

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

923012-565

Component Diesel Engine

Fluid PETRO CANADA DURON SHP 15W40 (28 QTS)

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		GFL0110325	GFL0110297	GFL0110280
Sample Date		Client Info		11 Apr 2024	05 Mar 2024	27 Feb 2024
Machine Age	hrs	Client Info		23371	23217	23205
Oil Age	hrs	Client Info		580	12	580
Oil Changed		Client Info		Changed	Not Changd	Changed
Sample Status				NORMAL	MARGINAL	SEVERE
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	2 .4	7 .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	>90	21	15	58
Chromium	ppm	ASTM D5185m	>20	1	<1	3
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>2	0	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	1	4	3
Lead	ppm	ASTM D5185m	>40	<1	0	1
Copper	ppm	ASTM D5185m	>330	<1	<1	2
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	nom	ASTM D5185m		0	0	0
Oddinium	ppm	ASTIVI DSTOSIII		0	0	0
ADDITIVES	ppm	method	limit/base	current	0 history1	history2
	ppm		limit/base		-	-
ADDITIVES		method ASTM D5185m		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	0	current 5	history1 12	history2 7
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	0 0 60	current 5 0	history1 12 0	history2 7 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 5 0 58	history1 12 0 81	history2 7 0 55
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	current 5 0 58 0	history1 12 0 81 0	history2 7 0 55 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	current 5 0 58 0 821	history1 12 0 81 0 1183	history2 7 0 55 <1 800
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	Current 5 0 58 0 821 1041	history1 12 0 81 0 1183 1383	history2 7 0 55 <1 800 947
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	Current 5 0 58 0 821 1041 904	history1 12 0 81 0 1183 1383 1224	history2 7 0 55 <1 800 947 936
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270	Current 5 0 58 0 821 1041 904 1104	history1 12 0 81 0 1183 1383 1224 1554	history2 7 0 55 <1 800 947 936 1107
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	Current 5 0 58 0 821 1041 904 1104 3161	history1 12 0 81 0 1183 1383 1224 1554 4023	history2 7 0 55 <1 800 947 936 1107 2515
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 00 00 1010 1070 1150 1270 2060	Current 5 0 58 0 821 1041 904 1104 3161 Current	history1 12 0 81 0 1183 1383 1224 1554 4023 history1	history2 7 0 55 <1 800 947 936 1107 2515 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 kimit/base	current 5 0 58 0 821 1041 904 1104 3161 current 4	history1 12 0 81 0 1183 1383 1224 1554 4023 history1 5	history2 7 0 55 <1 800 947 936 1107 2515 history2 7
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 kimit/base	Current 5 0 58 0 821 1041 904 1104 3161 current 4 10 14	history1 12 0 81 0 1183 1383 1224 1554 4023 history1 5 7	history2 7 0 55 <1 800 947 936 1107 2515 history2 7 11
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25	Current 5 0 58 0 821 1041 904 1104 3161 current 4 10 14	history1 12 0 81 0 1183 1383 1224 1554 4023 history1 5 7 2 history1 0.2	history2 7 0 55 <1 800 947 936 1107 2515 history2 7 11 1
ADDITIVES 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	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 Limit/base >20	Current 5 0 58 0 821 1041 904 1104 3161 Current 4 10 14 Current	history1 12 0 81 0 1183 1383 1224 1554 4023 history1 5 7 2 history1	history2 7 0 55 <1 800 947 936 1107 2515 history2 7 11 1 history2
ADDITIVES 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	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 Limit/base >20	current 5 0 58 0 821 1041 904 1104 3161 current 4 10 14 current 0.7	history1 12 0 81 0 1183 1383 1224 1554 4023 history1 5 7 2 history1 0.2	history2 7 0 55 <1 800 947 936 1107 2515 history2 7 11 1 history2 1.3
ADDITIVES 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 TS ppm ppm ppm	method ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <i>limit/base</i> >25 >20 <i>limit/base</i> >6 >20	Current 5 0 58 0 821 1041 904 1104 3161 current 4 10 14 current 0.7 7.6	history1 12 0 81 0 1183 1383 1224 1554 4023 history1 5 7 2 history1 0.2 5.5	history2 7 0 55 <1 800 947 936 1107 2515 history2 7 11 1 history2 1.3 10.5
ADDITIVES 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 TS ppm ppm ppm	method ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 imit/base >6 >20 >30	Current 5 0 58 0 821 1041 904 1104 3161 current 4 10 14 current 0.7 7.6 19.2	history1 12 0 81 0 1183 1383 1224 1554 4023 history1 5 7 2 history1 0.2 5.5 17.3	history2 7 0 55 <1 800 947 936 1107 2515 history2 7 11 1 history2 1.3 10.5 21.3

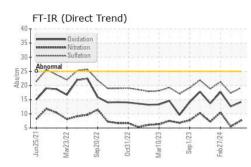


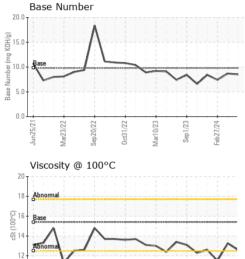
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OIL ANALYSIS REPORT





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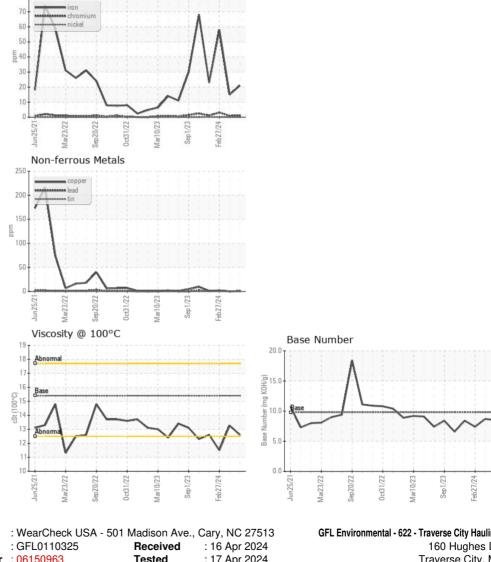
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VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*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	12.6	13.26	1 1.5
GRAPHS						

Ferrous Alloys

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Laboratory GFL Environmental - 622 - Traverse City Hauling Sample No. 160 Hughes Dr Lab Number : 06150963 Tested : 17 Apr 2024 Traverse City, MI US 49686 Unique Number : 10981041 Diagnosed : 17 Apr 2024 - Wes Davis Test Package : FLEET Contact: GARY BREWER Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. T: * - 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)

Submitted By: TECHNICIAN ACCOUNT Page 2 of 2