

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 525053-651127

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

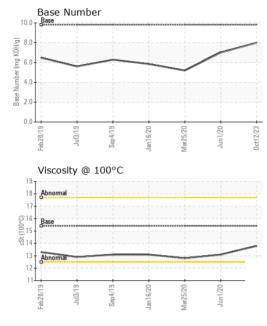
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0098485	GFLI-402636	GFLI-254188
Sample Date		Client Info		12 Oct 2023	01 Jun 2020	25 Mar 2020
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		500	450	0
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	0.9	0.6
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>110	16	6	6
Chromium	ppm	ASTM D5185m	>4	<1	0	0
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	2	5	5
Lead	ppm	ASTM D5185m	>45	0	0	0
Copper	ppm	ASTM D5185m	>85	<1	1	1
Tin	ppm	ASTM D5185m	>4	<1	0	0
Antimony	ppm	ASTM D5185m			0	0
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	limit/base 0	current 8	history1 318	history2 290
	ppm ppm					
Boron		ASTM D5185m	0	8	318	290
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	8 0	318 0	290 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	8 0 52	318 0 129	290 0 124
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	8 0 52 <1	318 0 129 0	290 0 124 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	8 0 52 <1 791	318 0 129 0 651	290 0 124 0 760
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	8 0 52 <1 791 1136	318 0 129 0 651 1686	290 0 124 0 760 1705
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	8 0 52 <1 791 1136 881	318 0 129 0 651 1686 713	290 0 124 0 760 1705 745
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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	8 0 52 <1 791 1136 881 1157	318 0 129 0 651 1686 713	290 0 124 0 760 1705 745 855
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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 0 1010 1070 1150 1270	8 0 52 <1 791 1136 881 1157 2872	318 0 129 0 651 1686 713 834 	290 0 124 0 760 1705 745 855
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm 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	8 0 52 <1 791 1136 881 1157 2872 	318 0 129 0 651 1686 713 834 0	290 0 124 0 760 1705 745 855 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN	ppm ppm 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 ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	8 0 52 <1 791 1136 881 1157 2872 2872 	318 0 129 0 651 1686 713 834 0 history1	290 0 124 0 760 1705 745 855 0 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon	ppm ppm ppm 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 method	0 0 60 1010 1070 1150 1270 2060 limit/base >30	8 0 52 <1 791 1136 881 1157 2872 2872 5	318 0 129 0 651 1686 713 834 0 history1 6	290 0 124 0 760 1705 745 855 0 <u>history2</u> 7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 limit/base >30	8 0 52 <1 791 1136 881 1157 2872 2872 5 1	318 0 129 0 651 1686 713 834 0 0 history1 6 3 0 0 history1	290 0 124 0 760 1705 745 855 0 history2 7 4 0 0 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	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 >20 Imit/base >33	8 0 52 <1 791 1136 881 1157 2872 current 5 1 4 4 current 0.1	318 0 129 0 651 1686 713 834 0 0 history1 6 3 0	290 0 124 0 760 1705 745 855 0 0 history2 7 4 0 0 history2 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 Imit/base >30 >20 Imit/base >33	8 0 52 <1 791 1136 881 1157 2872 current 5 1 4 4	318 0 129 0 651 1686 713 834 0 0 history1 6 3 0 0 history1	290 0 124 0 760 1705 745 855 0 history2 7 4 0 0 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 Imit/base >30 >20 Imit/base >33	8 0 52 <1 791 1136 881 1157 2872 current 5 1 4 4 current 0.1	318 0 129 0 651 1686 713 834 0 history1 6 3 0 history1 0	290 0 124 0 760 1705 745 855 0 0 history2 7 4 0 0 history2 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 Junit/base >30 Junit/base >20	8 0 52 <1 791 1136 881 1157 2872 current 5 1 4 current 0.1 6.0	318 0 129 0 651 1686 713 834 0 0 history1 6 3 0 history1 0 history1 0 7	290 0 124 0 760 1705 745 855 0 0 history2 7 4 0 0 history2 0 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >30 >20 imit/base >3 >20	8 0 52 <1 791 1136 881 1157 2872 current 5 1 4 current 0.1 6.0 18.3	318 0 129 0 651 1686 713 834 0 history1 6 3 0 history1 0 7 	290 0 124 0 760 1705 745 855 0 history2 7 4 0 history2 0 history2 0 7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium 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 imit/base >3 30	8 0 52 <1 791 1136 881 1157 2872 Current 5 1 4 Current 0.1 6.0 18.3	318 0 129 0 651 1686 713 834 0 0 history1 6 3 0 history1 0 history1 0 7 1 0	290 0 124 0 760 1705 745 855 0 0 history2 7 4 0 0 history2 0 history2 0 7 7 4 0 0

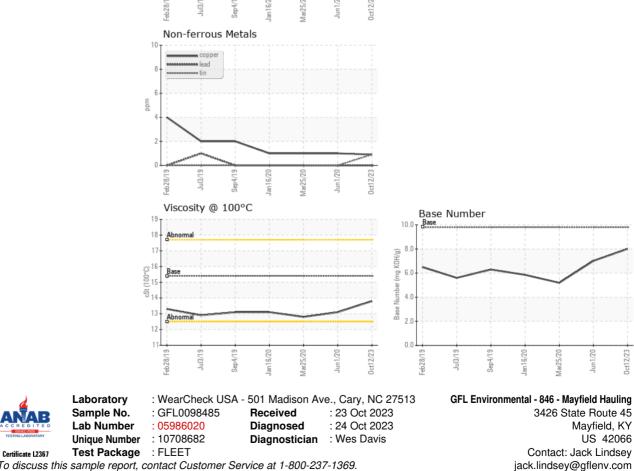
Contact/Location: Jack Lindsey - GFL846



OIL ANALYSIS REPORT



VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE		
Yellow Metal	scalar	*Visual	NONE	NONE		
Precipitate	scalar	*Visual	NONE	NONE		
Silt	scalar	*Visual	NONE	NONE		
Debris	scalar	*Visual	NONE	NONE		
Sand/Dirt	scalar	*Visual	NONE	NONE		
Appearance	scalar	*Visual	NORML	NORML		
Odor	scalar	*Visual	NORML	NORML		
Emulsified Water	scalar	*Visual	>0.2	NEG		
Free Water	scalar	*Visual		NEG		
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.8	13.1	12.8
GRAPHS						
Ferrous Alloys						
IG iron			1			
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To discuss this sample report, contact Customer Service at 1-800-237-1369.

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

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Contact/Location: Jack Lindsey - GFL846

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^{* -} Denotes test methods that are outside of the ISO 17025 scope of accreditation.