

OIL ANALYSIS REPORT

Sample Rating Trend



Area NWW GREENWOOD Machine Id DT707

Component Diesel Engine

Fluid PETRO CANADA DURON SHP 10W30 (38 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.

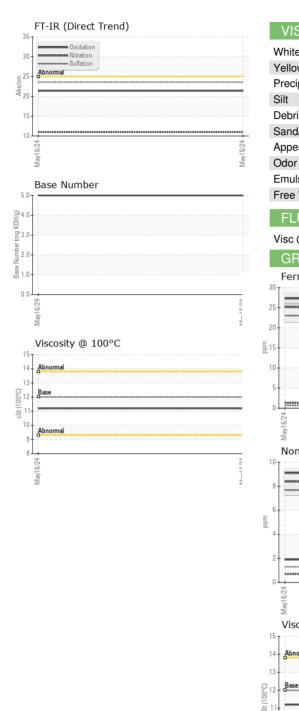
Fluid Condition

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		PCA0127154		
Sample Date		Client Info		16 May 2024		
Machine Age	mls	Client Info		212528		
Oil Age	mls	Client Info		0		
Oil Changed		Client Info		Changed		
Sample Status				NORMAL		
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0		
Water		WC Method	>0.2	NEG		
Glycol		WC Method		NEG		
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	26		
Chromium	ppm	ASTM D5185m	>20	1		
Nickel	ppm	ASTM D5185m	>4	<1		
Titanium	ppm	ASTM D5185m		<1		
Silver	ppm	ASTM D5185m	>3	<1		
Aluminum	ppm	ASTM D5185m	>20	6		
Lead	ppm	ASTM D5185m	>40	<1		
Copper	ppm	ASTM D5185m	>330	2		
Tin	ppm	ASTM D5185m	>15	1		
Vanadium	ppm	ASTM D5185m		<1		
Cadmium	ppm	ASTM D5185m		<1		
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 2	history1	history2
	ppm ppm					
Boron		ASTM D5185m ASTM D5185m ASTM D5185m	2	2		
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0	2 0		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	2 0 74		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	2 0 74 <1		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995	2 0 74 <1 982		
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 0 74 <1 982 1281	 	
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 0 950 1050 995	2 0 74 <1 982 1281 1017	 	
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	2 0 74 <1 982 1281 1017 1383	 	
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 0 74 <1 982 1281 1017 1383 2998		
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 ASTM D5185m	2 0 50 950 1050 995 1180 2600	2 0 74 <1 982 1281 1017 1383 2998 current	 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 method	2 0 50 950 1050 995 1180 2600	2 0 74 <1 982 1281 1017 1383 2998 current 6	 history1	 history2
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 method ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25	2 0 74 <1 982 1281 1017 1383 2998 current 6 <	 history1	 history2
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	2 0 74 <1 982 1281 1017 1383 2998 current 6 <1 6	 history1 	 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 limit/base >25 -20 limit/base	2 0 74 <1 982 1281 1017 1383 2998 current 6 <1 6 current	 history1 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 TS ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base	2 0 74 <1 982 1281 1017 1383 2998 current 6 <1 6 <1 6 current	 history1 history1	 history2 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 t ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 <i>limit/base</i> >25 >20 <i>limit/base</i> >3 >20	2 0 74 <1 982 1281 1017 1383 2998 <i>current</i> 6 <1 6 <1 6 <i>current</i> 0.6 11.0	 history1 history1 	 history2 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 t ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 imit/base >25 imit/base >3 >20	2 0 74 <1 982 1281 1017 1383 2998 current 6 <1 6 <1 6 current 0.6 11.0 23.6	 history1 history1 history1	 history2 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 TS ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844	2 0 50 0 950 1050 995 1180 2600 imit/base >25 >20 imit/base >3 >20 >30	2 0 74 <1 982 1281 1017 1383 2998 <i>current</i> 6 <1 6 <i>current</i> 0.6 11.0 23.6 <i>current</i>	 history1 history1 history1	 history2 history2 history2 history2



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d)	VISUAL		method	limit/base	current	history1	history2
	White Metal	scalar	*Visual	NONE	NONE		
	Yellow Metal	scalar	*Visual	NONE	NONE		
	Precipitate	scalar	*Visual	NONE	NONE		
	Silt	scalar	*Visual	NONE	NONE		
	Debris	scalar	*Visual	NONE	NONE		
	Sand/Dirt	scalar	*Visual	NONE	NONE		
May16/24	Appearance	scalar	*Visual	NORML	NORML		
May	Odor	scalar	*Visual	NORML	NORML		
	Emulsified Water	scalar	*Visual	>0.2	NEG		
-	Free Water	scalar	*Visual		NEG		
	FLUID PROPE	RTIES	method	limit/base	current	history1	history2
	Visc @ 100°C	cSt	ASTM D445	12.00	11.2		
	GRAPHS						
	Ferrous Alloys						
	³⁰ T						
4 C Q	25 - iron						
A.A.A.A.A.A.A.A.A.A.A.A.A.A.A.A.A.A.A.	20						
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	10-						
	5						
	0						
	6/24			6/24			
	May16/24			May16/2 ⁴			
	Non-ferrous Metal	s					
1 C J	10 T						
	conner_1						
A	copper						
1. 1. 1.	been encountered						
M	8 - 10000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000						
Mana	8 account lead						
M	8 - 10000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000						
₩	8 - 10000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000						
A. A	8 - 10000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000						
MALL	8 - Indexes						
MM	8 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -			fay16/24			
MM	8 - Bead						
M	8 - Indexes			May16/24	Base Numbe	r	
Ммл	B B B C C C C C C C C C C C C C C C C C					r	
M.−.1	8 6 4 2 0 4 4 2 0 4 4 2 0 4 4 2 0 4 4 2 0 4 4 4 4 4 4 4 4 4 4 4 4 4			+72/91/veW		r	
M.−.1	8 6 4 2 0 4 2 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0			+72/91/veW		r	
M1	8 6 4 2 0 4 2 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0			+72/91/veW		r	
Ma⊷A	8 6 4 2 0 4 2 0 4 2 0 4 2 0 4 2 0 4 2 0 4 2 0 4 2 0 4 2 0 4 2 0 4 2 0 4 2 0 4 2 0 4 2 0 100 °C 100 °C 10			+72/91/veW		r	
Ma⊷.	8 6 4 2 0 4 4 2 0 4 4 2 0 4 4 2 0 4 4 4 2 0 4 4 4 4 4 4 4 4 4 4 4 4 4			+72/91/veW		r	
M⊷.M	8 6 4 2 0 4 2 100 °C 100 °C 10			May16/24		r	
ΥΝ.	8 6 4 2 0 100°C 15 14 2 0 100°C 15 14 2 2 0 100°C 15 14 2 2 0 100°C 100°C 100°C			5.0 (0/HOX bu) asee 1.0 0.0 0.0		r	
ΥΝ.	8 6 4 2 0 100°C 15 14 2 0 100°C 15 14 2 2 0 100°C 15 14 2 2 0 100°C 100°C 100°C			5.0 (0/HOX bu) asee 1.0 0.0 0.0		r	16.72
ΥΝ	8 6 4 2 0 4 4 2 0 4 4 2 0 4 4 2 0 4 4 4 2 0 4 4 4 4 4 4 4 4 4 4 4 4 4			5.0 (6)HOX 3.0 Base 1.0		r	Maril 6.74
ΥΝ	8 6 4 2 0 100°C 15 14 2 0 100°C 15 14 2 2 0 100°C 15 14 2 2 0 100°C 100°C 100°C			5.0 (0/HOX bu) asee 1.0 0.0 0.0		r	Marci 6/24
Laboratory	8 6 4 2 0 100°C 15 14 2 0 100°C 15 14 2 2 0 100°C 15 14 2 2 0 100°C 100°C 100°C		n Ave., Cary	5.0 (0)HO3 00 (0)HO3 00 (0	May16/24	r ITE & CO - GREEN	
Sample No.	<pre> Base Base Viscosity @ 100°C Abnomal Base Viscosity @ 100°C Solution Base Solution Solutio</pre>	1 Madiso Recei	n Ave., Cary ived : 23	5.0 (1)HO3 (10) 5.0 (1)HO3 (10)HO3 (10) (1)HO3 (10)HO3 (10)HO3 (10)HO3 (10)HO3 (May16/24	ITE & CO - GREEN 411 Q	IWOOD DIVISIOI UARRY ROAE
Sample No. Lab Number	<pre>ind find find find find find find find f</pre>	1 Madiso Recei Teste	n Ave., Cary ived : 23 d : 25	5.0 5.0 (1)HO3 & 0.0 (1)HO3 & 0	May 16/24	ITE & CO - GREEN 411 Q	IWOOD DIVISIOI UARRY ROAE ENWOOD, SO
Sample No. Lab Number Unique Number	WearCheck USA - 50 : PCA0127154 : 06190060 : 11046812	1 Madiso Recei	n Ave., Cary ived : 23 d : 25	5.0 (1)HO3 (10) 5.0 (1)HO3 (10)HO3 (10) (1)HO3 (10)HO3 (10)HO3 (10)HO3 (10)HO3 (May 16/24	ITE & CO - GREEN 411 Q GRE	IWOOD DIVISION UARRY ROAE ENWOOD, SC US 29145
Sample No. Lab Number	WearCheck USA - 50 : PCA0127154 : 06190060 : 11046812 : FLEET	1 Madiso Recei Teste Diagr	n Ave., Cary ived : 23 id : 25	5.0 (hH0) bu) Jaquing 2.0 (hH0) bu) Jaquing	http://www.interview.com/ NW/WH /es Davis	ITE & CO - GREEN 411 Q GRE	WOOD DIVISION UARRY ROAL ENWOOD, SC US 29149 Mitchell Brown

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Submitted By: James Threatt