

# **OIL ANALYSIS REPORT**

CATERPILLAR 308E 8378 (S/N GBJ00563)

SAMPLE INFORMATION method

Sample Rating Trend



NORMAL

PETRO CANADA 15W40 (--- GAL)

### DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

Component Diesel Engine

#### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

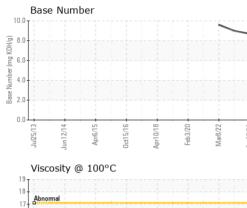
## Fluid Condition

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		method	limit/base	current	history1	history2
Sample Number		Client Info		WC0862942	WC0791010	WC0674150
Sample Date		Client Info		25 Oct 2023	07 Mar 2023	08 Mar 2022
Machine Age	hrs	Client Info		7955	7497	7038
Oil Age	hrs	Client Info		458	459	440
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
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	18	28	32
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum		ASTM D5185m	>25	3	3	3
Lead	ppm	ASTM D5185m	>25	3 0	0	0
	ppm					1
Copper	ppm		>330	2	<1	
Tin	ppm		>15	0	<1	<1
Antimony	ppm	ASTM D5185m				
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 2	history1 7	history2 7
	ppm ppm		limit/base			
Boron		ASTM D5185m	limit/base	2	7	7
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	2 0	7 0	7 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	2 0 58	7 0 58	7 0 62
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	2 0 58 <1	7 0 58 <1	7 0 62 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	2 0 58 <1 969	7 0 58 <1 894	7 0 62 <1 995
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	2 0 58 <1 969 1040	7 0 58 <1 894 1115	7 0 62 <1 995 1142
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	2 0 58 <1 969 1040 1050	7 0 58 <1 894 1115 964	7 0 62 <1 995 1142 1084
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	2 0 58 <1 969 1040 1050 1316	7 0 58 <1 894 1115 964 1243	7 0 62 <1 995 1142 1084 1240
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	2 0 58 <1 969 1040 1050 1316 3071	7 0 58 <1 894 1115 964 1243 3455 history1	7 0 62 <1 995 1142 1084 1240 2803
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	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>	limit/base	2 0 58 <1 969 1040 1050 1316 3071 current 8	7 0 58 <1 894 1115 964 1243 3455 history1 7	7 0 62 <1 995 1142 1084 1240 2803 history2 5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	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	limit/base	2 0 58 <1 969 1040 1050 1316 3071 current	7 0 58 <1 894 1115 964 1243 3455 history1	7 0 62 <1 995 1142 1084 1240 2803 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20	2 0 58 <1 969 1040 1050 1316 3071 current 8 2 2 <1	7 0 58 <1 894 1115 964 1243 3455 history1 7 <1 0	7 0 62 <1 995 1142 1084 1240 2803 history2 5 2 2 0
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 >25 >20 limit/base	2 0 58 <1 969 1040 1050 1316 3071 current 8 2 2 <1 current	7 0 58 <1 894 1115 964 1243 3455 history1 7 <1 0 history1	7 0 62 <1 995 1142 1084 1240 2803 history2 5 2 2 0 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base >3	2 0 58 <1 969 1040 1050 1316 3071 current 8 2 <1 current 0.5	7 0 58 <1 894 1115 964 1243 3455 history1 7 <1 0 history1 0.6	7 0 62 <1 995 1142 1084 1240 2803 history2 5 2 0 0 history2 0.9
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 >25 >20 limit/base >3 >20	2 0 58 <1 969 1040 1050 1316 3071 <i>current</i> 8 2 <1 <i>current</i> 0.5 7.7	7 0 58 <1 894 1115 964 1243 3455 history1 7 <1 0 history1 0.6 8.8	7 0 62 <1 995 1142 1084 1240 2803 history2 5 2 2 0 history2 0 9 0 9 13.0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base >3	2 0 58 <1 969 1040 1050 1316 3071 current 8 2 <1 current 0.5	7 0 58 <1 894 1115 964 1243 3455 history1 7 <1 0 history1 0.6	7 0 62 <1 995 1142 1084 1240 2803 history2 5 2 0 bistory2 0.9
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 >25 >20 limit/base >3 >20	2 0 58 <1 969 1040 1050 1316 3071 <i>current</i> 8 2 <1 <i>current</i> 0.5 7.7	7 0 58 <1 894 1115 964 1243 3455 history1 7 <1 0 history1 0.6 8.8	7 0 62 <1 995 1142 1084 1240 2803 history2 5 2 2 0 history2 0 9 0 9 13.0
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 >25 >20 Imit/base >20 >3 >20 >30	2 0 58 <1 969 1040 1050 1316 3071 <i>current</i> 8 2 <1 <i>current</i> 0.5 7.7 18.2	7 0 58 <1 894 1115 964 1243 3455 history1 7 <1 0 history1 0.6 8.8 19.2	7 0 62 <1 995 1142 1084 1240 2803 <b>history2</b> 5 2 0 <b>history2</b> 0.9 13.0 31.0
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	limit/base >25 >20 limit/base >3 >20 >30 >30 limit/base	2 0 58 <1 969 1040 1050 1316 3071 <i>current</i> 8 2 <1 <i>current</i> 0.5 7.7 18.2 <i>current</i>	7 0 58 <1 894 1115 964 1243 3455 history1 7 <1 0 history1 0.6 8.8 19.2 history1	7 0 62 <1 995 1142 1084 1240 2803 history2 5 2 2 0 history2 0.9 13.0 31.0 history2



# **OIL ANALYSIS REPORT**



Feb3/20

pr10/18

/lar8/22

VISUAL		method	limit/base	current	history1	history2
White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor Emulsified Water Free Water	scalar scalar scalar scalar scalar scalar scalar scalar scalar	*Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	NONE NONE NONE NONE NORML NORML >0.2	NONE NONE NONE NONE NONE NORML NORML NEG	NONE NONE NONE NONE NONE NORML NORML NEG	NONE NONE NONE NONE NORML NORML NEG NEG
FLUID PROPERT Visc @ 100°C	TES cSt	method ASTM D445	limit/base	current 14.1	history1 13.7	history2 14.2
Ferrous Alloys	Aprilo/18	Feb320 Ma8022	0et25/23			
Viscosity @ 100°C	Aprilo/18	Feb320 Ma622	10.0 10.0 8399 Mmpet (ub KOH(d) 800 800 800 800 800 800 800 800 800 80	Base Number		

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 TRADER CONSTRUCTION CO. Laboratory : 31 Oct 2023 Sample No. : WC0862942 Received PO DRAWER 1578 Lab Number : 05994208 Diagnosed : 01 Nov 2023 NEW BERN, NC Unique Number : 10722568 Diagnostician : Wes Davis US 28563 Test Package : CONST (Additional Tests: TBN) Contact: MIKE WYATT Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. mwyatt@traderconstruction.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (252)633-1399 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F: (252)638-4871

Contact/Location: MIKE WYATT - TRANEW