

OIL ANALYSIS REPORT

NORMAL

III.....

Machine Id

10855 Component Diesel Engine

Fluid

PETRO CANADA DURON SHP 15W40 (13 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 INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0118106	GFL0112376	GFL0109891
Sample Date		Client Info		13 May 2024	22 Feb 2024	10 Jan 2024
Machine Age	hrs	Client Info		462	65	16738
Oil Age	hrs	Client Info		397	535	304
Oil Changed		Client Info		Not Changd	Changed	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
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	>75	18	1	8
Chromium	ppm	ASTM D5185m	>5	<1	0	<1
Nickel	ppm	ASTM D5185m	>4	0	0	<1
Titanium	ppm	ASTM D5185m	>2	0	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>15	2	<1	2
Lead	ppm	ASTM D5185m	>25	0	0	0
Copper	ppm	ASTM D5185m	>100	0	<1	14
Tin	ppm	ASTM D5185m	>4	<1	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
	ppin	Norm Doroom		U	0	0
ADDITIVES	ppm	method	limit/base	current	history1	history2
	ppm		limit/base		-	-
ADDITIVES		method ASTM D5185m		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	0	current 12	history1 19 0 59	history2 8
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	0	current 12 1	history1 19 0	history2 8 3
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 12 1 60	history1 19 0 59	history2 8 3 61
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	current 12 1 60 <1	history1 19 0 59 <1	history2 8 3 61 0
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	current 12 1 60 <1 857	history1 19 0 59 <1 829	history2 8 3 61 0 921
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	current 12 1 60 <1 857 1048	history1 19 0 59 <1 829 990	history2 8 3 61 0 921 1011
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 12 1 60 <1 857 1048 1004	history1 19 0 59 <1 829 990 936	history2 8 3 61 0 921 1011 960
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270	current 12 1 60 <1 857 1048 1004 1182	history1 19 0 59 <1 829 990 936 1087	history2 8 3 61 0 921 1011 960 1164
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 ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	Current 12 1 60 <1 857 1048 1004 1182 3305	history1 19 0 59 <1 829 990 936 1087 2802 history1 5	history2 8 3 61 0 921 1011 960 1164 3282 history2 6
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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 60 1010 1070 1150 1270 2060	12 1 60 <1 857 1048 1004 1182 3305 current	history1 19 0 59 <1 829 990 936 1087 2802 history1	history2 8 3 61 0 921 1011 960 1164 3282 history2
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	0 0 60 1010 1070 1150 1270 2060	current 12 1 60 <1 857 1048 1004 1182 3305 current 8	history1 19 0 59 <1 829 990 936 1087 2802 history1 5	history2 8 3 61 0 921 1011 960 1164 3282 history2 6
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	current 12 1 60 <1 857 1048 1004 1182 3305 current 8 24	history1 19 0 59 <1 829 990 936 1087 2802 history1 5 6	history2 8 3 61 0 921 1011 960 1164 3282 history2 6 15
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 60 0 1010 1070 1150 1270 2060 imit/base >25 >20	12 1 60 <1 857 1048 1004 1182 3305 current 8 24 <1	history1 19 0 59 <1 829 990 936 1087 2802 history1 5 6 0 history1 0.2	history2 8 3 61 0 921 1011 960 1164 3282 history2 6 15 3 history2 0 0.2
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 TS	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >20 20	current 12 1 60 <1 857 1048 1004 1182 3305 current 8 24 <1 current 0.6 6.8	history1 19 0 59 <1 829 990 936 1087 2802 history1 5 6 0 history1	history2 8 3 61 0 921 1011 960 1164 3282 history2 6 15 3 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 >20 imit/base >20	current 12 1 60 <1 857 1048 1004 1182 3305 current 8 24 <1 current 0.6	history1 19 0 59 <1 829 990 936 1087 2802 history1 5 6 0 history1 0.2	history2 8 3 61 0 921 1011 960 1164 3282 history2 6 15 3 history2 0 0.2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur 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 imit/base >25 >20 imit/base >20	current 12 1 60 <1 857 1048 1004 1182 3305 current 8 24 <1 current 0.6 6.8	history1 19 0 59 <1 829 990 936 1087 2802 history1 5 6 0 history1 0 4.5	history2 8 3 61 0 921 1011 960 1164 3282 history2 6 15 3 history2 0 0.2 4.4
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 imit/base >25 20 imit/base >20 imit/base >20	current 12 1 60 <1 857 1048 1004 1182 3305 current 8 24 <1 current 0.6 6.8 17.7	history1 19 0 59 <1 829 990 936 1087 2802 history1 5 6 0 history1 0.2 4.5 16.8	history2 8 3 61 0 921 1011 960 1164 3282 history2 6 15 3 history2 0.2 4.4 16.9



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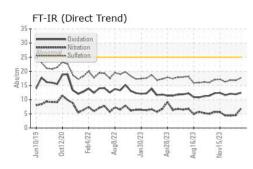
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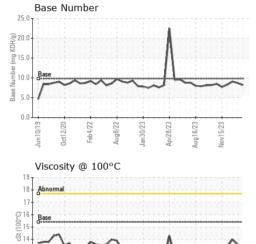
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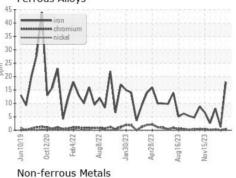
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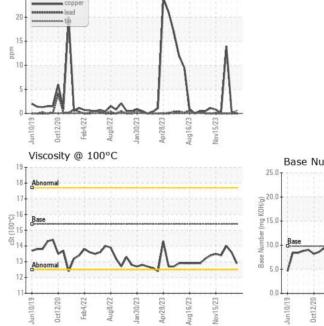
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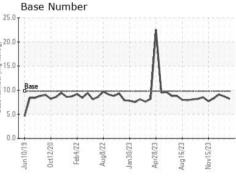
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VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*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	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	12.9	13.6	14.0
GRAPHS						

Ferrous Alloys







Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 010 - Stockbridge Sample No. : GFL0118106 Received : 14 May 2024 1280 Rum Creek Parkway Lab Number : 06178422 Tested : 14 May 2024 Stockbridge, GA Unique Number : 11029748 Diagnosed : 14 May 2024 - Wes Davis US 30281 Test Package : FLEET Contact: JOSHUA TINKER Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. joshuatinker@gflenv.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F:

Report Id: GFL010 [WUSCAR] 06178422 (Generated: 05/14/2024 18:40:45) Rev: 1

Submitted By: JOSHUA TINKER Page 2 of 2