

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

Machine Id 10696

Component

Diesel Engine Fluic

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.

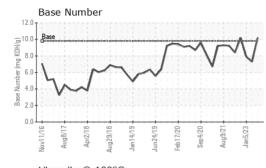
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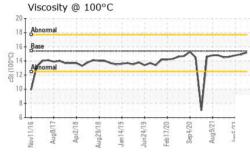


SAMPLE INFORM	MATION	method	limit/base	current	history 1	history 2
Sample Number		Client Info		GFL0081710	GFL0074508	GFL0064564
Sample Date		Client Info		04 Jul 2023	28 Feb 2023	05 Jan 2023
Machine Age	hrs	Client Info		11668	1338	1133
Oil Age	hrs	Client Info		400	600	300
Oil Changed		Client Info		Not Changd	Changed	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history 1	history 2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m	>100	22	39	26
Chromium	ppm	ASTM D5185m	>20	<1	1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>3	0	<1	0
Aluminum	ppm	ASTM D5185m	>20	8	7	4
Lead	ppm	ASTM D5185m	>40	4	10	7
Copper	ppm	ASTM D5185m	>330	2	3	2
Tin	ppm	ASTM D5185m	>15	<1	1	<1
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
Caumum	ppin	AGTIM DJ10JIII		U	0	0
ADDITIVES	ppin	method	limit/base	current	history 1	history 2
	ppm		limit/base	-		-
ADDITIVES		method	0	current	history 1	history 2
ADDITIVES Boron	ppm	method ASTM D5185m	0	current 2	history 1 1	history 2 5
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	0 0 60	current 2 0	history 1 1 0	history 2 5 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 2 0 65	history 1 1 0 69	history 2 5 0 68
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	current 2 0 65 <1	history 1 1 0 69 1	history 2 5 0 68 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	current 2 0 65 <1 1056	history 1 1 0 69 1 1077	history 2 5 0 68 <1 1056
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	current 2 0 65 <1 1056 1139	history 1 1 0 69 1 1077 1273	history 2 5 0 68 <1 1056 1244
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150	current 2 0 65 <1 1056 1139 1104	history 1 1 0 69 1 1077 1273 1123	history 2 5 0 68 <1 1056 1244 1079
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270	current 2 0 65 <1 1056 1139 1104 1393	history 1 1 0 69 1 1077 1273 1123 1431	history 2 5 0 68 <1 1056 1244 1079 1381
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	0 0 60 0 1010 1070 1150 1270 2060	current 2 0 65 <1 1056 1139 1104 1393 3832	history 1 1 0 69 1 1077 1273 1123 1431 2881	history 2 5 0 68 <1 1056 1244 1079 1381 3702
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	current 2 0 65 <1 1056 1139 1104 1393 3832 current	history 1 1 0 69 1 1077 1273 1123 1431 2881 history 1	history 2 5 0 68 <1 1056 1244 1079 1381 3702 history 2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 imit/base >25	current 2 0 65 <1 1056 1139 1104 1393 3832 current 12	history 1 1 0 69 1 1077 1273 1123 1431 2881 history 1 11	history 2 5 0 68 <1 1056 1244 1079 1381 3702 history 2 8
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 imit/base >25	current 2 0 65 <1 1056 1139 1104 1393 3832 current 12 3	history 1 1 0 69 1 1077 1273 1123 1431 2881 history 1 11 6	history 2 5 0 68 <1 1056 1244 1079 1381 3702 history 2 8 3
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 >20	current 2 0 65 <1 1056 1139 1104 1393 3832 current 12 3 2	history 1 1 0 69 1 1077 1273 1123 1431 2881 history 1 11 6 3	history 2 5 0 68 <1 1056 1244 1079 1381 3702 history 2 8 3 <1
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 Imit/base >25 >20 Imit/base >3	current 2 0 65 <1 1056 1139 1104 1393 3832 current 12 3 2 current	history 1 1 0 69 1 1077 1273 1123 1431 2881 history 1 11 6 3 history 1	history 2 5 0 68 <1 1056 1244 1079 1381 3702 history 2 8 3 <1 history 2
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 imit/base >25 >20 imit/base >3 >20	current 2 0 65 <1 1056 1139 1104 1393 3832 current 12 3 2 current 12.3 3.2 current 1.7	history 1 1 0 69 1 1077 1273 1123 1431 2881 history 1 11 6 3 history 1 2	history 2 5 0 68 <1 1056 1244 1079 1381 3702 history 2 8 3 <1 history 2 10 10 10 10 3702
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 TS ppm ppm ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 >20 imit/base >3 >20	current 2 0 65 <1 1056 1139 1104 1393 3832 current 12 3 2 current 12 3 12 3 2 current 1.7 1.2.4	history 1 1 0 69 1 1077 1273 1123 1431 2881 history 1 11 6 3 history 1 2 16.2	history 2 5 0 68 <1 1056 1244 1079 1381 3702 history 2 8 3 <1 history 2 10 10 10 10 1381 3702 1381 3702 136
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 20 220 20 30 20 30 20 30 20 30	current 2 0 65 <1 1056 1139 1104 1393 3832 current 12 3 2 current 1.7 12.4 23.4	history 1 1 0 69 1 1077 1273 1123 1431 2881 history 1 11 6 3 history 1 2 16.2 27.8	history 2 5 0 68 <1 1056 1244 1079 1381 3702 history 2 8 3 <1 history 2 1.6 13.6 24

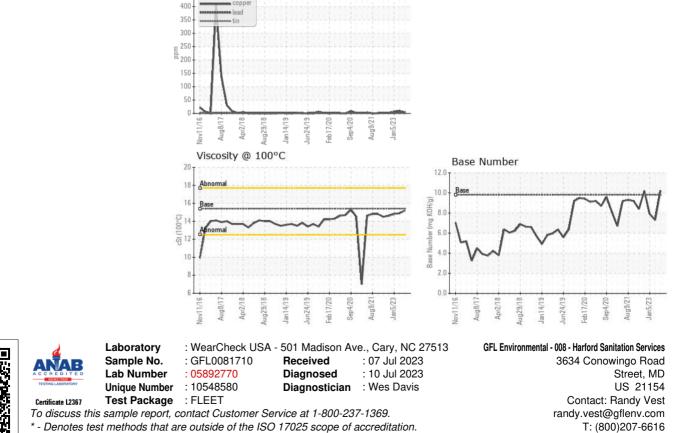


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VISUAL		method	limit/base	current	history 1	history 2		
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE		
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE		
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE		
Silt	scalar	*Visual	NONE	NONE	NONE	NONE		
Debris	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 PROP	ERTIES	method	limit/base	current	history 1	history 2		
/isc @ 100°C	cSt	ASTM D445	15.4	15.2	14.9	14.8		
GRAPHS								
Ferrous Alloys								
iron								
chromium		1010 10010	111					
nickel	11111111							
		11						
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un24/19

vug29/18 Jan 14/19

Non-ferrous Metals

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.

Vov11/16

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Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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