

# Watkins Block Truck Shop Omaha 61 [Watkins Block Truck Shop Omaha]

Middle Natural Gas Engine

PETRO CANADA SUPREME 5W30 (5 QTS)

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

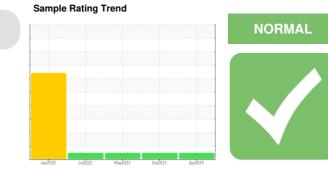
All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

## Fluid Condition

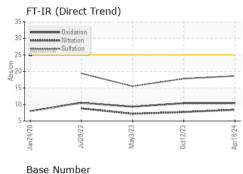
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

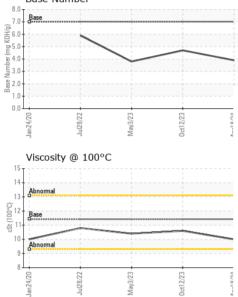


SAMPLE INFORM	<b>MATION</b>	method	limit/base	current	history1	history2
Sample Number		Client Info		SBP0007082	SBP0005953	SBP0002227
Sample Date		Client Info		18 Apr 2024	12 Oct 2023	03 May 2023
Machine Age	hrs	Client Info		12448	11778	11044
Oil Age	hrs	Client Info		347	295	299
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATIO	N	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	21	6	14
Chromium	ppm	ASTM D5185m	>4	<1	3	1
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m		4	8	5
Lead	ppm	ASTM D5185m	>30	0	0	0
Copper	ppm	ASTM D5185m		1	<1	0
Tin	ppm	ASTM D5185m	>4	0	0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	186	93	101	115
Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m	186 <1	93 0	101 0	115 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	186 <1 79	93 0 75	101 0 71	115 0 72
Boron Barium Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	186 <1 79 0	93 0 75 <1	101 0 71 0	115 0 72 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	186 <1 79 0 578	93 0 75 <1 578	101 0 71 0 523	115 0 72 <1 577
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	186 <1 79 0 578 1002	93 0 75 <1 578 1267	101 0 71 0 523 1214	115 0 72 <1 577 1365
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	186 <1 79 0 578 1002 745	93 0 75 <1 578 1267 710	101 0 71 0 523 1214 722	115 0 72 <1 577 1365 743
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	186 <1 79 0 578 1002 745 837	93 0 75 <1 578 1267 710 833	101 0 71 0 523 1214 722 848	115 0 72 <1 577 1365 743 873
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	186 <1 79 0 578 1002 745	93 0 75 <1 578 1267 710	101 0 71 0 523 1214 722	115 0 72 <1 577 1365 743 873 3567
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	186 <1 79 0 578 1002 745 837 2502 Limit/base	93 0 75 <1 578 1267 710 833	101 0 71 0 523 1214 722 848 3240 history1	115 0 72 <1 577 1365 743 873 3567 history2
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	186 <1 79 0 578 1002 745 837 2502	93 0 75 <1 578 1267 710 833 3384	101 0 71 0 523 1214 722 848 3240	115 0 72 <1 577 1365 743 873 3567
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	186 <1 79 0 578 1002 745 837 2502 Limit/base	93 0 75 <1 578 1267 710 833 3384 current	101 0 71 0 523 1214 722 848 3240 history1	115 0 72 <1 577 1365 743 873 3567 history2
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	186 <1 79 0 578 1002 745 837 2502 Limit/base	93 0 75 <1 578 1267 710 833 3384 current 13	101 0 71 0 523 1214 722 848 3240 history1 11	115 0 72 <1 577 1365 743 873 3567 history2 13
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	186 <1 79 0 578 1002 745 837 2502 Limit/base >+100	93 0 75 <1 578 1267 710 833 3384 <u>current</u> 13 <1	101 0 71 0 523 1214 722 848 3240 history1 11 3	115 0 72 <1 577 1365 743 873 3567 history2 13 1
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	186 <1 79 0 578 1002 745 837 2502 <b>limit/base</b> >+100	93 0 75 <1 578 1267 710 833 3384 current 13 <1 0	101 0 71 0 523 1214 722 848 3240 history1 11 3 1	115 0 72 <1 577 1365 743 873 3567 history2 13 1 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	186 <1 79 0 578 1002 745 837 2502 <b>Imit/base</b> >+100 >20 <b>Imit/base</b>	93 0 75 <1 578 1267 710 833 3384 <u>current</u> 13 <1 0	101 0 71 0 523 1214 722 848 3240 history1 11 3 1 1 history1	115 0 72 <1 577 1365 743 873 3567 history2 13 1 3 %
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	186 <1 79 0 578 1002 745 837 2502 <b>limit/base</b> >+100 >20 <b>limit/base</b>	93 0 75 <1 578 1267 710 833 3384 <u>current</u> 13 <1 0 <u>current</u>	101 0 71 0 523 1214 722 848 3240 history1 11 3 1 1 1 3 1 0	115 0 72 <1 577 1365 743 873 3567 history2 13 1 3 1 3 <i>history2</i> 0
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	186 <1 79 0 578 1002 745 837 2502 <i>limit/base</i> >+100 20 <i>limit/base</i>	93 0 75 <1 578 1267 710 833 3384 current 13 <1 0 current 0.1 8.4	101 0 71 0 523 1214 722 848 3240 history1 11 3 1 1 1 3 1 history1 0 7.7	115 0 72 <1 577 1365 743 873 3567 history2 13 1 3 1 3 <i>history2</i> 0 7.2
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	186 <1 79 0 578 1002 745 837 2502 <b>imit/base</b> >20 <b>imit/base</b> >20 <b>imit/base</b>	93 0 75 <1 578 1267 710 833 3384 <u>current</u> 13 <1 0 <u>current</u> 0.1 8.4 18.6	101 0 71 0 523 1214 722 848 3240 history1 11 3 1 1 history1 0 7.7 17.8	115 0 72 <1 577 1365 743 873 3567 history2 13 1 3 1 3 <i>history2</i> 0 7.2 15.5



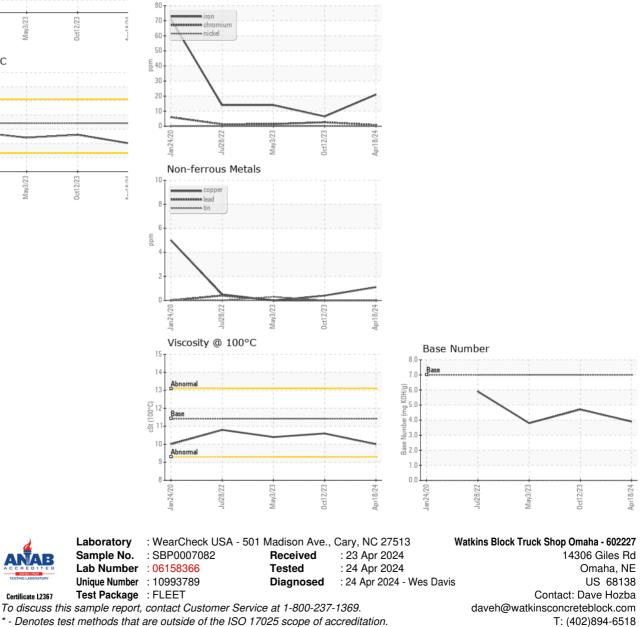
# **OIL ANALYSIS REPORT**





VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	TIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	11.42	10.0	10.6	10.4
GRAPHS						

Ferrous Alloys



Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Certificate 12367

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