

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 727065-361316.1 Component Diesel Engine

Fluid PETRO CANADA DURON SHP 15W40 (8 GAL)

	AND IR	
130		
-		

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

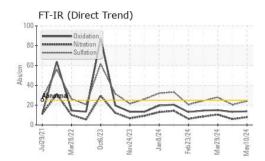
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

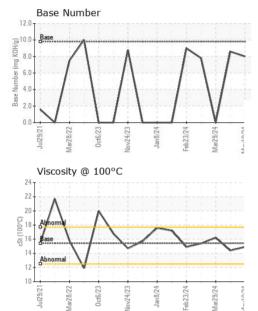
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0112200	GFL0112206	GFL0112185
Sample Date		Client Info		10 May 2024	19 Apr 2024	29 Mar 2024
Machine Age	hrs	Client Info		1369	1235	1104
Oil Age	hrs	Client Info		150	150	600
Oil Changed		Client Info		Not Changd	Not Changd	Changed
Sample Status				NORMAL	NORMAL	ABNORMAL
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	>120	9	5	12
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	<1	<1	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	0
Silver	ppm	ASTM D5185m	>2	0	<1	0
Aluminum	ppm	ASTM D5185m	>20	2	3	1
Lead	ppm	ASTM D5185m	>40	1	1	0
Copper	ppm	ASTM D5185m	>330	3	3	<1
Tin	ppm	ASTM D5185m	>15	<1	1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	0
a						
Cadmium	ppm	ASTM D5185m		<1	<1	0
ADDITIVES	ppm	ASTM D5185m method	limit/base	<1 current	<1 history1	0 history2
	ppm ppm		limit/base			
ADDITIVES		method		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	0	current 0	history1 0	history2 1
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	0	current 0 0	history1 0 0	history2 1 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 0 0 53	history1 0 0 55	history2 1 0 57
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	current 0 0 53 0	history1 0 0 55 <1	history2 1 0 57 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	ourrent 0 0 53 0 833	history1 0 0 55 <1 799	history2 1 0 57 <1 916
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	current 0 53 0 833 969	history1 0 55 <1 799 942	history2 1 0 57 <1 916 1028
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	Current 0 53 0 833 969 992	history1 0 55 <1 799 942 833	history2 1 0 57 <1 916 1028 1004
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	method 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	current 0 53 0 833 969 992 1156	history1 0 0 55 <1 799 942 833 1060 2792 history1	history2 1 0 57 <1 916 1028 1004 1188 3230 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	method 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	current 0 0 53 0 833 969 992 1156 3073 current 3	history1 0 55 <1 799 942 833 1060 2792	history2 1 0 57 <1 916 1028 1004 1188 3230 history2 3
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 kimit/base >25	current 0 0 53 0 833 969 992 1156 3073 current 3 2	history1 0 0 55 <1 799 942 833 1060 2792 history1 3 0	history2 1 0 57 <1 916 1028 1004 1188 3230 history2 3 1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 kimit/base >25	current 0 0 53 0 833 969 992 1156 3073 current 3	history1 0 55 <1 799 942 833 1060 2792 history1 3	history2 1 0 57 <1 916 1028 1004 1188 3230 history2 3
ADDITIVES 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	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 kimit/base >25	current 0 53 0 533 969 992 1156 3073 current 3 2 4 current	history1 0 0 55 <1 799 942 833 1060 2792 history1 3 0 3 0 3 history1	history2 1 0 57 <1 916 1028 1004 1188 3230 history2 3 1 2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25	current 0 53 0 533 0 833 969 992 1156 3073 current 3 2 4 current 3.5	history1 0 0 55 <1 799 942 833 1060 2792 history1 3 0 3 0 3 0 3 1050	history2 1 0 57 <1 916 1028 1004 1028 1004 1188 3230 history2 3 1 2 history2 history2
ADDITIVES 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 TS	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25	current 0 0 53 0 833 969 992 1156 3073 current 3 2 4 current 3.5 7.9	history1 0 55 <1 799 942 833 1060 2792 history1 3 0 3 0 3 0 3 history1	history2 1 0 57 <1 916 1028 1004 1188 3230 history2 3 1 2 history2 > 5.3 10.5
ADDITIVES 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	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	current 0 53 0 533 0 833 969 992 1156 3073 current 3 2 4 current 3.5	history1 0 0 55 <1 799 942 833 1060 2792 history1 3 0 3 0 3 0 3 1050	history2 1 0 57 <1 916 1028 1004 1188 3230 history2 3 1 2 history2 A 5.3
ADDITIVES 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	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 225 220 220 1imit/base >22 20	current 0 0 53 0 833 969 992 1156 3073 current 3 2 4 current 3.5 7.9	history1 0 0 55 <1 799 942 833 1060 2792 history1 3 0 3 0 3 0 3 history1 2 5.9	history2 1 0 57 <1 916 1028 1004 1188 3230 history2 3 1 2 history2 > 5.3 10.5
ADDITIVES 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	method ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 20 225 20 20 20 20 20 20 20 20 20 20 20 20 20	Current 0 53 0 533 0 833 969 992 1156 3073 current 3 2 4 current 3.5 7.9 24.0	history1 0 55 <1 799 942 833 1060 2792 history1 3 0 3 0 3 5.9 20.5	history2 1 0 57 <1 916 1028 1004 1188 3230 history2 3 1 2 history2 5.3 10.5 27.9

NORMAL



OIL ANALYSIS REPORT



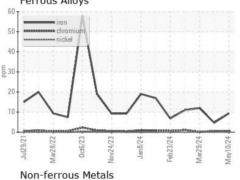


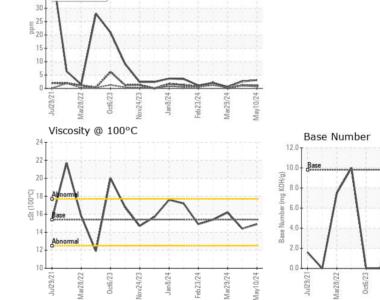
VISUAL		method				history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	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	14.9	14.4	16.2
GRAPHS						

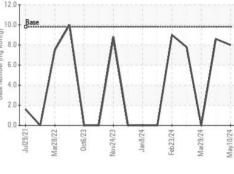
Ferrous Alloys

4

40 35







Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 829 - Wilco Hauling Sample No. : GFL0112200 Received : 14 May 2024 5054 Highway HH Lab Number : 06178566 Tested : 15 May 2024 Hartville, MO Unique Number : 11029892 Diagnosed : 15 May 2024 - Wes Davis US 65667 Test Package : FLEET Contact: James Jones Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. james.jones@gflenv.com T: (417)349-5006 * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. F:

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

 Report Id: GFL829 [WUSCAR] 06178566 (Generated: 05/15/2024 13:01:46) Rev: 1
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Submitted By: Jerry Hazel

Page 2 of 2