

OIL ANALYSIS REPORT



Machine Id **333146** Component **Diesel Engine** Fluid **PETRO CANADA DURON SHP 10W30 (--- QTS)**

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the oil.

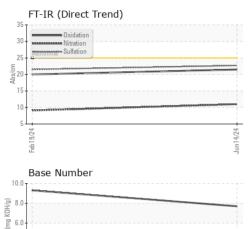
Fluid Condition

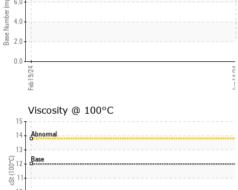
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0128925	PCA0118909	
Sample Date		Client Info		14 Jun 2024	19 Feb 2024	
Machine Age	mls	Client Info		15332	8136	
Oil Age	mls	Client Info		0	0	
Oil Changed		Client Info		Not Changd	Not Changd	
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	86	74	
Chromium	ppm	ASTM D5185m	>20	2	1	
Nickel	ppm	ASTM D5185m	>4	<1	<1	
Titanium	ppm	ASTM D5185m		0	0	
Silver	ppm	ASTM D5185m	>3	0	0	
Aluminum	ppm	ASTM D5185m	>20	14	10	
Lead	ppm	ASTM D5185m	>40	0	<1	
Copper	ppm	ASTM D5185m	>330	26	26	
Tin	ppm	ASTM D5185m	>15	3	2	
Vanadium	ppm	ASTM D5185m		0	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 2	current 29	history1 48	history2
	ppm ppm					
Boron		ASTM D5185m	2	29	48	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0 50	29 0	48 0	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	29 0 61	48 0 60	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	29 0 61 12	48 0 60 11	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	29 0 61 12 736	48 0 60 11 606	
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	29 0 61 12 736 1752	48 0 60 11 606 1603	
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	29 0 61 12 736 1752 1002	48 0 60 11 606 1603 856	
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	29 0 61 12 736 1752 1002 1196	48 0 60 11 606 1603 856 1015	
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	29 0 61 12 736 1752 1002 1196 3193	48 0 60 11 606 1603 856 1015 2637	
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	29 0 61 12 736 1752 1002 1196 3193 current	48 0 60 11 606 1603 856 1015 2637 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	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 0 950 1050 995 1180 2600 limit/base >25	29 0 61 12 736 1752 1002 1196 3193 current 39	48 0 60 11 606 1603 856 1015 2637 history1 13	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm 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 0 950 1050 995 1180 2600 limit/base >25	29 0 61 12 736 1752 1002 1196 3193 current 39 7	48 0 60 11 606 1603 856 1015 2637 history1 13 2	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25 >20	29 0 61 12 736 1752 1002 1196 3193 <u>current</u> 39 7 24	48 0 60 11 606 1603 856 1015 2637 history1 13 2 15	 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 TS	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Imit/base >25 >20 Imit/base	29 0 61 12 736 1752 1002 1196 3193 <i>current</i> 39 7 24 <i>current</i>	48 0 60 11 606 1603 856 1015 2637 history1 13 2 15 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	29 0 61 12 736 1752 1002 1196 3193 <i>current</i> 39 7 24 <i>current</i> 0.5	48 0 60 11 606 1603 856 1015 2637 history1 13 2 15 history1 0.3	 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 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	29 0 61 12 736 1752 1002 1196 3193 <i>current</i> 39 7 24 <i>current</i> 0.5 11.0	48 0 60 11 606 1603 856 1015 2637 history1 13 2 15 history1 0.3 9.1	 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	29 0 61 12 736 1752 1002 1196 3193 <i>current</i> 39 7 24 <i>current</i> 0.5 11.0 22.7	48 0 60 11 606 1603 856 1015 2637 history1 13 2 15 history1 0.3 9.1 21.5	 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 ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624	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	29 0 61 12 736 1752 1002 1196 3193 <i>current</i> 39 7 24 <i>current</i> 0.5 11.0 22.7 <i>current</i>	48 0 60 11 606 1603 856 1015 2637 history1 13 2 15 history1 0.3 9.1 21.5 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	10.0	9.7	
GRAPHS						
Iron (ppm)				Lead (ppm)		
250			100	Severe		
200 4			80	- 0		
Abnormal			60 E	Abnormal		
50			40	1 4		
0			0			
				9/24		4/24 -
Feb19/24			Jun14/24	Feb19/24		Jun14/24
Aluminum (ppm)				Chromium (p	pm)	
50 Severe			50	Severe		
40 + 0			40	- 0		
E 30 20 - Abnormal			20	Abnormal		
				+ 0		-
10			10			
Feb19/24				Feb19/24 -		Jun14/24 -
Feb1			Jun14/24	Feb1		Jun1
Copper (ppm)				Silicon (ppm)		
400 Severe			80	Severe		1
300			60			
툍 200 -			틆.40			
100 -			20	Abnormal		1
0			0			
Feb 19/24 -			Jun14/24 .	Feb19/24 -		Jun14/24 -
Feb			Jun1	Feb1		Junl
Viscosity @ 100°C Base Number						
16			(^B /HO 8.0			
14 Abnormal			9 0.0 E 6.0			
(5-001) 12 153			10.0 ag 4.0			
310 Abnormal			8.0 6.0 9.8 Wrumper 4.0 2.0			
8			0.0	L		
Feb 19/24			Jun 14/24	Feb 19/24		Jun14/24
習			nnc	Fet		ημ
: WearCheck USA - 50				М	ILLER TRUCK I	
: PCA0128925	Recei		Jun 2024			
: 06216628	Teste	u :24	Jun 2024		HASBROUCK	(HEIGHTS, NJ



Feb19/24

Lab Number Unique Number : 11089492 Diagnosed : 24 Jun 2024 - Sean Felton Test Package : MOB 1 (Additional Tests: TBN) Contact: MIKE LONGETTE Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. mlongette@millertransgroup.com * - 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)

Report Id: MILRUT [WUSCAR] 06216628 (Generated: 06/24/2024 10:48:26) Rev: 1

Laboratory Sample No.

Contact/Location: MIKE LONGETTE - MILRUT

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