

OIL ANALYSIS REPORT

in lanian li

NORMAL

Machine Id 10460

Component Diesel Engine Fluid

PETRO CANADA DURON SHP 15W40 (7 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.

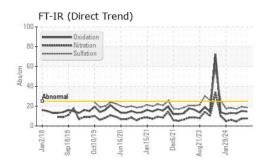
Fluid Condition

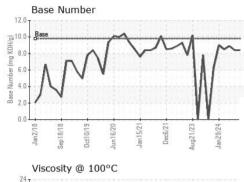
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

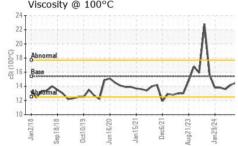
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0111569	GFL0111574	GFL0068842
Sample Date		Client Info		14 May 2024	01 Apr 2024	01 Mar 2024
Machine Age	hrs	Client Info		0	0	7603
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
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		>75	4	5	3
Chromium	ppm	ASTM D5185m		<1	<1	0
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>2	<1	0	0
Aluminum	ppm	ASTM D5185m	>15	2	2	1
Lead	ppm	ASTM D5185m	>25	<1	0	0
Copper	ppm	ASTM D5185m	>100	<1	1	<1
Tin	ppm	ASTM D5185m	>4	<1	0	0
Vanadium	ppm	ASTM D5185m		<1	0	<1
A						
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES	ppm	ASTM D5185m method	limit/base	0 current	0 history1	0 history2
	ppm ppm		limit/base		-	-
ADDITIVES		method		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	0	current 28	history1 26	history2 8
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	0	current 28 0	history1 26 0	history2 8 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 28 0 54	history1 26 0 54	history2 8 0 57
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	current 28 0 54 0	history1 26 0 54 <1	history2 8 0 57 0
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 28 0 54 0 751	history1 26 0 54 <1 778	history2 8 0 57 0 942
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	current 28 0 54 0 751 1243	history1 26 0 54 <1 778 1265	history2 8 0 57 0 942 1025
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 28 0 54 0 751 1243 1015	history1 26 0 54 <1 778 1265 887	history2 8 0 57 0 942 1025 992
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 28 0 54 0 751 1243 1015 1061	history1 26 0 54 <1 778 1265 887 1065	history2 8 0 57 0 942 1025 992 1146
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 28 0 54 0 751 1243 1015 1061 3115	history1 26 0 54 <1 778 1265 887 1065 3123	history2 8 0 57 0 942 1025 992 1146 3180
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	28 0 54 0 751 1243 1015 1061 3115 current	history1 26 0 54 <1 778 1265 887 1065 3123 history1	history2 8 0 57 0 942 1025 992 1146 3180 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	current 28 0 54 0 751 1243 1015 1061 3115 current 4	history1 26 0 54 <1 778 1265 887 1065 3123 history1 4	history2 8 0 57 0 942 1025 992 1146 3180 history2 2
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 60 0 1010 1070 1150 1270 2060 limit/base	current 28 0 54 0 751 1243 1015 1061 3115 current 4 3	history1 26 0 54 <1 778 1265 887 1065 3123 history1 4 6	history2 8 0 57 0 942 1025 992 1146 3180 history2 2 1
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 0 1010 1070 1150 1270 2060 imit/base >25	28 0 54 0 751 1243 1015 1061 3115 current 4 3 2	history1 26 0 54 <1 778 1265 887 1065 3123 history1 4 6 1 history1 0.3	history2 8 0 57 0 942 1025 992 1146 3180 history2 2 1 <1 history2 0.1
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 >25	current 28 0 54 0 751 1243 1015 1061 3115 current 4 3 2 current	history1 26 0 54 <1 778 1265 887 1065 3123 history1 4 6 1 history1	history2 8 0 57 0 942 1025 992 1146 3180 history2 2 1 <1 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 ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	current 28 0 54 0 751 1243 1015 1061 3115 current 4 3 2 current 0 0.1	history1 26 0 54 <1 778 1265 887 1065 3123 history1 4 6 1 history1 0.3	history2 8 0 57 0 942 1025 992 1146 3180 history2 2 1 <1 history2 0.1
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 ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >20 imit/base >20 imit/base >20	current 28 0 54 0 751 1243 1015 1061 3115 current 4 3 2 current 0.1 7.6	history1 26 0 54 <1 778 1265 887 1065 3123 history1 4 6 1 history1 0.3 7.5	history2 8 0 57 0 942 1025 992 1146 3180 history2 2 1 <1 history2 0.1 4.5
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> >6 >20 20	current 28 0 54 0 751 1243 1015 1061 3115 current 4 3 2 current 0.1 7.6 18.6	history1 26 0 54 <1 778 1265 887 1065 3123 history1 4 6 1 history1 0.3 7.5 19.3	history2 8 0 57 0 942 1025 992 1146 3180 history2 2 1 <1 history2 0.1 4.5 17.2



OIL ANALYSIS REPORT







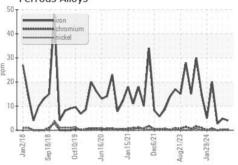
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	14.5	14.2	13.6
GRAPHS						

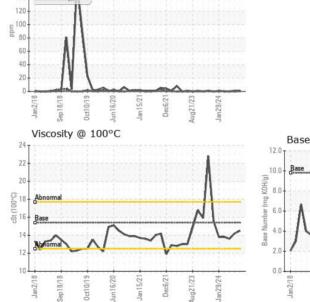
Ferrous Alloys

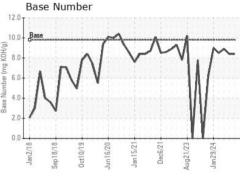
Non-ferrous Metals

180

160 140







Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 073 - Warner Robins - Transwaste Sample No. : GFL0111569 Received : 21 May 2024 155 Story Road Lab Number : 06185887 Tested : 22 May 2024 Warner Robins, GA Unique Number : 11042639 Diagnosed : 22 May 2024 - Wes Davis US 31093 Test Package : FLEET Contact: JOSH MALONEY Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. jmaloney@gflenv.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: F:

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Report Id: GFL073 [WUSCAR] 06185887 (Generated: 05/22/2024 11:20:48) Rev: 1

Submitted By: JOSH MALONEY Page 2 of 2