

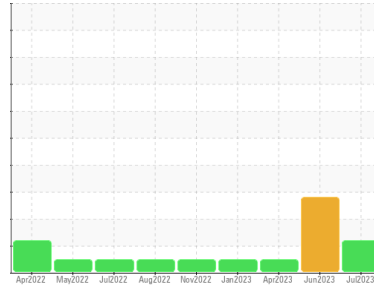


OIL ANALYSIS REPORT



Machine Id
CATERPILLAR 966K 966K-1
 Component
Diesel Engine
 Fluid
KENDALL SUPER-D XA DIESEL ENGINE OIL 15W40 (--- GAL)

Sample Rating Trend



FUEL



DIAGNOSIS

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			WC0524368	WC0524360	WCM2312805
Sample Date	Client Info			10 Jul 2023	19 Jun 2023	25 Apr 2023
Machine Age	hrs	Client Info		18168	18100	17858
Oil Age	hrs	Client Info		68	250	250
Oil Changed	Client Info			Changed	Changed	Changed
Sample Status				ABNORMAL	SEVERE	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Glycol	WC Method			NEG	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	4	11	7
Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>2	50	58	60
Silver	ppm	ASTM D5185m	>2	0	<1	<1
Aluminum	ppm	ASTM D5185m	>25	<1	2	1
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	<1	<1	<1
Tin	ppm	ASTM D5185m	>15	0	0	0
Vanadium	ppm	ASTM D5185m		<1	<1	1
Cadmium	ppm	ASTM D5185m		0	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		98	53	67
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		20	16	17
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		525	486	514
Calcium	ppm	ASTM D5185m		1556	1588	1666
Phosphorus	ppm	ASTM D5185m		916	936	999
Zinc	ppm	ASTM D5185m	1260	1110	1138	1214
Sulfur	ppm	ASTM D5185m		4083	4108	4362

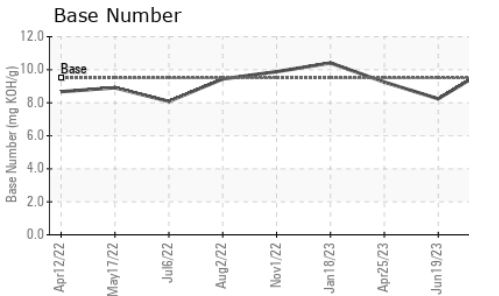
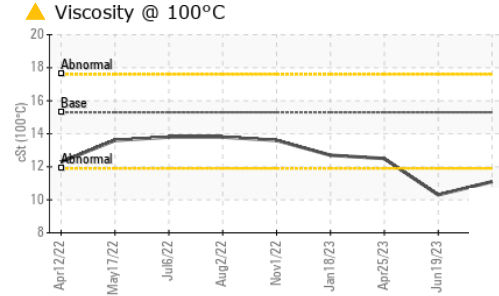
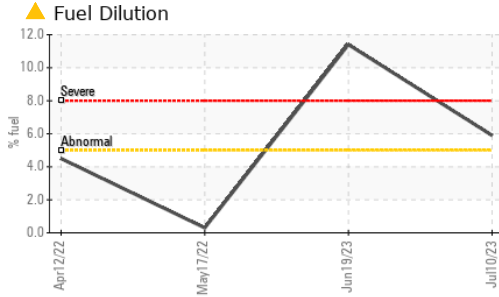
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	4	5	5
Sodium	ppm	ASTM D5185m		3	7	4
Potassium	ppm	ASTM D5185m	>20	1	3	2
Fuel	%	ASTM D3524	>5	▲ 5.9	◆ 11.4	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.3	0.8	0.7
Nitration	Abs/cm	*ASTM D7624	>20	6.5	10.0	9.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	17.9	20.6	18.3

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	12.9	15.7	14.4
Base Number (BN)	mg KOH/g	ASTM D2896	9.5	10.21	8.24	9.25



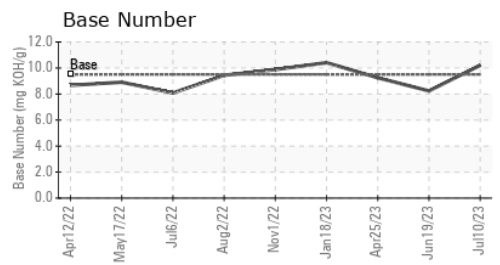
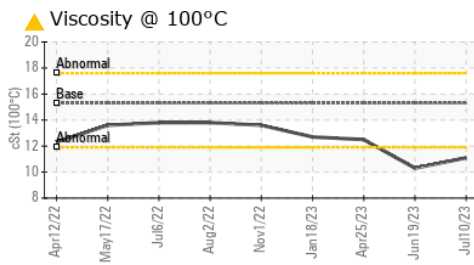
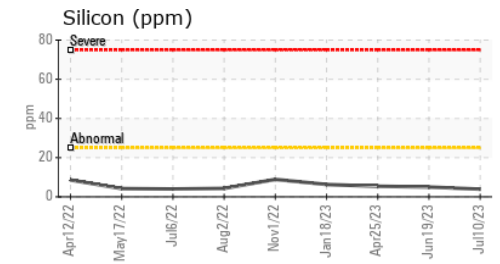
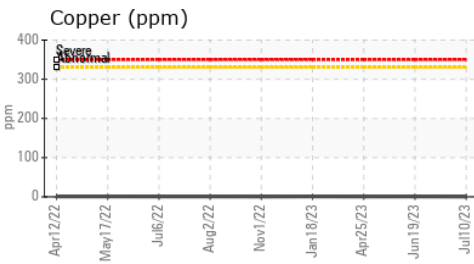
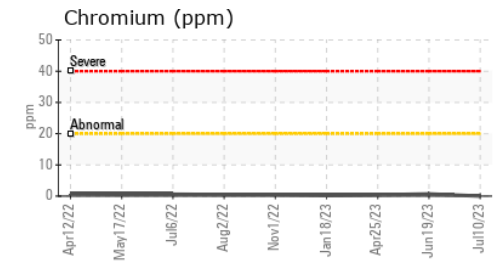
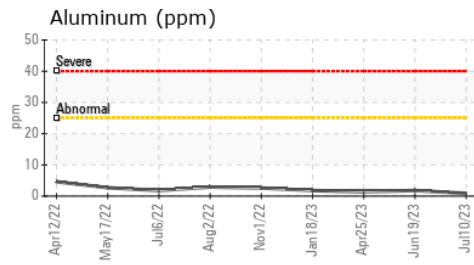
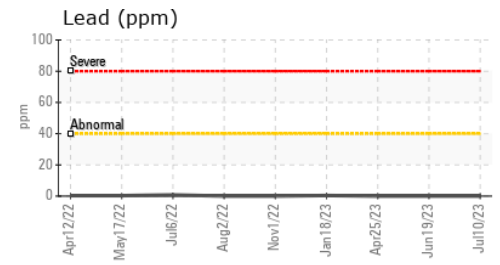
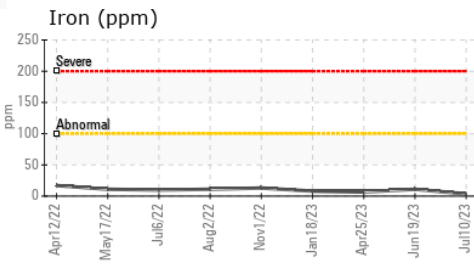
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	▲ 11.1	◆ 10.3	12.5

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0524368 **Received** : 14 Jul 2023
Lab Number : 05899408 **Diagnosed** : 18 Jul 2023
Unique Number : 10560764 **Diagnostician** : Angela Borella
Test Package : MOB 2 (Additional Tests: PercentFuel)

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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)