

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id **738614** 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.

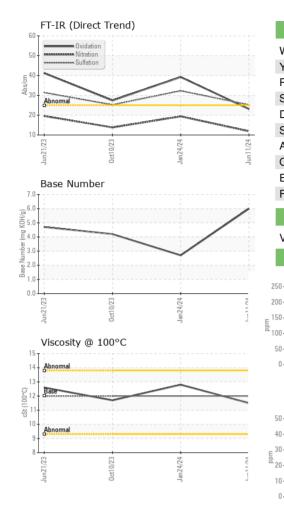
Fluid Condition

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		PCA0125187	PCA0114585	PCA0108332
Sample Date		Client Info		11 Jun 2024	24 Jan 2024	10 Oct 2023
Machine Age	mls	Client Info		197534	738614	113522
Oil Age	mls	Client Info		197534	0	113522
Oil Changed		Client Info		Changed	Changed	Not Changd
Sample Status				NORMAL	ABNORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	50	1 16	97
Chromium	ppm	ASTM D5185m	>20	2	5	4
Nickel	ppm	ASTM D5185m	>4	<1	<1	1
Titanium	ppm	ASTM D5185m		16	1	1
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	8	20	20
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	13	52	66
Tin	ppm	ASTM D5185m	>15	<1	2	1
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 10	history1 4	history2 7
	ppm ppm					
Boron		ASTM D5185m	2	10	4	7
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0	10 0	4	7 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	10 0 54	4 0 64	7 0 80
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	10 0 54 <1	4 0 64 2	7 0 80 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	10 0 54 <1 956	4 0 64 2 960	7 0 80 1 1145
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	10 0 54 <1 956 1385	4 0 64 2 960 1409	7 0 80 1 1145 1647
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	10 0 54 <1 956 1385 1200	4 0 64 2 960 1409 1067	7 0 80 1 1145 1647 1255
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	10 0 54 <1 956 1385 1200 1467	4 0 64 2 960 1409 1067 1351	7 0 80 1 1145 1647 1255 1607
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	10 0 54 <1 956 1385 1200 1467 3379 current 7	4 0 64 2 960 1409 1067 1351 2335 history1 10	7 0 80 1 1145 1647 1255 1607 3380 history2 10
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 50 950 1050 995 1180 2600	10 0 54 <1 956 1385 1200 1467 3379 current	4 0 64 2 960 1409 1067 1351 2335 history1	7 0 80 1 1145 1647 1255 1607 3380 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	10 0 54 <1 956 1385 1200 1467 3379 current 7	4 0 64 2 960 1409 1067 1351 2335 history1 10	7 0 80 1 1145 1647 1255 1607 3380 history2 10
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 0 950 1050 995 1180 2600 limit/base	10 0 54 <1 956 1385 1200 1467 3379 current 7 5	4 0 64 2 960 1409 1067 1351 2335 history1 10 3 48 history1	7 0 80 1 1145 1647 1255 1607 3380 history2 10 3 51 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	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 imit/base >25	10 0 54 <1 956 1385 1200 1467 3379 current 7 5 15 15 current 1.4	4 0 64 2 960 1409 1067 1351 2335 history1 10 3 48 history1 2	7 0 80 1 1145 1647 1255 1607 3380 history2 10 3 51 history2 1.1
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 Imit/base >25 >20	10 0 54 <1 956 1385 1200 1467 3379 current 7 5 15 15 current	4 0 64 2 960 1409 1067 1351 2335 history1 10 3 48 history1	7 0 80 1 1145 1647 1255 1607 3380 history2 10 3 51 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	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	10 0 54 <1 956 1385 1200 1467 3379 current 7 5 15 15 current 1.4	4 0 64 2 960 1409 1067 1351 2335 history1 10 3 48 history1 2	7 0 80 1 1145 1647 1255 1607 3380 history2 10 3 51 history2 1.1
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	10 0 54 <1 956 1385 1200 1467 3379 <i>current</i> 7 5 15 15 <i>current</i> 1.4 1.4 11.9	4 0 64 2 960 1409 1067 1351 2335 history1 10 3 48 history1 2 19.4	7 0 80 1 1145 1647 1255 1607 3380 history2 10 3 51 history2 1.1 1.1 13.8
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 >3 >20	10 0 54 <1 956 1385 1200 1467 3379 current 7 5 15 5 15 current 1.4 1.4 11.9 25.2	4 0 64 2 960 1409 1067 1351 2335 history1 10 3 48 history1 2 19.4 32.3	7 0 80 1 1145 1647 1255 1607 3380 history2 10 3 51 history2 1.1 1.1 13.8 25.2
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 D7844 *ASTM D7844	2 0 0 50 0 950 1050 995 1180 2600 imit/base >25 20 >20 >30 >30 imit/base	10 0 54 <1 956 1385 1200 1467 3379 <i>current</i> 7 5 15 <i>current</i> 1.4 11.9 25.2 <i>current</i>	4 0 64 2 960 1409 1067 1351 2335 history1 10 3 48 history1 2 19.4 32.3 history1	7 0 80 1 1145 1647 1255 1607 3380 history2 10 3 51 history2 1.1 1.3.8 25.2 history2



OIL ANALYSIS REPORT



	White Metal							
	Wille Weldi	scalar	*Visual	NONE	NONE	NONE	NONE	
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE	
\sim	Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE	
	Silt	scalar	*Visual	NONE	NONE	NONE	NONE	
A REAL PROPERTY IN CONTRACTOR OF THE PARTY NAMES OF	Debris	scalar	*Visual	NONE	NONE	NONE	NONE	
ALCONTRACTOR OF THE OWNER	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE	
Jan 24/24	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML	
Jan	Odor	scalar	*Visual	NORML	NORML	NORML	NORML	
	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG	
	Free Water	scalar	*Visual		NEG	NEG	NEG	
/	FLUID PROPI	ERTIES	method	limit/base	current	history1	history2	
< /	Visc @ 100°C	cSt	ASTM D445	12.00	11.5	12.8	11.7	
\sim	GRAPHS							
	Iron (ppm)			100	Lead (ppm)			
	200 Severe		1	80	Severe	1		
Jan 24/24				60				
Š	Abnormal		-	40				
	50-			20				
	0			0				
	Jun 21/23 Oct10/23		Jan 24/24	Jun11/24	Jun21/23	0ct10/23 Jan24/24	1	
	Jun2		Jan 2	Junl	Junz	0ct1		
	Aluminum (ppm)				Chromium (p	ıpm)		
	50 Severe			50	Severe			
	40 - 000000			40				
24 -	a 20 Abnormal			E 20	Abnormal			
Jan 24/24					1.1		**********	
7	- 10			10				
			4/24 -			0/23 -		
	Jun21/23 0ct10/23		Jan 24/24	Jun11/24	Jun21/23	0ct10/23		
	Copper (ppm)				Silicon (ppm)			
	400 Severe			80	Severe			
	300			60	-			
	₹200 -			틆.40				
	100			20	Abnormal			
	²³		/24 +	724	123	73+		
	Jun 21/23 Oct10/23		Jan 24/24	Jun11/24	Jun21/23	Oct10/23 Jan24/24		
	Viscosity @ 100°	С			Base Number			
	¹⁶			8.0 (^D /H	I			
	이 14 - Abnormal			9.6.0 E	-		/	
	(2) 000112- 73			<u>له</u> 4.0				
	¹⁰ Abnormal			(B)HOX but but Bayes Number Base Base Base State (B)HOX but Base Base State (B)HOX but Base State (B)HOX but (B)HOX but (
	8							
	Jun 21/23 Oct10/23		Jan 24/24	Jun11/24	Jun21/23	Oct10/23 Jan24/24		
	Junž		Janž	Jun	Juni	-lan (
Unique Nun	lo. : PCA0125187 ber : 06222050 nber : 11100247	: 06222050 Test			M es Davis	MILLER TRUCK LEASING #1 2196 BENNETT ROA PHILADELPHIA, F US 191 Contact: ROSTY VITE		

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Contact/Location: ROSTY VITER - MILPHINE