

OIL ANALYSIS REPORT

Sample Rating Trend

......

NORMAL

Machine Id 3712

Component

Diesel Engine

PETRO CANADA DURON SHP 15W40 (10 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		GFL0093739	GFL0093742	GFL0093733
Sample Date		Client Info		29 Feb 2024	26 Jan 2024	11 Sep 2023
Machine Age	hrs	Client Info		22938	22748	22170
Oil Age	hrs	Client Info		0	22748	22170
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATI	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>75	12	24	9
Chromium	ppm	ASTM D5185m	>5	<1	2	1
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m	>2	0	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>15	2	4	0
Lead	ppm	ASTM D5185m	>25	0	<1	0
Copper	ppm	ASTM D5185m	>100	1	2	0
Tin	mag	ASTM D5185m	>4	0	<1	0
Vanadium	mag	ASTM D5185m		<1	0	0
Cadmium	nom	ACTM DE105m		0	0	0
Caumum	ppin	ASTIVI DOTODITI		U	0	0
ADDITIVES	ррш	method	limit/base	current	history1	history2
ADDITIVES	ppm	Method ASTM D5185m	limit/base	current	history1	history2
ADDITIVES Boron Barium	ppm ppm	Method ASTM D5185m ASTM D5185m	limit/base 0 0	current 9 0	history1 31 0	history2 81 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 60	0 current 9 0 62	history1 31 0 63	history2 81 0 67
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 60 0	0 current 9 0 62 <1	0 history1 31 0 63 <1	6 history2 81 0 67 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 60 0 1010	0 current 9 0 62 <1 760	0 history1 31 0 63 <1 301	history2 81 0 67 <1 334
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 60 0 1010 1070	0 current 9 0 62 <1 760 1224	0 history1 31 0 63 <1 301 1740	history2 81 0 67 <1 334 1747
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0 60 0 1010 1070 1150	0 current 9 0 62 <1 760 1224 911	bistory1 31 0 63 <1 301 1740 849	history2 81 0 67 <1 334 1747 873
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 60 0 1010 1070 1150 1270	0 current 9 0 62 <1 760 1224 911 1162	history1 31 0 63 <1 301 1740 849 1104	history2 81 0 67 <1 334 1747 873 1119
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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	limit/base 0 60 0 1010 1070 1150 1270 2060	0 current 9 0 62 <1 760 1224 911 1162 3070	bistory1 31 0 63 <1 301 1740 849 1104 3170	history2 81 0 67 <1 334 1747 873 1119 4223
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base 0 60 0 1010 1070 1150 1270 2060	0 current 9 0 62 <1 760 1224 911 1162 3070 current	bistory1 31 0 63 <1 301 1740 849 1104 3170 history1	history2 81 0 67 <1 334 1747 873 1119 4223 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base 0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	0 current 9 0 62 <1 760 1224 911 1162 3070 current 6	bistory1 31 0 63 <1 301 1740 849 1104 3170 history1 15	history2 81 0 67 <1 334 1747 873 1119 4223 history2 9
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base 0 0 60 0 1010 1070 1150 1270 2060 Limit/base >25	0 current 9 0 62 <1 760 1224 911 1162 3070 current 6 25	bistory1 31 0 63 <1 301 1740 849 1104 3170 history1 15 63	history2 81 0 67 <1 334 1747 873 1119 4223 history2 9 69
ADDITIVES 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 ASTM D5185m	limit/base 0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	0 current 9 0 62 <1 760 1224 911 1162 3070 current 6 25 0	bistory1 31 0 63 <1 301 1740 849 1104 3170 history1 15 63 0	history2 81 0 67 <1 334 1747 873 1119 4223 history2 9 69 <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 TS ppm	ASTM D5185m	limit/base 0 0 60 0 1010 1070 1150 1270 2060 2060 2060 225 220	0 current 9 0 62 <1 760 1224 911 1162 3070 current 6 25 0 current	history1 31 0 63 <1 301 1740 849 1104 3170 history1 15 63 0 history1	history2 81 0 67 <1 334 1747 873 1119 4223 history2 9 69 <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	ASTM D5185m	limit/base 0 0 0 1010 1070 1150 1270 2060 limit/base >25 limit/base >6	0 current 9 0 62 <1 760 1224 911 1162 3070 current 6 25 0 current 0.3	bistory1 31 0 63 <1 301 1740 849 1104 3170 history1 15 63 0 history1 15 63 0 0 0 0 0.6	bistory2 81 0 67 <1 334 1747 873 1119 4223 bistory2 9 69 <1 history2 9 69 <1 history2 0.1
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 ppm	ASTM D5185m	imit/base 0 0 60 0 1010 1070 1150 1270 2060 Imit/base >25 imit/base >20 imit/base >20	0 current 9 0 62 <1 760 1224 911 1162 3070 current 6 25 0 current 0.3 7.1	0 31 0 63 <1 301 1740 849 1104 3170 history1 15 63 0 history1 0 9 9	history2 81 0 67 <1 334 1747 873 1119 4223 history2 9 69 <1 history2 9 69 <1 history2 0.1 6.8
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 ppm	ASTM D5185m method ASTM D5185m	limit/base 0 0 60 0 1010 1070 1150 1270 2060 2060 225 20 225 220 1000 225 220 220 220 220 220 220 220 220	0 current 9 0 62 <1 760 1224 911 1162 3070 current 6 25 0 current 0.3 7.1 18.7	history1 31 0 63 <1 301 1740 849 1104 3170 history1 15 63 0 history1 15 63 0 21.3	history2 81 0 67 <1 334 1747 873 1119 4223 history2 9 69 <1 history2 9 69 <1 history2 0.1 6.8 17.7
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM DS185ml method ASTM D5185ml ASTM D5185ml	limit/base 0 0 0 1010 1070 1150 1270 2060 limit/base >20 limit/base >6 >20 >30	0 current 9 0 62 <1 760 1224 911 1162 3070 current 6 25 0 current 0.3 7.1 18.7 current	0 31 0 63 <1 301 1740 849 1104 3170 history1 15 63 0 history1 0.6 9.9 21.3 history1	history2 81 0 67 <1 334 1747 873 1119 4223 history2 9 69 <1 history2 9 69 <1 history2 0.1 6.8 17.7 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD Oxidation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624 *ASTM D7415 method *ASTM D7414	limit/base 0 0 0 1010 1070 1150 1270 2060 limit/base >25 20 limit/base >6 >20 30 limit/base >30	0 current 9 0 62 <1 760 1224 911 1162 3070 current 6 25 0 current 0.3 7.1 18.7 current 13.8	0 31 0 63 <1 301 1740 849 1104 3170 history1 15 63 0 history1 0.6 9.9 21.3 history1 16.6	history2 81 0 67 <1 334 1747 873 1119 4223 history2 9 69 <1 history2 9 69 <1 history2 0.1 6.8 17.7 history2 13.0



OIL ANALYSIS REPORT





100

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	12.8	14.0
GRAPHS						
Ferrous Alloys						



Certificate L2367 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)

T: (276)223-4476

F: (276)223-1283