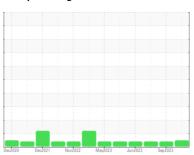


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



729041-361666

Component

Diesel Engine

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

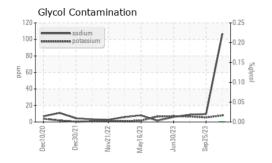
Fluid Condition

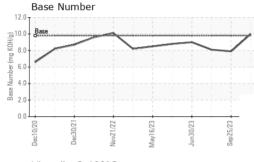
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

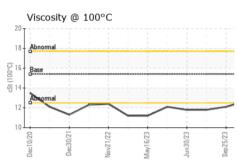
•		Dec2020	23024081 14042022	May2023 Jun2023 Se		
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0098847	GFL0090952	GFL0074729
Sample Date		Client Info		06 Nov 2023	25 Sep 2023	14 Aug 2023
Machine Age	hrs	Client Info		19757	19593	19456
Oil Age	hrs	Client Info		164	137	181
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	ATTENTION	ATTENTION
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>2.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	7	85	64
Chromium	ppm	ASTM D5185m	>20	<1	3	2
Nickel	ppm	ASTM D5185m	>4	0	<1	<1
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	2	5	6
Lead	ppm	ASTM D5185m	>40	1	12	5
Copper	ppm	ASTM D5185m	>330	<1	9	5
Tin	ppm	ASTM D5185m	>15	0	2	1
Vanadium	ppm	ASTM D5185m	7.0	0	_ <1	<1
Cadmium	ppm	ASTM D5185m		0	0	0
	le le		1111-11			
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	23	3	4
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	23 0	3	4
Boron Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	23 0 52	3 0 76	4 0 75
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	23 0 52 <1	3 0 76 1	4 0 75
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	23 0 52 <1 855	3 0 76 1 920	4 0 75 1 907
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	23 0 52 <1 855 1104	3 0 76 1 920 1025	4 0 75 1 907 1040
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	23 0 52 <1 855 1104 990	3 0 76 1 920 1025 951	4 0 75 1 907 1040 939
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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	23 0 52 <1 855 1104 990 1216	3 0 76 1 920 1025 951 1172	4 0 75 1 907 1040 939 1146
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	23 0 52 <1 855 1104 990	3 0 76 1 920 1025 951	4 0 75 1 907 1040 939
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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	23 0 52 <1 855 1104 990 1216	3 0 76 1 920 1025 951 1172 2805 history1	4 0 75 1 907 1040 939 1146 3247 history2
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	0 0 60 0 1010 1070 1150 1270 2060	23 0 52 <1 855 1104 990 1216 3193	3 0 76 1 920 1025 951 1172 2805	4 0 75 1 907 1040 939 1146 3247
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 ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	23 0 52 <1 855 1104 990 1216 3193 current	3 0 76 1 920 1025 951 1172 2805 history1	4 0 75 1 907 1040 939 1146 3247 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	23 0 52 <1 855 1104 990 1216 3193 current	3 0 76 1 920 1025 951 1172 2805 history1	4 0 75 1 907 1040 939 1146 3247 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	23 0 52 <1 855 1104 990 1216 3193 current 4 107	3 0 76 1 920 1025 951 1172 2805 history1 11	4 0 75 1 907 1040 939 1146 3247 history2 10
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	23 0 52 <1 855 1104 990 1216 3193 current 4 107 8	3 0 76 1 920 1025 951 1172 2805 history1 11	4 0 75 1 907 1040 939 1146 3247 history2 10 9
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	23 0 52 <1 855 1104 990 1216 3193 current 4 107 8 0.0	3 0 76 1 920 1025 951 1172 2805 history1 11 10 5 NEG	4 0 75 1 907 1040 939 1146 3247 history2 10 9 7 NEG
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m *ASTM D2982	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	23 0 52 <1 855 1104 990 1216 3193 current 4 107 8 0.0	3 0 76 1 920 1025 951 1172 2805 history1 11 10 5 NEG	4 0 75 1 907 1040 939 1146 3247 history2 10 9 7 NEG
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot %	ppm	ASTM D5185m *ASTM D2982 *Method *ASTM D7844	0 0 60 0 1010 1150 1270 2060 limit/base >25 >20	23 0 52 <1 855 1104 990 1216 3193 current 4 107 8 0.0 current 0.3	3 0 76 1 920 1025 951 1172 2805 history1 11 10 5 NEG history1 2.6	4 0 75 1 907 1040 939 1146 3247 history2 10 9 7 NEG
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D7624	0 0 60 0 1010 1150 1270 2060 limit/base >25 >20	23 0 52 <1 855 1104 990 1216 3193 current 4 107 8 0.0 current 0.3 5.5	3 0 76 1 920 1025 951 1172 2805 history1 11 10 5 NEG history1 2.6 10.6	4 0 75 1 907 1040 939 1146 3247 history2 10 9 7 NEG history2 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D7624	0 0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20	23 0 52 <1 855 1104 990 1216 3193 current 4 107 8 0.0 current 0.3 5.5 18.3	3 0 76 1 920 1025 951 1172 2805 history1 11 10 5 NEG history1 2.6 10.6 23.0	4 0 75 1 907 1040 939 1146 3247 history2 10 9 7 NEG history2 2 9.1 21.4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm	ASTM D5185m *ASTM D2982 *ASTM D7844 *ASTM D7624 *ASTM D7415 *Method	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20 >30 limit/base	23 0 52 <1 855 1104 990 1216 3193 current 4 107 8 0.0 current 0.3 5.5 18.3 current	3 0 76 1 920 1025 951 1172 2805 history1 11 10 5 NEG history1 2.6 10.6 23.0 history1	4 0 75 1 907 1040 939 1146 3247 history2 10 9 7 NEG history2 2 9.1 21.4 history2



OIL ANALYSIS REPORT



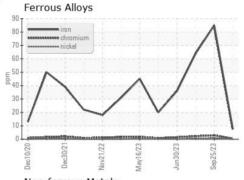


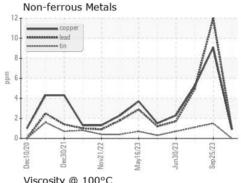


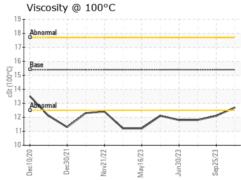
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

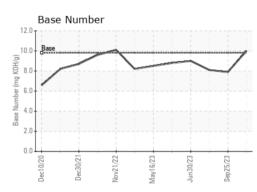
FLUID FNOFERITES		memou			HISTOLYT	HISTOLYZ	
Visc @ 100°C	cSt	ASTM D445	15.4	12.7	<u> </u>	<u> </u>	

GRAPHS











Certificate L2367

Laboratory Sample No. Lab Number **Unique Number** Test Package : FLEET (Additional Tests: Glycol)

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

: GFL0098847 : 06008826 : 10742588

Received Diagnosed

: 15 Nov 2023 : 21 Nov 2023 Diagnostician : Wes Davis

Little Rock, AR

GFL Environmental - 814 - Little Rock Hauling

Contact: Brad Manager

4005 Hwy 161 N.

US 72117

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)

T:

F: