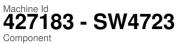


OIL ANALYSIS REPORT

Sample Rating Trend





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.

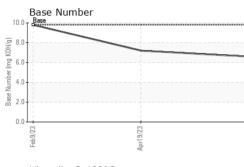
Fluid Condition

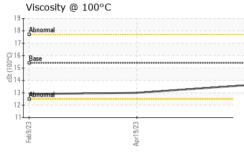
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	/IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0085407	GFL0075392	GFL0065809
Sample Date		Client Info		06 Jul 2023	19 Apr 2023	09 Feb 2023
Machine Age	mls	Client Info		293632	283804	273859
Oil Age	mls	Client Info		0	283804	0
Oil Changed		Client Info		N/A	Changed	N/A
Sample Status				NORMAL	NORMAL	ABNORMAL
CONTAMINATI	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	15	15	11
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	1	1	3
Lead	ppm	ASTM D5185m	>40	4	<1	4
Copper	ppm	ASTM D5185m	>330	2	3	1
Tin	ppm	ASTM D5185m	>15	<1	<1	1
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	0	3	48
Barium	ppm	ASTM D5185m	0	0	0	<1
Molybdenum	ppm	ASTM D5185m	60	42	43	40
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	1010	18	91	523
Calcium	ppm	ASTM D5185m	1070	0570		
Phosphorus			1070	2578	2896	1835
	ppm	ASTM D5185m	1150	2578 1074	2896 1124	1835 784
Zinc	ppm ppm	ASTM D5185m ASTM D5185m				
Zinc Sulfur			1150	1074	1124	784
	ppm ppm	ASTM D5185m	1150 1270	1074 1287	1124 1377	784 1043
Sulfur	ppm ppm	ASTM D5185m ASTM D5185m	1150 1270 2060 limit/base	1074 1287 3802	1124 1377 3554	784 1043 3185
Sulfur CONTAMINAN	ppm ppm TS	ASTM D5185m ASTM D5185m method	1150 1270 2060 limit/base	1074 1287 3802 current	1124 1377 3554 history1	784 1043 3185 history2
Sulfur CONTAMINAN [®] Silicon	ppm ppm TS ppm	ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m	1150 1270 2060 limit/base	1074 1287 3802 current 12	1124 1377 3554 history1 16	784 1043 3185 history2 ▲ 30
Sulfur CONTAMINAN [®] Silicon Sodium	ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m	1150 1270 2060 limit/base >25	1074 1287 3802 current 12 2 1	1124 1377 3554 history1 16 4	784 1043 3185 history2 ▲ 30 2
Sulfur CONTAMINAN [®] Silicon Sodium Potassium	ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m	1150 1270 2060 <i>limit/base</i> >25 >20	1074 1287 3802 current 12 2 1	1124 1377 3554 history1 16 4 0	784 1043 3185 history2 ▲ 30 2 1
Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method	1150 1270 2060 imit/base >25 >20 imit/base	1074 1287 3802 current 12 2 1 1 current	1124 1377 3554 history1 16 4 0 history1	784 1043 3185 history2 30 2 1 1 history2
Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method *ASTM D7844	1150 1270 2060 imit/base >25 >20 imit/base >3	1074 1287 3802 current 12 2 1 1 current 0.3	1124 1377 3554 history1 16 4 0 history1 0.3	784 1043 3185 history2 ▲ 30 2 1 1 history2 0.2
Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm TS ppm ppm ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7824 *ASTM D7415	1150 1270 2060 imit/base >25 >20 imit/base >3 >20	1074 1287 3802 current 12 2 1 current 0.3 9.6	1124 1377 3554 history1 16 4 0 history1 0.3 8.8	784 1043 3185 history2 ▲ 30 2 1 1 history2 0.2 6.8
Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm TS ppm ppm ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7824 *ASTM D7415	1150 1270 2060 imit/base >25 >20 imit/base >3 >20 >30	1074 1287 3802 current 12 2 1 current 0.3 9.6 22.5	1124 1377 3554 history1 16 4 0 history1 0.3 8.8 19.8	784 1043 3185 history2 ▲ 30 2 1 1 history2 0.2 6.8 22.1



OIL ANALYSIS REPORT





	VISUAL		method				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
Jul6/23	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
٦ſ	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
	Free Water	scalar	*Visual		NEG	NEG	NEG
	FLUID PRO	PERTIES	method	limit/base	current	history1	history2
	Visc @ 100°C	cSt	ASTM D445	15.4	13.6	13.0	12.9
-	GRAPHS						
	Ferrous Alloys						
	14- iron						
	12 - nickel						
	10-						
	E 8-						
	6 -						
	4						
	2-						
		en e		~			
	Feb9/23	Apr19/23		Jul6/23			
	Non-ferrous Me	etals					
	copper						
	8 - eeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee						
	6-						
	6 -						
	6- 4-						
	6- udd 4-						
	6 -		~				
				3			
		riarsa -		Jul6/23			
		Port acc		Jul6/23			
				EZ/gin	Base Numbe	r	
	Viscosity @ 100			10.	0 Base	r	
	Viscosity @ 10			10.	0 Base	r	
	Viscosity @ 10			10.	0 Base	r	
	Viscosity @ 10			10.	0 Base	r	
	Viscosity @ 10			10.	0 - Base 0 - 0 -	r	
	Viscosity @ 10			10. (0)НОХ бы эquiny эее	0 - Base 0	r	
	Viscosity @ 10			10.	0 - Base 0	r	
	Viscosity @ 100	0°C		10. (b/HOX Bu) Ja quinty asses 4. 2. 0.	0 - Base 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 -		
	Viscosity @ 100			10. (0)ROX Buy MOX Muy Part Part Nov Part Part Part Part Part Part Part Part	0 - Base 0	April 1923	
Land A S. J.	Viscosity @ 100	9°C		10. (0)HOX 60. Langung 4. Beg 2. EZ/gin C	0 - Base 0	Apr19/23	
, Andrewski,	Viscosity @ 100 19 Abnormal 2 0 Viscosity @ 100 19 10 10 10 10 10 10 10 10 10 10	D°C		10. (9)HOX 66. (9)HOX	0 - Base 0	vironmental - 983 - 5	
Land A S. J.	Viscosity @ 100	9°C	1 : 12 .	10. (0)HOX 60. Langung 4. Beg 2. EZ/gin C	0 - Base 0	vironmental - 983 - 5 16011 We	est Belfort Stre
	Viscosity @ 100 Viscosity @ 100 Base Line State WearCheck USA : WearCheck USA	C ECCEPT A - 501 Madis Received	d : 12. ed : 13.	10. (9)HOX 66. (9)HOX	0 - Base 0	vironmental - 983 - 5 16011 We	est Belfort Stre Sugar Land, US 774
, - er ber ige	Viscosity @ 100 19 10 10 10 10 10 10 10 10 10 10	A - 501 Madia Received Diagnost	l : 12 . ed : 13 . ician : Dor	10. (0)HOX 000 Jaquing eeg 2. Ecogy ry, NC 2751 Jul 2023 Jul 2023 a Baldridge	0 - Base 0	vironmental - 983 - S 16011 We Conta	est Belfort Stre Sugar Land,

To discuss this sample rep * - 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)

Certificate L2367

Submitted By: TECHNICIAN ACCOUNT

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