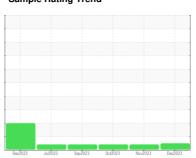


OIL ANALYSIS REPORT

Sample Rating Trend









Machine Id 913036 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.

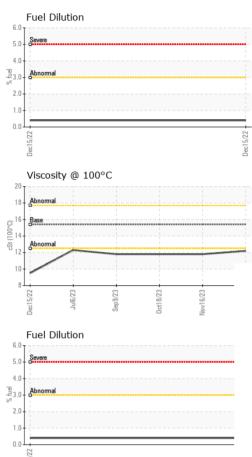
Fluid Condition

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

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0102415	GFL0098656	GFL0093680
Sample Date		Client Info		08 Dec 2023	16 Nov 2023	18 Oct 2023
Machine Age	hrs	Client Info		3438	3306	3152
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	N/A	Not Changd
Sample Status				NORMAL	ATTENTION	ATTENTION
CONTAMINAT	ION	method	limit/base	current	history1	history2
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	>120	5	5	4
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	4	1	0
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	<1	0
Aluminum	ppm	ASTM D5185m	>20	2	2	2
Lead	ppm	ASTM D5185m	>40	0	<1	0
Copper	ppm	ASTM D5185m	>330	1	2	2
Tin		ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m	>10	<1	0	0
Cadmium		ASTM D5185m		<1	0	0
	ppm	ASTIVI DO TOSITI		<1	0	
ADDITIVEC			limit/base			history2
ADDITIVES		method		current	history1	
Boron	ppm	ASTM D5185m	0	33	25	37
Boron Barium	ppm		0	33 0	25 0	37 0
Boron Barium Molybdenum		ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	33 0 56	25 0 52	37 0 58
Boron Barium Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	33 0	25 0 52 <1	37 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	33 0 56	25 0 52 <1 1022	37 0 58
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	33 0 56 <1 1039 839	25 0 52 <1	37 0 58 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	33 0 56 <1 1039 839 1071	25 0 52 <1 1022 778 1054	37 0 58 <1 1117 845 1059
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	33 0 56 <1 1039 839	25 0 52 <1 1022 778 1054 1207	37 0 58 <1 1117 845 1059 1300
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	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	33 0 56 <1 1039 839 1071	25 0 52 <1 1022 778 1054	37 0 58 <1 1117 845 1059
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 0 60 0 1010 1070 1150	33 0 56 <1 1039 839 1071 1246	25 0 52 <1 1022 778 1054 1207	37 0 58 <1 1117 845 1059 1300
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 ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	33 0 56 <1 1039 839 1071 1246 3357	25 0 52 <1 1022 778 1054 1207 3154	37 0 58 <1 1117 845 1059 1300 3396
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	33 0 56 <1 1039 839 1071 1246 3357 current	25 0 52 <1 1022 778 1054 1207 3154 history1	37 0 58 <1 1117 845 1059 1300 3396 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	33 0 56 <1 1039 839 1071 1246 3357 current	25 0 52 <1 1022 778 1054 1207 3154 history1	37 0 58 <1 1117 845 1059 1300 3396 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base	33 0 56 <1 1039 839 1071 1246 3357 current 8 6	25 0 52 <1 1022 778 1054 1207 3154 history1 5 6	37 0 58 <1 1117 845 1059 1300 3396 history2
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	33 0 56 <1 1039 839 1071 1246 3357 current 8 6 2	25 0 52 <1 1022 778 1054 1207 3154 history1 5 6	37 0 58 <1 1117 845 1059 1300 3396 history2 5 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel	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 >3.0	33 0 56 <1 1039 839 1071 1246 3357 current 8 6 2 <1.0	25 0 52 <1 1022 778 1054 1207 3154 history1 5 6 6 <1.0	37 0 58 <1 1117 845 1059 1300 3396 history2 5 4 2 <1.0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel 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 >3.0	33 0 56 <1 1039 839 1071 1246 3357 current 8 6 2 <1.0 current 0.2	25 0 52 <1 1022 778 1054 1207 3154 history1 5 6 6 <1.0 history1 0.4	37 0 58 <1 1117 845 1059 1300 3396 history2 5 4 2 <1.0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot %	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 >3.0	33 0 56 <1 1039 839 1071 1246 3357 current 8 6 2 <1.0	25 0 52 <1 1022 778 1054 1207 3154 history1 5 6 6 <1.0	37 0 58 <1 1117 845 1059 1300 3396 history2 5 4 2 <1.0 history2 0.2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844	0 0 60 0 1010 1150 1270 2060 limit/base >25 >20 >3.0 limit/base	33 0 56 <1 1039 839 1071 1246 3357 current 8 6 2 <1.0 current 0.2 7.3	25 0 52 <1 1022 778 1054 1207 3154 history1 5 6 6 <1.0 history1 0.4 9.1	37 0 58 <1 1117 845 1059 1300 3396 history2 5 4 2 <1.0 history2 0.2 7.4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm	ASTM D5185m ASTM D78124 *ASTM D7844 *ASTM D7624 *ASTM D7415 method	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 >3.0 limit/base >4 >20 >30 limit/base	33 0 56 <1 1039 839 1071 1246 3357 current 8 6 2 <1.0 current 0.2 7.3 19.3 current	25 0 52 <1 1022 778 1054 1207 3154 history1 5 6 6 <1.0 history1 0.4 9.1 20.8 history1	37 0 58 <1 1117 845 1059 1300 3396 history2 5 4 2 <1.0 history2 0.2 7.4 19.1 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D76145	0 0 60 0 1010 1150 1270 2060 limit/base >25 >20 >3.0 limit/base >4 >20 >30	33 0 56 <1 1039 839 1071 1246 3357 current 8 6 2 <1.0 current 0.2 7.3 19.3	25 0 52 <1 1022 778 1054 1207 3154 history1 5 6 6 <1.0 history1 0.4 9.1 20.8	37 0 58 <1 1117 845 1059 1300 3396 history2 5 4 2 <1.0 history2 0.2 7.4 19.1



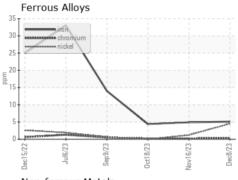
OIL ANALYSIS REPORT

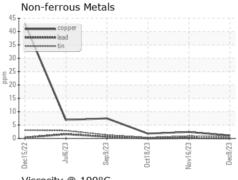


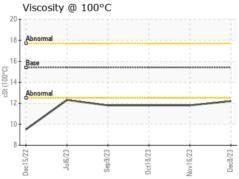
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

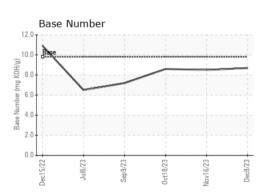
FLUID FROFERITES		memou			HISTOLAL	HISTOLYZ	
Visc @ 100°C	cSt	ASTM D445	15.4	12.2	11.8	▲ 11.8	

GRAPHS













Laboratory Sample No. Lab Number Unique Number

: GFL0102415

: 06036623 : 10791852

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Recieved : 15 Dec 2023 Diagnosed : 22 Dec 2023

Diagnostician : Jonathan Hester

Test Package: FLEET (Additional Tests: FuelDilution, PercentFuel) 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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