

OIL ANALYSIS REPORT

Sample Rating Trend





Machine Id 725019

Fluid

Component Diesel Engine

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

SAMPLE INFORM	/ ATION	method	limit/base	current	history1	history
Sample Number		Client Info		GFL0116927	GFL0107076	GFL009154
Sample Date		Client Info		21 Mar 2024	20 Dec 2023	18 Sep 202
Machine Age	hrs	Client Info		27183	27182	27173
Oil Age	hrs	Client Info		600	600	600
Oil Changed		Client Info		Changed	Not Changd	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATI	ON	method	limit/base	current	history1	history
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS	S	method	limit/base	current	history1	history
Iron	ppm	ASTM D5185m	>120	3	11	11
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>5	<1	0	<1
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	<1	3	0
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	3	<1	1
Tin	ppm	ASTM D5185m	>15	0	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history
Boron	ppm	ASTM D5185m	0	2	<1	13
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	58	72	58
Manganese	ppm	ASTM D5185m	0	<1	0	<1
Magnesium	ppm	ASTM D5185m	1010	1002	1127	916
Calcium	ppm	ASTM D5185m	1070	1115	1265	1046
			1070	1115	1200	1040
Phosphorus	ppm	ASTM D5185m	1150	1064	1265	1046
Phosphorus Zinc	ppm ppm	ASTM D5185m				
		ASTM D5185m	1150	1064	1242	1026
Zinc	ppm ppm	ASTM D5185m ASTM D5185m	1150 1270	1064 1268	1242 1495	1026 1220 3802
Zinc Sulfur	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	1150 1270 2060 limit/base	1064 1268 3877	1242 1495 4109	1026 1220 3802
Zinc Sulfur CONTAMINAN	ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m method	1150 1270 2060 limit/base	1064 1268 3877 current	1242 1495 4109 history1	1026 1220 3802 history
Zinc Sulfur CONTAMINAN ^T Silicon	ppm ppm TS ppm	ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	1150 1270 2060 limit/base >25	1064 1268 3877 current 3	1242 1495 4109 history1 3	1026 1220 3802 history 6
Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1150 1270 2060 limit/base >25	1064 1268 3877 current 3 2	1242 1495 4109 history1 3 6	1026 1220 3802 history 6 30 1
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m	1150 1270 2060 <i>limit/base</i> >25 >20	1064 1268 3877 current 3 2 0	1242 1495 4109 history1 3 6 3	1026 1220 3802 history 6 30 1
Zinc Sulfur CONTAMINAN ^T Silicon Sodium Potassium INFRA-RED	ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m	1150 1270 2060 limit/base >25 >20 limit/base >4	1064 1268 3877 current 3 2 0 current	1242 1495 4109 history1 3 6 3 3 history1	1026 1220 3802 history 6 30 1 history
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844	1150 1270 2060 limit/base >25 >20 limit/base >4 >20	1064 1268 3877 current 3 2 0 current 0.2	1242 1495 4109 history1 3 6 3 6 3 history1 0.4	1026 1220 3802 history 6 30 1 history 0.5
Zinc 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 D5185m *ASTM D7844 *ASTM D7844 *ASTM D7844	1150 1270 2060 limit/base >25 >20 limit/base >4 >20	1064 1268 3877 current 3 2 0 current 0.2 5.3	1242 1495 4109 history1 3 6 3 history1 0.4 9.0	1026 1220 3802 history 6 30 1 history 0.5 5.4 17.9
Zinc 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 D5185m *ASTM D7844 *ASTM D7844 *ASTM D7844	1150 1270 2060 imit/base >25 >20 imit/base >4 >20 >30	1064 1268 3877 current 3 2 0 current 0.2 5.3 17.9	1242 1495 4109 history1 3 6 3 history1 0.4 9.0 19.2	1026 1220 3802 history2 6 30 1 history2 0.5 5.4

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

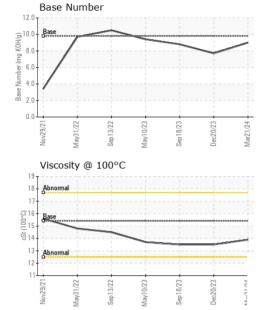
There is no indication of any contamination in the oil.

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.



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
//23	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Dec20/23 Mar21/24	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
	Free Water	scalar	*Visual	20.L	NEG	NEG	NEG
	FLUID PROPE	RTIES	method	limit/base	current	history1	history2
	Visc @ 100°C	cSt	ASTM D445	15.4	13.9	13.5	13.5
	GRAPHS						
	Ferrous Alloys						
23	30						
Dec20/23	25 - newspace chromium						
_	20						
	E 15						
	10	$\backslash >$					
	5-	\checkmark					
	0						
		1/23 -	3/23 -	/24			
	Nov29/21 May31/22 Sep13/22	May10/23	Sep 18/23 Dec20/23	Mar21/24			
	Non-ferrous Meta						
	²⁰						
	copper Iead						
	15 - tin						
	<u>ة</u> 10						
	5						
		Service Se					
	Nov29/21- May31/22 - Sep13/22 -	May10/23	Sep18/23.	Mar21/24			
	—		Sep	Mari			
	Viscosity @ 100°C	;			Base Number		
	18 - Abnormal			12.0			
	17				Base		
	- 16						\checkmark
	C0-00 00115 83 14			 یہ 6.0			
	\$3 ₁₄			quin			
	10			2 4.(
	13 Abnormal			2.0)		
	11						
	Nov29/21 May31/22 Sep13/22	May10/23	Sep 18/23 Dec20/23	Mar21/24		Sep 13/22 May 10/23	Dec20/23
	Nov. May3 Sep1	May1	Sep1 Dec2	Marz	Nov. May3	Sep 13/22 May 10/23	Dec2
					:		
aboratory	: WearCheck USA - 50				GFL E	invironmental	
ample No.	: GFL0116927	Rece		6 Mar 2024 7 Mar 2024			888 Baldwir Pontiac M



Test Package : FLEET Contact: Ricky Matthews Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. rickymathews@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)

Tested

Diagnosed

: 27 Mar 2024

: 27 Mar 2024 - Wes Davis

Lab Number : 06129298

Unique Number : 10943449

Pontiac, MI

US 48340

F:

T: (586)825-9514