

OIL ANALYSIS REPORT

Sample Rating Trend





Machine Id MACK 10075

Component Natural Gas Engine

PETRO CANADA (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

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 INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		SBP0007390		
Sample Date		Client Info		18 Apr 2024		
Machine Age	hrs	Client Info		7706		
Oil Age	hrs	Client Info		506		
Oil Changed		Client Info		Changed		
Sample Status				NORMAL		
CONTAMINATION	N	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	12		
Chromium	ppm	ASTM D5185m	>5	1		
Nickel	ppm	ASTM D5185m	>4	<1		
Titanium	ppm	ASTM D5185m	>5	<1		
Silver	ppm	ASTM D5185m	>3	0		
Aluminum	ppm	ASTM D5185m	>25	6		
Lead	ppm	ASTM D5185m	>40	1		
Copper	ppm	ASTM D5185m	>150	1		
Tin	ppm	ASTM D5185m	>4	<1		
Vanadium	ppm	ASTM D5185m		<1		
Cadmium	ppm	ASTM D5185m		<1		
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		6		
Barium	ppm	ASTM D5185m		<1		
Molybdenum	ppm	ASTM D5185m		53		
	1-1-					
Manganese	ppm	ASTM D5185m		<1		
Manganese Magnesium		ASTM D5185m ASTM D5185m		<1 538		
-	ppm					
Magnesium	ppm ppm	ASTM D5185m		538		
Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m		538 1680		
Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m		538 1680 725		
Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	538 1680 725 1018	 	
Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		538 1680 725 1018 2684	 	
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method		538 1680 725 1018 2684 current	 history1	 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method	>25	538 1680 725 1018 2684 current 5	 history1	 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>25	538 1680 725 1018 2684 current 5 4	 history1 	 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>25 >20	538 1680 725 1018 2684 current 5 4 3	 history1 	 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	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 ASTM D5185m	>25 >20 limit/base	538 1680 725 1018 2684 current 5 4 3 current	 history1 history1	 history2 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>25 >20 limit/base	538 1680 725 1018 2684 <i>current</i> 5 4 3 <i>current</i> 0	 history1 history1 history1	 history2 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm 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 ASTM D5185m	>25 >20 limit/base >20	538 1680 725 1018 2684 <i>current</i> 5 4 3 <i>current</i> 0 11.4	 history1 history1 history1	 history2 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm 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 ASTM D7844 *ASTM D7844 *ASTM D7844	>25 >20 limit/base >20 >30	538 1680 725 1018 2684 current 5 4 3 current 0 11.4 23.9	 history1 history1 history1	 history2 history2 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm 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 D7844 *ASTM D7844 *ASTM D7415	>25 >20 limit/base >20 >30 limit/base	538 1680 725 1018 2684 <i>current</i> 5 4 3 <i>current</i> 0 11.4 23.9 <i>current</i>	 history1 history1 history1 history1	 history2 history2 history2 history2



OIL ANALYSIS REPORT

FT-IR (Direct Trend)		VISUAL		method	limit/base	e curi	ent history1	history2
Oxidation		White Metal	scalar	*Visual	NONE	NON		
Sulfation		Yellow Metal	scalar	*Visual	NONE	NONE		
Banomal		Precipitate	scalar	*Visual	NONE	NONE		
₹ ₂₀ _		Silt	scalar	*Visual	NONE	NON		
15		Debris	scalar	*Visual	NONE	NON		
10	.	Sand/Dirt	scalar	*Visual	NONE	NON		
Apri 8.24		Appearance	scalar	*Visual	NORML	NORI	ML	
Api		Odor	scalar	*Visual	NORML	NORI	ML	
Base Number		Emulsified Water	scalar	*Visual	>0.1	NEG		
3.5		Free Water	scalar	*Visual		NEG		
(3.0) H 2.5		FLUID PROPER	TIES	method	limit/base	e curi	ent history1	history2
Ë 2.0		Visc @ 100°C	cSt	ASTM D445		14.7		
ag 1.5- my 1.0- ee g o c		GRAPHS						
8 0.5-	1	Ferrous Alloys						
		iron						
Apri 8.24		nickel						
Viscosity @ 100°C		8						
18 _T	mqq	6						
17- Abnormal		4						
16 G 15		2						
05 15- 					24			
13 Abnormal		Apr18/24			Apr18/24			
12		Non-ferrous Meta	ls		4			
Apr18/24	1	°T						
Apri		8 - copper						
		en la						
	bpm	6						
		4						
		2-						
		Apr18/24			Apr18/24			
		Aprl			Apr1			
		, Viscosity @ 100°C				Base N	umber	
		Abnormal				3.5		
					(5	3.0		
	1 0,	c .			(mg KOH/g)	2.5		
	cSt (100°C)	5			er (mg	2.0		
		**			Numb	1.5		
	1	Abnormai						
	1	2				0.5		
	1	3/24				2/54 - 0.0		- 124
		Apr18/24			Apr18/24	Apr18/24		Apr18/24
Laboratory Sample No. Lab Numbe Unique Numbe Certificate L2367 Test Packag To discuss this sample report * - Denotes test methods that	:S r::0 er:1 e:F <i>rt, co</i>	0992076 LEET ntact Customer Serv	Recei Teste Diagr	ived : 22 id : 23 nosed : 23 800-237-1368	2 Apr 2024 3 Apr 2024 3 Apr 2024 - 9.			RVICES NEBRASKA LLC 59902 N 16TH ST OMAHA, NE US 68110 Intact: TROY BEAN environmental.com T:
Statements of conformity to						n rule (JC	GM 106:2012)	F:
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