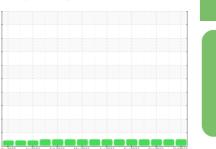


OIL ANALYSIS REPORT

Sample Rating Trend









Machine Id **413008**

Component **Bottom Diesel Engine**

PETRO CANADA DURON SHP 15W40 (11 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

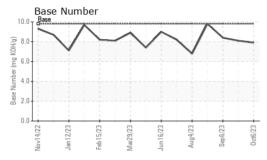
Fluid Condition

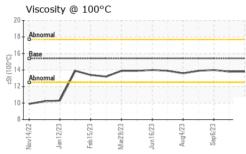
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0094822	GFL0094816	GFL0090444
Sample Date		Client Info		06 Oct 2023	21 Sep 2023	06 Sep 2023
Machine Age	hrs	Client Info		2641	2507	2358
Oil Age	hrs	Client Info		561	427	278
Oil Changed		Client Info		N/A	Not Changd	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	10	9	7
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	1	<1	0
Titanium	ppm	ASTM D5185m	>2	<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	3	2	<1
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	7	7	6
Tin	ppm	ASTM D5185m	>15	1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m		current	history1 0	history2 <1
	ppm		0			· ·
Boron		ASTM D5185m	0	<1	0	<1
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	<1 10	0	<1
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	<1 10 61	0 0 64	<1 0 63
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	<1 10 61 <1	0 0 64 <1	<1 0 63 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	<1 10 61 <1 896	0 0 64 <1 988	<1 0 63 <1 1055
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	<1 10 61 <1 896 996	0 0 64 <1 988 1045	<1 0 63 <1 1055 1156
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	<1 10 61 <1 896 996 938	0 0 64 <1 988 1045 1035	<1 0 63 <1 1055 1156 1053
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 1270	<1 10 61 <1 896 996 938 1156	0 0 64 <1 988 1045 1035 1279	<1 0 63 <1 1055 1156 1053 1319
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	0 0 60 0 1010 1070 1150 1270 2060	<1 10 61 <1 896 996 938 1156 2818	0 0 64 <1 988 1045 1035 1279 3026	<1 0 63 <1 1055 1156 1053 1319 3660
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	<1 10 61 <1 896 996 938 1156 2818 current	0 0 64 <1 988 1045 1035 1279 3026 history1	<1 0 63 <1 1055 1156 1053 1319 3660 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	<1 10 61 <1 896 996 938 1156 2818 current	0 0 64 <1 988 1045 1035 1279 3026 history1	<1 0 63 <1 1055 1156 1053 1319 3660 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	<1 10 61 <1 896 996 938 1156 2818 current 4	0 0 64 <1 988 1045 1035 1279 3026 history1	<1 0 63 <1 1055 1156 1053 1319 3660 history2 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	<1 10 61 <1 896 996 938 1156 2818 current 4 2 6	0 0 64 <1 988 1045 1035 1279 3026 history1 5 4	<1 0 63 <1 1055 1156 1053 1319 3660 history2 4 2 3
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	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	<1 10 61 <1 896 996 938 1156 2818 current 4 2 6 current	0 0 64 <1 988 1045 1035 1279 3026 history1 5 4	<1 0 63 <1 1055 1156 1053 1319 3660 history2 4 2 3 history2
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	ASTM D5185m method *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	<1 10 61 <1 896 996 938 1156 2818 current 4 2 6 current 0.3	0 0 64 <1 988 1045 1035 1279 3026 history1 5 4 5	<1 0 63 <1 1055 1156 1053 1319 3660 history2 4 2 3 history2 0.3
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 Method ASTM D5185m Method *ASTM D7844 *ASTM D7624 *ASTM D76145	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	<1 10 61 <1 896 996 938 1156 2818 current 4 2 6 current 0.3 8.0	0 0 64 <1 988 1045 1035 1279 3026 history1 5 4 5 history1 0.3 7.7	<1 0 63 <1 1055 1156 1053 1319 3660 history2 4 2 3 history2 0.3 6.6
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 Method ASTM D5185m Method *ASTM D7844 *ASTM D7624 *ASTM D76145	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >4 >20 >30	<1 10 61 <1 896 996 938 1156 2818 current 4 2 6 current 0.3 8.0 19.6	0 0 64 <1 988 1045 1035 1279 3026 history1 5 4 5 history1 0.3 7.7 19.4	<1 0 63 <1 1055 1156 1053 1319 3660 history2 4 2 3 history2 0.3 6.6 18.5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm	ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method *ASTM D7844 *ASTM D7624 *ASTM D7415 Method	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >4 >20 >30 limit/base >25	<1 10 61 <1 896 996 938 1156 2818 current 4 2 6 current 0.3 8.0 19.6 current	0 0 64 <1 988 1045 1035 1279 3026 history1 5 4 5 history1 0.3 7.7 19.4 history1	<1 0 63 <1 1055 1156 1053 1319 3660 history2 4 2 3 history2 0.3 6.6 18.5



OIL ANALYSIS REPORT

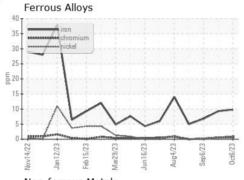


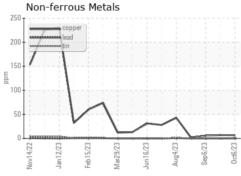


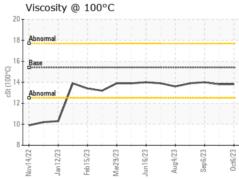
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

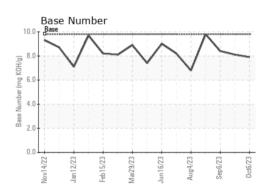
FLUID PROPE	RTIES	method				history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.8	13.8	14.0

GRAPHS













Certificate L2367

Laboratory

Sample No. Lab Number Unique Number : 10699006 Test Package : FLEET

: GFL0094822 : 05981711

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 17 Oct 2023 Diagnosed : 18 Oct 2023 Diagnostician : Wes Davis

GFL Environmental - 868 - Childersburg Fines Hauling (Alpine) 13737 Plant Rd

Childersburg, AL US 35044

Contact: JONATHAN WILLIAMS jonathan.williams@gflenv.com T:

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.

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

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