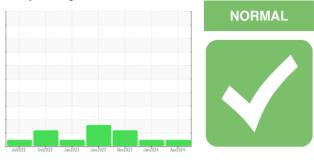


OIL ANALYSIS REPORT

Sample Rating Trend



727122 Component Diesel Engine Fluid PETRO CANADA DURON SHP 15W40 (--- GAL)

SAMPLE INFORMATION method

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.

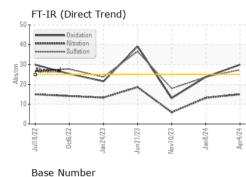
Fluid Condition

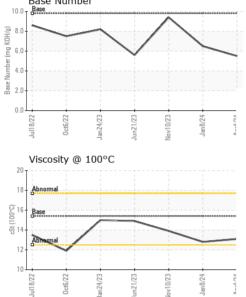
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

SAMIFLE INFURI		method	IIIIII/Dase	current	nistory i	TIIStOLYZ
Sample Number		Client Info		GFL0116028	GFL0097485	GFL0097459
Sample Date		Client Info		04 Apr 2024	08 Jan 2024	10 Nov 2023
Machine Age	hrs	Client Info		12548	12108	11863
Oil Age	hrs	Client Info		64346	126994	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	ABNORMAL
•			11 1. 11			
CONTAMINATI	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	>80	56	34	15
Chromium	ppm	ASTM D5185m	>5	<1	<1	0
Nickel		ASTM D5185m		0	0	0
Titanium	ppm ppm	ASTM D5185m	<i>~L</i>	0	0	0
Silver			. 0	-	0	0
	ppm	ASTM D5185m		0 2	2	2
Aluminum	ppm	ASTM D5185m	>30			
Lead	ppm	ASTM D5185m	>30	0	<1	0
Copper	ppm	ASTM D5185m	>150	0	<1	<1
Tin	ppm		>5	0	0	0
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		current 0	history1 5	5
	ppm ppm					
Boron		ASTM D5185m	0	0	5	5
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	0 0	5 0	5 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	0 0 65	5 0 55	5 0 64
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	0 0 65 0	5 0 55 0	5 0 64 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	0 0 65 0 1026	5 0 55 0 886	5 0 64 0 923
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	0 0 65 0 1026 1219	5 0 55 0 886 1034	5 0 64 0 923 1046
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	0 0 65 0 1026 1219 1109	5 0 55 0 886 1034 906	5 0 64 0 923 1046 1049
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270	0 0 65 0 1026 1219 1109 1305	5 0 55 0 886 1034 906 1216	5 0 64 0 923 1046 1049 1208
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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 0 60 0 1010 1070 1150 1270 2060	0 0 65 0 1026 1219 1109 1305 3360 current	5 0 55 0 886 1034 906 1216 2616 history1	5 0 64 0 923 1046 1049 1208 3108 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm	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	0 0 65 0 1026 1219 1109 1305 3360 current 6	5 0 55 0 886 1034 906 1216 2616 history1 4	5 0 64 0 923 1046 1049 1208 3108 history2 5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm	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	0 0 65 0 1026 1219 1109 1305 3360 current	5 0 55 0 886 1034 906 1216 2616 history1	5 0 64 0 923 1046 1049 1208 3108 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >20	0 0 65 0 1026 1219 1109 1305 3360 current 6 8 3	5 0 55 0 886 1034 906 1216 2616 history1 4 7 3	5 0 64 0 923 1046 1049 1208 3108 history2 5 5 189 4
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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 220 220	0 0 65 0 1026 1219 1109 1305 3360 current 6 8 3 3	5 0 55 0 886 1034 906 1216 2616 history1 4 7 3 3 history1	5 0 64 0 923 1046 1049 1208 3108 history2 5 ↓ 189 4 Kistory2
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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >20 20 limit/base	0 0 65 0 1026 1219 1109 1305 3360 current 6 8 3 3 current 1.1	5 0 55 0 886 1034 906 1216 2616 history1 4 7 3 history1 0.8	5 0 64 0 923 1046 1049 1208 3108 history2 5 5 189 4 history2 0.4
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 t ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 2060 200 200 200 200 200 200	0 0 65 0 1026 1219 1109 1305 3360 <i>current</i> 6 8 3 <i>current</i> 1.1 1.1	5 0 55 0 886 1034 906 1216 2616 history1 4 7 3 history1 0.8 13.2	5 0 64 0 923 1046 1049 1208 3108 history2 5 5 189 4 189 4 189 4
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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >20 20 limit/base	0 0 65 0 1026 1219 1109 1305 3360 current 6 8 3 3 current 1.1	5 0 55 0 886 1034 906 1216 2616 history1 4 7 3 history1 0.8	5 0 64 0 923 1046 1049 1208 3108 history2 5 5 189 4 history2 0.4
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 t ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 2060 200 200 200 200 200 200	0 0 65 0 1026 1219 1109 1305 3360 <i>current</i> 6 8 3 <i>current</i> 1.1 1.1	5 0 55 0 886 1034 906 1216 2616 history1 4 7 3 history1 0.8 13.2	5 0 64 0 923 1046 1049 1208 3108 history2 5 5 189 4 189 4 189 4
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 t ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 220 20 20 320 320 33 220 330	0 0 65 0 1026 1219 1109 1305 3360 current 6 8 3 3 <u>current</u> 1.1 15.0 27.3	5 0 55 0 886 1034 906 1216 2616 history1 4 7 3 <u>history1</u> 0.8 13.2 23.7	5 0 64 0 923 1046 1049 1208 3108 history2 5 ▲ 189 4 history2 0.4 5.9 17.9
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	0 0 0 1010 1070 1150 1270 2060 2060 200 220 220 220 220 330 30 10000000000	0 0 65 0 1026 1219 1109 1305 3360 current 6 8 3 3 current 1.1 15.0 27.3 current	5 0 55 0 886 1034 906 1216 2616 history1 4 7 3 history1 0.8 13.2 23.7 history1	5 0 64 0 923 1046 1049 1208 3108 history2 5 5 189 4 189 4 189 4 0.4 5.9 17.9 17.9



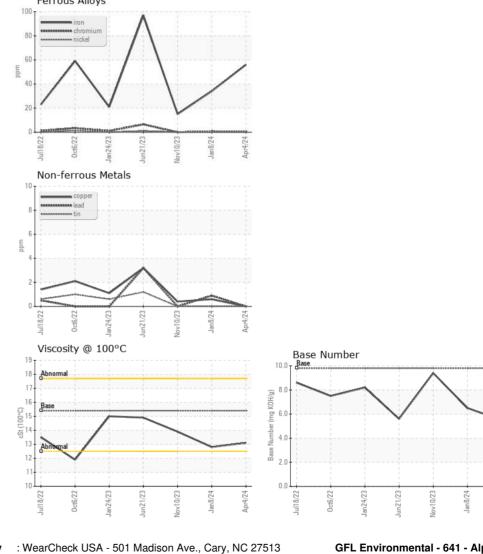
OIL ANALYSIS REPORT





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	13.1	12.8	13.9
GRAPHS						

Ferrous Alloys



Laboratory GFL Environmental - 641 - Alpena Sample No. : GFL0116028 Received : 12 Apr 2024 1241 KING SETTLEMENT RD ģ Lab Number : 06146959 Tested : 15 Apr 2024 ALPENA, MI Unique Number : 10977037 Diagnosed : 15 Apr 2024 - Sean Felton US 49707 Test Package : FLEET Contact: DYLAN TOLAN Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. dylan.tolan@gflenv.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (989)854-7203 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F:

Submitted By: GFL463 and GFL641 - DYLAN TOLAN

Apr4/24 -