

OIL ANALYSIS REPORT

Sample Rating Trend









Diesel Engine

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

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the

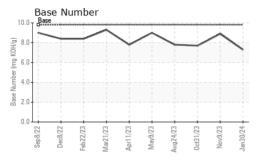
Fluid Condition

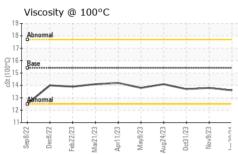
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

CAMPLE INFORM		SEPZUZZ DECZ		023 May2023 Aug2023 Oct2023 Novi		la i a tarre Co
SAMPLE INFORM	VIATION		limit/base	current	history1	history2
Sample Number		Client Info		GFL0103851	GFL0089544	GFL0097338
Sample Date		Client Info		30 Jan 2024	09 Nov 2023	31 Oct 2023
Machine Age	hrs	Client Info		3593	2629	2629
Oil Age	hrs	Client Info		586	2629	2629
Oil Changed		Client Info		Changed	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATI	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 METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	38	22	6
Chromium	ppm	ASTM D5185m	>20	1	1	0
Nickel	ppm	ASTM D5185m	>5	0	0	1
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	2	2	<1
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	1	0	0
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVEO						
Boron	ppm		0	10	7	7
	ppm			10 2	7 0	7 0
Boron		ASTM D5185m				
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	2	0	0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	2 62	0 54	0 55
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010	2 62 <1	0 54 <1	0 55 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010	2 62 <1 930	0 54 <1 935	0 55 <1 908
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070	2 62 <1 930 1180	0 54 <1 935 1028	0 55 <1 908 1012
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 60 0 1010 1070 1150	2 62 <1 930 1180 1142	0 54 <1 935 1028 1022	0 55 <1 908 1012 995
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 ASTM D5185m	0 60 0 1010 1070 1150 1270	2 62 <1 930 1180 1142 1204	0 54 <1 935 1028 1022 1246	0 55 <1 908 1012 995 1217
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060	2 62 <1 930 1180 1142 1204 3486	0 54 <1 935 1028 1022 1246 2973	0 55 <1 908 1012 995 1217 2855
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060	2 62 <1 930 1180 1142 1204 3486	0 54 <1 935 1028 1022 1246 2973 history1	0 55 <1 908 1012 995 1217 2855 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 60 0 1010 1070 1150 1270 2060	2 62 <1 930 1180 1142 1204 3486 current	0 54 <1 935 1028 1022 1246 2973 history1	0 55 <1 908 1012 995 1217 2855 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 60 0 1010 1070 1150 1270 2060 limit/base	2 62 <1 930 1180 1142 1204 3486 current 6	0 54 <1 935 1028 1022 1246 2973 history1 6	0 55 <1 908 1012 995 1217 2855 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 60 0 1010 1070 1150 1270 2060 limit/base >25	2 62 <1 930 1180 1142 1204 3486 current 6 0 3	0 54 <1 935 1028 1022 1246 2973 history1 6 0 <1	0 55 <1 908 1012 995 1217 2855 history2 4 2 0
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 ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	2 62 <1 930 1180 1142 1204 3486 current 6 0 3	0 54 <1 935 1028 1022 1246 2973 history1 6 0 <1 history1 1	0 55 <1 908 1012 995 1217 2855 history2 4 2 0 history2 0.4
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 60 0 1010 1070 1150 1270 2060 limit/base >25	2 62 <1 930 1180 1142 1204 3486 current 6 0 3	0 54 <1 935 1028 1022 1246 2973 history1 6 0 <1	0 55 <1 908 1012 995 1217 2855 history2 4 2 0
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 D5185m ASTM D76185m Method *ASTM D7844 *ASTM D7624 *ASTM D76145	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	2 62 <1 930 1180 1142 1204 3486 current 6 0 3 current 1.2	0 54 <1 935 1028 1022 1246 2973 history1 6 0 <1 history1 1 8.7	0 55 <1 908 1012 995 1217 2855 history2 4 2 0 history2 0.4 8.3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm	ASTM D5185m Method ASTM D5185m Method *ASTM D7844 *ASTM D7624 *ASTM D7415 Method	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >4 >20 >30 limit/base	2 62 <1 930 1180 1142 1204 3486 current 6 0 3 current 1.2 9.8 21.2	0 54 <1 935 1028 1022 1246 2973 history1 6 0 <1 history1 1 8.7 19.5 history1	0 55 <1 908 1012 995 1217 2855 history2 4 2 0 history2 0.4 8.3 20.8 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 Method ASTM D5185m ASTM D76185m Method *ASTM D7844 *ASTM D7624 *ASTM D76145	0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >4 >20 >30	2 62 <1 930 1180 1142 1204 3486 current 6 0 3 current 1.2 9.8 21.2	0 54 <1 935 1028 1022 1246 2973 history1 6 0 <1 history1 1 8.7 19.5	0 55 <1 908 1012 995 1217 2855 history2 4 2 0 history2 0.4 8.3 20.8



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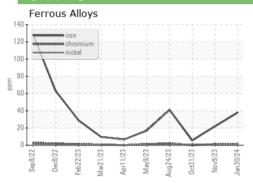


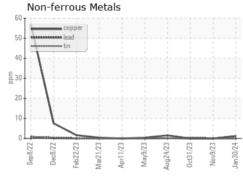


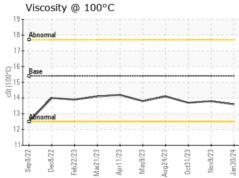
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

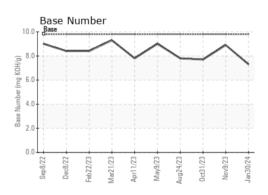
FLUID PROPE	ERTIES	method				history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.6	13.8	13.7

GRAPHS













Certificate L2367

Laboratory Sample No.

Lab Number : 06078961 Unique Number : 10861052 Test Package : FLEET

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0103851 Received : 02 Feb 2024

Tested Diagnosed

: 05 Feb 2024

: 05 Feb 2024 - Wes Davis

GFL Environmental - 654S - Midlothian

12230 Deergrove Road Midlothian, VA US 23112

Contact: Corbin Umphlet cumphlet@gflenv.com

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)

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