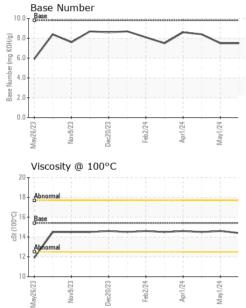
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0109303	GFL0109418	GFL0109404
Sample Date		Client Info		08 May 2024	01 May 2024	12 Apr 2024
Machine Age	hrs	Client Info		3121	3059	2918
Oil Age	hrs	Client Info		575	513	518
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>110	7	4	5
Chromium	ppm	ASTM D5185m	>4	<1	0	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		9	10	9
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	2	3	2
Lead	ppm	ASTM D5185m	>45	<1	<1	0
Copper	ppm	ASTM D5185m	>85	0	<1	<1
Tin	ppm	ASTM D5185m	>4	0	0	<1
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	4	0	7
Barium	ppm	ASTM D5185m	0	0	0	<1
Molybdenum	ppm	ASTM D5185m	60	56	58	53
N 4						55
Manganese	ppm	ASTM D5185m	0	<1	<1	0
Manganese Magnesium	ppm ppm	ASTM D5185m ASTM D5185m	0 1010	<1 943	<1 980	
-		ASTM D5185m				0
Magnesium	ppm	ASTM D5185m	1010	943	980	0 885
Magnesium Calcium Phosphorus Zinc	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070	943 1209	980 1244	0 885 1161
Magnesium Calcium Phosphorus	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150	943 1209 1084	980 1244 1124	0 885 1161 1096
Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150 1270	943 1209 1084 1298	980 1244 1124 1305	0 885 1161 1096 1234
Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150 1270 2060 limit/base	943 1209 1084 1298 3640	980 1244 1124 1305 3910	0 885 1161 1096 1234 3330
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	1010 1070 1150 1270 2060 limit/base	943 1209 1084 1298 3640 current	980 1244 1124 1305 3910 history1	0 885 1161 1096 1234 3330 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150 1270 2060 limit/base >30	943 1209 1084 1298 3640 current 3	980 1244 1124 1305 3910 history1 3	0 885 1161 1096 1234 3330 history2 4
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150 1270 2060 limit/base >30	943 1209 1084 1298 3640 <u>current</u> 3 1	980 1244 1124 1305 3910 history1 3 <1 3 history1	0 885 1161 1096 1234 3330 history2 4 <1 4 kistory2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150 1270 2060 limit/base >30 >20 limit/base >3	943 1209 1084 1298 3640 current 3 1 3 2 1 3 2 0.3	980 1244 1124 1305 3910 history1 3 <1 3 <1 3 history1 0.2	0 885 1161 1096 1234 3330 history2 4 <1 4 ×1 4 history2 0.2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150 1270 2060 limit/base >30 >20 limit/base >3	943 1209 1084 1298 3640 current 3 1 3 2 current	980 1244 1124 1305 3910 history1 3 <1 3 history1	0 885 1161 1096 1234 3330 history2 4 <1 4 <1 4 history2 0.2 7.7
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1010 1070 1150 1270 2060 limit/base >30 >20 limit/base >3	943 1209 1084 1298 3640 current 3 1 3 2 current 0.3	980 1244 1124 1305 3910 history1 3 <1 3 <1 3 history1 0.2	0 885 1161 1096 1234 3330 history2 4 <1 4 ×1 4 history2 0.2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844	1010 1070 1150 1270 2060 Iimit/base >30 Iimit/base >3 >20	943 1209 1084 1298 3640 <u>current</u> 3 1 3 <u>current</u> 0.3 8.8	980 1244 1124 1305 3910 history1 3 <1 3 <1 3 history1 0.2 8.4	0 885 1161 1096 1234 3330 history2 4 <1 4 <1 4 history2 0.2 7.7
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624	1010 1070 1150 22060 Imit/base >30 >20 Imit/base >3 >20 >3	943 1209 1084 1298 3640 current 3 1 3 current 0.3 8.8 19.0	980 1244 1124 1305 3910 history1 3 <1 3 <1 3 history1 0.2 8.4 18.5	0 885 1161 1096 1234 3330 history2 4 <1 4 <1 4 history2 0.2 7.7 18.4



OIL ANALYSIS REPORT





end)			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	LIGHT	LIGHT		
***********	AND ADD ADD ADD ADD ADD ADD ADD ADD ADD	Hubererererererererererererererererererer	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE	
Dect of to	Feb2/24	Apr1/24 May1/24	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML	
Dac	Fe	An	Odor	scalar	*Visual	NORML	NORML	NORML	NORML	
			Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG	
			Free Water	scalar	*Visual		NEG	NEG	NEG	
	\sim	\frown	FLUID PROPE	RTIES	method	limit/base	current	history1	history2	
			Visc @ 100°C	cSt	ASTM D445	15.4	14.4	14.6	14.5	
			GRAPHS							
			Ferrous Alloys							
3	24	24	40 35							
neczu/co	Feb2/24	Apr1/24 May1/24	30 - nickel							
		5	25							
С			툩 20							
			15							
			10							
			5 V 🗸		~					
			53 53 0 53 53 53	124	/24	/24				
			May26/23 Nov9/23 Dec20/23	Feb2/24	Apr1/24	May1/24				
			– Non-ferrous Meta	ls						
1000	Feb2/24	Apr1/24 May1/24	12 copper							
5	£	A	10 - management lead							
			8-							
			<u>۾</u>							
			4							
			2							
				24	24	47				
			May26/23 Nov9/23 Dec20/23	Feb2/24	Apr1/24	May 1/24				
			≥ Viscosity @ 100°C	2						
			¹⁹	-		10	Base Number			
			18 - Abnormal							
			17- 16 - P			(B/H)				
						Base Number (mg KOH/g)	0-			
			(2-001) 3:14			nber (r				
			13 - Abnormal			4. N as				
			12			²⁰ 2.	.0 -			
			11			0.	.0			
			May26/23 -	Feb2/24 -	Apr1/24	May1/24	May26/23 -	Dec20/23 - Feb2/24 -	Apr1/24 - May1/24 -	
			Mayi Nov	Feb	Ap	M	Mayi	Feb	Ap	
		Laboratory Sample No.	: WearCheck USA - 50 : GFL0109303	1 Madiso Rece			GFL Enviro	GFL Environmental - 891 - Oklahoma City Haulin 1001 South Rockwe		
			r : 06176964	Teste		3 May 2024 4 May 2024			lahoma City, OK	
TESTING	LABORATORY	Unique Numbe	r :11023017		Diagnosed : 14 May 2024 - Wes Da					
				5		•		Con	toot. Andy Smith	
	cate L2367	Test Package	e : FLEET rt, contact Customer Serv						tact: Andy Smith nith@gflenv.com	

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

F: