

OIL ANALYSIS REPORT

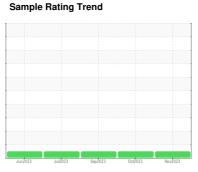


{UNASSIGNED} 933041

Component

Natural Gas Engine

PETRO CANADA DURON SHP 15W40 (8 GAL)





DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the

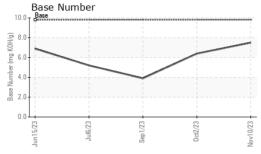
Fluid Condition

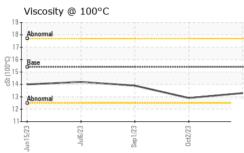
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

N 50P 15W4U (o GAL)	Jun2023	Jul2023	Sep 2023 Oct 2023	Nov2023	
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0101182	GFL0094360	GFL0091367
Sample Date		Client Info		10 Nov 2023	02 Oct 2023	01 Sep 2023
Machine Age	hrs	Client Info		1248	979	716
Oil Age	hrs	Client Info		135	263	716
Oil Changed		Client Info		Not Changd	Not Changd	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	10	18	70
Chromium	ppm	ASTM D5185m		. d <1	<1	1
Nickel	ppm	ASTM D5185m	>2	0	<1	2
Titanium		ASTM D5185m	<i></i>	<1	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
	ppm			2		
Aluminum	ppm	ASTM D5185m			5	20
Lead	ppm	ASTM D5185m	>30	<1	<1	2
Copper	ppm	ASTM D5185m		1	3	15
Tin	ppm	ASTM D5185m	>4	<1	<1	1
Vanadium	ppm	ASTM D5185m		<1	<1	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method				history2
Boron	ppm	ASTM D5185m	0	4	5	8
	ppm ppm	ASTM D5185m ASTM D5185m	0	4	5	8
Barium						
Barium Molybdenum	ppm	ASTM D5185m	0	0	0	0
Barium Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m	0 60	0 61	0 65	0 56
Barium Molybdenum Manganese Magnesium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0	0 61 <1	0 65 2	0 56 11
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010	0 61 <1 944 1121	0 65 2 914	0 56 11 803
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150	0 61 <1 944 1121 1046	0 65 2 914 1191 979	0 56 11 803 1086
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070	0 61 <1 944 1121	0 65 2 914 1191	0 56 11 803 1086 740
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150 1270	0 61 <1 944 1121 1046 1285	0 65 2 914 1191 979 1240	0 56 11 803 1086 740 985
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150 1270 2060	0 61 <1 944 1121 1046 1285 3121	0 65 2 914 1191 979 1240 2851	0 56 11 803 1086 740 985 2727
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060	0 61 <1 944 1121 1046 1285 3121 current	0 65 2 914 1191 979 1240 2851 history1	0 56 11 803 1086 740 985 2727 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150 1270 2060	0 61 <1 944 1121 1046 1285 3121 current	0 65 2 914 1191 979 1240 2851 history1	0 56 11 803 1086 740 985 2727 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base	0 61 <1 944 1121 1046 1285 3121 current 3	0 65 2 914 1191 979 1240 2851 history1 6	0 56 11 803 1086 740 985 2727 history2 28
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >+100 >20	0 61 <1 944 1121 1046 1285 3121 current 3 3 4	0 65 2 914 1191 979 1240 2851 history1 6 5 15	0 56 11 803 1086 740 985 2727 history2 28 5 66
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >+100 >20	0 61 <1 944 1121 1046 1285 3121 current 3 3 4	0 65 2 914 1191 979 1240 2851 history1 6 5 15	0 56 11 803 1086 740 985 2727 history2 28 5 66 history2
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	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >+100 >20	0 61 <1 944 1121 1046 1285 3121 current 3 3 4	0 65 2 914 1191 979 1240 2851 history1 6 5 15	0 56 11 803 1086 740 985 2727 history2 28 5 66
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm	ASTM D5185m method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7624	0 60 0 1010 1070 1150 1270 2060 limit/base >+100 >20	0 61 <1 944 1121 1046 1285 3121 current 3 3 4 current 0 6.4	0 65 2 914 1191 979 1240 2851 history1 6 5 15 history1 0 7.3	0 56 11 803 1086 740 985 2727 history2 28 5 66 history2 0 10.5
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAI	ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method *ASTM D7844 *ASTM D7844 *ASTM D7844 *ASTM D7844 *ASTM D7844	0 60 0 1010 1070 1150 1270 2060 limit/base >+100 >20 limit/base	0 61 <1 944 1121 1046 1285 3121 current 3 3 4 current 0 6.4 17.1 current	0 65 2 914 1191 979 1240 2851 history1 6 5 15 history1 0 7.3 17.3 history1	0 56 11 803 1086 740 985 2727 history2 28 5 66 history2 0 10.5 22.0 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7624	0 60 0 1010 1070 1150 1270 2060 limit/base >+100 >20 limit/base	0 61 <1 944 1121 1046 1285 3121 current 3 3 4 current 0 6.4 17.1	0 65 2 914 1191 979 1240 2851 history1 6 5 15 history1 0 7.3 17.3	0 56 11 803 1086 740 985 2727 history2 28 5 66 history2 0 10.5 22.0



OIL ANALYSIS REPORT

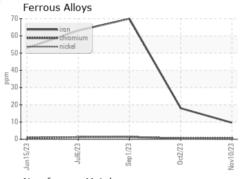


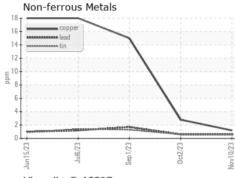


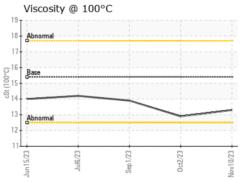
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

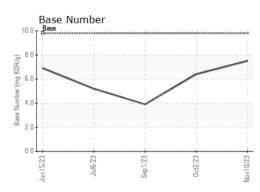
FLUID PROPE	KIIES	metnoa	ilmit/base	current	nistory i	nistory2
Visc @ 100°C	cSt	ASTM D445	15.4	13.3	12.9	13.9

GRAPHS













Certificate L2367

Laboratory Sample No. Lab Number Unique Number : 10751037

: GFL0101182 : 06011893 Test Package : FLEET

To discuss this sample report, contact Customer Service at 1-800-237-1369.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 20 Nov 2023 Diagnosed : 21 Nov 2023

Diagnostician : Wes Davis

GFL Environmental - 010 - Stockbridge

1280 Rum Creek Parkway Stockbridge, GA US 30281

Contact: JOSHUA TINKER joshuatinker@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)

T:

F: