

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id **707402** 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.

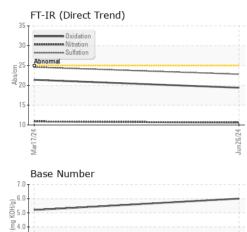
Fluid Condition

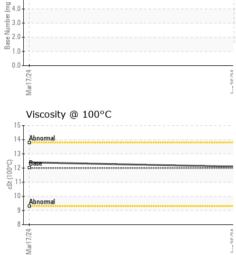
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2							
Sample Number		Client Info		PCA0125176	PCA0118998								
Sample Date		Client Info		26 Jun 2024	17 Mar 2024								
Machine Age	mls	Client Info		304607	284030								
Oil Age	mls	Client Info		304607	284030								
Oil Changed		Client Info		N/A	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	31	47								
Chromium	ppm	ASTM D5185m	>20	<1	<1								
Nickel	ppm	ASTM D5185m	>4	<1	0								
Titanium	ppm	ASTM D5185m		4	<1								
Silver	ppm	ASTM D5185m	>3	0	0								
Aluminum	ppm	ASTM D5185m	>20	7	11								
Lead	ppm	ASTM D5185m	>40	0	0								
Copper	ppm	ASTM D5185m	>330	2	5								
Tin	ppm	ASTM D5185m	>15	<1	0								
Vanadium	ppm	ASTM D5185m		0	0								
Cadmium	ppm	ASTM D5185m		0	0								
ADDITIVES	ppm	ASTM D5185m method	limit/base	0 current	0 history1	history2							
	ppm ppm		limit/base		-								
ADDITIVES		method		current	history1	history2							
ADDITIVES Boron	ppm	method ASTM D5185m	2	current 12	history1 13	history2 							
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	2 0	current 12 0	history1 13 0	history2 							
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	current 12 0 53	history1 13 0 65	history2 							
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	current 12 0 53 0	history1 13 0 65 0	history2 							
ADDITIVES 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 12 0 53 0 928	history1 13 0 65 0 966	history2 							
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	current 12 0 53 0 928 1215	history1 13 0 65 0 966 1240	history2 							
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm 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 12 0 53 0 928 1215 1129	history1 13 0 65 0 966 1240 1283	history2							
ADDITIVES 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 12 0 53 0 928 1215 1129 1341	history1 13 0 65 0 966 1240 1283 1325	history2							
ADDITIVES 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 12 0 53 0 928 1215 1129 1341 3675	history1 13 0 65 0 966 1240 1283 1325 3618	history2							
ADDITIVES 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 12 0 53 0 928 1215 1129 1341 3675 current	history1 13 0 65 0 966 1240 1283 1325 3618 history1	history2							
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base	current 12 0 53 0 928 1215 1129 1341 3675 current 6	history1 13 0 65 0 966 1240 1283 1325 3618 history1 6	history2 history2							
ADDITIVES 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 12 0 53 0 928 1215 1129 1341 3675 current 6 1	history1 13 0 65 0 966 1240 1283 1325 3618 history1 6 <1	history2							
ADDITIVES 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 TS ppm ppm	method ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25 >20	current 12 0 53 0 928 1215 1129 1341 3675 current 6 1 4 current 0.7	history1 13 0 65 0 966 1240 1283 1325 3618 history1 6 <1 7 history1 0.9	history2 history2							
ADDITIVES 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 TS ppm ppm	method ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Imit/base >25 >20	current 12 0 53 0 928 1215 1129 1341 3675 current 6 1 4 current	history1 13 0 65 0 966 1240 1283 1325 3618 history1 6 <1 7 history1 0.9 10.9	history2 history2 history2 history2							
ADDITIVES 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 TS ppm ppm	method ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	current 12 0 53 0 928 1215 1129 1341 3675 current 6 1 4 current 0.7	history1 13 0 65 0 966 1240 1283 1325 3618 history1 6 <1 7 history1 0.9	history2 history2 history2 history2							
ADDITIVES 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 12 0 53 0 928 1215 1129 1341 3675 current 6 1 4 current 0.7 10.6	history1 13 0 65 0 966 1240 1283 1325 3618 history1 6 <1 7 history1 0.9 10.9	history2 <tr th="" tr<=""></tr> <tr><th>ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation</th><th>ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm</th><th>method ASTM D5185m ASTM D5185m</th><th>2 0 50 950 1050 995 1180 2600 imit/base >25 imit/base >3 >20</th><th>current 12 0 53 0 928 1215 1129 1341 3675 current 6 1 4 current 0.7 10.6 22.8</th><th>history1 13 0 65 0 966 1240 1283 1325 3618 history1 6 <1 7 history1 0.9 10.9 24.6</th><th>history2 history2 history2</th></tr>	ADDITIVES 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 ASTM D5185m	2 0 50 950 1050 995 1180 2600 imit/base >25 imit/base >3 >20	current 12 0 53 0 928 1215 1129 1341 3675 current 6 1 4 current 0.7 10.6 22.8	history1 13 0 65 0 966 1240 1283 1325 3618 history1 6 <1 7 history1 0.9 10.9 24.6	history2
ADDITIVES 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 ASTM D5185m	2 0 50 950 1050 995 1180 2600 imit/base >25 imit/base >3 >20	current 12 0 53 0 928 1215 1129 1341 3675 current 6 1 4 current 0.7 10.6 22.8	history1 13 0 65 0 966 1240 1283 1325 3618 history1 6 <1 7 history1 0.9 10.9 24.6	history2							

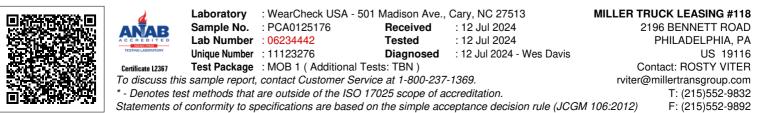


OIL ANALYSIS REPORT





VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	
ellow 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	
Ddor	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
/isc @ 100°C	cSt	ASTM D445	12.00	12.1	12.4	
GRAPHS						
Iron (ppm)			100	Lead (ppm)		
Severe			80	Severe		
			E 60			
Abnormal			² 40	Abnormal		
			20			
*				L		
Mar17/24			Jun26/24	Mar17/24		
≥ Aluminum (ppm)			ĥ	≥ Chromium (p	nm)	
Τ;			50		pin)	
Severe			40	Severe		
			30			
Abnormal			² 20	Abnormal -		
			10	•		
24			24+	724		
Mar17/24			Jun26/24	Mar17/		
Z Copper (ppm)			7	Silicon (ppm)		
Severe			80	Severe		
Approximat			60			
			튭.40			
				Abnormal		
			20			
24			24	24		
Mar17/24			Jun26/24	Mar17/24		
Viscosity @ 100°C			7	Base Number		
I I				I		
Abnormal			Đ 6.0			
Base	************		ш ш а 4.0			
			Mumb			
Abnormal			(0)H0X Bm Pages Number Base Sea			
724+				24		
Mar17/24			Jun26/24	Mar17/24		
e				2		



Report Id: MILPHINE [WUSCAR] 06234442 (Generated: 07/12/2024 17:32:31) Rev: 1