

OIL ANALYSIS REPORT

Sample Rating Trend







Machine Id **25104** Component **Diesel Engine** Fluid **PETRO CANADA 15W40 (--- GAL)**

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Elevated aluminum (AI) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

Fluid Condition

The condition of the oil is acceptable for the time in service.

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PC0083812		
Sample Date		Client Info		19 Dec 2023		
Machine Age	hrs	Client Info		1082		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		Changed		
Sample Status				NORMAL		
CONTAMINATI	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0		
Water		WC Method	>0.2	NEG		
Glycol		WC Method		NEG		
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>75	46		
Chromium	ppm	ASTM D5185(m)	>5	1		
Nickel	ppm	ASTM D5185(m)	>4	<1		
Titanium	ppm	ASTM D5185(m)	>2	<1		
Silver	ppm	ASTM D5185(m)	>2	<1		
Aluminum	ppm	ASTM D5185(m)	>15	8		
Lead	ppm	ASTM D5185(m)	>25	<1		
Copper	ppm	ASTM D5185(m)	>100	14		
Tin	ppm	ASTM D5185(m)	>4	1		
Antimony	ppm	ASTM D5185(m)		0		
Vanadium	ppm	ASTM D5185(m)		0		
Beryllium	ppm	ASTM D5185(m)		0		
Cadmium	ppm	ASTM D5185(m)		0		
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		13		
Barium	ppm	ASTM D5185(m)		4		
Molybdenum	ppm	ASTM D5185(m)		39		
Manganese	ppm	ASTM D5185(m)		5		
Magnesium	ppm	ASTM D5185(m)		611		
Calcium	ppm	ASTM D5185(m)		1415		
Phosphorus	ppm	ASTM D5185(m)		932		
Zinc	ppm	ASTM D5185(m)		1080		
Sulfur	ppm	ASTM D5185(m)		2746		
Lithium	ppm	ASTM D5185(m)		<1		
CONTAMINAN		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	13		
Sodium	ppm	ASTM D5185(m)		6		
Potassium	ppm	ASTM D5185(m)	>20	23		
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>6	0.4		
Nitration	Abs/cm	ASTM D7624*		10.5		
Sulfation	Abs/.1mm	ASTM D7415*	>30	28.5		



Abnormal 130

Abnorma 90 Dec19/23

140

() 120 ()

100

140 Ab 130

(120 °C) St (40°C) St 110

100

Abnorma 90 Dec19/23

OIL ANALYSIS REPORT

Viscosity @ 40°C			FLUID DEGRAD		method	limit/base	current	history1	history2
0 - Abnormal		0	xidation	Abs/.1mm	ASTM D7414*	>25	27.3		
0			VISUAL		method	limit/base	current	history1	history2
D			mulsified Water ree Water	scalar scalar	Visual* Visual*	>0.2	NEG NEG		
Abnomal			FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Dec19/23	Dec19/23		sc @ 40°C	cSt	ASTM D7279(m)		94.7		
Viscosity @ 40°C			sc @ 100°C scosity Index (VI)	cSt Scale	ASTM D7279(m) ASTM D2270*		13.2 138		
			GRAPHS	Scale	AGTINI DZZTO		150		
Abnormal	1		Iron (ppm)				Lead (ppm)		
		140 120	Severe			60 50	Severe		
0-		100- = 80-	Abnormal			40			
		^ā 60-				월 30 			
Dec19/23		40 - 20 -				10			
	-	οL	Dec19/23 +			Dec19/23	Dec19/23		Dec19/23
						Dec1			Dec1
		³⁰ T	Aluminum (ppm)			12		pm)	
		25 - 20 -	Severe			10			
		L 0	Abnormal			udd 6	Abnormal		
		10- 5-				4			
		0	+			0			
			Dec19/23			Dec19/23	Dec19/23		Dec19/23
			Copper (ppm)				Silicon (ppm))	
		250	Severe			60	Severe		
		150-				40 E	1		
		nd 100 -	Abnormal			<u> </u> 30 20	0		
		50-				10)-		
		01	Deci 9/23 +			Dec19/23	Dec19/23		Dec19/23 +
						Deci			Dec
		²⁰ T	Viscosity @ 100°C			8.0	Soot %		
		18-	Abnormal			6.0	Abnormal		
		(100-0) St (100-0)				ĕ4.0			
		12	Abnormal			2.0			
		10							
			Dec19/23			Dec19/23	Dec19/23		Dec19/23
Test denote	Sample No. Lab Number Unique Number Test Package this sample report, ed (*) outside scope	: PC : 026 : 573 : 573 : MO conta		Recei Teste Diagr sts: KV4 ce at 1-8 ethod mo	ived : 01 id : 01 nosed : 01 0, VI) 800-268-2131 polified, (e) te	Mar 2024 Mar 2024 Mar 2024 - Kev sted at extern	_ 5H9 in Marson nal lab.	40 TOI T Contact: Ant antonio.rodrigu	RE SERVICES RYORK DRIVE TORONTO, ON CA M9L 1X6 onio Rodrigues
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Contact/Location: Antonio Rodrigues - TFSTOR Page 2 of 2