

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Recommendation

Contamination

Fluid Condition

Wear

oil.

Machine Id

Resample at the next service interval to monitor.

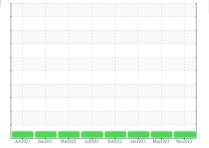
There is no indication of any contamination in the

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

All component wear rates are normal.

oil is suitable for further service.

Component Diesel Engine Fluid PETBO CANADA DUBON SHP 15W40 (--- 0



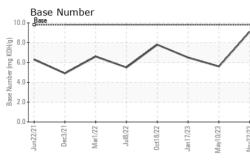


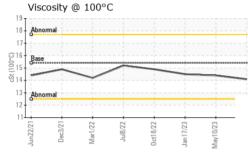
PETRO CANADA DURON SHP 15W40 (--- GAL)

SAMPLE INFOF	RMATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0089113	GFL0081440	GFL006864
Sample Date		Client Info		22 Nov 2023	10 May 2023	17 Jan 2023
Machine Age	hrs	Client Info		13835	13076	12453
Oil Age	hrs	Client Info		13076	12453	12034
Oil Changed		Client Info		Not Changd	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINA	ΓΙΟΝ	method	limit/base	current	history1	history2
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 METAI	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>90	52	32	24
Chromium	ppm	ASTM D5185m	>20	5	1	<1
Nickel	ppm	ASTM D5185m	>2	1	<1	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	7	3	2
Lead	ppm	ASTM D5185m	>40	0	<1	<1
Copper	ppm	ASTM D5185m	>330	2	<1	1
Tin	ppm	ASTM D5185m		0	<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	4
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	60	66	63
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	1010	1050	1072	953
Calcium	ppm	ASTM D5185m	1070			
Phosphorus				1151	1227	1143
	ppm	ASTM D5185m	1150	1151 1010	1227 1150	1143 1018
Zinc	ppm ppm	ASTM D5185m ASTM D5185m				
			1150	1010	1150	1018
Zinc	ppm ppm	ASTM D5185m	1150 1270	1010 1385	1150 1468	1018 1275 3405
Zinc Sulfur	ppm ppm	ASTM D5185m ASTM D5185m	1150 1270 2060 limit/base	1010 1385 3237	1150 1468 3686	1018 1275 3405
Zinc Sulfur CONTAMINAN	ppm ppm NTS	ASTM D5185m ASTM D5185m method	1150 1270 2060 limit/base	1010 1385 3237 current	1150 1468 3686 history1	1018 1275 3405 history2
Zinc Sulfur CONTAMINAN Silicon	ppm ppm NTS ppm	ASTM D5185m ASTM D5185m method ASTM D5185m	1150 1270 2060 limit/base >25	1010 1385 3237 current 20	1150 1468 3686 history1 5	1018 1275 3405 history2 3
Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm NTS ppm ppm	ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	1150 1270 2060 limit/base >25	1010 1385 3237 current 20 6	1150 1468 3686 history1 5 11	1018 1275 3405 history2 3 10 1
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm NTS ppm ppm	ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m	1150 1270 2060 <i>limit/base</i> >25 >20	1010 1385 3237 current 20 6 1	1150 1468 3686 <u>history1</u> 5 11 6	1018 1275 3405 history2 3 10 1
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm NTS ppm ppm ppm	ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m Method	1150 1270 2060 imit/base >25 >20 imit/base >6	1010 1385 3237 current 20 6 1 1 current	1150 1468 3686 history1 5 11 6 history1	1018 1275 3405 history2 3 10 1 history2
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm VTS 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 >6	1010 1385 3237 current 20 6 1 1 current 0.1	1150 1468 3686 history1 5 11 6 history1 0.8	1018 1275 3405 history2 3 10 1 history2 0.7
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm VTS ppm ppm ppm ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624	1150 1270 2060 limit/base >25 >20 limit/base >6 >20	1010 1385 3237 current 20 6 1 1 current 0.1 6.4	1150 1468 3686 history1 5 11 6 history1 0.8 11.7	1018 1275 3405 history2 3 10 1 history2 0.7 10.8 22.2
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm VTS ppm ppm ppm ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624	1150 1270 2060 imit/base >25 >20 imit/base >6 >20 >20 >30	1010 1385 3237 current 20 6 1 1 current 0.1 6.4 18.6	1150 1468 3686 history1 5 11 6 <u>history1</u> 0.8 11.7 24.7	1018 1275 3405 history2 3 10 1 history2 0.7 10.8



OIL ANALYSIS REPORT





VISUAL		method	limit/bas	o ourropt	biotorut	history2
					history1	
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	RTIES	method	limit/bas	e current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.1	14.4	14.5
GRAPHS						
Ferrous Alloys						
60T						
iron			1			
50 - seeses chromium						
40		/				
30						
20						
10						
			ARRENTS.			
0	and a middle a damage of the	and the second sec				
Jun2/21 Dec3/21 Mar1/22	oct18/22	Jan 17/23 May 10/23	Nov22/23			
un22/21 Dec3/21 Mar1/22	t18,	111/	122			
	° õ	Var	Nov			
No. Commente Martal		_				
Non-ferrous Metals	5					
¹⁰						
copper						
8 - lead						
tin						
6						
1						
2						
	>					
O STRATEGORGE BERNELLER STRATEGORGE STRATEGORG	and the second s	Contraction of the local division of the loc	Lot of Charleson of Concession, Name			
	12	23	23			
Jun22/21 Dec3/21 Mar1/22	oct18/22	Jan 17/23 May 10/23	Nov22/23			
Ma	0ct1	Jan'	Vovi			
	-	, 2	-			
Viscosity @ 100°C				Base Number		
¹⁹				10.0 T Base		
18 - Abnormal				United and the second sec		
T I I						
17				8.0	~	
10			HO			
Base			y B	6.0		
ar 0			<u> </u>		\sim	~
10 *****			e	¥		
¹⁵ 14			- Imp	4.0		
			se Numb	4.0		
Abnormal			Base Number (mg KOH/g)			
			Base Numi	2.0		
13 12			Base Numt	2.0		
12 11	22	23		2.0	22	23
13 - Abnormal 12	18/22	17/23		2.0	18/22 18/22	17/23 +
13 - Abnormal	0ct18/22	Jan 17/23	Nov22/23	2.0	Jul8/22 0ct1 8/22	Jan 17/23 May 10/23



 Certificate 12367
 Test Package
 : FLEET

 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)

: GFL0089113

:06016116

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

Diagnostician : Wes Davis

: 24 Nov 2023

: 26 Nov 2023

Received

Diagnosed



Laboratory Sample No.

Lab Number

Unique Number : 10755260