

OIL ANALYSIS REPORT

SAMPLE INFORMATION



Machine Id MH-89

Component **Diesel Engine**

PETRO CANADA 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

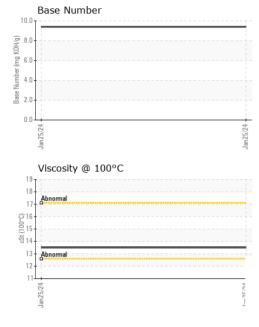
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

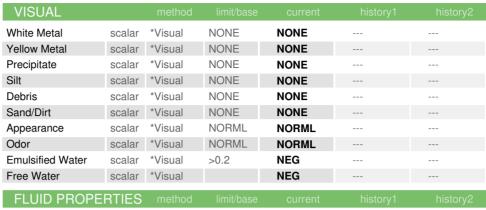
Jan2024	

Sample Number		Client Info		PCA0112769		
Sample Date		Client Info		25 Jan 2024		
Machine Age	hrs	Client Info		6538		
Oil Age	hrs	Client Info		414		
Oil Changed		Client Info		Changed		
Sample Status				NORMAL		
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0		
Water		WC Method	>0.2	NEG		
Glycol		WC Method		NEG		
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	6		
Chromium	ppm	ASTM D5185m	>20	0		
Nickel	ppm	ASTM D5185m	>4	0		
Titanium	ppm	ASTM D5185m		<1		
Silver	ppm	ASTM D5185m	>3	0		
Aluminum	ppm	ASTM D5185m	>20	1		
Lead	ppm	ASTM D5185m	>40	<1		
Copper	ppm	ASTM D5185m	>330	<1		
Tin	ppm	ASTM D5185m	>15	<1		
Vanadium	ppm	ASTM D5185m		0		
Cadmium	ppm	ASTM D5185m		<1		
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current <1	history1	history2
	ppm		limit/base		,	,
Boron		ASTM D5185m	limit/base	<1		
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	<1 <1		
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	<1 <1 60		
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	<1 <1 60 0		
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	<1 <1 60 0 934		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	<1 <1 60 0 934 1059 891 1207		
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	limit/base	<1 <1 60 0 934 1059 891		
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 ASTM D5185m	limit/base	<1 <1 60 0 934 1059 891 1207		
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	<1 <1 60 0 934 1059 891 1207 3053		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base	<1 <1 60 0 934 1059 891 1207 3053		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base	<1 <1 60 0 934 1059 891 1207 3053 current		
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >25	<1 <1 60 0 934 1059 891 1207 3053 current 2 0	history1	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >25 >20	<1 <1 60 0 934 1059 891 1207 3053 current 2 0 4	history1	history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	limit/base >25 >20 limit/base	<1 <1 60 0 934 1059 891 1207 3053 current 2 0 4 current	history1 history1	history2 history2
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	ASTM D5185m method *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base >3	<1 <1 60 0 934 1059 891 1207 3053 current 2 0 4 current 0.1	history1 history1	history2 history2
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	ASTM D5185m method *ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D7415	limit/base >25 >20 limit/base >3 >20	<1 <1 60 0 934 1059 891 1207 3053 current 2 0 4 current 0.1 7.5	history1 history1	history2 history2
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	ASTM D5185m method *ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D7415	limit/base >25 >20 limit/base >3 >20 >30	<1 <1 <1 60 0 934 1059 891 1207 3053 current 2 0 4 current 0.1 7.5 19.0	history1 history1	history2 history2



OIL ANALYSIS REPORT





Visc @ 100°C	cSt	ASTM D445	13.5	
GRAPHS				
Iron (ppm)			Lead (ppm)	
200 Severe			Severe Severe	
E 150			Abnormal	
Abnormal			107 0	
50			20	
Jan 25/24			Jan 25/24 Jan 25/24	Jan25/24
্ৰ Aluminum (ppm)	1		ূ তিhromium (ppm)	, a
50 T			50 Severe	
40 Severe			40	
Abnormal			Abnormal 20	
10			10	
0 174 T			0.74	5/24
Jan25/24			Jan25,724 Jan25,724	Jan25/24
Copper (ppm)			Silicon (ppm)	
Severe Patriormal 300			60	
E 200			E 40	
100			Abnormal	
0			0	-
Jan 25/24			Jan 25/24 Jan 25/24	Jan25/24
Viscosity @ 100°	С		Base Number	7
20 T			10.0 T	
Patrioritian			8.0 8.0 mmpet. (uild KOH/d) 4.0 4.0 2.0 2.0	
(0) 16 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 -			- lag 4.0	
12			0.0	
Jan 25/24			Jan 25/27 4	Jan25/24 -
, rie			Jan	Jan



Certificate L2367

Laboratory Sample No.

Lab Number : 06083824 Unique Number: 10871269

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : PCA0112769

Received **Tested** Diagnosed

: 08 Feb 2024 : 09 Feb 2024

: 09 Feb 2024 - Wes Davis

SCRAP METAL SERVICES (SMS Mill Services LLC) 1500 COMMERCIAL AVE

MINGO JUNCTION, OH US 43938

Contact: FRANK NALLY

fnally@scrapmetalservices.com T:

Test Package : MOB 2 To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Report Id: SCRMIN [WUSCAR] 06083824 (Generated: 02/09/2024 08:13:08) Rev: 1

Contact/Location: FRANK NALLY - SCRMIN

F: