

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

Machine Id 732006

Component
Natural Gas Engine

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 INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0092134	GFL0084638	GFL0084678
Sample Date		Client Info		11 Jan 2024	27 Oct 2023	08 Jun 2023
Machine Age	hrs	Client Info		6649	67000	55080
Oil Age	hrs	Client Info		600	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATI	ION	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	2	10	4
Chromium	ppm	ASTM D5185m	>4	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	0	<1	0
Aluminum	ppm	ASTM D5185m	>9	1	2	<1
Lead	ppm	ASTM D5185m	>30	<1	3	<1
Copper	ppm	ASTM D5185m	>35	2	2	<1
Tin	ppm	ASTM D5185m	>4	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	<1	<1
ADDITIVES						
ADDITIVE5		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	3	13	44
Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m	0	3 0	13 4	44 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	3 0 53	13 4 59	44 0 52
Boron Barium Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	3 0 53 1	13 4 59 <1	44 0 52 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	3 0 53 1 546	13 4 59 <1 595	44 0 52 <1 609
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	3 0 53 1 546 1560	13 4 59 <1 595 1627	44 0 52 <1 609 1753
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	3 0 53 1 546 1560 693	13 4 59 <1 595 1627 752	44 0 52 <1 609 1753 782
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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	3 0 53 1 546 1560 693 936	13 4 59 <1 595 1627 752 1003	44 0 52 <1 609 1753 782 953
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	0 0 60 0 1010 1070 1150	3 0 53 1 546 1560 693	13 4 59 <1 595 1627 752	44 0 52 <1 609 1753 782
Boron 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 0 60 1010 1070 1150 1270 2060	3 0 53 1 546 1560 693 936 2242 current	13 4 59 <1 595 1627 752 1003 2786 history1	44 0 52 <1 609 1753 782 953 2882 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 ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	3 0 53 1 546 1560 693 936 2242 current 4	13 4 59 <1 595 1627 752 1003 2786 history1 5	44 0 52 <1 609 1753 782 953 2882 history2 4
Boron 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 ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >+100	3 0 53 1 546 1560 693 936 2242 current	13 4 59 <1 595 1627 752 1003 2786 history1	44 0 52 <1 609 1753 782 953 2882 history2
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 ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >+100	3 0 53 1 546 1560 693 936 2242 current 4	13 4 59 <1 595 1627 752 1003 2786 history1 5	44 0 52 <1 609 1753 782 953 2882 history2 4
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 60 0 1010 1070 1150 1270 2060 limit/base >+100	3 0 53 1 546 1560 693 936 2242 current 4 6 0	13 4 59 <1 595 1627 752 1003 2786 history1 5 5 2 2 history1	44 0 52 <1 609 1753 782 953 2882 history2 4 4 4 0 bistory2
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 ppm	ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 2060 >+100 >20 20 imit/base	3 0 53 1 546 1560 693 936 2242 <u>current</u> 4 6 0 <u>current</u> 0	13 4 59 <1 595 1627 752 1003 2786 history1 5 5 5 2 2 history1 0	44 0 52 <1 609 1753 782 953 2882 history2 4 4 4 0 bistory2 0.1
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 60 0 1010 1070 1150 1270 2060 2060 >+100 >20 20 imit/base	3 0 53 1 546 1560 693 936 2242 current 4 6 0	13 4 59 <1 595 1627 752 1003 2786 history1 5 5 2 2 history1	44 0 52 <1 609 1753 782 953 2882 history2 4 4 4 0 bistory2
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 ppm	ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 2060 >+100 >20 20 imit/base	3 0 53 1 546 1560 693 936 2242 <u>current</u> 4 6 0 <u>current</u> 0	13 4 59 <1 595 1627 752 1003 2786 history1 5 5 5 2 2 history1 0	44 0 52 <1 609 1753 782 953 2882 history2 4 4 4 0 bistory2 0.1
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 ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <i>imit/base</i> >+100 >20 <i>imit/base</i>	3 0 53 1 546 1560 693 936 2242 current 4 6 0 current 0 0	13 4 59 <1 595 1627 752 1003 2786 history1 5 5 5 2 history1 0 11.1	44 0 52 <1 609 1753 782 953 2882 history2 4 4 4 0 bistory2 0.1 7.1
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 ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 Imit/base >20 Imit/base >20 Imit/base	3 0 53 1 546 1560 693 936 2242 <u>current</u> 4 6 0 0 <u>current</u> 0 11.6 23.3	13 4 59 <1 595 1627 752 1003 2786 history1 5 5 5 2 2 history1 0 11.1 23.0	44 0 52 <1 609 1753 782 953 2882 history2 4 4 4 0 0 history2 0.1 7.1 20.2

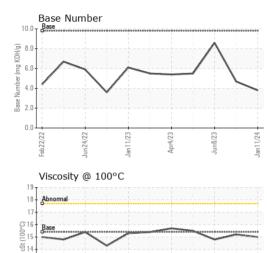


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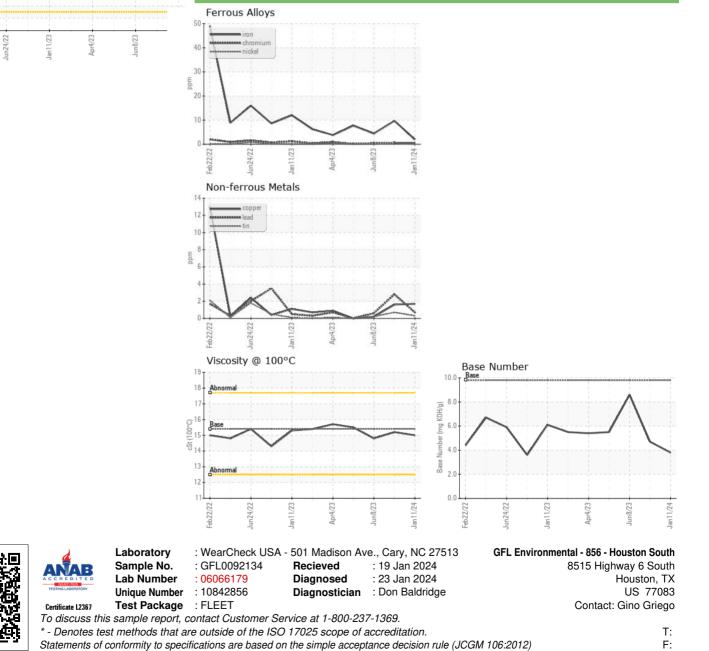
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OIL ANALYSIS REPORT



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	>0.1	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	15.0	15.2	14.8
GRAPHS						



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