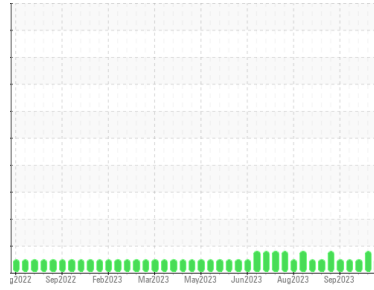




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
CAPTIS ENERGY ENG 3 (S/N 1251399)

Component
Natural Gas Engine

Fluid
MAHLER Q8 Mahler G8 SAE 40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			WC0835530	WC0772427	WC0835533
Sample Date	Client Info			30 Oct 2023	24 Oct 2023	16 Oct 2023
Machine Age	hrs	Client Info		20495	48093	20324
Oil Age	hrs	Client Info		282	6662	111
Oil Changed	Client Info			N/A	N/A	Changed
Sample Status				NORMAL	ABNORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	<1	12	0
Chromium	ppm	ASTM D5185m	>4	0	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>9	2	4	2
Lead	ppm	ASTM D5185m	>30	<1	3	<1
Copper	ppm	ASTM D5185m	>35	0	9	<1
Tin	ppm	ASTM D5185m	>4	<1	▲ 8	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	<1

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		0	<1	1
Barium	ppm	ASTM D5185m		0	0	9
Molybdenum	ppm	ASTM D5185m		2	1	2
Manganese	ppm	ASTM D5185m		0	<1	0
Magnesium	ppm	ASTM D5185m		10	11	10
Calcium	ppm	ASTM D5185m		1903	2472	2192
Phosphorus	ppm	ASTM D5185m		323	460	453
Zinc	ppm	ASTM D5185m		386	562	504
Sulfur	ppm	ASTM D5185m		1886	2866	3044

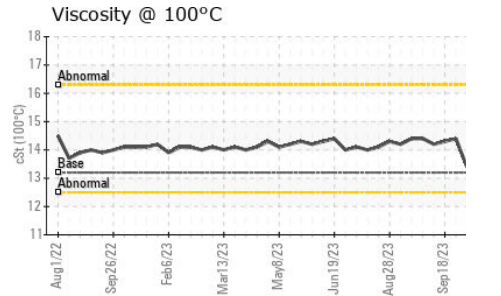
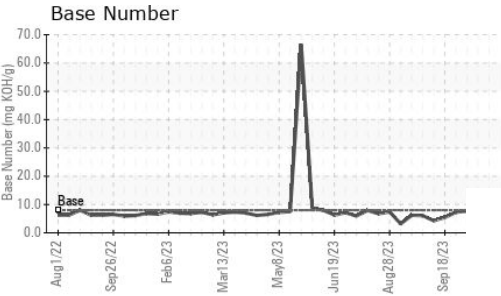
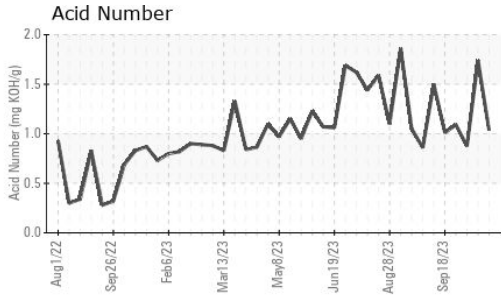
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>+100	3	43	3
Sodium	ppm	ASTM D5185m		2	9	0
Potassium	ppm	ASTM D5185m	>20	1	7	2

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		0.1	0	0
Nitration	Abs/cm	*ASTM D7624	>20	5.2	8.2	6.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	17.0	20.4	15.2

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	10.5	17.2	10.1
Acid Number (AN)	mg KOH/g	ASTM D8045		1.037	1.74	0.876
Base Number (BN)	mg KOH/g	ASTM D2896	8.0	5.90	5.83	7.71



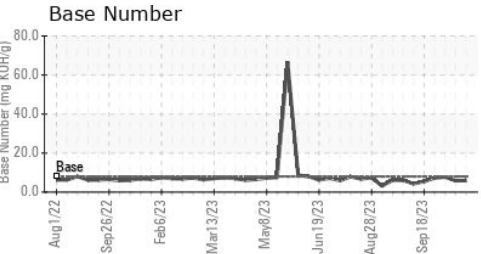
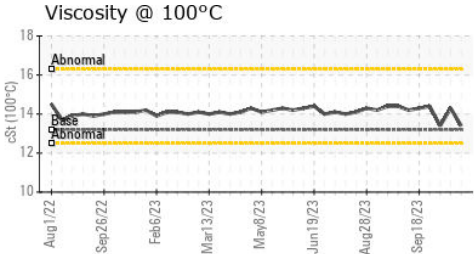
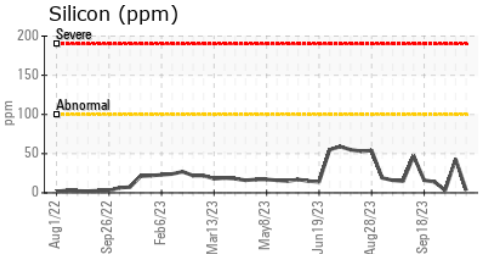
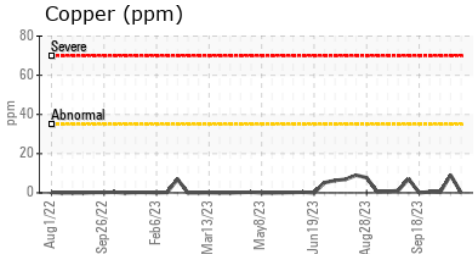
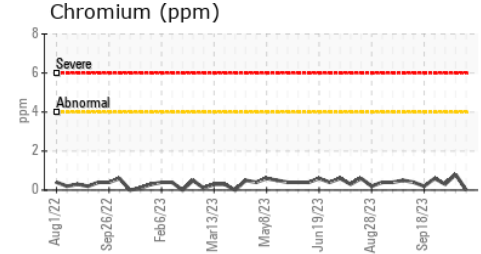
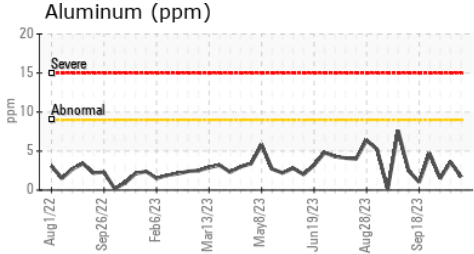
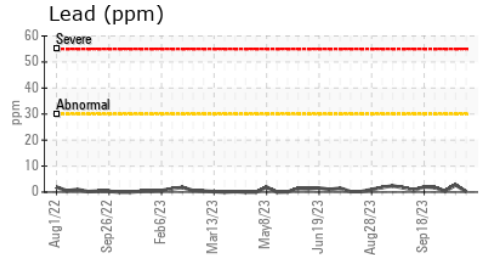
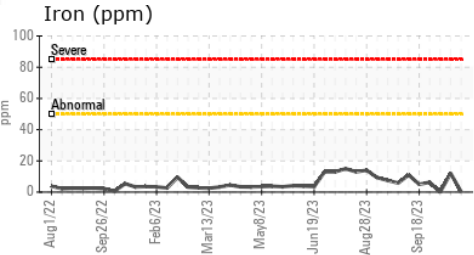
OIL ANALYSIS REPORT



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	>0.1	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	13.2	13.4	14.3

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0835530 **Received** : 01 Nov 2023
Lab Number : 05996362 **Diagnosed** : 03 Nov 2023
Unique Number : 10724722 **Diagnostician** : Sean Felton
Test Package : MOB 2

CUBE DISTRICT ENERGY
 1000 WINDWARD CONCOURSE SUITE 150
 ALPHARETTA, GA
 US 30005
 Contact: RYAN INGALLS
 ryan.ingalls@cubedistrictenergy.com
 T: (217)433-4972
 F:

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)