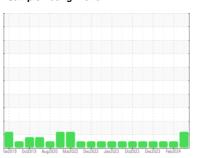


OIL ANALYSIS REPORT

Sample Rating Trend





727099-361672

Component

Diesel Engine

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

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Sodium and/or potassium levels are high. Test for glycol is negative.

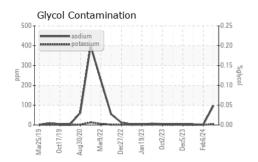
Fluid Condition

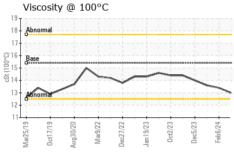
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

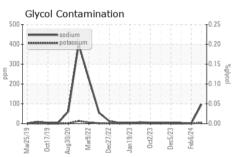
GAL)						
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0109174	GFL0109201	GFL0098329
Sample Date		Client Info		05 Mar 2024	06 Feb 2024	04 Jan 2024
Machine Age	hrs	Client Info		6763	6581	6433
Oil Age	hrs	Client Info		300	600	700
Oil Changed		Client Info		N/A	Changed	Not Changd
Sample Status				ATTENTION	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<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	42	0	22
Chromium	ppm	ASTM D5185m	>20	1	0	1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	4	<1	2
Lead	ppm	ASTM D5185m	>40	0	2	0
Copper	ppm	ASTM D5185m	>330	1	0	2
Tin	ppm	ASTM D5185m	>15	0	0	0
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 6	history1	history2 0
	ppm ppm				•	,
Boron	• •	ASTM D5185m	0	6	3	0
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	6 0	3	0
Boron Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	6 0 59	3 0 53	0 0 58
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	6 0 59 <1	3 0 53 <1	0 0 58 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	6 0 59 <1 875	3 0 53 <1 839	0 0 58 <1 1001
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	6 0 59 <1 875 966	3 0 53 <1 839 918	0 0 58 <1 1001 1054
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	6 0 59 <1 875 966 983	3 0 53 <1 839 918 932	0 0 58 <1 1001 1054 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	6 0 59 <1 875 966 983 1153	3 0 53 <1 839 918 932 1126	0 0 58 <1 1001 1054 1059
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	6 0 59 <1 875 966 983 1153 2934	3 0 53 <1 839 918 932 1126 2736	0 0 58 <1 1001 1054 1059 1310 3066
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	6 0 59 <1 875 966 983 1153 2934	3 0 53 <1 839 918 932 1126 2736 history1	0 0 58 <1 1001 1054 1059 1310 3066 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base	6 0 59 <1 875 966 983 1153 2934 current	3 0 53 <1 839 918 932 1126 2736 history1	0 0 58 <1 1001 1054 1059 1310 3066 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	6 0 59 <1 875 966 983 1153 2934 current 5	3 0 53 <1 839 918 932 1126 2736 history1	0 0 58 <1 1001 1054 1059 1310 3066 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base	6 0 59 <1 875 966 983 1153 2934 current 5 98 5	3 0 53 <1 839 918 932 1126 2736 history1	0 0 58 <1 1001 1054 1059 1310 3066 history2 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol	ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	6 0 59 <1 875 966 983 1153 2934 current 5 98 5 NEG	3 0 53 <1 839 918 932 1126 2736 history1 1 3 <1	0 0 58 <1 1001 1054 1059 1310 3066 history2 4 4 0 NEG
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED	ppm	ASTM D5185m *ASTM D2982	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	6 0 59 <1 875 966 983 1153 2934 current 5 98 5 NEG	3 0 53 <1 839 918 932 1126 2736 history1 1 3 <1 NEG	0 0 58 <1 1001 1054 1059 1310 3066 history2 4 0 NEG history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot %	ppm	ASTM D5185m *ASTM D7844	0 0 60 0 1010 1150 1270 2060 limit/base >25 >20	6 0 59 <1 875 966 983 1153 2934 current 5 98 5 NEG current 0.9	3 0 53 <1 839 918 932 1126 2736 history1 1 3 <1 NEG	0 0 58 <1 1001 1054 1059 1310 3066 history2 4 4 0 NEG
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration	ppm	ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D76145	0 0 60 0 1010 1150 1270 2060 limit/base >25 >20	6 0 59 <1 875 966 983 1153 2934 current 5 98 5 NEG current 0.9 9.7	3 0 53 <1 839 918 932 1126 2736 history1 1 3 <1 NEG history1 0.3 6.3	0 0 58 <1 1001 1054 1059 1310 3066 history2 4 4 0 NEG history2 1 9.2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D76145	0 0 60 0 1010 1150 1270 2060 limit/base >25 >20	6 0 59 <1 875 966 983 1153 2934 current 5 98 5 NEG current 0.9 9.7 20.8	3 0 53 <1 839 918 932 1126 2736 history1 1 3 <1 NEG history1 0.3 6.3 18.4	0 0 58 <1 1001 1054 1059 1310 3066 history2 4 0 NEG history2 1 9.2 20.6
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 D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D2982 **ASTM D7844 **ASTM D7844 **ASTM D7624 **ASTM D7415 **Method	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20 >30 limit/base	6 0 59 <1 875 966 983 1153 2934 current 5 98 5 NEG current 0.9 9.7 20.8 current	3 0 53 <1 839 918 932 1126 2736 history1 1 3 <1 NEG history1 0.3 6.3 18.4 history1	0 0 58 <1 1001 1054 1059 1310 3066 history2 4 4 0 NEG history2 1 9.2 20.6 history2



OIL ANALYSIS REPORT



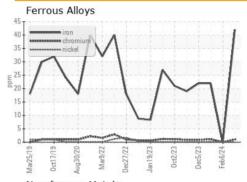


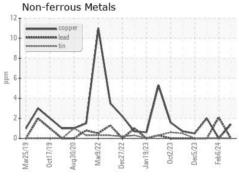


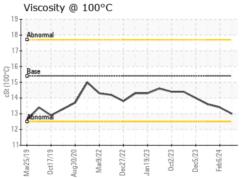
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

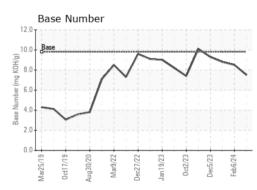
FLUID PROPERTIES							
Visc @ 100°C	cSt	ASTM D445	15.4	13.0	13.4	13.6	

GRAPHS













Laboratory Sample No. Lab Number : 06116915 Unique Number: 10925748

: GFL0109174

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

: 13 Mar 2024 : 19 Mar 2024 Diagnosed

: 19 Mar 2024 - Jonathan Hester

GFL Environmental - 822 - Springfield Hauling 2120 West Bennett Street

Springfield, MO US 65807

Contact: Dennis Moore dennis.moore@gflenv.com T: (417)403-3641

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.

Test Package: FLEET (Additional Tests: Glycol)

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