

OIL ANALYSIS REPORT

SAMPLE INFORMATION method

Sample Rating Trend



728050-361688

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.

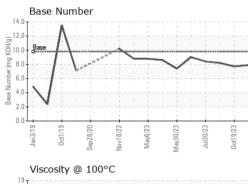
Fluid Condition

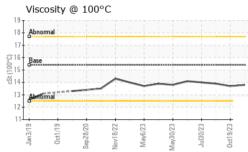
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	/IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0090188	GFL0090263	GFL0090219
Sample Date		Client Info		01 Nov 2023	19 Oct 2023	06 Sep 2023
Machine Age	hrs	Client Info		2204	2122	1841
Oil Age	hrs	Client Info		600	150	150
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATI	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method	20	NEG	NEG	NEG
				NEG		
WEAR METALS	3	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	12	7	5
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	<1	0
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	1	2	1
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	1	<1	<1
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		<1	<1	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	0	0	0
Barium	ppm	ASTM D5185m	0	4	0	0
Molybdenum	ppm	ASTM D5185m	60	58	49	58
Manganese	ppm	ASTM D5185m	0	0	<1	<1
Magnesium	ppm	ASTM D5185m	1010	851	870	1019
Calcium	ppm	ASTM D5185m	1070	983	902	1123
Phosphorus	ppm	ASTM D5185m	1150	930	870	1062
Zinc	ppm	ASTM D5185m	1270	1167	1141	1305
Sulfur				1107	1141	1000
Sullul	ppm	ASTM D5185m	2060	3099	2645	3849
CONTAMINAN		ASTM D5185m method				
			2060 limit/base	3099	2645	3849
CONTAMINAN	TS ppm	method	2060 limit/base	3099 current	2645 history1	3849 history2
CONTAMINAN ^T Silicon	TS	method ASTM D5185m	2060 limit/base >25	3099 current 5	2645 history1 3	3849 history2 3
CONTAMINAN ⁻ Silicon Sodium	TS ppm ppm	method ASTM D5185m ASTM D5185m	2060 limit/base >25	3099 current 5 9	2645 history1 3 12	3849 history2 3 9
CONTAMINAN Silicon Sodium Potassium INFRA-RED	TS ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	2060 limit/base >25 >20	3099 current 5 9 2 current	2645 history1 3 12 4 history1	3849 history2 3 9 2
CONTAMINAN [®] Silicon Sodium Potassium INFRA-RED Soot %	rs ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m method	2060 limit/base >25 >20 limit/base >3	3099 current 5 9 2 current 0.4	2645 history1 3 12 4 history1 0.3	3849 history2 3 9 2 history2 0.2
CONTAMINAN [®] Silicon Sodium Potassium	TS ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m method	2060 limit/base >25 >20 limit/base >3	3099 current 5 9 2 current	2645 history1 3 12 4 history1	3849 history2 3 9 2 history2
CONTAMINAN ^T Silicon Sodium Potassium INFRA-RED Soot % Nitration	Ppm ppm ppm ppm % Abs/cm Abs/.1mm	method ASTM D5185m ASTM D5185m ASTM D5185m • Method *ASTM D7844 *ASTM D7624	2060 limit/base >25 >20 limit/base >3 >20	3099 current 5 9 2 current 0.4 8.7	2645 history1 3 12 4 history1 0.3 7.0	3849 history2 3 9 2 history2 0.2 6.0
CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	Ppm ppm ppm ppm % Abs/cm Abs/.1mm	method ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D7415	2060 limit/base >25 >20 limit/base >3 >20 >30	3099 current 5 9 2 current 0.4 8.7 19.7	2645 history1 3 12 4 history1 0.3 7.0 18.5	3849 history2 3 9 2 history2 0.2 6.0 18.0



OIL ANALYSIS REPORT





				method	limit/base			
		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
0/23	9/23 -	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Jul30/23	0ct19/23	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	RTIES	method	limit/base	current	history1	history2
			cSt	ASTM D445	15.4	13.8	13.7	13.9
	-	GRAPHS						
		Ferrous Alloys						
/23	/23	120						
Jul30/23	0ct19/23	100 - nickel						
		80						
		톱 ₆₀						
		40						
		40 T 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1 / 1						
		20						
			23	23	23			
			May6/23	Jul30/23	0ct19/23			
		61/15/02/02/02/02/02/02/02/02/02/02/02/02/02/		May30/23	Oct19/23			
		Non-ferrous Metal		May30/23	0ct19/23			
		Non-ferrous Metal		May30/23	0ct19/23			
		Non-ferrous Metal		May30/23	0ct19/23			
		Non-ferrous Metal		Jul30/23	Oct19/23			
		Non-ferrous Metal		May30/23	Oct19/23			
		Non-ferrous Metal		Jui30/23	Oct19/23			
		Non-ferrous Metal			Oct19/23			
		Non-ferrous Metal	S					
		Non-ferrous Metal	S					
		Non-ferrous Metal	S	May30/23	Oct19/23			
		Non-ferrous Metal	Nay6/23		Oct19/23	Base Number		
		Non-ferrous Metal	Nay6/23		E2/6 [1]0			
		Non-ferrous Metal Mon-ferrous M	Nay6/23		EZ66170			
		Non-ferrous Metal	Nay6/23		EZ66170			
		Non-ferrous Metal	Nay6/23		EZ66170			
		Non-ferrous Metal	Nay6/23		EZ66170			
		Non-ferrous Metal	Nay6/23		14.0- 12.0- 12.0- 12.0- 1000 BM 10.0- 1000 BM 10.0- 1000 BM 10.0- 1000 BM 10.0- 1000 BM 10.0- 1000 BM 10.0- 1000 BM 10.0- 1000 BM 10.0-10.0-			
		Non-ferrous Metal	Nay6/23		EZ66170			
		Non-ferrous Metal	S May623	Jul30/23	14.0 12.0 (NHO) Mu 9 (NHO) 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.	Base		
		Non-ferrous Metal	S May623		EZ6(1)20 14.0 12.0 (0)H0X Buy Jaguno 8.0 14.0 12.0 0 H0X 14.0 12.0 0 14.0 12.0 0 14.0 12.0 0 14.0 0 14.0 0 14.0 0 12.0 0 14.0 0 12.0 0 14.0 0 12.0 0 14.0 0 10.0 10.0		Nov18/22 May6/23	Margl0/23 /



Test Package : FLEET Contact: Landen Johnson Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. landen.johnson@gflenv.com * - 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)

Received

Diagnosed

Diagnostician

: 03 Nov 2023

: 06 Nov 2023

: Wes Davis

Sample No.

Lab Number

Unique Number : 10725981

: GFL0090188

: 05997621

F:

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