

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

AUTOCAR 10851

Diesel Engine

PETRO CANADA DURON SHP 15W40 (7 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

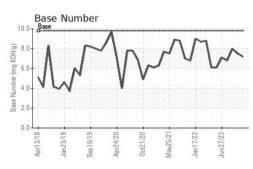
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

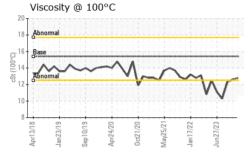


SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0109081	GFL0086208	GFL0086274
Sample Date		Client Info		31 Jan 2024	26 Sep 2023	17 Aug 2023
Machine Age	hrs	Client Info		31447	14993	0
Oil Age	hrs	Client Info		0	14993	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	MARGINAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	1 .9
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	5	8	4
Chromium	ppm	ASTM D5185m	>5	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m	>2	0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>15	2	2	1
Lead	ppm	ASTM D5185m	>25	<1	0	<1
Copper	ppm	ASTM D5185m	>100	<1	<1	<1
Tin	ppm	ASTM D5185m	>4	<1	0	<1
Vanadium	ppm	ASTM D5185m		0	<1	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	16	24	27
Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m	0	16 0	24 2	27 0
Barium				-		
	ppm	ASTM D5185m	0	0	2	0
Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m	0 60	0 58	2 59	0 60
Barium Molybdenum	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0	0 58 <1	2 59 <1	0 60 <1
Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010	0 58 <1 735	2 59 <1 750	0 60 <1 771
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 60 0 1010 1070	0 58 <1 735 1074	2 59 <1 750 1002	0 60 <1 771 1059
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 60 0 1010 1070 1150	0 58 <1 735 1074 932	2 59 <1 750 1002 895	0 60 <1 771 1059 892
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	0 60 0 1010 1070 1150 1270	0 58 <1 735 1074 932 1096	2 59 <1 750 1002 895 1064	0 60 <1 771 1059 892 1084
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 60 0 1010 1070 1150 1270 2060	0 58 <1 735 1074 932 1096 2800	2 59 <1 750 1002 895 1064 2836	0 60 <1 771 1059 892 1084 3275
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 60 0 1010 1070 1150 1270 2060	0 58 <1 735 1074 932 1096 2800 current	2 59 <1 750 1002 895 1064 2836 history1	0 60 <1 771 1059 892 1084 3275 history2
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	0 60 0 1010 1070 1150 1270 2060 Limit/base >25	0 58 <1 735 1074 932 1096 2800 current 4	2 59 <1 750 1002 895 1064 2836 history1 6	0 60 <1 771 1059 892 1084 3275 history2 4
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	0 60 0 1010 1070 1150 1270 2060 Limit/base >25	0 58 <1 735 1074 932 1096 2800 current 4 11	2 59 <1 750 1002 895 1064 2836 history1 6 12	0 60 <1 771 1059 892 1084 3275 history2 4 8
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 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	0 58 <1 735 1074 932 1096 2800 current 4 11 4	2 59 <1 750 1002 895 1064 2836 history1 6 12 1	0 60 <1 771 1059 892 1084 3275 history2 4 8 2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 <i>limit/base</i> >25 >20	0 58 <1 735 1074 932 1096 2800 current 4 11 4	2 59 <1 750 1002 895 1064 2836 history1 6 12 1 1 history1 0.2	0 60 <1 771 1059 892 1084 3275 history2 4 8 2 2 history2
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 60 0 1010 1070 1150 1270 2060 <i>limit/base</i> >25 >20 <i>limit/base</i> >6	0 58 <1 735 1074 932 1096 2800 current 4 11 4 2 turrent	2 59 <1 750 1002 895 1064 2836 history1 6 12 1 1 history1	0 60 <1 771 1059 892 1084 3275 history2 4 8 2 4 8 2 history2 0.1
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 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >20	0 58 <1 735 1074 932 1096 2800 current 4 11 4 current 0.2 6.3	2 59 <1 750 1002 895 1064 2836 history1 6 12 1 6 12 1 <i>history1</i> 0.2 6.5	0 60 <1 771 1059 892 1084 3275 history2 4 8 2 4 8 2 history2 0.1 6.0
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAI	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	0 60 1010 1070 1150 1270 2060 limit/base >25 -20 limit/base >20 >30 limit/base	0 58 <1 735 1074 932 1096 2800 current 4 11 4 0.2 6.3 17.1 current	2 59 <1 750 1002 895 1064 2836 history1 6 12 1 6 12 1 1 0.2 6.5 16.6 history1	0 60 <1 771 1059 892 1084 3275 history2 4 8 2 history2 0.1 6.0 16.5 history2
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 60 0 1010 1070 1150 1270 2060 <i>limit/base</i> >25 >20 <i>limit/base</i> >6 >20 >30	0 58 <1 735 1074 932 1096 2800 <u>current</u> 4 11 4 11 4 <u>current</u> 0.2 6.3 17.1	2 59 <1 750 1002 895 1064 2836 history1 6 12 1 1 history1 0.2 6.5 16.6	0 60 <1 771 1059 892 1084 3275 history2 4 8 2 history2 0.1 6.0 16.5



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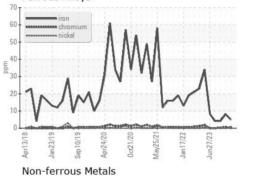


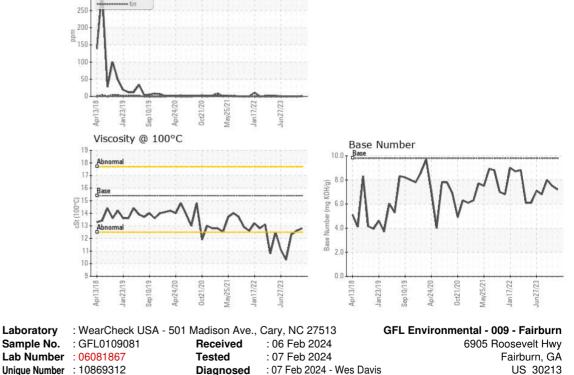
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	12.8	12.6	12.3
GRAPHS						

Ferrous Alloys

lead

350 300





 Certificate 12367
 Test Package
 : FLEET

 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)