

## **OIL ANALYSIS REPORT**

Sample Rating Trend







614 Component

Machine Id

Gasoline Engine

## PETRO CANADA TEST OIL GREY II 0W20 (--- 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

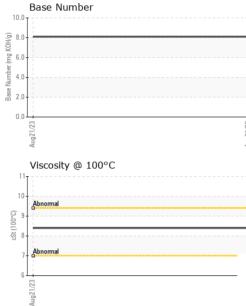
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		AK0000113		
Sample Date		Client Info		21 Aug 2023		
Machine Age	mls	Client Info		576226		
Oil Age	mls	Client Info		0		
Oil Changed		Client Info		Not Changd		
Sample Status				NORMAL		
CONTAMINATION	N	method	limit/base	current	history1	history2
Fuel	•	WC Method	>4.0	<1.0		
Glycol		WC Method	2 1.0	NEG		
	_					
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>150	7		
Chromium	ppm	ASTM D5185m	>20	0		
Nickel	ppm	ASTM D5185m	>5	0		
Titanium	ppm	ASTM D5185m		<1		
Silver	ppm	ASTM D5185m	>2	0		
Aluminum	ppm	ASTM D5185m	>40	<1		
Lead	ppm	ASTM D5185m	>50	0		
Copper	ppm	ASTM D5185m	>155	<1		
Tin	ppm	ASTM D5185m	>10	0		
Vanadium	ppm	ASTM D5185m		<1		
Cadmium	ppm	ASTM D5185m		0		
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 0	history1	history2
	ppm ppm		limit/base			
Boron		ASTM D5185m	limit/base	0		
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	0 0		
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 57		
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 57 <1		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 57 <1 950		
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	0 0 57 <1 950 1059	  	
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	limit/base	0 0 57 <1 950 1059 987	   	   
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	limit/base	0 0 57 <1 950 1059 987 1206	    	    
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 ASTM D5185m	limit/base	0 0 57 <1 950 1059 987 1206 3503		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	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	limit/base	0 0 57 <1 950 1059 987 1206 3503 current		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	limit/base	0 0 57 <1 950 1059 987 1206 3503 current 3	     history1	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	limit/base >30 >400	0 0 57 <1 950 1059 987 1206 3503 <u>current</u> 3 1	      history1	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >30 >400 >20	0 0 57 <1 950 1059 987 1206 3503 current 3 1 <1	      history1  	     history2  
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >30 >400 >20 limit/base	0 0 57 <1 950 1059 987 1206 3503 current 3 1 <1 <1	     history1   history1	     history2   history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	limit/base >30 >400 >20 limit/base	0 0 57 <1 950 1059 987 1206 3503 <i>current</i> 3 1 <1 <1 <i>current</i> 0.1	     history1   history1	     history2  history2  history2
Boron Barium Molybdenum Manganese 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	limit/base >30 >400 >20 limit/base >20	0 0 57 <1 950 1059 987 1206 3503 <i>current</i> 3 1 current 0.1 6.2	      history1   history1  	      history2   history2  
Boron Barium Molybdenum Manganese 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 D7844 *ASTM D7844	imit/base >30 >400 >20 Imit/base >20 >30	0 0 57 <1 950 1059 987 1206 3503 <i>current</i> 3 1 current 0.1 6.2 24.2 <i>current</i>	      history1  history1  history1  history1	     history2  history2  history2
Boron Barium Molybdenum Manganese 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	Imit/base >30 >400 >20 Imit/base >20 S20 >30	0 0 57 <1 950 1059 987 1206 3503 <i>current</i> 3 1 <1 <1 <i>current</i> 0.1 6.2 24.2	       history1  history1  history1	     history2  history2  history2  history2



# **OIL ANALYSIS REPORT**

VISUAL



	VISUAL		method	limit/base	current	nistory i	nistory2
	White Metal	scalar	*Visual	NONE	NONE		
	Yellow Metal	scalar	*Visual	NONE	NONE		
	Precipitate	scalar	*Visual	NONE	NONE		
	Silt	scalar	*Visual	NONE	NONE		
	Debris	scalar	*Visual	NONE	NONE		
	Sand/Dirt	scalar	*Visual	NONE	NONE		
		scalar	*Visual	NORML	NORML		
	Appearance Odor	scalar	*Visual	NORML	NORML		
	Emulsified Water	scalar	*Visual	>0.2	NEG		
	Free Water	scalar	*Visual		NEG		
	FLUID PROPER		method	limit/base	current	history1	history2
	Visc @ 100°C	cSt	ASTM D445		8.4		
	GRAPHS				-		
	Ferrous Alloys						
	10iron						
	8 _ chromium						
	nickel						
	6						
	е dd 4-						
	2 -						
	0						
	1/23			1/23			
	Aug21/23			Aug21/23			
	Non-ferrous Meta	als					
	10 copper						
	8 land						
	tin						
	6						
	е е 4-						
	2-						
	0						
	4ug21/23			1/23			
	wg2			Aug21/23			
	4	-				-	
	Viscosity @ 100°	C			Baco Number		
	Viscosity @ 100°	С		9.0	Base Number		
	Viscosity @ 100°	С		9.0	Base Number		
	Viscosity @ 100°	C		8.0			
	Viscosity @ 100°	C		8.0			
	Viscosity @ 100°	C		8.0			
	Viscosity @ 100°			8.0			
	Viscosity @ 100°						
	Viscosity @ 100°			8.0 (0)HO S 00 (0)HO S			
	Viscosity @ 100°			8.0 (0)HO 6.0 UNHO 6.			
	Viscosity @ 100°			8.0 (0)HO 6.0 UNHO 6.			
	Viscosity @ 100°			8.0 (0)HO S 00 (0)HO S			
Laboratory	Viscosity @ 100°	501 Madis		8.0 (0)HOX 6.0 (0)HOX 6.0 (0)HOX 6.0 (0)HOX 6.0 (0)HOX 6.0 (0) (0)HOX 6.0 (0) (0)HOX 6.0 (0) (0)HOX 6.0 (0)HOX	Aug21/23	:KERMAN OIL C	
Sample No.	Viscosity @ 100°	501 Madis Received	:21 /	8.0 (0)HQX 6.0 (0)HQX 6.0 (0)HQX 6.0 (0) HQX 6.0 (0) H	Aug21/23	:KERMAN OIL C	) S LUBE W
Sample No. Lab Number	Viscosity @ 100°	501 Madis Received Diagnose	l : 21 / ed : 23 /	Ry, NC 27513 Aug 2023 Aug 2023	Aug21/23	:KERMAN OIL C	) S LUBE W JASPER,
Sample No. Lab Number Unique Numb	Viscosity @ 100°	501 Madis Received	l : 21 / ed : 23 /	8.0 (0)HQX 6.0 (0)HQX 6.0 (0)HQX 6.0 (0) HQX 6.0 (0) H	Aug21/23	KERMAN OIL C 2060	) S LUBE W/ JASPER, US 475
Sample No. Lab Number	Viscosity @ 100°	501 Madis Received Diagnose Diagnost	l : 21 / ed : 23 / ician : Jon	Ry, NC 27513 Aug 2023 Aug 2023 Athan Hester	Aug21/23	KERMAN OIL C 2060	) S LUBE W JASPER,

Contact/Location: Eric Arvin - ACKJAS