

OIL ANALYSIS REPORT

Sample Rating Trend

FUEL

MANITOU MT625H FOR431

Component

Diesel Engine

DIESEL ENGINE OIL SAE 15W40 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

Metal levels are typical for a new component breaking in.

Contamination

There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

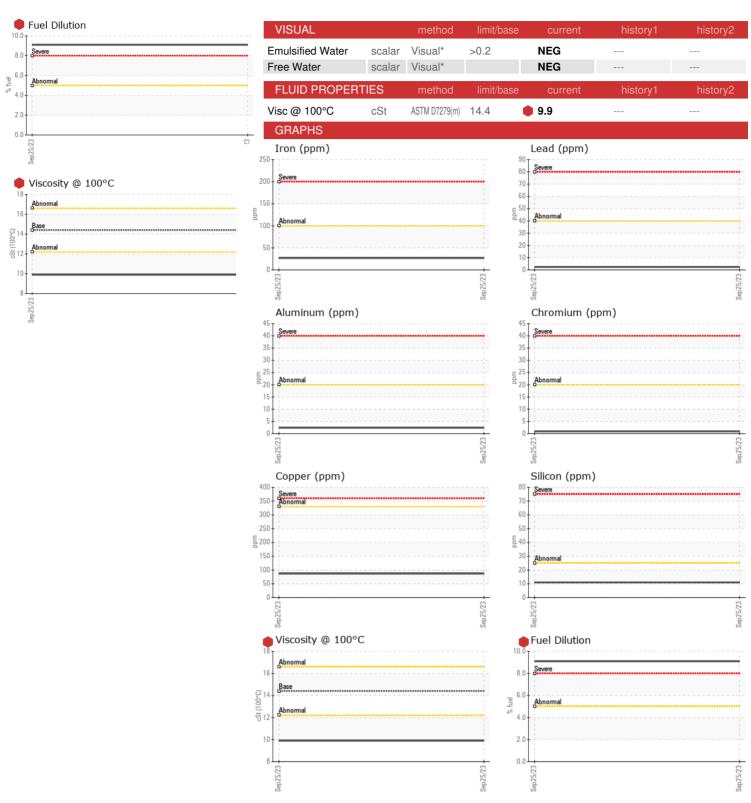
Fluid Condition

Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

				Sep 2023		
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0848120		
Sample Date		Client Info		25 Sep 2023		
Machine Age	hrs	Client Info		639		
Oil Age	hrs	Client Info		0		
Oil Changed		Client Info		Changed		
Sample Status				SEVERE		
CONTAMINATIO	N	method	limit/base	current	history1	history2
Glycol		WC Method		NEG		
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>100	27		
Chromium	ppm	ASTM D5185(m)	>20	<1		
Nickel	ppm	ASTM D5185(m)	>4	<1		
Titanium	ppm	ASTM D5185(m)		0		
Silver	ppm	ASTM D5185(m)	>3	<1		
Aluminum	ppm	ASTM D5185(m)	>20	2		
Lead	ppm	ASTM D5185(m)	>40	2		
Copper	ppm	ASTM D5185(m)	>330	- 87		
Tin	ppm	ASTM D5185(m)	>15	<1		
Antimony	ppm	ASTM D5185(m)		0		
Vanadium	ppm	ASTM D5185(m)		0		
Beryllium	ppm	ASTM D5185(m)		0		
Cadmium	ppm	ASTM D5185(m)		0		
Oddinani	ppiii	70 HVI DO 100(III)		U		
ADDITIVES	ррш	method	limit/base	current	history1	history2
ADDITIVES		method		current		
ADDITIVES Boron	ppm	method ASTM D5185(m)	250	current 2	history1	history2
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185(m) ASTM D5185(m)	250 10	current 2 3	history1	history2
ADDITIVES Boron Barium Molybdenum	ppm ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	250	current 2 3	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	250 10 100	current 2 3 1	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	250 10 100 450	current 2 3	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	250 10 100 450 3000	current 2 3 1 4 8 2216	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	250 10 100 450 3000 1150	current 2 3 1 4 8 2216 757	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	250 10 100 450 3000 1150	current 2 3 1 4 8 2216 757 908	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	250 10 100 450 3000 1150	current 2 3 1 4 8 2216 757	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	250 10 100 450 3000 1150 1350 4250	current 2 3 1 4 8 2216 757 908 2913 <1	history1	history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	250 10 100 450 3000 1150 1350 4250	current 2 3 1 4 8 2216 757 908 2913 <1	history1	history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	250 10 100 450 3000 1150 1350 4250 limit/base >25	current 2 3 1 4 8 2216 757 908 2913 <1 current 11	history1 history1	history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158	current 2 3 1 4 8 2216 757 908 2913 <1 current 11 5	history1	history2 history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20	current 2 3 1 4 8 2216 757 908 2913 <1 current 11 5 3	history1 history1	history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20 >5	current 2 3 1 4 8 2216 757 908 2913 <1 current 11 5 3 9.1	history1 history1	history2 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20 >5	current 2 3 1 4 8 2216 757 908 2913 <1 current 11 5 3 9.1 current	history1 history1 history1	history2 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D7593* method ASTM D7844*	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20 >5 limit/base >3	current 2 3 1 4 8 2216 757 908 2913 <1 current 11 5 3 9.1 current 0	history1 history1 history1	history2 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m) ASTM D7844* ASTM D7624*	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20 >5 limit/base >3 >20	current 2 3 1 4 8 2216 757 908 2913 <1 current 11 5 3 9.1 current 0 10.0	history1 history1 history1	history2 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm	method ASTM D5185(m) ASTM D7593* method ASTM D7844*	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20 >5 limit/base >3	current 2 3 1 4 8 2216 757 908 2913 <1 current 11 5 3 9.1 current 0	history1 history1 history1	history2 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm	method ASTM D5185(m) ASTM D7844* ASTM D7624*	250 10 100 450 3000 1150 1350 4250 limit/base >25 >158 >20 >5 limit/base >3 >20	current 2 3 1 4 8 2216 757 908 2913 <1 current 11 5 3 9.1 current 0 10.0	history1 history1 history1	history2 history2 history2 history2



OIL ANALYSIS REPORT





CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No. Lab Number Unique Number

: WC0848120 : 02588577 : 5657643

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Received Diagnosed

: 12 Oct 2023 : 13 Oct 2023 Diagnostician : Wes Davis **Test Package**: MOB 1 (Additional Tests: FuelDilution, PercentFuel)

Agnico Eagle Canada 1350 Government Rd. W, MACASSA COMPLEX Kirkland Lake, ON

CA P2N 3J1 Contact: Mike Campbell mike.campbell@agnicoeagle.com

> T: (705)567-5208 F: (705)567-5221

To discuss this sample report, contact Customer Service at 1-800-268-2131. Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied.