

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

Machine Id 833012

Component
Natural Gas Engine

PETRO CANADA DURON SHP 15W40 (--- LTR)

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		GFL0092002	GFL0092093	GFL0078164
Sample Date		Client Info		19 Dec 2023	02 Dec 2023	03 May 2023
Machine Age	hrs	Client Info		4274	17547	2344
Oil Age	hrs	Client Info		600	17547	0
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	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	12	7	38
Chromium	ppm	ASTM D5185m	>4	<1	<1	2
Nickel	ppm	ASTM D5185m	>2	<1	0	1
Titanium	ppm	ASTM D5185m		<1	0	1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>9	2	1	3
Lead	ppm	ASTM D5185m	>30	0	0	1
Copper	ppm	ASTM D5185m	>35	2	<1	10
Tin	ppm	ASTM D5185m	>4	<1	0	2
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
//BBIIII/EO		mounou		ourront	inotory i	
Boron	ppm	ASTM D5185m	0	10	7	12
	ppm ppm		0			
Boron		ASTM D5185m	0	10	7	12
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	10 <1	7 2	12 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	10 <1 62	7 2 51	12 0 66
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	10 <1 62 1	7 2 51 0	12 0 66 7
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	10 <1 62 1 648	7 2 51 0 502	12 0 66 7 855
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	10 <1 62 1 648 1910	7 2 51 0 502 1534	12 0 66 7 855 1564
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	10 <1 62 1 648 1910 856	7 2 51 0 502 1534 633	12 0 66 7 855 1564 863
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	10 <1 62 1 648 1910 856 1133	7 2 51 0 502 1534 633 900	12 0 66 7 855 1564 863 1154
Boron 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 0 60 1010 1070 1150 1270 2060	10 <1 62 1 648 1910 856 1133 2650	7 2 51 0 502 1534 633 900 2478	12 0 66 7 855 1564 863 1154 3032
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 >+100	10 <1 62 1 648 1910 856 1133 2650 current	7 2 51 0 502 1534 633 900 2478 history1	12 0 66 7 855 1564 863 1154 3032 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	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	0 0 60 1010 1070 1150 1270 2060 kimit/base	10 <1 62 1 648 1910 856 1133 2650 current 5	7 2 51 0 502 1534 633 900 2478 history1 4	12 0 66 7 855 1564 863 1154 3032 history2 14
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	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	0 0 60 1010 1070 1150 1270 2060 kimit/base	10 <1 62 1 648 1910 856 1133 2650 current 5 12	7 2 51 0 502 1534 633 900 2478 history1 4 8	12 0 66 7 855 1564 863 1154 3032 history2 14 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 >+100 >20	10 <1 62 1 648 1910 856 1133 2650 current 5 12 0	7 2 51 0 502 1534 633 900 2478 history1 4 8 2	12 0 66 7 855 1564 863 1154 3032 history2 14 4 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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 Imit/base >20 Imit/base	10 <1 62 1 648 1910 856 1133 2650 current 5 12 0	7 2 51 0 502 1534 633 900 2478 history1 4 8 2 2 history1	12 0 66 7 855 1564 863 1154 3032 history2 14 4 5 5 history2
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 ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <i>limit/base</i> >+100 <i>limit/base</i>	10 <1 62 1 648 1910 856 1133 2650 current 5 12 0 current 0	7 2 51 0 502 1534 633 900 2478 history1 4 8 2 2 history1 0	12 0 66 7 855 1564 863 1154 3032 history2 14 4 5 5 history2 0
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>limit/base</i> >+100 <i>limit/base</i>	10 <1 62 1 648 1910 856 1133 2650 current 5 12 0 current 0 0 11.8	7 2 51 0 502 1534 633 900 2478 history1 4 8 2 2 history1 0 11.1	12 0 66 7 855 1564 863 1154 3032 history2 14 4 5 <u>history2</u> 0 11.9
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 D7844 *ASTM D7624	0 0 0 1010 1070 1150 1270 2060 <i>imit/base</i> >+100 <i>imit/base</i> >20 >30	10 <1 62 1 648 1910 856 1133 2650 current 5 12 0 current 0 11.8 23.2	7 2 51 0 502 1534 633 900 2478 history1 4 8 2 2 history1 0 11.1 21.4 history1	12 0 66 7 855 1564 863 1154 3032 history2 14 4 5 history2 0 11.9 25.0 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 ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >+100 imit/base >20 imit/base >30	10 <1 62 1 648 1910 856 1133 2650 current 5 12 0 current 0 11.8 23.2	7 2 51 0 502 1534 633 900 2478 history1 4 8 2 2 history1 0 11.1 21.4	12 0 66 7 855 1564 863 1154 3032 history2 14 4 5 5 history2 0 11.9 25.0

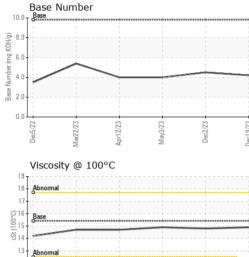


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Dec5/22

Mar22/23

OIL ANALYSIS REPORT



Apr12/23

Mav3/23

	VISUAL						
	VISUAL		method				history
	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
Dec19/23	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Dec1	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	14.9	14.8	14.9
	GRAPHS						
	Ferrous Alloys						
_	50 iron		 				
	mickel						
	40						
	<u>E</u> 30						
	20 -		· · · · · · · · · · · · · · · · · · ·				
	10-						
		Transferrations					
	0 - 1 - 1	Mav3/23	Dec2/23 -	3/23			
	Dec5/22 Mar22/23	May Ma	Dec	Dec19/23			
	Non-ferrous Meta	ls					
	18 1c Copper						
	16+ copper 14+ conservation tin						
	12						
	12 E ¹⁰ 8						
	E ¹⁰						
	E 10 8 6 4						
	E 10 8						
		323	2023	1973 HILL			
	E 10 8 6 4	ESISTEM	Dec2/23	Dec19/23			
	Ulo		Deci2/2		Base Number		
	Uiscosity @ 100°C		Dec2/23		Base Number		
	Uiscosity @ 100°C		Dec2/23	10.0	Base Number		
	Viscosity @ 100°C		Dec2r2a	10.0	Base Number		
	Viscosity @ 100°C		Dec2/23	10.0	Base Number		
	Viscosity @ 100°C		Dec2/23	10.0	Base Number		
	Uiscosity @ 100°C		Dec2/23	10.0	Base Number		
	und 6 4 2 0 12/2 14 13 bnormal 14 13 bnormal 14 13 bnormal		Dec2/23	0.0 8.0 (HOX Bu Jaq	Base Number		
	Uiscosity @ 100°C			10.0 (1) 8.0 (1) HOX But 10, 10, 10, 10, 10, 10, 10, 10, 10, 10,	Base Number		
	und 6 4 2 0 12/2 14 13 bnormal 14 13 bnormal 14 13 bnormal			10.0 (0,HO) B0() b0() (0,HO) B0() b0() b0() (0,HO) B0() b0() b0() b0() b0() b0() b0() b0() b	Base Number	April223	Dec2/23



Test Package : FLEET Certificate L2367 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)

Unique Number : 10804502

Diagnostician

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