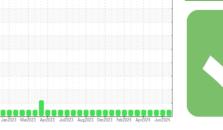


OIL ANALYSIS REPORT

Sample Rating Trend







Diesel Engine Fluid PETRO CANADA DURON SHP 15W40 (12 GAL) SAMPLE INFORMATION method DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Machine Id 912092

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

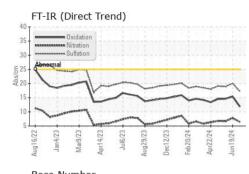
Fluid Condition

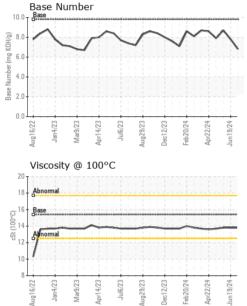
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sample Number		Client Info		GFL0125871	GFL0125850	GFL0118696
Sample Date		Client Info		01 Jul 2024	19 Jun 2024	28 May 2024
Machine Age	hrs	Client Info		5034	4965	4831
Oil Age	hrs	Client Info		600	976	200
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT		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	13	11	9
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	1	<1	2
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	2	1	2
Lead	ppm	ASTM D5185m	>40	<1	0	<1
Copper	ppm	ASTM D5185m	>330	4	3	3
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 0	history1 0	history2 0
	ppm ppm					
Boron		ASTM D5185m	0	0	0	0
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	0 0	0	0 <1
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	0 0 62	0 0 60	0 <1 65
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	0 0 62 <1	0 0 60 <1	0 <1 65 <1
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 62 <1 989	0 0 60 <1 1009	0 <1 65 <1 1043
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 62 <1 989 1100	0 0 60 <1 1009 1134	0 <1 65 <1 1043 1151
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 62 <1 989 1100 1065	0 0 60 <1 1009 1134 1017	0 <1 65 <1 1043 1151 1096
Boron 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 0 60 0 1010 1070 1150 1270	0 0 62 <1 989 1100 1065 1300	0 0 60 <1 1009 1134 1017 1287	0 <1 65 <1 1043 1151 1096 1290
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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 0 60 0 1010 1070 1150 1270 2060	0 0 62 <1 989 1100 1065 1300 3233	0 0 60 <1 1009 1134 1017 1287 3083	0 <1 65 <1 1043 1151 1096 1290 3152
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 ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	0 0 62 <1 989 1100 1065 1300 3233 current	0 0 60 <1 1009 1134 1017 1287 3083 history1	0 <1 65 <1 1043 1151 1096 1290 3152 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	0 0 62 <1 989 1100 1065 1300 3233 current 4	0 0 60 <1 1009 1134 1017 1287 3083 history1 4	0 <1 65 <1 1043 1151 1096 1290 3152 history2 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 kimit/base >25	0 0 62 <1 989 1100 1065 1300 3233 current 4 5	0 0 60 <1 1009 1134 1017 1287 3083 history1 4 3	0 <1 65 <1 1043 1151 1096 1290 3152 history2 4 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25	0 0 62 <1 989 1100 1065 1300 3233 current 4 5 2 2	0 0 60 <1 1009 1134 1017 1287 3083 history1 4 3 0	0 <1 65 <1 1043 1151 1096 1290 3152 history2 4 2 2
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 2060 225 >25 >20 Limit/base >20	0 0 62 <1 989 1100 1065 1300 3233 current 4 5 2 2 current 0.5	0 0 60 <1 1009 1134 1017 1287 3083 history1 4 3 0 history1 0.7	0 <1 65 <1 1043 1151 1096 1290 3152 history2 4 2 2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 Imit/base >25	0 0 62 <1 989 1100 1065 1300 3233 current 4 5 2 2	0 0 60 <1 1009 1134 1017 1287 3083 history1 4 3 0 history1	0 <1 65 <1 1043 1151 1096 1290 3152 history2 4 2 2 history2 0.4
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 ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 imit/base >3 >20	0 0 62 <1 989 1100 1065 1300 3233 current 4 5 2 2 current 0.5 6.4 17.2	0 0 60 <1 1009 1134 1017 1287 3083 history1 4 3 0 0 history1 0.7 7.8 20.0	0 <1 65 <1 1043 1151 1096 1290 3152 history2 4 2 2 history2 0.4 6.7 18.9
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	ASTM D5185m ASTM D7844 *ASTM D7844	0 0 0 1010 1070 1150 1270 2060 2060 225 20 220 220 20 33 220 20 330 20 330	0 0 62 <1 989 1100 1065 1300 3233 <i>current</i> 4 5 2 <i>current</i> 0.5 6.4 17.2 <i>current</i>	0 0 60 <1 1009 1134 1017 1287 3083 history1 4 3 0 history1 0.7 7.8 20.0 history1	0 <1 65 <1 1043 1151 1096 1290 3152 history2 4 2 2 history2 0.4 6.7 18.9 history2
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	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	0 0 0 1010 1070 1150 1270 2060 imit/base >25 imit/base >3 >20	0 0 62 <1 989 1100 1065 1300 3233 current 4 5 2 2 current 0.5 6.4 17.2	0 0 60 <1 1009 1134 1017 1287 3083 history1 4 3 0 0 history1 0.7 7.8 20.0	0 <1 65 <1 1043 1151 1096 1290 3152 history2 4 2 2 history2 0.4 6.7 18.9



OIL ANALYSIS REPORT

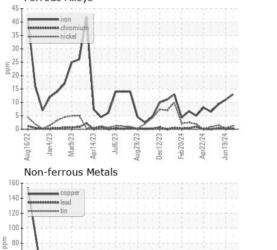


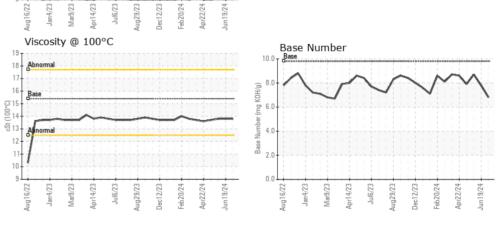


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

Ferrous Alloys

60 40 20





Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 166 - Phenix City Sample No. : GFL0125871 Received : 09 Jul 2024 18 Old Brickyard Rd Lab Number : 06231194 Tested : 10 Jul 2024 Phenix City, AL Unique Number : 11114687 Diagnosed : 10 Jul 2024 - Wes Davis US 36869 Test Package : FLEET Contact: DEAN PEACE JR Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. dean.peace@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:

Report Id: GFL166 [WUSCAR] 06231194 (Generated: 07/10/2024 04:36:10) Rev: 1

Submitted By: DEAN PEACE JR Page 2 of 2