



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	MARGINAL
FLUID CONDITION	NORMAL

Machine Id
CUMMINS 168
 Component
Rear Diesel Engine
 Fluid
ESSO XD-3 EXTRA 15W40 (--- GAL)

RECOMMENDATION

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0866624	WC0889073	WC0889127
Sample Date		Client Info		28 May 2024	26 Mar 2024	15 Feb 2024
Machine Age	kms	Client Info		0	0	0
Oil Age	kms	Client Info		9224	9292	9255
Filter Age	kms	Client Info		9224	9292	9255
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				MARGINAL	ABNORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>75	13	12	15
Chromium	ppm	ASTM D5185(m)	>5	<1	0	<1
Nickel	ppm	ASTM D5185(m)	>4	0	<1	0
Titanium	ppm	ASTM D5185(m)	>2	0	0	0
Silver	ppm	ASTM D5185(m)	>2	0	0	0
Aluminum	ppm	ASTM D5185(m)	>15	2	1	2
Lead	ppm	ASTM D5185(m)	>25	0	0	0
Copper	ppm	ASTM D5185(m)	>100	<1	<1	1
Tin	ppm	ASTM D5185(m)	>4	0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

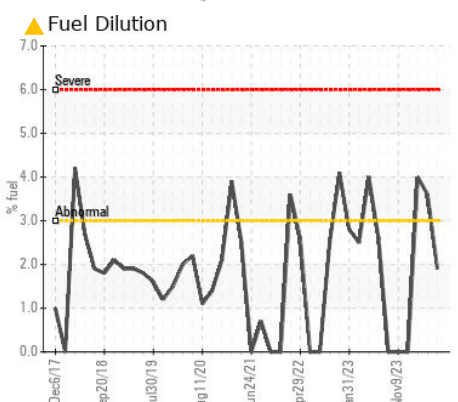
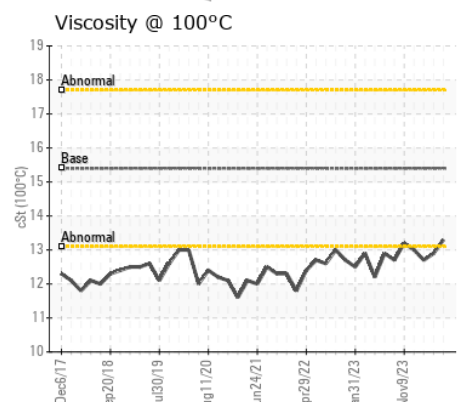
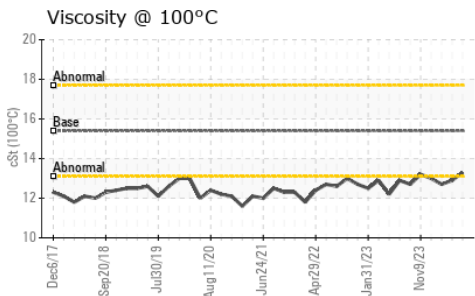
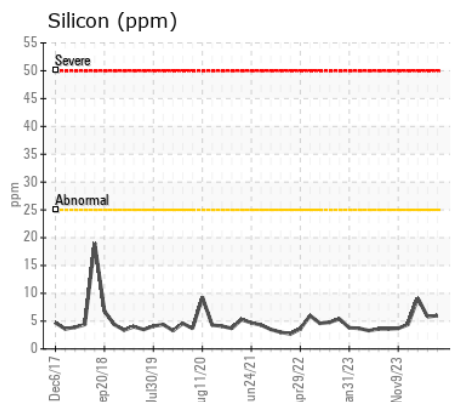
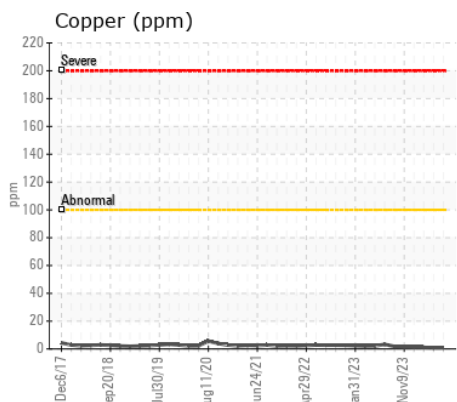
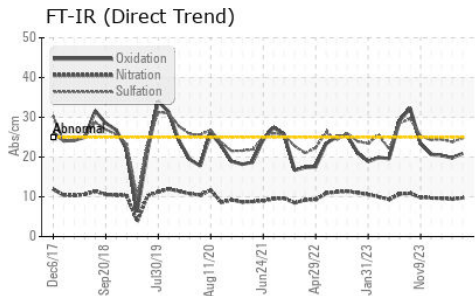
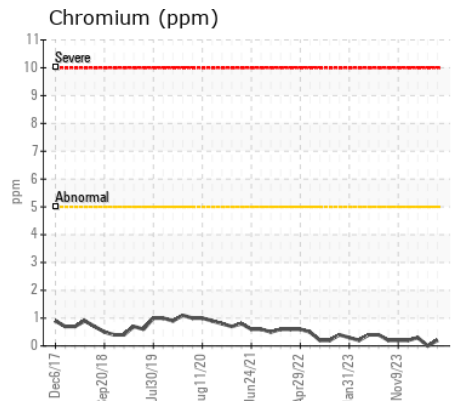
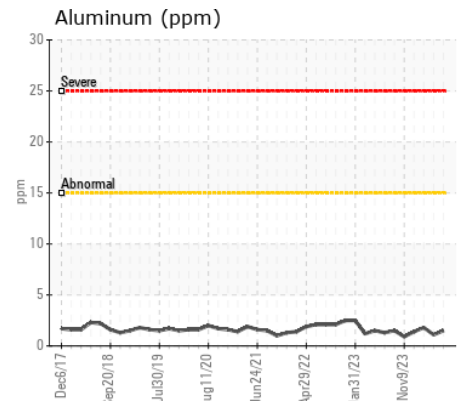
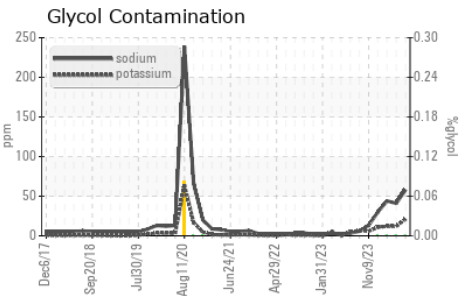
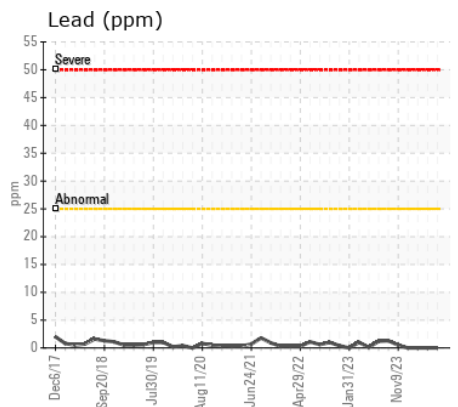
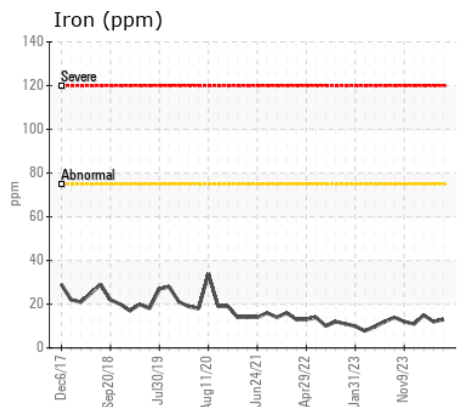
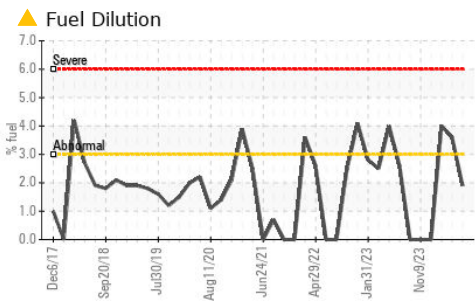
Light fuel dilution occurring. No other contaminants were detected in the oil.

Silicon	ppm	ASTM D5185(m)	>25	6	6	9
Potassium	ppm	ASTM D5185(m)	>20	21	12	12
Fuel	%	ASTM D7593*	>3.0	▲ 1.9	▲ 3.6	▲ 4
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	ASTM D7922*		0.0	0.0	0.0
Soot %	%	ASTM D7844*	>6	0.6	0.4	0.5
Nitration	Abs/cm	ASTM D7624*	>20	9.7	9.4	9.6
Sulfation	Abs/.1mm	ASTM D7415*	>30	24.7	23.8	24.4
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

FLUID CONDITION

The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)	>192	58	41	44
Boron	ppm	ASTM D5185(m)		70	67	58
Barium	ppm	ASTM D5185(m)		0	0	0
Molybdenum	ppm	ASTM D5185(m)		0	0	1
Manganese	ppm	ASTM D5185(m)		0	0	0
Magnesium	ppm	ASTM D5185(m)		14	16	21
Calcium	ppm	ASTM D5185(m)	3780	2259	2197	2134
Phosphorus	ppm	ASTM D5185(m)	1370	971	936	907
Zinc	ppm	ASTM D5185(m)	1500	1136	1135	1088
Sulfur	ppm	ASTM D5185(m)	3800	2825	2752	2868
Oxidation	Abs/.1mm	ASTM D7414*	>25	20.9	19.8	20.4
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	13.3	▲ 12.9	▲ 12.7



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0866624 **Received** : 03 Jun 2024
Lab Number : 02639347 **Tested** : 04 Jun 2024
Unique Number : 5788509 **Diagnosed** : 04 Jun 2024 - Wes Davis
Test Package : MOB 1 (Additional Tests: Glycol, PercentFuel)

CITY OF THUNDER BAY
 AUTO MAINTENANCE STORES, 570 FORT WILLIAM ROAD
 THUNDER BAY, ON
 CA P7B 2Z8
 Contact: Sean Malcolm
 sean.malcolm@thunderbay.ca
 T: (807)684-2716
 F: (807)344-0237

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.