

OIL ANALYSIS REPORT

Sample Rating Trend





Machine Id DT743 Component Diesel Engine

Fluid

PETRO CANADA DURON SHP 10W30 (--- 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.

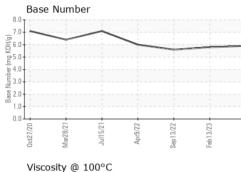
Fluid Condition

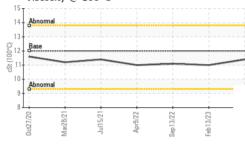
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0100040	PCA0090318	PCA0079626
Sample Date		Client Info		19 Jul 2023	13 Feb 2023	13 Sep 2022
Machine Age	mls	Client Info		201002	175711	150983
Oil Age	mls	Client Info		201002	0	75467
Oil Changed		Client Info		Changed	N/A	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	25	27	19
Chromium	ppm	ASTM D5185m	>20	1	1	<1
Nickel	ppm	ASTM D5185m	>5	3	5	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	4	4	5
Lead	ppm	ASTM D5185m	>40	4	<1	<1
Copper	ppm	ASTM D5185m	>330	8	4	4
Tin	ppm	ASTM D5185m	>15	1	<1	1
Vanadium	ppm	ASTM D5185m	>15	0	0	0
Cadmium		ASTM D5185m		0	0	0
	ppm	AGTIM DJTOJII		0	0	-
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	2	2	2
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0	2 <1	2 1	2 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	2 <1 68	2 1 65	2 0 64
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	2 <1 68 <1	2 1 65 <1	2 0 64 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	2 <1 68 <1 1004	2 1 65 <1 885	2 0 64 <1 883
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	2 <1 68 <1 1004 1248	2 1 65 <1 885 1112	2 0 64 <1 883 1093
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995	2 <1 68 <1 1004 1248 1060	2 1 65 <1 885 1112 939	2 0 64 <1 883 1093 971
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180	2 <1 68 <1 1004 1248 1060 1351	2 1 65 <1 885 1112 939 1188	2 0 64 <1 883 1093 971 1231
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	2 0 50 950 1050 995 1180 2600	2 <1 68 <1 1004 1248 1060 1351 3248	2 1 65 <1 885 1112 939 1188 2681	2 0 64 <1 883 1093 971 1231 2425
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	2 0 50 950 1050 995 1180 2600	2 <1 68 <1 1004 1248 1060 1351 3248 current	2 1 65 <1 885 1112 939 1188 2681 history1	2 0 64 <1 883 1093 971 1231 2425 history2
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 method	2 0 50 950 1050 995 1180 2600	2 <1 68 <1 1004 1248 1060 1351 3248	2 1 65 <1 885 1112 939 1188 2681 history1 8	2 0 64 <1 883 1093 971 1231 2425
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600	2 <1 68 <1 1004 1248 1060 1351 3248 current	2 1 65 <1 885 1112 939 1188 2681 history1	2 0 64 <1 883 1093 971 1231 2425 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	2 0 50 950 1050 995 1180 2600 limit/base >25	2 <1 68 <1 1004 1248 1060 1351 3248 current 6	2 1 65 <1 885 1112 939 1188 2681 history1 8	2 0 64 <1 883 1093 971 1231 2425 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	2 0 50 950 1050 995 1180 2600 limit/base >25	2 <1 68 <1 1004 1248 1060 1351 3248 current 6 2	2 1 65 <1 885 1112 939 1188 2681 history1 8 2	2 0 64 <1 883 1093 971 1231 2425 history2 4 <1
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	2 0 50 0 950 1050 995 1180 2600 limit/base >25 -25	2 <1 68 <1 1004 1248 1060 1351 3248 current 6 2 2 2	2 1 65 <1 885 1112 939 1188 2681 history1 8 2 5	2 0 64 <1 883 1093 971 1231 2425 history2 4 <1 7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 Imit/base >25 >20 Imit/base	2 <1 68 <1 1004 1248 1060 1351 3248 current 6 2 2 2 2	2 1 65 <1 885 1112 939 1188 2681 history1 8 2 5 history1	2 0 64 <1 883 1093 971 1231 2425 history2 4 <1 7 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 Imit/base >25 >20 Imit/base	2 <1 68 <1 1004 1248 1060 1351 3248 <u>current</u> 6 2 2 2 2 <u>current</u>	2 1 65 <1 885 1112 939 1188 2681 history1 8 2 5 history1 0.7	2 0 64 <1 883 1093 971 1231 2425 history2 4 <1 7 history2 0.8
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	2 0 50 950 1050 995 1180 2600 <i>limit/base</i> >25 >20 <i>limit/base</i> >4 >20	2 <1 68 <1 1004 1248 1060 1351 3248 <i>current</i> 6 2 2 2 <i>current</i> 0.9 10.1	2 1 65 <1 885 1112 939 1188 2681 history1 8 2 5 history1 0.7 10.6	2 0 64 <1 883 1093 971 1231 2425 history2 4 <1 7 history2 0.8 10.8
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	2 0 50 950 1050 995 1180 2600 imit/base >25 imit/base >4 >20	2 <1 68 <1 1004 1248 1060 1351 3248 <u>current</u> 6 2 2 2 <u>current</u> 0.9 10.1 22.0	2 1 65 <1 885 1112 939 1188 2681 history1 8 2 5 history1 0.7 10.6 21.4	2 0 64 <1 883 1093 971 1231 2425 history2 4 <1 7 history2 0.8 10.8 24.7
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 D7844 *ASTM D7844	2 0 0 50 0 950 1050 995 1180 2600 2600 25 20 220 20 imit/base >4 >20 >30	2 <1 68 <1 1004 1248 1060 1351 3248 <i>current</i> 6 2 2 2 <i>current</i> 0.9 10.1 22.0	2 1 65 <1 885 1112 939 1188 2681 history1 8 2 5 history1 0.7 10.6 21.4 history1	2 0 64 <1 883 1093 971 1231 2425 history2 4 <1 7 history2 0.8 10.8 24.7 history2



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	>0.2	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	12.00	11.4	11.0	11.1
GRAPHS						
Ferrous Alloys						
i Tanana ana ana ana ana ana ana ana ana						
iron						
•		~	1			
5						
0		/				
5-						
0-444						
5						
		and a state of the				
0ct27/20 Mar28/21 Jul15/21	Apr9/22	Sep 13/22 Feb 13/23	Jul19/23			
		Sep1 Feb1	Jul			
Non-ferrous Meta	s					
copper						
0 - tin						
0						
•						
0						
	3/22 -	3/22 -	3/23			
0ct27/20 Mar28/21 Jul15/21	Apr9/22	Sep 13/22 Feb 13/23	Jul19/23			
Viscosity @ 100°C						
				Base Number		
i				Base Number		
Abnormal	:		8.0	Terrer	_	

(B/H03 5.0

u) 4.0 Munhor 3.0

ase 2.0

Jul19/23 -

: 24 Jul 2023

: 24 Jul 2023

Feb13/23

1.0 0.0

0ct27/20



Unique Number : 10566586 Diagnostician : Wes Davis Test Package : FLEET Contact: GEORGE EDWARDS 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)

Jul15/21.

Apr9/22 -

: WearCheck USA - 501 Madison Ave., Cary, NC 27513

Received

Diagnosed

Sep13/22.

13

10

8 0ct27/20

Laboratory

Sample No.

Lab Number

Abnorm

Mar28/21

: PCA0100040

: 05905230

cSt (100°C)

Submitted By: Paul Riddick

gedwards@nwwhite.com

Apr9/22 -

Sep13/22

100 INDEPENDENCE BLVD

NW WHITE & CO - COLUMBIA DIVISION

Jul15/21

Mar28/21

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Feb 13/23

COLUMBIA, SC

US 29210

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