

OIL ANALYSIS REPORT

SAMPLE INFORMATION method

Sample Rating Trend



Machine Id

921062-260379

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.

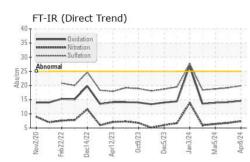
Fluid Condition

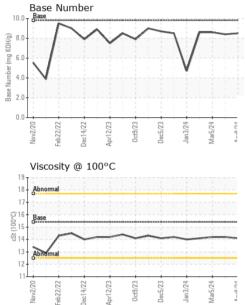
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI		method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0114137	GFL0114172	GFL0114120
Sample Date		Client Info		08 Apr 2024	25 Mar 2024	05 Mar 2024
Machine Age	hrs	Client Info		8362	8261	8158
Oil Age	hrs	Client Info		7852	7854	407
Oil Changed	1110	Client Info		Not Changd	Not Changd	N/A
Sample Status				NORMAL	NORMAL	NORMAL
				NOTIMAL	NOTIMAL	
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	12	9	9
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	1	3	2
Lead	ppm	ASTM D5185m	>40	<1	<1	<1
Copper	ppm	ASTM D5185m	>330	0	<1	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	0
Vanadium	ppm	ASTM D5185m		<1	<1	<1
Cadmium	ppm	ASTM D5185m		0	<1	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 0	current 0	history1 <1	history2 2
	ppm ppm					
Boron		ASTM D5185m	0	0	<1	2
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	0 0	<1 <1	2 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	0 0 57	<1 <1 59	2 0 60
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	0 0 57 0	<1 <1 59 <1	2 0 60 <1
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	0 0 57 0 904	<1 <1 59 <1 913	2 0 60 <1 1036
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	0 0 57 0 904 1054	<1 <1 59 <1 913 1087	2 0 60 <1 1036 1118
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	0 0 57 0 904 1054 989	<1 <1 59 <1 913 1087 1043	2 0 60 <1 1036 1118 1068
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	0 0 57 0 904 1054 989 1174	<1 <1 59 <1 913 1087 1043 1212	2 0 60 <1 1036 1118 1068 1284
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 2060	0 0 57 0 904 1054 989 1174 3373	<1 <1 59 <1 913 1087 1043 1212 3105	2 0 60 <1 1036 1118 1068 1284 3894
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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	0 0 57 0 904 1054 989 1174 3373 current	<1 <1 59 <1 913 1087 1043 1212 3105 history1	2 0 60 <1 1036 1118 1068 1284 3894 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 0 1010 1070 1150 1270 2060 kimit/base >25	0 0 57 0 904 1054 989 1174 3373 current 2	<1 <1 59 <1 913 1087 1043 1212 3105 history1 5	2 0 60 <1 1036 1118 1068 1284 3894 history2 4
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	0 0 0 1010 1070 1150 1270 2060 kimit/base >25	0 0 57 0 904 1054 989 1174 3373 current 2 2 24	<1 <1 59 <1 913 1087 1043 1212 3105 history1 5 18	2 0 60 <1 1036 1118 1068 1284 3894 history2 4 15
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 2060 225 >25	0 0 57 0 904 1054 989 1174 3373 current 2 2 24 21	<1 <1 59 <1 913 1087 1043 1212 3105 history1 5 18 5	2 0 60 <1 1036 1118 1068 1284 3894 history2 4 15 5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 Limit/base >20	0 0 57 0 904 1054 989 1174 3373 current 2 2 24 21 current	<1 <1 59 <1 913 1087 1043 1212 3105 history1 5 18 5 kistory1	2 0 60 <1 1036 1118 1068 1284 3894 history2 4 15 5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 Limit/base >20	0 0 57 0 904 1054 989 1174 3373 current 2 2 24 21 current 0.8	<1 <p><1</p> 59 <1 913 1087 1043 1212 3105 history1 5 18 5 history1 0.7	2 0 60 <1 1036 1118 1068 1284 3894 history2 4 15 5 history2 0.6
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 TS ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 220 220 220 20 20 20 20 20 20 20 20 20	0 0 57 0 904 1054 989 1174 3373 <i>current</i> 2 2 24 21 <i>current</i> 0.8 7.4	<1 <1 59 <1 913 1087 1043 1212 3105 history1 5 18 5 18 5 history1 0.7 6.8	2 0 60 <1 1036 1118 1068 1284 3894 history2 4 15 5 history2 0.6 6.4
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 TS ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624	0 0 0 1010 1070 1150 1270 2060 2060 225 20 220 220 20 3 20 20 20 20 20 20 20 20 20 20 20 20 20	0 0 57 0 904 1054 989 1174 3373 current 2 2 24 21 current 0.8 7.4 19.9 current	<1 <1 59 <1 913 1087 1043 1212 3105 history1 5 18 5 history1 0.7 6.8 19.2 history1	2 0 60 <1 1036 1118 1068 1284 3894 history2 4 15 5 <u>history2</u> 0.6 6.4 18.8 history2
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 TS ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 20 225 20 20 3 20 20 20 20 20 20 20 20 20 20 20 20 20	0 0 57 0 904 1054 989 1174 3373 <u>current</u> 2 24 21 24 21 <u>current</u> 0.8 7.4 19.9	<1 <1 59 <1 913 1087 1043 1212 3105 history1 5 18 5 Nistory1 0.7 6.8 19.2	2 0 60 <1 1036 1118 1068 1284 3894 history2 4 15 5 history2 0.6 6.4 18.8



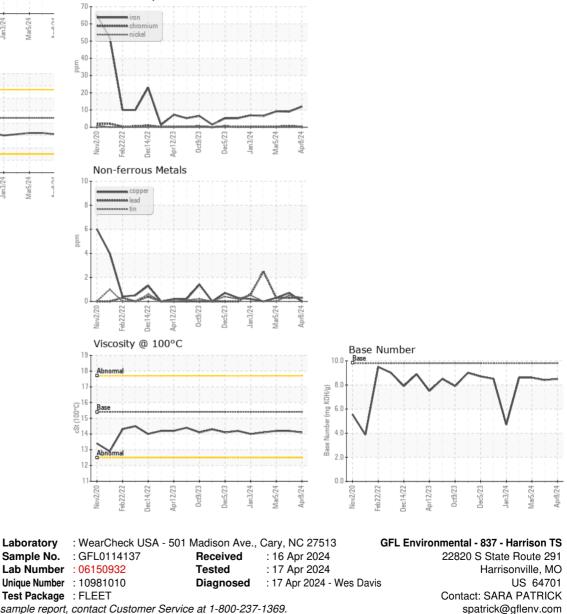
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VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*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	14.1	14.2	14.2
GRAPHS						

Ferrous Alloys



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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Certificate 12367

Submitted By: JEREMY BROWN

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