

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 920050

Component Diesel Engine

Fluid 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

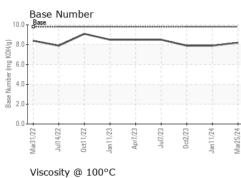
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

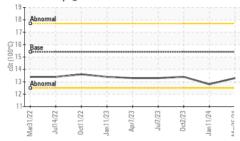
Mazdozz Jadozz Jadozz Jandozz Jandozz Jandozz Jandozz Jandozz Jandozz Jandozz Jandozz												
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2						
Sample Number		Client Info		GFL0092543	GFL0100392	GFL0092513						
Sample Date		Client Info		25 Mar 2024	11 Jan 2024	02 Oct 2023						
Machine Age	hrs	Client Info		9881	9540	8987						
Oil Age	hrs	Client Info		341	553	602						
Oil Changed		Client Info		Changed	Not Changd	Changed						
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 METALS		method	limit/base	current	history1	history2						
Iron	ppm	ASTM D5185m	>110	14	33	10						
Chromium	ppm	ASTM D5185m	>4	1	<1	<1						
Nickel	ppm	ASTM D5185m	>2	0	0	<1						
Titanium	ppm	ASTM D5185m		<1	0	0						
Silver	ppm	ASTM D5185m	>2	0	0	0						
Aluminum	ppm	ASTM D5185m	>25	5	5	3						
Lead	ppm	ASTM D5185m	>45	<1	0	<1						
Copper	ppm	ASTM D5185m	>85	1	1	1						
Tin	ppm	ASTM D5185m	>4	<1	0	<1						
Vanadium	ppm	ASTM D5185m		<1	<1	0						
Cadmium	ppm	ASTM D5185m		<1	0	0						
ADDITIVES		method	limit/base	current	history1	history2						
ADDITIVES Boron	ppm		limit/base 0	current 4	history1 1	<1						
	ppm ppm	ASTM D5185m										
Boron		ASTM D5185m	0	4	1	<1						
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	4 <1	1 0	<1 2						
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	4 <1 63	1 0 62	<1 2 66						
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	4 <1 63 <1	1 0 62 <1	<1 2 66 <1						
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	4 <1 63 <1 950	1 0 62 <1 964	<1 2 66 <1 981						
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	4 <1 63 <1 950 1111	1 0 62 <1 964 1085	<1 2 66 <1 981 1077						
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	0 0 60 0 1010 1070 1150	4 <1 63 <1 950 1111 1051	1 0 62 <1 964 1085 1036	<1 2 66 <1 981 1077 1042						
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	0 0 60 0 1010 1070 1150 1270	4 <1 63 <1 950 1111 1051 1236 3111	1 0 62 <1 964 1085 1036 1258	<1 2 66 <1 981 1077 1042 1265						
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	0 0 60 0 1010 1070 1150 1270 2060	4 <1 63 <1 950 1111 1051 1236 3111	1 0 62 <1 964 1085 1036 1258 2925	<1 2 66 <1 981 1077 1042 1265 3323						
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	0 0 60 1010 1070 1150 1270 2060	4 <1 63 <1 950 11111 1051 1236 3111 current	1 0 62 <1 964 1085 1036 1258 2925 history1	<1 2 66 <1 981 1077 1042 1265 3323 history2						
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	0 0 60 1010 1070 1150 1270 2060	4 <1 63 <1 950 11111 1051 1236 3111 current 5	1 0 62 <1 964 1085 1036 1258 2925 history1 5	<1 2 66 <1 981 1077 1042 1265 3323 history2 5						
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m 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 limit/base	4 <1 63 <1 950 1111 1051 1236 3111 current 5 1 4	1 0 62 <1 964 1085 1036 1258 2925 history1 5 1	<1 2 66 <1 981 1077 1042 1265 3323 history2 5 0						
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >30	4 <1 63 <1 950 1111 1051 1236 3111 current 5 1 4	1 0 62 <1 964 1085 1036 1258 2925 history1 5 1 3	<1 2 66 <1 981 1077 1042 1265 3323 history2 5 0 4						
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >30	4 <1 63 <1 950 1111 1051 1236 3111 current 5 1 4 current	1 0 62 <1 964 1085 1036 1258 2925 history1 5 1 3 3 history1	<1 2 66 <1 981 1077 1042 1265 3323 history2 5 0 4 history2						
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >30 20 limit/base	4 <1 63 <1 950 1111 1051 1236 3111 current 5 1 4 current 0.3	1 0 62 <1 964 1085 1036 1258 2925 history1 5 1 3 <u>history1</u> 0.4	<1 2 66 <1 981 1077 1042 1265 3323 history2 5 0 4 history2 0.4						
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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >30 200 limit/base >3 >20	4 <1 63 <1 950 1111 1051 1236 3111 current 5 1 4 current 0.3 7.0	1 0 62 <1 964 1085 1036 1258 2925 history1 5 1 3 <i>history1</i> 0.4 8.1	<1 2 66 <1 981 1077 1042 1265 3323 history2 5 0 4 history2 0.4 7.6						
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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >30 imit/base >3 20	4 <1 63 <1 950 1111 1051 1236 3111 <u>current</u> 5 1 4 <u>current</u> 0.3 7.0 18.4	1 0 62 <1 964 1085 1036 1258 2925 history1 5 1 3 <u>history1</u> 0.4 8.1 19.5	<1 2 66 <1 981 1077 1042 1265 3323 history2 5 0 4 history2 0.4 7.6 19.1						
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	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	0 0 0 1010 1070 1150 1270 2060 2060 2060 2060 200 200 200 200 20	4 <1 63 <1 950 1111 1051 1236 3111 Current 5 1 4 Current 0.3 7.0 18.4 Current	1 0 62 <1 964 1085 1036 1258 2925 history1 5 1 3 history1 0.4 8.1 19.5 history1	<1 2 66 <1 981 1077 1042 1265 3323 history2 5 0 4 history2 0.4 7.6 19.1 history2						



OIL ANALYSIS REPORT

VISUAL





ANAB	Laboratory Sample No. Lab Number	: WearCheck USA - 50 ⁻ : GFL0092543 : 06133954	1 Madiso Recei Teste	ived : 29	, NC 27513 Mar 2024 Apr 2024	GFL Env		9 35 - Omro HC 0 Alder Avenue Omro, WI
		Mar31/22 Mar31/		Juli/23 Juli/24	10.0 (0, 8.0 (0, 10, 0 (0, 10, 0 (0, 10, 0 (0, 10, 0) (0, 10, 0) (Jan 11/23 April 23 Juli 723	0ct2/23 Jan11/24 Mar25/24
April 23 -	0et2/23 - Jan 11/24 -	30 chromium nickel 220 15 0 221 221 221 221 221 221 221	S	Juli/23 0ct2/23 Jan11/24	Mar25/24			
		FLUID PROPE Visc @ 100°C GRAPHS Ferrous Alloys	cSt	method ASTM D445	limit/base 15.4	current 13.3	history1 12.8	history2 13.4
2		Emulsified Water Free Water	scalar scalar	*Visual *Visual	>0.2	NEG NEG	NEG NEG	NEG NEG
Jan 1/23 Jul7/23 Oct2/23 Jan 1/24 Mar25/24	Appearance Odor	scalar scalar	*Visual *Visual	NORML NORML	NORML NORML	NORML NORML	NORML NORML	
	Silt Debris Sand/Dirt	scalar scalar scalar	*Visual *Visual *Visual	NONE NONE	NONE NONE NONE	NONE NONE NONE	NONE NONE NONE	
						NIGNE	NONE	
		Yellow Metal Precipitate	scalar scalar	*Visual *Visual	NONE NONE	NONE NONE	NONE NONE	NONE

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

Submitted By: Seel also GFL947 - Tim Kieffer

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