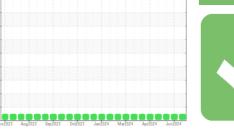


OIL ANALYSIS REPORT

SAMPLE INFORMATION method







Diesel Engine Fluid

PETRO CANADA DURON SHP 15W40 (--- QTS)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Machine Id 913051

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

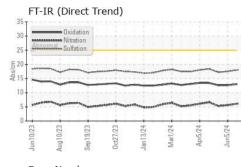
Fluid Condition

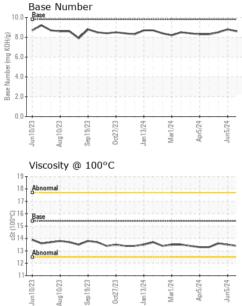
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sample Number		Client Info		GFL0111434	GFL0111418	GFL0111501
Sample Date		Client Info		28 Jun 2024	05 Jun 2024	20 May 2024
Machine Age	hrs	Client Info		3698	3580	3433
Oil Age	hrs	Client Info		118	617	470
Oil Changed		Client Info		Not Changd	Changed	Not Changd
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	ASTM D5185m	>90	12	9	6
Chromium	ppm	ASTM D5185m	>20	2	2	1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>2	0	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	13	12	6
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	0	<1	<1
Tin	ppm	ASTM D5185m	>15	0	<1	0
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	<1	0
ADDITIVES		method	limit/base	current	history1	history2
REDITIVEO		methou	iiiiii/base	Guironi	Thistory I	mstoryz
Boron	ppm	ASTM D5185m	0	4	4	3
	ppm ppm					
Boron		ASTM D5185m	0	4	4	3
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	4 0	4	3 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	4 0 56	4 0 57	3 0 59
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	4 0 56 0	4 0 57 <1	3 0 59 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	4 0 56 0 899	4 0 57 <1 889	3 0 59 0 1001
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	4 0 56 0 899 1001	4 0 57 <1 889 997	3 0 59 0 1001 1103
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	4 0 56 0 899 1001 976	4 0 57 <1 889 997 946	3 0 59 0 1001 1103 1074
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	4 0 56 0 899 1001 976 1181	4 0 57 <1 889 997 946 1153	3 0 59 0 1001 1103 1074 1322
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	0 0 60 1010 1070 1150 1270 2060	4 0 56 0 899 1001 976 1181 2776	4 0 57 <1 889 997 946 1153 3274	3 0 59 0 1001 1103 1074 1322 3784
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	4 0 56 0 899 1001 976 1181 2776 current	4 0 57 <1 889 997 946 1153 3274 history1	3 0 59 0 1001 1103 1074 1322 3784 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	0 0 60 1010 1070 1150 1270 2060	4 0 56 0 899 1001 976 1181 2776 current 3	4 0 57 <1 889 997 946 1153 3274 history1 4	3 0 59 0 1001 1103 1074 1322 3784 history2 3
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	0 0 60 0 1010 1070 1150 1270 2060 limit/base	4 0 56 0 899 1001 976 1181 2776 current 3 3	4 0 57 <1 889 997 946 1153 3274 history1 4 2	3 0 59 0 1001 1103 1074 1322 3784 history2 3 3 3
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	4 0 56 0 899 1001 976 1181 2776 current 3 3 3 37	4 0 57 <1 889 997 946 1153 3274 history1 4 2 34	3 0 59 0 1001 1103 1074 1322 3784 history2 3 3 3 19
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 2060 225 >25 >20 limit/base >20	4 0 56 0 899 1001 976 1181 2776 current 3 3 3 37	4 0 57 <1 889 997 946 1153 3274 history1 4 2 34 34 history1	3 0 59 0 1001 1103 1074 1322 3784 history2 3 3 19 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 ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20	4 0 56 0 899 1001 976 1181 2776 current 3 3 37 current 0.3	4 0 57 <1 889 997 946 1153 3274 history1 4 2 34 history1 0.3	3 0 59 0 1001 1103 1074 1322 3784 history2 3 3 3 19 history2 0.3
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 ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <i>limit/base</i> >25 >20 <i>limit/base</i> >20	4 0 56 0 899 1001 976 1181 2776 current 3 3 37 current 0.3 6.1	4 0 57 <1 889 997 946 1153 3274 history1 4 2 34 kistory1 0.3 5.6	3 0 59 0 1001 1103 1074 1322 3784 history2 3 3 3 19 history2 0.3 5.3
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 2060 225 20 225 20 imit/base >6 >20 20	4 0 56 0 899 1001 976 1181 2776 current 3 3 3 37 current 0.3 6.1 18.0 current	4 0 57 <1 889 997 946 1153 3274 history1 4 2 34 <u>history1</u> 0.3 5.6 17.5	3 0 59 0 1001 1103 1074 1322 3784 history2 3 3 3 19 history2 0.3 5.3 17.2 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 TS ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624	0 0 0 1010 1070 1150 1270 2060 2060 225 220 220 220 20 20 20 20 20 20 20 20 20	4 0 56 0 899 1001 976 1181 2776 current 3 3 3 37 current 0.3 6.1 18.0	4 0 57 <1 889 997 946 1153 3274 history1 4 2 34 kistory1 0.3 5.6 17.5 history1	3 0 59 0 1001 1103 1074 1322 3784 history2 3 3 3 19 history2 0.3 5.3 17.2



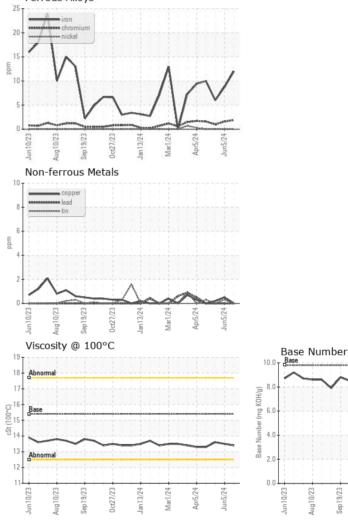
OIL ANALYSIS REPORT

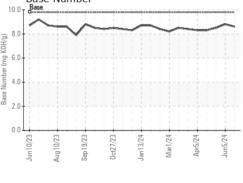




VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	13.4	13.5	13.6
GRAPHS						

Ferrous Alloys





Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 073 - Warner Robins - Transwaste Sample No. : GFL0111434 Received : 03 Jul 2024 155 Story Road Lab Number : 06227077 Tested : 05 Jul 2024 Warner Robins, GA Unique Number : 11110570 Diagnosed : 05 Jul 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] 06227077 (Generated: 07/09/2024 14:16:54) Rev: 1

Submitted By: JOSH MALONEY

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