

OIL ANALYSIS REPORT

Sample Rating Trend



414062 Component Diesel Engine

PETRO CANADA DURON SHP 15W40 (12 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Machine Id

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

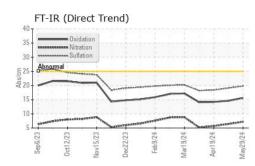
Fluid Condition

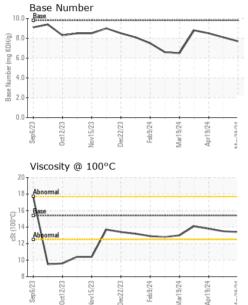
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0118702	GFL0118649	GFL0118721
Sample Date		Client Info		29 May 2024	14 May 2024	19 Apr 2024
Machine Age	hrs	Client Info		1852	1766	10133
Oil Age	hrs	Client Info		1200	150	400
Oil Changed		Client Info		Changed	Not Changd	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 METAL	S	method	limit/base	current	history1	history2
		ASTM D5185m	>120	6	13	4
Iron Chromium	ppm	ASTM D5185m	>120	6 <1	3	4
Nickel	ppm	ASTM D5185m	>20	<1 <1	3	0
Titanium	ppm	ASTM D5185m		< 1	4	0
Silver	ppm	ASTM D5185m	>2	ں <1	3	<1
Aluminum	ppm ppm	ASTM D5185m	>20	5	7	3
Lead		ASTM D5185m	>40	0	3	0
	ppm	ASTM D5185m		75	67	51
Copper Tin	ppm	ASTM D5185m	>330	0	3	<1
Vanadium	ppm ppm	ASTM D5185m	>15	0	2	0
	ppm	AGTIM DJ10JIII		U	2	0
Cadmium	nnm	ASTM D5185m		0	2	0
Cadmium	ppm	ASTM D5185m		0	2	0
Cadmium ADDITIVES	ppm	ASTM D5185m method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	0	current 0	history1 2	history2 2
ADDITIVES Boron Barium		method ASTM D5185m ASTM D5185m	0	current 0 0	history1 2 1	history2 2 0
ADDITIVES Boron Barium Molybdenum	ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 0 0 60	history1 2 1 62	history2 2 0 62
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	current 0 0 60 <1	history1 2 1 62 3	history2 2 0 62 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	Current 0 0 60 <1 987	history1 2 1 62 3 952	history2 2 0 62 <1 1030
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	current 0 0 60 <1 987 1122	history1 2 1 62 3 952 1096	history2 2 0 62 <1 1030 1121
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 0 0 60 <1 987 1122 1052	history1 2 1 62 3 952 1096 1015	history2 2 0 62 <1 1030 1121 1087
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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 0 0 60 <1 987 1122 1052 1246	history1 2 1 62 3 952 1096 1015 1197	history2 2 0 62 <1 1030 1121 1087 1304
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	0 0 60 0 1010 1070 1150 1270 2060	Current 0 0 60 <1 987 1122 1052 1246 3189	history1 2 1 62 3 952 1096 1015 1197 3153	history2 2 0 62 <1 1030 1121 1087 1304 3572
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 0 0 60 <1 987 1122 1052 1246	history1 2 1 62 3 952 1096 1015 1197	history2 2 0 62 <1 1030 1121 1087 1304
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 0 0 60 <1 987 1122 1052 1246 3189	history1 2 1 62 3 952 1096 1015 1197 3153 history1 8	history2 2 0 62 <1 1030 1121 1087 1304 3572 history2 4
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 0 0 60 <1 987 1122 1052 1246 3189 Current	history1 2 1 62 3 952 1096 1015 1015 1197 3153 history1	history2 2 0 62 <1 1030 1121 1087 1304 3572 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 0 1010 1070 1150 1270 2060 limit/base	current 0 0 60 <1 987 1122 1052 1246 3189 current 2	history1 2 1 62 3 952 1096 1015 1197 3153 history1 8	history2 2 0 62 <1 1030 1121 1087 1304 3572 history2 4
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 0 1010 1070 1150 1270 2060 limit/base	current 0 0 60 <1 987 1122 1052 1246 3189 current 2 13	history1 2 1 62 3 952 1096 1015 1197 3153 history1 8 12	history2 2 0 62 <1 1030 1121 1087 1304 3572 history2 4 6
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 0 0 60 <1 987 1122 1052 1246 3189 current 2 13 14	history1 2 1 62 3 952 1096 1015 1197 3153 history1 8 12 16	history2 2 0 62 <1 1030 1121 1087 1304 3572 history2 4 6 6
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 limit/base >20	current 0 0 60 <1 987 1122 1052 1246 3189 current 2 13 14	history1 2 1 62 3 952 1096 1015 1197 3153 history1 8 12 16 history1	history2 2 0 62 <1 1030 1121 1087 1304 3572 history2 4 6 6 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 TS ppm ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 limit/base >20	current 0 0 60 <1 987 1122 1052 1246 3189 current 2 13 14 current 0.3	history1 2 1 62 3 952 1096 1015 1197 3153 history1 8 12 16 history1 0.2	history2 2 0 62 <1 1030 1121 1087 1304 3572 history2 4 6 6 history2 0.2
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 225 220 220 1imit/base >22 20	current 0 0 60 <1 987 1122 1052 1246 3189 current 2 13 14 current 0.3 7.2	history1 2 1 62 3 952 1096 1015 1197 3153 history1 8 12 16 history1 0.2 6.4	history2 2 0 62 <1 1030 1121 1087 1304 3572 history2 4 6 6 history2 0.2 5.7
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 2060 225 20 225 20 <u>imit/base</u> >20 20	current 0 60 <1 987 1122 1052 1246 3189 current 2 13 14 current 0.3 7.2 19.8	history1 2 1 62 3 952 1096 1015 1197 3153 history1 8 12 16 history1 0.2 6.4 19.1	history2 2 0 62 <1 1030 1121 1087 1304 3572 history2 4 6 history2 0.2 5.7 18.4



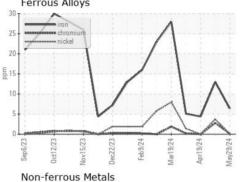
OIL ANALYSIS REPORT

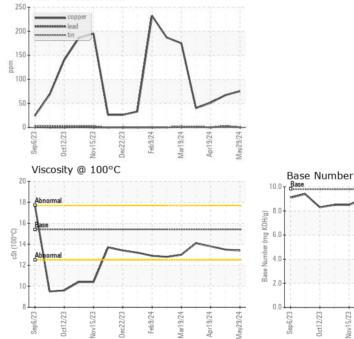


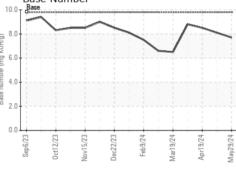


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	13.4	13.5	13.8
GRAPHS						

Ferrous Alloys







Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 166 - Phenix City Sample No. : GFL0118702 Received : 03 Jun 2024 18 Old Brickyard Rd Lab Number : 06197310 Tested : 03 Jun 2024 Phenix City, AL Unique Number : 11059433 Diagnosed : 03 Jun 2024 - Wes Davis US 36869 Test Package : FLEET Contact: EDWARD CASHMAN Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. ecashman@gflenv.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F:

Submitted By: DEAN PEACE JR Page 2 of 2