

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

923040-260203

Component Diesel Engine

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

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the oil.

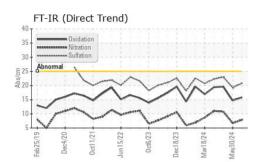
Fluid Condition

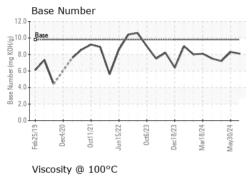
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

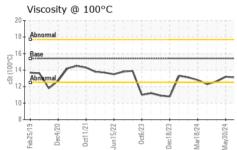
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0104880	GFL0104980	GFL0104834
Sample Date		Client Info		19 Jun 2024	30 May 2024	10 May 2024
Machine Age	mls	Client Info		27342	0	0
Oil Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	N/A	N/A
Sample Status				NORMAL	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
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	21	14	48
Chromium	ppm	ASTM D5185m	>20	<1	<1	2
Nickel	ppm	ASTM D5185m		0	0	0
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	1	4	6
Lead	ppm	ASTM D5185m	>40	0	<1	2
Copper	ppm	ASTM D5185m	>330	<1	1	2
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
Oudinium	ppm	AGTIVI DOTODITI		0	0	0
ADDITIVES	ppin	method	limit/base	current	history1	history2
	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 1	history2 1 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 0 0 54	history1 0 1 60	history2 1 0 56
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 54 <1	history1 0 1 60 0	history2 1 0 56 2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	ourrent 0 0 54 <1 869	history1 0 1 60 0 897	history2 1 0 56 2 895
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	Current 0 0 54 <1 869 1107	history1 0 1 60 0 897 1111	history2 1 0 56 2 895 987
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	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 0 54 <1 869 1107 986	history1 0 1 60 0 897 1111 1014	history2 1 0 56 2 895 987 988
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	0 0 60 0 1010 1070 1150 1270	Current 0 0 54 <1 869 1107 986 1166	history1 0 1 60 0 897 1111 1014 1258	history2 1 0 56 2 895 987 988 1193
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 0 1010 1070 1150 1270 2060	current 0 0 54 <1 869 1107 986 1166 3265 current 4	history1 0 1 60 0 897 1111 1014 1258 3318 history1 4	history2 1 0 56 2 895 987 988 1193 3177 history2 9
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 60 0 1010 1070 1150 1270 2060 limit/base	current 0 0 54 <1 869 1107 986 1166 3265 current 4 6	history1 0 1 60 0 897 1111 1014 1258 3318 history1 4 0	history2 1 0 56 2 895 987 988 1193 3177 history2 9 8
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 limit/base	current 0 0 54 <1 869 1107 986 1166 3265 current 4	history1 0 1 60 0 897 1111 1014 1258 3318 history1 4	history2 1 0 56 2 895 987 988 1193 3177 history2 9
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 >25	current 0 0 54 <1 869 1107 986 1166 3265 current 4 6 0 current	history1 0 1 60 0 897 1111 1014 1258 3318 history1 4 0 2 history1	history2 1 0 56 2 895 987 988 1193 3177 history2 9 8 2 history2
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 >3	current 0 0 54 <1 869 1107 986 1166 3265 current 4 6 0 current 0.9	history1 0 1 60 0 897 1111 1014 1258 3318 history1 4 0 2 history1 0.5	history2 1 0 56 2 895 987 988 1193 3177 history2 9 8 2 9 8 2 history2 1.2
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 ppm ppm ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 >20 imit/base >3 >20	current 0 0 54 <1 869 1107 986 1166 3265 current 4 6 0 current 0.9 7.9	history1 0 1 60 0 897 1111 1014 1258 3318 history1 4 0 2 history1 0.5 6.7	history2 1 0 56 2 895 987 988 1193 3177 history2 9 8 2 history2 1.2 10.8
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 >3	current 0 0 54 <1 869 1107 986 1166 3265 current 4 6 0 current 0.9	history1 0 1 60 0 897 1111 1014 1258 3318 history1 4 0 2 history1 0.5	history2 1 0 56 2 895 987 988 1193 3177 history2 9 8 2 history2 9 8 2 history2 1.2
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 imit/base >25 >20 imit/base >3 >20	current 0 0 54 <1 869 1107 986 1166 3265 current 4 6 0 current 0.9 7.9	history1 0 1 60 0 897 1111 1014 1258 3318 history1 4 0 2 history1 0.5 6.7	history2 1 0 56 2 895 987 988 1193 3177 history2 9 8 2 history2 1.2 10.8
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 3 20 3 20 3 20 20 20 20 20 20 20 20 20 20 20 20 20	current 0 0 54 <1 869 1107 986 1166 3265 current 4 6 0 current 0.9 7.9 20.8	history1 0 1 60 0 897 1111 1014 1258 3318 history1 4 0 2 history1 0.5 6.7 19.3	history2 1 0 56 2 895 987 988 1193 3177 history2 9 8 2 history2 1.2 10.8 23.0



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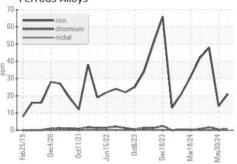


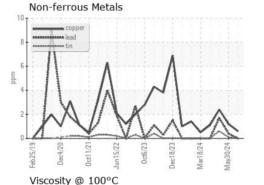


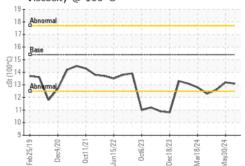


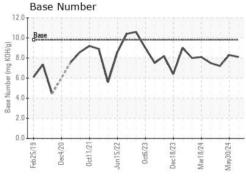
VISUAL		method				history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	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	13.1	13.2	12.6
GRAPHS						

Ferrous Alloys









Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 820 - Joplin Hauling Sample No. : GFL0104880 Received : 11 Jul 2024 3700 West 7th Street Lab Number : 06234221 Tested : 12 Jul 2024 Joplin, MO US 64801 Unique Number : 11123055 Diagnosed : 12 Jul 2024 - Wes Davis Test Package : FLEET Contact: James Jarrett Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. jjarrett@gflenv.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (417)310-2802 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F:

Report Id: GFL820 [WUSCAR] 06234221 (Generated: 07/12/2024 15:41:43) Rev: 1

Submitted By: VINCE ASTI Page 2 of 2