

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL





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

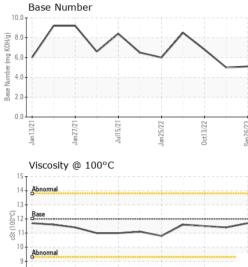
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0107471	PCA0095649	PCA0081275
Sample Date		Client Info		26 Sep 2023	14 Apr 2023	13 Oct 2022
Machine Age	mls	Client Info		213716	187854	162987
Oil Age	mls	Client Info		187854	24867	0
Oil Changed		Client Info		Changed	Changed	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	16	16	14
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	<1	<1	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m		4	4	6
Lead	ppm	ASTM D5185m	>40	1	0	<1
Copper	ppm	ASTM D5185m	>330	4	4	4
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
	1-1-			-	-	-
ADDITIVES			limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	0	5	1
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0	0 0	5 0	1 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	0 0 63	5 0 64	1 0 61
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	0 0 63 <1	5 0 64 <1	1 0 61 <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	0 0 63 <1 892	5 0 64 <1 958	1 0 61 <1 910
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	0 0 63 <1 892 1062	5 0 64 <1 958 1159	1 0 61 <1 910 1059
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	2 0 50 0 950 1050 995	0 0 63 <1 892 1062 948	5 0 64 <1 958 1159 974	1 0 61 <1 910 1059 926
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	0 0 63 <1 892 1062 948 1220	5 0 64 <1 958 1159 974 1246	1 0 61 <1 910 1059 926 1206
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	2 0 50 950 1050 995 1180 2600	0 0 63 <1 892 1062 948	5 0 64 <1 958 1159 974 1246 3402	1 0 61 <1 910 1059 926
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	2 0 50 950 1050 995 1180	0 0 63 <1 892 1062 948 1220 2636 current	5 0 64 <1 958 1159 974 1246	1 0 61 <1 910 1059 926 1206
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	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	2 0 50 950 1050 995 1180 2600	0 0 63 <1 892 1062 948 1220 2636	5 0 64 <1 958 1159 974 1246 3402 history1 6	1 0 61 <1 910 1059 926 1206 2962
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 ASTM D5185m	2 0 50 950 1050 995 1180 2600	0 0 63 <1 892 1062 948 1220 2636 current	5 0 64 <1 958 1159 974 1246 3402 history1 6 2	1 0 61 <1 910 1059 926 1206 2962 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	2 0 50 950 1050 995 1180 2600	0 0 63 <1 892 1062 948 1220 2636 current 7	5 0 64 <1 958 1159 974 1246 3402 history1 6	1 0 61 <1 910 1059 926 1206 2962 history2 6
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 ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25	0 0 63 <1 892 1062 948 1220 2636 current 7 1 4	5 0 64 <1 958 1159 974 1246 3402 history1 6 2	1 0 61 <1 910 1059 926 1206 2962 history2 6 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 50 950 1050 995 1180 2600 limit/base >25 >20	0 0 63 <1 892 1062 948 1220 2636 current 7 1 4	5 0 64 <1 958 1159 974 1246 3402 history1 6 2 2	1 0 61 <1 910 1059 926 1206 2962 history2 6 1 6 1 6
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	2 0 50 0 950 1050 995 1180 2600 limit/base >25 -20 limit/base	0 0 63 <1 892 1062 948 1220 2636 <u>current</u> 7 1 4	5 0 64 <1 958 1159 974 1246 3402 history1 6 2 2 2 history1	1 0 61 <1 910 1059 926 1206 2962 history2 6 1 6 1 6 1 6 <i>h</i> istory2
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	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >20	0 0 63 <1 892 1062 948 1220 2636 <u>current</u> 7 1 4 <u>current</u> 0.7	5 0 64 <1 958 1159 974 1246 3402 history1 6 2 2 2 history1 0.6	1 0 61 <1 910 1059 926 1206 2962 history2 6 1 6 1 6 1 6 history2 0.7
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	0 0 63 <1 892 1062 948 1220 2636 <i>current</i> 7 1 4 <i>current</i> 0.7 10.1	5 0 64 <1 958 1159 974 1246 3402 history1 6 2 2 2 history1 0.6 9.1	1 0 61 <1 910 1059 926 1206 2962 history2 6 1 6 1 6 1 6 <i>history2</i> 0.7 10.7
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 D5185m	2 0 50 950 1050 995 1180 2600 imit/base >25 imit/base >4 >20	0 0 63 <1 892 1062 948 1220 2636 <u>current</u> 7 1 4 <u>current</u> 0.7 10.1 22.3	5 0 64 <1 958 1159 974 1246 3402 history1 6 2 2 2 history1 0.6 9.1 19.6	1 0 61 <1 910 1059 926 1206 2962 history2 6 1 6 1 6 1 6 history2 0.7 10.7 22.9
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	2 0 50 0 950 1050 995 1180 2600 2600 255 220 220 220 20 20 20 20 20 20 20 20 20	0 0 63 <1 892 1062 948 1220 2636 Current 7 1 4 Current 0.7 10.1 22.3 Current	5 0 64 <1 958 1159 974 1246 3402 history1 6 2 2 2 history1 0.6 9.1 19.6 history1	1 0 61 <1 910 1059 926 1206 2962 history2 6 1 1 6 1 6 1 6 1 0.7 10.7 22.9 history2



OIL ANALYSIS REPORT

VISUAL



Jan 25/22

Jan27/21

Jan 13/21

White M	etal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow N	/letal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipita	ate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt		scalar	*Visual	NONE	NONE	NONE	NONE
Debris		scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Di	rt	scalar	*Visual	NONE	NONE	NONE	NONE
Appeara	ince	scalar	*Visual	NORML	NORML	NORML	NORML
Odor		scalar	*Visual	NORML	NORML	NORML	NORML
	ed Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Wa	iter	scalar	*Visual		NEG	NEG	NEG
FLUI	D PROPE	RTIES	method	limit/base	current	history1	history2
Visc @	100°C	cSt	ASTM D445	12.00	11.7	11.4	11.5
GRA	PHS						
Ferrou	s Alloys						
70	iron						
60 -	m chromium						
50-	m nickel						
40							
봅 ₃₀							
30-							
20	\wedge	-					
		-		100			
10		1					
	1/21	122	122	/23			
	Jan 27/21	Jan 25/22 +	0ct13/22	sep26/23			
Jan 13/21		Jan 25/22	Oct13/22	Sep 26/23			
Jan13/21	errous Metal		0ct13/22	Sep 26/23			
Non-fe			Oct13/2	Sep26/23			
Non-fe	errous Metal		Oct13/2	Sep26/23			
Non-fe	copper lead		Octi3/22	Sep26/23			
Non-fe	copper lead		0ct13/22	Sep26/23			
Non-fe	copper lead		0ct13/22	Sep26/23			
Non-fe 80 70 50 50	copper lead		0et13/22	Sep26/23			
Non-fe	copper lead		Octi3/22	Sep26/23			
Non-fe 80 70 60 50 40 30 20 10	copper lead		Octi322	Sep26/23			
Non-fe	copper lead	s					
Non-fe	copper lead						
Non-fe	copper lead	S		Sep26/23			
0 +127E1uer Non-fe 80 70 60 50 50 0 10 0 127E1uer	copper lead	S		Sep26/23	Base Numbe	21	
Non-fe Non-fe Non-fe Non-fe	copper lead tin lZ//Zuer ity @ 100°C	S				2 Г	
Non-fe Non-fe Non-fe Non-fe Non-fe	copper lead tin lZ//Zuer ity @ 100°C	S		10.0		21	
Non-fe	copper lead tin lZ//Zuer ity @ 100°C	S		10.0		21	
Non-fe Non-fe Non-fe Non-fe Non-fe Non-fe Non-fe Non-fe Non-fe Non-fe	copper lead tin lZ//Zuer ity @ 100°C	S		10.0		21	
Non-fe	copper lead tin lZ//Zuer ity @ 100°C	S		10.0		21	
Non-fe Non-fe Non-fe Non-fe Non-fe Non-fe Non-fe Non-fe Supervision Non-fe Non-fe Supervision Non-fe Non-fe Supervision Non-fe Non-fe Non-fe Supervision Non-fe Supervision Non-fe Supervision Non-fe Supervision Non-fe Non	copper lead tin lZ//Zuer ity @ 100°C	S		10.0		21	
Non-fe No	errous Metal	S		0.01 per (und KOH(0) per (und		217	
Non-fe Non-fe	errous Metal	S		10.0 (0,110,0 10,0 10,0 10,0 10,0 10,0 10,0		51.	
Non-fe Non-fe	errous Metal	S		35eb26/23 38e Mumber (mg KOH(d) 4.0		Juli5/21	Del1322

: 02 Oct 2023

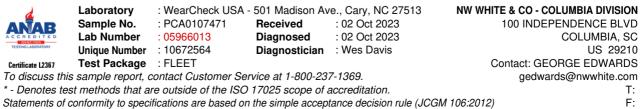
: 02 Oct 2023

Received

Diagnosed

Diagnostician : Wes Davis





Certificate L2367

Sample No.

Lab Number

Unique Number : 10672564

Test Package : FLEET

: PCA0107471

: 05966013

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.

Submitted By: Paul Riddick Page 2 of 2