

OIL ANALYSIS REPORT

Sample Rating Trend





Component

Diesel Engine

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

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.

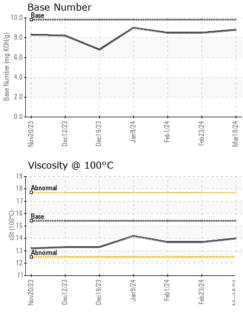
Fluid Condition

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

SAMPLE INFORI		method	limit/base	current	history1	history2
	VIATION		IIIIII/Dase		· · · · · · · · · · · · · · · · · · ·	· · · ·
Sample Number		Client Info		GFL0111958	GFL0107960	GFL0107969
Sample Date		Client Info		18 Mar 2024	23 Feb 2024	01 Feb 2024
Machine Age	hrs	Client Info		1173	1029	887
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	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	>100	4	9	6
Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	6	12	8
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	<1	1	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
Oddiniani	ppm	AO INI DOTODITI			0	0
ADDITIVES	ppm	method	limit/base	current	history1	history2
	ppm		limit/base			-
ADDITIVES		method		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	0	current 3	history1 8	history2 5
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	0	current 3 0	history1 8 0	history2 5 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 3 0 58	history1 8 0 66	history2 5 0 60
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	current 3 0 58 <1	history1 8 0 66 <1	history2 5 0 60 0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	current 3 0 58 <1 935	history1 8 0 66 <1 1018	history2 5 0 60 0 1029 1111 1098
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	Current 3 0 58 <1 935 1096	history1 8 0 66 <1 1018 1141	history2 5 0 60 0 1029 1111 1098 1294
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	Current 3 0 58 <1 935 1096 1050	history1 8 0 66 <1 1018 1141 1161	history2 5 0 60 0 1029 1111 1098
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270	current 3 0 58 <1 935 1096 1050 1225	history1 8 0 66 <1 1018 1141 1161 1346	history2 5 0 60 0 1029 1111 1098 1294
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	Current 3 0 58 <1 935 1096 1050 1225 3480	history1 8 0 66 <1 1018 1141 1346 3336 history1 3	history2 5 0 60 0 1029 1111 1098 1294 3335 history2 3
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	current 3 0 58 <1 935 1096 1050 1225 3480 current	history1 8 0 66 <1 1018 1141 1346 3336 history1	history2 5 0 60 0 1029 1111 1098 1294 3335 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 Limit/base >25	current 3 0 58 <1 935 1096 1050 1225 3480 current 4	history1 8 0 66 <1 1018 1141 1346 3336 history1 3	history2 5 0 60 0 1029 1111 1098 1294 3335 history2 3
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 Limit/base >25	Current 3 0 58 <1 935 1096 1050 1225 3480 current 4 2	history1 8 0 66 <1 1018 1141 1161 3336 history1 3 3	history2 5 0 60 0 1029 1111 1098 1294 3335 history2 3 2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	current 3 0 58 <1 935 1096 1050 1225 3480 current 4 2 9	history1 8 0 66 <1 1018 1141 1346 3336 history1 3 3 3 3 23	history2 5 0 60 0 1029 1111 1098 1294 3335 history2 3 2 15
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25	Current 3 0 58 <1 935 1096 1050 1225 3480 current 4 2 9 current	history1 8 0 66 <1 1018 1141 1161 1346 3336 history1 3 3 23 history1	history2 5 0 60 0 1029 1111 1098 1294 3335 history2 3 2 15 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3	Current 3 0 58 <1 935 1096 1050 1225 3480 current 4 2 9 current 0.1	history1 8 0 66 <1 1018 1141 1161 1346 3336 history1 3 23 history1 0.1	history2 5 0 60 0 1029 1111 1098 1294 3335 history2 3 2 15 history2 0.1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 >20 imit/base >3 >20	Current 3 0 58 <1 935 1096 1050 1225 3480 current 4 2 9 current 0.1 5.5	history1 8 0 66 <1 1018 1141 1161 1346 3336 history1 3 23 history1 0.1 6.7	history2 5 0 60 0 1029 1111 1098 1294 3335 history2 3 2 15 history2 0.1 6.0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D7185m ASTM D7624 *ASTM D7624 *ASTM D7415 method	0 0 0 1010 1070 1150 1270 2060 2060 225 20 220 220 20 3 20 20 20 3 3 20 20 20 20 20 20 20 20 20 20 20 20 20	Current 3 0 58 <1 935 1096 1050 1225 3480 current 4 2 9 current 0.1 5.5 17.6 current	history1 8 0 66 <1 1018 1141 161 3336 history1 3 3 23 history1 0.1 6.7 18.7 history1	history2 5 0 60 0 1029 1111 1098 1294 3335 history2 3 2 15 history2 0.1 6.0 18.4
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	method ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 20 225 20 20 3 20 3 20 3 20 20 20 20 20 20 20 20 20 20 20 20 20	Current 3 0 58 <1 935 1096 1050 1225 3480 current 4 2 9 current 0.1 5.5 17.6	history1 8 0 66 <1 1018 1141 1161 1346 3336 history1 3 23 history1 0.1 6.7 18.7	history2 5 0 60 0 1029 1111 1098 1294 3335 history2 3 2 15 history2 0.1 6.0 18.4



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
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/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.0	13.7	13.7
GRAPHS						
Ferrous Alloys						
40 T						
35 - chromium						
30 - nickel						
25						
20						
15						
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10		\sim				
5-	· .					
Nov20/23	Jan 9/24 -	Feb1/24 Feb23/24	Mar18/24			
_		Feb2	Mari			
Non-ferrous Meta	ls					
14- copper						
12-						
10						
8						
6						
4	1					
2	1					
L						
0 m m	4	4 4				
Nov20/23 Dec12/23 Dec19/23	Jan 9/24	Feb 1/24 Feb 23/24	Mar18/24			
Deci	Jai	Feb.	Mar			
Viscosity @ 100°C	2			Base Number		
19			10.0			
18 - Abnormal						
17			(B ^{8.0}		/	
16 Base			1.6 1.6 Number (mg KOH/g)		~	
16 Base			B_ 6.0			
			- pe			
4			5 4.0	+		

Number (4 (Base

Mar18/24 -

: 20 Mar 2024

: 21 Mar 2024

: 21 Mar 2024 - Wes Davis

Feb23/24

0.0

Vov20/23



Test Package : FLEET Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. tgraham2@wcamerica.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)

Dec19/23

Dec12/23

Jan9/24

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

Received

Diagnosed

Tested

Feb1/24.

13 Abnormal

12 11-

Laboratory

Sample No.

Lab Number : 06123475

Unique Number : 10937626

Vov20/23

: GFL0111958

Contact/Location: Tony Graham - GFL892

Dec19/23

Dec12/23

Jan9/24

Feb1/24

405 East Airport Industrial Road

GFL Environmental - 892 - Pauls Valley Hauling

Mar18/24

Т:

F:

Feb 23/24

Pauls Valley, OK US 73075

Contact: Tony Graham