

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

Area (YA156309) 910016

Diesel Engine

Fluid

PETRO CANADA DURON SHP 15W40 (12 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the oil.

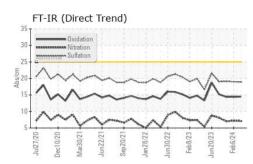
Fluid Condition

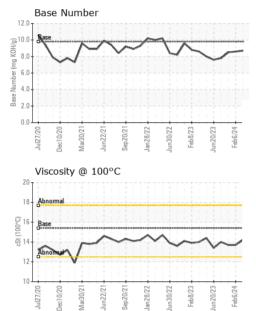
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFOR	MATION	method	limit/base	current	history1	history2	
Sample Number		Client Info		GFL0112891	GFL0088525	GFL0098139	
Sample Date		Client Info		12 Apr 2024	06 Feb 2024	17 Jan 2024	
Machine Age	hrs	Client Info		315	315	315	
Oil Age	hrs	Client Info		315	319	319	
Oil Changed		Client Info		N/A	N/A	Not Changd	
Sample Status				NORMAL	NORMAL	NORMAL	
CONTAMINAT	ION	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 METALS method limit/base current history1 history2							
Iron	ppm	ASTM D5185m	>90	6	6	8	
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1	
Nickel	ppm	ASTM D5185m	>2	0	0	0	
Titanium	ppm	ASTM D5185m	>2	0	0	0	
Silver	ppm	ASTM D5185m	>2	0	0	0	
Aluminum	ppm	ASTM D5185m	>20	1	1	1	
Lead	ppm	ASTM D5185m	>40	0	0	0	
Copper	ppm	ASTM D5185m	>330	0	0	<1	
Tin	ppm	ASTM D5185m	>15	0	<1	0	
Vanadium	ppm	ASTM D5185m		0	0	0	
<u> </u>		LOTH DELOF				0	
Cadmium	ppm	ASTM D5185m		0	0	0	
ADDITIVES	ppm	ASTM D5185m method	limit/base	-	0 history1	0 history2	
	ppm ppm	method	limit/base 0	-	-	-	
ADDITIVES		method		current	history1	history2	
ADDITIVES Boron	ppm	method ASTM D5185m	0 0 60	current 2	history1 6 0 58	history2 4 0 59	
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	0	current 2 0	history1 6 0 58 <1	history2 4 0	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	current 2 0 61 <1 1026	history1 6 0 58 <1 913	history2 4 0 59 0 982	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	Current 2 0 61 <1 1026 1124	history1 6 0 58 <1	history2 4 0 59 0 982 1136	
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 2 0 61 <1 1026 1124 1128	history1 6 0 58 <1 913 974 1032	history2 4 0 59 0 982 1136 1066	
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 ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270	Current 2 0 61 <1 1026 1124 1128 1338	history1 6 0 58 <1 913 974 1032 1234	history2 4 0 59 0 982 1136 1066 1288	
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	0 0 60 0 1010 1070 1150	Current 2 0 61 <1 1026 1124 1128	history1 6 0 58 <1 913 974 1032	history2 4 0 59 0 982 1136 1066	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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	Current 2 0 61 <1 1026 1124 1128 1338	history1 6 0 58 <1 913 974 1032 1234 2868 history1	history2 4 0 59 0 982 1136 1066 1288 3290 history2	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	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 2 0 61 <1 1026 1124 1128 1338 3714	history1 6 0 58 <1 913 974 1032 1234 2868 history1 2	history2 4 0 59 0 982 1136 1066 1288 3290	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	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 method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 Limit/base >25	Current 2 0 61 <1 1026 1124 1128 1338 3714 Current 3 2	history1 6 0 58 <1 913 974 1032 1234 2868 history1 2 3	history2 4 0 59 0 982 1136 1066 1288 3290 history2	
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm 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 2 0 61 <1 1026 1124 1128 1338 3714 Current 3	history1 6 0 58 <1 913 974 1032 1234 2868 history1 2	history2 4 0 59 0 982 1136 1066 1288 3290 history2 3	
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 ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 Limit/base >25	Current 2 0 61 <1 1026 1124 1128 1338 3714 Current 3 2 2	history1 6 0 58 <1 913 974 1032 1234 2868 history1 2 3	history2 4 0 59 0 982 1136 1066 1288 3290 history2 3 4	
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 TS	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	current 2 0 61 <1 1026 1124 1128 1338 3714 current 3 2 2 current 0.4	history1 6 0 58 <1 913 974 1032 1234 2868 history1 2 3 2 3 2 history1 0.5	history2 4 0 59 0 982 1136 1066 1288 3290 history2 3 4 4 0 0 0 0 0 1288 3290 history2 3 4 4 0.4	
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	0 0 0 1010 1070 1150 1270 2060 2060 225 >25	current 2 0 61 <1 1026 1124 1128 1338 3714 current 3 2 2 current 3 2 current 0.4 7.1	history1 6 0 58 <1 913 974 1032 1234 2868 history1 2 3 2 history1 0.5 7.2	history2 4 0 59 0 982 1136 1066 1288 3290 history2 3 4 0 0 0 0 0.4 7.0	
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 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >20	current 2 0 61 <1 1026 1124 1128 1338 3714 current 3 2 2 current 0.4	history1 6 0 58 <1 913 974 1032 1234 2868 history1 2 3 2 3 2 history1 0.5	history2 4 0 59 0 982 1136 1066 1288 3290 history2 3 4 4 0 0 0 0 0 1288 3290 history2 3 4 4 0.4	
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 <i>limit/base</i> >25 >20 <i>limit/base</i> >20	current 2 0 61 <1 1026 1124 1128 1338 3714 current 3 2 current 0.4 7.1	history1 6 0 58 <1 913 974 1032 1234 2868 history1 2 3 2 3 2 3 2 3 2 3 2 0.5 7.2	history2 4 0 59 0 982 1136 1066 1288 3290 history2 3 4 0 0 0 0 0.4 7.0	
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 D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 imit/base >6 >20	Current 2 0 61 <1 1026 1124 1128 1338 3714 current 3 2 current 0.4 7.1 18.9	history1 6 0 58 <1 913 974 1032 1234 2868 history1 2 3 2 history1 0.5 7.2 19.0	history2 4 0 59 0 982 1136 1066 1288 3290 history2 3 4 0 0.4 7.0 19.1	



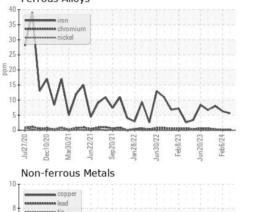
OIL ANALYSIS REPORT

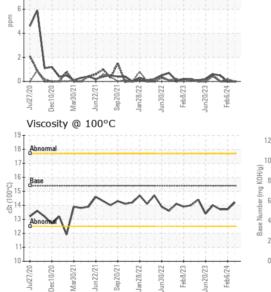


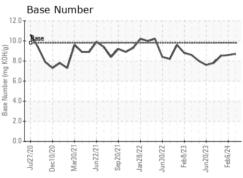


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	14.2	13.7	13.7
GRAPHS						

Ferrous Alloys







Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 017 - Durham Sample No. : GFL0112891 Received : 15 Apr 2024 148 Stone Park Court Lab Number : 06149302 Tested : 16 Apr 2024 Durham, NC Unique Number : 10979380 Diagnosed : 16 Apr 2024 - Wes Davis US 27703 Test Package : FLEET Contact: Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. bill.waring@wearcheck.com T: (919)596-1363 * - 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) F: (919)598-1852

Report Id: GFL017 [WUSCAR] 06149302 (Generated: 04/16/2024 15:52:09) Rev: 1

Submitted By: Ren - William Russel

Page 2 of 2