



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
CUMMINS VS9746
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 40 (12 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0857795	WC0793356	WC0779704
Sample Date		Client Info		19 Apr 2024	02 Aug 2023	10 Feb 2023
Machine Age	hrs	Client Info		12469	11057	9841
Oil Age	hrs	Client Info		1412	2844	315
Filter Age	hrs	Client Info		1412	755	315
Oil Changed		Client Info		Not Changed	Changed	Not Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ATTENTION	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	36	88	11
Chromium	ppm	ASTM D5185m	>20	2	2	<1
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m	>2	<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	3	3	2
Lead	ppm	ASTM D5185m	>40	31	26	12
Copper	ppm	ASTM D5185m	>330	4	9	4
Tin	ppm	ASTM D5185m	>15	2	4	1
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	▲ MODER	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

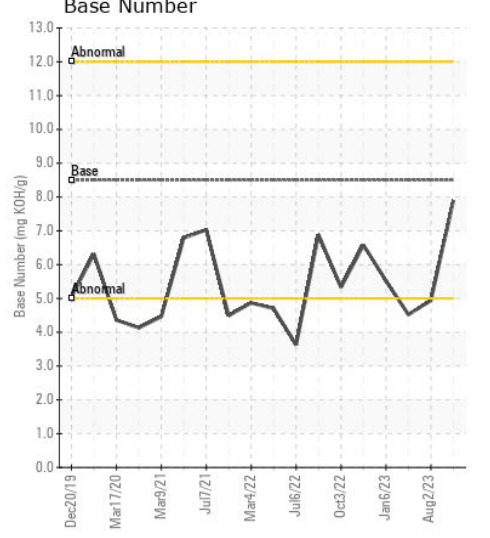
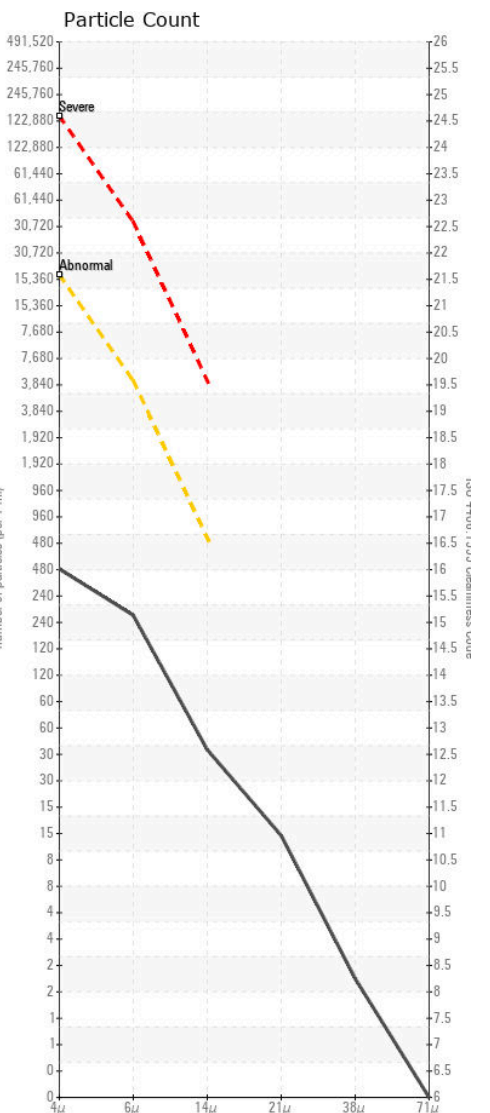
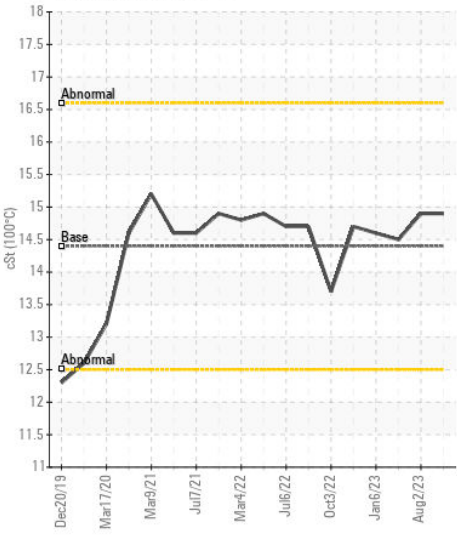
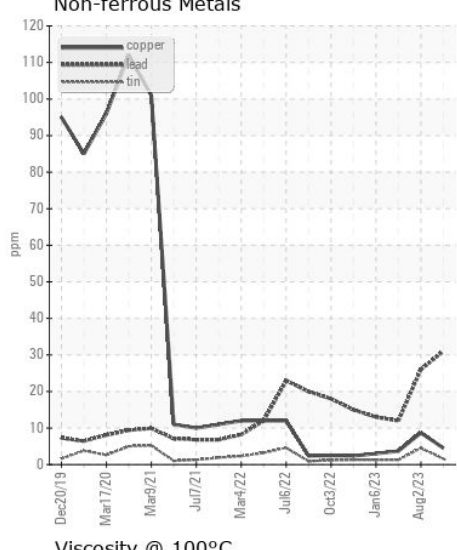
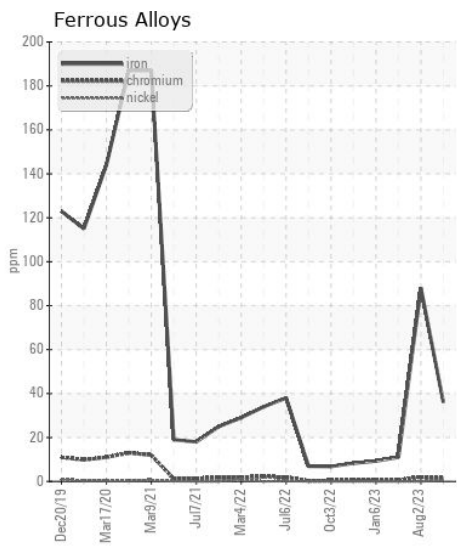
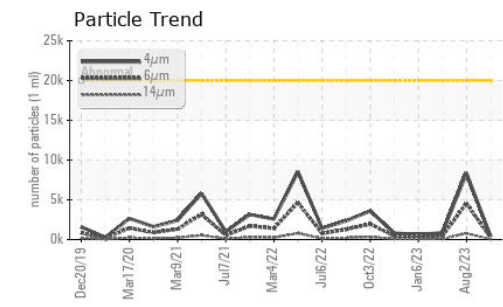
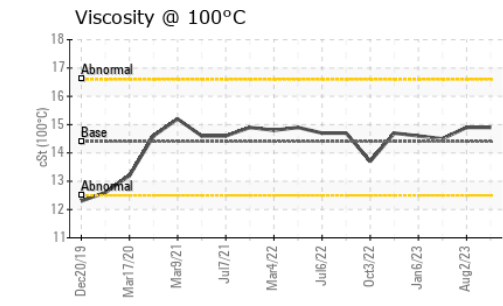
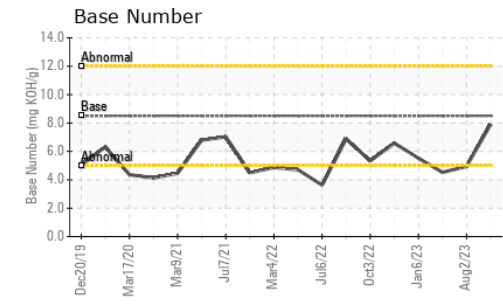
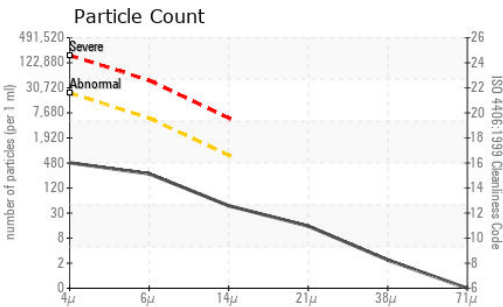
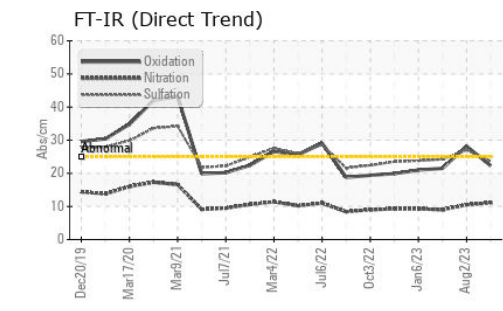
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Silicon	ppm	ASTM D5185m	>25	9	11	8
Potassium	ppm	ASTM D5185m	>20	4	4	2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>6	0.1	0.2	0.1
Nitration	Abs/cm	*ASTM D7624	>20	11.1	10.5	9.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.7	27.0	24.2
Particles >4µm		ASTM D7647	>20000	426	8343	861
Particles >6µm		ASTM D7647	>5000	232	4545	469
Particles >14µm		ASTM D7647	>640	40	773	80
Particles >21µm		ASTM D7647	>160	13	261	27
Particles >38µm		ASTM D7647	>40	2	40	4
Particles >71µm		ASTM D7647	>10	0	4	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	16/15/12	20/19/17	17/16/13
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

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.

Sodium	ppm	ASTM D5185m	>216	5	8	3
Boron	ppm	ASTM D5185m	250	0	6	16
Barium	ppm	ASTM D5185m	10	0	0	0
Molybdenum	ppm	ASTM D5185m	100	62	24	22
Manganese	ppm	ASTM D5185m		1	2	<1
Magnesium	ppm	ASTM D5185m	450	916	372	319
Calcium	ppm	ASTM D5185m	3000	1279	2020	1919
Phosphorus	ppm	ASTM D5185m	1150	1130	933	855
Zinc	ppm	ASTM D5185m	1350	1275	1040	1023
Sulfur	ppm	ASTM D5185m	4250	3667	5968	6441
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.3	28.2	21.5
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	7.89	4.94	4.52
Visc @ 100°C	cSt	ASTM D445	14.4	14.9	14.9	14.5



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0857795 **Received** : 23 Apr 2024
Lab Number : 06158484 **Tested** : 25 Apr 2024
Unique Number : 10993907 **Diagnosed** : 25 Apr 2024 - Jonathan Hester
Test Package : MOB 2 (Additional Tests: PrtCount)

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Certificate L2367
 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)