

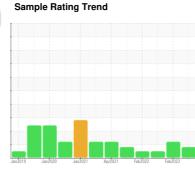
OIL ANALYSIS REPORT

3000 Series Navistar 3272

Component

Diesel Engine

CHEVRON DELO 400 SAE 10W30 (26 LTR)





DIAGNOSIS

Recommendation

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Metal levels are typical for a new component breaking in.

Contamination

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

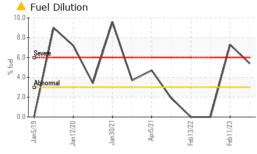
Fluid Condition

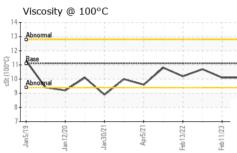
The oil is no longer serviceable due to the presence of contaminants.

		Jan2019	Jan2020 Jan2021	Aprz021 Feb2022 Fe	b2023	
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0805646	WC0753376	WC0723115
Sample Date		Client Info		19 Jul 2023	11 Feb 2023	10 Aug 2022
Machine Age	mls	Client Info		52271	48925	44524
Oil Age	mls	Client Info		4800	4401	4658
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	NORMAL
CONTAMINATION	٧	method	limit/base	current	history1	history2
Glycol		WC Method		NEG	0.0	0.0
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>90	28	27	20
Chromium	ppm	ASTM D5185(m)	>20	<1	<1	<1
Nickel	ppm	ASTM D5185(m)	>2	<1	0	0
Titanium	ppm	ASTM D5185(m)	>2	0	<1	<1
Silver	ppm	ASTM D5185(m)	>2	<1	<1	<1
Aluminum	ppm	ASTM D5185(m)	>20	7	13	13
Lead	ppm	ASTM D5185(m)	>40	2	0	0
Copper	ppm	ASTM D5185(m)	>330	2	2	1
Tin	ppm	ASTM D5185(m)	>15	<1	<1	<1
Antimony	ppm	ASTM D5185(m)		0	0	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0
Oddiniani	ρρ	71011W 20100(III)		U .	0	0
ADDITIVES	Pp	method	limit/base	current	history1	history2
	ppm	. ,	limit/base		history1	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base	current 7 <1 53	history1 4 0 55	history2
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base	current 7 <1 53 <1	history1 4 0 55 <1	history2 10 0 58 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm	method ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	limit/base	current 7 <1 53 <1 849	history1 4 0 55 <1 872	history2 10 0 58 <1 903
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)		current 7 <1 53 <1 849 961	history1 4 0 55 <1 872 1033	history2 10 0 58 <1 903 1128
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	1260	current 7 <1 53 <1 849 961 959	history1 4 0 55 <1 872 1033 971	history2 10 0 58 <1 903 1128 1063
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)		current 7 <1 53 <1 849 961 959 1068	history1 4 0 55 <1 872 1033 971 1072	history2 10 0 58 <1 903 1128 1063 1180
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	1260	current 7 <1 53 <1 849 961 959 1068 2395	history1 4 0 55 <1 872 1033 971 1072 2484	history2 10 0 58 <1 903 1128 1063 1180 2654
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	1260	current 7 <1 53 <1 849 961 959 1068	history1 4 0 55 <1 872 1033 971 1072	history2 10 0 58 <1 903 1128 1063 1180
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	1260	current 7 <1 53 <1 849 961 959 1068 2395	history1 4 0 55 <1 872 1033 971 1072 2484	history2 10 0 58 <1 903 1128 1063 1180 2654
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	1260 1400	current 7 <1 53 <1 849 961 959 1068 2395 <1	history1 4 0 55 <1 872 1033 971 1072 2484 <1	history2 10 0 58 <1 903 1128 1063 1180 2654 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185(m)	1260 1400 limit/base	current 7 <1 53 <1 849 961 959 1068 2395 <1 current	history1 4 0 55 <1 872 1033 971 1072 2484 <1 history1	history2 10 0 58 <1 903 1128 1063 1180 2654 <1 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)	1260 1400 limit/base	current 7 <1 53 <1 849 961 959 1068 2395 <1 current 5	history1 4 0 55 <1 872 1033 971 1072 2484 <1 history1 3 1	history2 10 0 58 <1 903 1128 1063 1180 2654 <1 history2 4
ADDITIVES 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)	1260 1400 limit/base >25	current 7 <1 53 <1 849 961 959 1068 2395 <1 current 5 3	history1 4 0 55 <1 872 1033 971 1072 2484 <1 history1 3 1	history2 10 0 58 <1 903 1128 1063 1180 2654 <1 history2 4
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)	1260 1400 limit/base >25 >20	current 7 <1 53 <1 849 961 959 1068 2395 <1 current 5 3 4	history1 4 0 55 <1 872 1033 971 1072 2484 <1 history1 3 1	history2 10 0 58 <1 903 1128 1063 1180 2654 <1 history2 4 2 12
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 ppm	method ASTM D5185(m) ASTM D5185(m)	1260 1400 limit/base >25 >20 >3.0	current 7 <1 53 <1 849 961 959 1068 2395 <1 current 5 3 4	history1 4 0 55 <1 872 1033 971 1072 2484 <1 history1 3 1 9 ▲ 7.3	history2 10 0 58 <1 903 1128 1063 1180 2654 <1 history2 4 2 12 <1.0
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)	1260 1400 limit/base >25 >20 >3.0 limit/base	current 7 <1 53 <1 849 961 959 1068 2395 <1 current 5 3 4 ▲ 5.4 current	history1 4 0 55 <1 872 1033 971 1072 2484 <1 history1 3 1 9 ▲ 7.3	history2 10 0 58 <1 903 1128 1063 1180 2654 <1 history2 4 2 12 <1.0 history2
ADDITIVES 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 D7593*	1260 1400 limit/base >25 >20 >3.0 limit/base >6	current 7 <1 53 <1 849 961 959 1068 2395 <1 current 5 3 4 ▲ 5.4 current 0.3	history1 4 0 55 <1 872 1033 971 1072 2484 <1 history1 3 1 9 ↑ 7.3 history1 0.3	history2 10 0 58 <1 903 1128 1063 1180 2654 <1 history2 4 2 12 <1.0 history2 0.1
ADDITIVES 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*	1260 1400 limit/base >25 >20 >3.0 limit/base >6 >20	current 7 <1 53 <1 849 961 959 1068 2395 <1 current 5 3 4 ▲ 5.4 current 0.3 10.1	history1 4 0 55 <1 872 1033 971 1072 2484 <1 history1 3 1 9 ↑ 7.3 history1 0.3 10.9	history2 10 0 58 <1 903 1128 1063 1180 2654 <1 history2 4 2 12 <1.0 history2 0.1 9.0



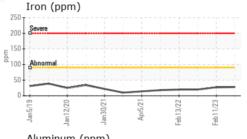
OIL ANALYSIS REPORT

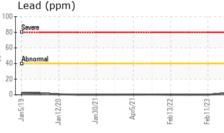


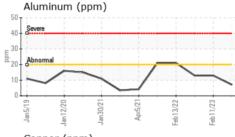


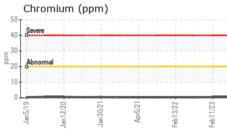
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE		
Yellow Metal	scalar	Visual*	NONE	VLITE		
Precipitate	scalar	Visual*	NONE	NONE		
Silt	scalar	Visual*	NONE	VLITE		
Debris	scalar	Visual*	NONE	NONE		
Sand/Dirt	scalar	Visual*	NONE	NONE		
Appearance	scalar	Visual*	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	150	method	limit/base	current	history1	history2

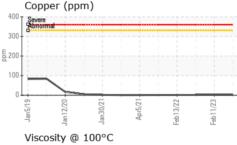
Visc @ 100°C	cSt	ASTM D7279(m)	11.1	10.1	▲ 10.1	10.7
GRAPHS						
_ , ,						

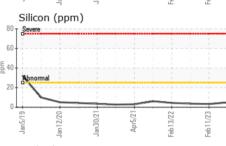


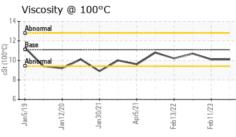


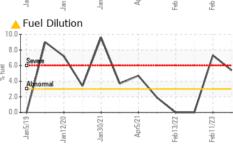














CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No. Lab Number **Unique Number**

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 : WC0805646 : 02576063

Received : 5629123

: 16 Aug 2023 Diagnosed : 17 Aug 2023 Diagnostician : Wes Davis

Test Package : MOB 1 (Additional Tests: PercentFuel, Visual) 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.

MANITOULIN TRANSPORT

161 MAIN STREET THUNDER BAY, ON CA P7B 6S5

Contact: Ivan Brady ibrady@manitoulintransport.com

> T: (807)345-6501 F: (807)345-6731