

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

928067-205259

Diesel Engine

Fluid 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.

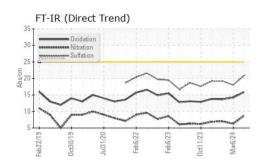
Fluid Condition

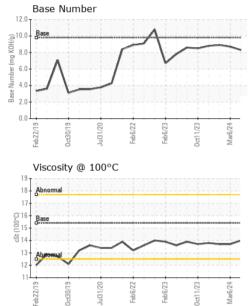
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0118486	GFL0095307	GFL0104995
Sample Date		Client Info		04 Apr 2024	06 Mar 2024	09 Jan 2024
Machine Age	hrs	Client Info		0	15914	14972
Oil Age	hrs	Client Info		0	0	650
Oil Changed		Client Info		Not Changd	Not Changd	Changed
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	32	10	15
Chromium	ppm	ASTM D5185m	>20	1	<1	0
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	10	2	2
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	1	<1	<1
Tin	ppm	ASTM D5185m	>15	0	0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
	ppm			0	0	0
ADDITIVES	ppm	method	limit/base	current	history1	history2
ADDITIVES Boron	ppm		limit/base		-	
		method		current	history1	history2
Boron	ppm	method ASTM D5185m	0	current 0	history1 1	history2 <1
Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0	current 0 0	history1 1 0	history2 <1 0
Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 0 0 66	history1 1 0 65	history2 <1 0 61
Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	ourrent 0 0 66 <1	history1 1 0 65 0	history2 <1 0 61 0
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 66 <1 988	history1 1 0 65 0 1045	history2 <1 0 61 0 935
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm 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 66 <1 988 1142	history1 1 0 65 0 1045 1145	history2 <1 0 61 0 935 1017
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 66 <1 988 1142 1035	history1 1 0 65 0 1045 1145 1062	history2 <1 0 61 0 935 1017 975
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 66 <1 988 1142 1035 1221	history1 1 0 65 0 1045 1145 1062 1324	history2 <1 0 61 0 935 1017 975 1253
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 1010 1070 1150 1270 2060	Current 0 0 66 <1 988 1142 1035 1221 3294	history1 1 0 65 0 1045 1145 1062 1324 3858	<1 0 61 0 935 1017 975 1253 2919
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 66 <1 988 1142 1035 1221 3294 Current	history1 1 0 65 0 1045 1145 1062 1324 3858 history1	<1 0 61 0 935 1017 975 1253 2919 history2
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 0 1010 1070 1150 1270 2060 limit/base	current 0 0 66 <1 988 1142 1035 1221 3294 current 6	history1 1 0 65 0 1045 1145 1062 1324 3858 history1 3	<1 0 61 0 935 1017 975 1253 2919 history2 3
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	current 0 0 66 <1 988 1142 1035 1221 3294 current 6 19	history1 1 0 65 0 1045 1145 1062 1324 3858 history1 3 19	<1 0 61 0 935 1017 975 1253 2919 history2 3 33
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 0 1010 1070 1150 1270 2060 limit/base >25	Current 0 0 66 <1 988 1142 1035 1221 3294 current 6 19 28	history1 1 0 65 0 1045 1145 1062 1324 3858 history1 3 19 26	<1 0 61 0 935 1017 975 1253 2919 history2 3 33 34
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 >20 Limit/base >20	current 0 0 66 <1 988 1142 1035 1221 3294 current 6 19 28 current 0.9 8.7	history1 1 0 65 0 1045 1145 1062 1324 3858 history1 3 19 26 history1 0.2 6.3	<1 0 61 0 935 1017 975 1253 2919 history2 3 33 34 history2
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 2060 225 >25 >20 Limit/base >20	current 0 0 66 <1 988 1142 1035 1221 3294 current 6 19 28 current 0.9	history1 1 0 65 0 1045 1145 1062 1324 3858 history1 3 19 26 history1 0.2	<1 0 61 0 935 1017 975 1253 2919 history2 3 33 34 history2 0.9
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 ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 220 220 220 20 20 20 20 20 20 20 20 20	current 0 0 66 <1 988 1142 1035 1221 3294 current 6 19 28 current 0.9 8.7	history1 1 0 65 0 1045 1145 1062 1324 3858 history1 3 19 26 history1 0.2 6.3	<1 0 61 0 935 1017 975 1253 2919 history2 3 33 34 history2 0.9 7.0
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 20 320 33 20 20 20	current 0 0 66 <1 988 1142 1035 1221 3294 current 6 19 28 current 0.9 8.7 20.8	history1 1 0 65 0 1045 1145 1062 1324 3858 history1 3 19 26 history1 0.2 6.3 18.0	<1 0 61 0 935 1017 975 1253 2919 history2 3 33 34 history2 0.9 7.0 19.2



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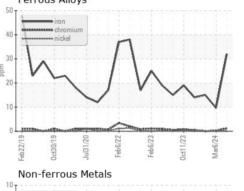


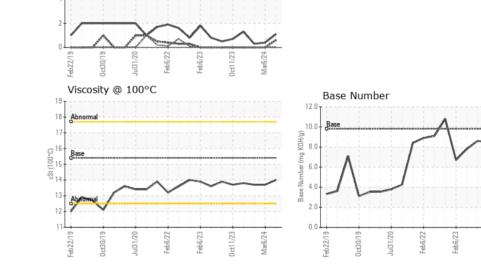


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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
		method	111100030	ourrent	motory i	motoryz
Visc @ 100°C	cSt	ASTM D445	15.4	14.0	13.7	13.7
GRAPHS						

Ferrous Alloys

ead





Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 893 - OK East Hauling Sample No. : GFL0118486 Received : 12 Apr 2024 2100 Lilly Street Lab Number : 06148035 Tested : 15 Apr 2024 Seminole, OK US 74868 Unique Number : 10978113 Diagnosed : 15 Apr 2024 - Wes Davis Test Package : FLEET Contact: Roger Barlow Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. rbarlow@gflenv.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (405)204-6183 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F:

Report Id: GFL893 [WUSCAR] 06148035 (Generated: 04/15/2024 18:08:36) Rev: 1

Contact/Location: Roger Barlow - GFL893

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