

OIL ANALYSIS REPORT



Machine Id **210** Component

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.

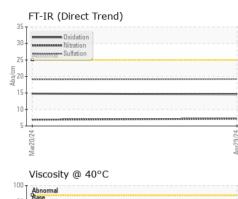
Fluid Condition

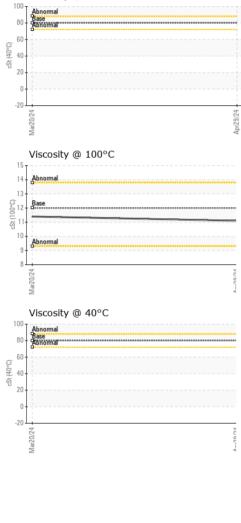
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0114433	PCA0114430	
Sample Date		Client Info		29 Apr 2024	20 Mar 2024	
Machine Age	mls	Client Info		73270	61922	
Oil Age	mls	Client Info		11200	10000	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	
Water		WC Method	>0.2	NEG	NEG	
Glycol		WC Method		NEG	NEG	
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	8	12	
Chromium	ppm	ASTM D5185m	>20	0	1	
Nickel	ppm	ASTM D5185m	>4	0	1	
Titanium	ppm	ASTM D5185m		0	<1	
Silver	ppm	ASTM D5185m	>3	<1	<1	
Aluminum	ppm	ASTM D5185m	>20	3	2	
Lead	ppm	ASTM D5185m	>40	0	2	
Copper	ppm	ASTM D5185m	>330	0	2	
Tin	ppm	ASTM D5185m	>15	<1	2	
Vanadium	ppm	ASTM D5185m		0	<1	
Cadmium	ppm	ASTM D5185m		0	1	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 3	history1 <1	history2
	ppm ppm					
Boron		ASTM D5185m	2	3	<1	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0	3 0	<1 0	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	3 0 60	<1 0 58	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	3 0 60 <1	<1 0 58 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	3 0 60 <1 1021	<1 0 58 1 886	
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	3 0 60 <1 1021 1111	<1 0 58 1 886 1054	
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	3 0 60 <1 1021 1111 1112	<1 0 58 1 886 1054 1053	
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 0 950 1050 995 1180	3 0 60 <1 1021 1111 1112 1327	<1 0 58 1 886 1054 1053 1169	
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 0 950 1050 995 1180 2600	3 0 60 <1 1021 1111 1112 1327 3777	<1 0 58 1 886 1054 1053 1169 3297	
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 0 950 1050 995 1180 2600	3 0 60 <1 1021 1111 1112 1327 3777 current	<1 0 58 1 886 1054 1053 1169 3297 history1	 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 0 950 1050 995 1180 2600 limit/base >25	3 0 60 <1 1021 1111 1112 1327 3777 current 5	<1 0 58 1 886 1054 1053 1169 3297 history1 6	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25	3 0 60 <1 1021 1111 1112 1327 3777 current 5 2	<1 0 58 1 886 1054 1053 1169 3297 history1 6 <1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25 >20	3 0 60 <1 1021 1111 1112 1327 3777 current 5 2 6	<1 0 58 1 886 1054 1053 1169 3297 history1 6 < 1 4	 history2
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 ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Imit/base >25 >20	3 0 60 <1 1021 1111 1112 1327 3777 current 5 2 6 6 current	<1 0 58 1 886 1054 1053 1169 3297 history1 6 <1 4 history1	 history2 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	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	3 0 60 <1 1021 1111 1112 1327 3777 current 5 2 6 current 0.5	<1 0 58 1 886 1054 1053 1169 3297 history1 6 <1 4 history1 0.4	 history2 history2
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>imit/base</i> >25 >20 <i>imit/base</i> >3 >20	3 0 60 <1 1021 1111 1112 1327 3777 current 5 2 6 current 0.5 7.2	<1 0 58 1 886 1054 1053 1169 3297 history1 6 < 4 <i>h</i> istory1 0.4 6.9	 history2 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	2 0 0 50 0 950 1050 995 1180 2600 2600 25 20 220 20 20 20 20 20 20 20 20 20 20 20	3 0 60 <1 1021 1111 1112 1327 3777 current 5 2 6 current 0.5 7.2 19.2	<1 0 58 1 886 1054 1053 1169 3297 history1 6 <1 4 history1 0.4 6.9 19.1	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAC	ppm ppm ppm ppm ppm ppm ppm TS 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 20 20 20 20 20 20 20 20 20 20	3 0 60 <1 1021 1111 1112 1327 3777 current 5 2 6 current 0.5 7.2 19.2 current	<1 0 58 1 886 1054 1053 1169 3297 history1 6 <1 4 history1 0.4 6.9 19.1 history1	 history2 history2 history2 history2



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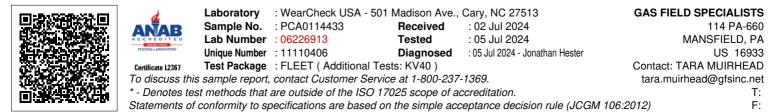




mdd

cSt (100°C)

VISUAL		method	limit/bas	e current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
Precipitate	scalar	*Visual	NONE	NONE	NONE	
Silt	scalar	*Visual	NONE	NONE	NONE	
Debris	scalar	*Visual	NONE	NONE	NONE	
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
Appearance	scalar	*Visual	NORML	NORML	NORML	
Odor	scalar	*Visual	NORML	NORML	NORML	
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	
Free Water	scalar	*Visual		NEG	NEG	
FLUID PROPE	RTIES	method	limit/bas	e current	history1	history2
Visc @ 100°C	cSt	ASTM D445	12.00	11.1	11.4	
GRAPHS						
Ferrous Alloys						
iron chromium						
nickel						
8						
6 -						
4						
2						
**********		August Supplying the second				
24 24		and the second se	/24			
Mar20/24			Apr29/24			
Non-ferrous Metals	S					
copper						
8 - tin						
6 -						
4						
2-						
State of the state	STATISTICS.	The second s				
25			24			
Mar20/24			Apr29/24			
≥ Viscosity @ 100°C			-4	Base Numbe	ar	
15 T				9.0 _T		
4 Abnormal				8.0		
13 -			(P/H	57.0		
2 Base			ma KC	5.0		
11-			uper l	4.0		
10			- Nur	57.0 6.0 5.0 4.0 3.0 2.0		
Abnormal			ee ee	2.0		
9-				1.0		
54-10			24	0.0		24
Mar20/24			Apr29/24	Mar20/24		Apr29/24
4			1	2		4



Contact/Location: TARA MUIRHEAD - GASMAN