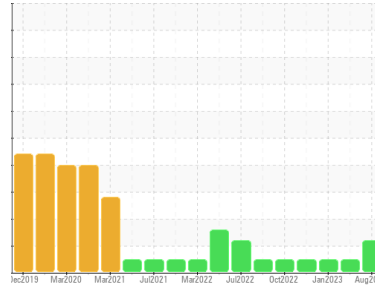




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Machine Id
CUMMINS VS9746

Component
Diesel Engine

Fluid
DIESEL ENGINE OIL SAE 40 (12 GAL)

DIAGNOSIS

▲ Recommendation

No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

▲ Contamination

There is a moderate amount of particulates present 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 INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0793356	WC0779704	WC0779715
Sample Date	Client Info		02 Aug 2023	10 Feb 2023	06 Jan 2023
Machine Age	hrs	Client Info	11057	9841	9526
Oil Age	hrs	Client Info	2844	315	2451
Oil Changed	Client Info		Changed	Not Changd	Not Changd
Sample Status			ATTENTION	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<1.0	<1.0	<1.0
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>90	88	11	9
Chromium	ppm	ASTM D5185m	>20	2	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	<1	<1
Aluminum	ppm	ASTM D5185m	>20	3	2	2
Lead	ppm	ASTM D5185m	>40	26	12	13
Copper	ppm	ASTM D5185m	>330	9	4	3
Tin	ppm	ASTM D5185m	>15	4	1	1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	250	6	16	24
Barium	ppm	ASTM D5185m	10	0	0	2
Molybdenum	ppm	ASTM D5185m	100	24	22	14
Manganese	ppm	ASTM D5185m		2	<1	<1
Magnesium	ppm	ASTM D5185m	450	372	319	199
Calcium	ppm	ASTM D5185m	3000	2020	1919	1892
Phosphorus	ppm	ASTM D5185m	1150	933	855	779
Zinc	ppm	ASTM D5185m	1350	1040	1023	979
Sulfur	ppm	ASTM D5185m	4250	5968	6441	5359

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>25	11	8	7
Sodium	ppm	ASTM D5185m	>216	8	3	3
Potassium	ppm	ASTM D5185m	>20	4	2	1

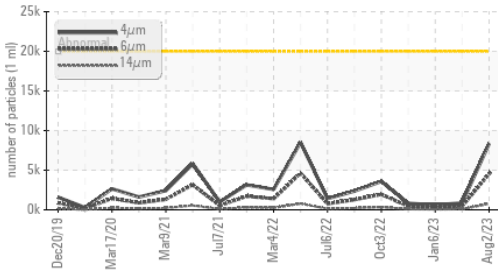
INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>6	0.2	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	10.5	9.0	9.3
Sulfation	Abs./1mm	*ASTM D7415	>30	27.0	24.2	23.8

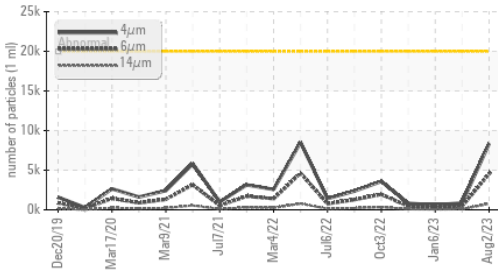


OIL ANALYSIS REPORT

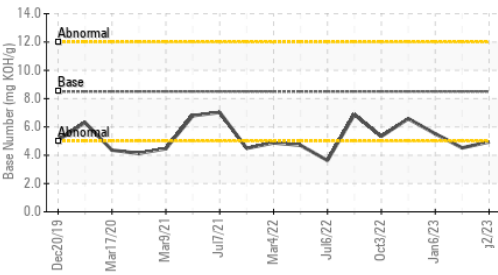
▲ Particle Trend



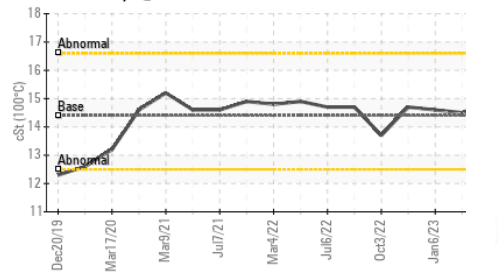
▲ Particle Trend



Base Number



Viscosity @ 100°C



FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	8343	861	622
Particles >6µm	ASTM D7647	>5000	4545	469	339
Particles >14µm	ASTM D7647	>640	▲ 773	80	58
Particles >21µm	ASTM D7647	>160	▲ 261	27	19
Particles >38µm	ASTM D7647	>40	40	4	3
Particles >71µm	ASTM D7647	>10	4	0	0
Oil Cleanliness	ISO 4406 (c)	>21/19/16	▲ 20/19/17	17/16/13	16/16/13

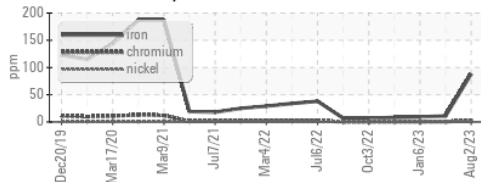
FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414	>25	28.2	21.5	21.0
Base Number (BN)	mg KOH/g ASTM D2896	8.5	4.94	4.52	5.52

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

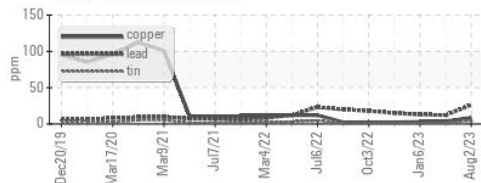
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt ASTM D445	14.4	14.9	14.5	14.6

GRAPHS

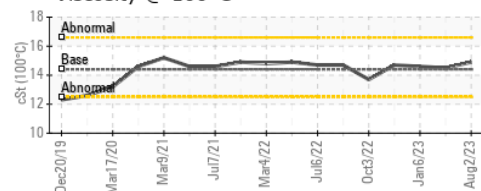
Ferrous Alloys



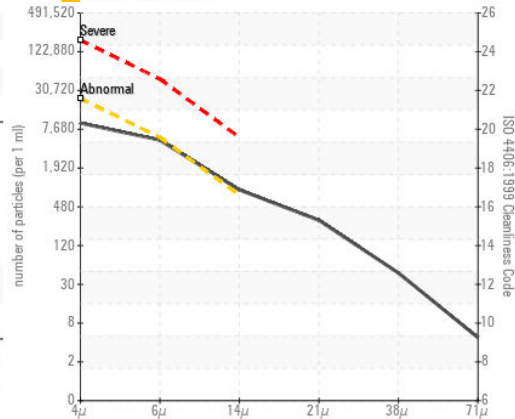
Non-ferrous Metals



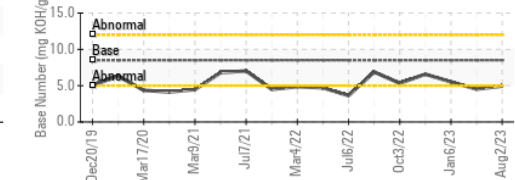
Viscosity @ 100°C



▲ Particle Count



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0793356 **Received** : 14 Aug 2023
Lab Number : 05923547 **Diagnosed** : 15 Aug 2023
Unique Number : 10603494 **Diagnostician** : Doug Bogart
Test Package : MOB 2 (Additional Tests: PrtCount)

MCAHAN WELDING SERVICE LTD
 269 US HWY 183 SOUTH
 CUERO, TX
 US 77954
 Contact: BILL FOJTIK
 info@mcmahanservices.com
 T: (361)275-0111
 F: (361)275-0110

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - 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)