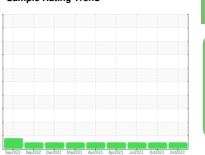


OIL ANALYSIS REPORT

Sample Rating Trend









Machine Id 812093 Component 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

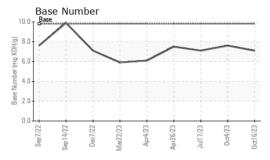
Fluid Condition

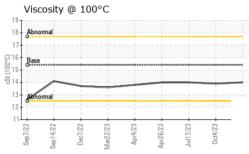
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

				Apr2023 Apr2023 Jul2023 Oct20		
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0097378	GFL0097362	GFL0067918
Sample Date		Client Info		16 Oct 2023	04 Oct 2023	17 Jul 2023
Machine Age	mls	Client Info		56919	43915	4145
Oil Age	mls	Client Info		43915	43915	541
Oil Changed		Client Info		N/A	N/A	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	21	14	18
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	2	2	<1
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	3	6	1
Lead	ppm	ASTM D5185m	>40	<1	<1	0
Copper	ppm	ASTM D5185m	>330	5	4	7
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
				J	0	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm		limit/base			history2
			0	current	history1	
Boron	ppm	ASTM D5185m	0	current 3	history1	4
Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m	0 0 60	current 3 0	history1 2 0	4 0
Boron Barium Molybdenum	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 3 0 84	history1 2 0 61	4 0 66
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	current 3 0 84 0	history1 2 0 61 <1	4 0 66 <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	current 3 0 84 0 1305	history1 2 0 61 <1 944	4 0 66 <1 1037
Boron Barium Molybdenum Manganese Magnesium Calcium	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	current 3 0 84 0 1305 1425	history1 2 0 61 <1 944 1019	4 0 66 <1 1037 1137
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 ASTM D5185m	0 0 60 0 1010 1070 1150 1270	current 3 0 84 0 1305 1425 1284	history1 2 0 61 <1 944 1019 977	4 0 66 <1 1037 1137 1041
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 ASTM D5185m	0 0 60 0 1010 1070 1150 1270	current 3 0 84 0 1305 1425 1284 1710	history1 2 0 61 <1 944 1019 977 1249	4 0 66 <1 1037 1137 1041 1361
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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 0 1010 1070 1150 1270 2060	current 3 0 84 0 1305 1425 1284 1710 4099	history1 2 0 61 <1 944 1019 977 1249 2951	4 0 66 <1 1037 1137 1041 1361 3355
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	current 3 0 84 0 1305 1425 1284 1710 4099 current	history1 2 0 61 <1 944 1019 977 1249 2951 history1	4 0 66 <1 1037 1137 1041 1361 3355 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	current 3 0 84 0 1305 1425 1284 1710 4099 current 6	history1 2 0 61 <1 944 1019 977 1249 2951 history1 5	4 0 66 <1 1037 1137 1041 1361 3355 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	current 3 0 84 0 1305 1425 1284 1710 4099 current 6 5	history1 2 0 61 <1 944 1019 977 1249 2951 history1 5 3	4 0 66 <1 1037 1137 1041 1361 3355 history2 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	current 3 0 84 0 1305 1425 1284 1710 4099 current 6 5	history1 2 0 61 <1 944 1019 977 1249 2951 history1 5 3 2	4 0 66 <1 1037 1137 1041 1361 3355 history2 4 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	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	current 3 0 84 0 1305 1425 1284 1710 4099 current 6 5 2 current	history1 2 0 61 <1 944 1019 977 1249 2951 history1 5 3 2	4 0 66 <1 1037 1137 1041 1361 3355 history2 4 1 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	ASTM D5185m Method *ASTM D5185m ASTM D5185m Method *ASTM D5185m	0 0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	current 3 0 84 0 1305 1425 1284 1710 4099 current 6 5 2 current 0.8	history1 2 0 61 <1 944 1019 977 1249 2951 history1 5 3 2 history1 0.8	4 0 66 <1 1037 1137 1041 1361 3355 history2 4 1 history2
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	ASTM D5185m method *ASTM D7844 *ASTM D7624 *ASTM D76145	0 0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	current 3 0 84 0 1305 1425 1284 1710 4099 current 6 5 2 current 0.8 7.9	history1 2 0 61 <1 944 1019 977 1249 2951 history1 5 3 2 history1 0.8 7.9	4 0 66 <1 1037 1137 1041 1361 3355 history2 4 4 1 history2 0.8 9.1
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 method *ASTM D7844 *ASTM D7624 *ASTM D76145	0 0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >4 >20 >30	current 3 0 84 0 1305 1425 1284 1710 4099 current 6 5 2 current 0.8 7.9 19.6	history1 2 0 61 <1 944 1019 977 1249 2951 history1 5 3 2 history1 0.8 7.9 20.2	4 0 66 <1 1037 1137 1041 1361 3355 history2 4 1 history2 0.8 9.1 20.7



OIL ANALYSIS REPORT



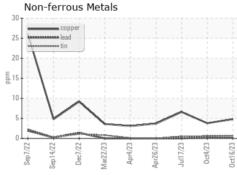


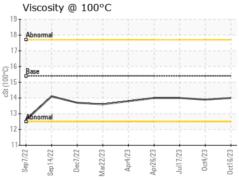
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

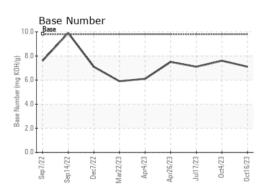
FLUID PROPE	RTIES	method				history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.0	13.9	14.0

GRAPHS

Ferrous Alloys E 15











Certificate L2367

Laboratory Sample No. Lab Number Test Package : FLEET

Unique Number : 10701433

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0097378 : 05984138

Received Diagnosed

: 19 Oct 2023 : 21 Oct 2023 Diagnostician : Don Baldridge GFL Environmental - 654S - Midlothian

12230 Deergrove Road Midlothian, VA US 23112 Contact: Corbin Umphlet

cumphlet@gflenv.com T:

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - 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)

Report Id: GFL654S [WUSCAR] 05984138 (Generated: 10/22/2023 16:38:07) Rev: 1

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