

# **OIL ANALYSIS REPORT**

# Machine Id

# **ONAN MDKAD ONAN - BUILDERS CHOICE 2016**

Left Diesel Engine

Fluid PETRO CANADA DURON XL SYN BLEND 15W40 (--- GAL)

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

# Wear

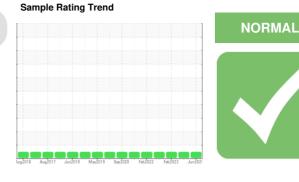
All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

### Fluid Condition

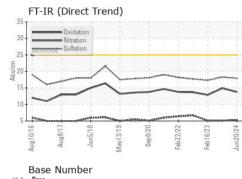
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

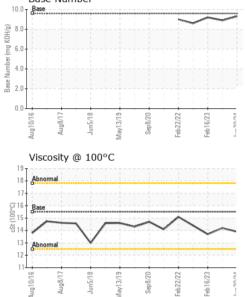


SAMPLE INFORM	<b>IATION</b>	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0899071	WC0816266	WC0776003
Sample Date		Client Info		20 Jun 2024	20 Jun 2023	16 Feb 2023
Machine Age	hrs	Client Info		4309	4025	3743
Oil Age	hrs	Client Info		191	282	72
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATIO	N	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	2	2	3
Chromium	ppm	ASTM D5185m	>20	0	<1	0
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	1	0	0
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	<1	<1	1
Tin	ppm	ASTM D5185m	>15	0	<1	0
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm		limit/base	current 3	history1 5	history2 5
	ppm ppm	ASTM D5185m				
Boron		ASTM D5185m	1	3	5	5
Boron Barium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	1	3 0	5	5
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	1 1 60	3 0 62	5 0 59	5 0 59
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1 1 60 1	3 0 62 <1	5 0 59 <1	5 0 59 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1 1 60 1 1010	3 0 62 <1 1051	5 0 59 <1 1020	5 0 59 0 852
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1 1 60 1 1010 1070	3 0 62 <1 1051 1202	5 0 59 <1 1020 1094	5 0 59 0 852 1111
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	1 1 60 1 1010 1070 1150	3 0 62 <1 1051 1202 1133	5 0 59 <1 1020 1094 1088	5 0 59 0 852 1111 986
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	1 1 60 1 1010 1070 1150 1270	3 0 62 <1 1051 1202 1133 1398	5 0 59 <1 1020 1094 1088 1391	5 0 59 0 852 1111 986 1150
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	1 60 1 1010 1070 1150 1270 2060	3 0 62 <1 1051 1202 1133 1398 3871	5 0 59 <1 1020 1094 1088 1391 4197	5 0 59 0 852 1111 986 1150 2963
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	1 60 1 1010 1070 1150 1270 2060	3 0 62 <1 1051 1202 1133 1398 3871 current	5 0 59 <1 1020 1094 1088 1391 4197 history1	5 0 59 0 852 1111 986 1150 2963 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>	1 1 60 1 1010 1070 1150 1270 2060 imit/base >25	3 0 62 <1 1051 1202 1133 1398 3871 current 6	5 0 59 <1 1020 1094 1088 1391 4197 history1 4	5 0 59 0 852 1111 986 1150 2963 history2 4
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 ASTM D5185m ASTM D5185m	1 1 60 1 1010 1070 1150 1270 2060 imit/base >25	3 0 62 <1 1051 1202 1133 1398 3871 current 6 0 0	5 0 59 <1 1020 1094 1088 1391 4197 history1 4 <1	5 0 59 0 852 1111 986 1150 2963 history2 4 0
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	1 1 60 1 1010 1070 1150 1270 2060 Vinit/base >25 -20 Vinit/base	3 0 62 <1 1051 1202 1133 1398 3871 current 6 0 0	5 0 59 <1 1020 1094 1088 1391 4197 history1 4 <1 <1	5 0 59 0 852 1111 986 1150 2963 history2 4 0 1
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	1 1 60 1 1010 1070 1150 1270 2060 Vinit/base >25 -20 Vinit/base	3 0 62 <1 1051 1202 1133 1398 3871 current 6 0 0 0	5 0 59 <1 1020 1094 1088 1391 4197 <b>history1</b> 4 <1 <1 <1 <1 history1	5 0 59 0 852 1111 986 1150 2963 history2 4 0 1 1 history2
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 ppm	ASTM D5185m ASTM D5185m	1 1 60 1 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	3 0 62 <1 1051 1202 1133 1398 3871 <u>current</u> 6 0 0 0 <u>current</u>	5 0 59 <1 1020 1094 1088 1391 4197 history1 4 <1 <1 <1 history1 0.1	5 0 59 0 852 1111 986 1150 2963 history2 4 0 1 1 history2 0.1
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	1 1 60 1 1010 1070 1150 1270 2060  limit/base >25 20 limit/base >3 >20	3 0 62 <1 1051 1202 1133 1398 3871 <i>current</i> 6 0 0 <i>current</i> 0.1 5.3	5 0 59 <1 1020 1094 1088 1391 4197 history1 4 <1 <1 <1 history1 0.1 5.1	5 0 59 0 852 1111 986 1150 2963 history2 4 0 1 history2 0.1 5.1
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	1 1 60 1 1010 1070 1150 1270 2060 <b>imit/base</b> >25 <b>imit/base</b> >3 >20 >3 >20	3 0 62 <1 1051 1202 1133 1398 3871 current 6 0 0 0 0 current 0.1 5.3 17.9	5 0 59 <1 1020 1094 1088 1391 4197 <b>history1</b> 4 <1 <1 <1 <b>history1</b> 0.1 5.1 18.3	5 0 59 0 852 1111 986 1150 2963 history2 4 0 1 history2 0.1 5.1 17.3
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 D7624 *ASTM D7415	1 1 1 60 1 1010 1070 1150 1270 2060	3 0 62 <1 1051 1202 1133 1398 3871 <i>current</i> 6 0 0 0 <i>current</i> 0.1 5.3 17.9 <i>current</i>	5 0 59 <1 1020 1094 1088 1391 4197 history1 4 4 <1 <1 <1 history1 0.1 5.1 18.3 history1	5 0 59 0 852 1111 986 1150 2963 history2 4 0 1 history2 0.1 5.1 17.3 history2



# **OIL ANALYSIS REPORT**





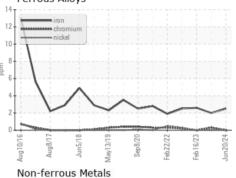
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	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	15.5	13.9	14.2	13.7
CDADUS						

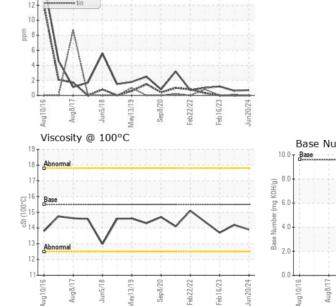
Ferrous Alloys

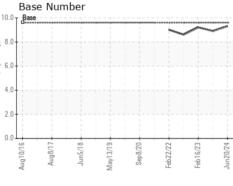
16

14

lead







Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 TRADER CONSTRUCTION CO. Sample No. : WC0899071 Received : 24 Jun 2024 PO DRAWER 1578 Lab Number : 06217944 Tested : 25 Jun 2024 NEW BERN, NC Unique Number : 11096141 Diagnosed : 25 Jun 2024 - Wes Davis US 28563 Test Package : CONST ( Additional Tests: TBN ) Contact: MIKE WYATT Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. mwyatt@traderconstruction.com T: (252)633-1399 \* - 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) F: (252)638-4871

Report Id: TRANEW [WUSCAR] 06217944 (Generated: 06/25/2024 05:04:32) Rev: 1

Contact/Location: MIKE WYATT - TRANEW

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