

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id V3544 Component Diesel Engine Fluid PETRO CANADA DURON SHP 10W30 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

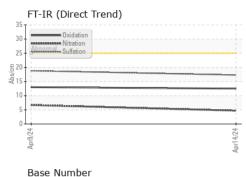
Fluid Condition

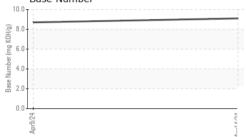
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

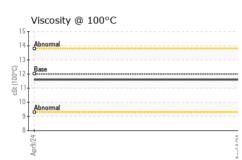
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0112753	PCA0112758	
Sample Date		Client Info		14 Apr 2024	09 Apr 2024	
Machine Age	mls	Client Info		236241	235942	
Oil Age	mls	Client Info		0	0	
Oil Changed	inio	Client Info		N/A	N/A	
Sample Status				NORMAL	NORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	
Water		WC Method		NEG	NEG	
Glycol		WC Method	20.L	NEG	NEG	
-	~			-		
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	2	9	
Chromium	ppm	ASTM D5185m	>20	<1	<1	
Nickel	ppm	ASTM D5185m	>4	0	0	
Titanium	ppm	ASTM D5185m		9	21	
Silver	ppm	ASTM D5185m	>3	0	0	
Aluminum	ppm	ASTM D5185m	>20	0	<1	
Lead	ppm	ASTM D5185m	>40	0	0	
Copper	ppm	ASTM D5185m	>330	2	2	
Tin	ppm	ASTM D5185m	>15	0	0	
Vanadium	ppm	ASTM D5185m		0	0	
Cadmium	ppm	ASTM D5185m		0	0	
				Ū	0	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm		limit/base		-	history2
		method		current	history1	
Boron	ppm	method ASTM D5185m	2	current 28	history1 42	
Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	2 0	current 28 1	history1 42 1	
Boron Barium Molybdenum Manganese	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	current 28 1 49	history1 42 1 43	
Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	current 28 1 49 1	history1 42 1 43 1	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	current 28 1 49 1 841	history1 42 1 43 1 776	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	Current 28 1 49 1 841 1189	history1 42 1 43 1 776 1319	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995	Current 28 1 49 1 841 1189 1054	history1 42 1 43 1 776 1319 1046	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180	current 28 1 49 1 841 1189 1054 1199	history1 42 1 43 1 776 1319 1046 1192	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method 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	Current 28 1 49 1 841 1189 1054 1199 3735	history1 42 1 43 1 776 1319 1046 1192 3804	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method 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	current 28 1 49 1 841 1189 1054 1199 3735 current	history1 42 1 43 1 776 1319 1046 1192 3804 history1	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	2 0 50 950 1050 995 1180 2600	current 28 1 49 1 841 1189 1054 1199 3735 current 8	history1 42 1 43 1 776 1319 1046 1192 3804 history1 8	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base	current 28 1 49 1 841 1189 1054 1199 3735 current 8 2	history1 42 1 43 1 776 1319 1046 1192 3804 history1 8 2	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25 >20	current 28 1 49 1 841 1189 1054 1199 3735 current 8 2 <1	history1 42 1 43 1 776 1319 1046 1192 3804 history1 8 2 0	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Imit/base >25 >20	current 28 1 49 1 841 1189 1054 1199 3735 current 8 2 <1 current s 2 <1 current	history1 42 1 43 1 776 1319 1046 1192 3804 history1 8 2 0 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	method ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	current 28 1 49 1 841 1189 1054 1199 3735 current 8 2 <1 current 0.1	history1 42 1 43 1 776 1319 1046 1192 3804 history1 8 2 0 history1 0.8	 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	method ASTM D5185m	2 0 50 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20	current 28 1 49 1 841 1054 1199 3735 current 8 2 <1 current 0.1 4.7	history1 42 1 43 1 776 1319 1046 1192 3804 history1 8 2 0 history1 0.8 6.7	 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	method ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 imit/base >25 imit/base >3 >20 >30	current 28 1 49 1 841 1189 1054 1199 3735 current 8 2 <1 current 0.1 4.7 17.3	history1 42 1 43 1 776 1319 1046 1192 3804 history1 8 2 0 history1 0.8 6.7 18.8	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D7185m ASTM D7624 *ASTM D7624 *ASTM D7415	2 0 0 50 0 950 1050 995 1180 2600 imit/base >25 20 >20 >30 >30 imit/base	current 28 1 49 1 841 1054 1199 3735 current 8 2 <1 current 0.1 4.7 17.3 current	history1 42 1 43 1 776 1319 1046 1192 3804 history1 8 2 0 history1 0.8 6.7 18.8 history1	 history2 history2 history2 history2



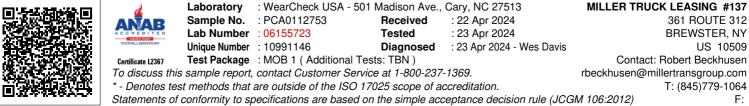
OIL ANALYSIS REPORT







VISUAL		method	limit/base	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/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	12.00	11.6	11.6	
GRAPHS						
Iron (ppm)			100	Lead (ppm)		
0 - Severe			80	Severe		
O Abnormal			e 60			
0 - Abnormal			40	Abnormal		
0-			20			
24 24 24			0	/24		
Apr9/24			Apr14/24	Apr9/24		
Aluminum (ppm)			50	Chromium (p	pm)	
0 Severe			40	Severe		
0						
Abnormal			³⁰ 20	Abnormal		
0 - -			10			
0			0			
Apr9/24			Apr14/24	Apr9/24		
			Apı			
Copper (ppm)			80	Silicon (ppm)		
Apitormal						
0			60			
0-			톱 40	Abnormal		
0-			20			
0			- 0			
Apr9/24			Apr14/24	Apr9/24		
⊲ Viscosity @ 100°C			Ar	⊲ Base Number		
f			10.0			
4 Abnormal			(B)HOX 8.0 (B)HOX 6.0 Pages Winnber 888 892 2.0			
2 Base		******	Ĕ 6.0			
0 Abnormal			4.0	1		
			age 2.0			
Apr9/24				Apr9/24 -		
Apri			Apr14/24	Apri		



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