

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 421823 Component Diesel Engine Fluid PETRO CANADA DURON SHP 10W30 (--- QTS)

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

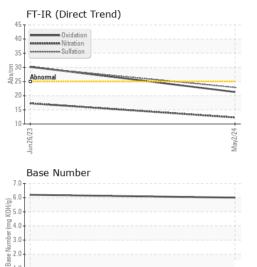
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

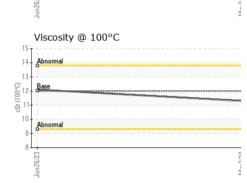
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0124050	PCA0091452	
Sample Date		Client Info		02 May 2024	26 Jun 2023	
Machine Age	mls	Client Info		149149	119202	
Oil Age	mls	Client Info		0	119202	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	ABNORMAL	
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	47	108	
Chromium	ppm	ASTM D5185m	>20	1	4	
Nickel	ppm	ASTM D5185m	>4	0	1	
Titanium	ppm	ASTM D5185m		0	<1	
Silver	ppm	ASTM D5185m	>3	0	0	
Aluminum	ppm	ASTM D5185m	>20	13	39	
Lead	ppm	ASTM D5185m	>40	0	0	
Copper	ppm	ASTM D5185m	>330	4	15	
Tin	ppm	ASTM D5185m	>15	<1	3	
Vanadium	ppm	ASTM D5185m		0	<1	
Cadmium	nnm	ACTM DE10Em		•	â	
Oddiniani	ppm	ASTM D5185m		0	0	
ADDITIVES	ppin	method	limit/base	0 current	0 history1	history2
	ppm		limit/base	-	-	
ADDITIVES		method		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	2	current 8	history1 12	history2
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	2 0	current 8 0	history1 12 0	history2
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	current 8 0 74	history1 12 0 63	history2
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	current 8 0 74 1	history1 12 0 63 3	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 8 0 74 1 997	history1 12 0 63 3 899	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 8 0 74 1 997 1232	history1 12 0 63 3 899 1346	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	2 0 50 0 950 1050 995	current 8 0 74 1 997 1232 1068	history1 12 0 63 3 899 1346 1072	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 8 0 74 1 997 1232 1068 1313	history1 12 0 63 3 899 1346 1072 1297	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	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 0 950 1050 995 1180 2600	current 8 0 74 1 997 1232 1068 1313 3540 current 8	history1 12 0 63 3 899 1346 1072 1297 2838 history1 9	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	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 0 950 1050 995 1180 2600	current 8 0 74 1 997 1232 1068 1313 3540 current	history1 12 0 63 3 899 1346 1072 1297 2838 history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	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 0 950 1050 995 1180 2600 limit/base >25	current 8 0 74 1 997 1232 1068 1313 3540 current 8	history1 12 0 63 3 899 1346 1072 1297 2838 history1 9	history2 history2
ADDITIVES 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	method ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Imit/base >25 >20	current 8 0 74 1 997 1232 1068 1313 3540 current 8 2 7 current	history1 12 0 63 3 899 1346 1072 1297 2838 history1 9 6 64 history1	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 ppm	method ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	current 8 0 74 1 997 1232 1068 1313 3540 current 8 2 7 current 0.6	history1 12 0 63 3 899 1346 1072 1297 2838 history1 9 6 64 history1 1.1	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 TS 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 8 0 74 1 997 1232 1068 1313 3540 current 8 2 7 current 0.6 12.3	history1 12 0 63 3 899 1346 1072 1297 2838 history1 9 6 64 history1 1.1 17.3	history2 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 ppm	method ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	current 8 0 74 1 997 1232 1068 1313 3540 current 8 2 7 current 0.6	history1 12 0 63 3 899 1346 1072 1297 2838 history1 9 6 64 history1 1.1	history2 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 8 0 74 1 997 1232 1068 1313 3540 current 8 2 7 current 0.6 12.3	history1 12 0 63 3 899 1346 1072 1297 2838 history1 9 6 64 history1 1.1 17.3	history2 history2 history2 history2 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 >30	current 8 0 74 1 997 1232 1068 1313 3540 current 8 2 7 current 0.6 12.3 22.9	history1 12 0 63 3 899 1346 1072 1297 2838 history1 9 6 64 history1 1.1 17.3 30.0	history2 history2 history2



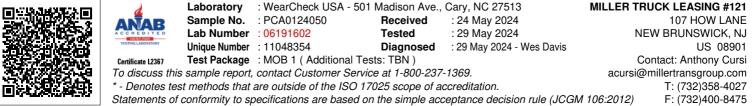
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OIL ANALYSIS REPORT





White Metal Yellow Metal Precipitate	scalar scalar	*Visual	NONE	NONE	NONE	
	scalar	*\/:				
Precipitate		*Visual	NONE	NONE	NONE	
	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	20.L	NEG	NEG	
			lineit/le e e e			
FLUID PROPE Visc @ 100°C	cSt	method ASTM D445	limit/base 12.00	current	history1 12.1	history2
GRAPHS	CSI	ASTNI D445	12.00	11.3	12.1	
Iron (ppm)				Lead (ppm)		
			100			
			80	+ O		
0 - Abnomal			60 E	Abnormal		
			40			
0-			20			
Jun26/23			May2/24	Jun26/23		
弓 Aluminum (ppm)			2	⊰ Chromium (p	pm)	
Severe			50	Severe		
			40			
0 - Abnormal		_	³⁰ 20	Abnormal		
0			10			
			May2/24			
Jun26/23			May	Jun26/23		
Copper (ppm)				Silicon (ppm)		
Severe			80			
			60			
0-			틆 40			
				Abnormal		
0-			20			
			0	L;		
Jun 26/23			May2/24	Jun 26/23		
⊰ Viscosity @ 100°C			2	⊰ Base Number		
⁶ T						
4 Abnormal			HOX 6.0			
2 - Base			Bu			
			10 4.U	I		
⁰ Abnormal			(B)HOX HOX buu Jaquun 2.0 888 8			
8			0.0			
Jun 26/23			May2/24	Jun 26/23		
Γ			Σ	μ		



Contact/Location: Anthony Cursi - MILNEW